Ministry of Mines

National Mineral Exploration Trust

Minutes of the 34th Technical-cum-Cost Committee [TCC] meeting held on 28th and 29th October, 2021 through videoconferencing at Geological Survey of India, DGCO, A-II Pushpa Bhawan, New Delhi

The 34th 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 October, 2021 at GSI, DGCO, A-II Pushpa Bhawan, New Delhi through videoconferencing. The TCC members and representatives of Exploration Agencies [EAs] participated through their respective VC nodes. The list of participants is at **annexure-1**.

Dr. L. P. Singh, Director, GSI and Member Secretary, TCC-NMET, welcomed Shri Janardan Prasad, ADG, GSI & Chairman, TCC; Members of the TCC, participants representing various EAs. He briefly outlined the project proposals submitted by EAs on various mineral commodities. He conveyed that total 12 new project proposals [MECL (8) CMPDI (3) and KIOCL (1)] have been kept for discussion of 34th TCC meeting.

Shri Janardan Prasad, ADG, GSI and Chairman, TCC welcomed the participants. The proceeding of meeting was initiated as per circulated agenda.

Agenda-wise discussions are summarised as follows.

34.1: Technical evaluation of new project proposals:

34.1.1. Proposal for Preliminary Exploration (G3) for Copper in and around Baharagora area Singhbhum Copper Belt, District: East Singhbhum, State Jharkhand. [Implementing Agency: MECL]

a) It has been conveyed that DMG, Jharkhand had consented to take up G3 stage exploration in the Baharagora area on request of MECL (23.807 sq. km).

b) Geologically the Baharagora block is mostly covered by Tertiary gravels and lateritic soil with occasional exposure of rocks like garnetiferous mica schist, quartzite, basic intrusives, in the NNW part. Granite, intruded by newer dolerite dykes outcrops at Jharia, Charakmara, and Thakurdih. Quartzite/ Quartz schist are varying in grade from sericite quartzite to kyanite -sericite quartz schist. Mica schist is associated with hornblende schist and garnet-biotite-hornblende schist. Muscovites in greater proportion in the mica schist are produced from earlier biotite through retrograde metamorphism with associated separation of magnetite.

c) It has been submitted that the mineralisation in the proposed block is not confined to any particular stratigraphic horizon nor to any particular litho-unit. However, some

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litho-units are preferred relative to other. Mineral potential zones are restricted to Quartz-chlorite-biotite Schist, Biotite-quartz rock, Quartz-biotite schist, silicified brecciated rock and Meta basites.

d) It has been conveyed that the G2 stage exploration is in progress in the Mundadevta-Darkhuli-South Jharia Copper Block which lies within the proposed block.

e) It is pertinent to mention that GSI had carried out geological mapping, geo-physical survey and geochemical sampling in the proposed area. A total of 7 no. of Geo-physical Aero-EM anomalous intercept were recorded and subsequently ground Geophysical IP survey conducted in 26 grid lines covering entire proposed area with 150-300m line interval and dipole length 30m to 150m. A total 15 no. of IP strong anomalies and 23 no. of IP week anomalies have identified which are required to be tested through drilling.

f) Entire proposed area was covered with Geo-chemical soil sampling for Cu, Ni, Co and Mo was analysed by hot extraction and cold extraction methods. The soil grid planned with 30m sampling interval, 150-300m line spacing, and closer spacing 10-15m adopted at anomalous zones. A total 48 no. of anomaly zones were identified and categorized into week, moderate, strong anomalies. In general, geochemical anomaly maxima coincide with the old workings and dump debris. Most of the Geo-chemical anomalies supported surface persistence of Geophysical anomaly which needs to be tested by drilling.

g) The project proposal was forwarded to GSI for their comments, in response to which, GSI has submitted that two projects have been proposed for FS 2022-23 in the aforesaid area on the basis of previous findings.

h) Based on the detailed deliberations, the following observations have been made by the committee:

   i. *The area under G2 stage of exploration needs to be excluded from the proposed block to avoid any discrepancy during auctioning of the block in future.*

   ii. *In the proposed area, anomalous U values have been reported in February, 2020, therefore MECL needs to take clearance from Atomic Mineral Directorate [AMD] for taking up exploration in the area.*

   iii. *The two blocks proposed by GSI for FS 2022-23, in the area may be dropped to avoid any duplication.*

   iv. *All the geochemical, geophysical etc. data available with GSI may be taken into account before finalisation of strategy of further exploration.*

   v. *Initially surface evidence is to be collected and analysed, especially collection of samples from old working and outcrops, thereafter the results and findings will be reviewed by the TCC to demarcate the borehole location and further exploration.*

   vi. *Instead of using only the name Baharagora name of a few villages may be mentioned in future while curving out areas for exploration.*

The Committee suggested to resubmit the proposal after incorporating all the comments in next TCC meeting.

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34.1.2. Proposal for Reconnaissance Survey (G4) for Copper, Lead, Zinc and Gold in Laron Block (45.00 sq. km) District: Jhansi, Uttar Pradesh. [Implementing Agency: MECL]

a) MECL has proposed to take up the G4 stage exploration in Laron block by deploying geological mapping, surface sampling, geophysical survey, trenching, scout drilling, etc. in time schedule of 19 months.

b) It has been submitted that the alteration minerals like pyrophyllite, diaspore and chlorite have been observed as vug fillings, fracture fillings and small pockets (at places) in quartz reefs around west of Laron and east of Parara. The presence of azurite in south of Laron; chalcopyrite in E-W trending quartz reef in NE of Parara; and malachite disseminations in quartz reefs in south of Laron and north of Baron Village indicate the presence of copper mineralisation in the area.

c) The committee opined that the geochemical, geophysical data available with GSI, if any, in the area may be consulted before implementation of G4 stage Reconnaissance Survey to avoid any duplication.

d) The review of the exploration work carried out will be done after 6 months.

The Committee recommended the proposal for approval by EC for Reconnaissance Survey (G4) for Copper, Lead, Zinc and Gold in Laron Block (45.00 sq. km) District: Jhansi, Uttar Pradesh with estimated cost of Rs. 265.48 Lakhs including GST in time schedule of 15 months for carrying out the proposed work and submission of report as per Annexure-2A & 2B.

34.1.3. Proposal for Reconnaissance Survey (G4) for Sillimanite in Chippilangso Block (37.93 sq. km) District: Karbianglong, Assam. [Implementing Agency: MECL]

a) Geologically the area mainly constitutes gneissic complex of the Archaean age with predominance of migmatitic biotite gneiss, quartzo-feldspathic gneiss, biotite/ amphibole gneiss, quartz-sillimanite schist, grey and pink gneiss with porphyritic granitoids. Metamorphism of alumina-rich sediments has given rise to small bodies of quartz-biotite-sillimanite schist and quartz- garnet- biotite schists/ gneiss. Towards the southwestern part of the area, an outlier of Tertiary sediments rests un-conformably over the gneisses.

b) It has been submitted that the migmatitic biotite gneiss and quartzo-feldspathic gneiss are the dominant rock types of the proposed block. Subordinate quartz sillimanite schist, massive sillimanite boulders and quartz sillimanite gneiss are also present. Quartz sillimanite schist and gneissic rocks occur as alternate bands in the area. Massive sillimanite occur in the form of minor pockets within the gneissic rock. Some metabasic rock boulders are also occurring in the area whereas, the plain area is mainly covered by recent alluvium.

c) It has been conveyed that the DGM, Assam, had investigated the economic potentiality of the sillimanite deposits around Chippilangso village during 1978-79. The DGM, Assam has reported sillimanite content in the rock, and classified the resource into four categories, Viz. Grade-1 (99% sillimanite), Grade-2 (70% sillimanite), Grade-3 (40% sillimanite) and Grade-4 (25% sillimanite). The average Al_2O_3 content in the Grade-1, Grade-2, Grade-3 and Grade-4 are 59%, 38%, 28.7 % and 13% respectively.

d) Based on earlier evidence, MECL has proposed to take up G4 stage reconnaissance survey over an area of 37.934 sq. km with geological mapping on 1: 12, 500 scale along with trench/pit sampling, drilling of 5 nos. of scout boreholes involving about 500m drilling with associated survey, chemical analysis, etc. in time schedule of 18 months.

e) Based on detailed deliberations the committee made the following observation:

i. The available geological, geochemical and geophysical data, acquired by GSI, may be perused for suitably deployment of exploration strategy for G4 stage exploration in the area.

ii. All the data acquired by DGM, Assam, and Al_2O_3 contour map of NGCM data of GSI needs to be incorporated.

iii. Importance should be given to the map of the area prepared by DGM, Assam, while preparing the G4 stage map of the whole area.

iv. Special emphasis on modal analyses of minerals, especially sillimanite is to be given instead of chemical analyses for determination of grade.

v. Initially surficial evidence needs to be collected, thereafter, the decision on sub-surface data collection through drilling will be taken accordingly.

vi. Keeping the above in view, the committee opined that the proposal for G4 stage exploration in the area for delineation of possible sillimanite resource along with other mineralisation, if any, may be taken up by MECL.

The Committee recommended the proposal for approval by EC for Reconnaissance Survey (G4) for Sillimanite in Chippilangso Block (37.93 sq. km) District: Karbianglong, Assam with estimated cost of Rs. 379.47 Lakhs including GST in time schedule of 18 months for carrying out the proposed work and submission of report as per Annexure-3A & 3B.

34.1.4. Proposal for Preliminary Exploration (G3) for Limestone in Periyakurichi Block (1.88 sq. km) District: Ariyalur, Tamil Nadu. [Implementing Agency: MECL]

and

34.1.5. Proposal for Preliminary Exploration (G3) for Limestone in Sendurai & Maruvathur Block (1.54 sq. km) District: Ariyalur, Tamil Nadu. [Implementing Agency: MECL]

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a) MECL has proposed to take up above mentioned two limestone blocks for G3 stage of exploration in Ariyalur district of Tamil Nadu.

b) It is pertinent to mention that the three limestone blocks viz. Samipilaiyur, Kiranur and Ponnirpatti in Tiruchirapalli and Karur districts of Tamil Nadu have been handed over to State Government for auctioning of CL on 8.9.2021 by the Ministry of Mines after completion of reconnaissance survey (G4 stage).

c) The committee opined that, in the similar lines the above two limestone blocks may also be suitable for auctioning of CL and may be handed over to State Govt. of Tamil Nadu without further exploration. However, if further exploration is warranted, a written consent /request from the State Government may be submitted to NMET.

In view of the above, the committee opined that the proposal 34.1.4 and 34.1.5 may be found fit for auctioning of CL, however, if further exploration is warranted, a written consent /request from the State Government may be submitted to NMET.

34.1.6. Proposal of Reconnaissance Survey (G4) for Copper in Chalima block (95.70 sq. km area) District: Giridih, Jharkhand. [Implementing Agency: MECL]

a) The project proposal was discussed in 30th TCC meeting wherein the Committee opined that, though there is mineralisation in the adjoining area [Baraganda block-NE part], no indication of mineral occurrences has been reported from the proposed area. The Committee suggested to collate all the available geoscience data and collect/ analyse some of the samples, if required, to justify the presence of mineralisation in the area. Based on which a G4 stage exploration program can be taken up as per MEMC rule. Committee had also advised to submit a revised proposal in the next TCC meeting.

b) Now, MECL has collected few samples from NE corner [~5 km away] of Baranganda block and samples were analysed with handheld XRF for cu, and 1.81% to 6.44% Cu has been recorded in the area. However, the NGCM data are not encouraging.

c) The proposal was sent to GSI for their considered comments, in response to this, GSI has submitted that the exploration has been carried out for basemetals and tin on various scales, comparable to contemporary G4 stage norms and some areas have been mapped on even larger scale in the proposed Chalima block long back.

d) One G2 stage exploration is also in progress within the proposed block which needs to be excluded and a clear passageway should be given for the G2 block in case the G2 block get auctioned in future.

e) Based on detailed deliberations the following observation have been made by the committee:

   i. *Area under G2 stage exploration needs to be excluded from the proposed block and the map is to be modified accordingly.*

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ii. *All available geoscience data needs to be collated before implementation of G4 stage reconnaissance survey.*

iii. *Initially only surface signatures are to be recorded and samples need to be collected as bed rock, soil, trench etc., and same may be analysed accordingly. After review of surface data and other findings, the decision on drilling and borehole locations will be taken.*

iv. *The review of the exploration work carried out will be done after 6 months.*

The Committee recommended the proposal for approval by EC for Reconnaissance Survey (G4) for Copper in Chalima block (101.84 sq. km) District: Giridih, Jharkhand with estimated cost of Rs. 182.63 Lakhs including GST in time schedule of 12 months for carrying out the proposed work and submission of report as per Annexure- 4A & 4B.

34.1.7. Proposal for Reconnaissance Survey (G4) for REE in Karadihalli Block, Districts: Hassan and Chikmagalur, Karnataka. [Implementing Agency: MECL]

a) The project was discussed during 30th TCC meeting and the committee suggested to resubmit the proposal in next TCC after attending modification.

b) Now, MECL has submitted the revised proposal after attending the suggested modifications.

c) MECL has conveyed that nine grab samples have been collected from the area and analysed by handheld XRF. On the basis of analytical results, it has been conveyed that out of 9 samples, 4 samples contain 0.6502-1.05% Tb; 3 samples contain 0.03%-0.09% Ce; 2 samples contain 0.11%-0.17% La; one sample shows 0.72% Eu; one sample contains 0.69% Tm; and one sample contains 0.36% Pr.

d) Apart from REEs, Copper has been identified in 4 samples with values ranging from 0.05%-0.26%.

e) The committee suggested to explore possibility of analysing the REE samples through Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) in addition to ICP-MS. It is also suggested to map the pegmatite bodies and collect samples from the contact of pegmatite with gneiss for REE analysis.

The Committee recommended the proposal for approval by EC for Reconnaissance Survey (G4) for REE in Karadihalli block (120.00 sq. km), District: Hassan and Chikmagalur, Karnataka with estimated cost of Rs. 63.94 Lakhs including GST in time schedule of 12 months for carrying out the proposed work and submission of report as per Annexure- 5A & 5B.

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34.1.8. Proposal for Reconnaissance Survey (G4) for Emerald in Rajgarh Block, District: Ajmer, Rajasthan. [Implementing Agency: MECL]

a) The proposal was discussed in the 33rd TCC meeting wherein committee suggested not to take up the project to avoid duplication. Now, MECL has submitted that the overlapping area has been excluded in the present proposal.

b) The modified proposal was sent to GSI for comments, in response to which GSI stated that the block submitted by MECL has no overlapping area with the present GSI blocks for Emerald investigation during FS 2021-22 and also with the emerald block proposed for FS 2022-23.

c) Based on detailed deliberations the following observation have been made by the committee:

   i. *Remote sensing study by using ASTER data, detailed petrological study and trench sampling may be helpful for identification of potential zones.*

   ii. *Alteration zone mapping and contact tracing between pegmatite and ultramafics may be helpful in demarcation of emerald potential zones.*

   iii. *The geochemical sample analyses may be minimised as per its essentiality.*

The Committee recommended the proposal for approval by EC for Reconnaissance Survey (G4) for Emerald in Rajgarh block (115.00 sq. km), District: Ajmer, Rajasthan with estimated cost of Rs. 97.20 Lakhs including GST in time schedule of 14 months for carrying out the proposed work and submission of report as per Annexure- 6A & 6B.

34.1.9. Proposal for Reconnaissance Survey (G4) for basemetal in Anaji basemetal block, District: Davangere, Karnataka. [Implementing Agency: KIOCL]

a) The Peninsular Gneiss forms the basement for the Dharwar Supergroup in the western Dharwar craton. The proposed area falls within the Chitradurga Schist belt of Western Dharwar craton.

b) The Chitradurga Schist Belt forms the eastern of Western Dharwar craton comprising both Sargur Group (Older supracrustals) along with its western margin and the Dharwar Supergroup (Younger supracrustals) within the main belt.

c) The schist belt between Bharmasagara and Anaji forms a syncline which exposes younger sediments at the centre. Numerous quartz veins are seen around Hulikatte and Anaji area in the schist belt and the gneissic rocks. Few isolated bands of quartzite seen around Anaji, away from the schist belt appear to be the detached portion of the syncline. At places quartzite contains muscovite. Few small isolated bands of quartzite are seen around Anaji, away from the schist belt. Two quartz veins

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bands occur in south-east of Anaji showing specks of chalcopyrite and malachite stains.

d) It has been conveyed that GSI has carried out specialised thematic mapping in the proposed area and 40 ppm to 0.40% Cu was reported in BRS samples in Anaji block.

e) Based on the above background, the KIOCL has proposed to take up G4 stage reconnaissance survey in Anaji block with the components of geological mapping of 150 sq. km on 1:12,500 scale, scout drilling of 300m and ground gravity and magnetic survey for 150 points.

f) Based on detailed deliberations the following observations have been made by the Committee:

   i. *All NGPM and NGCM data acquired by GSI over the proposed area may be collated and accordingly the exploration activities may be initiated.*

   ii. *KIOCL needs to ensure that there should not be any duplication of work.*

   iii. *The quartz veins are the host rock for the basemetals and the dimension of quartz veins needs to be demarcated/ mapped.*

   iv. *Stream sediment samples may not be helpful for demarcation of basemetals.*

The Committee recommended the proposal for approval by EC for Reconnaissance Survey (G4) for basemetal in Anaji block (135.00 sq. km), District: Davangere, Karnataka with estimated cost of Rs. 140.68 Lakhs including GST in time schedule of 12 months for carrying out the proposed work and submission of report as per Annexure- 7A & 7B.

34.1.10. Proposal for Reconnaissance Survey (G4) for coal along with 2D seismic survey in North of Chulaha Bhulia block, Sohagpur Coalfield, District: Anuppur, Madhya Pradesh. [Implementing Agency: CMPDI]

a) North of Chulaha Bhulia block, covering an area of about 8.77 sq. km, is located in the eastern part of Sohagpur Coalfield which includes an area of 5.12 sq. km (58%) under forest cover.

b) The area is represented by the occurrence of Lower Gondwana sequence viz. Talchir, Barakars and lower and middle members of Pali Formation. The sedimentary sequences are intruded by dykes and sills. The Barakar formation is the main storehouse of coal seams in the area.

c) The CMPDI has proposed to take up G4 stage exploration for coal in the block by deploying 1300m drilling in 2 boreholes on 3200m x 3200m grid pattern along with integrated geophysical logging including sonic, dual density, natural gamma, caliper, SPR, deviation etc. In addition to drilling and geophysical logging, the 2D Seismic

survey has been proposed along dip and strike lines with line intervals of 400m x 400m and 800m x 800m respectively.

d) It is pertinent to mention that the coal of W-I to G-12 grade has been reported by CMPDI in the adjoining Beheraband North Extension block situated in the south of the proposed block with coal seam thickness between 0.22m to 6.04m.

e) Based on deliberation, the following observations have been made by the committee:

   i. *The proposed Chulaha Bhulia block may be marked on the geological map (1: 50,000 scale) to identify the potential geological horizons in the block.*

   ii. *In the northern part of the block a lease area of Coal Bed Methane [CBM] is situated which needs to be kept in mind while implementing the various parameters of exploration.*

   iii. *Coal seam-V is the most potential seam and needs to be focussed during the exploration.*

   iv. *Regarding the resistivity survey, it has been observed that the major structural features up to 70-80m can be seen if the resolution is compromised. Committee also observed that due to very small dimension of the block, 2D seismic survey is not required as there may be operational issues during implementation of 2D.*

   v. *In view of this committee suggested to drill four boreholes (2550m) instead of two boreholes in the area for deciphering the mineral potentiality of the block.*

   vi. *The available gravity data of GSI needs to be consulted by CMPDI.*

The Committee recommended the proposal for approval by EC for Reconnaissance Survey (G4) for coal in North of Chulaha Bhulia block (8.77 sq. km), Sohagpur Coalfield, District: Anuppur, Madhya Pradesh with estimated cost of Rs. 255.69 Lakhs including GST in time schedule of 12 months for carrying out the proposed work and submission of report as per Annexure- 8A & 8B.

34.1.11. Proposal for Preliminary Exploration (G3) for coal along with 2D seismic survey in West of Sheetaldhara Block, Sohagpur Coalfield, District: Anuppur, Madhya Pradesh. [Implementing Agency: CMPDI]

a) The sheetaldhara mine block is located in the Northern part of Jhagrakhand sub-basin, Sohagpur coalfield. The area is covered by Barakar rocks under thick soil cover. CMPDI had carried out exploration in Sheetaldhara Mine block during 1988 by involving 50 boreholes with 6801.48m drilling and the block was recommended for G1 stage exploration.

b) Now, the CMPDI has proposed to take up G3 stage exploration in the West of Sheetaldhara Block to assess the existence and continuity of coal seams of Barakar

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Formation. It has been conveyed that the expected grade of coal in the proposed block may vary between G1- G10.

c) CMPDI has proposed to take up G3 stage exploration integrated with geophysical survey to find out the disposition and continuity of coal seams by puting two boreholes.

f) Based on deliberations, the following observations have been made by the committee:

i. *The proposed West of Sheetaldhara Block needs to be marked on the geological map to identify the potential geological horizons in the block.*

ii. *The Barakar Formation is the coal bearing horizon and needs to be focussed during the exploration.*

iii. *Regarding the resistivity survey, it has been observed that the major structural features up to 70-80m can be seen if the resolution is compromised. Committee also observed that due to very small dimension of the block, 2D seismic survey is not required as there may be operational issues during implementation of 2D seismic survey.*

iv. *In view of this committee suggested to drill four boreholes (800m) instead of two boreholes in the area for deciphering the mineral potentiality of the block.*

v. *The available gravity data of GSI needs to be consulted by CMPDI.*

The Committee recommended the proposal for approval by EC for Preliminary Exploration (G3) for coal in West of Sheetaldhara Block (3.94 sq. km), Sohagpur Coalfield, District: Anuppur, Madhya Pradesh with estimated cost of Rs. 97.63 Lakhs including GST in time schedule of 12 months for carrying out the proposed work and submission of report as per Annexure- 9A & 9B.

34.1.12. Proposal for Preliminary Exploration (G3) for coal along with 2D seismic survey in Ulia-Gamhardih Block, East of Bisrampur Coalfield, District: Surguja, Chhattisgarh. [Implementing Agency: CMPDI]

a) The Bisrampur coalfield lies in the eastern part of the Son-Mahanadi Valley Basin. This coalfield is separated from the Tatapani-Ramkola coalfield to the north by large intervening tract covered by metamorphics.

b) In the area, the Lower Gondwana Group of rocks belonging to Talchir and Barakar formations rest directly over the Precambrian metamorphics. The rocks of Talchir Formation were exposed in the north-western and western part of the area and are characterized by greenish to light bluish, thinly laminated shale/silty shale and siltstone with light greenish, fine grained, thin bands of sandstone.

c) The CMPDI has proposed to take up the G3 stage exploration for coal over an area of about 39.14 sq.km by deploying 1300 m drilling in 8 boreholes on 1600m x 1600m

grid pattern along with integrated geophysical survey. Besides drilling, 2D Seismic survey of 161 line km has been proposed in this block along dip and strike lines with line intervals of 400m and 800m respectively.

d) The rocks of Barakar Formation except in the western part cover most of the area under investigation where patches of Talchir Formation are exposed.

e) Barakar Formation abuts against the Surguja crystalline complex along two sets of east west and northwest-southeast trending step like faults. In the area, rocks of Talchir and Barakar formations directly overlie the Surguja crystalline complex with a faulted contact.

f) It has been submitted that number of coal outcrops with cumulative thickness varying from 1.00 m to 13.35 m in and around Ulia-Gamhardih area has been recorded in the area along nala sections as well as scarp faces of hills at different levels over 3 km to 5 km stretch between Ulia and Patna. Similar coal outcrops having, thickness varying from 1.00 m to 4.60m, have also been noted around northern and north-eastern part of Ghugri area.

g) Barakar coal seams are Non-Coking. Quality wise, the coal of seam zone-I is mostly of G4 to G10 grade while of seam zone-2 belong to G1 to G12 grade. Seam zone-II constitute bulk of the resource (93.1%), followed by Seam zone-I (6.8%).

h) After detailed deliberations the committee opined that the Resistivity survey may be deployed along with 8 nos. of boreholes (1300m) in the block to decipher the potentiality of the block.

i) The Committee also suggested to relook into the available NGPM data and accordingly resistivity survey can be deployed in the block.

The committee suggested to resubmit the proposal in the next TCC meeting after finalisation of quantum of resistivity component.

34.2. Review of ongoing projects:

34.2.1. Preliminary Exploration (G3) for Iron and Manganese ore in Jamda-Koira Valley Iron Ore Belt in Silpunji Block, District: West Singhbhum, Jharkhand. [Implementing Agency: MECL]

a) MECL has conveyed that all the assigned NQT for the project has been successfully achieved and analytical results are encouraging.

b) The Bouguer anomaly indicates NE-SW trend of subsurface potential zones and these zones are irregular and lensoidal in nature.

c) MECL has conveyed that the Silpunji (G3 stage) block is included in the list of 100 potential blocks handed over to states in September, 2021 for auctioning as CL,

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however, state government has desired that the block needs to be further upgraded to G2 stage before auctioning.

The committee noted the achievement and advised to submit the detailed borehole plan suitable for G2 stage exploration. As this block was included in the list of 100 auctionable blocks, a written consent /request of state government may be submitted to NMET/ TCC for further exploration (G2 stage) in the block.

34.2.2. Reconnaissance Survey (G4) for copper in Namapur Block of 115 sq. km area, District: Rajanna Sircilla (Erstwhile Karimnagar), Telangana. [Implementing Agency: MECL]

a) The project was review in 31st TCC meeting and committee suggested to carry out pitting and trenching to draw subsurface mineralisation before planning for drilling.

b) MECL has conveyed that the assigned targets have been successfully achieved.

c) The trench samples collected from the sheared quartz veins which is the host rock for copper mineralisation have been analysed for copper (0.02%-0.1%), lead (<0.01%), zinc (<0.01%-0.04%), and gold (0.03 ppm).

d) It has been submitted that the results are not encouraging, hence further exploration may not be fruitful.

e) MECL requested for time extension till 31st December, 2021.

The committee noted the outcome of the project and suggested to submit the geological report and recommended for approval by EC for time extension till 31st December, 2021.

34.2.3. Reconnaissance Survey (G4) for manganese in Kumiapalli Block, District: Bolangir, Odisha. [Implementing Agency: MECL]

a) The project on Reconnaissance survey (G4) for manganese in Kumiapali Block, District: Bolangir, Odisha was recommended in the 24th TCC meeting and approved in 17th EC meeting with estimated cost of Rs. 237.99 Lakhs including GST in time schedule of 12 months.

b) During 24th TCC meeting it was decided that after receiving encouraging results, the project proposal may be submitted for G3 stage of exploration with systematic drilling and other required parameters to keep the project cost effective. MECL had proposed 6 boreholes for logical conclusion during 29th TCC meeting which was agreed by the committee.

c) It has been informed that total 418m drilling has been carried out against the approved drilling of 400m. MECL has requested for approval of 18m additional drilling with estimated cost of Rs. 2,66,916/-. The details are given in **annexure- 10**

d) Now, it has been conveyed that all the assigned NQT has been achieved. It is further conveyed that in BH-1 two mineralised zone [4.97m and 4.60m] has been observed, whereas no mineralised zones have been recorded in BH-5. Total estimated resource has been at 0.266 MT of manganese with 14.07%Mn.

The committee noted the outcome of the project and suggested to submit the geological report. The committee approved additional drilling of 18m with estimated cost of Rs. 2,66,916/-.

34.2.4. General exploration (G2) for phosphate deposit in Sonrai block, District: Lalitpur, Uttar Pradesh. [Implementing Agency: MECL]

a) MECL has conveyed that the drilling component has been completed and the analyses of samples and geological report writing is in progress.

b) It has been informed that the ore beneficiation study is pending with IBM due to non-functioning of instrument.

The committee suggested to coordinate with the IBM to expedite the ore beneficiation study, thereafter the geological report may be submitted to NMET with all analytical results. The committee also suggested that after ore beneficiation the time extension will be given accordingly.

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

a) The project was recommended in 27th TCC meeting and approved in 18th EC meeting.

b) KIOCL has conveyed that geological mapping (26.67 sq. km) has been completed and total of 84 nos. of BRS have been collected.

c) Committee suggested for additional 100 cu.m trenching along with petrological studies and modal analysis for kyanite mineralisation.

d) KIOCL informed that for additional trenching of 100 cu.m, additional cost of Rs. 18,71,250/- is required. The details are given in **annexure- 11**.

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The committee suggested for additional 100 cu.m trenching along with petrological studies and modal analysis for kyanite mineralisation and approved additional cost of Rs. 18,71,250 as per the annexure- 11.

34.3. Timeline extension of projects:

34.3.1. Preliminary exploration (G3) for Iron Ore in Malangtoli-H block, Districts: Sundargarh & Kendujhar, Odisha. [Implementing Agency: MECL]

a) MECL has requested for time extension for completion of the project.

b) It has been conveyed that all the assigned targets have been successfully completed and geological report is submitted to NMET. MECL has requested for timeline extension up to 31st March, 2021 for processing of bills.

The committee recommended for approval by EC for timeline extension upto 31st March, 2021.

34.3.2. Reconnaissance Survey (G4) for Iron Ore in Gopaltola (Salhewara) Block, District: Rajnandgaon, Chhattisgarh. [Implementing Agency: DGM Chhattisgarh]

a) DGM, Chhattisgarh has requested for time extension for completion of the project. It has been conveyed that the forest permission for initiation of exploration activities is still awaited.

The committee suggested to expedite the process for early initiation of project after forest clearance. Accordingly, time extension for completion of the project will be accorded.

34.3.3. Preliminary exploration (G3) for bauxite in Chendradadar Block, District: Kabirdham, Chhattisgarh. [Implementing Agency: DGM Chhattisgarh]

a) DGM, Chhattisgarh has conveyed that all the assigned targets have been successfully achieved and the geological report was submitted on 6.10.2021 to NMET secretariat.

b) Further, DGM, Chhattisgarh has requested for timeline extension up to 30.10.2021 for settlement of bills.

The committee recommended for approval by EC for timeline extension upto 30th October, 2021.

34.3.4. General exploration (G2) for manganese in Pimperkunta block, Bheempur mandal, District: Adilabad, Telangana. [Implementing Agency: TSMDC]

a) TSMDC has conveyed that the topographic survey, geological mapping and pitting and trenching have been completed, however, drilling could not be initiated so far due to farming activities, monsoon, and Covid-19 etc.

b) It has been conveyed that some samples have been analysed and the Manganese ore shows evidence of syngenetic origin and contains 24% to 36% Mn, 15% to 30% silica, 2%-3% Fe & less than 0.15% phosphorous.

c) The project was approved in 16th EC meeting with estimated cost of Rs. 157.22 Lakh with time schedule of 12 months (27.03.2021) and 6 months extension due to Covid-19 till 29.09.2021.

d) Now TSMDC has requested for 9 months further time extension for completion of assigned targets.

e) The committee suggested to complete all the assigned targets by March, 2022 and opined that all analytical results of exploration will be reviewed in March, 2022.

The committee recommended for approval by EC for time extension of 9 months (27.06.2022) for completion of project.

34.4. Cancellation/Pre-closer of approved projects

34.4.1. Preliminary exploration (G3) for bauxite in Lurena Block, District: Surguja, Chhattisgarh. [Implementing Agency: DGM Chhattisgarh]

and

34.4.2. Preliminary exploration (G3) for bauxite in Murtadand Block, District: Surguja, Chhattisgarh. [Implementing Agency: DGM Chhattisgarh]

a) The projects were approved in 8th EC (Murtadand block) and 11th EC (Lurena block) meeting.

b) DGM, Chhattisgarh has informed that the exploration work in the Lurena and Murtadand bauxite blocks could not be initiated due to local resistance and law and order issue in the area and requested to surrender these two blocks as initiation of survey and exploration work is difficult.

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The committee suggested to submit the details of efforts made by State DGM for initiation of work to Director, NMET for further approval by EC for surrender/ cancelation of blocks.

34.4.3. General exploration (G2) for Iron ore in BRH Iron Ore Mines, NEB Range M/s RMMPL, ML No. 2010, District: Ballari, Karnataka. [Implementing Agency: MECL]

a) The project was approved in 6th EC meeting with estimated cost of Rs. 1004.16 Lakh with time schedule for 13 months subject to the forest clearance. The time line for the completion of the project was 09.09.2021.

b) MECL informed that a total of 557m RC drilling (6 completed Bhs) & 1544m Core drilling (16 closed Bhs) has been completed against 3495m approved drilling meterage. Further drilling couldn't continue due to forest clearance.

c) In the meantime, the state government of Karnataka has decided to discontinue the present exploration work as the block will be clubbed with the adjoining blocks so that a comparatively big block can be auctioned for ML.

d) It has been decided that a report may be submitted after bifurcating the block into two possible subblocks, one of which may be given the status of G2 and other one as G3, keeping in view the spacing of drilled boreholes in compliance with the guideline of MEMC Rule.

e) DGM, Karnataka has informed that the block will be placed for auctioning for ML after incorporating the available exploration data and clubbing the block with adjoining blocks.

f) MECL also requested for the time extension for the completion of the project till 31st January 2022.

The committee opined that the geological report for G3 stage exploration may be submitted to NMET after collating the borehole data of GSI and MECL. Committee also recommended for EC approval of time extension upto 31st January, 2022.

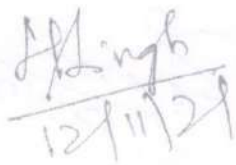
33.5. The meeting ended with vote of thanks by Director and Member Secretary, TCC, NMET.

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List of TCC members attended 34th Technical-cum-Cost Committee (TCC) meeting of NMET held on 28th and 29th October, 2021 through videoconferencing.

S. No.	Name/Designation	Status	Remarks
1	Shri Janardan Prasad, ADG & HoD, SR, GSI, Hyderabad	Chairman, TCC, NMET	Attended via videoconference
2	Shri Ranjan Kumar Sinha, Controller General (Retd.) Indian Bureau of Mines, Noida	TCC Member	Attended via videoconference
3	Shri P. Tarafdar, Dy. Director General (Retd.) Geological Survey of India, Kolkata	TCC Member	Attended via videoconference
4	Dr. Manoranjan Mohanty, Dy. Director General (Retd.) Geological Survey of India, Bhubaneshwar	TCC Member	Attended via videoconference
5	Shri Naeem Ahmad, General Manager-Exploration (Retd.), CMPDI Ltd., Aligarh	TCC Member	Attended via videoconference
6	Dr. Anjani Kumar, Dy. General Manager (Exploration) & HoD-Planning (Retd.), MECL, Nagpur	TCC Member	Attended via videoconference
7	Dr. J. V. Ramarao, Dy. Director General (GP) [Retd.], Geological Survey of India, Hyderabad	TCC Member	Attended via videoconference
8	Shri B. Saravanan, Additional Director, Atomic Minerals Directorate for Exploration and Research, Hyderabad	TCC Member	Attended via videoconference
9	Dr. L. P. Singh, Director, Geological Survey of India, DGCO, New Delhi	Member Secretary, TCC, NMET	Attended in person
10	Shri Amit Saran, Director, NMET, MoM	TCC Member	Attended via videoconference
11	Shri Ravi Kumar Gupta, Deputy General Manager (Finance), HCL, Kolkata	TCC Member	Attended via videoconference
12	Shri P. K. Maharana, Dy. General Manager (Finance), NALCO, Bhubaneshwar	TCC Member	Attended via videoconference
13	Shri Vinay Pal, Assistant Cost Account Officer (Finance), Geological Survey of India, DGCO, New Delhi	TCC Member	Attended in person





Annexure-1

List of participants attended 34th Technical-cum-Cost Committee (TCC) meeting of NMET held on 28th and 29th October, 2021 through videoconferencing.

S. No.	Name/Designation	Email ID	Contact No	Organisation
1	Shri Janardan Prasad, ADG & HoD, SR, 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 Pradipta Tarafdar, DDG (Retd.) GSI	tarafdar.pradipta@gmail.com	9503088847	Member, TCC
4	Dr. Manoranjan Mohanty, DDG (Retd.) GSI	manoranjanmoha@gmail.com	9483511287 8249014425	Member, TCC
5	Dr. J. V. Ramarao, DDG (GP) (Retd.) GSI	rarajammi@gmail.com	9440691284	Member, TCC
6	Dr. Anjani Kumar, DGM(Retd.), MECL	anjanikumar1957.ak@gmail.com	9975350576	Member, TCC
7	Shri Naeem Ahmed, EM(Retd.), CMPDI	ahmadnaeem17@yahoo.co.in	8588092153	Member, TCC
8	Shri B. Saravanan, AMD, Hyderabad	addldir-op1.amd@gov.in	8987571606	Member, TCC
9	Shri Amit Saran, Director & HoD, NMET	amit.saran@nic.in	9717647259	Member, TCC
10	Dr. L. P. Singh, Director, GSI	nmet-tcc@gov.in	9490748249	Member Secretary, TCC
11	Shri P. K. Maharana, DGM (F), NALCO, Bhubaneshwar	pmaharana@rediffmail.com	8500669500	Member, TCC
12	Shri Ravi Kumar Gupta, DGM (F), HCL, Kolkata	ravi_g@hindustancopper.com	9433274328	Member, TCC
13	Shri Vinay Pal, ACAO, GSI	palvinay009@gmail.com	8527368161	Member, TCC
14	Dr. Deshraj Trivedi, Senior Geologist	nmet-tcc@gov.in	9419244294	NMET
15	Subhash Kumar, Senior Geologist	nmet-mines@gov.in	9868302624	NMET
16	Shri K. K. Kaushik, HOD, (Exploration)	gm-exploration@mecl.co.in	9422805475	MECL, Nagpur
17	Dr. R. P. Singh, Manger (Geology)	gm.exploration.cmpdil@gmail.com	8987789047	CMPDI
18	Shri K. Rajasekhar Reddy General Manager, TSMDC	tsmdcltd@gmail.com	8008558580	TSMDC
19	Mr. Kailash Dongre, Joint Director (Geology)	kailashdongre.kd@gmail.com	9424282791	DGM, Chhattisgarh
20	Smt. Barnalee Nath, Joint Director	dgmassam@gmail.com		DGM Assam
21	Sri Yuvaraj, Senior Geologist Min (Incharge)	mlsdmg1@gmail.com		DGM Karnataka
22	Shri S. K. Sinha, Director (Mines)	director-mines@jharkhandmail.gov.in		DGM, Jharkhand
23	Shri Shiva Kumar M, SM (ME)	bmed@kioclltd.in	9481444686	KIOCL
24	Smt. Ujjwala Sharma, Sr. Geologist	nmet-mines@gov.in	8957806004	NMET

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Annexure-2A

Estimated cost for Reconnaissance Survey (G4) for Copper, Lead, Zinc and Gold in Laron Block (45.00 sq. km) District: Jhansi, Uttar Pradesh.

[Total block area- 45.00 sq. km; Schedule 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**						
a	Charges for Geologist at HQ	day	1.3	9,000	50	4,50,000	
b	Charges for Geologist for Field Work	day	1.3	11,000	120	13,20,000	
c	Labour (2 Nos) Base rate - Rs.431/-	day	5.7	431	240	1,03,440	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
h	Charges for Sampler for geochemical, channel and core samples	one sampler per day	1.5.2	5,100	50	2,55,000	
i	Labours (4 Nos) Base rate - Rs. 431/-	day	5.7	431	200	86,200	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub Total- A	**22,14,640**	
B	**PITTING AND TRENCHING$**						
1	Trenching	Cu m	2.1.1	3,330	300	9,99,000	
					Sub Total- B	**9,99,000**	
C	**GEOPHYSICAL SURVEY#**						
1	Magnetic	Nos of Stations	3.2a	1,800	1,000	18,00,000	Nos of stations will be fixed after the review
2	Gravity	Nos of Stations	3.1a	3,800	1,000	38,00,000	Nos of stations will be fixed after the review
3	Charges for Geophysicist at field	day	3.18	11,000	240	26,40,000	
4	Charges for Geophysicist at HQ	day	3.18	9,000	15	1,35,000	
					Sub Total- C	**83,75,000**	
D	**DRILLING$**						
1	Drilling up to 300m (Hard Rock)	m	2.2.1.4a	11,500	500	5,750,000	will be done after review of work

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2	Borehole deviation Survey by Multishot Camera	m	2.2.6	330	500	165,000	
3	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	5	100,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
5	Transportation of Drill Rig & Truck associated per drill (1 rigs)	Km	2.2.8	36	1,300	46,800	
6	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	7	3,50,000	
7	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
8	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
9	Road Making (Flat Terrain)	Km	2.2.10a	22,020	5	1,10,100	Road making will be considered as per the requirement and Road making charges will be reimbursed accordingly.
10	DGPS Survey for Block Boundary	per point	1.6.2	19,200	5	96,000	
11	Drill Core Preservation	per m	5.3	1,590	200	3,18,000	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities.
					Sub Total- D	**74,45,900**	
E	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
I	**Primary & Check Samples from Surface outcrop and steam sediments**						
i)	**Primary samples**						
	a. 34 Elements of ICPMS	Nos	4.1.14	7,731	50	3,86,550	
	b. For Au by fire assay	Nos	4.1.5a	2,380	5	11,900	
ii)	**Internal check samples (5%)**						
	a. ICPM-34 Elements	Nos	4.1.14	7,731	3	23,193	
	b. For Au & Ag by fire assay	Nos	4.1.5a	2,380	1	2,380	
ii)	**External check samples (10%)**						
	a. 34 Elements of ICPMS	Nos	4.1.14	7,731	5	38,655	
	b. For Au by fire assay	Nos	4.1.5a	2,380	1	2,380	
II	**Primary & Check Samples from Trench**						
i)	**Primary samples**						

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	a. For Cu, Pb, Zn	Nos	4.1.7a	2,506	200	5,01,200	
	b. For Au by fire assay	Nos	4.1.5a	2,380	60	1,42,800	
ii)	**Internal check samples (5%)**						
	a. For Cu, Pb, Zn	Nos	4.1.7a	2,506	10	25,060	
	b. For Au by fire assay	Nos	4.1.5a	2,380	3	7,140	
iii)	**External check samples (10%)**						
	a. For Cu, Pb, Zn	Nos	4.1.7a	2,506	20	50,120	
	b. For Au by fire assay	Nos	4.1.5a	2,380	6	14,280	
III	**Primary & Check samples from Drill Core**						
i)	**Primary samples**						
	a. For Cu, Pb, Zn	Nos	4.1.7a	2,506	150	3,75,900	
	b. For Au by fire assay	Nos	4.1.5a	2,380	60	1,42,800	
ii)	**Internal check Samples (5%)**						
	a. For Ni, Co, Cr, Cu, Pb, Zn	Nos	4.1.7a	2,506	8	20,048	
	c. For Au by fire assay	Nos	4.1.5a	2,380	3	7,140	
ii)	**External check samples (10%)**						
	a. For Ni, Co, Cr, Cu, Pb, Zn	Nos	4.1.7a	2,506	15	37,590	
	c. For Au by fire assay	Nos	4.1.5a	2,380	6	14,280	
IV	**Composite Samples**						
	a. For Ni, Co, Cu, Pb, Zn	Nos	4.1.7a	2,506	20	50,120	
	b. For Au by fire assay	Nos	4.1.5a	2,380	20	47,600	
V	**ICP-MS studies (34 Trace elements)**	Nos	4.1.14	7,731	20	1,54,620	
2	**Physical & Petrological Studies**						
i)	Preparation of thin section	Nos	4.3.1	2,353	20	47,060	
ii)	Complete petrographic study report	Nos	4.3.4	4,232	20	84,640	
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	7,568	10	75,680	
					Sub Total- E	**23,23,746**	
F					**Total A to E**	**2,13,58,286**	
G	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	For the projects exceeding Rs. 150 Lakh but less than Rs. 300 Lakh - A minimum of Rs. 7.5 lakhs or 3% of the value of work		**7,50,000**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.

				whichever is more			
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**		**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.
J	**Total Estimated Cost without GST (A to I)**					**22,498,286**	
K	**Provision for GST (18% of J) %**					**4,049,691**	GST will be reimbursed as per actual and as per notified prescribed rate
L	**Total Estimated Cost with GST**					**2,65,47,977**	
						265.48	**Say Rs. 265.48 Lakhs**

Notes:

If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.

$	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

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Annexure-2B

Time schedule for Reconnaissance Survey (G4) for Copper, Lead, Zinc and Gold in Laron Block (45.00 sq. km) District: Jhansi, Uttar Pradesh.

		1	2	3	4	5	6		7	8	9	10	11	12	13	14	15
1	Camp Setting																
3	Geological Mapping & Sampling																
	Surface Sampler Party																
4	Geophysical Survey																
5	Geophysical Report																
6	Pitting and Trenching																
7	Channel Sampling																
8	Surface Drilling																
9	Survey Party days																
10	Geologist Party days																
11	Core Sampling																
12	Camp winding																
13	Laboratory Studies																
14	Report Writing with Peer Review																

Review

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.

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Annexure-3A

Estimated cost for Reconnaissance Survey (G4) for Sillimanite in Chippilangso Block (37.93 sq. km) District: Karbianglong, Assam.

[Total block area- 37.934 sq. km; Schedule completion time- 18 Months]

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21				
			SoC-Item- S. No.	Rates as per SoC	Year 2021-2022		
					Qty.	Amount (Rs)	Remarks
A	**GEOLOGICAL WORK**						
1a	Geologist Party days - Field	day	1.2	11,000	120	13,20,000	
1b	Geologist Party days - HQ	day	1.2	9,000	60	5,40,000	
1c	4 labours/ party (Rs 350/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	350	240	84,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
2a	Sampling -Samplers	day	1.5.2	5,100	40	204,000	
2b	4 labours/ party (Rs 350/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	350	160	56,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
				Sub Total- A		**22,04,000**	
B	**TRENCHING**						
1	Trenching (1m x 2mx 150 m)	Cu m	2.1.1	3330	250	8,32,500	
	Sub-Total B					**8,32,500**	
C	**DRILLING**						
1	Drilling (1 rigs) up to 300m (10 boreholes)- Hard Rock	m	2.2.1.4a	11,500	300	34,50,000	
2	Borehole deviation Survey by Multi shot camera	m	2.2.6	330	300	99,000	
3	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	10	2,00,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities

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4	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS	Nos	1.6.2	19,200	10	1,92,000	
5	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	10	20,000	
6	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	3,800	1,36,800	
7	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	6	3,00,000	
8	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	-	2,50,000	
9	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	-	2,50,000	
10	Road Making (Hilly Terrain)	Km	2.2.10b	32,200	5	1,61,000	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly.
					Sub Total- C	**50,58,800**	
D					**Total- A to C**	**80,95,300**	
E	**Additional Rate for exploration work in Northeastern States and Hilly Terrain of Himalaya**		para 5 of SoC	3.35 times higher than the normal SoC		**2,71,19,255**	Field activities in Remote and inaccessible terrain existing in northeastern states
F	**LABORATORY STUDIES**						
1	**Chemical Analysis (Primary & Check samples)**						
	SiO_2, Al_2O_3, Fe_2O_3, TiO_2, MgO, K_2O						
i)	**Trench samples**						
	a. Primary Samples for alumino-silicate rock (Silimanite/ Kyanite)	Nos	4.1.2	8,796	200	17,59,200	
	b-Internal (5%) and External (10%) Check samples from NABL Lab for alumino-silicate rock (Silimanite/ Kyanite)	Nos	4.1.2	8,796	45	3,95,820	
ii)	**Drill Core samples**						
	a. Primary Samples for alumino-silicate rock (Silimanite/ Kyanite)	Nos	4.1.2	8,796	120	10,55,520	
	b-Internal (5%) and External (10%) Check samples from NABL Lab for	Nos	4.1.2	8,796	18	1,58,328	

	alumino-silicate rock (Silimanite/ Kyanite)						
2	**Physical & Petrological Studies**						
i)	Preparation of thin section	Nos	4.3.1	2,353	30	70,590	
ii)	Complete petrographic study report	Nos	4.3.4	4,232	30	1,26,960	
iii)	Model Analysis	Nos	4.3.8	3,780	30	1,13,400	
					Sub Total- F	**36,79,818**	
G	**Drill Core Preservation**						
	One complete borehole plus mineralised cores of all the BHs of the Block, all cost included (100m for one borehole, 40m mineralised zone for remaining 4 Bhs)	m	5.3	1,590	260	4,13,400	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities.
					Sub Total- G	**4,13,400**	
H					**Total- E to G**	**3,12,12,473**	
I	**Geological Report Preparation**	**No**	**5.2**	iv) Detailed exploration with cost of work exceeding ₹ 300 lakh: A minimum of ₹ 9 lakh or 3% of the value of work whichever is more subject to a maximum amount of ₹ 20 lakh and ₹ 10,000/- per each additional copy.		**9,36,374**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
J	**Peer review Charges**		**As per EC decision**			**10,000**	
K	**Total Estimated Cost without GST**					**3,21,58,847**	
L	**Provision for GST (18% of K) %**					**57,88,592**	GST will be reimbursed as per actual and as per notified prescribed rate
M	**Total Estimated Cost with GST**					**3,79,47,440**	
						379.47	**Say Rs. 379.47 Lakhs**

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 Certificate regarding non outsourcing of any component/project is required.

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Annexure-3B

Reconnaissance Survey (G4) for Sillimanite in Chippilangso Block (37.93 sq. km) District: Karbianglong, Assam.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Camp Setting																		
2	Geological Mapping																		
3	Survey Party days																		
4	Pitting /Trenching																		
5	Surface Drilling																		
6	Geologist Party days																		
7	Sampling Party days																		
8	Camp Winding																		
9	Laboratory Studies																		
10	Geologist Party days, HQ																		
11	Report Writing with Peer Review																		
	Time loss on account of monsoon/agricultural activity/forest clearance/local law and order problems will be addition to above time line.																		

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Annexure-4A

Estimated cost for Reconnaissance Survey (G4) for Copper in Chalima block (101.84 sq. km) District: Giridih, Jharkhand.

[Total block area- 101.84 sq. km; Schedule 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- S. No.	Rates as per SoC	Qty.	Total Amount (Rs)	
1.0	**Geological, Sampling Days**						
1.1	Large scale (LSM) Geological mapping/ Trenching/ Drilling						
	a) Geologist man days for Geological Mapping/Trenching /Drilling (Field)	days	1.2	11,000	150	16,50,000	
	b) Geologist man days for HQ	days	1.2	9,000	60	5,40,000	
	c) Labour (field) for Geological mapping work (Total 4 Nos i.e., 2 workers per one geologist)	per worker	5.7	427	300	1,28,100	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner (Rs. 427/- per day) or respective State Govt. whichever is higher
	d) Sampling man days - Sampler (Geochemical /Trenching/Drilling) Labour charge not included	day	1.5.2	5,100	60	3,06,000	
	e) 4 labours/ party (Rs 427/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	427	240	1,02,480	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner (Rs. 427/- per day) or respective State Govt. whichever is higher
					Sub Total- A	**27,26,580**	
2.0	**Mineral Investigation**						
2.1	Trenching[$]						
	a) Excavation of trenches	per cu m	2.1.1	3,330	200	6,66,000	
					Sub Total- B	**6,66,000**	
3.0	**Drilling**						
3.1	a) Drilling up to 300m Rigs) (Hard Rock)	per m	2.2.1.4 a	11,500	500	57,50,000	

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3.2	Borehole deviation survey	per m	2.2.6	330	500	1,65,000	
3.3	Borehole pillaring						
	a) construction of concrete pillar (12"x12"x30")	per borehole	2.2.7.a	2,000	5	10,000	
3.4	Transportation of drill rigs & truck associated per drill (To & Fro from HQ)	per km	2.2.8	36	2200	79,200	
3.5	Monthly accommodation charges for drilling camp	monthly	2.2.9	50,000	5	2,50,000	
3.6	Drilling camp setting (2 rigs)	per drill	2.2.9a	2,50,000	1	2,50,000	
3.7	Drilling camp winding (2 rigs)	per drill	2.2.9b	2,50,000	1	2,50,000	
3.8	Approach road making in rugged-hilly terrain (Partly rugged-hilly terrain)	per km	2.2.10b	32,200	5	1,61,000	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly.
3.9	Drill core preservation	per m	5.3	1590	150	2,38,500	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities.
3.10	Land / Crop compensation (in case the BH falls in agricultural Land)	per borehole		20000	5	1,00,000	Amount will be reimbursed as per actuals or max. Rs. 20,000 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	Per point of observation	1.6.2	19,200	5	96,000	
3.12	a) Surveyor man days (the area surrounding drill points/mineralized zones (ore bodies)/potential area will be contoured)	days	1.6.1.a	8,300	5	41,500	the area surrounding mineralized zones (ore bodies)/potential area will be contoured
3.13	b) 4 labours/ party (Rs 427/day/labour) (As per rates of Central Labour Commissioner)	per worker	5.7	427	20	8,540	the area surrounding mineralized zones (ore bodies)/potential area will be contoured
					Sub Total- C	**73,99,740**	
4.0	**Laboratory Studies**						
4.1	Chemical Analysis						
	i) Surface sampling (Bed Rock Samples/Soil/Stream Sediment)						
	a) 34 element Package analysis by ICP-MS for surface samples	per sample	4.1.14	7,731	100	7,73,100	

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	b) For Au & Ag (Gold) by Fire Assay	per sample	4.1.5a	4,760	50	2,38,000	
	ii) Check Samples (Bed Rock/Soil/Stream Sediment Samples)- 5% Internal & 10% External						
	a) 34 element Package analysis by ICP-MS for surface samples	per sample	4.1.14	7,731	15	1,15,965	
	b) For Au & Ag (Gold) by Fire Assay	per sample	4.1.5a	4,760	8	38,080	
4.2	**Pit & Trench, Primary Samples**						
	a) 34 element Package analysis by ICP-MS for surface samples	per sample	4.1.14	7,731	200	1,546,200	
	b) For Au & Ag (Gold) by Fire Assay	per sample	4.1.5a	4,760	30	1,42,800	
	ii) Check Samples - 5% Internal & 10% External						
	a) 34 element Package analysis by ICP-MS for surface samples	per sample	4.1.14	7,731	30	2,31,930	
	b) For Au & Ag (Gold) by Fire Assay	per sample	4.1.5a	4,760	5	23,800	
4.3	**ii) BH Core Sampling, Primary & Check samples (5% internal +10% External)**						
	a) For Cu, Pb, Zn, Co, Mo	per sample	4.1.7b	2,506	100	2,50,600	
	b) For Au & Ag (Gold) by Fire Assay	per sample	4.1.5a	4,760	25	1,19,000	
	ii) Check Samples - 5% Internal & 10% External						
	a) For Cu, Pb, Zn	per sample	4.1.7b	2,506	15	37,590	
	b) For Au & Ag (Gold) by Fire Assay	per sample	4.1.5a	4,760	4	19,040	
4.4	**Petrological / Mineralographic studies**						
	a) Preparation of thin section	per sample	4.3.1	2,353	10	23,530	
	b) Study of thin section for petrography	per sample	4.3.4	4,232	10	42,320	
	c) Preparation of polished section	per sample	4.3.2	1,549	10	15,490	
	d) Study of polished section for mineragraphy	per sample	4.3.4	4,232	10	42,320	
	e) Digital photomicrograph of thin polished section	per sample	4.3.7	280	10	2,800	
					Sub Total- D	**36,62,565**	

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6.0					Total (1.0 to 5.0)	1,44,54,885	
7.0	**Geological Report Preparation**	Nos	5.2	For the projects having cost up to exceeding Rs. 50 Lakhs but less than 150 Lakhs: A Minimum of Rs. 2.5 lakhs or 5% of the work whichever is more and Rs. 3000/- per each additional copy.	1	**7,22,744**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
8.0	**Preparation of Exploration Proposal**	**Nos**	**5.1**	2% of the cost or Rs. 3.8 Lakh - whichever is lower	**1**	**2,89,098**	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.
9.0	**Report Peer Review Charges**	**lumpsum**	**As per EC decision**	**10,000**	**1**	**10,000**	
10.0	**Total Estimated Cost without GST (7+8+9+10)**					**1,54,76,727**	
11.0	**Provision for GST (18%)**					**27,85,811**	GST will be reimbursed as per actual and as per notified prescribed rate
12.0	**Total Estimated Cost with GST**					**1,82,62,538**	
						182.63	**Say Rs. 182.63 Lakhs**
Note:							
	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 Certificate regarding non outsourcing of any component/project is required.***						

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Annexure-4B

Time schedule for Reconnaissance Survey (G4) for Copper in Chalima block (101.84 sq. km) District: Giridih, Jharkhand.

S. No.	Activities	MONTHS											
		1	2	3	4	5	6		7	8	9	10	11	12
1	Camp setting	■												
2	Geological mapping & Sampling		■	■										
3	Sample preparation		■	■	■									
4	Analytical work for Surface samples			■	■	■								
5	Exploratory mining for trenching				■	■								
6	Sample preparation (Trench samples)				■	■	■							
7	Analytical work					■	■							
8	Drilling 500m								■	■				
9	Sample preparation for Drill core samples								■	■	■			
10	Survey work for area surrounding mineralized zones										■			
11	Camp winding										■			
12	Analytical work drill core samples									■	■	■		
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

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Annexure-5A

Estimated cost for Reconnaissance Survey (G4) for REE in Karadihalli block (120.00 sq. km), District: Hassan and Chikmagalur, Karnataka.

[Total block area- 120 sq. km; Schedule 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- S. No.	Rates as per SoC	Qty.	Total Amount (Rs.)	
1.0	**Large scale (LSM) Geological mapping/ Trenching/ Drilling**						
1.2	Large scale (LSM) Geological mapping/ Trenching/ Drilling						
	a) Geologist man days (1 No) for Large scale (LSM) Geological mapping/ Trenching/ Drilling	days	1.2	11,000	120	13,20,000	
	b) Geologist man days (1 No.) for Geological map & Report (HQ)	days	1.2	9,000	60	5,40,000	
	c) Labour (field) for (Total 4 Nos i.e., 2 workers per one geologist)	per worker	5.7	427	240	1,02,480	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner (Rs. 427/- per day) or respective State Govt. whichever is higher
	d) Sampler for Surface Samples/ Trench Samples / Core Samples Labour charge not included	day	1.5.2	5,100	40	2,04,000	
	e) 4 labours/ party (Rs 427/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	427	160	68,320	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner (Rs. 427/- per day) or respective State Govt. whichever is higher
					Sub Total- A	**22,34,800**	
2.0	**Mineral Investigation**						
2.1	Trenching/Pitting[$]						
	a) Excavation of trenches & pits	per cu m	2.1.1	3,330	200	6,66,000	
					Sub Total- B	**6,66,000**	
3.0	**Laboratory Studies**						
3.1	Chemical Analysis						
	i) Surface sampling (Bed Rock Samples/Soil/Stream Sediment)						

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	a) REE analysis (14 elements) by ICP-MS Method	per sample	4.1.13	5,380	120	6,45,600	
	ii) Check Samples (Bed Rock/Soil/Stream Sediment Samples) - 5% Internal & 10% External						
	a) REE analysis (14 elements) by ICP-MS Method	per sample	4.1.13	5,380	12	64,560	
3.2	**Pit & Trench, Primary Samples**						
	a) REE analysis (14 elements) by ICP-MS Method	per sample	4.1.13	5,380	200	10,76,000	
	ii) Check Samples - 5% Internal & 10% External						
	a) REE analysis (14 elements) by ICP-MS Method	per sample	4.1.13	5,380	20	1,07,600	
3.5	**Whole rock studies**	per sample	4.1.15a	4,200	15	63,000	
3.6	**Petrological / Mineralographic studies**						
	a) Preparation of thin section	per sample	4.3.1	2,353	30	70,590	
	b) Study of thin section for petrography	per sample	4.3.4	4,232	30	1,26,960	
	Sub-Total D					**21,54,310**	
4.0	**Total (1.0 to 3.0)**					**50,55,110**	
5.0	**Geological Report Preparation**	Nos	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	**2,52,756**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
6.0	**Preparation of Exploration Proposal**	**Nos**	**5.1**	2% of the cost or Rs. 3.8 Lakh - whichever is lower	**1**	**1,01,102**	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.
7.0	**Report Peer Review Charges**	**lumpsum**	**As per EC**	**10,000**	**1**	**10,000**	

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			decision				
	Total Estimated Cost without GST (4+5+6+7)					**54,18,968**	
8.0	**Provision for GST (18%)**					**9,75,414**	GST will be reimbursed as per actual and as per notified prescribed rate
	Total Estimated Cost with GST					**63,94,382**	
						63.94	**Say Rs. 63.94 Lakhs**

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 Certificate regarding non outsourcing of any component/project is required.

*	Marked items not indicated in SoC and required to be taken up during the course of exploration shall be charged separately (as per actuals)
$	Trenching/Pitting dimensions are tentative may vary depending upon the geology and field conditions
i	Satellite imageries shall be procured from website/NRSA as the case may be and procurement charges if any shall be charged at actuals.
#	2nd level of work shall be carried out after review of 1st level work i.e., Geological mapping, geochemical sampling and analysis

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Annexure-5B

Time schedule for Reconnaissance Survey (G4) for REE in Karadihalli block (120.00 sq. km), District: Hassan and Chikmagalur, Karnataka.

S. No.	Activities	MONTHS										
		1	2	3	4	5	6	7	8	9	11	12
1	Geological mapping & Sampling		■	■	■							
2	Sample preparation			■	■	■	■					
3	Analytical work			■	■	■	■					
4	Exploratory mining for trenching					■	■	■	■			
5	Sample preparation (Trench samples)						■	■	■	■		
6	Analytical work							■	■	■		
7	Geologist at HQ								■	■	■	
8	Geological report								■	■	■	■
9	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.

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Annexure-6A

Estimated cost for Reconnaissance Survey (G4) for Emerald in Rajgarh block (115.00 sq. km), District: Ajmer, Rajasthan.

[Total block area- 111.00 sq. km; Schedule completion time- 14 months]

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21			Total Cost of the Project	Remarks
			SoC- Item-S. No.	Rates as per SoC	Qty.	Total Amount (Rs)	
1.0	**Satellite Imagery (ASTER Image) Studies**						
1.1	Geologist man days for ASTER Image interpretation (HQ)	days	5.5.1a.b	9,000	15	1,35,000	
					Sub Total- A	**1,35,000**	
2.0	**Geological, Sampling & Survey Days**						
2.1	Large scale (LSM) Geological mapping/ sampling/Detailed Mapping/Trenching						
	a) Geologist man days for Large Scale Geological Mapping (Field)/Detailed Geological Mapping/Trenching (Field)	days	1.2	11,000	150	16,50,000	
	b) Labour Mapping (Field) (2 workers per geologist)	per worker	5.7	431	300	1,29,300	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner (Rs. 431/- per day) or respective State Govt. whichever is higher
	e) Sampling man days - Sampler (Geochemical/Trenching/Pitting) Labour charge not included	day	1.5.2	5,100	40	2,04,000	
	f) 4 labours/ party (Rs 431/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	431	160	68,960	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner (Rs. 431/- per day) or respective State Govt. whichever is higher
					Sub Total- B	**20,52,260**	
3.0	**Mineral Investigation**						
3.1	Trenching/Pitting*						
	a) Excavation of trenches	per cu m	2.1.1	3,330	500	16,65,000	

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					Sub Total- D	**16,65,000**	
4.0	**Others**						
4.1	Monthly accommodation charges for drilling camp	monthly	2.2.9	50,000	9	4,50,000	
					Sub Total- E	**4,50,000**	
5.0	**Laboratory Studies**						
5.1	Chemical Analysis						
	i) Surface sampling (Bed Rock Samples/Soil)						
	a) 34 element Package analysis by ICP-MS for surface samples (SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO, K_2O, MnO, TiO_2, P_2O_5, Li, Be, V, Cr, Co, Ni, Sn, Ta, W, Ge, Hf etc.)	per sample	4.1.14	7,731	50	3,86,550	
	ii) Check Samples (Bed Rock/Soil Samples) - 5% Internal & 10% External						
	a) 34 element Package analysis by ICP-MS for surface samples (SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO, K_2O, MnO, TiO_2, P_2O_5, Li, Be, V, Cr, Co, Ni, Sn, Ta, W, Ge, Hf etc.)	per sample	4.1.14	7,731	8	61,848	
5.2	**Trench, Primary Samples**						
	a) 34 element Package analysis by ICP-MS for surface samples (SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO, K_2O, MnO, TiO_2, P_2O_5, Li, Be, V, Cr, Co, Ni, Sn, Ta, W, Ge, Hf etc.)	per sample	4.1.14	7,731	250	19,32,750	
	ii) Check Samples - 5% Internal & 10% External						
	a) 34 element Package analysis by ICP-MS for surface samples (SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO, K_2O, MnO, TiO_2, P_2O_5, Li, Be, V, Cr, Co, Ni, Sn, Ta, W, Ge, Hf etc.)	per sample	4.1.14	7,731	38	2,93,778	
5.3	**Petrological / Mineragraphic studies**						
	a) Preparation of thin section (Surface)	per sample	4.3.1	2,353	25	58,825	
	b) Study of thin section for petrography	per sample	4.3.4	4,232	25	1,05,800	
	c) Digital photomicrograph of thin section	per sample	4.3.7	280	25	7,000	
					Sub Total- F	**28,46,551**	
6.0	**Geologist man days (1 No.) for**	days	1.2	9,000	60	**5,40,000**	

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	geological map & Report (HQ)						
7.0					Total (1.0 to 7.0)	76,88,811	
8.0	**Geological Report Preparation**	Nos	5.2	For the projects having cost exceeding Rs. 50 Lakhs but less than Rs. 150 Lakhs: A Minimum of Rs.2.5 lakhs or 5% of the value of work whichever is more and Rs. 3000/- per each additional copy.	1	**3,84,441**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
9.0	**Preparation of Exploration Proposal**	**Nos**	**5.1**	2% of the cost or Rs. 3.80 lakh - whichever is lower	**1**	**1,53,776**	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.
10.0	**Report Peer Review Charges**	**lumpsum**	**As per EC decision**		**1**	**10,000**	
11.0	**Total Estimated Cost without GST (7+8+9)**					**82,37,028**	
12.0	**Provision for GST (18%)**					**14,82,665**	GST will be reimbursed as per actual and as per notified prescribed rate
13.0	**Total Estimated Cost with GST**					**97,19,693**	
						97.20	**Say Rs. 97.20 Lakhs**
	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.***						

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Annexure-6B

Schedule time for Reconnaissance Survey (G4) for Emerald in Rajgarh block (115.00 sq. km), District: Ajmer, Rajasthan.

S. No.	Activities	MONTHS													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Satellite Imagery (ASTER Image) Studies	■													
3	Camp setting		■												
4	Large Scale Geological mapping & Sampling			■	■	■	■								
5	Sample preparation				■	■	■	■							
6	Analytical work					■	■	■	■						
7	Detailed Geological mapping							■	■	■					
8	Trenching							■	■	■	■				
9	Sample preparation									■	■	■			
10	Analytical work									■	■	■	■		
11	Camp winding												■		
12	Analytical work drill core samples									■	■	■	■		
13	Geologist at HQ										■	■	■	■	
14	Geological report												■	■	■
	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.															

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Annexure-7A

Estimated cost for Reconnaissance Survey (G4) for basemetal in Anaji block (135.00 sq. km), District: Davangere, Karnataka.

[Total block area- 135.00 sq. km; Schedule completion time- 12 months]

S. No.	Item of Work	Unit	SOC Item No	Qty	Unit Prices as per SOC	Total Cost		Remarks
(a)	(b)	(c)	(d)	(e)	(f)	(g)=(e)*(f)		
1	**AERO GEOPHYSICAL DATA INTERPRETATION**							
2	**LARGE SCALE GEOLOGICAL MAPPING WORKS (1:12,500 scale :150.00 sq. km)**							
2.1	Geologist FIELD	days	1.2	150	11,000	16,50,000	**3,220,165**	
	Party days HQ		1.2	60	9,000	5,40,000		
2.2	Labour Charges	days	5.7	300	431	1,29,300		Amount will be reimbursed for unskilled labour as per the notified rates by the Central Labour Commissioner (Rs.431/- per day) or respective State Govt. whichever is higher
3	**PITTING WORKS**							
3.1	Trenching works	cum	2.1.2	200	3,800	7,60,000		
4	**SURVEY WORKS**							
4.1	Fixation of borehole and determination of Co-ordinates and RL by DGPS (Includes Sol Base station and site base station)	days	1.6.2	7	19,200	1,34,400		
4.2	Labour Charges	days	5.7	15	431	6,465		Amount will be reimbursed for unskilled labour as per the notified rates by the Central Labour Commissioner (Rs. 431/- per day) or respective State Govt. whichever is higher
5	**GROUND GEOPHYSICS**							
6	**DRILLING**							
6.1	Surface Drilling (01 rigs) (Hard Rock)	m.	2.2.1.4a	300	11,500	34,50,000	**45,76,150**	
6.2	Transportation of drill rigs (01 units x 800 km)	km	2.2.8	800	36	28,800		

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6.3	Drilling camp setting cost		per drill	2.2.9a	1	2,50,000	2,50,000		
6.4	Monthly accommodation charges for drilling camp		monthly basis	2.2.9	3	50,000	1,50,000		
6.5	Drilling camp winding cost		per drill	2.2.9b	1	2,50,000	2,50,000		
6.6	Approach road making for Rugged - Hilly terrain		Km	2.2.10b	3	32,200	96,600		
6.7	Construction of Concrete pillar (12"X 12"X30")		per borehole	2.2.7a	5	2,000	10,000		
6.8	Borehole plugging by cement		per m	2.2.7b	15	150	2,250		
6.9	Core preservation		Per m	5.3	150	1,590	2,38,500		
6.10	Land / Crop compensation (in case the BH falls in agricultural Land)		per borehole	5.6	5	20,000	1,00,000		Amount will be reimbursed as per actuals or max. Rs. 20,000 per BH with certification from local authorities
7	**LABORATORY STUDIES**								
7.1	Sample processing works (663 nos)	Sampler charges	days	1.5.2	35	5,100	1,78,500	**2,38,840**	
7.2		Un skilled labours	days	5.7	140	431	60,340		Amount will be reimbursed for unskilled labour as per the notified rates by the Central Labour Commissioner (Rs. 431/- per day) or respective State Govt. whichever is higher
7.3	Sample analysis (34 elemental analysis including Au)	Primary	per sample	4.1.14	280	7,731	21,64,680	**27,05,850**	
7.4		Internal Check (5%)		4.1.14	14	7,731	1,08,234		
7.5		Composite (10%)		4.1.14	28	7,731	2,16,468		
7.6		External Check (10%)		4.1.14	28	7,731	2,16,468		
7.7	Gold analysis by Fire assay method (Trench and Borehole	Primary	per sample	4.1.5a	30	2,380	71,400	**90,440**	
7.8		Internal Check (5%)		4.1.5a	2	2,380	4,760		
7.9		Composite (10%)		4.1.5a	3	2,380	7,140		
7.10		External Check		4.1.5a	3	2,380	7,140		

	samples)	(10%)							
7.11	Petro studies	Preparation of Polished Section.	nos	4.3.1	10	2,353	23,530	**151,250**	
7.12		Complete Petrological Report of rock sample	nos	4.3.4	10	4,232	42,320		
7.13		EPMA studies	hrs	4.4.1	10	8,540	85,400		
7.14	Peer review of report		lumpsum				10,000	**10,000**	
8						**Sub Total**	**1,09,92,695**	**1,09,92,695**	
9	Preparation of Exploration Project Proposal		lumpsum	5.1	5 Hard copies along with Soft Copy	2% of the project cost or Rs. 3.80 lakh whichever is lovwer	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.
10	Exploration Report			5.2(iii)	5 Hard copies along with Soft Copy	For the projects having cost exceeding Rs. 50 Lakhs but less than Rs. 150 Lakhs: A Minimum of Rs.2.5 lakhs or 5% of the value of work whichever is more and Rs. 3000/- per each additional copy.	5,49,635	**5,49,635**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
11	**GRAND TOTAL (8 to 10)**						**11,922,330**	**11,922,330**	
12	**GST 18%**						**21,46,019**	**21,46,019**	GST will be reimbursed as per actual and as per notified prescribed rate
13	**Grand Total (with GST 18%)**						**1,40,68,349**	**1,40,68,349**	
							140.68	**140.68**	**Say Rs. 140.68 Lakhs**
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 Certificate regarding non outsourcing of any component/project is required.								

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Annexure-7B

Schedule time for Reconnaissance Survey (G4) for basemetal in Anaji block (135.00 sq. km), District: Davangere, Karnataka.

S. No.	Details of Works	1	2	3	4	5	6	7	8	9	10	11	12
1	CAMP SETTING												
2	LARGE SCALE GEOLOGICAL MAPPING (Includes 135 sq. km of LSM + 100 nos of BRS + 100 cum Pitting/ Trenching + 30 nos of SSS+ Insitue BD test 10 cum)												
	2.1 Geologist Party days (01 Party)												
	2.2 Laboratory Works												
3	Ground Geophysics works												
	3.1 Survey Party days for Ground Geophysics												
4	Surface Drilling (1 rigs)												
	4.1 Preparatory works for drilling (Approach Road making)												
	4.2 Geologist Party days (01 Party)												
	4.3 Laboratory Works												
5	Survey Works												
	5.1 Survey party days fir DGPS survey (7 pts)												
6	Camp Winding												
7	Preparation of Reports and Maps												

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Annexure-8A

Estimated cost for Reconnaissance Survey (G4) for coal in North of Chulaha Bhulia block (8.77 sq. km), Sohagpur Coalfield, District: Anuppur, Madhya Pradesh.

[Total block area- 8.77 sq. km; Nos of boreholes- 4; Depth of borehole- 630 to 640; Schedule completion time- 12 months]

S. No.	Item Work	Item no in Soc	Unit	Rates as per SoC of NMET	Rate (Rs)	Qty.	Amount (Rs)	Remarks
1 - Outsourced Component								
I- Field operations (Outsourcing)								
A	**DRILLING**							
1	Drilling (As per MoC Rate 2020-21)	2.2.1.1b	m		5,619	2,550	1,43,28,450	Copy of MoC approved rate is required
B	**GEOPHYSICAL STUDIES**							
1	Borehole Geophysical logging (As per MoC Rate 2020-21)	MoC Rates - Pls. refer note 5	m		697	2,550	17,77,350	Copy of MoC approved rate is required
	Total Cost of Outsourcing component						**1,61,05,800**	reimbursement of outsource component will be made as per Para 3 of NMET-SoC. The copy of contract agreement for outsourced component is required to be provided.
2. In-House Component								
I- Field Work								
A	**GEOLOGICAL WORK**							
1a	Geological Party Days-Field	1.5.1b	Day	11,000	11,000	90	9,90,000	
1b	Geological Party days-HQ (Data processing & Report Preparation)	1.5.1b	Day	9,000	9,000	45	4,05,000	
						Sub Total- A	**13,95,000**	
B	**GEOPHYSICAL STUDIES**							
2a	Geophysicist Party Days-Field	3.19	Day	11000	11,000	10	1,10,000	
2b	Geophysicist days-HQ (Data processing & Report Preparation)	3.19	Day	9000	9,000	7	63,000	
						Sub Total- B	**1,73,000**	
						Field Work Total- (A+B)	**15,68,000**	
II-Laboratory Studies								
1	***Band By Band Analysis***							

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a	Ash+Moisture	4.2.6	per sample	700	700	230	1,61,000	
b	House Keeping	4.2.1	per sample	115	115	230	26,450	
2	***Overall analysis***							
a	Proximate analysis	4.2.7	per sample	935	935	40	37,400	
b	Moisture at 60% RH & 40C	4.2.8	per sample	1010	1,010	40	40,400	
c	GCV	4.2.11	per sample	1505	1,505	40	60,200	
d	Sample preparation & House Keeping	4.2.3	per sample	795	795	40	31,800	
3	***Special Test***							
a	Ultimate analysis	4.2.17	per sample	9945	9,945	10	99,450	
b	Total Sulphur	4.2.14	per sample	1900	1,900	10	19,000	
c	Distribution of Sulpher	4.2.15	per sample	3695	3,695	10	36,950	
d	HGI including sample preparation	4.2.18	per sample	3805	3,805	10	38,050	
e	AFT (Ash Fusion Temperature)	4.2.20	per sample	2745	2,745	10	27,450	
f	Ash analysis	4.2.25	per sample	325	325	10	3,250	
g	Ash sample preparation 800ºC from coke for analysis	4.2.5	per sample	875	875	10	8,750	
h	Roga Index (Instead of caking Index)	4.2.22	per sample	5365	5,365	10	53,650	
i	Swelling Index	4.2.23	per sample	2745	2,745	10	27,450	
j	LTGK coke type	4.2.24	per sample	4550	4,550	10	45,500	
4	**Petrographic analysis**							
a	Pellet preparation	4.3.14a	per sample	1160	1,160	6	6,960	
b	Maceral Analysis (with photomicrography)	4.3.14e	per sample	25000	25,000	6	1,50,000	
c	Microlithotype Analysis (with photomicrography)	4.3.14g	per sample	25000	25,000	6	1,50,000	
d	Mean Ro%	4.3.14j	per sample	16345	16345	6	98,070	
					Laboratory Studies Total		**11,21,780**	
III. Miscellaneous Charges (Departmental)								
a	DGPS Survey of boundary, borehole points (4 boreholes & 8 boundary point)	1.6.2	per point	19,200	19,200	12	2,30,400	
b	Preparation of Exploration Proposal	5.1	lump sum	2% or Rs. 3.8 lakh whichever is lower		1	3,80,000	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan

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								as suggested by the TCC-NMET in its meeting while clearing the proposal.
c	Peer review			10,000	10,000	1	10,000	
d	Tender Process Cost (on outsourced component)	2.3	lump sum	2% or Rs. 5 lakh whichever is lower		1	3,22,116	will be reimbursed when copy of signed agreement/tender for outsourced component will be submitted.
e	Operational charges for CMPDI (on outsourced component)	Point 3 (iii)of SOC				1	11,80,290	will be reimbursed as per point 3 of NMET-SoC after recalculation when actual cost of outsourcing component will be provided. The copy of contract agreement for outsourced component and work completion report are also required to reimburse the operational charge
f	Boreholes Pillaring	2.2.7	per BH	2,000	2,000	4	8,000	
g	Land / Crop compensation (in case the BH falls in agricultural Land)	5.6	per BH	20,000	20,000	4	80,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
	Miscellaneous Charges Total						**21,22,806**	
	Total cost for in-House component (I to III)						**48,12,586**	
3 - Total Cost for Outsource and in-House component (1 & 2)							**2,09,18,386**	
	Geological Report preparation (3% of work value)	5.2		For project exceeding Rs. 150 lakhs but less than Rs. 300 Lakh- to A minimum Rs. 7.5 lakh or 3% of the value of work whichever is more			7,50,000	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
4 - Total Cost of the project without GST							**2,16,68,386**	
	Provision for GST (@18%)						39,00,309	GST will be reimbursed as per actual and as per notified prescribed rate

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5- Total Cost of the project with GST		**2,55,68,695**	
		255.69	**Say Rs. 255.69 Lakhs**
NOTEs -	***1) If any part mentioned in the in-house component is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. For in-house component of the project, a Certificate from the NEA regarding non outsourcing of any component/project is required.***		
	2) Above rate of drilling, GPL, Chemical, Physic mechanical are budgeted rates.		
	3) There are numerous items in chemical analysis. The CIMFR rates will be applied for actual payment.		
	4)For Drilling & Geophysical the approved rates of MoC for FY 2020-21 have been taken other rates are as per approved SoC rates.		
	5) GPL rates is Rs 697/- per meter as per MoC Rates for minimum 8 parameters, the breakup is as follows-		

	S. No.	Probe	MoC approved Rate 2020-21 (in Rs)	
	1	Base Log		162
	2	Dual Density		110
	3	Natural Gamma		96
	4	Caliper		20
	5	SPR		41
	6	Sonic		131
	7	Deviation		96
	8	Resistivity		41
		Total		**697**
	6) Lumpsum amount of Rs. 10,000 has been considered for Peer Review.			

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Annexure-8B

Schedule time for Reconnaissance Survey (G4) for coal in North of Chulaha Bhulia block (8.77 sq. km), Sohagpur Coalfield, District: Anuppur, Madhya Pradesh.

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

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Annexure-9A

Estimated cost for Preliminary Exploration (G3) for coal in West of Sheetaldhara Block (3.94 sq. km), Sohagpur Coalfield, District: Anuppur, Madhya Pradesh.

[Total block area- 8.77 sq. km; Nos of boreholes- 4; Depth of borehole- 630 to 640; Schedule completion time- 12 months]

S. No.	Item Work	Item no in Soc	Unit	Rates as per SoC of NMET	Rate (Rs)	Qty.	Amount (Rs)	Remarks
1 - outsourced Component								
I- Field operations (Outsourcing)								
A	**DRILLING**							
1	Drilling (As per MoC Rate 2020-21)	2.2.1.1b	m		5,619	800	44,95,200	Copy of MoC approved rate is required
B	**GEOPHYSICAL STUDIES**							
1	Borehole Geophysical logging (As per MoC Rate 2020-21)	MoC Rates - Pls. refer note 5	m		601	800	4,80,800	Copy of MoC approved rate is required
				Total Cost of Outsourcing Component			**49,76,000**	reimbursement of outsource component will be made as per Para 3 of NMET-SoC. The copy of contract agreement for outsourced component is required to be provided.
2. In-House Component								
I- Field Work								
A	**GEOLOGICAL WORK**							
1a	Geological Party Days-Field	1.5.1b	Day	11,000	11,000	60	6,60,000	
1b	Geological Party days-HQ (Data processing & Report Preparation)	1.5.1b	Day	9,000	9,000	30	2,70,000	
					Sub Total- A		**9,30,000**	
B	**GEOPHYSICAL STUDIES**							
2a	Geophysicist Party Days-Field	3.19	Day	11,000	11,000	10	1,10,000	
2b	Geophysicist days-HQ (Data processing & Report Preparation)	3.19	Day	9,000	9,000	7	63,000	
					Sub Total- B		**1,73,000**	

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					Field Work Total (A+B)		**11,03,000**	
II-Laboratory Studies								
1	***Band By Band Analysis***							
a	Ash+Moisture	4.2.6	per sample	700	700	120	84,000	
b	House Keeping	4.2.1	per sample	115	115	120	13,800	
2	***Overall analysis***							
a	Proximate analysis	4.2.7	per sample	935	935	30	28,050	
b	Moisture at 60% RH & 40C	4.2.8	per sample	1,010	1,010	30	30,300	
c	GCV	4.2.11	per sample	1,505	1,505	30	45,150	
d	Sample preparation & House Keeping	4.2.3	per sample	795	795	30	23,850	
3	***Special Test***							
a	Ultimate analysis	4.2.17	per sample	9,945	9,945	10	99,450	
b	Total Sulphur	4.2.14	per sample	1,900	1,900	10	19,000	
c	Distribution of Sulpher	4.2.15	per sample	3,695	3,695	10	36,950	
d	HGI including sample preparation	4.2.18	per sample	3,805	3,805	10	38,050	
e	AFT (Ash Fusion Temperature)	4.2.20	per sample	2,745	2,745	10	27,450	
f	Ash analysis	4.2.25	per sample	325	325	10	3,250	
4	**Petrographic analysis**							
a	Pellet preparation	4.3.14a	per sample	1,160	1,160	5	5,800	
b	Maceral Analysis (with photomicrography)	4.3.14e	per sample	25,000	25,000	5	1,25,000	
c	Microlithotype Analysis (with photomicrography)	4.3.14g	per sample	25,000	25,000	5	1,25,000	
d	Mean Ro%	4.3.14j	per sample	16,345	16,345	5	81,725	
5	Trace Element /REE Studies by ICPMS	4.1.14	per sample	7,731	7,731	5	38,655	
					Laboratory Studies Total		**8,25,480**	
III. Miscellaneous Charges (Departmental)								
a	DGPS Survey of boundary, borehole points	1.6.2	per point	19,200	19,200	12	2,30,400	
b	Preparation of Exploration Proposal	5.1	lump sum	2% or Rs. 3.8 lakh whichever is lower		1	1,38,090	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.
c	Peer review			10,000	10,000	1	10,000	
d	Tender Process Cost (on outsourced	2.3	lump sum	2% or Rs. 5 lakh		1	99,520	will be reimbursed when

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	component)			whichever is lower				copy of signed agreement/tender for outsourced component will be submitted.
e	Operational charges for CMPDI (on outsourced component)	Point 3 (iii)of SOC				1	4,97,600	will be reimbursed as per point 3 of NMET-SoC after recalculation when actual cost of outsourcing component will be provided. The copy of contract agreement for outsourced component and work completion report are also required to reimburse the operational charge
f	Boreholes Pillaring	2.2.7	per BH	2,000	2,000	4	8,000	
g	Land / Crop Compensation (in case the BH falls in agricultural Land)	5.6	per BH	20,000	20,000	4	80,000	Amount will be reimbursed as per actuals or max. Rs. 20,000 per BH with certification from local authorities
	Miscellaneous Charges Total						**9,75,610**	
	Total cost for in-House component (I to III)						**29,04,090**	
3 - Total Cost for Outsource and in-House component (1 & 2)							**78,80,090**	
	Geological Report preparation	5.2		For project exceeding Rs. 50 lakhs but less than Rs. 150 Lakh - to A minimum Rs. 2.5 lakh or 5% of the value of work whichever is more			3,94,005	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
4 - Total Cost of the project without GST							**82,74,095**	
	Provision for GST (@18%)						14,89,337	GST will be reimbursed as per actual and as per notified prescribed rate
5- Total Cost of the project with GST							**97,63,432**	
							97.63	**Say Rs. 97.63 Lakhs**

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NOTEs -	***1) If any part mentioned in the in-house component is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. For in-house component of the project, a Certificate from the NEA regarding non outsourcing of any component/project is required.***
	2) Above rate of drilling, GPL, Chemical, Physicomechanical are budgeted rates.
	3) There are numerous items in chemical analysis. The CIMFR rates will be applied for actual payment.
	4)For Drilling & Geophysical the approved rates of MoC for FY 2020-21 have been taken other rates are as per approved SoC rates
	5) GPL rates is Rs 601/- per meter as per MoC Rates for minimum 8 parameters, the breakup is as follows

	S. No.	Probe	MoC approved Rate 2020-21 (in Rs)		
	1	Base Log		162	
	2	Dual Density		110	
	3	Natural Gamma		96	
	4	Caliper		20	
	5	SPR		41	
	6	Sonic		131	
	7			0	
	8	Resistivity		41	
		Total		**601**	
	6) Lumpsum amount of Rs. 10,000 has been considered for Peer Review.				

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Annexure-9B

Schedule time for Preliminary Exploration (G3) for coal in West of Sheetaldhara Block (3.94 sq. km), Sohagpur Coalfield, District: Anuppur, Madhya Pradesh.

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

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Annexure- 10

Additional cost for Reconnaissance Survey (G4) for manganese in Kumiapalli Block, District: Bolangir, Odisha.

SL. No.	Item of Work	Unit	SoC-Item - Sl No.	Rates as per SoC	Approved Qty.	Actual Qty	Additional Qty	Additional Amount
1	Core Drilling	m	2.2.1.4a	11,500	400.00	418.00	18.00	2,07,000.00
2	Borehole Fixation	m	1.6.2	19,200	5.00	6.00	1.00	19,200.00
	Total							2,26,200.00
	GST-18%							40,716.00
	Total additional							**2,66,916.00**
	Approved cost with GST							23,798,924.00
	Additional percentage							1.122%

Annexure- 11

Additional cost for Reconnaissance Survey (G4) for Kyanite in Kallahalli Kyanite block, District: Mysore, Karnataka.

S. No.	Components		Units	TCC approved Qty.	Proposed execution Qty.	Additional approval sought	SoC Item No	Unit Price as per SoC	Total amount in Rs
(a)	(b)		(c)	(d)	(e)	(f)= (e)-(d)	(g)	(h)	(i)=(f)*(h)
1	Trenching (1m X 2m X 20 m X 5 nos = 200 cum)		m	100	200	100	2.1.2	3,800	3,80,000
2	Chemical analysis of alumino silicate rock (Trench samples)		Nos.	100	200	100	4.1.2	8,796	8,79,600
3	Preparation of thin sections		Nos.	7	20	13	4.3.1	2,353	30,589
4	Complete Petrographic/ Ore microscopic study/ Mineragraphic report		Nos.	7	20	13	4.3.4	4,232	55,016
5	Modal analysis of thin section		Nos.	0	20	20	4.3.8	3,780	75,600
6	Geologist party days for trenching works and sample collections		manday	0	15	15	1.2	11,000	1,65,000
7	**Total amount in Rs**	**Excluding GST**							**15,85,805**
8		**Including GST**							**18,71,250**
9	Project approved cost vide Office Memorandum dtd. 24th Feb 2021								**1,91,64,078**
10								**% of escalation**	**9.76**

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