

**Proposed Work Plan and Estimated Cost of G2
Level Exploration for Madinapadu Limestone
Block over an extent of 660 Ha. in Dachepalli
Mandal, Guntur 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 union government policies of 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 will be taken up based on the positive results of the G3 exploration proposed now. The Madinapadu limestone block area is situated adjacent to the mining lease held by M/s. Bhavya Cements company and block was earlier mapped and assessed by GSI (QDS 56P) where the quality confirms high calcium, low magnesia limestones for utilization in cement industry and steel industry as blast furnace grade limestone.

Based on the above, 6 cement plants have been constructed in the area and 6 more cement plants are proposed to be constructed. The list of existing cement plants with production capacities and list of proposed plants in the vicinity of the proposed block are as follows.

TABLE – 1 (Existing cement plants)

S.NO	NAME OF UNIT	CAPACITY IN MTPA
1	M/s. KCP Ltd., Macherla	0.60
2	M/s. Paraskti Cement Industries Ltd., Jettipalem (V), Rentachintala (M)	1.20
3	M/s. The India Cement Ltd., Vishnupuram–Nalgonda (D)	1.00
4	M/s. Andhra Cement Ltd., Durgapuram (V), Dachepalli (M)	2.00
5	M/s. Bhavya Cement Ltd., Tangeda (V), Dachepalli (M)	1.26
6	M/s. Sri Chakra Cement Ltd., Petasannegandla (V), Karempudi (M)	0.60
Total		6.66

TABLE – 2 (Proposed cement plants)

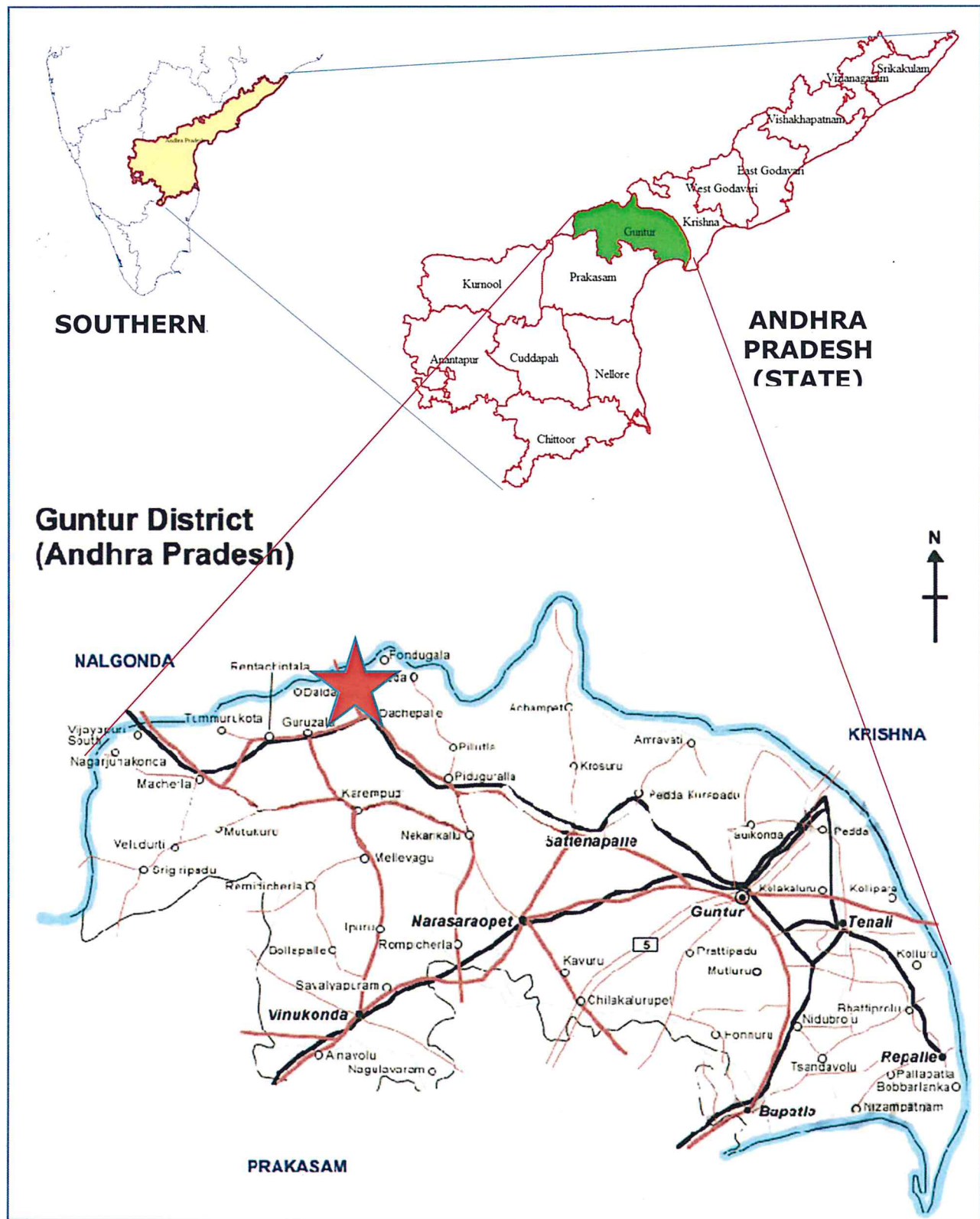
S.No	NAME OF UNIT
1	M/s. Gujarat Ambuja Cement Ltd., Dachepalli (M)
2	M/s. My Home Industries (P) Ltd., Gamalapadu (V), Dachepalli (M)
3	M/s. Chettinad Cement Corporation Ltd., Pedagarlapadu (V), Karempudi (M)
4	M/s. Shree Cement Ltd., Inuparajupalli (V), Karempudi (M)
5	M/s. Emami Cement Ltd., Tangeda (V), Dachepalli (M)
6	M/s. Vertex Cement (P) Ltd., Daida (V), Gurazala (M)

B. LOCATION, INFRASTRUCTURE, SOIL, CLIMATE:

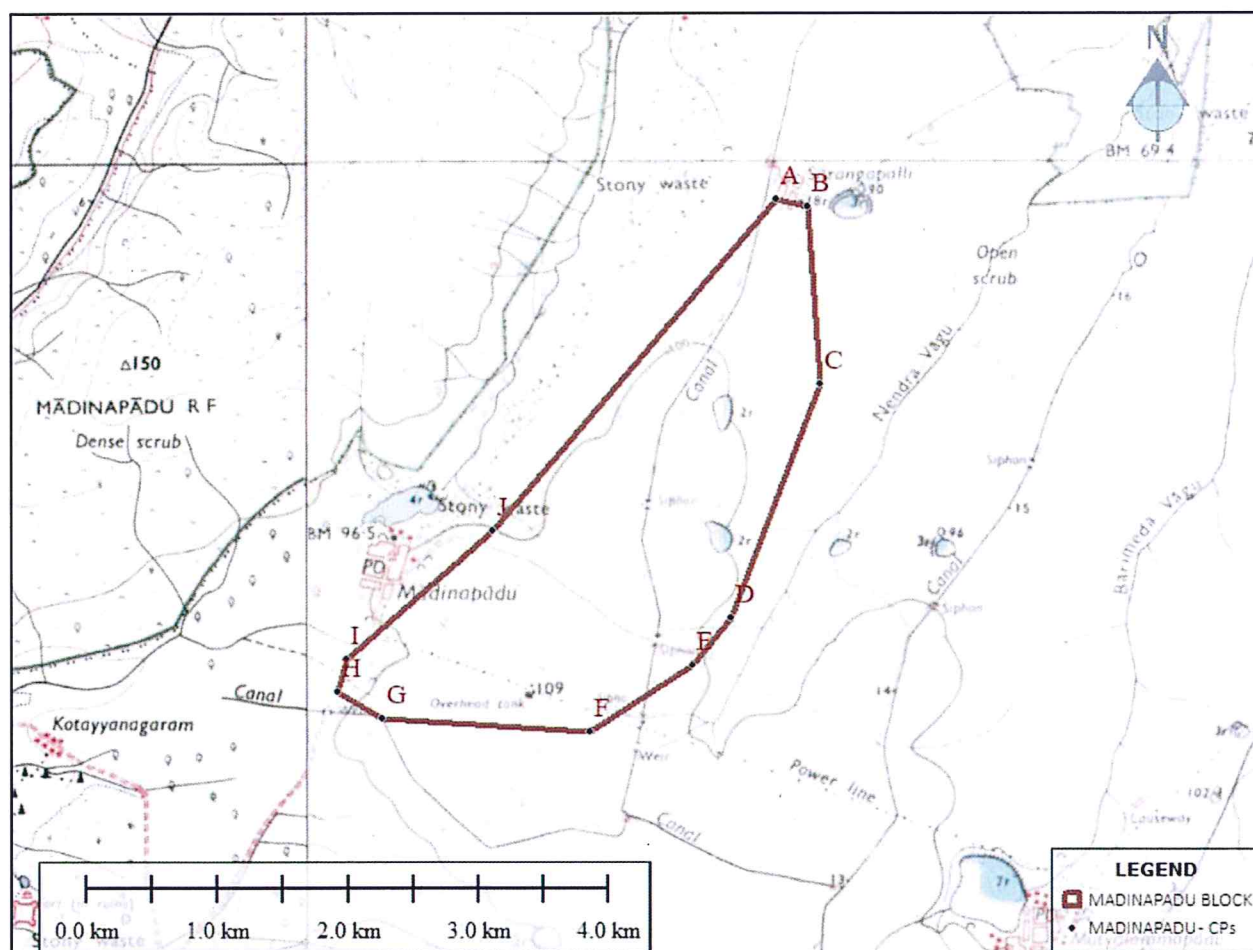
The proposed area is well connected to all major cities by rail/road, and the nearest airport Gannavaram at a distance approximately 160 km. All basic amenities such as school, hospital, market, etc. are available. Guntur is major city and District administrative headquarters around 60 km from the proposed block and Dachepalli is mandal headquarter around 5 KMs which is situated on Narketpalli-Addanki-Medarametla state highway. 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). Outcrops of limestone are very few and occur mainly in the streams. The highest point in the area is 100 m above MSL and the lowest being 80m above MSL with elevation difference of 20 m. In general, the climate is hot and dry, peak summer is in the month of May with maximum temperature reaching up to 47 degrees Celsius. The cold season being December, the temperature falls down to 12 Degrees Celsius. The average annual rain fall of the district is 750 mm.

Map 1: Location map of the area



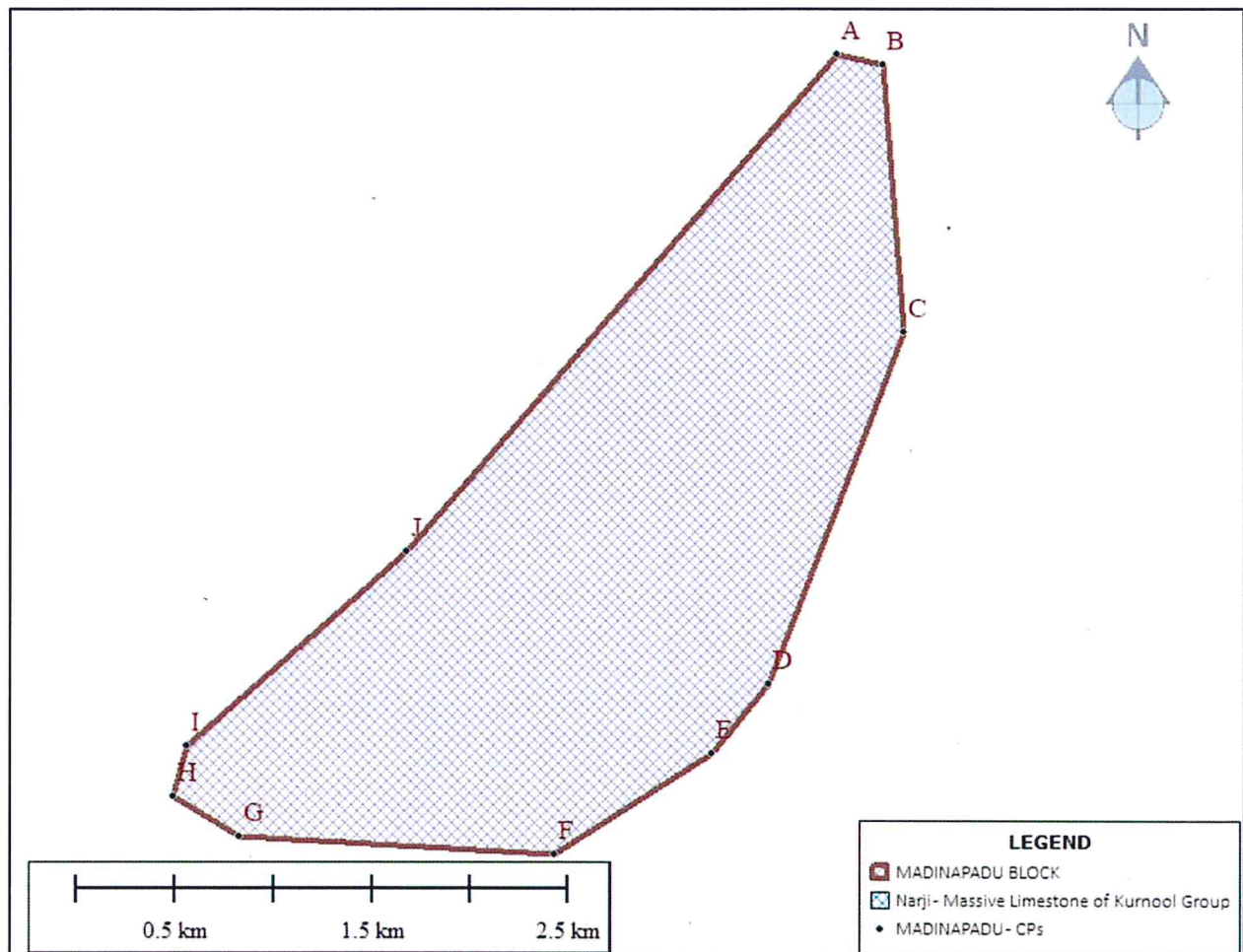
Map 2: Location of block on toposheet with boundary co-ordinates



LABEL	LONGITUDE	LATITUDE
A	79° 46' 56.2000" E	16° 39' 50.9700" N
B	79° 47' 03.8991" E	16° 39' 49.1980" N
C	79° 47' 07.1000" E	16° 39' 05.3000" N
D	79° 46' 45.0000" E	16° 38' 07.4000" N
E	79° 46' 35.6000" E	16° 37' 55.7000" N
F	79° 46' 09.8000" E	16° 37' 39.2000" N
G	79° 45' 17.9000" E	16° 37' 42.2000" N
H	79° 45' 07.1127" E	16° 37' 48.7967" N
I	79° 45' 09.4000" E	16° 37' 57.0110" N
J	79° 45' 45.4050" E	16° 38' 29.0060" N

C. GEOLOGY OF THE AREA :

Madinapadu block is NE-SW trending polygonal block covers an area of approximately 660 ha. As per GSI QDS map 56P (Annexure-3), possibility of occurrence of cement and metallurgical grade limestone occurs in the proposed block in massive Narji massive limestone formation, which is a part of Kurnool group, belonging to Cuddapah super group. The Narji massive limestone formation extends several hundreds of square kilometers mostly flat to low dip of 5 degrees towards South-East direction.



Map 3: Geological map of proposed block

D.PROPOSAL FORM:
NATIONAL MINERAL EXPLOATION TRUST (NMET)
Proforma for submission of Mineral Exploration
Proposals

1	Title of project	Madinapadu 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/Guntur /Madinapadu Block/ Dachepalli Mandal																																	
6	Toposheet no.	56 P/14 (Annexure 1)																																	
7	Total area and coordinates of the area / block (Latitude/Longitude)	6.6 sq.km area <table border="1"> <thead> <tr> <th>LABEL</th><th>LONGITUDE</th><th>LATITUDE</th></tr> </thead> <tbody> <tr><td>A</td><td>79° 46' 56.2000" E</td><td>16° 39' 50.9700" N</td></tr> <tr><td>B</td><td>79° 47' 03.8991" E</td><td>16° 39' 49.1980" N</td></tr> <tr><td>C</td><td>79° 47' 07.1000" E</td><td>16° 39' 05.3000" N</td></tr> <tr><td>D</td><td>79° 46' 45.0000" E</td><td>16° 38' 07.4000" N</td></tr> <tr><td>E</td><td>79° 46' 35.6000" E</td><td>16° 37' 55.7000" N</td></tr> <tr><td>F</td><td>79° 46' 09.8000" E</td><td>16° 37' 39.2000" N</td></tr> <tr><td>G</td><td>79° 45' 17.9000" E</td><td>16° 37' 42.2000" N</td></tr> <tr><td>H</td><td>79° 45' 07.1127" E</td><td>16° 37' 48.7967" N</td></tr> <tr><td>I</td><td>79° 45' 09.4000" E</td><td>16° 37' 57.0110" N</td></tr> <tr><td>J</td><td>79° 45' 45.4050" E</td><td>16° 38' 29.0060" N</td></tr> </tbody> </table> (Annexure -1 on SoI toposheet & Annexure-2 on GSI Geological map)	LABEL	LONGITUDE	LATITUDE	A	79° 46' 56.2000" E	16° 39' 50.9700" N	B	79° 47' 03.8991" E	16° 39' 49.1980" N	C	79° 47' 07.1000" E	16° 39' 05.3000" N	D	79° 46' 45.0000" E	16° 38' 07.4000" N	E	79° 46' 35.6000" E	16° 37' 55.7000" N	F	79° 46' 09.8000" E	16° 37' 39.2000" N	G	79° 45' 17.9000" E	16° 37' 42.2000" N	H	79° 45' 07.1127" E	16° 37' 48.7967" N	I	79° 45' 09.4000" E	16° 37' 57.0110" N	J	79° 45' 45.4050" E	16° 38' 29.0060" 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 NE-SW and flat to low (3-5 degrees) dipping towards SE with thin veneer of soil. As per the GSI data, the quality confirms																																	

		high calcium, low magnesia for utilization in cement industry and steel industry as blast furnace grade limestone. (Annexure-3) Previous work: • GSI carried out extensive geological work at different times from 1946 to 1990 and demarcated Narji limestone formation in the area (Geological Quadrangle Map 56P) • The quality of Narji limestone in this area confirms high calcium, low magnesia limestones for utilization in cement industry and steel industry as blast furnace grade limestone. • The chemical analysis of the limestone from the neighboring mining lease held by M/s Bhavya cements Ltd. is: CaO- 41.22 to 48.20; SiO₂- 8.7 to 22.40; MgO- 0.50 to 1.00; • Based on the above, 6 cement plants are 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 as it is not covered under any RP/PL/ML.
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 and topographic survey will be carried out in 1:5000, different lithological units will be demarcated.
10.2	TOPOGRAPHICAL and DGPS SURVEY	Topographic Survey up to 2m contour, DGPS for BH Collar & Block Boundary points.
10.3	CORE DRILLING	A total 36 drill holes has planned to cover 6.6 sq.km area with 400 m grid interval with 40m average depth, total 1440 m of core recovered for geochemical analysis. (Annexure 4 – Drill hole plan)

10.4	<i>SAMPLE PREPARATION FOR CHEMICAL ANALYSIS</i>	1440 core and 144 check samples (10% of Core) (Total-1584) will be prepared in the block for analysis.
10.5	<i>ANALYTICAL RESULTS</i>	1584 number samples chemically analyzed to determine major-minor oxides (SiO₂, Al₂O₃, Fe₂O₃, MnO, Na₂O, K₂O, MgO, CaO, Ti₂O, P₂O₅) at NABL accredited laboratory.
10.6	<i>PROCESSING DATA AND INTERPRETATION</i>	All maps, data compilation and interpretation would be carried out at MERIT Head Office, Vijayawada.
10.7	<i>PROGRESS REPORT</i>	Final geological report prepared incorporating all the works carried out in G2 exploration proposed along with quality and quantity.
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 Vs timeline chart for exploration in the block has been enclosed as Annexure-6
II	Tentative date of submission of interim and final reports	As mentioned in Activity vs Timeline chart and or as suggested by technical committee of NMET
III	Total Estimated Cost of the Project in Rupees lakhs	An amount of INR 1,51,66,954/- (Indian Rupees One Crore Fifty-One Lakhs Sixty-Six Thousand Nine-Hundred Fifty-Four 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)



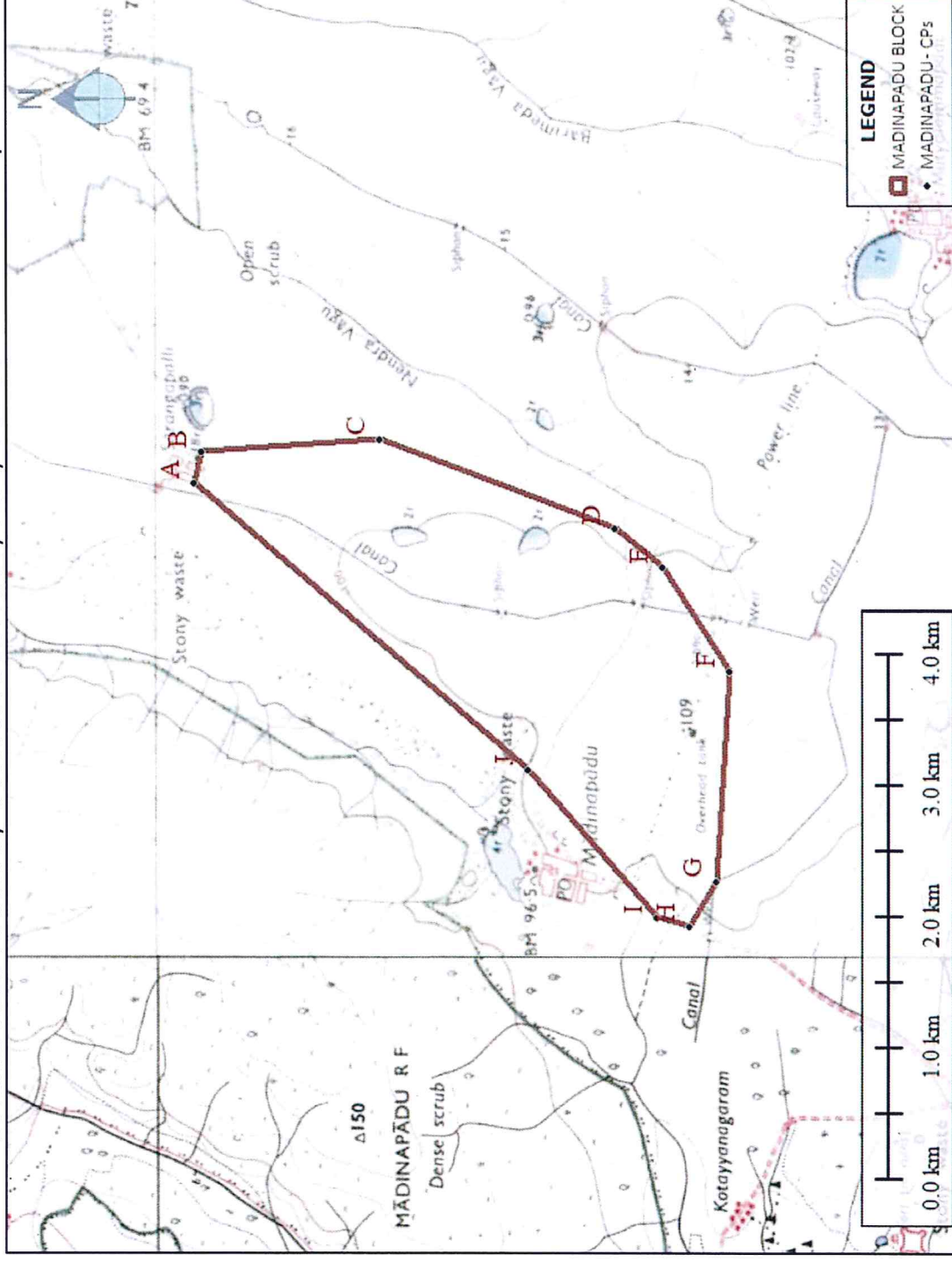
(B.Sreedhar, IAS)

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

Dated: 19.01.2018

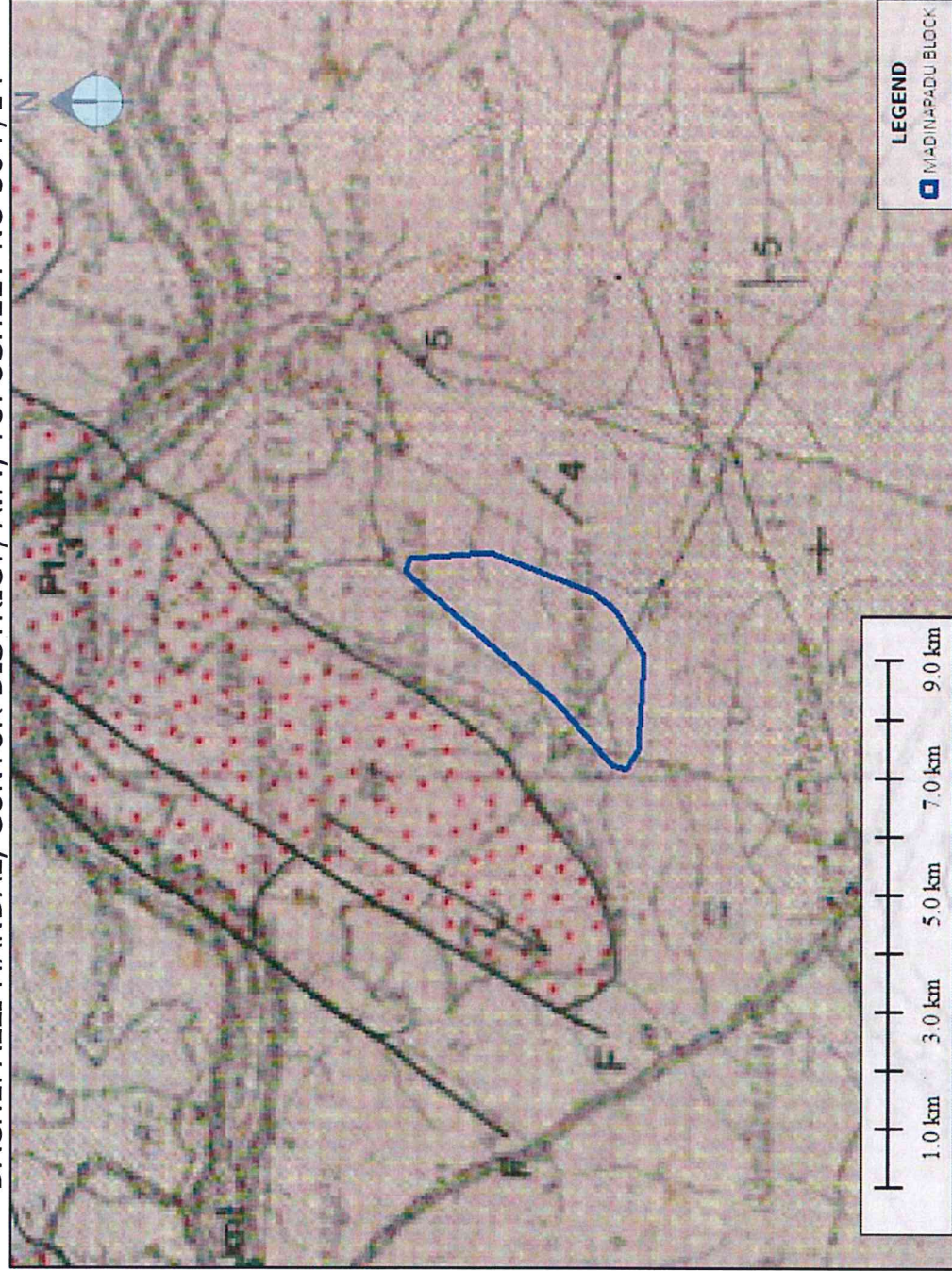
LOCATION OF THE BLOCK ON TOPOSHEET

MADINAPADU LIMESTONE BLOCK, MADINAPADU (V)
DACHEPALLI MANDAL, GUNTUR DISTRICT, A.P., TOPOSHEET NO 56 P/14



ANNEXURE: 2
GEOLOGICAL MAP OF THE AREA (Part of GSI Map No: 56P)

MADINAPADU LIMESTONE BLOCK, MADINAPADU (V)
DACHEPALLI MANDAL, GUNTUR DISTRICT, A.P., TOPOSHEET NO 56 P/14



Narji – Massive Limestone



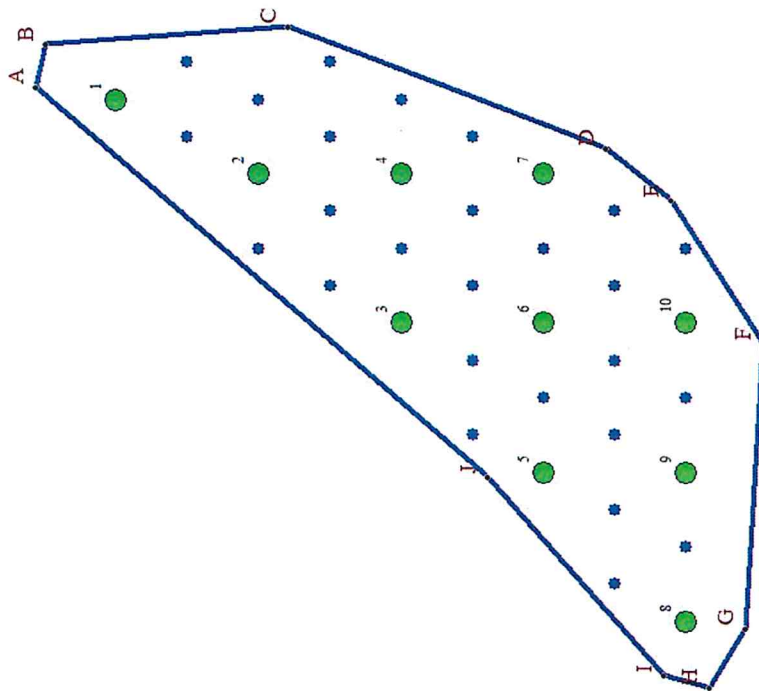
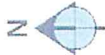
Banaganapalli Conglomerate/Quartzite

G E O L O G Y

Massive, high calcium, low magnesia Narji Limestones, which are exposed over a vast stretch of area in the Palnadu sub-basin form a huge repository for utilisation in cement and steel factories. Around 500 million tonnes of blast furnace grade limestone were estimated around Piduguralla ($16^{\circ}28'30''$: $79^{\circ}53'$, 56P/15) and adjoining area. Manganese ore occurs in Cumbum Formation as stratified deposit concentrated in the zones of weathering around Pullala cheruvu. Low grade iron ores are located within banded ferruginous quartzite west of Tummurukota ($16^{\circ}32'30''$: $79^{\circ}27'30''$, 56P/6). Diamond workings are reported from a number of localities on both the sides of the Krishna River. The incidence of diamonds is mostly from the gravels, Banganapalle Conglomerates and the pebbly, gritty quartzites of the Cumbum Formation. Quartz deposits useful in glass, ferro silicon and ceramic industry are located mostly in the northern part of the area. They occur in form of intrusive quartz veins and reefs in the Peninsular Gneissic Complex. Some of the deposits are being worked. The Paniam Quartzites, 5 km south of Sitarampuram, are useful in glass industry. The limestones around Macherla ($16^{\circ}28'$: $79^{\circ}26'$, 56P/7), Piduguralla, Devarapalli and Wazirabad ($16^{\circ}41'30''$: $79^{\circ}40'$, 56P/10) areas are being worked for ornamental building stones. Many of the dolerite dykes occurring in the northern part have vast potential as decorative stones. Slates, also called as lithgraphic stones, are being excavated in the Agnigundala area.

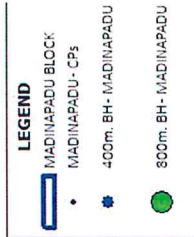
PROPOSED DRILL HOLE PLAN

MADINAPADU LIMESTONE BLOCK, MADINAPADU (V)
DACHEPALLI MANDAL, GUNTUR DISTRICT, A.P., TOPOSHEET NO 56 P/14



Proposed BHs up to G2 -36
Nos @ 40m. - 1440m

- G3-Drilling Grid- 800m -
10 BHs-400m
- G2-Drilling Grid- 400m -
26 BHs-1040m



ANNEXURE: 5**PROPOSED BUDGET PLAN**

MADINAPADU LIMESTONE BLOCK, MADINAPADU (V)
DACHEPALLI MANDAL, GUNTUR DISTRICT, A.P., TOPOSHEET NO 56 P/14

S.NO.	Activity	Quantum of Work	Unit price in Rupees.	Total in Rupees
1	Geological Mapping on 1:5000 scale *** 6.6 sq.km	Geological Party days	8021/-	112294
2	Topographic survey on 2m. contour interval ** 6.6 sq.km	Survey party days (2 surveyors)	20900	125400
3	Core drilling in 36 boreholes @ 40m. Each **	1440 meters	5500.00	79,20,000
4	GI sheet core boxes - 5 mtr long (each)	288 Nos	2000.00	5,76,000
5	Logging and Sample preparation * (@30 m per day) for 1440 m.	48 days	2813.00	135024
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**	1584 Nos (1440+10%)	3500.00	55,44,000
7	Petrographic and Mineralogical study through thin and polished sections **	10 Nos	3200.00	32,000
9	Data processing, Analysis and Geological Report	1	Lumpsum	721988
TOTAL:				1,51,66,954

(Indian Rupees One Crore Fifty-One Lakhs Sixty-Six Thousand Nine-Hundred Fifty-Four Only) GST as applicable extra

*	Rates as per MECL Schedule of Charges
**	Rates as per GSI Schedule of Charges
***	Guidelines on Mineral Exploration Project formulation under NMET

ANNEXURE: 6

PROPOSED ACTIVITY vs TIME LINE CHART

MADINAPADU LIMESTONE BLOCK, MADINAPADU (V)
DACHEPALLI MANDAL, GUNTUR DISTRICT, A.P., TOPOSHEET NO 56 P/14

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 36 boreholes @ 40m. Each (1440m)												
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

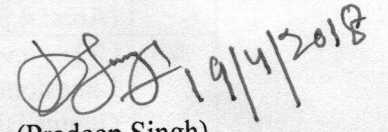
OFFICE MEMORANDUM

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-V

COST ESTIMATE FOR G2-EXPLORATION OF LIMESTONE IN MADINAPADU (6.6 sq.km), Guntur Dist, Andhra Pradesh						
SL.No.	Item of Work	Unit	Base Rate	Financial Year (2017-18)		
				Esc.Rate	Qty.	Amount
			1.4.90			
A	DRILLING					
1	Surface Drilling (1 Rig)	m.	1714	6780	1440	9763200
2	Transportation (at actuals)	Km.	8.8	31	2000	62000
3	GI Core Box *	each	2000.0		288	576000
4	Camp Setting	Drill/ month	68606	244910	1	244910
	Sub Total A					10646110
B	GEOLOGICAL WORK					
1	Survey Party Days (1 party)	day	1180	5840	40	233600
2	Geologist Party days (1 party)	day	1541	7802	90	702180
3	Core Sampling Party days(1 party)	day	525	2809	60	168540
	Sub-Total B					1104320
C	LABORATORY STUDIES					
a	Chemical Analysis					
1	<u>Primary + Check Samples</u>					
	i) for 6 radicals (CaO,MgO,Al ₂ O ₃ ,SiO ₂ ,Fe ₂ O ₃ & LOI)	Nos	490 76x5+110)	2580	1584	4086720
	iii) For additional 2 Radicals SO ₃ & P ₂ O ₅	Nos	186 (110 +76)	972	1584	1539648
b	Physical Analysis					
2	Preparation of thin section	Nos	100	538	10	5380
3	Petrographic Studies	Nos	228	1436	10	14360
	Sub-Total C					5646108
	Total A+B+C					17396538
D	EXPLORATION REPORT (Rs.60000 or 2% of Value which ever is more)					347931
	GRAND TOTAL A to D					17744469
	GST 18%					3194004
	Grand Total : with GST 18%					20938473
						SAY 209 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 subsequent year.					
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 ACTIVITY vs TIME LINE CHART

MADINAPADU LIMESTONE BLOCK, MADINAPADU (V)
DACHEPALLI MANDAL, GUNTUR DISTRICT, A.P., TOPOSHEET NO 56 P/14

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 36 boreholes @ 40m. Each (1440m)												
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).

Bartun
B-P-Routing
Member Secretary
TCC, NMDF