PRE - FEASIBILITY REPORT

Submission

to

Ministry Of Environment, Forest & Climate Change

New Delhi

Prepared for

Anjani Limestone Mine – II

of

M/s. Anjani Portl and Cement Limited

[Mine Lease Area – 33.99 ha]

Survey Number	384(P)
Village	Chintalapalem
Mandal	Chintalapalem
District	Suryapet
State	Telangana

PREPARED BY

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1. EXECUTIVE SUMMARY

Company Profile

M/s Anjani Portland Cement Limited (Anjani Cement) located at Chintalapalem and Gudimalkapuram Villages, Chintalapalem Mandal, Suryapet District, Telangana State, commenced its production in 1999. It is an integrated Cement Plant with two lines having facilities for pyro-processing and grinding. The Limestone requirement of Anjani Cement is being met from its own Captive Limestone Mine I located at Chintalapalem Village & Mandal, Suryapet District, Telangana State.

Anjani Cement was acquired by Chettinad Cement during 2014-15 and is being operated under the name of Anjani Portland Cement Limited only.

Proposed Project

The Environmental Clearance (EC) was granted to Anjani Cement by the Ministry of Environment & Forest (MoEF) vide its letter number J -11011/892/2008–IA-II (I) dated 5th Jan 2010 with a validity upto 4th Jan 2015, for a Cement Capacity of 3.85 million tons per annum (mtpa), Clinker Capacity of 2.31 mtpa, Captive Power Generation Capacity of 16 MW and Captive Limestone Mining Capacity (Mine I) of 3.0 mtpa. The extension of validity of EC has also been granted for 5 years to Anjani Cement Plant & Captive Power Plant by the Ministry of Environment, Forest & Climate Change (MoEF& CC) vide its letter number J -11011/892/2008 –IAII (I) (Pt) dated 20th Oct 2015.

The present Cement Plant Capacity of 1.925 mtpa is proposed to be increased to 3.85 mtpa and the Captive Limestone Capacity of Mine I from 1.50 mtpa to 3.0 mtpa for which EC is already available. The total requirement of Limestone to meet the proposed increased Cement Capacity is 3.58 mtpa (for a Clinker production of 2.31 mtpa). The EC is available for Limestone production of 3.0 mtpa from Mine I (57.52 hectares). The shortfall in the required supply of Limestone is (3.58 minus 3.00) i.e., 0.58 mtpa.

It is proposed to bring Mine II (33.99 hectares) located in Chintalapalem Village into operation after obtaining all the required approvals to meet the portion of shortfall in the required supply of Limestone.

This proposal is for obtaining Environmental Clearance for a Limestone Mining capacity of 0.3 mtpa rom Mine II. The Mining Lease for Mine II located at Chintalapalem was granted by the State Government of Andhra Pradesh to M/s Sri Venkateswara Minerals vide GO No.267 dated 5th Aug 1993 and the Lease deed was executed on 27th Sep 1993.Then the Mining Lease was transferred to M/s Anjani Portland Cement Limited vide GO No. 59 dated 28th Feb 2008 and the Lease deed was executed on 25th Apr 2008. Anjani Cement was acquired by Chettinad Cement during 2014-15 and is being operated under the name of Anjani Portland Cement Limited only. As per the latest MMDR Amendment Act 2015, the validity of ML area is extended for 50 years i.e., upto 26th Sep 2043.

Need for the Project

The southern region accounts for the largest share in overall Cement production due to the vast availability of Limestone. Cement consumption varies across regions due to the differences in the Demand-Supply, Per Capita Income and the L evel of Industrial/Infrastructure Development in each state. The expected growth of Infrastructure/Construction Sector in the country is set to increase the demand for Cement. Pan-India demand for Cement is growing at a robust Compounded Annual Growth Rate (CAGR) of 7-8 per cent.

This proposal is to bring the Mine II, located at Chintalapalem Village into operation to meet the shortfall in the required supply of Limestone on account of proposed expansion of Anjani Cement Plant.

Location

The Mining Lease (ML) area falls in the Survey of India Topo-Sheet No. 56P/13 & 56P/14 and bounded by following co-ordinates.

BOUNDARY PILLAR NUMBER	CO - ORDINATES
1.	16°45'9.4"N 79°58'35.9"E
2.	16°45'5.4"N 79°58'33.1"E
3.	16°44'47.6"N 79°58'18.9"E
4.	16°44'44.2"N 79°58'18.3"E

BOUNDARY PILLAR NUMBER	CO - ORDINATES
5.	16°44'49.9"N 79°58'3.5"E
6.	16°45'00.4"N 79°58'11.5"E
7.	16°45'00.9"N 79°58'17.4"E
8.	16°45'05.7"N 79°58'21.0"E
9.	16°45'05.2"N 79°58'22.2"E
10.	16°45'06.8"N 79°58'23.2"E
11.	16°45'08.5"N 79°58'24.5"E
12.	16°45'09.8"N 79°58'25.0"E

The Anjani Limestone Mine II is located at Chintalapalem Village, Chintalapalem Mandal, Suryapet District, Telangana State. Jagayyapet town is approximately at a distance of 18 km in the NNE (direction), Kodad is at a distance of 25 km in the N (direction), Miriyalaguda is at a distance of 42 km in the NW (direction) from the Mine. The Limestone Mine Area is at a distance of 22 Km from NH # 9 connecting Hyderabad and Vijayawada and at a distance of 29 Km from broad gauge section of South Central Railways connecting Hyderabad and Guntur.

There are no Ecologically Sensitive Areas, Wildlife Sanctuaries or Habitats for any Specific Wildlife within 10 km radius nor there are any archaeological monuments, installation etc., The Yepala Madhavaram RF, Chintalapalem RF & Venkatayapalem Extension RF are located at distance of 3.5 km, 0.3 km and 7.6 km from the ML Area.

Land Details

The total Mining Lease (ML) Area is 33.99 hectares (ha) consisting of Government Waste Land and it is located in Chintalapalem Village, Chintalapalem Mandal, Suryapet District, Telangana State. No Forest land is involved in the ML Area. The survey number involved is 384 (p).

The Mining Lease for Mine II located at Chintalapalem was granted by the State Government of Andhra Pradesh to M/s Sri Venkateswara Minerals vide GO No.267 dated 5th Aug 1993 and the Lease deed was executed on 27th Sep 1993.

Then the Mining Lease was transferred to M/s Anjani Portland Cement Limited vide GO No. 59 dated 28th Feb 2008 and the Lease deed was executed on 25th Apr 2008. Anjani Cement was acquired by Chettinad Cement during 2014-15 and is being operated under the name of Anjani Portland Cement Limited only. As per the latest MMDR Amendment Act 2015, the validity of ML is extended for 50 years i.e., upto 26th Sep 2043. The copies of GO No 267 and 59 are enclosed herewith as **Annexure 1a & 1b**.

Nature of Land

The ML Area is broadly of rectangular shape with a few re-entrant edges. It is a part of vast rolling plain. The general ground level is 87.7 m above MSL. Hummocky outcrops of Limestone raising to maximum height of about a metre above ground level occupy a major part of the ML Area. A small, dry, shallow pond (Errakunta) exists on the southern side of ML Area.

A few minor rills flowing from northwest dissect the region and drain into River Krishna which is the main drainage element of the region. The river flows at a distance of 5.1 Km southeast of the ML Area. Some parts of the region are irrigated by the Nagarjuna Sagar Project Canal System. The "Vellatur Minor" of this system passing through the northern side of the ML Area is unlined and the feeder is said to have been dry since the last 8 years and thus lies unused. The region is practically bereft of trees/bushes except a few on the field bunds. The ML Area, being rocky, is barren land and does not support any vegetation barring a few thin thorny shrubs.

Limestone Deposit & Reserves

The Mining Lease area forms a part of the 'Paland Subbasin' of a thick pile of sediments of KURNOOL GROUP and is situated in the northeastern end of the 'Cuddapah Basin' which is a repository of vast thickness of sediments of the Cuddapah Super Group and Kurnool Group of Lower and Upper Proterozoic ages respectively. The area lies in very close proximity to the structurally disturbed eastern margin of the Cuddapah Basin. Geological succession of the rock types met within the region, as reported by the Geological survey of India in the year 1991, is as follows.

Regional geological Succession (After G.S.I)

Limestone	---	Narjee –Jammalmadugu ---F	Kurnool Group
Shale and Guartzite	---	Banganapalli -F	
Granites, Greisses, Migmattites, Amphibolites, Dolerite Dykes-			Archaeans
Dykes - Unclassified Crystals			

The Kurnool sediments overlie the Archean metamorphic with an unconformity. The contact lies about 10 km northwest of Chintalapalem. The Kurnool rocks are gently dipping at 5^{o} to 20^{o} towards south and east, with bedding strike in a general E.N.E-W.S.W and N.N.E-S.S.W directions. The Narjee Limestones are the most prevalent of these rocks. They make low outcrops at several places and fall in the Limestone belt referred earlier, with their vast reserve of Cement Grade Limestone sustaining several Cement Factories in the region.

Summary of Reserves

Classification	Code	Quantity (tons)	Grade	Remarks
A. Mineral Reserve				
Proved Mineral Reserve	111	----		
Probable Mineral Reserve	122	5080000	CaO (40.44% to 48.93%) SiO_2 (6.76 % to 13.27%)	Ore
		718750	CaO (44.07% to 45.39%) SiO_2 (14.41% to16.02%)	Sub grade
B. Remaining Resources				
Feasibility Mineral Resources	221	---		
Pre-feasibility Mineral Resources	222	2563275	CaO (40.44% to 48.93%) SiO_2 (6.76 % to 13.27%)	Ore

Total Reserves + Resources = 83,62,025 tons

As the Limestone deposits are noticed upto a depth of 60 m in the nearby Limestone Mines, further detailed explorations will be carried out to establish the availability Cement Grade Limestone. On account of this additionally available Limestone, the total reserves will go up extending the life of this mine further with the mining depth reaching 60 m.

Mining Process

Though conventional mechanized mining will be followed to mine Limestone involving drilling and blasting, non-conventional method of mining without drilling and blasting will also be followed while mining on the eastern side of the ML Area. Mega Rock Breakers will be used to break the Limestone boulders. Loading of broken Limestone will be done using heavy-duty machinery. Transportation of Limestone to the Cement Plant for captive consumption will be done through tippers.

Environmental Protection

The expected air pollution (mainly dust release), water pollution and noise pollution due to this proposed mining activity will be minimal as mitigation measures such as regular water spraying on the transport roads, development of greenbelt along the boundary of ML Area and in the safety barriers, proper maintenance of roads and the mining machinery & equipment, provision of garland drains, noise control measures like silencers for the mining machinery, vehicles will be ensured. The groundwater level is at about 40 m below ground level. The company proposes to spend Rs. 9.0 lakhs per annum on environmental protection, monitoring and greenbelt development and Rs 1.0 lakh per annum on health & safety.

Employment

This mine will provide employment for about 21 people by both direct employment which include mine officials, skilled, semi-skilled labour and indirect employment, in contractual works & transport.

Corporate Social Responsibility (CSR)

The Lessee will provide social benefits like drinking water, health care measures, training for self-employment, repair & maintenance of the village roads, maintenance of school buildings, awarding scholarships for higher studies to the meritorious backward class students, supply of free books and

uniforms to the socially deprived class of students in the neighbouring villagers. This project is expected to yield a positive impact on the surrounding area.

2. INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION

(i) Identification of project and project proponent.(In case of mining project, a copy of ML or Letter of Indent should be given)

M/s Anjani Portland Cement Limited (AnjaniCement) located at Chintalapalem and Gudimalkapuram Villages, Chintalapalem Mandal, Suryapet District, Telangana State, commenced its production in 1999. The Anjani Portland Cement Limited was acquired by Chettinad Cement Corporation Limited during 2014-15 and is being operated under the name of Anjani Portland Cement Limited.

The present Cement Plant Capacity of 1.925 million tons per annum (mtpa) is proposed to be increased to 3.85 mtpa, the Clinker Capacity from 1.15 mtpa to 2.31 mtpa and the Captive Limestone Capacity of Mine I from 1.50 mtpa to 3.0 mtpa for which EC is already available. The total requirement of Limestone to meet the proposed increased Cement Capacity is 3.58 mtpa (for a Clinker production of 2.31 mtpa).

The EC is available for Limestone production of 3.0 mtpa from Mine I (57.52 hectares).It is proposed to bring Mine II (33.99 hectares) located in Chintalapalem Village into operation after obtaining all the required approvals. This proposal is for obtaining Environmental Clearance for a Limestone Mining capacity of 0.3 mtpa from Mine II to meet the part of shortfall in the required supply of Limestone.

The Mining Lease for Mine II located at Chintalapalem was granted by the State Government of Andhra Pradesh to M/s Sri Venkateswara Minerals vide GO No.267 dated 5th Aug 1993 and the Lease deed was

executed on 27th Sep 1993.Then the Mining Lease was transferred to M/s Anjani Portland Cement Limited vide GO No. 59 dated 28th Feb 2008 and the Lease deed was executed on 25th Apr 2008. The Anjani Portland Cement Limited was acquired by Chettinad Cement Corporation Limited during 2014-15 and is being operated under the name of Anjani Portland Cement Limited. As per the latest MMDR Amendment Act 2015, the validity of ML is extended for 50 years i.e., up to 26th Sep 2043.

(ii) Brief description of nature of the project

The proposed increase in Cement and Clinker Capacities in the Cement Plant, requires additional Limestone. Hence, it is proposed to bring Mine II (33.99 hectares) located in Chintalapalem Village into operation to meet the increased requirement of Limestone, after obtaining all the required approvals. This proposal is for obtaining Environmental Clearance for a Limestone mining capacity of 0.3 mtpa from Mine II to meet the part of shortfall in the required supply of Limestone. The Mining Lease for Mine II located at Chintalapalem was granted by the State Government of Andhra Pradesh to M/s Sri Venkateswara Minerals vide GO No.267 dated 5th Aug 1993 and the Lease deed was executed on 27th Sep 1993.Then, the Mining Lease was transferred to M/s Anjani Portland Cement Limited vide GO No. 59 dated 28th Feb 2008 and the Lease deed was executed on 25th Apr 2008. The Anjani Portland Cement Limited was acquired by Chettinad Cement Corporation Limited during 2014-15 and is being operated under the name of Anjani Portland Cement Limited. As per the latest MMDR Amendment Act 2015,the validity of ML is extended for 50 years i.e., upto 26th Sep 2043.

Though conventional mechanized mining will be followed to mine Limestone involving drilling and blasting, non-conventional method of mining without drilling and blasting will also be followed while mining on the eastern side of the ML Area. Mega Rock Breakers will be used to break the Limestone boulders. Loading of broken Limestone will be done using heavy-duty machinery. Transportation of Limestone to the Cement Plant for captive consumption will be done through tippers.

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

The southern region accounts for the largest share in overall Cement production due to the vast availability of Limestone. Cement consumption varies across regions due to the differences in the Demand-Supply, Per Capita Income and the L evel of Industrial / Infrastructure Development in

each state. There is lot of potential for Development in the Infrastructure and Construction Sector in India and the Cement Sector is expected to largely benefit from the same. Some of the recent major government initiatives such as development of smart cities are expected to provide a major boost to Infrastructure/Construction Sectors. Pan-India demand for Cement is growing at a robust Compounded Annual Growth Rate (CAGR) of 7-8 per cent.

The proposed expansion of Cement Capacity is in anticipation of increased demand for Cement in near future. The additional capacities of Cement and Limestone proposed will result in additional revenue in terms of taxes/royalty to the Government and further socio-economic developments near the vicinity of the project site.

(iv) Demand-Supply Gap

The Demand for Cement is closely related to the growth in the Infrastructure/ Construction Sector. Consequently, Cement demand has been posting a steady growth rate propelled by the increased thrust on Infrastructure Development and the higher demand from the Housing Sector. This trend is likely to continue in the coming years.

In India, the demand from the Infrastructure Segment is growing at a robust CAGR of 10-11 percent, supported mainly by the government's thrust on Infrastructure Development.

Though the Housing Sector will continue to be the dominant consumer of Cement, CRISIL Research expects its share to be about 58 per cent over the next 5 years. The demand from Urban Housing is estimated to grow at a CAGR of 5-6 per cent over the next 5 years, largely led by new projects. Demand from Rural Housing projects is likely to grow at a CAGR of 4-5 per cent, as rising rural incomes and higher government investments boost Cement Demand in the Rural and Semi-Urban regions. The total demand of Cement is can be met by the available capacity and the additional capacities proposed.

(v) Imports Vs Indigenous production

The landed cost of imported Cement mainly depends on the taxes/duties levied and already representations have been made to Union Ministry to provide a level playing field to the Cement Industry. With adequate in-house capacity, the entire requirement of Cement can be met from indigenous production of Cement.

(vi) Export Possibility

India, the world's second largest Cement manufacturer, currently exports two to three per cent of its production and that is mainly in the form of Clinker, an input for Cement making, to neighboring countries. The countries like Indonesia, UAE, Nepal and Bangladesh now, have set up their own Grinding Units. Nepal has increased customs duty, leaving Indian exports unviable.

(vii) Domestic / Export Markets

With the expected growth of Infrastructure/Housing Sectors the domestic market of Cement is bound to grow. The export market may not see much increase.

(viii) Employment Generation (Direct and Indirect) due to the project

The anticipated employment likely to be generated is given in the table below. It includes managerial & supervisory staff directly employed by the company and skilled, semi-skilled workers on contract basis.

(a). Management & Supervisory Personnel

S.No	Designation	Number
1	Mines Manager	1
2	Mining Engineer (Part Time)	1
3	Blaster	1
4	Driller cum Operator	1
5	Mines Engineer	1
6	Geologist	1
Total		6

(b) Contract Personnel

S No	Designation	Number
1	Tipper Driver	7
2	Jeep Driver	1
3	Skilled Labour	5
4	Semi Skilled Labour	2
Total		**15**

3. PROJECT DESCRIPTION

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

The present Cement Plant Capacity of 1.925 mtpa is proposed to be increased to 3.85 mtpa, the Clinker Capacity from 1.15 mtpa to 2.31 mtpa, Captive Limestone Capacity of Mine I from 1.50 mtpa to 3.0 mtpa for which EC is already available. The total requirement of Limestone to meet the proposed increased Cement Capacity is 3.58 mtpa (for a Clinker production of 2.31 mtpa). The EC is available for Limestone production of 3.0 mtpa from Mine I (57.52 hectares). A portion of the shortfall in the required supply of Limestone will be met from Mine II (33.99 hectares) located in Chintalapalem Village by bringing the same into operation after obtaining all the required approvals. This proposal is for obtaining Environmental Clearance for a Limestone mining capacity of 0.3 mtpa from Anjani Limestone Mine II to meet the part of shortfall in the required supply of Limestone.

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

The Mining Lease (ML) area falls in the Survey of India Topo-Sheet No. 56P/13 & 56P/14 and bounded by following co-ordinates.

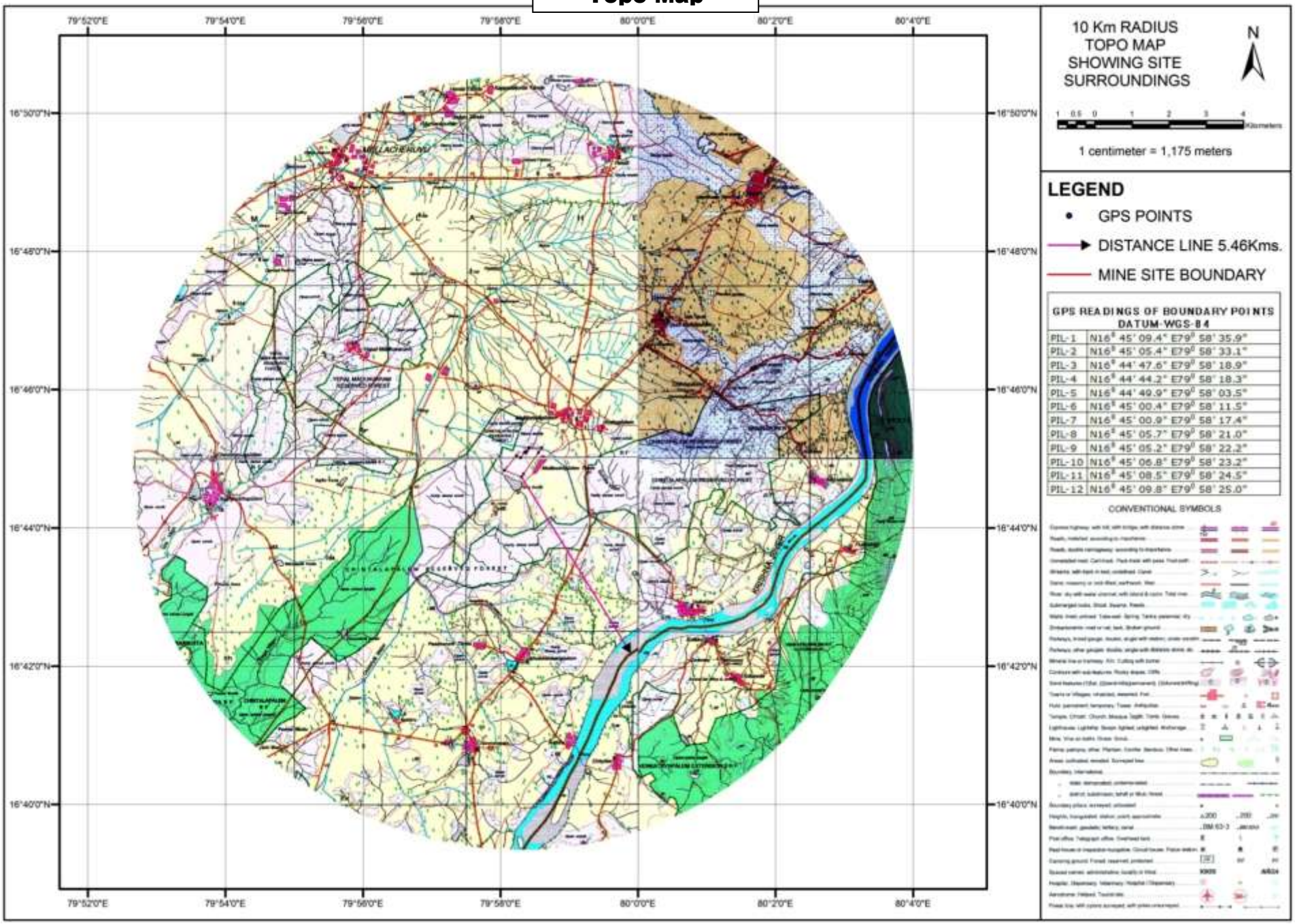
BOUNDARY PILLAR NUMBER	CO - ORDINATES
1.	16° 45' 9.4" N 79° 58' 35.9" E
2.	16° 45' 5.4" N 79° 58' 33.1" E
3.	16° 44' 47.6" N 79° 58' 18.9" E
4.	16° 44' 44.2" N 79° 58' 18.3" E
5.	16° 44' 49.9" N 79° 58' 3.5" E
6.	16° 45' 00.4" N 79° 58' 11.5" E
7.	16° 45' 00.9" N 79° 58' 17.4" E
8.	16° 45' 05.7" N 79° 58' 21.0" E
9.	16° 45' 05.2" N 79° 58' 22.2" E
10.	16° 45' 06.8" N 79° 58' 23.2" E
11.	16° 45' 08.5" N 79° 58' 24.5" E
12.	16° 45' 09.8" N 79° 58' 25.0" E

The Anjani Limestone Mine II (33.99 hectares) is located at Chintalapalem Village, Chintalapalem Mandal, Suryapet District, Telangana State. Jagayyapet town is approximately at a distance of 18 km in the NNE (direction), Kodad is at a distance of 25 km in the N (direction), Miriyalaguda is at a distance of 42 km in the NW (direction) from the Mine. The Limestone Mine area is at a distance of 22 km from NH # 9 connecting Hyderabad and Vijayawada and at a distance of 29 km from broad gauge section of South Central Railways connecting Hyderabad and Guntur.

Location map showing General Location, Specific Location & Project Area

Anjani Portland Cement Limited

Topo Map


79°52'0"E
79°54'0"E
79°56'0"E
79°58'0"E
80°0'0"E
80°2'0"E
80°4'0"E
16°50'0"N
16°48'0"N
16°46'0"N
16°44'0"N
16°42'0"N
16°40'0"N
10 Km RADIUS
TOPO MAP
SHOWING SITE
SURROUNDINGS
N
1 0.5 0 1 2 3 4 Kilometers
1 centimeter = 1,175 meters
LEGEND
GPS POINTS
DISTANCE LINE 5.46Kms.
MINE SITE BOUNDARY
GPS READINGS OF BOUNDARY POINTS
DATUM-WGS-84
PIL-1 N16° 45' 09.4" E79° 58' 35.9"
PIL-2 N16° 45' 05.4" E79° 58' 33.1"
PIL-3 N16° 44' 47.6" E79° 58' 18.9"
PIL-4 N16° 44' 44.2" E79° 58' 18.3"
PIL-5 N16° 44' 49.9" E79° 58' 03.5"
PIL-6 N16° 45' 00.4" E79° 58' 11.5"
PIL-7 N16° 45' 00.9" E79° 58' 17.4"
PIL-8 N16° 45' 05.7" E79° 58' 21.0"
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PIL-11 N16° 45' 08.5" E79° 58' 24.5"
PIL-12 N16° 45' 09.8" E79° 58' 25.0"
CONVENTIONAL SYMBOLS

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

The mining site is expected to have Cement Grade Limestone suitable for Cement manufacturing and nearer to the Cement Plant Facility to bring down the transportation cost. The Mine II located in Chintalapalem at 7.0 km (By road) from the Anjani Cement Plant and is having adequate Limestone Reserves that can meet the Anjani Cement Plant's Limestone requirement. The valid Mining Lease is also available. Hence, no alternate site was considered.

The Mine II ML Area consists of Government Waste Land and no Forest land is involved. There are no Eco-Sensitive Areas or Wildlife Sanctuaries located within 10 km of ML. The Yepala Madhavaram RF, Chintalapalem RF & Venkatayapalem Extension RF are located at distance of 3.5 km, 0.3 km and 7.6 km from the ML Area.

(iv) Size or magnitude of operation

The proposed increase in Cement and Clinker Capacities in the Cement Plant, requires additional Limestone. Hence, it is proposed to bring Mine II, with an extent of 33.99 ha, located in Chintalapalem Village into operation to meet the additional Limestone requirement, after obtaining all the required approvals. This proposal is for obtaining Environmental Clearance for a Limestone mining capacity of 0.3 mtpa from Mine II to meet the part of shortfall in the required supply of Limestone**.**

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

The brief details of the mining process are given below.

Though conventional mechanized mining will be followed to mine Limestone involving drilling and blasting, non-conventional method of mining without drilling and blasting will also be followed while mining on the eastern side of the ML Area.

Mega Rock breakers will be used to break the Limestone boulders. Loading of broken Limestone will be done using heavy-duty machinery. Transportation of Limestone to the Cement Plant for captive consumption will be done through tippers. Schematic diagram showing mining process is shown in **Annexure 3.**

(vi) Raw material required along with estimated quantity, likely source, marketing area of final product/s, Mode of transport of raw Material and Finished Product

As the proposal is basically for mining, there is no requirement of any specific raw material. The Limestone mined will be the final product and the same will be used as raw material in the Cement Plant. The Limestone will be transported through tippers directly to the Cement Plant.

(vii) Resource optimization/ recycling and reuse envisaged in the project, if any, should be briefly outlined

The entire ROM i.e., the Limestone produced from the mine will be transported to the Cement Plant for the production of Cement.

(viii) Availability of water its source, Energy/ power requirement and source should be given

Water

The source of water will be bore-well and Mine Pit water. The water requirement for the Mine II will be 75 KLD. The following is the breakup of water requirement.

a. For Dust Suppression : 10 KLD
b. Greenbelt : 64 KLD
c. Domestic Purpose : 1 KLD

Power

The source of power will be Telangana State Electricity Board and 2000 unit/day will be required for the Mine.

(ix) Quantity of wastes to be generated (liquid and solid) and scheme for their Management/disposal

There will be no generation of overburden, side burden and inter-burden waste generation. The domestic waste water generated will be sent to septic tank followed by dispersion trench.

(x) Schematic representations of the feasibility drawing which give information of EIA purpose

The Feasibility Drawing showing the information for EIA purpose is enclosed herewith as **Annexure 4.**

4. SITE ANALYSIS

(i) Connectivity

COMPONENT	DESCRIPTION
Road	The ML Area is approachable from Chintalapalem Village by road.
Railway station	Nadikudi : 31.9 km
Airport	Gannavaram : 91.0 km
Sea-port	Krishnapatnam : 276.0 km

(ii) Land Form, Land Use and Land ownership

The ML Area for Captive Limestone Mining over an extent of 33.99 ha is consisting Government Waste Land. No forest land is involved. The area is dry, barren and rocky with isolated patches of thorny bushes.

Land Use Details

Usage	As on date (in ha)	End of Current Plan Period (in ha)	Conceptual stage (in ha)
Area under Mining	3.446	7.516	10.55
Back filling	-	-	-
Overburden Dump	-	-	-
Greenbelt	1.200	5.36	8.14
Infrastructure	0.0243	0.0243	0.0243
Roads	0.15	0.15	0.15
Undisturbed Area	29.1727	20.9427	15.1287
Total	**33.99**	**33.99**	33.99

(iii) Topography (along with map)

The ML Area is broadly of rectangular shape with a few re-entrant edges. It is a part of vast rolling plain. The general ground level is 87.7m above MSL. Hummocky outcrops of Limestone raising to maximum height of about a metre above ground level occupy a major part of the ML Area.

A few minor rills flowing from northwest dissect the region and drain into River Krishna which is the main drainage element of the region. The Krishna river flows at distance of 5.1 km Southeast of the ML Area. Some parts of the region are irrigated by the Nagarjuna Sagar Project Canal System. The "Vellatur Minor" of this system passing through the northern side of the ML Area is unlined and the

feeder is said to have been dry since the last 8 years and thus lies unused. The region is practically bereft of trees/bushes except a few on the field bunds. The ML Area, being rocky, is barren land and does not support any vegetation barring a few thin thorny shrubs.

(iv) 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 ML Area is dry, barren and rocky with isolated patches of thorny bushes and is not having any forest land or water body. Within ML Area, there is no village and hamlet. There are no National Park, Wildlife Sanctuary, Eco-Sensitive areas or CRZ within 10 km of the ML. The Yepala Madhavaram RF Chintalapalem RF & Venkatayapalem Extension RF are located at distance of 3.5 km , 0.3 km and 7.6 km from the ML area. The ML was granted by Government of Andhra Pradesh.

(v) Existing Infrastructure

The infrastructure such as road linkage, communication connectivity and power supply, are already available. Office buildings are also available.

(vi) Soil classification

The Mine Area is found with outcrops of Limestone.

(vii) Climatic data from Secondary Sources

The temperature varies from 7.5 ^{o}C. to 46.8 ^{o}C. The relative Humidity varies from 25 % to 80 %. Anaverage rainfall of 770.6 mm per year has been observed. Nearest Meteorological station is available at Gannavaram.

(viii) Social Infrastructure available

The villagers are having basic amenities like schools, power supply, roads, drinking water supply, communication facilities etc.,

5. PLANNING BRIEF

(i) Planning Concept (type of industries, facilities. transportation etc) Town and Country Planning/Development authority Classification

The ML Area is Government Waste Land. Conventional Mining with drilling and blasting will be carried out and Mining Machinery will be used for carrying out mining operations. On the eastern side of ML Area, Non- Conventional Mining without drilling and blasting will be followed. The mined Limestone will be transported through tippers to the Cement Plant. ML Area is having infrastructure facilities like road, communication connectivity and power supply.

(ii) Population Projection

The population of Chinthalapalem Village is given below.

Total No. of House Holds	1226
Total Population	5219
Total Males	2725
Total Females	2494
Schedule Caste Population	123
Scheduled Caste Males	55
Scheduled Caste Females	68
Schedule Tribe Population	3639
Scheduled Tribe Males	1927
Scheduled Tribe Females	1712
Total Population Literates	1707
Male Literates	1162

Female Literates	545
Total Population Illiterates	3512
Male Illiterates	1563
Female Illiterates	1949

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

The approximate land use at different stages including conceptual stage is as given below.

Usage	As on date (in ha)	End of Current Plan Period (in ha)	Conceptual Stage (in ha)
Area under Mining	3.446	7.516	10.55
Back filling	-	-	-
Overburden Dump	-	-	-
Greenbelt	1.200	5.36	8.14
Infrastructure	0.0243	0.0243	0.0243
Roads	0.15	0.15	0.15
Undisturbed Area	29.1727	20.9427	15.1287
Total	**33.99**	**33.99**	33.99

(iv) Assessment of Infrastructure Demand (Physical § Social)

The already available road facility will be used. There will not be any need for rail connectivity. Power supply from Telangana State Electricity Board is available. The colony facility is available adjacent to Anjani Cement Plant, outside ML Area. The facilities like roads, drinking water supply, medical care etc., will be provided to the nearby villages through CSR.

(v) Amenities/Facilities

The facilities like drinking water, toilets, rest room, first aid Facilities will be provided for mine employees. Other amenities like Colony, Recreation Hall etc., are available adjacent to Anjani Cement Plant, outside the ML Area.

6. PROPOSED INFRASTRUCTURE

(i) Industrial Area (Processing Area)

The total Mining Lease Area is 33.99 ha. The excavated area at conceptual stage will be 10.55 ha. Further an area of 0.15 ha will be used for roads, 0.0243 ha for infrastructure and 8.14 ha for greenbelt.

(ii) Residential Area (Non Processing Area)

The colony is available adjacent to the Anjani Cement Plant, outside the ML Area.

(iii) Greenbelt

970 numbers of teak saplings have already been planted over area of 1.2 acres. At the end of conceptual stage, the greenbelt will be developed along the boundary of the ML Area and safety barrier zone covering an area of about 8.14 ha. The local tree species will be planted in three rows with spacing of 2.5 m x 2.5 m. In between the tree species bush and shrub varieties will be planted.

(iv) Social Infrastructure

The initiatives to improve the social infrastructure in the nearby villages will include providing the facilities for drinking water, health care, repair & maintenance of the village roads, maintenance of school buildings etc.,

(v) Connectivity (Traffic and Transportation Road/ Rail/Metro/Water ways etc)

COMPONENT	DESCRIPTION
Road	The ML Area is approachable from Chintalapalem Village by road
Railway Station	Nadikudi : 31.9 km
Airport	Gannavaram : 91.0 km
Sea-port	Krishnapatnam : 276.0 km

(vi)Drinking WaterManagement (Source & Supply of water)

Drinking water requirement of 100 litres/day and will be met from mineral water from Anjani Cement Plant.

(vii) Sewerage System

The sewage treatment system includes septic tank followed dispersion trench.

(viii) Industrial Waste Management

No industrial waste will be generated from the Mine.

(ix) Solid Waste Management

No solid waste will be generated from Mine.

(x) Power Requirement & Supply / source

The source of power will be Telangana State Electricity Board and 2000 unit/day will be required for the Mine.

7. 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 labour (A brief outline to be given)

The Mine II ML Area has been granted in the year 1993 and the ML area consists of only Government Waste land. As there was no habitants in the Mining Lease Area, R & R Plan is not applicable.

8. PROJECT SCHEDULE AND COST ESTIMATES

(i) Likely date of start of construction and likely date of completion (Time schedule for the Project to be given)

There will be no construction activity in the ML Area. After getting all required approvals viz., Environmental Clearance, Consent for Establishment, Consent for Operation and other clearances from the State Government, the mining operation will be commenced after obtaining Environmental Clearance, Consent For Establishment and Consent For Operation from authories.

(ii) Estimated project cost and along with analysis in terms of economic viability of the project

The total cost of the entire project is furnished below.

a. Mine Project cost

Cost of infrastructure : Rs. 5.0 Lakhs

b. Operating cost for per ton of Limestone Mining

Cost of Production per ton of Limestone : Rs. 202/-

c. EMP Cost

Environmental Protection Measures, Monitoring, Greenbelt Development : Rs.9.0 Lakhs /annum

Occupational health and safety measures : Rs. 1.0 Lakh /annum

As the cost of Cement production considering the Limestone supply at Rs 202 per ton and the other costs including above indicated costs will be economical, the proposed project is a viable one.

9. ANALYSIS OF PROPOSALS (FINAL RECOMMENDATIONS)

(i) Financial & social benefits with special emphasis on the benefits to the local people including tribal population if any in the area.

This mine will provide employment for about 21 people by both direct employment which include mine officials, skilled and semi-skilled and indirect employment, in contractual works & transport. The lessee will extend social benefits like drinking water, health care measure, training for self-employment. Repair & maintenance of the village roads, maintenance of school buildings, awarding scholarships for higher studies to the meritorious backward class students, supply of free books and uniforms to the socially deprived class of students. Also, from this proposed production of Limestone, the Government will receive additional revenue in terms of royalty, taxes etc., Thus, this project is expected to yield a positive impact on the socio-economic environment of the region.