

ANNEXURE-III A

Ministry of Mines National Mineral Exploration Trust

Minutes of the 44th Technical-cum-Cost Committee (TCC) meeting held on 25th and 26th August, 2022 through video conferencing at Ministry of Mines, Shastri Bhawan, New Delhi

The 44th Technical-cum-Cost Committee [TCC] meeting of National Mineral Exploration Trust [NMET] was held under the chairmanship of Shri Janardan Prasad, Additional Director General, Geological Survey of India [ADG, GSI] and Chairman, TCC, NMET on 25th and 26th August, 2022 at Ministry of Mines, Shastri Bhawan, New Delhi through video conferencing. The TCC members and representatives of Exploration Agencies [EAs] participated through their respective VC nodes. The list of participants is in **annexure-1**.

Shri Suresh Chander, Director, GSI and Member Secretary, TCC NMET, welcomed Shri Janardan Prasad, ADG, GSI & Chairman, TCC; Members of the TCC and participants representing various EAs. He conveyed that total 10 nos. of new project proposals have been received from different EAs for technical cum cost evaluation by the committee.

Shri Janardan Prasad, ADG, GSI, and Chairman, TCC welcomed the members and other participants from various EAs. He desired that a comprehensive summary of approved, ongoing and completed projects may be presented before the TCC in the next meeting by all the EAs. The proceeding of the meeting was initiated as per the circulated agenda.

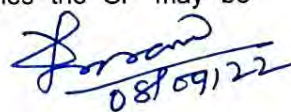
Agenda-wise discussions are summarised as follows.

44.1: Technical evaluation of new project proposals:

44.1.1. Preliminary exploration (G3) for Graphite in Lamer-Panga block A (13.99 sq. km), District: Kalahandi, Odisha. [Implementing Agency: OMECL]

- Geologically the area is exposed by the Eastern Ghat Supergroup of rocks represented by khondalite and charnockite groups with associated pegmatites and quartz veins.
- The lithounits present within this block are granite gneiss, pyroxene granulite (Basic charnockite), khondalite, and quartzite. The graphite is associated with the meta sedimentaries as quartz-graphite schist bands.
- It has been conveyed that the Geological Survey of India had carried out geological mapping in 1:12,500 scale in 1983-84 and reported four mineralized zones within the block. Graphite samples collected from the mineralized zones had shown Fixed Carbon ranging from 5.80% to 11.67%.
- The committee observed that the outcrops are scanty in nature, hence potential mineralized zones need to be identified through geological and geophysical methods in the 1st phase and the drilling may be carried out over the identified potential zones in 2nd phase. The committee further opined that initially the Self Potential (SP) may be implemented at 200m interval thereafter over identified zones the SP may be implemented at 100m interval.


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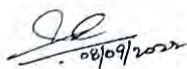

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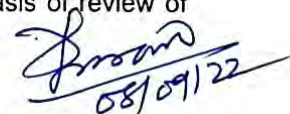
- e) The committee suggested to assess the orientation of the mineralised zone and accordingly the inclination of borehole angles be planned.
- f) The geological mapping (1:4,000 scale), 10line km of Self Potential (SP), trenching 200 cu. m, drilling 1000m (conditional), Bed rock sampling will be carried out in proposed block.
- g) The outcome of the geological and geophysical survey will be reviewed after eight months thereafter the decision on drilling will be taken in case of encouraging results. Initially first level drilling at vertical depth of 30m will be taken up.

In view of the encouraging results from earlier GSI studies (Fixed Carbon values ranging from 5.80% to 11.67% in some samples) the committee recommended the proposal for approval of EC for Preliminary exploration (G3) for Graphite in Lamer-Panga block A (13.99 sq. km), District: Kalahandi, Odisha with an estimated cost of Rs. 232.66 Lakh (including GST) in time schedule of 16 months for carrying out the proposed work and submission of report as per annexure- 2A & 2B.

44.1.2. Preliminary exploration (G3) for Iron Ore in Thakurani block (1.399 sq. km) in District: Keonjhar, Odisha. [Implementing Agency: OMECL]

- a) It has been submitted that the part of the proposed block is a taken-over lease of D. R. Patnaik mining lease and the block is adjacent to the Belkundi Fe & Mn Mines of OMDC Ltd. to the west and Thakurani Fe & Mn Mines of BPME Ltd. to the south. It is submitted that the proposed block is bound by the operational mining lease area.
- b) The Bonai-Keonjhar belt (BK belt) belt is U-shaped, well known horseshoe synclinorium consisting of eastern and western limbs. The Iron formations of the eastern limb are mostly restricted to Noamundi, Thakurani, Joda, Jaribahal, Malangtoli, Jilling, Jajang and Gurubeda area whereas the Iron deposit of western belt covers Kiriburu, Bolani, Kalta Barsuan and the Khandadhar area.
- c) Regionally, the area is represented by the principal Iron Ore formations viz., hard laminated ore, soft laminated Iron ore, Lateritic Iron ore, hard massive ore, Iron ore floats, and Banded Hematite Jasper (BHJ)/ Banded Hematite Quartzite (BHQ).
- d) It has been submitted that during field traverses the outcrops of Iron and Manganese are encountered within the block and also there is the existence of float ores of Iron in the northern part of the block. The mining activities for iron and manganese are operational in the nearby mining leases.
- e) In the adjoining blocks the borehole depth have been kept upto dolomite horizon at about 60m depth, and evidence of Iron and manganese occurrences are not recorded beyond dolomite horizon in the area. In view of this, the committee suggested to keep the maximum depth of boreholes upto 60m or upto dolomite horizon.
- f) The geological mapping (1:2,000 Scale) surface sampling, chemical analysis and drilling (conditional) will be carried out in proposed block. On the basis of review of


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Annexure-2A

Estimated cost for Preliminary exploration (G3) for Graphite in Lamer-Panga block A (13.99 sq. km), District: Kalahandi, Odisha.


[Block area- 13.99 sq. km; Average borehole vertical depth- 30m; Completion Time- 16 months]

S. No.	Item of Work	Unit	Rate as per NMET SoC 2020-21		Estimated cost of proposal		Remarks
			SoC item Sl. No.	Rate as per SoC (in Rs.)	Quantum of Work	Total Amount (Rs.)	
A	GEOLOGICAL WORK						
1	Charges for One Geologist - Field	per day	1.3	11,000	120	13,20,000	
2	Charges for One Geologist - HQ	per day	1.3	9,000	30	2,70,000	
3	Labour Charges for Geological mapping (2 Nos.) Base rate- 443/-	per day	5.7	443	240	1,06,320	Amount will be reimbursed as per notified rates by Central Labour Commission rates or respective State Govt. Whichever is higher
4	Charges for one Sampler	per day	1.5.2	5,100	35	1,78,500	
5	Labour Charges for sampling work (4 Nos.) Base rate- 443/-	per day	5.7	443	140	62,020	Amount will be reimbursed as per notified rates by Central Labour Commission rates or respective State Govt. Whichever is higher
6	Charges for 1 Surveyor	per day	1.6.1a	8,300	30	2,49,000	
7	Labour charges for Survey (4 Nos.) Base rate- 443/-	per day	5.7	443	120	53,160	Amount will be reimbursed as per notified rates by Central Labour Commission rates or respective State Govt. Whichever is higher
Sub Total- A						22,39,000	
B	TRENCHING						
1	Trenching	cu.m	2.1.1	3,330	200	6,66,000	10 trenches (2 trenches per each deposit)
Sub Total- B						6,66,000	

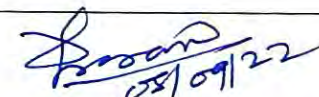
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C	DRILLING (Outsourced)						
1	Surface Drilling	per m	2.2.1.4	11,500	1000	1,15,00,000	
2	Land/Crop compensation	Per Bore hole	5.6	20,000	20	4,00,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
3	Construction of concrete pillar(12"x12"x30")	Per Bore hole/Pillar	2.2.7a	2,000	20	40,000	
4	Drill core preservation	Per m	5.3	1,590	250	3,97,500	
Sub Total- C						1,23,37,500	
D	GROUND GEOPHYSICAL (Outsourced)						
1	Self-potential / Charged Potential	Line Km	3.3a	29,600	10	2,96,000	
Sub Total- D						2,96,000	
E	LABORATORY STUDIES (Outsourced)						
1	Chemical Analysis						
	i) Primary samples and Check samples for Graphite (Core Samples)						
	a) Primary samples for Proximate Analysis (Ash, Moisture, V.M. and F.C.)	Nos	4.1.16	3,000	250	7,50,000	100 core sample + 100 channel sample + 50 grab sample
	b) Check sample Proximate Analysis (Ash, Moisture, V.M. and F.C.)	Nos	4.1.16	3,000	25	75,000	
	c) REE	Nos	4.1.13	5,380	10	53,800	
	ii) Composite Samples for Graphite (Core Samples)						
	a)Proximate Analysis (Ash, Moisture, V.M. and F.C.)	Nos	4.1.16	3,000	30	90,000	
	b) Total Sulphur (S)	Nos	4.2.14	1,900	10	19,000	
2	Physical Analysis						
i)	X-RD Studies	Nos	4.5.1	4,000	10	40,000	5 core samples + 5 grab samples
ii)	ICP -MS studies (34 trace elements)	Nos	4.1.14	7,731	10	77,310	
iii)	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
iv)	Petrographic studies	Nos	4.3.4	4,232	10	42,320	
v)	Preparation of polished section	Nos	4.3.2	1,549	10	15,490	

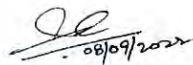
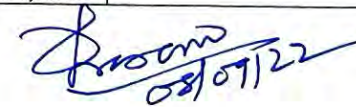


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vi)	Mineralographic studies	Nos	4.3.4	4,232	10	42,320	
vii)	Bulk density	Nos	4.10	3,540	5	17,700	
Sub Total- E						12,46,470	
Total A+B+C+D+E						1,67,84,970	
F	Tender preparation, publishing & finalisation	one time	2.3	2% of the approved project cost or 5 lakh whichever is lower will be paid one time to exploration agency.		3,35,699	will be reimbursed when copy of signed agreement/tender for outsourced component will be submitted.
G	GEOLOGICAL REPORT PREPARATION	One Number (5 Hard copies) along with soft copy	5.2	Project cost 150 to 300 Lakh : A minimum of Rs 7.5 lakh of 3% of the work whichever is more and Rs 3000/- per each additional copy		7,50,000	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
H	PEER REVIEW		As per EC decision			10,000	
I	PREPARATION OF EXPLORATION PROPOSAL (2% of approved project cost or 3.8 lakh whichever is lower)	One Number (5 Hard copies) along with soft copy	5.1			3,35,699	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
J	OPERATIONAL CHARGES		6.0 iii	In case total outsourced cost more than Rs. 1 Crore		15,00,000	will be reimbursed as per point 3 of NMET-SoC after recalculation when actual cost of outsourcing component will be provided. The copy of contract agreement for outsourced component and work completion report are also required to reimburse the operational charge
Total F+G+H+I+J						29,31,399	

Total A+B+C+D+E+F+G+H+I+J	1,97,16,369	
GST 18%	35,48,946	GST will be reimbursed as per actual and as per notified prescribed rate
Grand Total (A+B+C+D+E+F+G+H+I+18% GST)	2,32,65,315	or say Rs. 232.66 Lakh
Note - 1. If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by EA on its own, a Certificate regarding non outsourcing of any component/project is required.		

Annexure-2B

Schedule timeline for Preliminary exploration (G3) for Graphite in Lamer-Panga block A (13.99 sq. km), District: Kalahandi, Odisha.

S. No.	Item of Work	Months	1	2	3	4	5	6	7	8		9	10	11	12	13	14	15	16
1	Camp Setting																		
2	Geological Mapping																		
3	Geological days																		
4	Trenching																		
5	Geophysical Survey (Self-potential)																		
6	Geophysical Report Preparation																		
7	Surface Drilling																		
8	Sampling days																		
9	Laboratory Studies																		
10	Camp Winding																		
11	Report Writing with Peer Review																		
Note 1: Commencement of project may be reckoned from the day the exploration acreage is available along with all statutory clearance.																			
2: Timeloss on account of monsoon/ agricultural activities/forest clearance/local law and order problem/lockdown etc. will be additional to above timeline.																			

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