

**Proposal for G-3 Stage Exploration of Two Limestone Blocks in Mattampally Cluster-2
Mattampally Mandal, Suryapet District, Telangana State**

(For NMET)

(Industrial Mineral)

By

Telangana Mineral Development Corporation Limited

Hyderabad

Place:

Date:

Summary of the Blocks for G-3 stage exploration

	Features	Details
1.	Block ID	Mattampally Limestone Blocks: Mattampally Block-1 Mattampally Block-2
2.	Current Exploration Agency	TGMDC Ltd.,
3.	Previous Exploration Agency	TGMDC Ltd.,
4.	<u>G4</u> stage Geological Report (Previous stage Geological Report)	G-4 Stage report was completed
5.	Commodity	Limestone
6.	Mineral Belt/ Basin	Palnad Basin
7.	Completion Period with entire Time schedule to complete the project	10 months
8.	Objectives	<ol style="list-style-type: none"> 1. To carry out Geological Mapping on 1:4000 scale. 2. To Assess the quantity & quality of cement grade limestone in the blocks 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 TSMDC 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 = 150 days (Geological mapping, core logging & sampling) Surveyor = 30 days (Establishing block coordinates, Topographic mapping, & locating boreholes)
12.	Location	
	Latitude	16° 47' 11.9" N
	Longitude	79° 51' 58.7" E
	Villages	Mattampally
	Tehsil/ Taluk	Mattampally
	District	Suryapet
	State	Telangana
13.	Area(Hectares/SquareKilometers)	
A	Block Name	Mattampally Block-1 (MB-1)

	Block Area	4.52Sq.km
	Forest Area	
	Government Land Area	
	Private Land Area	
B	Block Name	Mattampally Block-2 (MB-2)
	Block Area	3.85Sq.km
	Forest Area	
	Government Land Area	
	Private Land Area	
14	Accessibility	
	Nearest Rail Head	Miryalaguda
	Road	Mattampally to Raghunathapalem
	Airport	Hyderabad
15	Hydrography	
	Local Surface Drainage Pattern (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)	In winter the temperature comes down to 9-11 ⁰ c during December –January
	Temperatures (June) (Maximum)	The temperature often exceeds 45 ⁰ c during May-June
17	Topography	
	Toposheet Number	56 P/13
	Morphology of the Area	The proposed area is a part of Palnad sub-Basin
18	Availability of baseline geoscience data	
	Geological Map (1:50K/ 25K)	Available
	Geochemical Map	NA
	Geophysical Map (Aerogeophysical, Ground geophysical)	NA
19	Justification for taking up G3 stage Exploration.	TGMDC Ltd carried out G-4 stage investigation for delineating cement grade limestone in the Mattampally Cluster over an area of ~ 16 sq km during 2018-19 field season and delineated cement grade limestone. Reconnaissance resource of about 74.24 million tonnes was estimated. In view of the positive results obtained from G-4 stage investigation in the area cement grade limestone area in Mattampally cluster after taking into consideration the leasehold status. The delineated block is proposed to be explored with G-3 stage exploration to gather all necessary information required in G-3 stage to assess the quantity & quality of cement grade limestone

		<p>resources in the area and classify the resources as per UNFC and Minerals (Evidence and Mineral Contents) Rule, 2015 norms. The exploration will be carried out with the help of Geological &Topographical mapping on 1:4000 scale & drilling and after successful completion of exploration the TGMDC shall handover the blocks to State Govt for putting the assessed blocks for auction.</p> <p>TCC committee has approved in principle the next stage of exploration in the delineated block 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 amount have already been approved for carrying out G-3 stage investigation in Mattampally blocks through letter number F.No: 6/2/2015,dated 21.06.2018</p>
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Detailed description on the following titles to be made in the proposal

1. Block Summary

A. Physiography

The proposed two blocks are mostly a plain land with highest elevation 101MSL and no proper drainage system has been developed in this block, but small gullies channels formed in this block flows into Krishna river.

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

Regional Geology: The proposed area forms part of Palnad sub-basin, located in the northeast part of the Cuddapah basin. Palnad Sub-basin comprises sequence of arenaceous, argillaceous and carbonates sediments belonging to Kurnool Group. These sediments unconformable overlie older Cuddapah sediments in eastern part whereas older granitoids form basement in the north and west. Sedimentary sequence is of Meso to Neo-Proterozoic age and are deposited predominantly over Neoarchaean to Palaeoproterozoic basement granitoids and greenstone belt of Archaean age.

AGE	SUPERGROUP	GROUP	FORMATION	LITHOLOGY
Neoproterozoic		Kurnool	Narji	Flaggy Limestone
				Massive Limestone
			Banaganapalli	Shale
				Quartzite
Paleoproterozoic			Basic Intrusive	Dolerite
Mesoproterozoic	Cuddapah	Nallamalai	Cumbum	Quartzite
				Phyllite
				Dolomite
				Quartz Vein
Archean to Paleoproterozoic	Peninsular Gneissic Complex-II			Grey Hornblende Granite
				Leuco granite
				Pink biotite granite
				Pink granite
				Grey biotite Gneiss
				Grey Hornblende biotite Gneiss

Archean	Dharwar		Peddavururu Schist belt	Banded Magnetite Quartzite
				Meta-rhyolite
				Meta-basalt

Geology of the Area: Most part of the area of Mattampally is soil covered & have scanty outcrop of massive limestone & partly by purple shale belonging to Narji Formation of Kurnool Group. Limestone which occupies major part of the area is light grey to grey in color, very fine to fine grained, aphanitic & massive. Carbonate grains could be seen under hand lens. It breaks along sharp edged conchoidal fractures and has inter-bands of siliceous/ impure limestone at places. Limestone formations shows general strike of NNE to SSW with almost sub horizontal dips towards ESE varying from 4° to 12° . In thin section rock is essentially made up of fine-grained carbonate (mostly calcite) grains with interstitial clay materials. At places very thin veins of re-crystallized calcite traverse limestone. Few specks of detrital quartz are noticed. Interstitial clay around carbonate grains at places imparts turbid look. **The limestone is mostly micritic limestone.**

Siliceous limestone (Impure limestone) is grey to dirty grey, fine grained, aphanitic and massive with visible mine of argillaceous material. In thin section, rock is essentially made up of fine-grained carbonate grains with interstitial clay materials. It is characterized by presence of elongated streaks of quartz (re-crystallized chert). Quartz grains are oblong to spherical. Interstitial clay around carbonate grains imparts turbid look.

Stratigraphic succession of the area around Mattampally is as follows:

GROUP	FORMATION	LITHOUNITS
Kurnool Group	Recent	Black Soil
	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.

Cement grade limestone occupies an area of 8.38 Sq.km in Mattampally area and has reconnaissance resources (334) of about 74.24 million tones. Thus, area has high potential for cement grade limestone.

D. Scope for proposed exploration

As the area has high potential for cement grade limestone and core borehole result, the delineated two blocks in the area have to be explored by G-3 stage exploration to assess the quantity & quality of cement grade limestone resources in the delineated two blocks and classify the resources as per UNFC and Minerals (Evidence and Mineral Contents) Rule, 2015 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 blocks from G-4 stage Exploration in Mattampally area in Suryapet district of Telangana

F. Objectives:

- To carry out Geological Mapping on 1:5000 scale.
- To Assess the quantity & quality of cement grade limestone in the blocks
- To Delineate block boundary with the help of DGPS

2. Previous Work:

The Mattampally area forms part of Palnad Sub-basin (Toposheet no. 56P/13) 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 Suryapet 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 8.38 Sq km of cement grade limestone was delineated in Mattampally area and reconnaissance resources (334) of about 74.4 million tones was estimated. The authors recommended to take up G-3 Stage Exploration in two identified limestone blocks.

3. Block description:

Mattampally Block-1

Block Corner points / Cardinal Points	Latitude	Longitude	Area in Sq. Km
1	16° 46' 30.702" N	79° 54' 25.107" E	4.52 sq km
2	16° 47' 2.586" N	79° 53' 29.164" E	
3	16° 46' 40.727" N	79° 53' 15.571" E	
4	16° 46' 31.310" N	79° 52' 54.353" E	
5	16° 46' 18.485" N	79° 52' 52.712" E	
6	16° 46' 12.054" N	79° 53' 6.656" E	
7	16° 45' 25.468" N	79° 53' 45.145" E	
8	16° 45' 35.149" N	79° 53' 50.470" E	
9	16° 45' 35.492" N	79° 53' 56.104" E	
10	16° 45' 31.623" N	79° 53' 58.842" E	
11	16° 45' 35.058" N	79° 54' 8.858" E	

Mattampally Block-2

Block Corner points / Cardinal Points	Latitude	Longitude	Area in Sq. Km
1	16° 45' 14.452" N	79° 53' 47.374" E	3.85 Sq. Km
2	16° 45' 22.630" N	79° 53' 43.576" E	
3	16° 46' 5.857" N	79° 53' 5.165" E	
4	16° 46' 18.386" N	79° 52' 46.852" E	
5	16° 46' 1.602" N	79° 52' 41.907" E	
6	16° 45' 32.722" N	79° 52' 24.779" E	
7	16° 45' 22.705" N	79° 52' 13.398" E	
8	16° 45' 24.438" N	79° 52' 9.099" E	
9	16° 45' 22.253" N	79° 52' 6.217" E	
1	16° 45' 14.380" N	79° 52' 2.296" E	
11	16° 45' 10.387" N	79° 52' 10.887" E	
12	16° 45' 8.446" N	79° 52' 12.946" E	
13	16° 45' 4.251" N	79° 52' 11.224" E	
14	16° 45' 3.128" N	79° 53' 18.308" E	

4. Planned Methodology

The proposed Mattampally block shall be explored as General 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, 2015).

5. Nature Quantum and Target

Mattampally Block-1			
Quantum of Work Carried out by TGMDC Ltd. In Cluster-2 Mattampally Block-1, Mattampally Mandal, Suryapet District, Telangana State			
S. No	Item Work	Unit	Quantum of work Proposed
1	Topographic Survey (on 1:4000)	sq.km	4.52sq.km
2	Geological Mapping (on 1:4000)	sq.km	4.52sq.km
3	Drilling	m	400 (08 BHs)
4	Laboratory Studies		
	i) Chemical Analysis for Primary Check samples for 6 radicals i.e. CaO, MgO, Al ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ and LoI	Nos.	450 Primary
	ii) Internal Check Samples (10% of Primary) for 6 radicals i.e. CaO, MgO, Al ₂ O ₃ , SiO ₂ , SO ₃ & P ₂ O ₅ , Fe ₂ O ₃ and LoI	Nos.	0
	iii) External Check Samples (5% of Primary) for analysis 6 radicals i.e. CaO, MgO, Al ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ and LoI	Nos.	45
	iv) Composite Samples for 12 radicals (CaO, MgO, Al ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ , SO ₃ , P ₂ O ₅ , LoI, MnO ₂ , K ₂ O, Na ₂ O and Cl)	Nos.	45
5	Physical Studies		
	Petrological Studies (Petrographic Studies)	Nos.	10
6	Specific Gravity Determinations	Nos.	10
7	Report Preparation (Digital format)	Nos.	1

Mattampally Block-2			
Quantum of Work Carried out by TGMDC Ltd. In Cluster-2 Mattampally Block-2, Mattampally Mandal, Suryapet District, Telangana State			
S. No	Item Work	Unit	Quantum of work Proposed
1	Topographic Survey (on 1:4000)	sq.km	3.85 sq.km
2	Geological Mapping (on 1:4000)	sq.km	3.85 sq.km
3	Drilling	m	350 (7 BHs)
4	Laboratory Studies		
	i) Chemical Analysis; Primary + Check for 6 radicals i.e. CaO, MgO, Al ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ and Lol	Nos.	400 Primary
	ii) Internal Check Samples (10% of Primary) for 6 radicals i.e. CaO, MgO, Al ₂ O ₃ , SO ₃ & P ₂ O ₅ , SiO ₂ , Fe ₂ O ₃ and Lol	Nos.	0
	iii) External Check Samples (5% of Primary) for analysis 6 radicals i.e. CaO, MgO, Al ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ and Lol	Nos.	40
	iv) Composite Samples for 12 radicals (CaO, MgO, Al ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ , SO ₃ , P ₂ O ₅ , Lol, MnO ₂ , K ₂ O, Na ₂ O and Cl)	Nos.	40
5	Physical Studies		
	Petrological Studies (Petrographic Studies)	Nos.	10
6	Specific Gravity Determinations	Nos.	10
7	Report Preparation (Digital format)	Nos.	1

6. Exploratory Drilling (Refer another document on exploratory drilling)

7. Man power Deployment

8. Break-up of expenditure

9 . References

In Cluster-2 Mattampally Block-1, Mattampally Mandal, Suryapet District, Telangana

SUMMARY OF COST ESTIMATES		
S. No.	Item	Total Estimated cost (Rs)
1	Geological, Survey & Sampling Work	3186960.00
2	Drilling	3153300.00
3	Laboratory Studies	2232040.00
4	Tendering Cost	171446.00
5	Operational Charges	428615.00
6	Preparation of Exploration proposal	171446.00
7	Geological Report Preparation	428615.00
8	Peer Review Charges	30000.00
9	TOTAL	9802422.00
10	GST @ 18%	1764435.96
11	GRAND TOTAL	11566857.96
12	Rs. In Lakhs	115.66

COST ESTIMATE FOR LIMESTONE G-3 EXPLORATION OF MATTAMPALLY BLOCK-1, SURYAPET DISTRICT, TELANGANA STATE						
S. NO	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	19	364800.00
	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					3186960.00
B	Drilling- Out Sourced					
1	Surface drilling	Per Mtr	2.2.1.1B	5242	400	2096800.00
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	350	556500.00
	SUB TOTAL B					3153300.00
C	Laboratory studies					
1	Chemical analysis					
	a) Primary core Samples -XRF method - Major Oxides	per sample	4.1.15 a	4200	450	1890000.00

	b) Internal Check Samples for 8 radicals i.e. CaO, MgO, Al ₂ O ₃ , SiO ₂ , Fe ₂ O 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	45	127845.00
	d) Composite Samples for 6 radicals CaO, MgO, Al ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ , and LoI	Per sample	4.1.9	2841	45	127845.00
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					2232040.00
	TOTAL (A+B+C)					8572300.00
	Tendering Cost		2.3			171446.00
	Operational Charges		6	1		428615.00
E	Preparation of Exploration proposal		5.1			171446.00
F	Geological Report Preparation		5.2	2		428615.00
G	Peer Review Charges		As per EC Decision			30000.00
	TOTAL (A+B+C+D+E+F+G)					9802422.00
H	GST @ 18%					1764435.96
I	GRAND TOTAL					11566857.96
J	Rs. In Lakhs					115.66

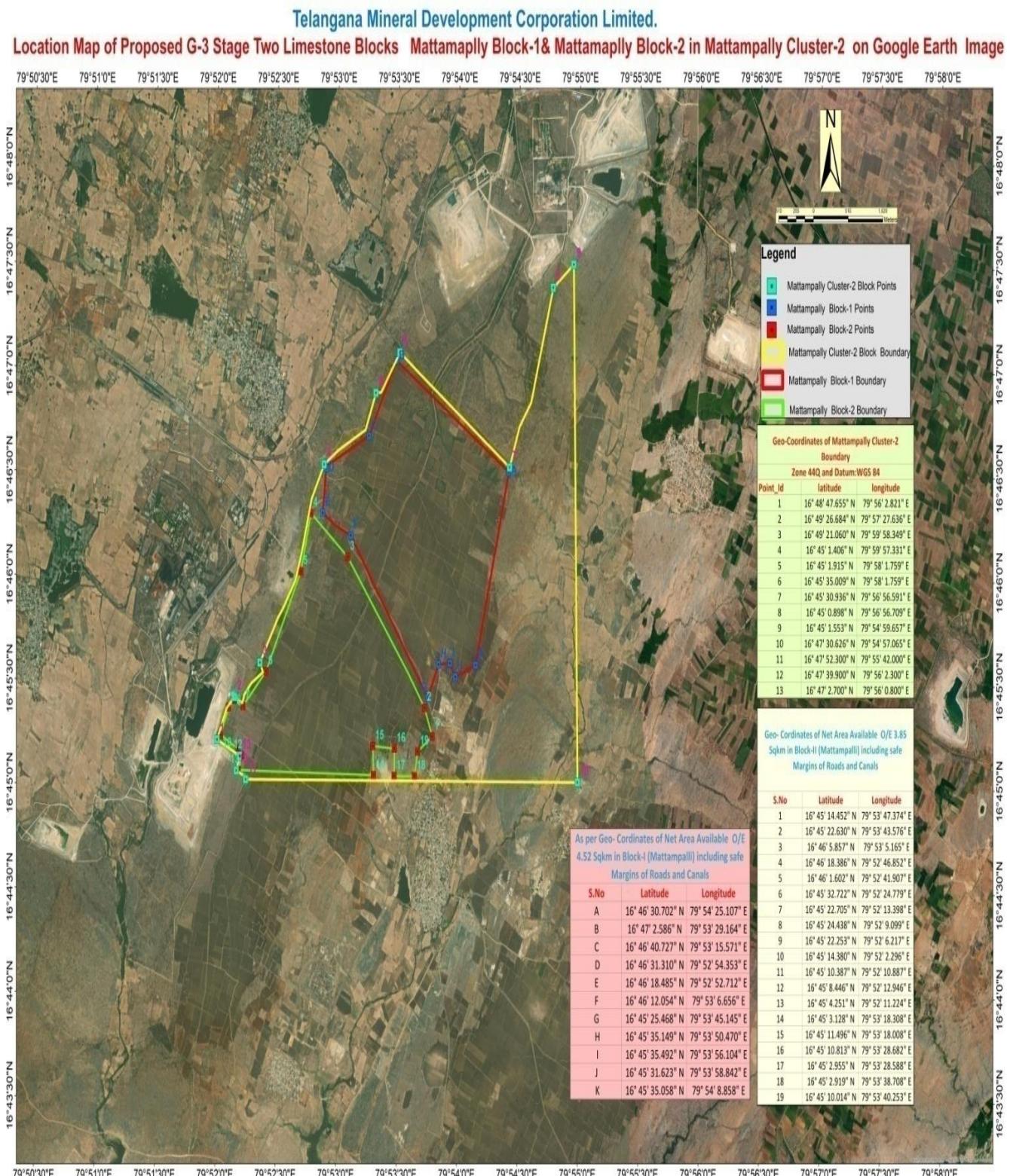
In Cluster-2 Mattampally Block-2, Mattampally Mandal, Suryapet District, Telangana

SUMMARY OF COST ESTIMATES		
S. NO.	Item	Total Estimated cost (Rs)
1	Geological, Survey & Sampling Work	3321360.00
2	Drilling	2811700.00
3	Laboratory Studies	1993630.00
4	Tendering Cost	162533.80
5	Operational Charges	406334.50
6	Preparation of Exploration proposal	162533.80
7	Geological Report Preparation	406334.50
8	Peer Review Charges	30000.00
9	TOTAL	9294426.60
10	GST @ 18%	1672996.79
11	GRAND TOTAL	10967423.39
12	Rs. In Lakhs	109.67

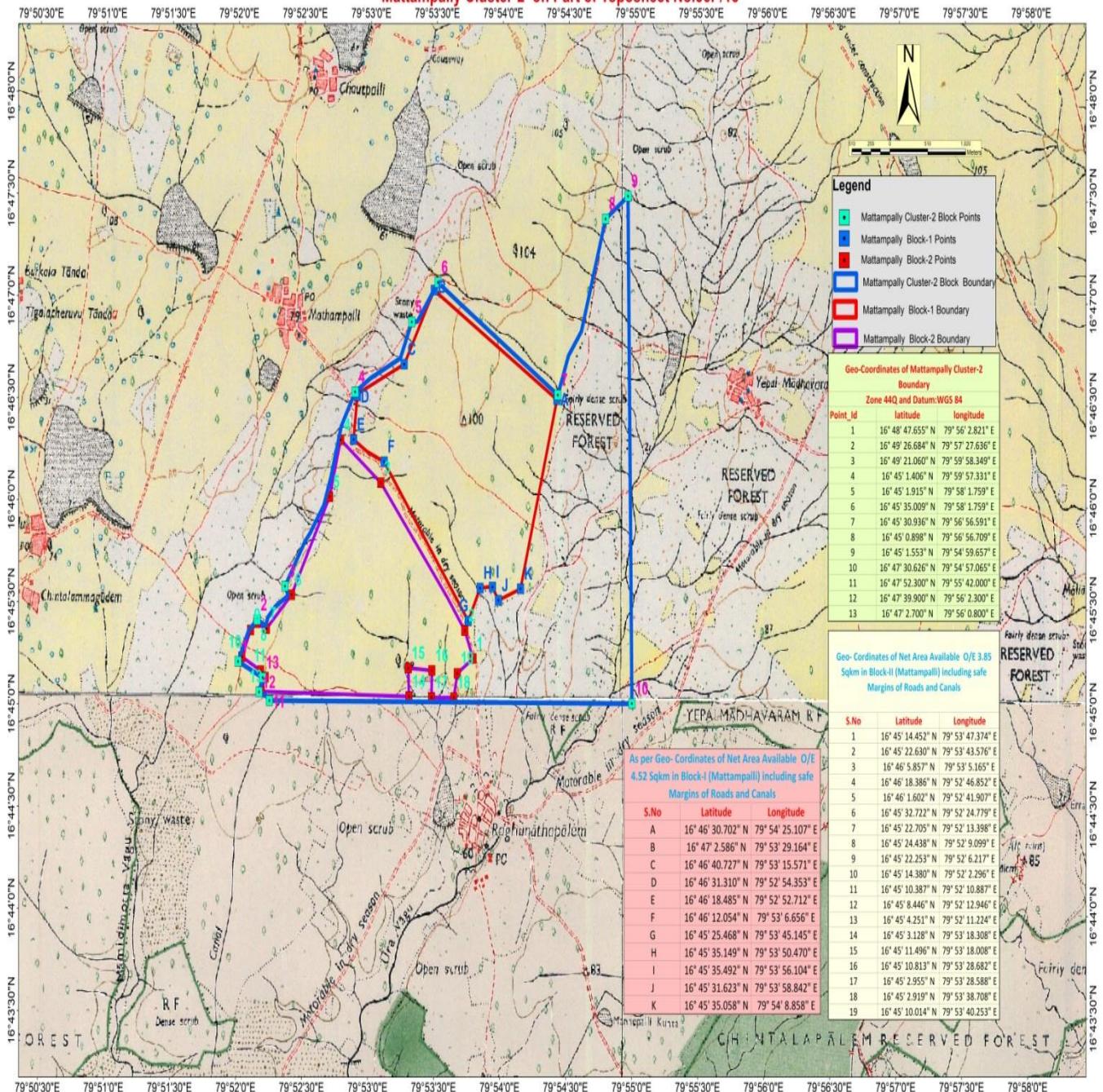
COST ESTIMATE FOR LIMESTONE G-3 EXPLORATION OF MATTAMPALLY BLOCK-2, SURYAPET DISTRICT, TELANGANA						
S. NO	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal	
			SoC-Item- Sl. No.	Rates as per SoC	Quantit y	Amount
a	b	c	d	e	f	g
A	Geological work					
1	Geological Mapping (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	26	499200.00
	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						3321360.00
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 ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ and Lol	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 ₂ O ₃ , SiO ₂ , Fe ₂ O ₃ , and Lol	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)					8126690.00
	Tendering Cost		2.3			162533.80
	Operational Charges		6	1		406334.50
E	Preparation of Exploration proposal		5.1			162533.80
F	Geological Report Preparation		5.2	2		406334.50
G	Peer Review Charges		As per EC Decision			30000.00
	TOTAL (A+B+C+D+E+F+G)					9294426.60
H	GST @ 18%					1672996.79
I	GRAND TOTAL					10967423.39
J	Rs. In Lakhs					109.67

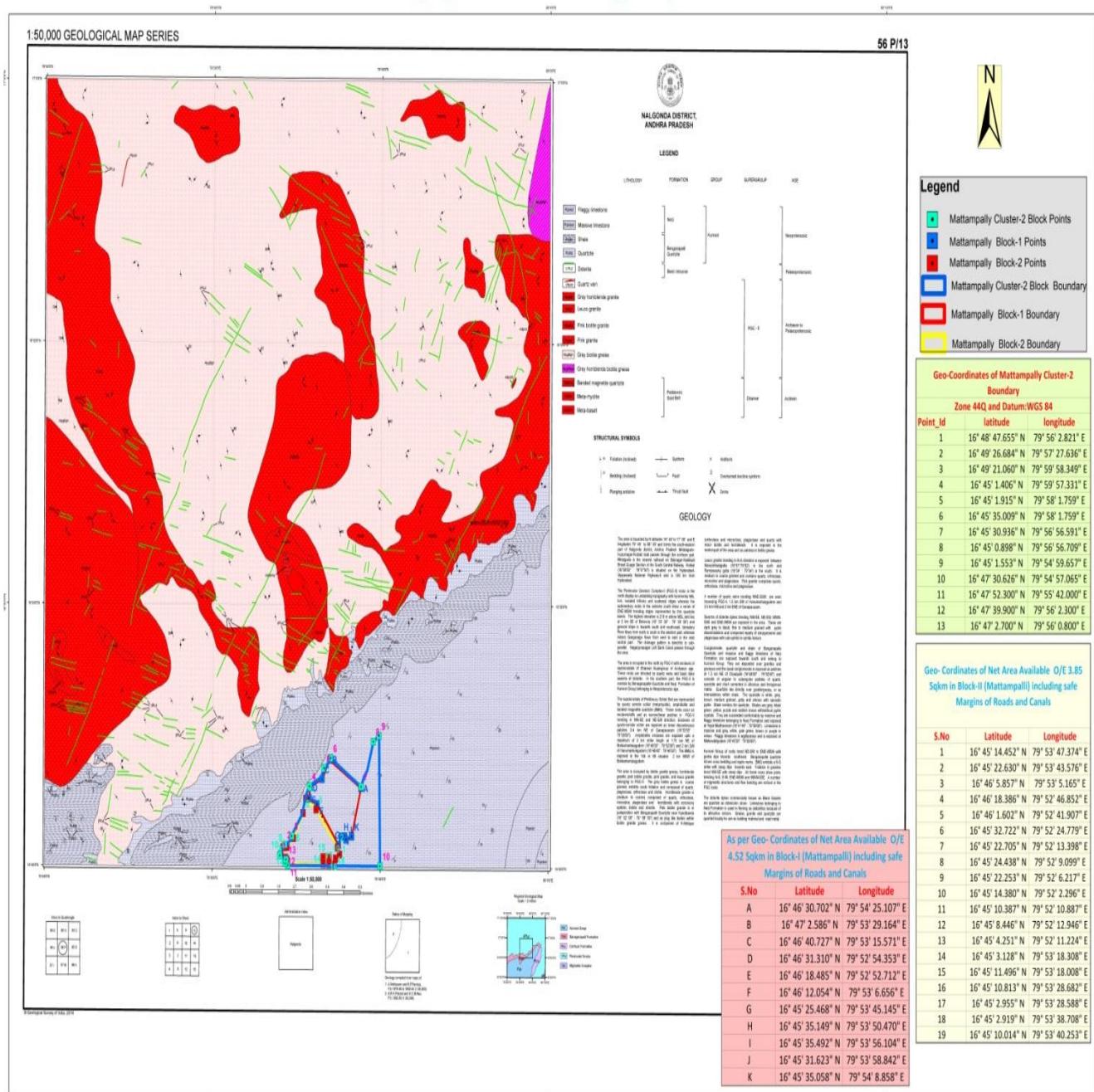
LIST OF PLATES



Telangana Mineral Development Corporation Limited.
Location Map of Proposed G-3 Stage Two Limestone Blocks Mattamapally Block-1& Mattamapally Block-2 in
Mattamapally Cluster-2 on Part of Toposheet No.56P/13

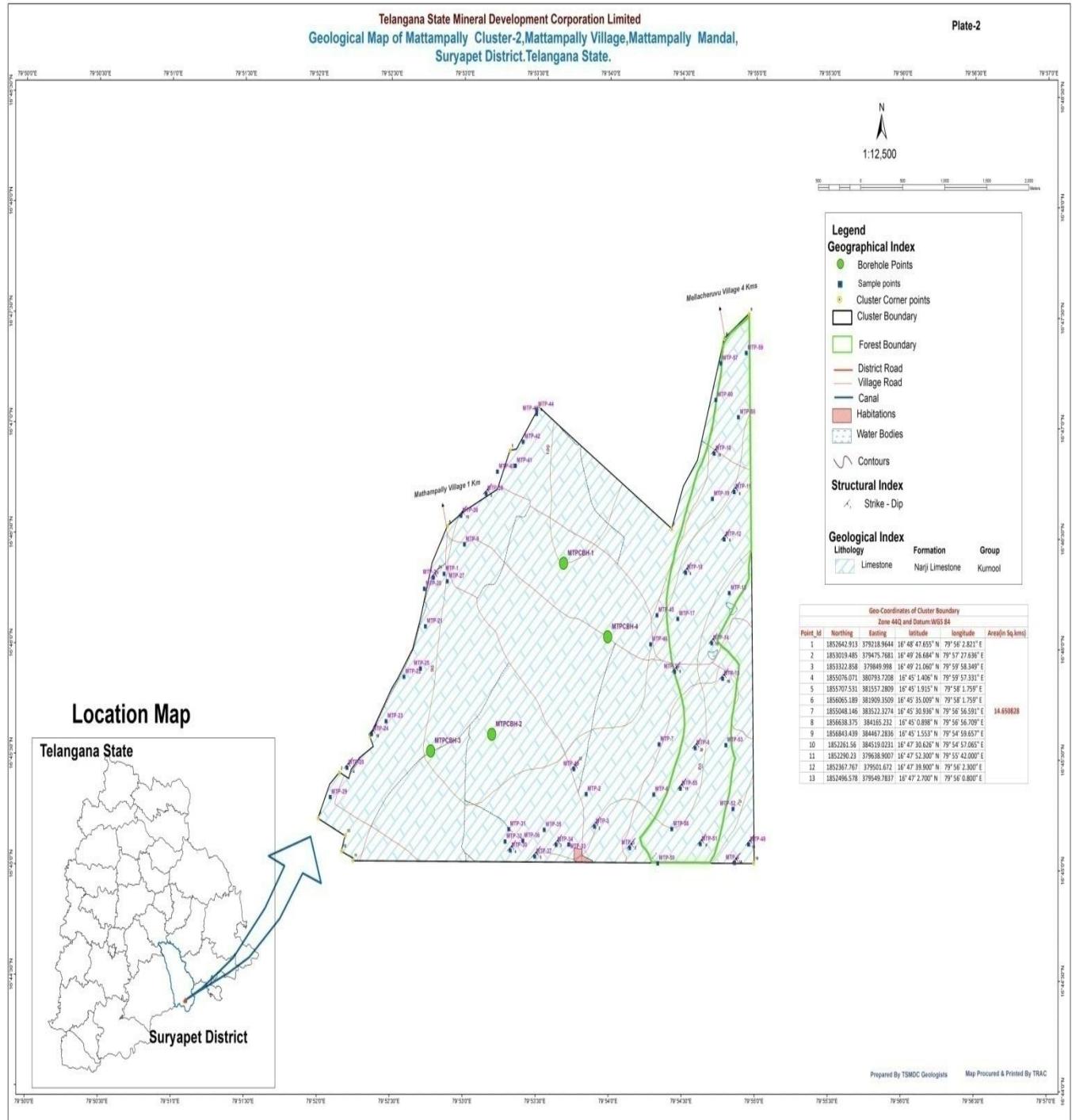


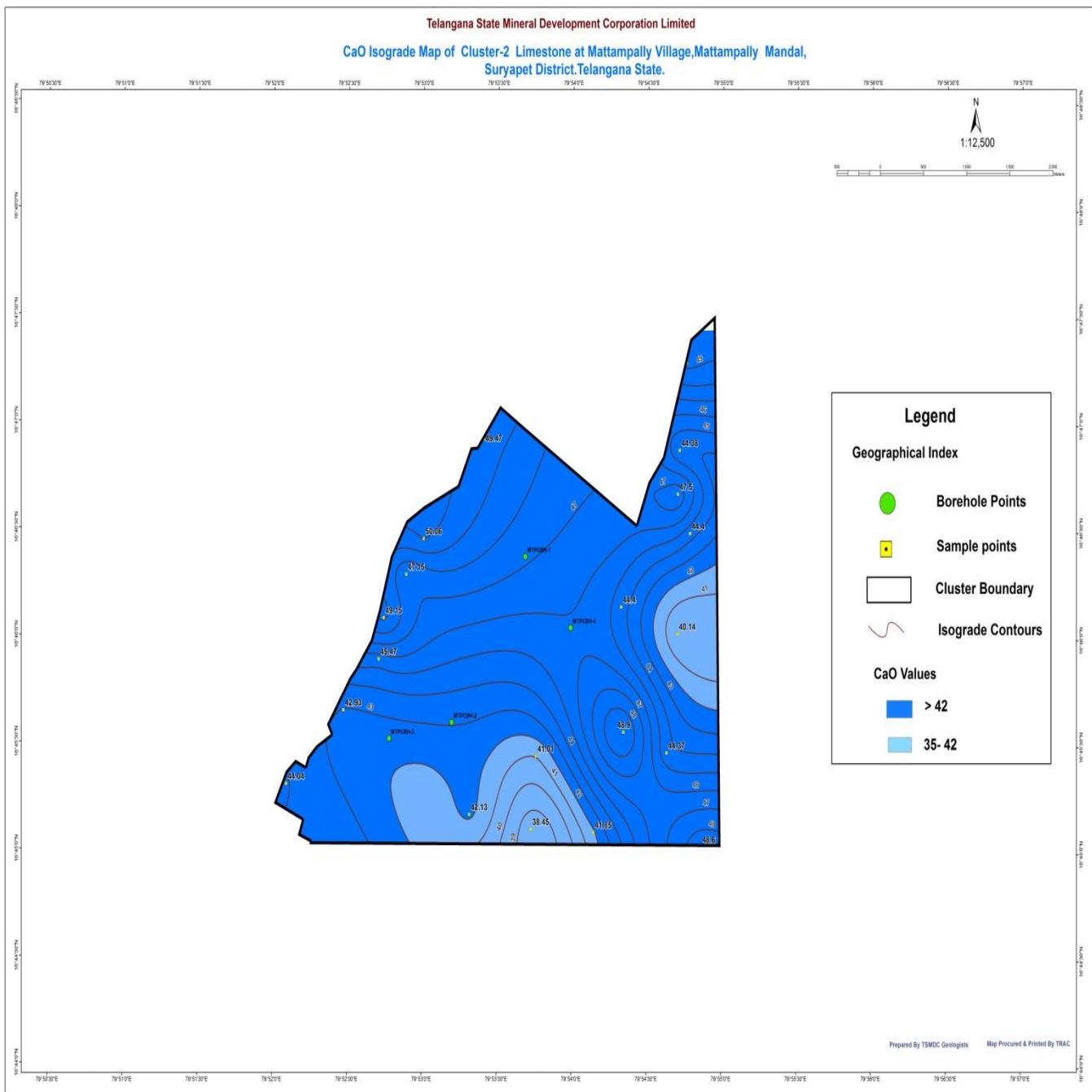
Telangana Mineral Development Corporation Limited.
Location Map of Proposed G-3 Stage Two Limestone Blocks Mattamaply Block-1& Mattamaply Block-2 in Mattamaply Cluster-2 on GSI Geological Map No.56P/13

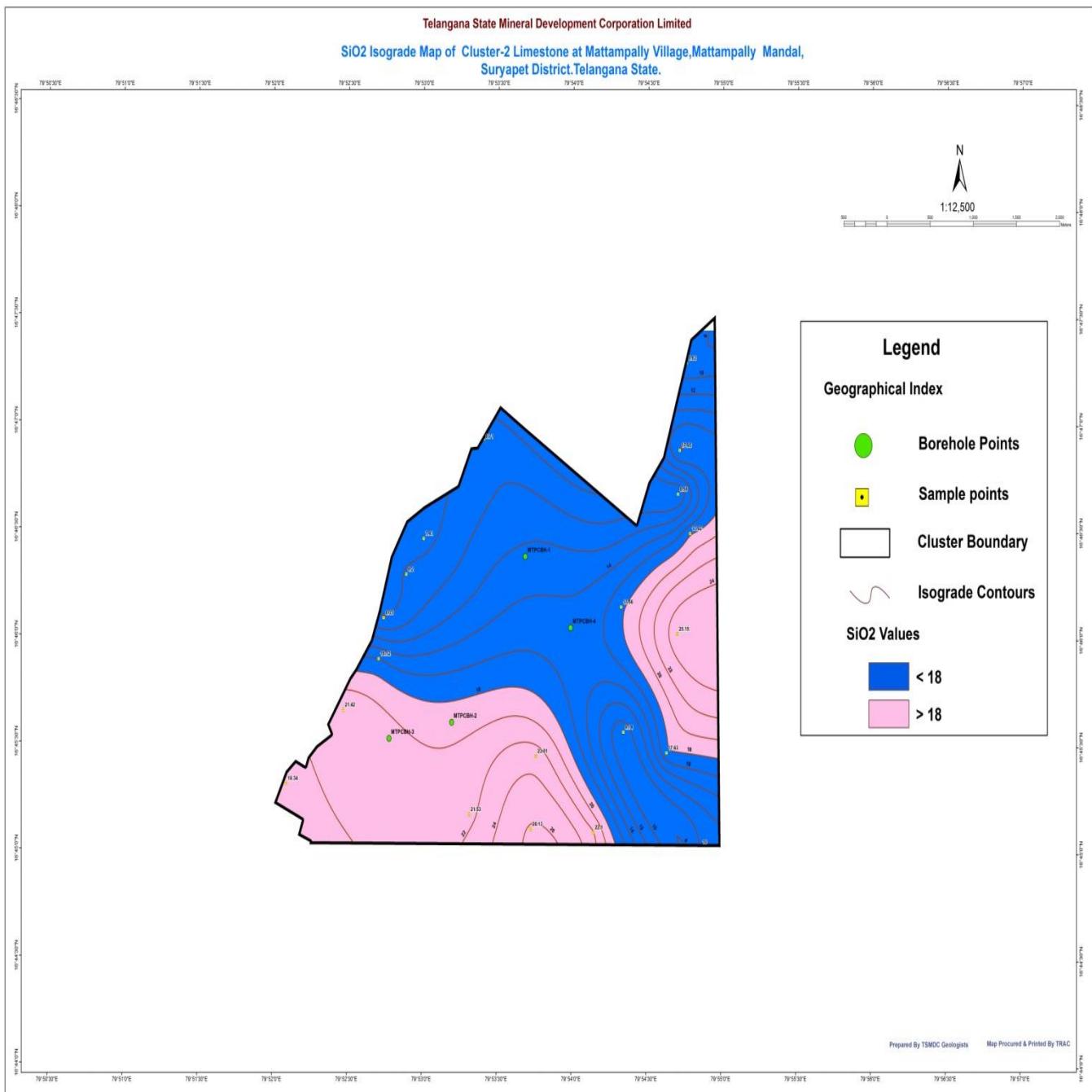


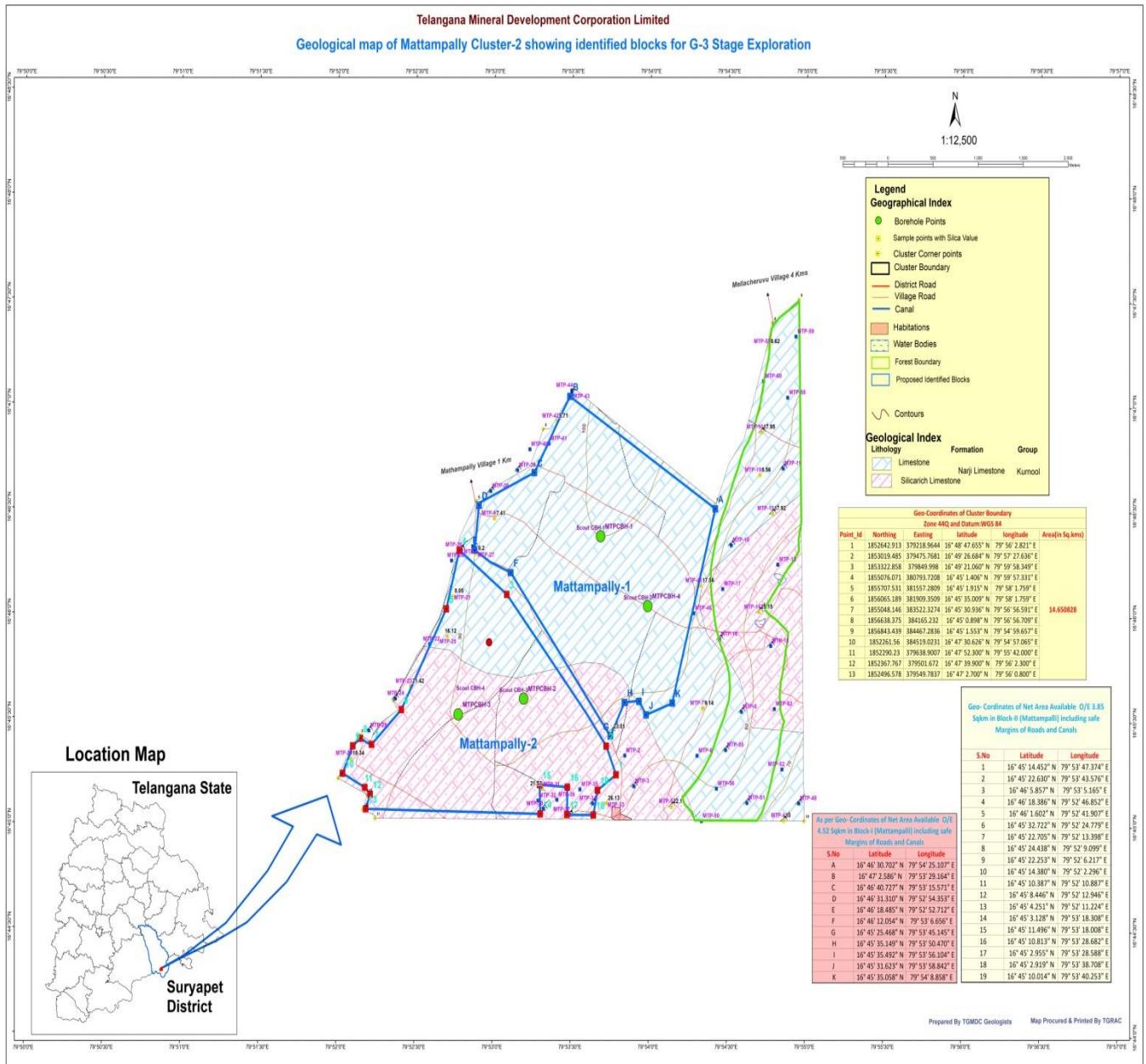
Telangana State Mineral Development Corporation Limited
Geological Map of Mattampally Cluster-2, Mattampally Village, Mattampally Mandal,
Suryapet District, Telangana State.

Plate-2









BOREHOLE GRID MAP

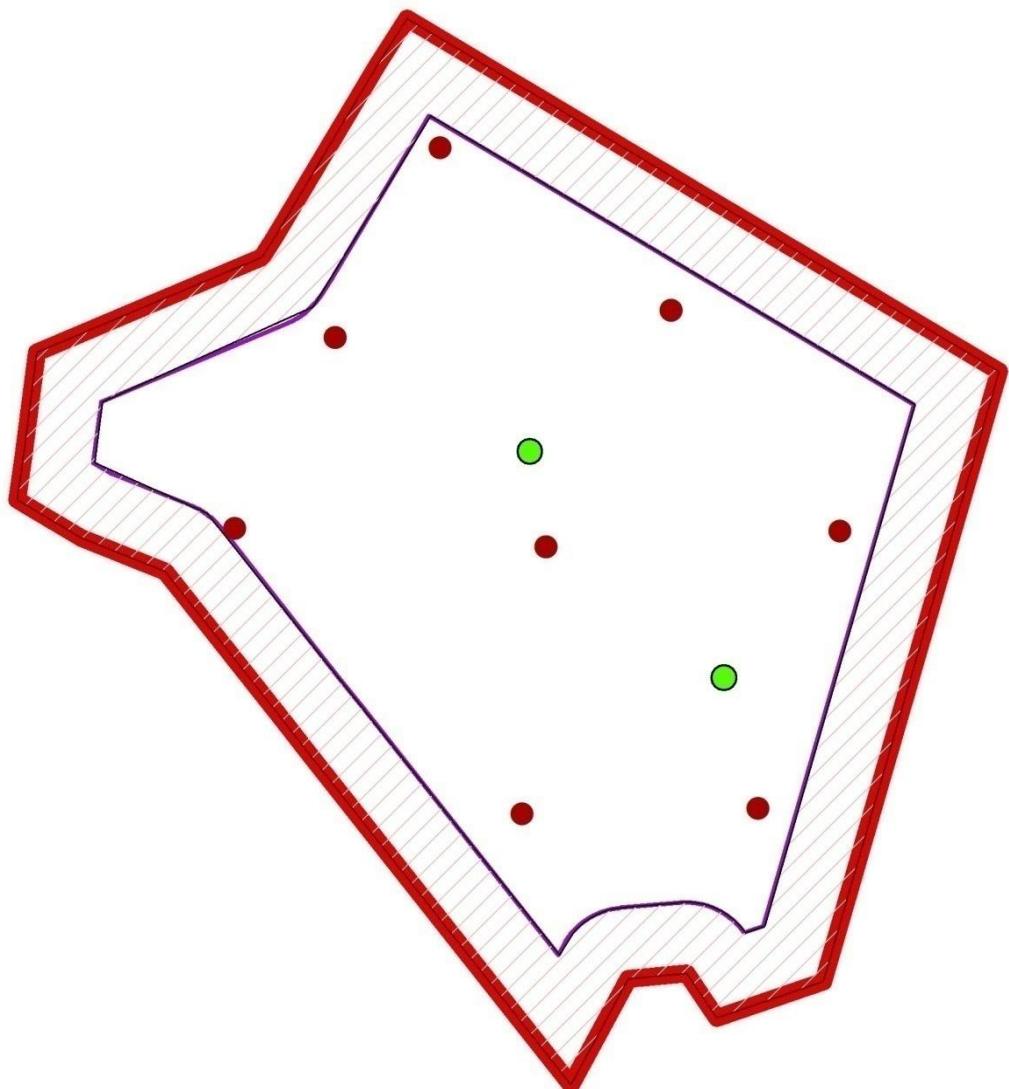


MAP SHOWING THE BOREHOLE GRID OF THE MATTAMPALLI BLOCK-1 PROPOSED FOR LIMESTONE G-3 EXPLORATION IN SURYAPET DISTRICT, TELANGANA

Area = 4.52 Sq. Kms.

Parts of Toposheet No's: 56P/13

0 330 660 1,320 1,980 Meters



Legend

- G-4 Stage Scout Boreholes
- 800 X 800 DTH = 8 (G3-Exploration)
- ▨ Proposed Block Boundary with buffer of 200mts
- Proposed Block Boundary

Plate-3a

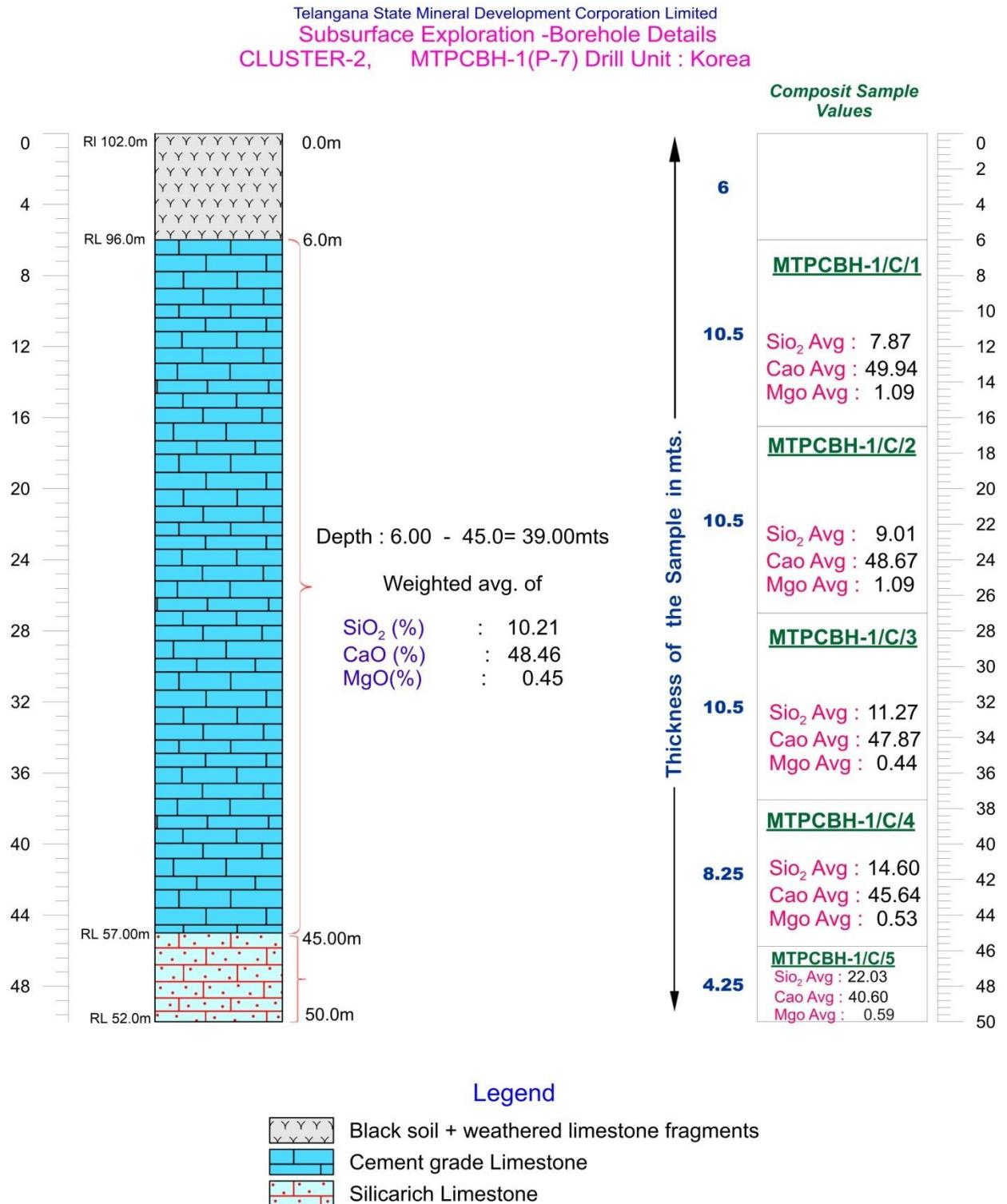
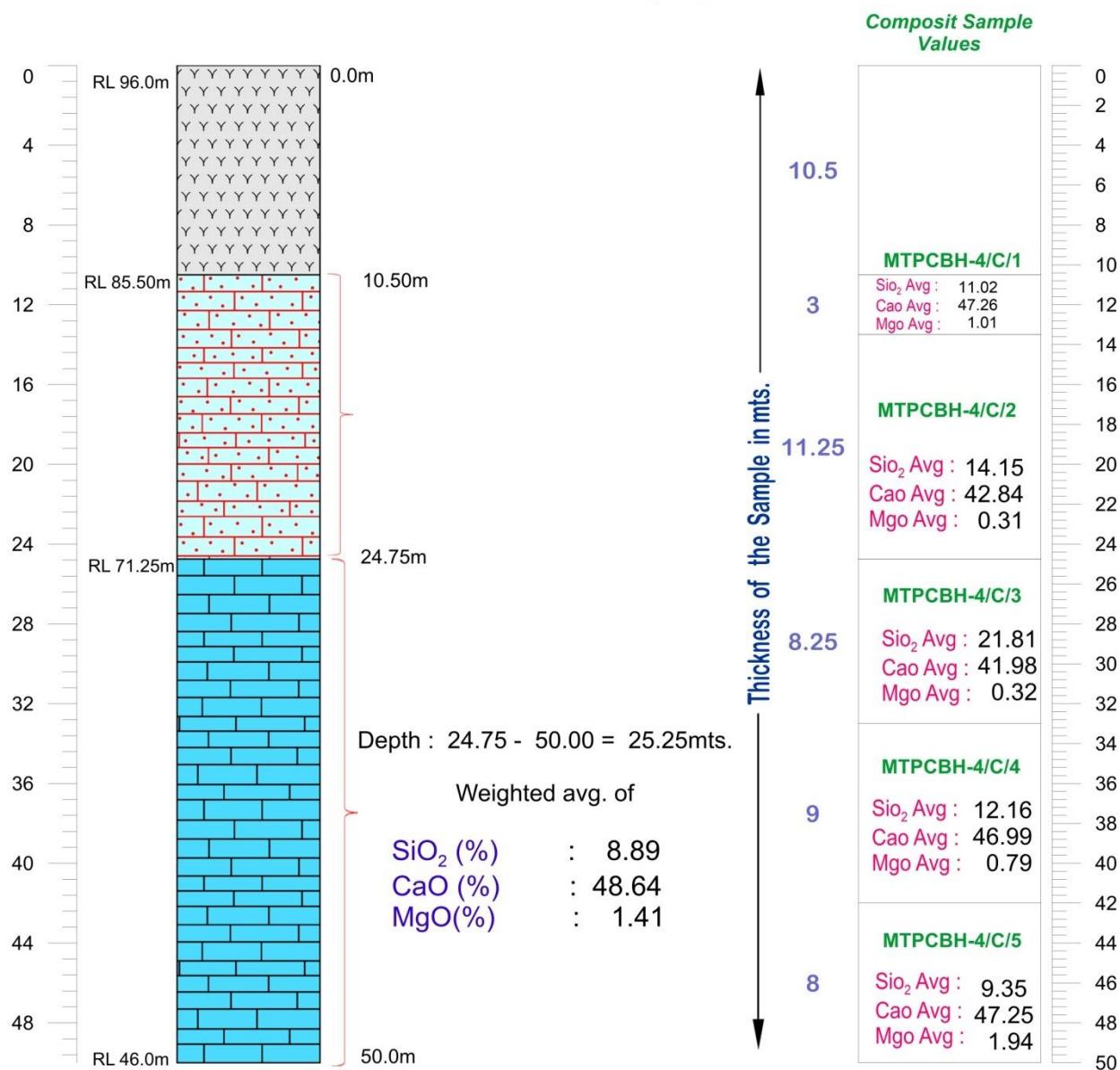


Plate - 3d

Telangana State Mineral Development Corporation Limited
Subsurface Exploration -Borehole Details
CLUSTER-2, MTPCBH- 4(P-) Drill Unit : KLR



Legend

	Black Soil + Weatherd Limestone fragments
	Silicarich Limestone
	Cement grade Limestone

BOREHOLE GRID MAP

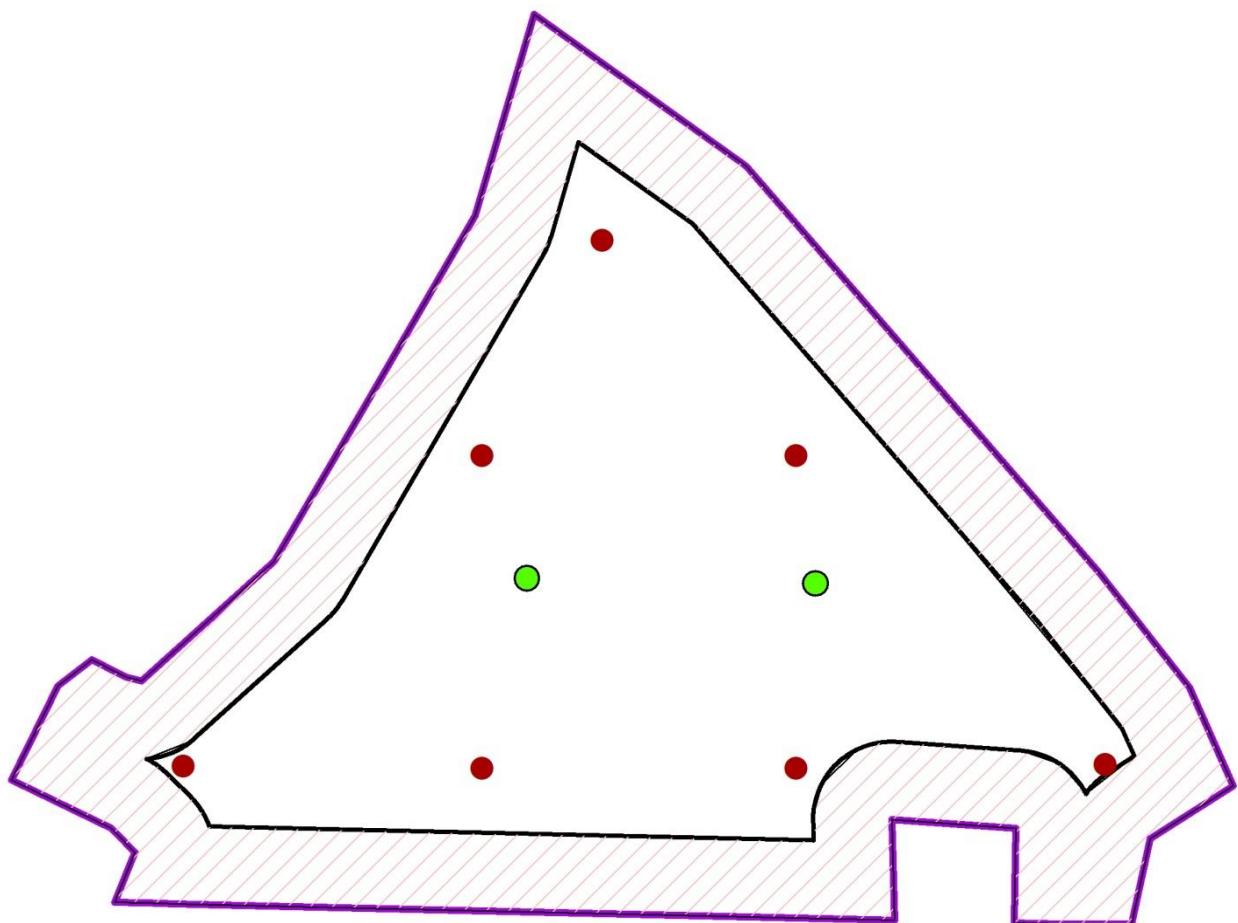


MAP SHOWING THE BOREHOLE GRID OF THE MATTAMPALLI BLOCK-2 PROPOSED FOR LIMESTONE G-3 EXPLORATION IN SURYAPET DISTRICT, TELANGANA STATE

Area = 3.85 Sq. Kms.

Parts of Toposheet No's: 56P/13

0 300 600 1,200 1,800 Meters

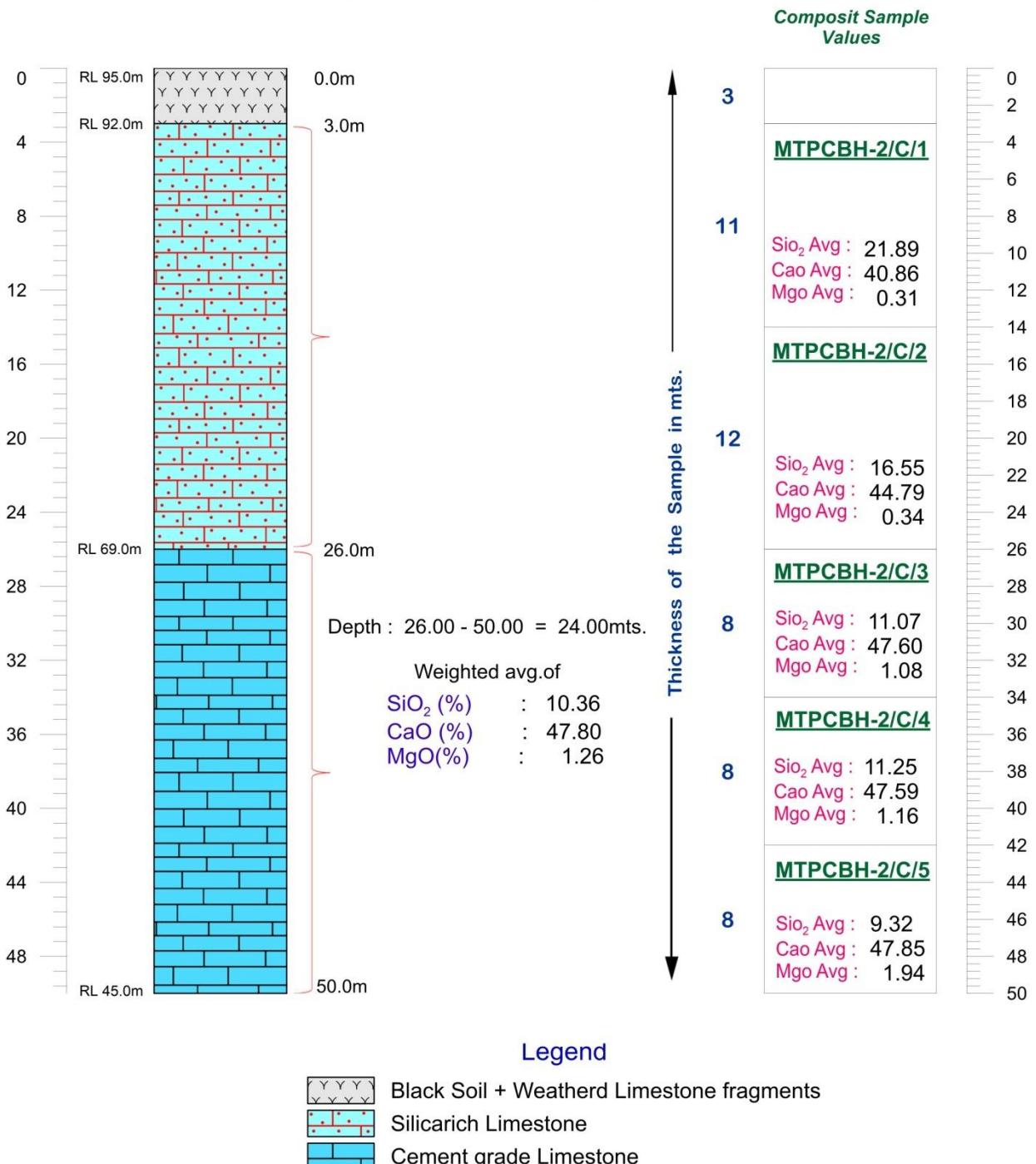


Legend

- 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-2, MTPCBH- 2(P-) Drill Unit : Vol-90

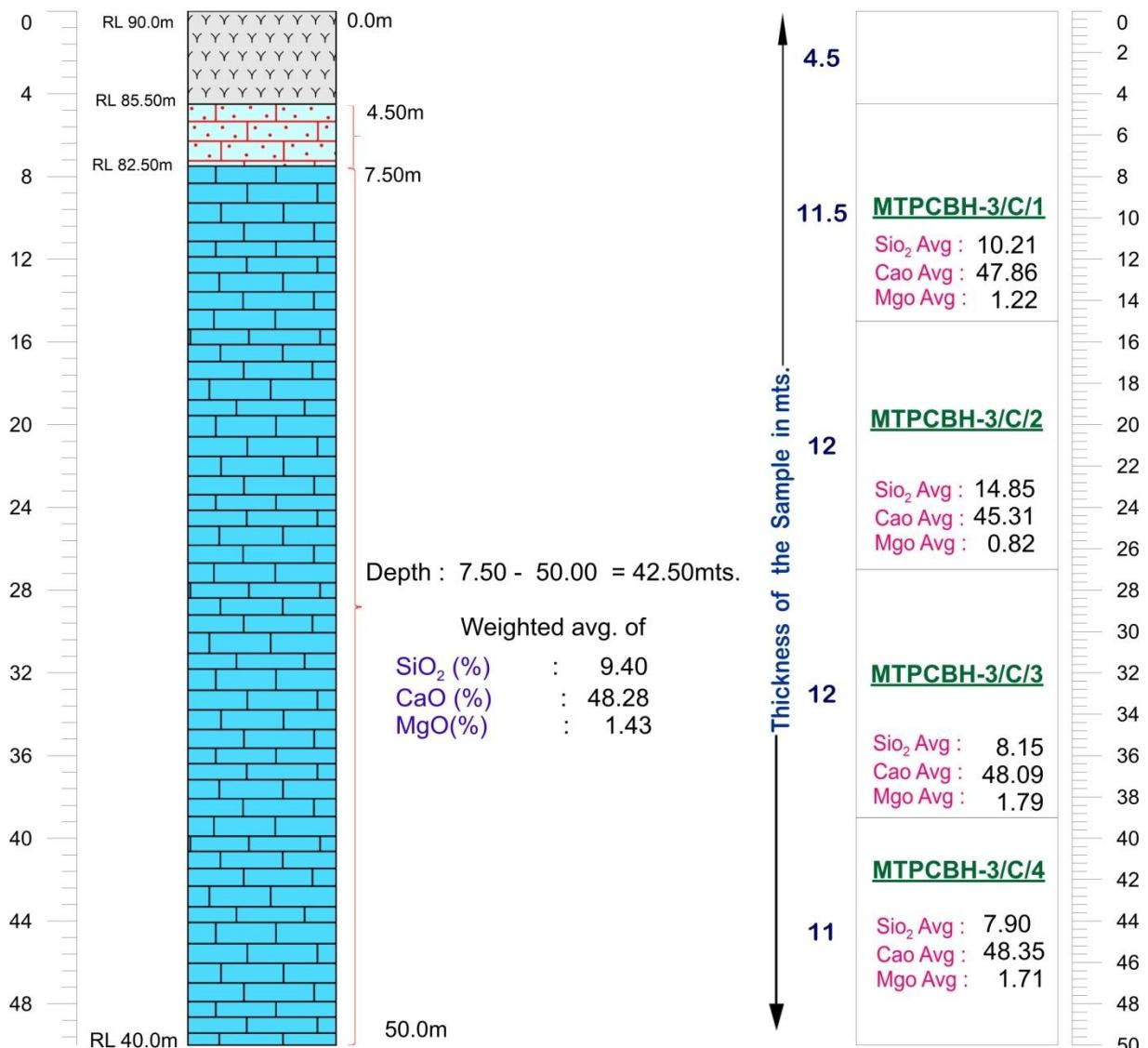


Telangana State Mineral Development Corporation Limited

Subsurface Exploration -Borehole Details

CLUSTER-2, MTPCBH- 3(P-) Drill Unit : Vol-90

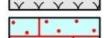
Composit Sample Value



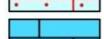
Legend



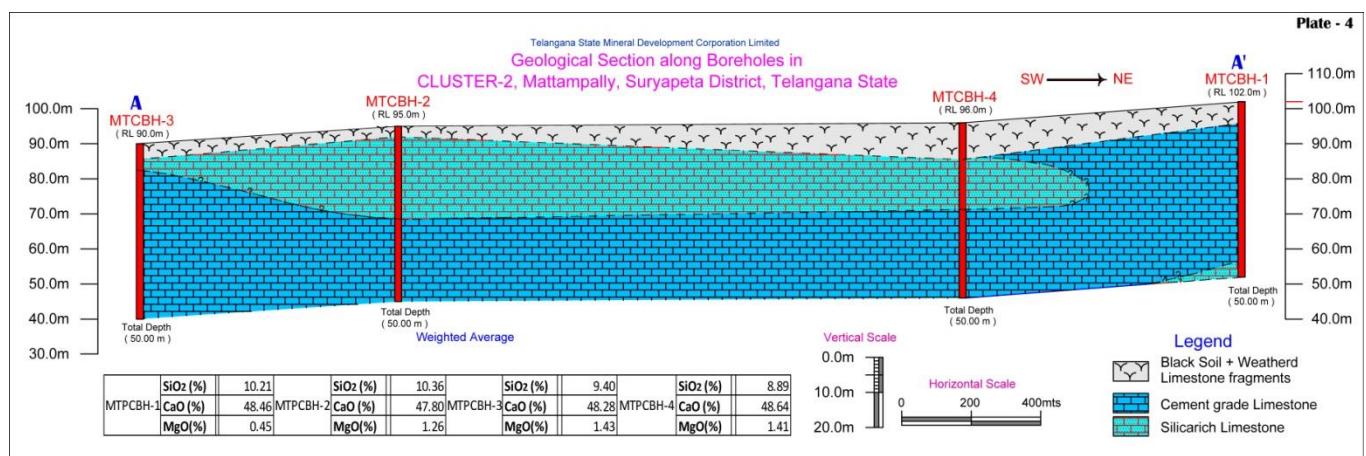
Black Soil + Weatherd Limestone fragments



Silicarich Limestone



Cement grade Limestone



TIME LINE FOR G-3 EXPLORATION LIMESTONE BLOCK											
Sl.No	Activities	Unit	Months								
			1	2	3	4	5	6	7	8	9
1	Topographical (1 : 4000) DGPS Survey work	Month	Red	Red							
2	Camp Mobilisation	Month		Blue							
3	Surface Drilling	Month			Yellow	Yellow	Yellow	Yellow	Yellow		
4	Core logging and Sampling Geological party	Month			White	Red	Red	Red	Red		
5	Laboratory Studies	Month			Dark Blue						
6	Geologist Party days(1 party)	Month	Orange	Orange	Orange	Orange	Orange	Orange	Orange		
7	Synthesis of data and Geological report Writing	Month								Grey	
8	Peer review work	Month									Purple
9	Finalisation of Geological Report & Printting	Month									Red