

PROPOSAL FOR NMET FUND

**Proposed Work Plan and Estimated Cost of G2
Level Exploration for Gundlakunta Limestone
Block over an extent of 1258 Ha. in
Peddamudium Mandal, YSR Kadapa District,
Andhra Pradesh.**



Directorate of Mines and Geology

Government of Andhra Pradesh

**5th & 6th Floors, B-Block, Sri Anjaneya Towers, Ibrahimpatnam,
Krishna Dist. Andhra Pradesh-521456**

January - 2018

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A. INTRODUCTION:

Limestone forms the vital and major raw material input for the cement manufacturing industry. It is also used as flux in metallurgical industry. High grade limestone is used in chemical, alkali, sugar, paper and leather tanning industry. The establishment of cement industry primarily depends on the occurrence of availability of cement grade limestone. The cement industry in India is set on the path of expansion and modernization in the recent years, however one of the biggest challenges before the industry in the coming years is the conservation of the limestone, the principal raw material for the cement production. India is endowed with huge resources of limestone, geologically ranging from Archean to recent in the stratigraphic sequence and geographically occurs in almost 9 states of India, though the distribution is not uniform.

The objective of National Inventory of Cement Grade Limestone is to plan the strategy for the growth of cement industry by updating the availability of limestone resources and to focus the limiting factors affecting the availability of limestone. As per the estimate of the Indian Bureau of Mines (IBM), the total cement grade limestone reserves available to meet the industry requirements are 89,862 million tons in India where as 37,436 million tons in Andhra Pradesh itself can cater the limestone raw material requirement for another four decades as per the present growth of industry and consumption levels.

Considering the recent policies of Union Government, transparent and equal opportunity for all in mineral concessions through auction process coupled with more impetus on infrastructure development and housing scheme besides A.P. state focus on capital construction, housing schemes, it is imminent to conduct exploration up to G2 level for auction purpose.

The limestone deposits of A.P. state as mentioned by IBM needs to be explored through G2 level, which is mandatory for auction of mineral block. The Bhimagundam block is contiguous to the existing mining lease of Dalmia Cement, Chinna Kodamagundla and the area was earlier mapped and assessed by GSI (QDS 57J) where the quality confirms cement grade 45.32 to 47.72% Cao; 10.45 to 13.97% SiO₂; 1.58 to 1.95% Fe₂O₃; 0.53 to 0.60% MgO.

Based on the above 5 cement plants have been constructed, list of existing cement plants and production capacities in the vicinity of the proposed block are as follows.

TABLE - 1

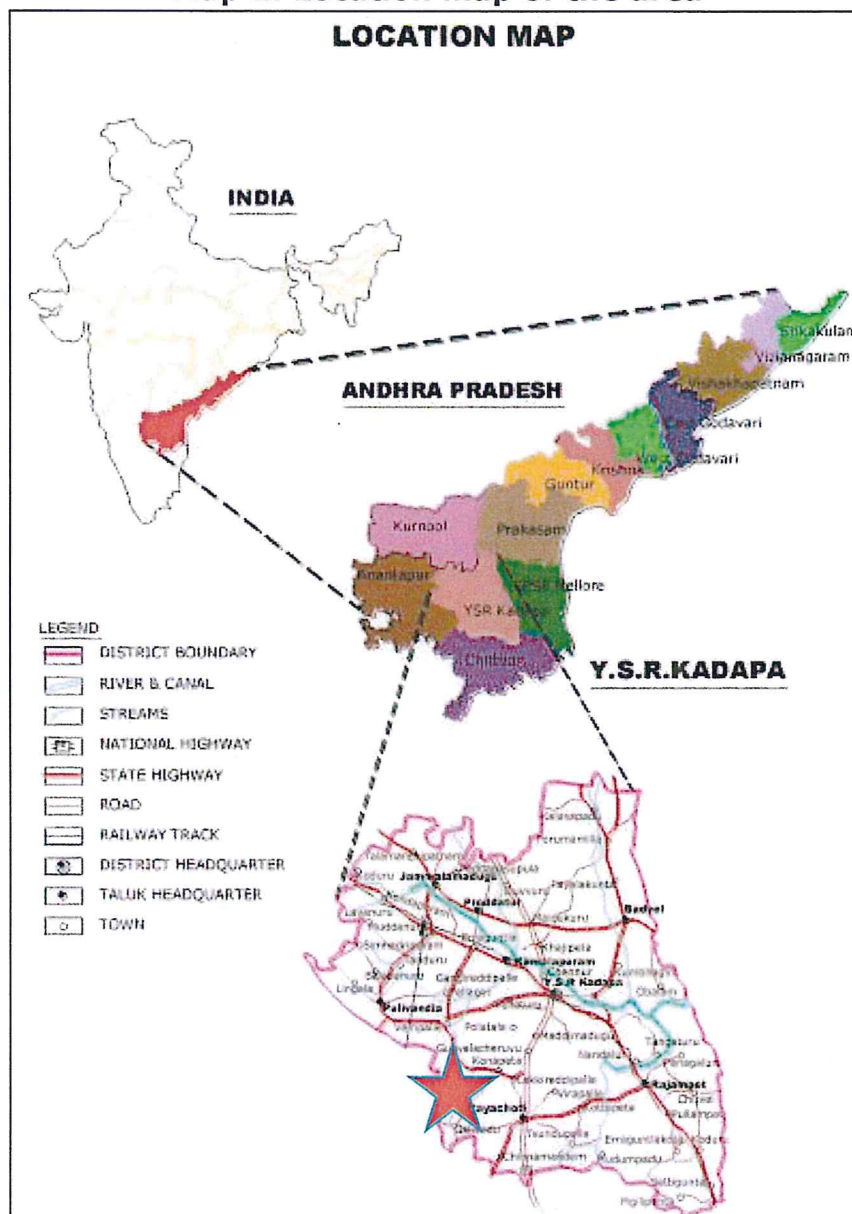
S.NO	NAME OF CEMENT PLANT	CAPACITY IN MTPA
1	M/S Dalmia Cement Limited, Chinnakommerla (V), Mylavarm (M), YSR Kadapa District	1.6
2	M/S Bharathi Cements, Nallingayapalli (V), Kamalapuram (M), YSR Kadapa District	3.3
3	M/S India Cement Ltd, Yerraguntla	0.61
4	M/S India Cement Ltd, Chilamkur (V), Yerraguntla	1.38
5	M/S Zuari Cement Ltd, Yerraguntla	4.30
Total		11.193

B. LOCATION, INFRASTRUCTURE, SOIL, CLIMATE:

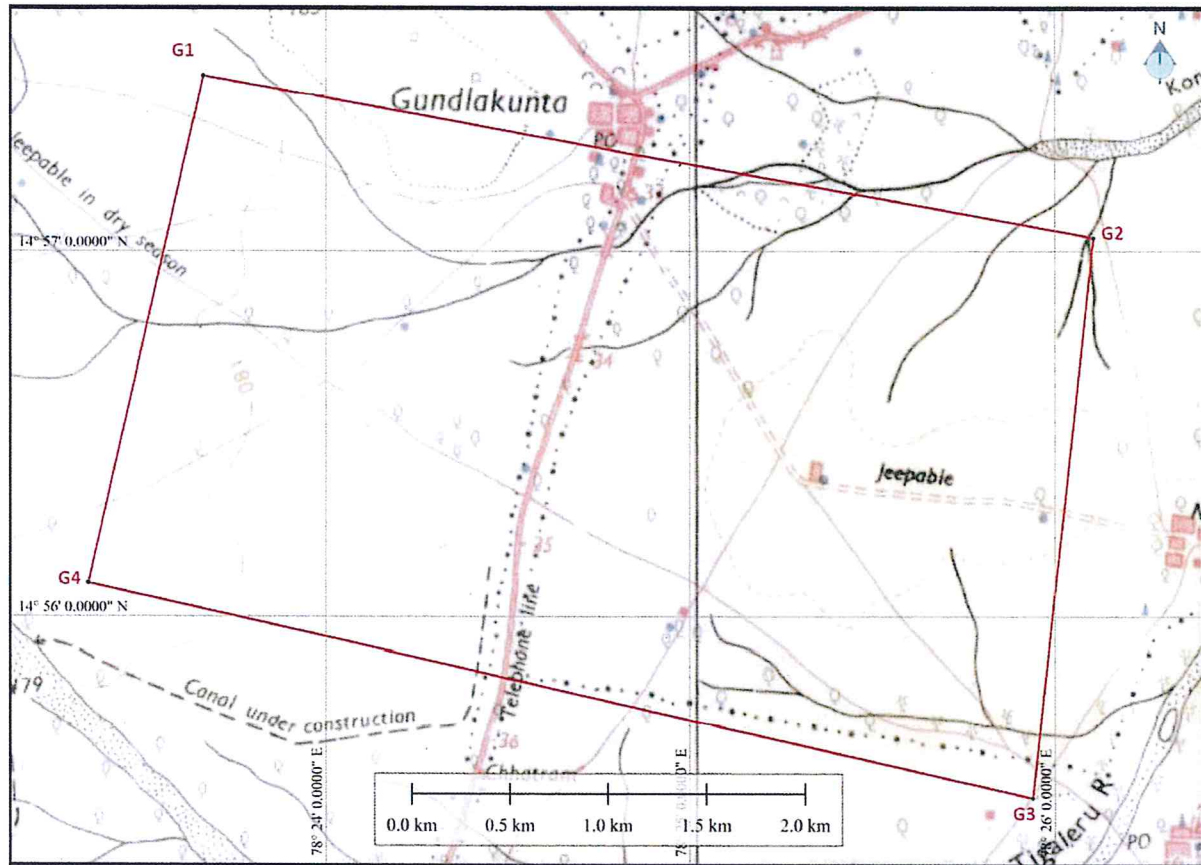
The proposed area is well connected to all major cities by rail/road, and the nearest airport Renigunta at a distance of 165 km, Bengaluru airport is about 181 km and Hyderabad airport is about 290 km. All basic amenities such as school, Hospital, market, etc. are available. Kadapa is major city and administrative headquarters around 50 km from the proposed block. Power, Water, Fuel, Communication are available in vicinity of the proposed block.

The top soil is black in color, fine to medium grained friable and sticky when wet (Block cotton soil) with 0.3 to 3 m soil cover. The highest point in the area is 196 m above MSL, lowest is 171m above MSL with elevation difference of 25 m. In general, the climate is dry. Peak summer is in the month of May, maximum temperature reaching up to 48 degrees Celsius. The cold season being December, the temperature falls down to 12 Degrees Celsius. The average annual rain fall of the district is 900 mm

Map 1: Location map of the area



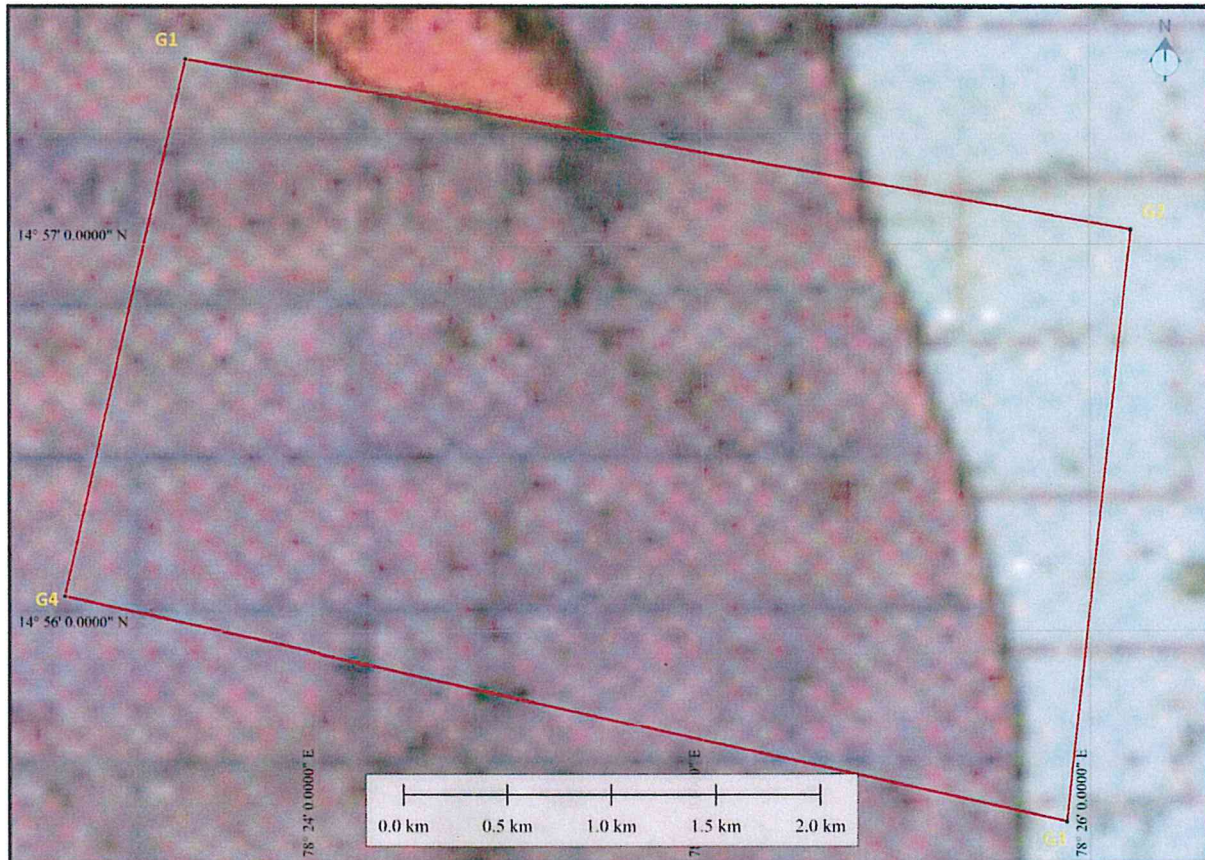
MAP -2: Location of Block on Toposheet with boundary co-ordinates



LABEL	LONGITUDE	LATITUDE
G1	78°23'40.04"E	14°57'28.71"N
G2	78°26'6.37"E	14°57'2.22"N
G3	78°25'56.34"E	14°55'30.46"N
G4	78°23'21.36"E	14°56'5.45"N

C. GEOLOGY OF THE AREA

Gundlakunta block is almost east west elongated polygonal block covering an area of approximately 1258 Ha. Cement grade limestone occurs in the proposed block i.e. the massive Narji limestone formation which is a part of Kurnool formation of Cuddapah super group. The strike of the formation is NW-SE and flat to low (3-5 degrees) dipping towards NE. The Area is plain, gently undulating land falling in private patta lands.



1. Geological map of proposed block (As per GSI)
Pt3km – Narji Massive Limestone of Kurnool Group

D.PROPOSAL FORM:

NATIONAL MINERAL EXPLOATION TRUST (NMET)

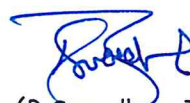
Proforma for submission of Mineral Exploration Proposals

1	Title of project	Gundlakunta Block															
2	Mineral/Minerals to be explored	Limestone															
3	Objective	G2 level exploration to be conducted passing through G3 level exploration for making block ready for auction															
4	Level of Proposed Exploration (G4/G3/G2/G1)	G2															
5	State/District/Block/Area	Andhra Pradesh/YSR Kadapa/ Peddamudium Mandal/Bhimagundam Village															
6	Toposheet no.	Part of SoI T.S. NO: 57 J/5 (Annexure 1)															
7	Total area and coordinates of the area / block (Latitude/Longitude)	12.58 sq.km <table><thead><tr><th>LABEL</th><th>LONGITUDE</th><th>LATITUDE</th></tr></thead><tbody><tr><td>G1</td><td>78°23'40.04"E</td><td>14°57'28.71"N</td></tr><tr><td>G2</td><td>78°26'6.37"E</td><td>14°57'2.22"N</td></tr><tr><td>G3</td><td>78°25'56.34"E</td><td>14°55'30.46"N</td></tr><tr><td>G4</td><td>78°23'21.36"E</td><td>14°56'5.45"N</td></tr></tbody></table> (Annexure 1 on SoI Toposheet, Annexure 2 on GSI Geological map)	LABEL	LONGITUDE	LATITUDE	G1	78°23'40.04"E	14°57'28.71"N	G2	78°26'6.37"E	14°57'2.22"N	G3	78°25'56.34"E	14°55'30.46"N	G4	78°23'21.36"E	14°56'5.45"N
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8	Background information a. Previous work b. Present status of the block Mineral concession status (leases)	The proposed area is a part of Narji limestone formation, Kurnool group of Kadapa Super group of late Proterozoic Era. The Narji limestones are massive, predominantly grey to bluish grey in color, fine grained in nature and exhibit conchoidal fracture. The strike of the formation is NW-SE and flat to low (3-5 degrees) dipping towards NE with 0.3 m average soil thickness. As per GSI, the quality of Limestone shows 45.32 to 47.72% Cao; 10.45 to 13.97% SiO₂; 1.58 to 1.95% Fe₂O₃; 0.53 to 0.60% MgO is of Cement grade. (Annexure-3) a) <u>Previous work:</u> GSI carried out extensive geological work at different times from 1940 to 1990 and demarcated Narji limestone formation in the area (Geological Quadrangle Map 57J) The quality of Narji limestone															

		around Jammalamadu area is 45.32-47.72% Cao, 10.45 to 13.97% SiO₂, 1.58 - 1.95% Fe₂O₃, 0.53-0.60% MgO which is cement grade. (attached – write-up of 57 J Geological Map last paragraph as Annexure 3) • Based on the above, 5 cement plants established in the vicinity of this area in the same geological formation is indicative of the occurrence of cement grade limestone. • As the above criteria well confirms the occurrence of cement grade limestone in the area (G4), it is more apt to take up G2 level of exploration at 400m drilling grid to conserve the time lines. b) Present status of the block: It is free hold area.
9	Status of various clearances	Local/Forest/Others -- Private Patta Lands
10	Brief account of work proposed in the area and expected outcome	
10.1	GEOLOGICAL MAPPING	Geological mapping will be carried out on 1:5000 scale to delineate different lithological units and establish stratigraphy of the area.
10.2	TOPOGRAPHICAL and DGPS SURVEY	Topographic Survey will be carried out at 2m contour interval. DGPS Survey will be done for BH Collar & Block Boundary points for precise location coordinates.
10.3	CORE DRILLING	A total 77 drill holes are planned covering 12.58 sq.km area at 400 m grid interval with 40m average depth totaling 3080 m of core drilling. (Annexure 4 – Drill hole plan)
10.4	SAMPLE PREPARATION FOR CHEMICAL ANALYSIS	3080 Core and 308 (total 3388) check samples prepared in the block for analysis at 1m interval.
10.5	ANALYTICAL RESULTS	3388 samples chemically to be analyzed to determine major-minor oxides (SiO₂, Al₂O₃, Fe₂O₃, MnO, Na₂O, K₂O, MgO, CaO, TiO₂, P₂O₅) at NABL accredited laboratory.
10.6	PROCESSING DATA AND INTERPRETATION	All maps, data compilation and interpretation would be carried out at MERIT Head Office, Vijayawada.
10.7	PROGRESS REPORT	Final Geological Report prepared incorporating all the works carried out along with quality and quantity of resources for G2 exploration.
11	Details of work proposed in the area	The work elements, unit rate, quantity and the estimated cost of exploration in the block has been prepared and enclosed as Annexure-5

I	Provide time line of various activities proposed	Detailed Activity Versus Timeline chart for exploration in the block has been enclosed as Annexure-6
II	Tentative date of submission of interim and final reports	As per the timelines of the activity chart shown or the timelines fixed by the Technical Committee, NMET.
III	Total Estimated Cost of the Project in Rupees lakhs	An amount of INR 3,23,68,439/- (Indian Rupees Three Crores Twenty-Three Lakhs Sixty-Eight Thousand Four Hundred Thirty-Nine Only + GST Applicable-Extra) Likely to be incurred for conducting the above mentioned G2 level of exploration.

(The proforma is for illustrative purpose only to indicate various fields. It may be suitably modified as per the requirement of the project)



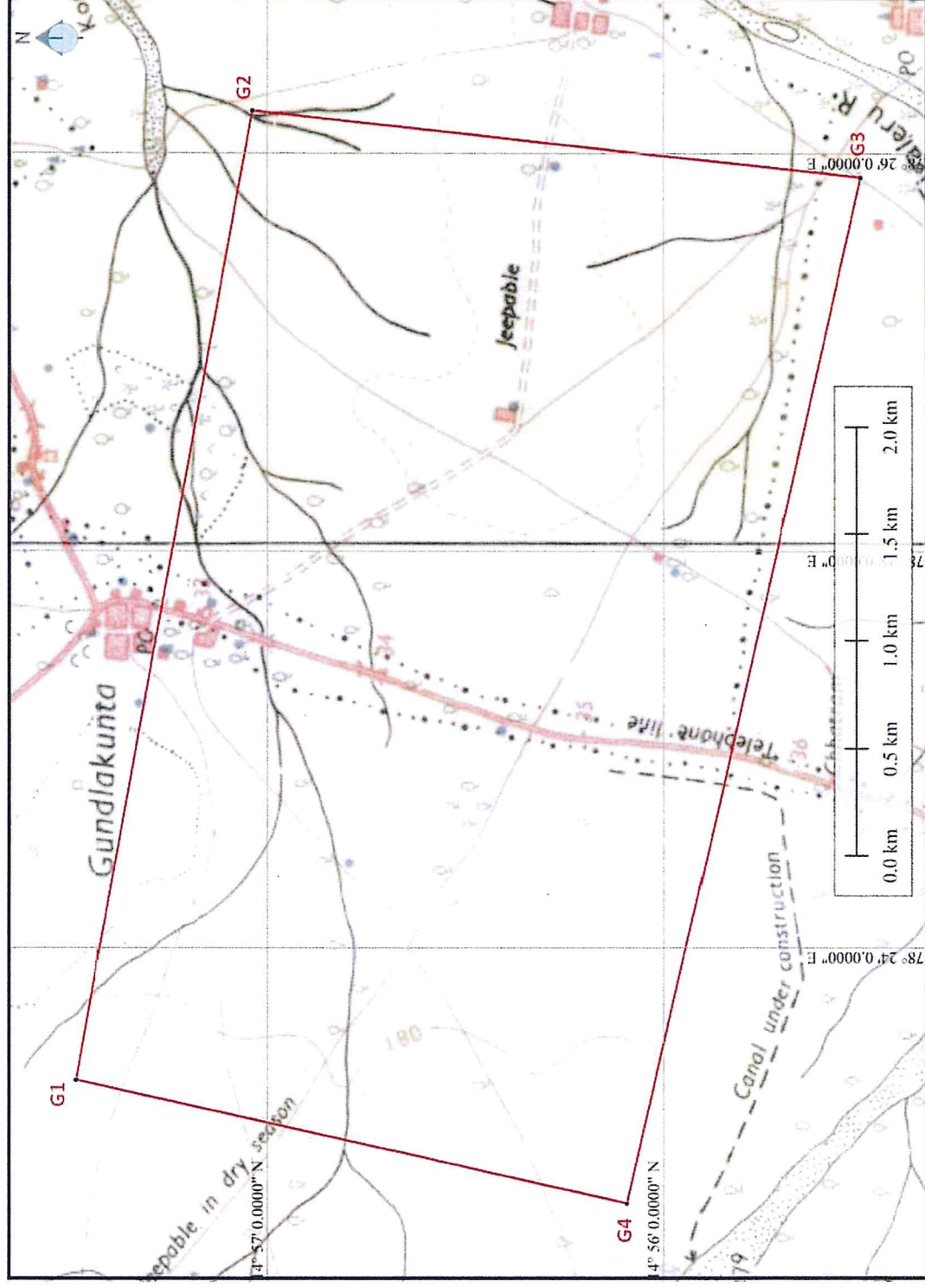
(B.Sreedhar, IAS)

Director Mines and Geology (FAC),
Secretary to Government (Mines), Andhra Pradesh
& Chairman, Executive Committee, MERIT

Dated: 19.01.2018

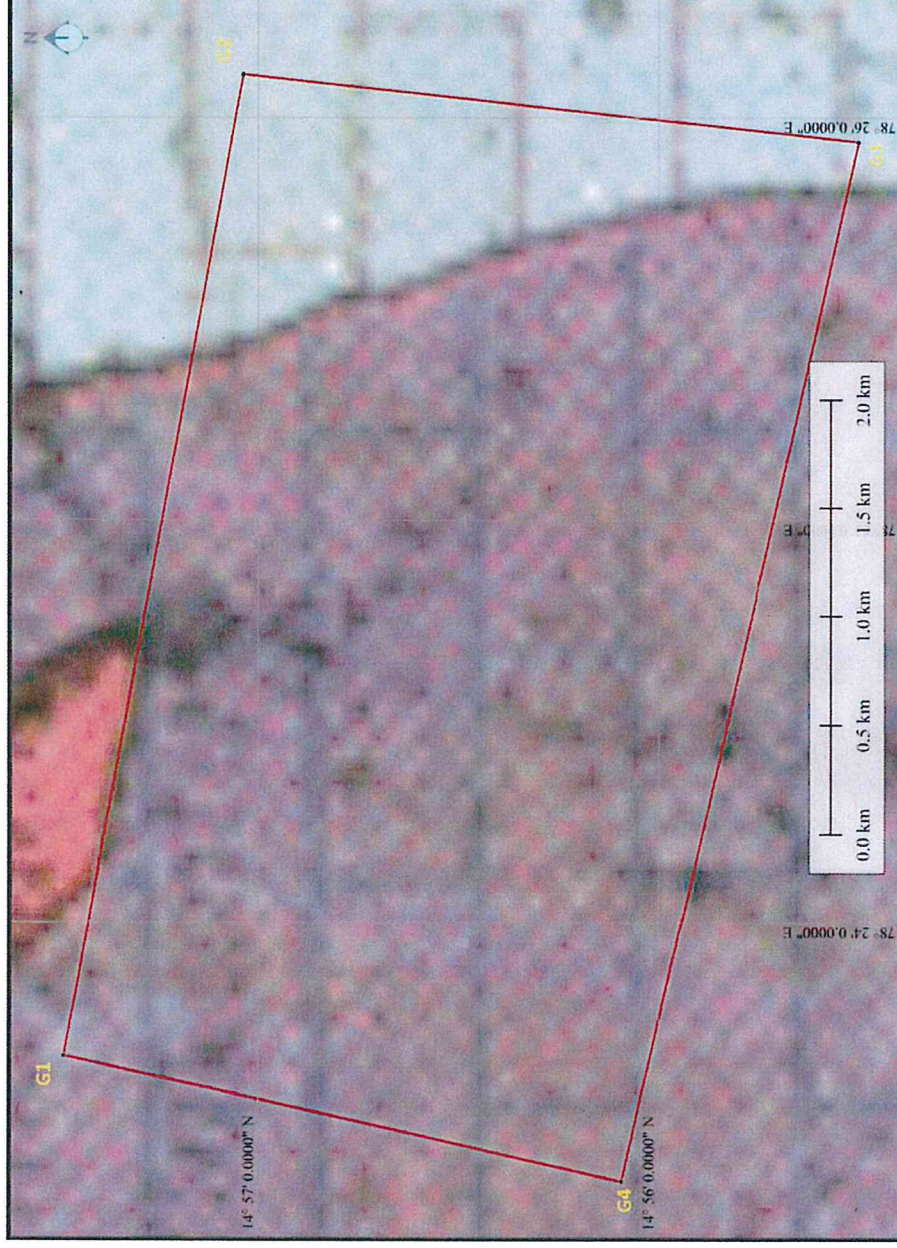
TOPOGRAPHICAL MAP OF THE AREA

GUNDLAKUNTA LIMESTONE BLOCK, GUNDLAKUNTA VILLAGE
PEDDAMUDIUM MANDAL, YSR KADAPA DISTRICT, A.P., TOPOSHEET NO 57 J/5



GEOLOGICAL MAP OF THE AREA (Part of GSI Map No: 57J)

GUNDLAKUNTA LIMESTONE BLOCK, GUNDLAKUNTA VILLAGE
PEDDAMUDIUM MANDAL, YSR KADAPA DISTRICT, ANDHRA PRADESH



Pt3knnm – Narji Massive Limestone of Kurnool Group

GEOLOGY

The Quadrangle comprises parts of Cuddapah, Kurnool and Anantapur districts of Andhra Pradesh. Two prominent hill ranges are seen in the area. The Palkonda range runs NW-SE to E-W having elevations ranging from 316m to 902m above msl, while the Lankamalla hills run NNW-SSE ranging in heights from 327m to 888m above msl. These two ranges almost merge in the south-eastern part of the area, east and southeast of Cuddapah town. The rest of the area is occupied by hills of lower elevations, aligned NNW-SSE, N-S to NE-SW, forming collectively an arcuate chain of hills and intervening valley flats. The southern part of the area around Kadiri and Rayachoti has a rolling topography. The Quadrangle area is drained by the Penneru river and its tributaries Papagani, Kunderu, Chitravati and Mandavi rivers which form a dendritic drainage pattern.

The area comprises rocks of Archaean and Proterozoic age. Amphibolite and biotite schist occurring as few small lenses, form the oldest rocks in the area. The southern part of the area is occupied mainly by rocks of Peninsular Gneissic Complex. These comprise grey granite, granodiorite, granite gneiss, migmatite and banded biotite-hornblende gneiss. Only the biotite-hornblende gneiss form low lying area in the south-western corner, west of Kadiri schist belt. Their contacts are transitional. Of these variants granodiorite is prominent along the eastern margin of Kadiri schist belt, occurring as bouldery outcrops of coarse grained, gray coloured rock.

The rocks of Dharwar Supergroup are exposed in two different belts, namely Kadiri schist belt in the southwest and Veligallu schist belt in the southern part of the area. The Kadiri schist belt comprises mainly acid volcanic rocks, with a few bands of basic volcanics, while the Veligallu schist belt consisting of two N-S running parallel belts which are around 3Km apart in the south and about 500 metres apart at their northern end, comprises metabasalt and a varied assemblage of metamorphic rocks, grouped under "Unclassified Metamorphics".

The acid volcanics of Kadiri belt comprise quartz porphyry, metadacite and meta-rhyolite. The quartz porphyry is characterised by opalescent quartz felts and micro-perthite. Metadacite shows partly sericitised plagioclase phenocrysts, in a groundmass of crushed quartz. Metarhyolite is dark gray, consisting of phenocrysts of microcline and plagioclase in a very fine grained matrix of quartz, feldspar, and biotite. The basic volcanic rocks of the schist belts mainly consist of hornblende schist and schistose amphibolite, which are characterised by plagioclase and hornblende with vesicular structure, with quartz-filled amygdaloids. The 'unclassified metamorphics' of Veligallu schist belt comprise quartz-muscovite schist, chlorite schist, mica

schist, micaceous quartzite, fuchsite quartzite, and very thin bands of banded hematite quartzite and syndiaclastic conglomerate.

The Post-Dharwar intrusives comprise pink granite, dolerite dykes, gabbro dykes and quartz veins. The pink granite occurs in the high plateau of Kadiri area. The rock is medium grained, equigranular to coarse grained porphyritic, comprising pink orthoclase, plagioclase, and quartz, with accessory biotite, hornblende, fluorite and sphene. The feldspar phenocrysts measure upto 3cm to 6cm size. Dolerite dykes, trending NW-SE, E-W to WNW-ESE and NE-SW cut across the Peninsular Gneiss and the rocks of Dharwar Group, in the southern part of the area. Dykes of gabbro trending N-S to NE-SW are seen east of the Kadiri schist belt, near Dorigallu. Numerous quartz reefs cut across the Peninsular Gneiss trending NW-SE, E-W and NE-SW.

Rocks of the Cuddapah Supergroup, rest unconformably on the Peninsular Gneissic Complex and the Dharwar group of rocks. They are divided into Papagni Group, Chitravati Group and Nallamalai Group which are separated from each other by unconformities.

The oldest unit of Papagni Group is Gulcheru Formation. This consists of basal conglomerate/grit, arkose and quartzite with shale intercalations. Vempalle Formation overlies Gulcheru. It consists of stromatolitic dolomite, dolomitic shale, mudstone, quartzite and chert.

The Chitravati Group consists of Pulivendla Formation, Tadpatri Formation and Gandikota Formation. The oldest unit, Pulivendla Formation occurs as narrow arcuate bands concave to north. It comprises quartzite with shale/limestone/dolomite intercalations and basic flows. The basal 20 metres of this unit comprises conglomerate, having a disconformity with the underlying Vempalli Formation. Pulivendlas are overlain by Tadpatri Formation. It is mainly an argillaceous formation consisting of upper shale with quartzite intercalations, upper middle shale with limestone/dolomite intercalations, lower middle shale with tuffs and lower shale with stromatolitic dolomite intercalations. Gandikota Formation lies conformably over Tadpatri Formation. The unit consists of shale and glauconitic quartzite in alternating sequence.

The older unit of Nallamalai Group is Bairenkonda Formation, which is dominantly an arenaceous unit. It consists of a basal oligomict conglomerate with pebbles of quartzite, chert, jasper and vein quartz set in a siliceous and ferruginous matrix. The conglomerate is followed by quartzite/grit, with shale intercalations. The Bairenkondas overlie the rocks of Papagni Group with a profound angular unconformity in the area south of Cuddapah. Further south it rests directly

over the granite basement. The Cumbum Formation rests conformably over Bairenkonda Formation. The contact is marked by ferruginous chert, jasper and lensoid dolomite. This Formation consists of shale and dolomite at the base, quartzite, calcareous shale and phyllite with dolomite intercalations in the middle and quartzite with shale intercalations on top.

The intrusives in Cuddapah Supergroup are medium to coarse grained melanocratic basic sills occurring within Vempalli and Tadpatri Formations. The rock comprises augite, plagioclase, olivine with accessory magnetite and hornblende and rarely quartz. It shows subophitic, ophitic to hypidiomorphic, inequigranular and glomeroporphyritic textures. Greenish black, fine grained basaltic flows occur below Pulivendla quartzite. The rock shows augite altering to actinolite and chlorite, while plagioclase is partly altered to sericite and epidote. The basaltic flows are in places vesicular and amygdular. The amygdules comprise calcite, quartz, epidote, chert and jasper.

Rocks of Kurnool Group rest unconformably over Cuddapah Supergroup. The basal unit of Kurnool Group, Banganapalle Formation comprises conglomerate, followed by grit, quartzite and shale. The conglomerate is oligomictic, consisting of subrounded pebbles of chert, jasper, quartzite and barytes. Narji limestone rests conformably over Banganapalle Formation and consists of lower flaggy limestone, middle massive limestone and upper flaggy limestone with a thin glauconitic ferruginous quartzite. Well-laminated, thinly bedded ochrous, Owk shale overlies Narji limestone. The Owk shale is overlain by Paniam Formation which is mainly a quartz arenite with thin basal conglomerate. The succeeding Kolikunta Formation consists of light grey to dark grey, flaggy limestone, with quartzite intercalations. The topmost formation of Kurnool Group, is Nandyal Formation which consists of purple calcareous shale and upper shaly limestone.

The deformational imprints in the area are manifested by folds of various magnitudes, faults, shear zones and lineaments. The Kadiri schist belt, a tightly folded isoclinal syncline strikes NNW-SSE with 60° to 70° westerly dips. The Veligallu schist, also a tightly folded syncline, runs NNW-SSE i.e. almost parallel to the Kadiri schist belt, with dips of 50° to 70° towards WNW and ESE. The Cuddapah Basin has less deformed western half with low angle (10° to 25°) dipping beds. The deformed eastern half of the basin constitute the Nallamalai fold belt, which shows low amplitude open folds to tightly folded isoclinal folds in the western part of the belt, while the eastern part of Nallamalai fold, is a tight isoclinal folded structure. Doubly plunging fold axes trending N-S, are prominent in the Bairenkonda quartzite. Faults along the southern boundary of Kurnool Group, south of Cuddapah extends E-W.

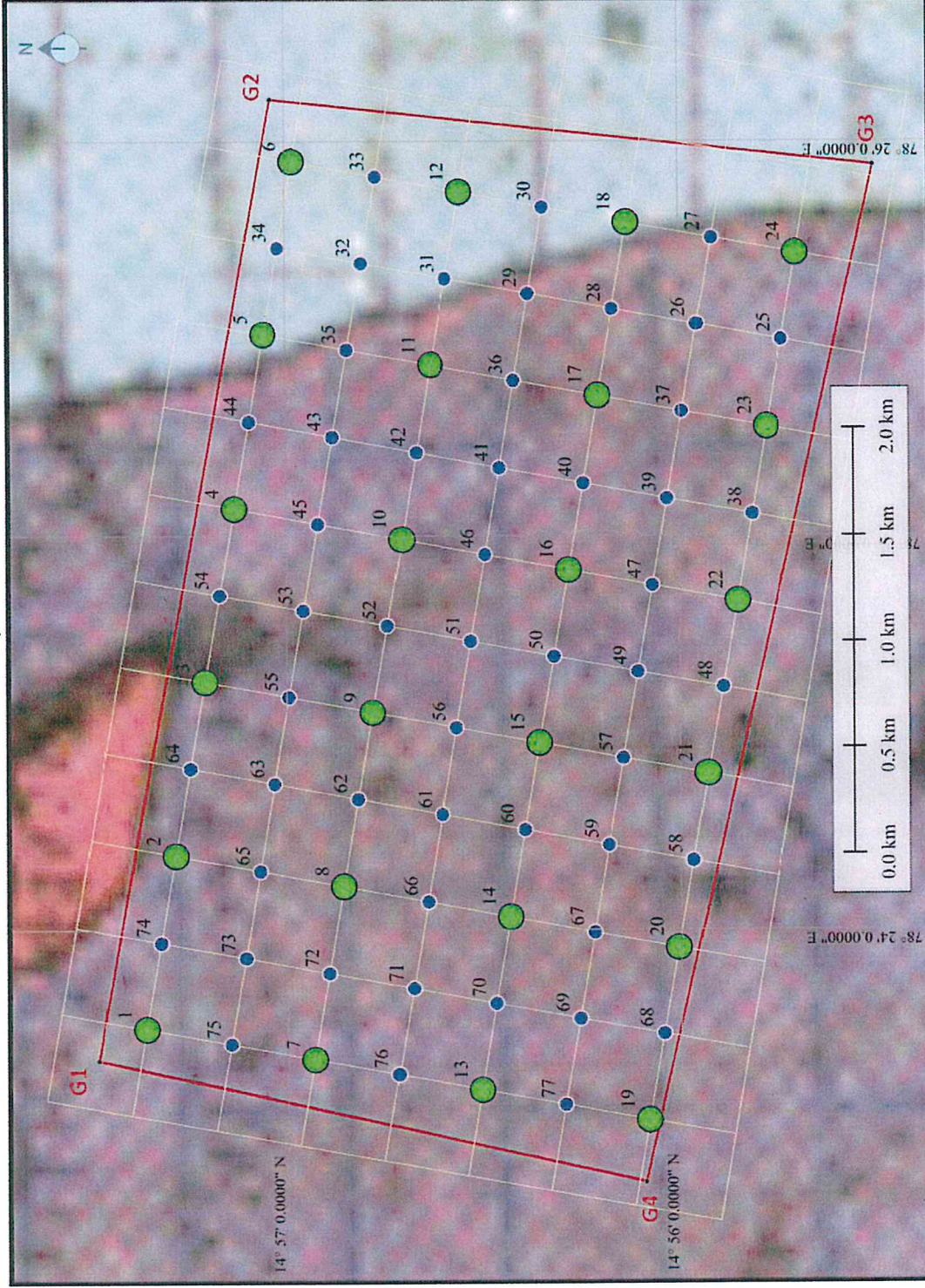
Kottabavi fault runs ENE-WSW and displaces the Cumbum and Kurnool Formations. Rachinnayapalle boundary fault between Kurnool and Cumbum runs NNW-SSE. NE-SW faults occur southeast of Cuddapah. Numerous NW-SE, N-S, E-W, ENE-WSW faults are seen within the Papaghni Group of rocks. Several NNE-SSW to E-W trending faults cut across the Veligallu schist belt and Peninsular Gneissic Complex. Several lineaments running NW-SE, N-S and NE-SW have been brought out by aerial photo studies. Some of these lineaments relate to fractures.

Chrysotile asbestos is developed between Lingala and Brahmanapalle, along the contact of basic sills and Vempalli dolomite. A reserve of 0.256 million tonnes is estimated. Veined barytes (1 to 2m thick) occurs in fissures, faults and joint planes in basic sills and dolomite contact. Thin veins of barytes are seen in basic sills intrusive into Tadpatri shales. The base metal occurrences are observed in the northeastern and eastern part of the area. In a 40km long and 15km wide belt from Jangamarajupalle to Sandragundalakonda, in the northeastern corner of the area, sphalerite, galena, pyrite and chalcopryite are associated with chert and dolomite of Cumbum Formation. In Jangamarajupalle block, the base metal deposit contains 1.08% Zn, 0.86% to 2.91% Pb. In the western flank of Lankamalla hills galena, sphalerite, chalcopryite are found over a strike length of 4 km analysing 1.33% Pb, and upto 1.09% Zn. Minor occurrences of white to light greenish clay pockets occur southwest of Nagasanipalle. Diamond is found in the Penneru river gravel, Chennur and Darlapalle (57J/14) and near Kottakolakunta and Kanuparti (57J/6). Minor veins of bluish grey and grey quartz containing 4.6 g/t of gold have been reported around Veligallu in the Dharwar unclassified greenstone belt. Minor occurrences of hematite ore are seen near Chimalpenta, Pendlimarri, and north of 265m hill. Limestone occurs mainly near Jammalamadugu - Tolamanchipatnam, Koduru-Niduzuvvi areas. The limestone analysed 45.32 to 47.72% CaO, 10.45 to 13.97% SiO₂, 1.58 to 1.95% Fe₂O₃ and 0.53 to 0.60% MgO. In the Jammalamadugu - Tolamanchipatnam area more than 2500 million tonnes of limestone is estimated. Ochre occurs near Rajupalem, Siddhavattam and Ullavalapalle. The ochre is red to yellow and is associated with Vempalli shale. Phosphorite associated with stromatolitic dolomite in Peddashettipalle - Vanipenta area shows 23% P₂O₅. Green, grey to white steatite lenses occur at dolomite-basic sill contact near Pulasalinutalepalli. Greenish grey steatite is mined near Nerijampalle. Scheelite is found within quartz veins east of Nambulapulakunta, associated with Veligallu schists. Uranium mineralisation is observed in the Vempalli dolomite. It is also observed in a dolomitic magnesite body associated with pellets of phosphorite.

ANNEXURE: 4

PROPOSED DRILL HOLE PLAN

GUNDLAKUNTA LIMESTONE BLOCK, GUNDLAKUNTA VILLAGE
PEDDAMUDIUM MANDAL, YSR KADAPA DISTRICT, ANDHRA PRADESH



Proposed BHs up to G2 -77 Nos @ 40m.- 3080m

- G3-Drilling Grid- 800m – 24BHs-960m
- G2-Drilling Grid- 400m – 53BHs-2120m

PROPOSED BUDGET PLAN

GUNDLAKUNTA LIMESTONE BLOCK (19.38 Sq.Km), GUNDLAKUNTA VILLAGE
PEDDAMUDIUM MANDAL, YSR KADAPA DISTRICT, ANDHRA PRADESH, TS NO. 57J/5

S.NO.	Activity	Quantum of Work (A)	Units	Unit price in Rupees. (B)	Total in Rupees (A*B)
1	Geological Mapping on 1:5000 scale ***12.58sq.km	26	Geological Party days	8021	208546
2	Topographic survey on 2m. contour interval ** 12.58 sq.km	12	Survey party days (2 surveyors)	20900	250800
3	Core drilling in 77 boreholes @ 40m. Each **	3080	mtr	5500	16940000
4	GI sheet core boxes - 5 mtr long (each)***	616	no.s	2000	1232000
5	Logging and Sample preparation * (@30m /day)	103	days	2813	289739
6	Chemical Analysis of Limestone - Major-Minor Oxides (SiO ₂ , Al ₂ O ₃ , Fe ₂ O ₃ , MnO, Na ₂ O, K ₂ O, MgO, CaO, Ti ₂ O, P ₂ O ₅) at NABL accredited laboratory**	3388	no.s	3500	11858000
7	Petrographic and Mineralogical study through thin and polished sections **	15	no.s	3200	48000
8	Data processing, Analysis and Geological Report	1	no.s	Lumpsum	1540568
G.Total					3,23,68,439

(Indian Rupees Three Crores Twenty-Three Lakhs Sixty-Eight Thousand Four Hundred Thirty-Nine Only), GST as applicable extra

* Rates as per MECL Schedule of Charges

** Reference taken and calculated as per GSI Schedule of Charges

*** Guidelines on Mineral Exploration Project formulation under NMET

PROPOSED EXPLORATION ACTIVITY vs TIME LINE CHART

GUNDLAKUNTA LIMESTONE BLOCK, GUNDLAKUNTA VILLAGE
PEDDAMUDIUM MANDAL, YSR KADAPA DISTRICT, ANDHRA PRADESH, TSNO: 57J/5

S.NO.	GEOLOGICAL ACTIVITIES (Proposed work elements)	Quarter wise / Month wise action plan from the date of commencement											
		Q1			Q2			Q3			Q4		
		1	2	3	4	5	6	7	8	9	10	11	12
1	Geological Mapping on 1:5000 scale												
2	Topographic survey on 2m. contour interval												
3	Core drilling in 38 boreholes @ 40m. Each (1520m)												
4	Logging and Sample preparation												
5	Assay Results and Interpretation												
6	DGPS Survey of BH Collars												
7	Processing of data												
8	Geological Report												

* Initially work will be carried out as per G3 exploration norms and will be upgraded to G2 level (rather than straight way going to G2)

F. No. 6/4/2015-NMET /628
Ministry of Mines
National Mineral Exploration Trust

New Delhi, the 19th April, 2018

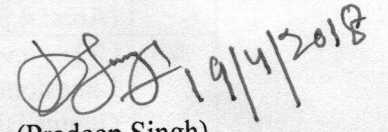
OFFICE MEMORANDUM

Subject: Approval of mineral exploration projects in 7 blocks to be executed by MERIT on behalf of DGM, Andhra Pradesh.

On the recommendation of Technical-cum-Cost Committee (TCC) of NMET, the Executive Committee in its 7th meeting, held on 12th March, 2018 approved mineral exploration projects in 7 blocks at an estimated cost of Rs. 1966.00 Lakh. These projects will be executed by the Mineral Exploration Research and Innovation Trust (MERIT) on behalf of DGM, Andhra Pradesh. The list of projects is enclosed as **Annexure-I**.

2. The mineral exploration projects in these 7 blocks will be funded by NMET as per the costing recommended by the TCC and approved by the Executive Committee. The Implementing Agency shall complete the same as per the approved cost estimates and time schedule, enclosed in **Annexure II to VIII**.

3. The TCC, NMET shall review the progress of ongoing projects and provide update every six months to the Executive Committee. The Implementing Agencies shall submit progress on six monthly basis to NMET.


(Pradeep Singh)
Director, NMET

To
The Director,
Department of Mines & Geology,
5th and 6th Floor, D. No.7-104,
B- Block, Anjaneya Tower, Ibrahimpatnam,
Vijayawada – 521456, Andhra Pradesh

Copy for information to:

1. Sh. D. Mohanraj, ADG, NM-II & Chairman, NMET TCC, Geological Survey of India, Seminary Hills, Nagpur- 440 006
2. The Member Secretary, NMET TCC, MECL, Dr. Babasaheb Ambedkar Bhawan, Seminary Hills, Nagpur- 440 006.

Annexure-I

List of mineral blocks of DGM, AP approved in 7th Executive Committee on 12.03.2018

Sl. No.	Name of the Project/Block	Mineral	Implementing Agency	Estimated cost (in Lakh)
1.	G-2 level exploration for Bhimagundam Limestone Block, in Peddamidium (M), YSR Kadapa District, Andhra Pradesh. (Area:6.979 sq km)	Limestone	To be executed by MERIT on behalf of DGM, AP.	220.00
2.	G-2 level exploration for Gundlakunta Limestone Block, in Peddamidium (M), YSR Kadapa District, Andhra Pradesh. (Area:12.58 sq km)	Limestone	To be executed by MERIT on behalf of DGM, AP.	433.00
3.	G-2 level exploration for Dammar Nandyal-Veparala Limestone Block, in Mylavaram (M), YSR Kadapa District, Andhra Pradesh. (Area: 20.1 sq km)	Limestone	To be executed by MERIT on behalf of DGM, AP.	578.00
4.	G-2 level exploration for Mandipadu Limestone Block, in Dachepalli (M), Guntur District, Andhra Pradesh. (Area: 6.6 sq km)	Limestone	To be executed by MERIT on behalf of DGM, AP.	209.00
5.	G-2 level exploration for Mutyalampadu-Tangeda Limestone Block, in Dachepalli (M), Guntur District, Andhra Pradesh. (Area: 4.8 sq km)	Limestone	To be executed by MERIT on behalf of DGM, AP.	161.00
6.	G-2 level exploration for Tangeda Limestone Block, in Dachepalli (M), Guntur District, Andhra Pradesh. (Area: 7.16 sq km)	Limestone	To be executed by MERIT on behalf of DGM, AP.	225.00
7.	G-2 level exploration for Ramapuram Limestone Block, in Dachepalli (M), Guntur District, Andhra Pradesh. (Area: 4.07 sq km)	Limestone	To be executed by MERIT on behalf of DGM, AP.	140.00
			Total	1966.00

Annexure-III

COST ESTIMATE FOR G2-EXPLORATION OF LIMESTONE IN GUNDLAKUNTA (12.58 sq.km), Kadapa Dist, Andhra Pradesh						
SL. No.	Item of Work	Unit	Base	Financial Year (2017-18)		
			Rate	Esc.Rate	Qty.	Amount
			1.4.90			
A	DRILLING					
1	Surface Drilling (1 Rig)	m.	1714	6780	3080	20882400
2	Transportation (at actuals)	Km.	8.8	31	2000	62000
3	GI Core Box *	each	2000		616	1232000
4	Camp Setting	Drill/ month	68606	244910	1	244910
	Sub Total A					22421310
B	GEOLOGICAL WORK					
1	Survey Party Days (1 party)	day	1180	5840	60	350400
2	Geologist Party days (1 party)	day	1541	7802	120	936240
3	Core Sampling Party days(1 party)	day	525	2809	100	280900
	Sub-Total B					1567540
C	LABORATORY STUDIES					
a	Chemical Analysis					
1	Primary + Check Samples					
	i) for 6 radicals (CaO,MgO,Al ₂ O ₃ ,SiO ₂ ,Fe ₂ O ₃ & LOI)	Nos	490 76x5+110)	2580	3388	8741040
	iii) For additional 2 Radicals SO ₃ & P ₂ O ₅	Nos	186 (110 +76)	972	3388	3293136
b	Physical Analysis					
2	Preparation of thin section	Nos	100	538	15	8070
3	Petrographic Studies	Nos	228	1436	15	21540
	Sub-Total C					12063786
	Total A+B+C					36052636
D	EXPLORATION REPORT (Rs.60000 or 2% of Value which ever is more)					721053
	GRAND TOTAL A to D					36773689
	GST 18%					6619264
	Grand Total : with GST 18%					43392953
						SAY 433 Lakhs
Note:						
1	Revised Rates of Promotional Work done by MECL on behalf of Govt. of India Vide letter No. 37(I) /2006-M.I. dated-02_07_2014 and based on actual escalation as per RBI indices as on 31-03-2017 and the same has been considered for					
2	Phosphorite rates have been considered as there is no rates for Limestone in Revised Rates of Promotional Work of MoM Schedule of Rates.					
3	* An amount of Rs.2000/- has been considered as per MECL rates approved by Ministry.					

PROPOSED EXPLORATION ACTIVITY vs TIME LINE CHART

GUNDLAKUNTA LIMESTONE BLOCK, GUNDLAKUNTA VILLAGE
PEDDAMUDIUM MANDAL, YSR KADAPA DISTRICT, ANDHRA PRADESH, TSNO: 57J/5

S.NO.	GEOLOGICAL ACTIVITIES (Proposed work elements)	Quarter wise / Month wise action plan from the date of commencement											
		Q1			Q2			Q3			Q4		
		1	2	3	4	5	6	7	8	9	10	11	12
1	Geological Mapping on 1:5000 scale												
2	Topographic survey on 2m. contour interval												
3	Core drilling in 38 boreholes @ 40m. Each (1520m)												
4	Logging and Sample preparation												
5	Assay Results and Interpretation												
6	DGPS Survey of BH Collars												
7	Processing of data												
8	Geological Report												

Assuming that one rig utilized @ 10 m. per day out put

* Initially work will be carried out as per G3 exploration norms and will be upgraded to G2 level (rather than straight way going to G2)

Batur
B P - Batur
member Secretary
TCC, HANDE