Ministry of Mines
National Mineral Exploration Trust
Minutes of the 63rd Technical-cum-Cost Committee (TCC) meeting held on 22nd, 26th & 27th March, 2024 through video conferencing

The 63rd meeting of Technical-cum-Cost Committee [TCC] of National Mineral Exploration Trust [NMET] was held through video conferencing under the chairmanship of Dr. S. Ravi, Dy. Director General, Geological Survey of India (DDG, GSI) and Chairman, TCC, NMET on 22nd, 26th & 27th March, 2024.

Members of TCC-NMET and representatives from MECL, NMDC, KIOCL, Karnataka, CMPDI, MPSMC, OMC, Odisha, JEMCL, Jharkhand, DMG, Rajasthan, DGM, Karnataka, DMG, Telangana, DGM, Chhattisgarh, DMG, Odisha, DGM, Assam, DGM, Mizoram, DGM, Maharashtra, CGM, Gujarat, Ecomen, Gemcokati, Geovale Services Private Limited, Kartikay Exploration and Mining Services Pvt. Ltd, Nagpur, United Exploration India Pvt Ltd, GeoExpore Pvt. Ltd have attended the meeting through their respective VC modes.

The list of participants is at Annexure-1.

Shri C. Parthasarathi, Director, GSI and Member Secretary, TCC-NMET, welcomed Dr. S. Ravi, DDG, GSI and Chairman, TCC, NMET, Members of the TCC and participants representing various Notified Exploration Agencies [NEAs] and Notified Private Exploration Agencies [NPEAs].

Dr. S. Ravi, DDG, GSI and Chairman, TCC extended a warm welcome to the TCC members and participants representing various Notified Exploration Agencies (NEAs) and Notified Private Exploration Agencies (NPEAs). During his opening remarks, the chairman again advised the NPEAs and NEAs to submit the proposals on time to allow members to prepare adequately for the meeting. He expressed concern about the exhaustive agenda and proposed splitting the meeting into two phases. The first phase would focus on reviewing ongoing items and items for approval in principle, while the second phase would cover the review of new proposals and the costing of approved items. Considering the comprehensive agenda, the chairman advised all agencies to be concise and precise during their presentations on ongoing items and items for approval in principle. Furthermore, the Chairman instructed all agencies to conduct field visits before formulating proposals to assess the viability of the items. With the chair's permission, Shri. Hemraj Suryavanshi, Addl. Director General (Retd.) of GSI and TCC member, recommended that all agencies avoid overlapping with areas explored by GSI and any other NEA or NPEA while preparing their proposals.

Subsequently, the proceeding of meeting was initiated as per circulated agenda.

Agenda 63.1 Review of Ongoing Projects/Completed Project & Timeline Extension

Agenda 63.1.1. Reconnaissance Survey (G-4) for tin and associated minerals in Pendra Block (110.362 sq. km), District- Gaurela-Pendra-Marwahi, Chhattisgarh [Implementing Agency: MECL]

8/4/2024.

8/04/2024

a) MECL informed that the project was approved in 27th meeting of EC held on 10th January, 2023. Sanction order was issued on 06th February, 2023 with timeline of 12 months and approved cost ₹ 1,19,78,243.
b) MECL informed that the project was reviewed in the 62nd TCC meeting and as per the recommendation of the committee, the GR was send for peer review. The comments of the peer reviewer has been incorporated.
c) The committee inferred that the results are not encouraging and recommended for submission of final GR to NMET.

Recommendation TCC:
The Committee recommended submission of final GR .

Agenda 63.1.2. Reconnaissance Survey (G-4) for Iron, Manganese and associated Minerals in Talwa Block (80.50 sq. km), Districts- Jabalpur & Katni, Madhya Pradesh [Implementing Agency: MECL]

a) MECL informed that the project was approved in 28th meeting of EC held on 16th March, 2023. The sanction order was issued on 09th January, 2024 with timeline of 10 months and approved cost ₹ 46,75,087/-.
b) MECL informed that the project was discussed in the 62nd TCC and time extension upto 31st March 2024 was approved.
c) MECL conveyed that in BIF (BHC/BHJ) local enrichment has been noticed in sporadic spots reaching maximum 47.31% Fe which is below any economic grade for hematitic iron. Bed rock, channel and trench samples have shown some local high values of manganese reaching maximum 25.67% Mn.
d) In view of the above, the committee suggested that the Fe values are not encouraging and hence recommended for further exploration of Manganese only if some workable zone is found out.

Recommendation TCC:
The Committee noted the outcome of the project and recommended for submission of GR.

Agenda 63.1.3. Preliminary exploration (G-3) for Phosphorite in Kachaldara East Block (5.60 sq. km), District- Jhabua, Madhya Pradesh [Implementing Agency: MECL]

a) MECL informed that the project was approved in 27th meeting of EC held on 10th January, 2023. Sanction order was issued on 03rd February, 2023 with timeline of 12 months and approved cost ₹ 1,80,76,541/-.
b) MECL informed the 60th TCC recommended to conclude the project as the block is technically not suitable and suggested to submit the GR as per schedule with existing exploration data.
c) Further, the 62nd TCC committee recommended for time line extension up to 31st March 2024.
d) In view of the above, the committee suggested to calculate the resource estimation at 2% and submit the GR to NMET by 15th April 2024

Recommendation TCC:
The Committee recommended timeline extension upto 15th April 2024 for calculation of resource estimation at 2% and submission of GR .

8/4/2024.

08/04/2024

Agenda 63.1.4. Reconnaissance Survey (G-4) for Iron, Manganese and associated Minerals in Salaiya Block (110.56 sq. km), Districts- Jabalpur, Katni & Umaria, Madhya Pradesh [Implementing Agency: MECL]

a) MECL conveyed that the project was approved in 28th meeting of EC held on 16th March, 2023. The sanction order was issued on 3rd April 2023 with timeline of 12 months and approved cost ₹ 50,27,289/-.
b) MECL conveyed that Al2O3 content in bauxite is 35.56% with maximum up to 47.14%. The committee was informed that avg. of 26.10% aluminous laterite, with maximum up to 34.33% is note in the area.
c) Further, MECL informed that two potential areas with respect to lateritic iron ore and one potential area with respect to gold and sulphide mineralization have been demarcated.
d) In view of the above, the committee agreed for submission of GR.

Recommendation TCC:

The Committee recommended for GR submission. Further, the committee suggested to prepare detailed GR on the 3 potential sub blocks for lateritic bauxite, iron ore and copper respectively so as to make it suitable for auction under CL.

Agenda 63.1.5. Agenda Preliminary Exploration (G-3) for Diamond in Tikamgarh cluster Block (Sub Block- A to D) (109.66 sq. km), District- Tikamgarh, Madhya Pradesh [Implementing Agency: MECL]

a) MECL informed that the project was approved in 24th meeting of EC held on 18th May, 2022. The sanction order was issued on 1st June, 2022 with timeline of 15 months and approved cost ₹1,00,91,331/-.
b) MECL conveyed that the project was reviewed in 61st TCC held on 30th – 31st January 2024 the committee suggested to conclude the block due to absence of encouraging results with time extension upto 15th April 2024.
c) MECL informed that the comments from peer reviewer is awaited and hence requested for time extension upto 15 April 2024 for submission of GR.
d) Considering the above, the committee agreed for time extension upto 15th April 2024 for submission of GR after incorporation of the comments of peer reviewer.

Recommendation TCC:

The Committee recommended timeline extension upto 15th April 2024 for submission of GR.

Agenda 63.1.6. Agenda Preliminary Exploration (G-3) for Limestone in Naddisinur 1 & 2 Blocks (12.00 sq. km), District- Gulbarga, Karnataka [Implementing Agency: MECL]

a) MECL informed that the project was approved in 28th meeting of EC held on 16th March, 2023. Sanction order was issued on 03rd April, 2023 with timeline of 10 months and approved cost ₹ 1,37,56,914/-.
b) MECL informed the resource calculation in the 2 blocks as follows:

8/4/2024.

08/04/2024

Naddisinur 1

Category UNFC Code	Cement Grade Million Tons.	Blendable Grade Million Tons.	Blendable/ Threshold Grade Million Tonnes	Threshold Grade Million Tons.	Total Million Tons.	Percentage
Inferred - 333	502.66	-	-	-	502.66	93.04%
CaO% MgO% SiO_2%	49.74 0.62 9.41	-	-	-	49.74 0.62 9.41	
Reconnaissance - 334	37.62	-	-	-	37.62	6.96%
CaO% MgO% SiO_2%	50.20 0.57 9.11	-	-	-	50.20 0.57 9.11	
Total	540.28	-	-	-	540.28	100.00%
CaO% MgO% SiO_2%	49.77 0.62 9.39	-	-	-	49.77 0.62 9.39	

Naddisinur 2

Category UNFC Code	Cement Grade Million Tons.	Blendable Grade Million Tons.	Blendable/ Beneficiable Grade Million Tonnes	Threshold Grade Million Tons.	Total Million Tons.	Percentage
Inferred - 333	45.69	4.38	225.62	78.76	354.45	79.85%
CaO% MgO% SiO_2%	47.78 0.40 13.26	46.02 0.60 17.44	41.09 0.61 23.65	39.68 0.61 26.11	41.70 0.58 22.78	
Reconnaissance - 334	10.39	1.18	73.73	4.14	89.44	20.15
CaO% MgO% SiO_2%	47.73 0.41 13.32	46.02 0.60 17.44	41.11 3.12 22.89	39.63 1.31 26.06	41.88 0.57 22.36	
Total	56.08	5.56	299.35	82.90	443.89	100.00
CaO% MgO% SiO_2%	47.78 0.40 13.26	46.02 060 17.44	41.10 060 23.66	39.68 0.61 26.09	41.74 0.58 2.73	

c) In view of the above, the committee suggested that cement grade and blendable grade is to be represented as cement grade in report. Accordingly, the GR is to be modified and then submitted .The committee recommended time extension up to 15th April 2024.The committee also suggested that the data need to be represented graphically.

d) Further, the committee suggested MECL to properly enumerate the results and recommend the resources as akin to Indicated Mineral Resource (332) and recommend the block for auction as ML.

Recommendation TCC:

The Committee agreed for GR submission after incorporation of the suggestions with timeline extension upto 15th April 2024. Further, the committee suggested MECL to include the blendable grade under cement grade limestone and recalculate the resources at the time of final submission of GR.

8/4/2024.

08/04/2024

Agenda 63.1.7. Reconnaissance Survey (G-4 stage) for PGE, Nickel & Chromite in Chandiposh Block, District- Sundargarh, Odisha [Implementing Agency: MECL]

a) MECL informed that the project was approved in 27th meeting of EC held on 10th January, 2023. The sanction order was issued on 6th March 2024 with timeline of 12 months and approved cost ₹ 89,89,732/-.
b) MECL informed the project has been completed and comments of the peer reviewer is yet to be incorporated.
c) Considering that the final results are not encouraging, the committee suggested that EPMA analysis as requested by MECL is not required. The committee opined that the GR may be submitted after incorporation of comments of Peer reviewer.

Recommendation TCC:

The Committee recommended submission of final GR after incorporation of comments of peer reviewer by 31st March' 2024. Further, it was suggested to drop the EPMA from NQT.

Agenda 63.1.8. Preliminary Survey (G-3) for Gemstone in and around Neelam Khan area (5.00 sq. km), District- Kishtwar, Jammu & Kashmir [Implementing Agency: MECL]

a) MECL informed that theapproval for the project was ratified in 30th meeting of EC held on 10th January, 2023. The sanction order was issued on 16th May, 2023 with timeline of 36 months and approved cost ₹ 4,26,22,553/-.
b) MECL informed exploration work of the 1st phase was reviewed in 61st TCC meeting where it was and recommended for submission of GR. MECL convereyed that peer review has been completed and suggestion of peer reviewr gas been incorportrated.
c) In view of the above, the committee opined that reclassification of the gems is to be carried out based on the size fraction and quality. Further, committee suggested GSI may be asked to submit a detailed gemological report.

Recommendation TCC:

The Committee recommended for submission of GR after incorporation of the suggestions of the committee by 31st March' 2024.

Agenda 63.1.9. Preliminary Survey (G-3) for Phosphorite in Nimbli Block (2.70 sq. km), District- Jaisalmer, Rajasthan [Implementing Agency: MECL]

a) MECL informed that the project was approved in 32nd meeting of EC held on 06th December, 2023. The sanction order was issued on 01st December, 2023 with timeline of 12 months and approved cost ₹ 3,55,98,122/-.
b) MECL informed geological mapping on 1:2000 scale has been completed along with collection of 42 no of channel samples during mapping.The analytical results are yet to be received .
c) MECl requested subsurface drilling of 1725 m at 200m section interval in 32 no of boreholes to for establish about 2.5km strike (NNE-SSW) and depth of continuity of the ore body .
d) Consideringthe above, the committee suggested drilling will be discussed after receipt of analytical results.

Recommendation TCC:

The Committee decided to discuss upon drilling in the block after receipt of analytical values.

8/4/2024.

08/04/2024

Agenda 63.1.10. Reconnaissance Survey (G-4) for REE in Rudrawathi Block (126.00 sq. km), Districts- Tiruppur, Tamil Nadu [Implementing Agency: MECL]

a) MECL informed that the project was approved in 28th meeting of EC held on 16th March, 2023. Sanction order was issued on 27th March, 2023 with timeline of 12 months and approved cost ₹ 71,82,943/-.
b) MECL conveyed that geological mapping of 126 sq km was completed and 200 pit samples, 36 BRS & 14 Stream sediment samples were collected. Analysis of all the samples are received for 34 elements and analysis of 14 Stream sediment samples are under progress.
c) MECL requested time extension for completing the chemical analysis, XRD analysis and report preparation of the G4 block till May, 2024.
d) Further MECL requested for seamless G3 level exploration in the potential blocks to calculate the resources of REE in two blocks on 22 sq. km and 6 sq km in eastern and western parts respectively.
e) Considering the above, the committee opined that the values are not encouraging, hence G3 exploration is not recommended. The committee suggested for submission of GR by 31st May 2024.

Recommendation TCC:
The Committee recommended timeline extension upto 31st May 2024 for submission of GR.

Agenda 63.1.11. Reconnaissance Survey (G-4) for Graphite in Ganacharpura Block (33.60 sq. km), Districts- Kolar, Karnataka [Implementing Agency: MECL]

a) MECL informed that the project was approved in 30th meeting of EC held on 06th June, 2023. Sanction order was issued on 26th June, 2023 with timeline of 08 months and approved cost ₹ 92,96,121/-.
b) MECL conveyed the project was reviewed in the 62nd meeting of the TCC, NMET and recommended timeline extension up to 31st May 2024.
c) MECL informed that 02 sq km area has been identified as potential area where 04 discontinuous graphite bands of average 5m width with a strike length varies from 50 to 170m. Geophysical work is in progress with in the 02 sq km area and 10 pits have been planned to establish the strike continuity of the graphite bands.

d) In view of the above, the committee opined that 50 cu.m trenching may be carried out in place of pitting. MECL was also asked review the project after completion of geophysical component.

Recommendation TCC:
The Committee recommended 50 cu.m trenching in place of pitting in the block and requested for review after geophysical survey and trenching.

Agenda 63.1.12. Reconnaissance Survey (G-4) for Lithium and Potassium in Merak Block (114.10 sq. km), Districts- Leh, Ladakh (UT) [Implementing Agency: MECL]

a) MECL informed that the project was approved in 23rd meeting of EC held on 16th March, 2022. Sanction order was issued on 24th March, 2022 with timeline of 24 months and approved cost ₹ 2,13,04,062/-.

Rudrawathi 8/4/2024.

08/04/2024

a) MECL informed that the project was reviewed in the 53rd TCC on 25th June 2023. As per the recommendations of the committee sampling of lake sediments and water samples were carried out. The analytical results have been received , however no anomalous values for Li and REEs were obtained. GR is ready for submission.
b) Considering that the results are not encouraging, , the committee suggested for submission of GR.

Recommendation TCC:
The Committee noted the outcome of the project and recommended for GR submission by 15th May' 2024.

Agenda 63.1.13. Reconnaissance Survey (G-4) for REE and Base Metals in Temi-Tarku-Damthong Block (74.70 sq. km), Districts- East Sikkim, Sikkim [Implementing Agency: MECL]

a) MECL informed that the project was approved in 23rd meeting of EC held on 16th March, 2022. Sanction order was issued on 24th March, 2022 with timeline of 14 months and approved cost ₹ 4,52,06,980/-.
b) MECL informed forest Permission was obtained on 14th Nov 2022 for carrying out Phase –I work, i.e., large scale geological mapping and surface sampling and the NOC for above mentioned work was issued from DMMG, Sikkim on 2nd Feb 2023.
c) MECL informed that exploration activities of Phase-1 includes large scale geological mapping (1:12,500 scale) over 74.705 sq.km area with collection of bedrock chip/channel, soil samples (total 172 Nos) for REE & Base Metals. However, due to tough and steep terrain and reserved forest area the trenching and exploratory scout drilling is not possible in the area.
d) MECL requested for approval of analytical cost of 41 Nos of samples (Rs 2506 X 41 Nos) of Rs 1,02,746/- without any cost over run in the project timeline extension for final GR submission till 31st May, 2024.
e) In view of the above, the committee approved for 41 nos. of additional samples without cost overrun and recommended timeline extension upto 30th April 2024.

Recommendation TCC:
The Committee recommended 41 nos. of additional samples without cost over run and recommended timeline extension upto 30th April 2024.

Agenda 63.1.14. Reconnaissance Survey (G-4) for copper in Chalima Block (101.84 sq. km), Districts- Giridih, Jharkhand [Implementing Agency: MECL]

a) MECL informed that the project was approved in 22nd meeting of EC held on 22nd December, 2021. Sanction order was issued on 07th January, 2022 with timeline of 12 months and approved cost ₹ 1,82,62,538/-.
b) MECL informed that drilling was delayed owing to standing crops. The GR is under preparation and awaiting for analytical results. Hence , MECL requested for of time line extension of 1 month i.e., April 30th 2024.
c) In view of the above, the committee recommended timeline extension 30th April 2024.

Recommendation TCC:
The Committee recommended timeline extension upto 30th April 2024.

8/4/2024.

08/04/2024

Agenda 03.1.15. Reconnaissance Survey (G-4) for REE and Rare Metals in Khairlanji Block (123.04 sq. km), Districts- Balaghat & Seoni, Madhya Pradesh [Implementing Agency: MECL]

a) MECL informed that the project was approved in 28th meeting of EC held on 16th March, 2023. Sanction order was issued on 03rd April, 2023 with timeline of 12 months and approved cost ₹ 68,44,585/-.
b) MECL informed exploration work progress was delayed due heavy rain and forest cover in the month of July and August 2023.The mapping and sampling has been completed and results of chemical analysis is awaited . MECL requested for time extension of 3 months i.e. upto 31st May 2024
c) In view of the above, the committee recommended timeline extension upto 31st May 2024 and no further timeline should be sought.

Recommendation TCC:

The Committee recommended and timeline extension upto 31st May 2024.

Agenda 03.1.16. Reconnaissance Survey (G-4) for REE in Sarnu Block (118.10 sq. km), Districts- Barmer, Rajasthan [Implementing Agency: MECL]

a) MECL informed that the project was approved in 28th meeting of EC held on 16th March, 2023. Sanction order was issued on 03rd April, 2023 with timeline of 12 months and approved cost ₹ 69,92,176/-.
a) MECL informed exploration work progress was delayed due heavy rain in the month of July and August 2023.The mapping and sampling has been completed and results of chemical analysis is awaited . MECL requested for time extension of 3 months i.e. upto 2nd July- 2024.
b) In view of the above, the committee recommended timeline extension upto 30th June 2024 and no further timeline should be sought

Recommendation TCC:
The Committee recommended timeline extension upto 30th June 2024

Agenda 03.1.17. Preliminary Survey (G-3) for Basemetals in Chintakuntala Block (5.00 sq. km), District- Nalgonda, Telangana [Implementing Agency: MECL]

a) MECL informed that the project was approved in 27th meeting of EC held on 10th January, 2023. The sanction order was issued on 03rd February, 2023 with timeline of 14 months and approved cost ₹ 2,32,18,273/-.
b) MECL requested for timeline extension upto 2nd July 2024 for submission of GR.
c) The committee suggested timeline extension upto 30th June 2024 and asked MECL to present the chemical analysis of boreholes in the next TCC meeting.

Recommendation TCC:
The Committee recommended timeline extension upto 30th June 2024.

Agenda 03.1.18. Reconnaissance Survey (G-4) for PGE, Nickel, Cobalt and Gold in Rangapura Block (34.00 sq. km), Districts- Hassan, Karnataka [Implementing Agency: MECL]

8/4/2024.

08/04/2024

a) MECL requested for timeline extension upto 31st May 2024 for submission of GR. The committee informed that timeline extension upto 31st May 2024 for submission of GR was recommended in the 62nd TCC Meeting of NMET held on 28th & 29th February and 01st March, 2024.

(This will be put up for approval in the 35th EC Meeting of NMET.)

Recommendation TCC:
No Action

Agenda 03.1.19. Reconnaissance survey (G4) for diamond in Jheriya block (100.31 sq. km), District: Janjgir-Champa, Chhattisgarh [Implementing Agency: NMDC]

a) NMDC informed that the project was approved in 26th meeting of EC held on 25th Aug, 2022. Sanction order was issued on 20th September, 2022 with timeline of 18 months and approved cost ₹ 2,45,65,547/-.
b) NMDC informed that NMDC had carried out fieldvisit to Jheriya NMET Block in the month of November, 2022. However, due to presence of water in the creek and crops in the field, exploration activities commenced in the month of January, 2023.
c) The committee was informed that 36 stream sediment samples were collected and processed . However, due to lack of encouraging EPMA results, further study was not carried out.
d) GR has been prepared and send to the Peer Reviewer.NMDC requested for Time extension up to 15th April 2024 for submission of GR
e) In view of the above, the committee suggested that the GR may be submitted to NMET after incorporation of comments of Peer Reviewer.

Recommendation TCC:
The Committee recommended timeline extension upto 15th April 2024 for submission of GR to NMET after incorporating the suggestions of the Peer Reviewer.

Agenda 03.1.20. Preliminary exploration for coal in Preliminary Exploration for Coal in Garhpat Block, Lohardaga district Jharkhand [Implementing Agency: CMPDI]

a) CMPDI informed that the project was approved in 26th meeting of EC held on 25th Aug, 2022. Sanction order was issued on 20th September, 2022 with timeline of 12 months and approved cost ₹ 82,81,908/-.
b) CMPDI informed that the comments of the peer reviewer has been incorporated in the GR.A total of 4.427 M.Tonne net in-situ Aluminous Laterite resource at threshold value (≥20% Al_2O_3 and irrespective of SiO_2 content) as per IBM Standard with an average grade of 37.102% Al_2O_3, 15.193% SiO_2 have been estimated in the block in an effective area of 1.465 sq. km. Further to that, 11.149 M. Tonne net in situ Bauxite resource (≤10% SiO_2 Basis) with an average grade of 37.469% Al_2O_3, 6.562% SiO_2, 27.433% Fe_2O_3, 7.427% TiO_2 have been estimated in block.
c) In view of the above, the committee noted the outcome of the project and agreed for GR submission

Recommendation TCC:
The Committee agreed for submission of GR by 31st March 2024.

Agenda 03.1.21. Reconnaissance Survey for Zinc and associated Minerals in Jamua area Giridih District , Jharkhand. [Implementing Agency: CMPDI]

8/4/2024.

08/04/2024

a) CMPDI informed that the project was approved in 27th meeting of EC held on 10th January, 2023. Sanction order was issued on 6th February, 2023 with timeline of 12 months and approved cost ₹ 47,39,660/-.
b) CMPDI informed that the analytical results are awaited and requested for timeline extension upto 30th June 2024 for GR submission
c) The committee opined that further sampling is not required in the block and recommended time extension up to 31st May 2024 for GR submission.

Recommendation TCC:

The Committee recommended timeline extension upto 31st May 2024 for GR submission. The committee also recommended that no further sampling will be allowed and the report should be submitted with existing data.

Agenda 63.1.22. Preliminary Exploration (G3-Stage) for Iron Ore in Thakurani Block (Area – 1.399 sq. km), Keonjhar Dist., Odisha [Implementing Agency: OMC]

a) OMC informed that the project was approved in 27th meeting of EC held on 10th January, 2023. Sanction order was issued on 03rd February, 2023 with timeline of 10 months and approved cost ₹ 2,23,07,391/-.
b) OMC informed Thakurani Block (1.399 sq.km/139.9 ha) has been explored in G3-Stage with drilled meterage of 1134.00 m in 17 nos. of boreholes and is found to be non-potential in terms of Iron Ore and Manganese Ore.OMC requested time extension up to 31st May 2024 for submission of GR
c) In view of the above, the committee recommended time extension upto 31st May 2024

Recommendation TCC:

The Committee recommended timeline extension upto 31st May 2024 for GR submission.

Agenda 63.1.23. Preliminary Exploration (G3) for graphite in Lamer-Panga Block- A (13.99 sq. Km) in Kalahandi district of Odisha. [Implementing Agency: OMC]

a) OMC informed that the project was approved in 27th meeting of EC held on 10th January, 2023. Sanction order was issued on 03rd February, 2023 with timeline of 16 months and approved cost ₹ 2,23,65,315/-.
b) OMC informed that Geological mapping and SP survey has been completed in the area. On the basis of the anomalous zone from SP survey, graphite occurrences and chemical analysis result of surface samples; 07 nos. of boreholes (35m each) have been drilled. Out of these 7 borehole the analysis result of 6 BH have been obtained and other 1 BH have been sent to laboratory.
c) OMC requested permission to continue the drilling to intersect the graphite schist .
d) In view of the above, the committee suggested for drilling additional 2 boreholes on either side of the strike and submit the revised cost sheet in the next TCC.

Recommendation TCC:

The Committee recommended 2 additional boreholes and suggested to submit the revised cost in next TCC. The committee approved to extend the drilling depth of the boreholes and bring the outcome for discussion in the next month TCC.

8/4/2024.

08/04/2024

Agenda 63.1.24. Preliminary Exploration (G3) for graphite in Lamer-Panga Block- B (13.00 sq. Km) in Kalahandi district of Odisha. [Implementing Agency: OMC]

a) OMC informed that the project was approved in 27th meeting of EC held on 10th January, 2023. The Sanction order was issued on 03rd February, 2023 with timeline of 14 months and approved cost ₹ 2,23,65,315/-.
b) OMC informed that Geological mapping (1:4000 scale) has been completed over the total area of 12.994 Sq Km. Further, 30 line km of SP survey has been done in the block. On the basis of the anomalous zone from SP survey, graphite occurrences and chemical analysis result of surface samples; 05 nos. of boreholes having 35m each have been drilled. Out of these 5 borehole, the analysis result of 2 BH have been obtained and other 3 BH have been sent to laboratory.
c) OMC requested permission to continue the drilling to intersect the graphite schist and time extension up to six months .
d) In view of the above, the committee suggested to extend the drilling depth of the boreholes and bring the outcome for discussion in the next month TCC.

Recommendation TCC:

The committee approved to extend the drilling depth of the boreholes and bring the outcome for discussion in the next month TCC.

Agenda 63.1.25. Preliminary exploration (G3) for Manganese Hardatal block (1.38 sq. km), District: Balangir, Odisha [Implementing Agency: DGM Odisha]

a) DGM Odisha informed that the project was approved in 25th meeting of EC held on 29th June 2022 with approved cost of ₹1.52 Crore and 9 months time duration.
b) The 30th EC of NMET held on 6th June 2023, approved additional cost of ₹6.9 Lakhs for carrying out additional drilling of 60 m.
c) Further, in the 32nd EC of NMET held on 6th December 2023, time extension was approved upto 31.03.2024 for the project considering the additional drilling recommended by the committee.
d) In view of above DGM Odisha requested for time extension upto 30th June 2024 for completion of the project.

Recommendation TCC:

The Committee recommended timeline extension upto 30th June 2024 for completion of the project.

Agenda 63.1.26. Preliminary exploration (G3) for graphite around Naringapanga block (S & W) (0.143 sq. km) block, District: Rayagada, Odisha. [Implementing Agency: DGM Odisha]

a) DGM Odisha informed that the project was approved in 27th meeting of EC held on 10th January, 2023. The sanction order was issued on 04th September, 2023 with timeline of 09 months and approved cost ₹ 1,20,92,849/-.

b) DGM, Odisha informed that, ML area is overlapping with approved area and requested the committee for excluding ML area and including additional areas in adjacent side. Recommended to add geological and other relevant inputs of the adjoini ng areas and bring it to next TCC for review.

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Recommendation TCC:

The Committee directed DGM Odisha to submit the revised cost sheet along with the block boundaries after adding geological and other relevant inputs of the adjoining areas in the next TCC.

Agenda 03.1.27. Preliminary exploration (G3) of graphite occurrence around Bandhabhuin area (1.00 sq. km), District: Dhenkanal, Odisha. [Implementing Agency: DGM Odisha]

a) DGM Odisha informed that the project was approved in 27th meeting of EC held on 10th January, 2023. Sanction order was issued on 04th September, 2023 with timeline of 10 months and approved cost ₹ 1,66,16,423/-.
b) DGM Odisha requested for cancellation of the project as the block area falls within Eco sensitive zone of Satkosia tiger reserve.
c) In view of the above, the committee agreed for cancellation of the project and directed DGM Odisha for submission of the 1st installment disbursed by NMET amounting to ₹ 66,46,569/- with interest.

Recommendation TCC:

The Committee recommended cancellation of the project as the block falls under eco-sensitive zone.

Agenda 03.1.28. Preliminary exploration (G3) for amalgamated limestone blocks in Jevargi area, Kalaburagi district, Karnataka (3 Blocks : Block ID : KIOCL_20_KA_KLB_08),Block IDKIOCL_21_KA_KLB_08) & (Block ID: KIOCL_25_KA_KLB_13) [Implementing Agency: KIOCL]

a) KIOCL informed that the project was approved in 28th meeting of EC held on 16th March, 2023. Sanction order was issued on 03rd April, 2023 with timeline of 12 months and approved cost ₹ 2,32,87,514/-.
b) KIOCL informed exploration activie s have been completed and the comments of the peer reviewer for each of the 3 blocks have been received and incorporated.
c) Further, informed that revised cost of the project is ₹1,72,93,660/- instead of approved ₹2,32,87,515/- owing to the reduced cost in surface drilling.
d) In view of the above, the committee suggested to submit the revised cost sheet for the project and agreed for GR submission.

Recommendation TCC:

The Committee agreed for the submission of GR and suggested to submit the revised cost sheet for the project.

Agenda 03.1.29. Reconnaissance Survey (G-4) for polymetalic mineralization (Au,Cu,Ni,Co) in Dharwar Shimoga Schist Belt of Nagavanda area Dhavangere, Haveri and Shimoga District, Karnataka (Block area- 03.02 sq. km) [Implementing Agency: KIOCL]

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a) KIOCL informed that the project was approved in 28th meeting of EC held on 16th March, 2023. The sanction order was issued on 27th March, 2023 with timeline of 12 months and approved cost ₹ 1,47,62,526/-.
b) KIOCL informed that letter has been placed to PCCF Bangalore for Drilling permission of 04 BH on 12th Jan 2024. Hence, KIOCL requested for extension of project time line by 06 months.
c) In view of the above, the committee suggested for review of the project after 3 months and recommended time extension upto 30th June 2024.

Recommendation TCC:
The Committee recommended a) review of the project after 3 months and recommended time extension upto 30th June 2024.

Agenda 63.1.30. Reconnaissance Survey for Ni and PGE Prospect Block in Limbdi-Meghpar -Titodi area, Jamnagar District, Gujarat [Implementing Agency: Geovale Services Private Limited]

a) Geovale Services Private Limited informed that the project was approved in 28th meeting of EC held on 16th March, 2023. Sanction order was issued on 27th March, 2023 with timeline of 18 months and approved cost ₹ 2,63,40,674 /-.
b) Geovale Services Private Limited informed that geological mapping in 212 sq.km has been completed along with sampling. Magnetic survey and VES survey has been carried out.
c) Geovale Services Private Limited requested for revision of targets and cost of the project . Further, it was also requested for modification of title of the project to "Reconnaissance Survey for Ni and PGE Prospect Block in Limbdi-Meghpar -Titodi area, Devbhumi Dwarka District, Gujarat"
d) In view of the above, the committee suggested for revision of target and cost of the project as given at Annexure 9. The committee also agreed for modification of title of the project to "Reconnaissance Survey for Ni and PGE Prospect Block in Limbdi-Meghpar -Titodi area, Devbhumi Dwarka District, Gujarat"

Recommendation TCC:
The Committee recommended revised cost of the project to ₹289.43 Lakhs (Annexure 2A and 2B) modification of title of the project to "Reconnaissance Survey for Ni and PGE Prospect Block in Limbdi-Meghpar -Titodi area, Devbhumi Dwarka District, Gujarat"

Agenda 63.1.31. Financial assistance form NMET fund to procure machinery/ laboratory equipment/ instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DMG Rajasthan]

a) DMG Rajasthan informed that the project was approved in 27th meeting of EC held on 10th January, 2023. The sanction order was issued on 24th March 2024 with timeline of 12 months and₹ 470.20 Lakhs approved cost.
b) DMG Rajasthan informed that due to Model Code of Conduct for assembly Election in the state procurement was delayed during 9.10.2023 to 05.12.2023.
c) Thereafter, it was conveyed that technical specifications for the instruments have been finalized & further process has been initiated for purchase of equipment.

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Considering that Model Code of Conduct will be effective for the upcoming Lok Sabha Election, process of purchasing equipment cannot be completed during this financial year. Hence, it was requested for time extension for the project for a period of 12 months.

d) In view of the above, the committee recommended time extension for 12 months.

Recommendation TCC:
The Committee recommended time extension for 12 months.

Agenda 63.2. Project Evaluation for In-Principle Approval

Agenda 63.2.1. Reconnaissance Survey (G4 Stage) for Gold around Bandhatoli villages, Dist: Jashpur, Chhattisgarh
[Implementing Agency: UEIPL]

a) The proposed area is geologically situated within a gold prospect zone, as indicated by gold mineralization in the Jashpur district, notably from quartz veins and the IB river basin.
b) Resource maps of the district show numerous quartz veins in the proposed area, where gold mineralization has been documented. Additionally, the IB river flows along the eastern part of the block, and work by NGRI has further confirmed gold mineralization in the nearby vicinity.
c) Considering these findings, this item has been proposed.
d) The DMG, Chhattisgarh informed that in the proposed area GSI, MECL, Geomysore have dropped their investigation in midway due to local issue. Besides the proposed block having 50% overlap with GSIs FS 2021-22 block.

Recommendation of TCC:

The committee does not recommend the item for further exploration at this juncture.

Agenda 63.2.2. Reconnaissance Survey (G4 Stage) for Gold around Patrapali villages, Dist: Jashpur, Chhattisgarh.
[Implementing Agency: UEIPL]

a) The area under consideration is part of a gold prospect zone, with documented gold mineralization in the Jashpur district associated with quartz veins and the IB river basin.
b) The district's resource map indicates numerous quartz veins in the proposed area, where gold mineralization has been observed. The presence of the IB river along the eastern part of the block is significant.
c) NGRI's work has also confirmed gold mineralization in nearby areas.
d) The DMG, Chhattisgarh has informed that investigations by GSI, MECL, and Geomysore in the proposed area were halted midway due to local issues. Additionally, the proposed block has a 50% overlap with GSI's FS 2021-22 block.

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Recommendation of TCC:

The committee does not recommend the item for further exploration at this juncture.

Agenda 03.2.3. Reconnaissance Survey (G4 Stage) for Ni-Co-Cr in Block-1, Ukhrul, Manipur.
[Implementing Agency: UEIPL]

e) The GSI-identified block holds promising mineral potential, with concentrations of chromite ranging from 958 to 4810 ppm, nickel from 917 to 5681 ppm, and cobalt from 88 to 678 ppm.
f) A detailed mineral investigation will prove the persisting depths of podiform chromite within transitional-cumulate peridotite and the supergene enrichment of Cr, Ni, and Co in limonitic and saprolitic soil capping above mafic/ultramafic rocks.
g) UEIPL geologists' on-site study also confirmed the presence of chromite pods within transitional peridotite and highlighted the importance of lateritic soil capping for nickel exploration

Recommendation of TCC:

The committee recommended submitting the Detailed Project Report (DPR) for review in the next TCC meeting, where the item will be revisited and evaluated again.

Agenda 03.2.4. Reconnaissance Survey (G4 Stage) for Ni-Co-Cr in Block-2, Kamjong, Manipur.
[Implementing Agency: UEIPL]

a) The block was identified based on GSI's geochemical data analysis, which revealed significant concentrations of Cr (ranging from 121 to 359,411 ppm with an average of 59,065 ppm) and Ni (ranging from 28 to 4,567 ppm with an average of 2,266 ppm) at 37 sampling points within the proposed area.
b) This indicates high potential for Ni, Cr, and associated Co deposits, warranting detailed exploration.
c) Investigations will focus on the persistence of podiform chromite in transitional-cumulate peridotite and the supergene enrichment of Cr, Ni, and Co in limonitic and saprolitic soil capping above mafic/ultramafic rocks.
d) UEIPL geologists' field study also confirmed chromite pods within transitional peridotite, highlighting laterite soil cover as a target zone for nickel exploration.

Recommendation of TCC:

The committee recommended to check the overlapping details with GSI, modify the block and submit for TCC meeting review.

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Agenda 63.2.5. Reconnaissance Survey (G4 Stage) for Graphite and Associated Minerals around Jhakri, Patora, Karauli Villages Dist: Surguja, Chhattisgarh. [Implementing Agency: GeoExpore Pvt Ltd]

a) During the field season 2018-19, GSI conducted NGCM work over a 728 sq. km area in toposheet no. 64M/08 in Chhattisgarh. Phyllite formations were observed extensively, particularly in areas between Kudar, Patora, and east of Jori villages, exhibiting greyish color and fine-grained texture. Dark-colored, fine-grained phyllite was found near Durdu and south of Karauli village. Some exposures of graphite-bearing or carbonaceous phyllite were also noted, particularly near Jhakri village. These phyllite formations are part of the metasedimentary unit of the Bilaspur-Raigarh-Surguja metamorphic belt.

b) Based on previous GSI geochemical investigations and the presence of graphitic phyllite in the area, G4 Stage exploration is proposed for graphite and associated minerals around Jhakri, Patora, and Karauli villages, targeting the graphitic phyllite formation.

Recommendation of TCC:

The committee recommended presenting ample field evidence, samples, and analysis in the next TCC meeting for thorough review and consideration.

Agenda 63.2.6. Reconnaissance Survey (G4 Stage) for Phosphorite and Associated Minerals around Birtara, Nipani & Shopur Villagesin Durg- Dist, Chhattisgarh. [Implementing Agency: GeoExpore Pvt Ltd]

a) During the 2009-10 field season, GSI conducted large scale mapping in parts of toposheet No.64 H/1 and identified phosphorite-bearing clay with scanty outcrops, along with variegated clayey matter resulting from weathered limestone.

b) Additionally, GSI drilled 605.30m across 13 boreholes and analyzed 455 chemical samples, revealing P2O5 percentages ranging from 0.1% to 10.98%. Five zones were delineated based on chemical analysis in four boreholes within the clay formation, leading to a total reserve estimate of 5.835824 million tonnes.

c) Considering previous GSI data and the presence of Cherty limestone formation in the NW, G4 Stage exploration is proposed

Recommendation of TCC:

The committee recommends to drop this block because the proposed block is completely overlapping with GSI's upcoming (FS 2024-25) field item.

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Agenda 03.2.7. Reconnaissance Survey (G4 Stage) for Phosphorite and Associated Minerals around Kusmi & Barapara villages, Dist: Durg, Chhattisgarh.
[Implementing Agency: GeoExpore Pvt Ltd]

a) GSI carried out large scale mapping in parts of toposheet No.64 H/1 in Kharenadih Bhargaon-Sambalpur and mapped the rocks from the Charmuria Formation, including cherty limestone, clay, laterite, and soil cover. Phosphorite-bearing clay with scanty outcrops was observed in the nala section, and weathered limestone resulted in variegated clayey matter.
b) GSI drilled 605.30m across 13 boreholes and analysed 455 chemical samples, showing P2O5 percentages ranging from 0.1% to 10.98%.
c) Five zones were delineated based on chemical analysis in four boreholes within the clay formation, leading to a total reserve estimate of 5.835824 million tonnes.
d) Considering previous GSI data and the presence of Cherty limestone formation in the NW, G4 Stage exploration is proposed around Kusmi and Barapara Villages targeting the Cherty limestone Formation.

Recommendation of TCC:

The committee recommended to demonstrate sufficient field evidence, samples, analysis in the next TCC meeting for review.

Agenda 03.2.8. Preliminary Exploration (G3 Stage) for Graphite and Associated Minerals around Ranki-Kalan Village Dist: Latehar, Jharkhand.
[Implementing Agency: GeoExpore Pvt Ltd]

a) GSI conducted a reconnaissance survey for graphite in Chhotanagpur Gneissic Complex Parsahi, Satbarwa, and Ranki Kalan in Latehar District in FS:2019-20 and six potential blocks for graphite mineralization: Adhmaniya, Karma, Siuri, Budhiyabagi, Ranki Kalan, and Charwadih blocks.
b) The fixed carbon in BRS samples ranges from 7.66% to 37.06%, volatile content from 1.06% to 7.44%, and ash content from 60.41% to 89.58%, with an average fixed carbon value of 16.10%. Vanadium values in bedrock samples range from 84 ppm to 2526 ppm, averaging 1115 ppm and showing a positive correlation with fixed carbon in BRS samples.
c) G3 Stage exploration is proposed in and around Ranki-Kalan Dist: Latehar, Jharkhand.

Recommendation of TCC:

The committee recommended to drop this item because the proposed block is completely overlapping with GSIs work.

Agenda 03.2.9. Preliminary Exploration (G3 Stage) for Graphite and Associated Minerals around Charwadih & Bhalwahi Villages Dist: Palamu & Latehar, Jharkhand.
[Implementing Agency: GeoExpore Pvt Ltd]

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a) GSI conducted a reconnaissance survey for graphite in Latehar District during FS 2019-20, covering 100 sq. km. Large-scale mapping at 1:12,500 scale identified 15 bands of graphite schist, leading to the identification of six potential blocks for graphite mineralization: Adhmaniya, Karma, Siuri, Budhiyabagi, Ranki Kalan, and Charwadih.
b) Analysis of 100 BRS samples showed promising values for Fixed Carbon (7.66% to 37.06%) and Vanadium (84 ppm to 2526 ppm), with an average FC of 16.10% and an average vanadium content of 1115 ppm in bedrock samples, showing a positive correlation with fixed carbon in BRS samples.
c) In view of this, It is proposed to carry out G3 Stage exploration Charwadih & Bhalwahi Villages for graphite and vanadium mineralization.

Recommendation of TCC:

Committee finds that the proposed block is completely overlapping with GSI's work. Hence, the committee decides to drop this item.

Agenda 63.2.10. Preliminary Exploration (G3 Stage) for Graphite and Associated Minerals around Bhdhibagi, Banjari & Harhi Villages Dist: Palamu & Latehar, Jharkhand.
[Implementing Agency: GeoExpore Pvt Ltd]

a) GSI conducted a reconnaissance survey for graphite in Chhotanagpur Gneissic Complex Parsahi, Satbarwa, and Ranki Kalan in Latehar District during FS:2019-20, identifying six potential blocks for graphite mineralization: Adhmaniya, Karma, Siuri, Budhiyabagi, Ranki Kalan, and Charwadih blocks.
b) BRS samples show fixed carbon ranging from 7.66% to 37.06%, volatile content from 1.06% to 7.44%, and ash content from 60.41% to 89.58%, with an average fixed carbon value of 16.10%. Bedrock samples exhibit vanadium values from 84 ppm to 2526 ppm, averaging 1115 ppm and demonstrating a positive correlation with fixed carbon in BRS samples.
c) G3 Stage exploration has been proposed around Bhdhibagi, Banjari, and Harhi villages focusing on Graphite and Vanadium mineralization.

Recommendation of TCC:

The committee decided to drop the proposed block as it completely overlaps with GSI's existing work.

Agenda 63.2.11. Reconnaissance Survey for REE in Kanigiri Granite area, Prakasam District, Andhra Pradesh.
[Implementing Agency: Geovale Services Private Limited]

a) The northern part of the Nellore Schist Belt (NSB) includes the Prakasam Alkaline Province (PAP), featuring alkaline granites like the Kanigiri Granite Stock.

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b) This A-type granite exhibits high evolution (low K/Rb and high Rb/Sr ratios), fluorine richness, and significant REE content, including bastnaesite and hydroxyl bastnaesite.
c) The NGCM survey in the area detected high REE values (538.3 to 1085.9 ppm) with notable LREE and HREE+Y components.
d) The presence of pegmatites with fluorite and chevkinite further enhances the area's potential for REE and rare metal deposits.
e) Hence the item has been proposed to assess the potential for REE and rare metal deposits in the area.

Recommendation of TCC:

The committee recommended to modify the block boundary by avoiding the GSI's overlapping (34 sq.km) and resubmit the proposal for review.

Agenda 03.2.12. Preliminary investigation for establishing zones of copper and associated mineralization in Govindpur Block, Chandrapur District, Maharashtra..
[Implementing Agency: Kartikay Exploration and Mining Services Pvt. Ltd]

a) The committee reviewed the item and suggested Kartikay Exploration and Mining Services Pvt. Ltd to prepare a DPR before resubmitting the proposal.

Recommendation of TCC:
The committee recommended to submit the Detailed Project Report (DPR) in the next TCC meeting for review.

Agenda 03.2.13. Reconnaissance survey (G4 Stage) for lithium and REE minerals around Rampur village Dist: Korba, Chhattisgarh.
[Implementing Agency: Kartikay Exploration and Mining Services Pvt. Ltd, Nagpur]

a) The committee reviewed the item and found that there is 100% overlap between the proposed block and ongoing item of GSI.

Recommendation of TCC:

The committee recommended dropping this block entirely due to its complete overlap with GSI's recent/ongoing work.

Agenda 03.2.14. Reconnaissance Survey (G4 Stage) for Lithium and REE Minerals around Bawapara, Nawagaon, Gurrabhantha village Dist: Korba, Chhattisgarh.
[Implementing Agency: Kartikay Exploration and Mining Services Pvt. Ltd, Nagpur]

a) The committee reviewed the item and found that there is 100% overlap between the proposed block and ongoing item of GSI.

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Recommendation of TCC:

The committee recommended dropping this block entirely due to its complete overlap with GSI's recent/ongoing work.

Agenda 63.2.15. Reconnaissance Survey (G4 Stage) for Lithium and REE Minerals around Darrabhata, Barpantola, Pandariya, Gangpur villages Dist: Korba, Chhattisgarh.
[Implementing Agency: Kartikay Exploration and Mining Services Pvt. Ltd, Nagpur]

a) The committee reviewed the item and found that there is 100% overlap between the proposed block and ongoing item of GSI.

Recommendation of TCC:

The committee recommended dropping this block entirely due to its complete overlap with GSI's recent/ongoing work.

Agenda 63.2.16. Reconnaissance survey for graphite in Chiklar-Tikari-Gauthana & Surrounding Betul area in Betul District, Madhya Pradesh.
[Implementing Agency: Kartikay Exploration and Mining Services Pvt. Ltd, Nagpur]

a) The committee finds atleast 60% overlapping of the proposed block with GSI's work.
b) It was also informed that Tiger Reserve corridor exists nearby the area.

Recommendation of TCC:

The committee recommended modifying the block boundary by avoiding the overlapping area with GSI (60%) and verifying the Tiger Reserve corridor details with the Department of Forest before resubmitting the proposal.

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Agenda 63.3: Technical evaluation of new project proposals:

Agenda 63.3.1 Preliminary exploration (G-3) for Glauconitic Sandstone in Deulha block (8.5 sq.km), Satna district, Madhya Pradesh.
[Implementing Agency: MECL]

a) Deulha block falling in Toposheet no 63D/13, forms a part of Majhgawan-Paharikhera Potash Belt which is situated in the northern part of the Satna Dist. of Madhya Pradesh.
b) The block area has been found to be outside the "inviolate" zone, designated as a non-forest area. Upon verification on the Gati Shakti portal, it was confirmed that the block coordinates correspond to the Chitrakoot/Majhgawan Protected Forest ranges.
c) GSI conducted thorough exploration in the Pindra North Block (FS: 1984-85) and estimated 'proved category' resources of approximately 266 million tons, with a K2O content of 4.90%.
d) MECL also conducted a Reconnaissance survey (G4 stage) in the Pindra SW Extension block and estimated resources of 1918 million tons with an average K2O content of 6.96%.
e) Considering the extension of both GSI and MECL's work and the thickness observed in boreholes drilled by MECL in the Pindra SW Extension block, this block is chosen for further exploration at the G-3 level. It has less overburden and a demarcated auctionable size block.
f) Moreover, towards west of Pindra North block, there are two 10a2b cancelled leases for glauconitic sandstone: Chitrakoot-2 (by M/s Nagur Minerals Pvt. Ltd.) with 50.46 mT reserves, and Chitrakoot-3 (by M/s Mobile Trading & Investment Pvt. Ltd.) with 85.51 mT reserves.
g) The committee noticed that the proposed block falls within the protected forest area. However, MECL assured the committee that forest clearance will be obtained well within time.
h) The committee suggested MECL to terminate boreholes upon intersecting Penna shale.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary exploration (G-3) for Glauconitic Sandstone in Deulha block, Satna district, Madhya Pradesh" with an estimated cost of Rs. 105.18 lakh (including GST) within time schedule of 09 months and submission of report as per Annexures 3A & 3B. The item will be reviewed after 04 months.

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Agenda 63.3.2 Preliminary exploration (G-3) for Glauconitic Sandstone in Jhari block (5.1 sq.km), Satna district, Madhya Pradesh.
[Implementing Agency: MECL]

a) The Jhari block also belong to the Majhgawan-Paharikhera Potash Belt of Madhya Pradesh and falls in a part of Toposheet no 63D/13.

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b) The block area has been determined to be outside the "inviolate" zone, designated as a non-forest area. Upon verification on the Gati Shakti portal, it was confirmed that the block coordinates correspond to the Chitrakoot/Majhgawan Protected Forest ranges.
c) GSI conducted exploration in the Pindra North Block during the FS: 1984-85, estimating 'proved category' resources of around 266 million tons with a K2O content of 4.90%.

d) MECL also conducted a Reconnaissance survey (G4 stage) in the Pindra SW Extension block and estimated resources of 1918 million tons with an average K2O content of 6.96%.
e) Considering the continuity of mineralized body by both GSI and MECL and the observed thickness in boreholes drilled by MECL in the Pindra SW Extension block, this area is selected for further exploration at G-3 level.
f) Additionally, to the west of the Pindra North block, there are two 10a2b cancelled leases for glauconitic sandstone: Chitrakoot-2 (by M/s Nagur Minerals Pvt. Ltd.) with reserves of 50.46 million tons, and Chitrakoot-3 (by M/s Mobile Trading & Investment Pvt. Ltd.) with reserves of 85.51 million tons.
g) MECL assured the house that that forest clearance will be obtained well within time.
h) The committee suggested MECL to keep 50m maximum depth of the borehole and mapping to be done at 1:4000 scale.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary exploration (G-3) for Glauconitic Sandstone in Jhari block (5.1 sq.km), Satna district, Madhya Pradesh" with an estimated cost of Rs. 72.41 lakh (including GST) within time schedule of 09 months and submission of report as per Annexures 4A & 4B. The item will be reviewed after 04 months.

Agenda 03.3.3 Preliminary Exploration (G-3) for Copper and associated minerals in Thakurdih Area-1 Block (4.10 sq. km), Singhbhum Copper Belt, East Singhbhum district, Jharkhand.

[Implementing Agency: MECL]

a) The block area is a part of MECL's Thakurdih-Charakmara Block, which is associated with the Baharagora copper prospect, situated at the southeastern edge of the Singhbhum copper belt in Jharkhand,
b) Both GSI and MECL carried out exploration activities in and around the block in the past.
c) During 2022-23, MECL carried out G3 stage exploration in the Thakurdih-Charakmara block covering 10 sq.km across four sub-blocks: Charakmara, Area-1,

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2, and 3. Thakurdi Area-1 in which the ground geophysical surveys indicated zones corroborating significant anomalies.

d) Three scout boreholes drilled in this block, revealed a total estimated copper ore resource (334) of 128,689 tonnes X 0.39% Cu, with an average thickness of 3.23 meters.

e) Now, MECL proposed to explore the area by systematic drilling at 200m spacing to fill up the gaps and to establish the strike and depth continuity of ore zones over 2200m cumulative strike length in the block area.

f) The committee suggested to carry out the item in two phases (Phase-I & Phase-II). Scale of mapping is to be 1:2000 with 2m contour interval. Along profile trenches to be made and sample length should be 50cm. Borehole spacing will have to be 200m.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G-3) for Copper and associated minerals in Thakurdih Area-1 Block (4.10 sq. km), Singhbhum Copper Belt, East Singhbhum district, Jharkhand" with an estimated cost of Rs. 436.03 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 5A & 5B. The item will be reviewed after 6 months.

Agenda 03.3.4. Preliminary Exploration (G-3) for Copper, Lead, Zinc and associated Minerals in Bagwari Khirkhori Block, District: Sidhi, Madhya Pradesh(5.70 Sq.Km).

[Implementing Agency: MECL]

a) MECL conducted G4 stage exploration for copper and associated minerals over a 141.75 sq.km area in 2022-23, including exploratory drilling. The drilling confirmed copper mineralization in two boreholes: MSB-01 (1.44% Cu over 0.50m thickness) and MSB-03 (0.76% Cu over 1.0m and 1.49% Cu over 0.50m). Borehole data also revealed gold and silver contents in MSB-03 (1.75 ppm Au and 4.68 ppm Ag).

b) Copper mineralization in the area is structurally controlled, primarily within shears associated with basic dykes/quartz veins, intrusive granites, and their contacts with chlorite schist. MECL correlated lineaments/structures with the mineralization trend with the help of ASTER satellite imagery.

c) The area is mostly covered by soil with limited outcrops. Hence, it is essential to identify sub-surface mineralization along favorable structures/shears. This will reveal concealed extensions of mineralized ore bodies for understanding the mineralization potential of the area.

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d) Based on the positive outcomes and recommendations from the G4 report, the area has been narrowed down to 3.24 sq km for further exploration for copper and gold at the G3 stage.

e) It was informed that GSI has carried out G4 stage work for Mo-W and associated elements not for base metal.

f) The committee finds that the ore zone in scout borehole is very lean (0.5 cm only) and low grade and does not meet the requirement of stoping width.

Recommendation of TCC:

The committee recommended to drop this block and advised MECL to put this block for Composite License (CL) as a Geological Memorandum (GM).

Agenda 03.3.5. Reconnaissance Survey (G-4) for REE and Rare Metals (RM) in Ayyarmalai Block (172.70 sq. km), District: Karur, Tamil Nadu.

[Implementing Agency: MECL]

a) The study area is located south of the major Cauvery Suture Zone and covers parts of Tiruchchirappalli district in Tamil Nadu.

b) GSI conducted geochemical mapping in Toposheet 58J/5 during F.S.2001-2002, which shows that TREE values range from 311.3 ppm to 1467.4 ppm, with Heavy Rare Earth Elements (HREE) and Light Rare Earth Elements (LREE) varying from 31.8 ppm to 92.6 ppm and 270.2 ppm to 1384.2 ppm, respectively

c) Out of 42 samples, 8 stream sediment samples showed total Rare Earth Elements (TREE) concentrations exceeding 1000 ppm.

d) Based on the NGCM data results, the proposed block is placed for a Reconnaissance Survey (G-4 Stage) to identify the source of Rare Earth Elements (REE) and establish the resources for auctioning this block.

e) The committee finds that the proposed block is situated north of GSI's G4 stage block executed for the same commodity i.e.REE.

f) Recent studies on Ayyarmalai "A" type granite by University of Adelaide should also be consulted for better understanding on the potentiality of the area

Recommendation of TCC:

The committee recommended MECL to refer to GSI's report and consider the findings before reviewing this item.

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Agenda 03.3.6 Preliminary Exploration (G-3) for Manganese in Salbira Block, District: Sundargarh, Odisha.
[Implementing Agency:MECL]

a) During the field seasons of 1992-97, GSI investigated bedded manganese ore deposits in the Gangpur group, estimating a resource of 377,307 tonnes with 27.56% Mn in the Ghoriajor block and 317,631 tonnes with 23.95% Mn in the Manomunda block under the proved category, with a 20% cutoff.
b) In 1996-97, GSI conducted prospecting for manganese in the gonditic rocks of the Gangpur Group and identified four potential blocks, including the Salbira Sector. Manganese mineralization was confirmed over a 2 km strike length with a width ranging from 1-2 meters, showing a NW-SE trend contrary to the regional NE-SW trend. Out of 15 samples collected from Salbira, 12 samples showed ≥ 10%Mn (maximum 27%).
c) It was recommended to conduct detailed mapping of the gonditic bands and scout drilling in necessary areas to determine the ore bodies' strike and depth persistence.
d) In view of the potential of the Salbira area, the State Technical Evaluation Committee in Odisha recommended further exploration based on the existing data and allotted the block to MECL for further actions.
e) GSI has handed over this block as a Geological Memorandum (GM). Recommended to put up for auction as a Composite License (CL).

Recommendation of TCC:

The EC's guidance and advice were sought for including this item in NMET Funded programs. As it pertains to policy matters, the issue will be escalated to receive the EC's comments and opinion.

Agenda 03.3.7 Preliminary Exploration (G-3) for Manganese in Tiklipara Block, District: Sundargarh, Odisha.
[Implementing Agency: MECL]

a) GSI investigated bedded manganese ore deposits in the Gangpur group from 1992-97, estimating 377,307 tonnes with 27.56% Mn in the Ghoriajor block and 317,631 tonnes with 23.95% Mn in the Manomunda block under the proved category at 20% cut-off.
b) In 1996-97, GSI conducted investigation for manganese in the gonditic rocks of the Gangpur Group and identified four potential blocks, including the Tikilipara Sector. Manganese mineralization was found over a 1.3 km strike length with a width of 1-2 meters. Samples from Tikilipara Sector showed Mn% exceeding 10%, with a maximum of 32%.
c) Detailed mapping of the gonditic bands and scout drilling were also recommended to delineate the strike and depth persistence of the ore bodies.

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d) The State Technical Evaluation Committee in Odisha recommended further exploration in the Tiklipara area based on existing data and alloted the block to MECL for further actions.
e) GSI has handed over this block to Odisha as a Geological Memorandum (GM) and recommends putting it up for auction as a Composite License (CL).
f) The State government has not put this block for auction so far.

Recommendation of TCC:

Guidance and advice from the EC are sought as to whether blocks handed over to state governments for auction should be funded through NMET for further exploration before any attempt is made by the concerned state government to auction these blocks. This may lead to a situation when other state governments may also seek to go for further exploration in these blocks before any attempt to auction the blocks there by defeating the very purpose of handing over of blocks by GSI to the State Governments.

Agenda 63.3.8 Preliminary Exploration (G-3) for Manganese in Khakarmunda Block (5.00 sq. km), District: Sundargarh, Odisha.
[Implementing Agency: MECL]

a) During the field season of 1992-97, GSI investigated bedded manganese ore deposits in the Gangpur Group, estimating resources of 377,307 tonnes with 27.56% Mn in the Ghoriajor block and 317,631 tonnes with 23.95% Mn in the Manomunda block, categorized under the proved category with a 20% cutoff.

b) In the 1996-97 field season, GSI conducted prospecting for manganese in the gonditic rocks of the Gangpur Group and identified four potential blocks, including the proposed Khakarmunda Sector containing ore band with thickness of 1-2 meters and average 23.21% Mn.

c) In the Kharkamunda-Dumagarha sector, 18 grab samples showed ≥10% Mn, while trench samples displayed 12.70% to 12.90% Mn. After drilling only 200-meter strike length, a resource of 46,345 tonnes (0.046 million tonnes) with 22.59% Mn at a 20% Mn cutoff was estimated in the Kharkamunda Block.

d) The remaining mineralization in the area is proposed for exploration after the State Technical Evaluation Committee in Odisha allocated the block to MECL for further actions.

e) GSI has handed over this block to Odisha as a Geological Memorandum (GM) and recommends auctioning it as a Composite Licence (CL).

f) State government has not put on auction so far.

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Recommendation of TCC:

Guidance and advice from the EC are being sought as to whether blocks handed over to state governments for auction should be funded through NMET for further exploration before any attempt is made by the concerned state government to auction these blocks. This may lead to a situation when other state governments may also seek to go for further exploration in these blocks before any attempt to auction the blocks there by defeating the very purpose of handing over of blocks by GSI to the State Governments.

Agenda 03.3.9. Reconnaissance (G-4) Survey for Limestone In Longplaidisa Area, Dist: Dima Hasao, Assam
[Implementing Agency: DGM, Assam]

a) The proposed area is part of the Shella Formation of the Jaintia Group, ranging from Palaeocene to Mid Eocene age. The limestone deposits in this area are primarily bedded but can be highly deformed in certain regions due to the tectonically active Kopili fault zone.
b) In 1978, efforts by the State DGM led to the discovery of one of the largest limestone deposits in the Umrangso area. Detailed geological mapping, sampling, chemical analysis, and petrography revealed favorable CaO % and lower MgO %, making it suitable for a cement plant.
c) During the survey of the Voterolangso area in 2023-24 under the NMET fund, conducted by the Directorate of Geology and Mining, Assam, the proposed block was identified.
d) The committee assessed the chemical analysis of the block shown by DMG, Assam and observed that the analysis reports submitted by DGM Assam are flawed and values of SiO2 and LOI are not proportionate when compared with the values of CaO and suggested to recheck the same from another NABL accredited or Government approved lab.

Recommendation of TCC:

The committee recommended to verify the analytical results by collecting representative samples from each band from another NABL accredited or Government approved lab. These samples should be reanalyzed at GSI's laboratory. The proposal should then be resubmitted in the next TCC meeting.

Agenda 03.3.10. Reconnaissance (G-4) Survey for limestone in Sheelveta Area, Dist: Karbi Anglong, Assam
[Implementing Agency: DGM, Assam]

a) The area of the investigation lies on the Southern edge of the Mikir hills and it forms part of Toposheet No.83G/5 and 83 F/8
b) The Limestone of this area is hard, compact; the top portion of Limestone is ferruginous and siliceous, brownish to reddish brown in color while the bottom portion is grey in colour.

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c) GSI has already carried out investigation in the area and reported presence of limestone in the area.

d) During the FS 1974-75, DGM, Assam also reported presence of Limestone at Jamuna valley at Sheelveta area, Dist: Karbi Anglong. The samples (9 nos) collected from the area show 45% to 52% CaO It was observed that the analysis reports submitted by DGM Assam are flawed and values of SiO2 and LOI are not proportionate when compared with the values of CaO and suggested to recheck the same from another NABL accredited or Government approved lab.

Recommendation of TCC:

The committee recommended to verify the analytical results by collecting representative samples from each band, reanalyzing them at any other NABL accredited or Government approved lab. DGM, Assam is suggested to resubmit the proposal in next TCC meeting.

Agenda 03.3.11. Reconnaissance (G-4) survey for limestone in Saijong of Dillai area, Karbi Anglong District- (Assam).

[Implementing Agency: DGM, Assam]

a) The area of the investigation lies on the Eastern edge of the Mikir hills and forms a part of toposheet no. 83F/12

b) The Geological Survey of India surveyed the Koilajan area in 1947-48, and in 1962, the DMG, Assam, along with the IBM, conducted an intensive survey to the west of Koilajan colliery.

c) The limestone in this area is hard, compact, and highly fossiliferous, with colonies of Nummulites being the primary fossils. Chemical analysis of samples collected along 9 sample lines revealed CaO compositions ranging from 47% to 52.30%.

d) A cement factory is also established at Bokajan near the proposed area by Cement Corporation of India (CCI) and mining lease area of 171.21 Ha is given to CCI for extraction of Limestone.

e) Hence, DMG, Assam has proposed the area to check the extension of limestone resource

f) The committee assessed the chemical analysis of the block shown by DMG, Assam and observed that the analysis reports submitted by DGM Assam are flawed and values of SiO2 and LOI are not proportionate when compared with the values of CaO and suggested to recheck the same from another NABL accredited or Government approved lab.

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Recommendation of TCC:

The committee recommended to verify the analytical results, gather representative samples from each band, conduct a reanalysis from another NABL accredited or Government approved lab and then present the revised proposal at the upcoming TCC meeting.

Agenda 03.3.12. Reconnaissance (G-4) survey for limestone in Dikurumetron area, Upper Deopani of Karbi Anglong District, Assam.

[Implementing Agency: DGM, Assam]

a) The proposed limestone area is part of the Sylhet Limestone Stage within the Jaintia Series of the Eocene system in Assam. The investigation area is situated along the eastern edge of the Mikir hills, characterized by hillocks and flat valleys.
b) The majority of the limestone exhibits a siliceous nature and is primarily composed of calcite.
c) During 1984-85, the Directorate of Geology and Mining in Assam conducted investigations into limestone and kaolin deposits near the proposed block. Light grey fossiliferous limestones are found in the Deopani River and Borjan nala.
d) Expanding upon these findings, DGM, Assam has proposed conducting tests to assess the extension of the limestone body.
e) The committee assessed the chemical analysis of the block shown by DMG, Assam and observed that the analysis reports submitted by DGM Assam are flawed and values of SiO2 and LOI are not proportionate when compared with the values of CaO.

Recommendation of TCC:

The committee recommended to verify the analytical results, gather representative samples from each band, conduct a reanalysis from another NABL accredited or Government approved lab and then present the revised proposal at the upcoming TCC meeting.

Agenda 03.3.13. Preliminary Exploration for Bauxite in Mothala Block, Kachch district, Gujarat

[Implementing Agency: CGM, Gujarat]

a) The proposed area belongs to Supra trappean and falls in toposheet no. 41E/4.
b) The Bauxite and Laterite formations create an almost continuous zone between the Gaj beds and the underlying traps. Prior to the deposition of the Gaj beds, these formations underwent significant denudation.
c) The area was extensively studied by the CGM by pitting, trenching, and sample collection. It was discovered that bauxite deposits in and around the area are typically associated with ferruginous laterite and aluminous laterite. Within the ferruginous laterite belt, there are scattered pockets of bauxite

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d) This proposed block is surrounded by existing bauxite leases and exploration blocks, indicating that it could be considered an extension of the already identified mineable deposits.
e) Therefore, it is recommended that the block undergo G3 level exploration to further assess its potential for bauxite extraction.
f) However, the house has been informed that the analytical data of the samples collected have not been received by the agency.

Recommendation of TCC:

The committee recommended to produce the chemical analysis and also consult the adjoining mining data (depth of mineralization, grade, etc.) and submit the proposal for review in next TCC meeting.

Agenda 03.3.14. Preliminary Exploration (G-3) for Graphite in Arsanur East Block in Sivaganga district, Tamil Nadu.

[Implementing Agency: KIOCL]

a) The proposed area forms a part of the migmatised Khondalite and Charnockite Groups of Southern Granulite Terrain (SGT) comprising mainly biotite gneiss and quartzo- feldspathic gneiss with graphite gneiss bands, thin bands of ferruginous quartzite and small lenses of pyroxene granulite and charnockite.

b) Geological survey of India has carried out extensive exploration work for graphite in and around the area since 1967 and estimated resource also.

c) During the 2014-17 field season, GSI explored graphite in Arasanur East Block over 0.07 sq. km. They found a graphite gneiss band 690m long and 5-23m wide, with up to 25.54% Fixed Carbon (F.C.). Estimated resources are 0.464 MT with 13.06% F.C. up to 20m depth. The Sivaganga Graphite Belt's gneiss can be upgraded to 96% F.C. as being practiced in the Eastern Sector by TAMIN.

d) The trench sections and scanty outcrops of graphite gneiss near Arasanur village suggest that the graphite gneiss likely extends in both the west and east directions.

e) Hence, KIOCL recently conducted a field visit in the area and the geoscientists found graphite mineralization in graphite-bearing biotite gneiss in Arasanur East Block. Three bands, 8-10m thick, extend east-west with a southward dip. Fixed carbon content ranges from 12-24%. Mineralization is structurally controlled within gneiss, shears, and fault/fold closures, covered by lateritic soil.

f) The committee recommended to conduct geological mapping (1:2000 scale), geophysical surveys, surface sampling (including channel sampling and trenching), and delineation of ore zones in Phase-I. The results of Phase-I will be evaluated and approved for drilling in Phase-II.

g) Additionally, it is advised to maintain a borehole spacing of 200m and vertical intersections at 30m and 60m for the first and second levels, respectively.

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Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G3) for Graphite mineralisation in Arasanur (East) Block, Shivaganga Graphite Belt, Shivaganga District, Tamil Nadu" with an estimated cost of Rs. 346.20 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 6A & 6B. The item will be reviewed after 06 months.

Agenda 03.3.15. Reconnaissance Survey (G-4 Level) for Gold in Jojobera-Ulihurang Block, Khunti District, Jharkhand.
[Implementing Agency: JEMCL]

a) JEMCL, Ranchi has proposed G-4 level exploration for gold and associated minerals in the area under NMET.
b) Initially, the exploration programme was submitted to the "27th Jharkhand State Geological Programming Board Meeting" held on 29.09.2023 in which the exploration programme in the proposed area was unanimously approved by the programming board.
c) The item was formulated based on the gold exploration conducted by GSI in the Pundidiri-Purtu block, located about 7.8 km from the proposed area.
d) Surface samples from the Pundidiri block showed gold contents ranging from 0.05 ppm to 1.84 ppm, indicating potential gold deposits.
e) Additionally, nearby gold mines like Lawa Gold Mines and Parasi Gold Block, situated approximately 12 km and 50 km away from the proposed area respectively, further support the area's gold prospectively.
f) The committee finds that the proposed block has complete overlap with GSI's G4 stage block for gold.

Recommendation of TCC:

The committee recommended to consult GSI's data and identify any gap area, providing proper justification. The proposal should then be submitted for review in the upcoming TCC meeting.

Agenda 03.3.16. Preliminary Exploration (G-3) for PGE & associated minerals in Jamtara-Mardongri block, Chhindwara district, Madhya Pradesh [Implementing Agency: MPSMCL]

a) The proposed area is part of the Mardongri mafic-ultramafic suite within the Betul Group, primarily composed of bi-modal volcanic rocks, younger porphyritic granites, and intrusive mafic-ultramafic rocks known as the Mordongri mafic-ultramafic complex. Sulphide-rich zones have been observed in the intrusive rocks at various locations including Jamtara. Indications of sulphide mineralization have been observed in the form of gossan, box work and fresh sulphide like pyrite, chalcopyrite.

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b) Petrographic and SEM-EDX studies have shown that coarse-grained amphibolite contains significant oxide phases such as Ilmenite, Ti-ilmenite, chromite, and magnetite. The presence of Pd (Palladium) and Au (Gold) mineralization in stream sediments suggests a potential association with these oxide phases.
c) GSI has confirmed the presence of PGE (Platinum Group Elements) in the area and recommended further systematic geochemical sampling on a grid pattern, stream sediment sampling, and geophysical surveys (magnetic, electromagnetic, and gravity surveys) to explore for PGE, Au, Cu (Copper), Ni (Nickel), and Cr (Chromium) mineralization.
d) Additionally, the block was also included in the phase XI auction for a composite license

Recommendation of TCC:

The committee recommended plotting the sample locations on the map and identifying mineralized zone and submitting for review in the upcoming TCC meeting.

Agenda 03.3.17. Preliminary Exploration (G-3) for Limestone in Sanwalhiri (East) Block, Chandrapur, District: Maharashtra

[Implementing Agency: DGM Maharashtra (Gemcokati Exploration Pvt. Ltd)]

a) The proposed area belongs to, Penganga Group Limestone Pranhita-Godavari valley and it fall in toposheet no 56I/14. The area lies towards west of Sanwalhiri block which has recently been explored by DGM, MS.
b) Geological Survey of India had mapped the area during FS:1984-85 and reported the presence of cement grade limestone near Chopan, Sanwalhiri, area of T.S. 56I/14.
c) The Geologists of the Exploration Wing of Gemcokati Exploration Pvt Ltd. have recently conducted field visit in the area, confirmed the presence of dolomitic limestone and collected samples which yielded 34.74% to 51.98% Cao in with average of 43.71% CaO in 7 samples.
d) In view of this, Sanwalhiri (East) Block has been proposed for G3 stage exploration.
e) The committee suggested to keep only 5BHs in polygon method and individual borehole drilling depth should be 60m only. No stratigraphic borehole required in the block.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G-3) for Limestone in Sawalhira (East) Block, Chandrapur, District: Maharashtra" with an estimated cost of Rs. 86.71 lakh (including GST) within time schedule of 10 months and submission of report as per Annexures 7A & 7B. The item will be reviewed after 04 months.

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Agenda 63.3.18. Preliminary Exploration (G-3) for Limestone in Rupapeth Block, Chandrapur, District: Maharashtra.
[Implementing Agency: DGM, Maharashtra (Gemcokati Exploration Pvt. Ltd)]

a) The proposed area belongs to, Penganga Group Limestone Pranhita-Godavari valley and it fall in toposheet no 56I/14. The area lies towards east of Savalhira block which has recently been explored by DGM, MS.
b) Geological Survey of India had mapped the area during FS:1984-85 and reported the presence of cement grade limestone near Chopan, Savalhira, area of T.S. 56I/14.
c) The Geologists of the Exploration Wing of Gemcokati Exploration Pvt Ltd. have recently conducted field visit in the area, confirmed the presence of dolomitic limestone and collected samples which yielded 46.78% to 50.46% Cao in with average of 48.41% CaO in 3 samples.
d) Moreover, there are few active Cement Factories near this proposed block.
e) In view of this, Rupapeth Block has been proposed for G3 stage exploration.

Recommendation of TCC:

The committee recommended to modifying the block boundary in the east-west direction and planning for only 5 boreholes. This revised proposal should be presented in the next TCC meeting for further discussion and approval.

Agenda 63.3.19. Preliminary Exploration (G3) for Iron and Manganese mineralization in Ramghad Block, Bellari district, Karnataka.
[Implementing Agency: DGM Karnataka (Ecomen Mining Pvt Ltd.)]

a) The proposed block falls within Sandur schist belt which is known for its rich concentration of Iron and Manganese ore deposits
b) During 1964-66, IBM and GSI conducted exploration in the Ramandurg range, drilling 102 boreholes and pits. The proposed block partly covers iron mineralization from the NW block.
c) In 1976-77, GSI recommended detailed exploration for manganese and iron ore deposits in Karnataka's Sandur schist belt, focusing on specific ore blocks namely Swamihalli, Deogeri, Subbarayanahalli, Ramagad, Sunderbench and Seshageri.
d) Regional mineral belt map of Iron Ore deposits and Manganese deposits, indicate the presence of BHQ and manganese deposit in the proposed block.
e) Moreover, iron ore and manganese mines by M/s ZTC and M/s SMIORE respectively exist near the proposed area
f) M/s Ecomen Laboratories Pvt. Ltd. conducted field visit and collected 24 chip samples from outcrops. The assay data showed Fe content ranging from 17.35% to 64.52%. Out of these, 18 samples indicated Fe% exceeding 35%, qualifying as siliceous ore according to IBM's threshold value (+35% to 45% Fe).
g) Upon these facts, the item has been proposed by M/s Ecomen
h) The committee finds the proposed block completely falling with in the Forest area.

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i) The committee suggested a two-phase approach. Phase-I will focus on mapping and surface sampling. After 5 months, Phase-I data will be reviewed for approval to proceed with drilling in Phase-II. Mapping will be conducted at a scale of 1:4000 with a 5-meter contour interval.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G3) for Iron and Manganese mineralization in Ramghad Block, Bellari district, Karnataka" with an estimated cost of Rs. 164.36 lakh (including GST) within time schedule of 12 months and submission of report as per Annexure 8A & 8B. The item will be reviewed after 05 months.

Agenda 63.3.20. Preliminary Exploration (G3) for Graphite in Nawadih Block, Balrampur district, Chhattisgarh.

[Implementing Agency: United Exploration India Private Ltd.]

a) Geologically the area falls in the graphite schist belt where presence of graphite mineralization was reported by GSI.
b) Graphite-mica schist is commonly associated with meta-sedimentary rocks, often found alongside grey quartzite, quartz-mica schist, and occasionally calc-silicates. Its composition typically includes flaky graphite, mica, and minor quantities of quartz.
c) In the proposed area, graphite is found within schistose rocks as bands and lenses resulting from metamorphism, giving it a flaky nature.
d) Graphite in these schist samples appears as metallic flakes mixed with quartz and micaceous minerals. The flaky graphite exhibits a metallic luster and leaves a greasy residue on hands due to its softness. The graphite schists range in length from 1 m to 25 m.
e) Graphite is primarily located in three discontinuous bands in the western part of the Nawadih Graphite Block, often associated with quartz-mica schist.

Recommendation of TCC:

The G4 stage work for this block has been completed, but the report is pending submission for TCC review. It is advised to submit the GR promptly. Once submitted, further planning for the proposal can be initiated. Additionally, consulting DGM of the concerned state is recommended for the potential upgrading of this item.

Agenda 63.3.21. Preliminary exploration (G3 Stage) for REE and associated minerals in Kemuniya block, Dist: Rajsamand, Rajasthan.

[Implementing Agency: Geo Expore Pvt Ltd.]

a) The proposed block exposes the migmatite gneiss of Mangalwar Complex.

b) During the 2018-19 field season, GSI conducted G4 stage REE exploration in Borana area within toposheet 45K/03. Analytical results from 401 bedrock samples revealed

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varying total REE values in migmatite gneiss (29.60 to 3434.93) and alkali syenite/syenite (83.03 to 2336.27).

c) The geochemical dispersion map showed anomalous concentrations of REEs in the northern part near Chatrawanmata temple over migmatite gneiss and alkali syenite/syenite bodies, as well as in the southwestern corner near Kemuniya village over migmatite gneiss.

d) Based on these findings, GSI recommended detailed mapping at a higher level of investigation within the Migmatite Gneiss and Syenite of Mangalwar Complex near Chatrawan Mata temple, Borana area, and south of Kemuniya village over Migmatite gneiss to identify and delineate possible REE mineralized zones.

e) Additionally, geophysical surveys indicated high-density bodies at shallow depths near Borana and Raipur areas in toposheet no. 45K/03.

f) Based on this GeoExpore prosed the G3 stage investigation in Kemuniya block as this a part of Borana area

g) The committee suggested to present individual REE elements data for review. Based on the outcome of Borana Block this item will be taken up later.

Recommendation of TCC:

The committee observed that the Borana block, focused on REE values in syenite, holds more promise for mineralization compared to the Kemuniya block, which is based on REE values in migmatite. Therefore, the committee has prioritized the exploration of the Borana block initially. If the Borana block shows promising results, then further exploration of the Kemuniya block will be considered.

Agenda 03.3.22. Preliminary exploration (G3 stage) for REE and associated minerals in Borana block, Dist: Rajsamand, Rajasthan.

[Implementing Agency: Geo Expore Pvt Ltd.]

a) The proposed block belongs to the migmatite gneiss of Mangalwar Complex of Rajasthan.

b) During the 2018-19 field season, GSI conducted G4 stage REE exploration in Borana area within toposheet 45K/03. Analytical results from 401 bedrock samples revealed varying total REE values in migmatite gneiss (29.60 to 3434.93) and alkali syenite/syenite (83.03 to 2336.27).

c) The geochemical dispersion map revealed potential REE concentrations in migmatite gneiss and alkali syenite/syenite bodies. Anomalous REE concentrations were noted near Chatrawanmata temple near Borana and Kemuniya village.

d) Based on this, GSI recommended detailed mapping for higher-level investigation in these anomalous zones.

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e) Gravity surveys indicated high-density bodies near Borana and Raipur areas. The proposed block is a part of the Borana area, which again justifies the objectives of the proposed study.

f) Expanding upon this, GeoExpore proposed the G3 stage investigation in Borana block

g) The committee noted that the Borana block, targeting REE values in syenite, shows greater potential for mineralization compared to the Kemuniya block, which is based on REE values in migmatite. As a result, the committee has prioritized the exploration of the Borana block initially.

h) The committee suggested to modify the block boundary by excluding the amphibolite while covering the syenite body. They also advised conducting the work in two phases. Phase-I involves mapping (Scale 1:2000) and surface sampling, with a review after 6 months to approve Phase-II drilling.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary exploration (G3 stage) for REE and associated minerals in Borana block, Dist: Rajsamand, Rajasthan" with an estimated cost of Rs. 140.98 lakh (including GST) within time schedule of 12 months and submission of report as per Annexure 9A & 9B. The item will be reviewed after 06 months.

Agenda 03.3.23. Preliminary exploration (G3 stage) for Potash and associated minerals in Pitupura block, Dist: Sawai Madhopur, Kaurali, Rajasthan.

[Implementing Agency: Geo Expore Pvt Ltd.]

a) GSI conducted a search for potash in glauconitic sandstone/shale of the Sapotra-Karauli sub-basin of the Vindhyan Supergroup. The Rewa Group of Upper Vindhyan, including the Panna, Indargarh, Jhiri, and Taragarh Fort Formations, is noted for its potash content and distribution of glauconitic sandstone/shale.

b) GSI delineated four zones in the Panna Formation (PMZ-I, PMZ-II, PMZ-III, PMZ-IV) with strike continuity ranging from 0.70 km to 1.50 km. In the Jhiri Formation, three glauconitic zones were delineated: JMZ-1 (10 km strike continuity from Adadungar to Ramapura Ghati), JMZ-II (3.0 km from Gothra to Grain), and JMZ-III (2.5 km near Bajna).

c) The proposed G3 exploration block is located along the JMZ-1 glauconitic band, extending from Adadungar to Ramapura Ghati, trending NE-SW with a striking continuity of about 10 km.

d) Hence, GeoExpore has proposed a preliminary investigation for potash in glauconitic shale/sandstone of the Vindhyan Supergroup within the GSI G4 block

Recommendation of TCC:

The committee recommended Geo Expore to submit the proposal after the review of the ongoing MECL potash item of MECL in the area so as to have proper clarity on the mineralization.

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Agenda 63.3.24 Reconnaissance Survey (G4 Stage) for Graphite, Polymetals and Tungsten in Matena-Falsima-Sirar block, Almora District, Uttarakhand.
[Implementing Agency: Geovale Services Private Limited]

a) The proposed are is a part of Almora Crystalline of the Inner Lesser Himalaya and lies in toposheet nos.53O/10 and 53O/14

b) The Inner Lesser Himalayan rocks of the Almora Crystalline include medium to high-grade amphibolite metapelites, quartzites, and carbonaceous phyllite/schists associated with granites. Recent GSI studies have identified thick carbonaceous phyllite/schists with significant sulphide minerals. These metamorphosed black shale horizons, classified as HCHS (High Carbon High:>7%, high Sulphur:>4%) by USGS, contain critical metals like V (>0.4%), Ba (>0.4%), Mo, U, and REE, making them of interest for green energy exploration.

c) The Almora area's host rock for thick carbonaceous schists is kyanite-sillimanite-bearing metapelites. Alongside these high-grade metamorphic rocks, mapping by GSI has revealed lit-par-lit injections of younger granites. This combination indicates high prospectivity for substantial areas of flake/fine crystalline graphite in the area.

d) Scheelite was initially reported by UPDGM in 1976 in stream sediments near Falsima village (near Almora), with a zone of approximately 250m strike length and 8-12m width containing 0.1% to 0.3% WO3. Drilling proved tungsten resource of 1.92 lakh tonnes with a grade of 0.1% WO3.

e) GSI's NGCM data revealed high tungsten values (150 to 900 ppm) in 21 out of 167 stream sediment samples. Follow-up exploration by GSI in 2020-21 reported encouraging anomalous tungsten (up to 125 ppm) and tin (up to 927 ppm) in stream sediment samples from the present block.

f) They suggested that the ~500Ma Almora Granite, intruding metasediments, is potentially fertile for rare metals, showing high concentrations of tungsten (average 4.4 ppm), tin (average 22 ppm), Be (max. 18 ppm), and Rb/Sr (range 4 to 15). The host rock for these minerals is yet to be definitively identified

g) Hence, Geovale proposed G4 scale exploration in 117 sq. km area east of Almora for Graphite, Polymetals and Tungsten in Matena-Falsima-Sirar block

h) The committee finds that during FS 2020-21, GSI carried out a G4 stage exploration in the same area for the same commodity.

Recommendation of TCC:

Since, exploration under same stage and similar commodities has been completed by GSI in the recent years, M/S. Geovale is suggested to reassess the outcome of GSI's work and propose blocks for detailed investigation either under G3 or G2 stage. Repeating the exploration under same stage in an area within short time gap is not advisable.

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Agenda 63.4. Financial assistance form NMET fund for procurement

Agenda 63.4.1. Financial assistance form NMET fund to procure machinery/ laboratory equipment/ instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DGM Mizoram]

a) The Executive Committee of NMET in its 29th meeting held on 31.03.2024 had approved ₹56.9 Lakhs and ₹195.99 Lakhs towards procurement of machinery/ laboratory equipment/instruments etc to Directorate of Geology & Mining, Mizoram.
b) Considering the increasing number of coal samples , DGM Mizoram requested for a bomb calorimeter through NMET fund.
c) Further, DGM Mizoram requested that the WD- XRF approved through NMET fund may be replaced with ED-XRF.
d) The committee evaluated the proposal and after detailed discussions agreed to recommend the following to DGM Mizoram:

S.no	Software / Hardware /Equipment	Quantity	Estimated Price / Unit (In Lakhs)	Total Estimated cost (in lakhs)
1.	Bomb Calorimeter	**1**	2.00	**2.00**

e) The committee did not approve to replace WD-XRF with ED- XRF.

Recommendation of TCC:

The committee recommended the proposal for approval of EC towards procurement of equipments/ softwares for DGM Mizoram with estimated cost of ₹ 2 lakhs as detailed at para (f) above, to enhance the exploration activities in the state.

The committee opined that due process of procurement including item wise cost estimation as per extant Government of India/ State Financial rules be followed DGM Mizoram in consent with the competent authority of State Department/ State Financial Wing (Division). The State Govt. should also ensure full utilization of the instruments/software to be procured.

Agenda 63.4.2. Financial assistance form NMET fund to procure machinery/ laboratory equipment/ instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DMG Telangana]

a) DMG Telangana has submitted a list of equipments for upgradation of laboratory and capacity building with an estimated cost of ₹ 540 Lakhs.
b) The committee evaluated the proposal and after detailed discussions agreed to recommend the following items to DMG Telangana:

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S.No.	Software / Hardware /Equipment	Quantity	Estimated Price / Unit (In Lakhs)	Total Estimated cost (in lakhs)
1	ICP-MS	1	250	250
2	WD XRF	1	220	220
3	AAS (F&GTA)	1	60	60
4	Planetary Ball Mill	1	30	30
5	Fusion bead machine	1	20.00	20.00
6	Press pallet machine	1	3.90	3.90
7	Hot Plates	5	0.15	0.75
8	Muffle furnace	5	1.00	5.00
9	Air Oven	1	0.55	0.55
10	Rock cutting, polishing and mounting unit	1	70.00	70.00
11	Stero Zoom Microscope	1	31.00	31.00
12	Transmitted and reflected light research microscope with software attached camera	1	18.58	18.58
13	GIS Software	1	25.00	25.00
14	DGPS	1	16.00	16.00
	Total			750.78

Recommendation of TCC:

The committee recommended the proposal for approval of EC towards procurement of equipments/ softwares for DMG Telangana with estimated cost of ₹ 750.78 lakhs as detailed at para (b) above, to enhance the exploration activities in the state.

The committee opined that due process of procurement including item wise cost estimation as per extant Government of India/ State Financial rules be followed by DMG Telangana in consent with the competent authority of State Department/ State Financial Wing (Division). The State Govt. should also ensure full utilization of the instruments/software to be procured.

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Annexure 1

Minutes of the 63rd Technical-cum-Cost Committee (TCC) meeting held on 22nd,26th and 27th March 2024 through video conferencing

S.No.	Name/ Designation	Status	Remarks
1	Dr. S. Ravi, Dy. Director General, SU: Karnataka & Goa, GSI Bangalore.	Chairman, TCC	Through VC
2	Shri. I.R. Kirmani, ADG (Retd.), GSI.	Member	Through VC
3	Shri. HemrajSuryavanshi, Addl. Director General (Retd.), GSI	Member	Through VC
4	Shri. K. Koteswara Rao, Dy.D.G. (Retd.) GSI.	Member	Through VC
5	Dr. S. K. Kulshrestha, DDG-RMH-III, NER, GSI, Shillong	Member	Not Attended
6	Shri. S.K. Adhikari, Chief Mining Geologist, IBM, Nagpur.	Member	Through VC
7	Dr.E.V.S.S.K.Babu, Scientist (G), NGRI.	Member	Through VC
8	Shri. K.L. Mundra, Head-RMRE, AMD, Hyderabad	Member	Through VC
9	Shri. A.R. Sengupta, Director (IFD), Ministry of Mines.	Member	Not Attended
10	Shri. Vivek Kumar Sharma,Director, NMET, Ministry of Mines	Member	Not Attended
11	Shri. P.K. Maharana, DGM (Finance), NALCO, Bhubaneswar	Member	Through VC
12	Shri. Ravi Kumar Gupta General Manager (Finance) HCL, Kolkata	Member	Through VC
13	Smt. Vandana, Cost Accounts Officer, RSAS, Bangalore, GSI.	Member	Through VC
14	Shri. C. Parthsarathi, Director, GSI&Member Secretary, TCC-NMET, GSI, Bengaluru	Member Secretary	Through VC

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List of participants attended 63rd Technical-cum-cost Committee (TCC) meeting of NMET held on 22nd,26th and 27th March 2024 through videoconferencing

S.No	Name/Designation	Email ID	Contact No	Organization
1.	Dr. S. Ravi, Dy. Director General, SU: Karnataka & Goa, GSI Bangalore	s.ravi1@gsi.gov.in	9441138834	Chairman, TCC
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4.	Shri. K. Koteswara Rao, Dy.D.G. (Retd.) GSI.	kkrao1957@gmail.com	9000117969	Member TCC
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Annexure 2A

Cost Estimate Reconnaissance Survey for Ni and PGE Prospect Block in Limbdi-Meghpar -Titodi area, Devbhumi Dwarka District, Gujarat
Total block area- sq km; Completion Time- 18 Months; Review: after 07 months

					Approved Cost of the Project		Revised Cost of the Project		
Sl. No.			SoC-Item -Sl No.	Rates as per SOC	Quantum	Total Amount (Rs)	Quantum	Total Amount (Rs)	Remarks
1	Geological Work								
A	Geological Mapping & Sampling (1:12600 scale)								
a	Geologists (HQ) days (1 No)	Man-days	1.2b	9,000.00	60	5,40,000.00	60	5,40,000.00	
b	Geologist field-days (including channel sampling and Stream sediiment sampling)	Man-days	1.2	11,000.00	300	33,00,000.00	290	31,90,000.00	
c	Labor (Field days) (2 workers per geologist)	per labor day	5.7	477.00	600	2,86,200.00	580	2,76,660.00	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
	Sub-Total 1					**41,26,200.00**		**40,06,660.00**	
2.0	Laboratory Studies								
A	Geochemical Analysis								
a	XRF Assay (Major Oxides, whole rock analysis)	per sample	4.1.15a	4,200.00	90	3,78,000.00	**110**	**4,62,000.00**	
b	Check samples for XRF	per sample		4,200.00	0	-	**11**	**46,200.00**	
a	ICPMS Assay (34 elements)	per sample	4.1.14	7,731.00	245	18,94,095.00	**300**	**23,19,300.00**	

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b	Check samples for ICPMS	per sample		7,731.00	0	-	30	2,31,930.00	
b	Sampler man-days	one sampler per day	1.5.2	5,100.00	45	2,29,500.00	56	2,87,512.50	
c	Labor (Man days) (4 labours per sampler)	per labor day	5.7	477.00	180	85,860.00	226	1,07,802.00	
	Sub-Total 2					**25,87,455.00**		**34,54,744.50**	
3.0	**Petrological studies**								
a	Thin Section Preparation	per sample	4.3.1	2,353.00	0	-	50	1,17,650.00	
b	Microscopic study	per sample	4.3.4	4,232.00	0	-	50	2,11,600.00	
c	EPMA	per hour	4.4.1	8,540.00	0	-	10	86,400.00	
	Sub-Total 3					**-**		**4,14,650.00**	
4.0	**Geophysical Survey**								
a	Magnetic Survey	per station	3.2a	1,800.00	2000	36,00,000.00	2000	36,00,000.00	
b	VES Survey (Station interval 200m)	per line km	3.6a	58,800.00	0	-	20	11,76,000.00	
c	EM Survey	Soundings	3.7a	21,197.00	350	74,18,950.00	0	-	
	Expert Charges for Geophysicist	Geophysicist per day	3.18	9,000.00	0	-	12	1,08,000.00	
	Sub-total 4					**1,10,18,950.00**		**48,84,000.00**	
5.0	**Geological Work (After Review Pitting/trenching and Drilling)**								
a	Pitting	per cubic meter	2.1.2	3,800.00	0	-	40	1,52,000.00	
b	Drilling (inhouse)	per m	2.2.1.3a	11,500.00	300	**34,50,000.00**	800	**92,00,000.00**	N.B Drilling meterage may be increased upto 1200m (Tentatively 6 BH as suggested by NMET TCC members), if justified and subject to not

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									exceeding maximum ceiling of Rs 89,70,000.
	Transportation of Drill Rig & Truck associated per drill (To & from eadquarter/Previous drill site)	per km	02:02:08	36.00	0	-	1200	43,200.00	Drill rig will be mobilized from Udaipur, 600km away from Project camp at Khambaliya
	Monthly Accommodation charges for drilling camp	Monthly basis	02:02:09	50,000.00	0	-	3	1,50,000.00	
	Drilling camp setting cost	per drill	2.2.9a	2,50,000.00	0	-	1	2,50,000.00	
c	**N.B Drilling meterage may be increased upto 1200m (Tentatively 6 BH as suggested by NMET TCC members), if justified and subject to not exceeding maximum ceiling of Rs 89,70,000.**	per drill	2.2.9b	2,50,000.00	0	-	1	2,50,000.00	
d	Drill Core Preservation	per meter	5.3.0	1,590.00	0	-	300	4,77,000.00	
	Sub-Total 6					34,50,000.00		1,05,22,200.00	
6.0	**Total**					2,11,82,605.00		2,32,82,264.50	
7.0	Preparation of Exploration Proposal (5 Hard copies with a soft copy)	Lumpsum	5.1	2% of the cost subject to a maximum of3,80,000 whicheve is less		3,80,000.00		4,65,645	EA has to submit the final proposal

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8.0	Final report preparation	3% of project cost or 7.5 lakh whichever is higher	5.2	For the projects having cost exceeding 150 lakhs but less than 300 lakhs-A minimum of 7.5 lakhs or 3% of the value of work whichever is more		7,50,000.00		7,50,000.00	
9.0	Report Peer Review	Lump sum	As per EC	10,000		10,000.00		30,000.00	
10.0	**Total Estimated cost without GST (6.0+7.0+8.0+9.0)**					**2,23,22,606.00**		**2,45,27,899.59**	
11.0	Provision for GST (18%)					40,18,068.90		44,15,021.93	
12.0	**Total Estimated cost with GST**					**2,63,40,673.90**		**2,89,42,921.52**	
	Rs. In lacs							289.43	
Note:									
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**								
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**								
3	**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 execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**								
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**								

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Annexure 2B

Time Schedule /Action Plan For Reconnaissance Survey for Ni and PGE Prospect Block in Limbdi-Meghpar -Titodi area, Devbhumi Dwarka District, Gujarat,

Sl. No.	Activities	Unit	MONTHS																	
			1	2	3	4	5	6	7	Review	8	9	10	11	12	13	14	15	16	17	18
1	Geological Mapping and Sampling	day																			
2	Geophysical Survey	day																			
3	Sampling	day																			
4	Drilling	day																			
5	Laboratory Studies	Nos.																			
6	Petrographic Studies	Nos.																			
7	Report Writing	day																			
8	Peer Review	day																			

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Annexure 3A

Cost Estimate for Preliminary exploration (G-3) for Glauconitic Sandstone in Deulha block, Satna district, Madhya Pradesh
Total Area - 8.5 Sq. Km; Completion Time - 9 Months, Review- 4 months, Drilling: 400m, Bhs- 8, Depth of BH- 60m

Sl. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Total Cost of the Project		Remarks
			SoC- Item-S. No.	Rates as per SoC	Qty.	Total Amount (Rs)	
1.0	**Geology & Survey**						
1.1	Geologist man days (1 No.) for geological map & Report (HQ)	days	1.2	9,000	30	2,70,000	
1.2	Geologist man days for Geological Mapping and Topographical Survey in 1:4000 scale (Field)/Sampling	days	1.3	11,000	90	9,90,000	
1.3	Labour Mapping (Field) (2 workers per geologist)	per worker	5.7	504	180	90,720	Amount will be reimburse as per the notified rates by the Central Labour Commissioner (Rs. 504/- per day) or respective State Govt. whichever is higher
1.4	Sampling man days - Sampler (Geochemical/Trenching/Pitting) Labour charge not included	day	1.5.2	5,100	28	1,42,800	
1.5	4 labours/ party (Rs 431/day/labour) (As per rates of Central Labour Commissioner) for sampling work	day	5.7	504	112	56,448	Amount will be reimburse as per the notified rates by the Central Labour Commissioner (Rs. 504/- per day) or respective State Govt. whichever is higher
1.6	Determination of co-ordinates and Reduced Level (RL) of boreholes by DGPS	Nos.	1.6.2	19200	8	1,53,600	8 boreholes
1.7	Charges for one surveyor(1 Party)	day	1.6.1a	8300	30	2,49,000	Topographical Survey on 1:4000 scale

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1.8	4 labours/ party (Rs 431/day/labour) (As per rates of Central Labour Commissioner) for sampling work	Nos.	5.7	504	120	60,480	Amount will be reimburse as per the notified rates by the Central Labour Commissioner (Rs. 504/- per day) or respective State Govt. whichever is higher
Sub-Total 1						**20,13,048**	
2.0	**Drilling**						
2.1	Drilling -Medium hard rock (100m to 300m)	m	2.2.1.3a	10,100	400	40,40,000	10 no of boreholes with max depth 50m, if panna shale is intercepted earlier borehole will be closed in panna shale.
2.2	Land / Crop Compansation (in case the BH falls in agreecultural Land)	per BH	5.6	20,000	8	1,60,000	
2.3	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	8	16,000	
2.4	Transportation of Drill Rig & Truck associated per drill (for 1 rig)	Km	2.2.8	36	1100	39,600	to & fro
2.5	Monthly Accomodation Charges for drilling Camp (up to 1 Rigs)	month	2.2.9	50,000	3	1,50,000	
2.6	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
2.7	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
2.8	Road Making (Flat Terrain)	Km	2.2.10a	22,020	4	88,080	
2.9	Drill Core Preservation	per m	5.3	1,590	225	3,57,750	
Sub-Total 2						**53,51,430**	
3.0	**Laboratory Studies**						
3.1	Primary + Check Sample - 4 radicals viz. K_2O, SiO_2, Al_2O_3 & Fe_2O_3- XRF	per sample	4.1.15a	4,200	220	9,24,000	200 Primary, 20 Check samples
3.2	Bulk Density	per sample	4.10	3,540	4	14,160	

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Sub-Total 3						**9,38,160**	
Total (1.0 to 3.0)						**83,02,638**	
4.0	**Preparation of Exploration Proposal**	Nos	5.1	2% of the cost or Rs. 5.00 lakh - whichever is lower	1	**1,66,063**	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.
5.0	**Geological Report Preparation**	Nos	5.2	For the projects having cost exceeding Rs. 50 Lakhs but less than Rs. 150 Lakhs: A Minimum of Rs.2.5 lakhs or 5% of the value of work whichever is more and Rs. 3000/- per each additional copy.	1	**4,15,131.90**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
6.0	**Report Peer Review Charges**	**lumpsum**	**As per EC decision**		**1**	**30,000**	
Total Estimated Cost without GST						**89,13,823**	
Provision for GST (18%)						**16,04,488**	GST will be reimburse as per actual and as per notified prescribed rate
Total Estimated Cost with GST						**1,05,18,311**	
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**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 execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						

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Annexure 3B

Time Schedule/ Action plan for Preliminary exploration (G-3) for Glauconitic Sandstone in Deulha block, Satna district, Madhya Pradesh

S.No.	Activities	MONTHS									
		1	2	3	4	Review	5	6	7	8	9
1	Camp setting										
2	Geological mapping										
3	Core drilling (1 rig)										
4	Geologist days (Field)										
5	Sampling days, core sampling										
6	Camp winding										
7	Laboratory studies										
8	Geologist days (HQ)										
9	Report writing/ Peer review										

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Annexure 4A

Cost Estimate for Preliminary exploration (G-3) for Glauconitic Sandstone in Jhari block (6.1 sq.km), Satna district, Madhya Pradesh
Total Area - 6.1Sq. Km; Completion Time - 9 Months, Review - 4 months, BH-5, Drilling- 260m

Sl. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Total Cost of the Project		Remarks
			SoC- Item-S. No.	Rates as per SoC	Qty.	Total Amount (Rs)	
1.0	**Geology & Survey**						
1.1	Geologist man days (1 No.) for geological map & Report (HQ)	days	1.2	9,000	30	2,70,000	
1.2	Geologist man days for Geological Mapping and Topographical Survey in 1:4000 scale (Field)/Sampling	days	1.3	11,000	70	7,70,000	
1.3	Labour Mapping (Field) (2 workers per geologist)	per worker	5.7	504	140	70,560	Amount will be reimburse as per the notified rates by the Central Labour Commissioner (Rs. 431/- per day) or respective State Govt. whichever is higher
1.4	Sampling man days - Sampler (Geochemical/Trenching/Pitting) Labour charge not included	day	1.5.2	5,100	17	86,700	
1.5	4 labours/ party (Rs 431/day/labour) (As per rates of Central Labour Commissioner) for sampling work	day	5.7	504	68	34,272	Amount will be reimburse as per the notified rates by the Central Labour Commissioner (Rs. 431/- per day) or respective State Govt. whichever is higher

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1.6	Determination of co-ordinates and Reduced Level (RL) of boreholes by DGPS	Nos.	1.6.2	19200	5	96,000	5 BH Points
1.7	Charges for one surveyor(1 Party)	day	1.6.1a	8300	20	1,66,000	Topographical Survey on 1:4000 scale
1.8	4 labours/ party (Rs 431/day/labour) (As per rates of Central Labour Commissioner) for sampling work	Nos.	5.7	504	80	40,320	Amount will be reimburse as per the notified rates by the Central Labour Commissioner (Rs. 431/- per day) or respective State Govt. whichever is higher
Sub-Total 1						**15,33,862**	
2.0	**Drilling**						
2.1	Drilling -Medium hard rock (100m to 300m)	m	2.2.1.3a	10,100	250	25,25,000	5 no of boreholes with max depth 50m, if panna shale is intercepted earlier borehole will be closed in panna shale.
2.2	Land / Crop Compansation (in case the BH falls in agreecultural Land)	per BH	5.6	20,000	5	1,00,000	
2.3	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
2.4	Transportation of Drill Rig & Truck associated per drill (for 1 rig)	Km	2.2.8	36	1100	39,600	to & fro
2.5	Monthly Accomodation Charges for drilling Camp (up to 1 Rigs)	month	2.2.9	50,000	2	1,00,000	
2.6	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
2.7	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
2.8	Road Making (Flat Terrain)	Km	2.2.10a	22,020	3	66,060	As per actuals
2.9	Drill Core Preservation	per m	5.3	1,590	150	2,38,500	
Sub-Total 2						**35,79,160**	
3.0	**Laboratory Studies**						
3.1	Primary + Check Sample - 4 radicals viz. K_2O, SiO_2, Al_2O_3 & Fe_2O_3- XRF	per sample	4.1.15a	4,200	138	5,79,600	sampling at 1m sample length, 25m zone per bh, 125 primary samples and 13 external samples

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3.2	Bulk Density	per sample	4.10	3,540	4	14,160	
Sub-Total 3						**5,93,760**	
Total (1.0 to 3.0)						**57,06,772**	
4.0	**Preparation of Exploration Proposal**	Nos	5.1	2% of the cost or Rs. 5.00 lakh - whichever is lower	1	**1,14,136**	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.
5.0	**Geological Report Preparation**	Nos	5.2	For the projects having cost exceeding Rs. 50 Lakhs but less than Rs. 150 Lakhs: A Minimum of Rs.2.5 lakhs or 5% of the value of work whichever is more and Rs. 3000/- per each additional copy.	1	**2,85,338.60**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
6.0	**Report Peer Review Charges**	**lumpsum**	**As per EC decision**		**1**	**30,000**	
Total Estimated Cost without GST						**61,36,246**	
Provision for GST (18%)						**11,04,524**	GST will be reimburse as per actual and as per notified prescribed rate
Total Estimated Cost with GST						**72,40,770**	
Say Rs. in Lakhs						**72.41**	

Note:	
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**
3	**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 execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**

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Annexure 4B

Time Schedule/ Action Plan for Preliminary exploration (G-3) for Glauconitic Sandstone in Jhari block (5.1 sq.km), Satna district, Madhya Pradesh

S.No.	Activities	MONTHS									
		1	2	3	4	Review	5	6	7	8	9
1	Forest Clearance										
2	Camp setting										
3	Geological mapping										
4	Core drilling (1 rig)										
5	Geologist days (Field)										
6	Sampling days, core sampling										
7	Camp winding										
8	Laboratory studies										
9	Geologist days (HQ)										
10	Report writing/ Peer review										

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Annexure 6A

Cost Estimate for Preliminary Exploration (G-3) for Copper and associated minerals in Thakurdih Area-1 Block (4.10 sq. km), Singhbhum Copper Belt, East Singhbhum district, Jharkhand
[Block area- 4.10 sq. km; Schedule timeline- 12 months, Review- 6 months; BH- 17(PH 1- 7 BHs, PH 2- 10 Bhs-Total -20, 3 existing); Drilling- 1760m]

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item -Sl No.	Rates as per SoC	Qty.	Amount (Rs)	
A	**GEOLOGICAL & SURVEY WORK**						
i	Detailed geological mapping (1:2000 scale)	sq.km.			4.10		
i	Charges for one Geologist- Field	day	1.2	11,000	1030	14,30,000	
ii	Charges for one Geologist per- HQ	day	1.2	9,000	30	2,70,000	
iii	2 labours/ party (Rs 504/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	504	260	1,31,040	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Sampling Party Days -1 Sampler Labour charge not included	day	1.5.2	5,100	73	3,72,300	
v	4 labours/ party (Rs 504/day/labour)	day	5.7	504	292	1,47,168	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
vi	Survey Party Days for topographical contour survey, block boundary and borehole points fixation	day	1.6. 1a	8,300	30	2,49,000	
vii	4 labours for surveyor	day	5.7	504	120	60,480	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub Total- A	**26,59,988**	
B	**Trenching/Pitting**						
	a) Excavation of Trenches	per cu.m	2.1.1	3,330	200	6,66,000	

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					Sub Total- B	6,66,000	
C	**DRILLING**						
i	Drilling upto 300m (Hard Rock)	m	2.2.1.4a	11,500	2,200	2,53,00,000	
ii	Borehole deviation Survey	m	2.2.6	330	2,200	7,26,000	
iii	Borehole Geophysical logging	5 Bhs of 350m each	3.12	622.25	2,200	13,68,950	Base rate Rs. 10, 88, 941/1750=622.25m
iv	Land / Crop Compansation	per BH	5.6	20,000	17	3,40,000	
v	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	17	34,000	
vi	Transportation of Drill Rig & Truck associated per drill (2 rigs)-Two way	Km	2.2.8	36	4,000	1,44,000	
vii	Monthly Accomodation Charges for drilling Camp	month	2.2.9	50,000	4	2,00,000	
viii	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	2	5,00,000	
ix	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	2	5,00,000	
x	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	6	1,32,120	
xi	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and block boundary by DGPS	Nos	1.6.2	19,200	17	3,26,400	(5 Boundary points+15 Bh points)
xii	Borehole core preservation-One complete borehole plus mineralised cores of all the remaining BHs	m	5.3	1,590	300	4,77,000	
			Sub Total- C			**3,00,48,470**	
D	**LABORATORY STUDIES**						
1	**Chemical analysis**						
A	**Geochemical surface samples (Primary) (Bedrock/channel)- AAS**						
	a) Primary samples for Cu, Pb, Zn, Ni, Co, Mo, & W		4.1.7a & b	3,176	30	95,280	AAS method
	Surface Check samples (10% External check)						

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	c) For Cu, Pb, Zn, Ni, Co, Mo & W		4.1.7a & b	3,176	3	9,528	AAS method
B	**Trenching Samples**						
	a) Primary Trench samples for Cu, Pb, Zn, Ni, Co, Mo, & W		4.1.7a & b	3,176	150	4,76,400	AAS method
	Trench Check samples (10% External check)						
	c) For Cu, Pb, Zn, Ni, Co, Mo & W		4.1.7a & b	3,176	15	47,640	AAS method
B	**BH core samples**						
	a) Primary samples for Cu, Pb, Zn, Ni, Co, Mo, & W	Nos	4.1.7a & b	3,176	350	11,11,600	AAS method
	BH Core Check samples (10% External check)						
	a) External Check sample (10% of Primary samples) for Cu, Pb, Zn, Ni, Co, Te, Mo and Se	Nos	4.1.7a & b	3,176	35	1,11,160	AAS method
	Petrological & Mineragraphic studies						
iv	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
v	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	
vi	Preparation of polished section	Nos	4.3.2	1,549	10	15,490	
vii	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
viii	Digital Photographs	Nos	4.3.7	280	10	2,800	
x	Specific Gravity Determination	Nos	4.8.1	1,605	5	8,025	
	Sub Total- D					**19,86,093**	
E	**Total A to D**					**3,63,60,661**	

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F	Geological Report Preparation		5.2	For Projects having cost less than Rs. 300 lakhs-A minimum of Rs.7,50,000 or 3% of the value of work whichever is more For the projects having cost exceeding Rs. 150 lakhs and less than Rs. 300 lakhs - A minimum of Rs. 7.5 lakhs or 3% of the value of work whichever is more		10,60,817	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
G	Peer review Charges		As per EC decision			30,000	
H	Preparation of Exploration Proposal (6 Hard copies with a soft copy)	6 Hard copies with a soft copy	5.1	2% of the Cost or Rs. 5.0 Lakhs whichever is lower		5,00,000	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.
I	Total Estimated Cost without GST					3,69,51,368	
J	Provision for GST (18%)					66,51,246	GST will be reimburse as per actual and as per notified prescribed rate
K	Total Estimated Cost with GST					4,36,02,613.69	
	or Say Rs. In Lakhs					436.03	
Note:							
1	Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.						

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2	In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.
3	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 execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.
4	Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.

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Annexure 5B

Time Schedule /Action Plan For Preliminary Exploration (G-3) for Copper and associated minerals in Thakurdih Area-1 Block (4.10 sq. km), Singhbhum Copper Belt, East Singhbhum district, Jharkhand

S. No.		Qty.	1	2	3	4	5	6	Review	7	8	9	10	11	12
1	Camp Setting	months													
2	Geological Mapping (1:2000 scale) & Collection of surface samples	4.10 sq.km.													
3	Topographical Survey work	4.10 sq.km.													
4	Trenching & sampling work	200 cu.m.													
5	Phase-I Drilling & associated works (2 rig)	700m (7 Bhs)													
6	Phase-II Drilling & associated works (2 rig)	1060m (8 Bhs)													
7	Geologist party days (Field)	months													
8	Sampling party days,	months													
9	Camp winding	months													
10	Laboratory Studies	months													
11	Geologist party days at HQ	months													
12	Report Writing with Peer Review	months													

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Annexure 6A

Cost Estimate for Preliminary Exploration (G3) for Graphite mineralisation in Arasanur (East) Block, Shivaganga Graphite Belt, Shivaganga District, Tamil Nadu (Block ID: KIOCL_51_TN_AGB (E)) , Timeline: 12 months, Review: 6 months, BHs: 21(1st Level-14, 2nd Level- 7), Drilling:1400m

Sl	Item of Work	Unit	Rates as per NMET SoC 2020-21		Year 2021-22			Remarks
			SOC Item No	Rates as per SOC	Qty	Amount (Rs)		
(a)	(b)	(c)	(d)	(e)	(f)	(g)=(e)*(f)		
1	LARGE SCALE GEOLOGICAL MAPPING WORKS (1:2000 scale :1.93sq km)							
1.1	Geologist Party days - Field	days	1.2	11,000	160.0	17,60,000	41,13,880	
1.2	Geologist Party days - HQ		1.2	9,000	40.0	3,60,000		
1.3	Labour charges @ 2nos per Geologist	days	5.7	504	320.0	1,61,280		
2	**TRENCHING WORKS**							
2.1	Trenching works	cum	2.1.2	3,800	200.0	7,60,000		
3	**Survey works**							
3.1	Demarkation of Block boundary and fixation of borehole and determination of coordinates and RL by DGPS	Per point of observation	1.6.2	19,200	29.0	5,56,800		(21BHs+8 Boundary = 29 nos)
3.2	Survey party days (1 party) without Labour for contouring (2m interval)	days	1.6.1.a	8,300	50.0	4,15,000		
3.3	Labour for Survey (4 Nos)	days	5.7	504	200.0	1,00,800		Amount will be reimbursed for unskilled labour as per the notified rates by the Central Labour Commissioner (Rs.504/- per day) or respective State Govt. whichever is higher)
4	**Geophysical Surveys (Outsourcing)**							

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4.1	IP cum Resistivity, SP and Magnetic Survey for 1.93 sqkm (8-10km) for 16 Line km		line km	3.4b	14,48,693	2.0	28,97,386	**28,97,386**	16 lines of 1 km length per line
5	**DRILLING**								
5.1	Surface Drilling (01 rig - Medium Hard Rock) **(Outsourcing)**		m.	2.2.1.3	10,100	1400.0	1,41,40,000	**1,52,63,000**	Total drilling meterage of 1540m (14Bhs (1st level) X 60m + 7Bhs (2nd level) X 100m)
5.2	Core preservation		m	5.3	1,590	700.0	11,13,000		(@ 30m per BH X 20 BHs + 1 complete BH @ 100m))
6	**LABORATORY STUDIES**								
6.1	Sample processing works- 1400 Nos (1250 BHs+75 Trench + 75 BRS)	Sampler charges	days	1.5.2	5,100	125.0	6,37,500	**8,89,600**	@ 1043 samples / 7 samples per day
6.2		Labour charges	days	5.7	504	500.0	2,52,000		Amount will be reimbursed for unskilled labour as per the notified rates by the Central Labour Commissioner (Rs.504/- per day) or respective State Govt. whichever is higher)
6.3	Proximate Anlalyses for graphite (4 radicals : VM,FC, Moisture & Ash)	Primary	per sample	4.1.16	3,000	880.0	26,40,000	**31,12,420**	Channel :100 nos + Trench :150nos +Bh:630 nos (@ 30m per Bh X 21 Bhs)
6.4		Internal Check (5%)		4.1.16	3,000	0.0	0		
6.5		External Check (10%)		4.1.16	3,000	88.0	2,64,000		
6.6		ICPMS / ICP-OES (34 elements analysis)		4.1.14	7,731	20.0	1,54,620		
6.7		REE analysis of 14 elements ICPMS		4.1.13	5,380	10.0	53,800		
6.8	Petro studies	Preparation of Standard Thin section	nos	4.3.1	2,353	10.0	23,530	**1,81,360**	

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6.9		Complete Petrological Report of rock sample	nos	4.3.4	4,232	10.0	42,320		
6.10		Preparation of Polished Thin section	nos	4.3.2	1,549	10.0	15,490		
6.11		Mineragraphic studies	nos	4.3.4	4,232	10.0	42,320		
6.12		XRD Studies	nos	4.5.1	4,000	10.0	40,000		
6.13	Determination of bulk density		nos	4.10	3,540	5.0	17,700		
6.14	Benficiation studies		nos	4.7.2	As per IBM rates	1.0	0		Complete Laboratory Scale Mineral Processing investigation involving studies for recovery of one mineral by various physical beneficiation methods @ Rs 3,96,000/-
7	**Sub Total (1+2+3+4+5+6)**							**2,64,47,646**	
8	**Peer review of report**		lumpsum		MoM Office Memorandum Dtd 12 July 2023			30,000	
9	Preparation of Exploration Project Proposal		lumpsum	5.1	2% of approved project cost subject to minimum of ₹ 2 lakh and maximum of ₹ 5 lakh"			5,00,000	
10	Exploration Report (5% of (Sl 9 + Sl 10))		lumpsum	5.2(iii)	Detailed exploration with cost of work exceeding Rs.300 Lakh: A min. of Rs.9 Lakh or 3% of the value of work whichever is more subject to a max. amount of Rs.20Lakhs and Rs.10000/- per each additional copy			7,93,426	
11	Tender processing Cost		lumpsum	2.3	One time in case of outsourced component(s) of project work (2% of the approved project cost or 5 lakh whichever is lower)			3,40,743	

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12	Operational Charges (Reimbursement of cost in case of outsoruced components of project work)	lumpsum	6(iii)	Rs 8.75 lakhs + 5% of balance amount outsourced in excess of Rs 1 Crore. (Maximum of Rs 15 Lakhs)			1,26,869	
13	**GRAND TOTAL (7 to 12)**						**2,93,38,689**	
14	**GST 18%**						**52,80,946**	GST will be reimbursed as per actual and as per notified prescribed rate
15	**Grand Total (with GST 18%)**						**3,46,19,635**	
						In Lacs	**346.20**	
Note:								
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**							
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**							
3	**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 execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**							
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**							

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Annexure 6B

Time Schedule/ Action Plan for Preliminary Exploration (G3) for Graphite mineralisation in Arasanur (East) Block, Shivaganga Graphite Belt, Shivaganga District, Tamil Nadu

Sl	Details of Works		Duration in months	1	2	3	4	5	6		7	8	9	10	11	12
1	**CAMP SETTING**		01													
2	**DETAILED GEOLOGICAL MAPPING** (Includes 1.93 sq km of DM + 100 nos of Channel + 200 cum Trenching)		05													
	2.1	Geologist Party days (01 Party)														
	2.2	Laboratory Works	05													
3	**Ground geophysics (16 lkm)**															
4	**Drilling**															
	4.1	Preparatory works for drilling (Approach road making)	01													
	4.2	Drilling works (02 rig - 1540m 21 Bhs)	03													
	4.3	Geologist Party days (01 Party)														
	4.4	Laboratory Works	03													
4	**Survey Works**															
	4.1	Topographic Survey works	03													
	4.2	DGPS survey works of 29 points (21BHs+8 Boundary = 29 nos)	01													
6	**Camp Winding**		01													
7	**Preparation of Reports and Maps**		01													

Review

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Annexure 7A

Cost Estimate for Preliminary Exploration (G-3) for Limestone in Sawalhira (East) Block, Chandrapur, District: Maharashtra Area 5 sq. km; No.of BH:06; Borehole depth range- 60 m; Schedule timeline- 10 months; Review: After 4 Months]

S. No.	Item of Work *	Unit *	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item No. *	Rates as per SoC * (a)	Qty. (b)	Total Amount (Rs) (a*b)	
A	**Geological Mapping Other Geological Work & Surveying**						
	Geological mapping,Topographic survey (1:4,000 scale) & Trenching , drilling work						
i	a. Charges for Geologist per day (Field) for geological mapping & trenching work, drilling work	day	1.3	11000	120	1320000	
ii	b. Labours Charges; Base rate	day	5.7	504	240	120960	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher.
	c. Charges for Geologist per day (HQ)	day	1.3	9000	50	450000	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5100	32	163200	
	e. Labours (4 Nos)	day	5.7	504	128	64512	
	Sub Total- A					**21,18,672**	
B	**Ground Geophysical Survey**						
1	IP. Induced Polarization (I.P) cum Resistivity S.P and Magnetic (30 Lkm)	8-10 Line Km					
3	Geophysicist party days (Field)	per day					
4	c. Labours Charges	day					
5	Geophysicist party days (HQ)	per day					

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	Sub Total- B					-	
C	**Survey work**						
a	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19,200	11	211200	
b	Charges of Surveyor (1 party)	one surveyor per day	1.6.1a	8,300	30	249000	Topographical Survey on 1:4000 scale
c	Labours Charges for survey work;	day	5.7	504	120	60480	Amount will be reimburse as per the notified rates by the Central Labour Commissioner (Rs. 504/- per day) or respective State Govt. whichever is higher
	Sub-Total C					**5,20,680**	
D	**Trenching/Pitting**						
	a) Excavation of Trenches	per cu.m	2.1.1	3,330	-	0	
E	**DRILLING (after review)**						
1	Drilling up to 300m (Soft Rock)	m	2.2.1.1b	6,775	300	2032500	MoC
2	Borehole deviation Survey by Multishot Camera	m					
3	Land / Crop Compansation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	-	0	
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10000	
5	Borehole plugging by cement	per borehole	2.2.7b	-	250	0	
6	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	400	14400	To and Fro

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7	Monthly Accomodation Charges for drilling Camp	month	2.2.9	50,000	2	1,00,000	
8	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
9	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
10	Road Making (Flat Terrain)	Km	2.2.10a	22,020	2	44,040	
11	Drill Core Preservation	per m	5.3	1,590	250	3,97,500	
	Sub Total E					**30,98,440**	
F	**Borehole Geophysical Logging**						
G	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
(i)	**Major Oxide Analysis**						
	a) Estimation of major oxides by XRF/whole rock analysis for primary samples (CaO, MgO, SiO2, Al2O3, LOI, Na2O, Fe2O3, MnO, K2O, TiO2, SO3, P2O5, Cr203, ZnO, V2O5)	per sample	4.1.15a	4200	230	9,66,000	30BRS +200Core Samples
	Estimation of major oxides by XRF/whole rock analysis for check samples	per sample	4.1.15a	4200	23	96,600	
	Determination of insitu Bulk Density		4.10	3,540	2	7,080	
2	**Physical & Petrological Studies**						
i	Preparation of thin section	Nos					
ii	Study of thin section	Nos					
iii	Preparation of polish section	Nos	4.3.2	1,549	5	7,745	
iv	study of polished section	Nos	4.3.4	4,232	5	21,160	
v	Digital Photographs	Nos	4.3.7	280	10	2,800	
vi	Whole Rock Analysis	Nos					
vii	Sp. Gravity	Nos					
	SEM Studies	per hour					

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viii	EPMA studies	per hour					
						11,01,385	
H	Total A to G					68,39,177	
I	Geological Report Preparation	5 Hard copies with a soft copy	5.2	5.2 (ii)		3,41,959	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
J	Peer review Charges		As per EC decision			30,000	
K	Preparation of Exploration Proposal (5 Hard copies with a soft copy)	5 Hard copies with a soft copy	5.1	2% of the Cost or Rs. 5.0 Lakhs whichever is less		1,36,784	EA will be reimbursed after submission of 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.
L	Total Estimated Cost without GST					73,47,919	
M	Provision for GST (18% of J)					13,22,626	GST will be reimburse as per actual and as per notified prescribed rate
N	Total Estimated Cost with GST					86,70,545	
				Rs. In Lakhs		86.71	

Note:	
1	Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.
2	In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.
3	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 execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.
4	Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.

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Annexure 7B

Time Schedule/ Action plan for Preliminary Exploration (G-3) for Limestone in Sawalhira (East) Block, Chandrapur, District: Maharashtra

S. No.			1	2	3	4		5	6	7	8	9	10
1	Camp Setting	Months/Days											
2	Geological Mapping & Sampling	days											
3	Geophysical survey	L.km											
4	Geophyscist party days (HQ) for data interpretation & Report	Days											
5	Pitting/Trenching	cu.m											
6	Surface Drilling (1 rigs)	m											
7	Survey Party days	days											
8	Geologst Man days	days											
9	Sampler Man days	days											
10	Camp Winding	months											
11	Laboratory Studies	Nos.											
12	Report Writing with Peer Review	months											

Review

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Annexure 8A

Cost Estimate for t Preliminary Exploration (G3) for Iron and Manganese mineralization in Ramghad Block, Bellari district, Karnataka, Area 1.0828 sq. km, No.of BH: 6, Borehole depth range- 60m; Schedule timeline- 12 months Review: After 6 Months]

S. No.	Item of Work *	Unit *	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item No. *	Rates as per SoC * (a)	Qty. (b)	Total Amount (Rs) (a*b)	
A	**Geological Mapping Other Geological Work & Surveying**						
	Geological mapping, (1:4,000 scale) & Trenching, drilling work						
i	a. Charges for Geologist per day (Field) for geological mapping, Topographical survey & trenching work, drilling work	day	1.3	11,000	60	6,60,000	
ii	b. Labours Charges; Base rate	day	5.7	504	120	60,480	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher.
	c. Charges for Geologist per day (HQ)	day	1.3	9,000	30	2,70,000	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	65	3,31,500	
	e. Labours (4 Nos)	day	5.7	504	260	1,31,040	
	Sub Total-A					**14,53,020**	
B	**Survey work**						
a	Charges for one surveyor per day (topographic survey 1:4000 Scale)	day	1.6.1a	8,300	45	3,73,500	
b	Labour (4 Nos.) per party	day	5.7	504	180	90,720	

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c	Demarcation of block boundary, Fixation of Borehole and determination of co-ordinates & Reduced Level (RL) of the borehole by DGPS	Per Point of observation	**1.6.2**	19,200	**73**	14,01,600	
	Sub Total-B					**18,66,820**	
C	**Trenching/Pitting**						
	a) Excavation of trenches up to 2 m depth	per cu.m	**2.1.1**	3,330	**40**	1,33,200	
	a) Excavation of pits up to 2 m depth	per cu.m	**2.1.2**	3,800	**20**	76,000	
	Sub Total-C					**2,09,200**	
D	**DRILLING Outsource (after review)**						
1	Drilling up to 300m (Hard Rock)	m	**2.2.1.4a**	11500	**500**	57,50,000	
2	Drill core preservation	Per m	**5.3**	1590	**400**	6,36,000	
	Sub Total-D					**63,86,000**	
E	**Laboratory Studies (outsource)**						
1	**Chemical Analysis by XRF**						
i)	**Geochemical Sampling-Surface samples (Bedrock)**						
	a. For Fe, Mn, SiO2, Al2O3, P, S by XRF	Nos	**4.1.16a**	4200	**65**	2,73,000	
	Check	Nos	**4.1.16a**	4200	**7**	29,400	
iii)	**Trench and Pit samples**						
	a. For Fe, Mn, SiO2, Al2O3, P, S by XRF	Nos	**4.1.16a**	4200	**60**	2,52,000	
	Check	Nos	**4.1.16a**	4200	**6**	25,200	
v)	**BH Core samples**						
	a. For Fe, Mn, SiO2, Al2O3, P, S by XRF	Nos	**4.1.16a**	4200	**350**	14,70,000	
vi)	**BH check samples (10% external)**						
	a. For Fe, Mn, SiO2, Al2O3, P, S by XRF	Nos	**4.1.16a**	4200	**35**	1,47,000	
2	**Physical & Petrological Studies**						
i)	Preparation of thin section	Nos.	**4.3.1**	2353	**5**	11,765	
ii)	Study of thin section	Nos.	**4.3.4**	4232	**5**	21,160	
iii)	Digital photographs	Nos.	**4.3.7**	280	**5**	1,400	
iv)	Bulk density determination 5 samples	Per Nos.	**4.10**	3540	**5**	17,700	

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	Sub Total-E					**22,48,625**	
	Total Outsourced					**79,98,625**	
F	**TOTAL A to E**					**1,21,62,665**	
G	**Tender process cost**	One time	**2.3**	2% of the approved project cost or 5 Lakh whichever is lower	**1**	1,59,973	
H	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2 (ii)**	A minimum of 2.5 Lakh or 5% of the work which ever is more	**1**	6,08,133	
I	**Peer review**	Per review	**--**	As per EC decision	**--**	30,000	
J	**Preparation of Exploration Proposal**	**5 Hard copies with a soft copy**	**5.1**	2% of approved project cost or 5 lakh whichever is lower	**1**	2,43,253	
K	**Operational charges towards outsourced work**	Based on actual outsourced cost	**6**	(ii)	**--**	7,24,897	
L	**Total Estimated Cost without GST**					**1,39,28,921**	
M	**Provision for GST (18% of M)**					**25,07,206**	
N	**Total Estimated Cost with GST**					**1,64,36,127**	
				or Say Rs. In Lakhs		**164.36**	

Note:	
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**
3	**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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**

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Annexure 8A

Time Schedule/ Action plan for Preliminary Exploration (G3) for Iron and Manganese mineralization in Ramghad Block, Bellari district, Karnataka

S. No.			1	2	3	4	5		6	7	8	9	10	11	12
1	Camp Setting	Months/Days													
2	Geological Mapping & Sampling	days													
3	Forest Clearance	days													
4	Pitting/Trenching	cu.m													
5	Surface Drilling (1 rig)	m													
6	Survey Party days	days													
7	Geologist Man days	days													
8	Sampler Man days	days													
9	Camp Winding	months													
10	Laboratory Studies	Nos.													
11	Report Writing with Peer Review	months													

Review

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Annexure 9A

Cost Estimation For Preliminary exploration (G3 stage) for REE and associated minerals in Borana block, Dist: Rajsamand, Rajasthan
Total Area 1.14 Sq.Km, Mapping 1:2000 Scale, No.of Boreholes : 6 ,Time line: 12 months, Review: After 6 months

Sl.No	Item of work	Unit	NMET SoC-Item -Sl No.	NMET Rates (2020)	Qty	Amount INR	Remarks
A	**GEOLOGICAL WORK**						
i	Geologist Party days H Q	Days	1.3	9000	30	270000	
ii	Geologist Party days - Field (DM Scale-1:2000, Topographic Survey	Days	1.3	11000	120	1320000	
iii	Labourers (Rs 504/day/labour)	Days	5.7	504	240	120960	Amount will be reimburse as per the notified rates by the Central Labour Commissioner (Rs. 504/- per day) or respective State Govt. whichever is higher
iv	Sampler Party days (1party)	Days	1.5.2	5100	55	280500	
v	Labour for Sampling	Days	5.7	504	220	110880	Amount will be reimburse as per the notified rates by the Central Labour Commissioner (Rs. 504/- per day) or respective State Govt. whichever is higher
	TOTAL A					**2102340**	
B	**SURVEY**						
i	Surveyor Party Days (1 party)	Days	1.6.1a	8300	30	249000	
ii	Labourers (Rs 504/day/labour) for Survey Party (4 Nos)	Days	5.7	504	120	60480	Amount will be reimburse as per the notified rates by the Central Labour Commissioner (Rs. 504/- per day) or respective State Govt. whichever is higher
iii	DGPs Survey- Fixation of BHS.Determination of Coordinates & Reduced Levels + 1 Base Station	Per point	1.6.3	19200	0	0	
	TOTAL C					**309480**	
C	**PITTING & TRENCHING (120 cu m)**						

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i	Pitting(1m x 1mx 1 m) - 5nos	Per Cu.M	2.1.2	3800	100	380000	
	TOTAL D					**380000**	
D	**DRILLING**						
	Drilling (150 m for 1 BH and 250m in 5 BHs)	mts	2.2.1.4a	11500	400	4600000	
	Drillcore preservation charges- "One complete borehole plus mineralised cores of all the BHs of the Block, all cost included "150m for one borehole, 50m mineralised zone for remaining 5 Bhs, "	per mts	5.3	1590	400	636000	
	Approach Road making for Rugged-Hilly terrain	per km	2.2.10b	32200	3	96600	
	Land Compensation	per borehole	5.6	20000	6	120000	
	Construction of concrete Pillar (12" x12"x30")	per borehole	2.2.7a	2000	6	12000	
	Accommodation	per month	2.2.9	50,000	3	150000	
	Drilling Camp setting cost	per project	2.2.9a	250000	1	250000	
	Drilling Camp Winding cost	per project	22.9b	250000	1	250000	
	Transportation of drill rig and truck associated with it (To & pro)	km	2.2.8	36	3400	122400	
	TOTAL E					**6237000**	
E	**LABORATORY STUDIES**						
i	**a.Chemical analyses**	Nos					
	Analyses of Geochemical -BRS, Trench/Pit Samples REE Analysis 14 elements -ICPMS	Per sample	4.1.13	5380	200	1076000	
ii	**Primary + Check Sample (other than drill core)**						
	(a)Check Samples- 10% External	Per sample	4.1.13	5380	20	107600	
iii	**Drill Core Samples**						
	Analyses of Geochemical REE Analysis 14 elements	Per samples	4.1.13	5380	200	1076000	
iv	**Primary + Check Sample (Drill core)**						
	(a)Check Samples- 10% External	per sample	4.1.13	5380	20	107600	

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v	**b.Petrography studies**						
	(a) Preparation of thin sections	Per sample	4.3.1	2353	10	23530	
	(b)Complete petrographic /ore microscopic study/Mineragraphic studies	Per sample	4.3.4	4232	10	42320	
	(c)Preparation of Polished Sections	Per sample	4.3.2	1549	10	15490	
	c) EPMA Studies	Per hour	4.4.1	8540	10	85400	
	d)Whole Rock Analysis	Per samples	4.1.15a	4200	10	42000	
	TOTAL F					**2575940**	
F	**GEOTECHNICAL STUDIES**						
i	Specific Gravity Determination	Per Sample	4.8.1	1605	5	8346	
	TOTAL G					**8346**	
	TOTAL A+B+C+D+E+F+G					**11613106**	
G	**PREPARATION OF EXPLORATION PROPOSAL (5+1 Softcopy)**	Per Project	5.1		1	**232262**	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.
H	**PEER REVIEW**	As per EC committee				**30000**	
	TOTAL A to I	Per Project				**11875368**	
I	**GEOLOGICAL REPORT PREPARATION (@3%)**	Per Project	5.2 ii		1	**680655**	
	TOTAL A to J					**12456023**	
	GST 18%					**2242084**	
Total with GST 18%						**14698108**	
				Rs. In lacs		**146.98**	
Note:							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**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 execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						

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Annexure 9B

Time Schedule/ Action Plan for Preliminary exploration (G3 stage) for REE and associated minerals in Borana block, Dist: Rajsamand, Rajasthan

S. No.	Activity	Months/Days	1	2	3	4	5	6		7	8	9	10	11	12
1	Camp Setting	Months/Days													
2	Geological Mapping & Sampling	days													
3	Geophysical survey	days													
4	Geophysicist party days (HQ) for data interpretation & Report	Days													
5	Pitting/Trenching	cu.m							REVIEW						
6	Drilling	m													
7	Survey Party days	days													
8	Geologist Man days	days													
9	Sampler Man days	days													
10	Camp Winding	months													
11	Laboratory Studies	Nos.													
12	Report Writing with Peer Review	months													

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