Ministry of Mines
National Mineral Exploration Trust

Minutes of the 56th Technical-cum-Cost Committee (TCC) meeting held on 31st August & 1st September, 2023 through video conferencing at New Delhi

---

The 56thmeeting 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, NMETon 31st August & 1st September, 2023 at New Delhi.Members of TCC-NMET and representatives from MECL, DMR Meghalaya, KIOCL, JEMCL, CGM Gujarat, M/s. Geovale Services Private Limited, GSI, MPSMC Ltd., CMPDI, OMC, DMG Karnataka and DGM Chhattisgarh had attended the meeting through their respective VC modes.

The list of participants is at **Annexure-1.**

Shri Suresh Chander, Director, GSI and Member Secretary, TCC-NMET, welcomed Dr. S. Ravi, DDG, GSI and Chairman, TCC, NMET, Members of the TCC and participants representing various Notified Exploration Agencies [NEAs] and Notified Private Exploration Agencies [NPEAs]. He conveyed that 10 nos. of mineral exploration proposals were submitted by MECL, DMR Meghalaya, KIOCL, JEMCL, CGM Gujarat, M/s. Geovale Services Private Limited. 04 agenda were submitted by GSI and 18 nos of projects submitted for review.

Shri Vivek Kumar Sharma, Director & HoD,NMET welcomed the participants to the 56th TCC meeting. He reiterated the need for more projects on critical and strategic minerals and urged the Exploration Agencies to bring the projects in time for review by TCC.

Dr. S. Ravi, DDG, GSI and Chairman, TCC welcomed the members and other participants from various NEAs/NPEAs. He suggested that the review of ongoing projects may be carried out in 4 months so that the TCC may give in their timely suggestions.

Shri. P. Harish , Deputy Director DMG Karnataka requested the NPEAs to submit the new proposals in NMET format . He requested NMET to conduct a workshop on the financial management of the NMET funds to the State DGMS / DMGs.

The suggestion was welcomed by Shri Vivek Kumar Sharma, Director & HoD, NMET and Dr. S. Ravi, DDG, GSI and Chairman, TCC and offered to conduct the workshop in near future.

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

09/09/23

09/09/2023

Agenda wise discussions are summarized as follows:

Agenda 56.1: Technical evaluation of new project proposals:

Agenda 56.1.1.Reconnaissance Survey (G-4 Stage) for REE And RM Mineralization in Chikhli Block, Part of Districts–Bhandara, State – Maharashtra.
[Implementing Agency: MECL]

a) Geologically, the study area is covered by rocks of Tirodi Gneissic Complex Group and Sausar Group. Tirodi Gneissic Complex Group consist of gneiss/migmatite of Archaean age whereas Sausar Group of Palaeoproterozoic age is represented by quartz mica schist and quartzite of Sitasaongi Formation, calc gneiss of Lohangi Formation, muscovite schist, Manganese ore and gondite of Mansar Formation and marble of Bichuhua formation.

b) MECL conveyed that during field session 2017-2018, NGCM was taken up, in parts of 55O/10 and 55O/11 in Balaghat district, Madhya Pradesh and Bhandara District of Maharashtra. In the proposed block 29 stream samples were collected by GSI, out of 29 samples 8 stream samples shows Total REE (TREE) of more than 1000 ppm. The TREE value in the proposed block varies from 385.8 to 1353.6 ppm. HREE and LREE values vary from 48.2 ppm to 131.2 ppm and 322.2 ppm to 1245.3 ppm respectively.

c) The project proposal was sent to GSI for comments. In response to this GSI has informed thatthe proposed block is overlapping with already explored block at G4 stage as follows:

- Rongha- Lendezari REE block (G4); Patle& Srivastava, 2019-20.
- Khapa-Alesur REE Block (G4); Gupta 2017-18.

d) In view of above, Committee opined that GSI has already carried out G4 Stage exploration work and suggested not to take up the project to avoid duplication of work.

Recommendation of TCC:

Keeping in view of above, the committee suggested not to take up the proposed project proposal to avoid duplication of work.

Agenda 56.1.2. Reconnaissance Survey (G-4 Stage) for Gold and Associated Minerals in Jamtola - Khandapar Block, Balaghat District, Madhya Pradesh.

09/09/23

[Implementing Agency: MECL]

a) The proposed block has the area of 96.62 sq km and it falls in Survey of India Toposheet No.64C/09. The Block falls in the part of Sarekha and Jatta Reserve forest and in parts of Protected forest.

b) Regionally, the area falls near the southern boundary of the Central India Tectonic Zone (CITZ) and Bastar Craton. Gold Mineralisation is observed in the Quartz veins present within phyllites.

c) Based on the previous study by Khan et.al., (1995), Khan et.al., (1995) ,Pal, A. B. and Sindhupe G.L. (2004) , Bhargava, Ind Pal (2000) , MECL proposal G4 stage exploration by caring out geological mapping of 96.62 sq.km (1:12,500), Bed Rock/Stream Sample, Trenching Excavation, Geophysical Survey, Scout Drilling, Petrological & Mineralogical Studies, Specific Gravity Determination, Whole Rock Analysis,

d) The project proposal was send to GSI for comments and in response to this GSI has informed that there is an overlap with proposed MECL block as per work carried out/proposed by GSI, SU: MP.

e) The committee suggested that MECL may visit the area , analyse some samples and demarcate the quartz veins in the area.

Recommendation of TCC:

The committee recommended that that MECL may visit the area , analyse some samples, demarcate the quartz veins in the area and the modified proposal may be brought in the next TCC.

Agenda 56.1.3.Reconnaissance Survey (G-4 Stage) for Iron, Manganese and Associated Minerals in Tikariya Block (146.0 Sq. Km) Districts- Jabalpur, Katni And Umaria, Madhya Pradesh.

[Implementing Agency: MECL]

a) MECL informed that the area geologically exposes lithounits belonging to Early Proterozoic to Archaean aged Mahakoshal Group of Rocks comprising Quartz veins, Quartz porphyre veins, Mafic and Ultramafic intrusive, Phyllite with bands of quartzite, Conglomerate Dolomite, Limestone with bands of BIF, Manganiferous chert, quartzite and metabasalts, pyroclasts.

09/09/23

b) Iron and Manganese mineralization associated with the Early Proterozoic aged Mahakoshal Group of rocks has been present in the area marked by the presence of BIF and Mn bearing Phyllites etc.

c) MECL conveyed that F.R. Mallet & Huges in 1833 surveyed the parts of Jabalpur District and identified iron ore deposits associated with BIF and laterites in the area. He mentioned the presence of iron ore bands of varying thickness in the area.G.R. Rao of DGM, MP in 1959, examined this area and referred the iron ore reserve to be low to medium grade .S.S. Mishra of the DGM, MP in 1961 established that the iron ore bands has vast continuation in the area. Earlier Geological Survey of India, Jabalpur has carried out G4 investigation titled "Investigation for Iron Ore in Sihora and Gosalpur area in Jabalpur district" during FSP 2015-2017

d) Further, MECL mentioned several active Mines of Iron and Manganese are present there in the close vicinity of the block including an exploration block of NMDC in south-west of the proposed block for Fe-Mn.

e) MECL has conducted field visit in the proposed block. During geological traverses, MECL team identified the host rocks viz. BIF and Phyllites at several places. A total of 4 no. of BRS/Chip samples were collected and analysed them in its chemical Lab. Samples are showing Fe values ranging from 52.88 to 60.15 %. The analytical results of Samples analysed in MECL chemical Lab are mentioned below:

Sample ID	Chemical Lab Analysis						
	Total Fe%	Total Mn%	SiO_2%	Al_2o_3%	P205%	Cao%	MgO%
P-4	53.83	0.40	3.97	6.51	0.10	0.07	0.06
P-5	60.15	0.02	3.58	2.97	0.25	0.11	0.06
P-9	52.88	0.01	12.46	5.01	0.18	0.13	0.12
P-10	12.69	0.22	44.74	12.91	0.09	9.39	7.61

f) The proposal was sent to GSI for comments and GSI informed that there is an overlap with proposed MECL block as per work carried out/ proposed by GSI, SU: MP.

g) In view of the above, the committee approved recommended to take up the project with modifications in G4 stage with time schedule of 10 months. The project will be reviewed after 5 months. On the suggestions of TCC, area was reduced from

09/09/23

09/09/2023

proposed 146 sq.km to 58 sq.km, by excluding the sandstone, ortho-quartzite & conglomerate litho units in the map, along with the reduction of time period from 14 months to 10 months

Recommendation of TCC

The committee recommended the proposal for approval of EC for "Reconnaissance survey (G4) for Iron, Manganese and associated minerals in Tikariya Block, Districts: Katni, State: Madhya Pradesh with an estimated cost of ₹ 221.84 Lakhs with time schedule 10 months for carrying out proposed work and submission of report as per annexure 2A & 2B.

Agenda 56.1.4. Proposal of Preliminary Exploration (G-3) for gold and associated minerals in Kambalapalli block (2.75 sq.km area), Ananthapur District, Andhra Pradesh

[Implementing Agency: MECL]

a) The project proposal was sent to GSI for comments. In response to this GSI communicated that the proposed area (Kambalapalli block) falls within Boksampalli South Block already under process of auction for Composite License (CL) by the State of Andhra Pradesh. The Boksampalli North Block (just above proposed Kambalapalli block) is also auctioned with Composite License (CL) by the State of Andhra Pradesh.Both Boksampalli South Block and North Block was previous under Reconnoissance Permit (RP) of Geo Mysore Pvt. Ltd.Furthe, GSI SU:AP has proposed a Regional Mineral Targeting (RMT) proposal for FS 2024-25 covering major part of Ramagiri Schist Belt excluding (Ramagiri North, Ramagiri South , Boksampalli South Block) blocks auctioned by State Government with CL.Hence, proposed G3 Kambalapalli block to MECL is not recommended.

b) In view of above, Committee opined not to take up the project to avoid duplication of work.

Recommendation of TCC:

Keeping in view of above, the committee suggested not to take up the proposed project proposal to avoid duplication of work.

09/09/23 09/09/2023

Agenda 56.1.5. Reconnaissance Survey (G4 Stage) of Ion-Adsorption and Laterite Hosted Supergene Enriched REE Deposits for Sung Valley Block, East Khasi and West Jaintia Hills Districts, Meghalaya [Implementing Agency: DMR Meghalaya]

a) The project proposal was sent to GSI for comments. In response to this GSI commented, about 45-50 % of the proposed area was covered during the FSP: 2010-12 in Mission-II project titled- "Preliminary search for REE in the periphery part of Sung Ultramafic-Alkaline-Carbonatite Complex, East Khasi hills and Jaintia Hills districts,Meghalaya. As per the records, no REE exploration has been done or is being done in the Sung area (Sungvalley Ultramafic-Alkaline-Carbonatite Complex) for the ongoing (FS: 2023-24) and forthcoming(FS: 2024-25) projects. However, a number of explorations were carried by GSI in the Sung valley Complex for phosphate, gold, PGE, Titaniferous-vanadiferours magnetite and etc., in the previous years.

b) In view of above, Committee opined the project may be taken up in G3 stage of the proposed block. Committee suggested DMR Meghalaya to mofify the proposal to G3 stage and submit for approval in the next TCC.

Recommendation of TCC:

Keeping in view of above, the committee suggested DMR Meghalaya to modify the proposal to G3 stage and submit for approval in the next TCC.

Agenda 56.1.6.Reconnaissance Survey for Gold and basemetal, Yediyur - Karighatta schist belt, Mandya district, Karnataka

[Implementing Agency: KIOCL]

a) The Yadiyur - Karighatta belt is the southern extremity of the Chitradurga schist belt extending along N-S direction from Yadiyur to Hadinaru, over a distance of 20 km. Further south near Nanjanagud, the schist belt occurs as detached outcrops along the same direction.

b) Geologically, the area is potential for gold and basemetal especially copper mineralisation in the volcano sedimentary sequence of Yediyur formations. There are a number of old workings, brecciation, alteration zones and surface manifestation of mineralisation are noticed in the basaltic rocks.

09/09/23 09/09/2023

c) While carrying out the systematic geological mapping in the area by (Sundara Moorthy et.al 1984) GSI has reported the sulphide mineralization in the form of veins and dissemination in the ultramafics and calc-silicate rocks exposed at the top of the Arekere hill. Sulphide mineralization are also seen in the quartz veins on the southern slope of the Karighatta hill and also in the granite body exposed at the road junction north of Hampapura. The sulphide mineralization are pyrite and chalcopyrite.

d) During the Second-Generation Geological mapping carried out by (R. Venkata Subba, et.al 1987) GSI reported a number of old prospecting pits for gold in the quartz veins have been reported in the area around Kalinganahalli, north of Mulakatte, and north of Honna betta Hosur.North of Mulakatte the old working is in the form of an inclined shaft where as in the north of Honnabetta Hosur it is in the form of pits. Samples from these quartz veins indicated <0.1 ppm of gold.

e) During the pre-field studies carried out by the geoscientists of the KIOCL, the following were their observations:

- Indications for Gold mineralization are noticed only in Banded iron formation located at the central and eastern part of the block. It is brecciated, contains altered pyrite and limonitic alterations.

- The pegmatite in this area look like complex type, shows indications of zoning, graphic intergrowth of quartz and feldspar observed. Several pegmatite bodies hosted with a considerable amount of economically viable minerals that are rich in rare metals and micas were reported in the Holenarasipur and Karighatta Schist belt, So the pegmatite of this block can be explored in detailed for rare metals.

- The contact between the host rock and the pegmatites are sharp and well defined. The alteration not only involves recrystallization of mica and silicification of wall rocks, but it also gives rise to the development of new minerals like muscovite, epidote, tourmaline and garnet.

f) In view of above, KIOCL proposal G4 stage exploration by caring out Geological mapping over an area 50 sq.km on 1:12500 scale.

09/09/23 09/09/2023

g) The project proposal was send to GSI for comments and in response to this GSI that Karighatta block has slight overlap with the GSI's ongoing and proposed STM items and the block needs to be recarved so as to avoid duplication .

h) In view of the above , the committee recommended to take up the project in G4 stage with modifications and time schedule of 9 months. The project will be reviewed after 4months.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Reconnaissance survey (G4) Gold, REE and RM mineralization in Kharightta Block, Mandya district, Karnataka" with an estimated cost of ₹ 144.46 Lakhs with time schedule 9 months for carrying out proposed work and submission of report as per annexure 3A & 3B

Agenda 56.1.7. Reconnaissance Survey (G4) for Gold and basemetal in Yediyur area, Yediyur - Karighatta schist belt, Mandya district, Karnataka
[Implementing Agency: KIOCL]

Considering that the above recommended project, " Reconnaissance Survey for Gold and basemetal in Karighatta area, Yediyur - Karighatta schist belt, Mandya district, Karnataka" is in the same schist belt, the committee opined that the project may be take up after review of the recommended project in Karighatta area after 4 months.

Recommendation of TCC:

Keeping in view of above, the committee suggested take up the proposed project proposal after review of the project " Reconnaissance Survey for Gold and basemetal in Karighatta area, Yediyur - Karighatta schist belt, Mandya district, Karnataka" after 4 months.

Agenda 56.1.8.Reconnaissance Survey for Banpura Copper and associated Rare Metal Block situated in Bagodar Block, Giridih District, Jharkhand.
[Implementing Agency: JEMCL]

09/09/23 09/09/2023

a) The project proposal was sent to GSI for comments. In response to this GSI has informed that the proposed area for Banpura Copper and associated Rare Metal Block situated in Bagodar Block, Giridih District, Jharkhand for Reconnaissance Survey (G4 Stage) underNMET exploration, overlaps almost 50 % with the base metal exploration in Rakhawat-Paharpur (G4) of FS: 2022-23 and nearly 50% area overlaps with the base metal explorationi n Kusmarja-Gobindpur (G4) of FS: 2023-24.

b) In view of above, Committee opined that the GSI has already carried out G4 Stage exploration work and suggested not to take up the project to avoid duplication of work.

Recommendation of TCC:

Keeping in view of above, the committee suggested not to take up the proposed project proposal to avoid duplication of work.

Agenda 56.1.9.Reconnaissance Survey for Supa REE and associated Rare Metal Block situated in Angara Block, Ranchi District, Jharkhand.
[Implementing Agency: JEMCL]

a) The project proposal was sent to GSI for comments. In response to this GSI has informed that the proposal around Supa Village, Angara Block of JEMCL is part of GSI'sMaheshpur-Kamta-Nawatoli-Jaratoli-Guridiharea G4 block of REE exploration (FS: 2014- 16).

b) In view of above, Committee opined that the explorationwork of G4 stage is already carried out by GSI. Therefore, the committee suggested not to take up the project to avoid duplication of work.

Recommendation of TCC:

Keeping in view of above, the committee suggested not to take up the proposed project proposal to avoid duplication of work.

Agenda 56.1.10. Reconnaissance Survey for REE Exploration in Bhuj Clay Prospect Block, Kachchh District, Gujarat
[Implementing Agency: M/s Geovale Services Pvt. Ltd]

09/09/23 09/09/2023

a) M/s Geovale Services informed that regionally major part of the proposed block belongs to the Jurassic and Cretaceous sedimentary rocks belonging to the Chari, Katrol and Bhuj formations. Structurally, the area includes two very prominent Quaternary structures, the E-W trending Katrol Hill Fault and the NNE-SSW trending Median High of Kachchh Mesozoic basin.

b) Geovale conveyed that the proposed block was covered by Kachchh Geochemical Mapping Program (KGCMP). High concentration of both LREE and HREE is reported in fine (<80 mesh) fractions of stream sediment samples, under the KGCMP survey.

c) Further, Geovale informed that the central part of the Kachchh Mainland covering SOI toposheet 41E/12, shows an unusually high concentration of both LREE and HREE values, reported in fine fractions of stream sediment samples, under the KGCMP survey with a grid spacing of 2 km x 2 km. A total number of 182 samples analyzed in toposheet numbers 41E/12. The highest concentration of the values for both the ΣLREE and ΣHREE are reported to occur along the Katrol hill fault. NGCMP BHUKOSH data is not available for the proposed block. However, GSI's NGCM data is available for 41A/15 toposheet that also show abnormally high HREE concentration with highest value of 749ppm.

d) Geovale also informed that KGCMP data show high ΣLREE and ΣHREE values Highest ΣLREE concentration being 37959 ppm with a median value of 3719 ppm. The highest ΣHREE concentration being 1965 ppm with a median value of 331 ppm.

e) The proposal was sent for commenst of GSI and in response GSI mentioned that In the proposed area, NGCM work was carried out jointly by CGM (GMRDS) and GSI, SU-Gujarat (FS2012-13) vide MOU between the aforementioned organisations, wherein, anomalous values of REE were reported. Based on this and previous work carried out by GSI on phosphorite, a G4 project during FS 2019-20 (TS no. 41E/8 & 12) was taken in the area. However, the REE values were not encouraging.Further, as per norms, 100 sq. km. is normally taken for G4 stage exploration, the concercened party has proposed for 518.2 sq.km. for G4 stage. Therefore, the area as per norms may be considered.

f) In view of the above, Committee suggested to modify the area and agreed to recommend to take up the project in G4 stage for a duration of 12 months. The review of the projects will be done after 4 months and 7 months. The area was also reduced to 254 sq.km. from proposed 518.2 sq.km

Recommendation of TCC:

The committee recommended the proposal for approval of EC for

09/09/23 09/9/2023

"Reconnaissance Survey for REE Exploration in Bhuj Clay Prospect Block, Kachchh District, Gujarat" with an estimated cost of ₹ 122.280 Lakhs with time schedule 12 months for carrying out proposed work in modified block area of 254 sq.km and submission of report as per annexure 4A & 4B

Agenda 56.1.11. Proposal for Deep Seismic Reflection Survey (DSRS) & Magnetotelluric (MT) Survey along Churu, Rajasthan to Tikamgarh, M.P, - Northern Transect under the project UNCOVER of GSI.

[Implementing Agency:GSI]

a) The 10th Executive Committee (EC) of NMET held on 30.10.2018 had approved the Deep Seismic Reflection Survey (DSRS) and Magneto-Telluric (MT) Survey for Northern Transect of GSI through ONGC at a cost of 8100.00 lakh. Oil and Natural Gas Corporation was the implementing agency for the project and the Work was proposed to be carried out on nomination basis through MoU.

b) GSI made a series of attempts for execution of project in consonance with Ministry of Mines which are as follows:

- For implementing the project MoU between GSI & ONGC could not be executed as the payment conditions of ONGC did not satisfy the GFR. DSRS and MT surveys were also not initiated as per the plan (12–14-month time duration) as approved by NMET.
- GSI with due consultation with Ministry of Mines had decided to get the work done through open tendering (October, 2020).
- Expression of interest was invited from stock holders to carry out DSRS & MT surveys along Northern Transect.
- The custom bids of DSRS and MT survey in Northern Transect was published in GeM platform on 03.11.2021.
- None of the bidders were found to be qualified and the Bids were closed.
- GSI with due deliberation with the Ministry of Mines has approached CSIR-NGRI to carry out DSRS & MT along the Northern Transect. A draft MoU along with the project proposal has been prepared and submitted to NMET for approval.
- GSI and CSIR-NGRI team has carried out joint field traverse for feasibility study along the Northern Transect from 08.05.2023 to 12.05.2023.
- GSI approach to the MoM for approval of nomination of NGRI for carrying out DSRS of Northern Transit.

09/09/23 09/09/2023

- Ministry of Mines vide email dated 25.05.2023, requested GSI ,"*to kindly seek a fresh proposal from NGRI to carry out DSRS and MT Survey along Northern Transect under NMET fund, on nomination basis and submit the same to NMET for consideration and necessary action*"
- Project details is enclosed as Annexure 5A, 5B and 5C

c) Members enquired if there is any overlap to the proposed area with the work of NGRI to which representative of NGRI replied that the area is completely virgin and no survey work has been carried out by NGRI in the area.

d) The committee was also informed that the cost for the project has been derived from the already ongoing projects of NGRI from the recent expenditure they incurred on the DSRS & MT studies in Kutch Basin.

e) On the issue of comparative studies of the proposal submitted by ONGC & NGRI, it was informed by DG, GSI that the DSRS studies proposed by ONGC didn't include the deeper basin studies as they only focus on shallow sedimentary basin for the purpose and the nature of work NGRI has presented fulfills the requirement of GSI and the Project-UNCOVER.

f) It was also informed by Nodal Officer, DSRS that NGRI technically qualifies for the work proposed for Project-UNCOVER.

g) The committee reviewed the proposal and desired that the no. of channels for the survey may be increased. TCC agreed to recommend the proposal to EC for approval with a cost of ₹100.73 Crore and a timeline of 36 months.

h) The committee opined that , considering NGRI is a national institute which has a long standing reputation, TS-QC for the project will not be necessary.

i) The committee also suggested the cost of outsourced components will be done as per actuals. Further, the project will be reviewed in every 6 months and GSI-NGRI has to complete the project within the given timeline and no further time extension will be given to the project, until there would be any force majeure condition. They also suggested as it is a national project it has to be completed in mission mode.

Recommendation of TCC:

***Keeping in view of above, TCC recommended the proposal to EC for approval with a cost of ₹100.73 Crore with a timeline of 36 months as per* Annexure 5A, 5B and 5C**

09/09/23

09/09/2023

Agenda 56.1.12.Target revision and timeline extension for outsourcing of ground gravity-magnetic survey under National Geophysical Mapping (NGPM) programme of GSI

[Implementing Agency:GSI]

a) National Geophysical Mapping Programme [NGPM] was approved in the 21st EC of NMET on 19.07.2021 for a cost of 385.6 Crore (including GST)for a period of 36 months

Gravity/magnetic survey	Total number of toposheets for outsourcing	No of Toposheets proposed for outsourcing during year I	No of Toposheets proposed for outsourcing during year II	No of Toposheets proposed for outsourcing during year III
Total number of toposheets for outsourcing	2099	500	800	799
Budget requirement (excluding GST)		70 Cr	123 Cr	134 Cr

b) GSI informed that a total of 1300 toposheet will be covered in-house and 799 is to be outsourced. the breakup for the outsourced component is as below:

- 500 toposheet @ Rs.5000 = Cost RS.70 Cr
- 299 toposheets @ Rs. 5500 = Cost Rs. 46 Cr + additional Provision of 10% increase = Rs. 50.6 Cr
- Total Cost = Rs.121 Crores (excluding GST)
- Total estimated amount Rs 142.78 Cr (including GST)

c) Further, GSI informed that they have capacity of covering area @ 1.12 lakh sq km per year (about 160 Toposheets per year) in NGPM survey with its existing 33 sets of instruments (gravimeters, magnetometers and DGPS).

d) NMET had approved Rs 32 Cr for procurement of 11 sets instruments for data validation of outsourced NGPM (OM dated 15.07.2022) and Rs 70 Cr for

09/09/23

09/09/2023

procurement of 24 sets instruments for enhancement of in-house capacity for gravity-magnetic mapping (OM dated 09.02.2023). The procurement process is in progress.

e) All the 68 sets (33 + 11+ 24) instruments will be deployed to complete GPM in at least 1300 Toposheets at a rate of 2.29 Lakh sq km area/ year by year 2027-28.

f) Considering the above, GSI requested for the revised cost 142.78 Cr (including GST) with time extension up to Fy 2027-28.

g) The committee noted the progress of the NGPM programme and opined that considering that the project is of national importance the revision of cost and additional timelines may be first sought from the Ministry of Mines before presenting in the TCC.

Recommendation of TCC:

Keeping in view of above, TCC suggested that permission may be first sought from Ministry of Mines for the revised cost and timeline extension, before submitting for the proposal to NMET

Agenda 56.1.13. Timeline Extension of NGDR Project

[Implementing Agency:GSI]

a) The 20th EC of NMET held on 24.06.2021 approved Implementation of National Geoscience Data Repository (NGDR) for an estimated cost of 3408.25 Lakhs . The work order for the project was issued on 10.02.2022.

b) GSI informed that Milestones 1, 2, and 3 has been completed. Milestone 4 (3D Borehole visualization, 3rd Party Audit) and Milestone 5 (Go-Live, Handholding & Helpdesk Creation) is in progress. Milestone-6 to 10 (Operation & Maintenance and Database Creation is to be taken up in the next 5 years.

c) GSI informed that the tentative date submission of invoice of Milestone-4, was 10.2.2023, as per MOU. The work order issued by GSI on 10.2.2022.

09/09/23

09/09/2023

d) However, BISAG-N, the System Integrator of the NGDR project could not complete the Milestone -4 in time. Therefore, invoice for the Milestone-4 couldn't be submitted in time. Due to delay in completion of Milestone-4, the Milestone-5 targets are being delayed.

e) Considering the situation GSI requested to accord the approval of extension of Timeline for Milestone-4 and Milestone-5 till 31.10.2023.

f) The committee noted the progress of the project and agreed for time extension for Milestone-4 and Milestone-5 till 31.10.2023.

Recommendation of TCC:

Keeping in view of above, the committee recommended time extension till 31.10.2023 for Milestone-4 and Milestone 5.

Agenda 56.1.14. Financial Sanction for the project "Engaging a Technical Supervision and Quality Control (TS-QC) Consultant for monitoring of Quality Assurance & Quality Control (QA/QC) of the Multi-sensor Aerogeophysical surveys over Block-14 under Phase-II of National Airborne Geophysical Mapping Program (NAGMP)

[Implementing Agency:GSI]

a) NMET in its 25th meeting held on 29th June 2022 approved TS-QC project for two Blocks-14 &15 at an combined estimated cost of Rs.5.20 Cr. in time schedule of 24 months .

b) Accordingly, two separate tenders were floated for TS-QC for Blocks-14 &15 for which three bidders participated and only Two bidders have been technically qualified.

c) The TEC (Finance) recommended to award the contract to the M/s Blueenergy Build Private Limited, Hyderabad in consortium with M/s Reid Geophysics Ltd., Eastbourne, UK, the L1 bidder, at a total all inclusive cost of INR 2,66,50,055/- (Rupees Two Crore Sixty Six Lakh Fifty Thousand and Fifty Five only). Further, GSI informed that L1 cost is 6.016% less than the estimated cost of INR 2,83,55,990/- as per the proposal submitted by GSI in May 2022 to NMET.

09/09/23

09/09/2023

d) Further, GSI requested for time duration of 24 months from the date of singing of MoA.

e) The committee agreed to recommend ₹ 2,66,50,055/- (Rupees Two Crore Sixty Six Lakh Fifty Thousand and Fifty Five only) to carryout TS-QC work of NAGMP Block-14 with a timeline of 24 months.

Recommendation of TCC:

Keeping in view of above, the committee recommended ₹ 2,66,50,055/- (Rupees Two Crore Sixty Six Lakh Fifty Thousand and Fifty Five only) to carryout TS-QC work of NAGMP Block-14 with a timeline of 24 months.

56.2 Review of Ongoing/ Completed Projects

Agenda 56.2.1 Detailed Exploration (G-1 stage) for Lignite in Veeranam Block, Sub Block-IV in Cuddalore, Tamil Nadu [Implementing Agency: MECL]

a) The exploration in Veeranam Block-IV was approved by TCC in its 22nd Meeting on 13th & 14th November 2019 with estimated cost of Rs 23.25 Crore and timeline of 30th April 2022.
b) MECL conveyed that 52nd TCC of NMET recommended the time extension for the project.The 30th Executive committee of NMET approved time extension upto 30.06.2023 for Sub Block-IV. Further, 55th TCC recommended the timeline extension of 2 months i.e. upto 31st August, 2023 for submission of geological report to NMET Secretariat.
c) MECL informed that GR was submitted to Head, NM-II, GSI for peer review on 30.06.2023. All the corrections, suggestions and comments of reviewer has been attended and rectified as per advise
d) MECL conveyed that Net in-situ development area of 52.84 sq. km. with an average grade of 2513 K.cal./kg. (Lignite Resource of 459.414 million tonnes (Proved category of 354.490 million tonnes, Indicated category of 54.828 million tonnes and Inferred category of 50.096 million tonnes) over lignite B Grade) have been assessed.
e) The committee noted the outcome of the block and advised to submit the GR to NMET secretariat.

Recommendation of TCC:

09/09/23

9/09/2023

The committee recommended for submission of geological report to NMET Secretariat.

Agenda 56.2.2 : Preliminary Exploration (G-3 stage) for Iron Ore in Malangtoli Block, Sub Block-E in Sundargarh and Kendujhar Districts, Odisha. [Implementing Agency: MECL]

a) Preliminary Exploration (G-3 stage) for Iron Ore in Malangtoli Block, Sub Block-E was approved in the 9th EC meeting ogf NMET on 16.08.2018.In the 23rd EC meeting Time extension up to May 2023 was granted for the block.

b) MECL conveyed that Block was reviewed in the 53rd TCC meeting held on 25.05.2023 and the committee was advised to incorporate previous exploration data by GSI . further, the 30th EC on NMET approved time extension to submit the report till 31st August 2023 was granted.

c) MECL infomed that a totaL of 799 samples were collected out of the approved 935. Exploration was carried out with only 10 (ten) boreholes. Boreholes are not in a grid pattern due to large area. Surface area is large and total area could not be covered up by drilling. Most of the mineralized areas are left out where drilling was to be carried out. Pits for bulk density and distribution of lumps and fines in the ore could not be carried out due to field difficulties. In many part of the area the surface is occupied by detrital lateritic ore of rich iron ore. Resources have not been estimated due to limited scope in the present exploration. Pitting or trenching may be carried out to assess the nature of the ore and resource estimation.

d) Further,MECL informed that the iron ore developed up to 511.40 mRL (MNME-02) The depth of enrichment varies from place to place. In all boreholes, the ore has not developed up to 511.40 mRL. Iron ore is mostly hematitic in nature. Goethite, limonite as a minor constituents replacing hematite. Magnetite occurs as a relict.

e) MECL informed that total of 46.88 million tonnes of net resources has been estimated within the block with average 54.93 Fe%, 8.47 SiO2% and 6.38 Al2O3% at G3 (333) stage at 45% Fe threshold value which includes 22.98mt and 23.90 mt at 45-55% Fe and > 55%Fe respectively.

f) MECL conveyed that the comments of the peer reviewer has been incorporated in Geological Report.

g) The committee did not agree with the comments of MECL and agreed that there is a possible misinterpretation of available resources. Hence, committee suggested MECL to recalculate the resources and submit for review in the next TCC.

09/09/23

09/09/2023

Recommendation of TCC:

In view of the above the committee recommended to recalculate the resources and submit for review in the next TCC

Agenda 56.2.3: Preliminary Exploration (G-3 stage) for Copper Ore in Dhanota Block, Southern Khetri Copper Belt in Jhunjhun District, Rajasthan. [Implementing Agency: MECL]

a) The project "Preliminary Exploration for Copper ore in Dhanota Block, Jhunjhunu District, Rajasthan" was approved in 22nd meeting of Executive Committee held on 22nd December, 2021.On recommendation of TCC, The Executive committee of NMET approved the time extension of 6 months i.e. 23rd July, 2023 for the project

b) Further , 55th TCC recommended for e time extension upto 15th September,2023 for submission of geological report.

c) MECL informed that peer review comments were received on 15.08.2023 and the recommendations were attended to.

d) The committee was apprised that 7 Bhs were drilled at 100m interval involving total 2321.00m of drilling to intersect the ore body up to 250m vertical depth .

e) Further, MECL conveyed Borehole core sample analysis of total 250 samples indicated that Cu values range from minimum 0.20% Cu, 36 nos. samples >0.50% and 19 nos. samples >1.0% Cu. Mineralized Ore Zones delineated at 0.2%0 & 0.5% Cu cutoff with 2.00m MSW as true width and 3.00m Minimum parting.

f) Considering the above, TCC agreed for the submission of the final report to NMET.

Recommendation of TCC:

The committee suggested for submission of geological report to NMET Secretariat.

Agenda 56.2.4: Preliminary Exploration (G-3 stage) for Iron Ore in Malangtoli Block, Sub Block-D in Sundargarh and Kendujhar Districts, Odisha. [Implementing Agency: MECL]

MECL informed that the comments of the Peer Reviewer is yet to be received . Hence informed the committee that the project will be presented in the next TCC meeting.

Recommendation of TCC:

The committee suggested reviewing the project in next TCC meeting with comments of Peer reviewer.

09/09/23

09/09/2023

Agenda 56.2.5: Reconnaissance Survey (G4) for Nickel, Copper and Associated minerals in Salewara-Kumarwara-Murum Block, Khairagarh- Chhuikhadan- Gandai District, Chhattisgarh. [Implementing Agency: MECL]

MECL informed that the comments of the Peer Reviewer is yet to be received . Hence informed the committee that the project will be presented in the next TCC meeting.

Recommendation of TCC:

The committee suggested reviewing the project in next TCC meeting with comments of Peer reviewer.

Agenda 56.2.6: Reconnaissance Survey (G4) for Kyanite in Kallahalli Kyanite block, District-Mysore, Karnataka [Implementing Agency: KIOCL]

a) The project Reconnaissance Survey (G4 LEVEL) for Kyanite in Kallahalli Kyanite Block was approved in 18th EC meeting of NMET with an estimated cost of ₹ 0.97 Cr. within 12 months duration.The Sanction order was issued by NMET on 31.03.2022.
b) KIOCL conveyed that the delay in the project was caused due to the lock down during the 2nd wave of COVID -19.
c) The project was reviewed in the 49th TCC of NMET where TCC approved for 956m drilling .
d) The report was received after peer review on 3rd June 2023 and the fiba=nal report was submitted to NMET on 3rd Aug 2023.
e) Considering the above, KIOCL requested for time extension for the projects upto 31.08.2023.
f) TCC agreed for the submission of the final report to NMET along with Time extension of 18 months i.e upto 31st August,2023.

Recommendation of TCC:

The committee suggested to submission of geological report to NMET Secretariat and TCC also recommended the timeline extension of 18 months i.e. upto 31st August, 2023 .

09/09/23

09/09/2023

Agenda 56.2.7: Reconnaissance survey for basemetal in Oblapuram block (53.0 sq. km), District: Davangere, Karnataka [Implementing Agency: KIOCL]

a) The project "Reconnaissance survey for basemetal in Oblapuram block (53.0 sq. km), District: Davangere, Karnataka" was approved in 22nd EC meeting of NMET at an estimated cost of ₹ 1.66 Cr. in 12 months. The sanction order for the project was issued on 7th January 2022.
b) The project was then reviewed in 49th meeting of TCC- NMET. The expected date of completion of the project was 6th January 2023. However, due to non identification of brecciated quartzite bands (targeted lithounits for Cu mineralization) during LSM there was a delay in completion.
g) Further,the peer reviewer assigned for the project in April 2023 was untraceable. Hence, later another peer reviewer was assigned by NMET Secretariat in June 2023.
h) Considering the above, KIOCL requested for time extension for the projects upto August 2023.
i) TCC agreed for the submission of the final report to NMET along with Time extension of 8 months i.e upto 5th September 2023.

Recommendation of TCC:

The committee noted the outcome of project and recommended the timeline extension of 8 months i.e. upto 5th September 2023 for submission of geological report to NMET Secretariat.

Agenda 56.2.8. Reconnaissance survey for Limestone in Sangmania Block, Dist. Satna, Madhya Pradesh [Implementing Agency: MPSMC]

a) MPSMC informed that the 14th EC of NMET on 09.09.2019 approved the project" Reconnaissance survey for Limestone in Sangmania Block, Dist. Satna, Madhya Pradesh"
b) MPSMC conveyed DGM initiated the work in field Season 2019-20 & work was completed in field season 2020-21 and report was presented in 2021.
c) MPSMC apprised that drilling of 239 m (one rig, 6 boreholes: 3 in a sub block, 1 in b sub block and 2 in c sub block) was completed . 228.84 Million Tons (G4) of cement grade limestone resource was assessed .
d) The committee noted the progress of the project and opined that the GR maybe sent for Peer Reviewer before bringing to TCC for the final review.

Recommendation of TCC:

09/09/23

9/09/2023

The committee noted the outcome of project and recommended to peer review the geological report before subjecting the project to final review in the next TCC.

Agenda 56.2.9. General Exploration for Coal in Marwatola I & II block, Sohagpur Coalfield, District Umaria, Madhya Pradesh [Implementing Agency: Cmpdi]

a) CMPDI informed that General Exploration (G2 Stage) For Coal in Marwatola Sector-I &II Block,
Sohagpur Coalfield, Umaria, Madhya Pradesh was approved in the 20th EC on 24.06.2021.Forest Permission for the project was received on 16.03.2022.

b) CMPDI conveyed that 5882 m of drilling was carried out in the block 16 correlatable seams including splits (V, IV, L2, IIIA, III Top, III Middle, III Bottom, III Comb., II Top, II Bottom, II Comb., IB, IA, I Top, I Bottom and I Comb. have been proved to exist.

c) Further, it was informed that regional seams IV, IIIA, III Top, III Middle, III Bottom, III Comb., II top, II Bottom, II Comb., IB and IA were assessed for resource in the block and the resource assessment has been done considering that the seams will be worked by underground method. A total of 197.767 million tonnes of gross Indicated resources have been estimated in the entire block.

d) CMPDI informed that peer review of the GR was completed and comments of the peer reviewer is incorporated in Final GR .

e) In view of the above, the committee noted the outcome of the project and agreed for submission of the final GR to NMET.

Recommendation of TCC:

The committee noted the outcome of project and suggested to submit the final GR to NMET Secretariat.

Agenda 56.2.10. Preliminary Exploration for Coal in West of Sheetaldhara block, Sohagpur Coalfield, District Anuppur, Madhya Pradesh [Implementing Agency: CMPDI]

a) CMPDI informed that Preliminary Exploration for Coal in West of Sheetaldhara block, Sohagpur Coalfield, District Anuppur, Madhya Pradesh 24th EC on 18.05.2022 for 12 months.

b) The scheduled date of completion was 03.06.2023. Later NMET had approved 2 months extension.

09/09/23

09/09/2023

c) CMPDI informed that 466.00 m drilling was carried out in the in the block and resources have been estimated in for 3 no. of seams/sections which have attained workable thickness and persistency in the block viz. Seam III Top, Seam II, Seam I.
d) CMPDI conveyed that In West of Sheetaldhara Block, a total of 4.878 million tonnes (MT) Gross Indicated geological resource has been estimated (Considering workable seam thickness is more than 0.90 meter in 1.48 sq km area). Coal seams of West of Sheetaldhara Block belong to Non-coking coal category
e) Further , Out of total Gross Indicated geological resource, 2.422 MT of reserves are estimated for major workable seam III Top, which is almost 50% of total estimated resources.Major Coal resources of the block is confined up to the depth of 100m
f) CMPDI informed that peer review of the GR was completed on 23.08.2023 and comments of the peer reviewer is incorporated in Final GR and requested for time extension up to 05.09.2023.
g) In view of the above, the committee noted the outcome of the project and agreed for submission of the final GR to NMET with 1 month time extension up to 05.09.2023.

Recommendation of TCC:

The committee noted the outcome of project and agreed to submit the final Geological Report to NMET Secretariat and also recommended time extension up to 05.09.2023.

Agenda 56.2.11. Preliminary Exploration for Coal in North of Labji Pusla block, Sonhat Coalfield, District Korea, Chhattisgarh [Implementing Agency: CMPDI]

a) The project was approved in 24th EC held on 18.05.2022. Accordingly, sanction order was issued on 01.06.2022. The scheduled date of completion was 01.06.2023.
b) CMPDI conveyed that 2 months time extension has been accorded by EC, NMET.
c) CMPDI conveyed that 3000.00m (4BHs) was completed , however since the coal seams in the block are de-volatised due to heat effect of the intrusives, all the resources are categorized in the ungraded category.
d) CMPDI informed that Geological Report was submitted for peer review on 12/07/2023 and the vetting comments are received on 16/08/2023 and requested for time extension up to 05.09.2023 for GR submission.
e) In view of the above, the committee noted the outcome of the project and agreed for submission of the final GR to NMET with 1 month time extension up to 05.09.2023.
Recommendation of TCC:

09/09/23

09/09/23

The committee noted the outcome of project and agreed to submit the final Geological Report to NMET Secretariat and also recommended time extension up to 05.09.2023.

Agenda 56.2.12. Reconnaissance Survey for coal in Pawanchora Central block, Wardha Valley Coalfield, District: Chandrapur, Maharashtra. (Surrender of project) [Implementing Agency: CMPDI]

a) CMPDI informed that the project was recommended in 31st meeting of NMET TCC held on 8th & 9th July 2021 and was approved in 24th EC held on 18.05.2022. The Sanction order was issued on 01.06.2022. The scheduled date of completion was 31.05.2023. As per the OM dated 26.07.2023, timeline extension for 8 months i.e. 31.01.2024 was approved approved by Chairperson, EC-NMET.
b) However, CMPDI conveyed that the floated tender was cancelled in the month of December due to GOI directive of tending through GEM only and retendering through GEM portal was done on 17/03/2023. Due to delay in tendering on administrative ground TCC of NMET in its 53rd meeting has recommended for 8 month time extension till 31.01.2024. As per the OM dated 26.07.2023, timeline extension for 8 months i.e. 31.01.2024 was approved by Chairperson, EC-NMET.
c) However, the tender through GEM portal was cancelled due to the rate quoted by L1 bidder is higher than the sanctioned rate of drilling by NMET.
d) As suggested in 55rd meeting of TCC , CMPDI has submitted a letter regarding non-commencement of work & Surrender of the project.
e) In view of the above, the committee agreed to recommend for the surrender of the project to EC.

Recommendation of TCC:

Keeping view of above, the committee recommended surrendering of the project "Reconnaissance Survey for coal in Pawanchora Central block, Wardha Valley Coalfield, District: Chandrapur, Maharashtra " to EC, NMET

Agenda 56.2.13: Reconnaissance Survey (G4) for Iron Ore in Khandadhar Block (Area 40.46 sq.km), Sundargarh Dist., Odisha [Implementing Agency: OMECL]

09/09/23

09/09/2023

a) OMC (formerly OMECL) conveyed that . Reconnaissance Survey (G4) for Iron Ore in Khandadhar Block (Area 40.46 sq.km), Sundargarh Dist., Odisha was approved in the 10 th EC Meeting of NMET held on 30.10.2018. Considering the discussion in 20th TCC meeting the Start Date of the project was perceived as date of Forest Clearance which is 12.01.2022. Further, Revised Cost of Rs. 84.55 Lakhs approved in 23rdEC meeting held on 16thMarch 2022.

b) OMC conveyed that the EC in its 27th meeting approved time extension up to 12 months.

c) The final report was peer reviewed and comments of the reviewer were attended .

d) Total 423nos.of drill cores samples of KhandadharBlock(G4stage were analysed for 3 radicals (Fe%,SiO2 & Al2O3%) at Inspectorate Griffith India Pvt. Ltd

Rock types	Fe%	SiO_2%	Al_2O_3%
High Grade Iron Ore (Lumps) (Fe>55%)	62.83	2.69	2.79
High Grade Iron Ore (Fines) (Fe>55%)	60.96	3.69	3.91
Low Grade Iron Ore (45% < Fe < 55%)	49.70	12.91	8.66

e) Total 89 nos.of surface samples of Khandadhar Iron Ore Block (G4 area) are analysed for 3 radicals (Fe%, SiO2 % & Al2O3%) at JNARDDC, Nagpur (70 nos.) and M/s. IGI Pvt. Ltd. (19 nos.).

Rock types	Fe%	SiO_2%	Al_2O_3%
HMO, HLO, SLO, LO(High Grade Iron Ore)	58.8-67.25	0.4-11.56	0.26-8.67
Fe-Shale, Fe-Laterite, Conga Ore(Low Grade / Mineral Rejects)	51.63-54.12	5.44-11.04	8.67-10.2
BHJ, Shale, Chert, Laterite, Dolerite (Waste)	2.7-40.19	5.16-79.46	0.51-43.35

f) OMC informed Resource potential Estimated in the block is as given below:

:
- For Iron Ore –127.89 MT
- For Bauxite –8.57 MT
- For Manganese Ore –3.58 MT

09/09/23

9/09/2023

g) After the detailed deliberation committee suggested to submit the Geological report to NMET Secretariat and recommended the time extension upto 31.10.2023 for submission of GR .

Recommendation of TCC:

The committee suggested to submit the Geological report to NMET Secretariat and recommended the time extension upto 31.10.2023 for submission of GR .

Agenda 56.2.14. Reconnaissance Survey of Lamer-Panga Graphite Block (49.08 Sq. KM), Kalahandi District, Odisha State r [Implementing Agency: OMC]

a) The project "Reconnaissance Survey of Lamer-Panga Graphite Block (49.08 Sq. KM), Kalahandi District, Odisha" was approved in 26th EC meeting on 25th August, 2022 for 12 months duration.
b) OMC conveyed that Geological mapping (1:12500 scale) has been completed over the total area of 49.08 Sq Km and encountered lithounits like Khondalite, Granite gniess, Quartzite, Charnockite & Calc- granulites in 49.08 sq. km. proposed area. Graphite occurrence pits are observed within this block. 20 line km of SP survey has been done in the block. In addition, chemical analysis of 16 nos. of surface samples have been done.On the basis of the anomalous zone from SP survey, graphite occurrences and chemical analysis report; 08 nos. of boreholes have been proposed for drilling.
c) OMC further informed that period of 12 months has been completed on 21st August,2023. and hence requested for time extension for additional 6 months .
d) The committee noted the developments of the project and approved 08 nos. of boreholes proposed for drilling .Further , committee rrecommended forfor timeline extension upto 20th February,2024 for submission of report.

Recommendation of TCC:

The committee noted the outcome of project and* approved 08 nos. of boreholes *along with recommendation for timeline extension upto* 20th February 2024 *for submission of geological report to NMET Secretariat.

Agenda 56.2.15. Preliminary Exploration for Coal in West of Chano Rikba block, North Karanpura Coalfield, District Hazaribagh, Jharkhand [Implementing Agency: CMPDI]

a) CMPDI informed that the project was approved in the 24th EC held on 18.05.2022. the scheduled date of completion was 01.06.2023 , but EC, NMET had approved Time Extension of 6 month the project

09/09/23

09/09/2023

b) CMPDI has proposed 7 borehole in proposal for Preliminary Exploration for coal in West of Chano- Rikba Block involving 3470m of drilling CMPDI conveyed that 1530m (approved 3470m) drilling has been completed and Coal Cores are being sent for analysis .
c) CMPDI informed that as per Field Visit report of their Geological Team in the area, proposed borehole no. P-7, exposure of Metamorphic rocks (Granitic Gneisses) have been reported. Hence, the borehole could not be taken up .
d) The committee noted the progress of the project and agreed for not taking up the proposed borehole no. P-7.

Recommendation of TCC:

The committee noted the progress of the project and **agreed for not taking up the proposed borehole no. P-7.**

Agenda 56.2.16. Reconnaissance Survey (G4 stage) for Gopaltola (Salhewara) Block District: Rajnandgaon, Chhattisgarh [Implementing Agency: DGM Chhattisgarh]

a) DGM Chhattisgarh informed that Reconnaissance Survey [G-4 stage) for Iron ore in Gopaltola (Salhewara) block District-Khairagarh-Chhuikhadan-Gandai was approved in the 11th EC Meeting on 7 .02. 2019.The sanction order was recived on 12.02.2019 and the procedure for obtaining the forest permission on 05.10.2019.
b) However, DGM Chhattisgarh informed Forest permission was received in 41.34 Km2 on 25.01.2023. Exploration work was initiated in the area dated 16.02.2023.
c) Large-scale geological mapping (1:12500) was completed on 30.06.2023.
d) DGM Chhattisgarh informed Drilling work was also started in the area from 26.02.2023 in the proposed borehole No. PBH-3 and completed on 05.05.2023 with a meterage of 102.30 m.Out of 5 Nos (PBH-1, PBH-2, PBH-3, PBH-4, and PBH-5) of boreholes, only 01 borehole (PBH-3) has been drilled and no Iron ore band has been intersected within the borehole.
e) The rest of the 04 boreholes could not be drilled in the proposed area and DGM Chhattisgarh requested for approval for relocation of the 04 approved BHs based **on** geological setup in the mapped area.
f) Considering the above, Committee noted the progress and agreed for relocation of the 04 BHs and requested Chhattisgarh to ensure that the forest permission is received at the earliest.

09/09/23

09/09/2023

Recommendation of TCC:

The committee noted the progress of the project and agreed for relocation of the 04 BHs.

Agenda 56.2.17. Reconnaissance Survey Iron Ore in Rowghat area, District: Kanker, Chhattisgarh [Implementing Agency: DGM Chhattisgarh]

a) DGM Chhattisgarh conveyed that Reconnaissance Survey Iron Ore in Rowghat area, District- Kanker, Chhattisgarh was approved in the 19th EC on 26.03.2021.The sanction order was issued by NMET on 31.03.2021.
b) DGM Chhattisgarh informed that 125 Km^2 of the approved 150 KM2 was acheived. Out of 305 nos. (approved 300 nos. only) of samples collected results of 280 samples have been received. Out of 280 samples,186 samples contain more than 45 % Fe (avg. Fe content 65.53 %) and 94 samples contain less than 45 % (avg. 29.05 %).
c) Further, DGM Chhattisgarh informed that due of high sensitivity, presently no further field work is recommended in the block and requested for time extension of six month period for the project for sample analysis
d) In view of the above, committee recommended for 6 month time extension upto 30th November 2023.

Recommendation of TCC:

The committee recommended for time extension upto 30th November 2023 the project.

Additional Discussion

Meeting for Review of the ongoing/ completed projects

The committee opined that the reviewing for the ongoing/ completed projects may be held as a separate meeting from the regular TCC meetings. This will enable the committee members to dedicate more time to reviewing the ongoing / completed projects.

Recommendation of TCC:

TCC recommended that a separate meeting may be held during the first/ second week of every month for review of ongoing projects. The TCC meeting for new project proposals may be held in the last week of the month.

09/09/23

09/09/23

Minutes of the 56th Technical-cum-Cost Committee (TCC) meeting held on 31st August and 01st September 2023 through video conferencing at New Delhi

S.NO	Name/ Designation	Status	Remarks
1	Dr. S. Ravi, Dy. Director General, SU: Karnataka & Goa, GSI Bangalore.	Chairman, TCC	Through VC
2	Shri Ranjan Kumar Sinha, Controller General (Retd.), IBM	Member	Through VC
3	Shri Hemraj Suryavanshi, Addl. Director General (Retd.), GSI	Member	Through VC
4	Dr. S. K. Kulshrestha, DDG-RMH-III, NER, GSI, Shillong	Member	Through VC
5	Shri S.K. Adhikari, Chief Mining Geologist, IBM, Nagpur.	Member	Through VC
6	Dr. Anjani Kumar, Dy. General Manager (Exploration) & HoD Planning (Retd.), MECL	Member	Through VC
7	Shri Naeem Ahmed, General Manager (Exploration) (Retd.), CMPDI Ltd.	Member	Through VC
8	Shri K.L. Mundra, Head-RMRE, AMD, Hyderabad	Member	Through VC
9	Shri Vivek Kumar Sharma,Director, NMET, Ministry of Mines	Member	Through VC
10	Shri Vinay Pal, Cost Accounts Officer, GSI, Nagpur	Member	Through VC
11	Shri P.K. Maharana, AGM (Finance), NALCO, Bhubaneswar	Member	Through VC
12	Shri Ravi Kumar Gupta General Manager (Finance) HCL, Kolkata	Member	Through VC
13	Shri. Suresh Chander, Director, GSI, WR, Jaipur.	Member Secretary	Through VC

09/09/23

09/09/2023

List of participants attended 56th Technical-cum-cost Committee (TCC) meeting of NMET Dated: 31st August and 01st September 2023,through video conferencing at New Delhi

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 Ranjan Kumar Sinha, Controller General (Retd.), IBM	sinhark57@rediffmail.com	9421777637	Member TCC
3	Shri Hemraj Suryavanshi, Addl. Director General (Retd.), GSI	hemrajgsi@gmail.com	7477042176	Member TCC
4	Dr. S. K. Kulshrestha, DDG-RMH-III, NER, GSI, Shillong	s.kulshrestha@gsi.gov.in	9413330658	Member TCC
5	Shri S.K. Adhikari, Chief Mining Geologist, IBM, Nagpur.	skadhikari@ibm.gov.in	7588690545	Member TCC
6	Dr. Anjani Kumar, Dy. General Manager (Exploration) & HoD Planning (Retd.), MECL	anjanikumar1957.ak@gmail.com	9975350576	Member TCC
7	Shri Naeem Ahmed, General Manager (Exploration) (Retd.), CMPDI Ltd.	ahmadnaeem17@yahoo.co.in	8588092153	Member TCC
8	Shri K.L. Mundra, Head-RMRE, AMD, Hyderabad	headrmre.amd@gov.in	9414785663	Member TCC
9	Shri Vivek Kumar Sharma,Director, NMET, Ministry of Mines	vksharma.ofb@gov.in	7024570055	Member Ex-office
10	Shri Vinay Pal, Cost Accounts Officer, GSI, Nagpur	vinay.pal@gsi.gov.in	8527368161	Member TCC
11	Shri P.K. Maharana, AGM (Finance), NALCO, Bhubaneswar	pmaharana@rediffmail.com	8500669500	Member TCC
12	Shri Ravi Kumar Gupta General Manager (Finance) HCL, Kolkata	ravi_g@hindustancopper.com	9433274328	Member TCC
13	Shri. Suresh Chander, Director, GSI, WR, Jaipur.	suresh.chander@gsi.gov.in	9493860963	Member Secretary

09/09/23

09/09/2023

14	Shri Janardan Prasad, DG	dg.gsi@gov.in	7763800788	GSI
15	Shri. LMS Maura	l.s.maura@gsi.gov.in		
16	Dr. Pankajmala Bhattacharya, Director	pankajmala.bhattacharya@gsi.gov.in		GSI
17	Shri.Pradip Kr. Mukherjee, Director	pradip.mukherjee,@gsi.gov.in		GSI
18	Shri. Ramachandrappa Superintending Geophysicist			GSI
19	Shri P.Ravindran,DGM (Exploration)	gm.exploration.@mecl.co.in	7907649392	MECL
20	Shri P.P. Kulkarni DGM (Exploration)	kulkarnip.mecl@gmail.com	8319364061	MECL
21	Shri Swarup Dhara Manager (Geology)	swarupdhara@gmail.com	8910825696	MECL
22	Dr. Raghwendra Pratap Singh, Senior Manager (Geology)	gmexpl.cmpdi@coalindia.in	9431358716	CMPDI
23	Shri Mihir Kumar Malla (Dy General Manager Geology)	mihr.malla@odishamining.in	9777454069	OMC Ltd
23	Shri Shiva Kumar M (AGM)	bmed@kioclltd.in	9148743807	KIOCL
25	Biplob Chatterjee (CEO, Director, Consulant)	biplob.chatterjee@geovale.com	9007706145	Geovale Services Private Limited
26	Dr. Joy Gopal Ghosh (Principal, Geology and Exploration)	jgghosh@outlook.com	9999681366	Geovale Services Private Limited
27	Tuasha Majumder (Sr.Project Manager, Geology and Exploration)	tuasha.majumder@geovale.com	9007215397	Geovale Services Private Limited
28	Shri Damepaia	damepaia@gmail.com;	9903359824	DMR, Meghalaya

09/09/23

04/9/2023

29	Dr. Lingaraj Sahoo	lingaraj.sahoo@odishamining.in	9437603370	OMC, Odisha
30	Shri P.K. Nayak Manager Sr. Manager (Geo)	pknayak@odishamining.in	9438039323	OMECL, Odisha
31	Shri S.K Kankane, Joint Director,	dgm.cg@gov.in	9826753151	DGM, Chhattisgarh
32	Shri H.P. Harish Deputy Director	Dir-mines@karnataka.gov.in	9611951313	DGM, Karnataka
33	Shri Vijay Kuamar Ojha General Manager (Exploration)	jemcl2021@gmail.com	9572848488	JEMCL, Jharkhand
34	Representatives forn NGRI, Hyderabad			
35	Representative from MPSM			
36	Ms. Anju C.S., Senior Geologist	Nmet.mines@gov.in	8588836933	NMET
37	Ms. Ujjwala Sharma , Senior Geologist	Nmet.mines@gov.in	8957806004	NMET

09/09/23

09/09/2023

ANNEXURE 2A

Cost Sheet for Reconnaissance survey (G4) for Iron, Manganese and associated minerals in Tikariya Block, Districts: Katni, State: Madhya Pradesh.

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item -Sl No.	Rates as per SoC	Qty.	Amount (Rs)	
A	**GEOLOGICAL WORK (1:12,500 scale) (58.7 sq.km)**						
i	Charges for one Geologist- Field	day	1.2	11,000	120	**13,20,000**	
ii	Charges for one Geologist per-HQ	day	1.2	9,000	30	**2,70,000**	
iii	2 labours/ party (Rs 477/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	494	240	**1,18,560**	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Core Sampling -1 Samplers Labour charge not included	day	1.5.2	5,100	115	**5,86,500**	
v	4 labours/ party (Rs 477/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	494	460	**2,27,240**	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
	Sub Total- A					**25,22,300**	

09/09/23

09/09/2023

B	**PITTING AND TRENCHING**						
i	Trenching	Cu m	2.1.1	3330	100	**3,33,000**	
	Sub Total- B					**3,33,000**	
C	**LABORATORY STUDIES**						
1	Chemical Analysis						
i	Primary & Check samples for Iron-Manganese BRS/Chip/Channel/Trench/BH samples)						
	a. Primary Samples for Total Fe, Total Mn, Al2O3, P2O5, Cao, SiO2 and Acid insolubles	Nos	4.1.15a	4,200	800	**33,60,000**	Surface Samples-120, Trench Samples-80, BH Samples-600
	b. External (10%) Check samples for 4 Radicals Fe, Al2O3, P2O5 & SiO2	Nos	4.1.9	4,200	80	**3,36,000**	
ii	Primary & Check samples for gold (BRS/Channel/Core)						
	a. Primary Samples for Au & Ag by Fire Assay	Nos	4.1.5a	2,380	30	**71,400**	Selective samples from BIF (Surface Samples-10, Trench Samples-10, BH Samples-10
	b.External (15%) Check samples for 4 Radicals Fe, Al2O3, P2O5 & SiO2	Nos	4.1.5a	2,380	3	**7,140**	
iv	Trace element study (34 Elements)	Nos	4.1.14	7,731	20	**1,54,620**	

09/09/23

09/09/2023

2	Physical,Petrological, Mineralogical Studies						
i	Preparation of thin section	Nos	4.3.1	2,353	10	**23,530**	
ii	Complete petrographic study report	Nos	4.3.4	4,232	10	**42,320**	
iii	Preparation of polished section	Nos	4.3.2	1,549	10	**15,490**	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	**10**	**42,320**	
v	Digital Photographs	Nos	4.3.7	280	**10**	**2,800**	
vi	Whole Rock Analysis (Major oxide and additional trace elements)	Nos	4.1.15a & b	7,568	**10**	**75,680**	
	Sub Total- C					**41,31,300**	
D	DRILLING						
i	Drilling upto 300m (Hard Rock) (1 rigs)	m	2.2.1.4a	11,500	**750**	**86,25,000**	
ii	Land / Crop Compansation	per BH	5.6	20,000	**15**	**3,00,000**	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
iii	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	**15**	**30,000**	
iv	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	**600**	**21,600**	Certification in this regard is required to be provided

09/09/23

09/09/2023

v	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	3	**1,50,000**	
vi	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	**2,50,000**	
vii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	**2,50,000**	
viii	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	5	**1,10,100**	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed for max. 4 km.
ix	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and by DGPS	Nos	1.6.2	19,200	16	**3,07,200**	*15 Boreholes and 1 base station
x	One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	400	**6,36,000**	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	Sub Total- D					**1,06,79,900**	
E	Total A to D					**1,76,66,500**	

09/09/23

09/09/2023

F	Geological Report Preparation		5.2	For the projects having cost exceeding Rs. 150 lakhs but less than 300 lakhs - A minimum of Rs. 7.5 lakhs or 3% of the value of work whichever is more		**7,50,000**	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
G	Peer review Charges		As per EC decision			**30,000**	
H	Preparation of Exploration Proposal	5 Hard copies with a soft copy	5.1	2% of the Cost or Rs. 3.8 Lakhs whichever is lower		**3,53,330**	EA has to submit the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
I	**Total Estimated Cost without GST**					**1,87,99,830**	
J	**Provision for GST (18% of I)**					**33,83,969.40**	GST will be reimburse as per actual and as per notified prescribed rate
K	**Total Estimated Cost with GST**					**2,21,83,799.40**	

09/09/23

9/09/2023

				or Say Rs. In Lakhs	221.84	
Note:						
1	If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execusion of the project by NEA on its own, a Certifiate regarding non outsourcing of any component/project is required.					

09/09/23

9/09/2023

ANNUXURE 2B

Time Schedule / Action Plain for Reconnaissance survey (G4) for Iron, Manganese and associated minerals in Tikariya Block, Districts: Katni State: Madhya Pradesh.

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

09/09/23

09/09/2023

ANNEXURE 3A

COST SHEET FOR RECONNAISSANCE FOR GOLD, REE AND RM MINERALIZATION IN KHARIGHTTA BLOCK (BLOCK ID: KIOCL_31_KA_KGB)

Sl	Item of Work	Unit	Rates as per NMET SoC					Remarks
			SOC Item No	Rates as per SOC	Qty	Amount (Rs)		
I	**In-House Component**							
A	**LARGE SCALE GEOLOGICAL MAPPING WORKS (1:12,500 scale :50sq km)**							
i	Geologist Party days - Field	per geologist per day	1.2b	11,000	100	**11,00,000**	**18,21,150**	
ii	Geologist Party days - HQ		1.2a	9,000	30	**2,70,000**		
iii	Labour charges	per Labor day	5.7	431	200	**86,200**		Amount will be reimburse as per the notified rates by the Central Labor Comission or respective State Govt., whichever is higher
B	**TRENCHING WORKS**							
i	Trenching works	per cu. m	2.1.1	3,330	75	**2,49,750**		
C	SURVEY WORKS							

09/09/23

09/09/2023

i	Fixation of borehole and determination of Co-ordinates and RL by DGPS	per point of observation	1.6.2	19,200	6	**1,15,200**		BH=5 & 1 Base station
D	**LABORATORY STUDIES**							
i	Sample processing works							
a	Sampler charges	per sampler per day	1.5.2	5,100	36	**1,83,600**	**2,45,664**	
b	Labour charges	per Labor day	5.7	431	144	**62,064**		Amount will be reimburse as per the notified rates by the Central Labor Comission or respective State Govt., whichever is higher
ii	Sample analysis (34 elements by ICPMS) REE-RM- Au - Lithium							
a	Primary	per sample	4.1.14	7,731	260	**20,10,060**	**24,49,066**	(BRS 100+ 30 SSS+ Trench 30 nos+ Drill Core 100 nos =260)
b	External Check (10%)	per sample	4.1.14	7,731	26	**2,01,006**		
iii	Analysis of Au by Fire assay method	per sample	4.1.5a	2,380	100	**2,38,000**		
iv	Petro studies							
a	Preparation of Standard Thin section	per sample	4.3.1	2,353	10	**23,530**	**2,38,460**	

09/09/23

09/09/2023

b	Complete Petrological Report of rock sample	per sample	4.3.4	4,232	10	**42,320**		
c	Preparation of Polished Section	per sample	4.3.2	1,549	10	**15,490**		
d	Study of polished section for mineragraphy	per sample	4.3.4	4,232	10	**42,320**		
e	SEM	per hour	4.4.2	2,940	10	**29,400**		
f	EPMA	per hour	4.4.1	8,540	10	**85,400**		
	Sub Total I (In House Component) - A to D					**47,54,340**	**47,54,340**	
	Outsourcing Component							
II								copy of signed agreement/tender for outsoure component is required to be provided
A	**Drilling**							
a	Surface Drilling (Hard rock)	per m.	2.2.1.4a	11,500	500.0	**57,50,000**	**60,09,000**	
b	Drill Core Preservation	per m.	5.3	1,590	100.0	**1,59,000**		This amount will be reimbursed after successful delivery of the cores to the concerned core libraries/authorities

09/09/23

09/09/2023

c	Land/Crop compensation (in case the BH falls in agriculture land)	per borehole	5.6	20,000	5.0	**1,00,000**		Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
	Sub Total II (Outsourcing Component)					**60,09,000**	**60,09,000**	
III								
	TOTAL (Sub Total I and II)					**########**	**1,07,63,340**	
IV	**Preparation of Exploration Proposal**	5 Hard copies with a soft copy	5.1 & 28th EC meeting Minutes	2% of the Cost subject to a maximum of Rs. 5 lakh	1	**2,15,267**	**2,15,267**	This amount will be reimburse 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.
V	**Peer review of report**	lumpsum				**30,000**	**30,000**	
VI	**Geological Report Preparation**	5 Hard copies with a soft copy	5.2(ii)	For the projects having cost exceedingn Rs. 50 lakhs but less than Rs. 150	1	**5,38,167**	**5,38,167**	This amount will be reimburse after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET by the EA.

09/09/23

09/09/2023

				lakh - A minimum of Rs. 2.5 lakhs or 5% of the value of work whichever is more.				
VII	**Tendering process cost for outsourced component**	One time	2.3	2% of the outsourced component or 5 Lakh which ever is lower		**1,20,180**	**1,20,180**	will be reimbursed when copy of signed agreement/tender for outsoure component will be submitted.
VII I	**Operational Charges for outsourced component**		Para 3 and Item No. 6.0 (ii)	For projects having outsourced cost more than Rs. 50 lakh up to Rs. 1 crore - Rs. 5 lakh plus 7.5 % on the balance amount outsourced cost in excess of Rs. 50 lakh.		**5,75,675**	**5,75,675**	will be reimbursed as per point 3 and item sl. no. 6 (i) of NMET-SoC after recalculation when actual cost of outsourcing component will be be provided. The copy of contract agreement for outsourced component and work completion report are also required to reimburse the operational charge.

09/09/23

09/09/2023

IX	**Total Estimated Cost of the Project without GST (III to VIII)**					**1,22,42,629**	
X	**Provision for GST 18%**				**22,03,673**	**22,03,673**	GST will be reimbursed as per actual and as per notified prescribed rate
XI	**Total Estimated Cost of the Project with GST**					**1,44,46,302**	
		or Say Rs. in Lakh			**144.46**		

Note - 1. If any part, mentioned in the in-house component is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC.

2. For in-house component of the project , a Certifiate from the NEA regarding non outsourcing of any component/project is required.
3. In no case, the sum of outsourced cost and operational charges should exceed the cost as per SoC rates of the total outsourced component(s).

09/09/23

09/9/2023

ANNEXURE 3B

TIME SCHEDULE / ACTION PLAIN RECONNAISSANCE FOR GOLD, REE AND RM MINERALIZATION IN KHARIGHTTA BLOCK (BLOCK ID: KIOCL_31_KA_KGB)

Sl	Details of Works		Duration in months	1	2	3	4	5	6	7	8	9
1	**CAMP SETTING**		01					Review				
2	**LARGE SCALE GEOLOGICAL MAPPING** (Includes 50 sq km of LSM + 100 nos of BRS +50 SSS+ 100 cum Trenching)		04									
	2.1	Geologist Party days (02 Party)			100 manday							
	2.2	Laboratory Works	03		50 days							
3	**Surface Drilling**		5									
	3.1	Preparatory works for drilling (Approach road making)	1									
	3.2	Drilling works (01 rig - 500m)										
	3.3	Geologist Party days (01 Party)							90 days			
	3.4	Laboratory Works	04									
4	**Survey Works**											
	4.1	Survey party days for DGPS survey of Boreholes 5 pts) - 01 party	05 days									
5	**Camp Winding**		01									
6	**Preparation of Reports and Maps**		01									

Note : In case of mineralization zone falls in forest area, subsurface investigations such as Pitting, Trenching and Drilling works will be carried out in 6 working months after receipt of Forest Clearance under FC Act 1980

09/09/23

09/09/2023

ANNEXURE 4A

COST SHEET FOR RECONNAISSANCE SURVEY FOR REE EXPLORATION IN BHUJ CLAY PROSPECT BLOCK, KACHCHH DISTRICTS: GUJARAT

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)	
I	**Geological Work**						
A	**Geological Mapping (1:12500) & sampling (252 sq.km)**						
i	Geologists (HQ)	one geologist per day	1.2a	9,000	55	**4,95,000**	
ii	Geologist field-days	one geologist per day	1.2b	11,000	180	**19,80,000**	252 sq.km, 100 BR, 200RS, 30SSS
iii	Labor Charges	per labor day	5.7	497	360	**1,78,920**	Amount will be reimburse as per the notified rates by the Central Labor Comission or respective State Govt., whichever is higher
B	**Pitting**						

09/09/23

09/09/2023

i	Pitting	per cu.m	2.1.2	3,800	20	**76,000**	
	Sub-Total - I (A+B)					**27,29,920**	
II	**Laboratory Studies**						
A	Geochemical Analysis for orientation, reconnaisance, regional survey						10 Orientation sample, 60 Reconnaisance sample, 100 BR, 200RS, 30SSS
i	XRF (major oxides)	per sample	4.1.15a	4,200	40	**1,68,000**	
ii	Check samples for XRF	per sample	4.1.15a	4,200	4	**16,800**	
iii	Heavy Liquid Separation	per sample	4.3.6a	2,380	20	**47,600**	
iv	Gravity & Magnetic Separation	per sample	4.3.6b	13,820	20	**2,76,400**	
v	ICPMS (34 elements)	per sample	4.1.14	7,731	330	**25,51,230**	
vi	Check samples for ICPMS	per sample	4.1.14	7,731	33	**2,55,123**	
vii	XRD	per sample	4.5.1	4,000	40	**1,60,000**	
	Sub-Total - II					**34,75,153**	
III	**Petrological studies**						
i	thin section preparation	per sample	4.3.1	2,353	10	**23,530**	Only for orientation sample

09/09/23

9/09/2023

ii	Microscopic study	per sample	4.3.4	4,232	10	**42,320**	
iii	SEM-EDX	per hour	4.4.2	2,940	30	**88,200**	
iv	EPMA	per hour	4.4.1	8,540	15	**1,28,100**	No of samples 5
	Sub-Total - III					**2,82,150**	
IV	**Sampling Work**						
i	Sampler man-days	one sampler per day	1.5.2	5,100	62	**3,16,200**	
ii	Labor Charges for Sampling work	per labor day	5.7	494	248	**1,22,512**	Amount will be reimburse as per the notified rates by the Central Labor Comission or respective State Govt., whichever is higher
	Sub-Total - IV					**4,38,712**	
	Geophysical Survey (after review)						
i	Resistivity Profiling (Station interval 200m.)	per line km	3.6a	58,880	40	**23,55,200**	Geophysical survey along the structural discontinuities 20 line km and regolith and placer thikness

09/09/23

09/09/2023

							determination 20 line-km
ii	Expert Charges for Geophysicist (HQ)	Geophysicist per day	3.18	9,000	10	**90,000**	
	Sub-Total - V					**24,45,200**	
VI	**Auger Drilling (after review)**						
i	Auger drilling for soft strata up to 150m depth (5 BH)	per meter	2.2.2	4,760	60	**2,85,600**	
	Sub-Total - VI					**2,85,600**	
Total (Sub-Total I to VI)						**96,56,735**	
VIII	Preparation of Exploration Proposal	5 Hard copies with a soft copy	5.1 & 28th EC meeting Minutes	2% of the Cost subject to a maximum of Rs. 5 lakh	1	**1,93,135**	This amount will be reimburse 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

09/09/23

09/9/2023

							its meeting while clearing the proposal.
IX	Geological Report preparation	5 Hard copies with a soft copy	5.2	For the projects having cost exceedingn Rs. 50 lakhs but less than Rs. 150 lakh - A minimum of Rs. 2.5 lakhs or 5% of the value of work whichever is more.	1	**4,82,837**	This amount will be reimburse after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET by the EA.
X	Report Peer Review	Lump sum	As per EC	30,000.00	1	**30,000**	
Estimated Cost of the Project without GST						**1,03,62,706**	
Provision for GST @18%						**18,65,287**	GST will be reimbursed as per actual and as per the applicable

09/09/23

9.9.2023

			notified rate
Total Estimated Cost of the Project with GST		**1,22,27,994**	
or Say Rs. in Lakh		**122.280**	
Note:			
	1. If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. 2. In case of execution of the project by EA on its own, a Certificate regarding non outsourcing of any component/project is required.		

09/09/23

09/09/2023

ANNUXURE 4B

Time Schedule /Action Plan For Reconnaisance Survey (G4) forfor REE Exploration in Bhuj Clay Prospect Block, Kachchh District, Gujarat

Sl. No.	Activities	Unit	MONTHS													Total (Days)
			1	2	3	4	Review	5	6	7	Review	8	9	10	11	12	
1	Remote Sensing, ground truthing, orientation sampling and reconnaisance sampling at southern part of the		30	10													40
2	Geologist Party days (Orientation Survey + Mapping & Sampling)	day	15	20	10	30		30	10								115
3	Sampling Party days	day		5		15		15	15								50
4	Geologist Party days, HQ	day		15					20								35
5	Laboratory Studies	Nos.		30	20	20		30	30								130
6	Petrographic Studies	Nos.		15													15
7	Geophysical Survey (after review)	day								30		30					60
8	Geological Work (after review) (pitting, trenching, drilling)	m.								10		30	10				50
9	Report Writing	day												30	30		60
10	Peer Review	day														30	30

NOTE

1. **Commencement of project may be reckoned from the day the exploration acreage is available along with all statutory clearances.**
2. **Time loss on account of monsoon/agricultural activity/forest clearance / local law & order problem/ lockdown etc will be additional to above time line.**

09/09/23

09/09/23

Annexure 5A

Cost Estimate for *Deep Seismic Reflection Survey (DSRS) & Magnetotelluric (MT) Survey along Churu, Rajasthan to Tikamgarh, M.P, - Northern Transect under the project UNCOVER*

S.N.	Type of Survey	Quantum of Work	Unit Cost Rs. (Lakh)		Estimated Cost Rs. (Lakh)
1.	Acquisition, Processing, and Interpretation (API) of DSRS (Explosive source)	565 LKM [485 LKM+80 LKM across Transect]	11.77		6650.05
2.	Acquisition, Processing, and Interpretation (API) of DSRS (Vibroseis source)	235 LKM [115 LKM +20 LKM across Transect+100 LKM parallel transect)	6.20		1457.00
3.	Acquisition, Processing, and Interpretation (API) of Magnetotellurics		Rate	Amount	1965.50
	Short-period MT	661 (at 1 km spacing)	2.00	1322.00	
	Mid-period MT	133 (at 5 km spacing)	3.00	399.00	
	Long-period MT	67 (at 10 km spacing)	3.50	234.50	
	Mob/De-mob	2 (1 per field season)	5.00	10.00	
			Sub Total	1965.50	
			TOTAL		**10072.55**
Total budget : Rs.100.73 Crores (Excluding GST)					

09/09/23

9/09/2023

Annexure 5B

Time Line details for DSRS Survey

S.No.	Item	Duration in Months											
		3	6	9	12	15	18	21	24	27	30	33	36
A	**DSRS (Explosive source):**												
1	• Tendering to outsource job services, explosives • Pre-field visit, Logistical arrangements for the field, Obtaining the necessary permissions, Instruments testing, etc.												
2	Experimental Studies												
3	Data Acquisition, Analysis, and Processing												
4	Repetition of data acquisition (if required)												
5	Analysis, Modelling (1D & 2D), Interpretation and Report preparation												
B	**DSRS (Vibroseis Source)**												
1	Reconnaissance field survey and logistics permissions from the governing bodies and outsourcing of job services, of the Vibroseis												
2	LVL survey, Experimental studies, and finalization of the data acquisition parameters												
3	Production survey												
4	Data analysis processing												
5	Interpretation and Report preparation												
1	Integration of results by different methods (Grav., Mag, MT and Seismic)												
2	Preparation and submission of the final report												

09/09/23

09/09/2023

Annexure 5C

Time Line details for MT Survey

S. No.	Item	Duration in Months											
		3	6	9	12	15	18	21	24	27	30	33	36
C	**Magnetotellurics**												
1	Pre-field visit, Logistical arrangements for the field, Obtaining the necessary permissions, Instruments testing, etc.												
2	1st phase of the field campaign												
3	Data processing												
4	Initial analysis and 1D modelling of acquired MT data												
5	2nd phase of the field campaign												
6	Data processing												
7	Repetition of data acquisition (if required)												
8	Analysis, modelling (1D & 2D), interpretation and report preparation												
D	**Combined Interpretation**												
1	Integration of results by different methods (Grav., Mag, MT and Seismic)												
2	Preparation and submission of the final report												

09/09/23

09/09/2023