PRE-FEASIBILITY REPORT

OF

SEDAM LIMESTONE MINES
(AREA: 995.97 HA)

BIRANAHALLI, AREBOMMANAHALLI, TARANAHALLI, KONKANAHALLI AND SHETTIHUDA (SEDAM) VILLAGES, SEDAM TALUK, KALABURAGI (GULBARGA) DISTRICT KARNATAKA.

FOR

4.00 MILLION TONNES PER ANNUM (MTPA) OF LIMESTONE , SHALE & CLAY PRODUCTION

CAPTIVE LIMESTONE MINE
OF

Dalmia Cement (Bharat) Limited
Hansalaya, 11th & 12th Floor,15, Barakhamba Road,
New Delhi – 110001.

April 2016

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CHAPTER – 1
EXECUTIVE SUMMARY

1. Executive Summary

M/s Dalmia Cement (Bharat) Limited (DCBL) is proposing to set up a 4.00 million tonnes per annum of Greenfield cement plant (2.6 million tonnes of Clinker production) along with Captive Power Plant of 40 MW located near to Konkanhalli - Hosahalli village in Sedam Taluka, District Kalaburagi (Gulbarga), Karnataka. Environmental Clearance has been obtained from MoEF & CC F. No. J-11011/118/2007- IA II (I) dtd. 24th June 2008 for the plant.

The entire quantity of limestone, the principle raw material for cement manufacturing, is proposed to be met from the applied mining lease area located in Konkanahalli, Arebommanahalli, Biranahalli, Taranahalli and Shettihuda villages of Sedam Taluk, District Kalaburagi (Gulbarga), Karnataka.

Limestone mine spreads over an area of 995.97 Ha. As per the initial exploration carried out, the total minable reserves is estimated to be about 124.8 million tonnes which will last for 34 years with proposed production capacity of 4.00 Million Tonnes Per Annum (MTPA) from the fifth year onwards. The life of the mine may increase after further exploration of the balance area.

Opencast conventional Mechanized Method of Mining will be adopted. The excavated limestone will be transported by dumpers to crusher and crushed limestone will be transported to cement plant by closed belt conveyor.

The waste and top soil will be removed and dumped separately. Part of the top soil shall be used for afforestation during the conceptual period. Waste will be dumped at earmarked locations in the mine area. Mined out area will not be back filled as bottom of limestone is not yet proved at certain places. The company has proposed core drilling to prove the bottom of the limestone and also in the unexplored areas. Hence refilling is not proposed. Total mined out area will be left as water reservoir. Garland drains will be made all along the periphery of dump sites to prevent the water carrying the wash-offs from the dumps entering into the mines.

Conceptually, an area of 235.30 Ha will be used for mining out of which an area of 202.08 Ha at the bottom will be left as water reservoir. An area of about 200 Ha will be used for dumping of waste & top soil and will be stabilized by suitable afforestation techniques, 42.71 Ha will be used for Mineral Storage/Sub grade, 2.70 Ha area will be used for roads, 2.60 Ha area for infrastructure, 3.00 Ha area for crusher and 194.97 Ha area for green belt along safety zone and mine periphery. The rest 313.44 Ha area will remain undisturbed

Total water requirement is 70 m^3/day for domestic, workshop, green belt & dust suppression of the mines. DCBL has obtained permission to draw 3,100KLD water from Kagina River for the associated Cement Plant, water for the mine shall be sourced from same. Later, after the development of the mine Pits, the rain water harvested in the mine pit, will augment the water requirement from the plant.

The capital Investment Cost is estimated as Rs. 165 Crores. All the infrastructural facilities will be provided at the site.

CHAPTER – 2
INTRODUCTION OF THE PROJECT / BACKGROUND INFORMATION

2.0 Introduction of the Project / Background information

i. Identification of project and project proponent. In case of mining project, a copy of mining lease / letter of intent should be given.

PROJECT: M/s Dalmia Cement (Bharat) Limited (DCBL) is proposing to set up a 4.00 million tonnes per annum of Greenfield cement plant (2.6 million tonnes of Clinker production) along with Captive Power Plant of 40 MW near to Konkanhalli - Hosahalli village in Sedam Taluka, District Kalaburagi (Gulbarga), Karnataka. Environmental Clearance has been obtained from MoEF & CC F. No. J-11011/118/2007- IA II (I) dtd. 24th June 2008 for the plant.

Limestone, the principle raw material for cement manufacturing, is proposed to be met from the applied mining lease which extends over an area of 995.97 Ha located in Konkanahalli, Arebommanahalli, Biranahalli, Taranahalli and Shettihuda villages of Sedam Taluk, District Kalaburagi (Gulbarga), Karnataka.

The present proposal is for obtaining Environmental Clearance for 4.0 MTPA limestone production from mining lease area of 995.97 Ha from Ministry of Environment, Forests & Climate Change (MoEF&CC) under 1(a), I category of EIA notification SO1533 dated 14th Sep. 2006 and subsequent amendments.

Letter of Intention (LOI) was obtained for Limestone, Clay, Shale & associated minerals for the proposed mine lease of 995.97 ha vide letter No. 736AML 08-09/158 (Enclosed as **Annexure -1**) dated 08/04/2009. Draft Mining plan is prepared.

PROJECT PROPONENT:

Dalmia Cement is one of the leading cement producers of India. The group was founded in 1935. First Cement Plant of DCBL was established in 1939 at Dalmiapuram, Tamil Nadu, thus enjoying a heritage of over 77 years of expertise and experience.

- The Group currently has cement plants in Tamil Nadu (Dalmiapuram & Ariyalur), Andhra Pradesh (Kadapa), and Meghalaya (Thangskai) Karnataka (Belgaum), Jharkhand (Bokaro), Assam (Umrangso & Lanka), Odisha (Rajgangpur & Kapilas) and West Bangal (Midnapur).
- The Group now controls a cement capacity of 24 million tonnes & has a strong presence in Southern, Eastern & North East Regions of the Country.
- A multi-spectrum Cement player and a pioneer in super specialty cements used for Oil wells, Railway sleepers and Air strips.
- DCBL prides itself on having been at the forefront of pioneering and introducing many new technologies, which exist today, which are followed by others in the industry.

Our operating mines at various locations have also been appraised at various levels and awarded recognitions. Some of them are listed below:-

- A National Award for Environmental Excellence in Limestone Mines in Indian Cement Industries by National Council for Cement and Building Materials in the year 2000-01.
- TamilNadu: First prize in overall performance by DGMS to Dalmiapuram Mines for year 2014-15
- TamilNadu: Amalgamated PNR Mines has won Overall First Prize in Conventional Category in Mines Environment and Mineral Conservation Week (MEMC) organized in Tamil Nadu from 08.02.16 to 14.02.16 by MEMC Council under aegis of Indian Bureau of Mines (IBM).
- Meghalaya: Adhunik Cement Limestone mine : 1st Place in Overall Mines Performance by DGMS, Guwahati region including 9 other awards in various categories of 2012-13
- Meghalaya: 2nd prize in Overall Performance and 6 other prizes in different categories in XIIIth North East Mettaliferous Mines Safety Week 2015-16 competition.
- Odisha: OCL, Rajgangpur, Odisha: Six Awards in various categories to Lanjiberna Limestone & Dolomite Mines in 52nd Annual Mines Safety Week-2014.
- Odisha:OCL, Rajgangpur: Pollution Control Appreciation Award by the State Pollution Control Board on their 32nd Foundation day at Bhubaneswar on 14th Sept. 2015 in recognition of effective

pollution control measures and sound environment management practices.

- Andhra Pradesh: Six Awards in various categories to Kadapa-Nawabpet- Talamanchipatnam Mines in 52nd Annual Mines Safety Week-2014.

Apart of above, the group has bagged various National Awards like:

- National award for energy efficiency in Indian Cement industry by National Council for Cement and Building Materials in the year 1999 & 2002.
- National Energy Conservation Award By Bureau Of Energy Efficiency, Ministry Of Power, New Delhi In 2001 & 2002.
- Chosen by Confederation of Indian Industry (CII) as a model plant for energy efficiency in the year 2003.
- A National award for second best environmental excellence in plant operation in Indian cement industries (2003-04) by NCCBM.
- Best Energy Efficient Unit Award - By CII In The Year 2012-2013
- Green award- by govt. of Tamilnadu in the year 2012-13
- Manufacturing Today Award For Excellence In Human Resources- by ITP Publishing India In The Year 2012-13
- CII-ITC Sustainability Awards –by CII in the Year 2012-13.
- Dalmia Cement Ariyalur Plant, Honored with Federation of Indian Chambers of Commerce and Industry '*Safety Systems Excellence Awards 2014 for the Manufacturing Sector'*
- DBL has bagged 4 awards "Best Corporate Social Responsibility Practices, Talent Management, Managing Health at work, Excellence in training" from WHO-2015
- Ariyalur Plant has bagged the "All India First" on "Safety Award" conducted by FICCI for the Large Scale Manufacturing Sector-2015.
- Dalmia Cement, Kadapa Unit bagged CSR and Environment Gold Award from Greentech Foundation-2015.
- Dalmia Cement (Bharat) Ltd. won Golden Peacock Award for CSR 2015

ii. BRIEF DESCRIPTION OF NATURE OF THE PROJECT

The proposed project is a limestone mine spread over an area of 995.97 Ha with mineable reserves of about 124.8 million tonnes to produce 4.0 MTPA of Limestone at Biranahalli, Arebommanahalli,

Taranahalli, Konkanahalli And Shettihuda (Sedam) Villages, Sedam Taluk, Kalaburagi (Gulbarga) District (Karnataka).

The mining of the deposit is proposed to be worked by deep hole drilling & blasting with fully mechanized open cast conventional method.

iii. Need for the project and its importance to the country and or region.

Cement industry is one of the main beneficiaries of the infrastructure boom. While on the one hand several big and small cement companies are actively considering expansion plans in anticipation of further growth in demand for cement, on the other, a phase of acquisitions and mergers among the existing players is also going on.

Weaker sections' housing, construction of public toilets, schools in rural area apart from several private and public infrastructure projects apart from concrete roles will also give tremendous boost to the cement consumption in the state.

As per the industry sources, demand has mainly come from the construction sector with the three main cities in the South - Bangalore, Chennai and Hyderabad - witnessing hectic construction activity be it for the information technology sector, shopping malls or integrated townships. The growth in demand has prompted many cement industries to consider expanding their capacities, both in present locations and in Greenfield locations.

The chemical characteristics of limestone extracted from this mine do not warrant any mineral beneficiation, since the quality of limestone produced from this mine is suitable for cement.

To meet the limestone requirement of the plant, DCBL been issued LOI for the subject mine, and it aims to produce 4.00 MTPA of limestone from this mine.

iv. Demand– supply Gap

Since Limestone is the main raw material for cement production, the demand is always there with that of cement. Moreover, the subject

mine produces good grade limestone leading to conservation of mineral resources**.**

The cement market has grown due to the central government liberalization policies and impetus for development of infrastructure with new schemes for housing, road projects.

v. Imports Vs Indigenous production.

The limestone produced from **DCBL** is meant for the captive consumption in the cement plant.

vi. Export possibility.

No exports of limestone are proposed.

vii. Domestic / export markets

The limestone produced from mine is meant for the captive consumption in the cement plant.

viii. Employment generation (direct and indirect) due to the project.

Two shift operations are proposed to meet the production requirements.
As this will be the green field project by DCBL, so the employment of the technical personnel will be required for plant and mines. The locality of the area will be benefited for the employment directly and indirectly. The mine is proposed to be operated by fully mechanised conventional method. Total direct employment envisaged from the proposed mine is about 93 persons. The requirement of the personnel for mines have been given in below table

Sl. No.	Designations	Nos.
1	Agent	1
2	Mines Manager	2
3	Dy. Mines Manager including planning section	2
4	Asst. Mines Manager	3
5	Mining Engineer	1
6	Auto Engineer	4

Sl. No.	Designations	Nos.
7	Geologist including planning section	2
8	Draughtsman	1
9	Surveyor	1
	Sub Total	**17**
Supervisory Staff		
1	Mines Foreman	4
2	Mining Mate	4
3	Electrical Foreman	1
4	Mechanical Foreman	1
	Sub Total	**10**
Highly skilled		
1	Heavy Equipment Operators	30
	Sub Total	**30**
Skilled		
1	Drillers	4
2	Blaster	2
	Sub Total	**6**
Semi Skilled		
1	Electrician	2
2	Clerk	1
3	Fitter	1
	Sub Total	**4**
Garage		
1	Mechanic	3
2	Filter	2
3	Auto Electrician	1
4	Welder	2
5	Khalasi	6
6	Helper	6
	Sub Total	**18**
Unskilled		
1	Mazdoor	7
2	Watchman/ Peon	1
	Sub Total	**8**
	Total employment	**93**

The proposed project is a captive source of limestone requirement of the interlinked Greenfield cement plant. Total direct employment envisaged from the cement plant is about 400.In addition there would

be a lot of indirect employment opportunities to the skilled & unskilled arising due to the proposed project.

The establishment of the cement plant and proposed captive mine would aid in the overall social and economic development of the region. The plant and mine, in addition to direct employment, would also provide indirect employment opportunities to many more people, in the form of contractual jobs/works in business opportunities, service facilities, canteen, horticulture, house-keeping, building maintenance, rental vehicles and grocery shops & utility stores etc. beside a large force for cement sales, transport of cement additives/correctives, fuel & fly ash etc. This will upgrade the economic status of the region and people living therein.

CHAPTER – 3
PROJECT DESCRIPTION

3.0 Project Description

i. Type of project including interlinked and interdependent projects, if any.

The proposed project is a Limestone, Clay & Shale mine extending over an area of 995.97 ha with production capacity of 4.00 MTPA.

M/s Dalmia Cement (Bharat) Limited (DCBL) is proposing to set up a 4.00 million tonnes per annum of Greenfield cement plant (2.6 million tonnes of Clinker production) along with Captive Power Plant of 40 MW near to Konkanhalli - Hosahalli Village in Sedam Taluka, Gulbarga District, Karnataka. Environmental Clearance has been obtained from MoEF & CC F. No. J-11011/118/2007- IA II (I) dtd. 24th June 2008 for the plant.

The limestone requirements for the cement plant is proposed to be met from the proposed mine lease having mineable reserves of 124.8 million tonnes with life of 34 years as per exploration carried out. The life of the mine may increase after further exploration.

Status of the interlinked/interdependent projects:-

S.No.	Project	Location	Capacity	Approvals
1.	Greenfield cement plant	Konkanhalli - Hosahalli village in Sedam Taluka, District Gulbarga, Karnataka.	4 MTPA Cement CPP- 40MW	EC obtained from MOEF & CC Consent for establishment obtained from KSPCB

It is categorized as Category A Project under Schedule 1(a) as the mining lease area is more than 50 ha hence it necessitates obtaining Prior Environment Clearance from Ministry of Environment, Forest & Climate Change (MoEF&CC).

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

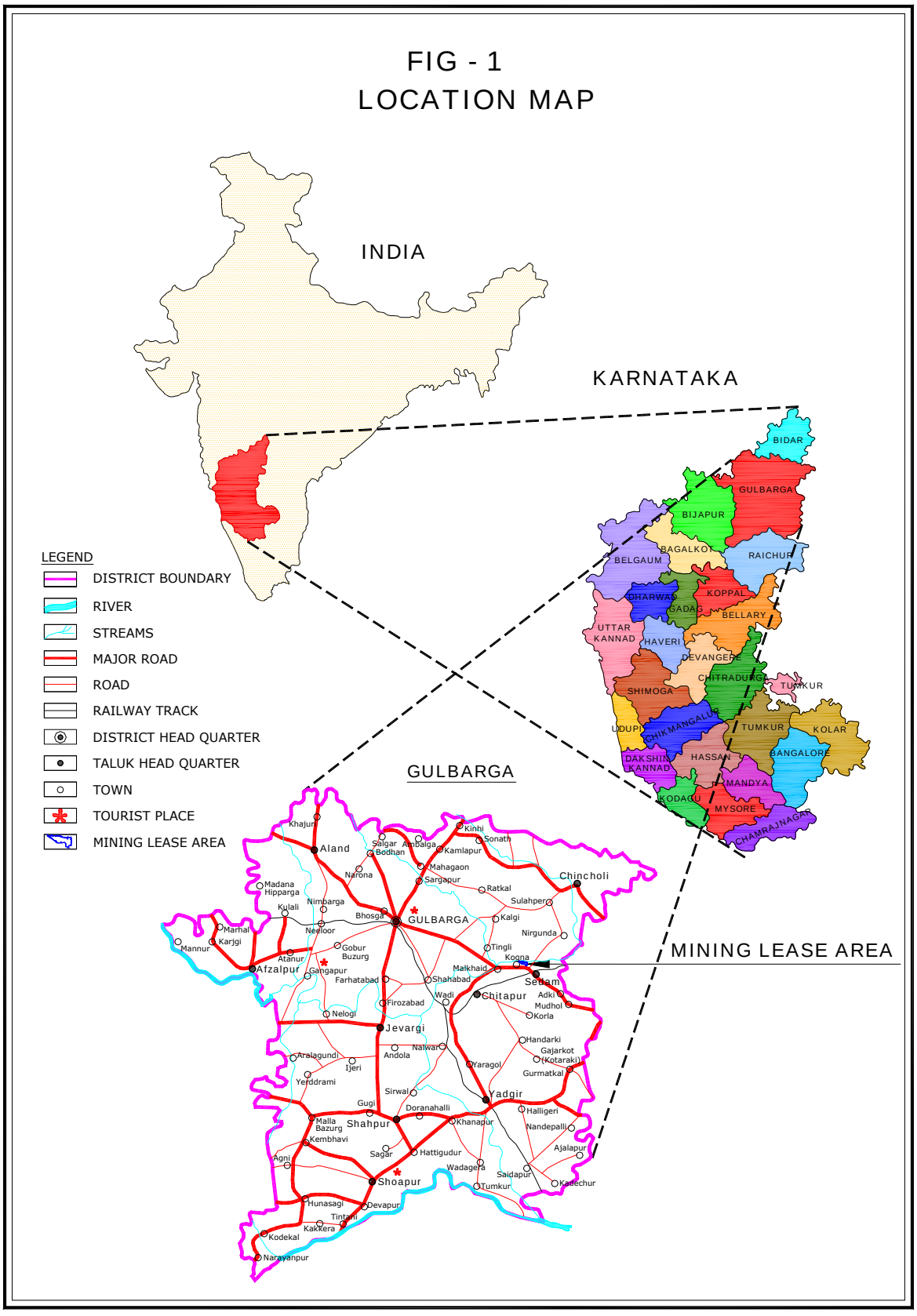
The mine lease area is a part of the Survey of India Toposheet No.56/G/4&8. The site falls between North Latitude 17°11'17"N - 17°13'00"N and East Longitude 77°12'00"E - 77°16'00"E with an altitude of 401 - 424m above MSL. Proposed ML area located at Beeranahalli, Arebammanahalli, Konkanahalli, Taranahalli & Sedam Villages, Sedam Taluk, Kalaburagi (Gulburga) District, Karnataka.

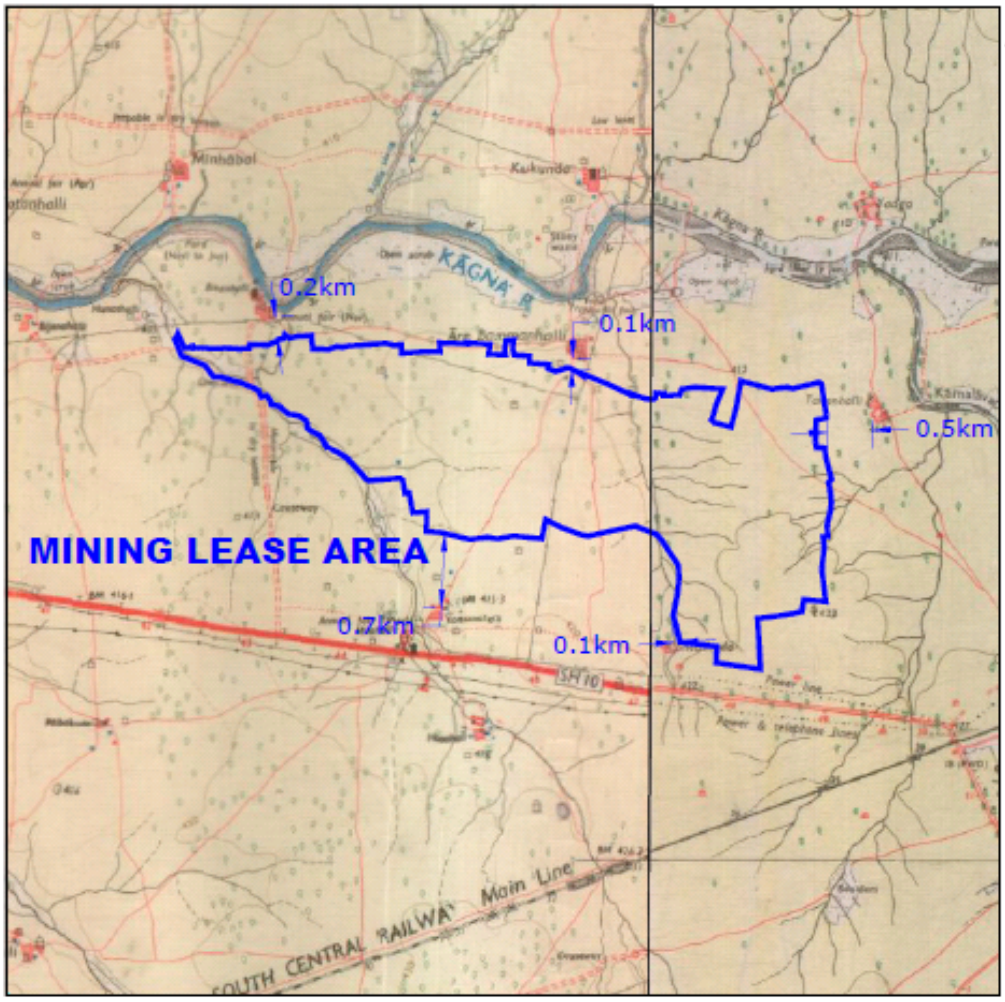
The location map of the Mining Lease Area is shown in **Fig – 1.**

Nearest railway line connecting Wadi– Tandur of South Central Railway line is located at a distance of 1.3 km towards SE direction from the site. Kagina River is at a distance of about 0.4-1.0 km in Northern direction. Bima River is at a distance of 4.6 km in Western direction. Key map showing the location of various features around the Mining Lease Area is shown in **Fig – 2.**

The National Highway (NH-9) connecting Hyderabad – Solapur is located at a distance of about 58.5 km in NNE direction & the State Highway (SH-10) connecting Sedam - Malkhed is located at a distance of about 0.2 km in Southern direction, The nearest railway station is located at Sedam RS which is 2.5 km in ESE direction.
All distances are redially from mining lease boundary.

FIG - 1
LOCATION MAP





SCALE

0 1 2km

LEGEND

MINING LEASE AREA

FIG - 2

CLIENT : **M/s. DALMIA CEMENT (BHARAT) LIMITED**

PROJECT : **SEDAM LIMESTONE MINES**
Biranahalli, Anebammanahalli, Konkanahalli,
Ranarahalli & Sedam Villages, Sedam Taluk, Gulburga District, Karnataka

TITLE : **KEY MAP**

PREPARED BY
B.S.ENVI-TECH (P) LTD.,
SECUNDERABAD

There are no wild life sanctuaries, national parks, elephant/tiger reserves within 10-km radius of the study area. Nearest wild life sanctuary is Chincholi Wild life sanctuary – 45.0 km --NE direction

Nearest Settlements from the Mining Lease Area

- Beeranahalli – 0.2 km – N
- Arebammanahalli – 0.1 km –N
- Taranhalli – 0.5 km – E
- Settihuda – 0.1 km –W
- Konakanhalli – 0.7 km –S
- Sedam – 2.5 km - ESE
- Hoshahali 1.83-km S

Salient locational features of Mining Lease Area are given in **Table – 1** and **Fig - 3** shows the study area of 10 km radius around the Mining Lease Area.

3.0 Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental considerations gone into should be highlighted.

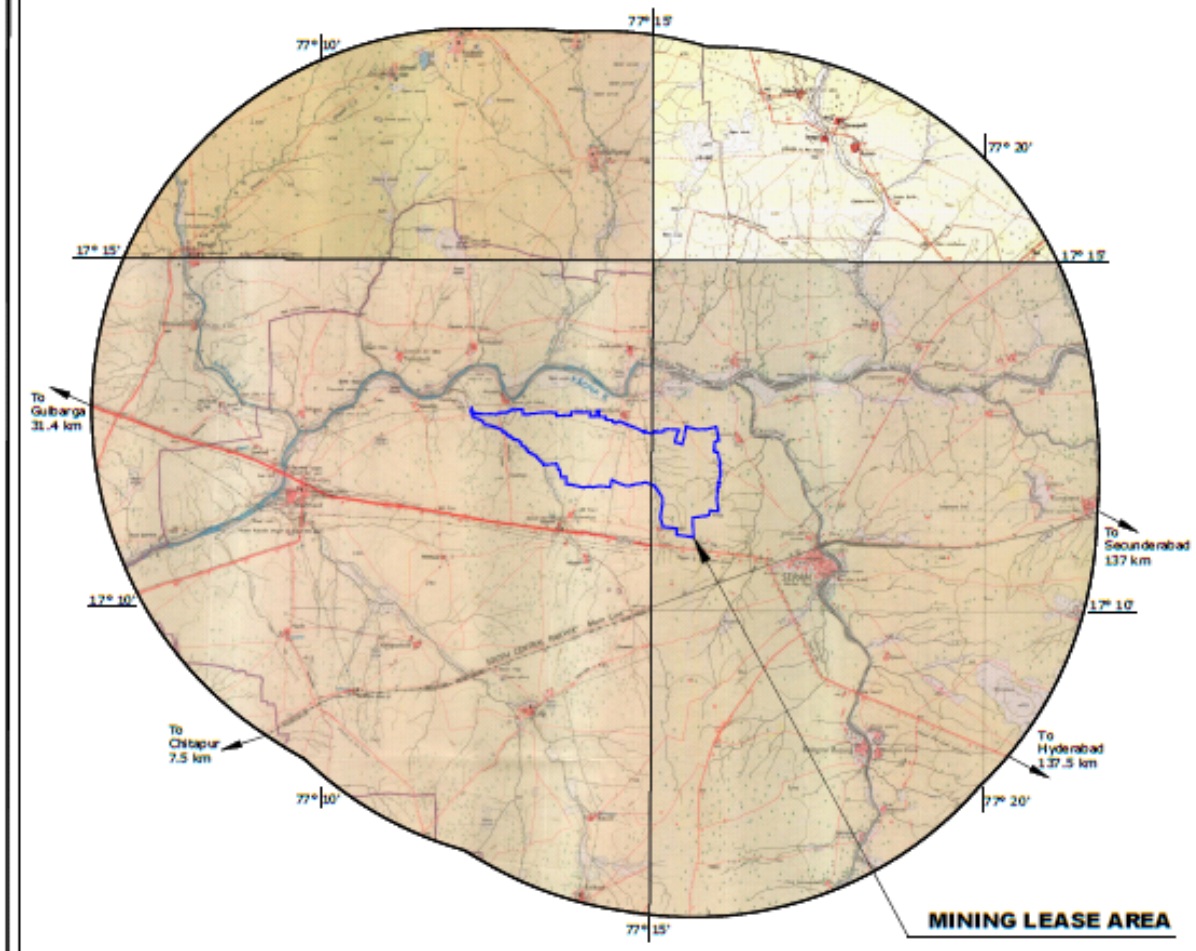
The mine is site specific, with the mineral presence, hence alternate site was not considered.

4.0 Size or magnitude of operation.

Mine area is 995.97 Ha. The proposed rate of production of limestone is 4.00 Million TPA. The Year wise generation of ROM, topsoil and waste is given below Table

S. No	Year	Limestone (Tonnes	Waste (Tonnes	Top soil (Tonnes	Total Waste (Tonnes	Ore : OB
1	I Year	1001975	198022	104695	302718	1: 0.30
2	II Year	2001882	342859	201616	544475	1: 0.27
3	III Year	2502783	436129	304990	741119	1: 0.30
4	IV Year	2998433	498039	275582	773621	1: 0.26
5	V Year	4000481	598676	281757	880433	1: 0.22
Total		**125055**	**207372**	**116864**	**324236**	**1:**

Subgrade material will not be generated during plan period



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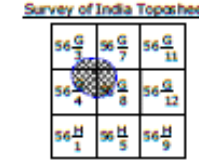
LEGEND

MINING LEASE AREA

REFER TO THIS MAP AS:- 1:50,000
SHEET 56/G/4 & 56/G/8 FIRST EDITION

Published under the direction of
the Surveyor General of India - 1967

Index to
Survey of India Toposheets



SCALE

0 3 6km

FIG - 3

CLIENT :
M/s. DALMIA CEMENT (BHARAT) LIMITED

PROJECT :
SEDAM LIMESTONE MINES
Beeranahalli, Arebammanahalli, Konkanahalli,
Ranamahalli & Sedam Villages, Sedam Taluk, Gulbarga District, Karnataka

TITLE :
TOPOGRAPHICAL MAP
SHOWING 10 km RADIUS

PREPARED BY:
B.S.ENVI-TECH (P) LTD.,
SECUNDERABAD

5.0 Project description with process details (a schematic diagram/ flow chart showing the project layout, components of the project etc. should be given)

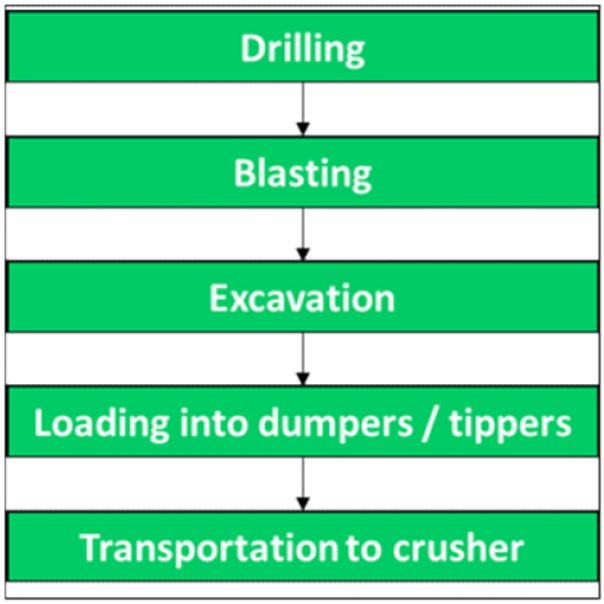
- The proposed method of working is opencast fully mechanized conventional method including drilling, blasting, loading and transportation.
- For drilling, latest hydraulic drills will be used in combination with the diesel-operated compressors. The diameter of drill hole will be of 150 mm diameter. The bench height will be maintained with a maximum height of about 9 m to match the maximum reach of the loading machine. The average width of the limestone bench will be more than the height of the bench.
- Necessary permission will be obtained from DGMS to have higher benches if necessary.
- An overall pit slope has been planned to be maintained at less than 45^0.
- Deephole blasting will be carried out with slurry explosives and ANFO. Electric delay detonators with detonating fuse will be used for charging of holes with explosives. As and when the necessity arises, advanced technology of Non-electric initiation system of blasting with shock tube detonators in combination with noise less trunk delays will also be used.

- No secondary blasting will be done. Rock Breaker will be used for breaking the secondary boulders

Bench Height (m)	Depth	Spacing (m)	Burden (m)	Volume (m)	Yield per hole(T)	per meter(	Charge / hole Kgs	P.F	stemming	No: Of deck	% of ANFO
Limestone											
9	10	3	4	108	270	30	45	6.0	2.5	-	3.33

- Excavator of 3.7-4.5 CuM bucket capacity will be used for loading the material in to the dumpers.
- The loaded material shall be transported using 40 tonnes Dumpers to crusher.

MINING METHODOLOGY
(OPEN CAST MECHANISED MINING)



i. Raw material required along with estimated quantity, likely source, marketing area of final product/s, mode of transport of raw material and finished product.

Being mining project no raw material is required, however explosives for blasting and fuel/diesel for HEMM will be required during operation.

ii. Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.

The Top soil and waste generated during the life of mine will be separately dumped at the designated place on the western and eastern side within the mine lease.

- The top soil dumps stacked temporarily will be rehandled and used for afforestation purpose during conceptual period.
- Subgrade (Upper Flaggy) limestone (4.21 MT during plan period) may be used by judicial blending, thereby accomplish resource

optimization. Flaggy limestone which cannot be blended will be stacked in view of mineral conservation.

Plan period	Limestone	Waste	Top soil	Side burden Development Waste	Total Waste
	(Tonnes	(Tonne	(Tonnes	(Tonnes)	(Tonnes
Tota	125055	20737	116864	Nil	324236

- Total mined out area will be left as water reservoir.

iii. Availability of water its source, energy /power requirement

About 70 m^3/day of water is required for domestic, workshop, green belt & dust suppression of the mines. DCBL has obtained permission to draw 3,100 KLD water from Kagina River for the associated Cement Plant, water for mining shall be sourced from same. Later, after the development of the mine Pits, the rain water harvested in the mine pit, will augment the water requirement from the plant.

The power required for illumination will be supplied from cement plant/CPP/Grid.

iv. Quantity of wastes to be generated (liquid and solid) and scheme for their management / disposal.

- The details of proposed dump during present plan period are given below.

Sl. No	Dump ID	Quantity (Mill.T)	DIMENSION (In Meters)			RL	Status
			LENGTH	WIDTH	HEIGHT		
1	Top soil Dump	1.168	403	314	7	411 to 418	Proposed
2	Waste dump	2.073	618	333	7	418 to 425	Proposed

- The total quantity of Top soil and waste generated during the life of mine are about 8.12 million tonnes and about 30.16 million tonnes respectively which will be separately dumped at the designated place on the western and eastern side within the mine lease.
- The top soil dumps stacked temporarily will be rehandled and used for afforestation purpose during conceptual period.

- An area of about 200 Ha will be utilized for top soil stacking, waste dumping and 42.71 Ha will be utilized for Sub grade stacking during the Conceptual period.
- No dust generation from the dump happens due to high specific gravity of the waste material and regular water spray. The proper terracing will be done along dump slopes to provide better slope stability and planted with grasses, legumes etc. to arrest soil erosion to a great extent. Garland drains will be made all along the periphery of dump sites to prevent the water carrying the wash-offs from the dumps entering into the mines.
- Mined out area will not be back filled during the present plan period as well as during conceptual plan period too, as bottom of limestone is not yet proved at certain places. The company has proposed core drilling to prove the bottom of the limestone and also in the unexplored areas. Hence refilling is not proposed. Total mined out area will be left as water reservoir.

Wastewater generated from domestic use will be treated in septic tank followed by soak pit. The waste water shall be passed through oil and grease trap before discharging for greenbelt development/ dust suppression.

CHAPTER – 4
SITE ANALYSIS

4.0 Site Analysis

i. Connectivity.

The National Highway (NH-9) connecting Hyderabad – Solapur is located at a distance of about 58.5 km in NNE direction & The State Highway (SH-10) connecting Sedam - Malkhed is located at a distance of about 0.2 km (radially) in Southern direction, The nearest railway station is located at Sedam RS which is 2.5 km (radially) in ESE direction. The nearest International airport is Hyderabad at a distance of 122 km (radially).

Infrastructural facilities like Rest Shelter, canteen facility, Horticulturist office, Guesthouse, Environment Management Cell, Post Office, Telephone, Police outpost and Primary Health Center etc. will be common with the proposed cement plant.

ii. Land form, land use and land ownership.

The entire area is a private agriculture land and no forest land is involved. Two minor seasonal nallas flow through the lease area.

A village road and electricity transmission line of 11KV is passing through the mine lease which may be diverted in due course of mining for mineral conservation and sustainable mining after obtaining permission from competent authority.

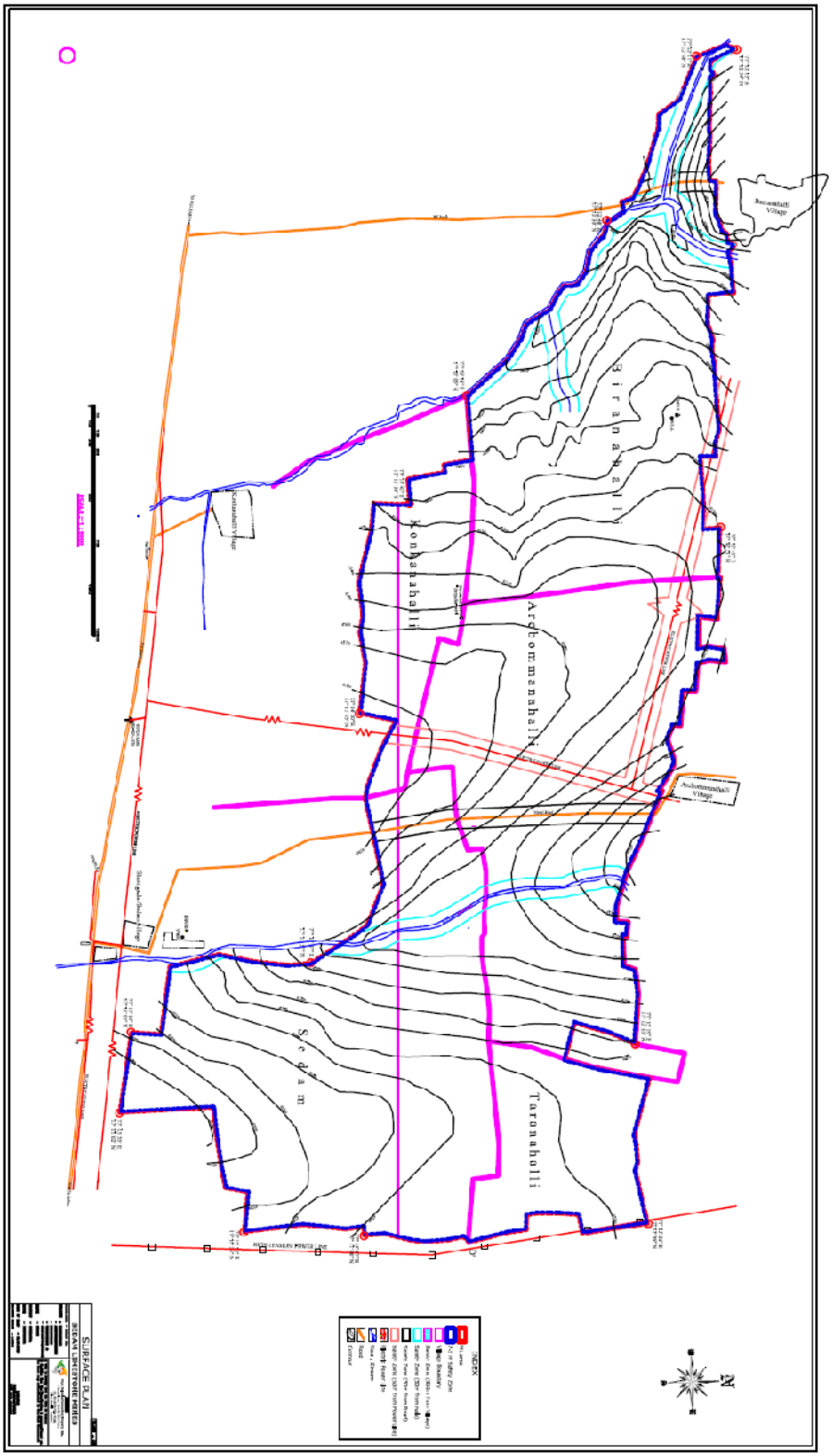
DCBL has already purchased 476 acres of land and duly registered in ML applied and plant areas. Besides agreements made with pattadars for 68 acres after paying advance amount.

Topography

- The Mining Lease area, under reference is a relatively flat terrain with a very gently slope towards West side.
- Natural ground slope is gently sloping in the western part of the lease area.
- The general elevation of the area ranges from 401 m to 424 m above MSL.

Surface plan of the Mining lease area is enclosed as **Fig – 4**.

Fig – 4 SURFACE PLAN



iii. Existing land use pattern (agriculture, non-agriculture, forest, water bodies (including area under CRZ), shortest distances from the periphery of the project to periphery of the forests, national park, wild life sanctuary, eco sensitive areas, water bodies (distance from the HFL of the river), CRZ, in case of notified industrial area, a copy of the Gazette notification should be given.

The entire area is a private agriculture land. There is no forest land in and around the applied Mining Lease area

No sensitive areas like National parks and Wild life Sanctuary and reserved forests are located within 10 km of the mine area.
Kagina River is at a distance of about 0.4-1.0 km (radially) in Northern direction from ML boundary. Bhima River is at a distance of 4.6 km (radially) in Western direction from ML boundary.

Existing infrastructure

None except a village road and electricity transmission line of 11KV which are passing through the mine lease and may be diverted in due course of mining for mineral conservation and sustainable mining.

iv. Soil classification

The top soil is black in colour, fine to medium grained, friable and sticky when wet and is 0.5 -3.0 m thick. The quantity of soil generated every year will be stored as soil bund at designated place and will be used for plantation.

v. Climatic data from secondary sources

In order to study the regional micrometeorology, secondary data collected from the nearest Indian Meteorological Department (IMD) station at Kalaburagi (Gulbarga) has been used. Summary of the same is given below:-

In general the climate of this area is dry. Summer starts from mid of February and continues upto first week of June, when the monsoon breaks. The monsoon continues till the end of October. Winter is between November and middle of February. The peak of summer is in May. The maximum temperature is about 46 degree Celsius (114.8^0

F). During the cold months of December, the temperature falls to 10 to 12 ^{o}C. The rainfall of the district is 812.5 mm. During the later half of the summer and monsoon, light to moderate winds with increase in velocity is common. During monsoon wind direction is generally SW-NE. During summer the wind direction is spread over with hot breeze. Rainfall of Sedam taluk in last five year is as below:-

SEDAM TALUK (Rainfall in mm)													
	JAN	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEP**	**OCT**	**NOV**	**DEC**	**Total**
2010	2	4	1	14	7	97	270	203	167	119	5	1	**890**
2011	0	17	0	43	23	40	269	175	39	46	3	0	**655**
2012	0	0	0	57	13	111	122	167	96	40	21	0	**627**
2013	0	3	3	9	34	104	234	162	219	108	3	0	**879**
2014	0	0	23	33	87	46	110	260	134	40	27	1	**761**
												Avg.	**762.4**

Source: Directorate of Economics and Statistics, GOK Bangalore

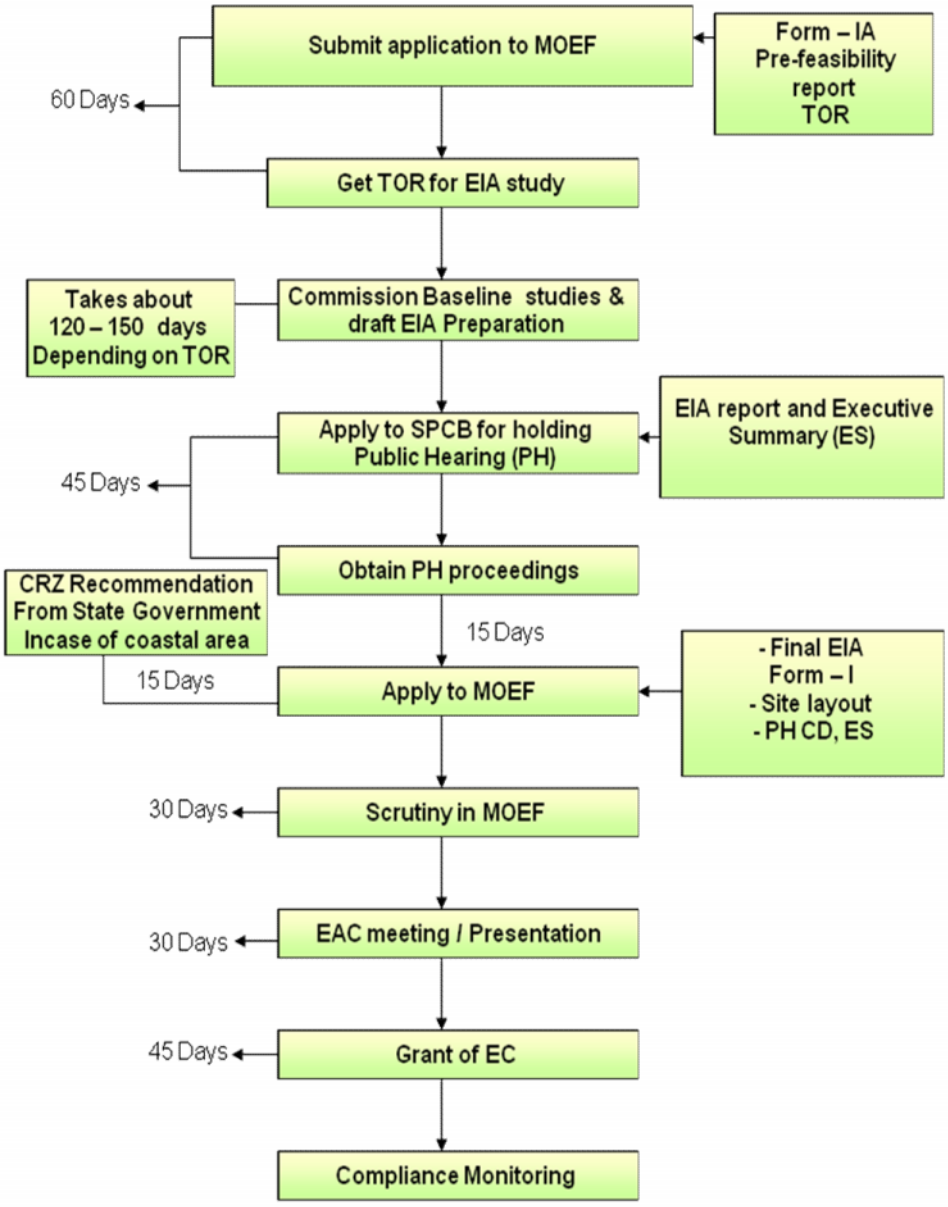
vi. Social infrastructure available

The site is well connected to all major cities by rail/road. All basic amenities such as school, hospital, market, etc., are available here. Sedam is major town, which is near to Mine site.

vii. Schematic representations of the feasibility drawing which give information of EIA purpose.

EC PROCESS

As per EIA notification - 2006



Total EC process is expected to take about 11 – 12 months

CHAPTER – 5
PLANINIG BRIEF

5.0 Planning Brief

i. Planning concept (type of industries, facilities, transportation etc.,) town and country planning/development authority classification

DCBL proposes to set up a cement plant and the applied mine is a captive source of major raw material (limestone). The surrounding region of the project will be upgraded along with the implementation and operation of the project. All facilities such as transportation, communication etc. will be upgraded along with the implementation and operation of the project.

ii. Population projection

About 93 personnel of various skills will be deployed directly for the proposed mining. They will be mostly from nearby villages, only few people coming from distant places shall be accommodated at the colony proposed to be constructed within the plant premises. In addition to direct employment, many indirect employment opportunities is envisaged to many more people, in the form of contractual jobs/works in business opportunities, service facilities, canteen, horticulture, house-keeping, building maintenance, rental vehicles and grocery shops & utility stores etc. Moreover, employment opportunities are created due to opening of sale depots, transport of other raw materials, fuel, fly-ash & cement etc. This will upgrade the economic status of the region and people living therein.

Because of local employment prospects, as above, migration of people from the nearby villages is minimized. However, for the sake of population projection, on the assumption that 50% of the population of the employed are from distant places and shall reside in the plant colony. The colony shall be equipped with all necessary infrastructure facilities and shall not pose any significant additional burden on the existing infrastructure facilities of the area. In addition, the existing infrastructure facilities of the area, shall also be enhanced and strengthened by various activities under socio-economic development program proposed by company.

Details of population as per 2011 census, in the immediate vicinity of the proposed project and population is projected by assuming Geometrical Progression method for post project scenario.

Assumption: - Incremental growth in population because of the proposed project considering the influx of people for employment and other allied services from distant places may be about 200 considering 4 person per family. Facilities for employees shall be provided in the colony whereas other migrants may settle in nearby villages.

The population at the end of n^{th} decade 'Pn' can be estimated as per Geometrical Progression method:

Pn = P (1+ IG/100) n

Where, IG = geometric mean (%)

P = Present population

N = no. of decades.

Name	**Level**	**Population (as per 2001 census)**	**Population (as per 2011 census)**
Taranhalli	Village	616	691
Arebommanhalli	Village	806	848
Beeranhalli	Village	1146	1315
Konkanhalli	Village	1023	1004
Hoshalli	Village	689	704
Neelhalli	Village	954	1064
	Total	**5234**	**5626**

Population projection

Year	2001	2011	2021	2031	2041
Population	5234	5626	6248	6717	7221

Geometrical increase Rate of growth: 0.075

iii. Land use planning (breakup along with greenbelt etc.,)

The total lease area is 995.97 Ha out which 682.53 Ha will be utilized and the rest 313.44 Ha will remain undisturbed.

Conceptually, an area of 235.30 Ha will be used for mining out of which an area of 202.08 Ha at the bottom will be left as water reservoir. An area of about 200 Ha will be used for dumping of waste & top soil and will be stabilized by suitable afforestation techniques, 42.71 Ha will be used for Mineral Storage/Sub grade, 2.70 Ha area will be used for roads,

2.60 ha area for infrastructure, 3.00 Ha area for crusher and 194.97 Ha area for green belt along safety zone and mine periphery. The rest 313.44 Ha area will remain undisturbed

iv. Assessment of infrastructure demand (physical & social)

With the setup of the project, there will be requirement of various social & physical infrastructure because of influx of people. A township will be constructed in plant premises for residence of employees. Infrastructural facilities will be common with the cement plant.

Apart from the jobs, the company will provide medical and educational facilities to the employees which can also be availed by the people around the plant. Adequate recreational facilities for the staff of the company and the local people will be created in the township.

v. Amenities / Facilities.

Infrastructural facilities will be common with the cement plant like Rest Shelter, canteen facility, Horticulturist office, Guesthouse, Environment Management Cell, Post Office, Telephone, Police outpost and Primary Health Center etc. The mine office with first aid rooms, rest shelters, toilets, tool/store room, Potable water for consumption,, Power supply, Workshop store etc., are proposed in the subjected mining lease area.

CHAPTER – 6
PROPOSED INFRASTRUCTURE

6.0 Proposed infrastructure

i. Industrial area (processing area)

Crusher will be located within the applied lease area.

All the services like site office, first aid station, rest shelter, drinking water, sanitation facilities and other amenities will be provided at the mine site. The details are discussed in the following paras.

- Well-maintained office room for mine officials
- Workshop will be provided in the mine lease.
- Stores with essential spares for HEMM will be located within the mining lease area.
- First aid room at the mines site office, first aid boxes at rest shelter and close to the workings will be provided. All the personnel engaged in the mining activity will be trained in first aid.

The following site facilities shall be provided.

- Neat/clean and cool water for drinking will be provided at the rest shelter for the workers.
- Workers and staff, accommodation will be created near to the mine site.
- Water for drinking and domestic consumption at the mine will be supplied from the cement plant.
- Fire tending arrangement will be provided at the mines site office, with different types of extinguishers to deal will all kinds of fire like electrical, maintenance workshop and HEMM operations.
- The vulnerable areas will be provided with fire alarms. Key persons will be trained in firefighting.

ii. Residential area (non-processing area)

No residential area is proposed at mine. However, the operational workers will be accommodated in the residential colony which will be developed in the plant premises.

iii. Greenbelt

Green belt over an area of 194.97 Ha will be developed along safety zone and mine periphery. Besides this, an area of about 200 Ha of dump area will be afforested with suitable afforestation techniques. It is proposed to plant the Neem, Acacia nilotica, Agave Americana, Aglaia elaeagnoidea, Apluda mutica etc species in consultation with local Forest officials

iv. Social infrastructure

The mining activity carried out in the area will have a positive socio-economic impact upon the nearby human settlement as indirect employment potential will be created due to mining and allied activities in the area. Apart from these, the company promotes health and education awareness in the area time to time by organizing health and education camps. The company will also take up various activities for upliftment of the social infrastructure in consultation with local communities and regulatory bodies.

In addition DCBL will take various social welfare programmes in the surrounding villages. The focus areas include:

- Economic development (Self Help Groups)
- Drinking Water
- Sanitation
- Health & Hygiene
- Education & vocational training etc.

v. Connectivity (traffic and transportation road/ rail/ metro/ water ways etc.,)

Road:

The deposit is well approachable by single lane asphalted road from Shettihuda to Arebommanhalli which is well connected with State Highway No.10 which is about 0.2 km from the ML.

Railway Line

Sedam is the nearest railway station located at about 2.5 km towards ESE.

vi. Drinking water management (source & supply of water)

DCBL has obtained permission to draw 3,100 KLD water from Kagina River for the use of cement plant and allied activities.
About 70 m^3/day of water is required for domestic, workshop, green belt & dust suppression of the mines. Water will be taken from cement plant which will in turn withdraw water from Kagina river. Later, after the development of the mine Pits, the rain water harvested in the mine pit, will augment the water requirement from the plant.

vii. Sewerage system

Domestic waste water from mines office will be treated in septic tank followed by soak pit.

viii. Industrial waste management

Not Applicable

ix. Solid waste management

The total quantity of Top soil and waste generated during the life of mine is about 8.12 million tonnes and about 30.16 million tonnes respectively which will be separately dumped on designated places on western and eastern side in the mine lease

Top soil will be utilized for filling up in the low lying area and part quantity will be dumped along the lease boundary for plantation.

Further an area of about 200 Ha will be utilized for top soil stacking, waste dumping and 42.71 Ha will be utilized for Sub grade stacking at the Conceptual period.

Dust generation from the dump will not be happened due to high specific gravity of the waste material and regular water spray. The proper terracing will be done along dump slopes to provide better slope stability and planted with grasses, legumes etc. to arrest soil erosion to a great extent. Garland drains will be made all along the periphery of dump sites to prevent the water carrying the wash-offs from the dumps entering into the mines.

x. Power requirement & supply / source.

About 0.5 MW power shall be required for illumination and other activities which shall be met from the interlinked cement plant/CPP & Grid. Provision of D.G. Set is also envisaged for emergency power.

CHAPTER – 7
REHABILITATION AND RESETTLEMENT (R & R) PLAN

7.0 Rehabilitation and resettlement (R & R) Plan

i. Policy to be adopted (central / state) in respect of the project affected persons including home oustees, land oustees and landless labourers (a brief out line to be given).

The mine area does not cover any habitation. Hence the mining activities do not involve any displacement of human settlement. No public buildings, places, monuments etc., exist within the lease area or in the vicinity. The mining operations will not disturb/relocate any village. However, the land oustees will be enumerated and compensation will be paid as per the Govt. Policy.

Land prices were jointly fixed by DCBL under the leadership of Local eminent people of the society, local party leaders, & other representatives from land owners and accordingly lands were and will be purchased with the knowledge of all concerned and in line with the different policies & acts issued from time to time, DCBL agreed to pay significantly higher price than the market rate prevailing at the time.

Besides, the company will formulate and implement different plans under which benefits will be given to land oustees on priority and also extended to other local residents of the surrounding villages such as direct employment, other income generating activities directly and indirectly, contracts and other tangible benefits under the following heads:-

A. Vocational Training for Youths/Self Employment
B. Educational Facilities
C. Medical Facilities
D. Welfare Scheme for the People of the Local Area
E. Infrastructure Facility Development of the Area
F. Community Development/Social welfare Schemes

CHAPTER – 8
PROJECT SCHEDULE & COST ESTIMATES

8.0 Project schedule & Cost Estimates

i. Likely date of start of construction and likely date of completion (time schedule for the project to be given).

The mine is scheduled to be executed by February 2017 after getting EC, CTE and all other regulatory clearances. Life of the mine @ 4.00 million tonnes per annum for the mineable reserves of 124.8 million tonnes would be 34 years. The life of the mine may increase after further exploration.

ii. Estimated project cost along with analysis in terms of economic viability of the project.

The estimated project cost is about Rs. 165 Crores including land cost.

CHAPTER – 9
ANALYSIS OF PROPOSAL (FINAL RECOMMENDATIONS)

9.0 Analysis of proposal (Final Recommendations)

i. Financial and social benefits with special emphasis on the benefit to the local people including tribal population, if any, in the area.

Economic development of the region depends largely upon the nature of activities undertaken in the surrounding region. Corporate development invariably contributes towards acceleration of the process of socio-economic upliftment of the rural society by means of employment, health & study programme, medical camps etc.,

Employment: As this will be the green field project by DCBL, so the employment of the technical personnel will be required for plant and mines. The locals of the area will be benefited for the employment directly and indirectly. The mine is proposed to be operated by fully mechanised conventional method. Total direct employment envisaged from the proposed mine is about 93 persons.

Further, there would be a lot of indirect employment opportunities arising due to the proposed cement project.

The establishment of the cement plant and proposed captive mine would aid in the overall social and economic development of the region. The plant and mine, in addition to direct employment, would also provide indirect employment opportunities to many more people, in the form of contractual jobs/works in business opportunities, service facilities, canteen, horticulture, house-keeping, building maintenance, rental vehicles and grocery shops & utility stores etc. Moreover, employment opportunities are created due to opening of sale depots, transport of other raw materials, fuel, fly-ash & cement etc. This will upgrade the economic status of the region and people living therein.

Medical facilities: Medical facilities will be provided for employee as well as people of nearby villages.

Educational facilities: Basic educational and vocational training facilities will be provided for the children of employees as well as villagers from nearby villages.

Infrastructure facilities: Approach roads will be developed at par with plants roads

TABLE - 1

SALIENT FEATURES OF THE MINING LEASE AREA

Feature	**Details**
Altitude	401-424 m above msl
Longitude & Latitude	North Latitude : 17°11'17"N - 17°13'00" East Longitude : 77°12'00"E - 77°16'00"
Village, Tehsil, District, State	Beeranahalli, Arebammanahalli, Konkanahalli, Taranahalli & Sedam Villages, Sedam Taluk, Kalaburagi (Gulburga) District, Karnataka.
Max. Temp. ^{0}C	45.5
Min. Temp. ^{0}C	6.1
Relative Humidity %	23 - 82
Annual rainfall	812.5 mm
IMD STATION	Hyderabad/Gulbarga
District Head Quarters	Bidar – 83.5km - NNE
Land Availability	995.97 ha
Topography	Gently Undulated
Soil Type	Sandy loam
Nearest River	Kagna River - 0.2 km - N Benithora River -4.6 km – W
Nearest Highway	National Highway (NH-9) connecting Hyderabad – Solapur – 58.5 km – NNE direction. State Highway (SH-10) connecting Sedam - Malkhed - 0.2 km – S direction.
Nearest Railway station	Sedam RS – 2.5km - ESE
Nearest National Parks	Chincholi Wild life sanctuary – 45.0 km - NE
Nearest Industries	Vasavadatta Cement Factory – 3.6 km – SE Rajashree Cement Limited – 7.8 km – SW
Inter State Boundary	Karnataka - Telangana– 12.3 km – E
Nearest Village	Beeranahalli – 0.2 km – N Arebammanahalli – 0.1 km –N Taranhalli – 0.5 km – E Settihudo – 0.1 km –W Konakanhalli – 0.7 km –S
Nearest Air port	Begumpet Airport – 130.0 km - ENE Shamshabad International Airport – 122.0 km – E Belgaum AirPort – 316.0 km – SW
Nearest Forest	None Within 10km radius
Historical places	None within 10 km

***** *All distances mentioned in the above table are aerial distances.*

Annexure – 1

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಸಂಖ್ಯೆ:ಗಭೂಇ:ಗಗುಶಾ/ 736 Aml08/08-09/158

ನಿರ್ದೇಶಕರ ಕಛೇರಿ,
ಗಣಿ ಮತ್ತು ಭೂ ವಿಜ್ಞಾನ ಇಲಾಖೆ,
ನಂ.49, ಖನಿಜ ಭವನ, ರೇಸ್ ಕೋರ್ಸ್ ರಸ್ತೆ,
ಬೆಂಗಳೂರು-560001, ದಿನಾಂಕ: - 8 APR 2009

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ಮೆ|| [illegible] ಲಿ
[illegible] 11, 12 ನೇ [illegible]
[illegible]
15 [illegible]
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ಮಾನ್ಯರೆ,

ವಿಷಯ: ಗಣಿಗುತ್ತಿಗೆಗಾಗಿ ದಿನಾಂಕ: 9.5.08 ರಂದು ಶ್ರೀ ಮೆ|| [illegible] ಲಿ ರವರು [illegible] ಜಿಲ್ಲೆಯ [illegible] ತಾಲ್ಲೂಕಿನ [illegible] ಗ್ರಾಮದ [illegible] 995.97 ಎಕರೆ/ಹೆಕ್ಟೇರ್ ಪಟ್ಟಾ/ಸರ್ಕಾರಿ ಪ್ರದೇಶದಲ್ಲಿ Limestone, Dolomite, Shale, Clay & Associated minerals ಖನಿಜಕ್ಕಾಗಿ ಸಲ್ಲಿಸಿರುವ ಅರ್ಜಿ ಬಗ್ಗೆ.

ಉಲ್ಲೇಖ: ಅರ್ಜಿಯ ಸಂಖ್ಯೆ: 736 Aml08 ದಿನಾಂಕ: 9.5.08

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ಮೇಲ್ಕಂಡ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ನಿಮ್ಮ ಅರ್ಜಿಯನ್ನು ಮುಂದುವರೆಸಲು ಈ ಕೆಳಕಂಡ ದಾಖಲೆಗಳನ್ನು ಸಲ್ಲಿಸಲು ಸೂಚಿಸಿದೆ.

1) ಇಂಡಿಯನ್ ಬ್ಯೂರೋ ಆಫ್ ಮೈನ್ಸ್‌ರವರಿಂದ ಅನುಮೋದಿಸಲ್ಪಟ್ಟಿರುವ ಮೈನಿಂಗ್ ಪ್ಲಾನ್ 995.97 Hect ಎಕರೆ(ಪ್ರತಿಯಲ್ಲಿ) ನಕ್ಷೆ ಲಗತ್ತಿಸಿದೆ.
2) ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯವರಿಂದ ಪಡೆದ ವಿಮೋಚನಾ ಪತ್ರ,
3) ಭಾರತ ಸರ್ಕಾರದಿಂದ ಪಡೆದ ಎಂ.ಓ.ಇ.ಎಫ್. ಬಿಡುಗಡೆ ಪತ್ರ,
4) ~~ಅರಣ್ಯ ಸಂರಕ್ಷಣಾ ಕಾಯಿದೆ 1980ರ ಸೆಕ್ಷನ್ 2ರ ಪ್ರಕಾರ ಅರಣ್ಯ ಇಲಾಖೆಯಿಂದ ಪಡೆದ ಬಿಡುಗಡೆ ಅನುಮತಿ ಪತ್ರ,~~
5) ಪರಿಸರ ಸಂರಕ್ಷಣಾ ಕಾಯಿದೆ 1986ರ ಪ್ರಕಾರ ಪಡೆದ ಅನುಮತಿ ಪತ್ರ,

ತಮ್ಮ ವಿಶ್ವಾಸಿ,

[signature]
~~ಆಯುಕ್ತರು ಮತ್ತು~~ ನಿರ್ದೇಶಕರು

HRML.H