Ministry of Mines
National Mineral Exploration Trust

Minutes of the 51st Technical-cum-Cost Committee (TCC) meeting held on 27th & 28th March, 2023 in hybrid mode at GSI, Hyderabad

The 51st meeting of Technical-cum-Cost Committee [TCC] of National Mineral Exploration Trust [NMET] was held under the chairmanship of Shri Janardan Prasad, Additional Director General, Geological Survey of India and Chairman, TCC, NMET on **27th & 28th March, 2023 at GSI, Hyderabad** in hybrid mode. The TCC members and representatives of DGM, Maharashtra, DGM, Karnataka, DMG, Bihar, DMG, Goa, DGM, UT of J&K, DGM, Madhya Pradesh, DGM, Mizoram, DGM, Nagaland, DMM, West Bengal, CMPDI, MECL, JEMCL, GemcoKati Exploration Pvt. Ltd. and GeoExpore Pvt. Ltd. have attended the meeting.

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

Shri Suresh Chander, Director, GSI and Member Secretary, TCC-NMET welcomed Shri Janardan Prasad, ADG, GSI & Chairman, TCC, members of TCC and participants representing various Notified Exploration Agencies [NEAs] and Notified Private Exploration Agencies [NPEAs]. He also welcomed the new member of TCC Shri K. L. Mundra, Head RMRE, AMD, Hyderabad. He briefed about the project proposals submitted by NEAs & NPEAs for consideration of 51st TCC meeting. He informed that total 19 new project proposals including 7 proposals for financial assistance for procurement of machinery/laboratory equipment/instruments etc., have been received from different NEAs/NPEAs and State DGMs/DMGs/DMMs for technical-cum-cost evaluation by the committee.

Shri Vivek Kumar Sharma, Director & HoD, NMET welcomed Chairman TCC, members of TCC and participants representing various NEAs & NPEAs. He emphasized on submission of quality projects that may be converted into more auctionable blocks by DGMs/DMGs/NEAs/NPEAs. He also asked to formulate more projects on Strategic Minerals to strengthen country's mineral reserve and its independency in the same. Further, he welcomed all the participants for a fruitful discussion in the meeting.

Shri Janardan Prasad, ADG, GSI and Chairman, TCC welcomed the members, other participants from various State Governments and NEAs/NPEAs. He also welcomed the new member of TCC Shri K. L. Mundra, Head RMRE, AMD, Hyderabad. He reiterated the need to get clearance from the State DGMs and GSI before submitting the project to TCC. He welcomed the representatives of M/s GemcoKati Exploration Pvt. Ltd. and GeoExpore Pvt. Ltd. (NPEAs) for their first time participation in the TCC.

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

Agenda wise discussions are summarized as follows.

51.1: Technical evaluation of new project proposals:

51.1.1: Preliminary Exploration (G3 Stage) for Coal in East of Moitra Coal Block, North Karanpura Coalfield, District– Hazaribagh, Jharkhand. [Implementing Agency: CMPDI]

a) Geologically the proposed block is situated on the North- Eastern boundary of North Karanpura Coalfield. The North Karanpura Coalfield is the Western most member of the

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east – west chain of Damodar Valley Gondwana coalfield. The adjacent blocks of the proposed block are Moitra towards west and Gondalpara block along the south.

b) It has been submitted that during exploration in Gondapara coal block by CMPDI, one borehole namely CMKB-142 with 160m drilling was carried out in the proposed block however, no coal seam was not intersectedin the block. Further, the entire block area was geologically mapped by GSI on 1:50,000 scale in 1972 followed by drilling in 3 boreholes with total meterage of 756.73 meter. The details are as given below:

BH No	Drilled Depth (in meter)	Formation Thickness encountered (in meter)			Seams Encountered
		Barren Measure	Barakar	Karharbari	
KBM-13	528.63	364.80	163.83	Not Drilled	V,IVA, IV, III, II & I
KBM-20	108.40	Not Developed	50.15	38.35	Karharbari
KBM-19	119.70	Not Developed	70.50	31.15	Karharbari

c) In view of above, CMPDI has proposed to take up G3 level exploration involving geological mapping on 1:10,000 scale, drilling of 7 number of scout boreholes with total meterage of 3120 meter, geophysical logging and chemical analysis.

d) The proposal was sent to GSI for their considered comments, in response to this GSI has submitted that the area was explored by GSI in 1972. Three boreholes, namely, KBM-13, 19 and 20 drilled by GSI are located in the proposed block. GSI also informed that all the major Barakar coal seams of North Karanpura Coalfield crops out towards west of the proposed block. Hence, coal in the proposed block may be intersected in the faulted downthrown areas only.

e) Based on detailed deliberation, the committee opined that the borehole paln of the area may be modified and the same may be projected on toposheet. The revised proposal may be submitted in next TCC.

The committee suggested to modify the borehole plan and prepare the borehole projection on a toposheet. The committee suggestd that a revised proposal may be submitted in the next TCC.

51.1.2: Preliminary Exploration (G3 Stage) (Phase- II) of Iron and Manganese Ore in Jamda-Koira Valley Iron Ore Belt in Silpunji Block District-West Singbhum, Jharkhand. [Implementing Agency: MECL]

a) The project proposal was submitted in 19th TCC meeting of NMET. The Committee clarified that the proposal will be treated as Phase-I of G-3 level of exploration which would include Geological mapping, trenching and Geophysical Survey. In 34th TCC the project was reviewed and TCC advised MECL to submit the detailed borehole plan which is suitable for G2 stage exploration. As this block was included in the list of 100 auctionable blocks, a written consent/request of state government also needs to be submitted to NMET/TCC for further exploration (G2 stage) in the block.

b) In view of the nature of the deposit, i.e. irregularly shaped, lensoidal bodies, present proposal is formulated as Phase-II of the G3 level exploration.

c) The proposal was sent to GSI for comments, in response GSI has submitted that the GM of Silpunji Block was handed over to the state Government of Jharkhand in

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phase-I. The present proposed block i.e., Jamda-Koira Valley Iron Ore Belt in Silpunji Block (G3) of MECL is mostly within the GM Block Boundary. GSI has not taken up or planned to take up any project in the block in near future.

d) After detailed deliberations the committee opined that the block has been handed over to Government of Jharkhand for auction and the same has not been put up for auction yet by the government hence being a policy decision the block cannot be allowed for G3 exploration at this stage.

The committee suggested that the block was already handed over to State Government for auction, hence cannot be considerd for G3 stage of exploration. Committee suggested not to take up exploration (G3 stage) in the proposed block.

51.1.3: Reconnaissance Survey (G4 Stage) for Iron, Manganese and Associated Minerals in Talwa Block (80.50 sq.km.) Districts- Jabalpur And Katni, Madhya Pradesh. [Implementing Agency: MECL]

a) Geologically, the area is exposed by the lithounits of 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, mangniferous chert, quartzite and meta-basalts, pyroclasts. Iron and Manganese mineralization in the area is marked by the presence of BIF and Mn bearing Phyllites etc. Banded Hematite Jasper (BHJ), psilomelane and pyrolusite are the dominant ore bearing minerals/ lithologies in the area.

b) It has been submitted that the field visit was carried out by MECL and Four samples have been collected and analyzed with handheld XRF. The analytical results of the samples are given below:

Sample ID	Latitude	Longitude	Hand held XRF Result in %			
			Fe%	Al%	Si%	Mn%
P-11	23.4983262°	80.05998284°	16.30	1.26	1.078	33.09
P-12	23.49786284°	80.05995501°	50.92	3.25	3.76	-
P-13	23.57446352°	80.12732673°	30.26	9.36	7.86	-
P-14	23.60811101°	80.22541042°	37.61	9.05	5.43	-

c) In view of above, MECL has proposed to take up G4 Stage exploration over 92.70 sq. km. area through geological mapping on 1:12,500 scale, surveying, surface geochemical sampling, exploratory mining, 500m drilling in five boreholes and laboratory studies.

d) The proposal was sent to GSI for their considered comments, in response to this GSI has submitted that the proposed block is partially overlapping with work carried out by GSI during 2015-17 titled "Investigation for Iron ore in Sihora-Gosalpur area, Jabalpur district, M.P, (G4)". The committee suggested to exclude the overlapping area. Accordingly, MECL submitted the modified map after excluding the overlapping area.

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e) After detailed deliberations, the committee suggested to take up the exploration (G4 stage) by deploying geological mapping, sample collection (100-BRS), pitting (50 cu. m.) and laboratory studies. The project will be reviewed after five months.

The committee recommended the proposal "Reconnaissance Survey (G-4 Stage) for Iron, Manganese and associated Minerals in Talwa Block (80.50 sq.km.) Districts- Jabalpur and Katni, Madhya Pradesh" for approval of EC, with an estimated cost of Rs. 46.75 Lakh (including GST) in time schedule of 10 months for carrying out the proposed work and submission of report as per annexure 3A & 3B.

51.1.4: Preliminary Exploration (G3 Stage) for Diamond in Silam Block (39 Sq.Km area), Simdega - Gumla area, District- Gumla, Jharkhand. [Implementing Agency: MECL]

a) The proposed area forms south western part of the Chotanagpur Gneissic Complex (CGC). The area of investigation falls within Belt-I, south Palamu Gumla-Ranchi-Purulia belt showing a progressive change from greenschist facies to granulite facies with complete Barrovian sequence.

b) It has been submitted that the De Beers India Private limited (2010) had carried out reconnaissance survey over 2061 sq. km. area in Gumla and Ranchi districts, Jharkhand. Total 200 garnets, 28 spinels, 81 ilmenites and 46 clino-pyroxenes were recovered from the sample concentrates. 07 samples were found to have kimberlite indicator minerals. Prospecting of diamond in the area was carried out by Jindal Steel and Power Limited also during their reconnaissance permit from 2006 to 2009. Anomalous zone were identified which was considered for Prospecting Licence also but the Geological Report for the same is not available with DMG, Jharkhand.

c) The proposal was sent to GSI for their considered comments, in response to this, GSI has submitted that the proposed diamond exploration (G3) in Silam Block of MECL overlaps with GSI's G3 block of diamond exploration of FS: 2023-24. The proposed block boundary of MECL in an around Silam overlaps (>90%) with GSI's study area and the proposed sampling and analytical panorama also have commonality with GSI's NQT. GSI proposed a detailed G3 stage exploration for FS: 2023-24 within the same area based on the outcome of the ongoing project and Term Review recommendations. If offered to MECL, duplication of work is inevitable.

d) After detailed deliberations the committee opined that the GSI has already carried out G4 stage work and further upgraded the block into G3 stage, as a spin-off project, and taking up the same in the proposed block in FS 2023-24. The committee opined that the block may not be taken up by MECL to avoid duplication.

The committee suggested not to take up exploration in the said block as the GSI has already taken up G3 stage project, as a spin-off item from G4 stage in the same block, to avoid duplication.

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51.1.5: Preliminary Exploration (G3 stage) for Potash in Bharusari North Block (10 sq. km.), Northwestern Part of Rajasthan, District: Hanumangarh, Rajasthan. [Implementing Agency: MECL]

a) The project was first submitted in 41st TCC titled as "Preliminary exploration (G3) for Potash in Bharusari South block (11.95 sq.km.), District: Hanumangarh, Rajasthan". The 41st TCC Committee suggested not to take up the project as the grade of Potash is very low. The Committee also suggested to wait for final output of the ongoing exploration block and status of the auctioning of blocks.

b) Committee opined that worldwide Potash is mined/ excavated at 13% K2O especially in Australia. However, in adjoining Bharusari block ~3% K2O have been recorded and is imperative to develop the strategy for excavation of such K2O deposits.

c) It has been conveyed that during 2016-17 and 2017-18, MECL has completed Geophysical Exploration (Gravity and Magnetic Survey) covering an area of 1119 sq. km. in Bharusari Sub Basin and prepared synergetic gravity and magnetic map of the study area. MECL has recommended exploratory drilling up to a depth of 700-750m to test/validate the veracity of the G-M survey.

d) The entire area has been categorized based on high or low residual gravity and magnetic anomalies. Nine different zones have been delineated based on the residual anomalies. It has been submitted that the potash mineralization in Bharusari Block is restricted to three different halite cycles i.e., H1, H2 and H4 in the Hanseran Evaporite Group (HEG).

e) In view of above, MECL proposed G3 level exploration in Bharusari North block by deploying geological mapping on 1:10,000, drilling (9bhs, 9800m), geophysical logging, sampling and laboratory studies.

f) The proposal was sent to GSI for their comments, in response GSI has conveyed that the proposed area is falling outside of the GSI approved block for FS: 2023-24 and there is no overlapping of GSI work.

g) After detailed deliberations, Committee opined that MECL may take up G3 stage exploration in the proposed block by deploying five boreholes (3500m drilling) and associated analyses of samples so that the entire prospective area may be covered. The project will be reviewed after six months.

The committee recommended the proposal "Preliminary Exploration (G-3 stage) for Potash in Bharusari North Block (10 sq.km.), Northwestern Part of Rajasthan, District: Hanumangarh, Rajasthan" for approval of EC, with an estimated cost of Rs. 739.70 Lakh (including GST) in time schedule of 12 months for carrying out the proposed work and submission of report as per annexure-4A& 4B.

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51.1.6: Preliminary Exploration (G3 Stage) for Vermiculite, Lithium and REE at Supa village, Angara Block, Ranchi District, Jharkhand. [Implementing Agency: JEMCL]

a) Geologically, the area is represented by mica-schist, quartzite, phyllite etc. intruded by pegmatite and quartz veins. The present proposal is aimed to study the magmatic–hydrothermal processes in pegmatite and mica-schist for vermiculite, Lithium and Rare-metal mineralization.

b) Keeping this in view, JEMCL has proposed to take up G3 level exploration through deploying surface geological mapping on 1:4,000 scale, topographic survey for contouring, drilling (64 bhs: 6400m), borehole deviation survey and laboratory studies.

c) The proposal was sent to GSI for their considered comments, in response to this GSI has conveyed that the Supa Village, Angara Block of JEMCL is part of GSI's G4 block of REE exploration (FS: 2014-16). It has been conveyed that GSI has not taken up or planned to take up any project in the proposed Angara block in near future.

d) After detailed deliberation the committee suggested JEMCL to collate the available geological map and data from GSI. Committee suggested to demarcate potential locations for lithium and REE mineralization by interpretation of available geological data. Committee suggested to collect and analyze few preliminary samples (05 nos.) for Li and REE from block area and in case of encouraging results, the proposal may be submitted in the next TCC. Committee also suggested to remove Vermiculite from the target as it is a minor mineral and can not be considered for NMET funding.

The committee suggested that the proposal may be resubmitted in the next TCC after making the necessary modifications in the project. Few sampes may be collected and analysed and in case of encouraging results the proposal may be submitted in the next TCC.

51.1.7: General Exploration (G2 stage) for Bauxite Deposits at Serendag area, Gumla District, Jharkhand. [Implementing Agency: JEMCL]

a) Geologically the area is regionally marked by the presence of Granite, Granite-Gneisses, Pegmatite, Dolerite, Quartzite, Mica Schist, Phyllite and Bauxite. Bauxite formation. The Bauxite formations are overlain by lateritic soil/cap rock. No other rock types are exposed on the surface. Old quarries as well as working and valley section are present on eastern boundary of the proposed block. It has been submitted that the bauxite of variable thickness (6m to 8m) is overlain by thick lateritic capping (10-15m).

b) JEMCL has proposed to take up G2 level exploration by deploying geological mapping in 1:4000 scale, topographic survey for contouring, 430m drilling (in 17 boreholes) and laboratory studies.

c) The proposal was sent to GSI for their comments, in response GSI has informed that the project proposal pertaining to Serendag Area for bauxite exploration (G2) of JEMCL is part of GSI's G4 bauxite exploration of FS: 2013-15. GSI has not taken up or planned to take up any project (G2 level) in the block in near future.

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d) Keeping in view the above, the committee opined that the block was sufficiently explored up G3 stage and may be suitable for auctioning. Further it has been suggested that the available geoscientific data of GSI may be collated and block may be put up for auction.

The committee decided that the proposed block was suffeciently explored up to G3 stage and suitable for auction. In view of this, the committee suggested not to take up exploration in the proposed block.

51.1.8: Reconnaissance Survey (G4 Stage) for Basemetal & Iron Ore in Alenga-Nendwadi Block (120 sq.km.), District: Gadchiroli, Maharashtra. [Implementing Agency: DGM, Maharashtra (M/s Gemcokati Exploration Pvt. Ltd.)]

51.1.9: Reconnaissance Survey (G4 Stage) for Basemetal & Iron Ore in Marampalli-Jinjgaon Block (90 sq. km), District: Gadchiroli, Maharashtra. [Implementing Agency: DGM, Maharashtra (M/s Gemcokati Exploration Pvt. Ltd.)]

51.1.10: Reconnaissance Survey (G4 Stage) for Base metal & Iron Ore in Tadgaon-Wateli Block (80 sq.km.), District: Gadchiroli, Maharashtra. [Implementing Agency: M/s Gemcokati Exploration Pvt. Ltd. (DGM Maharashtra)]

a) Geologically, the proposed areas fall under Western Bastar Craton (WBC) which hosts numerous Iron Ore occurrences in and around Surjagad and basemetal occurrence around Minjhari to Thanewasna and Nei-Delli Lal Heti areas of adjacent Chandrapur District.
b) It has been submitted that the Iron ore occurrences are found associated with the Iron ore Group rocks and basemetal occurrences are confined within the brittle shear zone, extending over strike length of 100 km from Govindpur in north to Kansari in the south. It has been conveyed that many blocks viz. Minjhari, Bamhani, Nai-Delli-Lal-Heti, Ghot-Chamursi, Ghanpur-Mudholi and Gondpipri blocks have been explored from the area and subsequently few blocks are auctioned.
c) The proposed blocks fall within the Damkod-Wadvi Hill Range (Toposheet no. 65A/06 &65A/10), wherein Iron ore is reported on hill tops with occurrences of float ore in the slope. DGM, Maharashtra has reported (+) 65% Fe. Cherty quartzite trending E-W shows polymetallic mineralization in the form of pyrite, chalcopyrite, galena, molybdenite and scheelite for a strike length of about 200m over a width of about 25m in sheared quartzite of Bengpal Group. The shear zone is traceable intermittently over 900m, while the mineralized zone is confined over a strike length of 100 m.
d) It has been conveyed that the NGCM and NGPM surveys could not be carried out in the area.
e) In view of above, DGM Maharashtra through M/s Gemcokati Exploration Pvt. Ltd, proposed to take up G4 level exploration (3 proposals) which includes remote sensing, geological mapping on 1:12,500 scale, survey, geophysical survey, sampling,

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exploratory mining, drilling and laboratory studies.

f) The proposal was sent to GSI for their comments, in response GSI has conveyed that there is no overlapping in the area with the GSI explored blocks.

Based on detalied deliberations the committee suggested the following:

i) The analytical results are not available from the area to strenthen the occurences of Iron ore and basemetal.

ii) Committee opined that some of the samples may be collected and analysed fom the area. The samples may be analysd for basemetal and Iron ore for all the three blocks and in case of encouraging results the proposals may be submitted o that particular commodities in the next TCC meeting.

51.1.11: Preliminary Exploration (G3) For Ni, Co, PGE and associated minerals in J.C. Pura Mafic-Ultramafic Schist Belt near Rampura and Gollarahatti Block, Hassan District, Karnataka. [Implementing Agency: DGM Karnataka (M/s GeoExpore Pvt. Ltd.)]

a) Geologically, the area is exposed by the J.C. Pura Schist belt and surrounded by gneissic rocks which are equivalent of Sargur Group in Western Dharwar craton (WDC). The J.C. Pura schist belt occurs in an oval disposition to the east of J.C. Pura and continues southwards to Honnavalli village. The width of the belt varies from few hundred meters to nearly 3 km, the maximum width being exposed between Holakere and Rampura, the average width of the belt is 500m to 600m.

b) It has been submitted that during 2015, GSI has carried out G4 stage exploration for Nickel, Cobalt, Copper and PGE in J.C. Pura–Antaraghatta Belt, Hassan and Tumkur Districts, Karnataka. GSI has reported presence of nickel (20 to 3515 ppm), chromium (15 to 16,100 ppm), cobalt (between 35 and 330), copper (from 10 to 340 ppm) and PGE (9.5 to 158 ppm) from the area.

c) Further, in F.S. 2018-19, GSI has carried out reconnaissance survey (G4) work in the proposed area over 2.00 sq. km area and carried out detailed geological mapping on 1:2,000 scale whereat serpentinite, spherulitic serpentinite, talc-tremolitechlorite schist, actinolite schist, chlorite schist, amphibolite, dolerite, foliated granite, pegmatite and quartz vein are reported.

d) GSI has reported 12ppb to 46ppb ΣPGE concentration in 50 bedrock samples. Higher concentration of ∑PGE (Pt+Pd+Ir+Ru+Rh) 46.28 ppb was also recorded in spherulitic serpentinite in ENE of Rampura village, with Pt (31 ppb), Ni (190ppm to 1020 ppm) in spherulitic serpentinite and Ni (60 to 335 ppm) in serpentinite and Ni (95ppm to 545ppm) in gabbro.

e) In view of above, DMG, Karnataka through M/s GeoExpore Pvt. Ltd. proposed to take up G3 stage exploration over 2.00 sq. km. area through geological mapping, geochemical sampling, geophysical survey, pitting/trenching etc. It is proposed that in case of encouraging findings through Phase – I exploration, the Phase – II exploration [sub-surface exploration by way of diamond core drilling] will be taken up.

f) The proposal was sent to GSI for their considered comments, in response to this GSI

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has submitted that out of proposed 2.0 sq.km. area, the detailed mapping over 1.15 sq.km. was already caried out by GSI during the FS 2014-15 & 2018-2019, hence only 0.85 sq. km area may be considered for detailed mapping by NPEA. It was also informed by GSI that southern and eastern continuity of the proposed Detailed Mapping area has been earmarked for Geological Mapping and as this block was indicated by GSI to DMG no item has been proposed in the area.

g) The committee opined that the sufficient ground magnetic data is available and gravity data may be acquired which may be useful for demarcation of serpentinites. It is also observed that the GSI has demarcated serpentinite bands in the area hence the initial gravity survey may be carried out in the pre-identified serpentinite bands.

h) After detailed deliberation, the committee suggested to take up Preliminary exploration, G3 (Phase-I) for Ni, Co, PGE and REE/associated minerals in J.C. Pura Mafic-Ultramafic Schist Belt near Rampura and Gollarahatti Block. The outcome of the project will be reviewed after six months.

The committee recommended the proposal "Preliminary Exploration, G3 stage (Phase-I) for Ni, Co, PGE and associated minerals in J.C. Pura Mafic-Ultramafic Schist Belt near Rampura and Gollarahatti Block, Hassan District, Karnataka" for approval of EC, with an estimated cost of Rs. 82.87 Lakh (including GST) in time schedule of 10 months for carrying out the proposed work and submission of report as per annexure 5A & 5B.

51.1.12: Preliminary Exploration (G3) for Ni-Cr-PGE-Au in Mafic-Ultramafic Bodies in Hadanur-Tagadur Belt, Mandya District, Karnataka. [Implementing Agency: DGM, Karnataka (NPEA: M/s GeoExpore Pvt. Ltd.)]

a) The Hadnur-Tagadur Schist Belt (HTSB) comprises talc tremolite chlorite schist and talc serpentinite (peridotite); fuchsite quartzite and amphibolites belonging to older greenstone belts. The major rock types observed in the area are fuchsite quartzite, amphibolite, talc - tremolite - actinolite - chlorite schist, serpentinite (birbirite) of Sargur Group.

b) GSI has carried out Investigation for Ni-Cu-PGE-Au in Mafic-Ultramafic Bodies of Hadanur-Tagadur Belt, Hassan and Tumkur Districts, Karnataka under G4 stage exploration during 2018-19, by deploying mapping on 1:12,500 scale over an area of 100 sq. km and identified two groups of xenolithic suite: 1) Metamorphosed xenoliths and 2) Metasomatized xenoliths. GSI recommended the following in the proposed block:

   i) The soil samples of the serpentinite lithology of North Chokkanahalli yields high nickel content ranging from 775ppm to 4902 ppm (~0.5%). Further, one alluvial sample draining serpentinite also yielded up to 0.36% Ni. GSI recommended for detailed study to test grid wise distribution of Nickeliferous zones in sub-soil developed over the continuous serpentinite zone near Hadanur- Tagadur up to Maradahalli and Sulphide association (if any) below oxidized zone.

   ii) Continuity of chromite band/seam was established up to 800 m along strike length. The potentiality of platinum mineralization is indicated associated with chromite. Further, Pt-Te phases (02 grains) recovered during EPMA of the dismembered meta-

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peridotite from chromite band/seams from cumulus lower part of layered intrusive show promise. It is recommended for detailed studies to establish the strike extension and depth continuity of chromitite band/seams and potentiality for hosting PGE and associated phases in metaperidotite of Sudugadanakopplu.

c) In view of above, DMG, Karnataka through M/s GeoExpore Pvt. Ltd. proposed to carry out preliminary exploration needed to cover southern part of Tagadur village covering an area of 7.00 sq.km. in Block-A and northern part between Hadanur to Silnare villages and 4.00 sq.km. Block-B for delineating Chromite, Ni, PGE, Cu, Au mineralization and REE element in the area with detailed geological mapping on 1:5,000 scale followed by geophysical and geochemical activities and exploratory drilling to delineate subsurface mineralization up to 125 m depth.

d) The proposal was sent to GSI for their considered comments, in response to this GSI has conveyed that no overlapping of work is there in the proposed block and the same can be explored by NPEA for G3 level preliminary exploration.

e) After detailed deliberation, the committee opined that initially the Gabbro and Norite bodies may be target over the composite Xenolithic body of 300x700m dimension reported in the Block – A. It was also suggested that the REE may be removed from the title as the REE values are not reported from the area. It was suggested that the geological mapping at 1:4,000 sale may be carried out over block – A (7.0 sq km) along with magnetic survey (20 lkm), BRS sample collection and analyses. In case of encouraging results through phase- I G3 stage exploration, the proposal for Phase – II G3 stage will be considered wherein drilling may be deployed. The project will be reviewed after six months.

The committee recommended the proposal "Preliminary Exploration, G3 (Phase-I) in Block 'A' For Ni-Cr-PGE-Au in Mafic-Ultramafic Bodies in Hadanur-Tagadur Belt, Mandya District, Karnataka" for approval of EC, with an estimated cost of Rs. 86.12 Lakh (including GST) in time schedule of 10 months for carrying out the proposed work and submission of report as per annexure 6A & 6B.

51.2.: Proposals on financial assistance for procuremnent of Machinery/laboratory equipment:

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

a) DMG, Bihar has submitted the proposal for procurement of machinery/ laboratory equipment/instruments etc. aimed at enhancing the exploration activities.

b) The commiittee evaluated the proposal for procurement of machinery/ laboratory equipment/instruments etc.after detailed discussion with representative of DMG, Bihar and procurement of following item was agreed:

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Sl. No.	Item	Qty.	Estimated cost per unit (₹)	Total Estimated cost (₹)	Remarks
1.	Handheld GPS	5	30,000	1,50,000	Cost estimate as per DMG, Bihar
2.	Brunton Compass	5	8,000	40,000	Cost estimate as per DMG, Bihar
3.	Geologist's Hammer	5	8,000	40,000	Cost estimate as per DMG, Bihar
4.	Digital Camera	2	10,000	20,000	Cost estimate as per DMG, Bihar
5.	GIS Software	1 license	13,00,000	13,00,000	Cost estimate as approved in 28th EC
Total				**15,50,000**	

The proposal have been examined and discussed with the representative of the State Government and the Committee in principle agreed to recommend the proposal for consideration of EC. The cost estimates for procurement of equpment/instruments/ software etc. are based on the proposal submitted by the State Government or cost restricted to cost provided by IBM or GSI as detailed above. The committee could neither examine the cost reasonableness nor arrive at the cost estimate independently in absence of SoC.

The estimated cost submitted by State Government/ cost restricted to cost provided by IBM or GSI for procurement of items detailed above stands at ₹15.50 Lakhs.

The committee opined that due process of procurement inculding item wise cost estimation as per extant Government of India financial rules be followed by DMG, Bihar 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.

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

a) The Directorate of Mines and Geology, Goa has submitted the proposal for financial assistance for procurement of machinery and equipment including DGPS, Total Station, AutoCAD Software and desktops for enhancing their exploration activites.

b) The commiittee evaluated the proposal for procurement of machinery/laboratory equipment/instruments etc. After detailed discussion with representative of DMG, Goa, committee agreed for the procurement of following items:

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Sl. No.	Item	Qty.	Estimated Cost per unit (₹)	Proposed cost (₹)	Remarks
1.	DGPS	1	16,00,000	16,00,000	Cost provided by GSI
2.	Total Station	1	6,96,000	6,96,000	Cost provided by GSI
3.	GIS Software	1	13,00,000	13,00,000	Cost estimate as approved in 28th EC to states.
Total				**35,96,000**	

The proposal has been examined and discussed with the representative of the State Government and the Committee in-principle agreed to recommend the proposal for consideration of EC. The cost estimates for procurement of equpment/instruments/ software etc. are based on the proposal submitted by the State Government or cost restricted to cost provided by IBM or GSI as detailed above. The committee could neither examine the cost reasonableness nor arrive at the cost estimate independently in absence of SoC.

The estimated cost submitted by State Government/ cost restricted to cost provided by IBM or GSI for procurement of items detailed above stands at ₹ 35.96 Lakhs.

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

51.2.3: Financial assistance from NMET funds to procure machinery/ laboratory equipment/instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DGM, UT of Jammu & Kashmir]

a) The Department of Geology and Mining, UT of Jammu and Kashmir, has submitted the project proposals for procurement of machinery/ laboratory equipment/instruments etc. aimed at enhancing the exploration activities with estimated cost of ₹ 84.93 lakhs.

b) Based on detailed deliberations, the commiittee agreed for the procurement of following items:

S. No.	Item	Qty.	Estimated cost per unit (₹)	Total Estimated cost (₹)	Remarks
1.	Handheld XRF	2	9,50,000	19,00,000	Cost estimate as per DGM, J&K.
2.	Digital Camera	2	1,50,000	3,00,000	Cost provided by GSI
3.	Brunton Compass	20	2,700	54,000	Cost estimate as per DGM, J&K.

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4.	Geological Hammer	20	2,000	40,000	Cost estimate as per DGM, J&K.
5.	Handheld GPS	20	73,500	14,70,000	Cost estimate as per DGM, J&K.
6.	AAS	1	80,00,000	80,00,000	Cost estimate as per GSI.
7.	GIS Software	1	13,00,000	13,00,000	Cost estimate as approved in 28th EC to states.
8.	Total Station	2	6,96,000	13,92,000	Cost estimate provided by GSI.
Total				**1,44,56,000**	

The proposals have been examined and discussed with the representative of the State Government and the Committee in-principle agreed to recommend the proposal for consideration of EC. The cost estimates for procurement of equpment/instruments/ software etc. are based on the proposal submitted by the State Government or cost restricted to cost provided by IBM or GSI as detailed above. The committee could neither examine the cost reasonableness nor arrive at the cost estimate independently in absence of SoC.

The estimated cost submitted by State Government/ cost restricted to cost provided by IBM or GSI for procurement of items detailed above stands at ₹ 144.56 Lakhs.

The committee opined that due process of procurement inculding item wise cost estimation as per extant Government of India financial rules be followed by DGM, UT of J&K. in consent with the competent authority of State Department/ State Financial Wing (Division). The state Govt. should also ensure full utilization of the instruents/ software to be procured.

51.2.4: Financial assistance from NMET funds to procure machinery/ laboratory equipment/instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DGM, Madhya Pradesh]

a) Directorate of Geology and Mining, Madhya Pradesh has submitted the proposal for procurement of machineries/laboratory equipment/ instruments etc. with an extimated cost of ₹182.35 lakhs.
b) After the detailed discussion with representative of DGM, MP commiittee agreed for procurement of following items:

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S. No.	Item	Qty.	Estimated Cost per unit (Rs.)	Proposed cost (Rs)	Remarks
1	Handheld XRF	5	30,00,000	1,50,00,000	Cost provided by GSI
2	Handheld GPS	5	35,000	1,75,000	Cost provided by GSI
3	Geologist Hammer	10	6,000	60,000	Cost provided by DGM, Madhya Pradesh
4	Pulveriser	2	50,000	1,00,000	Cost provided by DGM, Madhya Pradesh
5	Core Splitter	4	2,00,000	8,00,000	Cost provided by GSI
Total				**1,61,35,000**	

The proposals have been examined and discussed with the representative of the State Government and the Committee in-principle agreed to recommend the proposal for consideration of EC. The cost estimates for procurement of equpment/instruments/ software etc. are based on the proposal submitted by the State Government or cost restricted to cost provided by IBM or GSI as detailed above. The committee could neither examine the cost reasonableness nor arrive at the cost estimate independently in absence of SoC.

The estimated cost submitted by State Government/ cost restricted to cost provided by IBM or GSI for procurement of items detailed above stands at ₹ 161.35 Lakhs.

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

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

a) Directorate of Geology and Mining, Mizoram has submitted the proposal for procurement of machineries/laboratory equipment/ instruments etc. with an extimated cost of ₹ 223.09 lakhs aimed at enhancing the exploration activities as Minister of Mines has announced to provide finanacial assistance of ₹ 5.00 Cr. for each North Eastern Region States for strengthening their capacity in the field of mineral exploration.

b) It has been conveyed to TCC that procurement proposal of ₹ 309.32 Lakhs for procurement to DGM, Mizoram has already been approved by EC in its 27th meeting held on 10th January, 2023. The proposal included WD-XRF at the cost of ₹40,00,000/-. However, DGM, Mizoram has submitted the revised cost for purchasing WD-XRF at an estimated cost of ₹1,50,00,000/- and requested to

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

a) DGM, Nagaland has submitted the proposal for procurement of machineries/laboratory equipment/ instruments etc. with an extimated cost of ₹ 18.75 lakhs aimed at enhancing the exploration activities as Minister of Mines has announced to provide finanacial assistance of ₹ 5.00 Cr. for each North Eastern Region States for strengthening their capacity in the field of mineral exploration.

b) It has been conveyed to TCC that procurement proposal of ₹ 480.46 Lakhs for DGM, Nagaland has already been for approved by EC in its 28th meeting held on 16th March, 2023.

c) After the detailed discussion with representative of DGM, Nagaland commiittee agreed for procurement of following items:

S. No.	Item	Qty.	Estimated Cost per unit (Rs.)	Proposed cost (Rs)	Remarks
1	Digital Camera	2	1,50,000	3,00,000	Cost provided by DGM, Nagaland
2	Brunton Compass	10	10,000	1,00,000	Cost provided by DGM, Nagaland
3	Geological Hammer	10	10,000	1,00,000	Cost provided by DGM, Nagaland
4	Handheld GPS	10	85,000	8,50,000	Cost provided by DGM, Nagaland
5	Corel DRAW	1	75,000	75,000	Cost provided by DGM, Nagaland
Total				**14,25,000**	

The proposals have been examined and discussed with the representative of the State Government and the Committee in-principle agreed to recommend the proposal for consideration of EC. The cost estimates for procurement of equpment/instruments/ software etc. are based on the proposal submitted by the State Government or cost restricted to cost provided by IBM or GSI as detailed above. The committee could neither examine the cost reasonableness nor arrive at the cost estimate independently in absence of SoC.

The estimated cost submitted by State Government/ cost restricted to cost provided by IBM or GSI for procurement of items detailed above stands at ₹ 14.25 Lakhs.

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

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accept the revised proposal for procurement of WD-XRF instead of the proposal approved in 27th EC.

c) After the detailed discussion with representative of DGM, Mizoram commiittee agreed for procurement of following items:

S. No.	Item	Qty.	Estimated Cost per unit (Rs.)	Proposed cost (Rs)	Remarks
1	GIS Software	3	15,33,000	45,99,000	Cost provided by DGM, Mizoram
2	*WD-XRF	1	1,50,00,000	1,50,00,000	Cost provided by DGM, Mizoram (after cancellation of sanction of already approved cost of ₹40,00,000/- approved in 27th EC for procurement of WD-XRF).
Total				**1,95,99,000**	

**It is pertinent to mention that the TCC in its 48th meeting held in December 2022 has recommended the procurement of WD-XRF instrument for DGM, Mizoram at the cost of Rs 40 lakh which was proposed by DGM, Mizoram. Now, DGM, Mizoram has submitted that the earlier estimate was furnished on the basis of brief glance through internet. Now, DGM, Mizoram has reproposed the revised estimate for WD-XRF at the cost of Rs 150 lakh. The committee considered the requisition of DGM, Mizoram and now recommended to cancel the earlier sanction and reconsider the proposal.*

The proposals have been examined and discussed with the representative of the State Government and the Committee in-principle agreed to recommend the proposal for consideration of EC. The cost estimates for procurement of equpment/instruments/ software etc. are based on the proposal submitted by the State Government or cost restricted to cost provided by IBM or GSI as detailed above. The committee could neither examine the cost reasonableness nor arrive at the cost estimate independently in absence of SoC.

The estimated cost submitted by State Government/ cost restricted to cost provided by IBM or GSI for procurement of items detailed above stands at ₹ 195.99 Lakhs.

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

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51.2.6: Financial assistance from NMET funds to procure machinery/ laboratory equipment/instruments etc. aimed at enhancing the exploration activities. [Implementing Agency: DMM, West Bengal]

a) DMM, West Bengal has submitted the proposal for procurement of machineries/laboratory equipment/ instruments etc. with an extimated cost of ₹ 91.85 lakhs aimed at enhancing the exploration activities.

b) It has been conveyed to TCC that TCC in its 49th meeting held on 30th -31st March, 2023 suggested DMM, West Bengal to resubmit the revised proposal for the procurement of mineral exploration based instruments in next.

c) After the detailed discussion with representative of DMM, West Bengal commiittee agreed for procurement of following items:

S. No.	Item	Qty.	Estimated Cost per unit (Rs.)	Proposed cost (Rs)	Remarks
1	Handheld GPS	10	35,000	3,50,000	Cost provided by DMM, West Bengal
2	Binocular Polarizing Microscope with camera and software	01	24,00,000	24,00,000	Cost provided by DMM, West Bengal
3	GIS Software	02	13,00,000	26,00,000	Cost provided by DMM, West Bengal
4	Geological Hammer	10	10,000	1,00,000	Cost provided by DMM, West Bengal
Total				**54,50,000**	

The proposals have been examined and discussed with the representative of the State Government and the Committee in-principle agreed to recommend the proposal for consideration of EC. The cost estimates for procurement of equpment/instruments/ software etc. are based on the proposal submitted by the State Government or cost restricted to cost provided by IBM or GSI as detailed above. The committee could neither examine the cost reasonableness nor arrive at the cost estimate independently in absence of SoC.

The estimated cost submitted by State Government/ cost restricted to cost provided by IBM or GSI for procurement of items detailed above stands at ₹ 54.50 Lakhs.

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

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51.3.: Review of the Geological report/Ongoing projects

51.3.1: Reconnaissance Survey for manganese ore and graphite in Larambha-Kanaital & Purapadar-Bharatbahal Block (135.0 sq. km) in Balangir District, Odisha. [Implementing Agency: MECL]

a) The "Reconnaissance Survey for manganese ore and graphite in Larambha-Kanaital & Purapadar-Bharatbahal Block (135.0 sq. km) in Balangir District, Odisha" was approved in 23rd EC (supplemantry meeting) with an estimated cost of Rs 193.51 Lakh with the time period of 18 months.

b) Progress of the block was discussed during the meeting and it was informed that mapping, sampling and geophysical component of the project is completed.

c) Committee observed that the Mn values observed from the area are misleading and not in congruence with the geophysical anomalies and geological formations and may have been collected from the float ores. The committee suggested that the samples should be collected very carefully and accordingly suggested to take up 500m drilling in 10 boreholes with vertical depth of 50m. The committee suggested that the G3 stage report should be submitted after completion of project.

The committee suggested to take up 500m drilling in 10 boreholes with vertical depth of 50m. The committee also suggested that the G3 stage report should be submitted after completion of project.

51.3.2: Reconnaissance Survey for Copper, Lead, Zinc, Graphite and Associated minerals in Bagwari-Sukwari Block (141.75 sq. km) in Sidhi District, Madhya Pradesh. [Implementing Agency: MECL]

a) The Reconnaissance Survey for Copper, Lead, Zinc, Graphite and Associated minerals in Bagwari-Sukwari Block (141.75 sq. km) in Sidhi District, Madhya Pradesh was approved in 22nd meeting of EC held in December 2021 with an estimated cost of Rs. 181.20 Lakh and time period of 12 months.

b) It has been submitted that the assigned targets for surface investigations have been successfully achieved by MECL. It has been informed that out of 35 samples collected form 5 trenches, 24 samples have yielded encouraging Cu value between 0.1% to 0.6%.

c) The committee suggested to take up drilling in all the trenches with encouraging values through 07 scout boreholes with total meterage of 500m in the block.

d) Further MECL has requested for time extension of six months which was agrred by the committee.

The committee suggested to take up 500m drilling in seven boreholes along the trenches where encouraging values have been observed. Committee recommended for time extenssion of six months for complition of project.

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51.3.3: Reconnaissance Survey for Sillimanite in Chippilangso Block (37.93 Sq. Km) in Karbi Anglong District, Assam. [Implementing Agency: MECL]

a) The Reconnaissance Survey for Sillimanite in Chippilangso Block (37.93 Sq. Km) in Karbi Anglong District, Assam, was recommended in 34th TCC meting held in October, 2021 and approved in 22nd EC meeting held in December, 2021 with an estimated cost of Rs. 379.47 Lakh and time period of 18 months.

b) Based on detailed deliberation on the progress of work, it has been observed by the committee that Sillimanite bodies coud not be traced in the area. Only 25% mappable area was available in the block (rest covered by alluvium). In such circumstances the target could have been revised, if conveyed earlier. TCC emphasized that as the committee meeting are organized monthly, if any such situation may arise then NEAs/NPEAs may come to TCC for revision of the target area.

The committee expressed his concern for not recording any Sillimanite body in the proposed area and suggested to conclude the project and submit the report.

51.3.4: Preliminary Exploration (G-3 stage) for Limestone in Periyakurichi Block (1.88 sq. km) in Ariyalur District, Tamil Nadu. [Implementing Agency: MECL]

a) The Preliminary Exploration (G-3 stage) for Limestone in Periyakurichi Block (1.88 sq. km) in Ariyalur District, Tamil Nadu was approved in 24th EC meeting held in May, 2022 with an estimated cost of Rs. 96.37 Lakh and time period of 08 months.

b) MECL informed TCC that the project was initiated in June 2022. Accordingly, the schedule completion date for the project was January, 2023. As the geological report was submitted to reviewer on 10.02.2023, MECL has requested for time extension of 3 months for the proposal. The committee agreed for time extension of 3 months.

c) The committee observed that between limestone bands a shale parting of 5m to 20m has been recorded.

The committee recommended the time extension of 3 months up to April, 2023 for submission of GR.

51.3.5: Reconnaissance survey (G4) for Graphite in Thapen - Bazargarh blocks (116.49 sq. km), District: Kalahandi, Odisha. [Implementing Agency: OMECL]

a) Reconnaissance survey (G4) for Graphite in Thapen - Bazargarh blocks (116.49 sq. km), District: Kalahandi, Odisha was approved in 26th meeting of EC held in August 2022 with an estimated cost of Rs. 168.35 Lakh and time period of 15 months.

b) OMECL presented the progress of work and informed that geological mapping and geophysical component of the project have been completed.

c) TCC committee reviewed the work and suggested to collect and analyse the pit/trench,

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or old working samples. The outcome of analyses will be reviewed in the next TCC meeting and in case of encouraging results the decision on drilling will be taken thereafter.

Commiittee suggested to complete the chemical analysis and in case of encouraging results, the decision on drilling will be taken after review.

51.3.6: Reconnaissance survey (G4) for Graphite in Lamer - Panga block (49.08 sq. km), District: Kalahandi, Odisha. [Implementing Agency: OMECL]

a) Reconnaissance survey (G4) for Graphite in Lamer - Panga block (49.08 sq. km), District: Kalahandi, Odisha was approved in 26th meeting of EC held in August 2022 with an estimated cost of Rs. 146.69 Lakh and time period of 12 months.
b) OMECL presented the progress of work and informed that geological mapping (49.084 sq km) and geophysical component S survey (20 lkm) has been completed.
c) It has been submitted that in physical samples the flakes of graphite have been recorded, however, analytical results are yet to be received. It is conveyed that the graphite mineralisation has been recorded in granitegneises, quartzites, and khondalite.

Commiittee suggested to complete the chemical analysis and in case of encouraging results, the decision on drilling will be taken after review.

51.3.7: Preliminary Exploration (G3) for Bauxite in Keluamali block, District - Kalahandi, Odisha. [Implementing Agency: OMECL]

a) The Preliminary Exploration (G3) for Bauxite in Keluamali block, District - Kalahandi, Odisha was approved in 11th EC meeting held in February, 2019 with an estimated cost of Rs. 339.05 Lakh and time period of 14 months.
b) OMECL informed TCC that the schedule completion date of the project was Decemeber, 2022. NEA apprised the memebers that mapping work in the block has already been completed and drilling has to be initiated.
c) OMECL requested for time extension up to Decemeber, 2023 for completing the project.
d) After the detailed deliberation, the committee agreed for time extension of 10 months.

The committee recommended the time extension of 10 months up to October, 2023 for completion of project and submission of GR.

51.3.8: Preliminary Exploration (G3) for Bauxite in Majhingamali block, District – Rayagada & Kalahandi, Odisha. [Implementing Agency: OMECL]

a) The Preliminary Exploration (G3) for Bauxite in Majhingamali block, District – Rayagada & Kalahandi, Odisha was approved in 11th EC meeting held in February, 2019 with an estimated cost of Rs. 187.93 Lakh and time period of 12 months.
b) OMECL requested for time extension up to Decemeber, 2023 for completing the project.
c) After the detailed deliberation, the committee agreed for time extension of 12 months.

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The committee recommended the time extension of 12 months up to December, 2023 for completion of project and submission of GR.

51.3.9: Preliminary Exploration (G3) for Bauxite in Tarhapani (West) block, District - Koraput, Odisha. [Implementing Agency: OMECL]

a) The Preliminary Exploration (G3) for Bauxite in Tarhapani (West) block, District - Koraput, Odisha was approved in 11th EC meeting held in February, 2019 with an estimated cost of Rs. 211.61 Lakh and time period of 12 months.
b) OMECL informed TCC that the schedule completion date of the project was Decemeber, 2022. NEA apprised the memebers that drilling in the block has already been completed.
c) OMECL requested for time extension of 5 months for completing the project and submission of GR.
d) After the detailed deliberation, the committee agreed for time extension of 5 months.

The committee recommended the time extension of 5 months up to May, 2023 for completion of project and submission of GR.

51.3.10: Preliminary Exploration (G3) for Bauxite in Karnapodikonda block in Narayanpatna Tehsil, District - Koraput, Odisha. [Implementing Agency: OMECL]

a) The Preliminary Exploration (G3) for Bauxite in Karnapodikonda block in Narayanpatna Tehsil, District - Koraput, Odisha was approved in 11th EC meeting held in February, 2019 with an estimated cost of Rs. 170.98 Lakh and time period of 10 months.
b) OMECL informed TCC memebers that mapping work in the block has already been completed and drilling has to be initiated.
c) OMECL requested for time extension of 12 months for completing the project and submission of GR.
d) After the detailed deliberation, the committee agreed for time extension of 9 months.

The committee recommended the time extension of 9 months up to September, 2023 for completion of project and submission of GR.

51.4. In order to ascertain periodical progress of exploration projects in respect of quantum of job as well as expenditure incurred,it was opined by the committee that framework for monitoring of projects should be developed.

The meeting ended with vote of thanks to the member of TCC committee and the participants of the meeting.

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List of TCC members attended 51st Technical-cum-Cost Committee (TCC) meeting of NMET held on 27th & 28th March, 2023 in hybrid mode at GSI, Hyderabad

S. No.	Name/Designation	Status	Remarks
1	Shri Janardan Prasad, Addl. Director General & HoD, GSI	Chairman, TCC	Attended Physically
2	Shri Ranjan Kumar Sinha, Controller General (Retd.), IBM	TCC Member	Attended via videoconference
3	Dr. Anjani Kumar, Dy. General Manager (Exploration) & HoD Planning (Retd.), MECL	TCC Member	Attended Physically
4	Sh. K.L. Mundra Additional Director, Atomic Minerals Directorate for Exploration and Research	TCC Member	Through VC
5	Shri Hemraj Suryavanshi, Addl. Director General (Retd.), GSI	TCC Member	Attended Physically
6	Shri Manoj Kumar Patel, Deputy Director General and RMH-II, GSI	TCC Member	Attended Physically
7	Shri Santosh Kumar Adhikari, Chief Mining Geologist, IBM	TCC Member	Attended Physically
8	Shri Vivek Kumar Sharma, Director, NMET, Ministry of Mines	TCC Member	Through VC
9	Shri Ravi Kumar Gupta, General Manager (Finance) HCL	TCC Member	Not Attended
10	Shri Vinay Pal, CAO (Finance), GSI	TCC Member	Through VC

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ANNEXURE 1

List of participants attended 51st Technical-cum-Cost Committee (TCC) meeting of NMET held on 27th & 28th March, 2023 in hybrid mode at GSI, Hyderabad

S. No.	Name/Designation	Email ID	Contact No	Organization
1.	Shri Janardan Prasad ADG & HoD, GSI	janardan.prasad@gsi.gov.in	7763800788	Chairman, TCC
2.	Shri K.L. Mundra, Head RMRE, AMD	headrmre.amd@gov.in	9414785663	Member, TCC
3.	Shri Ranjan Kumar Sinha Controller General (Retd.) IBM	sinhark57@rediffmail.com	9421777637	Member, TCC
4.	Sh. K. L. Mundra Additional Director, AMDER	TCC Member	Through VC	
5.	Shri Hemraj Suryavanshi ADG (Retd.), GSI	hemrajgsi@gmaiLcom	7477042176	Member, TCC
6.	Dr. Anjani Kumar DGM (Retd.), MECL	anjanikumar1 957.ak@gmaiLcom	9975350576	Member, TCC
7.	Shri Manoj Kumar Patel DDG and RMH-II, GSI	m.patel1@gsi.gov.in	9040011231	Member, TCC
8.	Shri S.K Adhikari Chief Mining Geologist,	skadhikari@ibm.gov.in	7588690545	IBM, Nagpur, Member
9.	Shri Vivek Kumar Sharma Director, NMET	vksharma.ofb@gov.in	7024570055	Member, TCC
10.	Shri Suresh Chander Director, GSI	suresh.chander@gsi.gov.in	9493860963	Member Secretary,
11.	Dr. Deshraj Trivedi Sr. Geologist	tcc-nmet@gov.in	9419244294	TCC-NMET
12.	Shri H. P. Harish, Deputy Director (Plan)	dir-mines@karnataka.gov.in	9611951313	DMG, Karnataka
13.	Shri S.K. Dutta, Advisor, DGM, Bihar	advisorbsmc2023@gmail.com	9430906082	DGM, Bihar
14.	Shri Om Prakash, Director (Mines)	dgmjak@gmail.com	9419520302	DGM, J&K
15.	Shri S.N. Dodia	dmgoms.uda.mg@rajasthan.gov.in	9727706356	DGM, Rajasthan
16.	Shri David Lhoupenyi Nodal officer & Geologist, DGM,	dihoupenyi@gmail.ocm	8787792232	DGM, Nagaland
17.	Shri Abhir	dir-mine.goa@nic.in	9822952031	DGM, Goa
18.	Shri Udaya Ravi	geology.dgm@mp.gov.in	9424701075	DGM, M.P.
19.	Shri Lalthazuala, Director	directordgmr@gmail.com	9436150941	DGM, Mizoram
20.	Shri Nilabja Roy, Suptdg. Geologist	Nilabjaroy500@gmail.com	8240124822	DMM, West Bengal
21.	Shri R. P. Singh, Manager (Geology)	gm.exploration.cmpdil@gmail.com	8987789047	CMPDI

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22.	Shri P. Ravindran, DGM (Exploration)	gm-exploration@mecl.co.in	7907649392	MECL
23.	Shri Vikash Kumar	vikgeo@gmail.com	-	MECL
24.	Shri Naveen Kumar Pala, Manager (Geology)	naveenpala.mecl@gmail.com	7738368657	MECL
25.	Shri Swarup Dhara, Manager (Geology)	swarupdhara@gmail.com	9630307282	MECL
26.	Shri Vijay Kumar Ojha	jemcl2021@gmail.com	9572848488	JEMCL
27.	Shri Subrata Sarkar	subrata.sarkar@gemcokati.com	7044208900	Gemcokati Exploration Pvt. Ltd.
28.	Shri Channamallikarjun	cm@geoexpore.com	9980554498	GeoExpore Pvt. Ltd.
29.	Shri Farreddudin	fareedromani@gmail.com	9958200604	GeoExpore Pvt. Ltd.
30.	Dr. Sangeeta Gupta Senior Geologist	nmet.mines@gov.in	8005763199	NMET
31.	Smt. Anju C. S Senior Geologist	nmet.mines@gov.in	8588836933	NMET
32.	Smt. Ujjwala Sharma Senior Geologist	nmet.mines@gov.in	8957806004	NMET
33.	Shri Sunil Kumar Admin. Officer	nmet.mines@gov.in	9987808925	NMET

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Annexure 3A

Estimated cost for Reconnaissance survey (G4) for Iron, Manganese and associated minerals in Talwa Block, Districts: Jabalpur and Katni , State: Madhya Pradesh.
[Block area- 80.50 sq. km; Schedule timeline- 10 months]

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item -Sl No.	Rates as per SoC	Qty.	Amount (Rs)	
A	**GEOLOGICAL WORK (1:12,500 scale)**						
i	Charges for one Geologist- Field	day	1.2	11,000	130	1,430,000	
ii	Charges for one Geologist per- HQ	day	1.2	9,000	60	540,000	
iii	2 labours/ party (Rs 477/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	477	260	124,020	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Sampler Days Labour charge not included	day	1.5.2	5,100	20	102,000	
v	4 labours/ party (Rs 477/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	477	80	38,160	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub Total- A	**2,234,180**	
B	**PITTING AND TRENCHING**						
i	Trenching	Cu m	2.1.1	3330	150	499,500	
					Sub Total- B	**499,500**	
C	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i	**Primary & Check samples for Iron-Manganese BRS/Chip/Channel/Trenchsamples)**						
	a. Primary Samples for Total Fe, Total Mn, Al2O3, P2O5, Cao, SiO2 and Acid insolubles	Nos	4.1.15a	4,200	150	630,000	100 nos. sample BRS/Chip /Channel and 50 nos. Trench samples
	b.Internal & External (15%) Check samples for 4 Radicals Fe, Al2O3, P2O5 & SiO2	Nos	4.1.9	4,200	23	96,600	
ii	**Primary & Check samples for gold (BRS/Channel/Core)**						
	a. Primary Samples for Au by Fire Assay	Nos	4.1.5a	2,380	5	11,900	From Dolomite and BIF contact and from BIF
	b.Internal & External (15%) Check samples for 4 Radicals Fe, Al2O3, P2O5 & SiO2	Nos	4.1.5a	2,380	1	2,380	
iv	Trace element study (34 Elements)	Nos	4.1.14	7,731	10	77,310	
2	**Physical & Petrological Studies**						
i	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
ii	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	
iii	Whole Rock Analysis (Major oxide and additional trace elements)	Nos	4.1.15a & b	7,568	10	75,680	
					Sub Total- C	**959,720**	
D					**Total A to D**	**3,693,400**	

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F	Geological Report Preparation		5.2	For the projects having cost up to Rs. 50 lakhs - A minimum of Rs. 1.5 lakhs or 5% of the value of work whichever is more		184,670	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			10,000	
H	Preparation of Exploration Proposal (5 Hard copies with a soft copy)	5 Hard copies with a soft copy	5.1	2% of the Cost or Rs. 3.8 Lakhs whichever is lower		73,868	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
I	Total Estimated Cost without GST					3,961,938	
J	Provision for GST (18% of I)					713,148.84	GST will be reimburse as per actual and as per notified prescribed rate
K	Total Estimated Cost with GST					4,675,086.84	
				or Say Rs. In Lakhs		46.75	
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.						

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Annexure 3B

Estimated cost for Reconnaissance survey (G4) for Iron, Manganese and associated minerals in Talwa Block, Districts: Jabalpur and Katni, State: Madhya Pradesh.
[Block area- 80.50 sq. km, Schedule timeline- 10 months]

S. No.	Activities	Months/ Days	1	2	3	4	5	6	Review	7	8	9	10
1	Geological Mapping	months											
2	Trenching	cu.m											
3	Geologist days	days											
4	Sampling days, Core Sampling	days											
5	Laboratory Studies	months											
6	Geologist days, HQ	days											
7	Report Writing with Peer Review	months											

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ANNEXUE 4A

COST ESTIMATE FOR PRILIMINARY EXPLORATION (G-3) FOR POTASH IN BHARUSARI NORTH BLOCK,BHARUSARI-SUB BASIN, NORTH WESTERN PART OF RAJASTHAN, DISTRICT- HANUMANGARH, RAJASTHAN.

Total Area - 10.00 sq km; Nos. of Borehole - 5; Borehole depth range - Avg 700 m ; Completion Time - 12 Months

S.No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item - Sl No.	Rates as per SoC	Qty.	Total Amount (Rs)	
A	**GEOLOGICAL WORK**						
1	**Borehole logging & sampling & report writing**						
a	Charges for one Geologist per day at HQ	day	1.3	9,000	60	5,40,000	
b	Charges for Geologist party per day at field	day	1.3	11,000	150	16,50,000	
c	1 party Labour (2 Nos each party)	day	5.7	477	300	1,43,100	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt., whichever is higher
d	Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	125	6,37,500	
e	Labours (4 Nos)	day	5.7	477	500	2,38,500	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt., whichever is higher
2	**Survey (on 1:10000 Scale)**						
a	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and Boundary points by DGPS	Per Point of observation	1.6.2	19,200	6	1,15,200	BH-5 nos. & Base Station 1 Nos
	Sub-Total A					**33,24,300**	
B	**DRILLING**						
1	Drilling up to 300m (Hard Rock)	m	2.2.1.4a	11,500	1,500	1,72,50,000	Soc-Page No-2, Clause No. II: Note on Potash Drilling
2	Drilling 301 to 600 m (Hard Rock)	m	2.2.1.4b	12,420	1,500	1,86,30,000	

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3	Drilling 601 to 900 m (Hard Rock)	m	2.2.1.4c	13,225	500	66,12,500	
4	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	5	1,00,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from the local authorities
5	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
6	Borehole plugging by cement	m	2.2.7b	150	5	750	
7	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	5,400	1,94,400	certification in this regard is required to be provided
8	Monthly Accommodation Charges for drilling Camp	month	2.2.9	50,000	6	3,00,000	
9	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	2	5,00,000	certification of deplyoment of drill rigs are required
10	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	2	5,00,000	
11	Road Making (Flat Terrain)	Km	2.2.10a	22,020	5	1,10,100	Road Making will be considered as per the requirement but not more than the provided kms in the cost sheet. Road Making Charges will be reimbursed accordingly.
12	Drill Core Preservation	per m	5.3	1,590	1,250	19,87,500	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	Sub Total B					**4,61,95,250**	
C	**BOREHOLE GEOPHYSICAL LOGGING**						
1	Dual Density	m	3.11d	102	3,500	3,57,000	
2	Spectral Gamma	m	3.11o	164	3,500	5,74,000	
3	Resitivity	m	3.11c	39	3,500	1,36,500	

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4	Expert charges for Geophysicist in HQ	day	3.18	9,000	10	90,000	
5	Expert charges for Geophysicist in Field	day	3.18	11,000	20	2,20,000	
	Sub Total C					**13,77,500**	
D	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Primary samples**						
	a. Analysis of 9 radicals i.e. K, Na, Water insolubles, Mg, Cl, Br, I, Li & CaSO4, Boron, Fluoride	Nos	4.1.1	8,157	1,000	81,57,000	
ii)	**Check samples Internal (5%) and External(10%)**						
	a. Analysis of 9 radicals i.e. K, Na, Mg, Cl, Br, I, Li, Boron, Fluoride, CaSO4 & Water insolubles	Nos	4.1.1	8,157	150	12,23,550	
iii)	XRD analysis for identification of minerals (Random)	Nos	4.5.1	4,000	20	80,000	
	Sub-Total -1					**94,60,550**	
2	**Physical Laboratory**						
i.	Specific Gravity Determination	No.	4.8.1	1,605	5	8,025	
	Sub Total- D					**94,68,575**	
E	**Total - A to D**					**6,03,65,625**	
G	**Geological Report Preparation**		**5.2**	**For the projects having cost more than Rs. 300 lakhs - A minimum of Rs. 9 lakhs or 3% of the value of work whichever is more subject to a max. amount of Rs. 20 lakhs**		**18,10,969**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET

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H	**Peer review Charges**		**As per EC decision**			**10,000**	
	Preparation of Exploration Proposal (5 Hard copies with a soft copy),	5 Hard copies with a soft copy	5.1	2% of the approved cost to a max. of Rs. 5 Lakhs		**5,00,000**	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and plan as suggested by the TCC-NMET in its meeting while clearing the proposal
J	**Total Estimated Cost without GST**					**6,26,86,594**	
K	**Provision for GST (18% of G)**	**%**				**1,12,83,587**	GST will be reimbursed as per actual and as per notified prescribed rate
	Total Estimated project Cost with GST					**7,39,70,181**	

Note - 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 Certifiate regarding non outsourcing of any component/ project is required.

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Annexure 4B

TIME SCHEDULE/ACTION PLAN FOR PRILIMINARY EXPLORATION (G-3) FOR POTASH IN BHARUSARI NORTH BLOCK,BHARUSARI-SUB BASIN, NORTH WESTERN PART OF RAJASTHAN, DISTRICT- HANUMANGARH, RAJASTHAN.														
Sl. No.	Activities	Unit	MONTHS											
			1	2	3	4	5	6	Review	7	9	10	11	12
1	Camp Setting	day												
2	Core Drilling (2 rigs)	m.												
3	Geophysical Party Days (1 Party), Field													
4	Geologist Party days (1 Party)	day												
5	Sampling Party days, Core Sampling	day												
6	Camp Winding	day												
7	Laboratory Studies	Nos.												
8	Geologist Party days (1 Party), HQ	day												
9	Geophysical Party Days (1Party), HQ													
10	Report Writing & Peer review	day												
NOTE														
1	Commencement of project may be reckoned from the day the exploration acreage is available along with all stautory clearances.													
2	Time loss on account of monsoon/agricultural activity/forest clearence/local law & order problem/ lockdown etc will be additional to above time line.													

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ANNEXURE 5A

COST ESTIMATION FOR EXPLORATION (G3, PHASE-I) FOR Ni-Co-PGE IN J.C. PURA MAFIC-ULTAMAFIC SCHIST BELT NEAR RAMPURA GOLLARAHATTI BLOCK, HASAN DISTRICT - KARNATAKA

Total Area 2.00 sq.km. (Mapping for 0.85 sq.km. on 1:2000 Scale)

Sl.No	Item of work	Unit	NMET SoC-Item Sl.No.	NMET Rates (2020)	Qty	Amount INR	Remarks
A	**GEOLOGICAL WORK**						
i	Geologist Party days H Q	Days	1.3	9000	60	540000	
ii	Geologist Party days (2) -Field	Days	1.3	11000	120	1320000	
iii	Labourers (Rs 477/day/labour)	Days	5.7	477	240	114480	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt., whichever is higher
iv	Sampler Party days (1party)	Days	1.5.2	5100	20	102000	
v	Labour for Sampling	Days	5.7	477	80	38160	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt., whichever is higher
B	**GEOPHYSICAL INVESTIGATION**						
i	Gravity Method-2- profiles, spacing 100 mts- 10 stations on each profile(10X20 =200)	Per station	3.1a	3800	200	760000	
C	**SURVEY**						
i	Survey Party Days (1 party)	Days	1.6.1a	8300	15	124500	
ii	Labourers (Rs 477/day/labour) for Survey Party (4 Nos)	Days	5.7	477	60	28620	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt., whichever is higher
	SubTotal A+B+C					**3027760**	

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D	**PITTING & TRENCHING**						
i	Pitting/Trenching	Per Cu.M	2.1.2	3800	150	570000	
	SubTotal C					**570000**	
E	**LABORATORY STUDIES**						
i	**a.Chemical analyses**	Nos					
ii	Analyses of Geochemical -BRS, Trench/Pit Samples (Ni-Fire Assay)	Per sample	4.1.5d	11800	200	2360000	
iii	**Primary + Check Sample**						
	(a)Check Samples- Ni,Co, PGE (15%) NABL Lab (Ni-Fire Assay)	Per sample	4.1.5d	11800	30	354000	
	b.Petrography studies						
	(a) Preparation of thin sections	Per sample	4.3.1	2353	10	23530	
	(b)Complete petrographic/Ore microscopic study/Mineragraphic studies	Per sample	4.3.4	4232	10	42320	
	(c)Preparation of Polished Sections	Per sample	4.3.2	1549	10	15490	
	c) EPMA Studies	Per hour	4.4.1	8540	10	85400	
	d) Whole Rock Analysis (Major oxide and additional trace elements)	Nos	4.1.15a & b	7568	10	75680	
	SubTotal E					**2956420**	
	Total A+B+C+D+E					**6554180**	
F	**PREPARATION OF EXPLORATION PROPOSAL (5+1 Softcopy)**	Per Project	5.1	2% of the Cost subject to a maximum of Rs. 5 Lakh	1	**131084**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET
G	**PEER REVIEW**	As per EC decision				**10000**	

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H	GEOLOGICAL REPORT PREPARATION (@5%)	Per Porject	5.2	For the projects exceeding Rs. 50 Lakhs but less than 150 Lakhs: A Minimum of Rs. 2.5 lakhs or 5% of the work whichever is more.	1	327709	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
	TOTAL A to H					7022973	
	GST 18%					1264135	GST will be reimbursed as per actual and as per notified prescribed rate
	Total project cost inclusive of GST 18%					8287108	

Note - 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.

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ANNEXURE 5B

Estimated cost for EXPLORATION (G3) FOR EXPLORATION (G3) FOR Ni-Co,PGE in J.C. Pura MAFIC-ULTAMAFIC SCHIST BELT NEAR RAMPURA GOLLARAHATTI BLOCK, HASAN DISTRICT - KARNATAKA
[Block area- 2 sq.km., Schedule timeline- 10 months]

S. No.		Months/Days	1	2	3	4	5	6	Review	7	8	9	10
1	Geological Mapping	months											
2	Trenching	cu.m											
3	Geologist days	days											
4	Sampling days, Core Sampling	days											
5	Laboratory Studies	months											
6	Geologist days, HQ	days											
7	Report Writing with Peer Review	months											

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ANNEXURE 6A

COST ESTIMATION FOR EXPLORATION (G3) FOR Ni-Cr-PGE-Au in MAFIC-ULTAMAFIC BODIES OF HADANUR-TAGADUR BELT, MANDYA DISTRICT - KARNATAKA							
Total Area 7.00 sq.km. (Block - A) - Mapping 1:4000 Scale							
Sl.No	Item of work	Unit	NMET SoC-Item -Sl No.	NMET Rates (2020)	BLOCK A		Remarks
					Qty	Amount INR	
A	**GEOLOGICAL WORK**						
i	Geologist Party days H Q	Days	1.3	9000	60	540000	
ii	Geologist Party days (2) -Field	Days	1.3	11000	130	1430000	
iii	Labourers (Rs 477/day/labour)	Days	5.7	477	260	124020	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt., whichever is higher
iv	Sampler Party days (1party)(	Days	1.5.2	5100	25	127500	
v	Labour for Sampling	Days	5.7	477	100	47700	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt., whichever is higher
B	**GEOPHYSICAL INVESTIGATION**						
i	Magnetic Survey (20-24 LineKm)	Per station	3.2a	1800	245	441000	
C	**SURVEY**						
i	Survey Party Days (1 party)	Days	1.6.1a	8300	30	249000	
ii	Labourers (Rs 477/day/labour) for Survey Party (4 Nos)	Days	5.7	477	120	57240	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt., whichever is higher
	SubTotal A+B+C					**3016460**	
D	**PITTING & TRENCHING**						
i	Pitting/Trenching	Per Cu.M	2.1.2	3800	200	760000	
	SubTotal D					**760000**	
E	**LABORATORY STUDIES**						
i	**a. Chemical analyses**	Nos					

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ii	Analyses of Geochemical -BRS, Trench/Pit for Ni,Cr, Cu,PGE, etc (Ni-Fire Assay)	Per sample	4.1.1	11800	200	2360000	
iii	**Primary + Check Sample**						
	(a)Check Samples- Ni,Cr, Cu,PGE, Au(15%) NABL Lab (Ni-Fire Assay)	Per sample	4.1.1	11800	30	354000	
	(b) Fire Assay for PGE (ICP-MS Ni-S) (5%) (Ni-Fire Assay)	Per sample	4.1.5d	11800	5	59000	
	(c) Fire Assay for Gold	Per sample	4.1.5a	2380	5	11900	
	b. Petrography studies						
	(a) Preparation of thin sections	Per sample	4.3.1	2353	10	23530	
	(b)Complete petrographic/ore microscopic study/Mineragraphic studies	Per sample	4.3.4	4232	10	42320	
	(c)Preparation of Polished Sections	Per sample	4.3.2	1549	10	15490	
	c) EPMA Studies	Per hour	4.4.1	8540	10	85400	
	d) Whole Rock Analysis (Major oxide and additional trace elements)	Nos	4.1.15a & b	7568	10	75680	
	SubTotal E					**3027320**	
F	**GEOTECHNICAL STUDIES**						
i	Specific Gravity Determination	Per Sample	4.8.1	1605	5	8025	
	SubTotal F					**8025**	
	Total A+B+C+D+E+F					**6811805**	
G	**PREPARATION OF EXPLORATION PROPOSAL (5+1 Softcopy)**	Per Project	5.1	2% of the Cost subject to a maximum of Rs. 5 Lakh	1	**136236**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET
H	**PEER REVIEW**	As per EC committee				**10000**	

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I	GEOLOGICAL REPORT PREPARATION 5 HARD COPIES + 1 SOFTCOPY	Per Project	5.2	For the projects exceeding Rs. 50 Lakhs but less than 150 Lakhs: A Minimum of Rs. 2.5 lakhs or 5% of the work whichever is more.	1	**340590**	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
	TOTAL A to I					**7298631**	
	GST 18%					**1313754**	GST will be reimbursed as per actual and as per notified prescribed rate
	Total project cost inclusive of GST 18%					**8612385**	

Note - 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 Certifiate regarding non outsourcing of any component/ project is required.

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ANNEXURE 6B

Estimated cost for EXPLORATION (G3) FOR Ni-Cr-PGE-Au in MAFIC-ULTAMAFIC BODIES OF HADANUR-TAGADUR BELT, MANDYA DISTRICT - KARNATAKA
[Block A area- 7 sq. km, Schedule timeline- 10 months]

S. No.		Months/Days	1	2	3	4	5	6	Review	7	8	9	10
1	Geological Mapping	months											
2	Trenching	cu.m											
3	Geologist days	days											
4	Sampling days, Core Sampling	days											
5	Laboratory Studies	months											
6	Geologist days, HQ	days											
7	Report Writing with Peer Review	months											

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