Ministry of Mines
National Mineral Exploration Trust
Minutes of the 65th Technical-cum-Cost Committee (TCC) meeting held on 28th, 30th & 31st May, 2024 through video conferencing

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The 65th meeting of Technical-cum-Cost Committee [TCC] of National Mineral Exploration Trust [NMET] was held through video conferencing under the chairmanship of Dr. S. Ravi, Dy. Director General, Geological Survey of India (DDG, GSI) and Chairman, TCC, NMET on 28th, 30th & 31st May, 2024.

Members of TCC-NMET and representatives from MECL, Karnataka, CMPDI, OMC, DMG Odisha, DGM Chhattisgarh, DGM Assam, DGM J&K DGM, Maharashtra, CGM Gujarat, Ecomen Laboratories Pvt. Ltd., Gemcokati Exploration Pvt. Ltd., Geovale Services Private Limited, Engeotech Consultants, Kartikay Exploration and Mining Services Pvt. Ltd, Nagpur, United Exploration India Pvt. Ltd & GeoExpore Pvt. Ltd have attended the meeting through their respective VC modes.

The list of participants is at Annexure-1.

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

Dr. S. Ravi, DDG, GSI and Chairman, TCC extended a warm welcome to the TCC members and participants representing various Notified Exploration Agencies (NEAs) and Notified Private Exploration Agencies (NPEAs). In his opening remarks, the Chairman asked NMET that the projects of REE, RM, Li, V, etc. in beach sand proposed by any agencies be shared with AMD and MECL for comments. He also echoed the views expressed by the Secretary, MoM in the last EC meeting that agencies working for critical commodities in areas known for local issues should be encouraged by TCC through liberal work components and time line. Shri K. Koteswara Rao, Dy.D.G. (Retd.) GSI and Member, TCC, mentioned about requirement of field monitoring system for NMET-funded projects undertaken by NEAs and NPEAs. The Chairman, TCC, responded that monitoring mechanisms for the projects handled by NPEAs is already been practiced by the respective state DGMs and NMET, Delhi. The Chairman also raised a concern over the charges of Geologists Man days claimed by the DGMs/DMGs handling NMET projects while the same person being paid under salaries by the respective organisation itself and opined that this matter has to be discussed in the forthcoming EC meeting of NMET.

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

Agenda 65.1 Review of Ongoing Projects/Completed Project & Timeline Extension

Agenda 65.1.1. Reconnaissance survey (G4 stage) for Copper in Chalima Block (101.84 sq.km) in Giridih district, Jharkhand.

[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 22nd EC Meeting held on 22nd December, 2021. The sanction order was issued on 07th January, 2022 with timeline of 12 months and approved cost was INR 1,82,62,538/-.
b) MECL informed that the project was reviewed in the 64th TCC and wanted timeline extension up to 15th June 2024 for submission of GR.
c) It was informed that the comments of the peer reviewer have been incorporated and the GR is ready for submission.
d) The committee was informed that three potential zones for mineralization were identified. However, resources could be estimated only in Jaridih area. In one borehole MCH-03 in Jaridih area ore lode is established over strike length of 165m and estimated resources of 0.26 million tonnes at 0.2% Cu cutoff with average grade of 0.72% Cu under 334 category. In the remaining 4 boreholes did not intersect any copper lode at 0.2% cutoff.
e) The committee noted the outcome of the project and agreed for submission of the GR with the following suggestions;
    i. The stratigraphic position of the Talc-tremolite-actinolite schist of the area should be maintained as per the approved status of GSI.
    ii. Scale of DM recommended should be either 1:1000 or 1:2000 instead of 1:5000.
    iii. Recommendation of Heliborne Electromagnetic survey in as small as 1 sq.km area should be properly justified.
    iv. Other recommendations of IPR should be judiciously attended with proper justifications.

Recommendation TCC:

The Committee noted the outcome of the project and agreed for submission of GR on or before 15th June, 2024.

Agenda 65.1.2. Preliminary Exploration (G-3 stage) for Limestone in Pipariya-Nayakheda- Simariyakalan-Baheriya Block (10.00 sq. km), District: Narsingpur, Madhya Pradesh.

[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 30thEC Meeting held on 06th June, 2023. The sanction order was issued on 26th June, 2023 with timeline of 08 months and approved cost was INR1,16,50,093/-.
b) MECL informed that the comments of the internal peer reviewer and MECL's compliance were discussed in the 64th TCC meeting and got timeline extension up to 31st May, 2024 for circulation of final GR.
c) MECL informed that 3.2, 0.37 and 1.05 million tonnes resources of Cement Grade, Blendable Grade and Threshold Grade resources respectively have been established for

Limestone along with 13.79 million tonnes of Dolomite resources as per end-use grade classification by IBM.

d) MECL opined that 94.8% of resources estimated falls under inferred category, hence total 13.79 million tonnes of dolomite and 4.61 million tonnes of various grades of limestone resources to be considered as 332 category to auction under ML by DGM, Govt. of MP as per MMDR Act. (2015). Further, it was recommended for closed space drilling i.e. in 400 X 400m grid to establish the resources at higher confidence level
e) The committee noted the outcome of the project and agreed for submission of the GR

Recommendation TCC:

The Committee noted the outcome of the project and agreed for submission of GR with in the approved timeline.

Agenda 65.1.3. Reconnaissance survey (G4 stage) for REE in Rudrawathi Block, District Tiruppur, Tamil Nadu. [Implementing Agency: MECL]

a) MECL informed that the project was approved in the 28thEC Meeting held on 16th March, 2023. The sanction order was issued on 27th March, 2023 with timeline of 12 months and approved cost was INR 71,82,943/-.
b) MECL informed that in the 62nd TCC meeting, the committee had approved 2 months' time extension up to 31st May 2024. The comments of the peer reviewer have been incorporated and the GR is ready for submission.
c) The committee was informed that the exploration in Rudrawathi block completed amidst lot of local challenges from the public. Geological mapping of 126 sq km was completed and 200 pit samples, 36 BRS & 14 Stream sediment samples were collected.
d) Analysis of all the samples have been received for 34 elements and the area seems promising to take up G3 level exploration in the two potential blocks carved out within the block of 20 sq km each. MECL mentioned that the draft report has been submitted for Peer review .
e) MECL requested for further time extension for 1 month up to 30th June 2024 incorporation of peer reviewer comments and GR submission.
f) The committee noted the outcome of the project and agreed for submission of the GR with the following suggestions;
    i. The area does not warrant REE mineralization based on the current study except some sporadic values around 1000 ppm of total REE.
    ii. AMD has extensively worked in the area and did not prove any pegmatite vein with positive REE or RM values.
    iii. The pegmatite lenses/bodies/veins plotted in the LSM should be as per scale and should not be misrepresented. They are shown in exponential scale and need to be rectified.





iv. Petrological studies should be carried out properly and written complying with objective of the project.
v. Structural data in the area occupied by granite gneiss should be adequately plotted.

Recommendation TCC:

The Committee recommended time extension of 1 month up to 30th June 2024 for inclusion of the comments of the Committee and submission of GR.

Agenda 65.1.4. 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 30thEC Meeting held on 06th June, 2023. The sanction order was issued on 26th June, 2023 with timeline of 08 months and approved cost was INR 92,96,121/-.
b) MECL apprised that the project was reviewed in the 62nd meeting of the TCC, NMET and recommended for the timeline extension up to 31st May 2024. The same was approved in the 34th meeting of EC, NMET. Further, the project was reviewed in 63rd meeting of TCC.
c) MECL presented the analytical results of the graphite samples which showed 5.15 % FC average. It was mentioned that Graphite bearing quartz schist occurs as thin intercalations in banded ferruginous quartzites and proposed for drilling of 3 boreholes. MECL requested for timeline extension for 3 months.
d) The committee noted the progress of the work and recommended for completion of drilling with the conditions given below.
    i. Scout drilling is recommended only across the known band.
    ii. Geophysical survey does not support extension of graphite mineralization beyond known band.
    iii. Only two boreholes namely PPH-2 and PBH-3 are permitted to drill and PPH-01 is not required as it has been proposed very close to PBH-3.
    iv. Timeline extended for three months up to 31st August 2024 to complete drilling and submission of GR.

Recommendation TCC:

The Committee recommended 3 months' time extension up to 31st August 2024 for completion of the project.

Agenda 65.1.5. Preliminary Exploration (G-3) for Base Metals (Cu, Pb, Zn) in Chintakuntala Block (5.00 Sq. Km), District- Nalgonda, Telangana [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 2,32,18,273/-.
b) MECL informed that the Committee recommended timeline extension upto 30th June 2024 in the 63rd TCC meeting.

c) It was informed that the exploration work has been completed and the GR is ready for peer review. MECL mentioned that out of 5 boreholes, 4 boreholes intersected mineralized zones with varying grade and thickness. Out of total 127 nos samples, 26 nos samples indicated >0.1% Cu value and 11 samples shown Cu values ranging from >0.20% Cu to 0.68% Cu. & 9 samples indicated >0.1% to 2.25% Pb.
d) The committee expressed concern in the dip direction of the ore body and azimuth of boreholes drilled. MECL was advised to give proper importance while planning boreholes.

Recommendation TCC:

The Committee noted the progress of work and recommended for peer review of the project.

Agenda 65.1.6. Preliminary Exploration (G-3 stage) for Manganese ore and Graphite in Bharatbahal Block (2.00 sq km), District: Balangir, Odisha.
[Implementing Agency: MECL]

a) MECL 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 08 months (Up to 27.10.2024) and approved cost was INR1,37,77,521/-.
b) MECL informed Topographical Survey and Geological Mapping (1:2000) are in progress and drilling in 4 BHs (237.50m) has been completed.
c) MECL requested for additional drilling of 40 m and 26 additional samples.
d) The committee in –principally approved 40 m drilling and suggested that the additional samples may be finalized in the next review of the project.

Recommendation TCC:

The Committee recommended additional drilling of 40 m .The additional cost and number of additional sample are to finalized during the next review.

Agenda 65.1.7. Reconnaissance Survey (G-4 stage) for REE in Sarnu Block (118.10 sq.km), Barmer District: Rajasthan.
[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 28thEC Meeting held on 16th March, 2023. The sanction order was issued on 3rd April, 2023 with timeline of 12 months and approved cost was INR 69,92,176/-.





b) MECL informed that during the review, the TCC had approved time extension up to 30th June 2024. Thereafter, during review of the project in 64th TCC meeting, the committee had recommended to carry out magnetic survey in area.
c) After detailed deliberation , committee opined that considering the exorbitant cost involved in magnetic survey , a separate G3 proposal with auger drilling or pit sampling at 200 x 100 m grid may be proposed in the positive block and the present project may be concluded without additional cost. The TCC recommended time extension up to 31st August 2024 to complete the current project.

Recommendation TCC:

The Committee recommended time extension up to 31st August 2024 for submission of GR.

Agenda 65.1.8. Reconnaissance Survey (G-4 stage) for Phosphorite in Kathyur Block (9.00 sq. km) in Dehradun District, Uttarakhand.
[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 31stEC 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 due to highly rugged hilly terrain and extreme climatic conditions of the block, geological mapping and sampling has been partly completed in the block. The analytical results are being awaited. MECL requested for time extension of approx. 3 months up to 31st August 2024.
c) The committee noted the progress s of the work and agreed for time extension upto 31st July 2024.

Recommendation TCC:

The Committee approved time extension up to 31st July 2024 for submission of GR.

Agenda 65.1.9. 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 23rdEC 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) The project was reviewed in the 62nd TCC and in the 35th EC of NMEt held on 16th May time extension of 7 months up to 31st May 2024 was approved for the project.
c) MECL informed that the drilling (451.00m) and sampling was completed in the block and sampling and analytical work in progress. Hence, MECL sought time extension of 3 months.
d) The committee noted the progress of the work and raised concerns on the chemical analysis of trench samples. The samples show only Pd values and all other PGE





elements analyzed values below detection limits. The committee suggested 10 % samples to be rechecked in NABL accredited laboratory and recommended time extension up to 31st August 2024.

Recommendation TCC

The Committee suggested to recheck analysis of 10% of samples and recommended time extension up to 31st August 2024.

Agenda 65.1.10. Reconnaissance Survey (G4) for PGE, Nickel, Chromite and associated Basemetal mineralization in Yentem-Ningthi Area, Kamjong District, Manipur State.

[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 06th February, 2023 with timeline of 12 months and approved cost was INR1,27,03,102/-.
b) MECL informed that on 06th April 2023, MECL requested for NOC to Commissioner, Textile, Commerce & Industry, Manipur . After several reminders and physical meetings with concerned authorities of State Govt. of Manipur, the NOC is still awaited. Hence, MECL not able to commence the work in the block. MECL requested to surrender the block to NMET.
c) The committee agreed for surrender of the project.

Recommendation TCC:

The Committee recommended MECL to submit all the correspondences and efforts made to avail the NOC from Ministry of Textiles to NMET and seek approval from the EC for surrendering the block.

Agenda 65.1.11. Reconnaissance Survey (G4) for REE and Rare Metals (RM) Mineralization in Kathapullatti Block, Part of Tiruppur, Tamil Nadu

[Implementing Agency: MECL]

a) MECL informed that the project was approved in the 34th EC Meeting held on 13th March, 2024 and sanction order was issued with timeline of 12 months and approved cost was INR 97,62,693/-.
b) MECL informed that during the initialization of the project, it was found out that the field area is having about 90% overlap with the NMET approved project titled “Reconnaissance survey (G4 stage) for REE in Rudrawathi Block, District-Trippur, Tamil Nadu” which is on the verge of completion. Hence MECL requested for surrender of the project.
c) The committee after observing the proposal, suggested MECL to maintain a proper monitoring system to check the overlap within its own project as well as projects explored by other agencies in the country.
d) The committee also suggested MECL to submit a detailed justifications to NMET and withdraw/surrender the project.





Recommendation TCC:

The Committee recommended MECL to surrender the project and submit detailed justification for the same before then next EC.

Agenda 65.1.12. Preliminary exploration for coal in West of Urdhan Jamunia block, Pench Kanhan Tawa Valley CF, District: Chhindwara, Madhya Pradesh
[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 informed that 8 bhs were proposed in the area with 4700 drilling meterage.
c) CMPDI mentioned that the execution of field activities was delayed due to delay in receipt of forest clearance. FC for 3 BHs were applied on 26.05.23 and the joint forest survey conducted on 22.05.2024. However, due to some discrepancy in NPV levied by Forest department, CMPDI has requested forest department for revision of NPV and grant of forest permission. CMPDI requested extension of 6 months (up to 31.10.2024) for completion of the project.
d) The committee opined that time extension may be sought after receipt of forest permission.

Recommendation TCC:

The Committee suggested that time extension may be considered after receipt of forest permission.

Agenda 65.1.13. Preliminary Exploration (G3) for graphite in Lamer-Panga Block- A (13.99 sq. Km) in Kalahandi district of Odisha.
[Implementing Agency: OMC]

a) OMC informed that the project was approved in the 27thEC 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 2,16,60,170/-.
b) OMC informed that the project was reviewed in the 64th TCC meeting and timeline extension up to 2nd December 2024 was approved in the 35th EC meeting held on 16th May 2024 of NMET.
c) It was informed that OMC had proposed 17 proposals in the block, of which 7 has already been completed. OMC sought approval of the committee for carrying out drilling in 10 other boreholes.
d) The committee further reviewed the project and agreed for drilling of 10 more boreholes in the approved area.

Recommendation TCC:

The Committee recommended completion of drilling as proposed by OMC (17 boreholes) and submission of GR within the approved timeline and cost.

Agenda 65.1.14. Reconnaissance Survey (G4) For Limestone in Voterolangsho Area Of West Karbi-Anglong And Dima Hasao District, Assam.
[Implementing Agency: DGM Assam]

a) DGM Assam informed that the project was approved in the 23rdEC Meeting held on 16th March, 2022. The sanction order was issued on 25th March, 2022 with timeline of 12 months and approved cost was INR3,41,50,946/-.
b) DGM Assam informed the project was reviewed in the 62nd TCC meeting and approved 1 month timeline extension up to 30th April 2024.
c) DGM Assam informed that out of 10 approved boreholes, drilling could be completed only in 6nos. the remaining 04 BHs could not be completed due to inaccessibility. Further, time extension of 3 months was sought by DGM Assam for submission of GR.
d) The committee noted the progress of work, suggested to include LSM instead of DM in the NQT and agreed for time extension of 3 months.

Recommendation TCC:

The Committee recommended time extension up to 31st July 2024 for GR submission.

Agenda 65.1.15. Reconnaissance Survey (G-4) For PGE, Gold & REE in Maneri-Sitapala Block, Balaghat District, Madhya Pradesh.
[Implementing Agency: DGM Madhya Pradesh (Gemcokati Exploration Pvt. Ltd)]

a) Gemcokati Exploration Pvt. Ltd informed that the project was approved in the 31stEC 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 64,92,482/-..
b) Gemcokati presented the progress of work in 64th TCC and time extension up to 31st July 2024 was approved by the committee.
c) Gemcokati presented the analytical results in the meeting.
d) The committee noted the outcome of the chemical analysis. The values though have a pattern/ trend along the particular line but found not encouraging for PGE.
e) The committee also recommended for Pit and Trench sampling across the breccia zone.

Recommendation TCC:

The Committee noted the work progress and approved for Trench and pit sampling within the approved cost.

Agenda 65.1.16. Reconnaissance survey for manganese in Tentuliguda Block, district-Koraput, Odisha
[Implementing Agency: DGM Odisha]





a) DGM Odisha informed that the project was approved in the 14st EC Meeting held on 19th September, 2019 with approved cost was INR 28.220 lakhs.
b) DGM Odisha informed that the exploration work had commenced on 30th October 2019. DGM Odisha apprised that geological mapping (121 sq km) was completed and chemical analysis of grab samples were completed. However, exploration could not be completed due to local agitation.
c) The committee was informed that the issue was discussed in the 24th, 25th & 26th TCC meeting of NMET. In the 26th TCC meeting held on 10th &11th December 2020, the committee had suggested to submit then geological report for the exploration work carried out so far along with all the certificate from local authority regarding law and order issue and non-execution of the proposed proposal. DGM Odisha informed that after negotiating with the district administration , DGM Odisha was advised to put the project on hold until an amicable decision is reached.
d) Considering that the local hostile situation remain unchanged, DGM Odisha requested for surrendering the project.
e) In view of the above, the committee opined that DGM Odisha need to provide justification to NMET this delay in communication of status of the project and reasons for surrendering the project at the earliest. The committee also advised to submit the geological report and final bills for reimbursement to NMET by 31st July 2024.Further, the certificate from local authority regarding law and order issue and non-execution of the proposed proposal is to be submitted to NMET before next EC

Recommendation TCC:

The Committee recommended surrendering of the project and time extension upto 31st July 2024 for submission of GR to NMET.

Agenda 65.1.17. Reconnaissance Survey (G4 Stage) for Basemetal in Thal Didihat-Askot region, Pithoragarh district, Uttarakhand
[Implementing Agency: Geovale Services Pvt. Ltd]

a) Geovale Services Pvt. Ltd informed that the project was recommended in the 62nd TCC meeting held on 28th,29th and 01st March, 2024 and was approved in the 34th EC meeting of NMET. The sanction order was issued on 12th March, 2024 with timeline of 12 months (up to 11.03.2025) and approved cost was INR1,37,47,000/-.
b) Geovale Services Pvt. Ltd informed that initially, project area was proposed for 137 sq km. However, on the suggestion of the committee area was modified to 73 sq.km.
c) Geovale has initiated the field work in the area , it was observed that the block boundary for the approved coordinates represents 92 sq km area. Geovale requested for area modification to 92 sq. km instead of 73 sq.km, keeping all NQT and budget same.
d) The committee deliberated on the matter and found that the discrepancy of the total area happened due to wrong datum projection by the NPEA and agreed for the revised LSM area of 92 instead of 73 sq.km.





Recommendation TCC:

The Committee recommended modification of area to 92 sq.km without implication on approved cost/quantum.

Agenda 65.1.18. Reconnaissance Survey (G-4 Stage) for Graphite in Dindo- Belkurta-Basera Block, District: Surguja,Chhattisgarh
[Implementing Agency: DGM Chhattisgarh (Maheshwari Mining Pvt.Ltd.)]

a) Maheshwari Mining Pvt.Ltd (MMPL) 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 12 months and approved cost was INR 1,04,63,931/-.
b) MMPL informed that the based on the geophysical survey (SP method) and sample analysis, 3 boreholes have been proposed with 30 m depth. It was also informed that forest permission is yet to be received.
c) The committee noted the progress of the project and agreed for carrying out drilling in the area after receipt of FC.

Recommendation TCC:

The Committee recommended drilling of 3BHs in then approved block.

Agenda 65.1.19. Financial assistance from NMET funds to procure machinery/laboratory equipment/instruments etc. aimed at enhancing the exploration activities - DGM J&K

a) DGM J&K informed that the project was approved in 29th meeting of EC held on 31stMarch, 2023. Sanction order was issued on 31st May, 2023 with timeline of 12 months and approved cost of ₹ 1,44,56,000/-.
b) In the 64th TCC meeting, DGM J&K requested timeline extension of 12 months for procurement of the approved items. However, the Committee recommended to provide justification for the delay in purchase of equipments.
c) DGM J&K informed that the NMET funds could not be utilized due to procedural delays and frequent transfer of DGM officers. Further, the bid for purchase of different Geological Equipments and Atomic Absorption Spectrometer (AAS) approved under NMET funding was published on GeM portal on 11/04/2023 but could not be finalized due to technical issues. The Bid was again published on GeM portal for the second time on 30/09/2023 for purchase of AAS and other Geological Equipments. However, the purchase process could not be again finalized as only one bidder qualified technically for AAS and the bid for Geological Equipment is under Technical Evaluation. In view of the above, DGM, J&K requested for time extension up to 20th May 2025 to complete the procurements.
d) Upon review, the TCC suggested DGM, J&K to expedite the process. Further, DGM, J&K is instructed to submit an undertaking to NMET that it will complete the procurement





process within this Financial Year and reconcile the budget. DGM, J&K has also been advised to relook the list of items proposed for procurement and asked to withdraw those items which do not require NMET Fund through formal letter.

e) The committee agreed for time extension of 12 months up to 30th May 2025.

Recommendation TCC:

The Committee recommended time extension of 12 months up to 30th May 2025 to complete the procurement and submit an undertaking to NMET that it will expedite the process within this F.Y and reconcile the budget.

Agenda 65.1.20. Preliminary exploration (G3) for bauxite in Dhuluapat block (4.0 sq. km), District: Lohardaga and Gumla, Jharkhand. [Implementing Agency: CMPDI]

a) CMPDI informed that the project was approved in the 28th t EC Meeting held on 16th March, 2023. The sanction order was issued on 24-March-2023 with timeline of 12 months.

b) CMPDI informed that the forest clearance was received on 20.03.2024.Further, exploration work is in Pat area (flat plateau above 1000m elevation) and the drilling work in Pat area is not feasible in rainy season. Hence , CMPDIL sought 9 Months Time Extension (up to 31/12/2024) for the completion of the project

c) The committee agreed for time extension up to 31stDecemeber 2024 for completion of the project but advised CMPDI to monitor the item properly and appraise the committee on time regarding the progress.

Recommendation TCC:

The Committee recommended 9 months' time extension up to 31st December 2024.

Agenda 65.1.21. Reconnaissance Survey (G4 Stage) for Graphite in Nawadih Block (32.04 sq.km.), District: Balrampur, State: Chhattisgarh. [Implementing Agency: UEIPL]

a) UEIPL 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 12 months and approved cost was INR1,04,63,931/-.

b) UEIPL informed that the project has been completed and the GR is ready for submission after incorporation of the suggestions of the peer reviewer.

c) UEIPL apprised that analytical results of 50 graphite bearing samples revealed that Fixed Carbon varies from 0.19% to 18.52%. Among these, 18 samples are having FC% more than 2% with average FC% of 7.24%. About 9.97 sq.km area has been demarcated which shows presence of graphite bearing quartz mica schist horizon. This may be upgraded for G3 exploration. However, resource of graphite has not been





estimated as only surficial exposures of the graphite bearing bands have been explored during current investigation

d) The committee noted the progress of the project and agreed for submission of GR.

Recommendation TCC:

The Committee recommended* UEIPL *for submission of GR.

Agenda 65.2. Project Evaluation for In-Principle Approval

Agenda 65.2.1. Preliminary exploration (G3 Stage) for REE and associated minerals in Uppala block, Kasargod District, Kerala [Implementing Agency: GeoExpore Pvt. Ltd.]

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

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

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

d) The item was presented in 64th TCC for seeking In-principle Approval but the committee refrained from making any decision for want of comments from DMG, Kerala. However, DMG, Kerala was advised to expedite the process and submit their comments as soon as possible.

Recommendation of TCC:

The committee recommends NMET to forward this item to AMD for comments as GSI has indicated >250 ppm of U & Th from the area.

Agenda 65.2.2. Reconnaissance survey (G4 Stage) for heavy mineral (Rutile, Zircon, Ilmenite) Vanadium, REE and associated mineralization between Kasaba, Nellikunnu and Mogralputhur Villages Kasargod district, Kerala. [Implementing Agency: GeoExpore Pvt. Ltd.]

a) GSI discovered high concentrations of Total Heavy Minerals (THM) in specific zones, reaching up to 46%, indicating substantial deposits near proposed areas.





b) Economic Heavy Minerals (EHM) vary from 0.88% to 23.81%, with an average of 5.60%, highlighting economic potential. Proximity to a GSI surveyed block with similar high EHM suggests similar abundance in the proposed block, necessitating further exploration.
c) The item was presented in 64th TCC for seeking In-principle Approval but the committee refrained from making any decision for want of comments from DMG, Kerala. However, DMG, Kerala was advised to expedite the process and submit their comments as soon as possible.

Recommendation of TCC:

The committee recommends NMET to forward this item to AMD for comments as GSI has indicated >250 ppm of U & Th from the area.

Agenda 65.2.3. Preliminary Exploration (G3 level) for Rare EarthElements (REE) & Phosphate minerals in Amguri Block, Karbi Anglong, Assam
[Implementing Agency: Novomine India Private Limited]

a) The proposed area falls in parts of Survey of India Toposheet No. 83F/8 in Karbi Anglong District, ASSAM.
b) Based on previous exploration efforts by the Geological Survey of India (GSI) during the Field Season Programs of 1985-86, 1986-87, and 1978-79 in the Samchampi Area, Karbi Anglong district, Assam (part of T.S. No. 83F/8), potential minerals like Rare Earth Elements (REE) and Phosphate have been identified within the area. Expanding upon this, the item has been proposed
c) The committee has determined that the proposed block exhibits a 100% overlap with the G4 stage area proposed by GSI for the Field Season of 2024-25. Additionally, the committee has noted that the background information provided for the proposed item is inadequate for G3 stage exploration.

Recommendation of TCC:

The committee recommended Novomine India Private Limited to wait for the outcome of the GSI's work which is already under progress.

Agenda 65.2.4. Preliminary exploration (G-3) for Platinum Group of Elements (PGE) and Base Metals at Reguri Block, PhekDistrict, Nagaland.
[Implementing Agency: Novomine IndiaPrivate Limited]

a) The proposed area falls in parts of Survey of India Toposheet No. 83K/10 in Phek District, Nagaland.
b) Based on previous exploration efforts by the Geological Survey of India for the field season 2016-17 in part of Toposheet No. 83K/10, potential minerals such as Platinum Group of Elements (PGE) and Base Metals were identified over the Reguri area in Phek District, Nagaland.





c) Additionally, reports from Lotha and Arhomo of DGM, Nagaland (2004), indicate the presence of Cu values up to 1.32%, Ni up to 1.14%, and Cr up to 4.50% in parts of Phek district from NHO.
d) The committee finds that the Ni values presented by Novamine are not encouraging.

Recommendation of TCC:

The committee does not approve the item.

Agenda 65.2.5. Preliminary Exploration (G3 level) for Graphite inIndravati Block, Balrampur, Chattisgarh.

[Implementing Agency: PRB Infraproject Pvt Ltd.]

a) PRB has identified a 41.49 sq. km area under Toposheet No. 63P/08 for G4 stage Exploration targeting Graphite mineralization, based on earlier exploration data from Bhukosh of GSI,
b) The analysis is informed by the published GSI report "Reconnaissance For Base Metal In Oranga-Dhulangi Area, Surguja District, Chhattisgarh" from the field season 2019-20, highlighting the occurrence of Graphite mica schist associated with quartz mica schist as an enclave within foliated grey granite exposed in Indravtipur.
c) GSI's fieldwork delineated two distinct zones of graphite schist: Baharchura-Bhitarchura zone and Tikidiri-Oronga-Bishunpur zone. Additionally, there is an existing mining lease for graphite at Indrawatipur village within Toposheet No. 63P/8 & 64 M/5, further indicating the mineral potential in the region.
d) The committee finds that part of the proposed area exhibits overlapping with GSI's G4 stage work carried out during FS: 2016-17.
e) The committee was informed that state DMG has proposed to take up the area inFS:2024-25.

Recommendation of TCC:

The committee recommended to drop this item.

Agenda 65.2.6. Preliminary Exploration (G3 level) for Platinum Group of Elements, Titanium, Vanadium, Palladium, Laterite and Bauxite in Dhangawan Block, Jabalpur, MP.

[Implementing Agency: Engeotech Consultant Private Limited]

a) The proposed area falls in parts of Survey of India Toposheet No. 63A/2 in Jabalpur district, Madhya Pradesh.
b) Engeotech informed that the item has been prepared after consulting the published Research Papers of Chhibber H.L. 1946 on Platinum in Dhangawan (Jubbulpore district, C.P.) Journal of scientific and Industrial Research 4(7) 450 and of Dekate,Y.G.-1973 on Platinum metals bearing bauxite of Dhangawan, Jabalpur District (M.P.) Pg.18-19,1973
c) The committee finds that part of the proposed area exhibits overlapping with GSI's RMT area.

d) DGM has allocated part of the proposed area to MECL for Fe and Mn exploration. Therefore, it is necessary to confirm with MECL whether there is scope for any other commodities.

Recommendation of TCC:

The committee recommends waiting for the outcome of MECL's work before proceeding further.

Agenda 65.2.7. Preliminary Exploration (G3 level) for Rock Phosphate minerals in Jalauthar Block, Chattarpur, Madhya Pradesh
[Implementing Agency: Engeotech Consultant Private Limited]

a) The proposed area falls in parts of Survey of India Toposheet No. 54P/3 in Jabalpur district, Madhya Pradesh.
b) Engeotech informed that the item has been prepared after consulting GSI report Report on detailed investigation for Phosphorite around Manakpura Area, Chhatarpur Dist. M.P, FS:L1987-89 and DRM of Chattarpur district.
c) The committee finds that GSI's last work in this area was in 1978-79.

Recommendation of TCC:

The committee recommends this item and instructed Engeotech Consultant Private Limited to present the item in upcoming TCC.

Agenda 65.2.8. Reconnaissance Survey (G4 Stage) for Li, Sn, Nb Ta &other REE Minerals around Chidpal, Sukama & Bastar districts, Chhattisgarh.
[Implementing Agency: United Exploration India Private Ltd.]
&
Agenda 65.2.9. Reconnaissance Survey (G4 Stage) for Li, Sn, Nb Ta &other REE Minerals around Ellingner, Sukama & Bastar districts, Chhattisgarh.
[Implementing Agency: United Exploration India Private Ltd.]
&
Agenda 65.2.10. Reconnaissance Survey (G4 Stage) for Li, Sn, Nb Ta &other REE Minerals around Gojia Dongari, Sukama & Bastar districts, Chhattisgarh.
[Implementing Agency: United Exploration India Private Ltd.]

a) The proposed areas belong to the Bengpal Group, which includes Sericite schist, Sericite quartzite, and andalusite / sericite schist.
b) Pegmatites have intruded the basic rock and Bengpal schistose rocks, hosting lithium mineralization. Analysis of samples shows lithium content ranging from 3100 ppm to 18500 ppm. These pegmatites contain Lepidolite and amblygonite and are enriched with Cassiterite (45.36-74.85% SnO_2) along with subordinate Nb-Ta phases (4.36-14.45% Ta_2O_5).

c) Pegmatites in the basic and Bengpal schistose rocks are typically 2 to 5 meters wide and 80 to 1000 meters long, sometimes swelling up to 20 meters in thickness. They trend NNW-SSE with steep westerly dips and are more common in basic rocks than schist, forming veins along fractures and major joints. Notably, primary tin mineralization (cassiterite crystals) is found near Chuirwada.
d) These pegmatites are rich in rare elements like Sn, Nb, Ta, W, Li, Be, B, Pb, V, Y, and Cr, forming various compounds at lower temperatures. Their mineralogical complexity indicates formation at shallow depths (3.5 to 7 km) with initial melt temperatures of 800 to 700°C. Tin content varies from 10 to 2500 ppm, with significant tin found in lepidolites, feldspars, muscovites and magnetites (30 to <1000 ppm).
e) Derived from granite differentiation, these pegmatites formed as fluids escaped from a deeply buried magma, moving upward and crystallizing. The solutions were rich in elements like Na, K, Si, Be, F, B, P2O5, Li, Sn, Nb, Ta, and W.
f) The committee was informed that selective pockets in this area have been auctioned to private parties. Moreover, GSI has also conducted exploration in these areas.

Recommendation of TCC:

The committee recommended preparing a Detailed Project Report (DPR) by merging the above three or two blocks into a single block excluding the areas auctioned by DMG and worked by GSI. The combined block should be presented at the upcoming TCC meeting.

Agenda 65.2.11. Reconnaissance Survey (G4 Stage) for Li, Sn, Nb Ta &other REE Minerals around Mundval, Sukama & Bastar district, Chhattisgarh
[Implementing Agency: United Exploration India Private Ltd.]

a) The proposed areas belong to the Bengpal Group, which includes Sericite schist, Sericite quartzite, and andalusite/sericite schist.
b) Pegmatites have intruded the basic rock and Bengpal schistose rocks, hosting lithium mineralization.
c) Analysis of samples shows lithium content ranging from 10000 ppm to 15000 ppm. These pegmatites contain lepidolite and amblygonite and are enriched with Cassiterite (45.36-74.85% SnO2) along with subordinate Nb-Ta phases (4.36-14.45% Ta_2O_5).

Recommendation of TCC:

The committee recommends keeping this item in abeyance and suggests taking it up later after obtaining the outcome of the previously discussed item.

Agenda 65.3: Technical evaluation of new project proposals:





Agenda 65.3.1. Preliminary Exploration (G-3) for Graphite in Chormunda Block, District- Balangir and Nuapara, Odisha. [Implementing Agency: MECL]

a) The proposed Chormunda Block is part of the Eastern Ghat Mobile Belt and is located in Patnagar and Nuapara Tehsils of Balangir and Nuapara Districts (Toposheet No: 64L/10) in Odisha.
b) The Geological Survey of India (GSI) has already investigated the area and recommended detailed exploration despite the low grade, noting that the graphite bands are likely to be continuous over long strike extensions.
c) The proposal was initially proposed as a G4 stage item at the 64th TCC meeting, the committee recommended developing a G3 stage proposal focused on potential areas within the proposed G4 area. They suggested submitting this proposal for review at the next NMET TCC meeting.
d) MECL conducted a preliminary field visit to the north of the block, where graphite quarries were observed in the same geological setup. MECL collected surface samples showing fixed carbon (FC) content ranging from 4.42% to 8.79%. The proposed block falls in the southern extension of the area covered by the MECL field visit, sharing the same geological setup conducive to graphite mineralization.
e) Recently MECL carried out field visit and observed graphite mineralization on the ground had a definite trend, confirmed by graphite quarries and local mining activities along the mineralized strike direction.
f) The committee observed that the host lithology dips towards the east and noted a significant presence of granite in the west of the proposed block. Consequently, the committee recommended modifying the block to reduce the area and to exclude the granite area in the west and extending the boundary towards the east. They also suggested removing the railway line buffer zone in the north. Following these recommendations, MECL modified and presented the block accordingly.
g) Additionally, the committee advised MECL to provide an undertaking confirming that there are no active mines within the proposed area.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G-3) for Graphite in Chormunda Block, District- Balangir and Nuapara, Odisha." with an estimated cost of Rs. 259.52 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 2A & 2B. The item will be reviewed after 04 and 8 months.

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Agenda 65.3.2 Preliminary Exploration (G-3) for Graphite inTemrimal Block, District- Balangir and Bargarh, Odisha. [Implementing Agency: MECL]





a) The proposed Temrimal Block is part of the Eastern Ghat Mobile Belt, located in Balangir and Bargarh districts, Odisha. It lies just northeast of the proposed Chormunda block.
b) This block comprises a cluster of 10A 2(b) leases and taken-over leases selected for further exploration by the State Technical Committee (JWG) on 06.02.2023 and allotted to MECL for necessary action.
c) As the State Government does not have previous exploration data for the expired leases, the proposed exploration aims to generate new data and make the block feasible for auction.
d) The Geological Survey of India has already investigated the area and recommended detailed exploration despite the low grade, noting that the graphite bands are likely to be continuous over long strike extensions.
e) MECL conducted a preliminary field visit in the proposed block and surrounding area, observing graphite mineralization based on old working pits and surface exposures. Three bedrock samples of graphite collected from the proposed block area showed fixed carbon (FC) content of 4.42%, 4.45%, and 8.79%, respectively.
f) Similar to the Chormunda block, the committee suggested modifying the block boundary to reduce the area. Accordingly, MECL modified the block and presented it.
g) The committee advised MECL to provide an undertaking confirming that there are no active mines within the proposed area.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary Exploration (G-3) for Graphite in Temrimal Block, District- Balangir and Bargarh, Odisha." with an estimated cost of Rs. 273.71 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 3A &3B. The item will be reviewed after 04 and 08 months.

Agenda 65.3.3 Preliminary Exploration (G-3) for Iron- PGE and associated minerals in Chitrangi Block (21.00 sq km), Districts: Singrauli, State: Madhya Pradesh [Implementing Agency: MECL]

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Agenda 65.3.4. Reconnaissance Survey (G-4) for Iron- PGE and associated minerals in Chitrangi-Piparwan Block (65.00 sq km), Districts: Singrauli, State: Madhya Pradesh. [Implementing Agency: MECL]

a) The proposed iron-PGE G3 stage item in Chitrangi Block and G4 stage item in Chitrangi-Piparwan are located adjacent to each other in Singarauli district, Madhya Pradesh.
b) GeoMysore Services (India) Pvt. Ltd. conducted exploration work in and around Sidhi, covering an area of 2700 square kilometers. During this exploration, stream sediment

samples showed more than 30 ppb Pt+Pd, and rock chip samples in meta-basalt and volcanoclastics showed more than 50 ppb Pt+Pd from the proposed area.

c) GSI worked in and around the proposed area and reported that chemical analysis of bedrock samples revealed anomalous gold content. Samples of ultramafic rocks around Thapna showed 0.15% Cu, 0.20% Ni, and 0.56 ppm Au. The ultramafic body recorded up to 200 ppb Pt, 8 ppb Pd, and 12 ppb Ir. Ultramafic rock samples from Karhiya showed 58 ppb Pt, 118 ppb Pd, and 1.5 ppb Ir. Further investigation into gold, PGE, nickel, and associated minerals was recommended, as the ultramafics within the proposed block may be the eastern extension of Thapna ultramafics.
d) During the Field Season 2021-22, GSI reported Banded Iron Formations (BIFs) across the block trending ENE-WSW, which yielded Fe2O3 content up to 59.21%, with a minimum value of 31.11%. It was noted that a sample of quartz vein (near Khatai turn) intruded within Banded Magnetite Quartzite (BMQ) yielded 7700 ppb of gold, and another sample yielded 470 ppb of Au, warranting further investigation.
e) The MECL team carried out fieldwork in and around the block area and identified BIF, mafic-ultramafic rocks. The ultramafic rocks may be the eastern extension of Thapna ultramafics, which are adjacent to the block. Both GSI and GeoMysore have identified Thapna ultramafics as promising for PGE investigation.
f) After a thorough review, the committee found that both proposed areas overlap with GSI's working area. Hence, the committee suggested that MECL wait for the GSI report, as the area is currently under exploration. MECL was also advised to consult the GSI field season 2021-22 report from the same area.

Recommendation of TCC:

The committee does not recommend these proposals for the approval due to overlapping issues with GSI's blocks.

Agenda 65.3.5. Preliminary (G-3) Exploration for Iron and Bauxite Ore in Majhauli Block, District- Jabalpur, MadhyaPradesh. [Implementing Agency: MECL]

a) The proposed block is an upgradation of G4 stage work carried out by MECL in the area
b) The proposed block belongs to the Mahakoshal Group and falls in SOI Toposheet Number 64A/02.
c) This area is well known for its various mineral resources, including iron, bauxite, and gold. Iron mineralization is associated with Banded Iron Formation (BIF), while manganese is associated with BIF and phyllites.
d) Geological Survey of India has reported occurrences of PGE and gold in laterite. Several active iron and manganese mines are in close vicinity, including an exploration block of NMDC to the south for Fe-Mn.
e) During a reconnaissance survey (G4), MECL delineated the Majhauli sub-block within the Salaiya block. This block has aluminous laterite intermixed with bauxite, with

maximum contents of 51.25% Fe and 47.14% Al2O3. Expanding upon this, MECL recommended systematic drilling in this block to upgrade it to a G3 level, establishing resources in the inferred category.

f) The committee reviewed the proposal and found the values reported by MECL to be encouraging. However, they suggested MECL recheck the map presented, as it is unlikely for laterite to be shown over limestone.

g) The committee also suggested to analyze few samples for PGE, Co, Ni

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary (G-3) Exploration for Iron and Bauxite Ore in Majhauli Block, District- Jabalpur, Madhya Pradesh." with an estimated cost of Rs. 67.35 lakh (including GST) within time schedule of 10 months and submission of report as per Annexures 4A &4B. The item will be reviewed after 04 months. A certificate on the demand and availability of Limestone from the state of Madhya Pradesh maybe submitted to NMET before the next EC meeting.

Agenda 65.3.6.Preliminary (G-3) Exploration for Iron and Bauxite Ore in Amoch-Chhapra Block, District- Jabalpur &Katni, Madhya Pradesh. [Implementing Agency: MECL]

a) The proposed Majhauli Block and Amoch-Chhapra Block, located side by side within the Mahakoshal Group, are well known for their diverse mineral resources, including iron, bauxite, and gold.

b) Both blocks have been upgraded from the G4 stage investigation conducted by MECL.

c) Iron mineralization in the area is associated with Banded Iron Formation (BIF), while manganese is found in BIF and phyllites.

d) Geological Survey of India has reported the presence of Platinum Group Elements (PGE) and gold in the laterite.

e) Several active iron and bauxite mines are in close proximity to these blocks, including an NMDC exploration block for Fe-Mn to the south.

f) During the G4 reconnaissance survey, MECL identified the Amoch-Chhapra sub-block within the Salaiya block. This sub-block contains aluminous laterite mixed with bauxite, with a maximum of 51.25% Fe and 47.14% Al2O3. MECL has recommended systematic drilling in this block to upgrade it to the G3 level, with the potential to establish inferred resources (333).

g) The committee reviewed the item and suggested MECL to change the NQT as per the previous item

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary (G-3) Exploration for Iron and Bauxite Ore in Amoch-Chhapra Block, District-Jabalpur & Katni, Madhya Pradesh." with an estimated cost of Rs. 106.84 lakh (including GST) within time schedule of 10 months and submission of report as per Annexures 5A &5B. The item will be reviewed after 04 months. A certificate on the demand and availability of Limestone from the state of Madhya Pradesh maybe submitted to NMET before the next EC meeting.

Agenda 65.3.7 Preliminary (G-3) Exploration for Copper, Lead, Zincand Associated Metals in Salaiya Phatak Block,District- Katni, Madhya Pradesh. [Implementing Agency: MECL]

a) The proposed Salaiya Phatak Block, located near the Majhauli and Amoch-Chhapra Blocks within the Mahakoshal Group, is renowned for its diverse mineral resources, including iron, manganese, base metals, and gold.
b) Polymetallic mineralization in the Imaliya area has been well-documented by GSI and DGM, MP since 1952. This mineralization is primarily associated with brecciated, iron-stained, ramifying quartz veins that follow a predominantly NNW-SSE fracture set across the regional strike of the country rocks.
c) A similar geological setup with surface sulphide mineralization was identified 2 km west of Imaliya, near SalaiyaPhatak, during a G4 reconnaissance survey of the Salaiya Block carried out by MECL. One sample from an iron-stained sheared quartz vein in the SalaiyaPhatak area showed a 0.88% Cu value.
d) During FS 2016-17, arsenopyrite within black chert and jasper bands near the SalaiyaPhatak rail track analyzed 0.4 ppm gold, and quartz porphyry south of Imaliya showed gold values up to 5 ppm.
e) MECL, in its G4 reconnaissance survey report of the Salaiya Block, recommended systematic exploration, including drilling, to upgrade the block to the G3 level and establish inferred resources.

Recommendation of TCC:

The committee reviewed the proposal and suggested that MECL to conduct further field visits and sampling to delineate the strike extension of the zone. This would allow the formulation of a G3 stage item, as the committee felt that the available data is insufficient to proceed with preliminary exploration.

Agenda 65.3.8. Heliborne Geophysical Survey. [Implementing Agency: OMC, Odisha]

a) In 2019, the Geological Survey of India, after analyzing legacy airborne and ground survey data, delineated 31 target areas in Odisha, consolidated into 9 blocks for heliborne geophysical surveys to uncover concealed mineral deposits. A meeting on





27.02.2023 between OMC and RSAS, GSI Bangalore, resulted in an agreement for GSI to survey 4 blocks (H1-1 to H1-4) and OMC to survey the remaining 5 blocks (H1-5 to H1-9). Additionally, OMC identified another block (OM-1) for potential gold mineralization in Keonjhar District.

b) A global tender was floated in 2023 for a cumulative area of 2263 sq.km with 18185 line km of flying, and M/S Geotech, Canada, was selected. The proposal, with a cost implication of around 24.29Cr, was submitted to NMET and discussed in the 61st and 62nd TCC meetings. The TCC approved 2 larger blocks in principle and rejected 4 smaller ones, recommending the preparation of fresh tenders and DPRs for blocks H1-5 and OM-1. The TCC suggested that smaller blocks undergo ground geophysical surveys while larger blocks be taken up for Heliborne TDEM and Magnetic Surveys, advising OMC to prepare tender documents and cost estimations based on AMD or GSI RSAS standards.

c) OMC requested that the proposed TDEM/Mag surveys, aligned with GSI's work and technical specifications, be approved. OMC, in discussion with GSI, aims to complement GSI's efforts in areas H1-5 to H1-9. A DPR on proposed heliborne surveys in Odisha was submitted to GSI in December 2019. Heliborne surveys for blocks H1-6 and H1-7 would take roughly two days each, while ground surveys would take several weeks.

d) Heliborne surveys are efficient, cost-effective, and safer compared to ground EM surveys. Although TCC suggested ground surveys due to the blocks being under 100 km², NMET has approved similar heliborne surveys for smaller areas in Karnataka. Therefore, it is proposed to conduct heliborne surveys for blocks H1-6, H1-7, H1-8, and H1-9, as this method is proven for mineral exploration and will allow for focused follow-up targeting on the ground.

Recommendation of TCC:

The committee opined that since OMC has already floated the tender, TCC does not have the authority to grant /recommend for ex post facto approval. OMC may escalate this matter to the Executive Committee of NMET for further consideration.

The Committee recommends this proposal with existing tender document to EC for further discussion.

Agenda 65.3.9. Reconnaissance (G-4) survey for limestone in Sheelveta area, Karbi Anglong district, Assam.

[Implementing Agency: DGM Assam]

a) The area of the investigation lies on the Southern edge of the Mikir hills and it forms part of Toposheet No.83G/5 and 83 F/8

b) The Limestone of this area is hard, compact; the top portion of Limestone is ferruginous and siliceous, brownish to reddish brown in colour while the bottom portion is grey in colour.
c) GSI has already carried out investigation in the area and reported presence of limestone in the area.
d) During the FS 1974-75, DGM, Assam also reported presence of Limestone at Jamuna valley at Sheelveta area, Dist: Karbi Anglong.
e) The item was proposed in 63rd TCC and the committee suggested verifying the analytical results by collecting representative samples from each band and reanalyzing and resubmitting the proposal in 64th TCC. Accordingly, five grab samples collected from Sheelveta area yielded 44.74% to 51.60% CaO.
f) The item was proposed in 64th TCC and the committee advised to plot the analytical sample locations on the geological map and restructuring the item following all the recommendations given by the committee for the Dillai limestone exploration item and resubmit the proposal in the next TCC meeting. Accordingly, DGM, Assam proposed the modified item following all the instructions of committee.
g) Upon review, the committee suggested DGM, Assam to drill 8 boreholes up to 50 m depth at 400 m spacing.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Reconnaissance (G-4) survey for limestone in Sheelveta area, Karbi Anglong district, Assam." with an estimated cost of Rs. ₹ 267.53 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 6A &6B. The item will be reviewed after 05 months. A certificate on the demand and availability of Limestone from the state of Assam maybe submitted to NMET before the next EC meeting.

Agenda 65.3.10. Reconnaissance (G-4) survey for limestone in Longplaidisa area, Dima Hasao district, Assam.
[Implementing Agency: DGM Assam]

a) The area of the investigation lies is in the western extremity of N.C. Hills district and are bordered on west by the Kopili River
b) The proposed area is part of the Shella Formation of the Jaintia Group, ranging from Palaeocene to Mid Eocene age. The limestone deposits in this area are primarily bedded but can be highly deformed in certain regions due to the tectonically active Kopili fault zone.
c) In 1978, efforts by the State DGM led to the discovery of one of the largest limestone deposits in the Umrangso area. Detailed geological mapping, sampling, chemical





analysis, and petrography revealed favorableCaO % and lower MgO %, making it suitable for a cement plant.

d) The item was proposed in 63rd TCC and the committee suggested verifying the analytical results by collecting representative samples from each band and reanalysing and resubmitting the proposal in 64th TCC. Accordingly, five grab samples collected from Longplaidisa yielded 39.86% to 42.53% CaO.
e) The item was proposed in the 64th TCC meeting, and the committee advised plotting the analytical sample locations on the geological map and restructuring the item according to all the recommendations given for the Dillai limestone exploration item. The committee requested that the proposal be resubmitted at the next TCC meeting. Following these instructions, DGM Assam has proposed the modified item in accordance with the committee's guidelines.
f) Upon review, the committee suggested DGM, Assam to drill 8 boreholes up to 50 m depth at 400 m spacing.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Reconnaissance (G-4) survey for limestone in Longplaidisa area, Dima Hasao district, Assam" with an estimated cost of Rs. 307.58 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 7A &7B. The item will be reviewed after 05 months. A certificate on the demand and availability of Limestone from the state of Assam maybe submitted to NMET before the next EC meeting.

Agenda 65.3.11.Reconnaissance (G-4) survey for limestone in Dikurumetron area, Upper Deopani of Karbi Anglong district, Assam.
[Implementing Agency: DGM Assam]

a) The proposed area is located lies on the Eastern edge of the Mikir hills and in the Upper Deopani area within the Karbi Anglong district, Assam and falls in parts of toposheets 83 F/15 and 83 F/16
b) The Geological Survey of India conducted traverses near the Deopani area at the request of the State Government. In 1984-85, the Directorate of Geology and Mining, Assam, investigated limestone and kaolin deposits in Upper Deopani. Light grey fossiliferous limestone occurs in Deopani river and Borjan nala, with a NW-SW trend and low dip angles (3° to 6°) towards the southeast, mostly siliceous and composed of calcite.
c) The area near Upper Deopani has been proposed by DMG, Assam for reconnaissance (G-4) survey.
d) The item was proposed in 63rd TCC and the committee recommended verifying the analytical results, gathering representative samples from each band, conducting a reanalysis at GSI's laboratory, and then presenting the revised proposal at the upcoming

TCC meeting. Accordingly, DGM, Assam reanalyzed 5 samples which yielded 44.83% to 47.54% (avg. 46.5%) CaO.

e) The item was proposed in the 64th TCC meeting and after review the committee recommended to plot the analytical sample locations on the geological map and restructuring the item based on the guidelines provided for the Dillai limestone exploration. The committee requested a revised proposal to be resubmitted at the next TCC meeting. Accordingly, DGM Assam has modified the item following the committee's instructions.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Reconnaissance (G-4) survey for limestone in Dikurumetron area, Upper Deopani of Karbi Anglong district, Assam." with an estimated cost of Rs. 221.54 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 8A & 8B. The item will be reviewed after 05 months. A certificate on the demand and availability of Limestone from the state of Assam maybe submitted to NMET before the next EC meeting.

Agenda 65.3.12. Reconnaissance Survey (G-4) for mineral-RockPhosphate in Randha (area 9.25 Sq. Km), Jaisalmer district, Rajasthan. [Implementing Agency: FAGMIL]

a) In the late 1960s, GSI surveyed phosphorite in the Birmania block, dividing it into Birmania, Kohra, and Ladu Singh blocks. They dug 63 trenches, finding 0.553 million tonnes of phosphorite with 8.26% P_2O□ in Kohra. To explore further, they recommended drilling 30 boreholes totaling 1600 meters in Kohra.

b) In FS 1968-70, GSI drilled 68 boreholes in the Birmania block, intersecting phosphorite in 55 holes. They estimated 3.49 million tonnes with an average grade of 12.91%.

c) FCI Aravali Gypsum and Minerals India Limited (FAGMIL), under the Ministry of Chemical and Fertilizers, has a Notified area of 4 sq km area in the Birmania block. MECL conducted G2 level exploration here, establishing a total phosphorite resource of 4.63 million tonnes in Birmania and Ladu Singh sectors.

d) Considering the previous successful exploration in Birmania and the persistent phosphorite bands, Randha block adjacent to Birmania could be explored further at the G-4 level to confirm ore body continuity.

e) After reviewing the item, the committee noted that the proposed block overlaps with an ongoing STM item of GSI but lacks G4 stage work in the area. Therefore, the committee recommended FAGMIL to expand the area by including promising lithologies located further east/southeast of the proposed block.

f) Subsequently, FAGMIL adjusted the block boundary according to all the suggestions provided by the committee.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Reconnaissance Survey (G-4) for mineral-Rock Phosphate in Randha, Jaisalmer district, Rajasthan" with an estimated cost of Rs. 137.44 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 9A &9B. The item will be reviewed after 05 months.

Agenda 65.3.13. Preliminary Investigation for Establishing Zones of Copper and Associated Mineralisation in Govindpur Block, Chandrapur District, Maharashtra. [Implementing Agency: Kartikay Exploration and Mining Services Pvt.Ltd]

a) During the period of FS 1971-1974, the Directorate of Geology and Mining conducted prospecting activities for copper mineralization approximately 1.8 kilometers east of the village of Bothli. They excavated a large pit filled with quartz and silicified sheared quartz mica schist, enriched with malachite and reported copper mineralization containing copper, cuprite, and malachite.
b) Additionally, two small circular shafts, approximately 4 meters in diameter and 6 meters in depth, were discovered to the east of the northeastern corner of the large pit in the Govindpur old working area. Further prospecting in the Govindpur and Bothli areas, as indicated in toposheet no. 55P11, led to the identification of malachite-bearing quartz veins.
c) Various studies conducted GSI have contributed to the understanding of copper mineralization in the region. Notable findings include copper values ranging from 10 ppm to 2100 ppm (average: 1055 ppm) in the Motegaon quartz vein and copper values ranging from 240 ppm to 1.10% Cu (average: 5620 ppm) in the Aregaon quartz vein during G-4 stage investigations in the Shirpur – Motegaon Mendha areas.
d) GSI and DGM recently collaborated to explore the Bothli old working through drilling. This area is a northern extension of the Thanewasna Shear zones within Archaean-aged Bengpal gneisses. While the Govindpur block has been extensively studied by GSI and State DGM through mapping, sampling, and detailed analysis, drilling activities were not included in the exploration.
e) Expanding upon this, Kartikay Exploration and Mining Services Pvt. Ltd proposed this G3 stage item to carry out drilling activities
f) After detailed review, the committee suggested that at this point of time only 3 boreholes can be approved subject to encouraging values in trench samples

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Preliminary Investigation for Establishing Zones of Copper and Associated Mineralisation in Govindpur Block, Chandrapur District, Maharashtra." with an estimated cost of Rs.

126.08 lakh (including GST) within time schedule of 08 months and submission of report as per Annexures 10A & 10B. The item will be reviewed after 04 months.

Agenda 65.3.14. Preliminary Exploration (G3 level) for Vanadium, Titanium and associated Minerals in Beach and Dune Sands of Guhagar Block, Ratnagiri District, Maharashtra. [Implementing Agency: GeoMarine Solutions Pvt. Ltd.]

a) GSI conducted G4-level beach sand prospecting from Dighi to Guhagar in Maharashtra. They collected 120 loose beach sand samples and 20 pit samples. High vanadium concentrations were found near inlets, like Dabhol beach (2705 to 833 mg/kg) and Guhagar block (89 to 1808 ppm). Detailed study indicates that the source of vanadium is from inland the basaltic flows within drainage basins/catchment areas are supplying sediments to these feeder channels, may be rich in vandiferous-titano-magnetite.
b) A paper by Sajesh P.V et al. reveals high vanadium and copper concentrations in offshore ilmenite and titanomagnetite samples near Ratnagiri, Maharashtra. Ilmenite samples show Fe_2O_3 (35.82-42.97%), TiO_2 (21.64-45.66%), V (1429-1816 ppm, avg. 1592 ppm), and Cu (345-1116 ppm, avg. 628 ppm). Titanomagnetite samples exhibit Fe_2O_3 (45.69-53.78%), TiO_2 (17.91-24.42%), V (3392-4442 ppm), and Cu (743-1030 ppm), with ex-solution lamellae observed. Positive Cu-V correlation supports Deccan basalt origin for titanomagnetite. Another GSI paper reveals that most significant sites of heavy mineral accumulation are shifting and stabilized sand dunes.
c) Geo Marine Solutions Pvt Ltd. surveyed the Guhagar block in January 2024, collecting and analyzing samples from backshore and dune areas. They separated the samples into magnetite, ilmenite-titanomagnetite, and limonite fractions, finding varying Ti, V, and Fe concentrations.
d) The magnetite fractions showed TiO_2 (27.64% to 28.70%), V_2O_5 (around 0.72%), and Fe_2O_3 (56.50% to 57.20%). Ilmenite fractions exhibited TiO_2 (43.13% to 44.34%), V_2O_5 (0.49%), and Fe_2O_3 (46.20% to 47.06%). The limonite fraction had TiO_2 (12.26% to 14.43%), V_2O_5 (0.21% to 0.26%), and Fe_2O_3 (38.01% to 41.53%). Hence, GeoMarine proposed this item to carry out G3 stage investigation.
e) After thorough evaluation, the committee concluded that since GeoMarine is already executing two similar projects, it would be better to await their outcomes. If these projects yield positive results, GeoMarine can then directly propose this new item to the TCC without requiring in-principle approval.
f) Additionally, the committee recommended that GeoMarine should send a letter to NMET requesting a reconsideration of the mapping scale in the Talashil block. The current approval is for a 1:10000 scale which needs to be modified as discussed.

Recommendation of TCC:

The committee recommends to wait for the outcomes of GeoMarine's ongoing projects, as they involve similar items. If these projects show positive results,

Geomarine can propose the new item directly to the TCC without needing in-principle approval.

Agenda 65.3.15. Reconnaissance Survey (G-4) for Rare Metals and REE in Dugru Area, Balarampur Chhattisgarh.[Implementing Agency: Geovale Services Pvt.Ltd]

a) The area belongs to Chhotanagpur Granite-Gneiss Complex (CGGC) and falls in northern part of Chhattisgarh.
b) Within the proposed area, there are extensive pegmatite dykes within this granite and its surrounding country rocks. The pegmatites in adjacent areas to the west and south have been noted for their fertility in rare metals like Nb, Ta, V, and Bi. This raises the possibility that pegmatite dykes from the Dugru granite batholith might also harbor rare metals.
c) A part report from GSI indicates that the granite batholith is highly siliceous (SiO_2 between 72% and 75.89%) and shows a high molar alumina saturation index (A/CNK; 1.0 to 1.4), suggesting it may be fertile for rare metals.
d) Data from NGCM indicate elevated levels of Heavy Rare Earth Elements (HREE) in the area, with some samples reaching a maximum of 392 ppm. Furthermore, the area exhibits high concentrations of Lanthanum (up to 222.6 ppm), Niobium (up to 29.0 ppm), Uranium (up to 15.48 ppm), Tantalum (up to 4.01 ppm), Tungsten (up to 2.57 ppm), and Lutetium (up to 1.89 ppm).
e) Considering that pegmatite bodies emanating from such granite batholiths that intrude distant country rocks often contain rare metals, a buffer zone of 5-10 km around the granite batholith is being explored for rare metal prospects. Exploration data from neighboring areas also supports the idea of this granite batholith being fertile.
f) Based on these evidences and theories, this item has been proposed by Geovale Services to carry out Reconnaissance Survey.
g) Directorate of Geology and Mining, Chhattisgarh, informed the committee that in the 52nd TCC meeting, a similar proposal in the same area by MMPL was rejected due to low value. The committee was also informed that GSI has conducted further work in and around the proposed area.

Recommendation of TCC:

This proposal is not recommended and advised Geovale to consult the reports of GSI and confirm the potentiality of the area. If found potential, the proposal may be submitted again for discussion.

Agenda 65.3.16. Preliminary Exploration (G3 stage) for Graphite and Vanadium in Gajjoli Block, Almora District,Uttarakhand.
[Implementing Agency: Geovale Services Pvt.Ltd]
&

14/6/2024 14/06/2024

Agenda 65.3.17. Preliminary Exploration (G3 stage) for Graphite and Vanadium in Bataldeon-Deora Block, AlmoraDistrict, Uttarakhand.
[Implementing Agency: Geovale Services Pvt.Ltd]

a) The proposed areas are parts of Almora Crystalline of the Inner Lesser Himalaya and lies in toposheet nos.53O/10 and 53O/14
b) The Inner Lesser Himalayan rocks of the Almora Crystalline include medium to high-grade amphibolite metapelites, quartzites, and carbonaceous phyllite/schists associated with granites. Thick carbonaceous phyllite/schists have significant sulphide minerals at places. Recent GSI studies have identified that metamorphosed black shale horizons, classified as HCHS (High Carbon High:>7%, high Sulphur:>4%) by USGS, contain critical metals like V (>0.4%), Ba (>0.4%)F, Mo, U, and REE, making them of interest for green energy exploration.
c) The Almora area's host rock for thick carbonaceous schists is kyanite-sillimanite-bearing metapelites. Alongside these high-grade metamorphic rocks, mapping by GSI has revealed lit-par-lit injections of younger granites. This combination indicates high prospectivity for substantial areas of flake/fine crystalline graphite in the area.
d) GSI's exploration during FS 2020-21 uncovered tungsten and tin through detailed stream and channel samplings. The areas show promise for diverse mineralization. Notably, graphite potential is high, with carbonaceous phyllite/schist formations closely linked to medium to high-amphibolite grade metamorphic rocks, possibly even up to sillimanite grade, alongside granite intrusions, suggesting flake-type graphite zones.
e) Additionally, vanadium occurrences within these formations add to the area's attraction.
f) The proposed G-3 scale exploration programs aims to thoroughly evaluate metamorphosed black shale horizons for mineable graphite and vanadium zones, crucial for green energy technology, emphasizing the critical role of such mineral resources.
g) After extensive discussions, the consensus was to merge these two blocks, encompassing all carbon-bearing lithounits, and undertake mapping within the specified timeframe to delineate G3 stage blocks for further upgradation.
h) Following all recommendations, Geovale presented the combined block under the new name "MatenaSirar area," featuring modified block boundaries and adjusted NQT.

Recommendation of TCC:

The committee recommends the proposal for the approval of EC for "Reconnaissance Survey (G4 Stage) for Graphite and Vanadium in Matena-Sirar Area, Almora District, Uttarakhand" with an estimated cost of Rs. 260.46 lakh (including GST) within time schedule of 12 months and submission of report as per Annexures 11A & 11B. The item will be reviewed after 06 months.

Agenda 65.3.18 Aerogeophysical survey over NAGMP Blocks 16, 17, 19 & 20.
[Implementing Agency: Geological Survey of India]





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

i) The technical bids were received against the Group-Btender for NAGMP Blocks 13, 18& 21from four bidders and were evaluated on 19.04.2024 by the Tender Evaluation Committee (TEC). Two bidders were technically qualified. The price bids of the two qualified bidders were opened on 24.04.2024

j) The L1 bidder i.e. M/s Xcalibur McPhar Pvt. Ltd. quoted INR 101,89,89,058.00, which is 14.2 % higher than the estimated cost of Rs. 89,20,14,805/-.The break up is as given below:

A – Break-up of price for NAGMP Block-13			
1	Area	53,583	Sq. Km.
2	Line Km of the Block	1,96,473	Line Km
3	Rate quoted per Line KM excluding GST	1570.725	INR
4	Contract Price excluding GST	30,86,05,053/-	INR
5	GST @ 18%	5,55,48,909/-	INR
6	Total Project contract price inclusive of GST	36,41,53,962/-	INR
B – Break-up of price for NAGMP Block-18			
7	Area	44,941	Sq. Km.
8	Line Km of the Block	1,64,785	Line Km
9	Rate quoted per Line KM excluding GST	1570.725	INR
10	Contract Price excluding GST	25,88,31,919/-	INR
11	GST @ 18%	4,65,89,746/-	INR
12	Total Project contract price inclusive of GST	30,54,21,665/-	INR
C – Break-up of price for NAGMP Block-21			
1	Area	51,414	Sq. Km.
2	Line Km of the Block	1,88,520	Line Km
3	Rate quoted per Line KM excluding GST	1570.725	INR
4	Contract Price excluding GST	29,61,13,077/-	INR
5	GST @ 18%	5,33,00,354/-	INR
6	Total Project contract price inclusive of GST	34,94,13,431/-	INR
A + B + C = The Grand total contract price of the project for four NAGMP Blocks 13, 18 & 21 is INR101,89,89,058/- inclusive of 18% GST.			

k) The increase in cost has been justified with the following reasons:

- As Block 13, located in the state of Rajasthan is close to the Pakistan border, it is expected that there will be increase in the standby (non-production) days due to IAF activities in major part of the airspace on designated timings, resulting in flying restrictions.





- The three blocks viz. Block 13, 18, and 21 are spread over Rajasthan, Tamil Nadu, and Maharashtra states. They require mobilization and demobilization of three aircraft over two seasons. Depending upon the start date, Aircraft may have to be standby for more than one monsoon season.
- Inflation has affected the cost as the project is more than three years from the date of bidding to completion.
- Location of the operational bases in the blocks resulting into long ferries; occurrence of wildlife sanctuaries, commercial airports may result into reduction of flying time with loss in production time as compared to normal production.

l) GSI sought financial sanction of INR 101, 89, 89,058/-(Rupees Hundred One Crore Eighty-Nine Lakhs Eighty-Nine Thousand Fifty-Eight Only) inclusive of 18% GST may be accorded to carry out aerogeophysical surveys over NAGMP Blocks 13, 18& 21by engaging the consortium M/s Xcalibur McPhar Pvt. Ltd., Mumbai, in consortium with M/s Xcalibur Aviation (Australia) Private Limited and Xcalibur Multiphysics Group S.L., Spain.

Recommendation TCC:

The Committee recommended financial sanction of INR 101,89,89,058/-(Rupees Hundred One Crore Eighty-Nine Lakhs Eighty-Nine Thousand Fifty-Eight Only) inclusive of 18% GST may be accorded to carry out aerogeophysical surveys over NAGMP Blocks 13, 18& 21 by engaging the consortium M/s Xcalibur McPhar Pvt. Ltd., Mumbai, in consortium with M/s Xcalibur Aviation (Australia) Private Limited and Xcalibur Multiphysics Group S.L., Spain.

65.4 Proposal on Financial Assistance for Procurement of Machinery/ Equipment

Agenda 65.4.1 Financial assistance from NMET funds to procure machinery/laboratory equipment/instruments etc. aimed at enhancing the exploration activities [Implementing Agency: DMG GOA]

a) DMG Goa informed that NMET had approved INR 35, 96,000 in the 29th EC meeting held on 31st March 2023. The sanction order was issued on 17th April 2023.
b) DMG Goa has requested for additional equipments and revision of the cost for GIS software (approved in 29th EC of NMET) for enhancing the exploration activities.
c) The committee evaluated the proposal and after detailed discussions agreed to recommend the following items to DMG Goa

S.No.	Software / Hardware /Equipment	Quantity	Estimated Price / Unit (In Lakhs)	Total Estimated cost (in lakhs)	Remarks
1	Handheld XRF	1	30	30.00	
2	DGPS	1	16	16.00	

3	Total Station	2	6.96	13.92	
Additional cost for approved equipment/ software					
1	GIS Software (approved in 29th EC)	1	12	12.00	Additional cost of 12 Lakhs.Total cost of GSI software is 25 Lakhs.
Total				71.92	

Recommendation TCC:

The committee recommended the proposal for approval of EC towards procurement of equipments/ softwares for DGM Goa with estimated cost of ₹ 71.92 lakhs as detailed at para (b) above, to enhance the exploration activities in the state. The committee opined that due process of procurement including item wise cost estimation as per extant Government of India/ State Financial rules be followed by DMG Rajasthan in consent with the competent authority of State Department/ State Financial Wing (Division). The State Govt. should also ensure full utilization of the instruments/software to be procured.

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

GSI informed the 64th TCC recommended the proposal for approval of EC towards procurement of 04 Electron Probe Micro Analysis (EPMA) for Geological Survey of India (one each at NCEGR, Bangalore, NCEGR, Faridabad, Petrology Division, Southern Region, Hyderabad and Petrology Division, Western Region, Jaipur respectively) estimated cost of ₹85,35,58,272/- (Rupees Eighty-five Crore, thirty-five lakhs fifty eight thousand and two hundred seventy two only) and the procurement should be completed within 2 years of approval.

a) GSI sought approval for purchase of 04 nos. of EPMA instruments in NCEGR, Bangalore, NCEGR, Faridabad, Petrology Division, Southern Region, Hyderabad and Petrology Division, Western Region, Jaipur.
b) GSI informed that only two manufacturers are available worldwide for EPMA – 1. M/s Jeol Ltd., Japan; 2. M/s Shimadzu Corporation, Japan. The EPMA of Shimadzu make installed in India is not used in geological applications and are restricted to metallurgical applications only. JEOL make EPMA is capable of detecting Li with an additional attachment including other geological applications.
c) The comparative study of the present proposal for EMPA along with the one purchased in GSI in the year 2019 and the EPMA purchased by IISER Berhampur in 2023 through the same vendor is given at Annexure 12.
d) The reason for differential cost for the EPMA to be purchased by GSI and the one already purchased by **IISER Berhampur in 2023 is given below:**

Revised proposals V/S GSI EPMA Procurement in 2019	Revised Proposal V/S IISER Berhampur EPMA Procurement
1) Foreign exchange fluctuations by 14% i.e. rate of 1 Euro in 2024 is INR 90.47 in comparison to INR 78.84 as per Euro 2) For instrument procured in 2019, only 4 years AMC was procured after AMC of 1 year. However, in present proposal, 5 years AMC and afterwards 5 years CAMC is proposed to be procured 3) GSI procured 3 large crystals with EPMA equipment in 2019. However, in the current proposal it is proposed to procure 6 large crystals **4)** In the current proposal cost of EDS system is included which was not procured in 2019	1) IISER received 25% educational discount on cost of equipment and CAMC being academic institution 2) GSI is procuring additional instruments such as Oscilloscope, Ultrasonicator bath, Cubivac Vaccum Desicator used for servicing of EPMA equipment & proper storage of spares and consumables. 3) GSI proposal includes factory site application training for officers of GSI for 15 days while in case of IISER, it was onsite training at IISER, Berhampur

e) GSI informed that after further discussion with the vendor , the revised cost for the 04 EPMA instruments (application of discount and removal of customs duty cost) is ***INR 67,23,18,920./- (Rupees sixty-seven Crore, twenty-three lakh eighteen thousand and nine hundred twenty only)***

f) The committee deliberated on the revision of cost and the difference in cost of the instruments and found the cost revision justified.

Recommendation TCC:

The Committee recommended the proposal for approval of EC towards procurement of 04 Electron Probe Micro Analysis (EPMA) for Geological Survey of India (one each at NCEGR, Bangalore, NCEGR, Faridabad, Petrology Division, Southern Region, Hyderabad and Petrology Division, Western Region, Jaipur respectively) estimated cost INR 67,23,18,920./- (Rupees sixty-seven Crore, twenty-three lakh eighteen thousand and nine hundred twenty only) and the procurement should be completed within 2 years of approval.

Annexure 1

Minutes of the 65th Technical-cum-Cost Committee (TCC) meeting held on 28th,30th and 31st May 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





List of participants attended 64th Technical-cum-cost Committee (TCC) meeting of NMET held on 28th,30th and 31st May 2024 through videoconferencing

S.No	Name/Designation	Email ID	Contact No	Organization
1.	Dr. S. Ravi, Dy. Director General, SU: Karnataka & Goa, GSI Bangalore	s.ravi1@gsi.gov.in	9441138834	Chairman, TCC
2.	Shri. I.R. Kirmani, ADG (Retd.), GSI	irkirmani@yahoo.com	9414014723	Member TCC
3.	Shri. Hemraj Suryavanshi, Addl. Director General (Retd.), GSI	hemraj.nmet@gmail.com	7477042176	Member TCC
4.	Shri. K. Koteswara Rao, Dy.D.G. (Retd.) GSI.	kkrao1957@gmail.com	9000117969	Member TCC
5.	Dr. S. K. Kulshrestha, DDG-RMH-III, NER, GSI, Shillong	s.kulshrestha@gsi.gov.in	9413330658	Member TCC
6.	Dr.E.V.S.S.K. Babu, Scientist (G), NGRI.	evsskbabu@ngri.res.in	9441535852	Member TCC
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13.	Shri. C. Parthsarathi, Director, GSI & Member Secretary, TCC- NMET,	c.parthasarathi@gsi.gov.in	9483186932	Member Secretary





	GSI, Bengaluru			
14.	Shri S.K Kankane, Joint Director,	dgm.cg@gov.in	9826753151	DGM Chhattisgarh
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17.	Representative from DMG, Goa	dir-mine.goa@nic.in	-	DMG, Goa
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27.	Md Intazar Alam, Asst. Manager (Geology)	Intazar.geol1189@gmail.com	9483914347	MECL
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29.	Shri Arjun G. Deshpande, Sr. Geologist	arjundeshpande@mecl.gov.in	8147681031	MECL
30.	Shri Moumita Ghosh, Sr. Geologist	moumitaghosh03091991@	9001801591	MECL

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31.	Shri Rajanya Roy, Sr. Geologist	royrajanya@gmail.com	7301099066	MECL
32.	Dr. Raghwendra Pratap, Singh Senior Manager (geology)	singh.rp@coalindia.in	9431358716	CMPDI
33.	Shri Brigadier Amar Singh Rathore, Chairman & Managing Director	cmd@fagmil.nic.in	7525012180	FAGMIL
34.	Shri Rajendra Singh Rathore,General Manager	gm@fagmil.nic.in	9461107326	FAGMIL
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45.	Dr. Suparna Goswami, Project Manager (Explora on)	suparna.goswami@geovale .com	9874320018	NPEA-Geovale
46.	Shri Sameen Salah, Project Manager	sameen.salah@geovale.com	70442 37641	NPEA-Geovale
47.	Shri Shubhajit Chattopadhyay,Geologist	novomineceo@gmail.com	7980922861	NPEA-Novamine

48.	Shri Indrajet Mukherjee (Principal Consultant)	imukherjee@unitedexploration.co.in	7381785635	NPEA-UEIPL
49.	Dr. A.V. Keshava Prasad VP (Mineral Exploration)	keshava.prasad@gemcokati.com	-	NPEA-Gemcokati
50.	Shri M. Chandra Das, (Project Co-ordinator)	prbinfraprojects@gmail.com	9422145035	NPEA- PRBI
51.	Dr. Yerriswamy Pateel, Director	ypateel@geoexpore.com	9980118930	NPEA-GeoExpore
52.	Shri Channamallikarjun Patil, Director	cm@geoexpore.com	9980554498	NPEA-GeoExpore
53.	Dr. Chandrashekaran, Project Coordinator	chandru@geoexpore.com	6361206452	NPEA-GeoExpore
54.	Dr. K N Radhika, Senior Geologist	radhika@geoexpore.com	9886300105	NPEA-GeoExpore
55.	Shri Arvinth Kumar H R, Asst. Geologist	arvinth@geoexpore.com	8077860054	NPEA-GeoExpore
56.	Shri Nitin Kohad	-	7887869428	NPEA-Kartikay
57.	Shri Indraneel Dawande, (Proprietor)	engeotech@rediffmail.com	9425387402	NPEA-Engeotech
58.	Ms. Sangeeta Gupta Superintending Geologist	nmet.mines@gov.in	8005763199	NMET
59.	Ms. Anju C.S., Superintending Geologist	nmet.mines@gov.in	8588836933	NMET
60.	Shri Bulbul Mundal, Superintending Geologist	tcc.nmet.2023@gmail.com	9784700207	NMET
61.	Shri Sebabrata Das Senior Geologist	nmet.mines@gov.in	7060508014	NMET
62.	Shri Rajesh Sharma, Senior Geologist	nmet.mines@gov.in	8377851047	NMET
63.	Shri. Ramchandram, Senior Geologist	tcc.nmet.2023@gmail.com	8790183905	NMET
64.	Shri. Akshay Verma, Geologist	nmet.mines@gov.in	9167919949	NMET

Annexure 2A

Estimate cost for Preliminary Exploration (G-3) for Graphite in Chormunda block, District: Balangir & Nuapara, Odisha. [Block area- 3.75 sq. km; Nos. of Borehole- 14; Borehole depth range: 60-100m; Schedule timeline- 12 months, Review: after 4 months & 8 months]

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item - Sl No.	Rates as per SoC	Qty.	Amount (Rs)	
A	**GEOLOGICAL WORK**						
1	**Geological Mapping (1:2000), Borehole logging, sampling & Report writing**						
i	Charges for one Geologist- Field	day	1.2	11,000	150	16,50,000	
ii	Charges for one Geologist - HQ	day	1.2	9,000	30	2,70,000	
iii	2 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	300	1,56,600	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Core Sampling -1 Samplers Labour charge not included	day	1.5.2	5,100	54	2,75,400	
v	4 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	216	1,12,752	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 (Survey Party Days)	day	1.6.1a	8300	30	249000	Topographical Survey on 1:2000 (2 m contour interval)
ii	4 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	120	62,640	

14/6/2024 14/06/2024

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	18	3,45,600	14 BHs and 4 boundary coordinates
	Sub Total- A					**31,21,992**	
B	**GEOPHYSICAL SURVEY**						
i	Self Potential (8-20 Line Km)- 35 Line Km	Line Km	3.3a	29600	35	10,36,000	Tentative 3.75 sq km area for Geophysical Survey at 100 m traverse interval i.e. 35 Line Km.
ii	Induced Polarization (Dipole Dipole) (10-20 Line Km)	Line Km	3.4a	69950	0	-	Tentative 3.75 sq km area for Geophysical Survey at 100 m traverse interval i.e. 15 Line Km.
iii	Charges for one Geophysicist-Field	day	3.18	11000	0	-	
iv	Charges for one Geophysicist - HQ	day	3.18	9000	15	1,35,000	
v	Surveyor Work	day	1.6.1a	8300	0	-	
vi	4 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	0	-	
	Sub Total- B					**11,71,000**	
C	**TRENCHING**						
	Trenching (1m x 2m x15m): 09 trenches	Cu. M.	2.1.1	3330	270	8,99,100	
	Sub Total- C					**8,99,100**	
D	**DRILLING**						
i	Drilling upto 300m (Hard Rock) (2 rig)	m	2.2.1.4a	11,500	1,040	1,19,60,000	
ii	Land / Crop Compansation	per BH	5.6	20,000	14	2,80,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities

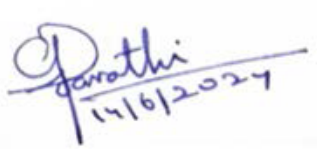




iii	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	14	28,000	
iv	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	1,800	64,800	Certification in this regard is required to be provided
v	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	4	2,00,000	
vi	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	2	5,00,000	
vii	Drilling Camp Winding up Cost	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	295	4,69,050	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	Sub Total- D					**1,40,89,930**	
E	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i	**Primary & Check samples for Graphite**						
	a. Primary Samples for Proximate Analysis of Graphite: Fixed Carbon (FC), Ash (A), Moisture (M) and Volatile Matter (VM)	Nos	4.1.16	3,000	345	10,35,000	Trench-135, BH-210
	b-External(10%) Check samples from NABL Lab for Proximate Analysis of Graphite: Fixed Carbon (FC), Ash (A), Moisture (M) and Volatile Matter (VM)	Nos	4.1.16	3,000	35	1,05,000	
	c-XRF analysis for oxides (SiO2, Al2O3, Fe2O3, CaO, MgO, Na2O, K2O, and V2O5)	Nos	4.1.15a	4,200	50	2,10,000	Trench-135, BH-210

	d-External(10%) Check samples from NABL Lab for XRF analysis for oxides (SiO2, Al2O3, Fe2O3, CaO, MgO, Na2O, K2O, and V2O5)	Nos	4.1.15a	4,200	5	21,000	
2	**Physical & Petrological Stusies**						
i	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
ii	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	
iii	Preparation of polished section	Nos	4.3.2	1,549	10	15,490	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
v	Digital Photographs	Nos	4.3.7	280	10	2,800	
vi	Bulk Density studies	Nos	4.8.1	1,605	5	8,025	
vii	Raman Spectroscopy	Nos		5,000	2	10,000	Price not available in SoC, NMET. Will be reimbursed as per actual cost through outsourcing.
	Sub Total- E					**15,15,485**	
D	**Total A to E**					**2,07,97,507**	
E	**Geological Report Preparation**	Nos.	**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**	lumpsum	**As per EC decision**			**30,000**	
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		**4,15,950**	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**					**2,19,93,457**	

I	**Provision for GST (18% of I)**	**39,58,822**	GST will be reimburse as per actual and as per notified prescribed rate
J	**Total Estimated Cost with GST**	**2,59,52,279**	
K	**Rs. in Lakhs**	**259.52**	
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 execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**		
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**		
5	**Any item of work not mentioned above shall be added as per SoC.**		





Annexure 2B

Time Schedule/ Action Plan for Preliminary Exploration (G-3) for Graphite in Chormunda Block, Districts: Balangir & Nuapara, State: Odisha

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

Parathi 14/6/2024

14/06/2024

Annexure 3A

Estimate cost for Preliminary Exploration (G-3) for Graphite in Temrimal block, District: Balangir & Bargarh, Odisha. [Block area- 4.00 sq. km; Nos. of Borehole- 16(1st level 11, 2nd level 5nos.) ; Borehole depth range: 60-100m; Schedule timeline- 12 months , Review : 4 & 8 months]

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC- Item - Sl No.	Rates as per SoC	Qty.	Amount (Rs)	
A	**GEOLOGICAL WORK**						
1	**Geological Mapping (1:2000), Borehole logging, sampling & Report writing**						
i	Charges for one Geologist-Field	day	1.2	11,000	150	16,50,000	
ii	Charges for one Geologist - HQ	day	1.2	9,000	30	2,70,000	
iii	2 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	300	1,56,600	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Core Sampling -1 Samplers Labour charge not included	day	1.5.2	5,100	59	3,00,900	
v	4 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	236	1,23,192	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(Survey Party Days)	day	1.6.1a	8300	30	249000	Topographical Survey on 1:2000 (2 m contour interval)

14/6/2024

14/06/2024

ii	4 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	120	62,640	
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	20	3,84,000	16 BHs and 4 boundary coordinates
	Sub Total- A					**31,96,332**	
B	**GEOPHYSICAL SURVEY**						
i	Self Potential (8-20 Line Km)	Line Km	3.3a	29600	20	5,92,000	Tentative 4.00 sq km area for Geophysical Survey at 100 m traverse interval i.e. 20Line Km.
ii	Induced Polarization (Dipole Dipole) (10-20 Line Km)	Line Km	3.4a	69950	0	-	Tentative 4.00 sq km area for Geophysical Survey at 100 m traverse interval i.e. 10 Line Km.
ii	Charges for one Geophysicist-Field	day	3.18	11000	0	-	
iii	Charges for one Geophysicist - HQ	day	3.18	9000	15	1,35,000	
iv	Surveyor Work	day	1.6.1a	8300	0	-	
v	4 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	0	-	
	Sub Total- B					**7,27,000**	
C	**TRENCHING**						
	Trenching (1m x 2m x15m): 09 trenches	Cu. M.	2.1.1	3330	270	8,99,100	
	Sub Total- C					**8,99,100**	
D	**DRILLING**						
i	Drilling upto 300m (Hard Rock) (2 rig)	m	2.2.1.4 a	11,500	1,160	1,33,40,000	

14/6/2024

14/06/2024

ii	Land / Crop Compansation	per BH	5.6	20,000	16	3,20,000	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	16	32,000	
iv	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	1,800	64,800	Certification in this regard is required to be provided
v	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	4	2,00,000	
vi	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	2	5,00,000	
vii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	2	5,00,000	
viii	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	3	66,060	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	325	5,16,750	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	Sub Total- D					**1,55,39,610**	
E	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i	**Primary & Check samples for Graphite**						
	a. Primary Samples for Proximate Analysis of Graphite: Fixed Carbon (FC), Ash (A), Moisture (M) and Volatile Matter (VM)	Nos	4.1.16	3,000	375	11,25,000	Trench-135, BH-240





	b-External(10%) Check samples from NABL Lab for Proximate Analysis of Graphite: Fixed Carbon (FC), Ash (A), Moisture (M) and Volatile Matter (VM)	Nos	4.1.16	3,000	38	1,14,000	
	c-XRF analysis for oxides (SiO2, Al2O3, Fe2O3, CaO, MgO, Na2O, K2O and V2O5)	Nos	4.1.15a	4,200	50	2,10,000	
	d-External(10%) Check samples from NABL Lab for XRF analysis for oxides (SiO2, Al2O3, Fe2O3, CaO, MgO, Na2O, K2O and V2O5)	Nos	4.1.15a	4,200	5	21,000	
2	**Physical & Petrological Stusies**						
i	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
ii	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	
iii	Preparation of polished section	Nos	4.3.2	1,549	10	15,490	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
v	Digital Photographs	Nos	4.3.7	280	10	2,800	
vi	Bulk Density studies	Nos	4.8.1	1,605	5	8,025	
ix	Raman Spectroscopy	Nos		5,000	2	10,000	Price not available in SoC, NMET. Will be reimbursed as per actual cost through outsourcing.
	Sub Total- E					**16,14,485**	
D	**Total A to E**					**2,19,76,527**	
E	**Geological Report Preparation**	Nos	**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**	lumpsum	**As per EC decision**			**30,000**	
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		**4,39,531**	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**					**2,31,96,058**	
I	**Provision for GST (18% of I)**					**41,75,290**	GST will be reimburse as per actual and as per notified prescribed rate
J	**Total Estimated Cost with GST**					**2,73,71,348**	
K	**Rs. in Lakhs**					**273.71**	
Note :							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						
5	**Any item of work not mentioned above shall be added as per SoC.**						





Annexure 3B

Time Schedule/ Action Plan for Preliminary Exploration (G-3) for Graphite in Temrimal Block, Districts: Balangir & Bargarh,

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

Parathi 14/6/2024

14/06/2024

Annexure 4A

Estimate Cost For Preliminary G-3 Level Exploration Of Laterite And Bauxite Ore In Majhauli Block, District-Jabalpur, Madhya Pradesh
Total Area - 3.94 Sq. Km; Drilling- 160.00m,BH: 8 nos., Completion Time - 10 Months, Review: after 4 months

Sl. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Total Cost of the Project	Remarks	
			SoC-Item- S. No.	Rates as per SoC	Qty.	Total Amount (Rs)	
1.0	**Geology & Survey (GM:1:4000, Topographic survey)**						
1.1	Geologist (Field) man days for core logging/mapping/ Sampling/topographic survey	days	1.3	11,000	90	9,90,000	
1.2	Unskilled Labour (Field) (2 workers per geologist)	per worker	5.7	522	180	93,960	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
1.3	Survey Party Days for topographic survey	days	1.6.1a	8300	30	2,49,000	
1.4	Unskilled Labour (Survey) (4 workers per Surveyer)	Days	5.7	522	120	62,640	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher

14/6/2024 14/06/2024

1.5	Sampling man days - Sampler (core sample,) Labour charge not included	day	1.5.2	5,100	22	1,12,200	
1.6	4 labours/ party (Rs 431/day/labour) (As per rates of Central Labour Commissioner) for sampling work	day	5.7	522	88	45,936	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
1.7	Determination of co-ordinates and Reduced Level (RL) of boreholes by DGPS including boundary corner points.	Nos.	1.6.2	19200	15	2,88,000	Boreholes 8 Nos. + Block Boundary 07 Nos.
Sub-Total 1						**18,41,736**	
2.0	**Excavation**						
2.1	Pitting	Cu.m	2.1.2	3,800	10	38,000	
Sub-Total 2						**38,000**	
3.0	**Drilling**						
3.1	Drilling -soft rock (up to 300m)	m	2.2.1.1b	7,168	160	11,46,880	as per the letter of MoC CMPDIL/Fin./Drill./2023-24 Dt. 07.08.2023
3.2	Land / Crop Compansation (in case the BH falls in agreecultural Land)	per BH	5.6	20,000	8	1,60,000	Asper actual
3.3	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	8	16,000	

3.4	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	700	25,200	700 Km to and fro for one rig
3.5	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	3	1,50,000	
3.6	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
3.7	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
3.8	Road Making (Rugged-Hilly Terrain)	Km	2.2.10b	32,200	3	96,600	
3.9	Drill Core Preservation	per m	5.3	1,590	160	2,54,400	
Sub-Total 2						**23,49,080**	
4.0	**Laboratory Studies**						
4.1	Primary + Check Sample - 8 radicals viz. Fe, Mn, SiO_2, Al_2O_3 , TiO_2, P_2O_5, S, Ga_2O_3 & V_2O_5 by XRF technique	per sample	4.1.15a	4,200	154	6,46,800	
4.2	Primary sample for PGE by ICP-MS	per sample	4.1.5d	11,800	10	1,18,000	
4.3	Primary sample for Ni, Co, Cd, V & Ti by AAS method	per sample	4.1.7a	2,506	10	25,060	
4.4	Bulk Density determination	per sample	4.1	3,540	5	17,700	
Sub-Total 3						**8,07,560**	
5.0	**Geologist man days (1 No.) for geological map & Report (HQ)**	days	1.2	9,000	30	**2,70,000**	

Parathi 14/6/2024

14/06/2024

Total (1.0 to 5.0)					**53,06,376**	
5.0	**Preparation of Exploration Proposal**	Nos	5.1	2% of the cost or Rs. 5.0 lakh - whichever is lower	**1,06,128**	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.
6.0	**Geological Report Preparation**	Nos	5.2	ii	**2,65,319**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
7.0	**Report Peer Review Charges**	lumpsum	**As per EC decision**		**30,000**	
	Total Estimated Cost without GST				**57,07,822**	
	Provision for GST (18%)				**10,27,408**	GST will be reimburse as per actual and as per notified prescribed rate
	Total Estimated Cost with GST				**67,35,230**	
	Rs. in Lakhs				**67.35**	
Note:						
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**					
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**					
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**					
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**					
5	**Any item of work not mentioned above shall be added as per SoC.**					





Annexure 4B

Time Schedule/ Action Plan For G-3 Level Exploration Of Iron And Bauxite Ore In Majhauli Block, District- Jabalpur, Madhya Pradesh

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





Annexure 5A

Estimate Cost For Preliminary G-3 Level Exploration Of Laterite And Bauxite Ore In Amoch-Chhapra Block, District- Jabalpur & Katni, Madhya Pradesh
Total Area - 4.86 Sq. Km; Drilling- 160.00m, Bhs.: 19 nos, Completion Time - 10 Months, Review: after 4 months

Sl. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Total Cost of the Project		Remarks
			SoC- Item- S. No.	Rates as per SoC	Qty.	Total Amount (Rs)	
1.0	**Geology & Survey (mapping scale 1:4000)**						
1.1	Geologist (Field) man days for core logging/mapping/ Sampling/topographic survey	days	1.3	11,000	90	9,90,000	
1.2	Unskilled Labour (Field) (2 workers per geologist)	per worker	5.7	522	180	93,960	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
1.3	Survey Party Days for topographic survey	days	1.6.1a	8300	30	2,49,000	
1.4	Unskilled Labour (Survey) (4 workers per Surveyer)	Days	5.7	522	120	62,640	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
1.5	Sampling man days - Sampler (core sample,) Labour charge not included	day	1.5.2	5,100	41	2,09,100	





1.6	4 labours/ party (Rs 431/day/labour) (As per rates of Central Labour Commissioner) for sampling work	day	5.7	522	164	85,608	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
1.7	Determination of co-ordinates and Reduced Level (RL) of boreholes by DGPS including boundary corner points.	Nos.	1.6.2	19200	25	4,80,000	Boreholes 19 Nos. + Block Boundary 06 Nos.
Sub-Total 1						**21,70,308**	
2.0	**Excavation**						
2.1	Pitting	Cu.m	2.1.2	3,800	10	38,000	
Sub-Total 2						**38,000**	
3.0	**Drilling**						
3.1	Drilling -Soft rock (up to 300m)	m	2.2.1.4 a	7,168	380	27,23,840	as per the letter of MoC CMPDIL/Fin./Drill/2023-24 Dt. 07.08.2023
3.2	Land / Crop Compansation (in case the BH falls in agreecultural Land)	per BH	5.6	20,000	19	3,80,000	As per actual
3.3	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	19	38,000	
3.4	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	700	25,200	700 Km to and fro for one rig
3.5	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	3	1,50,000	
3.6	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	

3.7	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
3.8	Road Making (Rugged-Hilly Terrain)	Km	2.2.10b	32,200	5	1,61,000	
3.9	Drill Core Preservation	per m	5.3	1,590	350	5,56,500	
Sub-Total 2						**45,34,540**	
4.0	**Laboratory Studies**						
4.1	Primary + Check Sample - 8 radicals viz. Fe, Mn, SiO_2, Al_2O_3 , TiO_2, P_2O_5, S, Ga_2O_3 & V_2O_5 by XRF technique	per sample	4.1.15a	4,200	300	12,60,000	
4.2	Primary sample for PGE by ICP-MS	per sample	4.1.5d	11,800	10	1,18,000	
4.3	Primary sample for Ni, Co, Cd, Cr & Ti by AAS method	per sample	4.1.7a	2,506	10	25,060	
4.4	Bulk Density determination	per sample	4.1	3,540	5	17,700	
Sub-Total 3						**14,20,760**	
5.0	**Geologist man days (1 No.) for geological map & Report (HQ)**	days	1.2	9,000	30	**2,70,000**	
Total (1.0 to 5.0)						**84,33,608**	





5.0	**Preparation of Exploration Proposal**	Nos	5.1	2% of the cost or Rs. 5.0 lakh - whichever is lower	**1,68,672**	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.
6.0	**Geological Report Preparation**	Nos	5.2	ii	**4,21,680**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
7.0	**Report Peer Review Charges**	**lumpsum**	**As per EC decision**		**30,000**	
	Total Estimated Cost without GST				**90,53,961**	
	Provision for GST (18%)				**16,29,713**	GST will be reimburse as per actual and as per notified prescribed rate
	Total Estimated Cost with GST				**1,06,83,673**	
	Say Rs. in Lakhs				**106.84**	
Note :						
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**					
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**					
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**					
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**					
5	**Any item of work not mentioned above shall be added as per SoC.**					





Annexure 5B

Time Schedule/ Action Plan For Preliminary G-3 Level Exploration Of Laterite And Bauxite Ore In Amoch - Chhapra Block, District- Jabalpur & Katni, Madhya Pradesh

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





Annexure 6A

Estimate Cost for Reconnaissance (G-4) survey for limestone in Sheelveta area, Karbi Anglong district, Assam
Area: 25 sq.km, Bhs. 8 nos (50 m), Spacing 1600, Timeline : 12 months, Review : after 5 months

Sl No.	Work Activity	Unit		Charges / Costin Rs	Qty	Total In Rs	Remarks
A Geological Mapping							
1	Charges for Geologist (Field)	Days	1.2	₹ 11,000.00	120	₹ 13,20,000.00	
2	Labour charges for geological mapping		5.7	₹ 522.00	240	₹ 1,25,280.00	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
3	Charges for Sampler		1.5.2	₹ 5,100.00	48	₹ 2,44,800.00	
4	Labour charges for sample work		5.7	₹ 522.00	192	₹ 1,00,224.00	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
5	Borehole fixation and Determination of Coordinate & RL		1.6.2	₹ 19,200.00	8	₹ 1,53,600.00	
Sub Total A						**₹ 19,43,904.00**	
B Pitting & Trenching							
1	Pitting	per cu m	2.1.2	₹ 3,800.00	75	₹ 2,85,000.00	
Sub Total B						**₹ 2,85,000.00**	
C Core Drilling (outsourced)							
1	Drilling – Soft rock	Mtr	2.2.1.1 b	₹ 7,168.00	400	₹ 28,67,200.00	as per the letter of MoC CMPDIL/Fin./Drill./2023-

Parathi 14/6/2024

14/06/2024

							24 Dt. 07.08.2023
2	Land/Crop compensation in case BH falls in agricultural land	Per BH	5.6	₹ 20,000.00	0	₹ 0.00	As per actuals
3	Construction of concrete pillar (12" x 12" x 30")	Per BH	2.2.7a	₹ 2,000.00	0	₹ 0.00	
4	Transportation of Drill rig & truck associated per drill	km	2.2.8	₹ 36.00	0	₹ 0.00	
5	Monthly accommodation charges for drilling camp (upto 2 Rigs)	Month	2.2.9	₹ 50,000.00	0	₹ 0.00	
6	Drilling camp setting cost	Nos.	2.2.9a	₹ 2,50,000.00	0	₹ 0.00	
7	Drilling camp winding up cost	Nos.	2.2.9b	₹ 2,50,000.00	0	₹ 0.00	
8	Road making (Flat terrain)	Km	2.2.10a	₹ 32,200.00	0	₹ 0.00	
9	Drill core preservation	Per m	5.3	₹ 1,590.00	250	₹ 3,97,500	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
Sub Total C						₹ 32,64,700	
				3.35 * outsourced cost		**₹ 1,09,36,745**	
As the area falls in remote and inaccessible terrain in NE states and Hilly terrain, the rates are 3.35 times higher than the normal SoC						**₹ 1,84,03,573**	
D Laboratory Studies							
a) Chemical Analysis							





	Primary samples- 100 surface samples plus 250 core samples (CaO,MgO,Al2O3,SiO2,Fe2O3 & LOI)- XRF method	Per Sample	4.1.15a	₹ 4,200.00	350	₹ 14,70,000.00	
1	Check (10%)Primary samples- 100 surface samples plus 250 core samples (CaO,MgO,Al2O3,SiO2,Fe2O3 & LOI)- XRF method	Per Sample	4.1.15a	₹ 4,200.00	35	₹ 1,47,000.00	
b) Physical Analysis							
1	Preparation of thin section	No.	4.3.1	₹ 2,353.00	10	₹ 23,530.00	
2	Bulk density determination	No.	4.1	₹ 3,540.00	2	₹ 7,080.00	
3	Petrographic Studies	No.	4.3.4	₹ 2,353.00	10	₹ 23,530.00	
4	Charges of one Geologist per day at HQ	day	1.2	₹ 9,000.00	30	₹ 2,70,000.00	
Sub Total D						**₹ 19,41,140.00**	
Total of A+B+C+D						**₹ 2,03,44,713**	
E Miscellaneous Charges							
1	Preparation of Exploration proposal	5 Hard Copies and Soft Copies	5.1			₹ 4,06,894.27	EA has to submit the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.





2	Geological Report Preparation	5 Hard Copies and Soft Copies	5.2	iii	₹ 7,50,000.00	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
3	Peer review charges	As per EC decision			₹ 30,000.00	
	Tendering cost	2.3			**₹ 2,18,735**	
4	Operational Charges	6.0	iii		**₹ 9,21,837**	
Sub Total of E					**₹ 23,27,466**	
Total of A+B+C+D+E					**₹ 2,26,72,180**	
Provision for GST (18%)					**₹ 40,80,992**	
Total estimated Cost (With GST 18%)					**₹ 2,67,53,172**	
Rs. in Lakhs					**₹ 267.53**	
Note:						
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**					
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**					
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**					
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**					
5	**Any item of work not mentioned above shall be added as per SoC.**					





Annexure 6B

Time Schedule/ Action Plan for Reconnaissance (G-4) survey for limestone in Sheelveta area, Karbi Anglong district, Assam

Sl No	Activities	Months											
		1	2	3	4	5	Review	6	7	8	9	10	11	12
1	Camp mobilisation													
2	Mapping (1:12500)													
3	Geologist days in field													
4	Sub Surface drilling (1 rig)													
5	Survey days													
6	Sampling days													
7	Laboratory Studies													
8	Camp winding													
9	Geologist days in HQ													
10	Geological Report Writing													

Parathi 14/6/2024

14/06/2024

Annexure 7A

Estimate cost for Reconnaissance survey (G4) for Limestone in Longplaidisa area, Dima Hasao District, Assam, Schedule :12 months, Review: after 5 months, BH: 8 nos(50m depth, spacing: 1600), Area : 25 sq.km

Sl No.	Work Activity	Unit		Charges / Cost in Rs	Qty	Total In Rs	Remarks
A Geological Mapping							
1	Charges for Geologist (Field)	Days	1.2	₹ 11,000.00	120	₹ 13,20,000.00	
2	Labour charges for geological mapping		5.7	₹ 522.00	240	₹ 1,25,280.00	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
3	Charges for Sampler		1.5.2	₹ 5,100.00	48	₹ 2,44,800.00	
4	Labour charges for sample work		5.7	₹ 522.00	192	₹ 1,00,224.00	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
5	Borehole fixation and Determination of Coordinate & RL		1.6.2	₹ 19,200.00	8	₹ 1,53,600.00	
Sub Total A						**₹ 19,43,904.00**	
B Pitting & Trenching							
1	Pitting	per cu m	2.1.2	₹ 3,800.00	75	₹ 2,85,000.00	
Sub Total B						**₹ 2,85,000.00**	





C Core Drilling (in-house drilling)							
1	Drilling – Soft rock	Mtr	2.2.1.1b	₹ 7,168.00	400	₹ 28,67,200.00	as per the letter of MoC CMPDIL/Fin./Drill/2023-24 Dt. 07.08.2023
2	Land/Crop compensation in case BH falls in agricultural land	Per BH	5.6	₹ 20,000.00	8	₹ 1,60,000.00	As per actuals
3	Construction of concrete pillar (12" x 12" x 30")	Per BH	2.2.7a	₹ 2,000.00	8	₹ 16,000.00	
4	Transportation of Drill rig & truck associated per drill	km	2.2.8	₹ 36.00	500	₹ 18,000.00	
5	Monthly accommodation charges for drilling camp (upto 1 rig)	Month	2.2.9	₹ 50,000.00	3	₹ 1,50,000.00	
6	Drilling camp setting cost	Nos.	2.2.9a	₹ 2,50,000.00	1	₹ 2,50,000.00	
7	Drilling camp winding up cost	Nos.	2.2.9b	₹ 2,50,000.00	1	₹ 2,50,000.00	
8	Road making (Flat terrain)	Km	2.2.10a	₹ 32,200.00	15	₹ 4,83,000.00	
9	Drill core preservation	Per m	5.3	₹ 1,590.00	250	₹ 3,97,500.00	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
Sub Total C						**₹ 45,91,700.00**	
As the area falls in remote and inaccessible terrain in NE states and Hilly terrain, the rates are 3.35 times higher than the SoC						**22849023**	
D Laboratory Studies							
a) Chemical Analysis							

1.00	Primary samples - 100 Surface samples plus 250 core samples (CaO,MgO,Al2O3,SiO2,Fe2O3 & LOI)- XRF method	Per Sample	4.1.15a	₹ 4,200.00	350	₹ 14,70,000.00	
2	Check (10%)Primary samples - 100 Surface samples plus 250 core samples (CaO,MgO,Al2O3,SiO2,Fe2O3 & LOI)	Per Sample	4.1.15a	₹ 4,200.00	35	₹ 1,47,000.00	
b) Physical Analysis							
1	Preparation of thin section	No.	4.3.1	₹ 2,353.00	10	₹ 23,530.00	
2	Bulk density determination	No.	4.1	₹ 3,540.00	2	₹ 7,080.00	
3	Petrographic Studies	No.	4.3.4	₹ 2,353.00	10	₹ 23,530.00	
4	Charges of one Geologist per day at HQ	day	1.2	₹ 9,000.00	30	₹ 2,70,000.00	
Sub Total D						**₹ 19,41,140.00**	
Total of A+B+C+D						**₹ 2,47,90,163**	
E Miscellaneous Charges							
1	Preparation of Exploration proposal	5 Hard Copies and Soft Copies	5.1			₹ 4,95,803	EA has to submit the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.





2	Geological Report Preparation	5 Hard Copies and Soft Copies	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.
3	Peer review charges	As per EC decision			₹ 30,000	
Sub Total of E					₹ 12,75,803	
Total of A+B+C+D+E					**₹ 2,60,65,967**	
Provision for GST (18%)					**₹ 46,91,874**	
Total estimated Cost (With GST 18%)					**₹ 3,07,57,841**	
Rs. in Lakhs					**₹ 307.58**	
Note:						
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**					
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**					
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**					
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**					
5	**Any item of work not mentioned above shall be added as per SoC.**					





Annexure 7B

Time Schedule/ Action Plan for Reconaissance survey (G4) for Limestone in Longplaidisa area, Dima Hasao District, Assam

Sl No	Activities	Months											
		1	2	3	4	5	Review	6	7	8	9	10	11	12
1	Camp mobilisation													
2	Mapping (1:12500)													
3	Geologist days in field													
4	Sub Surface drilling (1 rig)													
5	Survey days													
6	Sampling days													
7	Laboratory Studies													
8	Camp winding													
9	Geologist days in HQ													
10	Geological Report Writing													





Annexure 8A

Estimate cost for Reconnaissance (G-4) survey for limestone in Dikurumetron area, Upper Deopani of Karbi Anglong district, Assam
Area_ 20 sq.km, BH. 6 nos (50m depth), spacing 1600, Schedule : 12 months , Review : after 5 months

Sl No.	Work Activity	Unit		Charges / Costin Rs	Qty	Total In Rs	Remarks
A Geological Mapping							
1	Charges for Geologist (Field)	Days	1.2	₹ 11,000.00	120	₹ 13,20,000.00	
2	Labour charges for geological mapping		5.7	₹ 522.00	240	₹ 1,25,280.00	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
3	Charges for Sampler		1.5.2	₹ 5,100.00	34	₹ 1,73,400.00	
4	Labour charges for sample work		5.7	₹ 522.00	136	₹ 70,992.00	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
5	Borehole fixation and Determination of Coordinate & RL		1.6.2	₹ 19,200.00	6	₹ 1,15,200.00	
Sub Total A						**₹ 18,04,872.00**	
B Pitting & Trenching							
1	Pitting	per cu m	2.1.2	₹ 3,800.00	75	₹ 2,85,000.00	
Sub Total B						**₹ 2,85,000.00**	

14/6/2024

14/06/2024

C Core Drilling (outsourced)							
1	Drilling – Soft rock	Mtr	2.2.1.1b	₹ 7,168.00	300	₹ 21,50,400.00	as per the letter of MoC CMPDIL/Fin./Drill./2023-24 Dt. 07.08.2023
2	Land/Crop compensation in case BH falls in agricultural land	Per BH	5.6	₹ 20,000.00	0	₹ 0.0	As per actuals
3	Construction of concrete pillar (12" x 12" x 30")	Per BH	2.2.7a	₹ 2,000.00	0	₹ 0.0	
4	Transportation of Drill rig & truck associated per drill	km	2.2.8	₹ 20.00	0	₹ 0.0	
5	Monthly accommodation charges for drilling camp (upto 2 Rigs)	Month	2.2.9	₹ 50,000.00	0	₹ 0.0	
6	Drilling camp setting cost	Nos.	2.2.9a	₹ 2,50,000.00	0	₹ 0.0	
7	Drilling camp winding up cost	Nos.	2.2.9b	₹ 2,50,000.00	0	₹ 0.0	
8	Road making (Flat terrain)	Km	2.2.10a	₹ 32,200.00	0	₹ 0.0	
9	Drill core preservation	Per m	5.3	₹ 1,590.00	200	₹ 3,18,000.00	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
Sub Total C						**₹ 24,68,400**	
				3.35 of Outsourced cost		**₹ 82,69,140**	
As the area falls in remote and inaccessible terrain in NE states and Hilly terrain, the rates are 3.35 times higher than the SoC						**₹ 1,52,70,211**	





D Laboratory Studies							
a) Chemical Analysis							
	Primary samples- 150 core samples plus 100 surface samples (CaO,MgO,Al2O3,SiO2,Fe2O3 & LOI)- XRF	Per Sample	4.1.15a	₹ 4,200.00	250	₹ 10,50,000.00	
1	External Check (10%) Primary samples- 200 core samples plus 100 surface samples (CaO,MgO,Al2O3,SiO2,Fe2O3 & LOI)- XRF	Per Sample	4.1.15a	₹ 4,200.00	25	₹ 1,05,000.00	
b) Physical Analysis							
1	Preparation of thin section	No.	4.3.1	₹ 2,353.00	10	₹ 23,530.00	
2	Bulk density determination	No.	4.1	₹ 3,540.00	2	₹ 7,080.00	
3	Petrographic Studies	No.	4.3.4	₹ 2,353.00	10	₹ 23,530.00	
4	Charges of one Geologist per day at HQ	day	1.2	₹ 9,000.00	30	₹ 2,70,000.00	
Sub Total D						**₹ 14,79,140**	
Total of A+B+C+D						**₹ 1,63,54,386**	
E Miscellaneous Charges							
1	Preparation of Exploration proposal	5 Hard Copies and Soft Copies	5.1			₹ 3,34,987	EA has to submit the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.





2	Geological Report Preparation	5 Hard Copies and Soft Copies	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.
3	Peer review charges	As per EC decisio n				₹ 30,000	
4	Tendering cost	2.3				**₹ 1,65,383**	
5	Operational Charges		6.00	ii		**₹ 7,45,186**	
Sub Total of E						**₹ 20,25,555**	
Total of A+B+C+D+E						**₹ 1,87,74,907**	
Provision for GST (18%)						**₹ 33,79,483**	
Total estimated Cost (With GST 18%)						**₹ 2,21,54,390**	
Rs. in Lakhs						**221.54**	
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.**						
5	**Any item of work not mentioned above shall be added as per SoC.**						





Annexure 8B

Time schedule/ Action plan for Reconnaissance (G-4) survey for limestone in Dikurumetron area, Upper Deopani of Karbi Anglong district, Assam

Sl No	Activities	Months												
		1	2	3	4	5	Review	6	7	8	9	10	11	12
1	Camp mobilisation													
2	Mapping (1:12500)													
3	Geologist days in field													
4	Sub Surface drilling (1 rig)													
5	Survey days													
6	Sampling days													
7	Laboratory Studies													
8	Camp winding													
9	Geologist days in HQ													
10	Geological Report Writing													

14/6/2024

14/06/2024

Annexure 9A

Estimate Cost For Reconnaissance Survey (G-4) For Phosphorite In Randha ,District: Jaisalmer, Rajasthan
Total Area - 38.50 Sq Km; Completion Time - 12 Months, Review : after 5 months, Scout Drilling 300m, BHs: 5 nos.

S. No.	Item of Work *	Unit *	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item No. *	Rates as per SoC * (a)	Qty. (b)	Total Amount (Rs) (a*b)	
A	**Geological Mapping Other Geological Work & Surveying**						
	Geological mapping, (1:12,500 scale) , & Trenching , drilling work						
i	a. Charges for Geologist per day (Field) for geological mapping & trenching work, drilling work	day	1.3	11,000.00	120.00	13,20,000	
ii	b. Labours Charges	day	5.7	522.00	240.00	1,25,280	
	c. Charges for Geologist per day (HQ)	day	1.3	9,000.00	30.00	2,70,000	
	d. Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100.00	41.00	2,09,100	
	e. Labours (4 Nos)	day	5.7	522.00	480.00	2,50,560	Labour Charges(4 Nos) for two Geologist; (Base rate - Rs.504/-+PF Rs.65.2/-+ESI-Rs.16.38/-+Bonus-Rs.41.98/-+EL-Rs.28.22/-=Rs.

Parathi 14/6/2024

14/06/2024

							656.11/-)
	Sub Total- A					**21,74,940**	
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	19,200.00	-	0	
b	Charges of Surveyor (1 party) for Geophysical survey layout work & Block boundary demarcation	one surveyor per day	1.6.1b	8,300.00	-	0	
c	Labours Charges for survey work;	day	5.7	522.00	-	0	
	Sub-Total C					**-**	
D	**Trenching/Pitting**						
	a) Excavation of Trenches	per cu.m	2.1.1	3,330	200	**666000**	
E	**DRILLING (Scout Drilling)**						
1	Drilling up to 300m (Hard Rock)	m	2.2.1.4a	11,500	300	34,50,000	(5BH= 60 meter depth)
2	Borehole deviation Survey by Multishot Camera	m	0	-	-	-	
3	Land / Crop Compansation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	5	1,00,000	As per actuals

4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
5	Transportation of Drill Rig & Truck associated per drill (1rig)	Km	2.2.8	36	900	32,400	from Bikaner to Jaisalmer (to and Fro)
6	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	3	1,50,000	
7	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
8	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
9	Road Making (Flat Terrain)	Km	2.2.10b	32,200	4	1,28,800	As per actuals
10	Drill Core Preservation	per m	5.3	1,590	180	2,86,200	
	Sub Total E					**46,57,400**	
F	**Borehole Geophysical Logging**	5 Bhs of 350m each	0	-			
G	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Primary samples - by XRF(BRS/Channel)**						
	a. For 5 radicals i.e. P2O5, SiO2, Al2O3,Fe2O3 and LOI	Nos	4.1.3	9,805	100	9,80,500	
ii)	**Primary Check samples(BRS/Channel) (10% External)**						
	a. For 5 radicals i.e. P2O5, SiO2, Al2O3,Fe2O3 and LOI	Nos	4.1.3	9,805	10	98,050	
iii)	**Primary Samples (Trench)by XRF**						
	Trench samples						
	a. For 5 radicals i.e. P2O5, SiO2, Al2O3,Fe2O3 and LOI	Nos	4.1.3	9,805	100	9,80,500	
iv)	**Trench Check samples (10% External)**						





	a. For 5 radicals i.e. P2O5, SiO2, Al2O3,Fe2O3 and LOI	Nos	4.1.3	9,805	10	98,050	
v)	**BH Core samples by XRF**						
	a. For 5 radicals i.e. P2O5, SiO2, Al2O3,Fe2O3 and LOI	Nos	4.1.3	9,805	100	9,80,500	
vi)	**BH Core samples (10%External)**						
	a. For 5 radicals i.e. P2O5, SiO2, Al2O3,Fe2O3 and LOI	Nos	4.1.3	9,805	10	98,050	
2	**Physical & Petrological Studies**						
i	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
ii	Study of thin section	Nos	4.3.4	4,232	10	42,320	
iii	Preparation of polish section	Nos	4.3.2	1,549	10	15,490	
iv	study of polished section	Nos	4.3.4	4,232	10	42,320	
v	Digital Photographs	Nos	0	-			
vi	Whole Rock Analysis	Nos	0	-			
vii	Sp. Gravity	Nos	0	-			
	SEM Studies	per hour	0	-			
viii	EPMA studies	per hour	0	-			
						33,59,310	
H	**Total A to G**					**1,08,57,650**	
I	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	**ii**		**5,42,883**	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**	**lump sum**	**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	**2,17,153**	EA will be reimbursed after submission of the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
L	**Total Estimated Cost without GST**				**1,16,47,686**	
M	**Provision for GST (18% of J)**				**20,96,583**	GST will be reimburse as per actual and as per notified prescribed rate
N	**Total Estimated Cost with GST**				**1,37,44,269**	
	Rs. In Lakhs				**137.44**	
Note:						
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**					
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**					
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**					
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**					
5	**Any item of work not mentioned above shall be added as per SoC.**					





Annexure 9B

Time Schedule/ Action plan for Reconnaissance Survey (G-4) for Phosphorite Minerals in Randha, District- Jaisalmer, Rajasthan

S. No.	Activities	Unit	1	2	3	4	5	Review	6	7	8	9	10	11	12
1	Camp Setting	Months/Days													
2	Geological Mapping & Sampling	days													
3	Survey Party days	L.km													
4	Pitting/Trenching	Days													
5	Surface Drilling (1 rigs)	cu.m													
6	Sampling Party	days													
7	Camp Winding	Months													
8	Laboratory Studies	Nos.													
9	Geologist in HQ	Days													
10	Report Writing with Peer Review	months													

Parathi 14/6/2024

14/06/2024

Annexure 10A

Estimate cost for Preliminary Exploration (G3) for Copper & Associated mineralisation in Govindpur block, Chandrapur District of Maharashtra. [Block area-0.83 sq.km; Drilling:500m (spacing :100m) Nos. of Borehole-4; Borehole depth range- upto 150m;Schedule timeline-8 months, Review after 4 months]

			Rates as per NMET SoC 2020-21		Estimated Cost of the		
S.No.	Item of Work	Unit	SoC-Item-Sl No.	Rates as per SoC	Proposal		Remarks
					Qty.	Amount (Rs)	
1	**SURVEY WORK**						
	GEOLOGICAL WORK - upgradation of detailed geological map						
i	Charges for one Geologist per-HQ	day	1.5.1a	9,000	30	2,70,000	
	Charges for one Geologist per-HQ	day	1.5.1a	9,000	0	0	
i	Charges for one Geologist-Field	day	1.5.1a	11,000	90	9,90,000	
ii	Charges for one Geologist-Field	day	1.5.1a	11,000	0	0	
iii	1 labours / party (Rs 504/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	522	180	93,960	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt whichever is higher
iii	1 labours / party (Rs 504/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	0	0	0	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt whichever is higher
iv	CoreSampling-1Samplers Labour charge not included	day	1.5.2	5,100	25	1,27,500	





v	4 labours/ party (Rs 504/day/labour) (As per rates of Central Labour Commissioner)	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
	SubTotal-A					**16,06,740.00**	
	GEOPHYSICAL SURVEY						
	IP cum resistivity, Sp, magnetic- 10 line km	**8-10 Line km**	**3.4b**	**1448693**	**1**	**14,48,693.00**	
	Tendering cost					**0**	
	operational cost					**0**	
D	**DRILLING**						
i	Drillingupto 300m (Hard Rock)(1rigs) HQ Size	m	2.2.1.4a	11,500	500	57,50,000	After outcome of geophysics , pitting/trenching
ii	Land/Crop Compensation	Per BH	5.6	20,000	4	80,000	Amount will be reimbursed as per actuals or max.Rs.20000perBHwithcertificationfrom localauthorities
iii	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	4	8,000	
iv	Transportation of Drill Rig & Truck associated per Drill	Km	2.2.8	36	500	18,000	Certification in this regard is required to be provided. To and fro from Nagpur to Chandrapur
v	Monthly Accommodation Charges for drilling Camp (upto 1Rig)	month	2.2.9	50,000	4	2,00,000	
vi	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
vii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
	Borehole plugging by Concrete	Meters		0	400	0	
	Drill core preservation	per m	5.3	1590	200	3,18,000	
	Core Boxes Transportation	Km		0	400	0	
	Trenching (8x1x2) x 10	Cu m	2.1.1	3330	160	5,32,800	
ix	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	0.5	11,010	Road Making will be considered as per the requirement and Road Making

							Charges will be reimbursedformax.4km.
x	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and By DGPS	Nos	1.6.2	19,200	8	1,53,600	*4 Boreholes and 4 corners of Block
	SubTotal-B					**75,71,410.00**	
E	**LABORATORYSTUDIES**						
1	**ChemicalAnalysis**						
i	**Primary & Check samples for -AAS method**						
	a.Primary Samplesfor8 radical(Pb, Cu , Zn, Co, Ni, Ag, As & Au)	Nos	4.1.7a+7 b	3511	180	6,31,980	100 trenching, BH : 80
	b-External (10%) Checksamplesfor8radical (Co, Pb. Zn, Co, Ni, Ag, As & Au)	Nos	4.1.7a+7 b	3511	18	63,198	
ii	**Composite samples for Copper**					0	
	a.Composite Samplesfor8 radical (Co, Pb. Zn, Co, Ni, Ag, As & Au)	Nos	4.1.7a+7 b	3511	0	0	
2	**Physical & Petrological Studies**					0	
i	Preparathion of thin section	Nos	4.3.1	2,353	5	11,765	
ii	Completepetrographicstudyrep ort	Nos	4.3.4	4,232	5	21,160	
iii	Preparation of polished section	Nos	4.3.2	1,549	5	7,745	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	5	21,160	
v	Digital Photographs	Nos	4.3.7	280	5	1,400	
vi	Whole Rock Analysis (Major oxide)	Nos	4.1.15a	4200	5	21,000	
	SubTotal-C					**7,79,408.00**	

F	**Total A to C**					**99,57,558**	
G	**Geological Report Preparation**		**5.2**	iii		**4,97,878**	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
H	**Peer review Charges**		**As per EC decisio n**			**30,000**	
I	**Preparation of Exploration Proposal (5 Hard copies with a soft copy)**	**5 Hardcopi es with a soft copy**	**5.1**	2% of the Cost or Rs.5 Lakhs whicheve r is lower		**1,99,151**	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan a suggested by the TCC-NMET in its meeting while Clearing the proposal.
J	**Total Estimated Cost without GST**					**1,06,84,587. 06**	
K	**Provision for GST (18%ofl)**					**19,23,225.67**	GST will be reimburse as per actual and as per Notified prescribed rate
L	**Total Estimated Cost with GST**					**1,26,07,812. 73**	
M	**Rs. In Lakhs**					**126.08**	
Note:							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						
5	**Any item of work not mentioned above shall be added as per SoC.**						





Annexure 10B

Time Schedule/ Action Plan for Preliminary Exploration (G3) for Copper & Associated mineralisation in Govindpur block, Chandrapur District of Maharashtra.

S.No.	Description	Months/Days	1	2	3	4	Review	5	6	7	8
1	Camp Setting	days									
2	Geophysical Survey(10 Lines)	month									
3	Processing of Geophysical data and Report Writing	Month									
4	Trenching and Preperation of Geological plan by Correaltion of Geophysical data	days									
5	Preperatory Work for Review by NMET	days									
6	DGPS Survey day	days									
7	Drilling(1rig)	months									
8	Sampling days	months									
9	Camp winding	days									
10	Laboratory Studies	months									
11	Report Writing with Review	months									

Parathi 14/6/2024

14/06/2024

Annexure 11A

Estimate Cost For Reconnaissance Survey (G4 Stage) for Graphite and Vanadium in Matena-Sirar Area, Almora District, Uttarakhand
Total Area - 60 sq. km; Bhs: 12 nos (30m vertical depth), Core drilling: 800 m; Completion Time -12 Months , Review : 6 months

S.N	Item of work	Unit	Rates as per NMET SoC		Estimated Cost of the Proposal		Remarks
			SoC-Item - Sl No.	Rates as per SOC	Quantum	Total Amount (Rs)	
1	**Geological Work**						
A	**Geological Mapping (upgradation) & Sampling**	60 sq km					
a	Geologists (HQ) days (1 No)	Man-days	1.2	9,000.00	40	3,60,000.00	
b	Geologist field-days (including stream sediment sampling)	Man-days	1.2	11,000.00	200	22,00,000.00	60 sq.km
c	Labor (Field days) (2 workers per geologist)	per labor day	5.7	522.00	400	2,08,800.00	Amount will be reimbursed as per the notified rates by the Central Labor Comission or respective State Govt. whichever is higher
	Sub-Total 1					**27,68,800.00**	
2	**Pitting/Trenching**						
a	Pitting/trenching (200 cubic meter for graphite and V)	per cubic meter	2.1.2	3,800.00	400	15,20,000.00	200 cum.m trench, 200 cu.m pitting
	Sub-Total 2					**15,20,000.00**	
3	**Laboratory Studies**						

A	**Geochemical Analysis for regional survey**						Total 300 Sample: 100 BR, 50 SS and 150 pitting/trenching
a	Separation of heavy minerals from stream sediment samples of -2mm size through gravity and magnetic separation	per sample	4.3.6b	13,820.00	25	3,45,500.00	
b	XRF (Major oxides)	per sample	4.1.15a	4,200.00	300	12,60,000.00	BRS
c	External Check samples for XRF	per sample	4.1.15a	4,200.00	30	1,26,000.00	
d	XRF 10 % samples for 2 additional elements)- Sn &W	per sample	4.1.15b	842.00	30	25,260.00	
e	Check samples XRF 10 % samples for 2 additional elements)	per sample	4.1.15b	842.00	3	2,526.00	
d	ICPMS (To analyse V and REEs)	per sample	4.1.14	7,731.00	0	-	
e	Check samples for ICPMS	per sample	4.1.14	7,731.00	0	-	
f	Proximate analysis of Graphite (FC)	per sample	4.1.16	3,000.00	50	1,50,000.00	
g	Total Sulphur	per sample	4.2.14	1,900.00	0	-	
h	Sampler man-days	one sampler per day	1.5.2	5,100.00	55	2,79,225.00	
i	Labor (Man days) (4 labours per sampler)	per labor day	5.7	522.00	219	1,14,318.00	Amount will be reimburse as per the notified rates by the Central Labor Comission or respective State Govt. whichever is higher
	Sub-Total 3					**23,02,829.00**	

4	**Petrological studies**						
a	Thin section preparation	per sample	4.3.1	2,353.00	20	47,060.00	
b	Microscopic study	per sample	4.3.4	4,232.00	20	84,640.00	
c	EPMA (mineral phase of V) (5 samples, 10 hours)	per hour	4.4.1	8,540.00	0	-	
d	Raman Spectrometry (graphite crystallinity)	per sample	not in SoC	5,000.00	2	10,000.00	Will be reimbursed as per actuals
e	XRD (graphite crystallinity)	per sample	4.5.1	4,000.00	5	20,000.00	
	Sub-Total 4					**1,61,700.00**	
5	**Geophysical Survey (in-house)**						
a	Self-Potential (8-20 line km)- 30 line KM	per line km	3.3a	29,600.00	30	8,88,000.00	
b	Geophysicist HQ			9,000.00	20	1,80,000.00	
	Sub-Total 5					**10,68,000.00**	
6	**Geological Work (After Review Drilling)**						
B	**Drilling (in -house)**						
a	Core drilling 800 m	per meter	2.2.2	11,500.00	800	92,00,000	No of samples 250 samples
b	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2000	12	24000	as per actuals
c	Land / Crop Compansation	per BH	5.6	20000	12	240000	
d	Transportation of Drill Rig & Truck associated per drill (2 rigs)-Two way	km	2.2.8	36	6000	216000	Transportation from Jamnagar, Gujarat to Almora, Uttarakhand @1500 km for 2 drill-rigs in 2 trucks, to and fro 2(1500*2)
e	Monthly Accomodation Charges for drilling Camp	month	2.2.9	50000	4	200000	





f	Drilling Camp Setting Cost	Nos	2.2.9a	250000	1	250000	
g	Drilling Camp Winding up Cost	Nos	2.2.9b	250000	1	250000	
h	Approach Road making for rugget/hilly terrain	km	2.2.10b	32200	12	386400	As per actuals
i	Drill Core Preservation	m	5.3.0	1,590.00	300	4,77,000.00	
	Sub-Total 5					**1,12,43,400.00**	
6	**Laboratory Studies (After Review, BH samples)**						
A	**Geochemical Analysis (BH samples)**						250 sample
a	XRF (Major oxides)	per sample	4.1.15a	4,200.00	250	10,50,000.00	
b	External Check samples for XRF	per sample	4.1.15a	4,200.00	25	1,05,000.00	
c	XRF 10 % samples for 2 additional elements (Sn, W,)	per sample	4.1.15b	842.00	25	21,050.00	V, Cd, Cr, Cu, Mo, Ni, Zn, Pb, Sn, W, Bi, As
d	Check samples XRF 10 % samples for 12 additional elements)	per sample	4.1.15b	842.00	3	2,526.00	
	ICPMS (To analyse V and REEs)	per sample	4.1.14	-	0	-	
	Check samples for ICPMS	per sample		-	0	-	
	AAS			-	0	-	
	Check samples for AAS			-	0	-	
e	Proximate analysis of Graphite	per sample	4.1.16	3,000.00	50	1,50,000.00	
f	Total Sulphur	per sample	4.2.14	1,900.00	0	-	
g	Sampler man-days	per day	1.5.2	5,100.00	44	2,25,037.50	
h	Labor (Man days) (4 labours per sampler)	per labor day	5.7	522.00	177	92,133.00	Amount will be reimbursed as per the





							notified rates by the Central Labor Comission or respective State Govt. whichever is higher
	Sub-Total 6					**16,45,747**	
7	**Petrological studies (BH samples)**						
a	Thin section preparation	per sample	4.3.1	2,353.00	25	58,825.00	
b	Microscopic study	per sample	4.3.4	4,232.00	25	1,05,800.00	
	Sub-Total 7					**1,64,625.00**	
	Total (Sub-Total 1-7)					**2,08,75,100.50**	
8	Preparation of Exploration Proposal (5 Hard copies with a soft copy)	Lumpsum	5.1	2% of approved project cost or 5 lakh whichever is lower	1	4,17,502	This amount 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.
9	Final report preparation	Lumpsum	5.2	Project cost is exceeding ₹150 lakh but less than 300 lakh: A Minimum	iii	7,50,000.00	Final report submission, peer review and project conclusion

				of ₹7.5 lakh or 3% of the work whichever is more			
10	Report Peer Review	Lump sum	As per EC	30,000.00	1	30,000.00	
11	Project Cost without GST					**2,20,72,602.51**	
12	18% GST					**39,73,068.45**	GST will be reimbursed as per actual and as per the applicable notified rate
13	Total Project Cost					**2,60,45,670.96**	
14	**Rs. In Lakhs**					**260.46**	
Note:							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						
5	**Any item of work not mentioned above shall be added as per SoC.**						





Annexure 11B

Time Schedule /Action Plan For Reconnaissance Survey (G4 Stage) for Graphite and Vanadium in Matena-Sirar Area, Almora District, Uttarakhand

Sl. No.	Activities	Unit	MONTHS												
			1	2	3	4	5	6	Review	7	8	9	10	11	12
1	Geological Mapping and Sampling (1:12,500)	Days													
2	Sampling Party days	Days													
3	Pitting/Trenching	Cu.m													
4	Laboratory Studies	Nos.													
5	Petrographic Studies	Nos.													
6	Geophysical Survey	Days													
7	Geological Work (after review) (drilling)	m													
8	Laboratory Studies (after review)	Nos.													
9	Petrographic Studies (after review)	Nos.													
10	Report Writing	Months													
12	Peer Review	Months													

Parathi 14/6/2024

14/06/2024

Annexure 12

Estimate Cost for Procurement of EPMA instruments in Geological Survey of India under NMET

Revised proposal		**Original Proposal**		**EPMA Procurement in 2019 by GSI**		**EPMA procurement by IISER Berhampur in 2023**		
	Amount	Specifications	Amount	Specifications	Amount	Specifications	Amount	Amount before 25% discount
	14,19,50,000/-	Main Equipment with accessories with 5 years of warranty	**14,28,00,000/-**	Main Equipment with accessories with 5 years of warranty	10,59,98,488.00	Main Equipment with accessories with 5 years of Comprehensive warranty with 1 operator for 3 year	10,44,19,165.00	
	1,41,95,000/-	Less-Discount	-	Less-Discount		Less-Discount		
		Add-Customs Duty	3,89,66,125/-	Add-Customs Duty		Add-Customs Duty		
	12,77,55,000/-	Net Amount	**18,17,66,125/-**	Net Amount	10,59,98,488.00	Net Amount	10,44,19,165.00	12,53,02,998.00
	4,03,24,730.00	5 Years CAMC post Warranty with Lab Furniture	4,03,24,730.00	5 Years post Warranty without spares & Preventive maintenance	47,20,000.00	5 Years CAMC post Warranty	2,76,12,000.00	3,68,16,000.00
	16,80,79,730/-	Net amount for 1 Unit	**22,20,90,855./-**	Net amount for 1 Unit	11,07,18,488.00	Net amount for 1 Unit	13,20,31,165.00	16,21,18,998.00
	67,23,18,920./-	Amount for 4 Units	**88,83,63,420/-**	Amount for 4 Units	44,28,73,952.00	Amount for 4 Units	52,81,24,660.00	64,84,75,992.00

14/6/2024

14/06/2024