Ministry of Mines
National Mineral Exploration Trust

Minutes of the 53rd Technical-cum-Cost Committee (TCC) meeting held on 24th& 25th May, 2023 in hybrid mode at Geological Survey of India, Southern Region, Hyderabad.

The 53rd meeting of Technical-cum-Cost Committee [TCC] of National Mineral Exploration Trust [NMET] was held in hybrid mode under the chairmanship of Shri Janardan Prasad, Additional Director General, Geological Survey of India (ADG, GSI) and Chairman, TCC, NMET on 24th& 25th May, 2023 at Geological Survey of India, Southern Region, Hyderabad. Members of TCC-NMET and representatives of MECL, KIOCL, CMPDI, Maheshwari Mining Pvt. Ltd., Gemcokati Exploration Pvt. Ltd., attended the meeting in-person at GSI, SR, Hyderabad whereas representatives from GSI, OMECL, DGM-Mizoram, IBM, DMG Karnataka and DMG Goa attended the meeting through their respective VC modes.

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

Shri Suresh Chander, Director, GSI and Member Secretary, TCC-NMET, welcomed Shri Janardan Prasad, ADG, GSI & Chairman, TCC-NMET; Members of the TCC and participants representing various Notified Exploration Agencies [NEAs] and Notified Private Exploration Agencies [NPEAs]. He briefed about the project proposals submitted by EAs for consideration of 53rd TCC meeting. He conveyed that a total of 14 nos. of new projects of Mineral Exploration have been submitted by EAs for discussion. He informed the committee that a total of 24 projects have also been submitted in the meeting for review.

Shri Vivek Kumar Sharma, Director &HoD, NMET welcomed Chairman TCC, Members of TCC and participants representing various NEAs/NPEAs. He conveyed that NMET had incurred an expenditure of Rs. 160 Cr. in last financial year i.e. FY 2022-23. In this FY 2023-24, NMET has Budget Estimate of Rs. 400 Cr. Further he appreciated the role of TCC in recommendation of proposals and also requested exploration agencies to bring more quality project proposals.

Shri Janardan Prasad, ADG, GSI and Chairman, TCC welcomed the members and other participants from various NEAs/NPEAs. The Chairman asked all the Exploration Agencies to submit the project proposal in format prescribed by NMET. He conveyed that the agencies should locate sample points on the geological map while submitting the proposal.

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

Agenda wise discussions are summarized as follows:

Agenda 53.1: Technical evaluation of new project proposals:

Agenda 53.1.1:Reconnaissance Survey (G-4 Stage) for Polymetals (Cu-Pb-Zn-Mo-Co-W-Au) in Mahupani Block (56.00 Sq.Km Area), District- Betul, Madhya Pradesh. [Implementing Agency: MECL]

a) The proposal was sent to GSI for their considered comments, in response GSI has submitted that the proposed Mahupani Block for polymetals (Cu-Pb-Zn-Mo-Co-W-Au) is completely overlapping with GSI explored G-4 blocks as follows:

i. Reconnaissance survey for graphite, basemetal and associated mineralisation in Kolhudhana-Selu-Chauki-Pangra areas, Betul belt, Betul district, Madhya Pradesh.

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ii. Assessment of tungsten & Molybdenum mineralisation in the metasedimentaries of betul district, Madhya Pradesh.
iii. Reconnaissance survey for graphite in Golighat-Junawani-Borgaon and Rathipur-Chikhli-Bhopali areas in Betul belt, Betul District, Madhya Pradesh.

Further, the proposed block is also overlapping with G2/G3 level blocks handed over to state DGM for auction under ML and CL.

i. Golighat G-2 Graphite Block for M.L.
ii. Makra_G-3 Graphite Block for C.L.

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

Recommendation of TCC:

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

Agenda 53.1.2: Reconnaissance Survey (G-4 Stage) for Tin in Pokhar-Chhaili Block (90.00 Sq. Km), Tehri Garwal District, Uttarakhand. [Implementing Agency: MECL]

a) Geologically the proposed area exhibits the rocks of Lesser Himalyan sequence i.e., the Garhwal Group of rocks (Mesoproterozoic age) and its basic (dolerite dyke) and acid intrusives in the form of Granite and Central Crystallines.

b) It has been conveyed that Bhilangana Formation is the only Central Crystalline unit exposed in the proposed area and is represented by tourmaline bearing porphyroblastic biotite granite, sheared quartzite, carbonates and metabasics.Fruther, quartzites of Nagnithank Formation and Chirpatiakhal granite are also exposed as part of the Garhwal Group.

c) MECL further conveyed that GSI (FSP 2019-20) carried out systematic geochemical mapping in the Survey of India Toposheet no. 53J/11. The activities carried out were sampling of stream / slope wash sediments, regolith ('R'horizon of soil), 'C' horizon of soil and rock samples for petrography and geochemically mapped an area of 665 Sq. km on 1: 50,000 scale. During the investigation the mean Tin content in stream sediment is found to be 8.83 ppm, with 85% of the samples have Tin (Sn) values higher than its crustal abundance (2.1ppm) as well as its threshold value (6.02 ppm). High Tin values mainly occur all along the Main Central Thrust over quartzite of Nagnithank Formation as well as granite gneiss of Bhilangana Formation of Central Crystalline Group.

d) MECL informed the committee that a total of 168 Stream Sediments samples have been collected during NGCM work. Out of these 26 samples falls within the proposed block. 3 samples shows Sn value above 100 ppm and 19 samples shows Sn values from 6 to 100 ppm.

e) In view of above, MECL has proposed the proposal G4 stage exploration for Tin in Pokhar-Chhaili Block.

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f) The proposal was sent to GSI for their considered comments, in response to this GSI has submitted that the proposed block is not overlapping with any of the GSI proposed FSP programme(FSP 2023-24).

g) Considering tin is a critical mineral and numerous tourmaline nodules with leucocratic rims of quartz and feldspar are observed in granite gneiss in Pokhar and Geonli village providing favourable geological setup for tin mineralisation, the committee agreed to take up G-4 Stage exploration for Tin in Pokhar-Chhaili Block (90.00 Sq. Km), Tehri Garwal District, Uttarakhand.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Reconnaissance Survey (G-4 Stage) for Tin in Pokhar-Chhaili Block (90.00 Sq. Km), Tehri Garwal District, Uttarakhand" with an estimated cost of ₹ 105.05 Lakh (including GST) within time schedule of 08 months for carrying out the proposed work and submission of report as per annexure- 2A & 2B.

Agenda 53.1.3: Reconnaissance Survey (G-4) for Phosphorite in Rangargaon Block (32.00 Sq. Km), District- Tehri Garhwal, Uttarakhand. [Implementing Agency: MECL]

a) The proposal was sent to GSI for their considered comments, in response to this GSI has submitted that the said block is proposed to be taken up for Reconnaissance survey by GSI SU UK for the FS 2024-25.

b) To avoid the duplication of work, committee opined not to take up the project proposal.

Recommendation of TCC:
The committee suggested not to take up the proposed project proposal to avoid duplication of exploration work.

Agenda 53.1.4: Reconnaissance Survey (G-4 Stage) for Graphite and Sulphide in Ganacharpura Block (33.60 Sq. Km), Kolar District, Karnataka. [Implementing Agency: MECL]

a) Regionally the stratigraphy of the block is represented by Kolar Group which is equivalent to the Dharwar Supergroup. The proposed block area is mostly covered by soil and geology of the block is represented by Peninsular Gneissic Complex of Archean age, the major lithounits representing the PGC are grey hornblende biotite gneiss, migmatite gneiss, grey granite and pink granite. The Kolar Group of Rocks having Archean to Lower Proterozoic age overlie the PGC.

b) MECL conveyed that DMG Karnataka carried out the exploration work in parts of proposed block (12 Hectare) in FY 1974-75. Four inclined boreholes (500 W) in different intervals, were drilled which resulted in total 10200 tonnes of graphite resource estimation with average carbon percentage of 3.25% in 12 Hectare area. The borehole

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samples indicated that sulphide mineralization was present in BH No- 02 where Cu% varied between 0.03% to 0.12%.

c) MECL further conveyed that graphite bearing quartz schist occurs as thin intercalations in banded ferruginous quartzite. The ore is soft, flaky and powdery in form.

d) MECL has carried out field visit to check the potentiality of the block and few surface bedrock samples were collected. The results of the samples collected are given as below:

Sl. No.	Sample No.	Moisture (%)	Ash (%)	VM (%)	FC (%)
1	Sample-1	0.93	74.09	7.46	17.52
2	Sample-2	0.65	77.64	8.04	13.67
3	Sample-3	1.39	85.38	8.14	5.09
4	Sample-4	0.83	77.48	7.92	13.77

e) The proposal was sent to GSI for their comments, in response to this GSI has informed that there are no overlapping exists for graphite and sulphide exploration except one gold exploration work during1978-79.

f) After the detailed deliberation, the committee agreed to take up G4 stage exploration project for graphite as the result of 4 sample shows encouraging values and suggested not to take up exploration for sulphide as no encouraging values have been reported. The committee also suggested to review the project after a period of 4 months and to carry out further scout drilling only if the result of SP survey is positive.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Reconnaissance Survey (G-4 Stage) for Graphite in Ganacharpura Block (33.60 Sq. Km), Kolar District, Karnataka." with an estimated cost of ₹ 92.96 Lakh (including GST) within time schedule of 08 months for carrying out the proposed work and submission of report as per annexure- 3A &3B.

Agenda 53.1.5: Preliminary Exploration (G-3 Stage) for Diamond in Angira B Block (4.05 Sq. Km), District: Chhatarpur, Madhya Pradesh. [Implementing Agency: MECL]

a) The proposal was discussed in the 52nd TCC meeting held on 27th & 28th April, 2023 and committee suggested to submit proposal in next TCC meeting after ensuring that no report of prospecting license (PL) or report of G3 stage exploration is available.

b) MECL conveyed that all available reports collected from IBM and only collar information and litho logs of boreholes drilled are available in the reports related to Angira B block. Information about sampling data and analytical results are missing in the reports.

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c) MECL conveyed that a total of 1095 line km of ground magnetics surveys and 52 line km of horizontal loop (Max-Min) electromagnetic surveys were completed over eight grids within the RP area, mostly within the Bunder Prospect.

d) In view of above, committee suggested for modifying the area where some exploration work has been carried out and suggested to make a separate proposal of G4 stage where no work has carried out.

e) Accordingly, MECL has modified the area and presented the proposal for an area of 1.5 sq.km.

f) After the detailed deliberation, the committee opined that MECL may study and beneficiate the borehole core samples, if available, from 5 boreholes already drilled by DGM, MP and have intersected host rock Kimberlite. The committee further suggested to drill 5nos. of inclined borehole and 5 nos. of vertical borehole to cover an area of 1.5 sq. km. after completion of Magnetic & Electromagnetic (TDEM) geophysical surveys.

g) The committee also suggested to review the project after 7 months.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Preliminary Exploration (G-3 Stage) for Diamond in Angira B Block (1.5 Sq. Km), District: Chhatarpur, Madhya Pradesh" with an estimated cost of ₹ 494.12 Lakh (including GST) in time schedule of 15 months for carrying out the proposed work and submission of report as per annexure- 4A & 4B.

Agenda 53.1.6: Reconnaissance Survey (G4) for Phosphorite, Baryte & REE in Katamadevarahalli Area, Kalburgi Dist, Karnataka. [Implementing Agency: KIOCL]

a) Geologically, the proposed block falls under the Halkal Formation of the Bhima Group. Major part of the formation is occupied by the Greenish yellow to buff coloured shales. The contact between the Halkal shales and the underlying Shahabad limestones is marked by a thin band of conglomerate and sandstone near the village Halkal. These shales are friable and fissile in nature.

b) KIOCL has conveyed that Phosphorite mineralisation has been reported from several places associated with the Halkal shales.

c) KIOCL informed that GSI has carried out "All India Phosphorite Scheme" for phosphorite in Bhima Basinduring FS 1983 – 84.GSI has carried out studies for occurrence of Phosphorite over an area of about 1100 sq.km. (1:50,000 1:63,360 scales) in parts of toposheets Nos. 56 C/12, 15 and 16, 56 D/9 and 13 and 56 G/3 and 4 falling in Chitapur and Javargi taluks of Gulburga district of Karnataka. In the report GSI recommend that phosphorites are confined to Hulkal shales and are mostly found in the middle of the formation. The analysis of sample for P_2O_5 ranges from 6.38 % to 23.9%.

d) The proposal was sent to GSI for their comments, in response to this GSI has informed that the proposed blocks fall within the exploration work for flux grade limestone by GSI during 1964-65 and there is no overlap in commodities. So GSI has no objection in KIOCL taking up this item.

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e) In view of the encouraging results from earlier investigations and Phosphorite mineralisation reported from several places associated with the Halkal shales and after detailed deliberation, the committee agreed to recommend for G4 stage exploration for Phosphorite, Baryte & REE in Katamadevarahalli Area, Kalburgi Dist, Karnataka.involving drilling of 150 m after the review of the project after 4 months.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Reconnaissance Survey (G4) for Phosphorite, Baryte & REE in Katamadevarahalli Area, Kalburgi Dist, Karnataka" with an estimated cost of ₹ 76.25 Lakh (including GST) in time schedule of 08 months for carrying out the proposed work and submission of report as per annexure- 5A & 5B.

Agenda 53.1.7: Reconnaissance Survey (G4 Stage) for Bauxite in Sirmaur –Kevati Block (145 Sq. Km.), District: Rewa, Madhya Pradesh.
[Implementing Agency: DGM Madhya Pradesh (M/s. Maheshwari Mining Pvt. Ltd.)]

a) The proposal was discussed in the 52nd TCC meeting held on 27th& 28th April, 2023 and committee suggested to incorporate the geological map of 1:50000 or 1:25000 scale with the location of samples collected.

b) Geologically the proposed area exposes Vindhyan super group of rocks. The area belongs to Rewa District of MP, occupied by Upper Rewa sandstones.

c) It has been informed that the bauxite section shows pisolitic bauxite, pisolitic laterite, aluminous laterite and lithomarge and well exposed along the scarp faces and near the margin of the plateaus.

d) Further, MMPL conveyed that GSI has estimated an resource of 1.25mt on Baunra Platue with an average grade of 47% Al_2O_3 and Baunra Plateau is located to the west of the proposed block .

e) Keeping in view the same topography and geological set up to the eastern part of Baunra Plateau a G4 stage investigation for bauxite is proposed in Sirmaur-Kevati area by Maheswari Mining Pvt. Ltd.

f) A team of geologists from Maheswari Mining Pvt. Ltd. visited the area recently and collected some samples during reconnoitary traverses. The analyses for the samples are as provided is given below:

Sample	Al2O3%	Fe2O3%	SiO2%
1.	55.87	7.83	3.48
2.	50.04	15.98	3.04
3.	52.64	6.42	2.98
4.	48.70	18.30	1.76
5.	36.16	35.66	1.27

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g) The proposal was sent to GSI for their comments, in response to this GSI has informed that The proposed sirmaur-kevati (Bauxite) for Bauxite does not fall/overlap within the block boundary/coordinates of already explored/being explored during the previous or current FSP from GSI.

h) In view of the encouraging results from the adjoining areas as above, the committee agreed to recommend for G4 stage exploration for Bauxite in Sirmaur – Kevati Block (145 Sq. Km.), District: Rewa, Madhya Pradesh and recommended drilling of 200 m ensuing the review of the project after 4 months.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Reconnaissance Survey (G4 Stage) for Bauxite in Sirmaur –Kevati Block(145 Sq. Km.), District: Rewa, Madhya Pradesh" with an estimated cost of ₹ 89.75 Lakh (including GST) in time schedule of 08 months for carrying out the proposed work and submission of report as per annexure- 6A & 6B.

Agenda 53.1.8: Reconnaissance Survey (G4 Stage) for Limestone in Sabalgarh-Jalalgarh Block (87.2 Sq. Km.), District: Morena, Madhya Pradesh.
[Implementing Agency: DGM Madhya Pradesh (M/s. Maheshwari Mining Pvt. Ltd.)]

a) The proposal was discussed in the 52nd TCC meeting held on 27th& 28th April, 2023 and committee suggested to incorporate the geological map of 1:50000 or 1:25000 scale with the location of samples collected.

b) Geologically, the area exposes the sedimentary lithounits of Bhander Group of Vindhyan Supergroup. Ganurgarh Shale of Bhander Group is overlain by Lakheri Limestone, which can be divided into two members viz. lower massive thinly laminated limestone and upper stromatolitic limestone. These two limestones are separated by a thin blue shale.

c) It has been conveyed that During 1989 to 1992, DGM, M.P. carried out investigations for limestones in parts of Garhi and Sabalgarh, Morena District, Madhya Pradesh. Ahmad and Ahmed (2015-16), GSI worked in this area and identified three potential blocks with cement grade limestone viz. Garhi-Upcha block, Badretha block and Hirawale block and resources estimated 159.45 million tonnes with 38.38 to 47.29% CaO, 129.5 million tonnes with 34.65 to 46.03% CaO and 20.57 million tonnes with 37.68 to 38.99% CaO respectively.

d) Maheshwari Mining Pvt. Ltd. Carried out a field visit in the proposed area. The team has collected a few samples during traverses. The analytical results of six samples are given below: Cao ranges from 27.38 to 44.84%, MgO ranges from 1.16 to 17.28%, SiO2 ranges from 3.72 to 11.02%. Out of six samples five represent composition of upper stromatolitic limestone which is siliceous in character. One limestone sample collected from the lower massive band of limestone from Sabalgarh block analysed as CaO:44.84%, MgO:1.169% and SiO2: 11.02, which is compositionally more suitable for the requirement of limestone by cement industry.

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e) In view of above, committee opined that the target lithology for cement grade limestone is massive limestone and the project may be considered after the requisite demand and availability certificate from State Government. Further, committee also suggested to submit the status of auctioning of blocks explored by GSI.

Recommendation of TCC:

The committee suggested to submit the requisite demand and availability certificate from State Government regarding Limestone with the status of auctioning of blocks explored by GSI, for consideration of project through NMET fund.

Agenda 53.1.9: Reconnaissance Survey (G4 Stage) for Limestone in Tentra-Shahpur Kalan Block (55.5 Sq.Km.) District: Morena, Madhya Pradesh.
[Implementing Agency: DGM Madhya Pradesh (M/s. Maheshwari Mining Pvt. Ltd.)]

a) The proposal was earlier submitted in the 52nd TCC meeting held on 27th & 28th April, 2023.

b) The proposal was sent to GSI for their comments, in response to this GSI has informed that block is partially overlapping with Gulalai and Garhi blocks of G-4 stage item carried out by GSI titled "Assessment of Limestone resources in Bhander Groups of rocks exposed in Sabalgarh- Garhi area, Morena district, Madhya Pradesh (G-4 Stage) during FS 2015-16 . The proposed block is also partially overlapped with GM blocks of Garhi-Upcha G4 block submitted to state DGM for auction in composite licence (CL).

c) The committee suggested to modifiy the area to avoid duplication of exploration work and opined that the project "Reconnaissance Survey (G4 Stage) for Limestone in Tentra-Shahpur Kalan Block (55.5 Sq.Km.) District: Morena, Madhya Pradesh" belongs to same geological area of project discussed at Agenda 53.1.8. Therefore, committee suggested to submit the requisite demand and availability certificate from State Government and status of GSI explored blocks submitted to state DGM for auction.

Recommendation of TCC:

The committee suggested to submit the requisite demand and availability certificate from State Government with the status of auctioning of blocks explored by GSI, for consideration of project through NMET fund.

Agenda 53.1.10: Reconnaissance Survey (G4) for Iron Ore in Gilanguda-Padur Block (80 Sq.Km), District: Gadchiroli, Maharashtra.
[Implementing Agency: DGM Maharashtra (M/s. Gemcokati Exploration Pvt. Ltd.)]

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Agenda 53.1.11: Reconnaissance Survey (G-4) for Iron Ore in Murwada-Tumarikodi Block (100 Sq. Km), District: Gadchiroli, Maharashtra.
[Implementing Agency: DGM Maharashtra (M/s. Gemcokati Exploration Pvt. Ltd.)]

a) Geologically, the proposed blocks fall within the Bastar craton comprises Granite gneisses of Bengpal Group & metasedimentaries of Bailadila Group.

b) It has been conveyed that During 1963-1970, the DGM Maharashtra had carried out Exploration work across the curvilinear Surjagad Hill range and inferred resources of Iron ore was estimated. However, the reference of this work viz. Geological report, information about Borehole location, depth, chemical analysis etc. are not available in public domain.

c) Gemcokati Exploration Pvt. Ltd. Has conducted a field visit in both proposed blocks.

d) It has been conveyed that during field traverses in Gilanguda-PadurBlock,GEMCOKATI has identified BIF and Phyllites at several places, collected one sample and analyzed for Iron ore from M/s Tata Steel, Joda. The Sample is showing value of 63.54 % Fe.

e) Gemcokati Exploration Pvt. Ltd. It has also been conveyed that field trip was also conducted in Murwada-Tumarikodi Block and 2 samples have been collected for iron ore. Analytical results of iron ore has been received from M/s.Tata Steel Laboratory Joda show values of Fe(%) ranging from 59.25% to 60.41%.

f) The proposal was sent to GSI for their comments, in response to this GSI has informed that proposed blocks do not have any overlap within the block boundary/coordinates of already explored/being explored during the previous or current FSP from GSI.

g) Based on the analytical result committee opined that the Gilanguda-Padur block andMurwada-Tumarikodiblock has encouraging values for exploration of Iron ore and suggested to reorient the block boundary according to the ore body.

h) Gemcokati modified the block boundaries as per suggestion and the area of Gilanguda-Padur block and Murwada-Tumarikodi block has been modifies as 65 sq.km. and 85 sq.km. respectively.

i) In view of above, committee agreed to take up G4 stage exploration work in both the blocks and also suggested reviewing each project after 4 months.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for

a) "Reconnaissance Survey (G4) for Iron Ore in Gilanguda-Padur Block (65 Sq.Km), District: Gadchiroli, Maharashtra" with an estimated cost of ₹ 26.79 Lakh (including GST) in time schedule of 06 months for carrying out the proposed work and submission of report as per annexure- 7A & 7B.

b) "Reconnaissance Survey (G-4) for Iron Ore in Murwada-Tumarikodi Block (85 Sq. Km), District: Gadchiroli, Maharashtra." with an estimated cost of ₹ 33.14 Lakh (including GST) in time schedule of 06 months for carrying out the proposed work and submission of report as per annexure- 8A &8B.

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Agenda 53.1.12: Reconnaissance Survey (G-4 Stage) for Iron Ore in Arewada – Hitapadi Block (70 Sq. Km), District: Gadchiroli, Maharashtra.
[Implementing Agency: DGM Maharashtra (M/s. Gemcokati Exploration Pvt. Ltd.)]

a) It has been conveyed that the Arewada – Hitapadi Block is situated in the southern side of the proposed Gilanguda-Padur block and Murwada-Tumarikodi block and eastern side of the Alenga Nendwadi Block, Tadgaon-Wateli blockand Marampalli-Jinjgaon block which were recommended during 52nd TCC meeting.

b) The committee suggested to submit the proposal after the outcome of the above recommended projects.

Recommendation of TCC:

The committee suggested to submit the proposal after the outcome of the adjacent blocks.

Agenda 53.1.13: Reconnaissance Survey (G-4 Stage) for REE Exploration in Nunapaimali Bauxite Block, District: Rayagada, Odisha [Implementing Agency: OMECL]

a) It has been conveyed that the OMECL had already covered the Nunapaimali Bauxite Block, Rayagada District, Odisha under G-2 stage investigation for Bauxite during 2019-22 by means of detailed geological mapping on 1:4000 scale, systematic drilling of 978.70 m in 39 vertical boreholes.A total of 25 samples, 5 each from 5 boreholes – NNP-01 to NNP-05 have been analysed for Rare Earth Elements (REE). Out of the 25 samples analysed, one sample indicates relatively higher content of more than 400 ppm TREE and two samples indicate more than 300 ppm TREE, rest all the samples are below 200 ppm TREE.

b) In view of above, the committee opined that the value of REE is very low and not feasible. Above background information of the proposal does not warrants to take up G4 stage exploration in Nunapaimali Bauxite Block.

Recommendation of TCC:

Keeping in view of above, the committee suggested not to take up the project in proposed block.

Agenda 53.1.14: Preliminary Exploration (G3) for Bauxite in the Bangala Pat Block District - Lohardaga, Jharkhand. [Implementing Agency: CMPDI]

a) The proposed block falls in the area of Chotanagpur granite gneiss. Laterite and bauxite in this area rest on the older Chotanagpur granite gneiss comprising the various types of granite gneiss, porphyritic granite, granulitic rocks, quartz veins and pegmatite.

b) It has been conveyed that bauxite occurs as segregated sheets and lenses within the laterite capping over the Archean gneisses. The gneisses contain inclusions of calc silicate rocks, amphibolites, quartzite of varying dimensions aligned in general parallel to the foliation.The bauxite is very variable in thickness ranging from 0.50 m to 9.0 m. The

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bands may at times be persistent over a length of 500 m but very often it peters out abruptly within a short distance.

c) It has been informed that the proposed block is the southwest extension of Pakhar Pat. Bauxite deposits of the area around Lohardaga, Jharkhand erstwhile Bihar, were investigated during the field-season 1961-62 by N. Majumdar of GSI and report titled "Report On The Bauxite Deposits Near Lohardaga Area Ranchi District, Bihar "was published in 1963.

d) The proposal was sent to GSI for their comments, in response to this GSI has informed that The proposed areas does not fall within the block boundary/coordinates of areas alreadyexplored/being explored during the current FSP/proposed for the next Field Season Programme (FSP).

e) After the detailed deliberation, committee opined that the exploration for bauxite may be considered for G3 stage exploration in Bangala Pat block after receiving demand & availability certificate regarding bauxite from the State Government.

f) The project will be reviewed after 4 months.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "*Preliminary Exploration (G3) for Bauxite in the Bangala Pat Block District - Lohardaga, Jharkhand.*" Subject to submission of demand & availability certificate of state government from CMPDI, with an estimated cost of ₹ 51.96 Lakh (including GST) in time schedule of 08 monthsfor carrying out the proposed work and submission of report as per annexure- 9A &9B.

Agenda 53.2.: Proposals on financial assistance for procuremnent of Machinery/laboratory equipment

Agenda 53.2.1: Additional Item for Comprehensive List for Procurement of Machinery/ Laboratory Equipment/Instrument for financial assistance through NMET Fund to State DGMs/DMGs.

a) In the 28th EC meeting held on 16th March, 2023, Additional Secretary, Tamil Nadu requested for sanction of GEOVIA SURPAC software for the DGM, Tamil Nadu

b) In continuation to 17additional items for procuremnent recommended by 52nd TCC, the committee also recommended Diamond core bits of PQ, HQ and NQ size maximum up to 25 Nos.

Recommendation of TCC:

The committee recommended two additional items for procurement by State Governments as follows:

I. GEOVIA SURPAC software

II. Diamond core bits of PQ, HQ and NQ size maximum up to 25 Nos.

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Agenda 53.2.2: Financial assistance from NMET funds to procure machinery/ laboratory equipment/instruments etc. aimed at enhancing theexploration activities.[Implementing Agency: DGM, Mizoram]

a) DGM Mizoram has submitted the proposal of ₹58.86 lakhs for procurement of machinery/ laboratory equipment/instruments etc. aimed at enhancing the exploration activities as Minister of Mines has announced to provide finanacial assistance of ₹ 5.00 Cr. for each North Eastern Region States for their strengthening their capacity in October, 2022.

b) It has been conveyed that TCC that an amount of ₹ 465.31 lakhs has already been approved by EC towards procurement of equipment's/software's for DGM, Mizoram in its 27th& 29th meeting held on 10th Jan, 2023 & 31st March, 2023 respectively.

c) The commiittee evaluated the proposal for procurement of machinery/ laboratory equipment/instruments etc. after detailed discussion with representative of DMG Mizoram.

Recommendation of TCC:

After detailed delibrations committee recommended to complete the procurement of already approved items and submit the additional proposal once the earlier procurement is completed.Further utilization certificate regarding already procured instruments/equipments should also be submitted.

Agenda53.2.3: Extension of Timeline for procurement of Two Chemical Microscope equipment Viz. WD-XRF & ICP-MS.[Implementing Agency: IBM]

a) IBM has informed that GeM custom biddings were made for procurement of WD-XRF and ICP-MS on 22.06.2022 and 23.06.2022 respectively.

b) The initial bidding process made for ICP-MS was cancelled due to minimum local content issue. After seeking grant of exemption in local content from Ministry of Mines, bidding was made on 24.11.2022. However, due to certain procedural issues in newly introduced GeM online evaluation process, the bid was cancelled on 21.03.2023. Now rebidding for ICP-MS has been made on 30.03.2023 and the tender process is in progress.

c) It has been conveyed thatGeM contract for WD-XRF instrument was awarded to L1 bidder on 23.11.2022 with two months delivery period. After accepting the contract, the seller requested for extension of delivery period upto 15.05.2023 and it was re-fixed with Liquidated Damage charges as per the contract terms & conditions. Subsequently, the seller cited global supply chain issues, did not submit performance guarantee and has informed about his inability to supply the instrument with LD charges. As per the decision, the GeM contract will be cancelled and rebidding will be made for WD-XRF.

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d) IBM has submitted the proposal for extension of timeline for one year for procurement of the two instruments to TCC.

e) It is informed that the Sanction Order for procurement of the above two instruments was issued on 02.06.2022 to IBM.

f) After detailed delibrations TCC recommended to complete the procurement of WD-XRF by 01.03.2024 and for ICP-MS by 01.02.2024

Recommendation of TCC:

The committee recommended the time extension of 9 months for WD-XRF i.e.upto 01.03.2024 and time extension of 8 months for ICP-MS i.e. upto 01.02.2024

Agenda53.2.4: Extension of Timeline for procurement of Ore/Polarizing Microscope.[Implementing Agency: DMG, Karnataka]

a) DMG, Karnataka has submitted the proposal for timeline extension of one year for procurment of Ore/ Polarizing Microscope vide letter no. DMG/Plan/1055561/2023-24/229 dt. 25 April, 2023 to TCC.

b) It is informed that the sanction order for the procurement was issued to DMG, Karnataka on 15.07.2022 under reimbursement scheme. The timeline for the same is ending by 14.07.2023. However, DMG, Karnataka has informed that they have not initiated any process for procurement of ore/ polarizing microscope till now.

c) Therefore, DMG, Karnataka has requested to provide timeline extension of one year for purchsing the ore/ polarizing microscope.

d) The committee opined that DMG, Karnataka may submit the road map for procurement of the approved itemsin next meeting. Thereafter, TCC will review the proposal for extension of timeline

Recommendation of TCC:

The committee suggested to submit the road map indicating various stages/steps to be taken along with time frame for procurement of the approved items in next meeting.

Agenda53.2.5: Additional cost for procurement of machinery/ laboratory equipments/ instruments for financial assistance through NMET Fund. [Implementing Agency: DMG, Goa]

a) As per para 51.2.2 of the minutes of 51st TCC meeting held on 27 & 28 March, 2023, DMG, Goa has been provided the financial assistance of Rs 35,96,000/- from NMET funds to procure machinery/laboratory equipment/instruments etc.

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b) DMG, Goa has informed that in order to procure updated DGPS and Total Station there is shortfall of 5 lakh each to two equipment/instruments. Therefore, an additional sanction of Rs. 10 lakhs (₹ 5 lakhs for each instrument) for procurement of Total Station and DGPS is required.

c) After detailed delibrations TCC asked DMG, Goa to submit the comparision sheet of the L1, L2, L3.... Bidders with NMET Secretariat and and also suggested that the liability beyond the sanctioned amount of ₹ 35.96 Lakhs will be borne by the State Government

Recommendation of TCC:

The committee suggested to submit the comparision sheet of the Bidders in next TCC meeting.

Agenda53.2.6: Extension of timeline for procurement of Geophysical Instruments. [Implementing Agency: GSI]

a) NMET has approved and sanctioned for procurement of 11 sets of geophysical instruments (gravimeters, magnetometers and DGPS) vide letter number NMET OM No. 23/274/2022-NMET/102 dated 15.07.2022 to GSI. These instruments will be utilised for detailed survey to identify anomalous zones in order to narrow down the potential zones for search for mineralisation on completion of NGPM and NAGMP projects.

b) As per this OM the Project has a validity for one year w.e.f. 15 July 2022 and the timeline of this sanctioned projects is expiring on 14.07.2023.

c) GSi vide letter No. 07/NM-1A/GM Instruments/2023 dt. 18.05.2023 has submitted that the procurement process is underway and apprehended that the same may not be completed prior to the expiry date of the project.

d) GSI has submitted the proposal for timeline extension of one year up to 30.06.2024 for procurement of the Geophysical instruments .

e) After detailed delibrations TCC asked GSI to submit the road map for procurement of the items in next meeting. After reviewing the strategy and planning TCC will review the proposal for extension of timeline

Recommendation of TCC:

The committee suggested to submit the the road map indicating various stages/steps to be taken along with time frame for procurement of the approved items in next meeting.

Agenda 53.3: Review of the Geological report/ ongoing Projects

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Agenda 53.3.1: General Exploration (G2) for Manganese Ore in Pimperkunta Block, Bheempur Mandal, District- Adilabad, Telangana. [Implementing Agency: TSMDC]

Agenda 53.3.2: Reconnaissance Survey (G-4 Stage) for Prospect Evaluation of the sporadic occurrences of Molybdenite, South of Karimnagar (56 N/4), Districts-SiddipetAnd Karimnagar, Telangana. [Implementing Agency: TSMDC]

TSMDC requested to postpone the review of projects at agenda 53.3.1 & 53.3.2.

Agenda 53.3.3: Preliminary Exploration for Coal in DhaskaNugai Block, East of Bisrampur Coalfield, District:Surguja, Chhattisgarh. [Implementing Agency: CMPDI]

a) The 37th TCC recommended the "Preliminary Exploration for Coal in DhaskaNugai Block, East ofBisrampur Coalfield, District:Surguja, Chhattisgarh" and accordingly the project was approved in 23rd EC with an estimated cost of Rs 293.58 lakh with the time period of 12 months.

b) It has been conveyed that the sanction order has been issued vide F.No.23/248/2022-NMET/299 on 25th March, 2022. Accordingly, the date of completion for the project is 24th March, 2023.

c) CMPDI informed that in principle forest clearance for exploration work in forest area has been received on 24/04/2023 and tendering process for outsourced work has been completed.

d) CMPDI requested for 9 month additional timeline for completion of project.

e) As CMPDI received inprinciple forest clearance 24/04/2023, therefore committee has recommended the time extension for 8 months i.e. upto 24th Nov, 2023.

Recommendation of TCC:

Keeping in view of above, the committee recommended the time extension upto 8 months for completion of project.

Agenda 53.3.4: Preliminary Exploration for Coal in UliaGamhardih Block East of Bisrampur Coalfield, District:Surguja, Chhattisgarh. [Implementing Agency: CMPDI]

a) The 35thTCC recommended the "Preliminary Exploration for Coal in UliaGamhardih Block East ofBisrampur Coalfield, District:Surguja, Chhattisgarh" and accordingly the projectwas approved in 24th EC with an estimated cost of Rs. 231.23 lakhs with the time period of 12 month.

b) CMPDI conveyed that the sanction order has been issued vide F.No.23/260/2022-NMET/53 on 01stJune,2022. Accordingly the date of completion for the project is31st May, 2023.

c) It has been informed that in principle forest clearance for exploration work in forest area has been received on 24/04/2023 and tendering process for outsourced work has completed.

d) CMPDI requested for 9 months additional timeline for completion of project.

e) In view of above, committee has recommended the time extension for 6 months i.e.upto Nov, 2023.

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Recommendation of TCC:

Keeping in view of above, the committee recommended the time extension upto 6 months for completion of project.

Agenda 53.3.5: Reconnaissance Survey for Coal in Pawanchora Central Block, Wardha Valley Coalfield, District: Chandrapur, Maharashtra. [Implementing Agency: CMPDI]

a) The 31st TCC recommended the "Reconnaissance Survey for Coal in Pawanchora Central Block,Wardha Valley Coalfield, District: Chandrapur, Maharashtra" and accordingly the project was approved in 24th EC with an estimated cost of Rs. 443.58 lakh with the time period of 12 months.

b) CMPDI conveyed that the sanction order has been issued vide F.No.23/251/2022-NMET/46 on 01st June, 2022 Accordingly the date of completion for the project is 31/05/2023.

c) It has been conveyed that the Earlier floated tender was cancelled in the month of December due to GOI directive of tending through GEM only. Further, NIT issued through GEM portal on 17/03/2023 and presently the bids (opened on 10/4/2023) are under scrutiny.

d) CMPDI requested for time extension of 12 months for completion of the project.

e) In view of above, committee has recommended the time extension for 8 months i.e., upto January, 2024.

Recommendation of TCC:

Keeping in view of above, the committee recommended the time extension upto 8 months for completion of project.

Agenda 53.3.6: Preliminary Exploration for Coal in West of Chano-Rikba Coal Block, North KaranpuraCoalfield,District: Hazaribagh, Jharkhand [Implementing Agency: CMPDI]

a) The 33rd TCC recommended the "Preliminary Exploration for Coal in West of Chano-Rikba Coal Block, North Karanpura Coalfield, District: Hazaribagh, Jharkhand" and accordingly the project was approved in 24th EC with an estimated cost of Rs. 374.86 lakhs with the time period of 12 month.

b) CMPDI conveyed that the sanction order has been issued vide F. No. 23/256/2022-NMET/57 on 02nd June, 2022. Accordinglythe date of completion for the project is 1st June, 2023.

c) It has been conveyed that initially the drilling & geophysical logging was proposed through In-house resources. However due to local Law & Order conditions, NMET in its 47th TCC meeting accorded approval for outsourcing drilling & geophysical logging. Further, informed that the tender has been completed through GEM and LOA has been issued on 16/5/2022.

f) In view of above, committee has recommended the time extension for 6 months i.e., upto 1st December, 2023.

Recommendation of TCC:

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Keeping in view of above, the committee recommended the time extension upto 6 months for completion of project.

Agenda 53.3.7: Reconnaissance Survey for Coal in North of Chulaha Bhulia Block Sohagpur Coalfield, District: Anuppur, Madhya Pradesh. [Implementing Agency: CMPDI]

a) The 34th TCC recommended the "Reconnaissance Survey for Coal in North of ChulahaBhulia Block Sohagpur Coalfield, District: Anuppur, Madhya Pradesh" and accordingly the project was approved in 24th EC with an estimated cost of Rs. 255.69 lakhs with the time period of 12 month.

b) CMPDI conveyed that the sanction order has been issued vide F.No.23/258/2022-NMET/51 on 01st June, 2022 Accordingly the date of completion for the project is 31st May, 2023.

c) It has been informed that outsourced works of drilling and geophysical studies have been awarded and drilling commenced on 11/05/2023. The forest clearance has been received on 9/05/2023 after deposition of NPV.

d) CMPDI requested an additional time extension of 6 months required for the completion of the Project.

e) In view of above, committee has recommended the time extension for 6 months i.e., upto November, 2023.

Recommendation of TCC:

Keeping in view of above, the committee recommended the time extension upto 6 months for completion of project.

Agenda 53.3.8: Preliminary Exploration for Coal in North of Labji Pusla Block, Sonhat Coalfield District:Korea, Chhattisgarh. [Implementing Agency: CMPDI]

a) The 33rd TCCrecommended the "Preliminary Exploration for Coal in North of LabjiPusla Block, Sonhat Coalfield District:Korea, Chhattisgarh" and accordingly the project was approved in 24th EC with an estimated cost of Rs 311.79 lakhs with the time period of12 month.

b) CMPDI conveyed that the sanction order has been issued vide F.No.23/257/2022-NMET/50 on 01st June, 2022.

c) CMPDI conveyed that the work component for drilling and geophysical studies has been completed and result of sample analysis are awaited. Further, it has also been conveyed that execution of field activities were delayed due to paddy cultivation over the most of the block area. Therefore, time extension of 3 months required for completion of the project.

d) In view of above, committee has recommended the time extension for 2 months as only result of sample analysis is awaited.

Recommendation of TCC:

Keeping in view of above, the committee recommended the time extension upto 2 months for completion of project.

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Agenda 53.3.9: Preliminary Exploration for Coal in West of Sheetaldhara Block, Sohagpur Coalfield, District: Anuppur, Madhya Pradesh. [Implementing Agency: CMPDI]

a) The 34th TCC recommended the "Preliminary Exploration for Coal in West of Sheetaldhara Block,Sohagpur Coalfield, District: Anuppur, Madhya Pradesh" and accordingly the project was approved in 24th EC with an estimated cost of Rs. 97.63 lakhs with the time period of 12 months.

b) CMPDI conveyed that the sanction order has been issued vide F.No.23/259/2022-NMET/52 on 01st June, 2022 Accordingly the date of completion for the project is01st June, 2023.

c) It has been conveyed that the work component for field activities has been completed and result of sample analysis are awaited. Further, it has also been conveyed that execution of field activities were delayed due to paddy cultivation over the most of the block area. Therefore, time extension of 3 months required for completion of the project.

d) In view of above, committee has recommended the time extension for 2 months as only result of sample analysis is awaited.

Recommendation of TCC:

Keeping in view of above, the committee recommended the time extension upto 2 months for completion of project.

Agenda 53.3.10: Preliminary Exploration (G3) for Iron Ore in Balita Block, District: Keonjhar, Odisha. [Implementing Agency: OMC]

a) The project "Preliminary Exploration (G3) for Iron Ore in Balita Block, District: Keonjhar, Odisha" was approved in 23rd EC with an estimated cost of Rs 141.08 lakh and time period of 03 months.

b) It has been conveyed that in 27th EC meeting the project has got the time extension upto 31.10.2022. Further the geological report has been submitted on 15/04/2023 with the delay of 6 months.

c) Further, it has been informed that 4 months timeover run has been occurred due to delay in completion of primary & check chemical analysis, petrographic &minerographic study report. The result of analysis has been received on 31/01/2023 and 2 months timeover run occurred due to report finalization, peer review and final report submission.

d) OMC informed that 11 nos. surface grab samples have been collected out of which 3 samples have the Fe % over 50%. In the proposed block BHs were drilled in the float ore zones and intersected Iron ore up to a depth of 3.10m from the surface. Other than Float ore zone, no iron ore mineralization intersected in any drill boreholes. The Avg. thickness of float ore zone is 1.00m – 3.00m. The resource estimation carried out by cross sectional method and Inverse distance weighed (IDW) methodgivesFe Resources: 0.21 Mt @ 40.75% Fe.

e) After detailed deliberation, the committee opined thatexploration by drilling establishes the non - potentiality of the iron-ore mineralization within the block, whereas the agency has carried out excess drilling in non mineralized zone. Therefore suitable penal action should be taken as the agency has not justified the excess depth of boreholes and TCC also recommended for time extension upto 15/04/2023 as OMC has submitted the geological report.

Recommendation of TCC:

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The committee noted the outcome of the project with concern regarding futile drilling done by the agency and suggested suitable penal action like no further disbursal of payment etc. and recommended the time extension upto 15/04/2023.

Agenda 53.3.11: Preliminary Exploration (G3) for Manganese Ore in Lashi Block, District: Sundargarh, Odisha. [Implementing Agency: OMC]

a) The project "Preliminary Exploration (G3) for Manganese Ore in Lashi Block, District: Sundargarh, Odisha was approved in 23rd EC with an estimated cost of Rs 180.41 lakh and time period of 04 months.

b) It has been conveyed that in 27th EC meeting the project has got the time extension upto 31.12.2022. Further the geological report has been submitted on 20/04/2023 with the delay of 4 months.

c) It has been informed that 2 months overrunoccured due to delay in completion of primary & check chemical analysis, petrographic &minerographic study report. The analytical results were received on 17/02/2023 and 2 months over run occurred due to report finalization, peer review and final report submission.

d) OMC informed that 10 nos. of surface grab samples have been collected 4 samples have Mn% varying from 13 to 27.09%. Another 4 samples have the Fe%>40 and is varying from 40 to 57.75%. 8 bhs have been drilled in the block. Out of 8 BHs, 3 bhs intersected Mn ore & 2BHs intersected Iron Ore. Mn ore zone has an average thickness of 1 to 1.5m. The depth of intersection varies from 0 to 65m below the surface. Iron ore zone mostly comprises goethite and limonite shale having an average thickness of 3.5 to 4 m and occurs at 15m to 60m below surface.

e) OMC further conveyed that Mn ore lens are of thin, low grade, pockety in nature and occur at depth at around 25 to 50m from surface.The nature of Mn deposit and insitu resources 0.26 Mt (Mn) & 0.75 Mt (Fe), indicates lesser potential for mining feasibility

f) The committee noted the outcome of the project and approved 3 Bhs i.e.borehole ID no. LSN/11/1/22, LSN/11/2/22 and LSN/11/8/22 at the depth of 88m, 147m and 96 m respectively. Remaining 5 boreholes approved at the depth of 75 m. TCC also recommended for time extension upto 20/04/2023 as OMC has submitted the geological report.

Recommendation of TCC:

The committee noted the outcome of the project and recommended the borehole no. LSN/11/1/22, LSN/11/2/22 and LSN/11/8/22 at the depth of 88m, 147m and 96m respectively. Remaining 5 boreholes recommended upto depth of 75 m. The TCC recommended the time extension upto 20/04/2023.

Agenda 53.3.12: Reconnaissance Survey (G-4 Stage) for Lithium and Potassium in Merak Block, District-Leh, Union Territory Of Ladakh. [Implementing Agency: MECL]

a) The 36th TCC recommended the "Reconnaissance Survey (G-4 Stage) for Lithium and Potassium in Merak Block, District-Leh, Union Territory Of Ladakh" and accordingly the project was approved in 23rd EC with an estimated cost of Rs 213.04 lakh with the time period of 24 month.

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b) MECL conveyed that Phase-I activities comprising Geological mapping and sampling started in the month of June 2022 and concluded in the month of November 2022.Geological Mapping at 1:12500 scale has been done and 160 samples have been collected. The samples have undergone ICP-MS analysis, out of which 43 sample data have been received.

c) It has been further conveyed that six units of Quartzo-Feldspathic Veins/Pegmatites have been identified with ~dimensions 10m to 0.5 m in length and ~0.5 m to 0.1 m in breath and collected samples have gone for ICP-MS analysis. As per the analysis received Lithium ranges from Max : 37.42 to Min: 5.06 ppm in bedrock, Max : 28.82 to Min: 10.26 ppm in Streams and Max : 62. 40 to Min: 28.61 ppm in Soil.

d) In view of above committee suggested to collect 10 sample form water/ lake sediments and also suggested to collect samples from fine clay lake deposits. The samples collected from clay deposits may be analysed through XRD

Recommendation of TCC:

The committee noted the outcome of the project and suggested to collect 10 sample form water/ lake sediments and also suggested to collect samples from fine clay lake deposits.

Agenda 53.3.13: Reconnaissance Survey (G4 Stage) for Tungsten, Tin, and Basemetal in Datia-Bijapur Block, District-DatiaAnd Shivpuri, Madhya Pradesh.[Implementing Agency: MECL]

Agenda 53.3.14: Reconnaissance survey (G4) for Tungsten, Tin and Rare Metals in Govindpur block (82.45 sq. km), District: Datia, Madhya Pradesh.[Implementing Agency: MECL]

a) The 38th TCC recommended the "Reconnaissance Survey (G4 Stage) for Tungsten, Tin, and Basemetal in Datia-Bijapur Block, District-DatiaAnd Shivpuri, Madhya Pradesh" and accordingly the project was approved in 23rd EC with an estimated cost of Rs 183 lakh with the time period of 18 months.

b) The 43rd TCC recommended the "Reconnaissance survey (G4) for Tungsten, Tin and Rare Metals in Govindpur block (82.45 sq. km), District: Datia, Madhya Pradesh" and accordingly the project was approved in 26th EC with an estimated cost of Rs 169 lakh with the time period of 12 months.

c) It has been conveyed that Datia-Bijapur and Govindpur exploration block falls in in Survey of India toposheet No. 54 K/06 and adjacent to each other and during mapping, tungsten mineralization in skarn zone could not be observed, However Scheelite and wolframite is confirmed in minerographic samples of Datia and high values of 680-1200 ppm are analysed in Govindpur block.

d) MECL conveyed that a total of 200 samples have been collected from each the blocks. On the basis of chemical analysis received 3 potential areas have been identified in Govindpur block. The detail are as follows:

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Potential Area (in sq.km)	Details in PPM	W	Sn	LREE	HREE	TREE
A (8.26 sq.km)	Maximum	1214	12.89	488.49	94.19	568.9
	Minimum	1.00	2.96	29.93	4.63	35.1
B (19.91 sq.km)	Maximum	836	13.38	983.86	191.72	1175.58
	Minimum	0.7	0.8	15.31	0.11	21.35
C (7.24 sq.km)	Maximum	870	1.04	876.01	151.53	1027.54
	Minimum	0.8	11.43	37.44	4.56	49.2
Total area : 35.41 sq.km						

e) In view of above the committee opined that the further exploration work may be carried out were the tungsten value is higher than 500 ppm.

Recommendation of TCC:

The committee noted the outcome of the project and suggested to carry out exploration work in area where tungsten value is higher than 500 ppm for both the blocks.

Agenda 53.3.15: Reconnaissance Survey (G-4 Stage) for PGE, Nickel, Cobalt, and Gold in RangapuraBlock, District- Hassan, Karnataka. [Implementing Agency: MECL]

a) The project "Reconnaissance Survey (G-4 Stage) for PGE, Nickel, Cobalt, and Gold in Rangapura Block, District- Hassan, Karnataka" was approved in 23rd EC with an estimated cost of Rs 257.51 lakh with the time period of 12 months.

b) MECL conveyed that they have carried out geological mapping of34.09 sq km. on 1:12500 scale, 380 cu. m. of trenching, collected 434nos sample for PGE, Cr, Ni, Co, Cu, Pb, Zn, Au & Ag. On the basis if bedrock sampling 5 potential areas have been identified.

c) Further, it has been conveyed that 25 nos. of sample has been received from trench which shows value ranges from 0.4 to 2.92 ppm for Pd.

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d) The committee suggested to send 2 samples as a check samples to GSI, Southern region for analysis.

Recommendation of TCC:

The committee noted the outcome of the project with respect to findings of Pd and suggested to to send 2 samples as a check samples to GSI, Southern region for analysis.

Agenda 53.3.16: Preliminary Exploration (G-3 Stage) for Iron Ore in Malangtoli G Block, District- SundargarhAndKeonjhar, Odisha[Implementing Agency: MECL]

a) The Proposal for preliminary exploration for Iron ore at G3 level was discussed in the Technical cum Cost Committee (TCC) of NMET in its 15th meeting and approved by the 9th Executive Committee (EC) meeting of NMET held on 08th August 2018 vide Office Memorandum F. No. 6/25/2015-NMET dated 16th August 2018 with outsourced drilling.

b) MECL conveyed that the block is falling within the forestland and FC was accorded on 08.03.2021 to carry out drilling.MECL appraised TCC, NMET about the progress of the project during the 38th TCC, held on 24th and 25th January 2022 where it was decided to complete the exploration as per the already approved cost without any escalation with in-house resources and 14 months time extension i.eupto 31stMay, 2023 including report submission. The same had been approved by the EC, NMET in its 23rd meeting.

c) MECL informed that drilling and other field activities commenced on 04.03.2022 and concluded on 29.01.2023. Further, the mineralized area is 5.38 sq.km. The Total resource has been estimated at G3 Level (333) :- 321.20 million tonnes.andat G4 Level (334) :- 211.02 million tonnes.

d) It has been conveyed that the boreholes are drilled in 800-1000 m spacing interval.. Total Surface area of the block is large and total area could not be covered up by drilling with10 number of boreholes.

e) In view of above, committee suggested to include the data of GSI Borehole to cover the entire area and recommended the time extension of 2 months for submission of geological report after incorporating the comments of peer reviewer.

Recommendation of TCC:

The committee noted the outcome of the project and recommended the time extension of 2 months for submission of geological report after incorporating the comments of peer reviewer.

Agenda 53.3.17: Preliminary Exploration (G-3 Stage) for Iron Ore in Malangtoli D Block, District- SundargarhAndKeonjhar, Odisha. [Implementing Agency: MECL]

Agenda 53.3.18: Preliminary Exploration (G-3 Stage) for Iron Ore in Malangtoli E Block, District- SundargarhAndKeonjhar, Odisha. [Implementing Agency: MECL]

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a) The proposal for preliminary exploration for Iron ore at G3 level was recommended in the 15thTCCmeeting and approved by the 9th Executive Committee (EC) meeting of NMET.

b) In 38th TCC meeting the committee agreed to carry out drilling in-house resources and recommended for approval by EC for the timeline extension upto 31st May, 2023.

c) The committee recommended 3 months time extension for each project, for completion of project and submission of geological report to NMET Secretariat.

Recommendation of TCC:

The committee recommended time extension of 3 months for each project to submit the geological report after incorporating the comments of peer reviewer.

Agenda 53.3.19: Preliminary Exploration (G-3 Stage) for Limestone in PeriyakurichiBlock (1.88 Sq. Km) District- Ariyalur, Tamil Nadu.[Implementing Agency: MECL]

a) MECL conveyed that they have not received the comments from peer reviewer. Therefore they need the further time extension for the project

b) The committee suggested to asked the peer reviewer to communicate the comments within 15 days to submit the geological report on scheduled time period as recommended in 52nd TCC meeting i.e.upto June, 2023.

Recommendation of TCC:

The committee suggested to asked the peer reviewer to communicate the comments within 15 days to submit the geological report on scheduled time period as recommended in 52nd TCC meeting i.e. upto June, 2023.

Agenda 53.3.20: Preliminary Exploration (G-3 Stage) for phosphorite in Pahadi Kalan Gora Kalan, District: Lalitpur, Uttar Pradesh. [Implementing Agency: MECL]

a) The project was recommended in the 39th meeting of TCC held on 29th-30th March, 2022 and it was approved in 24th meeting of EC held on 18th May, 2022 with an estimated cost of 361.50 Lakhs within a time period of 12 months.

b) It has been conveyed that Phosphorite mineralization in the block is mainly lithologically controlled in the block and is present in Brecciated Quartzite of more or less ferruginous characteristics. Phosphate is also resulting from surface weathering in Rohini member of Sonrai Formation and occurs as fracture fillings, forming veins and lenses in silicified breccias and carbonates.

c) MECL conveyed that a total of 19.08 Milliontonnes of Inferred Resources (333 category) of Net In-situ Resource of Phosphorite with average grade of 9.83% P2O5 have been estimated by cross sectional method and 17.67 Million tonnes of Inferred Resources (333 category) with average grade of 9.70% P2O5 have been estimated by slice plan

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method. The net in-situ Resource for the Phosphorite in the block estimated by the Cross-Section method and by the Slice plan method is reasonably well and the variation is about 7.38%.

d) The committee noted the outcome of the project and suggested to submit report after incorporating the comments of peer reviewer.

Recommendation of TCC:

The committee noted the outcome of the project and recommended for submission of geological report after incorporating the comments of peer reviewer and final review of the project.

Agenda 53.3.21: Net Present Value (NPV) For Forest Clearance For Boreholes in Pindra SW extension block (40.0 sq. km), District: Satna, Madhya Pradesh. [Implementing Agency: MECL]

a) The project was approved in 27th meeting of EC with an estimated cost of 117.43 Lakhs within a time period of 12 months.Accordingly, the sanction order has been issued in Feb.,2023.

b) MECL conveyed that for forest clearance they have applied on 22-Feb-2023 and they have received a letter issued for demand of NPV of ₹ 9,82,872/- from Forest Division. After deposition of NPV, a formal letter of permission to take up the boreholes in forest area will be issued by Principal Conservator of Forest, Bhopal.

c) In view of above, committee agreed for the amount of ₹ 9,82,872/- towards NPV for obtaining forest permission.

Recommendation of TCC:

The committee recommended for an amount of ₹ 9,82,872/- towards NPV for obtaining forest permission to carry out exploration work.

Agenda 53.3.22: Preliminary Exploration (G-3 Stage) for Diamond in Tumla Block, District Jashpur, Chhattisgarh. [Implementing Agency: MECL]

a) MECL conveyed that the exploration work in Tumla block was commenced on 02.04.2023. The exploration work has been held up due to local agitation just after few days of commencement.

b) Further, it has been informed that several meetings was conducted through DC, Jashpur and SDM, Pharsabahar to convince the local villagers. Villagers are strongly and aggressively opposing exploration campaign. The matter was intimated to DGM, Chhattisgarh many times and escalated our concern through verbal and written communication vide letter dated 21.07.20222 and 17.10.2022.

c) The committee opined that after several attempts the matter was not resolved therefore, the committee was agreed for cancellation of the project.

Recommendation of TCC:

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The committee recommended for cancellation of the project as the matter was remained unresolved after several attempts.

Agenda 53.3.23: Preliminary Exploration (G-3 Stage) for Manganese in Hardatal Block, District-Bolangir, Odisha. [Implementing Agency: DGM Odisha]

a) The project "Preliminary Exploration (G-3 Stage) for Manganese in Hardatal Block, District- Bolangir, Odisha" was approved in 25th EC held on 29th June, 2022 with an estimated cost of ₹152.37 lakh within a time period of 9 months.

b) It has been conveyed that ore bodies exhibits pinching & swelling and occur as lensoidal ribbons which again coalesce to form thick lenses & pockets.Manganese ore chiefly Pyrolusite and Psilomelane are of secondary origin and occur either as lumps orlateritised.Graphite flakes ranging in size from few mm to more than 1 cm occur as Impersistent veins ordisseminations and also as graphite schists/gneiss. Analysis of few grab samples indicate 10 % Mn cut off is 20.63% Mn and FC ranging from 2.34% to18.91 %.

c) Further, it has been conveyed that ore zones encountered for Mn mineralization at 162.5 m (Cumulative), Graphite mineralised zone at 148.1m (Cumulative) and Manganiferous graphite zone at 62.1 m (Cumulative).

d) DGM Odisha further conveyed that additional 67 m drilling is required for completion of ongoing 4 bhs.

e) The committee after the detailed deliberation, agreed for the additional 60 m to complete the running borehole.

Recommendation of TCC:

The committee recommended to drilling of 60 m and approved the cost of ₹ 6,90,000/- for completion of 4 running boreholes.

Agenda 53.3.24: Preliminary exploration (G3) for limestone in Itga blocks, District: Kalaburagi, Karnataka. [Implementing Agency: DMG Karnataka]

a) The project "Preliminary exploration (G3) for limestone in Itga blocks, District: Kalaburagi, Karnataka" was recommended in 49th TCC meeting and was approved in 28th EC meeting with an estimated cost of 125 lakh for time period of 12 months.

b) DMG Karnataka conveyed that they have engaged skilled manpower on outsource basis for carry out DGPS and topographic survey using instruments available in thedepartment. Hence, DMG Karnataka would like to carry out the entire survey work as in-house component .

c) In view of above, committee recommended the survey work through in house resources and modify the cost of the project.

Recommendation of TCC:

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The committee recommended the survey work through in house resourcesof DMG Karnataka and recommended the cost ₹125.50 lakh for approval of EC as per the detail annexed at annexure-10.

Additional Disscussion:

1. NEAs have requested that the Honorarium to reviewers for peer reviewing of the geological report may be enhanced from the present level of ₹ 10,000/- to ₹ 30,000/- because atleast 7 days are required for reviewing a project. TCC unanimously agreed with the request made by the NEAs & recommended to EC for its consideration.

2. On the issue of imposing penalty for the delay in execution of projects by exploration agencies as per the additional agenda 2, discussed during 29th EC meeting held on 31st march, 2023 TCC recommended to impose penalty of 1% of the project cost for each month of delay subject to a maximum penalty of 5% of approved project cost. TCC also recommended that no penalty should be imposed on the accounts of projects being delayed due to non-receipt of the forest clearance/statutory clearances and local law & order issues provided the NEAs are able to support their claims with documentary evidence to the satisfaction of the committee.

The meeting ended vote of thanks to the Chair.

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List of TCC Members asttended 53rd Technical-cum-Cost Committee (TCC) meeting of NMET held on 24th and 25th May, 2023 in hybrid mode at Khedkar Conference Hall, GSI, SR, Hyderabad

Attended via VC

(P.K. Maharana)
DGM (Finance), NALCO
Member, TCC, NMET

Attended via VC

(R.K. Gupta)
DGM (Finance), HCL
Member, TCC, NMET

Attended via VC

(Vinay Pal)
Cost Account Officer, GSI
Member, TCC, NMET

25/5/2023

(Dr. Anjani Kumar)
DGM (Exploration) & HOD-Planning (Retd.), MECL
Member, TCC, NMET

25/05/2023

(Naeem Ahmad)
GM (Exploration)(Retd.)
CMPDI Ltd.
Member, TCC, NMET

Attended via VC

(Ranjan Kumar Sinha)
Controller General (Retd.)
Indian Bureau of Mines
Member, TCC, NMET

25/5/2023

(Hemraj Suryavanshi)
Addl. Director General (Retd.)
Geological Survey of India
Member, TCC, NMET

(S.K. Adhikari)
Chief Mining Geologist
Indian Bureau of Mines
Member, TCC, NMET

25/05/23.

(M.K. Patel)
Dy. Director General (G)
Geological Survey of India
Member, TCC, NMET

Attended via VC

(K.L. Mundra)
Head, RMRE
Department of Atomic Energy
Member, TCC, NMET

Attended via VC

(V.K. Sharma)
Director, NMET
Ministry of Mines
Member, TCC, NMET

25/5/23

(Suresh Chander)
Director (G)
Geological Survey of India
Member, TCC, NMET

25/05/23

(Janardan Prasad)
Additional Director General & HOD, GSI, SR
and Chairman, TCC, NMET

Annexure-1

List of participants attended 53rd Technical-cum-Cost Committee (TCC) meeting of NMET Dated: 24th May, 2023, Venue: Khedker Conference Hall, GSI, SR, Hyderabad

S.No.	Name/Designation	Email ID	Contact No	Organization
1.	Shri Janardan Prasad ADG &HoD, GSI	janardan.prasad@gsi.gov.in	7763800788	Chairman, TCC
2.	Shri Ranjan Kumar Sinha Controller Genral (Retd.)Indian Bureau of Mines	sinhark57@rediffmail .com	9421777637	Member, TCC
3.	Shri Hemraj Suryavanshi ADG (Retd.), GSI	hemrajgsi@gmaiLcom	7477042176	Member, TCC
4.	Shri Manoj Kumar Patel DDG Geological Survey of India	m.patel1@gsi.gov.in	9040011231	Member, TCC
5.	Shri S.K Adhikari Chief Mining Geologist, IBM	skadhikari@ibm.gov.in	7588690545	Member, TCC
6.	Dr. Anjani Kumar DGM (Retd.), (Exploration)/ HOD Planning MECL	anjanikumar1 957.ak@gmaiLcom	9975350576	Member, TCC
7.	Shri. Naeem Ahmed GM (Exploration)(Retd.), CMPDI Ltd.	ahmadnaeem17@yahoo.co.in	8588092153	Member, TCC
8.	Shri K.L. Mundra, Head RMRE, AMD	headrmre.amd@gov.in	9414785663	Member, TCC
9.	Shri Vivek Kumar Sharma Director,NMET	vksharma.ofb@gov.in	7024570055	Member Ex-offico
10.	Shri Vinay Pal Cost account Officer, GSI	vinay.pal@gsi.gov.in	8527368161	Member, TCC
11.	Shri P.K Maharana DGM(Finance),NALCO Member, TCC NMET	pmaharana@rediffmail.com	8500669500	Member, TCC
12.	Shri Suresh Chander, Director, GSI	Suresh.chander@gsi.gov.in	9493860963	Member Secretary
13.	Shri P. Ravindran, GM (Exploration)	gm-exploration@mecl.co.in	7907649392	MECL
14.	Shri Swarup Dhara, Manager (Geology)	swarupdhara@gmail.com	9630307282	MECL
15.	Shri Shiva kumar Asst GM (ME)	bmed@kioclIta.in	9148743807	KIOCL

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16.	Shri Ambika Prasad President & CEO	ambika.@masheshware.com	9731305407	Maheshware mining Pvt.ltd
17.	Shri Saswat subedit Geologist,MMPL	saswat.@maheshware.in	7978190515	Maheshware mining Pvt.Ltd
18.	Shri Tufan bhowmik Geologist,MMPL	tufan.bhowmik@mhashware.in	7602994286	Maheshware mining Pvt.Ltd
19.	Shri Jijoa George Director GKEPL	jyo@gemcokali.com	9370220075	Gemcokati Exploration Pvt. Ltd.
20.	Shri Subrata Sarkar Vice President	subrata.sarkar@gemcokati.com	7044208900	Gemcokati Exploration Pvt. Ltd.
21.	Representative from OMECL	-	-	OMECL
22.	Shri R.P. Singh, Manager (Geologist)	Gm.exploration.cmpdil@gmail.com	8987789047	CMPDI
23.	Shri Saurabh Singh, Sr.Manager	Sauarbh.singh@coalindia.in	9329026041	CMPDI
24.	Shri P.C. Mishra Joint Director (Geologist)	Directorgeologist_odisha@yahoo.in	9861465695	DGM Odisha
25.	Shri Mihir Malla DGM (Geology)	Mihir.malla@odishamining.in	9777454069	OMC
26.	Shri Lalthaznala, Director	directorgmr@gmail.com	9436150941	DGM Mizoram
27.	Dr. Dillip R. Kanungo Director (OD) I/c	codo@ibm.gov.in	8237047897	IBM, Nagpur
28.	Shri.H.P Harish, Deputy Director(Plan)	dir-mines@karnataka.gov.in	9611951313	DMG, Karnataka
29.	Shri Abhir Dy Director	-	9822952031	DMG Goa
30.	Dr. Pankajmalla Bhattacharya, Director (Geophysicist)	pankajmal.bhattacharya@gsi.gov.in	-	GSI
31.	Smt Anju C.S Senior Geologist	nmet-mines@gov.in	8957806004	NMET
32.	Smt Ujjwala Sharma Senior Geologist	nmet-mines@gov.in	8588836933	NMET

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ANNEXURE- 2A

Cost Estimated for Reconnaissance Survey (G-4 Stage) for Tin in Pokhar-Chhaili Block (90.00 Sq. Km), Tehri Garwal District, Uttarakhand.

Total Area - 90.00 sq. km; Completion Time - 08 Months

Sl. 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	Rates for exploration in North East States and Hilly Terrain of Himalaya (3.35 times higher than the normal SoC rate for filed activities) as per Para 5 of NMET SoC	Qty.	Total Amount (Rs)	
1	**GEOLOGICAL WORK**							
1.1	Charges for one Geologist per day at HQ for monitoring, data processing etc. (1 no.)	one Geologist per day	1.2a	9,000	9,000	60	540,000	

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1.2	Charges for one Geologist per day at field for mapping, channel sampling and logging (1 no./1 party)	one Geologist per day	1.2b	11,000	36,850	130	4,790,500	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
1.3	Labour Charges for Geological work	Labour day	5.7	494	1,655	260	430,274	
1.4	Charges for one Sampler (1 Party) for geochemical, channel and core samples	one Sampler per day	1.5.2	5,100	17,085	28	478,380	
1.5	Labour Charges for Sample work	Labour day	5.7	494	1,655	112	185,349	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
	Sub-Total 1						**6,424,503**	
2	**Laboratory Studies**							
2.1	**Chemical Analysis**						-	
a	**Primary Samples -** 34 Elements of ICPMS (Stream Sample & Bedrock Sample)	per sample	4.1.14	7,731	7,731	200	1,546,200	
b	**Check Samples -** 34 Elements of ICPMS (Stream Sample & Bedrock Sample)	per sample	4.1.14	7,731	7,731	20	154,620	

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2.2	**Physical & Petrological Studies**							
a	Preparation of thin section	per sample	4.3.1	2,353	2,353	10	23,530	
b	Complete petrographic study report	per sample	4.3.4	4,232	4,232	10	42,320	
c	Preparation of Polished Section	per sample	4.3.2	1,549	1,549	10	15,490	
d	Complete Mineragraphic study report	per sample	4.3.4	4,232	4,232	10	42,320	
e	Whole Rock Analysis (Major Oxides)	per sample	4.1.15a	4,200	4,200	10	42,000	
f	XRD analysis	per sample	4.5.1	4,000	4,000	5	20,000	
	Sub-Total 3						**1,886,480**	
3	**Total (Sub Total - 1 to 2)**						**8,310,983**	
4	**Preparation of Exploration Proposal**	**Nos**	**5.1**	2% of project cost max. upto 5 lakhs		**1**	**166,220**	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.
5	**Report Peer Review Charges**	**lumpsum**	**As per EC decision**	**10000**		**1**	**10,000**	

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6	**Geological Report Preparation**	Nos	5.2	For the projects having cost more than Rs. 50 lakhs Upto 150 Lakhs - A minimum of Rs. 2.5 lakhs or 5% of the work whichever is more		1	**415,549**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
7	**Total Estimated Cost without GST (4+5+6+7)**						**8,902,752**	
8	**Provision for GST @ 18%**						**1,602,495**	GST will be reimburse as per actual and as per notified prescribed rate
9	**Total Estimated Cost with GST**						**10,505,247**	
	or Say, Rs. in Lakhs						**105.05**	

1. If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC.

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

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Annexure-2B

Timeline/work plan for Reconnaissance Survey (G-4 Stage) for Tin in Pokhar-Chhaili Block (90.00 Sq. Km), Tehri Garwal District, Uttarakhand.										
Sl. No.	Activities		1	2	3	4	5	6	7	8
1	Camp Setting	Month	■							
2	Geological Mapping	Month	■	■	■	■				
3	Geologist Party days (1Party)	Party days	■	■	■	■				
4	Sampling Party days (1 party)	Party days		■	■	■	■			
5	Camp Winding	Month					■			
6	Laboratory Studies	Month			■	■	■	■		
7	Geologist Party days, HQ (1Party)	Party days						■	■	
8	Report Writing with Peer Review	Month					■	■	■	■
	* 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 and order problems will be addition to above time line.									

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Annexure-3A

Cost Estimates (as per NMET SoC) for Reconnaissance Survey (G-4) for Graphite in Ganacharpura Block, Kolar District, Karnataka

Total block area- 34 Sq Km; Completion Time- 8 Months

S.No.	Item of Work	Unit	Rates as per NMET SoC		Qty.	Total Amount (Rs)	Remarks
			SoC Item S.No.	NMET Approved Unit Rates (Rs.)			
A	**Large scale (LSM) Geological mapping and other geological activities**						
i	Charges for One Geologist (1 No) (excluding Labour Charges) per day for Geological Mapping, (Field) (1:12,500) / Pitting / Drilling.	one Geologist per day	1.2a	11,000	100	1,100,000	
ii	Labour Charges for Geological work	Labour day	5.7	494	200	98,800	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
iii	Surface/Trench/Core Sampling - oneSamplers per day (2 Party) excluding Labour charges.	one Sampler per day	1.5.2	5,100	24	122,400	
iv	Labour Charges for Sampling work	Labour day	5.7	494	96	47,424	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State

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							Govt. - whichever is higher
v	Geologist man days (1 No.) for Preparation of Reports & Maps at HQ	one Geologist per day	1.2b	9,000	60	540,000	
	Sub-Total - A					**1,908,624**	
B	**Geophysical Surveys**						
i	SP Survey	line km	3.3a	29,600	15	444,000	
	Sub Total - B					**444,000**	
C	**Mineral Investigation**						
	Pitting						
i	Excavation of pits upto 2.0 m depth	per cu m	2.1.2	3,800	50	190,000	
	Sub Total - C					**190,000**	
D	**EXPLORATORY DRILLING#**						
i	Drilling up to 300m (Hard Rock)	per metre	2.2.1.4 a	11,500	250	2,875,000	
ii	Borehole Pillaring - Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7.a	2,000	5	10,000	
iii	Transportation of Drill Rig & Truck associated per drill (To &Fro)	per km	2.2.8	36	2796	100,656	Certification in this regard is required to be provided
iv	Monthly accommodation charges for field camp i.e for the activities such as Geological Mapping, Geophysics,	month	2.2.9	50,000	2	100,000	

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	Exploratory Drilling, Trenching, Sampling and etc						
v	Drilling Camp Setting Cost (1Rig)	per drill	2.2.9a	250,000	1	250,000	
vi	Drilling Camp Winding up Cost (1Rig)	per drill	2.2.9b	250,000	1	250,000	
vii	Approach Road Making (Flat Terrain)	per km	2.2.10a	22,020	3	66,060	Road Making will be considered as per the requirement but not more than the provided kms in the cost sheet. Road Making Charges will be reimbursed accordingly.
viii	Drill Core Preservation (Includes cost of GI Core boxes, transportation charges, loading and unloading charges and manpower engaged in execution of the work.)	per m	5.3	1,590	80	127,200	This amount will be reimbursed after successful delivery of the cores to the concerned core libraries/authorities
ix	Land / Crop Compensation (As per actuals as certified by local authorities subject to a maximum of 20,000 per bore hole)	per borehole	5.6	20,000	5	100,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
x	Fixation of boreholes, determination of co-ordinates and Reduced Level (RL) of the boreholes by DGPS (Including Labour charges)	Per point of observation	1.6.2	19,200	5	96,000	
	Sub Total - D					**3,974,916**	

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E	**LABORATORY STUDIES**						
i)	**Primary Core sample analysis for Graphite**						
	a) Bed Rock Samples, pit Samples and Borehole Samples for Graphite (Proximate Analysis: Fixed Carbon, Ash, Moisture, Volatile Matter)	Nos	4.1.16	3,000	170	510,000	BRS/Pit samples: 100 +20nos. & Core Samples: 50 Nos.
	b) Bedrock Samples for Au by Fire assay method	Nos	4.1.5a	2,380	10	23,800	Will be done if encouraging results found by AAS method
ii)	**Check sample analysis (10% external)**						
	a) Bed Rock Samples, pit Samples and Borehole Samples for Graphite (Proximate Analysis: Fixed Carbon, Ash, Moisture, Volatile Matter)	Nos	4.1.16	3,000	17	51,000	
iii)	ICP-MS studies (34 Trace elements-Cd,Sn,W,Sb,Ce,Nb,Ba,La,Bi,Co, Ni, Sr, Mo, V** etc).	per sample	4.1.14	7,731	10	77,310	
v)	Whole Rock Analysis by XRF technique for major oxides	per sample	4.1.15a	4,200	10	42,000	
vi)	**Petrological / Mineraographic 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	

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vii)	Specific Gravity Determination (Core samples)	per sample	4.8.1	1,605	5	8,025	
	Sub Total - E					**835,795**	
F	**Total (A to E)**					**7,353,335**	
G	**Geological Report Preparation**	5 Hard copies with a soft copy	**5.2**	For the projects having cost more than Rs. 50 lakhs Upto 150 Lakhs - A minimum of Rs. 2.5 lakhs or 5% of the work whichever is more		**367,667**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET
H	**Peer review Charges**		**As per EC decisio n**			**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 approved cost to a max. of Rs. 5 Lakhs		**147,067**	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

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							proposal
J	**Total Estimated Cost without GST (F+G+H+I)**					**7,878,068**	
K	**Provision for GST (18% of J)**					**1,418,052**	GST will be reimburse as per actual and as per notified prescribed rate
L	**Total Estimated Cost with 18% GST (J+K)**					**9,296,121**	
	or Say Rs. In Lakhs					**92.96**	
Note:-							
1	**# 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**						
2 3	***If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC.*** ***In case of execution of the project by EA on its own, a Certificate regarding non outsourcing of any component/project is required.***						

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Annexure-3B

Timeline/work plan for Reconnaissance Survey (G-4 Stage) for Graphite and Sulphide in Ganacharpura Block (33.60 Sq. Km), Kolar District, Karnataka.

Sl. No.	Activities	Units	Months								
			1	2	3	4	REVIEW	5	6	7	8
1	Camp Setting	Months	■								
2	Geologist Party days (1Party)	Months	■	■	■	■		■	■		
3	Geophysist Party days (1Party) IP, SP, Resistivity and Magnetic Survey.	Month vs. L.Km		■	■						
4	Survey Party days (1 Party)	Months		■	■						
5	Geophysist Party Days (HQ)	Months			■						
6	Pitting	Months vs. Cu.m			■	■					
7	Surface Drilling (1 rig)	Months vs. m.						■	■		
8	Sampling Party Days (1 Party) Surface/Trench/Core Samples	Months		■	■			■	■		
9	Camp Winding	Months									
10	Laboratory Studies	Months			■	■			■	■	
11	Geologist Party days, HQ (1Party)	Months							■	■	
12	Report Writing and Peer Review	Months								■	■

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ANNEXURE-4A

Estimated cost for Preliminary Exploration (G-3) for Diamond in Angira-B Block, Chhatarpur District, Madhya Pradesh Total block area- 1.5 sq km; Completion Time- 15 Months

Sl. 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)	
Phase-I							
1	**Geological, Sampling & Survey Days**						
	Detailed Mapping Geological mapping						
a	Geologist man days (1 party Field)	one Geologist per day	1.3b	11,000	150	1,650,000	
b	Labour Charges	Labour day	5.7	494	300	148,200	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
c	Geologist man days (HQ)	one Geologist per day	1.3a	9,000	60	540,000	(Mineral identification days by 2 geologists included & data collation)
	Sub-Total 1					**2,338,200**	
2	**Geophysical Surveys***						
a	Magnetic Surveys	per station	3.2a	1,800	1200	2,160,000	
b	Electromagnetic Survey (TDEM)	Sounding	3.7a	21,197	200	4,239,400	
	Sub-Total 2					**6,399,400**	

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3	**Laboratory Studies**						
a	**Chemical Analysis**						
i	Separation of heavy minerals from stream sediment samples of - 2mm size through gravity and magnetic separation	per sample	Outsourcing rate of IREL	30,759	10	307,590	Outsourcing rate of IREL has been taken into consideration. Reimbursement will be made as per actual for 10 samples only.
ii	Heavy mineral separation by liquid	per sample					
iii	EPMA studies for suspected Heavy Mineral grains	Per hour	4.4.1	8,540	60	512,400	
iv	Processing of samples for identification of diamond #	nos	Not in SoC		0	0	The requirement, actual quantum of work and the cost involved will be decided during review of the project after seven months from the zero date.
v	Trace elements (34 element-ICPMS)	No. of samples	4.1.14	7,731	200	1,546,200	
vi	XRF	No. of samples	4.1.15a	4,200	200	840,000	
b	**Petrological / Mineralographic studies**						
i	Preparation of thin section (Surface)	per sample	4.3.1	2,353	25	58,825	
ii	Study of thin section for petrography	per sample	4.3.4	4,232	25	105,800	
	Sub-Total 3					**3,370,815**	
4	**Drilling****						

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a	Drilling up to 300m (2 Rigs) (Medium Hard Rock) 5nos. of inclined borehole and 5 nos. of vertical borehole)	per m	2.2.4 a	12120	2000	24,240,000	Reimbursement for drilling will be made after providing the drilling meters separatly for HQ size borehole and NQ size borehole. Drilling charges will be paid at the rate of Rs. 12120/- per m for HQ size borehole and Rs. 10100/- per m for NQ size borehole as per NMET SoC.
b	Borehole pillaring a) construction of concrete pillar (12"x12"x30")	per bh	2.2.7.a	2,000	10	20,000	
c	Transportation of drill rigs &truck associated per drill (To &Fro from HQ) (2 rig)	per km	2.2.8	36	2000	72,000	Certification in this regard is required to be provided
d	Monthly accommodation charges for drilling camp	monthly	2.2.9	50,000	4	200,000	
e	Drilling camp setting (2 rigs)	per drill	2.2.9a	250,000	2	500,000	Certification that EA has deployed two rigs on this project during drilling period is required to be provided
f	Drilling camp winding (2 rigs)	per drill	2.2.9b	250,000	2	500,000	
g	Approach road making in flat terrain (Flat terrain)	per km	2.2.10	22,020	5	110,100	Road Making will be considered as per the requirement but not more than the provided kms in the cost sheet. Road Making Charges will be reimbursed accordingly.
h	Drill core preservation	per m	5.3	1590	1000	1,590,000	This amount will be reimbursed after successful delivery of the cores to concerned core libraries/authorities

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j	Land/crop compensation	per borehole	5.6	20000	10	200,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
k	Demarcation Fixation of borehole and determination of co-ordinates & Reduced Level (RL) of the boreholes by DGPS (including charges for labours deployed for the work)	Per point of observation	1.6.2	19,200	14	268,800	10 boreholes +4 block boundry
l	Sampler Charges (Geochemical /Trenching/Pitting/Drilling)	one Sampler per day	1.5.2	5,100	50	255,000	
m	Labour Charges for Sampling Work	Labour day	5.7	477	200	95,400	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
	Sub-Total 4					**28,051,300**	
5	**Total (1 to 4)**					**40,159,715**	

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6	**Geological Report Preparation**	5 Hard copies with a soft copy	5.2	For the projects exceeding Rs. 300 Lakhs :A Minimum of Rs. 9.0 lakhs or 3% of the work which ever more or maximum 20 lakhs	1	**1,204,791**	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
7	**Preparation of Exploration Proposal**	5 Hard copies with a soft copy	**5.1**	2% of the approved cost to a max. of Rs. 5 Lakhs	**1**	**500,000**	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
8	**Report Peer Review Charges**	**lumpsum**	**As per EC decision**	**10000**	**1**	**10,000**	
9	**Total Estimated Cost without GST**					**41,874,506**	
10	**Provision for GST (18%)**					**7,537,411**	GST will be reimbursed as per actual and as per notified prescribed rate
11	**Total Estimated Cost with GST**					**49,411,918**	
	Say, Rs. in Lakhs					**494.12**	
Note -							

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1. ***If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC.***

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

   #The requirement of test and cost will be decided by the committee at the time of review.

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ANNEXURE-4B

Time schedule (in months) for G-3 Level Exploration for Diamond in ProposedAngira-B Block, District: Chhatarpur, Madhya Pradesh.

Sl. No.	Activities	MONTHS														
		1	2	3	4	5	6	7		8	9	10	11	12	13	14	15
1	Geologist Party days in field (1 Party)	■	■							■	■	■					
2	Geophysics Party Days (1 Party Field)	■	■	■	■	■	■										
3	Geophysics Party Days (1 Party HQ)						■	■									
4	Survey Party days (1 Party)	■	■	■	■	■	■										
5	Camp Setting									■							
6	Camp Winding								REVIEW							■	
7	Surface Drilling (3 rig)										■	■	■	■	■		
8	Sampling Party days, Soil/Pit Sample 100 days +Core Sample200days		■									■	■	■	■		
9	Laboratory Studies			■	■								■	■	■	■	
10	Geologist Party days in HQ (60 days for hand picking of KIMs + 60 days GR)				■										■	■	■

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11	Geological Report Writing with Peer 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 – 5A

Cost Estimate for Reconnaissance (G-4 Level) for Phosphorite, Baryte& REE in Katamadevarahalli Area , Kalburgi Dist, Karnataka

Sl	**Item of Work**	**Unit**	**Rates as per NMET SoC 2020-21**		**Estimated Cost of the proposal**			**Remarks**
			SOC Item No	**Rates as per SOC**	**Qty**	**Amount (Rs)**		
(a)	**(b)**	**(c)**	**(d)**	**(e)**	**(f)**	**(g)=(e)*(f)**		
1	**LARGE SCALE GEOLOGICAL MAPPING WORKS (1:12,500 scale :100.0sq km)**							
1.1	Geologist Party days - Field	One Geologist per days	1.2b	11,000	120	1,320,000	**2,249,440**	
1.2	Geologist Party days - HQ		1.2a	9,000	60	540,000		
1.3	Labour charges for Geological work	Labour day	5.7	431	240	103,440		Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
2	**PITTING/TRENCHING WORKS**							
2.1	Pitting works	cum	2.1.2	3,800	50	190,000		
3	**SURVEY WORKS**							

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3.1	Fixation of borehole and determination of Co-ordinates and RL by DGPS	days	1.6.2	19,200	5	96,000		
4	**DRILLING**							
4.1	Surface Drilling (01 rig - Soft Rock)	m.	2.2.1.3a	6,775	150	1,016,250	**1,907,810**	Copy of approved MoC is required
4.2	Transportation of drill rigs	km	2.2.8	36	1000	36,000		Certification in this regard is required to be provided
4.3	Drilling camp setting cost	per drill	2.2.9a	250,000	1	250,000		
4.4	Monthly accomadation charges for drilling camp	monthly basis	2.2.9	50,000	2	100,000		
4.5	Drilling camp winding cost	per drill	2.2.9b	250,000	1	250,000		

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4.6	Approach road making for Flat terrain	Km	2.2.10a	22,020	3	66,060		Road Making will be considered as per the requirement but not more than the provided kms in the cost sheet. Road Making Charges will be reimbursed accordingly.
4.7	Construction of Concrete pillar (12"X 12"X30")	per borehole	2.2.7a	2,000	5	10,000		
4.8	Core preservation	m	5.3	1,590	50	79,500		This amount will be reimbursed after successful delivery of the cores to the concerned core libraries/authorities.
4.9	Land/Crop compensation (in case the BH falls in agriculture land)	per borehole	5.6	20,000	5	100,000		Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
5	**LABORATORY STUDIES**							

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5.1	Sample processing works	Sampler charges	one Sampler per day	1.5.2	5,100	44	224,400	**262,328**	100BRS+50 Pt+150 Core+45 Check
5.2		Labour charges for Sampling work	Labour day	5.7	431	88	37,928		Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
5.3	Sample analysis - Phosphate rock	Primary (with Baryte)	per sample	4.1.15a	4,200	300	1,260,000	**1,449,000**	100BRS+50 Pt+150 Core
5.4		Internal Check (5%)		4.1.15a	4,200	15	63,000		
5.5		External Check (10%)		4.1.15a	4,200	30	126,000		
5.6	Sample for analysis of Baryte (5 radicals and two additional radicals)		per sample	4.1.7a & 4.1.7b	3,176		0	**0**	

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5.7	Sample for analysis of 34 radials for REE		per sample	4.1.14	7,731	10	77,310	**77,310**	ICPMS
5.8	Petro studies	Preparation of Standard Thin section	per sample	4.3.1	2,353	10	23,530	**65,850**	
5.9		Petrographic Study	per sample	4.3.4	4,232	10	42,320		
6	Determination of bulk density		per sample	4.1	3,540	5	17,700	**17,700**	
8	**Sub Total**							**6,029,438**	

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9	Preparation of Exploration Project Proposal		5 Hard copies with a soft copy	5.1	2% of the approved cost to a max. of Rs. 5 Lakhs	1		**120,589**	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	Peer review of report						10,000	**10,000**	
10	Exploration Report (5% of (Sl 9 + Sl 10))		5 Hard copies with a soft copy	5.2(iii)	For the projects having cost exceding 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	1		**301,472**	EA has to submit the final Geological Report in Hard Copies (5 nos) and the soft copy to NMET.

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11	**Total Cost of the project without GST**	**6,461,499**	
12	**Provision for GST @ 18%**	**1,163,070**	GST will be reimbursed as per actual and as per notified prescribed rate
13	**Total Cost of the project with GST**	**7,624,568**	
	or Say Rs. in Lakhs	**76.25**	
Note -			
	1. If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. ***2. In case of execution of the project by EA on its own, a Certificate regarding non outsourcing of any component/project is required.***		

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ANNEXURE-5B

Timeline/work plan for Reconnaissance Survey (G-4 Stage) for Tin in Pokhar-Chhaili Block (90.00 Sq. Km), Tehri Garwal District, Uttarakhand.

Sl	Details of Works	1	2	3	4		5	6	7	8
1	**CAMP SETTING**									
2	**LARGE SCALE GEOLOGICAL MAPPING** (Includes 100 sq km of LSM + 100 nos of BRS +50 cum Trenching)									
	2.1 Geologist Party days (02 Party)		150 manday							
	2.2 Laboratory Works		20 days			Review				
3	**Surface Drilling**									
	3.1 Preparatory works for drilling (Approach road making)									
	3.2 Drilling works (01 rig - 250m)									
	3.4 Laboratory Works									
4	**Survey Works**									
	4.1 Survey party days for DGPS survey of Boreholes 5 pts) - 01 party									
5	**Camp Winding**									
6	**Preparation of Reports and Maps**									

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							ANNEXURE-6A
	Estimated cost of Bauxite investigation in Sirmaur-Kevati Block, Rewa District, MP(G4 Stage) Area : 145 sq km, Period of completion : 8 months						
Sl. Nos.	**Item of work**	**Unit**	**Rates as per NMET SoC 2020-21**		**Estimated Cost of the Proposal**		
			SoC- Item-Sl No	**Rates as per SoC**	**Qty.**	**Total**	**Remarks**
1	**Geological Mapping (on 1:12,500)**						
	(a) Geologists man days (Field)	One Geologist per day	1.2.b	11,000	150	1,650,000	
	(b) Geologists man days at Headquarters	One Geologist per day	1.2.a	9,000	60	540,000	
	(c) Labour Charges for Geological work	Labour day	5.7	494	300	148,200	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
	Charges for one Sampler (1 Party) for geochemical, channel and core samples	one sampler per day	1.5.2	5,100	34	173,400	

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	Labour Charges for Sampling work	Labour day	5.7	494	136	67,184	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
2	**Pitting**						
	(a) Pitting	per cu m	2.1.2	3,800	0	-	
3	**Drilling**						
	a) Drilling	per m	2.2.1.1b	6,775	200	1,355,000	Copy of approved MoC rate is required
	b)Land Crop Compensation	per bhs	5.6	20,000	15	300,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
	c) DGPS for Bh point	per point of observation	1.6.2	19,200	15	288,000	
	d) Survey Party days (1 party) without Labour	one Surveyor per day	1.6.1a	8,300	30	249,000	

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	e) Labour for survey work	Labour day	5.7	494	120	59,280	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
	(f) Borehole pillaring (construction of concrete pillar) 12 inches x12 inches x 30 inches	per borehole	2.2.7a	2,000	15	30,000	
	(g) Transportation of Drill Rig and truck(to and from Headquarters or Previous drill site)	per km	2.2.8	36	700	25,200	Certification in this regard is required to be provided
	(h) Drilling camp setting cost	per drill	2.2.9a	250,000	1	250,000	
	(i) Drilling camp winding cost	per drill	2.2.9b	250,000	1	250,000	
	(j) Monthly accommodation charges for drilling camp	per month	2.2.9	50,000	2	100,000	
	(k) Approach road making to drill site	per km	2.2.10a	22,020	5	110,100	Road Making will be considered as per the requirement but not more than the provided kms in the cost sheet. Road Making Charges will be reimbursed accordingly.

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	(l)Drill core preservation	per m	5.3	1,590	100	159,000	This amount will be reimbursed after successful delivery of the cores to the concerned core libraries/authorities
4	**Laboratory Studies**						
	a) Primary Sample: Sampling of BRS+ Core(XRF)		4.1.15a	4,200	250	1,050,000	BRS:150+ CS: 100)
	b) Check sample(10% External)		4.1.15a	4,200	25	105,000	
	c) Analysis for associated 34 elements(ICPMS)(Core sample)	per sample	4.1.14	7,731	15	115,965	
5	**Petrographic studies**						
	(a) Preparation of thin sections	per sample	4.3.1	2,353	10	23,530	
	(b) Study of thin sections	per section	4.3.4	4,232	10	42,320	
	(c)bBulk density/Specific gravity determination	per sample	4.8.1	1,605	5	8,025	
	Total					**7,099,204**	

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6	**Geological report preparation**	5 Hard copies with a soft copy	5.2	For the projects having cost more than Rs. 50 lakhs Upto 150 Lakhs - A minimum of Rs. 2.5 lakhs or 5% of the work whichever is more	5 Hard copies with a soft copy	354,960	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET
7	**Peer Review**	lumpsum	as per EC decision	10,000	1	10,000	
8	**Preparation of exploration proposal (5 hard copies with 1 soft copy)**	5 Hard copies with a soft copy	5.1	2% of the approved cost to a max. of Rs. 5 Lakhs	5 Hard copies with a soft copy	141,984	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	**Estimated cost of the Project without GST**					**7,606,148**	
10	**Provision for GST 18%**					**1,369,107**	
11	**Estimated cost of the Project with GST**					**8,975,255**	
	or Say Rs. In Lakh					**89.75**	
Note:-							

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1 2	***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

Time schedule of Bauxite investigation in Sirmaur-Kevati Block, Rewa District, MP

Sl.No.	Activities	1	2	3	4		5	6	7	8
1	Camp setting									
2	Geological mapping on 1:12,500 and BRS/Channel sampling									
3	Analytical work					Review				
4	Pitting									
5	Drilling									
6	Report Preparation									
7	Peer Review									
8	Submission of report									

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							ANNEXURE-7A
Estimated cost for Reconnaissance Survey (G-4) for Iron Ore in Gilanguda-Padur Block, Gadchiroli District, Maharashtra Total block area- 65 sq km; Completion Time- 6 Months							
Sl no.	**Item of Work**	**Unit**	**Rates as per NMET SoC 2020-21**		**Estimated Cost of the Proposal**		**Remarks**
			SoC-Item Sl No.	**Rates asper SoC**	**Qty.**	**Total Amount (Rs)**	
1	**Large scale (LSM) Geological(1:12,500) mapping/Trenching.**						
1.1	Geologist man days (1 No) for Large scale (LSM) Geological mappin/Trenching	one Geologist per day	1.2b	11,000	100	1,100,000	
1.2	Geologist man days (1 No) for Geological mappin& Report (HQ)	one Geologist per day	1.2a	9,000	50	450,000	
1.3	Labour Charges for Geological Work	Labour Day	5.7	477	200	95,400	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
	Sub-Total- 1					**1,645,400**	
2	**Laboratory Studies**						
2.1	Surface sampling (Bed Rock Samples for whole rock analysis-Major Oxides)	per sample	4.1.15a	4,200	70	294,000	BRS/Channel/section sample:70

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2.2	Check Sample for Total Fe, Total Mn, Al2o3,P2O5,CaO, Sio2	per sample	4.1.15a	4,200	7	29,400	External check sample-10%
2.3	PCS-Trace elements analysis-34 elements ICPMS	per sample	4.1.14	7,731	5	38,655	
	Sub-Total- 2					**362,055**	
3	**Pertrological/Mineralographic studies**						
3.1	a) Prepration of thin section	per sample	4.3.1	2,353	5	11,765	
3.2	b) Study of thin sectiion for petrography	per sample	4.3.4	4,232	5	21,160	
3.3	c) prepration of polished section	per sample	4.3.2	1,549	5	7,745	
3.4	d) Study of thin polished section for mineragraphy	per sample	4.3.4	4,232	5	21,160	
	Sub-Total- 3					**61,830**	
4	**Total (1 to 3)**					**2,069,285**	
5	**Geological Report Preparation**	5 Hard copies with a soft copy	5.2	For project upto 50 lakh : Minimum of 1.5 Lakh or 5% of the work whichever is more		150,000	EA has to submit the final Geological Report in hard copies (5 Nos.) and soft copy to NMET

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6	**Preparation of Exploration Proposal**	5 Hard copies with a soft copy	5.1	2% of approved project cost subject to maximum of 5 Lakh whichever is lower.	1	41,386	EA has to submit hard copy and the soft copy of the final proposal alongwith maps and plan as suggested by the TCC NMET in its meeting while clearing the proposal.
7	**Report Peer Review Charges**	lumpsum	As per EC decision	10000	1	10,000	
8	**Total Estimated Cost without GST (4 to 6)**					**2,270,671**	
9	**Provision for GST (18%)**					**408,721**	GST will be reimbursed as per actual and as per notified prescribed rate
10	**Total Estimated Cost with GST**					**2,679,391**	
	or Say, Rs. in Lakhs					**26.79**	
	Note:						
	1. If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. ***2. In case of execution of the project by EA on its own, a Certificate regarding non outsourcing of any component/project is required.***						

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ANNEXURE-7B

Time schedule for Reconnaissance Survey (G-4) for Iron Ore in Gilanguda-Padur Block, Gadchiroli District, Maharashtra

Sl.No.	Activities	1	2	3	4		5	6
1	Camp setting							
2	Geological mapping on 1:12,500 and BRS/Channel sampling							
4	Analytical work					Review		
5	Analytical work							
6	Report Preparation							
7	Peer Review							
8	Submission of report							

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							ANNEXURE-8A
Estimated cost for Reconnaissance Survey (G-4) for Iron Ore in Murwada-Tumricadi Block, Gadchiroli District, Maharashtra Total block area- 85 sq km; Completion Time- 6 Months							
Sl no.	**Item of Work**	**Unit**	**Rates as per NMET**		**Estimated Cost of the Proposal**	**Total Amount (Rs)**	**Remarks**
			SoC 2020-21				
			SoC- Item Sl No.	**Rates asper SoC**	**Qty.**		
1	**Large scale (LSM) Geological mapping/Trenching.**						
1.1	Geologist man days (1 No) for Large scale (LSM) Geological mappin/Trenching	one Geologist per day	1.2b	11,000	110	1,210,000	
1.2	Geologist man days (1 No) for Geological mappin& Report (HQ)	one Geologist per day	1.2a	9,000	60	540,000	
1.3	Labour Charges for Geological Work	Labour Day	5.7	477	220	104,940	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt. - whichever is higher
	Sub-Total (1)					**20,88,960**	
2	**Laboratory Studies**						
2	Surface sampling (Bed Rock Samples for whole rock analysis-Major Oxides)	per sample	4.1.5a	4,200	85	357,000	BRS/ Channel sample: 85
2.2	Check Sample (10 % External)	per sample	4.1.5a	4,200	9	37,800	

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2.3	Primary Sample for Au by Fire Assay	per sample	4.1.5a	2,380	5	11,900	
2.4	PCS-Trace elements analysis ICPMS	per sample	4.1.14	7,731	5	38,655	
	Sub-Total (2)					**445,355**	
3	**Pertrological/Mineralographic studies**						
3.1	Prepration of thin section	per sample	4.3.1	2,353	5	11,765	
3.2	Study of thin sectiion for petrography	per sample	4.3.4	4,232	5	21,160	
3.3	prepration of polished section	per sample	4.3.2	1,549	5	7,745	
3.4	Study of thin polished section for mineragraphy	per sample	4.3.4	4,232	5	21,160	
	Sub-Total (3)					**61,830**	
4	**Total (1 to 3)**					**2,596,145**	
5	**Geological Report Preparation**	5 Hard copies with a soft copy	**5.2**	For project upto 50 lakh : Minimum of 1.5 Lakh or 5% of the work whichever is more	**1**	**150,000**	EA has to submit the final Geological Report in hard copies (5 Nos.) and soft copy to NMET
6	**Preparation of Exploration Proposal**	5 Hard copies with a soft copy	**5.1**	2% of approved project cost subject to maximum of 5 Lakh whichever is lower.	**1**	**51,923**	EA has to submit hard copy and the soft copy of the final proposal alongwith maps and plan as suggested by the TCC NMET in its meeting while clearing the proposal.

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7	**Peer Review Charges**	lumpsum	As per EC decision	**10000**	**1**	**10,000**	
8	**Total Estimated Cost without GST (4 to 6)**					**2,808,068**	
9	**Provision for GST (18%)**					**505,452**	GST will be reimbursed as per actual and as per notified prescribed rate
10	**Total Estimated Cost with GST**					**3,313,520**	
	or Say, Rs. in Lakhs					**33.14**	
	Note:						
	1. If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. ***2. In case of execution of the project by EA on its own, a Certificate regarding non outsourcing of any component/project is required.***						

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ANNEXURE-8B

Time Schedule for Reconnaissance Survey (G-4) for Iron Ore in Murwada-Tumricadi Block, Gadchiroli District, Maharashtra

Sl.No.	Activities	1	2	3	4		5	6
1	Camp setting							
2	Geological mapping on 1:12,500 and BRS/Channel sampling							
4	Analytical work					Review		
5	Analytical work							
6	Report Preparation							
7	Peer Review							
8	Submission of report							

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							ANNEXURE-9A
Project Cost Estimate for Preliminary Exploration (G3 Stage) for Bauxite in Bangla Pat block (1.90 sq.km), Lohardaga District, Jharkhand time period : 8 months							
Sl. No	**Item Work**	**Item no in Soc**	**Unit**	**Rates as per SoC of NMET**	**Qty.**	**Amount (Rs)**	**Remarks**
1 - Outsourse Component							
A	**DRILLING**						
i	Core Drilling	2.2.1.4a	m	6,775	160	1,084,000	MoC approved rate is applied.
ii	Approach Road Making (hilly terrain)	2.2.10b	Per Km	32,200	4	128,800	Road Making will be considered as per the requirement but not more than the provided kms in the cost sheet. Road Making Charges will be reimbursed accordingly.
iii	Borehole Pilliaring	2.2.7a	Per Bh	2,000	8	16,000	
TOTAL - A						**1,228,800**	
B	**Laboratory Studies**						
I	***Chemical Analysis/ ICPS Studies***						

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a	Primary Sample for 5 radicals (Al2O3, SiO2, Fe2O3, TiO2 & LOI)	4.1.15a	Per sample	4,200	60	252,000	
b	External (10%) Check samples of 5 radicals	4.1.15a	Per sample	4,200	6	25,200	
c	Combined determination of TMH, MHA & Reactive silica	4.1.17a	Per sample	6,700	6	40,200	
Sub Total (I)						**317,400**	
II	***Physical & Petrological Studies***						
a	X-RD Studies on composite	4.5.1	per sample	4,000	3	12,000	
b	ICP-MS studies	4.1.14	per sample	7,731	25	193,275	
c	Preparation of thin section	4.3.1	per sample	2,353	5	11,765	
d	Complete Petrographic studies	4.3.4	per sample	4,232	5	21,160	
Sub Total (II)						**238,200**	
TOTAL - B						**555,600**	
							Reimbursement of outsource component will be made as per Para 3 of NMET-SoC
TOTAL-1 OUTSOURCED COMPONENT (A+B)						**1,784,400**	
2. In-House Component							
A	**GEOLOGICAL WORK**						
i	Geological Party days (1 party) Field	1.2 b	one Geologis	11,000	90	990,000	

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			t per day				
ii	Geological Party days (1 party)HQ	1.2 a	one Geologis t per day	9,000	50	450,000	
iii	Labour Charges for Geological work	5.7	Labour day	494	180	88,920	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt., whichever is higher
Sub Total A						**1,528,920**	
B	**SAMPLING**						
i	Sampling - 1 sampler without Labour	1.5.2	one Sampler per day	5,100	8	40,800	
ii	Labour Charges for Sampling work	5.7	Labour day	494	32	15,808	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt., whichever is higher
Sub Total B						**56,608**	
C	**SURVEY WORK**						
i	Survey Party days (1 party) without Labour for contouring of minerallized zone	1.6.1a	one Surveyor per day	8,300	30	249,000	

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ii	Labour Charges for Survey work	5.7	Labour day	494	120	59,280	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt., whichever is higher
iii	DGPS Survey of Boreholes	1.6.2	per point	19,200	12	230,400	
Sub Total C						**538,680**	
D	**Pitting**						
i	Pitting for determination of bulk density (1m x1m x1m)- 2 no	2.1.1	Cu. m	3,800	2	7,600	
Sub Total D						**7,600**	
TOTAL- 2 IN-HOUSE COMPONENT (A to D)						**2,131,808**	
Total Cost of Outsourced and In-House Component (1 + 2)						**3,916,208**	
3. Miscellaneous Charges							

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i	Preparation of Exploration Proposal	5.1	5 Nos. Hard Copies along with soft copy	2% of approved Project cost subject to Maximum of 5 Lakh which ever is lower	5 Nos. Hard Copies along with soft copy	78,324	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.
ii	Peer review			10000	1	10,000	
iii	Tendering Process cost for Outsourced component	2.3		2% of cost or 5 lakh which ever is lower	1	24,576	will be reimbursed when copy of the signed agreement/tender for outsoure component will be submitted.
iv	Operational charges for outsourced component	Point 3 (i)of SoC and item 6.0 (i)		For total outsourced cost up to Rs. 50 Lakh - 10% of the total outsourced componen t		178,440	will be reimbursed as per point 3 of NMET-SoC after recalculation when actual cost of outsourcing component will be be provided. The copy of contract agreement for outsourced component and work completion report are also required to reimburse the operational charge.

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v	Geological Report preparation	5.2	5 Nos. Hard Copies along with soft copy	For the projects costing up to Rs. 50 Lakhs: A Minimum of Rs. 1.5 lakhs or 5% of the work whichever is more	5 Nos. Hard Copies along with soft copy	195,810	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
TOTAL - 3 Miscellaneous Charges						**487,151**	
4 - Total Cost of the project without GST (1 + 2 + 3)						**4,403,359**	
	Provision for GST (@18%)					792,605	GST will be reimburse as per actual and as per notified prescribed rate
5- Total Cost of the project with GST						**5,195,963**	
					or say Rs.	***51.96***	***Lakh***

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Note -

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

2. For in-house component of the project , a Certifiate from the NEA regarding non outsourcing of any component/project is required.

3. In no case, the sum of outsourced cost and operational charges should exceed the cost as per SoC rates of the total outsourced component(s).

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Annexure-9B

Time Schedule For Preliminary Exploration (G3 Stage) for Bauxite in Bangla Pat block (1.90 sq.km), Lohardaga District, Jharkhand

S. No	Activities										
		Months	1	2	3	4	Review	5	6	7	8
1	Outsourcing	Months									
2	Mobilising	Months									
3	Drilling	Months									
4	Survey Party days (1 Party)	Days									
5	Geologist Party days, Field (1 Party)	Days									
6	Sampling (1Party)										
7	Laboratory Studies	Nos.									
8	Geologist Party days, HQ (1 Party)	Days									
9	Report Writing & Peer Review	Months									

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Revised Project Cost Estimate for Preliminary Exploration (G3 Stage) for Limestone in Itga Block (10.60 Sq. Km), District : Kalaburagi, Karnataka

(Previous Reference - Point No. 49.1.9 with Annexure -6A of the minutes of the 49th meeting of NMET-TCC held on 30th to 31st Jan. 2023)

Sl. No	Item Work	Item no in Soc	Unit	Rates as per SoC of NMET	Qty.	Amount (Rs)	Remarks
1 - Outsourse Component							
A	**Drilling**						
i	Core Drilling	2.2.1.1b	per m	6,714	450	30,21,300	Copy of MoC approved rate is required.
ii	Land / Crop Compansation (in case the BH falls in agreecultural Land)	5.6	Per Bh	20,000	10	2,00,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
iii	Borehole plugging by cement	2.2.7b	per m	150	10	1,500	

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iv	Drill Core Preservation	5.3	per m	1,590	450	7,15,500	This amount will be reimbursed as per actual metre of drill cores and after the successful delivery of drilling cores to the concerned core libraries/authorities.
v	Construction of concrete Pillar (12"x12"x30")	2.2.7a	Per Bh	2,000	10	20,000	
	TOTAL - A					**39,58,300**	
B	**Sample Work**						
i	Sampler Charges	1.5.2	one Sampler per day	5,100	60	3,06,000	
ii	Labour Charges for Sampling work	5.7	Labour day	477	240	1,14,480	
	TOTAL - B					**4,20,480**	
C	**Laboratory Studies**						
I	***Chemical Analysis***						
a	Primary Samples (Major Oxides)	4.1.15a	Per sample	4,200	450	18,90,000	
b	External Check (10%) (Major Oxides)	4.1.15a	Per sample	4,200	45	1,89,000	
c	Internal Check (5%) (Major Oxides)	4.1.15a	Per sample	4,200	23	96,600	

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	Sub Total (I)					**21,75,600**	
II	***Bulk Density and Petrological Studies***						
a	Bulk density	4.1	per sample	3,540	5	17,700	
b	Preparation of thin section	4.3.1	per sample	2,353	10	23,530	
c	Complete Petrographic studies	4.3.4	per sample	4,232	10	42,320	
	Sub Total (II)					**83,550**	
	TOTAL - C					**22,59,150**	
	TOTAL-1 OUTSOURCED COMPONENT (A+B+C)					**66,37,930**	**Reimbursement of outsource component will be made as per Para 3 of NMET-SoC**
2. In-House Component							
A	**GEOLOGICAL WORK**						
i	Geological Party days (1 party) Field	1.3 b	one Geologist per day	11,000	120	13,20,000	
ii	Geological Party days (1 party)HQ	1.3 a	one Geologist per day	9,000	60	5,40,000	

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iii	Labour Charges for Geological work	5.7	Labour day	477	240	1,14,480	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt., whichever is higher
	Sub Total A					**19,74,480**	
B	**SURVEY WORK**						
i	Survey Party days (1 party) without Labour for contouring (2m intervel)	1.6.1a	one Surveyor per day	8,300	30	2,49,000	
ii	Labour Charges for Survey work	5.7	Labour day	477	120	57,240	Amount will be reimburse as per the notified rates by the Central Labour Commission or respective State Govt., whichever is higher
iii	DGPS Survey of Boreholes	1.6.2	per point	19,200	16	3,07,200	
	Sub Total B					**6,13,440**	
	TOTAL- 2 IN-HOUSE COMPONENT (A to B)					**25,87,920**	

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Total Cost of Outsourced and In-House Component (1 + 2)						**92,25,850**	
3. Miscellaneous Charges							
i	Preparation of Exploration Proposal	5.1	5 Nos. Hard Copies along with soft copy	2% of approved Project cost subject to Maximum of 5 Lakh which ever is lower	5 Nos. Hard Copies along with soft copy	1,84,517	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.
ii	Peer Review Charges	as per EC decision		10000	1	10,000	
iii	Tendering Process cost for Outsourced component	2.3		2% of cost or 5 lakh which ever is lower	1	1,32,759	will be reimbursed when copy of the signed agreement/tender for outsoure component will be submitted.

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iv	Operational charges for outsourced component	Paragraph 3 (ii)of SoC and Item No. 6.0 (ii)				6,21,258	will be reimbursed as per point 3 of NMET-SoC after recalculation when actual cost of outsourcing component will be be provided. The copy of contract agreement for outsourced component and work completion report are also required to reimburse the operational charge.
v	Geological Report preparation	5.2	5 Nos. Hard Copies along with soft copy	For the projects cost exceeding Rs. 50 Lakhs but less than Rs. 150 lakh : A Minimum of Rs. 2.5 lakhs or 5% of the work whichever is more	5 Nos. Hard Copies along with soft copy	4,61,293	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
TOTAL - 3 Miscellaneous Charges							

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					14,09,826	
4 - Total Cost of the project without GST (1 + 2 + 3)					**1,06,35,676**	
	Provision for GST (@18%)				19,14,421.70	GST will be reimburse as per actual and as per notified prescribed rate
5- Total Cost of the project with GST					***or say Rs.*** **1,25,50,098** ***125.50***	***Lakh***

Note -

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

2. For in-house component of the project , a Certifiate from the NEA regarding non outsourcing of any component/project is required.

3. In no case, the sum of outsourced cost and operational charges should exceed the cost as per SoC rates of the total outsourced component(s).

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