PROPOSAL FOR G-3 STAGE EXPLORATION OF ONE LIMESTONE BLOCK IN RAMAPURAM CLUSTER -5, MALLAREDDYGUDEM MANDAL, SURYAPET DISTRICT, TELANGANA.

(For NMET)

(Industrial Mineral)

By

Telangana Mineral Development Corporation Limited

Hyderabad

Place:

Date:

Summary of the Block for G-3 stage exploration

	Features	Details
1.	Block ID	Ramapuram Block
2.	Current Exploration Agency	TGMDC Ltd.,
3.	Previous Exploration Agency	TGMDC Ltd.,
4.	G4 stage Geological Report (Previous stage Geological Report)	G-4 Stage report was completed.
5.	Commodity	Limestone
6.	Mineral Belt/ Basin	Palnad Sub-Basin
7.	Completion Period with entire Time schedule to complete the project	10 months
8.	Objectives	1. To carry out Topographical and Geological Mapping on 1:4000 scale. 2.To Assess the quantity & quality of cement grade limestone in the blocks up to 50m vertical depth 3. To Delineate block boundary with the help of DGPS
9.	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 to be carried out by officers of TGMDC with outsourcing of survey, drilling & chemical analysis components. Outsourcing of components for identifying agencies will be done through e-tendering.
10.	Name/ Number of Geoscientists	02
11.	Expected Field days (Geology,Geophysics, Surveyor)	Geology =240 days (Geological mapping, core logging & sampling) Surveyor = 30 days (Establishing block coordinates, Topographic mapping, & locating boreholes)
12.	**Location**	
	Latitude	16°50'41.58"N (Block Co-ordinate given inside)
	Longitude	80° 1'19.10"E
	Villages	Ramapuram
	Tehsil/ Taluk	Mellacheruvu
	District	Suryapet
	State	Telangana
13.	**Area(hectares/squarekilometers)**	
	Block Name	Ramapuram Block
	Block Area	3.18 sq.km
	Forest Area	Nil
	Government Land Area	Nil
	Private Land Area	3.18 sq.km
14	**Accessibility**	
	Nearest Rail Head	Miryalaguda
	Road	Kodad to Mellacheruvu
	Airport	Hyderabad
15	**Hydrography**	
	LocalSurfaceDrainagePattern(Channels)	A few nalas originates in the cluster and joins the Krishna River in the south.
	Rivers/ Streams	Krishna river
16	**Climate**	The area experiences tropical wet and dry climate.
	Mean Annual Rainfall	The average annual rainfall in the area is 821 mm.

	Temperatures (December) (Minimum) Temperatures (June) (Maximum)	In winter the temperature comes down to 9-11^0 c during December –January The temperature often exceeds 45^0 c during May- June
17	**Topography**	
	Toposheet Number	65D/1
	Morphology of the Area	The proposed area is part of Palnad sub-Basin
18	**Availability of baseline geoscience data**	
	Geological Map (1:50K/ 25K)	Available
	Geochemical Map	NA
	Geophysical Map (Aero-geophysical, Ground geophysical	NA
19	**Justification for taking up G-3stage Exploration.**	TGMDC Ltd carried Reconnaissance stage (G-4) exploration for limestone in the Ramapuram cluster-5 in Ramapuram village in Mellacheruvu Mandal of Suryapet district in Telangana state was carried out by officers of TGMDC Ltd during 2018-2019 with an objective to delineate cement grade limestone area in the cluster for further exploration work. Cluster is irregular polygonal with an area of 55.87Sq km. The Ramapuram Cluster has part of the Andhra Pradesh also. Area of Telangana in the Cluster is 19.58 Sq Km and that of Andhra Pradesh is 36.29 Sq km. Based on the chemical analysis results of surface and subsurface samples cement grade potential area were delineated for further expolration.Tentativile Reconnaissance resource of about 675 million tonnes was estimated for the Ramapuram cluster. In view of the positive results obtaines from G-4 stage investigation in the Ramapuram Cluster one block was identified within cement grade limestone potentital area for further detailed exploration. The identified block is named as Ramapuram Block, and these block are proposed to be explored with Preliminary Exploration Stage (G-3) to gather all necessary information required in G-3 stage to assess the quantity & quality of cement grade limestone resources in the area and classify the resources as per UNFC and Minerals (Evidence and Mineral Contents) Rule, 2021 norms. The exploration will be carried out with the help of geological & topographical mapping on 1:4000 scale & drilling. TCC committee has approved in principle the next stage of exploration in the identified block in Ramapuram Cluster after successful completion of G-4 stage investigation and review by the TCC. The review of the G-4 investigation was completed on 12th November 2019. The total amount of 655.82 lakhs have already been approved for carrying out G-4 to G-2 stage investigation in Ramapuram cluster having one block (Ramapuram Block) vide letter number F.No.6/2/2015 Dated 21.06.2018. Expenditure for Eight limestone clusters completing G-4 exploration has come to around 3.30 crore. After the G-4 investigation of Ramapuram cluster one Block are identified for carrying out G-3 stage exploration whose cost estemate is coming to around Rupees 105.80 lacs. This one identified Ramapuram Block are proposed for approvel.

DETAILED DESCRIPTION ON THE FOLLOWING TITLES TO BE MADE IN THE PROPOSAL

1. Block Summary

A. Physiography

The proposed one block are mostly a plain land with highest elevation 95 MSL and no proper drainage system has been developed in these block, but small gullies channels formed in these block flows into Krishna River.

B. Background Geology (Regional Geology & Geology of the Block)

Regional Geology:

Ramapuram Cluster-5 forms part of Palnad Sub-Basin, located in the northeast part of the Cuddapah Basin. Regionally the cluster area lies to the south of the Krishna river and falls in Suryapet districts of Telangana. Regionally the cluster is characterized by lithotypes ranging in age from Archaean to Proterozoic, the latter belonging to the Cuddapah Super group and the Kurnool group of rocks. A major part of the area is occupied by Archaean granite gneisses whereas the entire southwestern part exposes Proterozoic platformal sediments. The northern and the eastern part is characterized by the granite gneisses is faulted. The Cuddapah Super group is represented by Cumbum formation overlain by the Kurnool group represented by Banaganapalli and Narji Formations. The contact between Cumbum and Narji is generally marked by a thrust. A narrow discontinuous floodplain is seen bordering the Krishna river which forms and inverted 'U' in this part. The granite gneiss is grey, magmatic in nature with enclaves of amphibolites seen at places in the form of bands, lenses, schlieren. This gneiss is traversed by a number of dolerite dykes in N-S, NE-SW, E-W and NW-SE direction. The Cumbum Formation of Cuddapah Supergroup is represented by the quartzite, shale/phyllite and dolomite. The quartzites are seen as prominent strike ridges amidst a flat terrain constituted of phyllites with occasional dolomite. The phyllites exhibit colour banding and the strike of the bedding ranges from NNW-ESE to NNE- SSW with 30° to 50° northerly and easterly dips. The Kurnool group is represented by Banaganapalli and Narji formations. They are succeeded conformably by massive and flaggy limestone belonging to Narji Formation and exposed at Budawada. The Banaganapalli Formation is mainly quartzite unit. It generally shows a low dip ranging from 8° to 12° towards NW -SE. Its width ranges from 50 M to about 2 Km. This Formation is overlain by the shales/slates and limestone of Narji Formation ranging in width from 0.5 Km to 2 Km. It narrows down towards east. However the lowest unit is seen to occupy a larger area in the southwestern part between Krishna river and the shale unit of this Formation. It has a general trend of NE-SW with varying dip but on an average it is 30° to 45° due SE in most places. The contact between this unit and the Cumbum Formation is marked by a thrust. The formations belonging to the Kurnool Group are generally not folded. The Quaternary Fluvial landforms in the area are mainly the floodplain. Active channel of the Krishna river seen in the southern part form an inverted 'U'. These fluvial sediments of the area are grouped under the Krishna-Godavari Formation of the Holocene age. The floodplain deposit is composed mainly of brown silty clay. The active channel deposit comprised coarse sand with rock fragments and the active channel bar deposit contained coarse to medium sand.

AGE	SUPER GROUP	GROUP	FORMATION	LITHOLOGY
Holocene		**Krishna Godavari `**	**Avanigadda**	**Sand**
				Silty Clay
Neoproterozoic		**Kurnool**	**Narji**	**Flaggy Limestone**
				Massive Limestone
			Banganapalli Quartzite	**Shale**
				Quartzite
Mesoproterozoic	Cuddapah	Nallamalai	Cumbum	**Quartzite**
				phyllite
				Dolerite
Palaeoproterozoic			**Basic Intrusive**	**Dolerite**
Archaean	**PGC**	**PGC -II**		**Alkali feldsfar**
				Grey boitite granite
				Grey hornblende boitite granite
				Pink biotite granite
				Pink hornblende granite
				Grey biotite genesis
				Grey hornblende biotite gnesis

Geology of the Area:

Most part of cluster-5 area is soil covered & have scanty outcrop of mostly massive to flaggy limestone & impure (silicified) limestone of Narji Formation of Kurnool Group. The uniform horizontal to sub horizontal disposition of the sedimentary sequence in the area of investigation indicates that the area has not undergone any major tectonic disturbance. Among the primary sedimentary structures, bedding planes and laminations are common. The secondary structures observed in the area are joints. The generalised strike of the strata is NE-SW with dips varying 8° -12° towards Southeast. Strike & Dip

GROUP	FORMATION	LITHOUNITS
	Recent	Black Soil
Kurnool Group	Narji Formation	Upper flaggy limestone
		Middle massive limestone (Variegated and grey massive)
		Lower purple Shale

C. Mineral potentiality based on geology, geophysics, ground geochemistry etc.

G-4 stage exploration in Ramapuram Cluster indicated about 30.61 Sq km potential area for Cement grade limestone out of 55.87 Sq km area explored. Tentative reconnaissance resources (334) of about 675 million tones has been assessed having average grade of 46.05% CaO. Thus, area has high potential for cement grade limestone.

D. Scope for proposed exploration

As the area have high potential for cement grade limestone, One Block (Ramapuram Block) have been identified in the cluster after removing leasehold, forest area,other habitation area for further detailed exploration. And overburden also below 10 meters except RMPCBH-2 Borehole. The identified block in the area have to be explored by G-3 stage exploration to assess the quantity & quality of cement grade limestone resources and classify the resources as per UNFC and Minerals (Evidence and Mineral Contents) Rule, 2021 norms before the block is handed over to State Government for auctioning.

E. Recommendations of G-4 Stage Mineral Exploration

It is recommended to take up G-3 Stage Exploration in identified limestone block from G-4 stage Exploration in Ramapuram Block in Suryapet district of Telangana.

F. Objectives:

1. To carry out Topographical and Geological Mapping on 1:4000 scale
2. To Assess the quantity & quality of cement grade limestone in the block up to 50m vertical depth
3. To Delineate block boundary with the help of DGPS

2. Previous Work:

The Ramapuram Cluster forms part of Palnad Sub-basin (Topo Sheet no. 65D/1) and is located north of River Krishna in the north-eastern portion of the Cudappah Basin. The earliest geological account of Palnad Sub-basin was documented by William King (1872). Mukherjee and Syed Kazim (1947) of erstwhile Hyderabad Geological Survey carried out geological mapping of Palnad Basin covering parts of Nalgonda district. Systematic geological mapping and mineral investigation in this part of Palnad Sub-basin was carried out by Ziauddin and Sharma (1959-61); Appavadhanulu et al., (1963-64); Rajurkar (1972); Ramalingaswamy (1971-72, 1973-74); Hazra et al. (2005) and Sekhram A (1978-79).

Recently G-4 stage exploration was carried out by TGMDC for delineating cement grade limestone in the area during 2018-19. An area of 30.61 Sq km of cement grade limestone was delineated in Ramapuram area and reconnaissance resources (334) of about 675 million tonnes were estimated. The authors recommended to take up G-3 Stage Exploration in One identified limestone block after completion of G-4 stage Exploration in Ramapuram area in Suryapet district of Telangana.

3. Block description:

Location and Accessibility

Ramapuram cluster falls in Ramapuram village in Mellacheruvu Mandal of Suryapet district in Telangana state. It covers an area of 55.87 sq km. It is located near Priya Cements Ltd., Ramapuram Village, Mellacheruvu Mandal, Suryapet District, Telangana. The proposed area is a part of Palnad Sub-Basin and is located in the north-eastern part of the Cudappah Basin.

The Mellacheruvu Mandal is ~65 km from Suryapet town which is district headquarter of Suryapet. The cluster one block area falls entirely within the Ramapuram, Budhawada and Dondapadu village cadastral boundary. Block is well connected by metaled roads and is connected to National highway number 9 which is ~18 km from the Ramapuram cluster. Most of the Infrastructure (Police Station, Bank facility, workshop facility, Bus Stand etc) are available at Mellacheruvu Mandal Town. The nearest rail head is Janpahad for freight and Miryalaguda for passenger traffic on Secunderabad – Nadikudi Section. One block are falls in Toposheet No. 65D/1 .The Co-ordinates of the Block are given below:-

Ramapuram Block: -

Block Corner points / Cardinal Points	**Latitude**	**Longitude**	**Area in Sq. Km**
1	16° 50' 23.377" N	80° 0' 29.495"E	3.18 Sq. Km
2	16° 51' 1.453"N	80° 0' 27.319"E	
3	16° 51'1.396" N	80° 1' 53.066"E	
4	16° 50' 21.160" N	80° 2' 1.824" E	

4. Planned Methodology

The proposed Ramapuram block shall be explored as Preliminary Exploration stage by detailed topographical, geological mapping, drilling and chemical analysis to assess quantity and quality of cement grade limestone resources. Borehole spacing shall be planned at 800 X 800 meters grid (As per MEMC, 2021).

5. Nature Quantum and Target

Ramapuram Block			
Quantum of Work Carried out by TGMDC Ltd. In Ramapuram Block, Mellacheruvu Mandal, Suryapet District, Telangana State			
S. No	**Item Work**	**Unit**	**Quantum of work Proposed**
1	Topographic Survey (on 1:4000)	sq.km	3.18sq.km
2	Geological Mapping (on 1:4000)	sq.km	3.18sq.km
3	Drilling (Core borehole)	m	350m (7 BH)
4	Laboratory Studies		
	1)Chemical Analysis for Primary Check samples for 6 radicals i.e.CaO, MgO, Al_2O_3, SiO_2, Fe_2O_3 and LoI	Nos.	400
	ii) Internal Check Samples (10% of Primary) for 6 radicals i.e. CaO, MgO, Al2O3, SiO2,Fe2O3 and LoI	Nos.	0
	iii) External Check Samples (5% of Primary) for analysis 6 radicals i.e.CaO, MgO, Al2O3, SiO2, Fe2O3 and LoI	Nos.	40
	iv) Composite Samples for 6 radicals (CaO, MgO, Al2O3, SiO2, Fe2O3, and LoI	Nos.	40
5	Physical Studies		
	A. Petrological Studies (Petrographic Studies)	Nos.	10
6	Bulk Density	Nos.	5
7	Report Preparation (Digital format)	Nos.	1

6. Exploratory Drilling: (Referred another document on exploratory drilling)

7. Man power deployment = 2 Geologists

8. Break-up of expenditure

In Ramapuram Block, Mallareddygudem Mandal, Suryapet District, Telangana State

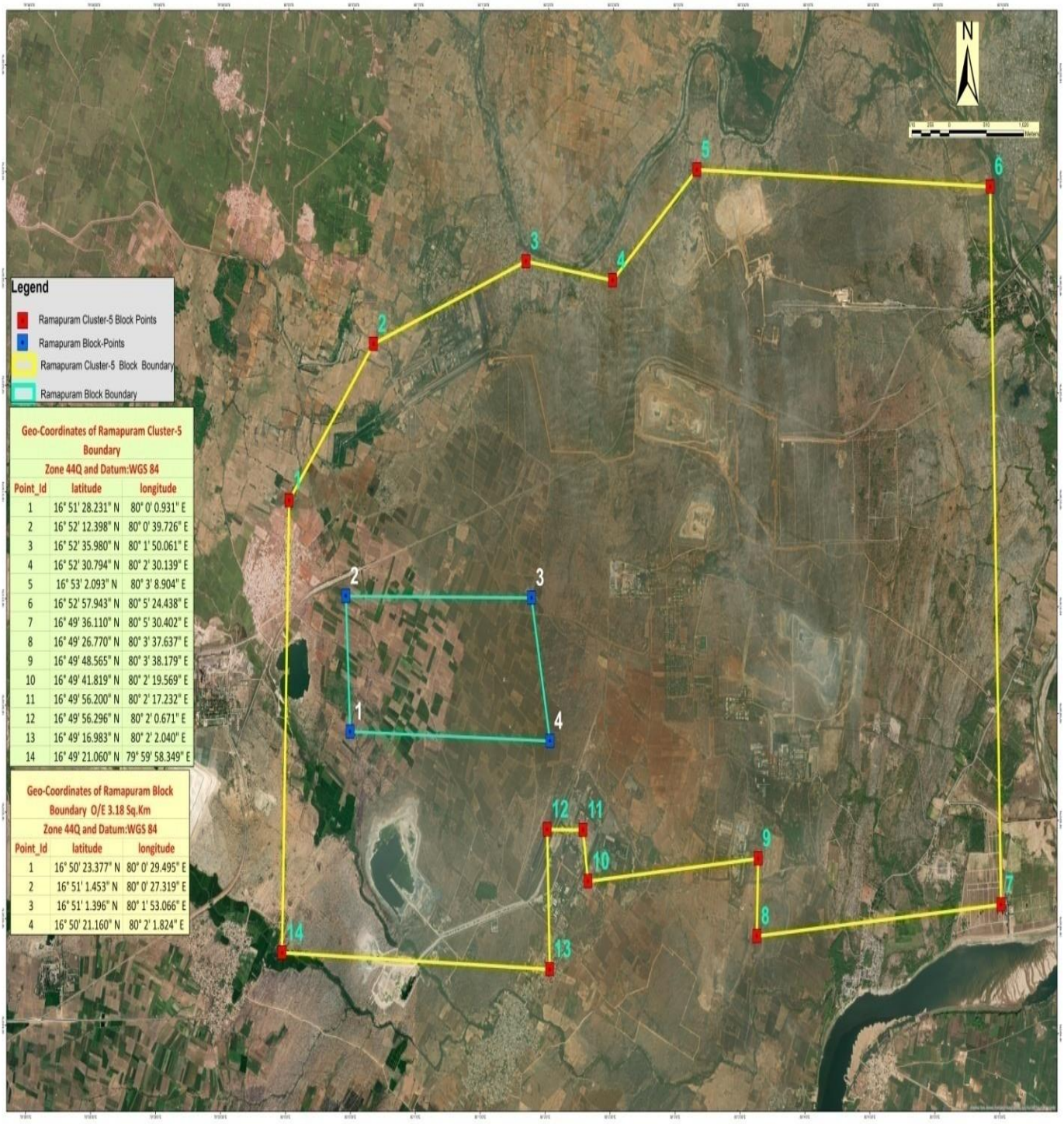
SUMMARY OF COST ESTIMATES		
S. NO.	**Item**	**Total Estimated cost (Rs)**
1	Geological, Survey & Sampling Work	3033360.00
2	Drilling	2811700.00
3	Laboratory Studies	1993630.00
4	Tendering Cost	156773.80
5	Operational Charges	391934.50
6	Preparation of Exploration proposal	156773.80
7	Geological Report Preparation	391934.50
8	Peer Review Charges	30000.00
9	TOTAL	8966106.60
10	GST @ 18%	1613899.19
11	GRAND TOTAL	10580005.79
12	Rs. In Lakhs	**105.8**

COST ESTIMATE FOR LIMESTONE G-3 EXPLORATION OF RAMAPURAM BLOCK, SURYAPET DISTRICT, TELANGANA						
S. N0	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal	
			SoC-Item-Sl. No.	Rates as per SoC	Quantity	Amount
a	b	c	d	e	f	g
A	**Geological work**					
1	**Geological Mapping (1:4000) with Topographical Survey, Core logging, Sampling & report writing**					
	a) Survey work - Surveyor	per day	1.6.11a	8,300	30	249000.00
	b) 4 labours / Party (Rs 526 / day / labour) (As per rates of Central Labour Commissioner)	day	5.7	526	120	63120.00
	C) Demarcation of lease boundary, Fixation of borehole and determination of co-ordinates & Reduced Level (RL) of the boreholes by DGPS	per point of observation	1.6.2	19,200	11	211200.00
	d) Charges for Geologist party days in field	Per day	1.5.1a	11,000	150	1650000.00
	e) 2 labours / Party (Rs 526 / day / labour) (As per rates of Central Labour Commissioner)	day	5.7	526	300	157800.00
	f) Charges for Geologist party days (at H Q)	Per day	1.5.1a	9,000	30	270000.00
	e) Sample processing work	Sampler per day	1.5.2	5,100	60	306000.00
	f) 4 labours / Party (Rs 526/ day / labour) (As per rates of Central Labour Commissioner)	day	5.7	526	240	126240.00
	Sub total - A					**3033360.00**
B	**Drilling- Out Sourced**					
1	Surface drilling	Per Mtr	2.2.1.1B	5242	350	1834700.00
2	Accommodation	ONE Month	2.2.9	50000	0	0.00
3	Appoach road making for flat terrain	Per km	2.2.10a	22020	0	0.00
4	Land or Crop Compensation	per bore hole	5.6	20000	0	0.00
5	Camp setting	per drill	2.2.9a	250000	0	0.00
6	Camp winding	per drill	2.2.9b	250000	0	0.00
7	Drilling Tendering process cost	One time	2.3	500000	1	500000.00
8	Transportation of drill rig & truck associated per drill	K.M	2.2.8	36	0	0.00
9	Vehicle & POL Charges for field	Month	N.A.	40,000	0	0.00
10	Drill Core Preservation	Per Mtr	5.3	1,590	300	477000.00
	SUB TOTAL B					**2811700.00**
C	**Laboratory studies**					
1	**Chemical analysis**					
	a) Primary core Samples -XRF method - Major Oxides	per sample	4.1.15 a	4200	400	1680000.00
	b) Internal Check Samples for 8 radicals i.e. CaO, MgO, Al_2O_3, SiO_2, Fe_2O_3 and LoI	Per sample	4.1.9	3511	0	0.00
	c) External Check Samples 10 % XRF method - Major Oxides	Per sample	4.1.9	2841	40	113640.00

	d) Composite Samples for 6 radicals CaO, MgO, Al_2O_3, SiO_2, Fe_2O_3, and LoI	Per sample	4.1.9	2841	40	113640.00
2	**Physical analysis**					0.00
	a) Preparation of thin sections	Nos.	4.3.1	2353	10	23530.00
	b) Petrographic studies	Nos.	4.3.4	4232	10	42320.00
	c) Bulk density	Nos.	4.1	3540	5	17700.00
	Digital Photographs	Nos.	4.3.7	280	10	2800.00
	SUB TOTAL C					**1993630.00**
	TOTAL (A+B+C)					**7838690.00**
	Tendering Cost		**2.3**			**156773.80**
	Operational Charges		**6**	**1**		**391934.50**
E	**Preparation of Exploration proposal**		5.1			**156773.80**
F	**Geological Report Preparation**		5.2	2		**391934.50**
G	**Peer Review Charges**		**As per EC Decision**			**30000.00**
	TOTAL (A+B+C+D+E+F+G)					**8966106.60**
H	**GST @ 18%**					**1613899.19**
I	**GRAND TOTAL**					**10580005.79**
J	**Rs. In Lacs**					**105.8**

Telangana Mineral Development Corporation Limited.

Location Map of Proposed G-3 Stage Limestone Ramapuram Block Ramapuram Cluster-5 on Google Earth Image



Geo-Coordinates of Ramapuram Cluster-5 Boundary Zone 44Q and Datum:WGS 84		
Point_Id	latitude	longitude
1	16° 51' 28.231" N	80° 0' 0.931" E
2	16° 52' 12.398" N	80° 0' 39.726" E
3	16° 52' 35.980" N	80° 1' 50.061" E
4	16° 52' 30.794" N	80° 2' 30.139" E
5	16° 53' 2.093" N	80° 3' 8.904" E
6	16° 52' 57.943" N	80° 5' 24.438" E
7	16° 49' 36.110" N	80° 5' 30.402" E
8	16° 49' 26.770" N	80° 3' 37.637" E
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10	16° 49' 41.819" N	80° 2' 19.569" E
11	16° 49' 56.200" N	80° 2' 17.232" E
12	16° 49' 56.296" N	80° 2' 0.671" E
13	16° 49' 16.983" N	80° 2' 2.040" E
14	16° 49' 21.060" N	79° 59' 58.349" E

Geo-Coordinates of Ramapuram Block Boundary O/E 3.18 Sq.Km Zone 44Q and Datum:WGS 84		
Point_Id	latitude	longitude
1	16° 50' 23.377" N	80° 0' 29.495" E
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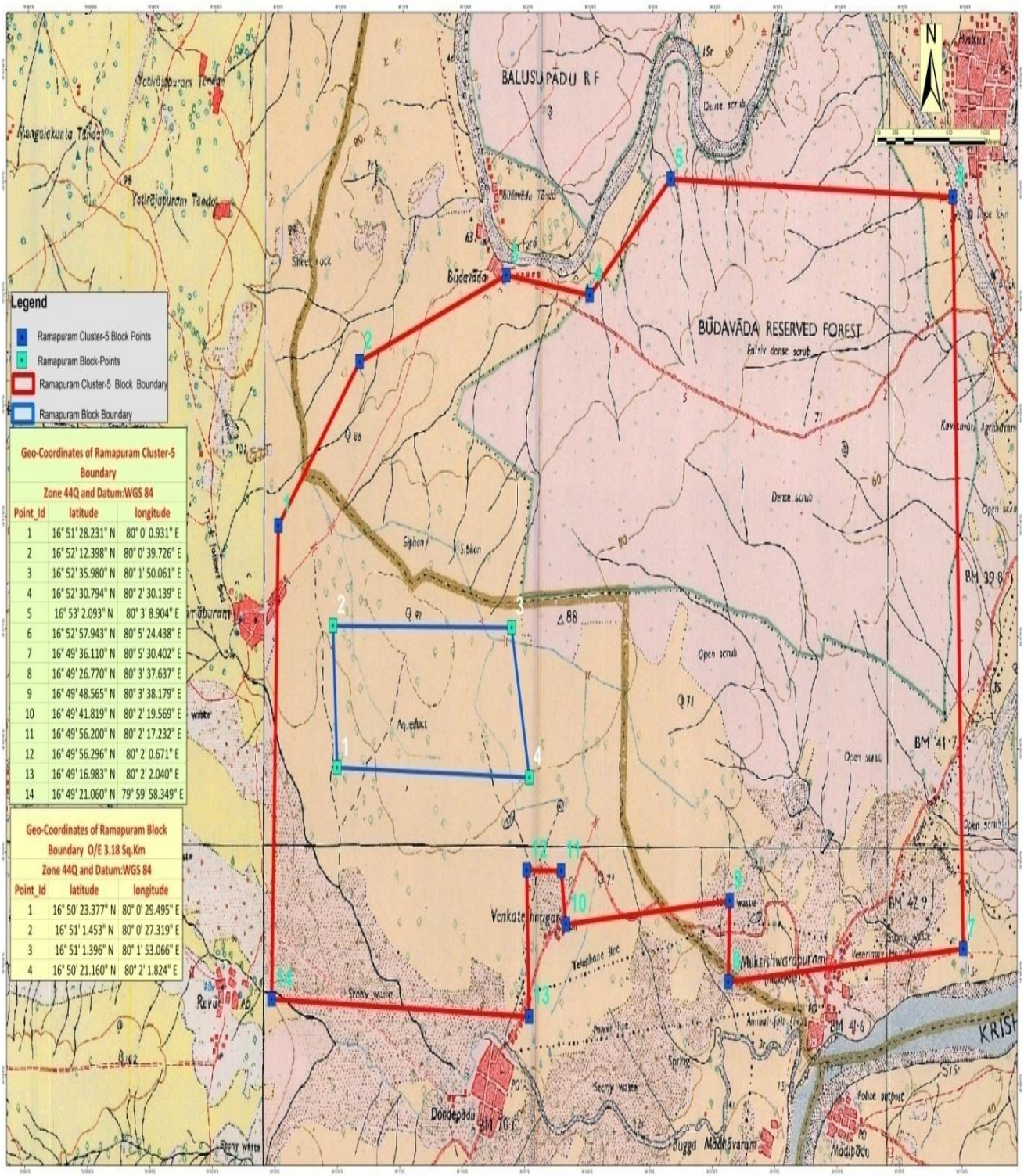
Telangana Mineral Development Corporation Limited.

Location Map of Proposed G-3 Stage Limestone Ramapuram Block Ramapuram Cluster-5 on Part of Toposheet No.65D/1



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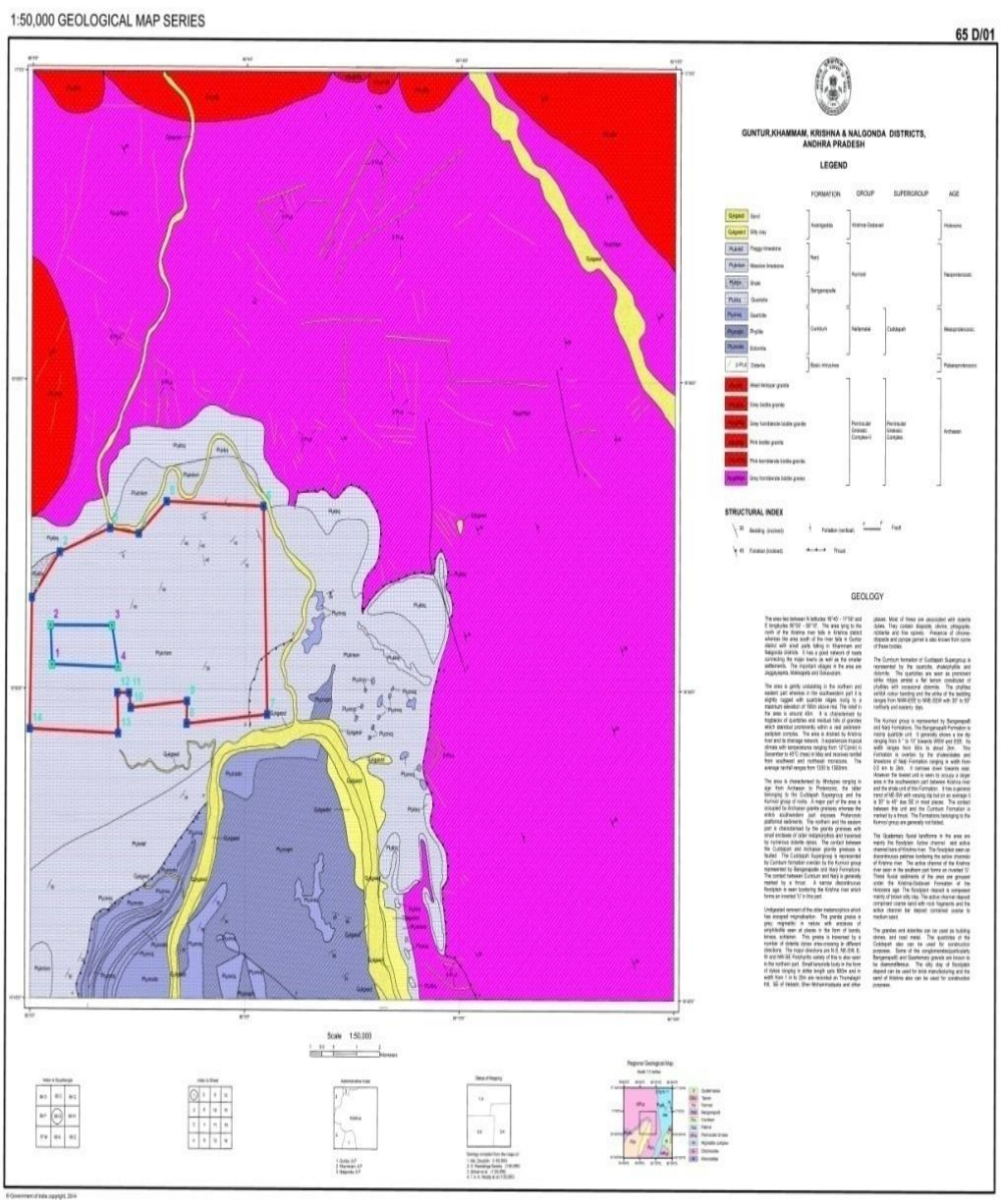
Location Map of Proposed G-3 Stage Limestone Ramapuram Block Ramapuram Cluster-5 on GSI Geological Map No.65D/1



Legend

- Ramapuram Cluster-5 Block Points
- Ramapuram Block-Points
- Ramapuram Cluster-5 Block Boundary
- Ramapuram Block Boundary

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Zone 44Q and Datum:WGS 84

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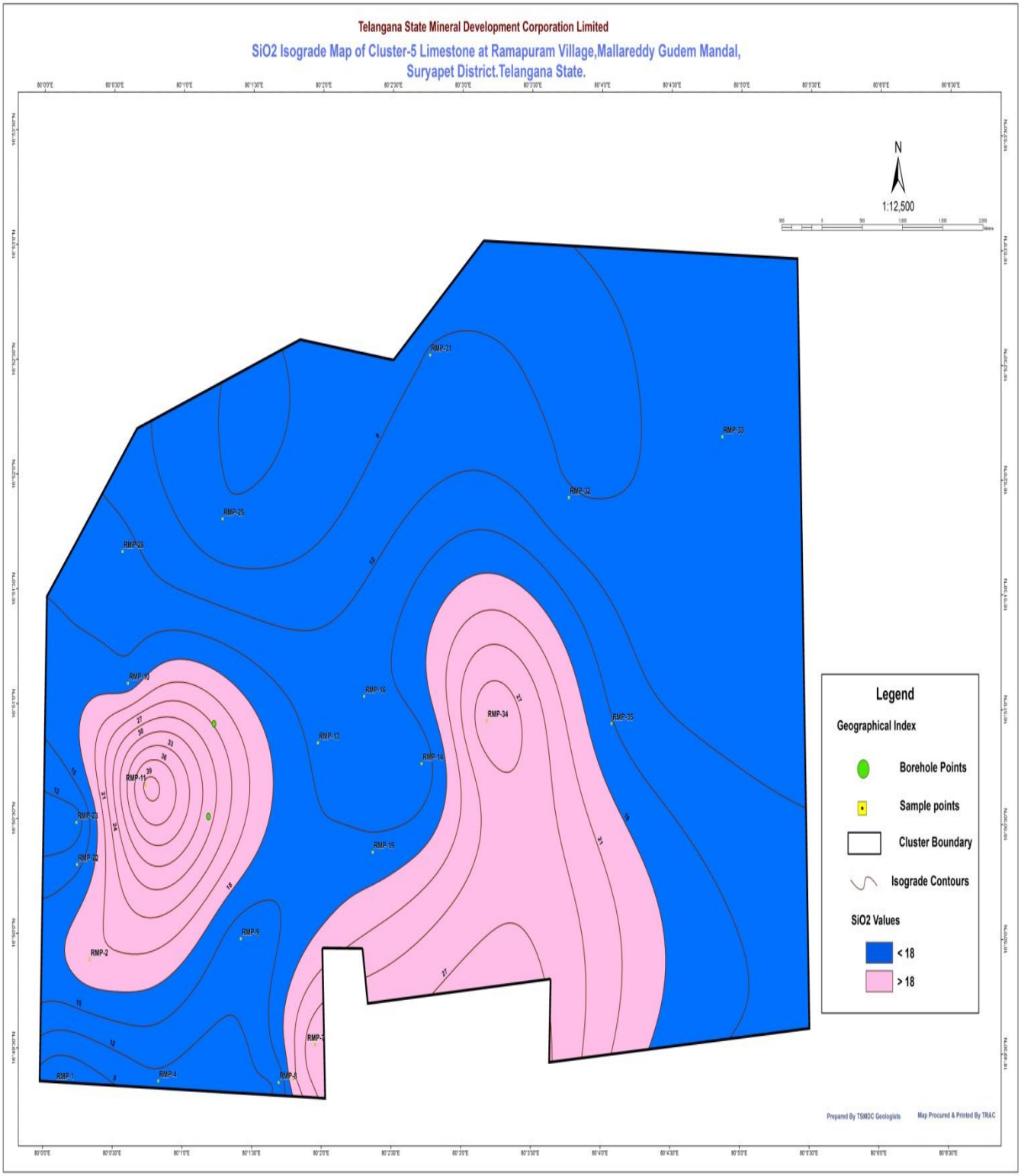
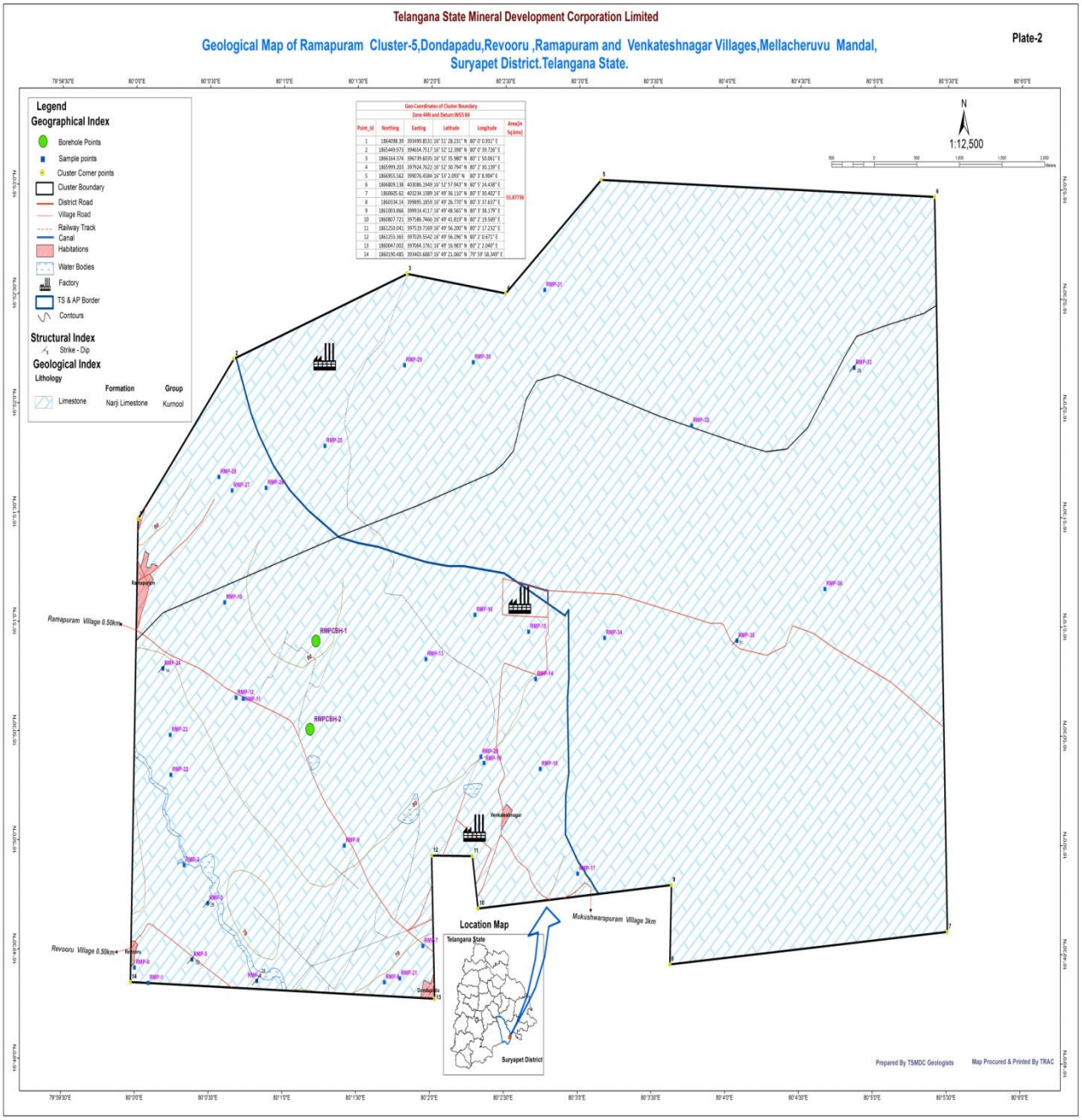
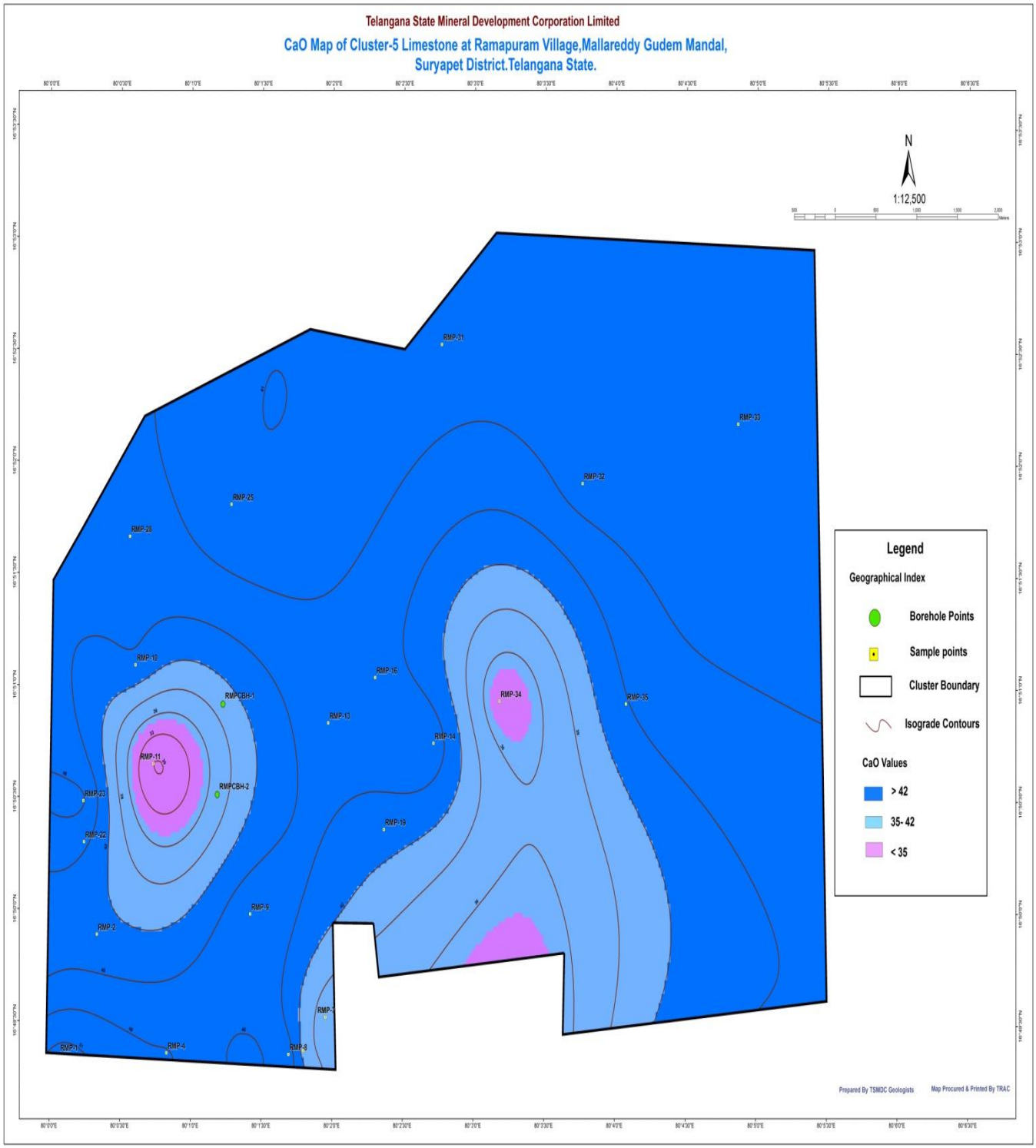
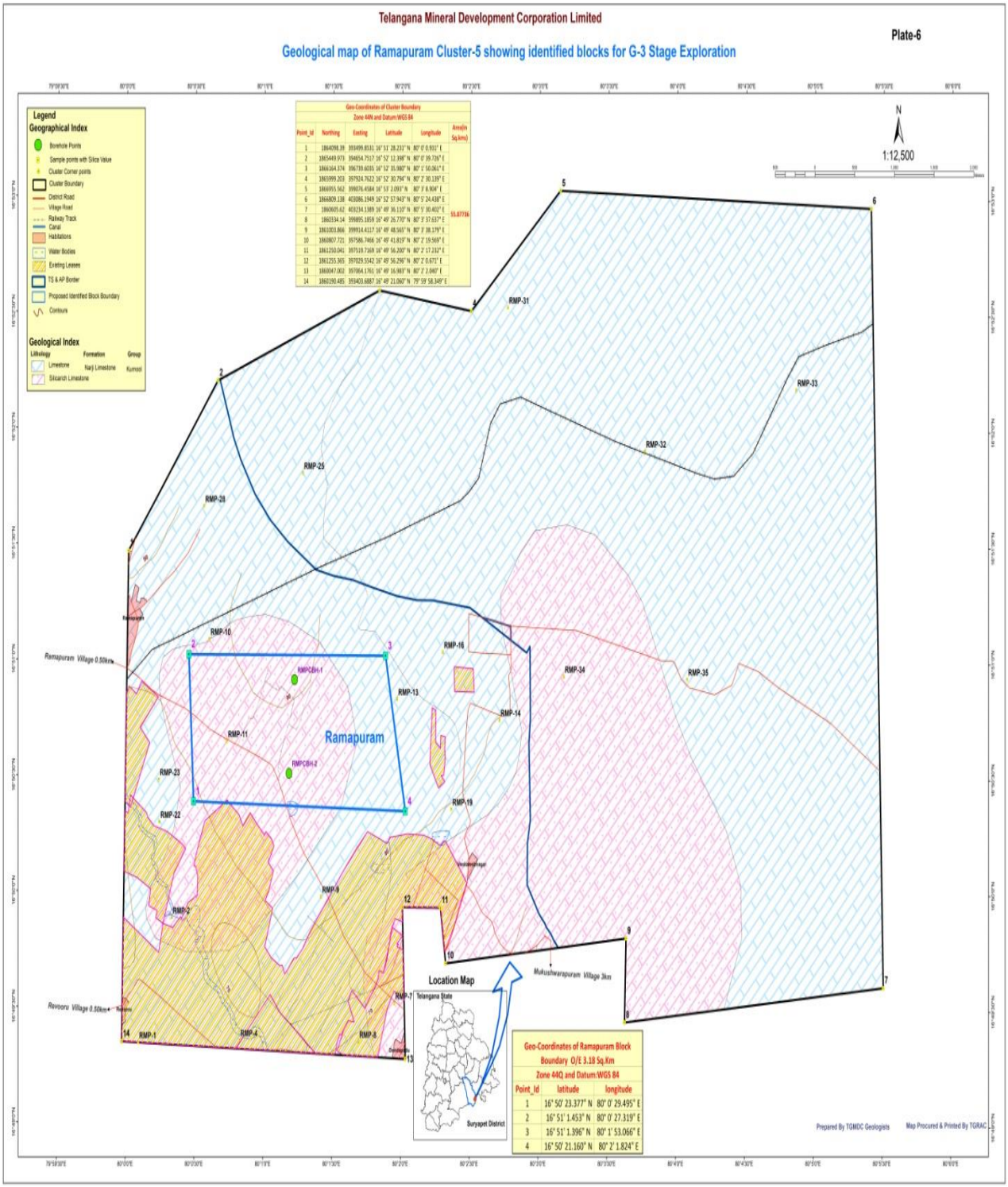

Telangana State Mineral Development Corporation Limited
SiO2 Isograde Map of Cluster-5 Limestone at Ramapuram Village,Mallareddy Gudem Mandal,
Suryapet District.Telangana State.
N
1:12,500
RMP-31
RMP-33
RMP-32
RMP-25
RMP-23
RMP-10
RMP-16
RMP-34
RMP-35
RMP-13
RMP-14
RMP-11
RMP-22
RMP-19
RMP-12
RMP-9
RMP-2
RMP-1
RMP-4
RMP-8
Legend
Geographical Index
Borehole Points
Sample points
Cluster Boundary
Isograde Contours
SiO2 Values
< 18
> 18
Prepared By TSMDC Geologists
Map Procured & Printed By TRAC


Telangana State Mineral Development Corporation Limited
Geological Map of Ramapuram Cluster-5,Dondapadu,Revooru ,Ramapuram and Venkateshnagar Villages,Mellacheruvu Mandal, Suryapet District.Telangana State.
Plate-2
Legend
Geographical Index
Borehole Points
Sample points
Cluster Corner points
Cluster Boundary
District Road
Village Road
Railway Track
Canal
Habitations
Water Bodies
Factory
TS & AP Border
Contours
Structural Index
Strike - Dip
Geological Index
Lithology
Formation
Group
Limestone
Narji Limestone
Kurnool
Geo-Coordinates of Cluster Boundary
Zone-44N and Datum:WGS 84
Point_Id
Northing
Easting
Latitude
Longitude
Area(in Sq.kms)
55.87736
N
1:12,500
RMPCBH-1
RMPCBH-2
Ramapuram Village 0.50km
Revooru Village 0.50km
Mukushwarapuram Village 3km
Venkateshnagar
Location Map
Telangana State
Suryapet District
Prepared By TSMDC Geologists
Map Procured & Printed By TRAC


Telangana State Mineral Development Corporation Limited
CaO Map of Cluster-5 Limestone at Ramapuram Village,Mallareddy Gudem Mandal,
Suryapet District.Telangana State.
N
1:12,500
RMP-31
RMP-33
RMP-32
RMP-25
RMP-28
RMP-16
RMP-15
RMPCBH-1
RMP-34
RMP-35
RMP-13
RMP-14
RMP-11
RMPCBH-2
RMP-23
RMP-22
RMP-19
RMP-9
RMP-2
RMP-1
RMP-4
RMP-8
Legend
Geographical Index
Borehole Points
Sample points
Cluster Boundary
Isograde Contours
CaO Values
> 42
35- 42
< 35
Prepared By TSMDC Geologists
Map Procured & Printed By TRAC


Telangana Mineral Development Corporation Limited
Plate-6
Geological map of Ramapuram Cluster-5 showing identified blocks for G-3 Stage Exploration
Legend
Geographical Index
Borehole Points
Sample points with Silica Value
Cluster Corner points
Cluster Boundary
District Road
Village Road
Railway Track
Canal
Habitations
Water Bodies
Existing Leases
TS & AP Border
Proposed Identified Block Boundary
Contours
Geological Index
Lithology
Formation
Group
Limestone
Narji Limestone
Kurnool
Silicarich Limestone
Geo-Coordinates of Cluster Boundary
Zone 44N and Datum:WGS 84
Point_Id
Northing
Easting
Latitude
Longitude
Area(in Sq.kms)
1 1864098.39 393499.8331 16° 51' 28.231" N 80° 0' 0.931" E
2 1865449.973 394854.7517 16° 52' 12.198" N 80° 0' 39.726" E
3 1866364.374 396739.6035 16° 52' 35.980" N 80° 1' 50.061" E
4 1865999.203 397924.7622 16° 52' 30.794" N 80° 2' 30.139" E
5 1866955.562 399076.4584 16° 53' 2.093" N 80° 3' 8.904" E
6 1866809.138 403086.1949 16° 52' 57.943" N 80° 5' 24.438" E
7 1860605.62 403234.1389 16° 49' 36.110" N 80° 5' 30.402" E
8 1860334.14 399895.1859 16° 49' 26.770" N 80° 3' 37.637" E
9 1861003.866 399914.4117 16° 49' 48.565" N 80° 3' 38.179" E
10 1860807.721 397586.7466 16° 49' 41.819" N 80° 2' 19.569" E
11 1861250.041 397510.7169 16° 49' 56.200" N 80° 2' 17.232" E
12 1861255.365 397029.5542 16° 49' 56.296" N 80° 2' 0.672" E
13 1860047.003 397064.1761 16° 49' 16.983" N 80° 2' 1.040" E
14 1860190.485 395403.6887 16° 49' 21.060" N 79° 59' 58.349" E
05.87716
N
1:12,500
RMP-31
RMP-33
RMP-32
RMP-25
RMP-28
RMP-10
RMP-16
RMP-34
RMP-35
RMP-13
RMP-14
RMP-11
Ramapuram
RMP-23
RMP-22
RMP-19
RMP-9
RMP-2
RMP-7
RMP-1
RMP-4
RMP-8
RMPCBH-1
RMPCBH-2
Ramapuram Village 0.50km
Revooru Village 0.50km
Mukutshwarapuram Village 3km
Location Map
Telangana State
Suryapet District
Geo-Coordinates of Ramapuram Block Boundary O/E 3.18 Sq.Km
Zone 44Q and Datum:WGS 84
Point_Id
latitude
longitude
1 16° 50' 23.377" N 80° 0' 29.495" E
2 16° 51' 1.453" N 80° 0' 27.319" E
3 16° 51' 1.396" N 80° 1' 53.066" E
4 16° 50' 21.160" N 80° 2' 1.824" E
Prepared By TGMDC Geologists
Map Procured & Printed By TGRAC

BOREHOLE GRID MAP

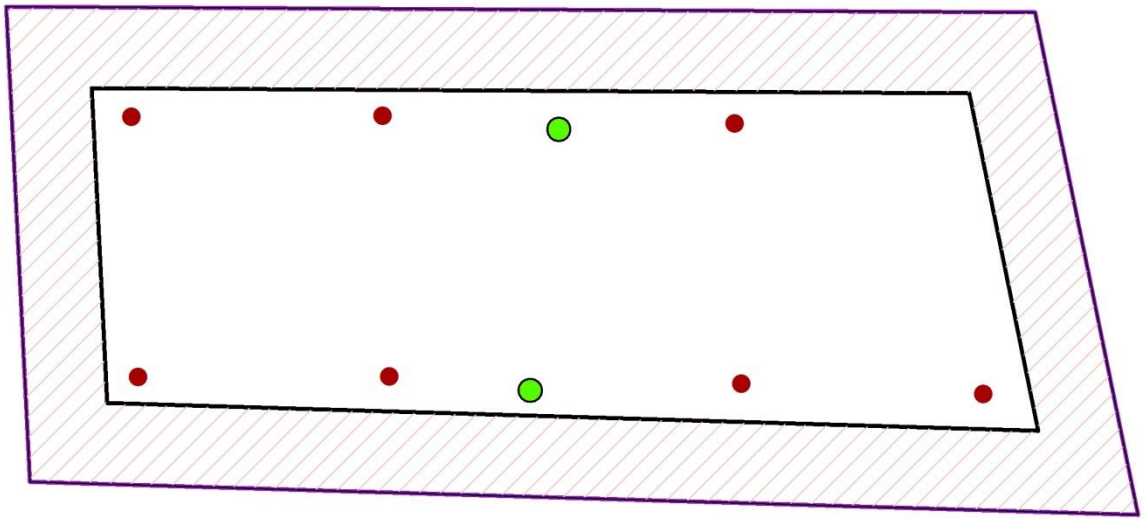
N

MAP SHOWING THE BOREHOLE GRID OF THE RAMAPURAM BLOCK PROPOSED FOR LIMESTONE G-3 EXPLORATION IN SURYAPET DISTRICT,TELANGANA

Area = 3.18 Sq. Kms.

Parts of Toposheet No's: 65D/1

0 275 550 1,100 1,650
Meters



Legend

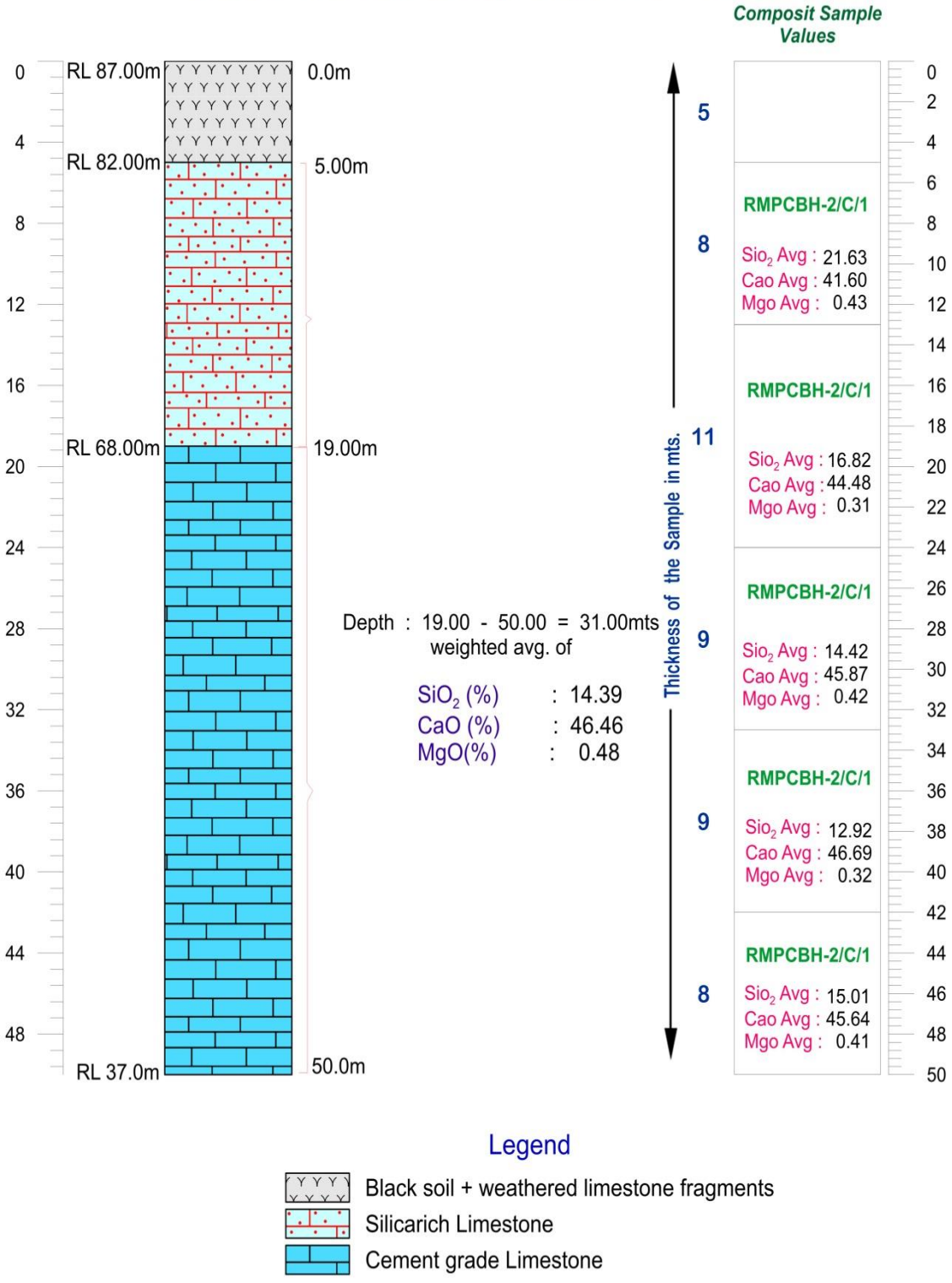
- G-4 Stage Scout Boreholes
- 800 X 800 DTH = 7 (G3-Exploration)
- Proposed Block Boundary with buffer of 200mts
- Proposed Block Boundary

Plate - 3b

Telangana State Mineral Development Corporation Limited

Subsurface Exploration -Borehole Details

CLUSTER-5, RMPCBH-2(P-20), Drill Unit: KOREA



Legend

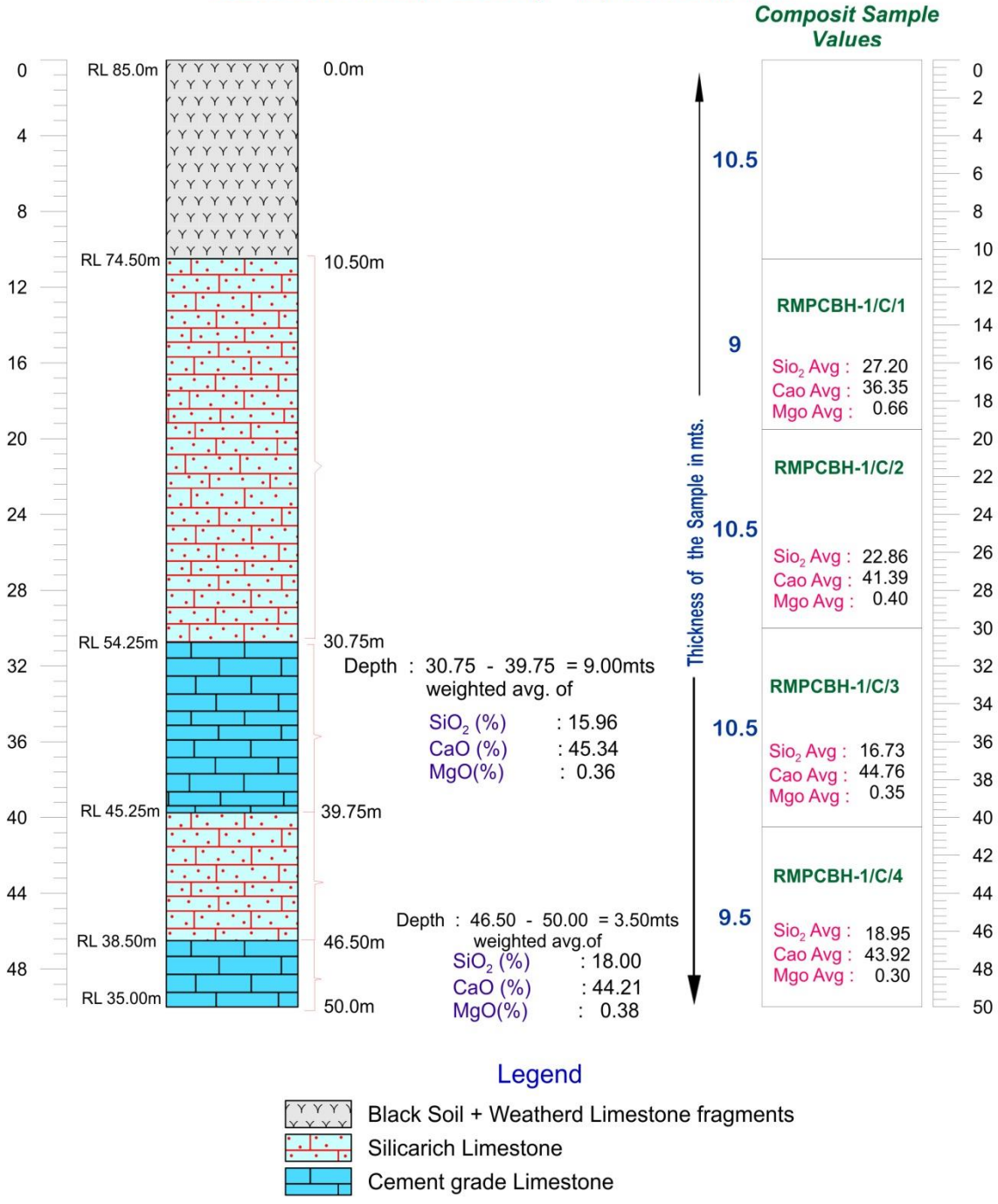
- Black soil + weathered limestone fragments
- Silicarich Limestone
- Cement grade Limestone

Plate - 3a

Telangana State Mineral Development Corporation Limited

Subsurface Exploration -Borehole Details

CLUSTER-5, RMPCBH-1(P-19), Drill Unit: KLR



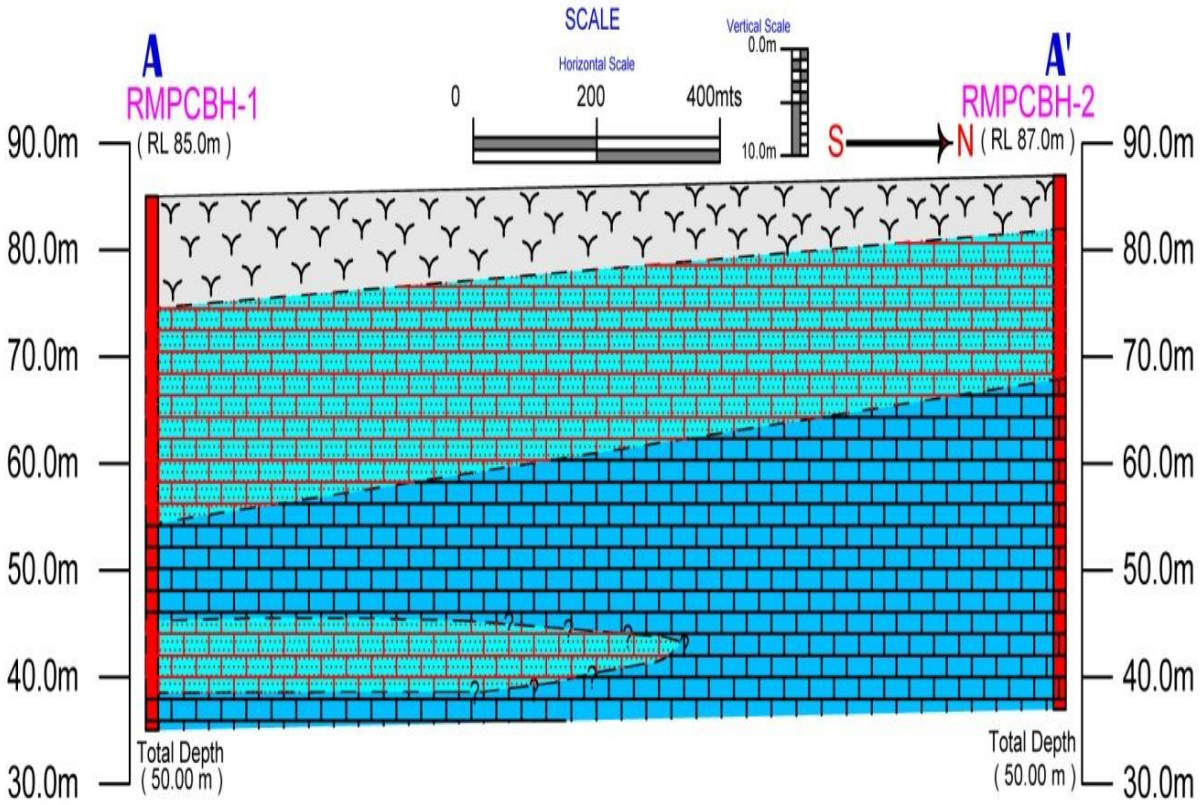
Legend

- Black Soil + Weatherd Limestone fragments
- Silicarich Limestone
- Cement grade Limestone

Plate - 4

Telangana State Mineral Development Corporation Limited

Geological Section along Boreholes in CLUSTER-5, Ramapuram, Suryapeta District, Telangana State



Weighted Average

RMPCBH-1	SiO_2 (%)	15.96	RMPCBH-1	SiO_2 (%)	18.00	RMPCBH-2	SiO_2 (%)	14.39
	CaO (%)	45.34		CaO (%)	44.21		CaO (%)	46.46
	MgO(%)	0.36		MgO(%)	0.38		MgO(%)	0.48

Legend

- Black Soil + Weatherd Limestone fragments
- Cement grade Limestone
- Silicarich Limestone