PRE-FEASIBILITY REPORT OF RAMAPURAM LIMESTONE MINE

1.0 EXECUTIVE SUMMARY

1.1 The Company

Jaypee Group is a well-diversified industrial conglomerate in India. Four decades later, with growth and diversification, the group is engaged in the business of cement, engineering & construction, private hydro Power, development of expressways, highways and hospitality.

Jaiprakash Associates Limited (JAL), is the flagship company of Jaypee Group. Its cement division has computerized process control cement plant at various locations with an installed capacity of 30.30 MTPA in operation.

The lease area earlier belongs to Andhra Cements Limited (ACL) whose controlling share holding and management has been taken over by Jaypee Group retaining the name of the earlier establishment i.e Andhra Cements Limited (ACL) - Durga Cement Works.

1.2 Project Proposal

- **Background**

The lease area earlier belongs to Andhra Cements Ltd. (ACL) whose management control was taken over by Jaypee Group in November 2012, retaining the name of the earlier establishment i.e Andhra Cements Limited (ACL)-Durga Cement Works , at Durgapuram, Shrinagar village , Dachepalli Mandal, Andhra Pradesh.The chronology of events with respect to this lease as under.

The chronology of event of the lease is as under

- Andhra Cements Ltd (ACL) Hyderabad was granted three mining leases in Ramapuram during 2001 and 2003 Viz over an extents of 89.66 ha (221.54 acres) vide GO MS No 418 dated 31/7/2001 & over an extent of 46.99 ha (116.12 acres) vide GO Ms No 4214 dated 3/8/2001. Later in 2003 the third lease was granted Vide GO Ms No dated 9/6/2003 for an area over 54.64 ha(135.03 acres);
- These three leases were granted for a period of 20 years from the date of grant and were executed for the said periods;
- Since then there was no mining activity in these leases. After the change in the management control by M/s Jaypee, all the three leases were amalgamated as a single contiguous lease vide GO Ms No 78 dated 24-05-2014 and proceedings No 1947/M/2012 dated 16-7-2014 with co-terminus period up to 23-09-2021; and
- The amalgamated lease over an extent of 191.29 ha was executed on 16-7-2014.
- In connection with the grant of mining lease there were three separate Mining Plans approved by Indian Bureau of Mines:

  Northern Lease (89.66 ha) vide Lr No MP/AP/GNR/Lst.39/SZ Dtd 27-06-2001.

Middle Lease (46.99 ha) vide Lr No MP/AP/GNR/Lst-37/Dtd 27-06-2001
South Lease (54.64 ha) Vide Lr No MP/AP/GNR/Lst-59/Dtd 02/01/2003

- The amalgamated lease will form an integral part of raw material source to the plant at Dachepalli with an existing production capacity of 2.00 MTPA of clinker. ACL proposes to increase the capacity of clinkerisation to 4.50 MTPA by adding a new kiln of 2.5 MTPA within the existing premises. To this effect ACL has obtained TOR from MoEF&CC vide Lr No F.N J-11011/719/2007-IA-II(I) dated 3-12-2014.

- To meet the raw material for the proposed enhancement, limestone from the existing Gamalapadu Mine in the adjoining will be inadequate and also by the time the enhancement takes place the resources at the existing mine will get depleted considerably. Thus ACL is proposing to modify and increase the mineral raising from Ramapuram lease to an extent of 4.0 mil tons per annum.

- As per amalgamation the lease period is up to 23 -09 -2021. Sequel to the amendment in MMDR 2015 the lease period is deemed to be up to 23-9-2051. The lease period extension under Section 8 A(3) of MMDR Act 2015 is in the process. The limestone reserves in the existing leases viz, Gamalapadu ,Alugumallipadu Nadikudi and Ramapuram form the raw material source to the plant.

Jaiprakash Associates Limited (JAL) proposes Ramapuram Limestone Mine located at Ramapuram village, Dachepalli Mandal, Guntur District Andhra Pradesh. The amalgamated lease will form an integral part of raw material source to the plant at Dachepalli with an existing production capacity of 2.00 MTPA of clinker. ACL proposes to increase the capacity of clinkerisation to 4.50 MTPA by adding a new unit, within the existing premises, to produce 2.50 MTPA Clinker and 3.00 MTPA Cement along with 35 MW CPP. To this effect ACL has obtained TOR from MoEF&CC vide Lr No F.N J-11011/719/2007-IA-II(I) dated, 3-12-2014 for conducting EIA/EMP studies.

1.3 Location and Accessibility

The lease area is very close to SH-2 (1 km, SW) connecting Guntur–Hyderabad which in turn connects to NH-9 (Hyderabad–Vijayawada) at Narketpalli. Nearest railway station is Nadikudi at distance of 8.2 km, SSE from the lease. The location details of Ramapuram Limestone Mine is furnished in the **Table-1.** The location map and topographical map are given in **Figure-1** & **Figure-2**.

TABLE-1
LOCATION DETAILS OF RAMAPURAM LIMESTONE MINE

Area (ha)	Location		Survey of India Toposheet No.
	Latitude	Longitude	
191.290 ha	16^0 39' 40.9" N- 16^0 41' 10.5" N	79^0 41' 39.9" E- 79^0 42' 39.6" E	Sy. No 260/1A, 260/1B/2B, 279, 307, 310/5 etc

FIGURE- 1
LOCATION MAP

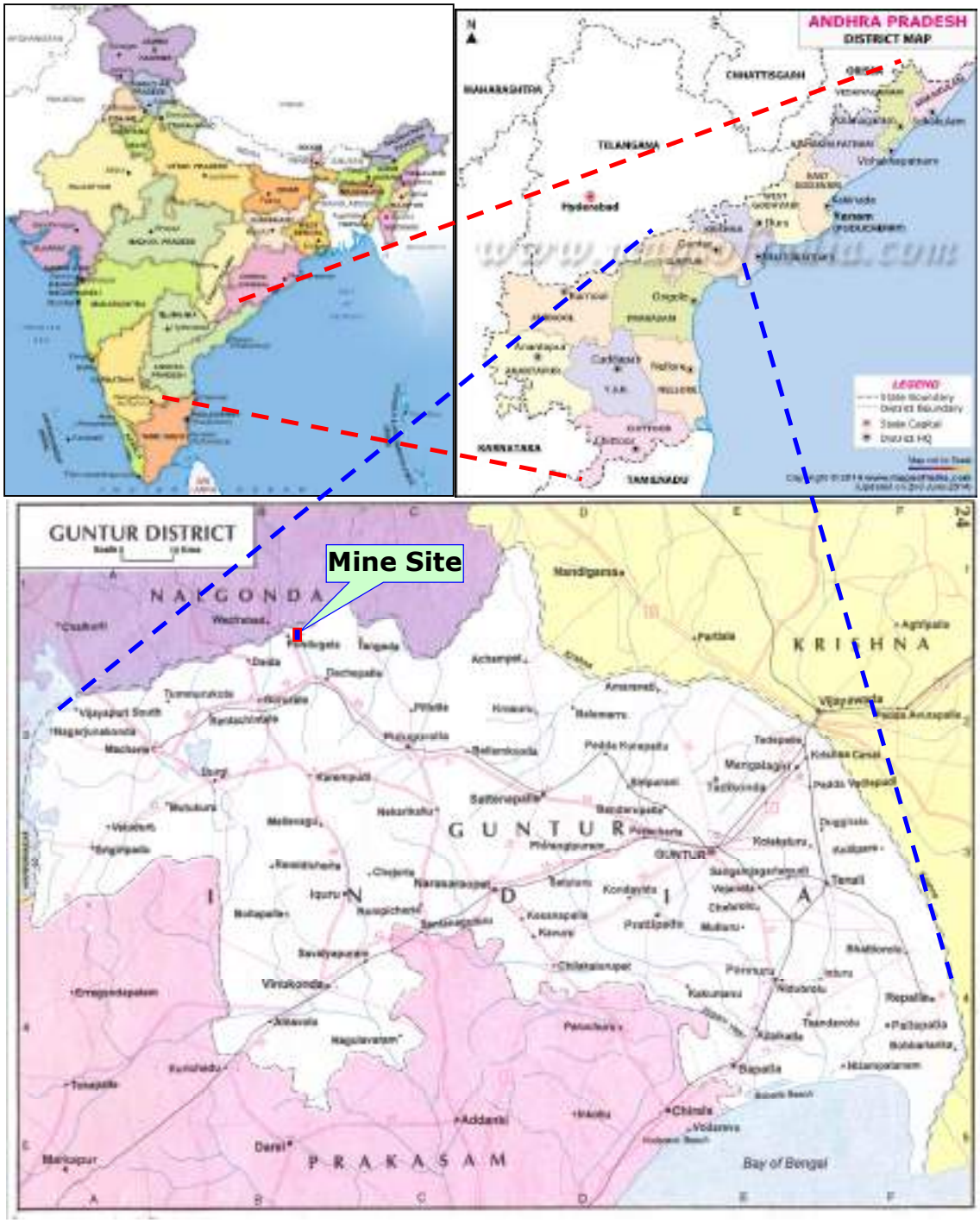
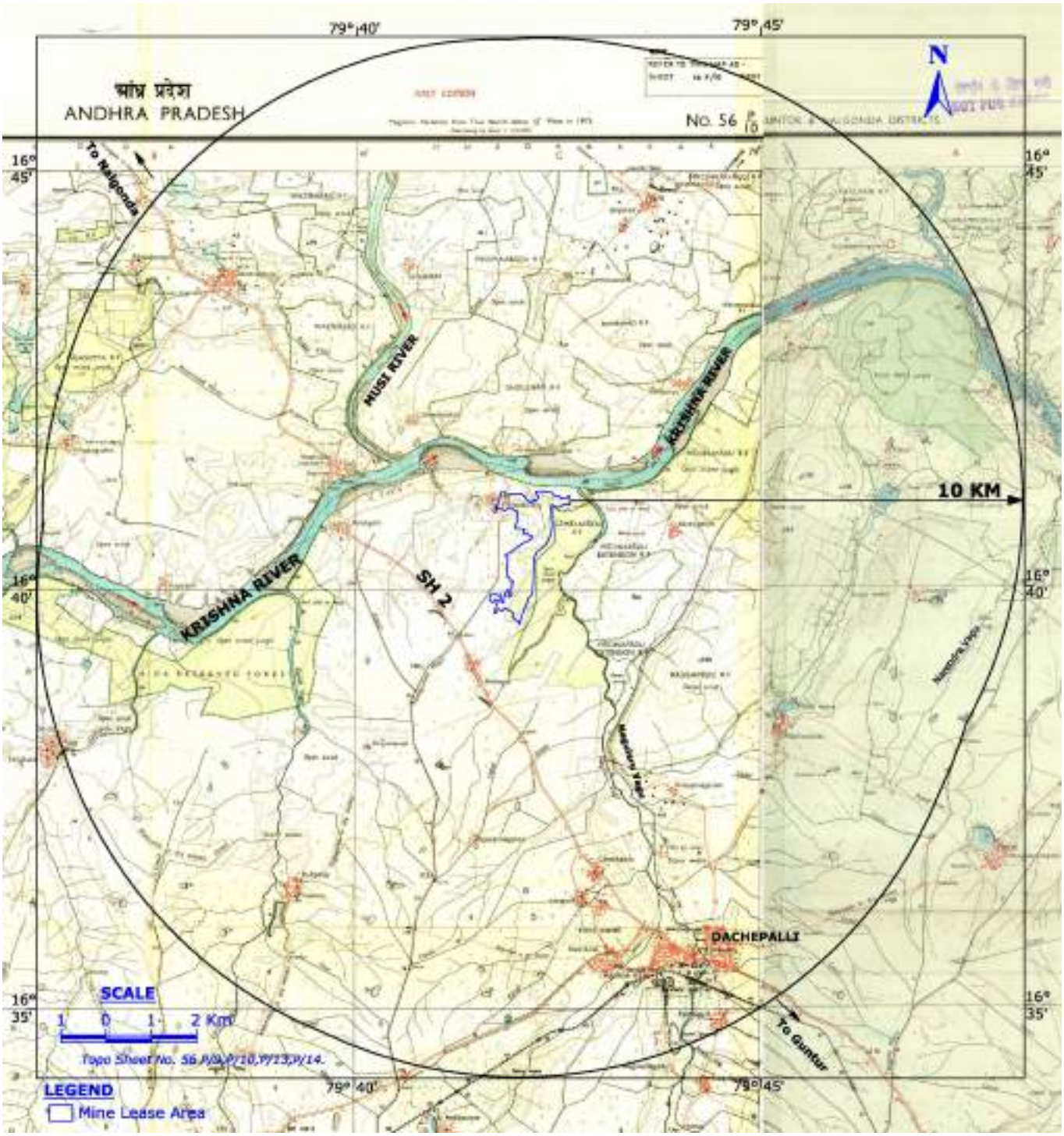


FIGURE- 2
TOPOGRAPHICAL MAP OF STUDY AREA



Topography

The limestone belt on the regional scale is a land of low relief and undulating. The area and its environs constitute an undulating terrain with small hummocks and intervening saddles. The area is part of stony waste, on the southern banks of River Krishna. The limestone deposit of the area occurs in an undulating terrain.

Drainage

The area is part of stony waste, on the southern banks of River Krishna. The lease area is to the west of Naguleru Vagu which is a perennial stream and joins the Krishna River due NE of the area. The entire drainage system of the region is controlled by the Krishna River and its tributaries. There are seasonal streams and water courses pass through the lease which become active only during the rainy season.

1.5 Mineral Reserves

Reserves and resources in the lease area are as under in **Table-2**.

TABLE-2
TOTAL MINERAL RESERVES & RESOURCES IN THE MINING LEASE (RE-ESTIMATED RESERVES /RESOURCES AS ON 1ST APRIL 2016)

Classification	UNFC Code	Quantity (mil tons)	Grade (CaO/SiO_2)
Total Mineral Resources (A+B)			
A) Mineral Reserves			
i)Proved Mineral Reserves	111	Not Estimated	
ii) Probable Mineral Reserves	122	23.751	45.63/12.63
Total of (A)	111+122	23.751	45.63/12.63
B) Remaining Resources			
1) Pre-Feasibility Mineral Resources @	222	3.118	
2) Inferred Mineral Resources	333	53.890	44.07- 46.91 & 10.28-12.87
Total of (B)	222+333	57.008	
Total of A+B		**80.759**	

@These are the mineral resources which are part of measured mineral resources and found to be economically non mineable that has been shown by pre-feasibility study and mine planning. These are locked up reserves in bench slopes, various barrier zones while planning the mine development.

1.5.1 Regional Geology with reference to location of lease area

The geological set up of the region is part of Kurnool system which is regarded as equivalents of the Lower Vindyans (Semri series) of the Sone and Narmada Valley in the standard Indian Stratigraphy. The area forms a part of Palnad Basin comprising Precambrian Proterozoic strata. Litho-units belonging to the

Jammalamadugu series of Kurnool system and co relatable to Narji Limestone formation occur in and around the area. The limestone formation has an estimated thickness of about 100 in the Palnad basis but not all of it is useable as raw material for cement manufacturing. The carbonate rocks do manifest litho-facies variations both along and across the strike. These variations, in turn, account for the quality fluctuations in the limestone. The regional general stratigraphic succession is as follows.

Equivalents	Age	Group/System	Series & Stage	Rock Type & Lithology
Lower Vindyans (Semri Series)	Proterozoic	Kurnool System	Kundair	Nandyal Shales
				Koilkuntla Limestone
			Paniam	Pinnacled & Plateau Quartzite
			Jammalamadugu	Auk Shales
				Narji Limestone
			Banganpalli	Banganpalli Sandstones
		----------Thrust Contact----------		
			Cuddapahs	Quartzite & Phyllite

The lease area rock type is of Narji Limestone belonging to the Jammalamadugu series / stage in regional geological succession.

1.6 MINING

Salient features of method of working indicating Category of Mine

Deep drilling and blasting will be adopted for limestone exploitation .It is to drill holes at a burdenand spacing of 3.5 m X 4.5m with a sub drilling of 10%. Blast holes are drilled at an angle and the ratio of spacing to burden has been determined with the past experience and as well from the adjoining Gamalapadu mine . Sub grade drilling is in practice to maintain the level of the bench floor, avoiding the toe.

Excavation of muck piles will be carried out by hydraulic excavators. To meet this targeted production a combination of higher and lower capacity Hydraulic excavators having 2.7m3& 4.3 m3 bucket capacities are being planned.

Limestone will be transported to the crusher located at the periphery of the lease over a distance of 1.5 km from the farthest proposed working face. From the crusher the material will be conveyed to plant by covered conveyor belt. Two shift operations will be carried out to achieve the targeted material handling of 17206 tons per day. For transporting the limestone from the mine 25 tonner Tata Tippers are proposed for deployment.

Summary of Year-wise Production Planning (2016-21) is given in given in Table-3.

TABLE- 3
SUMMARY OF YEAR-WISE PRODUCTION PLANNING (2016-21)

Year	*Bench*	*Area (ha)*	*Thick(m)*	*Volume (Cum)*	*Soil (cu.m)*	*OB/ Waste (cu.m)*
2016-17	*Nil*	*Developmental activities , exploration and obtaining Env clearance for the project*				
2017-18	*Nil*	*Completion of remaining exploration, Crusher installation, Haul roads development along with installing Conveyor belt and magazine*				
2018-19	*Two*	*11.212*	*8*	*5,49,360*	*Nil*	*42,000*
2019-20	*Three*	*10.504*	*8*	*9,68,005*	*8,325*	*3,08,730*
2020-21	*Three*	*5.360*	*8*	*16,00,035*	*82,002*	*3,49,800*
Total	***Three***	***27.076***	***8***	***31,17,400***	***90,327***	***7,00,530***

2.0 INTRODUCTION OF THE PROJECT/BACKGROUND INFORMATION

2.1 Identification of Project and Project Proponent

Andhra Cements Limited (ACL) proposes to Opencast Limestone Mine which is located at Ramapuram village, Dachepalli mandal, Guntur district, Andhra Pradesh.

2.2 Need of the Project and its Importance to the Country and or Region

Limestone from this lease is for captive consumption in the proposed cement plant expansion within the existing plant premises at Durgapuram by Andhra Cements Ltd.

2.3 Employment Generation (Direct and Indirect) Due to the Project

Total man power required for the proposed project will be about 95 nos.

3.0 PROJECT DESCRIPTION

3.1 Project Description with Process Details

A combination of Hydraulic Excavator and Tippers for mineral raising and transportation respectively will be adopted. The mechanized method will consist of the following operations.

- Cleaning the top surface;
- Drilling and blasting;
- Excavation and loading by excavator; and
- Haulage by dumpers up to crusher located at the periphery of the lease over a distance of 1.5 km from the farthest proposed working face.

3.2 Material – Transport

Limestone will be transported to the crusher located at the periphery of the lease over a distance of 1.5 km from the farthest proposed working face. From the crusher the material will be conveyed to plant (located at a distance of 1.5 km) by covered belt conveyor. For transporting the limestone from the mine 25 tonner Tata Tippers will be deployed.

3.3 Resource Optimization/Recycling and Reuse

No optimization/recycling and reuse envisaged in the project.

3.4 Availability of Water its Source, Power Requirement and Source

In total 100 m3 /day water will be required. Water during initial stage will be met from water reservoir of DCW mines and from mine pit sump, created due to extraction of limestone, subsequently. Water requirement for drinking purpose will be met from bore well drilled at plant area.
Requirement of water for pollution control arrangements would be primarily for dust suppression on haul roads, water spraying on faces, mine operations.

Power requirement of the existing cement plant, existing mines and colony is met from the State Grid of APSEB located at Dachepalli with a substation established near the plant. Peak demand of electricity in operation phase of proposed project will be 2 MVA which will be met from own Captive Power Plant / State Electricity Board.

3.5 Quantity of Wastes Generated and Scheme for Their Management

The limestone in the lease area is associated with waste rock (flaggy limestone) which is beyond the threshold values for Silica content. Thus it warrants areas to be identified for dumping this waste externally till mineral exhausted pit areas are available for backfilling. During the current proposals and later for another 5 years period of conceptual lay out waste rock will be dumped in the western side of the present proposal areas. These locations have been identified since they are not amenable/suitable for any future mine planning due to their size and shape, though mineral bearing. In the areas of resources (G3 level areas) as per the limited exploration data waste rock quantities could not be established. Thus identifying the areas for future dumping is not feasible at this juncture. The details of period wise waste generation are given in **Table-4**.

TABLE-4
YEAR WISE WASTE GENERATION DETAILS

Plan Period	Waste (cu.m)
2016-21	7,00,530
2021-26	12,17,734
2026-31	Nil
2031-36	Nil
2036-38	Nil

Top Soil Handling. In the central part of lease (G3 level area and part of G2 areas) there are patches of soil which have been considered for assessing the

total top soil to be handled. During the current plan period a total of 90327 cu.m of top soil will be raised and temporarily handled at N 1843435 –E 361625. During the conceptual period it is anticipated that soil patches in the G3 areas will be broken up and top soil will be generated. During 2021 -26 and the next 5 years period top soil will be generated and handled. The period wise generation of soil is as under.

Plan Period	Top soil (cu.m)
2016-21	90,327
2021-26	30,000
2026-31	1,15,000
2031-36	Nil
2036-38	Nil

Details of soil generation beyond 2021 will depend on the proposed exploration. Soil generated will be put to use for plantation in the areas identified.

4.0 SITE ANALYSIS

4.1 CONNECTIVITY

The lease area is very close to SH-2 connecting Guntur–Hyderabad which in turn connects to NH-9 (Hyderabad –Vijayawada) at Narketpalli. Nearest railway station is Nadikudi at distance of 8.2 km, SSE from the lease.

4.2 LAND FORM, LAND OWNERSHIP AND LAND USE

The present land use is government revenue paramboke Land and private patta lands which are in the process of acquisition by the company for mining. Prior to the current proposals no land has been broken up, thus the entire area is a virgin land. The existing land use pattern of the lease area is under.

Details	Area (ha)
Broken up land for pit development	Nil
Proposed area for Mine Development	27.076
Unexplored /Unexploited / Unbroken Areas	155.729
7.5 m barrier zone with Plantation	8.845
Total	**191.290**

Mine Development

Current Plan Period: Currently there are no mining operations in the lease area. For the current plan proposals i.e from 2016-17 to 2020-21 mining operations and developmental activities are proposed to a peak production level of 4.00 mil tons at the end of plan period i.e 2020-21. The mine will be worked by mechanized opencast benching method keeping an average height of 8 m each with local variations. The summarized details are as under in **Table-5.**

TABLE-5
SUMMARY OF PRODUCTION PLANNING DURING THE PLAN PERIOD

Years	*Fresh Area Broken up (ha)*	*ROM quantity (Cu.m)*	*Remarks*
2016-17	Nil	Nil	Mining operations will start from the southern side. Benches will advance northerly. To raise 31, 17,400 cu.m (7.794 mil tons) a total of 700530 cu. m waste rock (flaggy Lst) and 90327 cu.m of soil will be handled. During the initial two years there will be only developmental activities, An area of 27.076 ha will be put to use for developing the mine.
2017-18	Nil	Nil	
2018-19	11.212	54,936	
2019-20	10.504	9,66,005	
2020-21	5.360	16,00,035	
2016-21	**27.076**	**31,17,400**	

Conceptual Planning:

Sequel to deemed renewal of lease period as per the Amendment in MMDR Act 2015, the lease period is deemed to be valid up to 23-9-2051 under Section 8 A(3) of MMDR Act 2015. Thus beyond the current proposals conceptual mine development of 5 yearly blocks will be within the areas of resources and reserves established. The conceptual mine development is proposed further north to the current plan proposal areas. During the period 2021-22 to 2025-26 depth wise mine development will be within the already broken up area of current proposals up to 52 m RL of mineral proving. Later it will be towards north within resources area up to 44 m RL of current mineral establishing. This situation will undergo substantial modifications after the completion of proposed exploration. As a result the entire area will be considered for drawing pit position up to the end of lease period as well end of mine life. These modifications shall be depicted while drawing the proposals for the next plan period or if any modification is taken up after completing the proposed exploration by 2017-18. Conceptual mine developments is as under **(Table-6).**

Table- 6
CONCEPTUAL MINE DEVELOPMENT PRODUCTION

Period	**Likely Reserves Exploitation (mil Tons)**	**Area broken up (ha)**	**Remarks**
2016-21	7.794	27.076	Current proposals up to 92m RL in the southern side
2021-26	20.000	3.000	Depth wise development up to 52m RL in the current proposal area and partially breaking 3.00 ha for the resources in G3 areas
2026-31	20,000	34.185	Breaking the entire G3 resources areas up to 84 m RL
2031-36	20,000	Nil	Depth wise development up to 60 m RL in the G3 areas
2036-38	9.847	Nil	Depth wise development up to 44 m RL in the G3 areas

Beyond 2038 to lease Period	Depends on Future exploration in the entire lease area both lateral and depth wise to the feasible ultimate pit depth. This situation will undergo considerable changes since large areas are under G4 Level areas cat wherein no estimation are made and the inferred resources under G3 level exploration areas are of the order of 53.89 mil tons. These resources when upgraded to reserves and the entire lease area is

Post Mining Land Use: Leaving 7.5m barrier zone explored the life of the mine will increase substantially. along the lease boundaries, the present projected pit configuration is confining to G2 and G3 level areas ie both the reserves and resources areas. Considering the pit depth of 52 m RL in the southern part and up to 44 m RL in the G3 resources areas, the projected land use pattern of the lease at the end of the current resources availability given in **Table-7**.

TABLE-7

LAND USE PATTERN OF LEASE AT THE END OF RESOURCES AVAILABILITY #

Details	Area (ha)	
	End of current plan period	**End of Resources availability (up to 2038) #**
Proposed Broken up land for pit development	27.076	64.261
Unbroken Area	155.729	118.544@
7.5 m barrier zone with plantation	8.485	8.485
Total Lease Area (ha)	**191.29**	**191.29**

Deemed extension of lease period will be up to 23-09-2051. @ will undergo substantial changes depending on the outcome of proposed exploration.

The areas of 7.5 m barrier zone (8.485 ha) will be developed as green belt ultimately by the end of mine life / lease period.

Pit Dimensions: The pit dimensions at deferent periods of mine development are given in **Table-8**.

TABLE-8

PIT DIMENSIONS

Period	Max Length (m)	Max Width (m)	Area (ha)
End of Plan Period (2012-21)	850	415	27.076
End of Resources Period(2036-38)	2135	550	64.261
End of Mine life /Lease Period (Ultimate@)	Will depend on the outcome of proposed exploration		

@ After the completion of proposed exploration.

Mine life: For mine planning purposes the currently assessed reserves of 23.751mil tons under 111 &122 categories are only considered. At the present proposed rate of (4.0 MTPA) exploitation, the life of the mine will be about 6 years. This situation will undergo considerable changes since large areas are under G4 Level areas category wherein no estimation are made and the inferred resources under G3 level exploration areas are of the order of 53.89 mil tons. These resources when upgraded to reserves and the entire lease area is explored the life of the mine will increase substantially.

4.3 Environmental Sensitivity

The environmental setting of the location is given in **Table-9.**

TABLE-9
ENVIRONMENTAL SETTING

Sr. No.	Particulars	Details
1	**Location**	
a	Village	Ramapuram
b	Mandal	Dachepalli
c	District	Guntur
d	State	Andhra Pradesh
e	Geographical co-ordinates of mine lease area	Latitude: 160 39' 40.9" N-160 41' 10.5" N Longitude: 790 41' 39.9" E-790 42' 39.6" E
2	Elevation	92 – 116 m above MSL
3	Nearest highway	SH2, 1.0 km, SW
4	Nearest railhead / Railway station	Nadikudi, 8.2 km, SSE
5	Nearest airport	Gannavaram, 115 km, East
6	Defence installations	-
7	Ecological Sensitive Areas (National Parks, Wildlife sanctuaries)	Nil within 15 km
8	Reserved/Protected forests within 15 km radius	Gomalapadu RF (Adjacent ML area, E) Madinapadu Ext RF (0.6, E) Saidulnam RF (0.8, N) Ravipahad RF (2.6, N) Madinapadu RF(2.8, SSE) Daida RF (3.4, WSW) Pasupulabodu RF (3.5, N) Wazirabad RF (3.7, NW) Nirchintavagu RF(4.7, NE) Vajralgani RF (7.8 km, NE) Rajagutta RF (8.3km, NW)
9	Industries in 10 km radius	Deccan Cement Limited (2.2 km, N) Indian Cements Limited (2.8 km, N) Penna Cements (5.2 km, WNW)
11	Nearest major city	Vijayawada (95 km, E)
12	Nearest major settlement	Vijayawada (95 km, E)
13	Nearest water bodies	Krishna river (0.1 km, N) Musi river(2.4, NW) Naguleruvagu (0.6 km, E) Dandivagu (4.2 km, WSW)
14	Seismic zone	Zone-II as per IS:1893 (Part-1) 2002

4.4 Infrastructure Facilities

Site Services

Mines Office: All necessary basic infrastructures which are required for mining operations viz. make shift mines office, rest shelter, first aid station, drinking water and WC facilities etc will be created in the lease area.

Workshop: For the regular maintenance and for major break downs a workshop has been established at the plant area. For any immediate contingency of breakdowns makeshift arrangements will be created at site. All the required tools, tackles and spares will made available at the site work shop and at the workshop in plant area.

VTC facility: Facilities of Vocational Training Centre is at Plant area and attached to Mines Dept. Staff and Workers will be imparted with basic and refresher training with audio-visual aids at this center in batches. Existing facilities will be extended to this mine also.

5.0 PLANNING BRIEF

5.1 Planning Concept Town and Country Planning/Development Authority Classification

There has been an increase in the overall basic facilities such as roads, school, health center etc. A better quality of life for the locals has been created and which is further expected to improve over a period of time. The existing mining operations (cement plant & mining) have provided many indirect/direct job opportunities to unskilled and skilled labourers. Owing to implementation of the mining project in the area there is a positive impact in socio cultural aspects.

5.2 Population Projection

The manpower will be very minimal in the proposed project. Therefore the population influx is not envisaged.

5.3 Land Use Planning

The details are of reclaimed / rehabilitated area are given below in **Table-10**.

TABLE-10
DETAILS OF AREA PUT TO USE AND RECLAIMED

Year	Mined out area at the beginning of Plan (ha)	Addl area proposed during the year (ha)	Total Area (ha)	Area Reclaimed & Rehabilitated during the year (ha)	Mined out area at the end of the year (ha)
2016-17	No Mining Activity during the initial two years period				
2017-18					
2018-19	Nil	11.212	11.212	Nil	11.212
2019-20	11.212	10.504	21.716	Nil	21.716
2020-21	21.716	5.360	27.076	Nil	27.076

5.4 Assessment of Infrastructure Demand

The area is very well developed due to the operating projects of Andhra Cements Limited. All the required infrastructure is available in the vicinity of the mining block.

5.5 Amenities/Facilities

After commissioning of Plant by ACL there has been an increase in the overall basic facilities such as roads, school, health center etc. A better quality of life for the locals has been created and which is further expected to improve over a period of time. The existing operations (cement plant & mining) have provided many indirect/direct job opportunities to unskilled and skilled labourers. Owing to implementation of the mining project in the area there is a positive impact in socio cultural aspects.

5.6 Green Belt

Mining work is yet to commence in the lease area **.**For the current proposals part of 7.5m ML barrier boundary will be covered under plantation. A total about 4500 saplings will be planted along the 7.5 m ML barrier. The details are as under –**Table-11.**

TABLE-11
YEAR WISE PLANTATION PROPOSALS DURING PLAN PERIOD

Period	Areas(ha)		No of saplings		Locations
	Within Ml	Outside Ml	Within Ml	Outside Ml	
2016-17	No Mining Activity during the initial two years period				
2017-18					
2018-19	1.00	Nil	1500	Nil	7.5 m barrier zone in the east and south
2019-20	1.00	Nil	1500	Nil	7.5 m barrier zone in the east and west
2020-21	1.00	Nil	1500	Nil	7.5 m barrier zone in the east

5.7 Social Infrastructure

There are no villages or the settlements within the lease area. The mine area does not cover any habitation. Hence the mining activities does not involve any displacement of human settlement. No public buildings, places, monuments exist in the lease area or in the vicinity. The mining operations do not disturb/relocate any village or need any resettlement.

5.8 Drinking Water Management

Required water for drinking purpose is being provided from the bore well drilled at plant area.

5.9 Sewerage System

Mining operation in this lease area will not generate any waste water, as water is not used for processing or crushing of limestone. The waste water will only be generated through domestic usage. This waste water would be diverted to suitable septic tanks followed by soak pits.

6.0 REHABILITATION AND RESETTLEMENT (R & R) PLAN

The lease area is free from any habitation. Hence the mining activities do not involve any displacement of human settlement. Public buildings, places, monuments are not existing in the lease area or in the vicinity. The mining operations do not disturb / relocate any village or need any resettlement. Thus no adverse impacts are anticipated and R&R issues are not involved

7.0 PROJECT SCHEDULE & COST ESTIMATES

At the present proposed rate of exploitation, the life of the mine will be about 6 years. This situation will undergo considerable changes since large areas are under G4 Level areas cat wherein no estimation are made and the inferred resources under G3 level exploration areas are of the order of 53.89 mil tons. These resources when upgraded to reserves and the entire lease area is explored the life of the mine will increase substantially.

The estimated cost of the project is about Rs 78 Crores.

8.0 ANALYSIS OF PROPOSAL

The proposed Opencast Ramapuram Limestone Mine by Andhra Cements Limited (Jaypee group) with capacity of 4.0 MTPA will meet the limestone requirement of proposed expansion of Andhra Cements Limited (Durga Cements Works).

The Mining project will improve the Socio economic status/standard of living of the people in the region. In the interest of mineral development and improve the social conditions of the local habitants, this project should be allowed after considering all the environment aspects.