Ministry of Mines
National Mineral Exploration Trust

Minutes of the 43rd Technical-cum-Cost Committee (TCC) meeting held on 28th and 29th July 2022 through video conferencing at Ministry of Mines, Shastri Bhawan, New Delhi

The 43rd Technical-cum-Cost Committee [TCC] meeting of National Mineral Exploration Trust [NMET] was held under the chairmanship of Shri Janardan Prasad, Additional Director General, Geological Survey of India [ADG, GSI] and Chairman, TCC, NMET on 28th and 29th July 2022 at Ministry of Mines, Shastri Bhawan, New Delhi through video conferencing. The TCC members and representatives of Exploration Agencies [EAs] participated through their respective VC nodes. The list of participants is in **annexure-1**.

Shri Suresh Chander, Director, GSI and Member Secretary, TCC NMET, welcomed Shri Janardan Prasad, ADG, GSI & Chairman, TCC; Shri Vivek Kumar Sharma, Director & HoD, NMET; Members of the TCC and participants representing various EAs. He conveyed that total 12 new project proposals have been received from different EAs for technical cum cost evaluation of the committee.

Shri Vivek Kumar Sharma, Director, NMET welcomed Chairman, TCC; Members of the TCC and participants representing various EAs. He expressed his satisfaction over the progress of exploration activities through NMET fund and technical evaluation of the project proposals by the TCC members.

Shri Janardan Prasad, ADG, GSI, and Chairman, TCC also welcomed the TCC members and other participants from various EAs. He appreciated the EAs for timely submission of the projects to evaluate in the TCC meeting. The proceeding of the meeting was initiated as per the circulated agenda.

Agenda-wise discussions are summarised as follows.

43.1: Technical evaluation of new project proposals:

43.1.1. Preliminary exploration (G3) for coal in West of Tubed block (11.89 sq. km), Auranga Coalfield, District: Latehar, Jharkhand. [Implementing Agency: CMPDI]

a) Geologically the area is exposed by the Lower and Upper Gondwana Group of rocks. The Auranga coalfield is the eastern most coalfield of the North Koel valley Gondwana basin. It is 20 km away from the North Karanpura basin. The Auranga coalfield shows close similarity in its stratigraphic and tectonic setting with that of the adjacent Damodar valley basin. The Auranga coalfield is characterized by the presence of 7 Coal Seams and their splits belonging to the Barakar Formation and are separated by well-defined parting.

b) The sequence of coal seams likely to occur in the proposed block on the basis of boreholes drilled in adjoining blocks mainly comprises 13 seams of the Barakar Formation which in descending order are VII (Top and Bottom) or VII Combined, VI, V

(Top and Bottom), IV (top and Bottom), III (Top, Middle and Bottom), II, I (Top and Bottom)

c) It has been conveyed that the quality of most of the coal seams in the proposed block is expected to vary from G9 to G12 grade, except for one coal seam (III bottom) which varies from G7-G12 grade.

d) CMPDI has proposed to take up 3840.00 m of drilling in 6 boreholes for G3 stage at 1600m×1600m grid along with geological mapping on 1:10,000 scale in the proposed block.

e) Based on deliberations the Committee opined that the north-western boundary of the block may be slightly shifted towards the south upto southern bank of the river. Borehole P1 and P2 may be discarded and a new borehole (P1) at NW corner of the block may be drilled up to Talchir/Basement. The committee also suggested drilling the remaining 4 boreholes up to Seam-I. Total of 2700m drilling in 5 boreholes along with band by band analysis of 1100 nos of samples will be taken up.

f) The progress of work will be reviewed after eight months.

The committee recommended the proposal for approval of EC for Preliminary exploration (G3) for coal in West of Tubed block (11.89 sq. km), Auranga Coalfield, District: Latehar, Jharkhand with an estimated cost of Rs 339.03 Lakh (including GST) in time schedule of 14 months for carrying out the proposed work and submission of report as per annexure- 2A & 2B.

43.1.2. Reconnaissance survey (G4) of coal in Brahmani North block (21.73 sq. km), Talcher Coalfield, District: Dhenkanal, Odisha. [Implementing Agency: CMPDI]

a) The proposed Brahmani North block is located in eastern part of Talcher coalfield. Geologically the block area is exposed by the rocks of Pre-Cambrian Metamorphics at base followed by Talchir, Karharbari and Barakar formations of Godnwana Group overlained by recent alluvium. The Barakar Formation is expected to contain coal seams of the G9-G10 grade.

b) The Gambhaira Nala, a perennial nala is intersecting the block in NE-SW direction at its center. A canal is intersecting the entire block. The National Highway 23 is also passing through the block.

c) CMPDI has proposed to take up the G4 stage exploration by deploying 4 scout boreholes involving 1950m of drilling for regional exploration up to Seam-I/Talchir Formation.

d) The proposal was sent to GSI for their considered comments. In response to this GSI has conveyed that the three boreholes of GSI fall within the proposed boundary of the block. It was also conveyed that towards the eastern boundary of the block, the basement is found exposed.

e) As most of the coal seams are confined to Barakar Formation, the depth of all boreholes may be restricted up to the base of Karharbari Formation except in one

borehole, which may be extended upto Talchir Formation to decipher any possibility of coal seam.

f) Based on the deliberations, the committee opined that the borehole data of GSI may be incorporated in the proposal, and if encouraging results are observed, a revised proposal for G3 stage may be submitted.

The committee suggested that the borehole data of GSI may be incorporated in the proposal, and if encouraging results are observed, a revised proposal for G3 stage may be submitted in next TCC.

43.1.3. Reconnaissance survey (G4) for coal in West of Ghugus and Bellora block (39.15 sq. km), Wardha Valley Coalfield, District: Yavatmal, Maharashtra. [Implementing Agency: CMPDI]

a) The west of Ghugus and Bellora coal block is located in the south-western part of Wardha valley coalfield. Geologically the area is exposed by the rocks of Barakar, Motour and Kamthi formations of Gondwana Supergroup followed by soil cover. The Barakar Formation is considered as the potential horizon for coal occurrences in the proposed bock.

b) It has been conveyed that the Wardha valley coalfield possesses only one thick coal seam varying in thickness from 15 m to 20 m that splits into two or three sections as Top & Bottom or Top, Middle & Bottom. The overall grade of coal seams is expected to vary between G9-G13.

c) CMPDI has proposed to take up the G4 stage exploration through deploying drilling of 3500m in 6 boreholes at 3200m x 3200m grid interval. The depth of intersection for composite seam has been proposed from 500m to 750m.

d) It is pertinent to mention that the Wardha river is crossing all along the Ghugus block and the coal seams of the Wardha valley are not of very good quality. It is conveyed that the single coal seam is occurring at about 600m depth, hence the economic feasibility of the coal seam needs to be assessed before implementation of the project.

e) About 41% area of the proposed block falls within the forest cover and the northwestern part of the block overlaps with the pre-explored Lathi-Kesurli block of GSI.

The committee suggested to reassess the economic feasibility of the block and encorporate the geological data of GSI from the pre-explored Lathi-Kesurli block, thereafter, if required, a revised project proposal may be submitted in next TCC.

43.1.4. Preliminary exploration (G3) for bauxite in the Garhpat block (1.63 sq.km), District: Lohardaga, Jharkhand. [Implementing Agency: CMPDI]

a) The proposal for bauxite exploration in the Garhpat block was discussed in 33rd TCC meeting wherein the committee opined that about 50% area of the proposed block is

covered with the Chhotanagpur Granite Complex rock and is devoid of any laterite/bauxite material hence exploration in the Garhpat Block may not be taken up.

b) In view of the above observation of TCC, the CMPDI has now modified the proposal and area covered by laterite material has only been proposed for G3 stage of exploration. CMPDI has proposed Eleven vertical boreholes with total 220m drilling at the grid of 400m X 400m are proposed for G3 stage of exploration in the block.

c) Based on deliberations the committee suggested taking up the exploration by deploying 10 boreholes with 200m drilling meterage. The boreholes may be drilled up to one meter below the bauxite zone. In one of the boreholes, the depth may be extended up to lithomarge.

d) Initially the samples of one borehole may be analyzed for Vanadium, Gallium, Titanium and REEs along with major oxides and in case of encouraging results, all the samples will be analyzed for Vanadium, Gallium, Titanium, and REEs for all 10 boreholes.

e) Geological mapping may be taken up 1: 4,000 scale. The borehole data and analytical results of one borehole will be reviewed after six months.

The committee recommended the proposal for approval of EC for Preliminary exploration (G3) for bauxite in the Garhpat block (1.63 sq. km), District: Lohardaga, Jharkhand with an estimated cost of Rs 82.81 Lakh (including GST) in the time schedule of 12 months for carrying out the proposed work and submission of report as per annexure- 3A & 3B.

43.1.5. Reconnaissance survey (G4) for diamond in Jheriya block (100.31 sq. km), District: Janjgir-Champa, Chhattisgarh. [Implementing Agency: NMDC]

a) The proposed block area is located in the northern part of the Bastar craton within the peninsular Indian Shield. Geologically the area is exposed by the Chhattisgarh Supergroup of rocks characterized by Chandrapur, Gunderdehi, Chandi, Tarenga, and Kodwa Formations.

b) It has been submitted that, as per previous literature many Kimberite/Lamproite are discovered in the Chhattisgarh basin and the proposed area may also have potentiality for occurrence of Kimberlite clan Rocks. The geochemical analyses of samples also suggest the probability of Kimberlite occurrence.

c) It has also been submitted that the block area was explored by Rio Tinto Exploration India Ltd. for kimberlite/lamproite prospecting and kimberlite indicator minerals were observed under DIF [ilmenite, Chromite, G-9 (Lherzolite) Garnet etc.] and diamond at some of the locations.

d) Keeping this in view, the NMDC has proposed to take up Reconnaissance survey (G4 stage) including stream sediment sampling, ground geophysical survey, pitting, trenching and scout boreholes in the potential areas to identify/discover kimberlite/ lamproite body/bodies.

e) The available geochemical, geophysical and aero-geophysical data needs to be incorporated to avoid any duplication. Based on prelimineray survey and geochemical

survey, some potential areas of about 20-30 sq. km may be identified for ground magnetic survey. The ground magnetic survey (500 points) may be taken up initially at 500m x 500m grid interval and thereafter, close spaced (200m x 200m) magnetic data may be acquired for delineation of kimberlites.

f) Based on geophysical data anomaly, the kimerlites may be targeted and drilling (500m conditional) may be deployed for deciphering the dimension of kimberlite body and presence of diamond.

g) The progresso of work will be reviewed after nine months and thereafter the decision on drilling will be taken.

The committee recommended the proposal for approval of EC for Reconnaissance survey (G4) for diamond in Jheriya block (100.31 sq. km), District: Janjgir-Champa, Chhattisgarh with an estimated cost of Rs 245.65 Lakh (including GST) in time schedule of 18 months for carrying out the proposed work and submission of report as per annexure- 4A & 4B.

43.1.6. Reconnaissance survey (G4) for Lithium and basemetals in Chakrasilla block (40.19 sq. km), District: Kokrajhar, Assam. [Implementing Agency: MECL]

a) Geologically the block area is exposed by Precambrian crystalline rocks of unclassified Assam-Meghalaya Gneissic Complex of Archaean-Proterozoic age. The area is the northern extension of the Garo Hills of Shillong Plateau and is variously called "Archaean Crystalline Inselbergs" and "northward drown of Shillong plateau".

b) The proposed block is located on the northern bank of Brahmaputra river and lithologically the block is comprised of gneissic rocks and quaternary alluvium. The lepidolite bearing pegmatites are intruding in qauartzo-feldspathic gneiss and granites.

c) It has been submitted that the preliminary appraisal of lepidolite occurrences around Dhirbil by GSI in 1988-89 and appraisal of lepidolite mica on the northern tip of Dhirbil, Goalpara district by GSI in 1969-70 had suggested the values (~4% LiO_2) of lithium in the large isolated outcrops/boulders on the surface with subsurface continuity.

d) It has been conveyed that the G4 stage investigation for W, Sn & REE was executed by the GSI in the Chakrasila, Nadangiri and Bhumeswar area in the Bongaigaon, Dhubri and Kokrajhar Districts, Assam during F.S. 2014-16. During the investigation baseline data was collected and large-scale mapping on the 1:10,000 scale was done, a total of 234 bedrock samples and 25 petrochemical samples were collected from different lithologies and the area showed no potential for W, Sn & REE mineralization.

e) Now, MECL has proposed to study the lithium and basemetal continuity in the area wherein the prospects were reported by GSI in their previous work.

f) The proposed project proposal was sent to GSI for their considered comments. In response to this, GSI has submitted that there is an overlapping of more than 50% area with the earlier explored G4 LSM block (W, Sn, REE: FS: 2014-15, Chakrasila - Nadangiri block).

g) Based on detailed deliberations the committee opined that the MECL may take up G4 stage exploration for lithium and associated minerals by deploying large-scale geological mapping (1:12,500 scale), 50 cu.m of trenching and five boreholes with 300m drilling. Initially, 10 samples will also be analyzed for other associated minerals.

h) The progress of work will be reviewed after eight months.

The committee recommended the proposal for approval of EC for Reconnaissance survey (G4) for Lithium and associated minerals in Chakrasilla block (40.19 sq. km), District: Kokrajhar, Assam with an estimated cost of Rs 330.78 Lakh (including GST) in time schedule of 15 months for carrying out the proposed work and submission of report as per annexure- 5A & 5B.

43.1.7. Reconnaissance survey (G4) for Tungsten, Tin and Rare Metals in Govindpur block (82.45 sq. km), District: Datia, Madhya Pradesh. [Implementing Agency: MECL]

a) The proposed area lies in the northern fringe of Bundelkhand Gneissic Complex (BGC), which is highly deformed granite-greenstone terrain. The BGC is comprised of ultramafics, amphibolites, fuchsite quartzites, banded iron formation, schists, marble, calc-silicates and Tonalite-Trondhjemite-Granodiorite (TTG) rocks) profusely intruded by undeformed granitoids. It has been conveyed that the copper anomaly of 775 (ppm) was reported by GSI during F.S. 1996-97 through NGCM around Govindpur.

b) It has been submitted that during F.S. 2014-15, the NGCM program of GSI had indicated occurrences of Sn (Tin) (1.75 to 6.66ppm) and the block was recommended for detail exploration for tin mineralization.

c) MECL has collected 10 nos. samples in and around Govindpur area and the analyses of these samples indicate Sn (2.4 - 7.70 ppm) and W (680 - 1214 ppm).

d) Keeping the above in view, the MECL has proposed to take up the G4 stage reconnaissance survey in the proposed block by deploying geological mapping on 1: 12,500 scale, geophysical (gravity and magnetic) geochemical and surveying.

e) It is pertinent to mention that the granites related to tin deposits worldwide exhibit distinct geochemical characteristics resembling compositions of 'topaz granite' which are perceived to be the products of extreme differentiation of granitic magma. Further, the contact of TTG and granite gneisses are considered as the important loci for occurrences of tin and tungsten. The sample collection and their analyses may be planned accordingly.

f) Based on detailed deliberations the committee opined that the project may be taken up by deploying geological mapping (1:12,500 scale), bed rock/soil/stream sampling (200 nos.), pitting/trenching (100 cu.m), and analyses of samples for tin tungsten and REEs through ICP-MS. The committee also suggested to conduct UV survey.

g) The progress of work will be reviewed after six month thereafter the decision on implementation of drilling will be taken accordingly.

8/8/22

08/08/22

The committee recommended the proposal for approval of EC for Reconnaissance survey (G4) for Tungsten, Tin and Rare Metals in Govindpur block (82.45 sq. km), District: Datia, Madhya Pradesh with an estimated cost of Rs 169.38 Lakh (including GST) in time schedule of 12 months for carrying out the proposed work and submission of report as per annexure- 6A & 6B.

43.1.8. Reconnaissance survey (G4) for copper and associate minerals in Sitapur block (adjoining to Shitalpani block) over an extent of 5.00 sq. km, District: Balaghat, Madhya Pradesh. [Implementing Agency: MECL]

a) The proposed Sitapur block area is a flat low-lying area, mostly under soil cover except a few hillocks in the north-western and south-western part.

b) The Sitapur block is occupied by the Malanjkhand granitoid comprising granitic rocks intruded by quartz veins and metadolerite dykes along sheared zones, joints and fractures. To the west of Sitapur block, Amgaon schists and gneisses are occurring. The caught-up patches of these rocks are noticed in the granitic rocks of the block.

c) It has been submitted that GSI had conducted Specialized Thematic Mapping in and around Sitapur block during the F.S. 1991 to 1994 and located quartz vein with a strike length of 450m and width of approximately 15.20 m to 0.9 km. in the west of Shitalpani village.

d) MECL had also explored the adjoining Shitalpani block in 2001-2003 through geological, geophysical, geochemical, and drilling wherein a continuous stretch of mineralization for 600m strike length at 0.2 % Cu grade was recorded. In the Shitalpani block, mineralization is mainly hosted in the vein quartz and to some extent in granites.

e) The proposal was sent to GSI for their considered comment. In response to this GSI has conveyed that the Sitapur G4 block partly overlapped with G4 stage item carried out by GSI during 1966-67 titled "Investigation for copper in the Malajkhand area, Baihar Tahsil, District: Balaghat, Madhya Pradesh".

f) The committee opined that the mineral resource and possibility of the auction of the adjoining Shitalpani block need to be established before proceeding for exploration in the current Sitapur block.

The committee suggested to establish the resource and auction possibility of adjoining Shitalpani block, explored by MECL during 2001-2003 before consideration of Sitapur bock for NMET funding.

8/8/22

08/08/22

Proposals for financial assistance for procurement of machinery/laboratory equipment/instruments etc. aimed at enhancing the exploration activities in State Department/Directorate Mines and Geology (DGMs/DMGs) [F. No. 6/9/2015-NMET/71 dated 8th June, 2022]

43.1.9. Financial assistance for procurements of machinery/ equipments/ chemical analysis instruments for Department of Geology and Mining, Arunachal Pradesh through NMET fund. [Implementing Agency: DMG, Arunachal Pradesh]

DMG, Arunachal Pradesh has proposed to procure the machinery and equipment [handheld GPS with altimeter and compass, 4x4m inflatable tents, electrical resistivity imaging system, IP System for mineral exploration, Ground Penetrating Radar, Multichannel Seismograph, Zenith 35PRO DGPS multifrequency, Auto level, Magnification Binocular, Binocular, High-resolution mining camera, Rock thin section sample preparation equipment] at the cost of ₹15.65 crore through NMET fund.

Based on deliberations the committee opined that the geophysical instruments proposed by DGM, Arunachal Pradesh may not be utilized efficiently as there is no officer of geophysics stream in DGM, Arunachal Pradesh.

DGM, Arunachal Pradesh only takes up preliminary exploration projects on limestone, dolomite and graphite and the high resolution mining camera may also not be utilised.

43.1.10. Financial assistance for procurements of machinery/ equipments/ chemical analysis instruments for Department of Mines and Geology, Jharkhand through NMET fund. [Implementing Agency: DMG, Jharkhand]

DGM, Jharkhand sought funds for the upgradation of the existing State Geological Laboratory, Hazaribag and the setting up of a new laboratory at Chaibasa, West Singhbhum. DGM, Jharkhand has proposed procurement of machinery/ equipment /chemical analyses instruments amounting ₹27.98 crore through NMET funding.

43.1.11. Financial assistance for procurements of machinery/ equipments/ chemical analysis instruments for Directorate of Geology and Mining, Nagaland through NMET fund. [Implementing Agency: DMG, Nagaland]

DGM, Nagaland proposed procurement of 1000m crawler wireline core drilling rig, 350m wireline core drilling rig, heavy duty machines (truck and excavator) amounting ₹4.82 crore through NMET funding.

43.1.12. Financial assistance for procurements of machinery/ equipments/ chemical analysis instruments for Department of Mines and Geology, Karnataka through NMET fund. [Implementing Agency: DMG, Karnataka]

DGM, Karnataka proposed procurement of ICP-MS, Fusion head machine, Press pellet machine, Microwave digestive system, vibratory cup mills, Geosoft oasis montaj and

rock cutting polishing and mounting unit at an estimated cost of ₹4.50 crore through NMET funding.

The committee reviewed all the project proposals [43.1.9 to 43.1.12] on financial assistance through NMET for DGMs [Arunachal Pradesh, Jharkhand, Nagaland, and Karnataka] and the following obervations have been made by the committee:

a) ***The committee suggested to revise the proposal as per their requirement of instruments for the ongoing and /or envisaged project proposals for the upcoming year. It is further suggested that the technical capabilities for handling of high end instruments needs to be developed before procurement of such instruments to ensure optimum utilisation of instruments.***

b) ***The trend of annual samples generation for analyses in ongoing projects needs to be assessed and accordingly, the requirement of instruments needs to be prepared.***

c) ***The committee opined that the project proposal may be prepared and resubmitted with full justification viz., no. of sample generated annually, availability of trained manpower for handling of high-end instruments, cost-effectiveness, optimum utilization of instruments etc.***

d) ***The committee opined that standard guidelines may be prepared by NMET Secretariat to consider the project proposals for financial assistance for procurement of machinery/laboratory equipment/instruments etc. aimed at enhancing the exploration activities in States. The list of instruments required for field and laboratory may be prepared for which financial assistance may be provided from NMET.***

e) ***The committee also opined that standard guidelines may be shared with TCC members for suggestions/comments before approval and issued to State Governments.***

f) ***The committee suggested that the above said proposals of state DGMs may be kept in abeyance till the guidelines being finalised.***

08/08/22

8/8/22

43.2. Review of the Geological report /Ongoing projects

43.2.1. Reconnaissance survey (G4) for Emerald in Rajgarh block, District: Ajmer, Rajasthan. [Implementing Agency: MECL]

a) The project was recommended in 34th TCC meeting held on 28th and 29th October, 2021 and approved in 22nd EC meeting held on 22nd December 2021 with estimated cost of ₹97.20 lakh for a time period of 14 months.

b) MECL has carried out large-scale geological mapping (1:12,500 scale) and altered Ultramafic bodies are reported over more or less 9 km long curvilinear.

c) These altered utramafic bodies comprise talc-chlorite schist, talc-tremolite schists, altered peridotite, and occur as small, disconnected more or less continuous belt having ellipsoidal to circular shape.

d) Bedrock samples collected from the contact zone having Cr values ranging from 96ppm to 868ppm, Ni value ranging from 105ppm to 1180ppm. Lepidolite-rich pegmatite with Li (0.68% to 1.2%) is found within two working pegmatite quarries.

The committee noted the progress of work and opined that the gem variety of Beryl has not been discovered from the demarcated potential zone of 5 sq. km area. The committee suggested for rigorous sampling is to be carried out in the block area for targeting the emerald host rock. It was also suggested to consult with the field geologists of GSI working in the same area for emerald exploration.

The committee suggested not to initiate the second phase of exploration unless significant emerald crystals are not encountered.

43.2.2. Reconnaissance survey (G4) for Copper, Lead and Zinc in Laron block, District: Jhansi, Uttar Pradesh. [Implementing Agency: MECL]

a) The project was recommended in 34th TCC meeting held on 28th and 29th October, 2021 and approved in 22nd EC meeting held on 22nd December, 2021 with estimated cost of ₹265.49 lakh for a time period of 15 months.

b) MECL informed that the geological mapping with surface sampling and geophysical survey has been completed. Analytical results of bedrock and stream samples have not given promising results of Cu (6.23ppm-214.64ppm), Pb (<1ppm-123.04ppm), Zn and other elements.

c) It has been submitted that at few locations the small outcrops of BIF have been observed in the block which contain magnetite and contains 11.45% to 20.38% of Fe, 1.24% to 8.31% of Mn and 590.82ppm to 1027.39ppm of Ni contents in 3 bedrock samples.

The committee noted the outcome of the exploration and opined that the analytical results of the samples are not encouraging hence drilling may not be required. The

committee suggested to conclude the project and submit the geological report to NMET Secretariat.

43.2.3. General exploration (G2) for Copper in Tonda block, Eastern Khetri Copper Belt, District: Jhunjhunu, Rajasthan. [Implementing Agency: MECL]

a) The project was recommended in 24th TCC meeting held on 07th, 08th, and 09th October, 2020 with an estimated cost of ₹650.39 Lakh with timeline of 14 months and approved in 17th EC meeting held on 05th November, 2020.

b) The proposal was discussed in the 42nd TCC meeting wherein it was suggested to recalculate the resource for copper mineralization considering different lodes and possible boreholes depth. The revised modifications need to be incorporated in the report.

c) It was informed that MECL has recalculated the resource at 8.79 MT at 0.49% Cu (average grade) and 2.18 MT at 0.96% Cu (average grade) as per the suggestion.

The committee noted the outcome of the project and suggested to submit the geological report to NMET secretariat.

43.3. Timeline extension of the approved/ongoing projects

43.3.1. Reconnaissance survey (G4) for Copper in Mincheri block, District: Ballari, Karnataka. [Implementing Agency: MECL]

a) The project proposal was recommended in 29th TCC meeting held on 11th and 12th March, 2021 and approved in 20th EC meeting with estimated cost of ₹203.48 Lakh and timeline 12 months.

b) MECL informed that geological mapping and geochemical sampling has been completed in November 2021 and analytical results of 300 nos. of primary samples has been receive in the month of April, 2022.

c) The results of geological mapping and geochemical sampling were reviewed in 40th TCC meeting held on 27th and 28th April, 2022. As per the committee suggestion, trenching was taken in areas where anomalous Cu values were observed. Trenching could not be achieved as Tungabhadra high level canal is passing through the mineralization, permission for trenching could not be obtained. Hence MECL decided not to go for further trenching work.

d) It was informed that Au & Ag sample analysis are under process and requested two months (up to 31st August, 2022) extension for finalization and submission of the geological report to NMET Secretariat.

The committee noted the outcome of the project and recommended for approval of two months (up to 31st August, 2022) timeline extension by EC for completion of sample analyses and submission of the geological report to NMET Secretariat.

43.3.2. Detailed exploration (G1) for Lignite in Veeranam block-III, District: Cuddalore, Tamil Nadu. [Implementing Agency: MECL]

a) The exploration for lignite in Veeranam Block was approved in 4th EC meeting held on 21st February, 2017 at the cost of ₹6763.44 Lakhs (excluding tax). The work commenced on 22nd February, 2017 with a time schedule of 36 months i.e. to be completed by 21st February, 2020.

b) TCC in its 6th meeting held on 2nd and 3rd December 2016 suggested that the block should be divided in 4 sub-blocks and initially the work should be taken up in two sub-blocks with cost revision. On the recommendation of 6th TCC meeting, the EC in its 5th meeting held on 6th October, 2017 accorded inprinciple approval for entire block.

c) In 22nd TCC meeting held on 13th and 14th November 2019, the revised cost estimates of ₹67.43 Cr. and timeline for each sub-block was recommended and approved in 15th EC meeting held on 28th November 2019. The details are given below-

Sub-blocks	Cost (₹ In Crores)	Timeline
Sub-block-I	₹17.89 Cr	31st March 2020
Sub-block-II	₹16.38 Cr	31st July 2020
Sub-block-III	₹9.91 Cr	31st July 2021
Sub-block-IV	₹23.25 Cr	30th April 2022
Total	**₹67.43 Cr.**	

d) MECL informed that the exploration work in sub-block-I and II have been completed and geological reports have been submitted to the NMET Secretariat.

e) It was informed that in 33rd TCC meeting held on 9th and 10th September, 2021 recommended for time extension to complete the exploration work in Veeranam sub-block-III for 12 months [31st July, 2022] and approved in 22nd EC meeting held on 22nd December, 2021.

f) Now MECL informed that the exploitation work in sub-block-III has been completed and geological report has been submitted for peer review. It is requested for one month timeline extension (up to 31st August, 2022) for submission of final geological report and settlement of bills.

The committee recommended for approval of timeline extension of one month (up to 31st August, 2022) by EC for submission of geological report and settlement of bills.

43.3.3. General exploration (G2) for Copper in Naila Ki Dhani block, Eastern Khetri Copper Belt, District: Jhunjhunu, Rajasthan. [Implementing Agency: MECL]

a) The project was recommended in 24th TCC meeting held on 07th, 08th and 09th October, 2020 with estimated cost of ₹807.59 Lakh & timeline of 16 months and approved in 17th EC meeting held on 05th November, 2020.

b) In 39th TCC meeting held on 29th and 30th March, 2022 recommended for approval by EC for timeline extension upto 31st July, 2022 and approved in 24th meeting held on 18th May, 2022.

c) Now MECL informed that geological report has been submitted for peer review and requested for one month extension (upto 31st August, 2022) for submission of final geological report and settlement of bills.

The committee recommended for approval of timeline extension of one month (up to 31st August, 2022) by EC for submission of geological report and settlement of bills.

43.4. Additional cost approval

43.4.1 General exploration (G2) for Copper in Mundadevta-Darkhuli-South Jharia block, District: East Singhbhum, Jharkhand. [Implementing Agency: MECL]

a) The project proposal was recommended in 27th TCC meeting held on 7th and 8th January, 2021 and approved in 18th EC meeting held on 17th February, 2021 with estimated cost of ₹967.70 Lakh and timeline of 18th months.

b) The progress of work in Mundadevta-Darkhuli-South Jharia copper block was reviewed in the 35th TCC meeting held on 29th and 30th November, 2021 wherein the additional drilling of 177m was approved by the committee. During the review, the Committee suggested to complete the exploration work and drilling along with the samples collection and analyses. The additional work component and cost will be approved after completion of the exploration work.

c) Now MECL has submitted that total 5,112m drilling has been carried out against the set target of 4935m and 286 nos. of additional samples have been generated for analyses.

d) In view of additional drilling and additional sample analyses, MECL has requested for additional cost approval of ₹33.40 Lakh for the said components. It was also requested for time extension of two months (up to 31st October, 2022) for finalisation of report.

The committee noted the outcome of the project and approved the additional cost of ₹33.40 Lakh (annexue-7). The committee also recommended for approval by EC for two months timeline extension (up to 31st October, 2022).

42.5. The meeting ended with concluding remarks of the chairman and vote of thanks by the Director and member secretary, TCC, NMET.

List of TCC members attended 43rd Technical-cum-Cost Committee (TCC) meeting of NMET held on 28th and 29th July, 2022 through videoconferencing

S. No.	Name/Designation	Status	Remarks
1	Shri Janardan Prasad, Addl. Director General & HoD, GSI	Chairman, TCC, NMET	Attended via videoconference
2	Shri Ranjan Kumar Sinha, Controller General (Retd.), IBM	TCC Member	Attended via videoconference
3	Shri Naeem Ahmad, General Manager-Exploration (Retd.), CMPDI Ltd.	TCC Member	Attended via videoconference
4	Dr. Anjani Kumar, Dy. General Manager (Exploration) & HoD-Planning (Retd.), MECL	TCC Member	Attended via videoconference
5	Shri B. Saravanan, Additional Director, Atomic Minerals Directorate for Exploration and Research	TCC Member	Attended via videoconference
6	Shri Hemraj Suryavanshi, Addl. Director General (Retd.), GSI	TCC Member	Attended via videoconference
7	Shri Manoj Kumar Patel, Deputy Director General and RMH-II, GSI	TCC Member	Attended via videoconference
8	Shri Santosh Kumar Adhikari, Chief Mining Geologist, IBM	TCC Member	Attended via videoconference
9	Shri Vivek Kumar Sharma, Director, NMET, Ministry of Mines	TCC Member	Attended via videoconference
10	Shri Suresh Chander, Director, GSI	Member Secretary, TCC, NMET	Attended via videoconference
11	Shri Ravi Kumar Gupta, General Manager (Finance), HCL	TCC Member	Not attended
12	Shri P. K. Maharana, Dy. General Manager (Finance), NALCO	TCC Member	Not attended
13	Shri Vinay Pal, ACAO (Finance), GSI	TCC Member	Attended via videoconference

Annexure-1

List of participants attended 43rd Technical-cum-Cost Committee (TCC) meeting of NMET held on 28th and 29th July, 2022 through videoconferencing

S. No.	Name/Designation	Email ID	Contact No	Organisation
1	Shri Janardan Prasad, ADG & HoD, GSI	janardan.prasad@gsi.gov.in	7763800788	Chairman, TCC
2	Shri Ranjan Kumar Sinha, Controller General (Retd.) IBM	sinhark57@rediffmail.com	9421777637	Member, TCC
3	Shri Hemraj Suryavanshi, ADG (Retd.), GSI	hemrajgsi@gmail.com	7477042176	Member, TCC
4	Dr. Anjani Kumar, DGM (Retd.), MECL	anjanikumar1957.ak@gmail.com	9975350576	Member, TCC
5	Shri Naeem Ahmed, General Manager (Retd.), CMPDI	ahmadnaeem17@yahoo.co.in	8588092153	Member, TCC
6	Shri B. Saravanan, AMD, Hyderabad	addldir-op1.amd@gov.in	8987571606	Member, TCC
7	Shri Manoj Kumar Patel, DDG and RMH-II, GSI	m.patel1@gsi.gov.in	9040011231	Member, TCC
8	Shri Santosh Kumar Adhikari, Chief Mining Geologist, IBM	skadhikari@ibm.gov.in	7588690545	Member, TCC
9	Shri Vivek Kr Sharma, Director, NMET	vksharma.ofb@gov.in	7024570055	Member, TCC
10	Shri Vinay Pal, ACAO, (Finance), GSI	vinay.pal@gsi.gov.in	8527368161	Member, TCC
11	Shri Suresh Chander, Director, GSI	suresh.chander@gsi.gov.in	9493860963	Member Secretary, TCC
12	Shri Maneesh Khar, Director, GSI	nmet-mines@gov.in	9462036108	NMET
13	Dr. Deshraj Trivedi, Senior Geologist	nmet-tcc@gov.in	9419244294	NMET
14	Shri Subhash Kumar, Senior Geologist	nmet-mines@gov.in	9868302624	NMET
15	Dr. R. P. Singh, Manger (Geology)	gm.exploration.cmpdil@gmail.com	8987789047	CMPDI
16	Dr. Ch Sravan Kumar, DGM (Geology)	sravankumar@nmdc.co.in	9490760005	NMDC
17	Shri P. Ravindran, DGM (Exploration)	gm-exploration@mecl.co.in	7907649392	MECL, Nagpur
18	Shri Tasser Talar, Director	dgmarunachal@gmail.com	8131924291	DGM, Arunachal Pradesh
19	Shri V. K. Ojha Director (Geology)	dir-geology@jharkhandmail.gov.in	9431779203	DGM, Jharkhand
20	Shri Tsuknung Jamir, Addl. Director	geominenaga@gmail.com;	9436003230	DGM, Nagaland
21	Shri H. P. Harish, Deputy Director (Plan)	dir-mines@karnataka.gov.in	9611951313	DGM, Karnataka
22	Shri P. C. Mishra, Joint Director (Geology)	directorgeology_odisha@yahoo.in	9861465695	DGM, Odisha
23	Mr. Kailash Dongre, Joint Director (Geology)	kailashdongre.kd@gmail.com	9424282791	DGM, Chhattisgarh
24	Smt. Barnalee Nath, Joint Director (Geology)	dgmassam@gmail.com	9435104508	DGM, Assam

8/8/22

08/08/22

Annexure-2A

Estimated cost for Preliminary exploration (G3) for coal in West of Tubed block (11.89 sq. km), Auranga Coalfield, District: Latehar, Jharkhand.

[Block area- 11.89 sq. km; Nos. of Borehole- 5 (1600x1600m grid); Borehole depth range- 450 to 600m; Completion Time- 14 months]

S. No.	Item Work	Item no in Soc	Unit	Rates as per SoC of NMET	Rate (Rs)	Qty.	Amount (Rs)	**Remarks**
	I- Field operations (Outsourcing)							
A	**DRILLING**							
1	Drilling (As per MoC Rate 2022-23)	2.2.1.1b	m	6,775	6,775	2,700	1,82,92,500	Copy of MoC approved Rate is required
B	**GEOPHYSICAL STUDIES**							
1	Borehole Geophysical logging (As per MoC Rate 2020-21)	3.11	m	470	697	2,700	18,81,900	Copy of MoC approved Rate is required
					Field operations Total (A+B)		**2,01,74,400**	reimbursement of outsource compcnent will be made as per Para 3 of NMET-SoC
	II- Field Work (In House)							
A	**GEOLOGICAL WORK**							
1	Survey Work- 1 Surveyor	1.6.1a	Day	8,300	8,300	30	2,49,000	
2a	Geological days- Field	1.5.1b	Day	11,000	11,000	120	13,20,000	
2b	Geological days- HQ	1.5.1b	Day	9,000	9,000	45	4,05,000	
						Sub Total- A	**19,74,000**	
B	**GEOPHYSICAL STUDIES**							
3a	Geophysict days- Field	3.19	Day	11,000	11,000	12	1,32,000	
3b	Geophysicst days- HQ	3.19	Day	9,000	9,000	7	63,000	
						Sub Total- B	**1,95,000**	
						Field work total (A+B)	**21,69,000**	
	III-Laboratory Studies (In House)							
1	***Band By Band Analysis***							
a	Ash+Moisture	4.2.6	per sample	700	700	1,100	7,70,000	
b	House Keeping	4.2.1	per sample	115	115	1,100	1,26,500	
2	***Overall analysis***							
a	Proximate analysis	4.2.7	per sample	935	935	80	74,800	
b	Moisture at 60% RH & 40C	4.2.8	per sample	1,010	1,010	80	80,800	

8/8/22

08/08/22

c	GCV	4.2.11	per sample	1,505	1,505	80	1,20,400	
d	Sample preparation & House Keeping	4.2.3	per sample	795	795	80	63,600	
3	***Special Test***							
a	Ultimate analysis	4.2.17	per sample	9,945	9,945	15	1,49,175	
b	Total Sulphur	4.2.14	per sample	1,900	1,900	15	28,500	
c	Distribution of Sulpher	4.2.15	per sample	3,695	3,695	15	55,425	
d	HGI including sample preparation	4.2.18	per sample	3,805	3,805	15	57,075	
e	AFT (Ash Fusion Temperature)	4.2.20	per sample	2,745	2,745	15	41,175	
f	Ash analysis	4.2.25	per sample	325	325	15	4,875	
4	**Petrographic analysis**							
a	Pellet preparation	4.3.14a	per sample	1,160	1,160	15	17,400	
b	Maceral Analysis (with photomicrography)	4.3.14e	per sample	25,000	25,000	15	3,75,000	
c	Microlithotype Analysis (with photomicrography)	4.3.14g	per sample	25,000	25,000	15	3,75,000	
d	Mean Ro%	4.3.14j	per sample	16,345	16,345	15	2,45,175	
	Laboratory Studies Total						**25,84,900**	
	IV. Miscellaneous Charges (In House)							
a	Preparation of Exploration Proposal	5.1	lump sum	3,80,000	3,80,000		3,80,000	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.
b	Outsourcing process cost (2% of approved project cost or 5 Lakh, whichever is lower)	2.3	lump sum	5,00,000	5,00,000		5,00,000	will be reimbursed when copy of signed agreement/tender for outsoure component will be submitted.

8/8/22

08/08/22

c	Operational charges for CMPDI	Point 3 of SOC			15,00,000		15,00,000	will be reimbursed as per point 3 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
d	DGPS Survey of bundary, borehole points (5 boreholes & 18 boundary point)	1.6.2	per point	19,200	19,200	23	4,41,600	
e	Borehole pillaring	2.2.7	Per bh	2,000	2,000	5	10,000	
f	Land crop compensation	5.6	Per bh	20,000	20,000	5	1,00,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
g	Geological Report preparation (3% or 2000000 Max)	5.2					8,62,086	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
h	Peer review			10,000	10,000		10,000	
	Miscellaneous Charges Total						**38,03,686**	
	Total (I- Field op +II- Field work+III- Lab+ IV -Misc)						2,87,31,986	
	GST (@18%)						51,71,757	GST will be reimburse as per actual and as per notified prescribed rate
	Grand Total						**3,39,03,743**	**or Say Rs.339.03 Lakh**

Note-	1) Above rate of drilling, GPL, Chemical, are budgeted rates.			
	2) There are numerous items in chemical anlysis.The CIMFR rates will be applied for actual payment.			
	3) For Drilling the approved rates of MoC for FY 2022-23 has been considered.			
	4) For Geophysical logging the approved rates of MoC for FY 2020-21 has been taken other rates are as per approved SoC rates.			
	5) The Drilling rate for coal is Rs 6775/- is as per approved rate of Promotional exploration MoC.			
	6) GPL rates is Rs 697/- per meter of minimum 8 parameters, the break up is as follow			
		Probe	**SoC item No**	**Rate 2020-21 (in Rs)**
	1	Base Log	3.11a	162
	2	Dual Density	3.11d	110
	3	Natural Gamma	3.11h	96
	4	Caliper	3.11g	20
	5	SPR	3.11i	41

08/08/22

8/8/22

	6	Resistivity	3.11c	41
	7	Deviation	3.11m	96
	8	Sonic	3.11k	131
		Total		**697**
	7) Rs 10000/- for Peer review is budgeted rate.			

8/8/22

Annexure-2B

Schedule timeline for Preliminary exploration (G3) for coal in West of Tubed block (11.89 sq. km), Auranga Coalfield, District: Latehar, Jharkhand.

S. No	Activities																
		Months	1	2	3	4	5	6	7	8		9	10	11	12	13	14
1	Outsourcing	Months															
2	Mobilising	Months															
3	Drilling (Nos of rigs-1 rig)	Months															
4	Borehole Geophysical logging	Days															
5	Survey days	Days															
6	Geologist days- Field	Days															
7	Geophysict days- Field	Days															
8	Laboratory Studies (Band By Band)	Nos.															
9	Laboratory Studies (Overall)	Nos.															
10	Laboratory Studies (Special) & (Petrography)	Nos.															
11	Geologist days- HQ	Days															
12	Geophysict days- HQ	Days															
13	Report Writing & Peer Review	Months															
		Note: Please add activities accordingly and timelime (months)															
		Total Time Period of Completion of Project- 14 months from Sanction of Project															

Review

8/8/22

05/08/22

Annexure-3A

Estimated cost for Preliminary exploration (G3) for bauxite in the Garhpat block (1.63 sq. km), District: Lohardaga, Jharkhand.

[Block area- 1.63 sq. km; Nos. of Borehole- 10 (400x400m grid); Borehole depth range- 10 to 20m; Completion Time- 12 months]

S. No	Item Work	Item no in SoC	Unit	Rates as per SoC of NMET	Qty.	Amount (Rs) In Lakh	Remarks
	Outsourced Work						
A	**Drilling (Outsourced)**						
1a	Core drilling	2.2.1.1b	m	6,775	200	13,55,000	Copy of MoC approved Rate is required
1b	Approach road making drill site (Hilly terrain)	2.2.10b	per km	32,200	4	1,28,800	Road Making will be considered as per the requirement but not more than the provided km in the cost sheet. Road Making Charges will be reimbursed accordingly
1c	Borehole Pillaring - Construction of Con - Pillar	2.2.7a	Per bh	2,000	10	20,000	
					Sub Total- A	**15,03,800**	
B	**Laboratory Studies (Outsourced)**						
1	***Chemical Analysis***						
1a	Primary Sample for 5 radicals (Al_2O_3, SiO_2, Fe_2O_3, TiO_2 & LOI)	4.1.15a	Per sample	4,200	150	6,30,000	
1b	Internal (5%) & External (10%) Check samples of 5 radicals	4.1.15a	Per sample	4,200	22	92,400	
1c	Composite samples for 7 radicals, viz. Al_2O_3 , SiO_2 , Fe_2O_3, TiO_2, V_2O_5, P_2O_5 & LOI)	4.1.15a	Per sample	4,200	25	1,05,000	
1d	b) Composite Core samples (14 radicals, viz. Al_2O_3 , SiO_2 , Fe_2O_3 , TiO_2 , V_2O_5 , P_2O_5 , LOI, MnO, CaO, MgO, K_2O, Na_2O, SO_3 & Organic carbon	4.1.15a	Per sample	4,200	10	42,000	
1e	Combined determination of TMH, MHA & Reactive silica	4.1.17a	Per sample	6,700	10	67,000	
1f	Determination of bond Work index	4.1.17e	Per sample	10,000	10	1,00,000	

08/08/22

08/08/22

2	***Physical & Petrological Studies***						
2a	X-RD Studies on composite	4.5.1	per sample	4,000	10	40,000	
2b	ICP-MS studies (REE analysis of Saprolite zone)	4.1.13	per sample	5,380	100	5,38,000	samples from one borehole and after review additional samples will be taken
2c	Preparation of thin section	4.3.1	per sample	2,353	5	11,765	
2d	Complete Petrographic studies	4.3.4	per sample	4,232	5	21,160	
2e	Preparation of polished section	4.3.2	per sample	1,549	5	7,745	
2f	Complete mineragraphic study report	4.3.4	per sample	4,232	5	21,160	
3	***Geotechnical Laboratory***						
3a	Determination of in situ bulk density	4.10	per sample	3,540	5	17,700	for resources calculation
					Sub Total- B	**16,93,930**	
					Sub Total- A + B	**31,97,730**	reimbursement of outsource component will be made as per Para 3 of NMET-SoC
	In-House work						
C	**Geological mapping (1: 4,000 scale)**						
1a	Survey Party days (1 party) without Labour	1.6.1a	Day	83,00	45	3,73,500	
1b	4 labours/ party (Rs 443/day/labour), As per rates of Central labour Commission	5.7	Day	1,772	45	79,740	
1c	Bore hole Fixation and determination of co-ordinates & Reduced Level and Demarcation of lease hold boundary (10 bh point and 10 boundary point)	1.6.2	Per point	19,200	20	3,84,000	
1d	Geological Party days (1 party) Field	1.2	Day	11,000	90	9,90,000	
1e	Geological Party days (1 party)HQ	1.2	Day	9,000	60	5,40,000	
1f	2 labours/ party (Rs 443/day/labour), As per rates of Central labour Commission)	5.7	Day	886	90	79,740	
					Sub Total- C	**24,46,980**	

D	**Field Sampling**						
1a	Core Sampling - 1 sampler without Labour	1.5.2	Day	5,100	20	1,02,000	
1b	4 labours/ party (Rs 443/day/labour, As per rates of Central labour Commission)	5.7	Day	443	80	35,440	
				Sub Total- D		**1,37,440**	
E	**Pitting /Trenching**						
1a	Pitting for determination of bulk density (1m x1m x1m)- 2 no	2.1.1	Cu m	3,330	2	6,660	
				Sub Total- E		**6,660**	
F	**Miscellaneous Charges**						
1a	Preparation of Exploration Proposal (2% of approved Project cost or 3.8 lakh whichever is lower)	5.1	lump sum	3,80,000	1	1,40,304	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.
1b	Outsourcing process cost (2% of approved Project cost)	2.3	lump sum	5,00,000	1	1,40,335	will be reimbursed when copy of signed agreement/tender for outsoure component will be submitted.
1c	Operational charges for CMPDI (10% of outsources component)	Point 3 i of SOC				3,19,773	will be reimbursed as per point 3 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
1d	Land crop compensation	5.6	Per bh	20,000	10	2,00,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
1e	Geological Report Preparation (Min 2Lakh or 5% of work value)	5.2			1	4,19,344	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
1f	Peer Reviev Charges			10,000	1	10,000	
				Sub Total- F		**12,29,756**	
	Sub Total (A+B+C+D+E+F)					**70,18,566**	
	GST (@18%)					**12,63,342**	GST will be reimburse as per actual and as per notified prescribed rate
	Grand Total					**82,81,908**	***or Say Rs. 82.81 Lakh***
	Note: 1. The Drilling ratel is Rs 6775/- is as per approved rate of Promotional exploration MoC and is applicable fo drilling in bauxite.						
	2. Rs 10000/- for Peer review is budgeted rate.						

8/8/22

08/08/22

Schedule timeline for Preliminary exploration (G3) for bauxite in the Garhpat block (1.63 sq. km), District: Lohardaga, Jharkhand.

S. No	Activities														
		Months	1	2	3	4	5	6	Review	7	8	9	10	11	12
1	Outsourcing	Months													
2	Mobilising	Months													
3	Drilling	Months													
4	Survey days	Days													
5	Geologist days- Field	Days													
6	Sampling														
7	Laboratory Studies	Nos.													
8	Geologist days- HQ	Days													
9	Report Writing & Peer Review	Months													
	Note: Please add activities accordingly and timelime (months)														
	Total Time Period of Completion of Project- 12 months from Sanction of Project														

8/8/22

05/08/22

Annexure-4A

Estimated cost for Reconnaissance survey (G4) for diamond in Jheriya block (100.31 sq. km), District: Janjgir-Champa, Chhattisgarh.

[Block area- 100.31 sq. km; Nos. of Borehole- 5; Borehole depth range- average 100m; Completion Time- 18 months]

S. No	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC- Item- S. No.	Rates as per SoC	Qty.	Total Amount (Rs)	
1	**Geological, Sampling & Survey Days**						
	Large scale (LSM 1: 12500) Geological mapping/ Detailed Mapping/Trenching/ Drilling						
1.1	Geologist man days (2 party Field)	days	1.2	11,000	180	19,80,000	
1.2	Labour Charges for Mapping work Base rate - Rs. 479/ per day	per worker	5.7	479	360	1,72,440	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt.- whichever is higher
1.3	Geologist man days (HQ)	days	1.3	9,000	90	8,10,000	(mineral identification days by 2 geologists included)
1.4	Sampling Charges (Geochemical /Trenching/Pitting/Drilling)	day	1.5.2	5,100	60	3,06,000	
1.5	Labour Charges for Sampling Work Base rate - Rs. 479/ per day	day	5.7	479	240	1,14,960	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. - whichever is higher
				SubTotal- 1		**33,83,400**	
2	**Geophysical Surveys**						
2.1	Magnetic Surveys (10-30 line km)	per station	3.2a	1,800	500	9,00,000	
2.2	Geophysicist man days- Field	days	3.18	11,000	60	6,60,000	
2.3	Surveyor Charges	days	1.6.1.a	8,300	60	4,98,000	
2.4	Llabours Charges for Survey Work Base rate - Rs. 479/ per day	per worker	5.7	479	240	1,14,960	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. - whichever is higher
				Sub Total- 2		**21,72,960**	
3	**Drilling**						
3.1	a) Drilling up to 300m Rigs) (Medium Hard Rock)	per m	2.2.1.4 a	10,100	500	50,50,000	After review of geological survey and geophysical survey work
3.2	Borehole deviation survey	per m	2.2.6	330	500	1,65,000	

8/8/22

08/08/22

3.3	a) construction of concrete pillar (12"x12"x30")	per bh	2.2.7.a	2,000	10	20,000	
3.4	Transportation of drill rigs & truckassociated per drill (To & Fro from HQ)	per km	2.2.8	36	2500	90,000	Certification in this regard is required to be provided
3.5	Monthly accommodation charges for drilling camp	monthly	2.2.9	50,000	3	1,50,000	
3.6	a) Drilling camp setting (1 rigs)	per drill	2.2.9a	2,50,000	1	2,50,000	
3.7	b) Drilling camp winding (1 rigs)	per drill	2.2.9b	2,50,000	1	2,50,000	
3.8	Approach road making in rugged- hilly terrain (Flat terrain)	per km	2.2.10	22,020	5	1,10,100	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed for max. 5 km.
3.9	Drill core preservation	per m	5.3	1590	250	3,97,500	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
3.10	Land/crop compensation	per borehole	5.6	20000	10	2,00,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
3.11	Demarcation Fixation of borehole and determination of co-ordinates & Reduced Level (RL) of the boreholes by DGPS (including charges for labours deployed for the work)	Per point of observation	1.6.2	19,200	10	1,92,000	
					Sub Total- 3	**68,74,600**	
4	**Laboratory Studies**						
4.1	Chemical Analysis						
i	**Surface sampling (Bed Rock Samples)**						
a	Whole rock analysis (Major oxides)	per sample	4.1.15a	4,200	15	63,000	
ii	**Stream/Soil/Loam Samples**						
a	Separation of heavy minerals from stream sediment samples of - 2mm size through gravity and magnetic separation	per sample	4.3.6b	13,820	50+ 200 = 250	34,55,000	200 follow up samples, will be reimbursed as per actual nos of sample, Max. - 50+200 =250 samples
b	Heavy mineral separation by liquid	per sample	4.3.6a	2,380	50+ 200 = 250	5,95,000	200 follow up samples, will be reimbursed as per actual nos of sample, Max. - 50+200 =250 samples

c	EPMA studies for suspected Heavy Mineral grains	Per hour	4.4.1	8,540	100	8,54,000	As per actual
4.2	**BH Sampling (Primary)**						
a	Separation of heavy minerals from drill samples of - 2mm size through gravity and magnetic separation	per sample	4.3.6b	13,820	100	13,82,000	will be reimbursed as per actual nos of sample; Max. 200 samples
b	Heavy mineral separation by liquid	per sample	4.3.6a	2,380	100	2,38,000	will be reimbursed as per actual nos of sample; Max. 200 samples
c	Whole Rock analysis	per sample	4.1.15a	4,200	10	42,000	
4.3	**Petrological / Mineralographic studies**						
a	Preparation of thin section (Surface & BH)	per sample	4.3.1	2,353	20	47,060	
b	Study of thin section for petrography	per sample	4.3.4	4,232	20	84,640	
c	Digital photomicrograph of thin section	per sample	4.3.7	280	20	5,600	
d	Age Dating (tentative price)	Rs.96,200/- per day NGRI rate		96,200	5	4,81,000	Age Dating will be done for Kinberlite Rock discovered in block area.
					SubTotal- 4	**72,47,300**	
5					**Total (1 to 4)**	**1,96,78,260**	
6	Geological Report Preparation	Nos	5.2	A Minimum of Rs. 7.5 lakhs or 3% of the work	1	**7,50,000**	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 and Rs. 3000/- per each additional copy.
7	Preparation of Exploration Proposal	Nos	5.1	3,80,000	1	**3,80,000**	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.
8	Report Peer Review Charges	lumpsum	As per EC decision	10,000	1	**10,000**	
9	Total estimated cost without GST (5+6+7+8)					**2,08,18,260**	
11	Provision for GST (18%)					**37,47,287**	GST will be reimburse as per actual and as per notified prescribed rate
12	**Total Estimated cost with GST**					**2,45,65,547**	***or Say Rs. 245.65 Lakh***

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 execution of the project by EA on its own, a Certificate regarding non outsourcing of any component/project is required.

8/9/22

5/8/22

Annexure-4B

Schedule timeline for Reconnaissance survey (G4) for diamond in Jheriya block (100.31 sq. km), District: Janjgir-Champa, Chhattisgarh.

S. No.	Activities	MONTHS																	
		1	2	3	4	5	6	7	8	9		10	11	12	13	14	15	16	17	18
1	Pre field preparation																			
2	Large scale mapping																			
3	Sampling days																			
4	Sample preparation days																			
5	Analytical work																			
6	Geophysical survey days																			
7	Drilling																			
8	Bore hole logging																			
9	Sample preparation- Drill samples																			
10	Camp winding																			
11	Analytical work- drill core samples																			
12	Geologist at HQ																			
13	Geological report																			
14	Peer Review																			
	*Commencement of project will be reckoned from the day the exploration acreage is available along with all statutory clearances																			
	*Time loss on account of monsoon/agricultural activity/forest clearance/ local law & order problems will be addition to above time line.																			

Review

8/8/22

08/08/22

Annexure-5A

Estimated cost for Reconnaissance survey (G4) for Lithium and associated minerals in Chakrasilla block (40.19 sq. km), District: Kokrajhar, Assam.

[Block area- 40.19 sq. km; Nos. of Borehole- 5; Borehole depth range- average 60m; Completion Time- 15 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 (1:12,500 scale)**						
i	Charges for one Geologist per- HQ	day	1.2	9,000	60	5,40,000	
ii	Charges for one Geologist- Field	day	1.2	11,000	180	19,80,000	
iii	Labour (2 Nos) Base rate - Rs.443/-	day	5.7	443	360	1,59,480	Amount will be reimburse as per the notified rates for unskilled labor by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Charges for one Sampler per day for geochemical, channel and core samples	one sampler per day	1.5.2	5,100	20	1,02,000	
v	Labours (4 Nos) Base rate - Rs. 443/-	day	5.7	443	80	35,440	Amount will be reimburse as per the notified rates for unskilled labor by the Central Labour Commissioner or respective State Govt. whichever is higher
				Sub Total- A		**28,16,920**	
B	**PITTING AND TRENCHING**						
i	Trenching	Cu m	2.1	3,330	50	1,66,500	
				Sub Total- B		**1,66,500**	
C	**DRILLING**						
i	Drilling (Hard Rock)	m	2.2.1.4a	11,500	300	34,50,000	
ii	Borehole deviation Survey by Multishot Camera	m	2.2.6	330	300	99,000	
iii	Land / Crop Compansation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	5	1,00,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities

08/08/22

05/08/22

iv	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
v	Transportation of Drill Rig & Truck associated per drill (1 rigs)	Km	2.2.8	36	3,400	1,22,400	Certification in this regard is required to be provided
vi	Monthly Accomodation Charges for drilling Camp (up to 1 Rigs)	month	2.2.9	50,000	3	1,50,000	
vii	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
viii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
ix	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. 5 km.
x	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and corner points by DGPS	Per Point of observation	1.6.2	19,200	6	1,15,200	BH-5 nos. and 01nos. Base Station
xi	Drill Core Preservation	per m	5.3	1,590	125	1,98,750	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities.
					Sub Total- C	**48,55,450**	
D					**Total- A to C**	**78,38,870**	
E	**Additional Rate for exploration work in North Eastern States and Hilly Terrain of Himalaya**		para 5 of SoC	3.35 times higher than the normal SoC		**2,62,60,215**	Field activities in Remote and inaccessable terrain existing in north eastern states
F	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
I	**Primary & Check Sampes from Surface outcrop**						
i	**Primary samples**						
	a) For Li	Nos	4.1.7a	2,506	50	1,25,300	
	b) For Cu, Pb, Zn, Nb & Ta	Nos	4.1.7a	2,506	10	25,060	
ii	**Internal Check samples (5%) & External check samples (10%)**						
	a) For Li	Nos	4.1.7a	2,506	8	20,048	
	b) For Cu, Pb, Zn, Nb & Ta	Nos	4.1.7a	2,506	3	7,518	
II	**Primary & Check Samples from Trench**						
i	**Primary samples**						
	a) For Li	Nos	4.1.7a	2,506	40	1,00,240	
	b) For Cu, Pb, Zn, Nb & Ta	Nos	4.1.7a	2,506	10	25,060	

8/8/22

08/08/22

ii	**Internal Check samples (5%) & External check samples (10%)**						
	a) For Li	Nos	4.1.7a	2,506	2	5,012	
	b) For Cu, Pb, Zn, Nb & Ta	Nos	4.1.7a	2,506	1	2,506	
III	**Primary & Check Sampes from Drill Core**						
i	**Primary samples**						
	a) For Li	Nos	4.1.7a	2,506	40	1,00,240	
	b) For Cu, Pb, Zn, Nb & Ta	Nos	4.1.7a	2,506	10	25,060	
ii	**Internal Check samples (5%) & External check samples (10%)**						
	a) For Li	Nos	4.1.7a	2,506	6	15,036	
	b) For Cu, Pb, Zn, Nb & Ta	Nos	4.1.7a	2,506	2	5,012	
2	**Physical & Petrological Stusies**						
i	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
ii	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	
iii	Preparation of polish section	Nos	4.3.2	1,549	10	15,490	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
v	Digital Photographs	Nos	4.3.7	280	10	2,800	
					Sub Total- F	**5,82,552**	
G					**Total E to F**	**2,68,42,767**	
F	Geological Report Preparation	5 Hard copies with a soft copy	5.2	For the projects having cost exceeding Rs. 150 lakhs but less than Rs. 300 Lakhs- A minimum of Rs. 7.5 lakhs or 3% of the value of work whichever is more	1	**8,05,283**	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	1	**3,80,000**	will be reimbursed after submission of the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
I	**Total Estimated Cost without GST**					**2,80,38,049**	

J	**Provision for GST (18% of J)**	**50,46,849**	GST will be reimburse as per actual and as per notified prescribed rate
K	**Total Estimated Cost with GST**	**3,30,84,898**	***or Say Rs. 330.78 Lakh***
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.		

8/8/22

Annexure-5B

Schedule timeline for Reconnaissance survey (G4) for Lithium and associated minerals in Chakrasilla block (40.19 sq. km), District: Kokrajhar, Assam.

S. No.		Months/Days	1	2	3	4	5	6	7	8	Review	9	10	11	12	13	14	15
1	Camp Setting	months																
2	Geological Mapping	months																
3	Survey days	days																
5	Pitting & Trenching	cu.m																
6	Drilling (1 rig)	m																
7	Geologist days	days																
8	Sampling days	days																
9	Camp Winding	months																
10	Laboratory Studies	months																
11	Geologist days, HQ	days																
12	Report Writing with Peer Review	months																
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 may be additional to above time line.																	

08/08/22

8/8/22

Annexure-6A

Estimated cost for Reconnaissance survey (G4) for Tungsten, Tin and Rare Metals in Govindpur block (82.45 sq. km), District: Datia, Madhya Pradesh.

[Block area- 82.45 sq. km; Nos. of Borehole- 5; Borehole depth range- average 100m; 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 (1:12,500 scale)**						
i	Charges for one Geologist- HQ	day	1.3	9,000	60	5,40,000	
ii	Charges for one Geologist-Field	day	1.3	11,000	150	16,50,000	
iii	Labour (2 Nos) Base rate - Rs.437/-	day	5.7	437	300	1,31,100	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Charges for one Sampler per day (1 Party) for geochemical, channel and core samples	one sampler per day	1.5.2	5,100	45	2,29,500	
v	Labours (4 Nos) Base rate - Rs. 437/-	day	5.7	437	180	78,660	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub Total- A	**26,29,260**	
B	**PITTING AND TRENCHING**						
i	Trenching	Cu m	2.1.1	3,330	100	3,33,000	
					Sub Total- B	**3,33,000**	
C	**GEOPHYSICAL SURVEY**						
i	SP & Magnetic Method (8-20 Line km)	(8-20 Line km	3.3b	12,92,047	-	-	Decission will taken after review of geological work
ii	Charges for one Geophysicist per day at field	day	3.18	11,000	-	-	
iii	Charges for Surveyor	day	1.6.1a	8,300	-	-	
iv	Labours (4 Nos) Base rate - Rs. 437/-	day	5.7	437	-	-	
v	Charges for one Geophysicist per day at HQ	day	3.18	9,000	-	-	

					Sub Total- C	-	
D	**DRILLING**						
i	Drilling up to 300m (Hard Rock)	m	2.2.1.4a	11,500	500	57,50,000	Taken after review of mapping sampling and trenching
ii	Borehole deviation Survey by Multishot Camera	m	2.2.6	330	500	1,65,000	
iii	Land / Crop Compansation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	5	1,00,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
iv	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
v	Transportation of Drill Rig & Truck associated per drill (1 rigs)	Km	2.2.8	36	1,250	45,000	Certification in this regard is required to be provided
vi	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	3	1,50,000	
vii	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
viii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
ix	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	3	66,060	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed for max. 3 km.
x	DGPS Survey for Block Boundary and BH coordinate & Reduce level with block boundary	per point	1.6.2	19,200	6	1,15,200	
xi	Drill Core Preservation	per m	5.3	1,590	180	2,86,200	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
					Sub Total- D	**71,87,460**	
E	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
I	**Primary & Check Samples from Surface outcrop and steam sediments (BRS/Channel samples/Stream Sediments)**						
i	**Primary samples**						
	For W, Sn, Ti, Co, Mo, Cu, Pb , Zn & REE Analysis by ICP-AES / ICPMS (sequential technique)	Nos	4.1.14	7,731	200	15,46,200	

ii	**Internal check samples (5%)**						
	For W, Sn, Ti, Co, Mo, Cu, Pb , Zn & REE Analysis by ICP-AES / ICPMS (sequential technique)	Nos	4.1.14	7,731	10	77,310	
iii	**External check samples (10%)**						
	For W, Sn, Ti, Co, Mo, Cu, Pb , Zn & REE Analysis by ICP-AES / ICPMS (sequential technique)	Nos	4.1.14	7,731	20	1,54,620	
II	**Primary & Check Samples from Trench**						
i	**Primary samples**						
	For W, Sn, Ti, Co, Mo, Cu, Pb , Zn & REE Analysis by ICP-AES / ICPMS (sequential technique)	Nos	4.1.14	7,731	50	3,86,550	
ii	**Internal check samples (5%)**						
	For W, Sn, Ti, Co, Mo, Cu, Pb , Zn & REE Analysis by ICP-AES / ICPMS (sequential technique)	Nos	4.1.14	7,731	3	19,328	
iii	**External check samples (10%)**						
	For W, Sn, Ti, Co, Mo, Cu, Pb , Zn & REE Analysis by ICP-AES / ICPMS (sequential technique)	Nos	4.1.14	7,731	5	38,655	
III	**Primary & Check Sampes- Drill Core**						
i	**Primary samples**						
	For W, Sn, Ti, Co, Mo, Cu, Pb , Zn & REE Analysis by ICP-AES / ICPMS (sequential technique)	Nos	4.1.14	7,731	100	7,73,100	
ii	**Internal check samples (5%)**						
	For W, Sn, Ti, Co, Mo, Cu, Pb , Zn & REE Analysis by ICP-AES / ICPMS (sequential technique)	Nos	4.1.14	7,731	5	38,655	
iii	**External check samples (10%)**						
	For W, Sn, Ti, Co, Mo, Cu, Pb , Zn & REE Analysis by ICP-AES / ICPMS (sequential technique)	Nos	4.1.14	7,731	10	77,310	
2	**Physical & Petrological Stusies**						
i	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
ii	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	

8/8/22

05/04/22

iii	Preparation of polish section	Nos	4.3.2	1,549	10	15,490	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
v	Digital Photographs	Nos	4.3.7	280	10	2,800	
vi	Whole Rock Analysis	Nos	4.1.15a	4,200	5	21,000	
					Sub Total- E	**32,59,188**	
F					**Total A to E**	**1,34,08,908**	
G	Geological Report Preparation	5 Hard copies with a soft copy	5.2	Exploration cost exceeding ₹50 lakh but less than 150 lakh: A Minimum of ₹2.5 lakh or 5% of the work whichever is more		**6,70,445.38**	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
H	Peer review Charges		As per EC decision			**10,000**	
I	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		**2,68,178.15**	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					**1,43,57,531.03**	
K	Provision for GST (18% of J)					**25,84,355.58**	GST will be reimburse as per actual and as per notified prescribed rate
L	Total Estimated Cost with GST					**1,69,41,886.61**	***or Say Rs. 169.38 Lakh***
Note:							
	Trenching/Pitting dimensions are tentative may vary depending upon the geology and field conditions						
	2nd level of work shall be carried out after review of 1st level work i.e. Geological mapping, geochemical sampling and analysis and geophysical survey						
	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.						

8/8/22

08/08/22

Annexure-6B

Schedule timeline for Reconnaissance survey (G4) for Tungsten, Tin and Rare Metals in Govindpur block (82.45 sq. km), District: Datia, Madhya Pradesh.

S. No.			1	2	3	4	5	6		7	8	9	10	11	12
1	Camp Setting	Months/Days													
3	Geological Mapping & Sampling	days													
4	Geophysical Survey	months													
5	Geophysical Report	days													
6	Pitting and Trenching	cu.m													
8	Surface Drilling (1 rigs)	m													
9	Survey days	days													
10	Geologst Man days	days													
11	Sampler Man days	days													
12	Camp Winding	months													
13	Laboratory Studies	Nos.													
14	Report Writing with Peer Review	months													
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 may be additional to above time line.														

Review

8/8/22

08/08/22

Annexure-7

General exploration (G2) for Copper in Mundadevta-Darkhuli-South Jharia block, District: East Singhbhum, Jharkhand.

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal	
			SoC-Item -Sl No.	Rates as per SoC	Qty.	Total Amount (Rs)
1	**DRILLING**					
	A. Drilling up to 300m (Hard Rock)	m	2.2.1.4a	11,500	161	18,51,500
	B. Drilling 301 to 600 m (Hard Rock)	m	2.2.1.4b	12,420	16	1,98,720
	Borehole deviation Survey by Multishot Camera	m	2.2.6	330	177	58,410
	Sub Total- A					**21,08,630**
2	**LABORATORY STUDIES**					
	A. Chemical Analysis					
	i.Primary samples					
	a. for Cu, Ni, Mo, Co	Nos.	4.1.7a	2,506	250	6,26,500
	ii. Check samples Internal (5%)					
	a. for Cu, Ni, Mo, Co & W	Nos.	4.1.7a	2,506	13	32,578
	iii. Check samples External (10%)					
	a. for Cu, Ni, Mo, Co & W	Nos.	4.1.7a	2,506	25	62,650
	Sub Total- B					**7,21,728**
	Estimated Cost without GST					**28,30,358**
	Provision for GST (18%)					**5,09,464**
	Total additional cost with GST					**33,39,822.44**
						or Say Rs. 33.40 Lakh

8/8/22

5/08/22