M/s Vertex Cements (P) Ltd, Telukutla, Daida & Gangavaram Lime stone mine
TELUKUTLA, DAIDA & GANGAVARAM VILLAGE, GURAZALA MANDAL, GUNTUR DISTRICT, ANDHRA PRADESH

PRE - FEASIBILITY REPORT

OPEN CAST LIME STONE MINE – 1541.53 acres (623.848 ha)

Lessee

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SUBMITTED TO

MINISTRY OF ENVIRONMENT AND FORESTS & CLIMATE CHANGE, GOVERNMENT OF INDIA
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FEASIBILITY REPORT FOR TELUKUTLA, DAIDA AND GANGAVARAM LIMESTONE MINE OF M/S. VERTEX CEMENTS (P) LTD., SITUATED IN TELUKUTLA, DAIDA AND GANGAVARAM VILLAGES, GURAZALA MANDAL, GUNTUR DISTRICT, ANDHRA PRADESH

1. Executive Summary

M/s Vertex Cements (P) Ltd, H.No. 1-89/2/244, Plot No-244, 2nd Phase, Kavuri Hills, Madhapur, Hyderabad – 500 081 is customized solutions for cement, power, mineral processing and other process industries across the globe. The company originally established as an associate of LV Technology Public Co. Ltd., Bangkok, a global market leader in cement technology, having operations in more than 65 countries, attained milestones year after year and attracted financial investment from world leader SINOMA INTERNATIONAL in the year 2013, to bear the prestigious tag "A member of Sinoma". Today, LNVT stands tall both with strong financials and solid technological backup of Sinoma International. The authorized Signatory is Shri V.C.Rao, Managing Director. M/s Vertex Cements (P) Ltd. They are now establishing a cement plant in Gangavaram villages, Gurazala mandal, Guntur district, Andhra Pradesh for which they have acquired a captive limestone mining lease. The proposed mine lease area of 1541.53 acres (623.848 ha) in Telukutla, Daida and Gangavaram villages, Gurazala mandal, Guntur district, Andhra Pradesh. The mine site location falls under in survey of India Topo sheet no. 56 P/10 at the intersection of 79^{o} 34′ 39.09″ - 79^{o} 37′ 37.46″ E longitude and 16^{o} 36′ 4.50″ - 16^{o} 37′ 17.029″ N latitude. The site elevation above Mean sea Level (MSL) is 103-110 m. The mine site is surrounded by open lands in all directions. The nearest hamlet is Lakshmi Gangavaram Camp at a distance of 0.85 km in Southeast direction. The site is connected to Macherla – Guntur state highway at a distance of 4.5 km in south direction. The nearest railway station is Rentachintala 7.1 km in SE Direction (South central Railway Macherla – Guntur Branch). Interstate Boundary of Andhra Pradesh and Telangana is at a distance of 3.9 km in Northwest direction. Krishna River is at a 3.7 km in Northwest direction. There are no national parks and or wild life sanctuaries within 10 km radius. The following reserve forests are located within 10 km radius**.** Daida RF at a distance of 2.1 km in North direction, Virlapalem RF at a distance of 4.6 km in North direction, Goli RF at a distance of 5.7 km in Northwest

direction, Adividevulapalli RF at a distance of 6.1 km in Southwest direction, Paluvayi RF at a distance of 8.5 km in Northeast direction, Madagula RF at a distance of 9.9 km in Southwest direction.

M/S Vertex Cements (P) Ltd carried out detailed exploration for accuracy of reserves between June 2014 to February 2015. Present mineable limestone reserves estimated by the company are 293.847 MT.

ToR was awaiting vide MoEF&CC Proposal No. IA/AP/IND/26639/2015, dated. January 27, 2015, EAC appraisal for TOR on: February 11, 2015 for the production of 7.4 (2 x 3.7) MTPA of captive cement also 20 (2x 10) MW WHRS, Captive Power plant of capacity of 50 (2 x 25) MW.

Transporting cement, a bulk commodity, over long distances is uneconomical. This has resulted in cement being largely a regional play. According to VCPL estimates, given the demand-supply gap of roughly 40 million tonnes, capacity addition is expected over the next five years. Of this, almost 30 million tonnes will be met through Greenfield Brownfield expansions and 10 million tones through blending. On this basis, erection of this plant is essential for Andhra Pradesh and Telangana State. The power generated will be used for its cement manufacturing plant and after captive consumption. The Cement and Power plants is located at Gangavaram village, Gurazala mandal, Guntur district, Andhra Pradesh adjacent to the present ML area. Separate application is being submitted for the integrated cement plant to produce 7.4 MTPA with 20 (2x 10) MW WHRS, Captive Power plant of capacity of 50 (2 x 25) MW.

Presently it is proposed to produce lime stone @ 8.4 MTPA with opencast mechanized mining. The limestone occurring in this area in best suitable for cement manufacture with CaO ranging from 45.00 to 49.00%.

The total mineable limestone reserves presently estimated from this area as per the exploration so far done is 293.847 MT and as per this present life is 35 years. It is further proposed to explore the area by borehole drilling to augment these reserves estimated and thus the life of the mine shall exceed.

The mining shall be done by mechanized opencast mining to a depth of about 40 m from the ground level by adopting bench sizes of maximum 8 m height and 5 m width. The excavation of limestone is done by drilling with 15mm dia with spacing

and burden as 6 to 7m and 4.5 to 5.5m respectively and depth about 9 m. Blasting is done with ANFO mixtures and slurry explosives with charge per hole as 70 to 80 kg using delay detonators. Loading is by hydraulic excavators of 4.3 cum bucket capacity and dozers and transport by rear dump trucks of capacity 20 tonnes directly to the plant. No mineral separation is done within ML area. No waste is generated from the mine as the entire ROM limestone is dispatched and used in the plant. The top overburden soil is of average 3m thick shall be removed in advance separately, stored and reused in afforestation work. Balance static soil dump dumped along the safety barriers shall be reclaimed by plantation of suitable fast growing species. The average generation of top soil shall be about 1.1 MTPA. Since there is no waste generation, it is not possible to backfill the worked out portion of the pit. The worked out pit shall be left as water reservoir, as there is no waste material generated to be used for backfilling. Further, as it is a rain deficient area creation of this water reservoir shall be beneficial to the nearby villagers for irrigation and domestic purposes and this reservoir shall also assist in recharging the groundwater system. It is proposed to develop a wide green belt covering an area of 12 ha with local fast growing tree species. This afforestation work done shall improve aesthetic beauty of the area and immigration of avifauna.

The approximate land use at conceptual stage is as given below:

Tentative Land use

Category	**Area in ha**
Area to be Excavated	559.863
Storage of top soil	8.0
Roads	10.0
Green belt	12.0
Others	2.0
Virgin area (Under safety barriers)	31.985
Total Land	**623.848**

The ML land covered with black cotton soil of 0.5 to 3 m thickness. Therefore, there is no need for any clearance of major vegetation. The depth of water table varies from 30 to 40 m depending upon the topography and the maximum depth proposed to be reached by mine workings is 30m. Though the proposed mine workings shall encounter the ground water and there shall be some seepages into the pit, as per the

hydro-geological study conducted in this area for other projects. There shall be no adverse impact on groundwater system due to pit dewatering. In fact percolation to the ground water system is improvised by removing the top impervious clay bed and being an arid climate loss of rainwater due to evaporation is restricted. Krishna River is located at a distance of 3.7 km towards northwest of the ML area. This is a dry river only active during monsoon season only. Therefore, there shall be no major impacts due to the proposed mining on natural resources or the existing ecology of the area.

The expected air pollution (Mainly dust release), water pollution (only sediments), noise pollution including the ground vibrations due to this proposed mining activity are minimal as mitigation measures such as regular water spray along the transport roads, development of wide green belts surrounding mining area and along the safety barriers, proper maintenance of roads and the mining machinery and equipment as per manufacture' norms, controlled blasting techniques, erection of check dams, retaining walls, provision of garland drains with settling tank are proposed. There shall be no adverse effects on flora and fauna.

This mine shall provide employment for about 300 people by both direct employment which include mine officials, skilled, semi skilled and unskilled labor and indirect employment, in contractual works and transport. The lessee shall extend social benefits like drinking water, health care measure, HIV awareness programs and educational benefits, promotion of cultural and religious activities, sports and training in self-employment scheme with initial investment to set up these schemes, to the neighboring villagers in addition to his own employees. Construction of township, Repair and maintenance of the village roads, maintenance of school buildings, awarding scholarships of higher studies to the meritorious backward class students, supply of free books and uniforms to the socially deprived class of students shall be taken up. Further, construction of temples, auditorium, halls for social gathering, clubs, co-operative stores shall also be taken up which shall be common for the plant and mine and this expenditure shall be included under the plant cost.

The company shall prepare a plan for human resource development required for the project in total, train the local people and provide employment to these trained local

youth and shall comply with the State Govt policy of employment to local people. The company shall take up social infrastructural development projects in the vicinity of location of the unit. Wherever there is scope for vender development works the company shall procure the required inputs, components and sub assemblies from the local venders.

Thus, this project is expected to yield a positive impact on the socio-economic environment of the area. It helps in sustainable development of this area including further development of physical and social infrastructural facilities.

Transporting cement, a bulk commodity, over long distances is uneconomical. For this reason the increase in production proposed by M/s VCPL, shall benefit the southern region. Also by this increased production of limestone, the country achieves the revenue in terms of taxes on cement and exchequer revenue for the State in terms of royalty etc.

India is the World's second largest producer of cement. Cement demand in the country grows at roughly 1.5 times the GDP growth rate. It is also expected to rise to 350-360 MT in FY15. Cement consumption varies across regions due to the differences in the demand-supply balance, per capita income and the level of industrial development in each state. The per capita consumption of 102 kg as compared to the world average of 260 kg, 450 kg in China and 631 kg in Japan underlines the tremendous scope for growth in the Indian Cement industry in the long term. According to CRISIL estimates, given the demand-supply gap of roughly 40 million tonnes, capacity addition is expected over the next five years. Thus for to reduce the demand and supply gap in the country the production of cement by M/s VCPL to the tune of 7.4 MTPA is fully justified for which 8.4 MTPA of captive limestone mining is needed.

2. 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.

The authorized Signatory is Shri V.C.Rao, Managing Director. M/s Vertex Cements (P) Ltd. Copy of the Prospecting license is enclosed in Form I Annexure.

(II) Brief description of nature of the project.

Captive Limestone Mining over an Extent of 1541.53 acres (623.848 ha) ML area of

non forest patta land owned by the company located in Villages Telukutla, Daida and Gangavaram villages, Gurazala mandal, Guntur district, Andhra Pradesh. For captive utilization in the adjacent cement plant outside ML, proposed to 7.4 MTPA of cement.

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

India is the World's second largest producer of cement with 130 large cement plants having a capacity totaling 165.4 million tons in 2005-2006, domestic consumption was around 135 million tonnes (based on domestic dispatches from large plants). The National Highways Development Project (NHDP) includes the 5,846 km Golden Quadrilateral (GQ) and the 7,300 km North-South, East-West (NS-EW) corridor. In addition, upgradation of rural roads, upgradation to four/six lanes of about 13,000 km of National Highways and 10,000 km of additional highways have been initiated. The NHDP is expected to lay a significant part of the roads in cement concrete. Thus, if 25 per cent of the roads of East-West corridors are laid by concrete, it is likely to lead to an incremental demand of 5-6 million tonnes of Cement per annum. Likewise, the Golden Quadrilateral is expected to add 4-5 million tonnes of demand per annum. The total demand from these road projects is expected to generate an incremental growth of 4-5 per cent per annum over the next 2-3 years. To fill the above gaps in supply and demand positions in cement, it is essential to have capacity addition for existing cement plants, for which M/s VCPL is proposing for.

This mine shall provide employment for about 300 people by both direct employment which include mine officials, skilled, semi skilled and unskilled labor and indirect employment, in contractual works. The lessee shall extend social benefits like drinking water health care measure, educational benefits to the neighboring villagers in addition to his own employees. Further, this project is expected to yield a positive impact on the socio-economic environment of the region. It helps in sustainable development of this area including further development of physical infrastructural facilities.

Also by this increased production of limestone, the country achieves the revenue in terms of taxes on cement and exchequer revenue for the State in terms of royalty etc.

Further, this project is expected to yield a positive impact on the socio-economic environment of the region. It helps in sustainable development of this area including

further development of physical infrastructural facilities.

(iv) Demand-Supply Gap.

The demand for Cement is closely related to the growth in the construction sector. Consequently, cement demand has been posting a healthy growth rate of around 8 per cent since 1997-98, propelled by the increased thrust on infrastructure development, and the higher demand from the housing sector and industrial projects. This trend is likely to continue in the coming years. The Indian cement industry has registered a record production of more than 1253 lakh tonnes during 04-05. The per capita consumption of 102 kg as compared to the world average of 260 kg, 450 kg in China and 631 kg in Japan underlines the tremendous scope for growth in the Indian Cement industry in the long term. Limited capacity additions and high demand will narrow the demand-supply position. Cement production in India has increased at a CAGR of above 8 per cent during the last decade with a production level of 125.3 million tonnes in 2004-05. The end-users of the Cement industry include housing, infrastructure and corporate segments. While government demand (for infrastructure) accounts for around 25 per cent of the total demand, the share of the housing sector accounts to more than 50 per cent of the total cement.

According to CRISIL estimates, given the demand-supply gap of roughly 40 million tonnes, capacity addition is expected over the next five years. Of this, almost 30 million tonnes will be met through Greenfield Brownfield expansions and 10 million tones through blending. The capacity addition of 30 million tonnes would require an investment of around US$ 2.2 billion

(v) Imports vs. Indigenous production,

The import of Cement is under Open General License (OGL) and anyone can import the requisite quantity provided it conforms to the BIS standards. In order to augment domestic availability of cement, the import duty on cement was brought down to Nil from 12.5% as on 21st January, 2007. The Government has also introduced a dual excise duty structure on cement (excise duty of Rs.600 per metric tons of cement with MRP more than Rs.190 per bag and excise duty of Rs.300 PMT on cement with MRP of Rs.190 or less per bag.

In addition to the above, the Ministry of Finance has removed the countervailing duty (equivalent to the excise duty and special additional custom duty of 4% on cement w.e.f. 3rd April, 2007). The importers have to adhere to the Cement (Quality Control) Order, 2003, which provides for mandatory BIS Certification.

India has already imported 2.1 million tones of cement from neighboring Pakistan and in total, it was planned to import about seven million tonnes of cement by 2009-10, that's the surplus that they have. This move was taken by the government to tame the surging inflation that hit

(vi) Export Possibility.

Indian Cement Industry has seen both ups and downs. However, its competitiveness and tendency to grow for achieving a technologically sound status has helped the industry see an impressive increase in export. Today, export of Indian cement may see further growth on account of an expected increase in production and consumption level. The industry is predicted to grow by 9 to 10% along with bringing stabilization in rates.

(vii) Domestic / export Markets.

According to statistics, cement industry will have the capacity to produce additional 111 million tonnes of cement by the end of the year 2009-10 (FY 10). The forecast has been made taking in account 141 outstanding cement projects.

During 2007-08, the export of cement from India touched the 2.16 million tonnes mark. However during 2008-09, the cement export from India stood at 1.46 million tonnes. In spite of seeing fall during 2008-09, the export segment of the industry is expected to grow again on account of various infrastructure projects that are being taken up all over the world.

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

This mine shall provide employment for about 300 people by both direct employment which include mine officials, skilled, semi skilled and unskilled labor and indirect employment, in contractual works like transport etc.

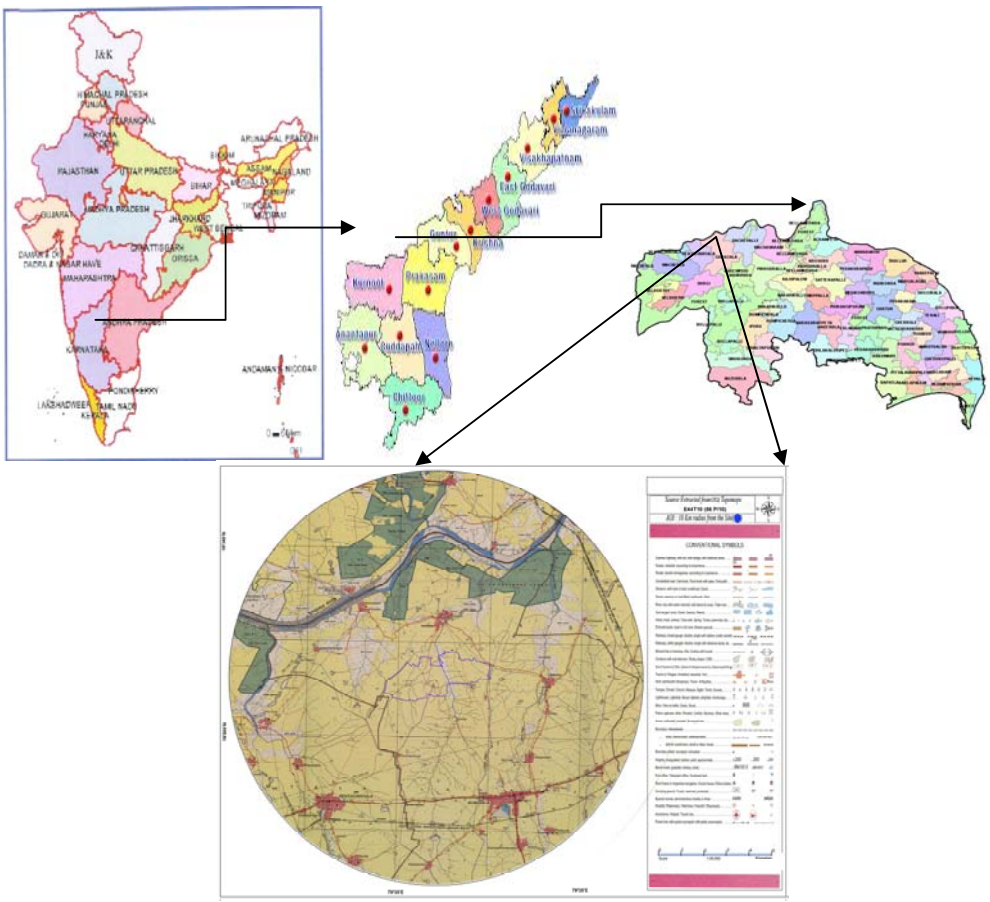
3. Project Description

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

Captive Opencast mechanized mining to a depth of about 30 m in Telukutla village limestone mine of Vertex Cements (P) Ltd, with non-forest ML area of 559.632 Ha to produce 8.4 MTPA of limestone for the captive use in the cement plant located adjoining the mining lease, for the proposed enhance production of 6.5 MTPA of cement.

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

The ML area is located in Telukutla, Daida and Gangavaram villages, Gurazala mandal, Guntur district, Andhra Pradesh. The ML area lies between 79° 34' 39.09" - 79° 37' 37.46" E longitude and 16° 36' 4.50" - 16° 37' 17.029" N latitude and form the part of toposheet 56 P/10. Map showing general and specific locations of the ML area are furnished below:



The site is connected to Macherla – Guntur state highway at a distance of 4.5 km in south direction. The nearest railway station is Rentachintala 7.1 km in SE Direction (South central Railway Macherla – Guntur Branch).

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

Limestone mining is site specific and it is a captive mine for their own cement plant adjacent to ML for which the protesting license was already granted by district collector. It is a single crop, patta land. The area is dry barren and rocky. There shall be no loss of native species or genetic diversity. Entire 623.848 ha of ML is classified as patta land. Therefore, there is no need for any clearance of vegetation. There is no building/structure in the site. There are no ecologically sensitive areas, wildlife sanctuaries or habited for any specific wildlife, within 10 km radius nor there are any archeological monuments, defense installation or major watercourses.

Under the proposed mining, no wastes are generated and the soil existing as overburden shall be used for afforestation work. Balance static soil dump dumped along the safety barriers shall be reclaimed by plantation of suitable fast growing species. The worked out mine pit shall be left as water reservoir as there is no waste material generated to be used for backfilling. Further as it is a rain deficient area creation of this water reservoir shall be beneficial to the nearby villagers and this reservoir shall also assist in recharging the groundwater system.

(iv) Size or magnitude of operation.

Presently it is proposed to produce lime stone @ 8.4 MTPA with opencast mechanized mining. The limestone occurring in this area in best suitable for cement manufacture. The ranges of various constituents present in the limestone are given below.

CaO	45.35%
SiO2	13.55%
Al2O3	2.02%
Fe2O3	1.07%
MgO	0.53 %
SO_3	0.025%

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

The total mineable limestone reserves presently estimated from this area as per the exploration so far done is 293.847 MT. Presently it is proposed to produce lime stone @ 8.4 MTPA. It is further proposed to explore the area by borehole drilling to augment these reserves estimated. The mining shall be done by mechanized opencast mining worked to a depth of about 30 m from the ground level by adopting bench sizes of maximum 8 m height and 5 m width. The excavation of limestone is done by drilling with 15mm dia with spacing and burden as 6 to 7m and 4.5 to 5.5m respectively and depth about 9 m. Blasting is done with ANFO mixtures and slurry explosives with charge per hole as 70 to 80 kg using delay detonators. Loading is by hydraulic excavators of 4.3 cum bucket capacity and dozers and transport by rear dump trucks of capacity 20 tonnes directly to the Crusher. No mineral separation is done within ML area. No waste is generated from the mine and the top overburden soil of average depth 3m shall be removed in advance separately, stored and reused in afforestation work as well as in creation of bunds along the safety barriers. The average generation of top soil shall be about 1.1 MTPA. Since there is no waste generation, it is not possible to backfill the worked out portion of the pit. The worked out pit shall be left as water reservoir, with green belt development which shall be used for irrigation and domestic purposes in the neighborhoods. The afforestation work done shall improve aesthetic beauty of the area and immigration of avifauna.

Environmental Protection

The expected air pollution (Mainly dust release), water pollution (only sediments), noise pollution including the ground vibrations due to this proposed mining activity are minimal as mitigation measures such as regular water spray along the transport roads, development of wide green belts surrounding mining area and along the safety barriers, proper maintenance of roads and the mining machinery and equipment as per manufacture' norms, controlled blasting techniques, erection of check dams, retaining walls, provision of garland drains with settling tank are proposed. There shall be no adverse effects on flora and fauna as the surrounding area is mostly barren covered with shrubs only and not a hiding place for wild life.

(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

The limestone produced from the mine is used as raw material for their captive cement plant adjoining the mine and is transported by rear dump trucks of capacity 20 tonnes directly to the crusher without any treatment. The final product i.e. cement is marketed from the cement plant which is out side ML in the adjoining area.

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

The entire ROM limestone produced from the mine including the low grades are transported to the cement plant for the production of cement. From the mine no wastes are generated. The top black cotton soil is removed separately and used in afforestation work and in creation of bunds along the safety barriers. Thus 100% utilization of the products generated from the mine is achieved.

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

The rainwater and the ground water seepage collected in the mine sump of about 145 KLD are utilized for dust control and for afforestation work. The requirement of about 15 KLD of drinking water is met from mine seepage water / bore wells/Krishna River. The machinery used in the mine is run by diesel. For both for plant and mine, Diesel requirement is 5 KLD and Electricity requirement is 150000 KVA. Use of diesel in the mine is about 5 tpd.

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

From the mine no wastes are generated as entire limestone produced is used in the cement plant. The top overburden soil of average depth 3m shall be removed in advance separately, stored and reused in afforestation work as well as in creation of bunds along the safety barriers. The average generation of top soil shall be about 1.1 MTPA.

4. Site Analysis

(i) Connectivity.

Telukutla is a small Village located about 90 Km NW of Guntur Head quarters. The

area lies between 79° 34′ 39.09″ - 79° 37′ 37.46″ E longitude and 16° 36′ 4.50″ - 16° 37′ 17.029″ N latitude and form the part of toposheet 56 P/10. The nearest railway station is Rentachintala 7.1 km in SE Direction (South central Railway Macherla – Guntur Branch).

(ii) Land Form, Land use and Land ownership.

The mining lease for Captive Limestone Mining over an Extent of 1541.53 acres (623.848 ha) constituting patta land owned by the company. It is a single crop, patta land part.

(iii) Topography (along with map).

The area is an undulated terrain having an average elevation about 103-110 m above MSL. It has a gentle slope towards south to Northwest and Northeast. There are small seasonal shallow streamlets in the area. There is a major seasonal nallah flowing south to north on the western side of the ML area which joins Krishna River.

(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.

It is a single crop, patta land. The following reserve forests are located within 10 km radius**.** Daida RF at a distance of 2.1 km in North direction, Virlapalem RF at a distance of 4.6 km in North direction, Goli RF at a distance of 5.7 km in Northwest direction, Adividevulapalli RF at a distance of 6.1 km in Southwest direction, Paluvayi RF at a distance of 8.5 km in Northeast direction, Madagula RF at a distance of 9.9 km in Southwest direction. There are no national park, wild life sanctuary, eco sensitive areas within the study area. Krishna River is flowing from Northwest to northeast at distance of 3.7km, altitude of 60 m MSL, and the ML area of altitude of 103-110 m, Apart from these there are no other water bodies. The study area is not covered under any CRZ.

(v) Existing Infrastructure,

The mining operations in the mine is yet to start. The ML area is connected by public road and the Power line. Infrastructure facilities shall be provided in plant area adjoining the ML.

(vi) Soil classification

The area is covered with black cotton soil of thickness ranging between 0.5 to 3m average being 3m. The soil type is Very shallow, somewhat excessively drained, loamy soils fit for only the dry crops.

(vii) Climatic data from secondary sources,

The area enjoys tropical climate with an annual average rain fall of 1050 mm. Maximum temperature in summer days is around 44°C and minimum temperature during winter nights record around 14° to 20°C humidity varies between 35° to 85°.

(viii) Social Infrastructure avalable.

Labor from these villages are available to work in the mine. They are provided with basic amenities like schools and medical care centers and power supply. The lessee shall play a proactive role in enhancing the employability of the job seekers of the near by area including the land losers. Further, the lessee shall provide employment for at least one member of the family of each of the land loser. The company shall prepare a plan for human resource development required for the project in total, train the local people and provide employment to these trained local youth and shall comply with the State Govt policy of employment to local people. The company shall take up social infrastructural development projects in the vicinity of location of the unit. Wherever there is scope for vender development works the company shall prepare a vender document plan to develop local venders and procure the required inputs, components and sub assemblies from these local venders.

5. Planning Brief

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

The area is granted for Perspective license by district collector. The limestone deposits in this Telukutla area was of limestone deposits to the tune of about 295 million tons.

(ii) Population Projection

Due to this mining activity and the cement plant there shall be inrush of population from out side area into the above villages and thus there shall be increase in population especially in establishing business centers, workshops, garages.

(iii) Land use planning (breakup along with green belt etc).

Tentative Land use

Category	Area in ha
Area to be Excavated	559.863
Storage of top soil	8.0
Roads	10.0
Green belt	12.0
Others	2.0
Virgin area (Under safety barriers)	31. 985
Total Land	**623.848**

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

The road facility is already available which shall be used and maintained. The power requirement is drawn from the plant site and the power grid is already available. The labor requirement is drawn from the nearby villages, whom shall also be trained for the requirement in mines. Housing complex is proposed within plant area out side ML. A magazine shall be constructed to store the explosives required. Other infrastructure shall be provided within the plant area.

(v) Amenities/Facilities.

Facilities for road transport and power supply is available. Communication facility with Mobile telephone service and landline are available at site. Other amenities for workers and staff shall be provided within the plant area out side the ML.

6. Proposed Infrastructure

(i) Industrial Area (Processing Area).

Proposed excavation under mining at conceptual stage is about 559.8630 ha

(ii) Residential Area (Non Processing Area).

Township outside ML near the cement plant site was proposed.

(iii) Green Belt.

It is proposed to develop wide green belts surrounding ML area in the 7.5 m buffer zone and in the safety barriers erected for the nalah portions and for the public road covering an area of 31.985 ha. In this green belt local tree species shall be planted in three rows with spacing of 2.5mx 2.5 m. In between the tree species bush and shrub, verities shall be planted.

(iv) Social Infrastructure.

This mine shall provide employment for about 300 people by both direct employment which include mine officials, skilled, semi skilled and unskilled labor and indirect employment, in contractual works and transport. The lessee shall extend social benefits like drinking water, health care measure, HIV awareness programs, educational benefits, promotion of cultural and religious activities, sports and training in self-employment scheme with initial investment to set up these schemes, to the neighboring villagers in addition to his own employees. Construction of township, Repair and maintenance of the village roads, maintenance of school buildings, awarding scholarships of higher studies to meritorious backward class students, supply of free books and uniforms to the socially deprived class of students shall be taken up.

The company shall prepare a plan for human resource development required for the project in total, train the local people and provide employment to these trained local youth and shall comply with the State Govt policy of employment to local people.. The company shall take up social infrastructural development projects in the vicinity of location of the unit. Wherever there is scope for vender development works the company shall prepare a vender document plan to develop local venders and procure the required inputs, components and sub assemblies from these local venders.

Thus, this project is expected to yield a positive impact on the socio-economic environment of the region. It helps in sustainable development of this area including further development of physical and social infrastructural facilities.

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

Road: The site is connected to Macherla – Guntur state highway at a distance of 4.5 km in south direction. The nearest railway station is Rentachintala 7.1 km in SE Direction (South central Railway Macherla – Guntur Branch). Facilities such as school, college, hospital, post and telegraph office, police station etc are available at Gurazala. The Gurazala the taluk head quarters is at a distance of 6.5 kms, Guntur district head quarters is a distance of 92 kms.

(vi) Drinking Water Management (Source and Supply of water)

Drinking water requirement of 15 KLD of drinking water is met from mine seepage water / bore wells/Krishna River.

(vii) Sewerage System.

No sewage is generated from the mine.

(viii) Industrial Waste Management.

No industrial waste is generated from the mine

(ix) Solid Waste Management.

There shall be no wastes generated as the entire limestone produced even the low grades are dispatched and used in the cement plant. The overburden is only black cotton soil of average thickness 3m, which shall be removed in advance, stored and reused in afforestation works and creation of bunds along the safety barriers which shall also be covered with vegetation. As per the geological estimates made annual average generation of this soil is about 1.1 MTPA, which shall be fully utilized in the above works.

(x) Power Requirement and Supply / source.

For both for plant and mine power requirement is 70000 KVA, it is supplied through WHRB/Captive Power plant /APTRASCO. To help bridge the gap between demand and supply of power and to meet out own power requirements, M/s. Vertex Cements (P) Ltd., has decided to setup a power plant to generate power utilizing coal as fuel. The power generated will be used for its cement manufacturing plant and after captive consumption; the excess will be exported to APTRASCO through Power grids.

7. Rehabilitation and Resettlement (R and R Plan).

(i) Policy to be adopted (Central/State) in respect of the project affected persons including home oustees, land oustees and landless labor (A brief outline to be given)

No Rehabilitation or Resettlement is involved as it is a patta land.

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).

The mining operations shall start as soon as after getting this EC clearance from MoEFandCC, positively during the financial year 2016-2017. The mineable limestone reserves presently estimated are 293.847 MT and with the proposed rate of production of 8.4 MTPA, the present life of the mine estimated is about 35 years. However with the additional exploration work proposed with borehole drilling there is possibility of enhancement in the limestone reserves and thus the life of the mine.

(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:

Sl. No.	Items / Programmes	Rs. in millions
Fixed Cost		
1	Obtaining PL and ML permissions	3
2	Construction of Civil and Mining Machinery related buildings, roads, culverts / bridges, etc.	1
3	Purchase of Mining Machinery	32
4	Installation and Maintenance of Mine Infrastructure (Office, Office Equipment, Communicated system, etc.)	0.5
	TOTAL	**36.5**
Variable Cost		
5	Reconnaissance, Preliminary Prospecting, General Exploration etc. programmes.	12
6	Future Annual Exploration	5
7	Preliminary and Pre-operating activities	30
8	Appointment of Mining personnel (Salaries)	1.8
9	Purchase and Maintenance of consumable items (Oils, Greez, Drilling bits, Explosives etc.	90
10	Electrical Power – Installation and Maintenance	10
11	Water supply, Dewatering (?) and Water treatment if any	15
12	Installation and Maintenance of workshop and Mine Magazine	0.9
13	Environmental programmes	10
14	Health and Safety	0.5
15	Provision for Royalty and Taxes	336
16	Provision for Overhead Costs	10
17	Maintenance of Socio-Economic aspects.	10
18	Raising and Maintenance of Green Belt areas / afforestation	20
19	Cultural and Religious Activities	1
20	Provision for Workmen Compensation	5
21	Provision for Machinery / Vehicle Insurances	10
22	Provision for the Depreciation of Plant and Machinery / Vehicles.	25
23	Provision for the Market Price Escalation of the above relevant items	10
	TOTAL	**602.2**
	Grand Total (36.5 + 602.2)	**638.7**

In the first phase of mining the cost of limestone mining per ton works out to Rs.160/- i.e. for mining 4 M.T of limestone raw material.

The above worked out cost estimate of Mining of limestone will be considerably coming down proportionate to the phased out enhanced mining production shown under introduction.

The per ton cost estimated above comes to 2.7% which is quite reasonable when compared to the existing market price of the cement.

The above shows that the proposed mining activity of production 8.4 million tons per annum for this mine is highly remunerative after meeting direct mining costs, environmental costs, cost on health and safety, socio economics, compensation for Crop loss, Capital and R & D costs.

9. Analysis of proposals (Final recommendations)

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

The rapid expansion of the cement sector has resulted in the demand for limestone in the country. Hence the project proponent has decided to contribute to the extent possible to meet this demand. This will add to the overall economic growth of the region and the country. Even with the huge expansion in power generation, the country is expecting a shortfall. To help bridge the gap between demand and supply of power and to meet out own power requirements, M/s. Vertex Cements (P) Ltd., has decided to setup a 20 (2x10)MW WHRS , Captive power plant to generate power with 50 (2x25) MW utilizing coal as fuel. The power generated will be used for its cement manufacturing plant and after captive consumption, the excess will be exported to APTRANSCO through Power grids, Transporting cement, a bulk commodity, over long distances is uneconomical.

This mine shall provide employment for about 300 people by both direct employment which include mine officials, skilled, semi skilled and unskilled labour and indirect employment, in contractual works and transport. The lessee shall play a proactive role in enhancing the employability of the job seekers of the near by area including the land losers. Further, the lessee shall provide employment for at least one member of the family of each of the land loser. The company shall prepare a plan for human resource development required for the project in total, train the local

people and provide employment to these trained local youth and shall comply with the State Govt policy of employment to local people. The company shall take up social infrastructural development projects in the vicinity of location of the unit. Wherever there is scope for vender development works the company shall prepare a vender document plan to develop local venders and procure the required inputs, components and sub assemblies from these local venders.

Thus, this project is expected to yield a positive impact on the socio-economic environment of the region. It helps in sustainable development of this area including further development of physical and social infrastructural facilities.

For Vertex Cements (P) Limited

Managing Director

Signature of the Applicant
With Name and Full Address
(Project Proponent / Authorized Signatory)

Date: 19.02.2015
Place: Hyderabad

M/s Vertex Cements (P) Ltd, Telukutla, Daida & Gangavaram Lime stone mine

TELUKUTLA, DAIDA & GANGAVARAM VILLAGE, GURAZALA MANDAL, GUNTUR DISTRICT, ANDHRA PRADESH