Ministry of Mines
National Mineral Exploration Trust
Minutes of the 64th Technical-cum-Cost Committee (TCC) meeting held on 25th, 29th & 30th April, 2024 through video conferencing

The 64th 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 25th, 29th & 30th April, 2024.

Members of TCC-NMET and representatives from Geological Survey of India, MECL, KIOCL, Karnataka, CMPDI, MPSMC, OMC, Odisha, DMG, Rajasthan, DGM, Karnataka, DMG, Telangana, DGM, Chhattisgarh, DMG, Odisha, DGM, Assam, DGM, Mizoram, DGM, Maharashtra, DGM, Assam, DGM, Madhya Pradesh, DGM, Nagaland, DGM, J&K, Gemcokati Exploration Pvt. Ltd, Maheshwari Mining Pvt. Ltd, Geovale Services Private Limited, United Exploration India Pvt Ltd, GeoMarine Solutions Pvt. Ltd, GeoExpore Pvt. Ltd, Novamine India Pvt Ltd, V. M. Salgaocar and Brother Pvt Ltd, have attended the meeting through their respective VC modes.

The participants are listed in 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 recommended that all NEAs and NPEAs adhere to a standard colour code when preparing geological maps. He emphasized the importance of agencies proposing items based on their manpower capabilities to ensure high-quality outputs. Additionally, he instructed all the agencies to clearly indicate in-house and outsourced components when submitting new project proposals.

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

Agenda 64.1 Review of Ongoing Projects/Completed Project & Timeline Extension

Agenda 64.1.1. Reconnaissance Survey (G4 stage) for Lithium and Potassium in Merak Block (114.19 sq. km), Districts- Leh, Ladakh (UT) [Implementing Agency: MECL]

a) MECL informed that the project was approved in the 23rd EC Meeting held on 16th March, 2022. Sanction order was issued on 25th March, 2022 with timeline of 24 months and approved cost was INR Rs. 2,13,04,062/-.
b) MECL informed that the comments of the peer reviewer have been incorporated and the GR is ready for submission.

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c) Upon review, the committee opined that the results are not encouraging and directed MECL to incorporate detailed petrological report in the GR while submitting.

Recommendation TCC:

The Committee noted the outcome of the project and agreed for submission of GR to NMET Secretariat.

Agenda 64.1.2. Reconnaissance Survey (G4 stage) for Copper, Lead, Zinc and Gold in TaricharKhurd Block, District- Niwari, Madhya Pradesh.

[Implementing Agency: MECL].

a) MECL informed that the project was approved in 27thEC Meeting held on 10th January, 2023. Sanction order was issued on 06th February, 2023 with timeline of 12 months and approved cost was INR Rs. 49, 34,888/-.
b) MECL informed that the project was reviewed in the 58thTCC meeting of NMET and encouraging values of tungsten (W) were reported from the area with only one sample showing encouraging copper (Cu) value.
c) MECL requested for approval of 14 additional bedrock samples and timeline extension upto 30th April 2024 for submission of GR.
d) The committee recommended MECL to take up G3 stage proposal for tungsten (W) in the block. The committee approved 14 additional bedrock samples and for time extension upto 30th April 2024.

Recommendation TCC:

The Committee recommended 14 additional bedrock samples with estimated additional cost of Rs. 1.54 Lakhs (Annexure 2). The committee agreed for time extension upto 30th April 2024for submission of GR.

Agenda 64.1.3. Reconnaissance survey (G4 stage) for Copper in Chalima Block (101.84 sq.km) in Giridih district, Jharkhand.

[Implementing Agency: MECL]

a) MECL informed that the project was approved in 22nd EC Meeting held on 22nd December, 2021.The sanction order was issued on 07thJanuary, 2022 with timeline of 12 months and approved cost 1,82,62,538/-.
b) MECL presented the progress of the project and requested for time extension upto 15th June 2024
c) The committed opined MECL need to revisit the area and plot the borehole locations accurately. The committee agreed for time extension up to 15th June 2024.

Recommendation TCC:

The Committee recommended time extension up to 15th June 2024.

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Agenda 64.1.4. Reconnaissance Survey (G-4) for REE and Base-Metal mineralization in Temi-Tarku-Damthang area, East Sikkim district, Sikkim state.

[Implementing Agency: MECL]

a) MECL informed that the project was approved in 23rd meeting of EC held on 16th March, 2022. The sanction order was issued on 25th March, 2022 with timeline of 14 months and approved cost was INR ₹ 4,52,06,980/-.
b) MECL requested for in-principle approval of analytical cost of Rs 1, 02,746/- towards analysis of 41 Nos. of samples (@ Rs 2506 X 41 Nos) without any cost over run in the project and timeline extension for final GR submission till 31st May, 2024.
c) The committee reviewed the project and agreed for 41 additional samples without cost overrun and asked for submission of GR by 30th April 2024.

Recommendation TCC:

The Committee recommended GR submission by 30th April 2024 and approved 41 additional samples without cost overrun.

Agenda 64.1.5. Preliminary Exploration (G-3 stage) for Limestone in Pipariya- Nayakheda-Simariyakalan-Baheriya Block (10.00 sq. km), District: Narsingpur, Madhya Pradesh.

[Implementing Agency: MECL]

a) MECL informed that the project was ratified in 30thEC meeting held on 06th June, 2023. The sanction order was issued on 26th June, 2023 with timeline of 08 months and approved cost was INR ₹ 1,16,50,093/-.
b) MECL presented the outcome ofthe projectand requested for time extension upto 31stMay 2024.
c) The committee reviewed the proposal and suggested MECL to properly monitor the borehole planning and execution, as some of the borehole locations displayed in the PPT were not according to the trend of the limestone.
d) The committee suggested to bring the project for review in the next TCC after peer review.

Recommendation TCC:

The Committee recommended review of the project again in the next TCC after incorporation of the suggestions of the peer reviewer and agreed for time extension upto 31st May 2024 for GR submission.

Agenda 64.1.6. Reconnaissance Survey (G-4 Stage) for REE and Rare Metals (RM) mineralization in Khairlanji Block (123.04 sq. km). Part of Districts: Balaghat & Seoni, State –Madhya Pradesh.

[Implementing Agency: MECL]

a) MECL informed that the project was approved in 28thmeeting of EC held on 16th March, 2023. Sanction order was issued on 03rd April, 2023 with timeline of 12 months and approved cost was INR₹ 68,44,585/-.

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b) MECL informed that the work has been completed and analytical result for all the bedrock samples for rare metals show Ti (127.50-95723.84 ppm) and Rb (2.14-1172.50 ppm). However, no specific zone of REE mineralisation could be identified for further exploration.
c) The committee noted the outcome of the project and agreed for submission of the GR for peer review.

Recommendation TCC:

The Committee recommended to submit the GR for peer review and agreed for time extension upto 31st May 2024 for GR submission.

Agenda 64.1.7. Preliminary Exploration (G-3 stage) for Manganese & Graphite in Larambha Block (2.57 sq. km), District- Balangir, Odisha.

[Implementing Agency: MECL]

a) MECL informed that the project was approved in 32ndEC meeting held on 06th December, 2023. Sanction order was issued on 12th December, 2023 with timeline of 11 months and approved cost of INR ₹ 2,14,13,609/-.
b) MECL presented the progress of the project and informed that 3 bore hole has been completed and 10 No. (Cumulative length of 1598m, Average width of 16m) of mineralized zone has been demarcated.
c) Considering the encouraging values, the committee agreed for completion of drilling in the area

Recommendation TCC:

The Committee recommended completion of drilling of boreholes.

Agenda 64.1.8. Preliminary Exploration (G-3 stage) for Manganese & Graphite in Kanaital Block (4.26 sq. km), District- Balangir, Odisha.

[Implementing Agency: MECL]

a) MECL informed that the project was approved in 32nd meeting of EC held on 06th December, 2023. Sanction order was issued on 12th December, 2023 with timeline of 11 months and approved cost of ₹ 2,23,40,108/-.
b) MECL informed that topographic survey (1:2000) and trenching (7nos.) are completed in the area. Besides, drilling of 201m out of 855 m approved meterage has alsobeen completed in the project.
c) It was informed that 10 BHs are yet to be drilled with avg thickness of graphite 20m MECL informed that thickness of the graphite bands intersected is considerably higher than considered during proposal.
d) MECL requested approval of the committee for additional 231 samples for Proximate Analysis for Graphite

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e) Considering the progress of the work, the committee agreed for additional sampling. However, MECL was advised to fix the number of additional samples after completion of drilling and revise the cost sheet accordingly in the next review of the project.

Recommendation TCC:

The Committee recommended completion of drilling and agreed for additional samples for proximate analysis for graphite. The quantum of additional samples maybe fixed judiciously after completion of drilling. The committee also recommended to submit the revised cost sheet after the completion of drilling.

Agenda 64.1.9. Reconnaissance Survey (G-4) for REE in Sarnu Block (118.10 sq. km), Barmer District, 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 of INR ₹ 69,92,176/-.
b) MECL informed that two zones were identified within the block and two small zones were identified outside the block based on geological mapping (1:12,500 scale) and surface geochemical sampling. MECL
c) MECL proposed radiometric survey in the four potential zones identified by Geochemical sampling. Geophysical surveying was proposed to understand response of alkaline rocks, carbonatite dykes and to delineate extension of alkaline/carbonatite body in soil covered areas based on geophysical response.
d) The committee opined that magnetic survey may be carried out in the 2 northern blocks after combining the two blocks. The committee did not approve radiometric survey in the block.

Recommendation TCC:

The Committee recommended magnetic survey may be carried out in the 2 northern blocks after combining the two blocks.

Agenda 64.1.10. 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. Sanction order was issued on 12th December, 2023 with timeline of 12 months and approved cost of ₹ 3,55,98,122/-.
b) MECL informed that the project was reviewed in the 63rd TCC and the committee recommended for reviewing in next TCC with sampling results and topographical survey.
c) MECL proposed revision of the NQT and exploratory boreholes along synclinal axis, perpendicular to folded limbs.

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d) The committee after the review, opined that planning of boreholes needs to be done with the diligent understanding on the structure of the block.
e) The committee deliberated on the matter and suggested modifications before drilling inclined boreholes. The project is to be brought for review in the next TCC.

Recommendation TCC:

The Committee recommended inclined boreholes in the area and asked review of the project in next TCC.

Agenda 64.1.11. Reconnaissance Survey (G-4) for Manganese ore in Taljuri- Gunchadihi Block (80.00 sq. km), Balangir District, Odisha.

[Implementing Agency: MECL]

a) MECL informed that the project was approved in 27th EC Meeting held on 10th January, 2023. Sanction order was issued on 03rd February, 2023 with timeline of 14 months and approved cost of INR Rs.1,66,59,625/-.
b) MECL informed that geophysical activities completed and trenching work is in progress. Time period completed on 02.04.2024
c) MECL sought approval for time extension required 05 months i.e up to 02.09.2024 for trenching, drilling and other associated works.

Recommendation TCC:

The Committee recommended timeline extension upto 31st August 2024 and asked MECL to submit justification for the delay to NMET Secretariat at the earliest.

Agenda 64.1.12. 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. Sanction order was issued on 04th September, 2023 with timeline of 09 months and approved cost ₹ 1,20,92,849/-.
b) In the 63rd TCC meeting, revision of area was discussed.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.
c) DGM Odisha informed that, in the 27th EC, approval wasgiven for14.326 Ha (0.143 Sq.km).However, the total revised area is 57 Ha (overlap area- 8.5 Ha).
d) It was also informed that as per approval, 12 line Km was covered by Self-potential data gathered in 25m x 10m grid pattern over 641 station points.
e) DGM Odisha sought permission for revised area of 57 km, completion of geological mapping and topographic survey in additional 48.5 Ha & Geophysical survey 48.5 Ha with additional timeline for 60 days with additional cost of Rs.26,50,233/-.

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f) The committee opined that the additional area may be taken up as new project. Committee suggested tocarry out drilling (6 bhs) and complete the project in the already approved area (as per 27th EC) within the allocated cost.

Recommendation TCC:

The Committee recommended drilling of boreholes and completion of project as already approved .The committee did not approve additional area.

Agenda 64.1.13. Preliminary exploration for coal in West of ChahnoRikba block North Karanpura CF Jharkhand.

[Implementing Agency: CMPDI]

a) CMPDI informed that the project was approved in 24th meeting of EC held on 18th May, 2022. Sanction order was issued on 02nd June, 2022 with timeline of 12 months and approved cost ₹ 3,74,86,303/-.

b) CMPDI informedthat the project has been completed andrequested for time extension of 1 month up to 30th April 2024 for GR submission.

Recommendation TCC:

The Committee recommended time extension upto 30th April 2024 for GR submission

Agenda 64.1.14. Preliminary exploration for coal in North of Saoner block, Kamptee Coalfield, KampteeCF,Maharashtra.

[Implementing Agency: CMPDI]

a) CMPDI informed that the project was approved in 27th meeting of EC held on 10th January, 2023. Sanction order was issued on 03rdFebruary, 2023 with timeline of 14 months and approved cost of ₹ 2,65,01,074/-.

b) CMPDI presentedthe progress of the project and sought for time extension up to 2nd July 2024 for GR submission.

Recommendation TCC:

The Committee recommended noted the progress of the project andapproved time extension upto 2nd July 2024.

Agenda 64.1.15. Reconnaissance Survey for Coal in Khapia block, North Karanpura CF Jharkhand.

[Implementing Agency: CMPDI]

a) CMPDI 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 of ₹ 1,61,48,115/-.

b) CMPDI informed that the project has been delayed due to non-receipt of forest clearance and sought time extension for 6 months.

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c) The committee asked CMPDI to submit all the correspondences made with Dept. of Forests seeking FC to NMET and time extension has not been considered as CMPDI is not sure of obtaining FC.

Recommendation TCC:

The Committee deferred recommending time extension and asked CMPDI to obtain FC first. CMPDI is asked to inform NMET when clearance will be granted/ The Committee recommended time extension upto October' 2024.

Agenda 64.1.16. Preliminary exploration (G3) for amalgamated limestone blocks in Jevargi area, Kalaburagi district, Karnataka.

[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 of ₹ 2,32,87,514/-.
b) KiOCL informed that the projecthas alreadybeen completed andthe reports havebeen already submitted to the NMET Secretariat.
c) KIOCL requested TCC for approval of revised cost by including outsource component in drilling and charges for 3 additional geological reports.

Recommendation TCC:

The Committee approved the revised cost of Rs. 1,60,05,057/- for the project as per Annexure 2.

Agenda 64.1.17. Reconnaissance Survey (G-4) for Limestone in Banki-Salaiya Block (25 sq.km.), Chhhattarpur district, Madhya Pradesh.

[Implementing Agency: MPSMC]

a) MPSMC informed that the project was approved in 32nd meeting of EC held on 06th December, 2023. Sanction order was issued on 12th December, 2023 with timeline of 09 months and approved cost of INR ₹ 48,07,691/-.
b) MPSMC informed that the project is being delayed due to non-receipt of forest clearance.
c) The committee insisted to review the project after completion of geological mapping which will be done after getting FC.

Recommendation TCC:

The Committee recommended to review the project after completing geological mapping, which will commence after obtaining Forest Clearance (FC).

Agenda 64.1.18. Reconnaissance Survey (G-4) for Phosphorite in Bijawar - Imiliya block (95.67 sq.km.), Chhattarpur district, Madhya Pradesh. [Implementing Agency: MPSMC]

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a) MPSMC informed that the project was approved in 32nd meeting of EC held on 06th December, 2023. Sanction order was issued on 12th December, 2023 with timeline of 12 months and approved cost of ₹ 1,26,86,119/-.
b) MPSMC informed that the project is being delayed due to non-receipt of forest clearance.
c) The committee insisted to review the project after completion of geological mapping which will be done after getting FC.

Recommendation TCC:

The Committee recommended to review the project after completing geological mapping, which will commence after obtaining Forest Clearance (FC).

Agenda 64.1.19. Preliminary Exploration (G-3) for Limestone in Bhatura Block (1.5 sq.km.), Satna district, Madhya Pradesh. [Implementing Agency: MPSMC]

a) MPSMC informed that the project was approved in 32nd meeting of EC held on 06th December, 2023. Sanction order was issued on 12th December, 2023 with timeline of 08 months and approved cost of INR ₹ 62,70,842/-.
b) MPSMC presented the progress of work in the block and informed that pitting will be carried out shortly.
c) The committee opined that pitting will not be necessary in the block and asked MPSMC to commence drilling in the block and come for review after completion of the same.

Recommendation TCC:

The Committee recommended drilling in the block and asked for reviewing the project on completion of drilling.

Agenda 64.1.20. Reconnaissance Survey (G4) For REE Mineralization In Kenda-Barpali Block, District Bilaspur, Chhattisgarh [Implementing Agency: DGM Chhattisgarh (GeoExpore Pvt. Ltd.)]

a) GeoExpore Pvt. Ltd informed that the approval for the project was ratified in 30th meeting of EC held on 06th June, 2023. The sanction order was issued on 26th June, 2023 with timeline of 06 months and approved cost of ₹ 47,51,503/-.
b) Geoexpore presented the progress of work in the area after completion of geological mapping. Geoexpore informed that 121 samples have been collected but forest permissionis stillawaited to carry out pitting/ trenching. Geoexpore requestedtimeline extension up to 31st July 2024 for completion of the project.
c) While reviwing, the DGM Chhattisgarh informed that the area has less potential for REE.
d) The committeeasked Geoexpore to revisit the area and modify the geological mapwith proper interpretation of field data and use standard color codesfor lithologies.
e) The committeeinformed Geoexporenot tocarry out pitting/trenching in the block and recommended timeline extension upto 31st May 2024. The proper map should be reviewed in the next TCC meeting.

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Recommendation TCC:

The Committee recommended for review after modification of geological map and time extension upto 31st May 2024.

Agenda 64.1.21. Reconnaissance Survey (G-4 Stage) for Graphite in Dindo- Belkurta-Basera Block, District: Surguja, Chhattisgarh. [Implementing Agency: DGM Chhattisgarh Maheshwari Mining Pvt. Ltd.]

a) Maheshwari Mining Pvt. Ltd. informed that the approval for the project was ratified in 31st meeting of EC held on 12th September, 2023. The sanction order was issued on 5th October, 2023 with timeline of 12 months and approved cost ₹ 1,04,63,931/-.
b) MMPL presented the progress of work along with geological map.

Recommendation TCC:

The committee suggested obtaining all geophysical outputs, analyzing samples for FC, preparing a geological map that incorporates all TCC suggestions, and presenting it for review at the next TCC meeting.

Agenda 64.1.22. Reconnaissance Survey (G4 Stage) for Bauxite in Sirmaur - Kevati Block (145 Sq. Km.), District: Rewa, Madhya Pradesh.
[Implementing Agency: DGM Madhya Pradesh and Maheshwari Mining Pvt. Ltd.)]

a) DGM Madhya Pradesh (Maheshwari Mining Pvt. Ltd.) informed that the approval for the project was ratified in 30th meeting of EC held on 06th June, 2023. The sanction order was issued on 26th June, 2023 with timeline of 08 months and approved cost ₹ 89,75,255/-.
b) MMPL informed that the work has been completed and the report is ready for peer review.
c) MMPL informed that total of 5.8million tonnes of in-situ aluminous laterite resource, with Al_2O_3 (21.98-24.66%, TiO_2 (1.22-2.61%), have been estimated from all sub-blocks (Block-A, Block-B, Block-C, Block-D, Block-E) using Surpac 3D Modelling of Sirmaur-Kevati Block, Rewa.

Recommendation TCC:

The Committee recommended for timeline extension upto 15th June'24 for final submission of GR.

Agenda 64.1.23. Reconnaissance Survey (G-4) for PGE, Gold& REE in Maneri- Sitapala Block, Balaghat District, MP.
[Implementing Agency: DGM Madhya Pradesh (Gemcokati Exploration Pvt. Ltd.)]

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a) Gemcokati Exploration Pvt. Ltd. informed that the approval for the project was ratified in 31st meeting of EC held on 12th September, 2023. The sanction order was issued on 05th October, 2023 with timeline of 08 months and approved cost of ₹ 64,92,482/-.
b) Gemcokati presented the progress of work and informed that forest clearance is awaited for completion of drilling in the block. Gemcokati sought approval of the committee for 50 additional samples with time extension upto 15th July 2024.
c) The committee noted the work progress and advised to bring the complete analytical results in next TCC.

Recommendation TCC:
The Committee recommended to review the project in next TCC and also recommended for time extension upto 31st July 2024

Agenda 64.1.24. Preliminary Exploration (G3) for Gold in Salaikana Block, District: Keonjhar, Odisha.
[Implementing Agency: OMC]

a) OMC informed that the approval for the project was ratified in 31st EC meeting held on 12th September, 2023. The sanction order was issued on 05th October, 2023 with timeline of 12 months and approved cost of ₹ 2,01,98,905/-.
b) OMC informed that geological mapping in the block is in progress and analytical results of samples are awaited. Pitting/ trenching in laterite bearing areas to ascertain the extent of laterite and polymetallic quartz veins should be undertaken after analysis of bedrock samples from these zones, followed by IP survey and drilling.
c) The committee also opined that the progress of the project is slow and asked to review the project after 2 months

Recommendation TCC:
The Committee recommended for review of the project after 2 months.

Agenda 64.1.25. Preliminary Exploration (G3) for Gold in Dimirimunda Block, District- Keonjhar, Odisha.
[Implementing Agency: OMC]

a) OMC informed that the approval for the project was ratified in 31st EC Meeting held on 12th September, 2023. The sanction order was issued on 05th October, 2023 with timeline of 12 months and approved cost of ₹ 2,01,98,905/-.
b) OMC informed that geological mapping in the block is in progress and analytical results of samples are awaited. Pitting/ trenching in laterite bearing areas to ascertain the extent of laterite and polymetallic quartz veins should be undertaken after analysis of bedrock samples from these zones, followed by IP survey and drilling.
c) The committee also opined that the progress of the project is slow.

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Recommendation TCC:

The Committee acknowledged the slow progress of the project and advised OMC to carry out further work before presenting for review at the upcoming TCC meeting.

Agenda 64.1.26. 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 of ₹ 2,32,65,315/-.

b) OMC informed that mapping (1:4000 scale) has been completed. Further, based on the. SP survey, graphite occurrences and chemical analysis 07 nos. of boreholes have been drilled .

c) OMC sought permission for carry out the 3 more proposed boreholes and time extension upto 6 months for completion of the project

Recommendation TCC:

The Committee recommended completion of drilling in the block withtime extension of 6 months ie. 2nd December 2024 for GR submission.

Agenda 64.1.27. Preliminary Exploration (G3) for Graphite in Lamer-Panga Block- B (12.994 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 14 months and approved cost ₹ 2,16,60,170/-.

d) OMC informed that mapping (1:4000 scale) has been completed and encountered lithounits like Granite gneiss, Khondalite, Quartzite, Charnockite in 12.994 sq. km. proposed area. Graphite occurrence pits are observed within this block.

e) OMC added that on the basis of the anomalous zone from SP survey, graphite occurrences and chemical analysis result of surface samples; 05 nos. of boreholes having 222 m have been drilled and the chemical analysis result (182 nos.) has been obtained of all.

f) OMC sought permission for carry out the 2 proposed boreholes and time e extension upto 6 months for completion of the project

Recommendation TCC:

The Committee recommended completion of drilling in the block withtime extension of 4 months i.e. 2nd August 2024 for GR submission

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Agenda 64.1.28. Financial assistance from NMET funds to procure machinery/laboratory equipment/instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DGM Chhattisgarh]

a) DGM, Chhattisgarh 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 of ₹ 4,78,27,000/-.
b) DGM, Chhattisgarh informed that administrative sanction was received from the state government on 27.02.2024. Hence, requested time extension for 12 months for procurement of the approved items.

Recommendation TCC:

The Committee recommended time extension up to 31st December 2024.

Agenda 64.1.29. Financial assistance from NMET funds to procure machinery/laboratory equipment/instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DGM Maharashtra]

a) DGM, Maharashtra informed that the project was approved in 27th EC meeting held on 10thJanuary, 2023. Sanction order was issued on 24thMarch, 2023 with timeline of 12 months and approved cost of ₹ 4, 42, 61,500/-.
c) DGM, Maharashtra informed that administrative approval from the state has been received and requested time extension for 12 months for procurement of the approved items.

Recommendation TCC:

The Committee recommended time extension up to 30th September' 2024 and asked DGM Maharashtra to submit suitable explanation and justification for the delay to NMET Secretariat.

Agenda 64.1.30. Financial assistance from NMET funds to procure machinery/laboratory equipment/instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DGM Nagaland]

a) DGM, Nagaland informed that NMET had approved cost of ₹481 lakh, ₹14.25 lakh and ₹ 20 lakh for Procurement of the project was approved in 28th EC, 29th EC and 32nd EC meeting respectively.
b) The committee was informed that procurement of all equipment and machineries as approved by NMET has been completed except for WD-XRF machine. The NOC from AERB for import of the machine has been obtained on 4.03.2024 and the machine is in the process of shipment.

c) DGM, Nagaland sought time extension upto 30th June 2024 for completion of shipment and installation of the WD-XRF machine

Recommendation TCC:

The Committee recommended time extension upto 30th June 2024

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Agenda 64.1.31. Financial assistance from NMET funds to procure machinery/laboratory equipment/instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DGM J&K]

a) DGM J&K informed that the project was approved in 29th meeting of EC held on 31stMarch, 2023. Sanction order was issued on 31st May, 2023 with timeline of 12 months and approved cost of ₹ 1,44,56,000/-.
b) DGM J&K requested timeline extension of 12 months for procurement of the approved items.

Recommendation TCC:

The Committee recommended to purchase the AAS instrument atthe earliest and come in the next TCC for time line extension.

Agenda 64.1.32. Financial assistance from NMET funds to procure machinery/laboratory equipment/instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DGM Assam]

a) DGM, Assam informed that the project was approved in 27th EC meeting held on 10thJanuary 2023. The Sanction order was issued on 24th March , 2023 with timeline of 12 months and approved cost of ₹ 4,03,64,950/-.
b) DGM, Assam informed that the procurement process is in progress, however due to the MCC, purchase has been further delayed and requested for time extension up to 31st December 2024.

Recommendation TCC:

The Committee recommended time extension up to 31st December 2024.

Agenda 64.1.33. Preliminary Exploration (G-3) for Gold & assoc. minerals in Sirigeri Block (2 sq.km.), Ballari district, Karnataka.
[Implementing Agency: DGM Karnataka]

a) DGM Karnataka informed that the project was approved in 32nd meeting of EC held on 12thDecember, 2023.
b) DGM, Karnataka sought clarification if additional survey man-days required for geophysical activity by MECL would be sanctioned by NMET **or** survey man-days is included in the SoC of geophysical survey.
c) Upon review, the TCC informed DMG, Karnataka that separate sanction for survey work is not available for the outsourced Geophysical work. The cost of outsourced geophysical work approved in the NMET SOC includes survey work.

Recommendation TCC:

The Committee did not recommend additional survey man days required for geophysical activity.

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Agenda 64.1.34. Preliminary exploration (G3) for limestone in Itga blocks, District: Kalaburagi, Karnataka. (Block area- 10.60 sq. km).

[Implementing Agency: DGM Karnataka]

a) DGM Karnataka informed that the project was approved in 28th EC Meeting held on 16thAugust, 2023. Sanction order was issued on 18th October, 2023 with timeline of 12 months and approved cost of ₹ 1,25,25,588

b) The committee was informed that the item was reviewed in the 62nd TCC 01st March 2024, and timeline extension was granted till 25.03.2024. But due to delay in receiving the peer reviewer comments and LokSabha Elections, final report could not be submitted. Hence, it was requested to extend the timeline to 15th June 2024.

Recommendation TCC:

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

Agenda 64.1.35. Preliminary Exploration (G3) For Ni, Co and PGE Minerals In JC Pura Mafic-Ultramafic Schist Belt Near Rampura and Gollarahatti Block, Hassan District, Karnataka.

[Implementing Agency: DGM Karnataka (GeoExpore Pvt Ltd.]

a) GeoExporePvt Ltd. informed that the project was approved in 29th meeting of EC held on 31stMarch, 2023. Sanction order was issued on 17thApril, 2023 with timeline of 10 months and approved cost of ₹ 82,87,108/-.

b) The committee was informed that drone survey wascarried duringgeological mapping in the area.Only 0.15 sq.km area out of approved 0.85 sq.km was mapped. Geophysical survey has been completed.15 BRS has been collected

c) GeoExpore informed that due to sustained opposition from the local community, the halt progress of the project has come to halt.

d) DGM Karnataka also informed the committee that the local resistance still persists in the area.

e) In view of the above, the committee suggested to surrenderthe project and submit the GR by 31st May 2024.

Recommendation TCC:

***The Committee recommended to* surrender the project and recommended time extension upto 31st May 2024.**

Agenda 64.1.36. Preliminary Exploration (G3 stage) for Ni, Cr, Cu, PGE, Au- REE in Mafic-Ultramafic bodies in HadanurTagadur Belt, Mandya District, Karnataka.

[Implementing Agency: DGM Karnataka (GeoExpore Pvt Ltd.]

a) GeoExporePvt Ltd. informed that the project was approved in 29th EC meeting held on 31st March, 2023 approved cost of ₹. 86.12 Cr.

b) GeoExpore Pvt Ltd. informed that trenching was conducted in the area and 150 trench and 50 composite samples were analysed. The results of the Fire Assay, check and

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specific gravity samples are awaited. Time extension was sought up to 31st July 2024 for GR submission.

c) The committee reviewed the projects and found that bedrock sampling should have been preceded by petrographic characterization of the metaultramafics in the area and accordingly suggested modifications.

Recommendation TCC:

The Committee recommended to review the project again in next TCC after incorporation ofthe comments of TCC and receipt of analytical results.

Agenda 64.1.37. Reconnaissance survey for Limestone in Sangmania Block, Dist. Satna, Madhya Pradesh.
[Implementing Agency: MPSMC]

a) MPSMC informed that the 14th EC of NMET on 09.09.2019 approved the project Reconnaissance survey for Limestone in Sangmania Block, Dist. Satna, Madhya Pradesh.

b) It was conveyed work was completed in field season 2020-21 and report was handed over the report to Directorate of Geology and Mining (DGM), MP.

c) In the 61st TCC, time extension upto 15th February 2024 was recommended for submission of the GR. Accordingly, the GR was submitted and final bills were submitted to NMET for reimbursement.

d) MPSMC requested for approval of the committee for change in drilling component from in-house (approved in 14th EC) to outsource and addition of another of ₹30,000 as peer reviewer charges.

e) The total expenditure for the exploration of the block was INR 45.01 lakh against the approved amount of INR 41.52 lakh. It was informed that MPSMC did not receive any approval for funding from NMET for camp setting. However, INR 5.97 lakh was spent in drill camp setting. MPSMC also requested for 105geologist field days as against 70 field days approved in 15th EC of NMET.

f) Considering the time gap between the approval & execution of the project and final submission of GR, the committee opined that the approved cost of the project and its components may not be altered. Further, there is no provision in the existing SOC of NMET to pay the cost towards Camp Setting for outsourced drilling.

g) However, as per the OM no. 6/2/2015-NMET/160 dated 12.07.2023, ₹30,000 was approved by the committee towards peer review charges.

Recommendation TCC:

The Committee recommended only Rs. 30, 000/- (Rs. Thirty thousand only) towards payment of peer review charges.

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Agenda 64.2. Project Evaluation for In-Principle Approval

Agenda 64.2.1. Preliminary exploration (G3 Stage) for REE and associated minerals in Uppala block, Kasargod District, Kerala
[Implementing Agency: GeoExpore Pvt. Ltd.]

a) The GSI's G4 study in soil samples found LREE values ranging from 1019.31 to 2908.92 ppm (mean: 1964.11 ppm), HREE values from 80.24 to 186.36 ppm (mean: 133.3 ppm), and ΣREE from 1099.55 to 3095.28 ppm (mean: 2097.41 ppm). This prompted GSI to recommend a detailed coastal region study to assess REE concentrations along the coast.

b) According to researchers, plutonic rocks and their metamorphic equivalents, especially felsic types, contain high levels of accessory minerals like zircon, apatite, titanite, monazite, and xenotime, often with elevated epidote and allanite. This suggests that beach sands from weathered plutons could be REE-rich.

c) Based on GSI's findings and global REE research, a proposal for "Preliminary Exploration (G3 Stage) for REE and Associated Minerals" is being submitted around Uppala Village in Kasargod district, Kerala.

Recommendation of TCC:

The committee reserved the decision for want of comments from DMG, Kerala. Meanwhile DMG, Kerala has been advised to expedite the process and submit their comments at the earliest.

Agenda 64.2.2. Reconnaissance survey (G4 Stage) for heavy mineral (Rutile, Zircon, Ilmenite) Vanadium, REE and associated mineralization between Kasaba, Nellikunnu and Mogralputhur Villages Kasargod district, Kerala.
[Implementing Agency: GeoExpore Pvt. Ltd.]

a) GSI discovered high concentrations of Total Heavy Minerals (THM) in specific zones, reaching up to 46%, indicating substantial deposits near proposed areas.
b) Economic Heavy Minerals (EHM) vary from 0.88% to 23.81%, with an average of 5.60%, highlighting economic potential. Proximity to a GSI surveyed block with similar high EHM suggests similar abundance in the proposed block, necessitating further exploration.

Recommendation of TCC:

The committee reserved the decision for want of comments from DMG, Kerala. Meanwhile DMG, Kerala has been advised to expedite the process and submit their comments at the earliest.

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Agenda 64.2.3. Preliminary exploration (G-3) of heavy mineral sands in backshore and dunes for Titanium and Vanadium (Critical Minerals) in magnetite, ilmenite and titanomagnetite, Guhagar Block, Ratnagiri district, Maharashtra.
[Implementing Agency: GeoMarine Solutions Pvt. Ltd.]

a) GSI reported heavy mineral assemblages on beaches, including ilmenite, magnetite, leucoxene, goethite, limonite, and pyroxene, suggesting a basaltic origin. Chemical analysis showed high TiO2 (33.37%) and Fe2O3 (55.00%). Ilmenite samples had Fe2O3 (35.82-42.97%), TiO2 (21.64-45.66%), vanadium (1429-1816 ppm), and Cu (345-1116 ppm). Titanomagnetite samples had Fe2O3 (45.69-53.78%), TiO2 (17.91-24.42%), vanadium (3392-4442 ppm), and Cu (743-1030 ppm). Grab and pit samples around Gaonkhadi-Wada Vetye area showed TiO2 (0.56-48.34% and 3.35-49.76%) and Fe2O3 (3.42-52.90% and 13.22-53.31%).
b) Geomarine visited field and collected samples from Guhagar block for Mineralogical analysis and reported 36.15% to 66.5% magnetite, 10.62% to 14.61% ilmenite and 15.32% to 18.24% limonite in two samples. Chemical analysis of 6 samples show 12.26% to 44.34% TiO2, 0.21% to 0.72% V2O5 and 38.01% to 57.2% Fe2O3.
c) The committee suggested to send the check samples to AMD.

Recommendation of TCC:

The committee granted in-principle approval for the proposal and suggested GeoMarine to present the item in the next TCC meeting.

Agenda 64.2.4. Reconnaissance survey (G4 Stage) for gold in parts of gneiss-greenstone terrane, North of Jagalur, Karnataka, India.
[Implementing Agency: Geovale Services Private Limited]

a) The proposed block shows significantly high anomalous values (> 6 times the Clarke value) compared to a low gold background outside the block.
b) Exploration in a part of the block for basemetal, including gold, revealed a maximum gold concentration of 0.18 ppm in ferro-dolomite.
c) A regional survey by GSI found gold assay values between 35 ppb and 350 ppb in the proposed area.
d) On the basis of the above observation, it is possible that the proposed block hosts some gold mineralization.
e) The committee noted that the proposed block overlaps with GSI's work. Additionally, GSI conducted RMT during the last FSP 2022-23 and 2023-24 and drilled boreholes in both the northern and southern parts of the proposed area. Samples from these areas are currently being processed, and analytical data is expected within 3 months. After proper incorporation and interpretation the outcomes of the RMT project will be shared among all the stakeholders.

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Recommendation of TCC:

The committee advised Geovale to wait for the outcome of GSI's project. The next steps will be determined based on this data.

Agenda 64.2.5. Preliminary exploration (G-3 Stage) for Lithium in Dhirbil block, Dhubri and Kokrajhar Districts, Assam.
Implementing Agency: Novamine India Pvt Ltd,]

a) GSI conducted G-4 stage geological mapping, geochemical sampling, pitting, trenching, and chemical analysis of chip samples in the area.
b) GSI identified lithium as a potential mineral occurrence within the surveyed area.
c) The committee identified an overlap in the proposed area with GSI's earlier worked block and the block proposed for FS: 2024-25. Additionally, MECL has conducted work in the area, which requires verification.

Recommendation of TCC:
The committee recommended to drop this item.

Agenda 64.2.6. Preliminary exploration (G-3 Stage) for Base Metal in Phoponga block, Goalpara District, Assam.
[Implementing Agency: Novamine India Pvt Ltd]

a) The National Geochemical Soil Survey conducted in Toposheet No. 78J/12 by GSI revealed significant anomalies for lead and zinc around Phoponga Hill in Goalpara district, Assam.
b) Subsequent channel sampling along the shear zone showed promising values of Zn & Pb. Additionally, ground geophysical surveys indicated a favorable response for sulphide mineralization in the area.
c) Based on these findings, a proposal has been put forward.
d) The committee finds that the proposed area has 40% overlap with G3 block of GSI and DMG, Assam has also worked in the area.

Recommendation of TCC:
The committee did not recommend this item.

Agenda 64.2.7. Preliminary exploration (G-3 Stage) for base metal (Zinc, Lead) in Shergaon block, West Kameng district, Arunachal Pradesh.
[Implementing Agency: Novamine India Pvt Ltd,]

a) GSI's geological mapping, channel sampling, and litho-geochemical sampling have concluded that the target area has potential for Pb-Zn mineralization.
b) Based on these facts, this proposal has been put forward.

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Recommendation of TCC:

The committee recommended to drop this item because the proposed block is overlapping with the area which is being worked by DMG, Arunachal Pradesh.

Agenda 64.2.8. Preliminary exploration (G-3 Stage) for vanadium and graphite in Deed block, Lower Subansiri District, Arunachal Pradesh.
[Implementing Agency: Novamine India Pvt Ltd,]

a) Reconnaissance survey, channel sampling, pitting-trenching, and XRD analysis conducted by the Geological Survey of India (GSI) revealsthat vanadium and graphite are potential minerals occurring within the area.

b) Based on this fact, the item has been proposed

Recommendation of TCC:

The committee does not recommend the item as the block boundary has been proposed perpendicular to the orientation of the lithology.

Agenda 64.2.9. Preliminary exploration (G-3 Stage) for platinum group of elements (PGE) and base metals in Reguri block, Phek District, Nagaland
[Implementing Agency: Novamine India Pvt Ltd,]

a) Based on previous exploration efforts by the Geological Survey of India during the field season 2016-17 in part of Toposheet No. 83K/10, a reconnaissance survey has identified Platinum Group of Elements (PGE) and Base Metals as potential minerals in the Reguri area of Phek District, Nagaland.
b) Additionally, Lotha and Arhomo of DGM, Nagaland (2004), reported the presence of Cu values up to 1.32%, Ni up to 1.14%, and Cr up to 4.50% in the same area.
c) Based on these findings, this proposal has been put forward.

Recommendation of TCC:
The committee does not take decision regarding the in-principle approval of this item due to the unavailability of comments from DMG, Nagaland. However, DMG, Nagaland was suggested to expedite the process and provide their comments promptly.

Agenda 64.2.10. Preliminary exploration (G-3 Level) for Ni-Cr-PGE and associated base metal in Khudengthabi-Yangoupokpi block in part of Manipur Ophiolite Belt, Tengnougpal District, Manipur
[Implementing Agency: Novamine India Pvt Ltd]

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a) During the Field Season Program of 2019-20, the Geological Survey of India (GSI) conducted a reconnaissance survey in the Khudengthabi-Yangoupokpi area of Tengnoupal District, Manipur, which is part of T.S. No. 83L/03 & 07. This survey revealed the presence of potential minerals such as Ni-Cr-PGE and associated Base Metals in the area.
b) Based on these findings, this proposal has been put forward.

Recommendation of TCC:

The committee decided to drop the item because the proposed block falls in Eco Sensitive Zone.

Agenda 64.2.11. Reconnaissance survey (G-4 Level) for Ni-Cr-PGE and associated base metal in and around Maojang area in part of Manipur Ophiolite Belt, Tengnougpal District, Manipur.
[Implementing Agency: Novamine India Pvt Ltd].

a) The Geological Survey of India (GSI) conducted a reconnaissance survey in Tengnoupal District, Manipur, as part of the Field Season Program of 2019-20, within T.S. No. 83L/03 & 07. This survey identified Ni-Cr-PGE and associated Base Metals as potential minerals occurring in the area.
a) Based on these findings, this proposal has been put forward.

Recommendation of TCC:
The committee decided to drop the item because the proposed block falls in Eco Sensitive Zone.

Agenda 64.2.12. Reconnaissance survey (G-4 Level) for Ni-Cr-PGE and associated base metal in and around Leipi area in part of Manipur Ophiolite Belt, Tengnougpal District, Manipur.
[Implementing Agency: Novamine India Pvt Ltd]

a) During the 2019-20 Field Season Program, the Geological Survey of India (GSI) conducted a reconnaissance survey in Tengnoupal District, Manipur, within T.S. No. 83L/03 & 07. This survey identified Ni-Cr-PGE and associated Base Metals as potential minerals occurring in the area.
b) The proposal is also prepared on the basis of above facts.

Recommendation of TCC:
The committee decided to drop the item because the proposed block falls in Eco Sensitive Zone.

Agenda 64.2.13. Preliminary Exploration (G-3) for Copper &Gold in Jhiri-Piplai block, Alwar district, Rajasthan
[Implementing Agency: V. M. Salgaocar and Brother Pvt Ltd]

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a) During the 2017-18 field season, GSI conducted G-4 level exploration in the Jhiri-Piplai-Kalaid-Lothawas Block area, identifying three mineralized zones (MZ) for Copper & Gold.
b) They recommend detailed mapping and subsurface exploration with drilling in these zones, potentially upgrading the block to G3 stage. Additionally, ground geophysical surveys should be carried out to correlate geophysical, geological, and geochemical data.
c) V. M. Salgaocar and Brother Pvt Ltd identified the proposed block of 18.95 sq. km for the G-3 stage study.
d) The committee was informed that GSI has carried out G4 as well as G3 stage investigation in and around the area and did not find the area suitable for further work.

Recommendation of TCC:
The committee decided to drop the item because they do not find the proposed area potential for mineralization.

Agenda 64.2.14. Preliminary Exploration (G-3) for Lithium and associated minerals in Gamnom block, Kamjong district, Manipur.
[Implementing Agency: United Exploration India Private Ltd]

a) Based on GSI's geochemical data analysis in the proposed block, 15 BRS points showed Cr values ranging from 2229 to 328416 ppm (average: 24682 ppm) and Ni values from 500 to 4167 ppm (average: 2326 ppm). This indicates the block's potential for Ni, Cr, and associated Co deposits, warranting detailed exploration.
b) UEIPL conducted field visit and noted chromite pods in transitional peridotite and identified lateritic soil capping in sheared peridotite as a significant target for Nickel and PGE prospecting.
c) Following discussions in the 63rd TCC meeting on 26-03-24, the proposed area for G3 exploration has been reduced to 1.50 sq.km.
d) The house was informed that GSI has already tried to work in this area but due to local resistance it could not be done.

Recommendation of TCC:

The committee decided to drop the item for the time being due to local issues. However, one item proposed by UEIPL has already been recommended in Manipur. The committee advised UEIPL to assess the ground conditions during the approved item's execution and, if suitable, propose the item to TCC, NMET again. The committee will make the final decision.

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Agenda 64.3: Technical evaluation of new project proposals:

Agenda 64.3.1 Reconnaissance survey (G-4) for graphite in Temrimal area (57.15 sq km), Balangir and Bargarh districts, Odisha.
[Implementing Agency: MECL]

d) The proposed area belongs to Eastern Ghat Mobile Belt in Odisha and falls in SOI toposheet nos. 64L/09, 64L/10, 64L/13, 64L/14
e) The area consists of a cluster of 10A 2(b) leases or taken-over leases, which were selected for further exploration by the State Technical Committee (JWG) on 06.02.2023 and allocated to MECL for required actions.
f) Graphite in the Sargipali graphite belt mostly occur in disseminated form in khondalite and less commonly in quartzite and granite gneisses in the areas.
g) After working in Sargipalli-Bardhapalli Belt during 1970-71, GSI found major surface deposits exhausted due to mining, recommending close-spaced geophysical prospecting (SP and IP methods) to find out graphite deposit extensions.
h) MECL's preliminary field visit to the proposed block and surrounding areas identified four graphite mineralized areas (FC%:4.42%-12.67%) from old working pits and surface exposure. The field geologist also noted the consistent trend in graphite mineralization, supported by graphite quarries and local mining activities at regular intervals along the mineralized strike direction.
i) The committee noted that despite the area falling under the 10A2(B) case, MECL lacks any relevant data.
j) Additionally, it was noted that MECL's chosen block consists of over 50% granite gneiss, whereas the graphite is primarily found within khondalite.
k) Since, GSI has conducted LSM in and around the area and identified 9 SP anomalies, the committee has decided to proceed with G3 stage exploration in the area.

Recommendation of TCC:

The committee recommended developing a G3 stage proposal specifically focusing on the potential areas within the proposed G4 area. They suggested submitting this proposal for review at the next TCC meeting of NMET.

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Agenda 64.3.2 Reconnaissance survey (G-4) for Iron-PGE and associated minerals in Chitrangi area, Singrauli district, Madhya Pradesh.
[Implementing Agency: MECL]

a) The proposed area belongs to Paleoproterozoic Mahakoshal belt which is well known for hosting numerous economic mineralization like Sulphides, Gold, PGE, Manganese, Iron (BHQ/BMQ) etc

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b) In Field Seasons 1995-96 and 1997-98, GSI investigated PGE, Gold, Copper, and Nickel in ultramafic mafic rocks near Thapna and Karhiya, Sidhi district, M.P. Anomalous gold content was found in bedrock samples, with Cu, Ni, PGE anomalies in ultramafic rocks. Further investigation was recommended for gold, PGE, Nickel, and associated minerals. GSI reported significant Fe2O3 content in BIFs and high gold content in quartz veins in FS:2021-22.

c) GeoMysore Services (India) Pvt. Ltd. conducted exploration in a 27 sq km area around Sidhi, where stream sediment and rock chip samples revealed significant Pt+Pd content.

d) MECL conducted field visit and identified BIF and ultramafic rocks in the area, potentially extending from Thapna, suggesting exploration for PGE and gold. The analytical results of the samples collected yielded 30.52%-48.36% Fe, 0.13ppm to 0.79ppm PGE and 9.11ppb to 440.25ppb gold.

e) The committee noted that the proposed block partially overlaps with blocks already surveyed by GSI and those proposed for survey in FS:2024-25.

f) To address this, the committee recommended that MECL develop a G3 proposal focusing on the iron band within the area. This adjustment would reduce overlap with existing blocks. However, MECL was instructed to study and sample mafic rocks for Platinum Group Elements (PGE) during the execution of this task.

Recommendation of TCC:

The committee recommended developing a G3 stage proposal with a specific focus on the iron band. They suggested submitting this proposal for review at the next TCC meeting of NMET

Agenda 64.3.3 Reconnaissance survey (G-4) for Iron, Manganese and Associated Minerals in Tindni area, Jabalpur district, Madhya Pradesh.

[Implementing Agency: MECL]

a) The area belongs to the Mahakoshal Group of rocks. Mineralisation of Iron is occurring around the area associated with Banded Iron Formation (BIF) while Manganese is associated with BIF and Phyllites.

b) GSI's report from FS:1998-99 noted laminated or biscuity hematite ore with a small laterite matrix in the area. These ore lumps analyzed between 50% to 70% Fe2O3, averaging 55% Fe2O3. Blue dust horizons beneath the duricrust were observed, yielding between 70% to 75% Fe2O3.

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c) Primary mineralized bodies for manganese were found in manganiferous argillites associated with phyllite, BHC, and manganiferous cherts, with secondary mineralization in quartz veins intruding the BHC. Gold mineralization (0.4 to 4.2 ppm) was identified along quartz reefs at the supracrustal granite contact, prompting further investigation.
d) Evaluations by GSI and private exploration agencies indicated the presence of iron and manganese in and around the proposed block, with BHQ serving as the proto-ore for iron ore.
e) A significant BHQ reef, 9 km long and 300m wide, runs from W-E in the northern part of the area. The proposed exploration aims to target leaching zones along the BHQ reef's length.
f) M/s Shree Mining explored the Chhatarpur Iron, Manganese, and Laterite block in the northwest, reporting geological resources of 2.02 mT of iron and 0.122 mT of manganese. Grades range from 35%-45% Fe in laterite and 10%-35% Mn at G-3 level. The block is now on the e-auction portal for a composite license.
g) MECL also conducted a field visit in the proposed block and identified host rocks like BIF/Ferruginous quartzites and manganiferous argillites associated with phyllite and BHC in various locations.
h) Even though the proposed area falls within GSI's RMT area, the committee stipulated that exploration activity can proceed, but MECL must obtain FC to execute the item.
i) The proposed area of 24 sqkm is insufficient for G4 stage iron investigation, hence the committee recommended a G3 stage investigation targeting the iron band and avoiding the chert band. Accordingly, MECL formulated a G3 stage investigation incorporating all committee suggestions, targeting a mappable area of 7 sqkm at a 1:4000 scale.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary exploration (G3) for Iron, Manganese and associated minerals in Tindni Block, Districts: Jabalpur, State: Madhya Pradesh." with an estimated cost of Rs. 368.85 lakh (including GST) within time schedule of 15 months and submission of report as per Annexures 4A &4B. The item will be reviewed after 06 and 12 months.

Agenda 64.3.4. Reconnaissance survey (G-4) for glauconitic sandstone in Parsada-Nawapara-Gurur area, Balod district, Chhattisgarh.
[Implementing Agency: MECL]

a) The block is predominantly occupied by Lohardih sandstone of Chandarpur Group of lower Chhattisgarh Supergroup

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b) During 1987-88, GSI reported presence of glauconite in the central and eastern part of the proposed block. GSI conducted G4 stage investigation in Kotera-Reghai area (located NW of the proposed block) for glauconite, and reported glauconite bearing sandstone of Lohardih Formation.

c) Furthermore, the presence of phosphorite blocks in the north and northeast of the proposed block, including Sambalpur G-2 block (F.S 2022-23), Nawagaon G-4 block (F.S. 2023-24), Latabor G-4 block (F.S. 2023-24), and Nipani Kharra G-4 block (F.S. 2024-25), indicates the area's suitability for fertilizer minerals exploration.

d) NGCM data from stream sediment samples, C-horizon soil samples, and regolith samples, also confirms the presence of glauconite (K_2O: 1.00% to 2.05%) in the block.

e) The committee assessed the proposed item and advised conducting drilling activity only following a thorough review.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Reconnaissance survey (G-4) for glauconitic sandstone in Parsada-Nawapara-Gurur area, Balod district, Chhattisgarh." with an estimated cost of Rs. 116.75 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 5A & 5B.

Agenda 64.3.5. Reconnaissance survey (G-4) for manganese Ore in Dhavalapur area, Nagpur district, Maharashtra.

[Implementing Agency: MECL]

a) The Dhavalapur Manganese block lies in Sausar Mobile Belt (SMB) and originally leased to Shri Amol B. Nagpure from 24/09/2004 to 23/09/2006 under section 10(A) 2(B) of the MMDR Act-15, but has been lapsed. DGM, Maharashtra requested MECL to explore this lapsed area through letter no. Tech/1848/2023/3938, dated 22/12/2023.
b) Shri Amol B. Nagpure conducted prospecting activities, including 5 pits and 2 trenches, analyzing 7 samples with manganese oxide (MnO_2) ranging from 23.99% to 35.87% and manganese (Mn) from 15.16% to 22.66%. They estimated manganese ore resources of 0.9 million tonnes and extracted 200 tonnes of manganese ore with 25% to 30% MnO_2 content.
c) MECL reviewed data from DGM Maharashtra and conducted a field visit to Dhavalapur and noticed surface indications of manganese mineralization in the

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block area and gondite is the host for Mn in the area. MECL collected 5 samples from the area for analysis which yielded 23.55% to 32.25% Mn.

d) Again, the committee feels that the proposed area is very less for G4 stage survey. The committee suggested to modify the block and propose a G3 stage exploration item mainly targeting the lease hold area making a regular block shape.

e) Accordingly, MECL prepared a G3 stage proposal covering 2 sqkm area including the 10A2(B) Lease hold area

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G3) for manganese ore in Dhavalapur block, District: Nagpur, Maharashtra" with an estimated cost of Rs. 231.60 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 6A &6B. The item will be reviewed after 05 months.

Agenda 64.3.6 Aerogeophysical survey over NAGMP Blocks 16, 17, 19 & 20.
[Implementing Agency: Geological Survey of India]

a) The Geological Survey of India (GSI) under the National Aerial Geophysical Mapping Program (NAGMP) submitted a proposal for administrative approval for tendering Group-A and Group-B over specific NAGMP blocks to the Ministry of Mines on 15.09.2023. The approval for these tenders was received on 27.09.2023, leading to the floating of two tenders: Group-A for Blocks 16, 17, 19 & 20, and Group-B for Blocks 13, 18 & 21, aimed at engaging a Private Implementing Agency (PIA) for aerogeophysical surveys.

b) Technical bids were received for the Group-A tender from four bidders, with three bidders qualifying and one being disqualified due to non-compliance with tender conditions. The Tender Evaluation Committee (TEC) evaluated these bids on 21.03.2024, and their minutes were approved by the Director-General (DG) of GSI on 22.03.2024.

c) The TEC (Price) committee recommended awarding the contract to a consortium led by M/s IIC Technologies Private Limited, Hyderabad, along with partners from Canada and Mongolia, at a total cost of INR 95,03,81,566.26 (including GST @18%). This cost was lower than the approved estimate in the GeM tender. The DG, GSI approved this recommendation on 03.04.2024, leading to the submission of a letter to the Director of NMET, Ministry of Mines, New Delhi, to obtain financial sanction for awarding the contract to the selected bidder.

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d) GSI has requested financial sanction amounting to INR 95,03,81,566/- (Rupees Ninety-Five Crore Three Lakhs Eighty-One Thousand Five Hundred Sixty-Six Only), inclusive of 18% GST, to conduct aerogeophysical surveys over NAGMP Blocks 16, 17, 19 & 20. This survey will be carried out by engaging the consortium led by M/s IIC Technologies Private Limited, Hyderabad, in partnership with M/s Geophysique GPR International Inc., Canada, and Geosan LLC, Mongolia.

Recommendation of TCC:

The committee recommends the proposal for financial sanction amounting to INR 95,03,81,566/- (Rupees Ninety-Five Crore Three Lakhs Eighty-One Thousand Five Hundred Sixty-Six Only), inclusive of 18% GST, to conduct aerogeophysical surveys over NAGMP Blocks 16, 17, 19 & 20 for the approval of EC for.

Agenda 64.3.7 Reconnaissance(G-4) survey for limestone in Dillai area, Karbi Anglong district, Assam.

[Implementing Agency: DGM Assam]

a) The area under investigation lies in the Dillai area in Karbi Anglong district, Bokajan subdivision under Dillai Police Station of Karbi Anglong, Assam. Partly explored by DGM. The Limestone of this area is hard, compact; both the bands are highly fossiliferous in nature with colonies of Nummulites being the primary fossil present in the rocks
b) The Geological Survey of India conducted traverses near the Koilajan area in 1947-48 at the request of the State Government. Subsequently, in 1962, the Directorate of Geology and Mining (DGM), Assam, collaborated with the Indian Bureau of Mines to conduct an intensive survey to the west of Koilajan colliery. The area adjacent to the Koilajan area has been selected by DGM, Asaam considered for a reconnaissance (G-4) survey.
c) A team led by Cement Corporation of India Limited visited the area and confirmed the presence of limestone resources. Furthermore, a cement factory has been established at Bokajan by Cement Corporation of India (CCI), and CCI has been granted a mining lease area of 171.21 hectares for limestone extraction.
d) DMG, Assam informed the house that the limestone may continue upto 100m depth.
e) The item was proposed in 63rd TCC and the committee recommended to verify the analytical results, gather representative samples from each band, conduct a reanalysis at GSI's laboratory, and then present the revised proposal at the upcoming TCC meeting. Accordingly, DGM, Assam reanalyzed 5 samples which yielded 37.81% to 41.45% (avg. 40%) CaO.
f) The committee recommended plotting the analytical sample locations on the geological map. The decision on drilling will be made after a review, and if found suitable during the review, the area may be divided into two blocks. Each block will have five boreholes drilled, which could aid in the auctioning process.

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Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Reconnaissance (G-4) survey for limestone in Dillai area, Karbi Anglong district, Assam" with an estimated cost of Rs. 348 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 7A &7B. The item will be reviewed after 06 months.

Agenda 64.3.8 Reconnaissance (G-4) survey for limestone in Dikurumetron area, Upper Deopani of Karbi Anglong district, Assam.
[Implementing Agency: DGM Assam]

a) The proposed area is located in the Upper Deopani area within the Karbi Anglong district, Assam and falls in parts of toposheets 83 F/15 and 83 F/16

b) The Geological Survey of India conducted traverses near the Deopani area at the request of the State Government. In 1984-85, the Directorate of Geology and Mining, Assam, investigated limestone and kaolin deposits in Upper Deopani. Light grey fossiliferous limestone occurs in Deopani river and Borjan nala, with a NW-SW trend and low dip angles (3° to 6°) towards the southeast, mostly siliceous and composed of calcite.

c) The area near Upper Deopani has been proposed by DMG, Assam for reconnaissance (G-4) survey.

d) The item was proposed in 63rd TCC and the committee recommended to verify the analytical results, gather representative samples from each band, conduct a reanalysis at GSI's laboratory, and then present the revised proposal at the upcoming TCC meeting. Accordingly, DGM, Assam reanalyzed 5 samples which yielded 44.83% to 47.54% (avg. 46.5%) CaO.

Recommendation of TCC:

The committee advised restructuring the item following all the recommendations given by the committee for the previous Dillai limestone exploration item and resubmit the proposal in the next TCC meeting.

Agenda 64.3.9. Reconnaissance (G-4) survey for limestone in Longplaidisa area, Dima Hasao district, 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

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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) The item was proposed in 63rd TCC and the committee suggested verifying the analytical results by collecting representative samples from each band and reanalysing and resubmitting the proposal in 64th TCC. Accordingly, five grab samples collected from Longplaidisa yielded 39.86% to 42.53% CaO.

Recommendation of TCC:

The committee advised restructuring the item following all the recommendations given by the committee for the previous Dillai limestone exploration item and resubmit the proposal in the next TCC meeting.

Agenda 64.3.10. Reconnaissance (G-4) survey for limestone in Sheelveta area, Karbi Anglong district, 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 colour while the bottom portion is grey in colour.

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.

e) The item was proposed in 63rd TCC and the committee suggested verifying the analytical results by collecting representative samples from each band and reanalyzing and resubmitting the proposal in 64th TCC. Accordingly, five grab samples collected from Sheelveta area yielded 44.74% to 51.60% CaO.

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f) DDG, SU: Meghalaya, GSI has informed the committee that on request of DGM, Assam, a G3 stage item for limestone has already been approved in Sheelveta area, Karbi Anglong district, Assam for FS:2024-25.

Recommendation of TCC:

The committee advised DGM, Assam to verify the status of the block with GSI and modify the block boundary if any overlap issue is found.

Agenda 64.3.11. Preliminary exploration for base metal in Mardongri Jamtara Block, Chhindwara district, Madhya Pradesh.

[Implementing Agency: MPSMC]

a) The proposed block belongs to Mardongri mafic ultramafic complex of Betul belt and is composed of bi-modal volcanic rocks, rhyolites, gabbro/amphibolite, intrusive granite gneiss and ultramafic rocks.
b) Sulphide-rich zones have been observed in mafic-ultramafic intrusive rocks, with some areas showing sulphide mineralization estimated visually at up to 4-5%. This mineralization is mainly found in meta-gabbro, while in coarse-grained amphibolite, sulphide dissemination is lower. The presence of Pd and Au mineralization in stream sediment suggests a potential link with these oxide phases.
c) GSI has confirmed the presence of PGE and associated minerals in the area and has recommended further detailed studies to delineate prospective zones for PGE, Au, Cu, Ni and Cr mineralization.
d) MPSMCL informed the house that the block was also included in the auction during phase XI for a composite license.

Recommendation of TCC:

The committee raised concerns about the manpower availability with MPSMCL. It was revealed that MPSMCL already has 7 ongoing approved items with only 6 geologists, indicating an understaffed situation. Despite this, they proposed two new items for approval. In light of these circumstances, the committee decided to approve more items for MPSMCL after assessing the status of ongoing projects. However, in order to give approval in principle, the committee asked MPSMCL to produce the letter from DMG, Madhya Pradesh requesting execution of the proposed item which MPSMCL could not provide. Hence, the committee suggested preparing a presentation detailing the status of all ongoing projects to be presented at the next TCC meeting, based on which further decisions will be made.

Agenda 64.3.12. Preliminary exploration for base metal in Bargaon Trarora block, Betul district, MP.

[Implementing Agency:MPSMC]

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a) The proposed block belongs to Betul Belt of Madhya Pradesh and exposes basic volcanics and acid volcanics intercalated with met sedimentary bands and intrusive granites.

b) Indications of base metal mineralization in the area occur in the form of malachite staining and fresh sulphides like pyrite and chalcopyrite

c) The geochemical study of BRS samples indicates the presence of sulphide mineralization in the area. Additionally, mineralization (upto 0.4% Cu, upto 3.92% Zn) was intersected in two drill holes drilled during G4 exploration conducted by GSI

d) GSI has confirmed the presence basemetal mineralization in the area and has recommended further detailed studies.

e) MPSMCL informed the house that the block was also included in the auction during phase XI for a composite license.

Recommendation of TCC:

The committee raised concerns about the manpower availability with MPSMCL. It was revealed that MPSMCL already has 7 ongoing approved items with only 6 geologists, indicating an understaffed situation. Despite this, they proposed two new items for approval. In light of these circumstances, the committee decided to approve more items for MPSMCL after assessing the status of ongoing projects. However, in order to give approval in principle, the committee asked MPSMCL to produce the letter from DMG, Madhya Pradesh requesting execution of the proposed item which MPSMCL could not provide. Hence, the committee suggested preparing a presentation detailing the status of all ongoing projects to be presented at the next TCC meeting, based on which further decisions will be made.

Agenda 64.3.13.Preliminary exploration 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. Moreover, there are few active Cement Factories near this proposed block.

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

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limestone and collected samples which yielded 46.78% to 50.46% Cao in with average of 48.41% CaO in 3 samples.

d) The item was also proposed in 63rdTCC and the committee recommended to modifying the proposed block boundary in the east-west direction and planning for only 5 boreholes and to submit in the next TCC meeting for further discussion and approval. Accordingly, Gemcokati Exploration Pvt. Ltd modified and proposed the block for discussions.

e) The committee recommended conducting 5 boreholes in the block, with the sample length adjusted to either 1m or 2m instead of 1.5m.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary exploration for limestone in Rupapeth Block, Chandrapur district, Maharashtra" with an estimated cost of Rs. 96.00 lakh (including GST) within time schedule of 10 months and submission of report as per Annexures 8A &8B. The item will be reviewed after 04 months.

Agenda 64.3.14.Reconnaissance survey for (G4 Stage) lithium and associated elements in Chhuri, Jenjara area, Korba district, Chhattisgarh.

[Implementing Agency: Maheshwari Mining Pvt. Ltd.]

a) The proposed area is a part of Chhotanagpur Gneissic Complex and falls in SOI toposheet no. 64J/11
b) First, GSI reported occurrence of lepidolite in leucocratic muscovite granite and pegmatite from Garhtara area
c) Recently in Kathghora Block, which has been auctioned by Govt. of India recently, bedrock sample reveals that Li content ranges from 10 to 2000 ppm. Laboratory studies confirm that Li is present in golden micas. EPMA study confirms the presence of Nb-Ta phases and REE phases
d) The Chhuri and Jenjara area, located south of the Kathghora Block, features similar granites and pegmatites.
e) MMPL conducted field visits in the Chhuri and Jenjara area, collecting samples of homophanous granite and pegmatite during regional traverses. In the first phase, Li values ranged from 9.83 ppm to 288.73 ppm, while the second phase showed values from 168.07 ppm to 294.77 ppm.
f) The item has already got in-principle approval form the TCC.
g) Even though the proposed area falls within GSI's research programme, the committee opined that exploration activity can proceed.
h) After mapping and sampling, the committee will thoroughly review the item to decide whether drilling will proceed or not.

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Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Reconnaissance survey for (G4 Stage) lithium and associated elements in Chhuri, Jenjara area, Korba district, Chhattisgarh." with an estimated cost of Rs. 130.42 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 9A &9B. The item will be reviewed after 06 months.

Agenda 64.3.15.Reconnaissance survey (G4) for nickel-cobalt, PGE and chromium in Lunghar Phangrai Ukhrul, Manipur.
[Implementing Agency: United Exploration India Private Ltd]

a) The proposed area is part of Manipur Ophiolite Belt and falls in part of SOI toposheet no. 83K/8
b) 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.
c) 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.
d) 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.
e) The item was also proposed in 63rd TCC and the committee recommended submitting the Detailed Project Report (DPR) for review in the next TCC meeting for review, accordingly UEIPL produced the DPR.
f) UEIPL informed the house that the area has been selected after avoiding GSI's block and forest area.
g) The committee recommended conducting detailed petrographic studies before chemical analysis. The samples for chemical analysis should be determined after petrography.
h) The committee also recommended executing the project in two phases. The first phase will involve mapping and detailed sampling, while the second phase will include drilling, to be conducted after a review.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Reconnaissance survey (G4) for nickel, cobalt, chromium and PGE in and around Phangri area, Ukhrul district, Manipur." with an estimated cost of Rs. 116.28 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 10A & 10B. The item will be reviewed after 06 months.

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64.4 Proposal on Financial Assistance for Procurement of Machinery/ Equipment

Agenda 64.4.1. Procurement of Digital Core Logger for the establishment of Digital Core Library in Geological Survey of India under NMET

a) GSI submitted proposal for procurement of three Core logging systems at three places viz., Hyderabad, Nagpur and Jaipur.
b) GSI submitted that the drill cores are Geological Reference Materials preserved in the regional core libraries facilities of GSI in various regions (06) of the country. In total, approximately 180km length of core pertaining to about 350 number of projects are preserved in different core libraries of Geological Survey of India.
c) GSI presented the description and cost breakup for each of the digital core logger as given at Annexure 11.

d) The committee recommended that GSI meticulously prepare a document addressing all the discussed points and aspects. This document should also include a roadmap to promote the use of these instruments by other agencies, aiming to boost exploration activities nationwide. The committee also suggested GSI to submit the DPR within one month.

e) After detailed deliberations, the committee opined that one Digital Core Logger (1 no) for the establishment of Digital Core Library in Geological Survey of India may be recommended to EC of NMET.

Recommendation TCC:

The Committee recommended procurement of Digital Core-Logger (1 no) with an estimated cost of ₹ 43,24,70,000/- for approval of EC- NMET and the procurement should be completed within 2 years of approval.

Agenda 64.4.2. Procurement of Electron Probe Micro Analysis (EPMA) instruments in Geological Survey of India under NMET

a) GSI informed that Electron Probe Micro Analyser (EPMA) is a tool to get precise and accurate quantitative chemical analysis of a very small area (2-5µm diameter) in an inorganic material in a non-destructive way.
b) GSI sought approval for purchase of 04 nos. of EPMA instruments in NCEGR, Bangalore, NCEGR, Faridabad, Petrology Division, Southern Region, Hyderabad and Petrology Division, Western Region, Jaipur. In Bangalore, Faridabad, and Hyderabad the new instruments will be replace the much older EPMA instruments . In Jaipur , due to substantial increase in the quantum of work load for Mission-II items, and keeping in view the demand of the stakeholders in the future from the industry an EPMA instrument is sought for the Petrology Division, Western Region.
c) GSI informed that considering the technical specification along with complete set accessory instruments, On-site and factory training on applications and maintenance for

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the users, 5 years warranty and 5 years CAMC on the EPMA instrument and all its accessory equipment, the estimated cost of each instrument is around 2,545,000 US$. GSI sought approval of the committee for estimated cost of ₹85,35,58,272/- (Rupees Eighty five Crore, thirty five lakh fifty eight thousand and two hundred seventy two only) (@ Rs.83.84/ USD$) as on 22.03.2024 for four (04) EPMAs. This is excluding of the custom duty, IGST, GST on CAMC cost, and other statutory Govt. duties/ taxes.

d) The committee suggested GSI to keep in touch with Dr.E.V.S.S.K. Babu, Scientist (G), NGRI for finalization of specification and DPR at the earliest.

e) The committee advised GSI to prepare a detailed document incorporating all the discussed points in the meeting. Additionally, the committee recommended GSI to include a strategy to encourage other agencies to adopt these instruments, thus enhancing exploration activities across the country.

Recommendation TCC:

The Committee recommended the proposal for approval of EC towards procurement of 04 Electron Probe Micro Analysis (EPMA) for Geological Survey of India (one each at NCEGR, Bangalore, NCEGR, Faridabad, Petrology Division, Southern Region, Hyderabad and Petrology Division, Western Region, Jaipur respectively) estimated cost of ₹85,35,58,272/- (Rupees Eighty-five Crore, thirty-five lakhs fifty eight thousand and two hundred seventy two only) and the procurement should be completed within 2 years of approval.

Agenda 64.4.3. 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 NMET has approved ₹470.2 crore in the 27th EC meeting held on 10th January 2024 for procure machinery/ laboratory equipment/ instruments etc.

b) The committee evaluated the proposal and after detailed discussions agreed to recommend the following items to DMG Rajasthan:

S.No.	Software / Hardware /Equipment	Quantity	Estimated Price / Unit (In Lakhs)	Total Estimated cost (in lakhs)
1	Brunton Compass	20	0.10	2.00
2	Geologist hammer	20	0.10	2.00
3	Handheld GPS	20	0.95	19.00
4	Handheld XRF	1	30	30.00
5	DGPS	1	16	16.00
6	Total Station	2	6.96	13.92
7	Rock cutting, polishing and mounting unit	1	70.00	70.00
8	Pulverizer	1	40.00	40.00

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9	Stereo Zoom microscope	1	30.00	30.00
10	Polarizing microscope	1	25.00	25.00
11	AAS	1	80.00	80.00
12	Fire Assay	1	13.76	13.76
13	ICP-MS	1	250.00	250.00
14	Hot Plates	4	0.15	0.60
15	Fume Hood	2	0.20	0.40
16	Air Oven	2	0.55	1.10
17	Muffle Furnace/ Proximate /Analyzer	2	1.00	2.00
18	Surfer	2	2.30	4.60
19	Corel Draw	2	0.75	1.50
20	Drilling Machine up to 1000m Capacity	2	25.00	50.00
21	Hydrostaic truck mounted drill machine with 1000m capacity	2	120.00	240.00
22	Bits, drill rods, casing core barrel (for one year requirement for one time)	3	80.00	240.00
23	Pumps (pressure /mud)	6	15.00	90.00
24	Core splitter /core splitter hydrostatic	2	2.00	4.00
25	Truck Mounted Hydrostatic Rig 600m	2	80.00	160.00
Total				1,385.88

c) DMG Rajasthan requested for approval of additional machinery/ laboratory equipment/ instruments etc for strengthening of the department.

Recommendation of TCC:

The committee recommended the proposal for approval of EC towards procurement of equipments/ softwares for DMG Rajasthan with estimated cost of ₹ 1385.88 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 Rajasthan 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 64th Technical-cum-Cost Committee (TCC) meeting held on 25th,29th and 30th April 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. Hemraj Suryavanshi, 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	Through VC
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. Alok Kumar, Deputy Secretary, (IFD), Ministry of Mines.	Member	Through VC
10	Shri. Maneesh Kumar Deputy Secretary, NMET, Ministry of Mines	Member	Physically 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 64th Technical-cum-cost Committee (TCC) meeting of NMET held on 25th,29th and 30th April 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
2.	Shri. I.R. Kirmani, ADG (Retd.), GSI	irkirmani@yahoo.com	9414014723	Member TCC
3.	Shri. Hemraj Suryavanshi, Addl. Director General (Retd.), GSI	hemrajgsi@gmail.com	7477042176	Member TCC
4.	Shri. K. Koteswara Rao, Dy.D.G. (Retd.) GSI.	kkrao1957@gmail.com	9000117969	Member TCC
5.	Dr. S. K. Kulshrestha, DDG-RMH-III, NER, GSI, Shillong	s.kulshrestha@gsi.gov.in	9413330658	Member TCC
6.	Dr.E.V.S.S.K. Babu, Scientist (G), NGRI.	evsskbabu@ngri.res.in	9441535852	Member TCC
7.	Shri. K.L. Mundra, Head-RMRE, AMD, Hyderabad	headrmre.amd@gov.in	9414785663	Member TCC
8.	Shri. S.K. Adhikari, Chief Mining Geologist, IBM, Nagpur.	skadhikari@ibm.gov.in	7588690545	Member TCC
9.	Shri. Maneesh Kumar Deputy Secretary ,NMET, Ministry of Mines	ms285.ifs@nic.in	9423284067	Member Ex-office
10	Shri. P.K. Maharana, DGM (Finance), NALCO, Bhubaneswar	pmaharana@rediffmail.com	8500669500	Member TCC
11	Shri. Ravi Kumar Gupta General Manager (Finance) HCL, Kolkata	ravi_g@hindustancopper.com	9433274328	Member TCC
12	Smt. Vandana, Cost Accounts Officer, RSAS, Bangalore, GSI.	vandana@gsi.in	8660939235	Member TCC
13	Shri. C. Parthsarathi, Director, GSI & Member Secretary, TCC- NMET, GSI, Bengaluru	c.parthasarathi@gsi.gov.in	9483186932	Member Secretary
14	Dr. Saibal Ghosh, DDG, NMH4 ,	nmh4@gsi.gov.in	9433749650	GSI

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	Shri Sandip Kumar Roy, Dy DG, NM-II.	sandip.roy@gsi.gov.in.	-	GSI
15	Shri A. Selin raj, Director (Geophysics)	antony.selinraj@gsi.gov.in	9432014505	GSI
16	Shri Ramachandrappa, Director (Geophysics)	ramachandrappa@gsi.gov.in	7349566450	GSI
17	Shri Manoj Kumar Singh, Director (Geophysics)	manoj.singh@gsi.gov.in	9379217553	GSI
18	Shri S.K Kankane, Joint Director,	dgm.cg@gov.in	9826753151	DGM Chhattisgarh
19	Shri. H. P. Harish, Deputy Director (Plan)	ddpmdmg1@gmail.com	9611951313	DMG Karnataka
20	Shri Dinakar S, Senior Geologist	dinumysore@gmail.com	9880759019	DMG Karnataka
21	Shri Ravi Kumar M R, Geologist	ravikumar.mr01@gmail.com	9880030510	DMG Karnataka
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Annexure 2

Revised Cost Estimate for Reconnaissance Exploration (G-3 Level) of Kalburgi Amalgamated Limestone Blocks (Block ID: KIOCL_20_KA_KLB), Karnataka

Sl	Item of Work	Unit	Rates as per NMET SoC 2020-21		Quantities approved by 50th TCC-NMET			Incurred exepenses									
								Block 23			Block 20		Block 25		Block 21		Total	
			SOC Item No	Rates as per SOC	Qty	Amount (Rs)		Qty	Unit rate	Amount (Rs)	Qty	Amount (Rs)	Qty	Amount (Rs)	Qty	Amount (Rs)	Qty	Amount (Rs)
(a)	(b)	(c)	(d)	(e)	(f)	(g)=(e)*(f)		(h)	(i)	(j)=(h)*(i)	(k)	(l)=(k)*(i)	(m)	(n)=(i)*(m)	(o)	(p)=(i)*(o)	(q)=(h)+(k)+(m)+(o)	(r)=(j)+(l)+(n)+(p)
1	**LARGE SCALE GEOLOGICAL MAPPING WORKS (1:12,500 scale :20sq km)**																	
1.1	Geologist Party days - Field	days	1.2	11,000	150.0	16,50,000	**35,19,180**	38.0	11,000	4,18,000	38.0	4,18,000	37.0	4,07,000	37.0	4,07,000	**150.0**	**16,50,000**
1.2	Geologist Party days - HQ		1.2	9,000	60.0	5,40,000		15.0	9,000	1,35,000	15.0	1,35,000	15.0	1,35,000	15.0	1,35,000	**60.0**	**5,40,000**
1.3	Labour charges	days	5.7	431	300.0	1,29,300		75.0	504	37,800	75.0	37,800	75.0	37,800	75.0	37,800	**300.0**	**1,51,200**
2	**SURVEY WORKS**																	
2.1	DGPS survey works	days	1.6.2	19,200	39.0	7,48,800		10.0	19,200	1,92,000	9.0	1,72,800	11.0	2,11,200	9.0	1,72,800	**39.0**	**7,48,800**
2.2	Chargs for 1 Surveyor (1 Party)	One surveyor per day	1.6.1 a	8,300	45.0	3,73,500		12	8,300	99,600	11	91,300	11	91,300	11	91,300	**45.0**	**3,73,500**
2.3	Labour charges	days	5.7	431	180.0	77,580		45	504	22,680	45	22,680	45	22,680	45	22,680	**180.0**	**90,720**
3	**DRILLING**																	

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3.1	Surface Drilling (01 rig - Soft Rock)		m.	2.2.1.1b	6,775	900.0	60,97,500		225	2,284	5,13,900	225	5,13,900	225	5,13,900	225	5,13,900	**900.0**	**20,55,600**
3.2	Transportation of drill rigs (01 unit x 600 km one way)		km	2.2.8	36	1000.0	36,000												
3.3	Drilling camp setting cost		per drill	2.2.9a	2,50,000	1.0	2,50,000												
3.4	Monthly accomadation charges for drilling camp		monthly basis	2.2.9	50,000	4.0	2,00,000												
3.5	Drilling camp winding cost		per drill	2.2.9b	2,50,000	1.0	2,50,000	**76,69,800**	Not claimable (Included in Drilling charges)										
3.6	Approach road making for flat terrain		Km	2.2.10a	22,020	5.0	1,10,100												
3.7	Construction of Concrete pillar (12"X 12"X30")		per borehole	2.2.7a	2,000	20.0	40,000												
3.8	Borehole plugging by cement		per m	2.2.7b	150	0.0	0												
3.9	Core preservation		m	5.3	1,590	180.0	2,86,200		45	1,590	71,550	45	71,550	45	71,550	45	71,550	**180.0**	**2,86,200**
3.10	Land/Crop compensation (in case the BH falls in agriculture land)		per borehole	5.6	20,000	20.0	4,00,000		Not claimable (Included in Drilling charges)										
4	**LABORATORY STUDIES**																		
4.1	Sample processing works (1750 nos)	Sampler charges	days	1.5.2	5,100	115.0	5,86,500	**7,84,760**	28	5,100	1,42,800	29	1,47,900	29	1,47,900	29	1,47,900	**115.0**	**5,86,500**
4.2		Labour charges	days	5.7	431	460.0	1,98,260		115	504	57,960	115	57,960	115	57,960	115	57,960	**460.0**	**2,31,840**
4.3	Sample	Primary	per sampl	4.1.15a	4,200	900.0	37,80,000	**43,47,000**	228	4,200	9,57,600	224	9,40,800	224	9,40,800	224	9,40,800	**900.0**	**37,80,000**

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4.4	analysis for Limestone	Internal Check (5%)	e	4.1.15a	4,200	45.0	1,89,000		11	4,200	46,200	11	46,200	12	50,400	11	46,200	**45.0**	**1,89,000**
4.5		External Check (10%)		4.1.15a	4,200	90.0	3,78,000		23	644	14,812	23	14,812	23	14,812	23	14,812	**92.0**	**59,248**
4.6	Petro studies	Preparation of Standard Thin section	nos	4.3.1	2,353	5.0	11,765	**32,925**	1	2,353	2,353	1	2,353	1	2,353	2	4,706	**5.0**	**11,765**
4.7		Complete Petrological Report of rock sample	nos	4.3.4	4,232	5.0	21,160		1	4,232	4,232	1	4,232	1	4,232	2	8,464	**5.0**	**21,160**
4.8	Determination of Bulk density		nos	4.10	3,540	4.0	14,160	**14,160**	1	3,540	3,540	1	3,540	1	3,540	1	3,540	**4.0**	**14,160**
5	**Peer review of report**		lumpsum		10,000	**4**	40,000	**40,000**		30,000	30,000		30,000		30,000		30,000	**0.0**	**1,20,000**
6	**Sub Total**						**1,64,07,825**	**1,64,07,825**			**27,50,027**		**27,10,827**		**27,42,427**		**27,06,412**		**1,09,09,693**
7	Preparation of Exploration Project Proposal		lumpsum	5.1	2% of the project cost or Rs 5 lakh 3	5 Hard copies along with Soft copy		**0**			55,001		54,217		54,849		54,128		**2,18,194**
8	Exploration Report (5% of (Sl 9 + Sl 10))			5.2(iii)		5 Hard copies along with Soft copy					5,45,485		5,45,485		5,45,485		5,45,485		**21,81,939**

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9	**Tendering process cost**	One time	2.3	@ 2% of approved project cost lower						10,574		10,574		10,574		10,574		**42,297**
10	**Reimbursement of cost incase outsourced components of project**		6(i)	10% of total out sourced cost.				Total outsoruced cost is **Rs.21,13,511** /- (Rs.20,55,508 for drilling + Rs 58,003 for External check)		52,871		52,871		52,871		52,871		**2,11,485**
11	**GRAND TOTAL (9 to 11)**					**1,64,07,825**	**1,64,07,825**		**0**	**34,13,958**		**33,73,974**		**34,06,206**		**33,69,470**		**1,35,63,607**
12	**GST 18%**					**29,53,409**	**29,53,409**			**6,14,512**		**6,07,315**		**6,13,117**		**6,06,505**		**24,41,449**
13	**Grand Total (with GST 18%)**					**1,93,61,234**	**1,93,61,234**			**40,28,470**		**39,81,289**		**40,19,323**		**39,75,975**		**1,60,05,057**
	Grand Total in Lakhs (With GST 18%)					**193.61**	**193.61**			**1,60,05,057**								
	Rs. In lacs									**160**								

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Annexure 3

ADDITIONAL COST ESTIMATE FOR RECONNAISSANCE SURVEY (G-) FOR Cu, Pb, Zn & Gold IN TARICHAR KHURD BLOCK, DISTRICT- NIWARI, MADHYA PRADESH, Total Area - 101.00 sq km

S.N	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.	Total Amount (Rs)	
1	Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	2	10,200	
2	Labours (4 Nos)	day	5.7	522	8	4,176	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
3	**Primary samples**						
	a. For 34 elements	Nos	4.1.14	7,731	14	1,08,234	
4	**Check samples External(10%)**						
	a. Analysis of 11 radicals i.e. K, Na, Water insolubles, Mg, Cl, Br, I, Li & CaSO4, F & B	Nos	4.1.14	7,731	1	7,731	
5	**Total Estimated Cost without GST**					**1,30,341**	
6	**Provision for GST (18% of G)**	**%**				**23,461**	GST will be reimbursed as per actual and as per notified prescribed rate
7	**Total Estimated Cost with GST**					**1,53,802**	
				Say in Lakhs (Rs.)		***1.54***	

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Annexure 4A

Estimated cost for Preliminary exploration (G3) for Iron, Manganese and associated minerals in Tindni Block, Districts: Jabalpur, State: Madhya Pradesh
[Block area- 7.40 sq. km; Schedule timeline- 15 months, BH: 13 nos, 1500 m; Review : after 6 months and 12 months]

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 WORK (1:4000 scale) , Topographical Survey**						
i	Charges for one Geologist- Field	day	1.2	11,000	180	19,80,000	
ii	Charges for one Geologist per- HQ	day	1.2	9,000	30	2,70,000	
iii	2 labours/ party (As per rates of Central Labour Commissioner)	day	5.7	522	360	1,87,920	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Core Sampling -1 Samplers Labour charge not included	day	1.5.2	5,100	103	5,25,300	
v	4 labours/ party (As per rates of Central Labour Commissioner)	day	5.7	522	412	2,15,064	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	40	3,32,000	
vii	4 labours for surveyor	day	5.7	522	160	83,520	

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	Sub Total- A					**35,93,804**	
B	**PITTING AND TRENCHING**						
i	Trenching	Cu m	2.1.1	3330	-	-	
	Sub Total- B					**-**	
C	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i	**Primary & Check samples for Iron-Manganese BRS/Chip/Channel/Trench/BH samples)**						
	a. Primary Samples for Total Fe, Total Mn, Al2O3, P2O5, CaO, SiO2 and Acid insolubles	Nos	4.1.15a	4,200	750	31,50,000	Channel Samples-250, BH Samples-500
	b.External (10%) Check samples for Total Fe, Total Mn, Al2O3, P2O5, CaO, SiO2 and Acid insolubles	Nos	4.1.15a	4,200	75	3,15,000	
ii	**Primary & Check samples for gold (BRS/Channel/Core)**						
	a. Primary Samples for Au by Fire Assay	Nos	4.1.5a	2,380	-	-	Selective samples from BIF (Surface Samples-5, Trench Samples-5, BH Samples-5
	b.External (10%) Check samples for Au by Fire Assay	Nos	4.1.5a	2,380	-	-	
2	**Physical,Petrological, Mineralogical Studies**						
i	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
ii	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	
iii	Preparation of polished section	Nos	4.3.2	1,549	10	15,490	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
v	Digital Photographs	Nos	4.3.7	280	10	2,800	
vi	Bulk Density	Nos	4.10	3,540	5	17,700	
	Sub Total- C						

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						36,09,160	
D	**DRILLING**						
i	Drilling upto 300m (Very Hard Rock) (2 rigs)	m	2.2.1.5a	12,650	1,500	1,89,75,000	
iii	Land / Crop Compansation	per BH	5.6	20,000	-	-	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
iv	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	13	26,000	
v	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	1,200	43,200	Certification in this regard is required to be provided
vi	Monthly Accomodation Charges for drilling Camp	month	2.2.9	50,000	4	2,00,000	
vii	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	2	5,00,000	
viii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	2	5,00,000	
ix	Approach Road Making (Hilly Terrain)	Km	2.2.10b	32,200	10	3,22,000	
x	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS & Block boundary points	Nos	1.6.2	19,200	33	6,33,600	13 Boreholes+20 Block boundary points
xi	Drill core preservation: One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	900	14,31,000	This amount will be reimbursed after successful delivery of the cores to concerned

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							libraries/authorities
	Sub Total- D					**2,26,30,800**	
E	**Total A to D**					**2,98,33,764**	
F	**Geological Report Preparation**		**5.2**	For the projects having cost exceeding Rs. 300 lakhs - A minimum of Rs. 9 lakhs or 3% of the value of work whichever is more subject to a maximum of Rs. 20 lakh		**8,95,013**	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**	**5 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 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**					**3,12,58,777**	
J	**Provision for GST (18% of I)**					**56,26,580**	GST will be reimburse as per actual and as per notified prescribed rate
K	**Total Estimated Cost with GST**						

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		3,68,85,357	
	or Say Rs. In Lakhs	**368.85**	
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.**		
5	**Any item of work not mentioned above shall be added as per SoC.**		

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Annexure 4B

Time Schedule/ Action plan for Preliminary Exploration (G-3) for Iron, Manganese and associated minerals in Tindni Block, Districts: Jabalpur, State: Madhya Pradesh.

S. No.	Particulars	Months/ Days	1	2	3	4	5	6	Review-1	7	8	9	10	11	12	Review-2	13	14	15
1	Camp Setting	months																	
2	Geological Mapping	months																	
3	Survey days	days																	
4	Channel Sampling	cu.m																	
5	Drilling	m																	
6	Geologist days	days																	
7	Sampling days, Core Sampling	days																	
8	Camp winding	months																	
9	Laboratory Studies	months																	
10	Geologist days, HQ	days																	
11	Report Writing with Peer Review	months																	

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Annexure 5A

Estimated cost for Reconnaissance survey (G4) for Glauconitic Sandstone in Parsada-Nawapara-Gurur Block, District: Balod , State: Chhattisgarh.
[Block area- 144 sq. km; Schedule timeline- 12 months, Review : after 6 months Bh: 5 nos, 250 m]

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 WORK (1:12,500 scale)**						
i	Charges for one Geologist- Field	day	1.2	11,000	150	16,50,000	
ii	Charges for one Geologist per- HQ	day	1.2	9,000	30	2,70,000	
iii	2 labours/ party (Rs 494/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	300	1,56,600	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	62	3,16,200	
v	4 labours/ party (Rs 494/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	248	1,29,456	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	day	1.6. 1a	8,300	-	-	
vii	4 labours for surveyor	day	5.7	522	-	-	
	Sub Total- A					**25,22,256**	
B	**PITTING AND TRENCHING**						
i	Pitting	Cu m	2.1.2	3800	150	5,70,000	

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	Sub Total- B					**5,70,000**	
C	**DRILLING**						
i	Drilling upto 300m (Hard Rock) (1 rigs)	m	2.2.1.4a	11,500	250	28,75,000	5 BH x 50m =250m
ii	Land / Crop Compansation	per BH	5.6	20,000	5	1,00,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
iii	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
iv	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	500	18,000	Certification in this regard is required to be provided
v	Monthly Accomodation Charges for drilling Camp	month	2.2.9	50,000	2	1,00,000	
vi	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
vii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
viii	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	5	1,10,100	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed for max. 4 km.
ix	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and by DGPS	Nos	1.6.2	19,200	-	-	
x	Borehole core preservation-One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	150	2,38,500	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities

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	Sub Total- C					**39,51,600**	
D	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i	**Bedrock/Channel/Chip/Trench/BH etc Samples) for K_2O, SiO_2, Al_2O_3& Fe_2O_3**						
	a) Primary samples for K_2O, SiO_2, Al_2O_3& Fe_2O_3- XRF	Nos	4.1.15a	4,200	450	18,90,000	200+150+100=450 (Surface+Pit+BH)
	b) External Check sample (10% of Primary samples)	Nos	4.1.15a	4,200	45	1,89,000	
ii	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
iii	Complete petrographic study report	Nos	4.3.1	4,232	10	42,320	
iv	Digital Photographs	Nos	4.3.7	280	10	2,800	
v	XRD Study	Nos	4.5.1	4,000	5	20,000	
vi	Bulk Density Determination	Nos	4.1	3,540	2	7,080	
	Sub Total- D					**21,74,730**	
E	**Total A to D**					**92,18,586**	
F	**Geological Report Preparation**		**5.2**	ii		**4,60,929**	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**	

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H	**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 lower		**1,84,372**	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**					**98,93,887**	
J	**Provision for GST (18% of I)**					**17,80,900**	GST will be reimburse as per actual and as per notified prescribed rate
K	**Total Estimated Cost with GST**					**1,16,74,787**	
				or Say Rs. In Lakhs		**116.75**	
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.**						
5	**Any item of work not mentioned above shall be added as per SoC.**						

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Annexure 5B

Time Schedule/ Action plan of Reconnaissance survey (G4) for Glauconitic Sandstone in Parsada-Nawapara-Gurur Block, District: Balod , State: Chhattisgarh.

S. No.		Months/Days	1	2	3	4	5	6	Review	7	8	9	10	11	12
1	Camp Setting	months													
2	Geological Mapping	months													
3	Pitting	cu.m													
4	Drilling (1 rig)	m													
5	Geologist days	days													
6	Sampling days,	days													
7	Camp winding	months													
8	Laboratory Studies	months													
9	Geologist days, HQ	days													
10	Report Writing with Peer Review	months													

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Annexure 6A

Estimated cost for Preliminary Exploration (G3) for manganese ore in Dhavalapur block, District: Nagpur, Maharashtra.
[Block area- 2.00 sq. km; Schedule timeline- 12 months, BH: 14, 1000m , Review: after 5 months]

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 WORK**						
1	**Geological mapping (1: 2000) and Topo survey**						
i	Charges for one Geologist- Field	day	1.2	11,000	150	16,50,000	
ii	Charges for one Geologist per- HQ	day	1.2	9,000	30	2,70,000	
iii	2 labours/ party (As per rates of Central Labour Commissioner)	day	5.7	522	300	1,56,600	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Trench and Core Sampling -1 Samplers Labour charge not included	day	1.5.2	5,100	37	1,88,700	

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v	4 labours/ party for smpling (As per rates of Central Labour Commissioner)	day	5.7	522	148	77,256	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
2	**Survey (on 1:2000 Scale)**						
i	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS and boundary coordinates	Per Point of observation	1.6.2	19,200	24	4,60,800	14 BHs and 10 boundary coordinates
ii	Charges of Surveyor	one surveyor per day	1.6.1a	8,300	30	2,49,000	
iii	Labours Charges for survey work; Base rate - Rs.522	day	5.7	522	120	62,640	Amount will be reimburse as per the notified rates for unskilled labor by the Central Labour Commissioner or respective State Govt. whichever is higher
	Sub Total- A					**31,14,996**	
B	**PITTING AND TRENCHING**						
i	Trenching (1m x 2mx 10 m) x 7 trenches	Cu m	2.1.1	3330	140	4,66,200	
	Sub Total- B					**4,66,200**	
C	**DRILLING (After Review)**						

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i	Drilling upto 300m (Hard Rock) (1 rigs)	m	2.2.1.4a	11,500	1,000	1,15,00,000	
ii	Borehole deviation Survey	m	2.2.6	330	1,000	3,30,000	
iii	Land / Crop Compansation	per BH	5.6	20,000	14	2,80,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
iv	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	14	28,000	
v	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	300	10,800	Certification in this regard is required to be provided
vi	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	4	2,00,000	
vii	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
viii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
ix	Approach Road Making (Hilly Terrain)	Km	2.2.10b	32,200	5	1,61,000	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed later
x	Core Preservation: One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	300	4,77,000	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	Sub Total- C					**1,34,86,800**	
D	**LABORATORY STUDIES**						

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1	**Chemical Analysis**						
i	**Primary & Check samples**						
	a. Primary Samples 6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insolubles)- by XRF	Nos	4.1.15a	4,200	270	11,34,000	Trench-70, BH-200
	c-External(10%) Check samples from NABL Lab for 6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insolubles)	Nos	4.1.15a	4,200	27	1,13,400	
2	**Physical & Petrological Stusies**						
i	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
ii	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	
iii	Preparation of polished section	Nos	4.3.2	1,549	10	15,490	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
v	Digital Photographs	Nos	4.3.7	280	10	2,800	
vi	Bulk density	Nos	4.10	3,540	10	35,400	
	Sub Total- D					**14,09,260**	
E	**Total A to D**					**1,84,77,256**	
F	**Geological Report Preparation**		**5.2**	iii		**7,50,000**	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.

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G	**Peer review Charges**		**As per EC decision**			**30,000**	
H	**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 Lakhs whichever is lower		**3,69,545**	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**					**1,96,26,801.12**	
J	**Provision for GST (18% of I)**					**35,32,824.20**	GST will be reimburse as per actual and as per notified prescribed rate
K	**Total Estimated Cost with GST**					**2,31,59,625.32**	
	Rs. (in lakhs)					**231.60**	
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.**						
5	**Any item of work not mentioned above shall be added as per SoC.**						

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Annexure 6B

Time schedule/ Action Plan for Preliminary Exploration (G-3) for Manganese in Dhavalapur Block, Districts: Nagpur, Maharashtra
[Block area-2.00 sq. km; Schedule timeline- 12 months]

S. No.	Particulars	Months	1	2	3	4	5		6	7	8	9	10	11	12
1	Camp Setting	Months													
2	Survey Party days (1 Party)	days													
3	Trenching / Pitting	cu.m													
4	Drilling (2 rig)	m													
5	Geologist Party days (1 Party)	days													
6	Sampling days for Trench & Core Sampling (1 Party)	days													
7	Camp winding	Months													
8	Laboratory Studies	days													
9	Geologist days, HQ	days													
10	Report Writing with Peer Review	days													

Review

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Annexure 7A

Estimate Cost for Reconnaissance (G-4) survey For Limestone In Dillai Area, Karbi Anglong District, Assam
[Block area- 7.40 sq. km; Schedule timeline- 12 months, BH: 10 nos, 500 m; 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 -Sl No.	Rates as per SoC	Qty.	Amount (Rs)	
A	**GEOLOGICAL WORK (1:4000 scale) , Topographical Survey**						
i	Charges for one Geologist- Field	day	1.2	11,000	120	13,20,000	
iii	Labour charges for geological mapping	day	5.7	522	240	1,25,280	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Charges for sampler	day	1.5.2	5,100	66	3,36,600	
v	Labour charges for sample work	day	5.7	522	264	1,37,808	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
vi	Borehole fixation and Determination of Coordinate & RL-DGPS	day	1.6. 1a	19,200	10	1,92,000	
vii	4 labours for surveyor	day	5.7	522			
	Sub Total- A					**21,11,688**	
B	**PITTING AND TRENCHING**					**70,74,155**	**3.350higher than the normal SoC**
i	Pitting	per cu m	2.1.2	3800	75	2,85,000	
	Sub Total- B					**9,54,750**	**3.350higher than the normal SoC**
C	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i	**Primary & Check samples for Iron-Manganese BRS/Chip/Channel/Trench/BH samples)**						

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	a. PPrimary samples (CaO,MgO,Al2O3,SiO2,Fe2O3 & LOI)- XRF	per sample	4.1.15a	4,200	475	19,95,000	
	b.Check 10%Primary samples (CaO,MgO,Al2O3,SiO2,Fe2O3 & LOI)- XRF	per sample	4.1.15a	4,200	48	2,01,600	
ii	**Physical Analysis**					-	
a	Preparation of thin section	No.	4.3.1	2,353	10	23,530	
b	Bulk density determination	No.	4.10	3,540	2	7,080	
c	Petrographic Studies	No.	4.3.4	2,353	10	23,530	
d	Charges of one Geologist per day at HQ	day	1.2	9,000	30	2,70,000	
	Sub Total- C					**25,20,740**	
D	**CORE DRILLING**						
1	Drilling – Soft rock	Mtr	2.2.1.1b	6,775	500	33,87,500	
2	Land / Crop Compansation	per BH	5.6	20,000	10	2,00,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
3	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	10	20,000	
4	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	360	12,960	Certification in this regard is required to be provided
5	Monthly Accomodation Charges for drilling Camp	month	2.2.9	50,000	3	1,50,000	
6	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
7	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
8	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	15	3,30,300	As per actuals
9	Drill core preservation	m	5.3	1,590	400	6,36,000	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	Sub Total- D					**52,36,760**	
						1,75,43,146	**3.350higher than the normal SoC**

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E	**Total A to D**					**2,80,92,791**	
As the area falls in remote and inaccessible terrain in NE states and Hilly terrain, the amount is 3.35 times higher than the normal SoC, hence the total amount = 3.35x(20,27,760.00 + 2,49,750.00 + 47,79,000.00) = Rs 2,36,39,308.50							
F	**Geological Report Preparation**		**5.2**	iii		**8,42,784**	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**	**5 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 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**					**2,94,65,575**	
J	**Provision for GST (18% of I)**					**53,03,803**	GST will be reimburse as per actual and as per notified prescribed rate
K	**Total Estimated Cost with GST**					**3,47,69,378**	
	or Say Rs. In Lakhs					**348 Lakh**	
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.**						
5	**Any item of work not mentioned above shall be added as per SoC.**						

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Annexure 7B

Time schedule for Reconnaissance survey (G4) for Limestone in Dillai area of Karbi- Anglong district, Assam

Activities	Months												
	1	2	3	4	5	6	Review	7	8	9	10	11	12
Camp mobilisation													
Mapping (1:12500)													
Geologist days in field													
Sub Surface drilling (2 rig)													
Survey days													
Sampling days													
Laboratory Studies													
Camp winding													
Geologist days in HQ													
Geological Report Writing													

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Annexure 8A

Estimate Cost for Prelimnary Exploration (G-3) for Limestone in Rupapeth Block(G3), Chandrapur, District: Maharashtra, Area 7 sq. km, No.of BH:5 , Borehole depth range- 60 m; Schedule timeline- 10 months [Review: After 4Months]

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) ,with Topo Survey & Trenching , drilling work						
i	a. Charges for Geologist per day (Field) for geological mapping & trenching work, drilling work	day	1.3	11000	150	1650000	
ii	b. Labours Charges; Base rate	day	5.7	522	300	156600	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	30	270000	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5100	38	193800	
	e. Labours (4 Nos)	day	5.7	522	152	79344	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher.
	Sub Total- A					**23,49,744**	
B	**Ground Geophysical Survey**						
	Sub Total- B					**-**	
C	**Survey work**						

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a	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19,200	10	192000	
b	Charges of Surveyor (1 party) for Geophysical survey layout work & Block boundary demarcation	one surveyor per day	1.6.1a	8,300	45	373500	
c	Labours Charges for survey work;	day	5.7	522	180	93960	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher.
	Sub-Total C					**6,59,460**	
D	**Trenching/Pitting**						
	a) Excavation of Pitting	per cu.m	2.1.2	3,800	25	95000	
E	**DRILLING (after review)- In House**						
1	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.	m	2.2.1.1b	6,775	300	2032500	
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	3	60000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
4	Construction of concrete Pillar (12"x12"x30") including boundary pillars	per borehole	2.2.7a	2,000	10	20000	
5	Borehole plugging by cement	per borehole	2.2.7b	150	-	0	
6	Transportation of Drill Rig & Truck associated per drill (2 rigs)	Km	2.2.8	36	150	5400	To and Fro
7	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	2	1,00,000	

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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	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed for max. 4 km.
11	Drill Core Preservation	per m	5.3	1,590	250	3,97,500	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	Sub Total E					**31,59,440**	
F	**Borehole Geophysical Logging**	5 Bhs of 60m each					
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, SiO_2, Al_2O_3, LOI, Na_2O, Fe_2O_3, MnO, K_2O, TiO_2, SO_3, P_2O_5, Cr_2O_3, ZnO, V_2O_5)- XRF	per sample	4.1.15a	4200	275	11,55,000	50 BRS+ 200 CS+25 Pitting
	Estimation of major oxides by XRF/whole rock analysis for check samples	per sample	4.1.15a	4200	28	1,17,600	
	Determination of insitu Bulk Density		4.10	3,540	2	7,080	
2	**<u>Physical & Petrological Studies</u>**						
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					

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	SEM Studies	per hour					
viii	EPMA studies	per hour					
						13,11,385	
H	**Total A to G**					**75,75,029**	
I	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	**(ii)**		**3,78,751**	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		**1,51,501**	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**					**81,35,281**	
M	**Provision for GST (18% of J)**					**14,64,351**	GST will be reimburse as per actual and as per notified prescribed rate
N	**Total Estimated Cost with GST**					**95,99,632**	
				or Say Rs. In Lakhs		**96.00**	
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.**						
5	**Any item of work not mentioned above shall be added as per SoC.**						

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Annexure 8B

Time Schedule/Action plan for Prelimnary Exploration (G-3) for Limestone in Rupapeth 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											

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Annexure 9A

Estimate Cost for Reconaissance survey G-4 for Lithium and associated elements in Chhuri , Jenjara area , Korba district , Chhattisgarh Area-: 25 sq. km, No.of BH: 5, 300 m; 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
A	**Geological Mapping Other Geological Work & Surveying**						
	Geological mapping, (1:12,500 scale) & Trenching , drilling work						
i	a. Charges for Geologist per day (Field) for geological mapping & trenching work, drilling work	day	1.2.b	11,000	100	11,00,000	
ii	b. Labours Charges; Base rate	day	5.7	522	200	1,04,400	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	1.2.a	9,000	30	2,70,000	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	51	2,60,100	
	e. Labours (4 Nos)	day	5.7	522	204	1,06,488	Amount will be reimbursed as per the notified rates by the Central

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							Labour Commissioner or respective State Govt. whichever is higher.
	Sub Total- A					**18,40,988**	
B	**Ground Geophysical Survey**					**-**	
	Sub Total- B					**-**	
C	**Survey work**						
a	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19,200	5	96000	
	Sub-Total C					**96,000**	
D	**Trenching/Pitting**						
	a) Pit	per cu.m	2.1.2	3,800	50	**190000**	
E	**DRILLING (after review)- In- house**						
1	Drilling up to 300m (Hard Rock)	m	2.1.4a	11,500	300	3450000	
2	Borehole deviation Survey by Multishot Camera	m	2.2.6	330	-	0	
3	Land / Crop Compansation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	5	100000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10000	
5	Transportation of Drill Rig & Truck associated per drill (2 rigs)	Km	2.2.8	36	1,350	48600	Certification in this regard is required to be provided

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6	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	2	100000	
7	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	250000	
8	Drilling Camp Winding up Cost	Nos	2.2.9a	2,50,000	1	250000	
9	Road Making (Flat Terrain)	Km	2.2.10a	22,020	5	110100	As per actulas
10	Drill Core Preservation	per m	5.3	1,590	350	556500	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	Sub Total E					**48,75,200**	
F	**Borehole Geophysical Logging**	5 Bhs of 350m each					
G	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Geochemical Sampling-Surface samples (Bedrock/Channel /Soil/Stream sediment)**	**Bedrock:100,Pond sediment:10**					
	a. Au by Fire Assay	Nos					
	b. For **Li,Rb,Cs**, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by ICPMS-34 elements	Nos	4.1.14	7,731	110	850410	
	c. Major oxide by XRF	Nos	4.1.15a	4,200	10	42000	
ii)	**Surface Check**						

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	samples (10% External)						
	a. Au by Fire Assay	Nos					
	b. For **Li,Rb,Cs**, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by ICPMS-34 elements	Nos	4.1.14	7,731	11	85041	
	c. Major oxide by XRF	Nos	4.1.15a	4,200	1	4200	
iii)	**Pit & Check Samples from Trench**						
	Trench samples						
	a. Au by Fire Assay	Nos					
	b. For **Li,Rb,Cs**, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by ICPMS-34 elements	Nos	4.1.14	7,731	50	386550	
	c. For PGE	Nos					
iv)	**Pit Check samples (10% External)**						
	a. Au by Fire Assay	Nos					
	b. For **Li,Rb,Cs**, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by ICPMS-34 elements	Nos	4.1.14	7,731	5	38655	
	c. For PGE	Nos					
v)	**BH Core samples**						
	a. Au by Fire Assay	Nos					
	b. For **Li,Rb,Cs**, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by	Nos	4.1.14	7,731	200	1546200	

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	ICPMS-34 elements						
	c. For PGE	Nos					
vi)	**BH Core samples (10%External)**						
	a. Au by Fire Assay	Nos					
	b. For **Li,Rb,Cs**, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by ICPMS-34 elements	Nos	4.1.14	7,731	20	154620	
	c. For PGE	Nos					
2	**Physical & Petrological Studies**						
i	Preparation of thin section	Nos	4.3.1	2,353	10	23530	
ii	Study of thin section	Nos	4.3.4	4,232	10	42320	
iii	Preparation of polish section	Nos					
iv	study of polished section	Nos					
v	Digital Photographs	Nos	4.3.7	280	10	2800	
vi	Whole Rock Analysis	Nos	4.1.5a	4,200	-	0	
vii	Sp. Gravity	Nos	4.8.1	1,605	5	8025	
	SEM Studies	per hour	4.4.2	2,940	10	29400	
viii	EPMA studies	per hour	4.4.1	8,540	10	85400	
						32,99,151	
H	**Total A to G**					**1,03,01,339**	
I	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	**ii**		5,15,067	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos)

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							and the soft copy to NMET.
J	**Peer review Charges**		**As per EC decision**	30,000	**1**	30000	
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		2,06,027	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**					**1,10,52,433**	
M	**Provision for GST (18%)**					**19,89,438**	GST will be reimburse as per actual and as per notified prescribed rate
N	**Total Estimated Cost with GST**					**1,30,41,871**	
				or Say Rs. In Lakhs		**130.42**	
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.**						
5	**Any item of work not mentioned above shall be added as per SoC.**						

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Annexure 9B

Time Schedule/ Action Plan for different work components of Lithium investigation in Chhuri-Jengara Block, Korba District, Chhattisgarh State

	Months												
Item of work	**1**	**2**	**3**	**4**	**5**	**6**		**7**	**8**	**9**	**10**	**11**	**12**
Geological field days													
Bed rock sampling													
Trenching & Sampling							**REVIEW**						
Chemical analysis of surface samples													
Drilling													
Core Sampling & its preparation													
Chemical analysis of core samples													
Processing of Analytical data													
Preparation of Geological report													

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Annexure 10A

Estimate Cost for Reconnaissance Survey (G-4 Level), Of Nickel, Cobalt, Chromium & Pge Minerals In And Around Phangrai Area, Ukhrul District, Manipur Area 34.00 Sq. Km, Schedule Timeline- 12months 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, (1:12,500 scale) & Trenching , drilling work						
i	a. Charges for Geologist per day (Field) for geological mapping & trenching work, drilling work	day	1.2b	11,000	120	13,20,000	
ii	b. Labours Charges; Base rate	day	5.7	522	240	1,25,280	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher.
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	25	1,27,500	
	e. Labours (4 Nos)	day	5.7	522	100	52,200	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or

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							respective State Govt. whichever is higher.
	Sub Total- A					**16,24,980**	
B	**Ground Geophysical Survey- Outsource**						
1	Magnetic (30 Lkm)	Per station	3.2a	1,800	250	4,50,000	
	Sub Total- B					**4,50,000**	
	TOTAL FIELD EXPLORATION COST					**20,74,980**	
	EXPLORATION COST FOR NORTH EAST STATES AND HILLY TERRAIN		**Section 5 of SoC**			**69,51,183**	**Exploration rates shall be 3.35 times higher than the normal SoC rate for carrying out exploration work in North Eastern States and hilly terrain of Himalaya region.**
	c. Charges for Geologist per day (HQ)	day		9,000	30	2,70,000	
C	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Geochemical Sampling-Surface samples (Bedrock/Channel**						

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	/Soil/Stream sediment)						
	a. ICPMS	Nos	4.1.14	7,731	100	7,73,100	
	External check 10%	Nos	4.1.14	7,731	10	77,310	
	PGE(ICPMS)- fire assay	Nos	4.1.5d	11,800	50	5,90,000	
	External check 10% PGE(ICPMS)- fire assay	Nos	4.1.5d	11,800	5	59,000	
	b. XRF- Major Oxides and traces	Nos	4.1.15a	4,200	25	1,05,000	
	External check 10%	Nos	4.1.15a	4,200	3	12,600	
2	**Physical & Petrological Studies**						
i	Preparation of thin section	Nos	4.3.1	2,353	50	1,17,650	
ii	Study of thin section	Nos	4.3.4	4,232	50	2,11,600	
v	Digital Photographs	Nos	4.3.7	280	50	14,000	
						19,60,260	
D	**Total A to C**					**91,81,443**	
E	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	**(ii)**		**4,59,072**	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
F	**Peer review Charges**		**As per EC decision**			**30,000**	

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G	**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		**1,83,629**	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.
H	**Total Estimated Cost without GST**					**98,54,144**	
I	**Provision for GST (18% of J)**					**17,73,746**	GST will be reimburse as per actual and as per notified prescribed rate
J	**Total Estimated Cost with GST**					**1,16,27,890**	
				or Say Rs. In Lakhs		**116.28**	
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.**						
5	**Any item of work not mentioned above shall be added as per SoC.**						

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Annexure 10B

Time Schedule/ Action Plan for Reconnaissance Survey (G-4 Level), Of Nickel, Cobalt, Chromium & Pge Minerals In And Around Phangrai Area, UKHRUL District, Manipur Area

S. No.			1	2	3	4	5	6	Review	7	8	9	10	11	12
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	Geologst Man days	days													
6	Sampler Man days	days													
7	Camp Winding	months													
8	Laboratory Studies	Nos.													
9	Report Writing with Peer Review	months													

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Annexure 11

Estimate cost for Digital Core Logger for the establishment of Digital Core Library in Geological Survey of India under NMET

Description of stores purchases	Estimated cost (approx.)
Following are minimum technical specification required **1. RGB Photography** Spatial Resolution: 20µm; Color depth: 24bit or more; Sensor Type: Line scan	a) Digital Core Logger USD 20,00,000- Rs. 17,00,00,000/-
2. 3D Profiling Spatial resolution < 1 mm; Height resolution < 0.01mm	b) Shipping and other aspects- Rs. 25,00,000/-
3. IR sensor Spatial Resolution: 250 µm;Spectral Per meter: 960,000 spectral bandwidth resolution of approximately 10 nm. The scanning should be able to capture visible and near-infrared (VNIR) (VNIR 0.4-1.0 µm), short-wavelength infrared (SWIR) (SWIR 1.0-2.5 µm). and long-wavelength (LWIR) spectral images as well as a high-resolution optical RGB image, all in a single scan, directly in the drill core box covering more than 400 bands	b) Installation and commissioning- Rs. 2,20,00,000/-
4. Should have integrated XRF, LIBS,Geophysical Characterization tools like Density,	d) Software and Training at three locations of GSI in India for 10 days each at one location- Rs. 2,20,00,000/-
5. Software be able to generates 3D visualization of the drill core's interior, revealing planar structures (foliations, beddings, veins, and faults) and linear structures. Mineral classification and quantification, USGS MICA mineral mapping. **Continued..5.** c) Spectral interactive machine learning & AI tools for supervised and unsupervised classification also should be able to do quantification d) Integrated computer/laptop (inside instrument) – intel i7 with Window 10 Pro, 32 GB RAM, 1 TB SSD M.2,24" LCD Monitor, keyboard and mouse subject to change with current model offered. e) Tower computer intel i9 12th generation with windows 10 Pro, 128 GB RAM, 4TH SSD M.2, subject to change with current model offered	e) Technical support (CAMC) and implementation for 5 years- Rs. 15,00,00,000/- **Sub Total-** Rs 36,65,00,000/- (**approx.)** GST @18%- Rs. 6,59,70,000 /- **Grand Total-** Rs. 43,24,70,000/-
6. General Core tray length: 1.50 m Core tray width: 700 mm Scanning Speed: 25 mm per second.	

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