

**PROPOSAL FOR PRELIMINARY EXPLORATION (G-3 STAGE) FOR
LIMESTONE IN WEST OF YEPALAMADHAVARAM BLOCK (AREA 4.15
SQ. KM),
DISTRICT - SURYAPET, STATE – TELANGANA**

COMMODITY: LIMESTONE

**BY
MINEREAL EXPLORATION AND CONSULTANCY LIMITED
DR. BABASAHAAB AMBEDKAR BHAWAN
SEMINARY HILLS**

PLACE: NAGPUR

DATE: 19th August 2025

Summary of the Block for Preliminary exploration (G-3 Stage)

GENERAL INFORMATION ABOUT THE BLOCK

	Features	Details																										
	Block ID	West of Yepalamadhavaram block																										
	Exploration Agency	Mineral Exploration and Consultancy Limited (MECL)																										
	Commodity	Limestone																										
	Mineral Belt	-																										
	Completion Period with entire Time schedule to complete the project	8 months																										
	Objectives	<ul style="list-style-type: none"> i. To carry out detailed Topographical Survey and Geological mapping on 1:4000 scale over an extent of 4.15 sq. km ii. To delineate the strike and depth continuity of the limestone by drilling vertical boreholes in 800 m X 800 m grid. iii. To carry out exploration as per Minerals (Evidence of Mineral Contents) Rule-2015 & Mineral (Auction) Rules-2015 (Amended upto 2021). iv. The proposed exploration program will be helpful in demarcating zone of various grades of limestone in the block as per UNFC norms and estimation of limestone resources which in turn will facilitate the State Govt. for auctioning of the Block. 																										
	Whether the work will be carried out by the proposed agency or through outsourcing and details thereof. Components to be outsourced and name of the outsource agency	Exploration work will be carried out by the proposed agency. Drilling will be outsourced.																										
	Name/ Number of Geoscientists	two nos. of Geoscientist (1 Field + 1 HQ)																										
	Expected Field days (Geology) Geological Party Days	Geologist Party Days: 90 Days for filed and 30 HQ Party days (One geologist)																										
1.	Location	Coordinates of the corner points of West of Yepalamadhavaram block Boundary (4.15 Sq. Km), District: Suryapet, Telangana																										
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="text-align: center; width: 30%;">CORNER POINTS</th> <th style="text-align: center; width: 30%;">Latitude</th> <th style="text-align: center; width: 30%;">Longitude</th> </tr> <tr> <th colspan="2" style="text-align: center;">Datum: WGS 1984 Coordinate in D M S system</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td><td style="text-align: center;">16° 48' 2.78" N</td><td style="text-align: center;">079° 55' 30.48" E</td></tr> <tr> <td style="text-align: center;">2</td><td style="text-align: center;">16° 48' 2.54" N</td><td style="text-align: center;">079° 55' 31.55" E</td></tr> <tr> <td style="text-align: center;">3</td><td style="text-align: center;">16° 48' 0.87" N</td><td style="text-align: center;">079° 55' 31.42" E</td></tr> <tr> <td style="text-align: center;">4</td><td style="text-align: center;">16° 48' 1.03" N</td><td style="text-align: center;">079° 55' 33.11" E</td></tr> <tr> <td style="text-align: center;">5</td><td style="text-align: center;">16° 48' 1.96" N</td><td style="text-align: center;">079° 55' 33.61" E</td></tr> <tr> <td style="text-align: center;">6</td><td style="text-align: center;">16° 48' 2.03" N</td><td style="text-align: center;">079° 55' 34.99" E</td></tr> <tr> <td style="text-align: center;">7</td><td style="text-align: center;">16° 47' 58.93" N</td><td style="text-align: center;">079° 55' 34.74" E</td></tr> </tbody> </table>	CORNER POINTS	Latitude	Longitude	Datum: WGS 1984 Coordinate in D M S system		1	16° 48' 2.78" N	079° 55' 30.48" E	2	16° 48' 2.54" N	079° 55' 31.55" E	3	16° 48' 0.87" N	079° 55' 31.42" E	4	16° 48' 1.03" N	079° 55' 33.11" E	5	16° 48' 1.96" N	079° 55' 33.61" E	6	16° 48' 2.03" N	079° 55' 34.99" E	7	16° 47' 58.93" N	079° 55' 34.74" E
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Villages	Matampally, Chintalapalem, Mellacheruvu, Mukteshwarapuram
Tehsil/ Taluk	West of Yepalamadhavaram block lies in Matampally mandal.
District	Suryapet
State	Telangana

2. Area (hectares/ square kilometers)	
Block Area	4.15
Forest Area	Data Not Available
Government Land Area	Data Not Available
Private Land Area	Data Not Available

3. Accessibility	
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	Nearest Rail Head	Miryalaguda Railway station is 60km from the proposed block.
	Road	Block is of about 40 km away from National Highway No. 9 connecting Vijayawada- Hyderabad.
	Airport	Vijayawada airport is the main City which is at a distance of 135 km
4.	Hydrography	
	Local Surface Drainage Pattern (Channels)	seasonal nals flowing north to south and joining the river Krishna which is located at about 3 kms to the south.
	Rivers/ Streams	Krishna river which is perennial.
5.	Climate	
	Mean Annual Rainfall	The average annual rainfall is around 800 mm rainy season from June to November
	Temperatures (December) (Minimum) Temperatures (June) (Maximum)	Minimum temperatures 13°C (winter), Maximum temperatures up to 48°C (summer)
6.	Topography	
	Toposheet Number	56P/13
	Morphology of the Area	exhibits gently undulating plain marked by relatively low lying areas
7	Availability of baseline geosciences data	
	Geological Map (1:50K/ 25K)	NGDR
	Geochemical Map	NGDR data
	Geophysical Map	NGDR
8.	Justification for taking up Reconnaissance Survey / Regional Exploration	
		<p>Prospecting Licences (PLs) granted before the MMDR Amendment Act, 2015 Which included exploration at various stages (G4, G3, etc.). However, the 2021 amendments to the Act rendered these PL reports ineligible, requiring mineral blocks to go through auction. As a result, 19 such PL reports Were re-evaluated under the Minerals (Evidence of Mineral Contents) Rules, 2015. To scrutinize them, the State Government formed a Scrutiny Committee (G.O.Ms.No.8, dated 12.03.2025). A meeting with GSI, MECL, and IBM on 04.06.2025 concluded that further field exploration was necessary to validate.</p> <ol style="list-style-type: none"> 1. The area hosts existing mining leases for limestone, in the vicinity of the Prospecting License (PL) blocks, the respective agencies have undertaken G-4 level exploration, confirming the presence of limestone. 2. Following the Scrutiny Committee meeting on 04.06.2025

		and subsequent discussions with the Secretary Director of Geology and Mining, Telangana, it was resolved to upgrade the block over substantial areas to facilitate auction.
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**PROPOSAL FOR PRELIMINARY EXPLORATION (G-3 STAGE) FOR LIMESTONE IN
WEST OF YEPALAMADHAVARAM BLOCK, DISTRICT - SURYAPET, STATE –
TELANGANA**

1.0.0 INTRODUCTION:

- 1.1.1 Prospecting Licences (PLs) were granted prior to the MMDR Amendment Act, 2015, and the respective PL holders had submitted reports indicating different stages of exploration (such as G4, G3, etc.). However, with the amendments to the MMDR Act in 2021, it was mandated that all such PL reports would be deemed ineligible, and mineral blocks would need to be allocated through auction. Consequently, 19 PL reports require evaluation to ascertain the stage of exploration (G4, G3, etc.) in accordance with the **Minerals (Evidence of Mineral Contents) Rules, 2015**.
- 1.1.2 To this effect, the State Government constituted a Scrutiny Committee vide G.O.Ms.No.8 dated 12.03.2025 for examining PL reports under the said Rules. Subsequently, the Department of Geology and Mining (Telangana) in consultation with GSI, MECL, and IBM, reviewed the status of PL reports on 04.06.2025. It was collectively suggested that certain areas be revisited for further exploration
- 1.1.3 In view of the above, MECL has prepared the exploration proposal involving G-3 level exploration in Revuru block which are adjacent to erstwhile PL areas of M/s Sagar cement ltd, Myhome industries.

1.2.0 LOCATION AND ACCESSIBILITY

- 1.2.1 In the proposed West of Yepalamadhavaram block is situated in Matampally mandal, (Toposheet No 56P/13) Suryapet dist, Telangana.
- 1.2.2 All villages within the block are well-connected to each other and to the regional road network. The nearest National Highway is NH-9 (Vijayawada–Hyderabad), located approximately 40 km from the block. The closest railway station is Miryalaguda, about 60 km to the NNW, while the nearest airport is Vijayawada Airport, situated about 135 km away.

1.3.0 PHYSIOGRAPHY, DRAINAGE, CLIMATE AND VEGETATION:

- 1.3.1 Physiographical, the proposed block forms a part of plain area north of Krishna River. The highest elevation of the ground is around 200 m above MSL and ground slope is towards south.
- 1.3.2 The Suryapet district is mainly drained by Krishna River and its tributary Vemuleru River. A few nalas originate in the block and meet Krishna River in the south.

1.3.3 The area experiences tropical wet and dry climate. During dry spells, maximum temperature often exceeds 45° C in May and June. In winter the temperature comes down to 9-11° C in December and January. The average annual rainfall in the area is 821mm.

2.0.0 REGIONAL GEOLOGY

2.0.1 The proposed area forms a part of the Palnad Sub-Basin, situated in the northeastern portion of the Cuddapah Basin, which is largely occupied by the Kurnool Group of rocks of Neoproterozoic age. The earliest geological description of the Palnad Basin was recorded by William King (1872), followed by detailed mapping in parts of Toposheet No. 56P/10 by Ramalingaswamy (1976–77). Subsequent investigations for limestone in various parts of the Palnad Sub-Basin were carried out by Krupanidhi (1966–67), Nagaeswara Rao and Varaprasada Rao (1967–68), Chakradhar et al. (1980–83), Ravindra Babu et al. (1989), Ramakrishnaiah et al. (2012–13), Jagadishwar Babu and Tirumurugan M. (2013), and Sugathan & Rimpal Kar (2013).

2.0.2 The Cuddapah Basin itself extends from Nagari in the south to Amaravati in the northeast, covering a length of about 440 km, with a width ranging between 80 and 145 km, and encompassing an area of approximately 44,000 sq. km. Within this basin, the Kurnool Group of rocks, which are younger than the Cuddapah Group, are well preserved and hold significant economic importance, leading to extensive studies over the last seven decades. Stratigraphically, the Kurnool rocks are restricted to two main areas: one between Cuddapah and Kurnool, and the other west of Amaravati, the latter commonly referred to as the Palnads. The detailed stratigraphy of the Cuddapah Basin, as provided by the Geological Survey of India (GSI), is presented in Table 1 below

2.0.3 The Detailed Stratigraphy after GSI is as per the table given below:

	SERIES	STAGE
C	Kurnool Series	Nandyal shale Koilkuntla Limestone Paniam Quartzite Auk Shale Narji Limestone Banganapalle Quartzite
U		<i>Unconformity</i>
D	Kistna Series	Srisailam quartzite Kolammala shale Irlakonda quartzite
A		<i>Unconformity</i>
P	Nallamalai Series	Cumbum Formation Bairenkonda Quartzite
A		<i>Unconformity</i>
H	Cheyair Series	Gandikota quartzite Pullampet shales (Tadpatri) Nagri/ Pulivendala quartzite
S		<i>Unconformity</i>
Y	Papaghni Series	Vempalle limestone and shale Gulcheru quartzite
S		<i>Unconformity</i>
T		Archean schist and gneisses.
E		
M		

Table no 1
Regional Stratigraphy of the
Cuddapah basin

3.1.0 REGIONAL STRUCTURE

3.1.1 The general strike of the formation is NE-SW to NNE-SSW dipping is 5° – 15° towards ESE though locally variation occurs due to warping and folding, with open asymmetrical folds (anticlines and synclines) the younging direction is from west to east. Gentle warps and flexures suggest post-depositional tectonic disturbances. Open asymmetrical syncline and anticline folds are preserved in the western part of the study area. The fold axial planes trend NW–SE (around $N70^{\circ}W$ – $S70^{\circ}E$) and plunging towards SE.

3.1.2 Furthermore, the minor folds in calcite and quartz veins within grey limestone are also a common feature in Matampally quarries, where mineralized joints and vein fillings locally affect rock quality. Mining experience from Matampally demonstrates that such structural features, while not drastically disturbing the overall stratigraphy, may create localized irregularities in bed thickness and grade distribution.

3.2.0 GEOLOGY OF THE BLOCK

3.3.0 The limestone in the area forms a part of Proterozoic Palnadu Basin equivalents to Narji Limestone formation of Kurnool Group. These carbonate rocks of Narji Limestone are subdivided into several distinct Lithological units.

3.4.0 Stratigraphy of the proposed block is given below

Table No 2

Stratigraphy of the Suryapet cluster of blocks (After GSI)

Group / Super Group	Lithology
	Soil
Narji Limestone	Grey Limestone Green Limestone Purple/Flaggy limestone Shale
	Banaganapalle Quartzite
	Unconformity
Kistna Series	

3.5.0 The Grey Limestone is light to dark grey in color and Variegated Limestone is light greyish white to greenish grey in colour and thin bedded. In the course of drilling green and purple limestones have been encountered. The massive grey unit is devoid of any particular primary So (colour compositional) bedding. It is massive with a thickness of 20 to 50 m and breaks along sharp edged conchoidal fractures exhibiting a serrated profile.

4.0.0 MINERAL POTENTIALITY BASED ON GEOLOGY, GEOPHYSICS, GROUND GEOCHEMISTRY ETC.

4.0.1 The area hosts existing mining leases for limestone, in the vicinity of the Prospecting License (PL) blocks, TGMDC has carriedout G-4 level of exploration and established the continuation of limestone

5.0.0 PREVIOUS WORK AND JUSTIFICATION

5.1.1 The block forms part of Palnad Sub-basin and is located in the north-eastern portion of the Cudappah Basin. The earliest geological account of Palnad Sub-basin was documented by William King (1872).

5.1.2 Mukherji and Syed Kazim(1947) of erstwhile Hyderabad Geological Survey carried out geological mapping of Palnad Basin covering parts of Nalgonda district.

5.1.3 Systematic geological mapping and mineral investigation in this part of Palnad Sub-basin was carried out by Ziauddin and Sharma(1959-61) Ramalingaswamy, G. (1976-77) has mapped area in parts of Toposheet No. 56P/10. Krupanidhi (1966-67), Nagaeswara Rao and Varaprasada Rao (1967-68), Chakradhar et al, (1980-83), Ravindra Babu et al, (1989), Ramakrishnaiah et al, (2012-13), Jagadishwar Babu. K and. Tirumurugan. M. (2013) and Sugathan & RimpalKar (2013) have carried out investigation for limestone in parts of Palnad sub-basin.

5.1.4 During FY 2017–2018, MECL carried out G-3 level exploration in the adjoining areas covering the Sultanpur, Saidulnama, and Pasupalabodu blocks. The studies established the continuity of limestone formations as well as the resources in these blocks. Among them, the Saidulnama and Sultanpur blocks were subsequently auctioned in 2024. The thickness of limestone intercepted in these explorations ranged from 10.5 m to 36.0 m.

5.1.5 Two clusters of blocks, namely Matampally Cluster-2 over an area 14.65 sq.km were explored by TSMDC with NMET funding. These clusters lie around 2km in southwest direction from the proposed block. Geological Reports (GRs) for both clusters were submitted in January 2020. Exploration drilling comprised four vertical boreholes drilled for 50m depth. The details and results of these boreholes are presented below.

Table 3.1
Details of boreholes drilled in Matampally Cluster-2, Suryapet Dist, Telangana

BH No	From (m)	To (m)	Thick (m)	SiO ₂ (%)	CaO (%)	MgO (%)
MTPCCBH-1	6.00	45.00	39.00	10.21	48.46	0.45
MTPCCBH-2	26.00	50.00	24.00	10.36	47.80	1.26
MTPCCBH-3	7.50	50.00	42.50	9.40	48.28	1.43
MTPCCBH-4	24.75	50.00	25.25	8.89	48.64	1.41

5.1.5.1 Resource of 593 million tonnes with average grade of 46.05% CaO (334) were estimated in Matampally Cluster-2.

5.1.6 Two cluster of Blocks namely Ramapuram Cluster 5 and Dondapadu Cluster 6 were explored by TSMDC through NMET funding and these blocks are located North and South of the proposed block respectively. The GR were submitted in Jan 2020. Two boreholes were drilled in Ramapuram Cluster 5 and four boreholes were drilled in Dondapadu Cluster 6. The details and findings of the boreholes are as follows.

Table 3.2
Details of boreholes drilled in Ramapuram Cluster-5 (RMPCBH) and Dondapadu Cluster-6 (DDPCBH), Suryapet Dist, Telangana

BH No	RL (m)	Latitude (E)	Longitude (N)	From (m)	To (m)	Thick (m)	SiO2 (%)	CaO (%)	MgO (%)
DDPCBH-1	81	80° 01' 20.19"	16°47' 45.90"	16.00	33.00	17.00	18.00	44.06	0.45
				40.00	49.50	9.50	16.19	45.43	0.45
DDPCBH-2	66	80° 01' 48.37"	16°47' 39.50"	29.25	42.75	13.50	16.40	45.35	0.47
				48.00	50.00	2.00	13.36	47.38	0.43
DDPCBH-3	48	80° 02' 45.19"	16°48' 2.73"	34.50	36.00	1.50	16.42	43.93	0.50
DDPCBH-3	49	80° 02' 46.64"	16°47' 37.88"	15.00	29.00	14.00	16.65	44.53	0.62
RMPCBH-1	85	80° 01' 13.39"	16°50' 55.04"	30.75	39.75	9.00	15.96	45.34	0.36
				46.50	50.00	3.50	18.00	44.21	0.38
RMPCBH-1	87	80° 01' 11.06"	16°50' 30.79"	19.00	50.00	31.00	14.39	46.46	0.48

5.1.7 Resource of 675 million tonnes with average grade of 46.05% CaO (334) were estimated in Ramapuram Cluster 5.

5.1.8 Resource of 452 million tonnes with average grade of 44.82% CaO (334) were estimated in Dondapadu Cluster 6

5.1.9 Three limestone blocks—Mukteswarapuram, Pedaveedu East, and Pedaveedu West—were approved by NMET in 2025 for G-3 level exploration. These blocks are located in the vicinity of the proposed area

6.0.0 BLOCK DESCRIPTION

6.1.0 The proposed block falls in Survey of India Toposheet No 56P13 and covers an area of 4.15 sq. km in around villages of Matampally, Pedaveedu, Gundlapally of Suryapet dist, Telangana. The block location is given in PLATE-I. The Co-ordinates of the corner points of the block area's are given in Table No.- 4

Table No 4
Coordinates of the corner points of West of Yepalamadhavaram block Boundary (4.15 Sq. Km), District: Suryapet, Telangana

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7.0.0 SCOPE FOR PROPOSED EXPLORATION.

The Preliminary exploration (G-3 stage exploration) program will be comprised of Detailed Geological mapping (1:4,000 scale), systematic drilling with coring boreholes, with associated survey, chemical analysis, physical analysis and geological report preparation.

7.1.0 PLANNED METHODOLOGY

7.1.1 The exploration program is proposed in accordance to the objective set for Preliminary exploration (G-3) for the block. The Exploration shall be carried out as per Minerals (Evidence of Mineral Contents) Amendment Rules, 2021. Accordingly, the following scheme of exploration is formulated in order to achieve the objectives. The details of different activities to be carried out are presented in subsequent paragraphs.

7.2.0 GEOLOGICAL MAPPING

7.2.1 Detailed Geological mapping will be done in the entire 4.15 sq. km 1:4000 scale. Rock types, their contact, structural features will be mapped. Surface manifestations of the mineralisation available along with their surface disposition will be marked on map. On basis of geological mapping, the borehole location will be fixed after review in TCC, NMET.

7.3.0 SURVEYING:

7.3.1 Topographical survey will be carried out on 1:4000 scale, along with DGPS survey for block boundary and borehole locations.

7.4.0 CORE DRILLING:

7.4.1 In accordance to Amended MEMC rule, the limestone shall be explored by drilling. Hence 5 Nos of vertical Boreholes with 50 m depth of each borehole, have been proposed in West of Yepalamadhavaram block. Hence, cumulative 250 m of total drilling will be carried out during the G3 stage exploration in this block.

7.5.0 Drill Core Logging:

7.5.1 The drill core will be logged for rock types, structural features, textures. Rock quality designation (RQD) will also be undertaken.

7.6.0 Drill Core Sampling:

7.6.1 During geological logging of drill core, various Limestone zone will be marked. The length of each samples will be kept 1.00 m. It may be assumed that 40 Nos of samples may be generated from each of the boreholes. Total 220 no of primary and 22 nos check (10% External Check) samples each will be generated in exploration block.

7.7.0 CHEMICAL ANALYSIS

7.7.1 All the samples will be analyzed for 10 radicals CaO, MgO, Al₂O₃, SiO₂, Fe₂O₃, Na₂O, SO₃, P₂O₅, K₂O by XRF and LOI will be carried out on all the primary and external check samples by XRF.

7.8.0 BULK DENSITY

7.8.1 Two (02) numbers of samples shall be subjected to determination of bulk density which will be used for resource estimation.

7.9.0 PETROLOGICAL & MINERAGRAPHIC STUDIES:

7.9.1 During the course of Geological mapping and core logging, a total 3 nos. of samples will be collected from all the three blocks and shall be studied under microscope.

7.10.0 PROPOSED QUANTUM OF WORK

Block wise Details of the particular, Quantum and the targets are tabulated in Table No.-5

Table No-5
Envisaged Quantum of proposed work in Yepala Madhavaram North Block

Sl. No.	Item of Work	Unit	Target
1	Geological Mapping (on 1:4000 Scale)	Sq km	4.15
2	Topographic Survey (on 1:4000 Scale)	Sq km	4.15
3	Drilling (coring)		
	a) Drilling in 5 Nos of BH with 50 m depth each	m	250
	b) logging	m	250
4	Laboratory Studies		
	i) Primary Samples for CaO, MgO, Al ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ , Na ₂ O, SO ₃ , P ₂ O ₅ , K ₂ O by XRF and LOI	Nos	220
	ii) External Check Samples for CaO, MgO, Al ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ , Na ₂ O, SO ₃ , P ₂ O ₅ , K ₂ O by XRF and LOI	Nos	22
5	Bulk Density	Nos	2
6	Petrological Samples (Borehole Core Samples)	Nos	3
7	Report Preparation (5 Hard copies with a soft copy)	Nos.	1

5.1.1 BREAK-UP OF EXPENDITURE

5.1.1.1 Tentative Cost has been estimated based on Schedule of Charges (SoC) of projects funded by National Mineral Exploration Trust (NMET) w.e.f. 01/04/2020. The total estimated cost is **Rs. 70.84 Lakhs for** West of Yepalamadhavaram block, the summary of cost estimates for Preliminary Exploration (G-3 Level) is given in Table No.-6. Details of cost estimates is given in Annexures. Tentative Time schedule/action plan for proposed G3 exploration is 7 Months.

Table No-6

Summary of Cost Estimates for G3 Stage exploration in West of Yepalamadhavaram block

SL. NO.	ITEM	ESTIMATED COST (Rs.)
1	Drilling	23,25,040
2	Geology & Survey	27,72,420
3	Laboratory	10,44,075
Sub Total (1 to 3)		61,41,535
4	Exploration Report	3,07,077
5	Proposal Preparation	1,22,831
6	Peer Review Charges	30,000
Grand Total		66,01,442
GST 18%		11,88,260
Total:		77,89,702
Say Rs. in Lakhs		77.90

List of Plates

1. Plate-I: Location Map of Limestone blocks
2. Plate-II: Geological Map of proposed limestone block in Suryapet dist, Telangana.