Ministry of Mines
National Mineral Exploration Trust
Minutes of the 68th Technical-cum-Cost Committee (TCC) meeting held on 28th, 29th and 30th August, 2024 through video conferencing

The 68th 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 (DDG), Geological Survey of India (GSI) and Chairman, TCC, NMET on 28th, 29th and 30th August, 2024.

Members of TCC-NMET and representatives from DGM, Chhattisgarh, DGM, Assam, DGM, Madhya Pradesh, DMG, Karnataka, DMG, Odisha, DMR, Meghalaya, CSIR-IMMT, Bhubaneswar, MECL, KIOCL, CMPDI, OMC, MPSMC, GMSPL, Geovale, UEIPL, Gemcokati, GeoExplore, GeoMarine, Novomine, Engeotech, Tata Steel Ltd, etc have attended the meeting through their respective VC modes.

The list of participants is at Annexure-1.

Dr. S. Ravi, DDG, GSI and Chairman, TCC, extended a warm welcome to all TCC members and participants representing various Notified Exploration Agencies (NEAs) and Notified Private Exploration Agencies (NPEAs). He emphasized the importance of keeping presentations concise and instructed that shape files must be submitted alongwith proposals. Shri. S.K. Adhikari, Chief Mining Geologist, IBM and TCC member, raised the need to revise the proposal in the prescribed Scheme of Prospecting format, including report formats and work components to align with IBM's prescribed format, which will be discussed in the upcoming TCC meeting. Dr. E.V.S.S.K. Babu, Scientist (G) at NGRI and TCC member, suggested that the cost of report preparation mentioned in the SoC should be revised. It was also noted that agencies with projects extending beyond one year should submit an interim report.

Subsequently, the proceedings of meeting were initiated as per circulated agenda

Agenda 68.1 Review of Ongoing Projects/Completed Project & Timeline Extension

Agenda 68.1.1. Reconnaissance survey (G4 stage) for REE and Rare Metals in Khairlanji Block, District–Balaghat and Seoni, Madhya Pradesh. [Implementing Agency: MECL]

a) MECL informed that the project was approved in the 28th EC Meeting held on 16th March, 2023. The sanction order was issued on 03rd April, 2023 with timeline of 12 months and approved cost was INR 68,44,585/-.
b) MECL reported that the block was reviewed during the 64th TCC meeting on April 25, 2024, where it was recommended to submit the geological report. During the 67th TCC meeting, an extension was granted, setting the new deadline for submission to August 31, 2024.
c) Peer reviewer comments have been received and addressed.
d) The report concluded that the values reported by previous workers in the area were not encouraging, which is not acceptable. MECL is advised to thoroughly understand the results of its work and draw conclusions based on the geological mapping and analytical data obtained during its own investigation.
e) The committee suggested to submit the Geological Report (GR) by August 31, 2024, with the conclusion appropriately revised.

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Recommendation TCC
The Committee recommended for submission of final GR within the prescribed timeline.

Agenda 68.1.2. Reconnaissance survey (G4 stage) for Tin in Pokhar-Chhaili Block, District-Tehri-Garhwal, Uttarakhand.
[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 30th EC 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 1,05,05,247/-.
b) MECL informed that in the 67th TCC, the committee recommended timeline extension up to 31st August 2024 for final GR submission.
c) MECL presented the outcome of the project and the recommendations of peer reviewer in the meeting.
d) MECL reported that samples collected from the north-western part of the block, particularly over the Thati Kathur Granite, revealed unusually high concentrations of tin. The potential area identified around Indwangaon, Kangra, and Kyarki villages has been recommended for further exploration, which should include detailed mapping, close-spaced sampling, trenching, and pitting to determine the strike and depth persistence of the tin mineralization. MECL also suggested that the northern extension of the Thati Kathur Granite lithounit, located outside the block area, should be further investigated for tin deposits.
e) The committee advised that top base should be properly mentioned in the compliance report and the report should highlight that the pegmatites intruded in the Thati Kathur granite is favorable for REE mineralisation.

Recommendation TCC
The Committee recommended for submission of final GR within the prescribed timeline.

Agenda 68.1.3. Preliminary Exploration (G-3 Level) for Potash in Lakhasar East Block (7.16 sq. km), Lakhasar Sub Basin, Bikaner District, Rajasthan.
[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 28th EC Meeting held on 16th March, 2023. The sanction order was issued on 03rd April, 2023 with timeline of 18 months and approved cost was INR 15,50,67,857/-.
b) MECL informed the house that Potash bearing mineral in the block is Polyhalite and K2O Resources have been estimated @ 2%, 3% and 5% cut off.
c) MECL informed comments of peer reviewer were received on 26.08.2024, however the final comment will be received by 6.09.2024.
d) The committee recommended to review the project after incorporating the comments of the peer reviewer and recommended to submit the GR by 30th September 2024.

Recommendation TCC
The Committee recommended to review the project in next TCC.

Agenda 68.1.4. Reconnaissance Survey (G-4) for REE in Sarnu Block (118.10 sq. km), Barmer District, Rajasthan.
[Implementing Agency: MECL]

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a) MECL informed that the project was approved in the 28th EC Meeting held on 16th March, 2023. The sanction order was issued on 03rd April, 2023 with timeline of 12 months and approved cost was INR 69,92,176/-.
b) MECL informed that GR was submitted for comments of the peer reviewer on 23rd July 2024 and sought approval of timeline extension up to 30th September 2024 for final submission of GR.
c) The committee was apprised that 36th EC of NMET held on 29th July 2024 had approved time extension up to 31st August 2024.
d) The committee recommended to review the project after compliance of the comments of the peer reviewer in next TCC and agreed for timeline extension up to 30th September 2024.

Recommendation TCC
The Committee recommended that the project be reviewed in the next TCC meeting after the peer reviewer suggestions have been addressed. The time extension was granted up to 30th September, 2024.

Agenda 68.1.5. Reconnaissance Survey (G-4 Stage) for Phosphorite in Kathyur Block (9.0 Sq. Km) Districts- Dehradun, Uttarakhand.
[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 31st EC Meeting held on 12th September, 2023. The sanction order was issued on 05th October, 2023 with timeline of 08 months and approved cost was INR 64,23,064/-.
b) MECL informed that the project was already reviewed in the 65th & 67th TCC. The final review of the project was presented along with the suggestions of peer reviewer .
c) MECL informed that the hard copy of the report after peer review is not received yet for compliance, hence the committee was requested for 15 days time extension for GR submission.
d) The committee directed to submit GR along with Part-IVA format and agreed for time extension upto 15th September 2024 for GR submission.

Recommendation TCC
The Committee recommended time extension upto 15th September 2024 for submission of GR.

Agenda 68.1.6. Reconnaissance survey (G4) for Polymetals (Cu, Au, Ag) in Miregaon block (40.769 sq. km), Districts: Bhandara and Gondiya, Maharashtra.
[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 28th EC Meeting held on 16th March, 2023. The sanction order was issued on 16th March, 2024 with timeline of 12 months and approved cost was INR 1,09,56,018/-.
b) MECL informed that the project was reviewed in 66th TCC meeting. The exploration work has been completed in the block and GR has been peer reviewed.
c) MECL informed that about 350m strike length has been established in the block. However, 100m strike influence has been considered for resource estimation. The copper ore resources estimated by Cross Section Method are as given below:

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Sl. No.	Strike Length	Cut-off Grade	Resource (m.t.)	Grade (Cu%)
1.	100m	0.20% Cu	0.364	0.64
2.		0.50% Cu	0.055	1.20

d) MECL suggested that the block may be upgraded and further exploration in G-3 level to know the strike extension and depth persistence of copper lodes in the block.

e) Further, a timeline extension of 15 days upto 15th September 2024 was sought for submssion of GR.

f) The committee opined that the values and data are not encouraging for promoting the item for G3 level and directed to submit GR with proper recommendation.

g) The committee agreed for time extension of the project up to 15th September 2024 for submission of GR.

Recommendation TCC

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

Agenda 68.1.7. Reconnaissance survey for PGE, Nickel, Cobalt and Gold in Rangapura Block, District: Hassan, Karnataka.
[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 23rd EC Meeting held on 11th March, 2022. The sanction order was issued on 25th March, 2022 with timeline of 12 months and approved cost was INR 2,57,50,609/-.

b) MECL informed that the project has been completed and the comments of peer reviewer is awaited .Hence requested for timeline extension upto 30th September 2024 for GR submission.

c) The committee advised to review the project in next TCC after attending the modification suggested by peer reviewer and recommended submission of GR by 15th October 2024.

Recommendation TCC

The Committee recommended to review the project in next TCC and recommended timeline extension upto 15th October 2024 for final submission of GR.

Agenda 68.1.8. Reconnaissance Survey (G-4 Stage) for Iron ore and associated minerals in Karmai-Chuwahi Block (33.40 Sq. Km) District- Sidhi, Madhya Pradesh.
[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 32nd EC Meeting held on 06th December, 2023. The sanction order was issued on 12th December, 2023 with timeline of 09 months and approved cost was INR 1,39,81,360/-.

b) MECL informed that during the 67th TCC review, it was advised to improve the Large Scale Mapping with better interpretation, and accordingly, the GR has been completed.

c) The committee expressed that the area does not appear promising for iron or other commodities. It noted that the Banded Hematite Quartzite (BHQ) bands and

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foreignized quartzites have not been adequately established. MECL was advised to include the dimensions of each band along with their chemical analyses in the report to be submitted for peer review.

d) MECL requested an extension until October 31, 2024, for submission.
e) The committee recommended extending the GR submission timeline from September 11, 2024, to September 30, 2024

Recommendation TCC

The Committee recommended timeline extension upto 30th September 2024 for final GR submission.

Agenda 68.1.9. Preliminary Exploration (G-3) for Manganese in Nagardhan Block (2.00 sq. km), Nagpur, Maharashtra.
[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 34th EC Meeting held on 19th February 2024. The sanction order was issued on 12th March, 2024 with timeline of 11 months (up to 11.02.2025) and approved cost was INR 1,30,65,806/-.
b) MECL informed that geological mapping, trenching and sampling work are completed.
c) MECL apprised that 43 nos of trench samples have been collected in the block and 2 channel samples from excavated pit outside the block were analysed for Mn, SiO2, P2O5, Fe2O3, MnO2 & Acid Insoluble.
d) MECL identified a manganese ore body with a 480-meter strike length in the central part of the block, with two pits in the western and eastern extensions. Channel samples from the western pit showed 27.6% Mn over a 2.2-meter width.
e) MECL requested a block boundary modification to include this area and sought permission to conduct Gravity and Magnetic Surveys around the manganese mineralization.
f) The committee deliberated on the request of MECL and decided not to except the extended area towards northwest. The trench section need to be be rectified with proper azimuth. It was opined that for PBH-01, 02, 03 in the southern limb and PBH-04 & 05 in the northern limb are proposed for 30 m vertical depth. PBH-07 is approved conditionally subject to the outcome of PBH-04. Initially, the boreholes proposed in the northern limb are accepted and based on the outcome and structural understanding, boreholes in the southern limb and second level borehole (PBH-07) will be decided. The project will be reviewed after completion of 3 boreholes.

Recommendation TCC

The Committee recommended commencing drilling in the northern limb but did not approve the proposal for area modification or the geophysical survey.

Agenda 68.1.10. Reconnaissance Survey (G-4 Stage) for Graphite and Sulphide in Ganacharpura Block (33.60 Sq. Km), Kolar District, Karnataka.
[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 30th EC 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 92,96,121/-.
b) MECL informed that the drilling in two boreholes has been completed in the project and analytical results are awaited. The time extension for GR submission was 31st

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August 2024,hence MECL requested for further timeline extension upto 31st October 2024 for concluding the project and submission of GR.

c) The committee reviewed the project and recommended timeline extension up to 31st October, 2024 .

Recommendation TCC

The Committee recommended timeline extension up to 31st October, 2024 for GR submission.

Agenda 68.1.11. Reconnaissance Survey (G-4 Stage) for Manganese in Taljuri-Ghunchadihi Block (80.00 Sq. Km), Balangir District, Odisha
[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 27th EC Meeting held on 10th January, 2023. The sanction order was issued on 03rd February, 2023 with timeline of 14 months and approved cost was INR 1,66,59,625/-.

b) MECL informed that the project was reviewed in the 58th, 64th and 67th TCC meetings. The geophysical activities and trenching has been completed but drilling suspended due to local agitation.

c) MECL informed that the 1st borehole was taken up (10.07.2023) in Area-1 (Chhindrapali village) but drilling operation was suspended prematurely (13.07.2024) and drill rig was withdrawn from the area by the directives of the local authorities.

d) MECL informed that the item could not be completed due to local agitation. Hence, MECL requested approval for pre-closure of the exploration activities in the Taljhuri Gunchadihi Block along with the submission of Geological report based on the activities carried out with timeline extension upto 31st October 2024.

e) The committee agreed for closure of the projects and opined that since drilling could not be carried out costing has to be reconciled and submitted to NMET for approval.

Recommendation TCC

The Committee recommended closure of the project and GR submission after reconciliation of cost in next TCC.

Agenda 68.1.12. Financial Assistance from NMET funds to procure Machinery Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities.
[Implementing Agency: DGM Sikkim]

a) DGM Sikkim informed that the project was approved in the 28th EC Meeting held on 16th March, 2023. The sanction order was issued on 03rd April, 2023 with timeline of 12 months and approved cost was INR 2,07,05,140/-.

b) DGM Sikkim informed out of the 17 instruments/ machinery approved, 04 have been purchased. DGM Sikkim requested for time extension upto 31st March 2025 for purchase of rest of the equipment.

c) DGM Sikkim, informed that ₹82,82,056/- was received as 1st installmet out of which only ₹76,90,000/- has been utilized. Around ₹ 288946/- interest has been received by the DGM for the balance fund ₹ 5,92,056/- . DGM Sikkim requested the advice the committee regarding the interest accumulated on the 1st installment disbursed by NMET.

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d) The committee asked DGM Sikkim to write to NMET Secretariat giving details of the interest received on the fund disbursed by NMET. Further, timeline extension up to 31st March 2025 was recommended for EC approval.

Recommendation TCC

The Committee recommended timeline extension up to 31st March 2025 for completion of the project.

Agenda 68.1.13. Reconnaissance survey for Sillimanite in Samelangsu area, District: Karbi-Anglong, Assam.
[Implementing Agency: DGM Assam]

a) DGM Assam informed that the project was approved in the 23rd EC Meeting held on 16th March, 2022. The sanction order was issued on 25th March, 2022 with timeline of 12 months and approved cost was INR 3,64,17,283/-.
b) DGM Assam informed that the project has been completed and GR is ready for submission. The time extension for the projects was approved upto 30th April 2024. DGM Assam requested for timeline extension up to 30th September 2024.
c) The committee opined that alumina content is not encouraging and cut-off should be followed as per IBM norms.
d) The committee stated that Peer Review Compliance report should be properly prepared and cost should be reconciled.

Recommendation TCC

The Committee recommended GR submission after cost reconciliation and compliance of peer review comments with time extension up to 30th September 2024.

Agenda 68.1.14. Preliminary Exploration (G-3) for Limestone in Chhasra Block, Kachchh District, Gujarat.
[Implementing Agency: CGM Gujarat]

a) CGM Gujarat informed that the project was approved in the 33rd EC Meeting held on 19th February, 2024. The sanction order was issued on 28th February, 2024 with timeline of 06 months (up to 27.08.2024) and approved cost was INR 1,74,04,577/-.
b) CGM Gujarat informed that detailed Mapping, DGPS survey and other associated targets have been achieved in the projects. Drilling has not been initiated due to heavy rainfall in the area. Further, the project was delayed due to Election Code of Conduct.
c) CGM Gujarat requested for extension of the time limit for period of 06 months, up to 28th February 2025.
d) The committee opined that the project is to be reviewed in detail in the next TCC and time extension will be grated accordingly.

Recommendation TCC

The Committee recommended to review the project in next TCC.

Agenda 68.1.15. Preliminary Exploration (G-3) for Limestone in Vayor Block, Kachchh District, Gujarat.
[Implementing Agency: CGM Gujarat]

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a) CGM Gujarat informed that the project was approved in the 33rd EC Meeting held on 19th February, 2024. The sanction order was issued on 28th February, 2024 with timeline of 06 months (up to 27.08.2024) and approved cost was INR 94,28,274/-.
b) CGM Gujarat informed that detailed Mapping, DGPS survey and other associated targets have been achieved in the projects. Drilling has not been initiated due to heavy rainfall in the area. Further, the project was delayed due to Election Code of Conduct.
c) CGM Gujarat requested for extension of the time limit for period of 06 months, up to 28th February 2025.
d) The committee opined that the project is to reviewed in detail in the next TCC and time extension will be grated accordingly.

Recommendation TCC

The Committee recommended to review the project in next TCC.

Agenda 68.1.16. Preliminary Exploration (G-3) for Limestone in Jadva Block, Kachchh District, Gujarat.
[Implementing Agency: CGM Gujarat]

a) CGM Gujarat informed that the project was approved in the 33rd EC Meeting held on 19th February, 2024. The sanction order was issued on 28th February, 2024 with timeline of 06 months (up to 27.08.2024) and approved cost was INR 60,97,512/-.
b) CGM Gujarat informed that detailed Mapping, DGPS survey and other associated targets have been achieved in the projects. Drilling has not been initiated due to heavy rainfall in the area. Further, the project was delayed due to Election Code of Conduct.
c) CGM Gujarat requested for extension of the time limit for period of 06 months, up to 28th February 2025.
d) The committee opined that the project is to reviewed in detail in the next TCC and time extension will be grated accordingly.

Recommendation TCC

The Committee recommended to review the project in next TCC.

Agenda 68.1.17. Preliminary exploration (G3 stage) for Vanadium, Titanium and associated minerals in beach and dune sands of Talashil block in Sindhudurg district, Maharashtra
[Implementing Agency: M/S Geo Marine Solutions Pvt. Ltd]

e) Geo Marine Solutions Pvt. Ltd informed that the project was approved in the 34th EC Meeting held on 13th March, 2024. The sanction order was issued on 25th April, 2024 with timeline of 10 months (up to 11.01.2025) and approved cost was INR 1,36,12,863/-.
f) Geo Marine Solutions Pvt. Ltd informed that mapping has been completed, the drilling will be carried out after receipt of forest permission. The analytical results of samples are awaited.
g) The committee noted the progress of the project and suggested to estimate total heavies like Monazite, ilmenite, rutile, garnet, magnetite, zircon etc. for all the samples as per the MEMC Rules.

Recommendation TCC

The Committee noted the progress of the project and recommended to complete the work.

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Agenda 68.1.18. Reconnaissance Survey (G4) for Iron Ore in Mahakoshal Group around Chakdiya, Kushaniya, Jobra and Tusgaon area, Sonbhadra district, Uttar Pradesh.
[Implementing Agency: M/S Geo ExpOre Pvt. Ltd]

a) Geo ExpOre Pvt. Ltd informed that the project was approved in the 33rd EC Meeting held on 19th February, 2024. The sanction order was issued on 28th February, 2024 with timeline of 09 months (up to 27.11.2024) and approved cost was INR 95,41,116/-
b) Geo ExpOre Pvt. Ltd reported the completion of geological mapping in the area, identifying siliceous hematite quartzite, banded hematite jasper bands, and siliceous magnetite bands. The analytical results of the samples were also presented. Geo ExpOre proposed drilling five boreholes: three in Block A1 and two in Block A2.
c) The committee opined that the LSM map of the block is depicted with the lithologies whose interrelationships have not been properly understood. Hence, the map is to be modified and sampling should be carried out across the band at regular intervals and average values arrived. Meanwhile, the committee agreed for drilling of five boreholes to be executed across the band.

Recommendation TCC
The Committee noted the progress of the work and recommended for drilling of five boreholes.

Agenda 68.1.19. Reconnaissance Survey (G4) for REE mineralization in Kenda, Barpali, Nagpura, Chureli, Manikpur village areas (75.00 sq.km), part of T.S. No.64/J/02 of Bilaspur District, Chhattisgarh.
[Implementing Agency: M/S Geo ExpOre Pvt. Ltd]

a) M/S Geo ExpOre Pvt. Ltd informed that the project was approved in the 30th EC Meeting held on 06th June, 2023. The sanction order was issued on 26th June, 2023 with timeline of 06 months and approved cost was INR 47,51,503/-.
b) Geo ExpOre Pvt. Ltd informed that the project was completed and GR has been submitted to NMET. Geoexpore sought for additional cost towards analysis of 09 samples analysed for Nb, Ta, Rb, Sr, Cs, Li, Sn, W, F carried out after the submission of report.
c) The committee opined that there is no provision to provide additional costs towards analysis which is carried out after the submission of report.

Recommendation TCC
The Committee does not recommend the sanction additional samples proposed by Geoexpore after the submission of report.

Agenda 68.1.20. Reconnaissance Survey (G-4) for Graphite in Darukona Block in Rayagada District, Odisha.
[Implementing Agency: MMPL]

a) MMPL informed that the project was approved in the 32nd EC Meeting held on 06th December, 2023. The sanction order was issued on 15th December, 2023 with timeline of 12 months and approved cost was INR 1,73,81,649/-.
b) MMPL presented the progress of the project after completion of large scale mapping in 1:12500 scale, surface bedrock sampling, and geophysical investigation .

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c) The committee suggested that Electrical Resistivity Tomography (ERT) profile study may be adopted (2 along the body and 2 across) so as to know the three dimensional understanding.
d) Further, scout drilling may be executed with proper plan to intersect mineralization at 30 m vertical depth. The geophysical anomaly has to be extrapolated to the surface and link to the outcrops so as to plot the borehole locations.

Recommendation TCC

The Committee noted the progress of the work and recommended execution of scout drilling.

Agenda 68.1.21. Preliminary exploration (G3 stage) for Limestone in Katamadevarahalli Limestone Block, Gulbarga, Karnataka.
[Implementing Agency: KIOCL]

a) KIOCL informed that the project was approved in the 30th EC 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 76,24,568/-.
b) The report with suggested IPR comments and compliance report has been accepted.
c) KIOCL requested for timeline extension upto 15th September 2024.
d) The committee suggested that the report has to be submitted along with Part-IVA and recommended timeline up to 15th Sept. 2024 along with Part-IVA.

Recommendation TCC

The Committee recommended timeline extension up to 15th September 2024 is approved to final GR submission along with Part-IVA

Agenda 68.1.22. Reconnaissance Survey (G-4) for Gold in Yediyur area, Yediyur-Karighatta Schist Belt, Mandya District, Karnataka.
[Implementing Agency: KIOCL]

a) **KIOCL** informed that the project was approved in the 33rd EC Meeting held on 19th February, 2024. The sanction order was issued on 28th February, 2024 with timeline of 10 months (up to 27.12.2024) and approved cost was INR 1,29,16,573/-.
b) KIOCL presented the progress of the project and informed the committee that 20 samples were analyzed for Fire Assay in IBM with cost of ₹4900 (including GST) with total cost ₹98000/ for 20 samples which is higher that the SoC cost @ ₹ 2808 (including 18% GST) per sample (Total- ₹56160/-).
c) The committee opined that the cost for Fire Assay at the rate of Rs.4900 per sample analysis of 20 samples carried out in IBM may be recommended for EC approval. The committee further recommended differential cost of ₹41840/- as additional cost for the project. the differential cost of Further, it was suggested that the Zones should be identified and described.

Recommendation TCC:

The Committee recommended additional cost of ₹41840/- for cost incurred towards Fire assay analysis of 20 samples @ Rs.4900 per sample carried out in IBM

Agenda 68.1.23. Reconnaissance Survey (G4) for graphite in Thapen-Bazargarh Block (116.498 sq. Km) in Kalahandi district of Odisha.
[Implementing Agency: OMC Ltd]

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a) OMC Ltd informed that the project was approved in the 26th EC Meeting held on 25th August, 2022. The sanction order was issued on 20th September, 2022 with timeline of 15 months and approved cost was INR 1,68,35,218/-.
b) OMC Ltd presented the details of exploration carried out in the block and time extension from 15th March 2024 to 15th September 2024 for GR submission.
c) The committee reviewed the project and suggested that the Recommendation in GR should be modified as per the outcome of the work done by OMC. It should not be concluded negatively and recommended 15th March 2024 to 15th September 2024 for final submission of GR.

Recommendation TCC

The Committee recommended 6 months timeline extension upto 15th September 2024.

Agenda 68.1.24. Preliminary Exploration (G3-Stage) for Iron Ore in Thakurani Block (Area – 1.399 sq. km), Keonjhar Dist., Odisha.
[Implementing Agency: OMC Ltd]

a) OMC Ltd informed that the project was approved in the 27th EC Meeting held on 10th January, 2023. The sanction order was issued on 03rd February, 2023 with timeline of 10 months and approved cost was INR 2,23,07,391/-.
b) OMC Ltd informed that during earlier review, the committee had previously approved an extension only until May 31, 2024.
c) The item has been reviewed thoroughly and the committee opined that drilling was not done prudently and since the GR was reviewed in the last TCC, the GR may be submitted on or before 31st August, 2024.

Recommendation TCC

The Committee recommended timeline extension for GR submission up to 31st August 2024

Agenda 68.1.25. Reconnaissance Survey for coal in East of Ghughus & Bellora block, Wardha Valley CF.
[Implementing Agency: CMPDI]

a) CMPDI informed that the project was approved in the 27th EC Meeting held on 10th January, 2023. The sanction order was issued on 03rd February, 2023 with timeline of 12 months and approved cost was INR 2,15,76,661/-.
b) CMPDI reported delays in the project due to drilling challenges and a slow pace of drilling in the Motur formation, added by disruptions from the rainy season. Out of the allotted 1800 meters, only 557.50 meters have been completed. CMPDI requested a 6-month extension to complete the project.
c) The project has already received a timeline extension up to September 1, 2024.
d) After review, the committee recommended 6 months extension of project up to 1st March 2025 for completion of drilling& GR submission. The committee also suggested to deploy more rigs once climate is conducive.

Recommendation TCC

The Committee recommended 6 months extension of project up to 1st March 2025 for GR submission.

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Agenda 68.1.26. Approval for NPV Charges for two borehole in West of Urdhan Jamunia block, PKT valley CF
[Implementing Agency: CMPDI]

a) CMPDI informed that the project was approved in the 26th EC Meeting held on 25th August, 2022. The sanction order was issued on 03rd January, 2023 with timeline of 16 months and approved cost was INR 4,37,98,519/-.
b) CMPDI requested for approval of ₹705718/- towards NPV.
c) The committee informed that as per the existing OM, the agency has to pay the NPV by itself and submit the bill to NMET for claim.

Recommendation TCC
The committee suggested the agency to pay the NPV directly (According to the existing OM) and then submit the bill to NMET for reimbursement.

Agenda 68.1.27. Reconnaissance Survey (G4 Stage) for Graphite and Vanadium in Matena-Sirar Area, Almora District, Uttarakhand
[Implementing Agency: Geovale Services Pvt Ltd]

a) Geovale Services Pvt Ltd informed that the project was approved in the 35th EC Meeting held on 16th May, 2024.
b) Further, Geovale requested revision of cost in the project by applying 3.35 times cost applicable in the SoC for inaccessible area of Himalayas.
c) The committee reviewed the project and concluded that the area may not qualify as inaccessible since it has already been explored by GSI. It was noted that Geovale had agreed to the initial cost when the project was assigned, and now they are seeking a revision by referencing the memorandum.

Recommendation TCC
The Committee does not agree to the additional cost, as the area does not qualify as inaccessible, having already been explored by GSI. Additionally, Geovale had agreed to the initial cost when the project was assigned.

Agenda 68.1.28. Reconnaissance Survey (G-4) for Evaluation of Placer Xenotime Prospect in Ujol River Basin, Gujarat

[Implementing Agency: Geovale Services Pvt Ltd]

a) Geovale Services Pvt Ltd informed that the project was approved in the 29th EC Meeting held on 31st March 2024.
b) Geovale Services Pvt Ltd presented the progress of the exploration activities carried out by the agency without geological map.
c) The committee observed that the declared results are based on samples of 100-200 grams and should be reassessed using larger quantities. They recommended conducting a terrace-wise assessment and presenting the proportions of heavy minerals in colluvial gravels. The item will be reviewed again after receiving results from samples submitted to NML, Jamshedpur.

Recommendation TCC
The Committee recommended proceeding with the exploration as per TCC instructions and will review the item again, along with a proper geological map, after receiving the results from the samples submitted to NML, Jamshedpur.

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Agenda 68.1.29. Reconnaissance survey (G4) Iron Ore in Gopaltola area, Rajnandgaon district, Chhattisgarh.
[Implementing Agency: CGM Chhattisgarh.]

a) CGM. Chhattisgarh informed that the project report is ready for submitting to Peer review and the item will be reviewed with Peer review Comments in next TCC.
b) CGM, Chhattisgarh informed that the date of GR submission was 31st August 2024, hence requested timeline extension up to 15th October, 2024 .
c) The committee finds that the boreholes PBH-3, PBH-4, and PBH-5, being vertical and drilled outside the ore body, yielded negative results and their locations need justification; additionally, the report should thoroughly discuss the disposition of the ore body, including the style of mineralization and structural details.
d) The committee agreed for timeline extension up to 15th October, 2024.

Recommendation TCC

The Committee recommended timeline extension up to 15th October, 2024 for submission of GR.

Agenda 68.1.30. Preliminary exploration for PGE, Ni, Cr, Cu, PGE, u, REE in mafic-ultramafic bodies in Hadanur-Tagadur Belt, Mandya District, Karnataka. (reviewed additionally)
[Implementing Agency: M/S Geo ExpOre Pvt. Ltd]

a) Geo ExpOre Pvt. Ltd informed that the project report is ready for submitting to Peer review and the item will be reviewed with Peer review Comments in next TCC.
b) Geoexpore informed that the date of GR submission was 31st August 2024, hence requested timeline extension up to 15th October, 2024.
c) The committee agreed for timeline extension up to 15th October, 2024.

Recommendation TCC

The Committee opined that item will be reviewed in next TCC with peer review comments and recommended timeline extension up to 15th October, 2024 for submission of GR.

Agenda 68.2: Technical evaluation of new project proposals

Agenda 68.2.1 Reconnaissance Survey (G-4) for REE mineralization in Maniram-Bhanjyang Area (70.42 sq. km), South Sikkim District, Sikkim.
[Implementing Agency: MECL]

a. The proposed area falls in parts of SOI toposheet No. 78A/8 and area is dominated by K-rich Alkaline Syenite rocks which are potential host for REE and RM minerals. The Dailing and Bauxa formation in the area has been intruded by K-rich Alkaline rocks.

b. Atomic Mineral Directorate (AMD), Government of India and Department of Mines and Geology Government of Sikkim had reported occurrences of alkaline intrusive bodies in Maniram Bhaijyang, Parbing, Jhaubari areas which are suspected to be originated from the interaction of earlier emplaced intrusive body with K rich melt.

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c. Considering the geological setup and previous work, which are highly favorable for REE and RM mineralization in the area, MECL proposed the item.

d. Item was approved in 40th TCC in April, 2022 but it was deferred by EC with the reason that "AMD will share the chemical analysis to explore feasibility of this block". Meanwhile no comments were received from AMD. Before 36th EC meeting, NMET took up this project again with MECL and AMD stated that "The proposed area falls within the proposed AMD exploration block for reconnaissance survey (G4) in the Annual Programme 2024-25 and to avoid duplication of work the proposed block is not recommended for REE exploration".

e. The committee reviewed the proposal and suggested not to take up the project as the area is overlapping with the AMD block and the item is already being executed by the AMD in current FS.

Recommendation of TCC

The committee does not recommend the item to prevent any duplication as the item is already taken up by AMD.

Agenda 68.2.2. Reconnaissance Survey (G-4) for Tungsten, REE and Associated minerals in and around Nellie Area (114.96 sq. km), Morigaon and West Karbi Anglong Districts, Assam.

[Implementing Agency: MECL]

a. The proposed area falls in parts of SOI toposheet No. 83B/08 & 83B/04 lies in the north eastern fringe of the Shillong Plateau. The lithounits exposed in and around the region belong to the Archean-Proterozoic Assam-Meghalaya Gneissic Complex (AMGC) which is unconformably overlain by metasedimentary rocks by Paleo-Meso Proterozoic Shillong Group, all intruded by Neo-Proterozoic, early Palaeozoic granite plutons.

b. Based on NGCM data and G4 exploration in the adjacent block, which shows the same lithounits continuing in the study area, MECL proposed the block for a Reconnaissance Survey (G-4) to identify the source of W and REE and to establish resources for auctioning the block.

d. The committee finds that the proposed area has nearly 20% area overlapping with GSI's block.

e. The committee reviewed the project proposal and suggested that that block should be modified by avoiding Quaternary sediments and GSI's already explored area. Accordingly, the area was modified to 51.37 sq.km. Title should be modified as reconnaissance survey for REE and RM as Tungsten values are not encouraging. Scout drilling of 200 m in few boreholes may be approved but after review of the project.

Recommendation TCC

The committee recommends the proposal for the approval of EC for "Reconnaissance Survey (G-4) for REE and Associated minerals in and around Nellie Area (51.37 sq. km), Morigaon and West Karbi Anglong Districts, Assam with an estimated cost of Rs. 264.31 lakhs (including GST) within time schedule

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of 12 months and submission of report as per Annexures 2A & 2B. The item will be reviewed after 6 months.

Agenda 68.2.3. Preliminary Exploration (G-4 Level) for Glauconitic Sandstone in Mudhan-Khatiya Block (129.00 sq. km), Kachchh District, Gujarat.

[Implementing Agency: MECL]

a. The proposed area falls in parts of SOI toposheet No. 41A/13, 41A/14 and 41E/02. Regionally, proposed block falls in the Northern part of Kachchh Basin and lithostratigraphically forms part of Katrol Formation belonging to Late Jurassic – Early Cretaceous age.

b. Most of the potash demand is met through bedded marine evaporite deposits such as sylvite, carnalite, kainite, polyhalite, surface and sub-surface potash-rich brines. India is fully dependable on import to meet the requirement of Potash. It is considered necessary to look for non-traditional source of potash such as glauconitic sandstone and potash rich shales. Hence, potash recovery from glauconitic sandstone is essential.

c. As per GSI comments received, investigated in Guneri, Meghpar, Amiyu and Walka Nana areas for glauconite during FS 1994-95 & 2014-15. In Guneri area glauconitic sandstone has been reported in which K2O content ranges from 0.5 % to 7 % . In Meghpar-Amiyu-Walka Nana area glauconite has not been observed. Thin section study, X-ray analysis and chemical analysis show that the source of low K2O value (0.5 - 3% averaging 1.5% K 2O) may be from K-feldspar.

d. The committee reviewed the proposal and suggested that title should be changed to Reconnaissance survey for glauconite in Mudhan-Khatiya Block (129.00 sq. km), Kachchh District, Gujarat. TCC also recommended for drilling for 10 boreholes upto 500 m.

Recommendation TCC
The committee recommends the proposal for the approval of EC for "Reconnaissance survey (G4) for Glauconite in Mudhan-Khatiya block (129.00 sq. km), Kachchh District Gujarat" with an estimated cost of Rs.161.65 lakhs (including GST) within time schedule of 12 months and submission of report as per Annexures 3A & 3B. The item will be reviewed after 04 months.

Agenda 68.2.4. Preliminary Exploration (G-3 Level) for Bauxite, Titanium and associated minerals in Anvrapat Block (1.00 sq. km), Lohardaga District, Jharkhand.
[Implementing Agency: MECL]

a. The Anvra Pat Block area falls in Survey of India Toposheet No. 73A/10 and covers total area of 1.00 sq.km. The proposed block area lies in the Bauxite bearing plateaus of Chhattisgarh-Jharkhand belt forming a part of the Pre-Cambrian shield of the Indian Peninsula.

b. Preliminary geological work has been carried out by GSI as well as DMG, Jharkhand in the area. MECL & CMPDI has also carried out exploration (G3/G2) in around the adjoining areas which has established occurrence of Bauxite with thickness varying from 4 to 8 m.

c. The MECL team visited the Anvra Pat bock and nearby mine areas. The pits in the existing mines have bauxite occurrences up to 25m depth. The outcrops of Bauxite are

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observed in the field and the exposed pits in the proposed block have confirmation of the Laterite / Bauxite profile in the Anvra Pat block. Bauxite samples were collected from the block showing encouraging results of high Alumina (Al2O3) and Titanium (TiO2) with low Silica (SiO2) in the range of 48%-55%, 8%-13% and 1%-2% respectively.

d. Considering similar geological setup with known deposits, available literature and previous worker's recommendations, the area hold potential to explore in detail with holistic exploration approach. Hence, MECL proposed preliminary exploration at G3 stage in the proposed area to be taken up to ascertain the exact potentiality of the prospect for Laterite/Bauxite.

e. This proposal was presented in the 67th TCC and the committee recommended modifying the block and resubmit the proposal as it has overlapping with already approved block by NMET.

Recommendation TCC
The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G-3 Level) for Bauxite, Titanium and associated minerals in Anvrapat Block (1.00 sq. km), Lohardaga District, Jharkhand with an estimated cost of Rs.175.63 lakhs (including GST) within time schedule of 08 months and submission of report as per Annexures 4A & 4B. The item will be reviewed after 04 months.

Agenda 68.2.5. Preliminary Exploration (G-3 Level) for Limestone in Baritola (7.34 sq. km), Jaharitola (4.26 sq. km), Mundatola (7.17 sq.km) and Gopapur (6.39 sq. km) Blocks, Gangpur Group, Sundargarh District, Odisha.
[Implementing Agency: MECL]

a. The proposed area falls in parts of SOI toposheet No. 73B/15. Area occupied by group of argillaceous, arenaceous and calcareous metasediments and sometimes sediments of carbonaceous nature form the main rock types of the areas. In general, the mapped areas comprise mainly of the assemblages of conglomerate, schist and phyllite, quartzite, metabasic rocks, limestone-dolomite/calc silicates and carbonaceous phyllite associated with granites.

b. According to the proposal of MECL, no exploration activities have been carried out in the block since the completion of the Systematic Thematic Mapping (STM) during FY 1979-80. The present exploration programme would help to generate the data and further estimation of resources which in turn will facilitate the State Govt. to put the blocks on auction platform.

c. MECL has carried out preliminary field visit in the blocks where few limestone quarries were observed. MECL have collected few samples for limestone from the surface exposures which show 29.67 % to 52.66 % of CaO. Map shows maximum area of Mundatola is phyllite covered but MECL claimed that they are limestone and confirmed through field checks. Hence, MECL proposed preliminary exploration at G3 stage in the proposed area to be taken up to ascertain the exact potentiality of the prospect for limestone.

d. As per the GSI comments, Baritola and Gopapur are not feasible due to Major steams flowing through the blocks.

e. The committee reviewed the proposal and suggested that only Mundatola and Jaharitola Blocks can be considered. Work will be commenced in two phases. Phase-I includes detailed mapping, pitting & trenching, bed rock sampling and chemical

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analysis. Targets pertaining to drilling quantum will be decided in phase-II on the basis of outcome of Phase-I work. Drilling will be completed as per G3 norms (800x800 m grid).

Recommendation of TCC

The committee recommends the proposal for the approval of EC for "*Preliminary Exploration (G-3 Level) for Limestone in Jaharitola (3.34 sq. km) and Mundatola (4.34 sq.km) Blocks, Sundargarh District, Odisha *with an estimated cost of Rs. 285.75 lakhs (including GST) within time schedule of 12months and submission of report as per Annexures 5A & 5B. The item will be reviewed after 04 months.

Agenda 68.2.6. Preliminary Exploration (G-3 Level) for Limestone in Malkhed-1 North, Malkhed-1 South, Malkhed-2 North and Malkhed-2 south Blocks (Over an extent of 18.02 sq. km), Gulbarga District, Karnataka.
[Implementing Agency: MECL]

a. The proposed blocks fall in the jurisdiction of Malkhed Village, Sedam Taluk, Gulbarga (Kalaburagi) District. The block falls in the Survey of India Toposheet No. 56G/04. Area occupied by Bhima basin which is the smallest basin of all Proterozoic basins of India.

b. As per the MECL proposal, during the FY 2022-2023, 2 Limestone Blocks Malkhed-1 and Malkhed-2 over an extent of 8.50 sq km and 9.52 sq km respectively were explored. Based on the feasibility of Limestone Blocks, State Govt. of Karnataka has observed that the blocks are too large for auctioning hence requested MECL to make 04 smaller blocks out of 02 explored said blocks. After making 4 blocks, the present exploration does not meet the requirement of MEMC Rule for auctioning as individual block. Hence, infilling boreholes are required in each block to meet the requirement since all the other requirements of exploration have been completed in the newly carved out 04 blocks. Hence MECL proposed Preliminary Exploration (G-3 Level) for Limestone for discussion and approval.

c. The committee reviewed the proposal and suggested that all the four blocks will be carried out under one item but separate report will be submitted with respect to each block. As per the request from DMG, Karnataka, drilling depth should be restricted to 45 m only in the infilling area. Bulk density study is not required as it has already been completed in the previous work.

Recommendation of TCC

The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G-3 Level) for Limestone in Malkhed-1 North, Malkhed-1 South, Malkhed-2 North and Malkhed-2 south Blocks (Over an extent of 18.02 sq. km), Gulbarga District, Karnataka with an estimated cost of Rs.121.85 lakhs (including GST) within time schedule of 06 months and submission of report as per Annexures 6A & 6B.

Agenda 68.2.7. Preliminary Exploration (G-3 Level) for Bauxite in Mothala Block, Kachchh District, Gujarat
[Implementing Agency: CGM Gujarat]

a. The proposed area belongs to Supra trappean and falls in toposheet no. 41 E/4.

b. The Bauxite and Laterite formations create an almost continuous zone between the Gaj beds and the underlying traps. The area was extensively studied by the CGM by pitting. trenching, and sample collection. It was discovered that bauxite deposits in and

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around the area are typically associated with ferruginous laterite and aluminous laterite.

c. This proposed block is surrounded by existing bauxite leases and exploration blocks, indicating that it could be considered an extension of the already identified mineable deposits. Therefore, it is recommended that the block undergo G3 level exploration to further assess its potential for bauxite extraction.

d. The proposal was also presented during 63rd TCC meeting held on 22nd, 26th & 27th March, 2024, However, the house was informed by the agency that the analytical data of the samples collected wasn't received by that time. The committee recommended to produce the chemical analysis and also consult the adjoining mining data (depth 01 mineralization, grade, etc.) and submit the proposal for review in next TCC meeting.

e. Agency informed in the meeting that a team of geologists had visited the proposed area and collected grab samples from the surface and nalla cutting, the samples were analyzed in the Petrography and Mineral chemistry Laboratory (PMC), CGM, which indicates Al2O3 content very strong 28 % to 47%.

f. The committee reviewed the proposal and suggested the component of drilling should be considered after completion of mapping and surface sampling.

Recommendation of TCC

The committee recommends the proposal for the approval of EC for "Preliminary Exploration for Bauxite in Mothala Block, Kachchh District, Gujarat with an estimated cost of Rs. 225.60 lakhs (including GST) within time schedule of 08 months and submission of report as per Annexures 7A & 7B. The item will be reviewed after 04 months.

Agenda 68.2.8. Detailed Exploration (G-2 level) for Limestone in Lodhva Block, Gir Somanth District, Gujarat.
[Implementing Agency: CGM Gujarat]

a. The proposed area belongs to Supra trappean and falls in toposheet no. 41L/9. The region was primarily investigated by CGM in the year 1965 and 1995 to 1997 by means of Geological mapping using Remote sensing techniques, surface exposure mapping and sample collection of the proposed area.

b. Agency informed in the meeting that a team of geologists had visited the proposed area and collected 08 grab samples during the recent geological travers survey of CGM / GMRDS geologist, the analysis results of these samples indicated CaO% from 47.87% to 53.43%.

c. The proposed block is surrounded by the existing working Limestone leases, so this area can be studied as an extension of the already existing mineable deposits. Thus, CGM Gujarat proposed this block for G2 level of exploration.

d. The committee reviewed the proposal and suggested the exploration under G3 level and drilling will be on 800x800 m grid.

Recommendation of TCC

The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G3)* for Limestone in Lodhva Block, Gir Somanth District, Gujarat *with an estimated cost of Rs. 46.64 lakhs (including GST) within time schedule of 08 months and submission of report as per Annexures 8A & 8B. The item will be reviewed after 04 months.

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Agenda 68.2.9. Preliminary Exploration (G-3 Level) for Limestone in Matana Block, Gir Somnath District, Gujarat
[Implementing Agency: CGM Gujarat]

a. The proposed area belongs to Supra trappean and falls in toposheet no. 41L/9. The study area is located in the Sutrapada taluka, Gir Somnath district in the western coastal region of Gujarat. The area under investigation is a coastal plain, where major portion is flat agricultural fields leaving patches of limestone out crops in form of small low mounds and ridges more or less parallel to coast line.

b. The proposed block is surrounded by the existing working Limestone leases, so this area can be studied as an extension of the already existing mineable deposits. Thus, the block is suggested for G2 level of exploration.

c. The agency informed to the house that, they have collected 08 grab samples during the recent geological travers survey of CGM/GMRDS geologist, the analysis results of these samples indicated CaO% from 51.02% to 52.43%.

d. The committee reviewed the proposal and suggested the exploration under G3 level and drilling will be on 800x800 m grid

Recommendation of TCC
The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G3) for Limestone in Matana Block, Gir Somnath District, Gujarat with an estimated cost of Rs. 57.47 lakhs (including GST) within time schedule of 06 months and submission of report as per Annexures 9A & 9B. The item will be reviewed after 03 months.

Agenda 68.2.10. Detailed Exploration (G-2 level) for Limestone in Simar Block, Gir Somanth District, Gujarat

[Implementing Agency: CGM Gujarat]

a. The proposed area belongs to Supra trappean and falls in toposheet no.41P/01. The region was primarily investigated by CGM in the year 1966 and 1992 to 1995 by means of Geological mapping using Remote sensing techniques, surface exposure mapping and sample collection of the proposed area.

b. Geologists of CGM Gujarat have collected 09 grab samples during their recent geological traverse, the analysis results of these samples indicated CaO% from 49.05% to 51.84%. Thus, the block has been proposed for G2 level of exploration.

c. The committee reviewed the proposal and suggested the exploration under G3 level and drilling will be on 800x800 m grid. Committee also suggested to modify the name with Preliminary exploration (G3) for limestone in Simar block, Gir Somnath District, Gujarat.

Recommendation of TCC
The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G-3 Level) for Limestone in Simar Block, Gir Somanth District, Gujarat with an estimated cost of Rs. 29.52 lakhs (including GST) within time schedule of 06 months and submission of report as per Annexures 10A & 10B. The item will be reviewed after 03 months.

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Agenda 68.2.11. Detailed Exploration (G-2 level) for Limestone in Bolas Block, Gir Somanth District, Gujarat
[Implementing Agency: CGM Gujarat]

a. The proposed area belongs to Supra trappean and falls in toposheet no. 41L/9. The study area is located in the Sutrapada taluka, Gir Somnath district in the western coastal region of Gujarat. The area under investigation is a coastal plain, where major portion is flat agricultural fields leaving patches of limestone out crops in form of small low mounds and ridges more or less parallel to coast line.

b. The proposed block is surrounded by the existing working Limestone leases, so this area can be studied as an extension of the already existing mineable deposits. Thus, the block has been proposed for G2 level of exploration.

c. The agency informed to the house that, they have collected 08 grab samples during the recent geological travers in the area, the analysis results of these samples indicated CaO% from 51.02% to 52.43%.

d. The committee reviewed the proposal and suggested the exploration under G3 level and drilling will be on 800x800 m grid.

Recommendation of TCC
The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G-3 Level)* for Limestone in Bolas Block, Gir Somanth District, Gujarat *with an estimated cost of Rs. 39.97 lakhs (including GST) within time schedule of 06 months and submission of report as per Annexures 11A & 11B. The item will be reviewed after 03 months.

Agenda 68.2.12 Reconnaissance survey (G4) for copper ore and associated mineralization in Kubri-Kochipur District– Sidhi, Madhya Pradesh
[Implementing Agency: CMPDI]

a. The proposed area falls in SOI toposheet No. 63 L/3 and the area is occupied by two greenstone belts viz. the older greenstone granite belt (Archaean) and the younger greenstone (of Mahakoshal Group) of lower Proterozoic belt.

b. Exploration works carried out by GSI & MECL in adjacent area have proved that the both the greenstone belts have favorable geological setup for Base Metal Mineralization. Apart from Base metals, Graphite mineralization within the Carbon Phyllite is also established.

c. Hydrothermal alteration is observed in form of chloritization and occurrence of Talc-chlorite Schist in the area during field visit. Sulphide mineralization in area is found in the form of pyrite disseminated in Talc-Chlorite-Schist.

d. An outcrop of carbon phyllite (25-30m wide) was also encountered in south central part of the proposed area.

e. Considering the anomalous zones of copper and nickel concentrations in stream sediments, along with a circular positive magnetic anomaly coinciding with the copper anomalous zones, previous literature, and recommendations, CMPDI proposed the item.

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f. The proposal was thoroughly reviewed, and it was suggested that the block boundary be modified, reducing the area to approximately 90 square kilometers and the title will be “Reconnaissance survey for copper ore and associated mineralization (G-4 Stage) Kochipur District– Sidhi, Madhya Pradesh”.

Recommendation of TCC

The committee recommends the proposal for the approval of EC for “Reconnaissance survey (G4) for copper and associated minerals in Kochipur District– Sidhi, Madhya Pradesh” with an estimated cost of Rs. 125.13 lakhs (including GST) within time schedule of 12 months and submission of report as per Annexures 12A. The item will be reviewed after 06 months.

Agenda 68.2.13 Reconnaissance Survey (G4) for REE and RM mineralisation in Samalpatti area, Syenite – Carbonatite Complex, Krishnagiri District, Tamil Nadu.

[Implementing Agency: KIOCL]

a. The proposed area falls in SOI toposheet No. 57 L/7 and the area is occupied by hornblende-migmatite gneiss and hornblende agmatite gneiss with patches of charnockite and enclaves of granulose/schistose amphibolite, pyroxenite, pyroxene granulite and banded magnetite quartzite. A suite of ultramafites pyroxenites-felspathic pyroxenites, syenites and carbonatites belonging Samalpatti syenite-carbonatite complex are found to be intrusive into these rocks.

b. The primary source for REE and RM Minerals major targets are alkaline rocks, skarns, carbonatites, peraluminous granitoids and their derivatives like pegmatites, quartz-veins and greisens.

c. The proposed area consists of carbonatites two clusters of multiple bands of carbonite exposed in the northern and southern part of the area (2 sq. km area). The central part of the area is occupied by the various types of syenites (26 sq.km area). Pegmatites, felsite and aplite veins are also targeted in the proposed area (1 sq.km area).

d. KIOCL conducted preliminary field inspection in April 2024. Traverses were conducted in and around Samalpatti area with the primary objective to trace carbonatite, syenite bodies, pegmatites, aplite and felsite veins in the area. The rock types observed in the area are Pyroxenite, Dunite, Syenite, Pegmatoidal Syenite and Carbonatites. The lithologies in the area observed with strike of NE-SW with dip varying from 60 to 70 degrees towards southeast. Multiple bodies of carbonatite measuring 3 to 4m width and strike length of 150m were identified.

e. Considering the pre-field observations, potential lithounits, anomalous zone, chemical data obtained from pre-field sample collection, previous literature and previous recommendations, KIOCL proposed the item.

f. The committee opined that KIOCL’s recent work has also not shown encouraging values except few scanty values of 5014 and 5412 ppm.

g. Committee suggested not to take geophysics component as the data is already available as NGPM work is also over and thus not to be repeated in the current item. The area is already mapped by GSI on 1:12500 scale. Even, IIT Kharagpur and AMD

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has worked on the carbonatite bodies of the area and found not encouraging for REE. High resolution data are already available in the area and can be obtained from the website of IIT, Kharagpur. It's suggested to consult previous literature properly and bring the proposal with solid evidence of mineralisation potentiality of carbonatite in next TCC meeting.

Recommendation of TCC:

The Committee recommended KIOCL to consult previous reports, literature and present the project in the next TCC.

Agenda 68.2.14. Preliminary Exploration (G-3 Level) for Limestone in Sangmania Block, District Satna, Madhya Pradesh.

[Implementing Agency: MPSMC]

a. The proposed area belongs to Nagod Limestone of the Bhander Series. The Nagod Limestone of Bhander limestone formation exhibits a thickness ranging from approximately 35 to 45 meters, as observed in the nearby limestone mines operated by Birla Corporation Cement & SAIL Mines.

b. Three separate limestone layers have been identified: Upper limestone, the lower limestone, and the purple to grey argillaceous limestone. The highest quality limestone is found exclusively within the Lower grey limestone stratum

c. Maps prepared by all earlier GSI exploration have already established the presence of limestone in the region. So G3 exploration is proposed.

d. The G3 phase of exploration will enable the state to auction it as ML and will increase the value of the resources.

e. The committee reviewed the proposal and suggested modifications/corrections in irregular block boundary as the shape of the proposed block was not properly justified. MPSMC is also advised to consult the 50 k Geol. Map and properly demarcate the boundary and come back in the next TCC for review.

Recommendations
The committee recommended for modifications in the proposed block boundary and present the project proposal in the next TCC.

Agenda 68.3 Project Evaluation for In–Principle Approval

Agenda 68.3.1. Reconnaissance Survey (G4) for diamond including Geophysical and Geological prospecting in part of a palaeo-channel near Mangalagiri, Guntur Dist., Krishna basin, Andhra Pradesh.
[Implementing Agency: GeoMarine Solutions Pvt. Ltd]

a) The study area is part of the Western Krishna delta, featuring an inner fluvial delta bordered by a pediplain on the western side. The fluvial delta consists of active channels, levees, flood basins, and palaeochannels, each characterized by distinct lithological units. The Modukuru and Tenali palaeochannels converge west of Tenali, extending to Tadepalle in the north.

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b) A scientific publication titled Discovery of microdiamonds in the beach placers of East Coast, Andhra Pradesh" by Anil Kumar et al., 2005 has reported Microdiamonds at the mouth of Krishna River from beach sediments.
c) GSI has shared its comments and no overlapping. DMG, AP has not responded for the letter.

Recommendation TCC

***The Committee granted in-principle approval* and suggested to submit the detailed project for review in the next TCC along with the exploration scheme**

Agenda 68.3.2. Reconnaissance Survey (G4) for Strategic and LREE prospects in Machilipatnam Block of Krishna District in Andhra Pradesh.
[Implementing Agency: M/S. Critical Mineral Trackers]

a) GSI has carried out geological studies in this area during 1980s and reported presence of TiO2 from the clay present in this area.
b) AMD has carried out reconnaissance exploration in the northern contiguous area over 41 sq. km between Machalipatnum harbour and south of Pedapatnam beach. Total heavy mineral recorded up to 7.25% with predominance of ilmenite (up to 35%) followed by pyroxene amphibole (up to 30%), garnet (~9%).
c) The item was reviewed, and it was noted that the dynamic nature of tidal flats may affect the feasibility of resource estimation. It was recommended that the commodity for which the item is proposed be specified, rather than using broad terms like "strategic minerals."
d) The Committee advised M/S. Critical Mineral Trackers to focus on the specific commodity and targeted horizon, and to resubmit.
e) If the item is of an R&D nature, it may be submitted to the PRISM Committee of NMET.

Recommendation TCC

The Committee does not recommend the item

Aenda 68.3.3. Reconnaissance Survey (G4) for Precious Metals, REE, Base Metals and Strategic Minerals prospects in Kosgi Block Vikarabad and Narayanpet Districts of Telangana.
[Implementing Agency: M/S. Critical Mineral Trackers]

a) The NGCM by GSI in this area revealed significant anomaly for Zirconium and Gold.
b) According to past baseline/exploration, REE values in the BRS/Stream sediment/ soil-regolith samples in the granitic country of EDC ranges from 100 ppm to 1500 ppm in general and primary enrichment of strategic minerals in syncollisional granites is less.
c) M/S CMT presented Au, Cs, Cu, and Zirconium values from grab samples of massive granite, analyzed by LUCID Chemical Labs, but did not specify any potential zone of enrichment.
d) After detailed deliberation, the Committee concluded that the potential rock and enrichment zone have not been clearly demarcated, and the block shape remains undefined.

Recommendation TCC

The Committee granted in-principle approval and suggested to submit detailed project report with map showing the anomalous values, especially of Au, and proxies of gold mineralisation.

Agenda 68.3.4. Reconnaissance Survey (G4) for Strategic and REE minerals prospects in Rangareddy Districts of Telangana.
[Implementing Agency: M/S. Critical Mineral Trackers]

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a) Geochemical Mapping on 1:50,000 scale carried out in TS no. 6 L/5 and in parts of Toposheet no. 57I/5, during FS 2015-16 by GSI revealed significant value of Cerium and Lanthanum.
b) The Committee observed that only the Ce value appears anomalous, while other associated elements are close to background levels.

Recommendation TCC

The Committee does not recommend the item recommended

Agenda 68.3.5. Reconnaissance Survey (G4) for REE in Kalugur Block, Karur District, Tamil Nadu.
[Implementing Agency: M/s Geo Exploration and Mining Solutions]

a) GSI has carried out G4 stage of exploration for cement grade limestone in the proposed block, however exploration for REE and RM has not been carried out by GSI.
b) AMD has carried out reconnaissance /exploration for Rare Metal and Rare Earth minerals towards south of the proposed block in parts of Dindigul and Tiruchirapalli districts and reported rare metal bearing pegmatites.
c) The Committee observed that REE values are encouraging for further work. However, the proposed area has about 6 sq.km area of limestone (Swamipillaiyar Block) which is currently under the process of auctioning under CL. (CGM, Tamil Nadu).

Recommendation TCC

The Committee granted in-principle approval and suggested to submit detailed project report after omitting the area of CL Block earmarked by CGM, Tamil Nadu.

Agenda 68.3.6. Reconnaissance survey for Bauxite (G4) in Satna District, Madhya Pradesh.
[Implementing Agency: M/s Maheshwari Mining Pvt Ltd]

a) During 1972-73 Srinivasa Rao et al reported occurrences of bauxite from Nougam area and Naru Hills of Satna District in toposheet number 63D/13,14 & 15.
b) After detailed deliberation, the Committee concluded that the proposed area overlaps with a previous G4 stage exploration for the same commodity.

Recommendation TCC

The Committee does not recommend the item as it overlap with work of GSI.

Agenda 68.3.7. Preliminary exploration for Iron Ore (G3) in Sidhi District, Madhya Pradesh.
[Implementing Agency: M/s Maheshwari Mining Pvt Ltd]

a) Gupta and Maurya, 2018, carried out large scale mapping (G4 Stage) for search of low grade iron ore in Mahakoshal Belt in Gandhigram, Beheraha, Pakhuri and Chaupal areas of Sidhi district, Madhya Pradesh in parts of Toposheet no 63H/15.
b) BIF bands mapped in the area are found to be persistent and occurring for kilometers in length without any discontinuity. Linear ridges with micro faults, folds of megascopic and microscopic nature and brecciated BIFs in between leading to formation of iron ore rich zones that yield values up to 70% of Fe_2O_3 indicates potentiality of the area.
c) After detailed deliberation, the Committee concluded that the area should be modified after excluding the area proposed by M/s Kartikey Exploration.

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Recommendation TCC
The Committee granted in-principle approval but should deal with the "Preliminary Exploration (G3) for Iron Ore in Sidhi District, Madhya Pradesh" proposed by Karthikay Exploration.

Agenda 68.3.8. Reconnaissance survey for Limestone (G4) in Upper Subansiri District, Arunachal Pradesh
[Implementing Agency: M/s Maheshwari Mining Pvt Ltd]

a) During FS :1978-84 Detailed Geological Mapping an area of about 1.91 sq.km on 1:2000 scale and an area of 0.37 sq.km on 1:500 scale was carried out along Menga Area in parts of T.S.nos. 82L/4 for investigation of limestone by GSI.
b) During FS :1979-80 GSI identified two blocks viz. Bayar block, which is estimated 3.06 million tonnes of ore (CaO) and Digniyum Block, which is estimated 0.69 million tonnes of ore (CaO) up to depth of 30 meter. Analysis of a few samples shows that the average CaO content is more than 53%, with trace amounts of MgO deemed insignificant.
c) During FS :2022-2023 Large Scale Mapping on 1:12,500 scale was carried out by GSI for phosphorite mineralisation in meta-sedimentary sequence of bomdila group in Menga area, Upper Subansiri district, Arunachal Pradesh. The limestone analyzed shows CaO value ranges from 28.19% to 52.01%. The dolomite had MgO ranging from 18.31% to 22.26% and the dolomite had SiO_2 ranging from 3.10% to 16.00%.
d) The Committee after detailed deliberation is of opinion that the proposed NMET block overlaps with the earlier exploration blocks of GSI & DGM.

Recommendation TCC
The Committee does not recommend the item.

Agenda 68.3.9. Reconnaissance survey for (G4 Stage) Base metal and Gold in Bhandara district, Maharastra
[Implementing Agency: M/s Bhushilp Mines and Minerals Private Limited]

a) GSI has carried out an item for Base metal & associated gold mineralisation studies around Khatitola, North of Gangajhari, Bhandara district, Maharashtra.
b) The results collected samples indicated Cu in the range of 10 to 140 ppm; Zn in the range of <10 ppm to 0.16%; Pb in the range of <10 ppm to 225 ppm; Ni in the range of <10 ppm to 155 ppm; Co in the range of <10 ppm to 235 ppm and Au in the range of <0.1 ppm to 0.18 ppm. Author has not recommended any further work in this area as potentiality for Cu as well as Au is very poor in this area.
c) A total of 20 bed rock samples from the garnet-quartzite mound, north of Tikayatpur, were also collected and analyzed. All the 20 samples gave above 0.2% Cu and two samples gave gold in the range of 0.5 and 0.22 ppm. Considering the analytical results no further work is recommended in the Khatitola area for gold.
d) The Committee finds that the proposed area is completely overlapping with the study area covered by GSI.

Recommendation TCC
The Committee does not recommend the item

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Agenda 68.3.10. Reconnaissance survey (G4 Stage) for Tin (Sn) & associated rare metal mineralization in Gadchiroli district, Maharastra
[Implementing Agency: M/s Gemkokati exploration Pvt Ltd]

a) The agency has asked to postpone the item for next TCC and hence not reviewed by TCC.

Recommendation TCC

The Committee recommend to take the agenda item again in next TCC

Agenda 68.3.11. Preliminary Exploration (G3 stage) for Manganese and associated minerals in and around Garbham block Vizianagaram District, Andhra Pradesh.
[Implementing Agency: M/s Geoexpo Ore Pvt Ltd]

a) GSI has carried out exploration in Garbham area of Eastern Ghat Mobile Belt in Srikakulam and Vizianagaram Districts, Andhra Pradesh (G 4) stage. During this investigation, six number of manganese ore mineralization zones (Pyrolusite and Psilomelane) were identified. Out of six zones, five zones were identified between Garbham and Budharayavalasa villages. The zone was identified with an average grade of 1.62% Mn at a 100 m to 200 m wide and length of 500 m discontinuous manner.

b) Buddarayavalasala manganese block which is submitted by GSI as Geological Memorandum (GM) falls within the proposed block of M/S. GeoExpo Ore Pvt. Ltd. It may be noted that as per the information available, this GM block has already been auctioned by Govt. of AP on 21.04.2022.
c) Moreover, the proposed block of M/s. GeoExpo Ore Pvt. Ltd. falls within the block of the Critical Mineral Assessment Programme (CMAP) project under execution by SU: Andhra Pradesh during the current field season (FS 2024-25).

Recommendation TCC

The Committee does not recommend the item as it overlaps with GSI's GM block and CMAP programs.

Agenda 68.3.12. Preliminary exploration (G3 stage) for Bauxite and Associated Minerals around Yetadka block, District: Kasargod, Kerala with an extent of 1.5 sq.km.
[Implementing Agency: M/s Geoexpo Ore Pvt Ltd]

a) During the field season program 2020-21, GSI has carried a reconnaissance survey for bauxite around the Perla area, Kasargod district, Kerala, to delineate zones of bauxite mineralisation in Toposheet No 48P/2. During this study, GSI demarcated the mineralisation thickness of aluminous laterite blocks from 3 to 7m depth.

b) GSI, during the FS:2020-21, has carried out the geochemical analysis to understand the REE mineralisation in the area, which accounts for up to 500 ppm in all the samples.

c) The committee finds that the proposed area has overlapping with GSI's 2023-24 explored block under G3 stage.

Recommendation TCC

The Committee does not recommend the item as it has overlapping with GSI's 2023-24 explored block under G3 stage.

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Agenda 68.3.13. Preliminary Exploration (G4 Stage) for Bauxite and Associated Minerals in Vilvande block, Dist: Sindudurg, Maharashtra.
[Implementing Agency: M/s Geoexpo Ore Pvt Ltd]

a) GSI during F.S. 2001-2002 carried out exploration work in parts of Katta – Kalve, Kalambaiwadi – Katwanwadi –Dahivhav in Devgad Tahsil has indicated the presence of aluminous laterite and grey to white massive bauxite at shallow depths, under a soft cover of vesicular laterite.
b) Further, GSI carried out an investigation of Bauxite in the Cretaceous Deccan Trap country in the Katta-Kalvi, Kalambaiwadi Plateau of Sindhudurg district, Maharashtra during F.S. 2002-03. A total of 2.2 sq km was covered by detailed mapping on 1:2000 scale of which 1.4 sq km was covered in kalambaiwadi block and 0.8 sq km in Kalvi block and conducted 550m of auger drilling in 44 boreholes and 392.35m of diamond drilling in 5 boreholes.
c) Total drill core samples collected were 445 nos. and collected 71 bed rock samples in 100 sq.km area form Padel in the North to Jamsande in South, from Talebazar in East to Devgad in West and observed that the whole of the area is positive for bauxite mineralisation.
d) Further GSI carried our investigation for bauxite in Kunkeshwar block which is located in southeastern part of toposheet 47H/7. Analytical results show Al2O3 content in the BRS range from 9.59% to 57.73% and in PTS, it is 18.58%-57.96%. In the Math Budruk block the G4 investigation was carried out during FS 2021-22. Analytical results show Al2O3 content in the BRS range from 17.91% to 56.57%, and in PTS, it is 19.67%-59.23%.
e) The committee observed that GSI SU: Maharashtra has proposed an item for FS 2025-26, to assess the potential for bauxite, aluminous laterite, and associated minerals. The proposed GSI block overlaps with the areas suggested by M/S GeoExpo Ore Pvt. Ltd., and the GSI proposal is currently under internal review.

Recommendation TCC

The Committee does not recommend the item as it has overlapping with GSI's 2025-26 work.

Agenda 68.3.14. Preliminary Exploration (G3 stage) for Manganese and associated minerals in and around Appapuram Block, Chinna Nadipalli, Pedda Nadipalli and Appapuram Villages, Vizianagaram District, Andhra Pradesh.
[Implementing Agency: M/s Geoexpo Ore Pvt Ltd]

a) GSI has carried out G4 investigation for Manganese mineralization in Perapi – Pattikayalavalasa – Laveri – Gollapalem areas of Eastern Ghat mobile belt, Srikakulam and Vizianagaram Districts, Andhra Pradesh.The main objective of the study was delineation of Manganese (Mn) mineralization and it control system.

b) Two potential areas of manganese (Palavalasa and Laxmipuram area) mineralization zones (Pyrolusite and Psilomelane) were identified. In the Palavalasa area, 10 to 30 m wide manganese mineralization zones occurred.

c) The Committee observes that about 90% of the proposed G4-Stage of exploration block of M/s GeoExpo Ore Pvt. Ltd. overlaps with the Perapi- Pattikayalavalasa-Laveru- Gollapalem G4 manganese block of GSI carried out during FS: 2019-20.

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d) Moreover, Laxmipuram-Palavalasa G3 stage Manganese block (FS 2021-22) & Palavalasa G2 stage Manganese block (FS 2023-24) fall within the proposed G4-Stage of exploration block of M/s GeoExpOre Pvt. Ltd.

Recommendation TCC

The Committee does not recommend the item as already G3 stage work has been carried out by GSI

Agenda 68.3.15. Preliminary Exploration (G3 stage) for Limestone and associated minerals in and around Battapallipottaram block, Vizianagaram District, Andhra Pradesh.

[Implementing Agency: M/s GeoExpore Ore Pvt Ltd]

a) GSI, during the G4 study, has identified three bands covering an approximate area of 15.24 sq. km. Of the three bands, one band is 9.75 km with a width of 450-2500 m; 2nd one is 5.25 sq. km. with a width of 375-570 m. The third is a very small band, i.e., 300m long and 150m wide. Of these three bands, the area chosen for further exploration is the first band.
b) Based on GSI's work, an area of 16 sq. km has been identified for preliminary study at G3 stage.
c) The Committee observed that, the area proposed by M/s.GeoExpore Pvt Ltd. lies within the G4 stage exploration block carried out by GSI during the FS year 2022-23. The limestone mapped in the G4 block by GSI is of Blendable and Portland Cement grade. The area could not be upgraded to G3 stage because of the forest cover. However; an area of 4 sqkm was carved out and submitted as Geological Memorandum (GM) (Ganeshpalli block) during the 63rd CGPB meeting.

Recommendation TCC

The Committee does not recommend the item as the area is already explored by GSI under G4 and the potential area (also falls in the Forest Area) has been submitted to DMG under GM category.

Agenda 68.3.16. Reconnaissance survey (G4 Stage) for Vanadium (Critical Minerals) in Magnetite bearing sand occurring in the beach/dune sands along the Saurashtra coast, from Dwarka to Gadhula, Gujarat.

[Implementing Agency: M/S. Geo Marine Solutions Private Limited]

a) The item has been formulated based on trhe work carried out by GSI
b) As per AMD's communication with IBM (via letter dt. 26th July, 2018), 2.77 million tons of ilmenite and 0.02 million ton of rutile resources have been estimated between Moti Daman in the south and Ubhrat in the north about 70 km stretch along the coast of Gujarat (IBM, 2020)
c) Heavy mineral study of sediment samples collected from Gulf of Khambhat, off Alang, Gujarat, shows a predominance of opaque mineral represented by titanomagnetite, magnetite and ilmenite over non-opaque minerals.The bulk sediments contain up to 28.5% of heavy minerals with an average of 12.5%. Within the heavy minerals, more than 50% are opaque in nature represented by titanomagnetite, magnetite and ilmenite. Based on the analytical studies, it is inferred that the vanadiferous titanomagnetites in the Gulf of Khambhat are possibly drained from Deccan basalt mainly through the Rivers of Narmada and Tap

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Recommendation TCC

The Committee does not recommend the item at this time and suggested to wait for the completion of a similar exploration by Geomarine Solutions. If the block goes to auction, then this item will be considered.

Agenda 68.3.17. Preliminary Exploration (G3 level) for Vanadium (Critical mineral) in Magnetite bearing sand in the dune of Harnai Dabhol block in Ratnagiri districts, Maharashtra.

[Implementing Agency: M/S. Geo Marine Solutions Private Limited]

a) GSI G4 stage exploration carried out inferred that the beaches, located adjacent to inlets (i.e. river, stream and nala) are rich in concentration of vanadium. It indicates that the source of vanadium is from inland. It is also inferred that the basaltic flows within drainage basins/catchment areas are supplying sediments to these feeder channels, may be rich in vandiferous-titano magnetite.
b) The Committee is of opinion that Geo Marine will have to wait for the completion similar item being explored by Geomarine Solutions. If the block goes in to auction, the item will be considered.

Recommendation TCC

The Committee does not recommend the item at this time and suggested to wait for the completion of a similar exploration by Geomarine Solutions. If the block goes to auction, then this item will be considered.

Agenda 68.3.18. Preliminary Exploration (G3 level) for Vanadium (Critical Minerals) in Magnetite bearing sands in the dune of Srivardhan- Anjarle block in Ratnagiri and Raigad districts, Maharashtra.

[Implementing Agency: M/S. M/S. Geo Marine Solutions Private Limited]

a) GSI has carried out G4 item during FS 2019-20 to assess heavy mineral concentration in beach sands of near shore region from Dighi to Gahagan, Raigad and Ratnagiri districts, Maharashtra. The study shows that HM wt% in pit samples = 62.65 to 93.21 wt.% , HM wt.% in Grab samples (loose beach samples) = 0.64 to 90.93 wt.%, tREE in pit samples = 38.5 to 460.32 ppm, tREE in Grab samples = 29.11 to 243.36 ppm, V in Pit sample = 973 to 3421 ppm, V in Grab samples = 172 to 2608 ppm
b) The exploration carried out inferred that the beaches, located adjacent to inlets (i.e. river, stream and nala) are rich in concentration of vanadium. It indicates that the source of vanadium is from inland. It is also inferred that the basaltic flows within drainage basins/catchment areas are supplying sediments to these feeder channels, may be rich in vandiferous-titano magnetite.
c) The Committee is of opinion that Geo Marine will have to wait for the completion similar item being explored by Geomarine Solutions. If the block goes in to auction, the item will be considered.

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Recommendation TCC

The Committee does not recommend the item at this time and suggested to wait for the completion of a similar exploration by Geomarine Solutions. If the block goes to auction, then this item will be considered.

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Agenda 68.3.19. Preliminary Exploration (G3 Level) for Gold & associated minerals near Killarhatti Village, Raichur & Koppal District, Karnataka.

[Implementing Agency: M/s Mining tech Consultancy Private Limited]

a) The proposed block completely falls within the GSI's already explored item on Regional mineral targeting in the Hungund Kushtagi schist belt, Eastern Dharwar Craton, Karnataka during F.S. 2019-22. The project recommended G3 exploration work in western part of the proposed block.

b) In addition to the RMT project, GSI conducted reconnaissance survey for platinum group elements (PGE), nickel, and gold between Virapura and Navali villages in Raichur and Koppal districts, Karnataka, within the Kalmangi layered ultramafic complex and parts of the Hungund-Kushtagi schist belt during FS 2019-20. The survey delineated an anomalous copper mineralization zone east of Wasur, with an approximate strike length of 2.4 km and a width of 400 meters.

c) In addition, GSI carried out Preliminary exploration for copper, gold and molybdenum in Kalmangi, Tondshihal, Tavaregere and Kamatgi, Kushtagi Hungund schist belt, Raichur and Bijapur district, Karnataka state, during FS 1992-93. Detailed mapping on 1:1,000 scale and geochemical soil/bed rock sampling in grid pattern were carried out.

d) The committee reviewed the item and agreed to recommend it for consideration, acknowledging its probable potential.

Recommendation TCC

The Committee granted in-principle approval and suggested M/s Mining tech Consultancy Private Limited to carry out field visit to see the feasibility and submit DPR in next TCC .

Agenda 68.3.20. Preliminary Exploration (G3 Level) for Gold near Jalligeri Village, Gadag District, Karnataka.

[Implementing Agency: M/s Mining tech Consultancy Private Limited]

a) The proposed block partially falls within the GSI's already explored item on Investigation for gold in Jalligeri block, Gadag schist belt, Gadag district, Karnataka. The work carried out comprised detailed mapping of 0.52 sq km on 1:2,000 scale, trenching of 492 cu.m and collection of 492 trench samples and 110 bedrock samples.

b) During FS 1967-71, GSI carried out 6.53 sq km detailed mapping, 638 cu m trenching, 4223.47m drilling, panning f 1500 samples in the area. The drilling has been carried out in Kabuliyatkatti area, north of the proposed block. The assay values are not encouraging for further work in the blocks investigated.

c) In addition to the Jalligeri gold investigation, GSI evaluated 27 gold geochemical anomalies in the Gadag Schist Belt during FS 1999-2000, recommending further soil sampling and geological traverses to confirm sources. They also targeted iron ore resources in the Gadag schist belt, identifying BHQ and BMQ bands with low-grade iron ore deposits averaging 30% Fe, which could become valuable once high-grade deposits are exhausted.

d) The Committee finds that the proposed block under NMET fund is either partly or fully overlapping with GSI already exploration/mapping works. Additionally it falls in the Conservative Forests

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Recommendation TCC

The Committee does not recommend the item as the area falls in the Conservative Forests and feasibility needs to work.

Agenda 68.3.21. Preliminary Exploration (G3 Level) for Manganese and Gold at Barsidlahalli block.
[Implementing Agency: M/S Ecomen Lab. Pvt. Ltd.]

a) The proposed block completely falls within the GSI's already explored item on Regional assessment of iron and manganese ore deposits of the Chitradurga – Tumkur schist belt, Mysore state during F.S. 1968-69 and 1969-70.
b) Besides the Regional assessment of iron and manganese deposit, GSI also carried out study of Fe and Mn ores for determination of incidence of trace elements (Cu, Ni, Co, Pb, Zn etc.) to rendering the low grade deposit into workable deposits. However, no significant amount of trace elements has been recorded from the area.
c) The project was proposed based on GSI's work, which included G-4 investigation for manganese in the Chiknayakanhalli area, Tumkur district, Karnataka, within parts of toposheet no. 57C/11. This investigation covered four small blocks outside the proposed area, and the nearest block does not contain any mappable manganese-bearing bands. However, the authors recommended scout drilling on the eastern slope of Ajjigudda to confirm the presence of manganese.

Recommendation TCC

The Committee granted in-principle approval and suggested **M/S Ecomen Lab. Pvt. Ltd.** ***to carry out field visit to see the feasibility and submit DPR in next TCC.***

Agenda 68.3.22. Preliminary Exploration (G3) for Iron Ore in Sidhi District, Madhya Pradesh.
[Implementing Agency: M/s Kartikay Exploration and Mining Services Private Limited]

a) GSI in 2018, carried out large scale mapping (G4 Stage) for search of low grade Iron ore in Mahakoshal belt in Gandhigram, Beheraha, Pakhuri and Chaupal areas of Sidhi district, Madhya Pradesh in parts of Toposheet no 63H/15.
b) Large scale mapping of 100 sq km on 1:12,500 scale and detailed mapping of 02 sq km on 1:4000 scale was carried out with total collection of 220 BRS and 100 PTS for search of low grade iron ore in the areas in parts of toposheet no. 63H/15 during field season 2017-18.
c) The mapped Banded Iron Formation (BIF) bands in the area are persistent and extend for kilometers without discontinuity. Features such as linear ridges, micro faults, folds, and brecciated BIFs form iron-rich zones with up to 70% Fe_2O_3, indicating the area's potential. The region is promising for iron ores, classified as low to medium grade. Gupta and Maurya (2020) conducted G3 stage work in Gandhigram, Sidhi district, Madhya Pradesh, and the southern part of the proposed area is surrounded by villages like Parkhuri, Bamuri, and Badaraha.
d) The proposed area is too large for G3 stage exploration for iron ore. A suitable modified area within 3-4 sq. km should be proposed, avoiding the GSI G3 area already explored and the G3 area proposed by MMPL.

Recommendation TCC

The Committee granted in-principle approval but Should deal with the " **Preliminary exploration for Iron Ore in Sidhi District, Madhya Pradesh** ***" avoiding the GSI G3 area already explored and the G3 area proposed by MMPL.***

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Agenda 68.3.23. Preliminary Exploration (G3) for Iron Ore in Sonbhadra District, Uttar Pradesh.

[Implementing Agency: M/s Kartikay Exploration and Mining Services Private Limited]

a) GSI during Field Season 2017-18 & 2018-19 carried out G3 Exploration for Iron ore for an area of 3.1(Block-A) & 2.1 Sq.Km (Block-B) area, drilled only 4 boreholes in Block-B.These area falls under Reserve Forest. The Fe2O3 of Borehole core analyses indicated in the range of 50-60 %.
b) Based on GSI findings, proposed G-4 exploration blocks include Block-C (8.80 sq. km) in the western extension, Block-B (4.70 sq. km) in the eastern extension, and South Block-A (6.50 sq. km) based on geological setup. These areas fall under reserve forest. Additionally, Block-D (12.60 sq. km) and Block-E (8.50 sq. km), based on Banded Iron Ore Formation in the southern part of the toposheet, are partially within reserve forest.
c) DGM, UP has submitted that the proposal of M/S. Kartikay Exploration and Mining Services Private Limited for exploration is completely overlapping by sanctioned project of A1 and A2 Block of Geoexpore Pvt. Ltd by NMET Fund.

d) The Committee after detailed deliberation suggested that the agency need to carry out field visit in the proposed area and modify the block suitable for exploration.

Recommendation TCC

***The Committee did not recommend the item and suggested that* M/s Kartikay Exploration and Mining Services Private Limited *n*eed to carry out field visit in the proposed area and modify the block suitable for exploration.**

Agenda 68.3.24. Preliminary Exploration (G3) for Limestone in Somnala-Wadgaon (8.68 Sq,Kms) block situated in the village Somnala, Dist-Yavatmal in the State of Maharashtra

[Implementing Agency: M/s PRB Infraprojects Pvt. Ltd]

a) The Vindhyan limestone of this area is dolomitic and siliceous. Fairly good grade limestone are confined to a 6 kms long band ranging in width from 200 to 600 metres at Wanjri, Gowrala and Khekri. Analysis of about 11 bulk samples of this limestone collected from various points in the area surveyed indicate that the first structural inlier has 30 to 34% CaO and 16 to 18% MgO, whereas the limestones in the central inlier have CaO ranging from 31.45 to 51.84% and MgO 0.42 to 18.44%.
b) Geological mapping of Wardha valley Coalfield was carried out to delineate coal seams. It was known that, Wun-rajur area is overlapping with the proposed area. The seam at Rajur is reported to have yielded 15.4% ash, 10.9%, moisture, 35.30% volatile matter and 49.30% fixed carbon.
c) Geochemical mapping has been carried out for Toposheet No. 55L/16. Values of stream sediment samples for CaO is ranging between 0.76% to 9.92% and MgO varies between 0.14% to 4.6%.
d) The Committee finds that the Chemical analysis shown by the M/s PRB Infraprojects Pvt. Ltd are not encouraging.

Recommendation TCC

The Committee did not recommend the item.

Agenda 68.3.25. Reconnaissance survey (G4) for Iron Ore in Moharli-Maveli (28.2 Sq,Kms) block situated in the village Moharli-Maveli, Dist-Gadhiroli in the State of Maharashtra.

[Implementing Agency: M/s PRB Infraprojects Pvt. Ltd]

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a) Geologically, the area is a part of the Western Bastar Craton and the rock types belongs to the Bengpal, Surjagarh and Korparsi Group. The Surjagarh Group is considered to be equivalent of Bailadila Iron Ore Group (Saxena, H. P., et al, GSI Unpublished report, FS. 1978-79).
b) The extensive work by DGM, Maharashtra in the area has proved numerous Iron Ore occurrences in the area.
c) There is no overlap with the GSI blocks. However, the proposed Moharli-Maveli block shows 70% overlap with the Karampalli block proposed by M/s. Gemco Kati Explorations Pvt. Ltd for the same commodity (Iron ore)

Recommendation TCC

***The Committee did not recommend the item as it* has overlapping issue**

Agenda*68. 4 Evaluation of New Projects for Procurement of* Machinery/Laboratory Equipment/instruments etc.

68.4.1 Financial Assistance from NMET funds to procure Machinery/Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DGM Mizoram]

a) DGM Mizoram informed that the 2 procurement projects were approved by NMET in the 27th EC Meeting held on 10th January, 2023 for ₹309.32 Lakh and 29th EC Meeting held on 31st March, 2023 with approved cost of ₹ 195.99 Lakhs with timeline of 12 months
b) DGM Mizoram informed that Handheld GPS (approved in 27th TCC) was approved with cost of ₹8000/- . The committee was informed that good quality Handheld GPS is not available for the rate. Hence , DGM Mizoram requested to enhance the cost to ₹16000/- .
c) Further, DGM Mizoram requested approval for one Terrestrial Laser Scanner (TLS) with approximate cost of ₹1.1 Crore. DGM Mizoram mentioned that it is a useful modern survey instrument for conducting survey of large opencast mines, unapproachable areas and highwall for stability investigation.
d) The committee opined that as no supportive documents of market survey has been supplied, DGM Mizoram needs to carry out market survey and applications, technical specifications etc and resubmit the proposal along with any other items which have applications in mineral explorations. Further, since timeline for both the projects have lapsed , the committee recommended time extension upto 31st March 2025 for both the projects.

Recommendation TCC

The Committee recommended to present revised modified proposal after market survey in next TCC . Further, time extension upto 31st March 2025 was recommended for both the projects.

Agenda 68.4.2 Procurement of 66 nos. of Handheld XRF Analyser for Geological Survey of India.
[Implementing Agency: GSI]

a) GSI informed that the exploration activities in GSI have increased manifold including Mineral Development projects potential to generate auctionable blocks concerning systematic mineral exploration projects of G2, G3, G4 stages for various mineral

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commodities with special emphasis on strategic-critical elements in both land and offshore areas. Moreover, GSI is also engaged in the Mineral Discovery projects that concern Regional Mineral Targeting (RMT) items covering thousands of sq.km. areas, research and assessment of pegmatites for strategic and critical minerals, Critical Mineral Assessment Programme (C-MAP) in the lateritic soil profile, Specialized Thematic Mapping (STM) with mineral bias, Multispectral/Hyperspectral-mapping, Mineral Prospectively Analysis (MPA) using AI/ML technologies, Geothermal projects (GT) to carve out potential areas for G4 stage mineral investigations.

b) In view of above, there is a need of procurement of at least 66 nos. of handheld XRF instruments for field use by geoscientists for the 33 different State Unit offices of GSI. The use of Handheld XRF in field gives ready and quick estimation of mineralogical constituents of different rock types which will also help promptly the geoscientists at field itself to prioritize identification of the sample locations, type, and number very easily for optimising the costly laboratory analysis. This will prove to be not only cost effective but will faster targeting mineral finds with first-stage scientific assessment in field after homogenization of the samples, and the same will immensely help in planning focused and targeted fieldwork and search of mineral resources.

c) The usage of handheld XRF may be advantageous in GSI's quest in mineral augmentation under the following mineral systems:
   - Base metals such as Cu, Pb, Zn, Ag, and Mo
   - Gold, including pathfinders, and litho-geochemistry
   - Uranium +/- rare earth elements and pathfinders
   - Nickel sulfide and laterite deposits
   - Iron ore and bauxites
   - Rare earth elements (REEs) such as La, Ce, Pr, and Nd
   - REE pathfinders including Y, Th, and Nb
   - Phosphates, potash, limestone, magnesite, and other industrial minerals
   - Epithermal Sn, W, Mo, Bi, and Sb deposits
   - Mineral sands such as Ti and Zr etc.

d) GSI also apprised that the intent of increasing the in-house capacity of Handheld XRF Analyzers in GSI is also for supplementing the progress of its continued venture into the newer realms of exploration of critical and strategic minerals and hassle-free services for at least five more years in the future (03 year Standard warranty+02-year post-warranty AMC support) in order to achieve the desired aspirations and future requirements of GSI in field by introducing this field-based instrument in adequate numbers in GSI to suitably support GSI's continuing mineral investigation programs.

e) The total estimated cost for sixty six (66) nos. of Handheld XRF Analyser with **03 (three) years warranty and 02 (two) years post-warranty AMC including the custom duty, IGST, GST on AMC cost, and other statutory Govt. duties/ taxes** is INR **15,93,43,474/-(Rupees Fifteen crores Ninety three lakhs Forty three thousands and four hundred seventy four)**.

f) The committee deliberated that the proposed instrument is mid-ranged equipment finalized out of 4 suppliers approached GSI. Out of four, the L1 is chosen and the price difference between L1 and L2 is 7 lakhs. Further, the price indicated by GSI is on the basis of procurement made by one of the offices of GSI and can be negotiated when

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procured in bulk. So, GSI is advised to follow all the procedures and carry out proper negotiation with technical specifications and price. The proposal is recommended for approval of EC.

Recommendation TCC

The committee recommended INR 15,93,43,474/-(Rupees Fifteen crores Ninety three lakhs Forty three thousands and four hundred seventy four) towards procurement of sixty six (66) nos. of Handheld XRF Analyser with 03 (three) years warranty and 02 (two) years post-warranty AMC including the custom duty, IGST, GST on AMC cost, and other statutory Govt. duties/ taxes (Annexure 14)

Agenda 68.4.3 Financial Assistance from NMET funds to procure Machinery Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities.

[Implementing Agency: CMPDI]

a) CMPDIL informed that the proposal was discussed in the 67th TCC meeting of NMET where committee asked CMPDI to present the proposal with proper justification for purchase of the 3 advanced equipments in next TCC.

b) CMPDIL informed that MOC vide letter no F.No. 55027/3/2007-CRC-I(Vol-II) (FTS-323159) dt. 21/06/2023 requested CMPDIL to explore minerals other than Coal/lignite during the course of exploration of Coal/Lignite under Central Sector Scheme/CIL funded activities.

c) During monthly review meeting of CMPDIL by Secretary (Coal) on 27/12/2023, CMPDIL was directed to enhance its capabilities for analyses of REE & Critical Minerals in Coal and associated rocks.

d) In view of directives of Ministry of Coal to strengthen of the capacity of CMPDIL for REE & other mineral analyses, establishment of following lab facilities through NMET funding was proposed.

S. No.	Item Description	Qty.	Amount (INR) in lakhs
1	LA- ICP-MS Facility	1 unit	320.00
2	Rock Cutting Polishing and Mounting Unit Both for Thin Section & Polished Section.	1 unit	42.00
3	Transmitted and Reflected Light Polarizing Research Microscope with Camera, Image Analyses Software & Workstation.	1 unit	21.00
		Total	**383.00**
		GST@18%	**69.00**
		Grand Total	**452.00**

e) CMPDIL also emphasized that world over coal and associated rocks are proving to be an alternate source for critical minerals and CMPDIL being the Nodal agency of Ministry of Coal for Coal exploration, CMPDIL supervise and execute almost 8 lakh meters of exploratory drilling annually for coal exploration in the country, covering the vast area of India Coalfields. These facilities will help in characterization of coalfields sediments/ rocks for any potential mineral enrichment if any.

f) In addition to above CMPDIL is also venturing in mineral exploration other than coal through NMET funding. These facilities will also help other exploration agencies and educational institution like ISM, Central university, Research institutes in mineral rich states of Jharkhand, Chattisgarh etc for timely analyses of samples, that will ultimately result in completion of exploration and other projects in scheduled time.

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g) The initial proposal of CMPDI for procurement of advanced equipment at a cost of Rs 588 Lakhs (including GST) was placed before Hon'ble Minister of Mines/ Chairperson, Governing Body (NMET), for in-principal approval since there was no such scheme as per which NMET can provide financial assistance to Govt. PSUs for procurement of equipments. This was approved by the competent authority .

h) The committee further deliberated on the proposal and opined that the use if LA- ICP-MS is not completely justified. The committee suggested that ICP-MS facility will be a better option in comparison to LA- ICP-MS. Accordingly, the committee recommended equipments/ instruments to CMPDI as given below:

S. No.	**Item Description**	**Qty.**	**Amount (INR) in lakhs (including GST)**
1	ICP-MS Facility including Microwave Digestion Unit & Water Purifier System	1 unit	170.00
2	Rock Cutting Polishing and Mounting Unit Both for Thin Section & Polished Section.	1 unit	42.00
	Transmitted and Reflected Light Polarizing Research Microscope with Camera, Image Analyses Software & Workstation.	1 unit	21.00
		Total	**233.00**
		GST@18%	**41.94**

Recommendation TCC

***The committee recommended ₹274.94 Lakhs (including GST) towards procurement of ICP-MS Facility including Microwave Digestion Unit & Water Purifier System ,* Rock Cutting Polishing and Mounting Unit Both for Thin Section & Polished Section and Transmitted and Reflected Light Polarizing Research Microscope with Camera, Image Analyses Software & Workstation for CMPDI.**

68.4.4 Financial Assistance from NMET funds to procure Machinery/Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities - Mineral Liberation Analysis (MLA)

[Implementing Agency: CSIR-IMMT, Bhubaneshwar]

a) CSIR-IMMT informed that the proposal for Mineral Liberation Analysis (MLA) was discussed in the 67th TCC of NMET and the committee had recommended to consult with GSI and NGRI for technical specifications and cost finalization and present the proposal in next TCC.

b) Accordingly, CSIR scientists had visited GSI, Bengaluru on 27.08.2024 and had detailed discussions with officials of GSI, Laboratory complex, Bengaluru.

c) CSIR -IMMT informed the committee that the revised proposal is being prepared and will be presenting it in the next TCC meeting. It was also apprised that CSIR IMMT may require higher version of the unit.

Recommendation TCC

The Committee agreed with CSIR-IMMT to present the proposal in next TCC.

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68.4.5 Financial Assistance from NMET funds to procure Machinery/Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities - LASER TERRAIN SCANNER

[Implementing Agency DGM-Sikkim]

a) DGM Sikkim informed that the project was approved in the 28th EC Meeting held on 16th March, 2023. The sanction order was issued on 03rd April, 2023 with timeline of 12 months and approved cost was INR 2,07,05,140/-.

b) DGM Sikkim requested for Laser Terrain Scanner, often referred to as Terrestrial Laser Scanners. This is a device used for detailed 3-Dimensional data acquisition of objects. Laser scanning is a very fast and cheap way to Produce 3D Models. Terrestrials Laser Scanners have applications in many different areas such as deformation measurements, quality control or topographical surveying and cultural heritage monitoring. This broadly used survey instrument is also called static terrestrial laser scanners (STLS), 3D Scanner, 3D Laser scanner or Lidar scanner. The prefix 'terrestrial' indicates that it is a Lidar scanner for geospatial measurements.

c) DGM Sikkim informed that as compared to air-borne laser scanning, the application of Terrestrial Laser Scanner (TLS) to geomorphology is a relatively recent advancement that has concentrated on smaller spatial extents of the landscape.

SI. No.	Name of the Scanner	Tentative price
1.	Trimble X12 3D Laser Scanning System	50,00,000

In view of the above, the committee opined that the proposal need to be revisited and presented in next TCC with proper inputs and cost breakup.

Recommendation TCC

The Committee recommended to present the modified proposal in next TCC

68.4.6.Establishment of "Data Processing, Interpretation and Integration Centre (DPIIC)" at GSI, RSAS, Bangalore.

[Implementing Agency: Geological Survey of India]

a) GSI informed that there is a need for analyzing the available baseline and exploration data, particularly, high resolution aero-geophysical data generated through NAGMP for exploration using latest data science technologies. Accordingly, it was decided that GSI, RSAS would prepare a proposal for implementation of a data processing center at Bangalore with state-of-art technology.

b) Based on the requirement, the establishment of a "Data Processing, Interpretation, and Integration Centre (DPIIC)" at GSI, RSAS, Bangalore was proposed to the Ministry of Mines on March 4, 2024, with the vision of "Excelling in geophysical data processing through an integrative geoscience approach for exploration decision-making," following approval from the Director General, GSI. The objectives of the project are as follows:

- Mineral Targeting project generation in Brownfield and Greenfield areas
- Geophysical data interpretation and modelling (2D and 3D, forward, inverse etc.)
- R&D in geology and mineral targeting by application of integration geoscience, mineral systems, AI/ ML/ DL applications, collaborations with industry, academics, government etc.
- Inventory of mineral exploration areas and their linkage with geological, geophysical and geochemical signatures (Mineral Belt Integration Atlas series)

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- Technical consultation with the stakeholders through suitable time slots in the data center.

c) GSI informed that M/o Mines, vide letter dated 07.05.2024 directed GSI to engage a Project Management Unit (PMU) for 'finalization of technical specification, floating of NIT and selection of agency' to establish the advanced geoscience data interpretation center i.e., DPIIC with the application of latest solutions, advanced computing, engaging suitable expertise etc.

d) In view of the above, GSI has proposed to engage Digital India Corporation (a not-for-profit organization), a Section 8 company of Ministry of Electronics and Information (MeitY) as PMU for assisting GSI in onboarding of the implementation Agency on nomination basis.

e) Furthermore, on 29th August 2024 vide letter no. M.I-26/4/2024 - Mines I, "*administrative approval to engage Digital India Corporation (DIC), MeitY as Project Management Unit (PMU) of Phase-1 for establishing the "Data Processing Interpretation and Integration Centre" at GSI, Bengaluru on nomination basis for a period of 24 months (Phase-1 i.e. Eol. RFP. Vendor selection and DPIIC implementation) and the Financial approval of Rs. 4.07,23,452.00 (including 18% GST) [Rupees Four Crore Seven lakh twenty-three thousand four hundred and fifty-two only] for Phase-1 as proposed by DIC in its proposal* was conveyed to GSI, with the following instructions:

   - *GSI may submit the progress of Phase-1 to this Ministry within six months of engagement of DIC.*
   - *During this time, DIC should finalize the proposal for the next phase. If the total cost of the project exceeds Rs.100 crores the proposal may be sent to DIB for appraisal."*

f) The following proposal was submitted to the TCC, NMET for approval.

- To engage Digital India Corporation (DIC) as PMU, a section 8 not-for-profit GoI company under MeitY on nomination basis for executing Phase – I project for establishing 'Data Processing Interpretation and Integration Centre" in a period of 24 months at GSI, Bengaluru. Phase-1 (24 months) – EoI, RFP, Vendor selection and DPIIC implementation.

- If approved, to accord financial sanction of Rs. 4,07,23,452.00 (including 18% GST) as per the proposal attached.

Current Proposal
Phase 1 (Duration 24 months) - EoI, RFP, Vendor selection and DPIIC implementation Resources: A**. EoI & RFP (12 months):** [Project Coordinator – 1, Consultant – 2, Subject Matter Expert – 1] B. **On Boarding and Deployment (DPIIC implementation) (12 months):** [Project Coordinator – 1, Technical Support – 1, Cloud Manager – 2, Subject Matter Expert – 2] Cost: Rs. 3,45,11,400.00 Total cost with GST 18%: Rs. 4,07,23,452.00

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g) In view of the above , the committee recommended ₹ 4,07,23,452.00/- (including 18% GST) for Engagement of PMU (DIC) for Establishing Data Processing Integration & Interpretation Centre (DPIIC) at GSI Bengaluru- Project Phase 1 for a duration of 24 months

Recommendation TCC

The committee recommended cost of **₹ 4,07,23,452.00/- (including 18% GST)** ***towards*** **Engagement of Project Management Unit (PMU) for Establishment of Data Processing Integration & Interpretation Centre (DPIIC) at GSI Bengaluru-** ***Project Phase 1 with*** **a duration of 24 months (Annexure 13A and 13B)**

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Annexure 1

Minutes of the 68th Technical-cum-Cost Committee (TCC) meeting held on 28th, 29th and 30th August, 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	Not Attended
10	Shri. Geetika Sharma Deputy Secretay ,NMET, Ministry of Mines	Member	Through VC
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 68th Technical-cum-cost Committee (TCC) meeting of NMET held on 28th, 29th and 30th August,, 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
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	Member Secretary, TCC- NMET, GSI, Bengaluru			
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66.	Representative from Bhushilp Mines and Minerals Pvt Ltd		-	Bhushilp Mines and Minerals Pvt Ltd
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Annexure 2A

Estimate Cost of Reconnaissance Survey (G-4) for REE and Associated minerals in and around Nellie Area, Morigaon and West Karbi Anglong Districts, Assam.
Total Area - 51.37 sq km; Completion Time -12 Months, Review after 6 Months, Drilling: 200m , BH : 5 nos.

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)	
A	**GEOLOGICAL WORK -**						
a	Charges for Geologist at field for Large scale mapping (1: 12,500), channel sampling, drilling and Pitting	day	1.2	11,000	120	13,20,000	
b	Labour Charges for Geologist;	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
c	Charges for Sampler for geochemical, channel samples	one sampler per day	1.5.2	5,100	32	1,63,200	
d	Labour Charges for Sampling Work; Base rate - Rs. 522/ per day	day	5.7	522	128	66,816	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
e	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19200	5	96000	5 Core Drill BHs
	Sub-Total A					**17,71,296**	
B	**PITTING AND TRENCHING**						

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a	PITTING	Cu m	2.1.2	3,800	100	3,80,000	
	Sub-Total B					**3,80,000**	
C	**DRILLING (after review)**						
1	Core Drilling up to depth of 300m - Hard Rock	m	2.2.1.4a	11,500	200	23,00,000	
2	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	5	1,00,000	
3	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
4	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	4,000	1,44,000	Approx 4000 km to & fro from Nagpur/ Rig
5	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	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	Road Making (Hilly Terrain)	Km	2.2.10b	32,200	5	1,61,000	
	Sub-Total C					**33,65,000**	
	Sub Total A to C					**55,16,296**	
D	**Additional Rate for exploration work in remote and inaccessible terrain in North Eastern States**		**para 5 of SoC**	**3.35 times than the normal SoC rate**		**1,84,79,592**	**Certification that area falls in remote and inaccessible terrain in North Eastern State and/or Hilly Terrain of Himalya region**

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	and Hilly Terrain of Himalaya						
E	**Charges for Geologist at HQrs for data processing**	**day**	**1.3**	**9,000**	**30**	**2,70,000**	
F	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
	Primary Samples Surface + Pit + Heavy Minerals+ BH Core Samples)						
i)	**Primary samples**						
	a. REE , RM and associated Trace Elements (34 Element)by ICPMS	Nos	4.1.14	7,731	220	17,00,820	Surface samples-100, Pit sample- 50 and Heavy Minerals - 20 from colluvial wash and BH Core 50
iii)	External check samples (10%)						
	a. REE , RM and associated Trace Elements (34 Element)by ICPMS	Nos	4.1.14	7,731	22	1,70,082	
iv)	Whole Rock Analysis for Major Oxides	Nos	4.1.15a	4,200	10	42,000	
2	**Physical & Petrological 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	

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iii)	Preparation of polish 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)	XRD Study	Nos	4.5.1	4,000	10	40,000	
vii)	Separation of Heavy Media through Gravity and magnetic separation	Nos	4.3.6b	13,820	20	2,76,400	25 Nos Stream Sediment Samples and 25 Nos Pit samples will be Subjected to Heavy mineral Separation Items will be outsourced
viii)	Separation of Heavy Media by liquid	Nos	4.3.6a	2,380	20	47,600	
ix)	EPMA Study	Hour	4.4.1	8,540	5	42,700	
ix)	Operational Charge = (F.2.vii+F.2.viii+F.2.ix) X 10%		6.0 (i)			-	
	Sub-Total -F					**24,46,062**	
G	**Total D+E+F**					**2,11,95,654**	
H	**Tender Process Cost**			2% of the project cost or 5 Lakhs which ever will be lower		**-**	
I	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	For the projects having cost exceding Rs 300 Lakh, A minimum of Rs 9 Lakh or 3% of the work whichever more and Rs 10000/- per each additional copy		**7,50,000**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
J	**Peer review Charges**		**As per EC decision**			**30,000**	

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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. 5.00 Lakhs whichever is lower**		**4,23,913**	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.
L	**Total Estimated Cost without GST**					**2,23,99,567**	
M	**Provision for GST (18% of L)**	**%**				**40,31,922**	GST will be reimburse as per actual and as per notified prescribed rate
N	**Total Estimated Cost with GST**					**2,64,31,489**	
				or Say Rs. , In Lakhs:		***264.31***	
$	**Trenching/Pitting dimensions are tentative may vary depending upon the geology and field conditions**						
#	**2nd level of work shall be carried out after review of 1st level work i.e. Geological mapping, geochemical sampling and analysis**						
Note:							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						

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Annexure 2B

Time Schedule/ Action plan for Reconnaissance Survey (G-4) for REE and Associated minerals in and around Nellie Area (114.96 sq. km), Morigaon and West Karbi Anglong Districts, Assam.

		1	2	3	4	5	6		7	8	9	10	11	12
1	Camp Setting													
2	Geological Party Days													
3	Pitting /Trenching & Sampling													
4	Heavy Mineral Separation/ Sample Preparation													
5	Laboratory Studies													
6	DGPS survey /BH Fixation							Review						
8	Core Dilling													
10	Core Sample Preparation													
12	Camp Winding													
14	Geologist Party days, HQ													
16	Geological Report Writing													
18	Peer Review													

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Annexure 3A

Estimated Cost for Reconnaissance survey (G4) for Glauconite in Mudhan-Khatiya area, District: Kachchh, Gujarat
[Block area- 129 sq. km; Schedule timeline- 12 months, Drilling-500 m, BH no- 17, BH depth- 30 m , Review after 04 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 (1:12,500 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	99	5,04,900	
v	4 labours/ party (Rs 494/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	396	2,06,712	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
	Sub Total- A					**27,88,212**	
B	**PITTING AND TRENCHING**						
i	Pitting	Cu m	2.1.2	3800	200	7,60,000	
	Sub Total- B					**7,60,000**	

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C	**DRILLING**						
i	Drilling upto 300m (Sandstone) (1 rigs)	m	2.2.1.4b	7,168	500	35,84,000	17 BH x 30m =500m, MoC rate
ii	Land / Crop Compensation	per BH	5.6	20,000	17	3,40,000	Amount will be reimbursed 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	17	34,000	
iv	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	2,566	92,376	Certification in this regard is required to be provided
v	Monthly Accommodation Charges for drilling Camp	month	2.2.9	50,000	3	1,50,000	
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	17	3,26,400	
x	Borehole core preservation-One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	350	5,56,500	
	Sub Total- C					**56,93,376**	
D	**LABORATORY STUDIES**						

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1	**Chemical Analysis**						
i	**Bedrock/Channel/Chip/Trench/BH etc Samples)**						
	a) Primary samples for K_2O, SiO_2, MgO, CaO, Na2O, P2O5, Al_2O_3 & Fe_2O_3	Nos	4.1.15a	4,200	700	29,40,000	260+100+340=800 (Surface+Pit+BH)
	b) External Check sample (10% of Primary samples)	Nos	4.1.15a	4,200	70	2,94,000	
	c) Trace element (34 element)	Nos	4.1.14	7,731	25	1,93,275	10% of Primary samples
ii	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
iii	Complete petrographic study report	Nos	4.3.4	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	4.10	3,540	5	17,700	
	Sub Total- D					**35,33,625**	
E	**Total A to D**					**1,27,75,213**	
F	**Geological Report Preparation**		**5.2**	For the projects having cost exceeding Rs. 50 lakhs and less than Rs. 150 lakhs - A minimum of Rs. 2.5 lakhs or 5% of the value of work whichever is more		**6,38,761**	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 Hard copies with a soft copy**	**5.1**	2% of the Cost or Rs. 5.0 Lakhs whichever is lower		**2,55,504**	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the

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							TCC-NMET in its meeting while clearing the proposal.
I	**Total Estimated Cost without GST**					**1,36,99,478**	
J	**Provision for GST (18% of I)**					**24,65,906**	GST will be reimburse as per actual and as per notified prescribed rate
K	**Total Estimated Cost with GST**					**1,61,65,384**	
				Rs. In Lakhs		**161.65**	
Note:							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						

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Annexure 3B

Time Schedule/ Action plan for Reconnaissance survey (G4) for Glauconite in Mudhan-Khatiya area, District: Kachchh, Gujarat

S. No.	Particulars	Months/ Days	1	2	3	4	Review	5	6	7	8	9	10	11	12
1	Camp Setting	months													
2	Geological Mapping	months													
3	Survey days	days													
4	Trenching	cu.m													
5	Drilling (1 rig)	m													
6	Geologist days	days													
7	Sampling days,	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 4A

Estimated cost for Preliminary Exploration (G-3 Level) for Bauxite, Titanium and associated minerals in Anvrapat Block (1.00 sq. km), Lohardaga District, Jharkhand.

Total Area - 1.00 sq km; Nos. of Boreholes - 18 (BH depth-30m, Drilling -600 m) ; Completion Time - 08 Months; Review- After 04 Months

Sl.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.	Total Amount (Rs)	
A	**GEOLOGICAL WORK**						
1	**Geological mapping (1:2000), Borehole logging & Sampling & Report writing**						
a	Charges for one Geologist per day at HQ	day	1.3	9,000	30	2,70,000	
b	Charges for Geologist party per day at field	day	1.3	11,000	120	13,20,000	
c	1 party Labour (2 Nos each party)	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	83	4,23,300	
e	Labours (4 Nos)	day	5.7	522	332	1,73,304	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
2	**Survey (on 1:2000 Scale)**						

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a	Topographical survey & surface contouring at 2m interval	day	1.6.1a	8,300	30	2,49,000	
b	Bore Hole Fixation and determination of co-ordinates & Reduced Level (RL) of the boreholes and demarcation of lease hold boundary points by DGPS	Per Point of observation	1.6.2	19,200	83	15,93,600	18 BH point & 65 Boundary points
c	Labour (4nos.)	day	5.7	522	120	62,640	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
	SUB-TOTAL A					**42,17,124**	
B	**MINERAL INVESTIGATION**						
1	**Pitting &Trenching**						
a	Pitting for determination of bulk density (1mx1mx1m)-3 nos.	per cu. m	2.1.2	3800	3	11,400	
2	**DRILLING**						
a	Dry Core Drilling up to 30-50 m (18 BHs, NQ size)	m	2.2.1.1b	7,168	600	43,00,800	Out of 18 BHs,15 BHs of 30 m depth to be drilled up to lithomarge and 03 boreholes are proposed to be drilled upto 50m or basement (whichever is earlier)
b	Land / Crop Compensation (in case the BH falls in agricultural Land)	per borehole	5.6	20,000	18	3,60,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities.
c	Construction of concrete Pillar (12"x12"x30")	per point	2.2.7a	2,000	83	1,66,000	18 BH points, 65 Boundary points.
d	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	1,700	61,200	1Rigs

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e	Monthly Accommodation Charges for drilling Camp	month	2.2.9	50,000	4	2,00,000	
f	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
g	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
h	Road Making (Rugged/Hilly Terrain)	per km	2.2.10b	32,200	3	96,600	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly.
i	Drill Core Preservation	per m	5.3	1,590	540	8,58,600	
	SUB-TOTAL B					**65,54,600**	
C	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Primary samples**						
a	Analysis for 5 radicals i.e. Al2O3, SiO2, Fe2O3, TiO2 & LOI	Nos	4.1.15a	4,200	540	22,68,000	
ii)	**Check samples External (10%)**						
a.	Analysis for 5 radicals i.e. Al2O3, SiO2, Fe2O3, TiO2 & LOI	Nos	4.1.15a	4,200	54	2,26,800	
iii)	**Analysis for Bauxite**						
a.	Combined determination of Tri hydrate Alumina (THA-40°c) and Mono hydrate Amumina (MHA-240°c) & Reactive Silica	Nos.	4.1.17a	6,700	36	2,41,200	
	Sub-Total -1					**27,36,000**	
2	**Physical & Petrological Studies**						
i)	XRD studies for identification of minerals (Random)	Nos.	4.5.1	4,000	5	20,000	

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ii)	ICP-OES/ICP-MS (sequential technique) sample package for 34 elements i.e. 16 other elements viz. Li,Ga,In,Be,Ge,Mo,Cr,Ta,W,Ba,Co,Rb,Sr,Zr,Nb,Ni ;18 REE viz. La,Ce, Pr,Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu,Sc,Y; 02 Actinides viz. U,Th.	Nos.	4.1.14	7,731	36	2,78,316	
iii)	Preparation of thin section	Nos.	4.3.1	2,353	10	23,530	
iv)	Study of thin section	Nos.	4.3.4	4,232	10	42,320	
v)	Complete Petrographic Studies	Nos.	4.3.4	4,232	-	-	
vi)	Preparation of polished section	Nos.	4.3.2	1,549	-	-	
vii)	Study of polished section	Nos.	4.3.4	4,232	-	-	
viii)	Complete Minerographic Studies	Nos.	4.3.4	4,232	-	-	
	Sub-Total -2					**3,64,166**	
3	**<u>Geotechnical Laboratory</u>**						
i.	In-situ Bulk Density Determination	No.	4.1.0	3,540	3	10,620	
	Sub Total- 3					**10,620**	
	SUB-TOTAL C					**31,10,786**	
D	**Total - A to C**					**1,38,82,510**	
E	**MISCELLANEOUS CHARGES**						
1	**Preparation of Exploration Proposal (5 Hard copies with a soft copy)**	5 Hard copies with a soft copy	5.1	2% of the approved project cost or Rs. 5.0 Lakhs whichever is lower		**2,77,650**	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
2	**Geological Report Preparation**		5.2	ii		**6,94,126**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET

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3	**Peer review Charges**		As per EC decision			**30,000**	
	Total Estimated Cost without GST					**1,48,84,286**	
	Provision for GST (18%)					**26,79,171**	GST will be reimbursed as per actual and as per notified prescribed rate
	Total Estimated Cost with GST					**1,75,63,457**	
	Say in Lakhs (Rs.)					***175.63***	
Note:							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						

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Annexure 4B

Time Schedule/ Action plan for Preliminary Exploration (G-3 Level) for Bauxite, Titanium and associated minerals in Anvrapat Block (1.00 sq. km), Lohardaga District, Jharkhand

Sl. No.	Activities	Unit	MONTHS								
			1	2	3	4		5	6	7	8
1	Camp Setting	day					REVIEW				
2	Geologist Party days in Field (1 Party)	day									
3	Survey Party days (1 Party)	day									
4	Core Drilling (1 rig)	m.									
5	Sampling Party days, Core Sampling	day									
6	Camp Winding	day									
7	Laboratory Studies	Nos.									
8	Geologist Party days in HQ (1 Party)	day									
9	Report Writing & Peer review	day									

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Annexure 5A

Estimated cost for Preliminary Exploration (G-3) for Limestone in Jaharitola (3.34 sq km)and Mundatola (4.34 sq km) Blocks, District: Sundargarh, Odisha. [Nos. of Borehole- 21; Borehole depth range: 65m; Schedule timeline- 12 months; Review after 04 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 (1:4000), Contouring, Borehole logging, sampling & Report writing**						
i	Charges for Geologist- Field (1 party)	day	1.2	11,000	140	15,40,000	
ii	Charges for one Geologist - HQ	day	1.2	9,000	40	3,60,000	
iii	2 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	280	1,46,160	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Core Sampling - Labour charge not included	day	1.5.2	5,100	165	8,41,500	
v	4 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	660	3,44,520	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
2	**Survey**						
i	Topographical Survey	day	1.6.1a	8300	60	498000	Topographical Survey on 1:4000 (4 m contour interval) includes DM survey also

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ii	4 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	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
iii	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	30	5,76,000	21 BHs and 9 boundary coordinates
	Sub Total- A					**44,31,460**	
B	**TRENCHING & PITTING**						
i	Pitting (1m X 1mX2m)	per cubic m	2.1.2	3800	200	**7,60,000**	Jaharitola-(100 cubic m), Mundatola-(100 cubic m)
	Sub Total- B					**7,60,000**	
C	**DRILLING - Phase II**						
i	Drilling upto 300m (2 rig)	m	2.2.1.4a	7,168	1,200	86,01,600	Jaharitola-(10 nos: 650 m), Mundatola-(11 nos: 715 m)
ii	Land / Crop Compensation	per BH	5.6	20,000	21	4,20,000	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	21	42,000	
iv	Transportation of Drill Rig & Truck associated per drill (2 rigs)	Km	2.2.8	36	3,000	1,08,000	Certification in this regard is required to be provided
v	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	3	1,50,000	

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vi	Drilling Camp Setting Cost (2 rigs)	Nos	2.2.9a	2,50,000	2	5,00,000	
vii	Drilling Camp Winding up Cost (2 rigs)	Nos	2.2.9b	2,50,000	2	5,00,000	
viii	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	4	88,080	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed later
ix	Core Preservation: One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	1,100	17,49,000	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	Sub Total- D					**1,21,58,680**	
C	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i	**Primary & Check samples for Graphite**						
	a. Bedrock Primary samples for 9 radicals i.e., CaO, MgO, SiO2, Fe2O3, Al2O3, SO3, P2O5, K2O, Na2O & LOI - XRF	Nos	4.1.15a	4,200	100	4,20,000	Jaharitola-(50 nos), Mundatola-(50 nos)
	b. Pit Primary samples for 9 radicals i.e., CaO, MgO, SiO2, Fe2O3, Al2O3, SO3, P2O5, K2O, Na2O & LOI - XRF	Nos	4.1.15	4,200	100	4,20,000	Jaharitola-(50 nos), Mundatola-(50 nos)
	c. Borehole Primary samples for 9 radicals i.e., CaO, MgO, SiO2, Fe2O3, Al2O3, SO3, P2O5, K2O, Na2O & LOI	Nos	4.1.15	4,200	1,000	42,00,000	
	d. External (10%) Check samples from NABL Lab for 9 radicals i.e., CaO, MgO, SiO2,	Nos	4.1.15	4,200	120	5,04,000	

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	Fe2O3, Al2O3, SO3, P2O5, K2O, Na2O & LOI						
2	**Physical & Petrological Studies**						
i	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	Jaharitola-(5 nos), Mundatola-(5 nos)
ii	Complete Petrographic 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 studies	Nos	4.1	3,540	4	14,160	
	Sub Total- E					**56,26,810**	
D	**Total A to E**					**2,29,76,950**	
E	**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.
F	**Peer review Charges**		**As per EC decision**			**30,000**	0n 2 report- resource for 2 blocks separately
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 Lakhs whichever is lower		**4,59,539**	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
H	**Total Estimated Cost without GST**					**2,42,16,489**	
I	**Provision for GST (18% of I)**					**43,58,968**	GST will be reimburse as per actual and as per notified prescribed rate
J	**Total Estimated Cost with GST**					**2,85,75,457**	
K	**Rs. In Lacs**					**285.75**	

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Note:	
1	Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.
2	In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.
3	If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.
4	Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.





Annexure 5B

Time Schedule/ Action plan for Preliminary Exploration (G-3) for Limestone in Jaharitola (3.34 sq km)and Mundatola (4.34 sq km) Blocks, District: Sundargarh, Odisha.

Sl. No.	Particulars	Months	1	2	3	4	REVIEW	5	6	7	8	9	10	11	12
1	Camp Setting/ mobilization	Months													
2	Geologist days (1 party)	days													
3	Survey Days (1 party)	days													
	Pitting &Trenching														
4	Drilling (2 rig)	m													
5	Sampling days (2 party)	days													
6	Camp winding	Months													
7	Laboratory Studies	days													
8	Geologist days, HQ	days													
9	Report Writing with Peer Review	days													

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Annexure 6A

Estimated Cost For Preliminary Exploration (G-3 Level) for Limestone in Malkhed-1 North, Malkhed-1 South, Malkhed-2 North and Malkhed-2 south Blocks (Over an extent of 18.02 sq. km), Gulbarga District, Karnataka
Total Area - 18.02 Sq Km; Nos. of Borehole - 11 ; Borehole depth range - 50m ; Completion Time - 06 Months

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)	
A	**GEOLOGICAL WORK**						
1	**Borhole logging & Sampling & Report writing**						
a	Charges for one Geologist per day at HQ	day	1.3	9,000	30	2,70,000	
b	Charges for one Geologist per day at field	day	1.3	11,000	45	4,95,000	
c	Labour for Geologist (2 Nos)	day	5.7	522	90	46,980	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	69	3,51,900	
e	Labours for sampling work (4 Nos)	day	5.7	522	276	1,44,072	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
2	**Survey Work**						

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a	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and block cardinal points by DGPS	Per Point of observation	1.6.2	19,200	15	2,88,000	Block cardinal point- 4 Borehole- 11
	Sub-Total A					**15,95,952**	
B	**DRILLING**						
1	Drilling -Soft rock	m	2.2.1.1b	7,168	550	39,42,400	MoC Rate
2	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	11	2,20,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
3	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	11	22,000	
4	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	1,200	43,200	To & fro
5	Monthly Accommodation Charges for drilling Camp (up to 1 Rigs)	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	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 accordingly.
9	Drill Core Preservation	per m	5.3	1,590	500	7,95,000	
	Sub Total B					**57,16,640**	
C	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Primary samples**						

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	a. For 10 radicals i.e. CaO, MgO, Al2O3, SiO2, Fe2O3, Na2O, SO3, P2O5, K2O by XRF and LOI	Nos	4.1.15a	4,200	500	21,00,000	
ii)	**Check samples External(10%)**						
	a. For 10 radicals i.e. CaO, MgO, Al2O3, SiO2, Fe2O3, Na2O, SO3, P2O5, K2O by XRF and LOI	Nos	4.1.15a	4,200	50	2,10,000	
v)	**Bulk Density Determination**						
	Bulk Density Determination	No.	410	3,540	-	-	
	Total - C					**23,10,000**	
D	**Sub Total (A to C)**					**96,22,592**	
E	**Geological Report Preparation**		**5.2**	**ii**		**4,81,130**	Resource part to be submitted block-wise
F	**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**		**1,92,452**	
G	**Peer review Charges**		**As per EC decision**			**30,000**	
H	**Total Estimated Cost without GST**					**1,03,26,173**	
I	**Provision for GST (18% of H)**	**%**				**18,58,711**	GST will be reimburse as per actual and as per notified prescribed rate
J	**Total Estimated Cost with GST**					**1,21,84,885**	
				Rs. In Lakhs		***121.85***	

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Note:	
1	Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.
2	In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.
3	If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.
4	Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.





Annexure 6B

Time schedule/ Action plan for Preliminary Exploration (G-3 Level) for Limestone in Malkhed-1 North, Malkhed-1 South, Malkhed-2 North and Malkhed-2 south Blocks (Over an extent of 18.02 sq. km), Gulbarga District, Karnataka

Sl. No.	Activities	Unit	MONTHS					
			1	2	3	4	5	6
1	Camp Setting	Month						
2	Surface Drilling (1 rig)	m.						
4	Geologist Party days in field (1 Party)	day						
5	Sampling Party days, Core Sampling (1 party)	day						
6	Laboratory Studies	Nos.						
7	Camp Winding	Month						
8	Geologist Party days in HQ(1 Party)	day						
9	Geological Report Writing with Peer Review	Month						

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Annexure 7A

Estimated Cost for Preliminary Exploration for Bauxite in Mothala block, Kachh , Gujarat
Area-7.47 sq. km, No.of BH: 43 bhs , Borehole depth range- 25 m;
Schedule timeline- 08 months; Review: After 04 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.	Total Amount (Rs)	
A	**Geological Mapping Other Geological Work & Surveying**						
	Geological mapping, (1:4000 scale) & Trenching , drilling work		-				
i	a. Charges for Geologist per day (Field) for geological mapping & trenching work, drilling work	day	1.3b	11000	90	990000.00	Geological Mapping, Scale - 1:4000.
ii	b. Labours Charges; Base rate	day	5.7	522	180	93960.00	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	1.3a	9000	40	360000.00	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5100	138	703800.00	
	e. Labours (4 Nos)	day	5.7	522	552	288144.00	
	Sub Total- A					**2435904.00**	
B	**Ground Geophysical Survey**						
1	IP. Induced Polarization (I.P) cum Resistivity S.P and Magnetic (30 Lkm)	8-10 Line Km	-	-	-	-	

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3	Geophysicist party days (Field)	per day	-	-	-	-	
4	c. Labours Charges	day	-	-	-	-	
5	Geophysicist party days (HQ)	per day	-	-	-	-	
	Sub Total- B					**0.00**	
C	**Survey work**						
a	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19200	43	825600.00	
b	Charges of Surveyor (1 party) for survey layout work & Block boundary demarcation	one surveyor per day	1.6.1a	8300	30	249000.00	Contour Interval - 2/4 m.
c	Labours Charges for survey work;	day	5.7	522	120	62640.00	
	Sub-Total C					**1137240.00**	
D	**Trenching/Pitting**						
	a) Excavation of Trenches	per cu.m	-	-	-	0.00	
E	**DRILLING (after review)**						
1	**Drilling (out Source)**	m	2.2.1.1b	7168	1100	**7884800.00**	400 x 400 meters grid spacing, Charges as per MoC
2	Borehole deviation Survey by Multishot Camera	m	-	-	-	-	
3	Land / Crop Compansation (in case the BH falls in agricultural Land)	per BH	-	-	-	-	
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7 a	2000	0	0.00	
5	Transportation of Drill Rig & Truck associated per drill (2 rigs)	Km	-	-	-	-	
6	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	-	-	-	-	

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7	Drilling Camp Setting Cost	Nos	-	-	-	-	
8	Drilling Camp Winding up Cost	Nos	-	-	-	-	
9	Road Making (Flat Terrain)	Km	-	-	-	-	
10	Drill Core Preservation	per m	5.3	1590	1000	1590000.00	
	Sub Total E					**9474800.00**	
F	**Borehole Geophysical Logging**	5 Bhs of 350m each	-	-	-	0.00	
G	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Geochemical Sampling- Surface samples (Bedrock/Channel /Soil/Stream sediment)**						
	Major Oxides (Major oxides by XRF technique)	Nos	4.1.15a	4,200		0.00	Systematic Sampling - 200 x200 Grid
ii)	**Surface Check samples (10% External)**						
	Major Oxides (Major oxides by XRF technique)	Nos	4.1.15a	4,200		0.00	
iii)	**Trench & Check Samples from Trench**						
	Trench samples						
	a. Au by Fire Assay	Nos	-	-	-	-	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos	-	-	-	-	
	c. For PGE	Nos	-	-	-	-	
iv)	**Trench Check samples (10% External)**						
	a. Au by Fire Assay	Nos	-	-	-	-	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos	-	-	-	-	

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	c. For PGE	Nos	-	-	-	-	
v)	**BH Core samples**						
	Major Oxides (Major oxides by XRF technique)	Nos	4.1.15a	4,200	1000	4200000.00	
	Combined determination of Trihydrate Alumina (THA-140º C), Monohydrate Alumina (MHA-240º C) & Reactive Silica	Nos	4.1.17a	6700	10	67000.00	
vi)	**BH Core samples (10%External)**						
	Major Oxides (Major oxides by XRF technique)	Nos	4.1.15a	4200	100	420000.00	
	Combined determination of Trihydrate Alumina (THA-140º C), Monohydrate Alumina (MHA-240º C) & Reactive Silica	Nos	4.1.17a	6700	0	0.00	
2	**Physical & Petrological Studies**						
i	Preparation of thin section	Nos	4.3.1	2353	5	11765.00	
ii	Study of thin section	Nos	4.3.4	4232	5	21160.00	
iii	Preparation of polish section	Nos	-				
iv	study of polished section	Nos	-				
v	Digital Photographs	Nos	4.3.7	280	5	1400.00	
vi	Whole Rock Analysis	Nos	-				
vii	Bulk Density	Nos	4.1	3540	5	17700.00	
	SEM Studies	per hour	-				
viii	EPMA studies	per hour	-				
	Sub Total G					**4739025.00**	
H	**Total A to G**					**17786969.00**	

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I	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	Exploration cost exceeding 150 lakh but less than 300 lakh: A Minimum of ₹7.5 lakh or 3% of the work whichever is more		**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.
J	**Peer review Charges**		**As per EC decision**			**30000.00**	
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		**355739**	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.
	Tender Process		**2.3**			**157696**	
	Operational Charges		**6.0**			**788480**	
L	**Total Estimated Cost without GST**					**19118884**	
M	**Provision for GST (18% of L)**					**3441399**	GST will be reimburse as per actual and as per notified prescribed rate
N	**Total Estimated Cost with GST**					**22560284**	
	Rs. In Lakhs					**225.60**	
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 execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						

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Annexure 7B

Time Schedule/ Action plan of Preliminary Exploration (G-3 stage) for Bauxite in Mothala Block, Kachchh District, Gujarat

Sl. No.	Activities	Unit	MONTHS								
			1	2	3	4	Review	5	6	7	8
1	Camp Setting	Month									
2	Surface Drilling	m.									
3	Survey Party days (1 Party)	day									
4	Geologist Party days in field (1 Party)	day									
5	Sampling Party days, Core Sampling (1 party)	day									
6	Laboratory Studies	Nos.									
7	Camp Winding	Month									
8	Geologist Party days in HQ (1 Party)	day									
9	Geological Report Writing with Peer Review	Month									

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Annexure 8A

Estimated Cost for Preliminary Exploration for Limestone in Lodhva block , Gir Somnath, Gujarat Area: 3.0 sq.km, BH Nos.: 07, Depth: 20m, Drilling : 140m, Timeline : 8months , Review : After 4 months

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item -Sl No.	Rates as per SoC	Qty.	Total Amount (Rs)	
A	**Geological Mapping Other Geological Work & Surveying**						
	Geological mapping, (1:4000 scale) & drilling work						
i	a. Charges for Geologist per day (Field) for geological mapping & drilling work	day	1.3b	11,000	60	6,60,000	Detailed Geological Mapping on scale 1:4000
ii	b. Labours Charges (2 Nos)	day	5.7	522	120	62,640	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	1.3a	9,000	30	2,70,000	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	23	1,17,300	
	e. Labours (4 Nos)	day	5.7	522	92	48,024	
	Sub Total- A					**11,57,964**	
B	**Ground Geophysical Survey**						

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1	IP. Induced Polarization (I.P) cum Resistivity S.P and Magnetic (30 Lkm)	8-10 Line Km				-	
3	Geophysicist party days (Field)	per day				-	
4	c. Labours Charges	day				-	
5	Geophysicist party days (HQ)	per day				-	
	Sub Total- B					**-**	
C	**Survey work**						
a	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19200	7	134400	
b	Charges of Surveyor (1 party) for survey layout work & Block boundary demarcation	one surveyor per day	1.6.1a	8,300	20	166000	GM Scale - 1:4000, Contouring - 2/4 m.
c	Labours Charges for survey work; (4 Nos)	day	5.7	522	80	41760	
	Sub-Total C					**3,42,160**	
D	**Trenching/Pitting**						
	a) Excavation of Trenches	per cu.m					
E	**DRILLING (after review)**						
1	**Drilling (Outsourcing)**	m	2.2.1.1b	7,168	140	**10,03,520**	800 x 800 mts grid spacing, Charges as per MoC
2	Borehole deviation Survey by Multishot Camera	m					
3	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH					
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7 a	2000	0	-	
5	Transportation of Drill Rig & Truck associated per drill (2 rigs)	Km					

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6	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	month					
7	Drilling Camp Setting Cost	Nos					
8	Drilling Camp Winding up Cost	Nos					
9	Road Making (Flat Terrain)	Km					
10	Drill Core Preservation	per m	5.3	1,590	140	2,22,600	
	Sub Total E					**12,26,120**	
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)**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	30	1,26,000	Bed rock samples
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE by Fire Assay	Nos					
ii)	**Surface Check samples (10% External)**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	3	12,600	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
iii)	**Trench & Check Samples from Trench**						
	Trench samples						
	a. Au by Fire Assay	Nos					

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	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
iv)	**Trench Check samples (10% External)**						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
v)	**BH Core samples**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	140	5,88,000	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by ICPMS-34 elements	Nos					
	c. For PGE	Nos					
vi)	**BH Core samples (10%External)**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	14	58,800	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
2	**Physical & Petrological Studies**						
i	Preparation of thin section	Nos	4.3.1	2,353	5	11,765	
ii	Study of thin section	Nos	4.3.4	4,232	5	21,160	
iii	Preparation of polish section	Nos				-	
iv	study of polished section	Nos				-	
v	Digital Photographs	Nos	4.3.7	280	5	1,400	
vi	Whole Rock Analysis	Nos				-	
vii	Bulk Density	Nos	4.10	3,540	2	7,080	

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	SEM Studies	per hour				-	
viii	EPMA studies	per hour				-	
						8,26,805	
H	**Total A to G**					**35,53,049**	
I	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	Exploration cost up to 50 lakh: A Minimum of ₹1.5 lakh or 5% of the work whichever is more		**1,77,652**	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		**71,061**	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.
	Tender Process					**20,070**	
	Operational Charges					**1,00,352**	
L	**Total Estimated Cost without GST**					**39,52,185**	
M	**Provision for GST (18%)**					**7,11,393**	GST will be reimburse as per actual and as per notified prescribed rate
N	**Total Estimated Cost with GST**					**46,63,578**	
				Rs. In Lakhs		**46.64**	

Note:	
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**

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Annexure 8B

Time Schedule/ Action plan of Preliminary Exploration (G-3 stage) for Limestone in Lodhva Block, Girsomnath District, Gujarat

Sl. No.	Activities	Unit	MONTHS							
			1	2	3	4	Review	5	6	7	8
1	Camp Setting	Month									
2	Surface Drilling	m.									
3	Survey Party days (1 Party)	day									
4	Geologist Party days in field (1 Party)	day									
5	Sampling Party days, Core Sampling (1 party)	day									
6	Laboratory Studies	Nos.									
7	Camp Winding	Month									
8	Geologist Party days in HQ (1 Party)	day									
9	Geological Report Writing with Peer Review	Month									

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Annexure 9A

Estimated Cost for Preliminary Exploration for Limestone in Matana block, Gir Somnath , Gujarat Area: 1.42 sq.km, BH Nos.: 04, Depth: 50m, Drilling : 200m, Timeline : 6 months , Review : After 03 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.	Total Amount (Rs)	
A	**Geological Mapping Other Geological Work & Surveying**						
	Geological mapping, (1:4000 scale) & drilling work						
i	a. Charges for Geologist per day (Field) for geological mapping & drilling work	day	1.3b	11,000	60	6,60,000	Detailed Geological Mapping on scale 1:4000
ii	b. Labours Charges (2 Nos)	day	5.7	522	120	62,640	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	1.3a	9,000	30	2,70,000	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	32	1,63,200	

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	e. Labours (4 Nos)	day	5.7	522	128	66,816	
	Sub Total- A					**12,22,656**	
B	**Ground Geophysical Survey**						
1	IP. Induced Polarization (I.P) cum Resistivity S.P and Magnetic (30 Lkm)	8-10 Line Km				-	
3	Geophysicist party days (Field)	per day				-	
4	c. Labours Charges	day				-	
5	Geophysicist party days (HQ)	per day				-	
	Sub Total- B					**-**	
C	**Survey work**						
a	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19200	4	76800	
b	Charges of Surveyor (1 party) for survey layout work & Block boundary demarcation	one surveyor per day	1.6.1a	8,300	20	166000	Topographic survey - contour interval:4m.
c	Labours Charges for survey work; (4 Nos)	day	5.7	522	80	41760	
	Sub-Total C					**2,84,560**	
D	**Trenching/Pitting**						
	a) Excavation of Trenches	per cu.m					
E	**DRILLING (after review)**						
1	**Drilling (Outsourcing)**	m	2.2.1.1b	7,168	200	**14,33,600**	800 x 800 mts grid spacing, Charges as per MoC

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2	Borehole deviation Survey by Multishot Camera	m					
3	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH					
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7 a	2000	0	-	
5	Transportation of Drill Rig & Truck associated per drill (2 rigs)	Km					
6	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	month					
7	Drilling Camp Setting Cost	Nos					
8	Drilling Camp Winding up Cost	Nos					
9	Road Making (Flat Terrain)	Km					
10	Drill Core Preservation	per m	5.3	1,590	200	3,18,000	
	Sub Total E					**17,51,600**	
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)**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	30	1,26,000	Bed rock samples
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE by Fire Assay	Nos					
ii)	**Surface Check samples (10% External)**						

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	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	3	12,600	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
iii)	**Trench & Check Samples from Trench**						
	Trench samples						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
iv)	**Trench Check samples (10% External)**						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
v)	**BH Core samples**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	200	8,40,000	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by ICPMS-34 elements	Nos					
	c. For PGE	Nos					
vi)	**BH Core samples (10%External)**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	20	84,000	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					

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	c. For PGE	Nos					
2	**Physical & Petrological Studies**						
i	Preparation of thin section	Nos	4.3.1	2,353	5	11,765	
ii	Study of thin section	Nos	4.3.4	4,232	5	21,160	
iii	Preparation of polish section	Nos				-	
iv	study of polished section	Nos				-	
v	Digital Photographs	Nos	4.3.7	280	5	1,400	
vi	Whole Rock Analysis	Nos				-	
vii	Bulk Density	Nos	4.10	3,540	2	7,080	
	SEM Studies	per hour				-	
viii	EPMA studies	per hour				-	
						11,04,005	
H	**Total A to G**					**43,62,821**	
I	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	Exploration cost up to 50 lakh: A Minimum of ₹1.5 lakh or 5% of the work whichever is more		**2,18,141**	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		**87,256**	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.

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	Tender Process					**28,672**	
	Operational Charges					**1,43,360**	
L	**Total Estimated Cost without GST**					**48,70,250**	
M	**Provision for GST (18%)**					**8,76,645**	GST will be reimburse as per actual and as per notified prescribed rate
N	**Total Estimated Cost with GST**					**57,46,896**	
				Rs. In Lakhs		**57.47**	
Note:							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						

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Annexure 9B

Time Schedule/ Action plan of Preliminary Exploration (G-3 stage) for Limestone in Matana Block, Girsomnath District, Gujarat

Sl. No.	Activities	Unit	MONTHS						
			1	2	3	Review	4	5	6
1	Camp Setting	Month							
2	Surface Drilling)	m.							
3	Survey Party days (1 Party)	day							
4	Geologist Party days in field (1 Party)	day							
5	Sampling Party days, Core Sampling (1 party)	day							
6	Laboratory Studies	Nos.							
7	Camp Winding	Month							
8	Geologist Party days in HQ (1 Party)	day							
9	Geological Report Writing with Peer Review	Month							

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Annexure 10A

Estimated cost for Preliminary Exploration for (G-3 level) for Limestone in Simar Block, Gir Somanth District, Gujarat
Area: 1.75 sq.km,
BH Nos.: 04, Depth: 15m, Drilling : 60m, Timeline : 6 months , Review : After 3 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.	Total Amount (Rs)	
A	**Geological Mapping Other Geological Work & Surveying**						
	Geological mapping, (1:4000 scale) & drilling work						
i	a. Charges for Geologist per day (Field) for geological mapping & drilling work	day	1.3b	11,000	50	5,50,000	Detailed Geological Mapping on scale 1:4000
ii	b. Labours Charges (2 Nos)	day	5.7	522	100	52,200	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	1.3a	9,000	30	2,70,000	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	12	61,200	

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	e. Labours (4 Nos)	day	5.7	522	48	25,056	
	Sub Total- A					**9,58,456**	
B	**Ground Geophysical Survey**						
1	IP. Induced Polarization (I.P) cum Resistivity S.P and Magnetic (30 Lkm)	8-10 Line Km				-	
3	Geophysicist party days (Field)	per day				-	
4	c. Labours Charges	day				-	
5	Geophysicist party days (HQ)	per day				-	
	Sub Total- B					**-**	
C	**Survey work**						
a	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19200	4	76800	
b	Charges of Surveyor (1 party) for survey layout work & Block boundary demarcation	one surveyor per day	1.6.1a	8,300	20	166000	DM - 1:4000, Contour Interval - 4m.
c	Labours Charges for survey work; (4 Nos)	day	5.7	522	80	41760	
	Sub-Total C					**2,84,560**	
D	**Trenching/Pitting**						
	a) Excavation of Trenches	per cu.m					
E	**DRILLING (after review)**						
1	**Drilling (Outsourcing)**	m	2.2.1.1b	7,168	60	**4,30,080**	800 x 800 mts grid spacing, Charges as per MoC

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2	Borehole deviation Survey by Multishot Camera	m					
3	Land / Crop Compansation (in case the BH falls in agricultural Land)	per BH					
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7 a	2000	0	-	
5	Transportation of Drill Rig & Truck associated per drill (2 rigs)	Km					
6	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month					
7	Drilling Camp Setting Cost	Nos					
8	Drilling Camp Winding up Cost	Nos					
9	Road Making (Flat Terrain)	Km					
10	Drill Core Preservation	per m	5.3	1,590	60	95,400	
	Sub Total E					**5,25,480**	
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)**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	30	1,26,000	Bed rock samples
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE by Fire Assay	Nos					
ii)	**Surface Check samples (10% External)**						

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	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	3	12,600	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
iii)	**Trench & Check Samples from Trench**						
	Trench samples						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
iv)	**Trench Check samples (10% External)**						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
v)	**BH Core samples**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	60	2,52,000	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by ICPMS-34 elements	Nos					
	c. For PGE	Nos					
vi)	**BH Core samples (10%External)**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	6	25,200	

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	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
2	**Physical & Petrological Studies**						
i	Preparation of thin section	Nos	4.3.1	2,353	5	11,765	
ii	Study of thin section	Nos	4.3.4	4,232	5	21,160	
iii	Preparation of polish section	Nos				-	
iv	study of polished section	Nos				-	
v	Digital Photographs	Nos	4.3.7	280	5	1,400	
vi	Whole Rock Analysis	Nos				-	
vii	Bulk Density	Nos	4.10	3,540	2	7,080	
	SEM Studies	per hour				-	
viii	EPMA studies	per hour				-	
						4,57,205	
H	**Total A to G**					**22,25,701**	
I	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	Exploration cost up to 50 lakh: A Minimum of ₹1.5 lakh or 5% of the work whichever is more		**1,50,000**	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		**44,514**	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

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							by the TCC-NMET in its meeting while clearing the proposal.
	Tender Process					**8,602**	
	Operational Charges					**43,008**	
L	**Total Estimated Cost without GST**					**25,01,825**	
M	**Provision for GST (18%)**					**4,50,328**	GST will be reimburse as per actual and as per notified prescribed rate
N	**Total Estimated Cost with GST**					**29,52,153**	
				Rs. In Lakhs		**29.52**	
Note:							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						

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Annexure 10B

Time Schedule/ Action plan of Preliminary Exploration (G-3 stage) for Limestone in Simar Block, Girsomnath District, Gujarat

Sl. No.	Activities	Unit	MONTHS						
			1	2	3		4	5	6
1	Camp Setting	Month				Review			
2	Surface Drilling	m.							
3	Survey Party days (1 Party)	day							
4	Geologist Party days in field (1 Party)	day							
5	Sampling Party days, Core Sampling (1 party)	day							
6	Laboratory Studies	Nos.							
7	Camp Winding	Month							
8	Geologist Party days in HQ (1 Party)	day							
9	Geological Report Writing with Peer Review	Month							

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Annexure 11A

Estimated Cost for Preliminary Exploration (G-3 level) for Limestone in Bolas Block, Gir Somanth District, Gujarat
Area: 2.03 sq.km, BH Nos.: 05, Depth: 20m, Drilling : 100 m, Timeline : 6 months , Review : After 3 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.	Total Amount (Rs)	
A	**Geological Mapping Other Geological Work & Surveying**						
	Geological mapping, (1:4000 scale) & drilling work						
i	a. Charges for Geologist per day (Field) for geological mapping & drilling work	day	1.3b	11,000	60	6,60,000	Detailed Geological Mapping on scale 1:4000
ii	b. Labours Charges (2 Nos)	day	5.7	522	120	62,640	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	1.3a	9,000	30	2,70,000	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	21	1,07,100	

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	e. Labours (4 Nos)	day	5.7	522	84	43,848	
	Sub Total- A					**11,43,588**	
B	**Ground Geophysical Survey**						
1	IP. Induced Polarization (I.P) cum Resistivity S.P and Magnetic (30 Lkm)	8-10 Line Km				-	
3	Geophysicist party days (Field)	per day				-	
4	c. Labours Charges	day				-	
5	Geophysicist party days (HQ)	per day				-	
	Sub Total- B					**-**	
C	**Survey work**						
a	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19200	5	96000	
b	Charges of Surveyor (1 party) for survey layout work & Block boundary demarcation	one surveyor per day	1.6.1a	8,300	20	166000	Topographic survey - contour interval: 4 m.
c	Labours Charges for survey work; (4 Nos)	day	5.7	522	80	41760	
	Sub-Total C					**3,03,760**	
D	**Trenching/Pitting**						
	a) Excavation of Trenches	per cu.m					
E	**DRILLING (after review)**						
1	**Drilling (Outsourcing)**	m	2.2.1.1b	7,168	100	**7,16,800**	800 x 800 meters grid spacing, Charges as per MoC
2	Borehole deviation Survey by Multishot Camera	m					

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3	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH					
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7 a	2000	0	-	
5	Transportation of Drill Rig & Truck associated per drill (2 rigs)	Km					
6	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	month					
7	Drilling Camp Setting Cost	Nos					
8	Drilling Camp Winding up Cost	Nos					
9	Road Making (Flat Terrain)	Km					
10	Drill Core Preservation	per m	5.3	1,590	100	1,59,000	
	Sub Total E					**8,75,800**	
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)**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	50	2,10,000	Bed rock samples
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE by Fire Assay	Nos					
ii)	**Surface Check samples (10% External)**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	5	21,000	

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	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
iii)	**Trench & Check Samples from Trench**						
	Trench samples						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
iv)	**Trench Check samples (10% External)**						
	a. Au by Fire Assay	Nos					
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
v)	**BH Core samples**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	100	4,20,000	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by ICPMS-34 elements	Nos					
	c. For PGE	Nos					
vi)	**BH Core samples (10%External)**						
	a. Primary analysis (major oxides by XRF analysis)	Nos	4.1.15a	4,200	10	42,000	
	b. For Ag, Ni, Co, Cr, Cu, Pb, Zn, V, Ti by AAS Method	Nos					
	c. For PGE	Nos					
2	**<u>Physical & Petrological Studies</u>**						

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i	Preparation of thin section	Nos	4.3.1	2,353	5	11,765	
ii	Study of thin section	Nos	4.3.4	4,232	5	21,160	
iii	Preparation of polish section	Nos				-	
iv	study of polished section	Nos				-	
v	Digital Photographs	Nos	4.3.7	280	5	1,400	
vi	Whole Rock Analysis	Nos				-	
vii	Bulk Density	Nos	4.10	3,540	2	7,080	
	SEM Studies	per hour				-	
viii	EPMA studies	per hour				-	
						7,34,405	
H	**Total A to G**					**30,57,553**	
I	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	Exploration cost up to 50 lakh: A Minimum of ₹1.5 lakh or 5% of the work whichever is more		**1,52,878**	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		**61,151**	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.
	Tender Process					**14,336**	
	Operational Charges					**71,680**	
L	**Total Estimated Cost without GST**					**33,87,598**	

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M	**Provision for GST (18%)**				**6,09,768**	GST will be reimbursed as per actual and as per notified prescribed rate
N	**Total Estimated Cost with GST**				**39,97,365**	
				Rs. In Lakhs	**39.97**	
Note :						
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**					
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**					
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**					
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**					

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Annexure 11B

Time Schedule/ Action plan of Preliminary Exploration (G-3 stage) for Limestone in Bolas Block, Girsomnath District, Gujarat

Sl. No.	Activities	Unit	MONTHS						
			1	2	3	Review	4	5	6
1	Camp Setting	Month							
2	Surface Drilling)	m.							
3	Survey Party days (1 Party)	day							
4	Geologist Party days in field (1 Party)	day							
5	Sampling Party days, Core Sampling (1 party)	day							
6	Laboratory Studies	Nos.							
7	Camp Winding	Month							
8	Geologist Party days in HQ (1 Party)	day							
9	Geological Report Writing with Peer Review	Month							

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Annexure 12A

Estimated cost for Reconnaissance Survey for Copper Ore and Associated Mineralization (G-4 Stage) Kubri-Kochipur District– Sidhi, Madhya Pradesh (Total Block area 90 sq.km (approx);, Drilling- 400m, BH depth- 100m, No of BH- 4, completion time- 12 months, Review-06 month)

					Total		
Sl. No	**Item Work**	**Item no in SoC**	**Unit**	**Rates as per SoC of NMET**	**Qty.**	**Amount (Rs) In Lakh**	**Remarks**
A	**GEOLOGICAL WORK- Geological mapping 1: 12,500**						
1a	Geological Party days (1 party) Field	1.2	Day	11000	120	1320000	100 days for Geological Mapping & 50 days for Drilling
1b	Geological Party days (1 party)HQ	1.2	Day	9000	40	360000	
1c	2 labours/ party (Rs 522/day/labour), As per rates of Central labour Commission)	5.7	Day	522	240	125280	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
	Sub Total A					**1805280**	
B	**Drilling & Sampling- after Review**						
2a	Core drilling (Outsourced)- Hardrock	2.2.1.4a	per meter	11500	400	4600000	460000
2b	Sampling - 1 sampler without Labour	1.5.2	Day	5100	40	204000	

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2c	4 labours/ party (Rs 522/day/labour, As per rates of Central labour Commission)	5.7	Day	522	160	84042	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
	Sub Total B					**4887520**	
C	**SURVEY WORK**						
3a	Survey Party days (1 party) without Labour for contouring of mineralized zone	1.6.1a	Day	8300	0	0	
3b	4 labours/ party (Rs 522/day/labour), As per rates of Central labour Commission	5.7	Day	2088	0	0	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
3c	Fixation of block boundary & borehole by DGPS	1.6.2	Per point	19200	4	76800	only BH points
3d	Core Preservation	5.3	per m	1590	150	238500	
	Sub Total C					**315300**	
D	**PITTING- TRENCHING**						
4a	Pitting (1mx 1m x1m)- 40 no	2.1.2	Cu m	3800	40	152000	
4b	Trenching (1mx 1m x5m)- 8 no	2.1.1	Cu m	3330	40	133200	
	Sub Total D					**285200**	
E	**Laboratory Studies**						

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	Chemical Analysis/ ICPS Studies						
I	***BRS Samples***						
7a	Primary Sample for 5 radicals (Cu, Pb, Co, Cr & Ni)	4.1.7a	Per sample	2506	0	0	
7b	Internal (5%) & External (10%) Check samples of 5 radicals	4.1.7a	Per sample	2506	0	0	
7c	Analysis of Gold by Fire assay	4.1.5a	Per sample	2380	15	35700	
7d	Whole rock analysis of Major Oxides	4.1.15a	Per sample	4200	15	63000	
7e	ICP-MS studies for REE (34 element)- i.e. (Cu, Pb, Co, Cr & Ni &REE)	4.1.14	Per sample	7731	100	773100	
	External 10%	4.1.14	Per sample	7731	10	77310	
7f	Proximate Analysis for Graphite	4.1.16	Per sample	3000	25	75000	
II	***Pit/Trench Sample***						
7g	ICP-MS studies for REE (34 element)- i.e. (Cu, Pb, Co, Cr & Ni &REE)	4.1.14	Per sample	7731	40	309240	
7h	External (10%) Check samples	4.1.7a	Per sample	7731	4	30924	
7i	Analysis of Gold by Fire assay	4.1.5a	Per sample	2380	12	28560	
7j	Whole rock analysis of Major Oxides	4.1.15a	Per sample	4200	0	0	
7k	Proximate Analysis for Graphite	4.1.16	Per sample	3000	25	75000	
III	**Soil/Stream Sediment**						
7h	Primary Sample for 5 radicals (Cu, Pb, Zn, Cr & Ni)	4.1.7a	Per sample	2506	0	0	
7i	Internal (5%) & External (10%) Check samples of 5 radicals	4.1.7a	Per sample	2506	0	0	
IV	***Borehole Sample***						

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7g	ICP-MS studies for REE (34 element)- i.e. (Cu, Pb, Co, Cr & Ni &REE)	4.1.14	Per sample	7731	40	309240	
7h	External (10%) Check samples	4.1.7a	Per sample	7731	4	30924	
7i	Analysis of Gold by Fire assay	4.1.5a	Per sample	2380	10	23800	
7k	Proximate Analysis for Graphite	4.1.16	Per sample	3000	25	75000	
	Sub Total E					**1906798**	
F	***Physical & Petrological Studies***						
8a	Preparation of thin section	4.3.1	per sample	2353	10	23530	
8b	Complete Petrographic studies	4.3.4	per sample	4232	10	42320	
8c	Preparation of polished section	4.3.2	per sample	1549	10	15490	
8d	Complete mineragraphic study report	4.3.4	per sample	4232	10	42320	
8e	EPMA	4.4.1	Per hour	8540	5	42700	
	Sub Total F					**166360**	
G	**TOTAL COST (A+B+C+D+E+F+G)**					**9366458**	
H	**Miscellaneous Charges**						
9a	Tendering Process cost (2% of project cost)	2.3				92000	
9b	Operation Cost	6.0	i			460000	
9c	Preparation of Exploration Proposal (2% of approved Project cost or 5 lakh whichever is lower)	5.1	lump sum		1	187329	
9d	Geological Report Preparation (1.5 lakh or 5% of total work value whichever is more)	5.2		ii	1	468323	
9e	Peer Reviev Charges			30000	1	30000	
	Total H					**1237652**	

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I	**TOTAL COST G+H**					**10604110**	
J	GST (@18%)					**1908740**	
K	**Grand Total**					**12512850**	
L	**Rs. In Lacs**					**125.13**	
Note:							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						

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Annexure 12B

Time Schedule/ Action plan Reconnaissance Survey for Copper Ore and Associated Mineralization (G-4 Stage) Kubri-Kochipur District– Sidhi, Madhya Pradesh

S. No	Activities													
		Months	1	2	3	4	5	6	7	8	9	10	11	12
1	Mobilising	Months												
2	Geologist Party days, Field (1 Party)	Days												
3	Survey Party days (1 Party)	Days												
4	Drilling													
5	Sampling (1Party)	Days												
6	Laboratory Studies	Nos.												
7	Geologist Party days, HQ (1 Party)	Days												
8	Report Writing & Peer Review	Months												

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Annexure 13
Technical specifications of each of the Handheld XRF Analyser by GSI
1. X-Ray Tube voltage: 50 KV/4W or more.
2. Anode target: Rhodium/Silver; air cooled.
3. Should have Primary Beam Filtration 8-position auto selected filter per beam per mode. **4. X-ray current range:** 5 - 200 µA
5. Detector type: Silicon drift detector(SDD) with graphene window and minimum active area of 25 mm^2
6. Detector Resolution: < 140eV FWHM @5.95 keV
7.Analytical requirement: **Elements from Magnesium (Mg) to Uranium (U) in geological samples.**
8. Limit of detection: Need to comply with following limits of detection (attach Brochure and test data) **a.** Cu, Pb, Zn, Zr, U, Th : > 5 ppm or better **b.** Mg : > 3000 ppm or better **c.** Al : > 400 ppm or better **d.** S : > 300 ppm or better **e.** P : > 300 ppm or better
9. Calibration: Instrument must be able to analyse Geological samples (e.g. automated and user selectable calibrations for oxide and sulphide matrices). **The instrument must have following calibrations –** a. **Empirical Calibration** – Instrument must have Empirical factory calibration. The supplier must provide calibration details. b. **Fundamental Parameters** – Instrument must also have Fundamental Parameters Calibration (Standard-less Calibration).
10. Color CMOS Camera: In-line aiming camera for focusing collimation area. **The system should have provision for 2nos. collimeter positions (e.g., ≤ 3mm & 8 mm) enabling discrete analyses of select domains of samples.**
11. **Built-in GPS** with provision for saving spectrum tagged with sample image (s) and GPS location, height etc.
12. **GPS Tracking**: Option for tracking the instrument using whenever it is powered on.
13. Detector Protection: The protection preferably has to be a Mechanical shutter activated/deactivated by trigger or an equivalent mechanism to be provided. Supplier must provide details of protection along with the offer. The above said protection is in addition to the polypropylene (similar material) sheet.
14. Fail-safe proximity sensor to ensure that the analyser is in contact with the sample before starting the measurement.
15. Weight with battery: should be less than 2 kilograms.

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16. Control and view live spectrum and chemistry on the colour, touch-screen display.
17. Field Stand Kit for hands-free measurement.
18. Li-ion battery (rechargeable) pack one in use and one spare; 6-8 hours' battery life continuous operation **Battery Charging Accessories-Docking Station** Possibility of charging two battery (Internal & External)
19. Provision for USB storage
20. Total memory: >=16GB (combination of internal & SD card/USB pen drive)
21. Excel formatted/ csv data export
22. Sealed rugged carrying case
23. Bluetooth, USB and Wi-Fi connectivity with PC/Laptop
24. Windows 10/11 compatible PC software for offline data analysis and processing. **Software:** All Relevant software for data transfer to computer & Proper operation Of the Analyzer.
25. Sample cups: 100 numbers
26. Operating Environment **Temperature:** -10 °C to 50 °C (Continuous duty cycle with internal Fan) **Humidity:** 10% to 90% relative humidity non-condensing.
27. Polypropylene Roll of 4-micron thickness and 91.4 metre length or Polypropylene film: 1000 Units.
28. Should have Radiation safety certificate AERB.
29. Water and shock resistant storage case.
30. Dust, water protection: Either IP55 or Ip54 compliant or better.
31. As the instrument is meant for rugged usage during the field operations, preferably should comply with Drop Test Military Standard 810-G 4-foot (1.3 M) or equivalent.
32. Certification: CE compliant.
33.**Essential Requirements:** i. **Warranty: Three years' comprehensive warranty followed by 02 year AMC including X-ray tube against bad workmanship and manufacturing defects except any breakage or damage**. ii. **Make & Model:** Make & Model of the hand held XRF analyser is to be mentioned in the quotation. iii. **Certification:** Company must be ISO certified company. Supporting documents should be provided.

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iv. **The System should be of latest generation fully, should be user friendly and versatile for varieties of samples and should be able to display highest sensitivity (e.g., expected CPS 5 lakh or better) for geological samples of lower concentration as well (i.e., for e.g.,<10ppm) with high accuracy and reproducibility.**

v. **Supporting Documents:** Supporting brochures/catalogues/order copies of the quoted model is to be provided.

vi. **Operation Manual:** Operation Manual for User with Do's & Don'ts. (Hard and soft copies). vii. **Technical Manual:** Technical Manual is to contain Wiring, Power & Control Circuit Diagram & Quick Troubleshooting Guide. (Hard and soft copies).

viii. **User List:** The bidder or company should have supplied the similar instrument to IITs, NITs, CSIR labs etc. or any government organization/institute in the last 5 years. Bidders must attach the Purchase Order (PO) copies along with list of users with their phone numbers, email addresses and instrument installation reports.

ix. **Service Support:** Supplier should respond within 72 hours from the lodge of the complaint about service.

x. **Free Installation, Commissioning & Training:** To be provided.

xi. **Compliance statement with supporting documents**: The bidder has to attach a compliance statement sheet as per tender requirements with OEM'S supporting documents. Each required points of tender must be available in the attached OEM's supporting documents such as catalogues/ brochures/technical data sheets/manuals.

xii. **Spares**: state availability of spares for five years.

xiii. **Consumable & spares:** List of the consumables and spares to be supplied with the system. xiv. **Guaranteed specifications to be demonstrated at the time of installation**. Any necessary standard samples for that purpose should be brought by the Service Engineers

xv. **On – site training of our staff in operation and maintenance** is essential by factory trained personal.

xvi. **Printed literature** in support of compliance to the prescribed specifications is to be submitted.

xvii. **Compliance report** needs to be submitted as a part of the technical bid.

xviii. **Details of the standard samples** to be provided by the company for testing the instruments at the time of installation at site for the demonstration of the performance of equipment. Essential standards for checking the analytical reproducibility and accuracy of instrument should be provided by the vendor along with instrument.

xix. In case during shipment period **newer versions of software**/hardware is available with vendor in lieu of the existing one for which Letter of Credit was opened, then improved version should be made available without any extra cost.

xx. **GSI reserves the right to visit installation in India** of similar capabilities the details with to regard to such installation should be given as a part of technical bid

xxi. **Technical evaluation** by the GSI may include demonstration to verify functionalities and capabilities of the system quoted.

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Annexure 14A

Estimated Cost for Engagement of PMU (DIC) for Establishing Data Processing Integration & Interpretation Centre (DPIIC) at GSI Bengaluru

Sr. No	Description	Effort (In Month)	Quantity (B)	Cost Per Month (C)	Total Cost D=A*B*C
EOI, RFP Preparation and Evaluation					
1	Project Coordinator	12	1	₹ 180,000.00	₹ 2,160,000.00
2	Consultant	12	2	₹ 250,000.00	₹ 6,000,000.00
3	Subject Matter Expert	12	1	₹ 350,000.00	₹ 4,200,000.00
On Boarding and deployment					
1	Project Coordinator	12	1	₹ 180,000.00	₹ 2,160,000.00
3	Subject Matter Expert	12	2	₹ 350,000.00	₹ 8,400,000.00
4	Cloud Manager	12	2	₹ 200,000.00	₹ 4,800,000.00
5	Technical Support	12	1	₹ 180,000.00	₹ 2,160,000.00
Travel Cost					
1	Travel(Lumpsum) 10% of the cost				₹ 2,988,000.00
Total Cost					₹ 32,868,000.00
DIC Admin Charges@5%					₹ 1,643,400.00
Cost					₹ 34,511,400.00
Total Cost with GST (18%)					**₹ 4,07,23,452.00**

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Annexure 14B

Time Schedule/ Action Plan for Engagement of PMU (DIC) for Establishing Data Processing Integration & Interpretation Centre (DPIIC) at GSI Bengaluru

Sr. No	Activity	Requirement	Time Line
Phase1			
1	On Boarding of The Team	On boarding of the consultant by DIC	T1=T0+20 days
2	Understanding of the requirement	To prepare the EoI, identify the current requirement	T2=T1+20 days
3	Publishing of EoI	Publishing EoI	T3=T2+30 Days
4	Evaluation of EoI	Evaluation of EoI	T4=T3+20 days
5	Prepare RFPs	Based on the understating and inputs from industry through EoI, RFPs will be prepared	T5=T4+45 Days
6	Publishing of RFPs	RFPs will be published based on the approval	T6=T5+60 days(Tentative)
7	Completion of Process for RFPs	Final Submission and Opening of the bid	T7=T6+60 Days
8	Presentation by the Bidder for TQ	Evaluation of the bidder based on the Technical Evaluation Criteria	T8=T7+30 days
9	Opening of Financial Bid	Opening of the financial bid for technically qualified bidders	T9=T8+30 days
10	Finalization of the vendor	Finalize the vendor based on selection criteria	T10=T9+30 days (By GSI & DIC)
11	Onboarding and Deployment	A team will be deployed for onboarding and deployment s of the projects	T11=T10+12 Months

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