

Ministry of Mines
National Mineral Exploration Trust
Minutes of 6th meeting of Technical-cum-Cost Committee -II (TCC-II)
held on 27th and 28th February, 2025 & 6th March 2025

The 6th meeting of Technical-cum-Cost Committee – II (TCC-II) of National Mineral Exploration Trust (NMET) was held through video conferencing under the Chairmanship of Shri Pradeep Singh, Deputy Director General (DDG), Geological Survey of India (GSI) and Chairman, TCC-II, NMET on 27th and 28th February, 2025 & 6th March 2025.

Members of TCC-II, NMET and representatives from Mineral Exploration and Consultancy Limited (MECL), Jharkhand Exploration and Mining Corporation Limited (JEMCL), DMR Meghalaya, CGM Gujarat, DTCI Manipur, DGM Ladakh, DGM Bihar, DMG Jammu & Kashmir, DGM Tripura, M/s Critical Mineral Trackers, M/s Geovale Services Private Limited, M/s GeoExpOrePvt. Ltd., FCI Aravali Gypsum & Minerals India Limited (FAGMIL), M/s Maheshwari Mining Pvt. Ltd. (MMPL), M/s Tata Steel Limited, M/s Gemcokati Exp. Pvt. Ltd., M/s Gems Projects Private Limited, M/s Mining Tech Consultancy Services Limited, M/s PRB Infra Projects Private Limited, M/s Vardan Environet LLP, Madhya Pradesh State Mining Corporation Limited (MPSMCL) etc. have attended the meeting through video conferencing mode. The list of participants is at Annexure-1.

Shri Pradeep Singh, DDG, GSI and Chairman, TCC-II, NMET welcomed to all TCC-II members and participants representing various Notified Exploration Agencies (NEAs) and Notified Private Exploration Agencies (NPEAs).

Agenda 6.1 Technical Evaluation of New Project Proposals

Agenda 6.1.1 Preliminary Exploration (G3) for Copper and Associated minerals in Singhana - Bodhan Block (3.36 sq. km), Jhunjhunu District, Rajasthan [Implementing Agency: Mineral Exploration and Consultancy Limited (MECL)]

- a) The proposed exploration block of 3.36 sq. km. area, falls in Survey of India Toposheet number 44P/16 in parts of Jhunjhunu District, Rajasthan.
- b) MECL informed that the proposed Singhana-Bhodan Block forms the part of prominent Singhana-Muradpur-Pacheri segment of North Khetri Copper Belt and lies between the gap areas of previously explored Singhana Extension Block-II and Muradpur Block. The previous exploration carried out by GSI & MECL (2002 & 2013-14) in Singhana Extension Block-II & Muradpur Central Block established presence of prominent two copper lodes (Lode-I & II) of varying thickness between 120mRL to -240m RL. In Singhana Extension-II Block, Lode-I hosted by biotite amphibole quartzites intersected in two boreholes i.e. SME-7 (3.65m x 1.22% Cu) and SME-9 (4.85m x 0.83% Cu). The promising lode-II hosted by amphibole rich rock has been intersected in borehole SME 7 (12.75m x 0.90% Cu). The average gold content of lode-I is 0.3 to 0.4 g/t while in lode-II the average gold content is 0.5 g/t. A total of 2.83 m.t. of ore resource with 0.82% Cu



have been estimated in Singhana Extension Block-II over a strike length of 1.0km and up to vertical depth of 470m (-180mRL).

- c) MECL further informed that in Muradpur Central block, the most persistent lodes HWI, HWII of Lode-I & FWI – FWII of Lode-II have exhibited the pinch and swell structure and are disposed in en-echelon pattern. Total 5.42 m.t. copper ore resource with an average grade of 0.47% Cu at 0.2% Cu cut-off & 2.30 m.t. copper ore resource with an average grade of 0.70% Cu at 0.5% Cu cut-off estimated over a strike length of 600m & 500m respectively up to vertical depth of 265m. Since the proposed Singhana Bhodan Block lies in between the gap areas of Singhana Extension -II Block and Muradpur block forms the basis for present exploration to prove the strike and depth continuity of these prominent copper bearing lodes at 200m vertical depth and 450m vertical depth from surface. Moreover, DMG Rajasthan has requested MECL to quantify the copper ore resources and associated minerals in Singhana Bhodan Block under NMET funding.
- d) The TCC-II advised to consult Twin Otter Airborne Survey System (TOASS) data and Operation Hard Rock (OHR) data from GSI for the proposed block. Committee also suggested to analyse samples for Bismuth (Bi), Germanium (Ge) and Molybdenum (Mo).

Recommendation TCC-II

The committee recommends the proposal for approval of EC for “Preliminary exploration (G3 stage) for Copper & associated Minerals in Singhana Bhodan Block (3.36 sq.km.) North Khetri Copper Belt, District-Jhunjhunu, Rajasthan” with an estimated cost of ₹1055.08 Lakh (including GST) within the time schedule of 15 months and submission of the report as per Annexures 2A & 2B. Eleven (11) boreholes will be drilled with total 4,600 drilling meterage. The item will be reviewed after 6 months & 12 months.

Agenda 6.1.2 Reconnaissance Survey (G4) for Polymetals (Cu-Pb-Zn & Au Ag) in Amritpur area (56.62 Sq.km), Nainital District, Uttarakhand

[Implementing Agency: Mineral Exploration and Consultancy Limited (MECL)]

- a) The proposed exploration block of 56.62 sq. km. area, falls in Survey of India Toposheet number 530/11 in parts of Nainital District, Uttarakhand.
- b) MECL informed that the proposed area, located in an orogenic wedge of the Lesser Himalayas, features a complex stratigraphy where the Bhimtal and Ramgarh formations are intruded by the Amritpur Granite. Intense tectonic activity, thrust faults, folding, and syn-kinematic granite emplacement, has created conduits for hydrothermal fluids. Geochemical data, (1972-73, GSI), reveal robust anomalies (~2000 ppm Cu, ~2250 ppm Zn, ~350 ppm Pb, ~10 ppm Ag), indicating a polymetallic hydrothermal system. Its reworked signature is comparable to deposits like the Iberian Pyrite Belt and Tasmanian-type VMS deposits. Consequently, a comprehensive Reconnaissance Survey (G-4) is essential to delineate alterations zones, high-priority targets and assess the area's mineral potential.

- c) The TCC-II advised that only selected areas with possible mineralisation should be mapped and samples to be collected from those areas. Committee also suggested to reduce the proposed area of Large-Scale Mapping (LSM).

Recommendation TCC-II

The committee recommends the proposal for approval of EC for “Reconnaissance Survey (G-4 Stage Exploration) for Polymetals in Amritpur area, District Nainital, Uttarakhand” with an estimated cost of ₹107.98 Lakh (including GST) within the time schedule of 10 months and submission of the report as per Annexures 3A&3B. The item will be reviewed after 5 months.

Agenda 6.1.3 Preliminary Exploration (G3) for Graphite in Jhab Block (6.68 sq. km), Dahod District, Gujarat

[Implementing Agency: Mineral Exploration and Consultancy Limited (MECL)]

- a) The proposed exploration block of 6.68 sq. km. area, falls in Survey of India Toposheet number 46F/14 in parts of Dahod District, Gujarat. Reserved forest falls in the block area.
- b) MECL informed that the Commissioner of Geology and Mining (CGM), Gujarat has identified several blocks for exploration of Critical and Strategic Mineral based on previous work. They published the information of these blocks in Gujarat’s Mineral Wealth. CGM, Gujarat (via official email dated 14/11/2024) sent MECL a NOC approval to take up exploration/investigation in those blocks. The proposed Jhab graphite block (G-3 stage) is one of them.
- c) The exploration work for the potential graphite deposit in the DevgadhBariya-Nagwav Block, Dahod district, Gujarat, was conducted at G-4 stage as part of a reconnaissance survey by GSI during field season 2022-23 with an objective to delineate new zones of graphite mineralization. Large-scale mapping (LSM) was carried out over a 100 sq. km area at a 1:12,500 scale. The study area consists of Aravalli metasediments of the Champaner Group, including dolomite, micaceous quartzite, quartz-biotite schist, and graphite schist. A total of 94 samples were collected from different locations, including 50 BRS (Bedrock Samples), 50 channel samples, 10 PCS (Petrographic Core Samples) and 50 pitting/trenching samples. These samples were analyzed for fixed carbon (FC), major oxides, and trace elements. A 20 Line-km (Lkm) Self-Potential (SP) geophysical survey was carried out in the Ankli village area. The survey identified two low-SP anomaly zones, one with a 700m strike length and another with a 300m strike length, indicating potential graphite mineralization. Fixed Carbon (FC) content in samples ranges from 6.18% to 20.18%, indicating economic viability.
- d) As per the comments received from GSI, there is an ongoing G4 stage exploration for Graphite by GSI in that area & also a G3 stage exploration has been proposed by GSI.
- e) The TCC-II advised that map of the GSI’s exploration blocks should be referred to check the overlap area. Till then the project proposal is deferred.

Recommendation TCC



The committee does not recommend the proposal for approval of EC.

Agenda 6.1.4 Reconnaissance Survey (G4) for REE, Glauconite and Associated minerals in Devpur area (138.52 sq. km), Kachchh District, Gujarat

[Implementing Agency: Mineral Exploration and Consultancy Limited (MECL)]

- a) The proposed exploration block of 138.52 sq. km. area, falls in Survey of India Toposheet number 41E/07 in parts of Kachchh District, Gujarat.
- b) MECL informed that 23 NGCM Stream Sediment Sample data points fall in the proposed Devpur Block. The total REE, LREE and HREE values have been calculated and the geochemical anomaly map for the same has been prepared. The proposed Devpur block has a maximum total REE value of 5977 ppm followed by 2921 ppm and 2132 ppm. The maximum total HREE value in proposed Devpur block is 369 ppm followed by 203 ppm of which the major contributing elements are Dysprosium (maximum 176 ppm) and Gadolinium (maximum 131 ppm). The maximum LREE value in Devpur block is 5607 ppm and the major contributing element is Neodymium (maximum 4158 ppm). The maximum K₂O value analysed in the stream sediment samples are 3.57 ppm and 3.54 ppm.
- c) The TCC-II advised that prior to detailed sampling clay characterisation is required in this proposed area, so few samples should be checked for characterisation of samples. Scout drilling for 500m (50m depth) for Glauconite, 300m (30m depth) for REE and Auger drilling for 490m (70 nos. of 7m depth) has been recommended.

Recommendation TCC

The committee recommends the proposal for approval of EC for “Reconnaissance Survey (G-4) for REE, Glauconite and associated mineralization in Devpur area, District- Kachchh, Gujarat” with an estimated cost of ₹284.16 Lakh (including GST) within the time schedule of 10 months and submission of the report as per Annexures 4A & 4B. Scout drilling for 500m for Glauconite, 300m for REE and Auger drilling for 490m will be done. The item will be reviewed after 6 months.

Agenda 6.1.5 Reconnaissance Survey (G4) for REE and Phosphorite in Sumarasar area (107.46 sq.km), Kachchh District, Gujarat

[Implementing Agency: Mineral Exploration and Consultancy Limited (MECL)]

- a) The proposed exploration block of 107.46 sq. km. area, falls in Survey of India Toposheet number 41E/11 in parts of Kachchh District, Gujarat. Part of the block partially falls in Forest area as per PM Gati Shakti Portal
- b) MECL informed that the NGCM data, shows the total REE value of stream sediment samples in the proposed Sumarasar block exceeds 1000 ppm, which is considered anomalous for REE mineralization. Notably, the elements Lanthanum (La) reaches up to 363.50 ppm, Cerium (Ce) up to 745.6 ppm, and Neodymium (Nd) up to 356 ppm in this area.
- c) MECL further informed that the proposed Sumarasar block predominantly features gypseous shale, calcareous sandstone containing Belemnites, and



feldspathic sandstone shale with ammonite fossils. The REE content in these sediments is likely influenced by the reducing conditions of carbonaceous members, which are enriched in organic matter. During sedimentation, REE-bearing minerals can become selectively concentrated in specific environments, such as beach or fluvial systems. Factors like pH, redox conditions, and the presence of organic matter significantly affect the distribution and preservation of REEs in sedimentary rocks. Phosphorite occurrences have been reported in the Kutch basin, with limestones and mudstones commonly serving as phosphate-bearing rocks. Phosphatic sedimentary rocks are often associated with or interbedded with shales, cherts, limestones, dolomites, and sometimes sandstones. Given that these lithologies are prevalent in the proposed block, exploration for phosphorite is also planned. The unique lithological composition and depositional conditions of the Sumarasar block have contributed to the enrichment of REEs and the presence of phosphorite deposits, making it a significant area for further exploration.

- d) The TCC-II advised that the phosphorite mineralised zones should be identified first. Scout drilling to be done in first phase and after review Auger drilling will be decided.
- f) As per the comments received from GSI, there is an ongoing G4 stage exploration project of GSI in this area.
- g) The TCC-II advised that advised that map of the GSI's exploration blocks should be referred to check the overlap area & the proposed block boundary may be modified accordingly.

Recommendation TCC

The committee recommends the proposal for approval of EC for "Reconnaissance Survey (G-4) For REE & associated minerals in Sumarasar Area, District Kachchh, Gujarat" with an estimated cost of ₹177.60 Lakh (including GST) within the time schedule of 10 months and submission of the report as per Annexures 5A&5B. Total Area - 100 sq km; Scout Boreholes: 10 Nos Coring (10 Nos for REE), Average Depth: 30 m for Coring and 100 Nos auger drilling with an average depth with 7 m depth for auger. Completion Time -10 Months, reviewed after 05 Month.

Agenda 6.1.6 Reconnaissance Survey (G4) for Gold and Associated Minerals in Parma area (133.00 Sq.km), Singrauli District, Madhya Pradesh

[Implementing Agency: Mineral Exploration and Consultancy Limited (MECL)]

- a) The proposed exploration block of 133.00 sq. km. area, falls in Survey of India Toposheet number 63L/03 & 63L/07 in parts of Singrauli District, Madhya Pradesh. The ridges are occupied by forest in the proposed block.
- b) MECL informed that the Geological Survey of India has been actively engaged in delineating the occurrences of gold and base metal mineralization in Mahakoshal Group of rocks for more than four decades. During field season 1971 72, Geological survey of India carried out Airborne Geophysical survey, which included Multi-sensor (Electromagnetic, Magnetic, and spectrometric) survey in parts of Jabalpur, Rewa, Satna, Shahdol and Sidhi area (Madhya Pradesh) (Block-



5, BRGM, CGG). It has brought out large number of aero electromagnetic and aeromagnetic anomalies in this area. In subsequent field seasons, the anomalies were checked to locate possible causative sources related to base metal mineralization in the area. Malachite and limonite encrustations in highly sheared/brecciated carbonaceous phyllites about 1.5 km SE of Majhigawan (63L/7), malachite stains, limonitized coatings and gossan materials about 1.5 km SE of Thapna (63L/7) and near Karhiya (63L/7) have been noticed during ground evaluation of AEM anomalies (Shukla et. al., FS 1992-93). Anomaly near Karhiya is located over ultramafics which have analyzed 0.2 to 0.41% Cu, 0.38 to 0.59% Ni and gold values ranging from 0.18 and 0.11 ppm. Occurrence of Cu-Ni mineralization associated with an ultramafic body measuring 35m x 5m located about 1.5 km SE of Thapna was brought out by K.S. Thakur during FS 1993-94. The ultramafic body (20 samples) yielded 160 ppm -1.1% Cu, 610 ppm-0.49% Ni, and <0.1-0.27% Au.

- c) GSI reported Chemical analysis of bedrock samples revealed anomalous content of gold. Samples of ultramafic rocks around Thapna have analysed 0.15% Cu, 0.20% Ni and 0.56ppm Au. Ultramafic body have recorded upto 200 ppb Pt, 8 ppb Pd and 12 ppb Ir. Ultramafic rock samples from Karhiya have analysed 58 ppb Pt, 118 ppb Pd and 1.5 ppb Ir, 0.2ppm Au, 530ppm Cu & 710ppm Ni. On the basis of findings detailed investigation in terms of gold, PGE, Nickel and associated minerals were recommended. During the 2021-22 field season, GSI conducted a reconnaissance survey for gold and associated sulphide mineralization in a portion of Toposheet No. 63L/11. The survey identified banded iron formations (BIFs) across the block, trending ENE-WSW, with Fe₂O₃ content ranging from a high of 59.21% to a low of 31.11%. Additionally, one quartz vein sample (near Khatai turn), intruding within the BMQ, yielded 7,700 ppb of gold, while another sample showed 470 ppb of gold.
- d) GeoMysore Services (India) Pvt. Ltd. carried out exploration work during the year 2003 to 2006 in and around Sidhi covering an area of 2700 sq km. In the course of the exploration, stream sediment shows more than 30 ppb Pt+Pd and rock chip samples in meta-basalt and volcanoclastics showed more than 30 ppb of Pt+Pd from the Thapna area.
- e) The TCC-II advised that Scandium (Sc) may be tested in mafic and ultramafic litho units in the proposed block. The committee opined that drilling will be done after review of the project.

Recommendation TCC

The committee recommends the proposal for approval of EC for "Reconnaissance Survey (G-4) Stage for Gold& associated minerals in Parma area, District Singrauli, Madhya Pradesh" with an estimated cost of ₹187.29 Lakh (including GST) within the time schedule of 10 months and submission of the report as per Annexures 6A & 6B. Five (5) scout boreholes will be drilled up to 500 drilling meterage. The item will be reviewed after 5 months & 6 months.

Agenda 6.1.7 Reconnaissance Survey (G4) for REE and associated Minerals in Nokhaniya area (100.49 Sq.km), Kachchh District, Gujarat



[Implementing Agency: Mineral Exploration and Consultancy Limited (MECL)]

- a) The proposed exploration block of 101.65 sq. km. area, falls in Survey of India Toposheet number 41E/11 in parts of Kachchh District, Gujarat. Part of the block partially falls in Forest area as per PMGati Shakti Portal.
- b) MECL informed that the NGCM data, shows the total REE value of stream sediment samples in the proposed Nokhaniya block exceeds 1000 ppm, which is considered anomalous for REE mineralization. Notably, the elements Lanthanum (La) reaches up to 392.76 ppm, Cerium (Ce) up to 797.18 ppm, and Neodymium (Nd) up to 358.84 ppm in this area. The proposed Nokhaniya block predominantly features gypseous shale, calcareous sandstone containing Belemnites, and feldspathic sandstone shale with ammonite fossils. The REE content in these sediments is likely influenced by the reducing conditions of carbonaceous members, which are enriched in organic matter. During sedimentation, REE-bearing minerals can become selectively concentrated in specific environments, such as beach or fluvial systems. Factors like pH, redox conditions, and the presence of organic matter significantly affect the distribution and preservation of REEs in sedimentary rocks.
- c) As per the comments received from GSI, there is an ongoing exploration project of GSI in this area.
- d) The TCC-II advised that advised that map of the GSI's exploration blocks should be referred to check the overlap area& the proposed block boundary may be modified accordingly.

Recommendation TCC

The committee recommends the proposal for approval of EC for "Reconnaissance Survey (G-4 Stage) for REE & Phosphorite in Nokhaniya Area, District Kachchh, Gujarat" with an estimated cost of ₹239.22 Lakh (including GST) within the time schedule of 10 months and submission of the report as per Annexures 7A&7B.Total Area - 100.49sq km; auger boreholes: 100 Nos, with average depth of 7m & Scout Boreholes: 15 Nos Coring (10 Nos for REE and 5 Nos for Phosphorite) with an average 30 m depth for REE and 50m for Phosphorite coring. Completion Time -10 Months, reviewed after 5month.

Agenda 6.1.8 Reconnaissance Survey (G4) for REE and Associated Minerals in Saiyedpar area (135.45 Sq.km), Kachchh District, Gujarat

[Implementing Agency: Mineral Exploration and Consultancy Limited (MECL)]

- a) The proposed exploration block of 135.45 sq. km. area, falls in Survey of India Toposheet number 41E/16 in parts of Kachchh District, Gujarat.
- b) MECL informed that the NGCM Stream Sediment Sample data points fall in the proposed Saiyedpar Block. The total REE, LREE and HREE values have been calculated and the geochemical anomaly map for the same has been prepared. The proposed Saiyedpar block has a maximum total REE value of 1360 ppm followed by 1070 ppm. The maximum total HREE value in proposed Saiyedpar block is 81.61 ppm of which the major contributing elements is Gadolinium (maximum 33.62 ppm). The maximum LREE value in Saiyedpar block is 1180.44 ppm and the major contributing element is Cerium (maximum 566.02 ppm). The NGCM stream sediment samples carried out by GSI show highly anomalous values for REE in toposheets 41E/11,12,15 & 16.A fossiliferous and calcareous limestone lies in the middle of the proposed block. 19 NGCM Stream



Sediment Sample data points fall in the proposed Saiyedpar Block and the maximum CaO value analysed in the stream sediment samples is 5.50%.

- c) The TCC-II advised that initially two boreholes of 50/60m depth should be done and based on the results, borehole depth will be adjusted as per the actual depth of the target lithology for remaining boreholes.

Recommendation TCC

The committee recommends the proposal for approval of EC for "Reconnaissance Survey (G-4) for REE and associated mineralization in Saiyedpar area, District-Kachchh, Gujarat" with an estimated cost of ₹183.76 Lakh (including GST) within the time schedule of 10 months and submission of the report as per Annexures 8A&8B.Thirty (30) nos. of Auger drilling will be done up to 210-meter total depth. The item will be reviewed after 4 months.

Agenda 6.1.9 Reconnaissance Survey (G4) for REE, RM, Glauconite and Phosphorite in Devisar area (102.70 Sq.km), Kachchh District, Gujarat

[Implementing Agency: Mineral Exploration and Consultancy Limited (MECL)]

- a) The proposed exploration block of 102.70 sq. km. area, falls in Survey of India Toposheet number 41E/07 in parts of Kachchh District, Gujarat.
- b) MECL informed that the NGCM raw data from NGDR was downloaded and stream sediment sample results from that was used for creating LREE, HREE & Total REE geochemical anomaly map which is presented as plates with this proposal. A clear high geochemical anomaly has been observed in those plates. In the proposed block 26 stream sample were collected by GSI, out of 26 samples 6 stream samples shows Total REE (TREE) of more than 1000 ppm. The maximum TREE value in the proposed block observed upto 95255 ppm. HREE and LREE values vary from 38.9 ppm to 3260 ppm and 176 ppm to 91995 ppm respectively. The concentration of HREE is lesser than that of LREE in the proposed block. Also, NGCM data suggests the presence of Glauconite in the proposed block. Values of K₂O is varying between 1.21% - 3.06%.
- c) MECL further informed that the region has REE-rich source rocks (Deccan Traps, granites), ion-adsorbing clays, and past marine transgressions that facilitate REE concentration.
- d) The TCC-II advised modification in the proposed block boundary. The committee also suggested that separate pitting/trenching for Glauconite & REE is not required. The committee opined that initially two boreholes of 50/60m depth should be done and based on the results, borehole depth will be adjusted as per the actual depth of the target lithology for remaining boreholes.

Recommendation TCC

The committee recommends the proposal for approval of EC for "Reconnaissance Survey (G-4 Stage) For REE& associated minerals in Devissar area, District: Kachchh, Gujarat" with an estimated cost of ₹251.38 Lakh (including GST) within the time schedule of 10 months and submission of the report as per Annexures 9A & 9B.Twelve (12) boreholes will be drilled up to 600 drilling meterage. The item will be reviewed after 6 months.



Agenda 6.1.10 Reconnaissance survey (G4) for Nickel, Cobalt and PGE in Botad area, Botad District, Gujarat

[Implementing Agency: M/s Critical Mineral Trackers]

- a) The proposed exploration block of 99.6 sq. km. area, falls in Survey of India Toposheet number 41N/12 & 41N/16 in parts of Botad District, Gujarat.
- b) M/s Critical Mineral Trackers informed that the area was mapped on scale 1:25,000. About 30% of the area is covered by picritic flows/sills and dykes which are 10 m to 20 m thick. Sulphide related PGE-Ni mineralization are usually localized at the basal part of thick picritic sills and flows. Weathered/ lateritic areas that developed over picritic basalts should also be tested for possible Ni rich zones. Some of these picritic rocks are very high in Ni concentration (over 1000 ppm). MgO content of these picritic rocks goes up to 20%. Co and PGE content of these picritic rocks are not analysed. High concentration of thick picritic flows/ sills and dykes with high MgO content along with isolated high Ni concentration in these rocks make them a good target for Ni-Co-PGE mineralization. Especially the basalt parts of thick picritic flows may host sulphur rich Ni-Co-PGE mineralization. However, Ghevariya et al. (1996) analysed 33 basaltic samples (picrite and other basalts) from the area of which nine samples yielded over 500 ppm Ni, highest concentration being 0.1% Ni. All the above observations of Ghevariya et al., 1996 are positive indicators for presence of sulphide related PGE-Ni mineralization in the area.
- c) The TCC-II opined that drilling in this proposed block will be subject to positive outcomes of Geological Mapping. Analysis for PGE should be done only if Nickel (Ni) value exceeds 0.2% & if PGM grains found in Electron Probe Microanalysis. Analysis of Arsenic (As), Molybdenum (Mo), Cobalt (Co), Rhodium (Rh), Copper (Cu), Indium (In) Tellurium (Te) to be done. Electron Probe Micro analysis and Whole rock analysis were also suggested by the committee.

Recommendation TCC

The committee recommends the proposal for approval of EC for "Reconnaissance survey (G4) for Nickel, Cobalt and PGE in Botad area, Botad District, Gujarat" with an estimated cost of ₹128.25Lakh (including GST) within the time schedule of 10 months and submission of the report as per Annexures 10A&10B. Three (3) boreholes will be drilled up to 100m depth each with a total drilling meterage of 300m. The item will be reviewed after 4 months.

Agenda 6.1.11 Reconnaissance survey (G4) for Basemetal in Chupra-Khet, Kuta area, Pithoragarh District, Uttarakhand

[Implementing Agency: M/s Geovale Services Private Limited]

- a) The proposed exploration block of 66 sq. km. area, falls in Survey of India Toposheet number 62C/01 & 62C/05 in parts of Pithoragarh District, Uttarakhand.
- b) M/s Geovale Services Private Limited informed that Govil et al. 2018, reported galena (PbS) and sphalerite (ZnS) from Pithoragarh limestone from the samples collected from the Kuta village (44% Zn and 70% Pb). Geovale's has also analyzed a few samples from the nearby area and got about 10% Zn from this Kuta limestone. Geovale has observed

carbonaceous shale/phyllite associated with the limestone of this proposed block and analyzed a few samples. Highest value of W is 277 ppm and V is 275 ppm. Another gossan sample developed over carb shale Pb is 161ppm, V 283, W 129 ppm, Zn 319 ppm.

- c) Similar carbonaceous shale within the carbonates of Pithoragarh Formation in Askot project area is found to be rich in vanadium, Cu and other basemetals. The Askot VMS deposit has undergone two high-grade metamorphic events following mineralization. It is likely that these high grades metamorphisms have mobilized low melting-temperature chalcophile elements (LMCE), such as zinc, lead, gold, molybdenum etc and might have dumped them limestone.
- d) The TCC-II advised reduction in number of Line kilometres of resistivity profiling and exclusion of ground magnetic survey. Total 500-meterdrilling in 3 boreholes was agreed.

Recommendation TCC

The committee recommends the proposal for approval of EC for “Reconnaissance survey (G4) for Basemetal in Chupra-Khet, Kuta area, Pithoragarh District, Uttarakhand” with an estimated cost of ₹490.67Lakh (including GST) within the time schedule of 14 months and submission of the report as per Annexures 11A & 11B.Three (3) boreholes will be drilled up to 500 drilling meterage. The item will be reviewed after 6 months & 10 months.

Agenda 6.1.12 Reconnaissance Survey (G4) for REE in the Goma River Basin, Dahod, Chhota Udaipur and Panchmahal Districts, Gujarat

[Implementing Agency: M/s Geovale Services Private Limited]

- a) The proposed exploration block of 314 sq. km. area, falls in Survey of India Toposheet number 46F/09 & 46F/10 in parts of Chhota Udaipur and Panchmahal Districts, Gujarat.
- b) M/s Geovale Services Private Limited informed that CGM Gujarat has given NOC approval for the proposed block. Previously AMD has reported heavies in Ujol River sand from 2.94% to 11.29% by weight. NGCM data also shows high Σ REE up to 1350 ppm in the proposed area. Geovale’s sampling shows 4.3% TREE and 7% TREE.
- c) The TCC-II opined that only after the review of geochemical data & based on positive outcomes, the geophysical work will be started.

Recommendation TCC

The committee recommends the proposal for approval of EC for “Reconnaissance survey (G4) for REE in Goma River Basin, Dahod-Chota Udaipur-Pachmahal districts, Gujarat” with an estimated cost of ₹256.49Lakh (including GST) within the time schedule of 12 months and submission of the report as per Annexures 12A & 12B.Total 500m Auger drilling will be done. The item will be reviewed after 4 months.

Agenda 6.1.13 Reconnaissance Survey (G4) for Lithium and associated Rare Metal, Asurhaddi-Duba-Tisri area, Giridih District, Jharkhand



[Implementing Agency: Jharkhand Exploration and Mining Corporation Limited (JEMCL)]

- a) The proposed exploration block of 5.64 sq. km. area, falls in Survey of India Toposheet number 72H/14 (OSM no. G45T14) in parts of Giridih District, Jharkhand. The block falls in Forest Area.
- b) JEMCL informed that regional geological map of GSI showing distribution of various lithologies favourable for the mineralization of Li and associated Rare Metals are available. Old pits are available in the area. 03 (Three) such major pits have been observed during field verification by JEMCL, where traces of Lithium & associated Rare Metal mineralization have been confirmed on the basis of chemical analysis data. As per analytical data of collected surface samples (including those from small old pits) Lithium content ranges from 9905.3 PPM (0.99%) to 19046.3 PPM (1.9%); & Cs from 1362.5 PPM (0.13%) to 4310.0 PPM (0.43%).
- c) As per the comments received from GSI, there is complete overlap of the proposed exploration block with the GSI's G4 stage exploration block for REE & RM.
- d) The TCC-II advised that GSI's work should be consulted and incorporated in the background information of the project proposal.

Recommendation TCC

The committee deferred the proposal for next TCC-II meeting.

Agenda 6.1.14 Reconnaissance Survey (G4) for Gold in Hurungdah-Tamar-Ranchi-Arki-Khunti-Kuchai area, Saraikela-Kharsawan District, Jharkhand

[Implementing Agency: Jharkhand Exploration and Mining Corporation Limited (JEMCL)]

- a) The proposed exploration block of 16.57 sq. km. area, falls in Survey of India Toposheet number 73F/09 (OSM no. F45H9) in parts of Saraikela-Kharsawan District, Jharkhand. The block falls in Forest Area.
- b) JEMCL informed that a regional geological map of GSI showing the distribution of various lithologies favorable for the mineralization of gold is available. Gold panning by the local residents along the Karkari River can be seen which gives a clue for occurrence of gold mineralization in and around the area. Exploration for gold by GSI has been carried out in Pundidiri-Puntru block which is situated at about ~9 km from the proposed area. As per analytical data of collected surface samples (including those from small old pits) from the Pundidiri block total gold (Au) contents range from 0.05 ppm to 1.84 ppm (source: geological memorandum of GSI). In addition, gold mines such as Lawa Gold Mines (ex-lessee M/s. Manmohan Industries Pvt. Ltd.) and Parasi Gold Block are situated at about 50 km and 13 km respectively from the proposed area.
- c) The TCC-II agreed for total 1000 m drilling in 5 Boreholes.

Recommendation TCC

The committee recommends the proposal for approval of EC for "Reconnaissance Survey (G-4) for Gold in Hurungdah area, Ranchi, Khunti & Saraikela Kharsawan Districts, Jharkhand" with an estimated cost of ₹215.52Lakh (including GST) within the time schedule of 10 months and submission of the report as per Annexures

13A&13B. Five (5) boreholes will be drilled up to 1000 drilling meterage. The item will be reviewed after 4 months.

Agenda 6.1.15 Preliminary Exploration (G3) for Graphite and associated minerals in and around Ankli Block, Dahod District, Gujarat

[Implementing Agency: M/s GeoExpOrePvt. Ltd.]

- a) The proposed exploration block of 2.2 sq. km. area, falls in Survey of India Toposheet number 46F/14 in parts of Dahod District, Gujarat.
- b) M/s GeoExpOrePvt. Ltd. informed that During FS: 2022-23, Geological survey of India, has carried out G-4 stage investigation for Graphite and associated mineralization in Devgadh-Bariya-Nagwav Block, Dahod District, Gujarat. During this study, a total area of 100 sq. km was investigated through large scale mapping on 1:12,500 scales. A total of 50 bedrock samples, 50 nos. of pitting/trench samples and 10 Petrochemical samples were collected and analyzed for geochemistry (fixed carbon, major oxides, trace elements and XRD). Self-Potential (SP) geophysical survey was also carried out for 20Lkm to delineate potential area around Ankli village. The SP survey revealed that anomalies ranging from -145 mV to +165 mV in the area which indicating two distinct low SP zones such as one in the central part and the other in the south-central part of the area which have strike lengths of approximately 700 meters and 300 meters, respectively. The presence of these low SP anomalies suggests the occurrence of subsurface graphite mineralization in the region.
- c) During the field investigations of GSI, graphite bands (flaky) were identified with strike length of 100 m to 500 m with varying thickness between 30 cm and 2 m in the Ankli and Jhab-Natatod regions. In the Ankli region (proposed block) FC values in the BRS varied between 1% and 8.20%, Pitting / Trenching samples varied between 8% and 15.80%. In the Nadatod-Jhab region, FC values in the BRS varied between 6% and 20.18%, in the Channel sampling varied between 6% and 19.85% and in the Pitting / Trenching samples varied between 1% and 15.80%.The Geochemical analysis of bed rock samples is showing promising value (above cut-off grade) of Fixed carbon% varying between 4.61 % and 8.20 % (avg. 6.59 %). Similarly, the trench samples indicated average concentration of 3.41% and pit samples indicated between 1.95% and 15.80% (avg.9.23 %) of FC.
- d) The TCC-II opined that clarification on NOC approval of the block is required from CGM Gujarat.

Recommendation TCC

The committee does not recommend the proposal for approval of EC.

Agenda 6.1.16 Reconnaissance Survey (G4) for REE Mineralization in Nagana-Mandli area, Tehsil-Pachpadra (77.8 sq km area) Balotra District, Rajasthan

[Implementing Agency: FCI Aravali Gypsum & Minerals India Limited (FAGMIL)]

- a) The proposed exploration block of 77.8 sq. km. area, falls in Survey of India Toposheet number 45B/08 & 45B/12 in parts of Balotra District, Rajasthan. Some parts (1.82 sq. km. area) of the block falls in Forest Area.

- b) FAGMIL informed that GSI has conducted thematic mapping in the Patodi-Korna area, and Puneet Singh et al. (2022) established the lava stratigraphy and geochemistry of the Malani Igneous Suite, identifying locales of REE and RM mineralization. They reclassified different rhyolitic and basaltic flow variants, mapping a total of 12 Rhyolitic flows, 4 Pyroclastic flows, and 1 Basaltic flow. They stated that in the Patodi-Thob-Trisingri area, the maximum REE+Y concentration is 978 ppm in pyroclastic flow No. 2 and 624 ppm in Rhyolitic flow No. 3. In the Nagana-Palapura-Korna area, the maximum REE+Y concentration is 720 ppm in Pyroclastic flow No. 2 and 689 ppm in Rhyolitic flow No. 1. Zirconium concentrations in the study area are relatively higher in the pyroclastic flow than in the acidic rock. The highest value of Zr (1409 ppm) was observed in pyroclastic flow No. 2 of the Patodi-ThobTrisingri area.
- c) GSI conducted geophysical mapping in Toposheet 45B/08, and Rajan Kumar et al. (2022) reported gravity low (L1) values ranging from -25.0 mGal to -11.0 mGal near the Sabarsar, Newri, and Thoombli villages. They also recorded moderate magnetic anomalies, ranging from -50.0 nT to 950.0 nT. Among these, several low-amplitude positive anomalies near Mediwasan, Newri, and Sabarsar villages in Toposheet No. 45B/08 may be due to basic intrusive bodies within the Marwar Formation.
- d) FAGMIL also conducted a preliminary field survey and performed XRF analyses on two samples from rhyolitic and pyroclastic flows. The results show Zr content of up to 1904 ppm.
- e) The TCC-II informed that the project proposal should not be discussed, as the same project is already under consideration for another agency M/s MTCS.

Recommendation TCC

The committee does not recommend the proposal for approval of EC.

Additional Agenda

6.1 Technical Evaluation of New Project Proposals (Contd...)

Agenda 6.1.17 Reconnaissance Survey (G4) for Nickel, Copper, REE and associated mineralisation around Mandawariya-Silora area, Krishnagar, Ajmer, Rajasthan

[Implementing Agency: M/s Vardan Environet LLP]

- a) The proposed exploration block of 89.8 sq. km. area, falls in Survey of India Toposheet number 45J/14 & 45J/15 in parts of Ajmer, Rajasthan.
- b) M/s Vardan Environet LLP informed that During FS 2004-05 GSI has carried out investigation for basemetal in Mohanpura block (7.0 sq. km.) which is located south to the proposed block. Mohanpura block is in the NE extension of copper bearing zone delineated by DMG, Govt. of Rajasthan. During mapping malachite & chalcopyrite were observed in dug well samples in amphibolite. S.P. survey has brought out few feeble anomalies in the Mohanpura area.
- c) Atomic Mineral Division (AMD) has also carried out investigation for atomic minerals in the southern part of proposed block (4 sq. km.) by drilling 11 boreholes. They could not intersect anomalous zone of minerals of their interest but in one borehole they intersected copper mineralisation (0.37%). During the FS 2018-21, GSI carried out investigation for basemetal and reported anomalous copper (up to 0.95%) and Gold (0.1 g/t) in bed rock samples near Harmara, along with elevated groundwater concentration of zinc and strontium. During FS 2021-22, in Regional Mineral Targeting (RMT) project



- of GSI included detailed geophysical surveys has identified low self-potential (SP) anomalies and magnetic features. The proposed area being covered by operation hard rock (OHR), GSI proposed area lying over strongly to moderately aero-magnetic domain.
- d) Reconnaissance field work has been carried out in the proposed block area by M/s Vardan Environet LLP. Two samples from ultramafic bodies in Sandmata complex have shown anomalous nickel value (1309 & 1683 ppm).
 - e) DGM Rajasthan informed that the area of proposed block falls under Ajmer Development Authority (under Nagar Nigam Jurisdiction).
 - f) The TCC-II opined that for the proposed block, NOC approval from Ajmer Development Authority is required.

Recommendation TCC

The committee does not recommend the proposal for approval of EC.

Agenda 6.2: Review of Ongoing Projects/ Completed Project & Timeline Extension

Agenda 6.2.1 Reconnaissance Survey (G4) for Phosphorite in Randha Block, Jaisalmer district, Rajasthan.

[Implementing Agency: FAGMIL]

The project will be reviewed in the next meeting of TCC-2.

Agenda 6.2.2 Preliminary Exploration (G3) of Limestone in N.W of Boro Lakhindong, Dima Hasao district, Assam.

[Implementing Agency: MMPL]

- a) MMPL informed that the project was approved in the 34th EC Meeting held on 16th May, 2024. The sanction order was issued on 12th March, 2024 with timeline of 12 months (up to 11.03.2025) and approved cost was INR 3,11,98,170/-.
- b) MMPL informed that the analytical results are awaited and requested for 2 months time extension for Gr submission

Recommendation of TCC-II:

The TCC approved time extension upto 11th May 2025 for GR submission.

Agenda 6.2.3 Reconnaissance Survey (G4) for Glauconite in Dhamni-Piparwasi-Simliya Area, Sheopur, Madhya Pradesh

[Implementing Agency: MMPL]

The project will be reviewed in the next meeting of TCC-2.

Agenda 6.2.4 Preliminary Exploration (G3) for Iron, Manganese and Associated Minerals in Tindni area (7.4 Sq. Km) Jabalpur district, Madhya Pradesh.

[Implementing Agency: MECL]

The project will be reviewed in the next meeting of TCC-2.

Agenda 6.2.5 Preliminary Exploration (G3) for Iron and Bauxite ore in Majhauli Block, Jabalpur District, Madhya Pradesh.

[Implementing Agency: MECL]

- a) MECL informed that the project was approved in the 36th EC Meeting held on 29th July, 2024. The sanction order was issued on 29th August, 2024 with timeline of 12 months (up to 28.08.2025) and approved cost was INR 3,08,80,588/-.
- b) MECL informed that geological mapping on 1:4000 scale along with drilling and core sampling was completed and MECL has identified mineralization area for Iron and

Aluminous Laterite. Further, total of 124.00 m (out of 160m) of drilling in 5 BH (out of 8 bhs) has been done. In 4 boreholes, mineralization zone for Aluminous laterite, TiO₂ and Vanadium has been encountered. However, in rest of the BH are inaccessible due to local (private land) and lease constrains. Further, the resource calculation is under progress. In view of the above , MECL requested for pre closure of the project.

- c) The committee noted that the progress and agreed for closure of the project.

Recommendation of TCC-II:

The TCC recommended for pre - closure of the project and advised to submit GR at the earliest.

Agenda 6.2.6 Preliminary Exploration (G3) for Tungsten and tin ore in Murara-Devendrapura Block, Niwari District, Madhya Pradesh.

[Implementing Agency: MECL]

- a) MECL informed that the project was approved in the 36th EC Meeting held on 29th July, 2024. The sanction order was issued on 29th August, 2024 with timeline of 12 months (up to 28.08.2025) and approved cost was INR 3,08,80,588/-.
- b) MECL informed that EC had informed that the approved quantum was 1250m of drilling in 11 nos Bhs through in-house recourses of MECL. However, MECL requested for outsourcing of drilling of **1250** m to speed up the exploration and adhere the timeline.
- c) TCC-2 opined that MECL has resources to carry out drilling in the area. Hence, outsourcing of drilling was not agreed.

Recommendation of TCC-II:

The TCC did not recommend outsourcing of drilling in the block.

Agenda 6.2.7 Preliminary Exploration (G3) for Rock phosphate in Nimbli Block, Jaisalmer District, Rajasthan.

[Implementing Agency: MECL]

- a) MECL informed that the project was approved in the 32nd EC Meeting held on 06th December, 2023. The sanction order was issued on 12th December, 2023 with timeline of 12 months and approved cost was INR 3,55,98,122/-.
- b) MECL informed that completed geological mapping, topographical survey on 1:2000 scale and 1293 m of drilling in 32 no of boreholes with analysis of 367 primary samples of P₂O₅, SiO₂, Al₂O₃, Fe₂O₃ and LOI. In the 4th TCC-II meeting held in the month of Dec 2024 recommended the timeline extension for submission of GR by 28th Feb 2025. The GR has been prepared and the comments of peer reviewer has been incorporated .
- c) MECL informed that Net-in-situ geological resource is 2.59 million with an average grade of 11.32% P₂O₅, 38.66% SiO₂, 12.13% Al₂O₃, 4.97% Fe₂O₃ and 10.26% LOI. The resources are estimated over a cumulative strike length of 2.5 km. MECL informed that the block may be auctioned at composite level.

Recommendation of TCC-II:

The TCC recommended submission of GR Submission by 28th February 2025.

Agenda 6.2.8 Preliminary Exploration (G3) for Potash in Dhankowali Dhani (North) Block, Hanumangarh District, Rajasthan.

[Implementing Agency: MECL]

- a) MECL informed that the project was approved in the 32nd EC Meeting held on 06th December, 2023. The sanction order was issued on 12th December, 2023 with timeline of 12 months and approved cost was INR 24,06,16,207/-.
- b) MECL informed the block was reviewed in 3rd TCC meeting on 5th December 2024

| CUT-OFF CATEGORY | GROSS Inferred Resource of Potash (333) (Million Tonnes) | NET Inferred Resource of Potash (333) (Million Tonnes) | Grade % K (%K2O) | GROSS Reconnaissance Resource of Potash (334) (Million Tonnes) | NET Reconnaissance Resource of Potash (334) (Million Tonnes) | Grade (% K) (%K2O) | TOTAL GROSS Inferred + Reconnaissance Resource of Potash (Million Tonnes) | TOTAL NET Inferred+ Reconnaissance Resource of Potash (Million Tonnes) | Grade (% K) (%K2O) |
|------------------|--|--|------------------|--|--|--------------------|---|--|--------------------|
| At 2% K Cut Off | 116.16 | 92.93 | 3.20 (3.80) | 20.68 | 16.54 | 3.22 (3.88) | 136.84 | 109.47 | 3.20 (3.86) |
| At 3% K Cut Off | 63.73 | 50.98 | 3.79 (4.57) | 10.49 | 8.39 | 3.87 (4.67) | 74.22 | 59.37 | 3.80 (4.58) |

and time extension of 3 Months was approved by TCC-2. The geological report of the block has been prepared and suggestions haven been incorporated.

- c) The summary of Summary of Potash Resource as per 'Area of Influence Method' at $\geq 2\%$ K and $\geq 3\%$ K cut-off grade separately with 1.00 m workable thickness.
- d) The committee noted the outcome of the project and agreed for GR submission.

Recommendation of TCC-II:

The TCC recommended GR submission of the project by 11th March 2025.

Agenda 6.2.9 Preliminary Exploration (G3) for Manganese and Associated Minerals in Kankura Block, West Singhbhum District, Jharkhand.

[Implementing Agency: TATA Steel]

The project will be reviewed in the next meeting of TCC-2.

Agenda 6.2.10 Reconnaissance Survey (G4) for Ni and PGE in Limbdi Meghpur-Titodi area, Devbhumi Dwarka District, Gujarat.

[Implementing Agency: Geovale Services Pvt. Ltd.]

- a) Geovale Services Pvt. Ltd. informed that the project was approved in the 28th EC Meeting held on 16th March, 2023. The sanction order was issued on 27th March, 2023 with timeline of 18 months and approved cost was INR 2,63,40,674/-.
- b) Geovale informed that the GR for the project has been completed and the suggestions of peer review has been complied.
- c) Geovale requested time extension upto 10th March 2025 for GR submission.

Recommendation of TCC-II:

The TCC2 recommended submission of GR by 10th March 2025 and asked for submission of justification for delay of the project in chronological order to NMET.

Agenda 6.2.11 Reconnaissance Survey (G4) for evaluation of Placer Xenotime in Ujol River Basin, Gujarat.

[Implementing Agency: Geovale Services Pvt. Ltd.]

- a) Geovale Services Pvt. Ltd. informed that the project was approved in the 31st EC Meeting held on 12th September, 2023. The sanction order was issued on 05th October, 2023 with timeline of 12 months and approved cost was INR 1,92,42,484/-.
- b) Geovale informed that geological work has been completed in the block and report writing is in process. Geovale requested for permission of TCC-2 for submission of GR for peer review.

- c) Geovale informed that the pitting was carried out in 408 Cu.m although approved quantum was 100 cu.m . The TCC-2 was also informed that the quantum for chemical analysis, geophysical survey , etc was slightly enhanced . TCC-2 was requested for approval of the revised quantum of work as per Annexure 15 with 6 months time extension upto 30th April 2025 .

Recommendation of TCC-II:

The TCC recommended revise quantum and cost of the project as ₹193.53 Lakhs as given at Annexure 15 with time extension of upto 30th April 2025.

Agenda 6.2.12 Reconnaissance Survey (G4) for REE Exploration in Bhuj Clay Prospect Block, Kachchh District Gujarat.

[Implementing Agency: Geovale Services Pvt. Ltd.]

- a) Geovale Services Pvt. Ltd. informed that the project was approved in the 31st EC Meeting held on 12th September, 2023. The sanction order was issued on 05th October, 2023 with timeline of 12 months and approved cost was INR 1,22,27,994/-.
- b) The committee was informed that the project was reviewed in 3rd TCC of NMET and the revised cost of ₹265.84 Lakhs was approved by the 38th EC of NMET. Geovale requested for approval of 10 days for Geophysicst at HQ. Further, the committee was requested to modify the cost for preparation of Exploration Proposal and Final report preparation as per SoC and approve 9 months time extension for GR submission.

Recommendation of TCC-II:

The TCC recommended the revised cost of the project as given at Annexure 14 with estimated cost of the project as ₹273.15 Lakhs.TCC-2 recommended 9 months time extension upto 30th June 2025 and asked for submission of justification for delay of the project in chronological order to NMET.

Agenda 6.2.13 Preliminary Exploration (G3) of Ion-Adsorption and Laterite Hosted Supergene Enriched REE Deposits in Sung Valley Block (7.1 sq.km.), East Khasi and West Jaintia Hills districts, Meghalaya.

[Implementing Agency: DMR Meghalaya]

- a) DMR Meghalaya informed that the project was approved in the 32nd EC Meeting held on 06th December, 2023. The sanction order was issued on 12th December, 2023 with timeline of 15 months and approved cost was INR 3,00,93,518/-.
- b) DMR Meghalaya presented the progress of the project and informd the committee that during the last review of the project, the committee recommended incorporating Electron Probe Micro-Analysis (EPMA) to enhance the understanding of mineral phases and geochemical associations of Rare Earth Elements (REEs), scandium (Sc), niobium (Nb), titanium (Ti), and cobalt (Co).In view of the same , DMR Meghlaya requested for approvcal of the TCC-2 for EPMA analysis of 15 samples as follows:

| Sl no | Description | Quantity (in hrs | Rate (Rs. per hour) | Total Cost (Rs.) |
|-------|----------------------------|------------------|---------------------|------------------|
| 1 | EPMA Analysis (15 samples) | 15 | 8,540 | 1,28,100 |

- d) The committee opined that ICP-MS Ni-S Fire assay technique may be carried out for 15 additional samples instead of EPMA analysis.

Recommendation of TCC-II:

The TCC recommended additional 15 nos. of samples for carrying out chemical analysis of PGE (ICP-MS Ni-S Fire assay technique).




Agenda 6.2.14 Reconnaissance Survey (G-4) for PGE, Vanadium & associated minerals in Bhursadongari - Murum Block (100 Sq Km), Balaghat District, Madhya Pradesh.

[Implementing Agency: Gemcokati]

- a) Gemcokati informed that the project was approved in the 62nd TCC Meeting held on 28th, 29th and 01st March, 2024. The OM was issued on 12th March, 2024 with timeline of 06 months and approved cost was INR 61,01,057/-.
- b) TCC-2 was informed that the project was delayed due to non- receipt forest permission and in the 39th EC of NMET held on 24.01.2025 , time extension was approved till 31st March 2025.
- c) Gemcokati requested for 3 month timeline extension for GR submission.

Recommendation of TCC-II:

The TCC recommended 3 months' timeline extension upto 30th June 2025 for GR submission.

Agenda 6.2.15 Reconnaissance Survey (G-4) for PGE, Gold & REE in Maneri-Sitapala Block, Balaghat District, MP.

[Implementing Agency: Gemcokati]

- a) Gemcokati informed that the project was approved in the 31st EC Meeting held on 12th September, 2023. The sanction order was issued on 05th October, 2023 with timeline of 08 months and approved cost was INR 64,92,482/-.
- b) TCC-2 was informed that the project was delayed due to non- receipt forest permission and in the 39th EC of NMET held on 24.01.2025 , time extension was approved till 31st March 2025.
- c) Gemcokati requested for 3 month timeline extension for GR submission.

Recommendation of TCC-II:

The TCC recommended 3 months' timeline extension upto 30th June 2025 for GR submission.

Agenda 6.2.16 Preliminary Exploration (G3) for Bauxite in Maleta-Bankodi Block, Devbhumi Dwarka District, Gujarat.

[Implementing Agency: CGM Gujarat]

- a) CGM Gujarat informed that the project was approved in the 31st EC Meeting held on 12th September, 2023. The sanction order was issued on 05th October, 2023 with timeline of 05 months and approved cost was INR 1,26,63,717/-.
- b) CGM Gujarat informed that the project has been completed and GR was peer reviewed . However, due to administrative issues the the project was not presented for final review to TCC-2 and the GR was not submitted to NMET . Hence , CGM Gujarat requested for almost 13 months timeline extension upto 31st March 2025 for final review and GR submission.

Recommendation of TCC-II:

The TCC recommended 13 months' timeline extension upto 31st March 2025 for GR submission

Agenda 6.2.17 Preliminary Exploration (G3) of Limestone in Jodhpur-Satarpar Block, Devbhumi Dwarka District, Gujarat.

[Implementing Agency: CGM Gujarat]



- a) CGM Gujarat informed that the project was approved in the 31stEC Meeting held on 12th September, 2023. The sanction order was issued on 05th October, 2023 with timeline of 03 months and approved cost was ₹ 35.91 lakhs.
- b) CGM Gujarat informed that the project has been completed and GR was peer reviewed. However, due to administrative issues the project was not presented for final review to TCC-2 and the GR was not submitted to NMET. In the 35th EC of NMET held on 16th May 2024, the project was given time extension upto 30th April 2024. Hence, CGM Gujarat requested for almost 11 months timeline extension upto 31st March 2025 for final review and GR submission.

Recommendation of TCC-II:

The TCC recommended 11 months' timeline extension upto 31stMarch 2025 for GR submission

Agenda 6.2.18 Reconnaissance Survey (G4) for Graphite and associated minerals around Sonaghati, Amdol, Jharegaon & Bhayawari, Betul District, Madhya Pradesh.

[Implementing Agency: GeoExpOre Pvt. Ltd.]

- a) GeoExpOre Pvt. Ltd. informed that the project was approved in the 34th EC Meeting held on 13th March, 2024 with schedule date of completion on 11.03.2025. The approved cost of the project was INR 1,05,04,174/- & the Revised Cost was INR 1,11,47,274/-
- b) GeoExpOre informed that geological mapping was carried out in the block and requested permission of TCC- 2 carry out trenching in the block as approved in the project. The committee was also requested for time extension upto 11th June 2025.

Recommendation of TCC-II:

The TCC recommended trenching in the area and approved 3 months time extension upto 11th June 2025 for completion of the project.

Agenda 6.2.19 Reconnaissance Survey (G4) for Iron Ore in Mahakoshal Group around Chakdiya, Kushaniya, Jobra and Tusgaon area, Sonbhadra district, Uttar Pradesh.

[Implementing Agency: GeoExpOre Pvt. Ltd.]

The review will be taken up in the next meeting of TCC-2.

Agenda 6.2.20 Reconnaissance Survey (G-4) for Phosphorite in Bijawar-Imiliya block (95.67 sq.km.), Chhattarpur district, Madhya Pradesh.

[Implementing Agency: MPSMC]

- a) MPSMC informed that the project was approved in the 32nd EC Meeting held on 06th December, 2023. The sanction order was issued on 12th December, 2023 with timeline of 12 months and approved cost was INR 1,26,86,119/-.
- b) The committee was informed that the project was delayed due to non-receipt of forest permission. However, FC was received for the project on 07.08.2024 and work is in progress. Geological Mapping has been completed and analytical results of BRS samples are awaited. MPSMC requested for 12 months time extension in the project for GR submission.
- c) Considering the above, TCC-2 opined that the project may be completed at the earliest and agreed for 6 months time extension upto 11th June 2025.

Recommendation of TCC-II:

The TCC recommended 6 months' time extension upto 11th June 2025.

Agenda 6.2.21 Preliminary exploration (G3) for coal, West of Urdhan Jamunia Block, Pench Kanhan Tawa Valley Coalfield, District: Chhindwara, Madhya Pradesh.
[Implementing Agency: CMPDI]

- a) CMPDI informed that the project was approved in the 26th EC Meeting held on 25th August, 2022. The sanction order was issued on 03rd January, 2023 with timeline of 16 months and approved cost was INR 4,37,98,519/-.
- b) CMPDI informed that projects status was presented and time extension was sought before 65th TCC held on 30th May 2024. During the meeting, TCC was apprised that out of 8 proposed boreholes in the area with 4700 drilling meterage, 5 boreholes falling in the Non-forest area have been completed and the further execution of field activities was delayed due to delay in receipt of forest clearance. After discussion, TCC suggested that time extension may be considered after receipt of forest permission.
- c) CMPDI informed that FC application was applied on 26.05.23 and final FC is received on 11.02.2025.
- d) The TCC-2 was apprised that 5 boreholes(Out of 8 approved boreholes) in non-forest area have been completed. Out of remaining 3 boreholes in forest area, one borehole is not approachable. Drilling started in forest area on 23.02.2025 and is expected to be completed by 15.04.2025 after completion of two boreholes situated in forest area.
- e) In view of the above, CMPDI, sought 15 months time extension of project up to 31.07.2025 for completion of the project(Drilling, Analysis, Preparation of Geological report.
- f) TCC-2 noted the progress of the project and agreed for recommendation of time line extension up to 31st July 2025.

Recommendation of TCC-II:

The TCC recommended 15 months' time extension upto 31st July 2025 for submission of GR.

6.4 Review of Ongoing Procurement Projects & Timeline Extension

Agenda 6.4.1 Financial Assistance from NMET funds to procure Machinery Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities.
[Implementing Agency: CGM Gujarat]

- a) CGM Gujarat informed NMET has approved 3 projects financial assistance from NMET funds to procure machinery/laboratory Equipment/instruments etc. aimed at enhancing the exploration activities. The details of the projects are as given below:
 - Project- I was approved in the 31st EC Meeting held on 12th September, 2023. The sanction order was issued on 11th October, 2024 with timeline of 12 months and approved cost was INR 56,90,000/-.
CGM Gujarat informed that in 01 Fume hood has been purchased, however, for rest of the items, retendering process will be completed by 30/06/25 and it is expected to complete purchase by 30/12/25 subject to competitive response from the bidder.
 - Project-II was approved in the 33rd EC Meeting held on 19th February, 2024. The sanction order was issued on 27th February, 2024 with timeline of 12 months (up to 22.02.2025) and approved cost was INR 4,13,70,000/-
CGM Gujarat informed that retendering process is expected to be completed by 30/06/25.
 - Project-III was approved/ratified in the 34th EC Meeting held on 13th March, 2024. The sanction order was issued on 12th March, 2024 with

timeline of 12 months (up to 11.03.2025) and approved cost was INR 46,46,000/-.
CGM Gujarat informed that procurement is yet to begin.

In view of the above , CGM Gujarat requested for timeline extension up to December 2025 in all the 3 procurement projects.

Recommendation of TCC-II:

The TCC recommended time extension upto 31st August 2025 in all the 3 projects to procure Machinery Laboratory Equipment/instruments etc.

Agenda 6.4.2 Financial Assistance from NMET funds to procure Machinery Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities.

[Implementing Agency: DTCI Manipur]

- a) DTCI Manipur informed that the project was approved in the 27th EC Meeting held on 10th January, 2023. The sanction order was issued on 18th April, 2023 with timeline of 12 months and approved cost was INR 2,21,35,000/-
- b) DTCI Manipur informed that an amount of ₹74,16,794/- has already been utilized. Further, administrative approval yet to be received from State government to procure the remaining approved items/ equipment. In view of the above, DTCI requested for timeline extension up to August 2025 for completion of the procurement.

Recommendation of TCC-II:

The TCC recommended 16.5 months' time extension upto 31st August 2025 for the procure Machinery /Laboratory Equipment/instruments etc

Agenda 6.4.3 Financial Assistance from NMET funds to procure Machinery Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities.

[Implementing Agency: DGM Ladakh]

The project was not reviewed in the meeting.

Agenda 6.4.4 Financial Assistance from NMET funds to procure Machinery Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities.

[Implementing Agency: DGM Bihar]

- a) DGM Bihar informed that the project-2 was approved in the 33rd EC Meeting held on 19th February, 2024. The sanction order was issued on 27th February, 2024 with timeline of 06 months (up to 22.08.2024) and approved cost was INR 6,00,000/-
- b) Further, in project -1 (Sanction dt: 17.04.23, DOC dt: 16.04.24) ₹ 13.45 Lakhs out of 15.5 Lakhs has been utilised. Procurement in both the projects are under progress.

Recommendation of TCC-II:

The TCC recommended time extension upto 30th June, 2025

Agenda 6.4.5 Financial Assistance from NMET funds to procure Machinery Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities.

[Implementing Agency: DMG Jammu & Kashmir]

- a) DMG Jammu & Kashmir informed that the project was approved in the 29th EC Meeting held on 31st March, 2023. The sanction order was issued on 31st May, 2023 with timeline of 12 months and approved cost was INR 1,44,56,000/-
- b) DMG J & K informed that due to administrative issues and finalization of specification, the procurement was delayed . DMG J & K requested for approval of



revised cost of the items alongwith additional allocation of funds amounting to Rs. 63,46,240 as given below:

| Sr. No. | Particulars of Items | Qty. No. | Approved Cost (Rs) and Unit Cost | Revised Cost & Revised Unit Cost | Remarks |
|----------------------------------|--------------------------------------|----------|----------------------------------|-----------------------------------|--------------|
| 1. | Handheld XRF | 02 | 19,00,000 9,50,000 per unit | 90,00,000 35,00,000/- per unit | ---- |
| 2. | Digital Camera | 02 | 3,00,000 1,50,000 per unit | 3,00,000 1,50,000 per unit | ---- |
| 3. | Brunton Compass | 20 | 54,000 2,700 per unit | 10,20,000 51,000 per unit | ---- |
| 4. | Geological Hammer | 20 | 40,000 2,000 per unit | 80,240 4,012 per unit | Payment made |
| 5. | Handheld GPS | 20 | 14,70,000 73,500 per unit | 16,00,000 80,000 per unit | ---- |
| 6. | Atomic absorption Spectrometer (AAS) | 01 | 80,00,000 | 43,02,000 | Payment made |
| 7. | GIS software | 01 | 13,00,000 | 25,00,000 | ---- |
| 8. | Total Station | 02 | 13,92,000 6,96,000 per unit | 20,00,000 10,00,000 per unit | ---- |
| Total | | | 1,44,56,000 | 2,08,02,240 | ---- |
| Additional Funds required | | | | 63,46,240 | ---- |

- c) Also, permission was sought to alter the specifications of items as per requirement of department. Further, time extension was sought upto June 2025 for completion of procurement process
- d) The committee advised to present the justification for revision of cost for each of the items in the next meeting of TCC-2. The committee agreed for time extension upto 30th June 2025.

Recommendation of TCC-II:

The TCC recommended time extension upto 30th June 2025

Agenda 6.4.6 Financial Assistance from NMET funds to procure Machinery Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities.

[Implementing Agency: DGM Tripura]

- a) DGM Tripura informed that the project was approved in the 32nd EC Meeting held on 06th December, 2023. The sanction order was issued on 02nd January, 2024 with timeline of 12 months and approved cost was INR 36,76,000/-
- b) DGM Tripura informed that they are awaiting inputs from GSI state for finalizing the specification for the desired equipments to be procured. The equipments will be procured as as soon as the specification is received the.. Hence, TCC-2 was requested to approve the timeline extension till March 2025.

Recommendation of TCC-II:

The TCC recommended time extension upto 31st March 2025 for project.

Agenda 6.5: Project Evaluation for In-Principle Approval




Agenda 6.5.1 Reconnaissance (G4) Exploration of RM-REE in Tarai – Bagjant – Harlaghati area, Gawan Block, (56.08 Sq.Km.) Giridih District, Jharkhand.

[Implementing Agency: GEMS Projects Pvt. Ltd.]

Agenda 6.5.2 Preliminary Investigation (G3) for Graphite and Associated minerals in Sadhwadih - Charwadih Block (2.94 Sq. Km Area) Latehar District, Jharkhand.

[Implementing Agency: GEMS Projects Pvt. Ltd.]

Agenda 6.5.3 Reconnaissance Survey (G4) for Gold, Base metal and associated minerals near Nawanagar Village, Singrauli District, Madhya Pradesh.

[Implementing Agency: Mining Tech Consultancy Services Limited]

Agenda 6.5.4 Reconnaissance Survey (G4) for Gold, Base metal and associated minerals near Pidariya Village, Singrauli District, Madhya Pradesh.

[Implementing Agency: Mining Tech Consultancy Services Limited]

Agenda 6.5.5 Preliminary Exploration (G3) for Limestone in Ishwariya area (3.43sq kms) situated in the village Ajotha-Ishwariya Gir, Gir Somnath District, Gujarat.

[Implementing Agency: PRB Infraprojects Pvt. Ltd.]

Agenda 6.5.6 Reconnaissance Survey (G4) for Vanadium-Titanium in Risewada-Lodhiwada Block, Balaghat District, Madhya Pradesh.

[Implementing Agency: Gemcokati]

Agenda 6.5.7 Preliminary Exploration (G3) in Ran Bauxite Block, Dev Bhumi Dwarka District, Gujarat.

[Implementing Agency: Gemcokati]

Agenda 6.5.8 Preliminary Exploration (G3) Pindara Bauxite & titanium Block, Kalyanpur Taluka, Devbhumi Dwarka District, Gujarat.

[Implementing Agency: Gemcokati]

Agenda 6.5.9 Reconnaissance Survey (G4) for Basemetal prospect in Khajar area, Shivpuri District, Madhya Pradesh.

[Implementing Agency: Geovale Services Pvt. Ltd.]

Agenda 6.5.10 Reconnaissance Survey (G4) for Nickel, Copper, REE and associated mineralisation around Mandawariya-Silora area, Kishangarh, Ajmer, Rajasthan.

[Implementing Agency: Vardan Environet LLP]

(The committee had decided to review /scrutinize the projects in the 7th TCC-II of NMET to be held in March 2025.)

Agenda 6.6 Proposals for Exploration Incentive

Agenda 6.6.2 Pindra SW extension Block, Satna, Madhya Pradesh

[Implementing Agency: MECL]

- a) MECL informed that the block was approved on 27th EC meeting held on 10th January 2023 and sanction order was given on 6th February 2023. The project was G4 stage exploration for Glauconitic Sandstone. The GR of the project was

reviewed in 62nd TCC held on 28th, 29th February 2024 & 1st March 2024 and submitted to NMET on 5th March 2024.

- b) Further, the exploration block (G4) has been upgraded to Deulha and Jhari Block in G3 Level for exploration of Glauconitic Sandstone. This G3 exploration proposals were approved in 35th EC meeting held on 16th May 2024.
- c) In view of the above, MECL requested for approval of 25% Exploration Incentive (SoC- clause 6(i)) against Pindra SW Extension Block, Satna, Madhya Pradesh (G-4) under critical & Strategic Minerals as per Revised EI circular dated 3rd October 2023 and MMDR Amendment Act 2023. The committee was informed that the total bill raised by MECL for this project was ₹ 11121682.00/- only. Hence, MECL proposed 25% Exploration Incentive is ₹ 2780420.50/- only.

Recommendation TCC-II

The TCC-II recommends the proposal for approval of EC for 25% Exploration Incentive of ₹ 27,80,420/- only against upgradation of Pindra SW Extension Block, Satna, Madhya Pradesh (G4) to Deulha and Jhari Block in G3 Level for exploration of Glauconitic Sandstone.

Agenda 6.6.2 Tarichar Khurd Block, Niwari, Madhya Pradesh

[Implementing Agency: MECL]

- a) MECL informed that the block was approved on 27th EC meeting held on 10th January 2023. Sanction order was given on 6th February 2023. The project was G4 stage exploration for Copper, Lead, Zinc and associated minerals. The GR of the project was reviewed in 64th TCC held on 25th, 29th & 30th April, 2024 and submitted to NMET on 30th April 2024.
- b) The committee was apprised the exploration block (G4) has been upgraded to Murara-Devendrapura Block in G3 Level for exploration of Tungsten (W) and Tin (Sn). This G3 exploration proposal was approved in 36th EC meeting held on 29th July 2024.
- c) MECL requested for approval of 25% Exploration Incentive (SoC- clause 6(i)) against Tarichar khurd Block, Niwari, Madhya Pradesh (G-4) under critical & Strategic Minerals as per Revised EI circular dated 3rd October 2023 and MMDR Amendment Act 2023. MECL informed that total bill raised by MECL for the project was ₹ 4391347.00/- only and hence proposed 25% Exploration Incentive is ₹ 10,97,836.75/- only.

Recommendation TCC-II

The TCC-II recommends the proposal for approval of EC for 25% Exploration Incentive of ₹ 10,97,837/- only against upgradation of Tarichar khurd Block, Niwari, Madhya Pradesh (G4) to Murara-Devendrapura Block in G3 Level for exploration of Tungsten (W) and Tin (Sn).

Agenda 6.6.3 Pokhar Chhaili Block, Tehri Garhwal, Uttarakhand

[Implementing Agency: MECL]

- a) MECL apprised that the block was approved on 30th EC meeting held on 6th June 2023. Sanction order was given on 6th June 2023. The project was G4 stage

exploration for Tin (SN). The GR of the project was reviewed in 68th TCC held on 28th, 29th& 30th August 2024 and submitted to NMET on 31st August 2024.

- b) The committee was informed that the exploration block (G4) has been upgraded to Kangra Block in G-3 Level for exploration of Tin (Sn). This G3 exploration proposal was approved in 38th EC meeting held on 29th November 2024.
- c) MECL requested for approval of 25% Exploration Incentive (SoC- clause 6(i)) against Pokhar Chhaili Block, Tehri Garhwal, Uttarakhand (G-4) under critical & Strategic Minerals as per Revised EI circular dated 3rd October 2023 and MMDR Amendment Act 2023. It was informed that the total bill raised by MECL for this project was ₹ 10554081.00/-only. Hence, the proposed 25% Exploration Incentive is ₹ 2638520.25/-only.

Recommendation TCC-II

The TCC-II recommends the proposal for approval of EC for 25% Exploration Incentive of ₹ 2638520/-only against upgradation of Pokhar Chhaili Block, Tehri Garhwal, Uttarakhand (G4) to Kangra Block in G3 Level for exploration of Tin (Sn) mineralisation.

Agenda 6.6.4 Sarnu Block, Barmer, Rajasthan

[Implementing Agency: MECL]

- a) MECL informed that the block was approved on 28th EC meeting held on 16th March 2023. Sanction order was given on 16th March 2023. The project was G4 stage exploration for REE. The GR of the project was reviewed in 1st TCC-II held on 26th& 27th September 2024 and submitted to NMET on 30th September 2024.
- b) MECL apprised that the exploration block (G4) has been upgraded to Nauser-Bamni Dhani-Dandali Block in G-3 Level for exploration of REE mineralisation. This G3 exploration proposal was approved in 38th EC meeting held on 29th November 2024.
- c) MECL requested for approval of 25% Exploration Incentive (SoC- clause 6(i)) against Sarnu Block, Barmer, Rajasthan (G-4) under critical & Strategic Minerals as per Revised EI circular dated 3rd October 2023 and MMDR Amendment Act 2023. Since, the total bill raised by MECL for this project was ₹ 5368502.00/-only, MECL proposed 25% Exploration Incentive is ₹ 1342125.50/-only.

Recommendation TCC-II

The TCC-II recommends the proposal for approval of EC for 25% Exploration Incentive of ₹ 1342125/-only against upgradation of Sarnu Block, Barmer, Rajasthan (G4) to Nauser-Bamni Dhani-Dandali Block in G3 Level for exploration of REE mineralization.



Annexure -1

List of participants attended 6th meeting of Technical-cum-cost Committee (TCC-II) of NMET held on 27th and 28th February, 2025 & 6th March 2025 through video conferencing mode

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|----|------------------------|-----------------------------|--|------------|-------------------------|
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| 62 | Representative | | | | TATA Steel |
| 63 | Representative | | | | DTCI Manipur |
| 64 | Representative | | | | DGM Ladakh |
| 65 | Representative | | | | DGM Tripura |
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Annexure 2A

**Estimate Cost for Preliminary exploration (G3 stage) for Copper & associated Minerals in Singhana Bhodan Block (3.36 sq.km.)
North Khetri Copper Belt, District-Jhunjhunu, Rajasthan**

**Drilling : 4,600 m, BH: 11 nos. , Borehole Depth Range:- 350m upto 600m approx. Completion Time - 15 months, Review: 6 & 12 months
Implementing Agency - MECL**

| S.N | Item of Work | Unit | Rates as per NMET SoC 2020-21 | | Estimated Cost of the Proposal | | Remarks |
|----------|---|---------------------|-------------------------------|------------------|--------------------------------|-------------------|---|
| | | | SoC-Item -SI No. | Rates as per SoC | Qty. | Total Amount (Rs) | |
| A | GEOLOGICAL WORK | | | | | | |
| 1 | Detailed Geological mapping (1:2000 scale) | | | | 3.36 sq.km. | | |
| a | Charges for two Geologist per day at HQ | day | 1.3a | 9,000 | 60 | 5,40,000 | |
| b | Charges for two Geologist per day at field for geological mapping on 1:2000 scale, Borehole fixation, Borehole logging & sampling works etc.. | day | 1.3b | 11,000 | 210 | 23,10,000 | |
| c | Labour for Geologist (2 Nos) | day | 5.7 | 526 | 420 | 2,20,920 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| d | Charges for one Sampler per day (1 Party) | one sampler per day | 1.5.2 | 5,100 | 101 | 5,15,100 | |
| e | Labours for sampling work (4 Nos) | day | 5.7 | 526 | 404 | 2,12,504 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| | Sub Total A | | | | | 37,98,524 | |
| B | Ground Geophysical Survey | | | | | | |
| a | IP Survey | Line km | 3.4a | 69,950 | 15 | 10,49,250 | |

| | | | | | | | |
|----------|--|--------------|----------|----------|-------|--------------------|--|
| b | Electro Magnetic survey (TDEM) (profiling/sounding) | Sounding | 3.7a | 21,197 | 600 | 1,27,18,200 | |
| c | Gravity Survey | per station | 3.1b | 3,800 | 900 | 34,20,000 | |
| d | Geophysicist party days (HQ) for Data processing & Report | day | 3.18 | 9,000 | 30 | 2,70,000 | |
| | Sub Total B | | | | | 1,74,57,450 | |
| D | DRILLING | | | | | | |
| a | Drilling up to 300m (Hard rock) | m | 2.2.1.4a | 11,500 | 3,300 | 3,79,50,000 | Drilling will be carried out and depth of intersecion will be decided after results of Geolophysical Studies. Total drilling 3400m in 9 Bhs (3000m up to 300m + 700m more than 300m) |
| b | Drilling between 301m-600m (Hard rock) | m | 2.2.1.4b | 12,420 | 1,300 | 1,61,46,000 | |
| b | Borehole deviation Survey by Multishot Camera | m | 2.2.6 | 330 | 4,600 | 15,18,000 | |
| c | Land / Crop Compensation (in case the BH falls in agricultural Land) | per BH | 5.6 | 20,000 | 11 | 2,20,000 | Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities |
| d | Construction of concrete Pillar (12"x12"x30") | per borehole | 2.2.7a | 2,000 | 11 | 22,000 | |
| e | Transportation of Drill Rig & Truck associated per drill | Km | 2.2.8 | 36 | 4,200 | 1,51,200 | Nagpur to Singhana is around 1050km oneway for 2 rigs |
| f | Monthly Accommodation Charges for drilling Camp (up to 4 Rigs) | month | 2.2.9 | 50,000 | 6 | 3,00,000 | |
| g | Drilling Camp Setting Cost | Nos | 2.2.9a | 2,50,000 | 2 | 5,00,000 | |
| h | Drilling Camp Winding up Cost | Nos | 2.2.9b | 2,50,000 | 2 | 5,00,000 | |
| i | Road Making (Flat Terrain) | Km | 2.2.10a | 22,020 | 5 | 1,10,100 | Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly. |

| | | | | | | | |
|----------|---|--------------------------|-------------|--------|-------|--------------------|--|
| j | Drill Core Preservation | per m | 5.3 | 1,590 | 1,000 | 15,90,000 | |
| | Sub Total D | | | | | 5,90,07,300 | |
| E | Survey Work | | | | | | |
| a | DGPS Survey of Block Boundary cardinal points by DGPS + BH fixation & RL determination | Per Point of observation | 1.6.2 | 19,200 | 17 | 326400 | 6 Boundary points+11 Bhs points |
| b | Charges of Surveyor (1 party) for Topographical survey 1:2000 scale (3.36 sq.km at 2m contour interval) | one surveyor per day | 1.6.1a | 8,300 | 30 | 249000 | |
| c | Labours Charges for survey work; | day | 5.7 | 526 | 180 | 94680 | Amount will be reimburse as per the notified rates for unskilled labor by the Central Labour Commissioner or respective State Govt. whichever is |
| | Sub Total E | | | | | 6,70,080 | |
| F | Borehole Geophysical Logging | 5 Bhs of 350m each | 3.12 | 622.25 | 4,600 | 28,62,350 | |
| | Sub-Total F | | | | | 28,62,350 | |
| G | LABORATORY STUDIES | | | | | | |
| 1 | Chemical Analysis | | | | | | |
| | Primary samples (BH core) | | | | | | |
| | a. For Cu, Pb, Zn, Ni, Co, Bi, Ge & Mo by AAS Method | Nos | 4.1.7a & b | 3,511 | 550 | 19,31,050 | |
| | b. for Au by Fire Assay | Nos | 4.1.5a | 2,380 | 100 | 2,38,000 | |
| | c. Major Oxides (XRF) For Fe, SiO ₂ , Al ₂ O ₃ , TiO ₂ , V ₂ O ₅ , Cr ₂ O ₃ , MnO, MgO, CaO, S P, & LoI | Nos | 4.1.15a | 4,200 | 50 | 2,10,000 | for magnetite |
| | External Check samples (10%) (BH Core) | | | | | - | |

| | | | | | | | |
|-------------|---|---------------------------------------|---------------------------|---|----|--------------------|---|
| | a. For Cu, Pb, Zn, Ni, Co, Bi, Ge & Mo by AAS Method | Nos | 4.1.7a & b | 3,511 | 55 | 1,93,105 | |
| | Composite samples | | | | | - | |
| | a. for 34 Elements by ICP-MS | Nos | 4.1.14 | 7,731 | 50 | 3,86,550 | |
| iii) | Petrographic & Mineragraphic samples | | | | | - | |
| a | Preparation of thin section | Nos | 4.3.1 | 2,353 | 10 | 23,530 | |
| b | Complete petrographic study report | Nos | 4.3.4 | 4,232 | 10 | 42,320 | |
| c | Preparation of polished section | Nos | 4.3.2 | 1,549 | 10 | 15,490 | |
| d | Complete mineragraphic study report | Nos | 4.3.4 | 4,232 | 10 | 42,320 | |
| e | Digital Photographs | Nos | 4.3.7 | 280 | 20 | 5,600 | |
| | Total - G | | | | | 30,87,965 | |
| | Sub Total - (A to G) | | | | | 8,68,83,669 | |
| H | Geological Report Preparation | | 5.2 | For the projects exceeding Rs.300 Lakhs: A Minimum of Rs. 9 lakhs or 3% of the work whichever is more subject to a max. amount of 20 lakh | 1 | 20,00,000 | |
| I | Preparation of Exploration Proposal (5 Hard copies with a soft copy) | 5 Hard copies with a soft copy | 5.1/28th EC | 2% of the Cost or Rs. 5.0 Lakhs whichever is lower | | 5,00,000 | EA has to submit the Hhard copies and soft copies of final proposal along with maps and plan as suggested by the TCC-NMET in its meeting while clearing the proposal. |
| J | Peer review Charges | | As per EC decision | | | 30,000 | |

| | | | | | | | |
|----------|---|----------|--|----------------------------|--|---------------------|---|
| K | Total Estimated Cost without GST | | | | | 8,94,13,669 | |
| L | Provision for GST (18% of H) | % | | | | 1,60,94,460 | GST will be reimburse as per actual and as per notified prescribed rate |
| M | Total Estimated Cost with GST | | | | | 10,55,08,129 | |
| | | | | <i>or Say Rs. In Lakhs</i> | | <i>1055.08</i> | |
| Note: | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | | |
| 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 excusion of the project by NEA on its own, a Certifiante regarding non outsourcing of any component/project is required. | | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | | |




**Time Schedule/ Action Plan for Preliminary exploration (G3 stage) for Copper & associated Minerals in Singhana Bhodan Block (3.36 sq.km.)
North Khetri Copper Belt, District-Jhunjhunu, Rajasthan**

| Sl. No. | Activities | Unit | MONTHS | | | | | | | | | | | | | | | | |
|---------|--|-------|--------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|--|--|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | |
| 1 | Camp Setting | Month | | | | | | | | | | | | | | | | | |
| 2 | Geological mapping (1:2000 scale) in 3.36 sq.km. | | | | | | | | | | | | | | | | | | |
| 3 | Ground geophysical survey | Month | | | | | | | | | | | | | | | | | |
| 4 | Geophysical survey Report | Month | | | | | | | | | | | | | | | | | |
| 5 | Drilling (2 rigs) & associated works (3800m) | Month | | | | | | | | | | | | | | | | | |
| 6 | Borehole Deviation survey & BH Geophysical logging (3800m) | Month | | | | | | | | | | | | | | | | | |
| 7 | Geologist party days in field (2 Party) | day | | | | | | | | | | | | | | | | | |
| 8 | Sampling Party days, Core Sampling (1 party) | day | | | | | | | | | | | | | | | | | |
| 9 | Camp Winding | Month | | | | | | | | | | | | | | | | | |
| 10 | Laboratory Studies | Nos. | | | | | | | | | | | | | | | | | |
| 11 | Geologist Party days in HQ (1 party) | day | | | | | | | | | | | | | | | | | |
| 12 | Geological Report writing with Peer Review | Month | | | | | | | | | | | | | | | | | |

Review

Review

**Estimate Cost of Reconnaissance Survey (G-4 Stage Exploration) for Polymetals in Amritpur area,
District Nainital, Uttarakhand
Total Area - 25.77 sq km; Completion Time -10 Months, Review after 5 Months
Implementing Agency - MECL**

| S.N | Item of Work | Unit | Rates as per NMET SoC 2020-21 | | Rate@3.35 times for Himalya region | Estimated Cost of the Proposal | | Remarks |
|----------|---|---------------------|-------------------------------|------------------|------------------------------------|--------------------------------|-------------------|---|
| | | | SoC-Item -SI No. | Rates as per SoC | | Qty. | Total Amount (Rs) | |
| A | GEOLOGICAL WORK | | | | | | | |
| a | Charges for Geologist at field for Large scale mapping (1: 12,500), Surface sampling and drilling | day | 1.2 | 11,000 | 36,850 | 120 | 44,22,000 | |
| b | Labour Charges for Geologist; | day | 5.7 | 526 | 1,762 | 240 | 4,22,904 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| c | Charges for Sampler for geochemical, channel samples | one sampler per day | 1.5.2 | 5,100 | 17,085 | 32 | 5,46,720 | |
| d | Labour Charges for Sampling Work; Base rate - Rs. 526/ per day | day | 5.7 | 526 | 1,762 | 128 | 2,25,549 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| | Sub-Total A | | | | | | 56,17,173 | |
| B | PITTING AND TRENCHING | | | | | | | |

| | | | | | | | | |
|------------|--|------------|------------|--------------|-----------|-----------|------------------|---|
| a | Excavation of Trenches upto 2.0 m depth | Cu m | 2.1.1 | 3,330 | 11,155.50 | 100 | 11,15,550 | |
| C | Sub Total A to B | | | | | | 67,32,723 | |
| D | Charges for Geologist at HQ for data processing | day | 1.3 | 9,000 | | 60 | 5,40,000 | |
| E | Charges for Geologist at HQ for Remote Sensing Studies processing | day | 1.3 | 9,000 | | - | - | Remote Sensing Studies processing Hyperspectral Images |
| F | LABORATORY STUDIES | | | | | | | |
| 1 | <u>Chemical Analysis</u> | | | | | | | |
| i) | Primary Samples Surface (BR)+Trench | | | | | | | Total Sample = 260 (Surface-160, Trench-100) |
| a) | Rapid Geochemical Analysis by AAS method: Cu-Pb-Zn-Ag | Nos | 4.1.7a | 2,506 | | 150 | 3,75,900 | Surface Samples (BR)-100, Trench-50 |
| b) | Gold Analysis by Fire-assay: Au | Nos | 4.1.5a | 2,380 | | 10 | 23,800 | Surface samples-20, Trench-10 |
| c) | For PGEs (ICP-MS Ni-S Fire assay Technique): PGEs | Nos | 4.1.5d | 11,800 | | - | - | Surface samples-05, Trench-05 |
| d) | IC-PMS; 34 Elemental Study - As, Sb, Mo, Co, Ni, Sn, Hf, Nb, Ta, Ge, W, Ti, Zr, Se, Te, Cs, Y, Rb, Sr, and REEs: La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu. | Nos | 4.1.14 | 7,731 | | 50 | 3,86,550 | Surface samples(BR)-40, Trench-10, |
| e) | SiO2%, Al2O3%, Fe2O3%, MnO%, MgO%, CaO%, Na2O%, K2O%, P2O5%, TiO2%, SO3%, & LOI% by XRF | Nos | 4.1.15a | 4,200 | | 20 | 84,000 | |
| ii) | External check samples (10%) | | | | | | | |
| a) | External Check Sample (10 % of Primary samples) for analysis by AAS method: Cu-Pb-Zn-Ag | Nos | 4.1.7a | 2,506 | | 15 | 37,590 | |

| | | | | | | | | |
|-------------|---|-----|---------|--------|--|----|------------------|--|
| b) | External Check Sample (10 % of Primary samples) for analysis by Gold Analysis by Fire-assay of Au | Nos | 4.1.5a | 2,380 | | 1 | 2,380 | |
| c) | External Check Sample (10 % of Primary samples) for analysis by For PGEs (ICP-MS Ni-S Fire assay Technique): PGEs | Nos | 4.1.5d | 11,800 | | - | - | |
| | External Check Sample (10 % of Primary samples) for analysis by IC-PMS; 34 Elemental Study | Nos | 4.1.14 | 7,731 | | 5 | 38,655 | |
| d) | External Check Sample (10 % of Primary samples) for analysis by SiO2%, Al2O3%, Fe2O3%, MnO%, MgO%, CaO%, Na2O%, K2O%, P2O5%, TiO2%, SO3%, & LOI% by XRF | Nos | 4.1.15a | 4,200 | | 2 | 8,400 | |
| 2 | Physical & Petrological Studies | | | | | | | |
| i) | Preparation of thin section | Nos | 4.3.1 | 2,353 | | 10 | 23,530 | |
| ii) | Complete petrographic study report | Nos | 4.3.4 | 4,232 | | 10 | 42,320 | |
| iii) | Preparation of polish section | Nos | 4.3.2 | 1,549 | | 10 | 15,490 | |
| iv) | Complete mineragraphic study report | Nos | 4.3.4 | 4,232 | | 20 | 84,640 | |
| v) | Digital Photographs | Nos | 4.3.7 | 280 | | 10 | 2,800 | |
| vi) | XRD Study | Nos | 4.5.1 | 4,000 | | 10 | 40,000 | |
| | EPMA study of the Sulphide phases and PGEs (05 Samples) | Nos | 4.4.1 | 8,500 | | 10 | 85,000 | |
| | Sub-Total -F | | | | | | 12,51,055 | |
| G | Total C+D+E+F | | | | | | 85,23,778 | |

| | | | | | | | | |
|----------|---|---------------------------------------|---------------------------|--|--|--|------------------|--|
| H | Geological Report Preparation | 5 Hard copies with a soft copy | 5.2 | For the projects having cost exceeding Rs 50 Lakh, but less than 150 lakh. A minimum of Rs 2.5 Lakh or 5% of the work whichever more and Rs 30000/- per each additional copy | | | 4,26,189 | EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET. |
| I | Peer review Charges | | As per EC decision | | | | 30,000 | |
| J | Preparation of Exploration Proposal (5 Hard copies with a soft copy) | 5 Hard copies with a soft copy | 5.1 | 2% of the Cost or Rs. 5.00 Lakhs whichever is lower | | | 1,70,476 | 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. |
| K | Total Estimated Cost without GST | | | | | | 91,50,442 | |




| | | | | | | | | |
|-------------------------------|---|---|--|--|--|--|-------------|---|
| L | Provision for GST (18% of L) | % | | | | | 16,47,080 | GST will be reimburse as per actual and as per notified prescribed rate |
| M | Total Estimated Cost with GST | | | | | | 1,07,97,522 | |
| <i>or Say Rs. , In Lakhs:</i> | | | | | | | 107.98 | |
| Note: | | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | | | |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | | | |
| a | Trenching/Pitting dimensions are tentative may vary depending upon the geology and field conditions | | | | | | | |
| b | 2nd level of work shall be carried out after review of 1st level work i.e. Geological mapping, geochemical sampling and analysis | | | | | | | |
| c | Payment for Hyperspectral Data for Remote Sensing Analysis shall be made as per actual | | | | | | | |




**Time Schedule/ Action Plan for Reconnaissance Survey (G-4 Stage Exploration) for Polymetals in Amritpur area,
Districts Nainital, Uttarakhand**

| | | 1 | 2 | 3 | 4 | 5 | Review | 6 | 7 | 8 | 9 | 10 | |
|----|-------------------------------------|---|---|---|---|---|--------|---|---|---|---|----|--|
| 1 | Camp Setting | | | | | | | | | | | | |
| 2 | Geological Party Days | | | | | | | | | | | | |
| 3 | Sampling | | | | | | | | | | | | |
| 4 | Sample Preparation | | | | | | | | | | | | |
| 5 | Laboratory Studies | | | | | | | | | | | | |
| 6 | Camp Winding | | | | | | | | | | | | |
| 7 | Geologist Party days, HQ | | | | | | | | | | | | |
| 8 | Geologist Party days, HQ (RS Study) | | | | | | | | | | | | |
| 9 | Geological Report Writing | | | | | | | | | | | | |
| 10 | Peer Review | | | | | | | | | | | | |




Annexure 4A

Estimate cost for Reconnaissance Survey (G-4) for REE, Glauconite and associated mineralization in Devpur area, District- Kachchh, Gujarat
Total area- 138.52 sq km; Scout Drilling : 500m (50m depth) for Glauconite, 300m (30m depth) for REE, Auger Drilling : 490m , Completion
Time- 10 Months, Review: after 06 months
Implementing Agency - MECL

| 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) | |
| A | GEOLOGICAL WORK | | | | | | |
| 1 | Geological Mapping (1:12,500), sampling & Report writing | | | | | | |
| | Geologist man days (1 No.) for Geological map & Report (HQ) | days | 1.1b | 9,000 | 60 | 5,40,000 | |
| | a) Geologist man days for Large scale (LSM) Geological mapping/ Trenching/ Drilling | days | 1.2 | 11,000 | 180 | 19,80,000 | |
| | b) Labour (field) | per worker | 5.7 | 526 | 360 | 1,89,360 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| | c) Sampler for Surface Samples/ Trench Samples / Core Samples Labour charge not included (1 sampler) | day | 1.5.2 | 5100 | 119 | 6,06,900 | |
| | d) 4 labours/ party (As per rates of Central Labour Commissioner) | day | 5.7 | 526 | 476 | 2,50,376 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| 2 | Survey | | | | | | |

| | | | | | | | |
|--------------------|---|--------------------------|----------|----------|-------|------------------|--|
| i | Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS | Per Point of observation | 1.6.2 | 19,200 | 20 | 3,84,000 | 10 Scout Drilling Boreholes for REE 10 Scout Drilling Boreholes for Glauconite |
| Sub-Total A | | | | | | 39,50,636 | |
| B | PITTING & TRENCHING | | | | | | |
| | a) Excavation of pits for REE (5 pits) | per cu m | 2.1.2 | 3800 | 40 | 1,52,000 | (1m X 2m X 2m) |
| | b) Excavation of trenches for Glauconite (10 trenches) | per cu m | 2.1.1 | 3330 | 200 | 6,66,000 | (1m X 2m X 10m) |
| Sub-Total B | | | | | | 8,18,000 | |
| C | DRILLING (after preparation of geological mapping) | | | | | | |
| i | Drilling upto 300m for Glauconite (1 rig) | per m | 2.2.1.1b | 7,168 | 500 | 35,84,000 | 10 nos Scout Drilling for Glauconite (As per MoC rate) |
| ii | Drilling upto 300m for REE (1 rig) | per m | 2.2.1.1b | 7,168 | 300 | 21,50,400 | 10 nos Scout Drilling for REE (As per MoC rate) |
| ii | Auger Drilling for soft strata upto 150 m depth | per m | 2.2.2 | 4,760 | 490 | 23,32,400 | 70 nos Auger Drilling upto 7 m depth for REE |
| ii | Land / Crop Compensation | per BH | 5.6 | 20,000 | 20 | 4,00,000 | Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities |
| iii | Construction of concrete Pillar (12"x12"x30") | per borehole | 2.2.7a | 2,000 | 20 | 40,000 | 10 scout boreholes in glauconite 10 nos Scout Drilling for REE |
| iv | Transportation of Drill Rig & Truck associated per drill (1 rigs for scout drilling in glauconite, 1 rig for drilling in REE) | Km | 2.2.8 | 36 | 2,400 | 1,72,800 | For 2 rigs, Certification in this regard is required to be provided. To and fro from Nagpur |
| v | Monthly Accommodation Charges for drilling Camp (up to 2 Rigs) | month | 2.2.9 | 50,000 | 2 | 1,00,000 | |
| vi | Drilling Camp Setting Cost (1 rigs for scout drilling in Glauconite) | Nos | 2.2.9a | 2,50,000 | 2 | 5,00,000 | |

| | | | | | | | |
|---------------------|---|------------|-------------------|--------|-----|--------------------|---|
| viii | Approach Road Making (Flat Terrain) | Km | 2.2.10a | 22,020 | 5 | 1,10,100 | Road Making will be considered as per the requirement and Road Making Charges will be reimbursed later |
| ix | Core Preservation: One complete borehole plus mineralised cores of all the remaining Bhs | m | 5.3 | 1,590 | 260 | 4,13,400 | 140 m core for glauconite 120 m core for REE |
| Sub Total- C | | | | | | 1,03,03,100 | |
| D | LABORATORY STUDIES | | | | | | |
| 1 | Chemical Analysis | | | | | | |
| | i) Heavy Mineral Separation | per sample | 4.3.6a, 4.3.6b | 16200 | 95 | 15,39,000 | 40 Stream Sediment Samples + 20 Orientation Pit Samples + 35 Auger Drilling Samples (10% of samples) |
| | ii) Primary sampling for REE (Bed Rock Samples/Stream Sediment/ Pit Samples/ Auger Drilling Samples) For 34 elemental analysis includes REE, Ni, Co, Cr, Zn, V, Rb, Sr, Zr, Nb, Cu, Pb, Zn, Ba, Ti analysis by ICP-AES / ICPMS (sequential technique) | per sample | 4.1.14 | 7731 | 580 | 44,83,980 | 50 Bedrock Samples, 40 Stream Sediment Samples, 20 Orientation Pit Samples extracted by heavy mineral separation, 20 orientation pit samples extracted by natural separation, 350 Auger Drilling Samples, 100 core drilling samples |
| | ii) External Check samples for REE (Bed Rock Samples/Stream Sediment/ Pit Samples/ Auger Drilling Samples) For 34 elemental analysis includes REE, Ni, Co, Cr, Zn, V, Rb, Sr, Zr, Nb, Cu, Pb, Zn, Ba, Ti analysis by ICP-AES / ICPMS (sequential technique) | per sample | 4.1.14 | 7731 | 58 | 4,48,398 | 10% of Primary Samples |

| | | | | | | | |
|-----------------------|---|------------|------------------|--|----------|--------------------|---|
| | iii) Primary sampling for Glauconite(Bed Rock Samples/ Trench Samples/ Scout Drilling Samples) for Major Oxides by XRF Method: K2O, SiO2, MgO, CaO, Na2O, P2O5, Al2O3 & Fe2O3 | per sample | 4.1.15a | 4200 | 200 | 8,40,000 | 50 Bedrock Samples, 50 Trench Samples, 100 Scout Drilling Samples |
| | iv) External Check samples for Glauconite (Bed Rock Samples/ Trench Samples/ Scout Drilling Samples) for Major Oxides by XRF Method: K2O, SiO2, MgO, CaO, Na2O, P2O5, Al2O3 & Fe2O3 | per sample | 4.1.15a | 4200 | 20 | 84,000 | 10% of Primary Samples |
| 2 | Petrological / Mineralographic studies | | | | | | |
| | a) Preparation of thin section | per sample | 4.3.1 | 2,353 | 10 | 23,530 | |
| | b) Study of thin section for petrography | per sample | 4.3.4 | 4,232 | 10 | 42,320 | |
| | c) Preparation of polished section | per sample | 4.3.2 | 1,549 | 10 | 15,490 | |
| | d) Study of polished section for mineragraphy | per sample | 4.3.4 | 4,232 | 10 | 42,320 | |
| | e) Digital photomicrograph of thin polished section | per sample | 4.3.7 | 280 | 10 | 2,800 | |
| 3 | XRD Mineral Phase Analysis | per sample | 4.5.1 | 4,000 | 20 | 80,000 | |
| 4 | EPMA Studies | per hour | 4.4.1 | 8,540 | 20 | 1,70,800 | |
| Sub-Total D | | | | | | 77,72,638 | |
| Total (A TO D) | | | | | | 2,28,44,374 | |
| E | Geological Report Preparation | Nos | 5.2 (iii) | A Minimum of Rs. 7.5 lakhs or 3% of the work whichever is more | 1 | 7,50,000 | For the projects having cost up to exceeding Rs. 150 Lakhs but less than 300 Lakhs: A Minimum of Rs. 7.5 lakhs or 3% of the work whichever is more and Rs. 3000/- per each additional copy. |

| | | | | | | | |
|-------|---|---------|--------------------|------------------------------------|---------------|-------------|--|
| F | Preparation of Exploration Proposal | Nos | 5.1 | 2% or Rs. 500000 whichever is less | 1 | 4,56,887 | 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. |
| G | Report Peer Review Charges | lumpsum | As per EC decision | 30000 | 1 | 30,000 | |
| H | Total Estimated Cost without GST (7+8+9+10) | | | | | 2,40,81,261 | |
| I | Provision for GST (18%) | | | | | 43,34,627 | GST will be reimburse as per actual and as per notified prescribed rate |
| J | Total Estimated Cost with GST | | | | | 2,84,15,889 | |
| | | | | | Say, in Lakhs | 284.16 | |
| Note: | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | | |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | | |
| * | Marked items not indicated in SoC and required to be taken up during the course of exploration shall be charged separately (as per actuals) | | | | | | |
| \$ | Trenching/Pitting dimensions are tentative may vary depending upon the geology and field conditions | | | | | | |




Time schedule/ Action plan of Reconnaissance Survey (G-4) for REE, Glauconite and associated mineralization in Devpur area, District Kachchh, Gujarat

| Sl. No. | Activities | Months | | | | | | | | | | | | |
|---------|---|--------|---|---|---|---|---|---|---|---|----|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | | |
| 1 | Camp setting | ■ | | | | | | | | | | | | |
| 2 | Geological mapping & Sampling (3 party) | ■ | ■ | ■ | ■ | | | | | | | | | |
| 3 | Exploratory Trenching & Sampling | | ■ | ■ | ■ | | | | | | | | | |
| 4 | Sample preparation | | | ■ | ■ | ■ | | | | | | | | |
| 5 | Analytical work | | | | ■ | ■ | ■ | | | | | | | |
| 6 | Auger Drilling for REE | | | | | | | | | | | | | |
| 7 | Scout Drilling for Glauconite | | | | | | | | | | | | | |
| 8 | Drilling for REE | | | | | | | | | | | | | |
| 9 | Camp winding | | | | | | | | | | | | | |
| 10 | Geologist at HQ | | | | | | | | | | | ■ | ■ | ■ |
| 11 | Geological report | | | | | | | | | | | ■ | ■ | |
| 12 | Peer Review | | | | | | | | | | | ■ | ■ | ■ |

Review




Annexure 5A

Estimate Cost of Reconnaissance Survey (G-4) For REE & associated minerals in Sumarasar Area, District: Kachchh, State: Gujarat
Total Area - 100 sq km; Scout Boreholes: 10 Nos Coring (10 Nos for REE), Average Depth: 30 m for Coring and 100 Nos Auger, Average depth and 7 m
for Auger Completion Time -10 Months, Review after 5th Month
Implementing Agency : MECL

ANNEXURE-I

| S.N | Item of Work | Unit | Rates as per NMET SoC 2020-21 | | Estimated Cost of the Proposal | | Remarks |
|----------|---|---------------------|-------------------------------|------------------|--------------------------------|-------------------|---|
| | | | SoC-Item -Sl No. | Rates as per SoC | Qty. | Total Amount (Rs) | |
| A | GEOLOGICAL WORK | | | | | | |
| a | Charges for Geologist at HQ for data processing | day | 1.3 | 9,000 | 60 | 5,40,000 | |
| b | Charges for Geologist at field for LSM mapping at 1:12500 scale, Surface sampling, Pitting and Scout Drilling | day | 1.2 | 11,000 | 180 | 19,80,000 | |
| c | Labour Charges for Geologist at Field Base rate - Rs. 526/ per day | day | 5.7 | 526 | 360 | 1,89,360 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| d | Charges for Sampler for geochemical, channel, Pit and BH Core Samples | one sampler per day | 1.5.2 | 5,100 | 49 | 2,48,944 | |
| e | Labour Charges for Sampling Work; Base rate - Rs. 526/ per day | day | 5.7 | 526 | 195 | 1,02,702 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| | Sub-Total A | | | | | 30,61,005 | |
| B | PITTING | | | | | | |
| a | PITTING (Total 5 Nos of Pit) | Cu m | 2.1.2 | 3,800 | 20 | 76,000 | A total 10 Nos of Orientation Pit with average 2.00 m Depth = 20 cu.m |
| | Sub-Total B | | | | | 76,000 | |

| C | DRILLING | | | | | | |
|----------|--|--------------------------|----------|----------|-------|------------------|---|
| 1 | Drilling in soft rock (upto 300) (REE in Sandstone) | m | 2.2.1.1b | 7,168 | 300 | 21,50,400 | Drilling of REE in Sandstone (10 Bh X 30 m Depth) |
| 2 | Auger drilling for soft strata upto 150m | m | 2.2.2 | 4,760 | 700 | 33,32,000 | Auger Drilling for REE (100 BH X 7m avg depth) One Auger Drilling each for per sq km Area. |
| 3 | Fixation of borehole and determination of co-ordinates & Reduced Level (RL) of the boreholes by DGPS (including charges for labours deployed for the work) | Per point of observation | 1.6.2 | 19,200 | 10 | 1,92,000 | (10 Nos Core BH for REE) |
| 4 | Land / Crop Compensation (in case the BH falls in agricultural Land) | per BH | 5.6 | 20,000 | 10 | 2,00,000 | |
| 5 | Construction of concrete Pillar (12"x12"x30") | per borehole | 2.2.7a | 2,000 | 10 | 20,000 | |
| 6 | Transportation of Drill Rig & Truck associated per drill | Km | 2.2.8 | 36 | 2,400 | 86,400 | Approx 2400 km to & fro from Nagpur (for 1 rigs) |
| 7 | Monthly Accomodation Charges for drilling Camp (up to 2 Rigs) | month | 2.2.9 | 50,000 | 3 | 1,50,000 | |
| 8 | Drilling Camp Setting Cost | Nos | 2.2.9a | 2,50,000 | 1 | 2,50,000 | |
| 9 | Drilling Camp Winding up Cost | Nos | 2.2.9b | 2,50,000 | 1 | 2,50,000 | |
| 10 | Road Making (Flat Terrain) | Km | 2.2.10a | 22,020 | 5 | 1,10,100 | |
| 11 | Drill Core Preservation | Per m | 5.3 | 1,590 | 200 | 3,18,000 | |
| | Sub-Total C | | | | | 70,58,900 | |
| D | Heavy Mineral Separeation | | | | | | |
| 1 | Heavy Mineral Separeation by | per sample | 4.3.6a | 2380 | 30 | | 30 Samples from Pit from different Soil |

| | | | | | | | |
|----------|--|------------|--------|-------|-----|-----------------|--|
| | liquid | | | | | 71,400 | Horizon |
| 2 | Gravity and Magnetic separation | per sample | 4.3.6b | 13820 | 30 | 4,14,600 | 30 Samples from Pit from different Soil Horizon |
| | Sub-Total D | | | | | 4,86,000 | |
| E | LABORATORY STUDIES | | | | | | |
| 1 | <u>Chemical Analysis</u> | | | | | | |
| i | Primary Samples for REE associated Trace Elements (34 Element) by ICPMS | Nos | 4.1.14 | 7,731 | 355 | 27,44,505 | REE associated Trace Elements (34 Element) by ICPMS BRS: 50 Pit Sample- 30 Samples collected from REE Scout BH: 150 Samples from Auger Drilling: (100 X 3) = 125 Nos |
| ii | External Samples for REE associated Trace Elements (34 Element) by ICPMS | Nos | 4.1.14 | 7,731 | 36 | 2,74,451 | |
| 2 | <u>Physical & Petrological Studies</u> | | | | | | |
| i) | Preparation of thin section | Nos | 4.3.1 | 2,353 | 10 | 23,530 | |
| ii) | Complete petrographic study report | Nos | 4.3.4 | 4,232 | 10 | 42,320 | |
| iii) | Preparation of polish section | Nos | 4.3.2 | 1,549 | 10 | 15,490 | |
| iv) | Complete mineragraphic study report | Nos | 4.3.4 | 4,232 | 10 | 42,320 | |
| v) | Digital Photographs | Nos | 4.3.7 | 280 | 20 | 5,600 | |
| vi) | EPMA Study | Hour | 4.4.1 | 8,540 | 15 | 1,28,100 | |
| vii) | XRD Study | Nos | 4.5.1 | 4,000 | 20 | 80,000 | |
| | Sub-Total -E | | | | | | |

| | | | | | | | |
|----------|---|---------------------------------------|---------------------------|--|--|--------------------|--|
| | | | | | | 33,56,316 | |
| F | Sub Total A to E | | | | | 1,40,38,221 | |
| G | Geological Report Preparation | 5 Hard copies with a soft copy | 5.2 | For the projects having cost more than 50 Lakhs but less than 150 Lakh, A minimum of Rs 2.5 Lakh or 5% of the work whichever more and Rs 3000/- per each additional copy | | 7,01,911 | 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 decision | | | 30,000 | |
| I | Preparation of Exploration Proposal (5 Hard copies with a soft copy) | 5 Hard copies with a soft copy | 5.1 | 2% of the Cost or Rs. 5.00 Lakhs whichever is lower | | 2,80,764 | EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal. |
| J | Total Estimated Cost without | | | | | 1,50,50,896 | |




| | | | | | | | |
|--|--|----------|--|--|--|--------------------|---|
| | GST | | | | | | |
| K | Provision for GST (18% of J) | % | | | | 27,09,161 | GST will be reimburse as per actual and as per notified prescribed rate |
| L | Total Estimated Cost with GST | | | | | 1,77,60,058 | |
| <i>or Say Rs. , In Lakhs:</i> | | | | | | 177.60 | |
| Note: | | | | | | | |
| \$ | Trenching/Pitting dimensions are tentative may vary depending upon the geology and field conditions | | | | | | |
| # | 2nd level of work shall be carried out after review of 1st level work i.e. Geological mapping, geochemical sampling and analysis | | | | | | |
| <i>Note - If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.</i> | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | | |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | | |

| Time Schedule/ Action plan for Reconnaissance Survey (G-4) For REE & associated minerals in Sumarasar Area, District Kachchh, Gujarat | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|--------|---|---|---|---|----|--|
| | | 1 | 2 | 3 | 4 | 5 | Review | 6 | 7 | 8 | 9 | 10 | |
| 1 | Camp Setting | | | | | | | | | | | | |
| 2 | Geological Party Days | | | | | | | | | | | | |
| 3 | Pitting, Trnching & Sampling | | | | | | | | | | | | |
| 4 | Heavy Mineral Separation/ Sample Preparation | | | | | | | | | | | | |
| 5 | Laboratory Studies | | | | | | | | | | | | |
| 6 | DGPS survey /BH Fixation | | | | | | | | | | | | |
| 8 | Dilling (Auger+Scout BH) | | | | | | | | | | | | |
| 9 | Camp Winding | | | | | | | | | | | | |
| 10 | Geologist Party days, HQ | | | | | | | | | | | | |
| 11 | Geological Report Writing | | | | | | | | | | | | |
| 12 | Peer Review | | | | | | | | | | | | |




**Estimate Cost of Reconnaissance Survey (G-4) Stage for Gold & associated minerals in Parma area, District:
Singrauli, Madhya Pradesh**

**Total Area - 133.00 sq km; Scout Boreholes: 5 Nos, Average Depth: 100 m Completion Time -10 Months, Review after 5th & 6th Month
Implementing Agency - MECL**

ANNEXURE-I

| S.N | Item of Work | Unit | Rates as per NMET SoC 2020-21 | | Estimated Cost of the Proposal | | Remarks |
|----------|---|---------------------|-------------------------------|------------------|--------------------------------|-------------------|---|
| | | | SoC-Item - Sl No. | Rates as per SoC | Qty. | Total Amount (Rs) | |
| A | GEOLOGICAL WORK | | | | | | |
| 0 | Charges for Geologist at HQ for data processing and remote sensing studies | day | 1.3 | 9,000 | 60 | 5,40,000 | 60 days-HQ- data processing & 20 days- Remote sensing studies |
| b | Charges for Geologist at field for LSM mapping at 1:12500 scale, Surface sampling, trenching and Scout Drilling | day | 1.2 | 11,000 | 180 | 19,80,000 | moderate hilly terrain with forest cover |
| c | Labour Charges for Geologist at Field | day | 5.7 | 526 | 360 | 1,89,360 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| d | Charges for Sampler for geochemical, channel, Pit and BH Core Samples | one sampler per day | 1.5.2 | 5,100 | 70 | 3,57,000 | |
| e | Labour Charges for Sampling Work | day | 5.7 | 526 | 280 | 1,47,280 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| | Sub-Total A | | | | | 32,13,640 | |
| B | TRENCHING | | | | | | |
| a | Trenching | Cu m | 2.1.1 | 3,330 | 150 | 4,99,500 | |

| | | | | | | | |
|----------|--|--------------------------|----------|-----------|-------|------------------|--|
| | Sub-Total B | | | | | 4,99,500 | |
| C | DRILLING (After Geophysical study review) | | | | | | |
| 1 | Core Drilling up to depth of 300m - Hard Rock | m | 2.2.1.4a | 11,500 | 500 | 57,50,000 | |
| 2 | 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 | 5 | 96,000 | 5 Nos of Scout BHs |
| 3 | Land / Crop Compensation (in case the BH falls in agricultural Land) | per BH | 5.6 | 20,000 | 5 | 1,00,000 | |
| 4 | Construction of concrete Pillar (12"x12"x30") | per borehole | 2.2.7a | 2,000 | 5 | 10,000 | |
| 5 | Transportation of Drill Rig & Truck associated per drill | Km | 2.2.8 | 36 | 1,200 | 43,200 | Approx 1200 km to & fro from Nagpur/ Rig |
| 6 | Monthly Accommodation Charges for drilling Camp (up to 2 Rigs) | month | 2.2.9 | 50,000 | 3 | 1,50,000 | |
| 7 | Drilling Camp Setting Cost | Nos | 2.2.9a | 2,50,000 | 1 | 2,50,000 | |
| 8 | Drilling Camp Winding up Cost | Nos | 2.2.9b | 2,50,000 | 1 | 2,50,000 | |
| 9 | Road Making (Flat Terrain) | Km | 2.2.10a | 22,020 | 4 | 88,080 | |
| 10 | Drill Core Preservation | Per m | 5.3 | 1,590 | 200 | 3,18,000 | |
| | Sub-Total C | | | | | 70,55,280 | |
| D | Geophysical Survey- (after GM) | | | | | | |
| 1 | I.P. cum Resistivity, S.P., Magnetic (8-10 L.Km) | 8-10 L.Km | 3.4b | 14,48,693 | 1 | 14,48,693 | |
| | Geophysicist Party days (HQ) | per day | 3.18 | 9,000 | 30 | 2,70,000 | |
| | Sub-Total D | | | | | 17,18,693 | |
| E | LABORATORY STUDIES | | | | | | |
| 1 | Chemical Analysis | | | | | | |
| | Primary Samples Surface + Trench + BH Core Samples) | | | | | | |

| | | | | | | | |
|------------|--|------|---------------|--------|-----|--------------------|---|
| | For Gold by Fire Assay | Nos | 4.1.5a | 2,380 | 300 | 7,14,000 | |
| | For Ni, Cr, Co, Mo, Sc, Cu, Pb, Zn, Bi, Ge, Ti, V and Ga by AAS | Nos | 4.1.7a & 7b | 5,186 | 150 | 7,77,900 | 5 radicals in package + 8 additional radicals |
| | PGE analysis by ICPMS Ni-S Fire assay technique | Nos | 4.1.5d | 11,800 | 20 | 2,36,000 | |
| | External check samples (10%) | | | | | | |
| | For Gold by Fire Assay | Nos | 4.1.5a | 2,380 | 30 | 71,400 | |
| | For Ni, Cr, Co, Mo, Sc, Cu, Pb, Zn, Bi, Ge, Ti, V and Ga by AAS | Nos | 4.1.7a & 7b | 5,186 | 15 | 77,790 | |
| ii) | Trace element Analysis (ICP-MS) (34 elements) | Nos | 4.1.14 | 7,731 | 20 | 1,54,620 | |
| iv) | Whole Rock Analysis for Major Oxides and trace elements by XRF technique (7 additional trace elements) | Nos | 4.1.15a & 15b | 7,147 | 20 | 1,42,940 | |
| 2 | <u>Physical & Petrological Studies</u> | | | | | | |
| i) | Preparation of thin section | Nos | 4.3.1 | 2,353 | 10 | 23,530 | |
| ii) | Complete petrographic study report | Nos | 4.3.4 | 4,232 | 10 | 42,320 | |
| iii) | Preparation of polish section | Nos | 4.3.2 | 1,549 | 10 | 15,490 | |
| iv) | Complete mineralogical study report | Nos | 4.3.4 | 4,232 | 10 | 42,320 | |
| v) | Digital Photographs | Nos | 4.3.7 | 280 | 10 | 2,800 | |
| | Bulk Density | Nos. | 4.10 | 3,540 | 5 | 17,700 | |
| | Sub-Total -E | | | | | 23,18,810 | |
| E | Total A to E | | | | | 1,48,05,923 | |

| | | | | | | | |
|-------------------------------|---|---------------------------------------|---------------------------|---|--|--------------------|---|
| F | Geological Report Preparation | 5 Hard copies with a soft copy | 5.2 | For the projects having cost less than Rs 150 Lakh, A minimum of Rs 2.50 Lakh or 5% of the work whichever more and Rs 3000/- per each additional copy | | 7,40,296 | |
| G | Peer review Charges | | As per EC decision | | | 30,000 | |
| H | Preparation of Exploration Proposal (5 Hard copies with a soft copy) | 5 Hard copies with a soft copy | 5.1 | 2% of the Cost or Rs. 5.00 Lakhs whichever is lower | | 2,96,118 | |
| I | Total Estimated Cost without GST | | | | | 1,58,72,338 | |
| J | Provision for GST (18% of I) | % | | | | 28,57,021 | GST will be reimburse as per actual and as per notified prescribed rate |
| K | Total Estimated Cost with GST | | | | | 1,87,29,358 | |
| <i>or Say Rs. , In Lakhs:</i> | | | | | | 187.29 | |
| Note: | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | |




| | |
|----|---|
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. |
| 5 | Any item of work not mentioned above shall be added as per SoC. |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. |
| \$ | Trenching/Pitting dimensions are tentative may vary depending upon the geology and field conditions |
| # | 2nd level of work shall be carried out after review of 1st level work i.e. Geological mapping, geochemical sampling and analysis |
| & | The hyperspectral imagery will claim as per actual |



**Time Schedule/ Action Plan for Reconnaissance Survey (G-4) Stage for Gold & associated minerals in Parma area, District
Singrauli, Madhya Pradesh**

| | | 1 | 2 | 3 | 4 | 5 | | 6 | | 7 | 8 | 9 | 10 | |
|----|-----------------------------|---|---|---|---|---|--------|---|--------|---|---|---|----|--|
| 1 | Camp Setting | | | | | | Review | | Review | | | | | |
| 2 | Geological Party Days | | | | | | | | | | | | | |
| 3 | Trenching & Sampling | | | | | | | | | | | | | |
| 4 | Sample Preparation | | | | | | | | | | | | | |
| 5 | Laboratory Studies | | | | | | | | | | | | | |
| 6 | Geophysical survey | | | | | | | | | | | | | |
| 7 | DGPS survey /BH Fixation | | | | | | | | | | | | | |
| 8 | Core Drilling | | | | | | | | | | | | | |
| 9 | Camp Winding | | | | | | | | | | | | | |
| 10 | Geologist Party days, HQ | | | | | | | | | | | | | |
| 11 | Geological Report Writing | | | | | | | | | | | | | |
| 12 | Peer Review | | | | | | | | | | | | | |




**Estimate Cost of Reconnaissance Survey (G-4 Stage) For REE & Phosphorite in Nokhaniya Area,
Districts Kachchh, Gujarat**

Total Area - 100.49sq km; Auger Boreholes: 100 Nos, Average Depth: 7m & Scout Boreholes: 15 Nos Coring (10 Nos for REE and 5 Nos for Phosphorite), Average Depth: 30 m for REE and 50m for Phosphorite Coring Completion Time -10 Months, Review after 5th Month

Implementing Agency - MECL

ANNEXURE-I

| S.N | Item of Work | Unit | Rates as per NMET SoC 2020-21 | | Estimated Cost of the Proposal | | Remarks |
|----------|---|---------------------|-------------------------------|------------------|--------------------------------|-------------------|---|
| | | | SoC-Item - SI No. | Rates as per SoC | Qty. | Total Amount (Rs) | |
| A | GEOLOGICAL WORK | | | | | | |
| a | Charges for Geologist at HQ for data processing | day | 1.3 | 9,000 | 60 | 5,40,000 | |
| b | Charges for Geologist at field for LSM mapping at 1:12500 scale, Surface sampling, Pitting and Scout Drilling | day | 1.2 | 11,000 | 180 | 19,80,000 | Undulated terrain with Forest area |
| c | Labour Charges for Geologist at Field | day | 5.7 | 526 | 360 | 1,89,360 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| d | Charges for Sampler for geochemical, channel, Pit and BH Core Samples | one sampler per day | 1.5.2 | 5,100 | 80 | 4,06,725 | |
| e | Labour Charges for Sampling Work; | day | 5.7 | 526 | 319 | 1,67,794 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| | Sub-Total A | | | | | 32,83,879 | |
| B | PITTING | | | | | | |

| | | | | | | | |
|----------|--|--------------------------|----------|----------|-------|---------------|---|
| a | PITTING (Total 5 Nos of Pit) | Cu m | 2.1.2 | 3,800 | 20 | 76,000 | A total 10 Nos of Orientation Pit with average 2.00 m Depth = 20 cu.m |
| | Sub-Total B | | | | | 76,000 | |
| C | DRILLING | | | | | | |
| 1 | Auger drilling for soft strata upto 150m | m | 2.2.2 | 4,760 | 700 | 33,32,000 | Auger Drilling for REE (100 BH X 7m avg depth) One Auger Drilling each for per sq km Area over sandstone. |
| 2 | Drilling in soft rock (upto 300) | m | 2.2.1.1b | 7,168 | 300 | 21,50,400 | 10 Nos Scout BHs in sandstone of total depth 30m. |
| | Drilling in soft rock (upto 300) (Phosphorite in Limestone) | m | 2.2.1.1b | 7,168 | 250 | 17,92,000 | Drilling of Phosphorite in Limestone (MoC Rate) (5 Bh X 50 m Depth) |
| 2 | 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 | 15 | 2,88,000 | |
| 3 | Land / Crop Compensation (in case the BH falls in agricultural Land) | per BH | 5.6 | 20,000 | 15 | 3,00,000 | |
| 4 | Construction of concrete Pillar (12"x12"x30") | per borehole | 2.2.7a | 2,000 | 15 | 30,000 | |
| 5 | Transportation of Drill Rig & Truck associated per drill | Km | 2.2.8 | 36 | 4,800 | 1,72,800 | Approx 2400 km to & fro from Nagpur per Rig (As per actual) |
| 6 | Monthly Accommodation Charges for drilling Camp (up to 2 Rigs) | month | 2.2.9 | 50,000 | 2 | 1,00,000 | |
| 7 | Drilling Camp Setting Cost | Nos | 2.2.9a | 2,50,000 | 2 | 5,00,000 | |
| 8 | Drilling Camp Winding up Cost | Nos | 2.2.9b | 2,50,000 | 2 | 5,00,000 | |
| 9 | Road Making (Flat Terrain) | Km | 2.2.10a | 22,020 | 5 | 1,10,100 | |

| | | | | | | | |
|------------|--|------------|--------|-------|-----|------------------|---|
| 10 | Drill Core Preservation | Per m | 5.3 | 1,590 | 300 | 4,77,000 | |
| | Sub-Total C | | | | | 97,52,300 | |
| D | Heavy Mineral Separation | | | | | | |
| 1 | Heavy Mineral Separation by liquid | per sample | 4.3.6a | 2380 | 30 | 71,400 | 30 Samples from Pit from different Soil Horizon |
| 2 | Gravity and Magnetic separation | per sample | 4.3.6b | 13820 | 30 | 4,14,600 | 30 Samples from Pit from different Soil Horizon |
| | Sub-Total D | | | | | 4,86,000 | |
| E | LABORATORY STUDIES | | | | | | |
| 1 | Chemical Analysis | | | | | | |
| | Primary Samples Surface + Pit + Heavy Minerals+BH Core Samples) | | | | | | |
| i) | Primary samples | | | | | | |
| | REE associated Trace Elements (34 Element)by ICPMS | Nos | 4.1.14 | 7,731 | 455 | 35,17,605 | REE associated Trace Elements (34 Element) by ICPMS BRS: 50 (25 Samples from Phosphatic Zone and 25 Samples from Sandstone) Pit Sample- 30 Samples collected from REE Scout BH: 150 Phosphorite Core Sample: 100 which will be also analysed for REE auger Drill Samples 100 No X 3 =125 |
| ii) | External check samples (10%) | | | | | | |
| | REE associated Trace Elements (34 Element)by ICPMS | Nos | 4.1.14 | 7,731 | 46 | 3,51,761 | |
| iii) | Primary Sample Analysis of phosphate rock | Nos | 4.1.3 | 9,805 | 125 | 12,25,625 | Samples collected from Phosphorite Scout BH: 100 No + 25 BRS |
| | External Check Samples (10%) of | Nos | 4.1.3 | 9,805 | 13 | 1,22,563 | |

| | | | | | | | |
|----------|--|---------------------------------------|---------------------------|---|----|--------------------|--|
| | Phosphatic Rock | | | | | | |
| 2 | Physical & Petrological Studies | | | | | | |
| i) | Preparation of thin section | Nos | 4.3.1 | 2,353 | 10 | 23,530 | |
| ii) | Complete petrographic study report | Nos | 4.3.4 | 4,232 | 10 | 42,320 | |
| iii) | Preparation of polish section | Nos | 4.3.2 | 1,549 | 10 | 15,490 | |
| iv) | Complete mineragraphic study report | Nos | 4.3.4 | 4,232 | 10 | 42,320 | |
| v) | Digital Photographs | Nos | 4.3.7 | 280 | 20 | 5,600 | |
| vi) | EPMA Study | Hour | 4.4.1 | 8,540 | 10 | 85,400 | |
| vii) | XRD Study | Nos | 4.5.1 | 4,000 | 20 | 80,000 | |
| | Sub-Total -E | | | | | 55,12,213 | |
| F | Sub Total A to E | | | | | 1,91,10,392 | |
| G | Geological Report Preparation | 5 Hard copies with a soft copy | 5.2 | For the projects having cost more than 150 Lakhs but less than 300 Lakh, A minimum of Rs 7.5 Lakh or 3% of the work whichever more and Rs 3000/- per each additional copy | | 7,50,000 | 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 decision | | | 30,000 | |

| | | | | | | | |
|---|---|--------------------------------------|-----|---|--|-------------|--|
| I | Preparation of Exploration Proposal (5 Hard copies with a soft copy) | 5 Hard copies with a soft copy | 5.1 | 2% of the Cost or Rs. 5.00 Lakhs whichever is lower | | 3,82,208 | EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal. |
| J | Total Estimated Cost without GST | | | | | 2,02,72,600 | |
| K | Provision for GST (18% of J) | % | | | | 36,49,068 | GST will be reimburse as per actual and as per notified prescribed rate |
| L | Total Estimated Cost with GST | | | | | 2,39,21,668 | |
| <i>or Say Rs. , In Lakhs:</i> | | | | | | 239.22 | |
| Note: | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | | |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | | |
| \$ | Trenching/Pitting dimensions are tentative may vary depending upon the geology and field conditions | | | | | | |
| # | 2nd level of work shall be carried out after review of 1st level work i.e. Geological mapping, geochemical sampling and analysis | | | | | | |
| Note - If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | | | |

**Time Schedule/ Action Plan for Reconnaissance Survey (G-4 Stage) For REE & Phosphorite in Nokhaniya Area,
Kachchh, Gujarat**

| | | 1 | 2 | 3 | 4 | 5 | Review | 6 | 7 | 8 | 9 | 10 | |
|----|---|---|---|---|---|---|--------|---|---|---|---|----|--|
| 1 | Camp Setting | | | | | | | | | | | | |
| 2 | Geological Party Days | | | | | | | | | | | | |
| 3 | Pitting, Trenching & Sampling | | | | | | | | | | | | |
| 4 | Heavy Mineral Separation/ Sample Preparation | | | | | | | | | | | | |
| 5 | Laboratory Studies | | | | | | | | | | | | |
| 6 | DGPS survey /BH Fixation | | | | | | | | | | | | |
| 8 | Drilling (Auger) | | | | | | | | | | | | |
| 9 | Camp Winding | | | | | | | | | | | | |
| 10 | Geologist Party days, HQ | | | | | | | | | | | | |
| 11 | Geological Report Writing | | | | | | | | | | | | |
| 12 | Peer Review | | | | | | | | | | | | |




Estimate cost for Reconnaissance Survey (G-4) for REE and associated mineralization in Saiyedpar area, District Kachchh, Gujarat
Total block area- 135.45 sq km; Completion Time- 10 Months, Review: after 04 months
Auger Drilling : 30 nos. with 7m depth each, Core Drilling 10BH with 50m depth each
Implementing Agency - MECL

| 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) | |
| A | GEOLOGICAL WORK | | | | | | |
| 1 | Geological Mapping (1:12500) | | | | | | |
| | Geologist man days (1 No.) for Geological map & Report (HQ) | days | 1.1b | 9,000 | 60 | 5,40,000 | |
| | a) Geologist man days (2 No) for Large scale (LSM) Geological mapping/ Trenching/ Drilling | days | 1.2 | 11,000 | 180 | 19,80,000 | |
| | b) Labour (field) | per worker | 5.7 | 526 | 360 | 1,89,360 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| | c) Sampler for Surface Samples/ Trench Samples / Core Samples Labour charge not included (1 sampler) | day | 1.5.2 | 5100 | 42 | 2,13,563 | |
| | d) 4 labours/ party (As per rates of Central Labour Commissioner) | day | 5.7 | 526 | 168 | 88,105 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| 2 | Survey | | | | | | |

| | | | | | | | |
|--------------------|---|--------------------------|----------|----------|-------|------------------|---|
| i | Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS | Per Point of observation | 1.6.2 | 19,200 | 10 | 1,92,000 | 10 Core Drilling Boreholes for REE |
| Sub-Total A | | | | | | 32,03,028 | |
| B | PITTING & TRENCHING | | | | | | |
| | a) Excavation of pits for REE (5 pits) | per cu m | 2.1.2 | 3800 | 20 | 76000 | 5 pits (1m*2m*2m) |
| Sub-Total B | | | | | | 76000 | |
| C | DRILLING - after Review | | | | | | |
| i | Auger Drilling for soft strata upto 150 m depth | per m | 2.2.2 | 4,760 | 210 | 9,99,600 | 30 nos (7 m depth) Auger Drilling for REE, as per actual (outsourced) |
| i | Core Drilling upto 300m (Soft Rock) (1 rigs) | m | 2.2.1.1b | 7,168 | 500 | 35,84,000 | * Soft rock drilling rate as per MOC 23-24. Borehole depth will be adjusted as per actual depth of the target lithology. *Core drilling will be carried out in second phase of exploration subject to the geochemical analysis results. 10 BH with 50 m depth |
| ii | Land / Crop Compensation | per BH | 5.6 | 20,000 | 10 | 2,00,000 | |
| iii | Construction of concrete Pillar (12"x12"x30") | per borehole | 2.2.7a | 2,000 | 10 | 20,000 | |
| iv | Transportation of Drill Rig & Truck associated per drill (1 rig) | Km | 2.2.8 | 36 | 2,320 | 83,520 | Certification in this regard is required to be provided. To and fro from Nagpur |
| v | Monthly Accommodation Charges for drilling Camp (up to 2 Rigs) | month | 2.2.9 | 50,000 | 2 | 1,00,000 | |
| vi | Drilling Camp Setting Cost | Nos | 2.2.9a | 2,50,000 | 1 | 2,50,000 | |
| vii | Drilling Camp Winding up Cost | Nos | 2.2.9b | 2,50,000 | 1 | 2,50,000 | |
| viii | Approach Road Making | Km | 2.2.10a | 22,020 | 2 | 44,040 | Road Making will be considered as per the requirement and Road |

| | | | | | | | |
|---------------------|--|------------|-------------------|--------|-----|------------------|---|
| | | | | | | | Making Charges will be reimbursed for max. 4 km. |
| x | Drill core preservation: One complete borehole plus mineralised cores of all the remaining Bhs | m | 5.3 | 1,590 | 165 | 2,62,350 | This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities |
| Sub Total- C | | | | | | 57,93,510 | |
| D | LABORATORY STUDIES | | | | | | |
| 1 | Chemical Analysis | | | | | | |
| | i) Heavy Mineral Separation | per sample | 4.3.6a, 4.3.6b | 16,200 | 70 | 11,34,000 | 20 Stream Sediment Samples + 20 Orientation Pit Samples + 30 (20%) Auger Drilling Samples |
| | ii) Primary sampling for REE (Bed Rock Samples/Stream Sediment/ Pit Samples/ Auger Drilling Samples) For 34 elemental analysis includes Nb, Sr, Ta, W, Mo, Sn, Rb, Be, Cs, Li & REE analysis by ICP-AES / ICPMS (sequential technique) | per sample | 4.1.14 | 7,731 | 460 | 35,56,260 | 75 Bedrock Samples, 20 Orientation Pit Samples by heavy mineral separation, 20 orientation pit samples by natural fraction, 45 Stream Sediment Samples, 150 Auger Drilling Samples, 150 borehole core samples |
| | ii) External Check samples for REE (Bed Rock Samples/Stream Sediment/ Pit Samples/ Auger Drilling Samples) For 34 elemental analysis includes Nb, Sr, Ta, W, Mo, Sn, Rb, Be, Cs, Li & REE analysis by ICP-AES / ICPMS (sequential technique) | per sample | 4.1.14 | 7,731 | 46 | 3,55,626 | 10% of primary samples |
| | iii) Primary sampling for Limestone (Bed Rock Samples) for Major Oxides by XRF Method: CaO, MgO, K ₂ O, | per sample | 4.1.15a | 4200 | 25 | 1,05,000 | 25 Bedrock Samples |

| | | | | | | | |
|------------|--|------------|---------|-------|----|--------------------|------------------------|
| | SiO ₂ , Na ₂ O, P ₂ O ₅ , Al ₂ O ₃ , Fe ₂ O ₃ , SO ₃ & LOI | | | | | | |
| | iii) External check samples for Limestone (Bed Rock Samples) for Major Oxides by XRF Method: CaO, MgO, K ₂ O, SiO ₂ , Na ₂ O, P ₂ O ₅ , Al ₂ O ₃ , Fe ₂ O ₃ , SO ₃ & LOI | per sample | 4.1.15a | 4200 | 3 | 10,500 | 10% of primary samples |
| 2.0 | Petrological / Mineralogical studies | | | | | | |
| | a) Preparation of thin section | per sample | 4.3.1 | 2,353 | 10 | 23,530 | |
| | b) Study of thin section for petrography | per sample | 4.3.4 | 4,232 | 10 | 42,320 | |
| | c) Preparation of polished section | per sample | 4.3.2 | 1,549 | 10 | 15,490 | |
| | d) Study of polished section for mineragraphy | per sample | 4.3.4 | 4,232 | 10 | 42,320 | |
| | e) Digital photomicrograph of thin polished section | per sample | 4.3.7 | 280 | 10 | 2,800 | |
| 3 | XRD Mineral Phase Analysis | per sample | 4.5.1 | 4,000 | 20 | 80,000 | |
| 4 | EPMA Studies | per hour | 4.4.1 | 8,540 | 10 | 85,400 | |
| | Sub-Total D | | | | | 54,53,246 | |
| | Total (A TO D) | | | | | 1,45,25,784 | |

| | | | | | | | |
|---|--|---------|--------------------|--|---------------|-------------|---|
| E | Geological Report Preparation | Nos | 5.2 | For the projects having cost exceeding Rs. 50 Lakhs but less than 150 Lakhs: A minimum of Rs. 2.5 lakhs or 5% of the work whichever is more and Rs. 3000/- per each additional copy. | 1 | 7,26,289 | |
| F | Preparation of Exploration Proposal | Nos | 5.1 | 2% or Rs. 500000 whichever is less | 1 | 2,90,516 | 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. |
| G | Report Peer Review Charges | lumpsum | As per EC decision | 30000 | 1 | 30,000 | |
| H | Total Estimated Cost without GST | | | | | 1,55,72,588 | |
| I | Provision for GST (18%) | | | | | 28,03,066 | GST will be reimburse as per actual and as per notified prescribed rate |
| J | Total Estimated Cost with GST | | | | | 1,83,75,654 | |
| | | | | | Say, in Lakhs | 183.76 | |




| | | | | | | | |
|-------|--|--|--|--|--|--|--|
| Note: | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | | |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | | |
| * | Marked items not indicated in SoC and required to be taken up during the course of exploration shall be charged separately (as per actuals) | | | | | | |
| \$ | Trenching/Pitting dimensions are tentative may vary depending upon the geology and field conditions | | | | | | |
| # | 2nd level of work shall be carried out after review of 1st level work i.e. Geological mapping, geochemical sampling and analysis | | | | | | |




Time Schedule/ Action Plan for Reconnaissance Survey (G-4) for REE and associated mineralization in Saiyedpar area, District-Kachchh, Gujarat

| S. No. | Particulars | Months/ Days | 1 | 2 | 3 | 4 | Review | 5 | 6 | 7 | 8 | 9 | 10 | |
|--------|----------------------------------|-----------------|---|---|---|---|--------|---|---|---|---|---|----|--|
| 1 | Camp Setting | months | | | | | | | | | | | | |
| 2 | Geological Mapping & BR sampling | months | | | | | | | | | | | | |
| 3 | Trenching/Pitting | cu.m | | | | | | | | | | | | |
| 4 | Auger Drilling | m | | | | | | | | | | | | |
| 5 | Geologist days | days | | | | | | | | | | | | |
| 6 | Sampling days | days | | | | | | | | | | | | |
| 7 | Drilling (1 rigs) | months | | | | | | | | | | | | |
| 8 | Camp winding | months | | | | | | | | | | | | |
| 9 | Laboratory Studies | months | | | | | | | | | | | | |
| 10 | Geologist days, HQ | days | | | | | | | | | | | | |
| 11 | Report Writing with Peer Review | months | | | | | | | | | | | | |




Estimate Cost of Reconnaissance Survey (G-4 Stage) For REE & associated minerals in Devissar area, District Kachchh, Gujarat
(Toposheet No: 41E/07, Area 140.7 sq.km.)
Scout Boreholes: 12 Nos, Average Depth: 50 m Completion Time -10 Months, Review after 6th Month
Implementing Agency - MECL

ANNEXURE-I

| S.N | Item of Work | Unit | Rates as per NMET SoC 2020-21 | | Estimated Cost of the Proposal | | Remarks |
|----------|---|---------------------|-------------------------------|------------------|--------------------------------|-------------------|---|
| | | | SoC-Item -SI No. | Rates as per SoC | Qty. | Total Amount (Rs) | |
| A | GEOLOGICAL WORK | | | | | | |
| a | Charges for Geologist at HQ for data processing | day | 1.3 | 9,000 | 60 | 5,40,000 | |
| b | Charges for Geologist at field for LSM mapping at 1:12500 scale, Surface sampling, Pitting and Scout Drilling | day | 1.2 | 11,000 | 180 | 19,80,000 | |
| c | Labour Charges for Geologist at Field | day | 5.7 | 526 | 360 | 1,89,360 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher |
| d | Charges for Sampler for geochemical, channel, Pit and BH Core Samples | one sampler per day | 1.5.2 | 5,100 | 64 | 3,25,125 | |
| e | Labour Charges for Sampling Work; Base rate - Rs. 526/ per day | day | 5.7 | 526 | 255 | 1,34,130 | Amount will be reimburse as per the notified rates by the Central Labour Commissioner or |

| | | | | | | | |
|----------|--|--------------|----------|--------|-------|------------------|---|
| | | | | | | | respective State Govt. whichever is higher |
| | Sub-Total A | | | | | 31,68,615 | |
| B | PITTING | | | | | | |
| a | Pitting for REE & Glauconite | Cu m | 2.1.2 | 3,800 | 225 | 8,55,000 | One pit per sq km. A total 150 Nos of Pit with average Depth of 1.50m = 150 X 1.5 m = 225 m |
| | Sub-Total B | | | | | 8,55,000 | |
| C | a. Core Drilling for Glauconite and Phosphorite (After Mapping) | | | | | | |
| | Drilling upto 300m (Soft Rock) (1 rigs) | m | 2.2.1.1b | 7,168 | 600 | 43,00,800 | Initially Two BHs will be drilled upto 50 m depth, remaining 10 BHs depth will be decided accordingly. 12BH x 50m =600m, MoC rate |
| | Land / Crop Compensation | per BH | 5.6 | 20,000 | 12 | 2,40,000 | Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities |
| | Construction of concrete Pillar (12"x12"x30") | per borehole | 2.2.7a | 2,000 | 12 | 24,000 | |
| | Transportation of Drill Rig & Truck associated per drill | Km | 2.2.8 | 36 | 2,500 | 90,000 | Certification in this regard is required to be provided |
| | Monthly Accommodation Charges for drilling Camp | month | 2.2.9 | 50,000 | 4 | 2,00,000 | |

| | | | | | | | |
|------------|---|------------|---------|----------|-----|--------------------|---|
| | Drilling Camp Setting Cost | Nos | 2.2.9a | 2,50,000 | 1 | 2,50,000 | |
| | Drilling Camp Winding up Cost | Nos | 2.2.9b | 2,50,000 | 1 | 2,50,000 | |
| | Approach Road Making (Flat Terrain) | Km | 2.2.10a | 22,020 | 5 | 1,10,100 | Road Making will be considered as per the requirement and Road Making Charges will be reimbursed for max. 4 km. |
| | Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and by DGPS | Nos | 1.6.2 | 19,200 | 12 | 2,30,400 | |
| | Borehole core preservation-One complete borehole plus mineralised cores of all the remaining Bhs | m | 5.3 | 1,590 | 200 | 3,18,000 | |
| | Sub-Total C.a | | | | | 60,13,300 | |
| | B. Auger Drilling for REE | | | | | | |
| | Auger Drilling soft Strata (30 Boreholes X 7 m average depth) | m | 2.2.2 | 4760 | 210 | 9,99,600 | 30 Auger BH X 7 m Depth |
| | Sub-Total C.b | | | | | 9,99,600 | |
| | Sub-Total C | | | | | 70,12,900 | |
| D | Sub Total A to C | | | | | 1,10,36,515 | |
| E | Heavy Mineral Separation | | | | | | |
| i) | Heavy Mineral Separation by liquid | Per Sample | 4.3.6a | 2,380 | 300 | 7,14,000 | 200 Pit sample, 100 auger drilling sample |
| ii) | Gravity and Magnetic Separation | Per Sample | 4.3.6b | 13,820 | 300 | 41,46,000 | |
| | Total E | | | | | 48,60,000 | |
| F | LABORATORY STUDIES | | | | | | |
| 1 | Bedrock/Channel/Chip/Trench/BH etc Samples) | | | | | | |
| | a) Primary samples for K ₂ O, SiO ₂ , | Nos | 4.1.15a | 4,200 | - | - | |

| | | | | | | | |
|----------|--|---------------------------------------|---------------------------|---|-----|--------------------|--|
| | MgO, CaO, Na ₂ O, P ₂ O ₅ , Al ₂ O ₃ & Fe ₂ O ₃ | | | | | | |
| | b) Internal/External Check sample (15%) | Nos | 4.1.15a | 4,200 | - | - | |
| | c) Analysis of Pit samples, Auger and Core samples for REE for determination of a package by 34 elements by ICP-AES / ICPMS (sequential technique) | Nos | 4.1.14 | 7,731 | 450 | 34,78,950 | 200 Pit Samples 100 Auger Samples 150 BH Core samples |
| | d) External Check sample (10%) | Nos | 4.1.14 | 7,731 | 45 | 3,47,895 | |
| | e) Whole Rock Analysis for Major Oxides by XRF technique | Nos | 4.1.15a | 4,200 | 15 | 63,000 | |
| 2 | Physical & Petrological Studies | | | | | | |
| i) | Preparation of thin section | Nos | 4.3.1 | 2,353 | 10 | 23,530 | |
| ii) | Complete petrographic study report | Nos | 4.3.4 | 4,232 | 10 | 42,320 | |
| iii) | Preparation of polish section | Nos | 4.3.2 | 1,549 | 10 | 15,490 | |
| iv) | Complete mineragraphic study report | Nos | 4.3.4 | 4,232 | 10 | 42,320 | |
| v) | Digital Photographs | Nos | 4.3.7 | 280 | 10 | 2,800 | |
| vii) | EPMA Study | Hour | 4.4.1 | 8,540 | 15 | 1,28,100 | |
| viii) | XRD Study | Nos | 4.5.1 | 4,000 | 20 | 80,000 | |
| | Sub-Total -F | | | | | 42,24,405 | |
| J | Total D+F | | | | | 2,01,20,920 | |
| I | Geological Report Preparation | 5 Hard copies with a soft copy | 5.2 | For the projects having cost exceeding Rs 150 Lakh, A minimum of Rs 7.5 Lakh or 3% of the work whichever more and Rs 10000/- per each additional copy | | 7,50,000 | EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET. |
| J | Peer review Charges | | As per EC decision | | | 30,000 | |

| | | | | | | |
|-------------------------------|---|--------------------------------|-----|---|-------------|--|
| K | Preparation of Exploration Proposal (5 Hard copies with a soft copy) | 5 Hard copies with a soft copy | 5.1 | 2% of the Cost or Rs. 5.00 Lakhs whichever is lower | 4,02,418 | 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. |
| L | Total Estimated Cost without GST | | | | 2,13,03,338 | |
| M | Provision for GST (18% of L) | % | | | 38,34,601 | GST will be reimburse as per actual and as per notified prescribed rate |
| N | Total Estimated Cost with GST | | | | 2,51,37,939 | |
| <i>or Say Rs. , In Lakhs:</i> | | | | | 251.38 | |
| Note: | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | |
| \$ | Trenching/Pitting dimensions are tentative may vary depending upon the geology and field conditions | | | | | |
| # | 2nd level of work shall be carried out after review of 1st level work i.e. Geological mapping, geochemical sampling and analysis | | | | | |

Time Schedule/ Action plan for Reconnaissance Survey (G-4 Stage) For REE & associated minerals in Devissar area, District Kachchh, Gujarat

| | | 1 | 2 | 3 | 4 | 6 | | 7 | 8 | 9 | 10 |
|----|--|---|---|---|---|---|--------|---|---|---|----|
| 1 | Camp Setting | | | | | | Review | | | | |
| 2 | Geological Party Days | | | | | | | | | | |
| 3 | Pitting & Sampling | | | | | | | | | | |
| 4 | Heavy Mineral Separation/ Sample Preparation | | | | | | | | | | |
| 5 | Laboratory Studies | | | | | | | | | | |
| 6 | Dilling | | | | | | | | | | |
| 7 | Camp Winding | | | | | | | | | | |
| 8 | Geologist Party days, HQ | | | | | | | | | | |
| 9 | Geological Report Writing | | | | | | | | | | |
| 10 | Peer Review | | | | | | | | | | |




Annexure 10A

Estimate Cost for Reconnaissance survey (G4) for Nickel, Cobalt and PGE in Botad area, Botad District, Gujarat

Implementing Agency - Critical Mineral Trackers, Hyderabad

Total Area -99.6 (say 100) sq.km ; No of Boreholes- 3 ; Completion Time -10 months , Total drilling meterage : 300m, Review : after 4 months

| S.No | Item of Work | Unit | Rates as per NMET SoC | | Estimated Cost of the Proposal | | Remarks |
|----------|---|-----------------------|-----------------------|------------------|--------------------------------|------------------|--|
| | | | SoC-Item-SI No. | Rates as per SOC | Qtm | Total Amount(Rs) | |
| A | Geological Work | | | | | | |
| 1 | Large Scale Geological Mapping(1:25K/12.5K) & sampling - Geologist field-days | 100Sq.km | 1.2(b) | 11000 | 180 | 19,80,000 | 240man days |
| 2 | Geologists(HQ)days, pre & post field interpretation,Report writing 20 +20+10 days | One Geologist Per Day | 1.2(a) | 9000 | 60 | 5,40,000 | 45 man days(including Remote sensing studies |
| 3 | Satellite imagery (Ortho-corrected PAN-A/F(2.5m)(Cartosat-2)+LISS 4 | One scene | NA | 10470 | 1 | 10,470 | Rate is as per NRSC. To study Trap flows |
| | Cartosat 2 | Two scenes | | 2890 | 2 | 5,780 | Rate is as per NRSC. |
| 4 | Pitting-100nos each one size 1*1*1m(1 Cu.m each) | Per Cu.m | 2.1.2 | 3800 | 100 | 3,80,000 | 100 cu.m |
| 5 | sampler | 180 days | 1.5.2 | 5100 | 46 | 2,34,600 | |
| 6 | Labour(2 labour) attached to sampler | 360 labour days | 5.7 | 526 | 184 | 96,784 | |
| 7 | Labour for Geologist | | 5.7 | 526 | 360 | 1,89,360 | |

| | | | | | | | |
|----------|--|--------------|----------|--------|-----|------------------|---|
| | Sub-Total -A | | | | | 34,36,994 | |
| B | Survey Work: | | | | | | |
| 1 | Surveyor: Fixation & connection of boundary points(4 nos),3 Bh by Total station/DGPS | One surveyor | 1.6.2 | 19,200 | 7 | 1,34,400 | Total 7 points |
| | Sub-total-B | | | | | 1,34,400 | |
| C | Core Drilling- outsourced (subject to outcome of GM) | | | | | | |
| 1 | Scout drilling(coring) :3 points(each 100 m deep) 3*100 | Per meter | 2.2.1.4a | 11,500 | 300 | 34,50,000 | |
| 2 | Construction of BH pillar(12"*12"*30") | Per pillar | 2.2.7a | 2000 | 0 | 0 | 3 pillars |
| 3 | **Mob & demob drilling machine & iner BH shifting | Per shifting | lumpsum | | | 0 | lumpsum |
| 4 | Compensation for 3 Bhs | | 5.6 | 20,000 | 0 | 0 | 3 BHs |
| 5 | Drill core preservation in GI boxes | Per meter | 5.3 | 1590 | 100 | 1,59,000 | |
| | Sub total-C | | | | | 36,09,000 | |
| D | Laboratory Studies | | | | | | |
| 1 | Pitting Sample: 100*1=100 nos)-by Fire Assay(ICPMS Ni-S) | For PGE | 4.1.5d | 11800 | 25 | 2,95,000 | PGE analysis will be done only where Ni exceeds 0.2 % , high As, high Cu,If PGM grains are found in the microprobe analysis |
| 2 | Core drilling Samples- | For PGE | 4.1.5d | 11800 | 50 | 5,90,000 | PGE analysis will be done only |

| | | | | | | | |
|----------|---|-------------|------------------------|-------------------------------------|-----|------------------|---|
| | 3*100=300 | | | | | | where Ni exceeds 0.2 % , high As, high Cu |
| | Total depth 100m each, samples will be collected at every 1.0m interval. | | | | | | |
| | by ICP-MS method | | | | | | |
| 3 | Trace element analysis (Ni, Cu, As, Mo, Re, In, Te & Co)- 14 element by ICPMS | For Ni,Co | 4.1.13 | 5380 | 245 | 13,18,100 | total 245 samples(2 trace elements) |
| | Major oxides by XRF technique (Whole rock analysis) | | 4.1.15a | 4200 | 40 | 1,68,000 | for BRS and selected core samples |
| 3 | Preparation of standard thin section | Per sample | 4.3.1 | 2353 | 10 | 23,530 | 5 sections |
| 4 | Complete petrographic/oremicroscopic/ mineragraphic studies | per sample | 4.3.4 | 4232 | 10 | 42,320 | 5 samples |
| 5 | XRD analysis for identification of minerals(random) | Per sample | 4.5.1 | 4000 | 10 | 40,000 | 5 samples |
| | EPMA | per hour | 4.4.1 | 8,540 | 10 | 85,400 | |
| | Sub-total-D | | | | | 25,62,350 | |
| E | Surface Geophysical Survey | | Not recommended | | | | |
| 1 | Electrical resistivity | Per Station | | | | | |
| 2 | gravity surveys | Per station | | | | | |
| 3 | Geo Physicist Man days (Field Man-days) | | | | | | |
| 4 | Geo Physicist Man days (HQ) | | | | | | |
| | Sub-total-E | | | | | | |
| | TOTAL (A+B+C+D) | | | | | 97,42,744 | |
| F | Preparation of Exploration Proposal | | 5.1 | 2% of the project cost subject to a | 1 | 1,94,855 | 2% of the Project cost. |

| | | | | | | | | |
|----------|--|--|--------|------------------------------------|---|----------|------------------------------------|--|
| | (5 Hard copies with a soft copy) | | | maximum of 5 lakhs | | | | |
| G | Geological Report | | | | | | | |
| | (5 Hard copies with a soft copy) | | 5.2 | 5% of the Project cost or 2.5lakhs | | 4,87,137 | 5% of the Project Cost.or 2.5lakhs | |
| | peer review charges | | | | | 30,000 | | |
| | operational charges(10% of approved drilling cost) | | 6 (ii) | | | 3,45,000 | | |
| | tendering cost (2% of the approved drilling cost) | | 2.3 | | | 69,000 | | |
| | Additional Copy | | | 3000 | 0 | 0 | | |
| | Project Cost without GST | | | | | | 1,08,68,736 | |
| | 18% GST | | | | | | 19,56,372 | |
| | Total Project Cost | | | | | | 1,28,25,109 | |
| | Rs. In Lakh | | | | | | 128.25 | |
| Note: | | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | | | |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | | | |

Time Schedule/ Action Plan for Reconnaissance survey (G4) for Nickel, Cobalt and PGE in Botad area, Botad District, Gujarat

| S. no. | Activitys | Unit | Months | | | | | | | | | | | | |
|--------|---------------------------------|------|--------|---|---|---|--------|---|---|---|---|---|----|--|--|
| | | | 1 | 2 | 3 | 4 | Review | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 1 | Geologist Party Days HQ | Days | | | | | | | | | | | | | |
| 2 | Geologist Party Days Field | Days | | | | | | | | | | | | | |
| 3 | Sampling (Pitting & Trenching) | Days | | | | | | | | | | | | | |
| 4 | Laboratory Studies | Days | | | | | | | | | | | | | |
| 5 | Core Drilling | Days | | | | | | | | | | | | | |
| 6 | Survey Party Days | Days | | | | | | | | | | | | | |
| 8 | Post Field Interpretation | Days | | | | | | | | | | | | | |
| 9 | Report Compilation & Submission | Days | | | | | | | | | | | | | |




**Estimate Cost for Reconnaissance Survey (G4 stage) for Basemetal in Chupra Khet - Kuta area, Pithoragarh District, Uttarakhand
Implementing Agency - Geovale Services Pvt. Ltd.**

Total Area - 66 sq. km; Nos. of Borehole: 03 -Core drilling: 500m; Completion Time -14 Months , Review: after 6 months & 10 months

| S.N | Item of work | Unit | Rates as per NMET SoC | | Estimated Cost of the Proposal | | | Remarks |
|----------|--|-----------------|-----------------------|------------------|--------------------------------|--------------|---------------------|--|
| | | | SoC-Item -Sl No. | Rates as per SOC | Quantum | Special Rate | Total Amount (Rs) | |
| 1 | Geological Work | | | | | | | |
| A | Geological Mapping & sampling (1:12,500 scale) | 66 sq km | | | | | | |
| a | Geologists (HQ) days (1 No) | Man-days | 1.2 | 9,000.00 | 60 | 1 | 5,40,000.00 | |
| b | Geologist field-days | Man-days | 1.2 | 11,000.00 | 180 | 3.35 | 66,33,000.00 | |
| c | Labor (Field days) (2 workers per geologist) | Per labor day | 5.7 | 526.00 | 360 | 3.35 | 6,34,356.00 | Amount will be reimbursed as per the notified rates by the Central Labor Comission or respective State Govt. whichever is higher |
| B | Pitting/Trenching | | | | | | | |
| a | Channel/ Trenching | per cubic meter | 2.1.1 | 3,330.00 | 150 | 3.35 | 16,73,325.00 | No of samples 20 samples |
| | Sub-Total 1 | | | | | | 94,80,681.00 | |
| 2 | Laboratory Studies | | | | | | | |
| A | Geochemical Analysis for regional and detail survey | | | | | | | Sample: 100 BRS, 100 Stream sediments and 20 Pit samples |
| a | XRF (major oxides) | per sample | 4.1.15a | 4,200.00 | 10 | 1 | 42,000.00 | BR samples |

| | | | | | | | | |
|--------------------|--|---------------------|---------|-----------|-----|------|---------------------|--|
| b | Check samples for XRF-External 10% | per sample | 4.1.15a | 4,200.00 | 1 | 1 | 4,200.00 | |
| c | ICPMS (34 elements) | per sample | 4.1.14 | 7,731.00 | 200 | 1 | 15,46,200.00 | BR and trench/ channel samples |
| e | Analysis for gold by fire assay technique | per sample | 4.1.5a | 2,380.00 | 10 | 1 | 23,800.00 | BR and Drill samples |
| d | Check samples | per sample | 4.1.15a | 4,200.00 | 0 | 1 | - | |
| Sub-Total 2 | | | | | | | 16,16,200.00 | |
| 3 | Petrological studies | | | | | | | |
| a | Thin section preparation | per sample | 4.3.1 | 2,353.00 | 20 | 1 | 47,060.00 | |
| b | Microscopic study | per sample | 4.3.4 | 4,232.00 | 20 | 1 | 84,640.00 | |
| c | Digital photomicrograph of thin polished section | per sample | 4.3.7 | 280 | 20 | 1 | 5600 | |
| d | EPMA (10 samples, 20 hours) | per hour | 4.4.1 | 8,540.00 | 10 | 1 | 85,400.00 | |
| e | Sampler man-days | one sampler per day | 1.5.2 | 5,100.00 | 28 | 3.35 | 4,78,380.00 | |
| f | Labor (Man days) (4 labours per sampler) | per labor day | 5.7 | 526.00 | 112 | 3.35 | 1,97,355.20 | Amount will be reimbursed as per the notified rates by the Central Labor Comission or respective State Govt. whichever is higher |
| Sub-Total 3 | | | | | | | 8,98,435.20 | |
| Review | | | | | | | | |
| 4 | Geophysical Survey (After Review)- in house | | | | | | | |
| a | Resistivity Profiling (Station interval 200m.) | per line km | 3.6a | 58,880.00 | 10 | 3.35 | 19,72,480.00 | |
| c | Ground Magnetic (10 sq km, 1,000 station) | per station | 3.2a | 1,800.00 | 0 | 3.35 | - | |

| | | | | | | | | |
|----------|---|----------------------|----------|-----------|------|------|-----------------------|---|
| d | Expert Charges for Geophysicist (HQ) | Geophysicist per day | 3.18 | 9,000.00 | 15 | 1 | 1,35,000.00 | |
| | Sub-Total 4 | | | | | | 21,07,480.00 | |
| 5 | Geological Work (After Review, Drilling in-house) | | | | | | | |
| a | Core drilling (3 BH) | per meter | 2.2.1.4a | 11,500.00 | 500 | 3.35 | 1,92,62,500.00 | No of samples 300 samples |
| b | Land / Crop Compensation | per BH | 5.6 | 20000 | 6 | 1 | 1,20,000.00 | |
| c | Transportation of Drill Rig & Truck associated per drill (1 rig)- Two way | km | 2.2.8 | 36 | 3200 | 3.35 | 3,85,920.00 | Kolkata to Chupra Khet 1600 km , As per actuals |
| d | Monthly Accommodation Charges for drilling Camp | month | 2.2.9 | 50000 | 4 | 3.35 | 6,70,000.00 | |
| e | Drilling Camp Setting Cost | Nos | 2.2.9a | 250000 | 1 | 3.35 | 8,37,500.00 | |
| f | Drilling Camp Winding up Cost | Nos | 2.2.9b | 250000 | 1 | 3.35 | 8,37,500.00 | |
| g | Approach Road making for rugged/hilly terrain | km | 2.2.10b | 32200 | 9 | 3.35 | 9,70,830.00 | |
| h | Drill Core Preservation | per meter | 5.3.0 | 1590 | 200 | 3.35 | 10,65,300.00 | |
| | Sub-Total 5 | | | | | | 2,41,49,550.00 | |
| 6 | Laboratory Studies (After Review, BH samples) | | | | | | | |
| A | Geochemical Analysis (BH samples) | | | | | | | |
| a | XRF (major oxides) | per sample | 4.1.15a | 4,200.00 | 10 | 1 | 42,000.00 | |
| | Check samples for XRF | per sample | 4.1.15a | 4,200.00 | 1 | 1 | 4,200.00 | |
| b | ICPMS (34 elements) | per sample | 4.1.14 | 7,731.00 | 100 | 1 | 7,73,100.00 | |

| | | | | | | | | |
|----------|--|---------------|---------|--|----|------|-----------------------|---|
| c | XRD | per sample | 4.5.1 | 4,000.00 | 20 | 1 | 80,000.00 | |
| d | EPMA (5 samples, 10 hours) | per hour | 4.4.1 | 8,540.00 | 10 | 1 | 85,400.00 | |
| e | Analysis for gold by fire assay technique | per sample | 4.1.5a | 2,380 | 10 | 1 | 23,800.00 | |
| d | Check samples | per sample | 4.1.15a | 4,200.00 | 0 | 1 | - | |
| | Sub-Total 6 | | | | | | 10,08,500.00 | |
| 7 | Petrological studies (BH samples) | | | | | | | |
| a | Thin section preparation | per sample | 4.3.1 | 2,353.00 | 20 | 1 | 47,060.00 | |
| b | Microscopic study | per sample | 4.3.4 | 4,232.00 | 20 | 1 | 84,640.00 | |
| c | Digital photomicrograph of thin polished section | per sample | 4.3.7 | 280 | 20 | 1 | 5600 | |
| e | Sampler man-days | per day | 1.5.2 | 5,100.00 | 19 | 3.35 | 3,24,615.00 | |
| f | Labor (Man days) (4 labours per sampler) | per labor day | 5.7 | 526.00 | 76 | 3.35 | 1,33,919.60 | Amount will be reimbursed as per the notified rates by the Central Labor Comission or respective State Govt. whichever is higher |
| c | SEM-EDX | per hour | 4.4.2 | 2,940.00 | 0 | 1 | - | |
| | Sub-Total 7 | | | | | | 5,95,834.60 | |
| | Total (Sub-Total 1-7) | | | | | | 3,98,56,680.80 | |
| 8 | Preparation of Exploration Proposal (5 Hard copies with a soft copy) | Lumpsum | 5.1 | 2% of the cost subject to a maximum of 5 lakhs | 1 | | 5,00,000.00 | This amount will be reimbursed after submission of the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC |

| | | | | | | | | | |
|---------------------------------|--|--|-----------|--|---|--|--------------|---|--|
| | | | | | | | | NMET in its meeting while clearing the proposal. | |
| 9 | Final report preparation | 3% of project cost or 7.5 lakh whichever is higher | 5.2 | For the projects having cost exceeding 300 lakhs-A minimum of 9 lakhs or 3% of the value of work whichever is more | 1 | | 11,95,700.42 | Final report submission, peer review and project conclusion | |
| 10 | Report Peer Review | Lump sum | As per EC | 30,000.00 | 1 | | 30,000.00 | | |
| Project Cost without GST | | | | | | | | 4,15,82,381.22 | |
| 18% GST | | | | | | | | 74,84,828.62 | GST will be reimbursed as per actual and as per the applicable notified rate |
| Total Project Cost | | | | | | | | 4,90,67,209.84 | |
| Note | | | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | | | | |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | | | | |

Annexure 11B

Time Schedule/ Action plan for Reconnaissance Survey (G4 stage) for Basemetal in Chupra Khet - Kuta area, Pithoragarh District, Uttarakhand

| Sl. No. | Activities | Unit | MONTHS | | | | | | | | | | | | | | | | | |
|---------|---|------|--------|---|---|---|---|---|--------|--------|---|--------|---|--------|----|----|----|----|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | Review | 7 | 8 | Review | 9 | 10 | 11 | 12 | 13 | 14 | | |
| 1 | Geologist Party days | day | ■ | ■ | ■ | ■ | | | | Review | | | | Review | | | | | | |
| 2 | Sampling Party days | day | | ■ | ■ | ■ | ■ | | | | | | | | | | | | | |
| 3 | Geologist Party days, HQ | day | ■ | | | | | | | | | | | | | | | | | |
| 4 | Laboratory Studies | Nos. | | | ■ | ■ | ■ | ■ | | | | | | | | | | | | |
| 5 | Petrographic Studies | Nos. | | | ■ | ■ | ■ | ■ | | | | | | | | | | | | |
| 6 | Geophysical Survey | day | | | | | | | | | ■ | ■ | | | ■ | ■ | | | | |
| 7 | Geological Work (after review) (drilling) | m. | | | | | | | | | ■ | ■ | | | ■ | ■ | ■ | ■ | ■ | ■ |
| 8 | Report Writing | day | | | | | | | | | | | | | ■ | ■ | ■ | ■ | ■ | ■ |
| 9 | Peer Review | day | | | | | | | | | | | | | | | | | | |

Estimate Cost for Reconnaissance Survey (G-4) for REE in Goma River Basin, Dahod- Chota Udaipur- Pachmahal districts, Gujarat
Implementing Agency - Geovale Services Pvt. Ltd.

Total Area - 314 sq. km; Augur Drilling: 500m; Completion Time - 12 Months, Review : after 4 months

| S.N | Item of work | Unit | Rates as per NMET SoC | | Estimated Cost of the Proposal | | Remarks |
|----------|--|-----------------------|-----------------------|------------------|--------------------------------|---------------------|---|
| | | | SoC-Item - Sl No. | Rates as per SOC | Quantum | Total Amount (Rs) | |
| 1 | Geological Work | | | | | | |
| A | Geological Mapping (1:12,500) & sampling | | | | | | |
| a | Geologists (HQ) days (1 No) | One geologist per day | 1.2 | 9,000.00 | 60 | 5,40,000.00 | |
| b | Geologist field-days (2 No. geologists) | One geologist per day | 1.2 | 11,000.00 | 240 | 26,40,000.00 | |
| c | Labor (Field days) (2 workers per geologist) | per labor day | 5.7 | 526.00 | 480 | 2,52,480.00 | Amount will be reimbursed as per the notified rates by the Central Labor Commission or respective State Govt. whichever is higher |
| | Sub-Total 1 | | | | | 34,32,480.00 | |
| 2 | Remote Sensing | | | | | | |
| a | Geologists Mandays for Multispectral and DEM data analysis | One geologist per day | 1.2 | 9,000.00 | 0 | - | |
| | Sub-Total 2 | | | | | - | |
| 3 | Geological Work | | | | | | |
| a | Pitting (50 nos.) 50 samples | per cu.m | 2.1.2 | 3,800.00 | 400 | 15,20,000.00 | |
| | Geochemical analysis (200 SSS+50 Pit samples) | | | | | | |

| | | | | | | | |
|---------------|--|----------------------|---------|-----------|-----|---------------------|---|
| b | Heavy Liquid Separation | per sample | 4.3.6a | 2,380.00 | 200 | 4,76,000.00 | |
| c | Gravity and magnetic Separation | per sample | 4.3.6b | 13,820.00 | 200 | 27,64,000.00 | |
| d | XRF (major oxides) | per sample | 4.1.15a | 4,200.00 | 50 | 2,10,000.00 | |
| e | Check samples for XRF | per sample | 4.1.15a | 4,200.00 | 5 | 21,000.00 | |
| f | ICPMS (34 elements) | per sample | 4.1.14 | 7,731.00 | 300 | 23,19,300.00 | |
| g | XRD | per sample | 4.5.1 | 4,000.00 | 20 | 80,000.00 | |
| | Sub-Total 3 | | | | | 73,90,300.00 | |
| 4 | Petrological studies | | | | | | |
| a | Thin section preparation | per sample | 4.3.1 | 2,353.00 | 30 | 70,590.00 | |
| b | Microscopic study | per sample | 4.3.4 | 4,232.00 | 30 | 1,26,960.00 | |
| c | Digital photomicrograph of thin polished section | per sample | 4.3.7 | 280.00 | 30 | 8,400.00 | |
| c | Sampler man-days | one sampler per day | 1.5.2 | 5,100.00 | 97 | 4,94,700.00 | |
| d | Labor (Field days) (4 workers per sampler) | per labor day | 5.7 | 526.00 | 388 | 2,04,088.00 | Amount will be reimbursed as per the notified rates by the Central Labor Commission or respective State Govt. whichever is higher |
| | Sub-Total 4 | | | | | 9,04,738.00 | |
| Review | | | | | | | |
| 5 | Geophysics (after review of geochemical data) | | | | | | |
| a | Resistivity Profiling (Station interval 200m.) | per line km | 3.6a | 58,880.00 | 10 | 5,88,800.00 | |
| b | GPR Survey | per line km | 3.17 | 30,000.00 | 10 | 3,00,000.00 | |
| c | Expert Charges for Geophysicist (Field) | Geophysicist per day | 3.18 | 9,000.00 | 30 | 2,70,000.00 | |

| | | | | | | | |
|----------|---|------------|---------|----------|------|---------------------|--|
| | Sub-Total 5 | | | | | 11,58,800.00 | |
| 6 | Auger Drilling (In house) | | | | | | |
| a | Augur Drilling In -house (50-60 Boreholes) 500m | per meter | 2.2.2 | 4,760.00 | 500 | 23,80,000.00 | |
| b | Land / Crop Compensation | per BH | 5.6 | 20000 | 30 | 6,00,000.00 | |
| c | Transportation of Drill Rig & Truck associated per drill (1 rig)-Two way; 1900*2=3800km | km | 2.2.8 | 36 | 3800 | 1,36,800.00 | |
| d | Monthly Accomodation Charges fordrilling Camp | month | 2.2.9 | 50000 | 4 | 2,00,000.00 | |
| e | Drilling Camp Setting Cost | Nos | 2.2.9a | 250000 | 1 | 2,50,000.00 | |
| f | Drilling Camp Winding up Cost | Nos | 2.2.9b | 250000 | 1 | 2,50,000.00 | |
| | Sub-Total 6 | | | | | 38,16,800.00 | |
| 7 | Laboratory Studies | | | | | | |
| | Geochemical Investigation | | | | | | |
| a | Heavy Liquid Separation | per sample | 4.3.6a | 2,380.00 | 200 | 4,76,000.00 | |
| b | XRF (major oxides) | per sample | 4.1.15a | 4,200.00 | 50 | 2,10,000.00 | |
| c | Check samples for XRF | per sample | 4.1.15a | 4,200.00 | 5 | 21,000.00 | |
| d | ICPMS (34 elements) | per sample | 4.1.14 | 7,731.00 | 300 | 23,19,300.00 | |
| f | XRD | per sample | 4.5.1 | 4,000.00 | 10 | 40,000.00 | |
| | Sub-Total 7 | | | | | 30,66,300.00 | |
| 8 | Petrological Studies | | | | | | |
| a | Thin Section Preparation | per sample | 4.3.1 | 2353 | 30 | 70,590.00 | |
| b | Microscopic Study | per sample | 4.3.4 | 4232 | 30 | 1,26,960.00 | |
| c | Digital photomicrograph of thin polished section | per sample | 4.3.7 | 280.00 | 30 | 8,400.00 | |
| c | SEM- EDX | per hour | 4.4.2 | 2940 | 20 | 58,800.00 | |

| | | | | | | | |
|----|--|---------------|-----------|--|-----|-----------------------|---|
| d | Sampler man-days | per day | 1.5.2 | 5100 | 71 | 3,62,100.00 | |
| e | Labor (4 workers per sampler) | per labor day | 5.7 | 526 | 284 | 1,49,384.00 | Amount will be reimbursed as per the notified rates by the Central Labor Commission or respective State Govt. whichever is higher |
| | Sub-Total 8 | | | | | 7,76,234.00 | |
| | Total (Sub Total 1-8) | | | | | 2,05,45,652.00 | |
| 9 | Preparation of Exploration Proposal (5 Hard copies with a soft copy) | Lumpsum | 5.1 | 2% of the cost subject or 5 lakhs whichever is lower | 1 | 4,10,913.04 | |
| 10 | Final report preparation | Lumpsum | 5.2 | For the projects having cost exceeding 150 lakhs but less than 300 lakhs-A minimum of 7.5 lakhs or 3% of the value of work whichever is more | 1 | 7,50,000.00 | |
| 11 | Report Peer Review | Lump sum | As per EC | 30,000.00 | 1 | 30,000.00 | |

| | | | | | | | |
|---------------------------|--|--|--|--|--|-----------------------|--|
| Total Project Cost | | | | | | 2,17,36,565.04 | |
| 18% GST | | | | | | 39,12,581.71 | |
| Total Project Cost | | | | | | 2,56,49,146.75 | |
| | Rs. in Lakh | | | | | 256.49 | |
| Note: | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | | |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | | |




Time Schedule/ Action Plan for Reconnaissance Survey (G-4) for REE in Goma River Basin, Dahod- Chota Udaipur- Pachmahal districts, Gujarat

| Sl. No. | Activities | Unit | MONTHS | | | | | | | | | | | | | | |
|---------|---|------|--------|---|---|---|--------|---|---|---|---|---|----|----|----|--|--|
| | | | 1 | 2 | 3 | 4 | Review | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | |
| 1 | Geologist Party days | day | | | | | | | | | | | | | | | |
| 2 | Sampling Party days | day | | | | | | | | | | | | | | | |
| 3 | Geologist Party days, HQ | day | | | | | | | | | | | | | | | |
| 4 | Laboratory Studies | Nos. | | | | | | | | | | | | | | | |
| 5 | Petrographic Studies | Nos. | | | | | | | | | | | | | | | |
| 6 | Geophysical Survey | day | | | | | | | | | | | | | | | |
| 7 | Geological Work (after review) (drilling) | m. | | | | | | | | | | | | | | | |
| 8 | Report Writing | day | | | | | | | | | | | | | | | |
| 9 | Peer Review | day | | | | | | | | | | | | | | | |

Annexure 13A

Estimate Cost for Reconnaissance Survey (G-4) for Gold in Hurungdah area, Ranchi, Khunti & Saraikela Kharsawan Districts, Jharkhand.
Area - 16.57 sq. km, No of BH - 5, BH Depth Range - 200m, Schedule timeline - 10 Months, Review - After 4 Months
Implementing Agency - JEMCL

| S. N. | Item of Work | Unit | Rates as per NMET SoC 2020-21 | | Estimated Cost of the Proposal | | Remarks |
|----------|---|--------------------------|-------------------------------|------------------|--------------------------------|-------------------|--|
| | | | SoC-Item -Sl No. | Rates as per SoC | Qty. | Total Amount (Rs) | |
| A | GEOLOGICAL MAPPING, SAMPLING AND SURVEYING DAYS | | | | | | |
| 1 | Geological Mapping (1:12,500), & Sampling | | | | | | |
| a | Charges for one Geologist per day at field | day | 1.3 | 11000 | 100 | 1100000 | |
| b | Labour for Geologist (4 Nos. i.e. 2 workers/geologist) Base rate - 427 | day | 5.7 | 526 | 200 | 105200 | Amount will be reimbursed as per the notified rates by the central labour commissioner or respective state govt. whichever is higher |
| c | Charges for one Sampler per day (1 Party) | one sampler per day | 1.5.2 | 5100 | 180 | 918000 | |
| d | Labours for sampling work (4 Nos) Base rate - Rs. 427 (Unskilled) | day | 5.7 | 526 | 720 | 378720 | Amount will be reimbursed as per the notified rates by the central labour commissioner or respective state govt. whichever is higher |
| 2 | Survey (on 1:12,500 Scale) | | | | | | |
| a | Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and trench points by DGPS/Total station | Per Point of observation | 1.6.2 | 19200 | 11 | 211200 | Borehole-05, Corner Points - 06 Trench - 85 {85x5(4 Corner & 1 Center for RL)=425} |

| | | | | | | | |
|-----------|--|----------------------|--------------|--------|------|-----------------|--|
| b | Charges of one Surveyor (1 Party) | one surveyor per day | 1.6.1a | 8300 | 0 | 0 | |
| c | Labours (2 Nos) Base rate - Rs. 526 (Unskilled) | day | 5.7 | 526 | 0 | 0 | Amount will be reimbursed as per the notified rates by the central labour commissioner or respective state govt. whichever is higher |
| 3 | Trenching | cu.m | 2.1.1 | 3330 | 67 | 223110 | |
| | Sub-Total A | | | | | 2936230 | |
| B | DRILLING (Outsourcing) | | | | | | |
| a | Drilling -Hard Rock | m | 2.2.1.4a | 11500 | 1000 | 11500000 | |
| b | Borehole Deviation Survey | m | 2.2.6 | 330 | 0 | 0 | |
| c | Construction of concrete Pillar (12"x12"x30") | per borehole | 2.2.7a | 2000 | 0 | 0 | |
| d | Transportation of Drill Rig & Truck associated per drill | Km | 2.2.8 | 36 | 0 | 0 | |
| e | Monthly Accommodation Charges for drilling Camp (up to 2 Rigs) | month | 2.2.9 | 50000 | 0 | 0 | |
| f | Drilling Camp Setting Cost | Nos | 2.2.9a | 250000 | 0 | 0 | |
| g | Drilling Camp Winding up Cost | Nos | 2.2.9b | 250000 | 0 | 0 | |
| h | Road Making (Flat Terrain) | Km | 2.2.10a | 22020 | 0 | 0 | Road making will be considered as per the requirement and Road making charges will be reimbursed accordingly |
| e | Drill Core Preservation | per m | 5.3 | 1590 | 500 | 795000 | |
| | Sub Total B | | | | | 12295000 | |
| C | LABORATORY STUDIES | | | | | | |
| i) | Chemical Analysis | | | | | | |
| a | 5% of total bore-hole samples for trace and REE analysis under 34 element package analysis through | Nos | 4.1.14 | 7731 | 25 | 193275 | |

| | | | | | | | |
|------------|--|-------------|--------|------|-----|-----------------|-------------------------------|
| | ICP-MS | | | | | | |
| b | Check samples External(10%) - Trace and REE analysis under 34 element package analysis by ICP-MS for bedrock, drill core, soil, and stream sediment samples | Nos | 4.1.14 | 7731 | 3 | 23193 | |
| c | Gold analysis by AAS (Atomic Absorption Spectrometry) method for bed rock, drill core, soil, trench and stream sediment samples. | Nos | 4.1.6 | 1557 | 240 | 373680 | Trench-66 , BH - 150, SSS- 25 |
| d | Check samples External(10%) - for Gold analysis by AAS method of bed rock, drill core, soil, trench and stream sediment samples. | Nos | 4.1.6 | 1557 | 24 | 37368 | |
| ii) | Petrological/Mineralogical studies | | | | | | |
| a | Preparation of thin section | Per Samples | 4.3.1 | 2353 | 10 | 23530 | |
| b | Study of Thin Section | Per Samples | 4.3.4 | 4232 | 10 | 42320 | |
| c | Preparation of polish section | Per Samples | 4.3.2 | 1549 | 10 | 15490 | |
| d | Study of polish Section | Per Samples | 4.3.4 | 4232 | 10 | 42320 | |
| e | Digital photomicrograph of thin-poilish setions | Per Samples | 4.3.7 | 280 | 10 | 2800 | |
| | Total - C | | | | | 753976 | |
| D | Sub Total (A to C) | | | | | 15985206 | 319704.12 |

| | | | | | | | |
|---|-------------------------------------|--------------------------------|--------------------|--|--|----------|----------------------------------|
| E | Geological Report Preparation | | 5.2 | Reconnaissance Survey/ Preliminary exploration/General exploration/Detailed exploration exceeding ₹150 lakh but less than 300 lakh: A Minimum of ₹7.5 lakh or 3% of the work whichever is more | | 750000 | |
| F | Preparation of Exploration Proposal | 5 Hard copies with a soft copy | 5.1 | 2% of the Cost or Rs.5Lakhs whichever is lower | | 319704 | |
| G | Peer review Charges | | As per EC decision | | | 30000 | |
| | Operational charges | | 6 (iii) | | | 950000 | (Rs.8.75 lakh + Rs.15 lakh * 5%) |
| | Tendering cost | | 2.3 | 2% of the Cost or Rs.5Lakhs whichever is lower | | 230000 | |
| H | Total Estimated Cost without GST | Approx. | | | | 18264910 | |
| I | Provision for GST (18% of H) | | | | | 3287684 | |
| J | Total Estimated Cost with GST | | | | | 21552594 | |
| | | | | or Say Rs. In Lakhs | | 216 | |

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

| | |
|---|--|
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. |
| 5 | Any item of work not mentioned above shall be added as per SoC. |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. |



Annexure 13B

Time Schedule/ Action Plan for Reconnaissance Survey (G-4) for Gold in Hurungdah area,Ranchi, Khunti & Saraikela Kharsawan Districts, Jharkhand.

| Sl. No. | Activities | Unit | Months | | | | | | | | | | | | | |
|---------|---|------|--------|---|---|---|--------|---|---|---|---|---|----|---|---|--|
| | | | 1 | 2 | 3 | 4 | Review | 5 | 6 | 7 | 8 | 9 | 10 | | | |
| 1 | Camp Mobilization | Days | ■ | | | | | | | | | | | | | |
| 2 | Geological Mapping & Sampling | Days | ■ | ■ | ■ | ■ | | | | | | | | | | |
| 3 | Lab Analysis-Samples (bed rock, soil, stream sediment) | Days | | | ■ | ■ | | | ■ | | | | | | | |
| 4 | Trenching & Sampling | Days | | | ■ | ■ | | | ■ | | | | | | | |
| 5 | Lab Analysis of Trench Samples | Days | | | | ■ | | | ■ | ■ | | | | | | |
| 6 | Survey (topographic, block boundary & borehole demarcation) | Days | | ■ | ■ | ■ | | | ■ | | | | | | | |
| 7 | Drilling (2 rigs) | Days | | | | | | | | ■ | ■ | | | | | |
| 8 | Sample preparation for drill core samples | Days | | | | | | | | | ■ | | | | | |
| 9 | Lab Analysis of Drill core samples | Days | | | | | | | | | | ■ | | | | |
| 10 | Camp Demobilization | Days | | | | | | | | | | | ■ | | | |
| 11 | Geological Report | Days | | | | | | | | | | | ■ | ■ | | |
| 12 | Peer review | Days | | | | | | | | | | | | | ■ | |

**Revised Cost for Reconnaissance Survey (G-4) for REE Exploration in Bhuj Clay Prospect Block, Kachchh District, Gujarat
Implementing Agency - Geovale Services Pvt. Ltd.**

Total Area - 252 sq. km; Total core drilling meterage: 600m, No of BHs= 4 ; Completion Time - 18 Months (Revised)

| S.N | Item of work | Unit | Rates as per NMET SoC | | Estimated Cost of the Proposal | | Rates as per NMET SoC | | Revised Cost | | Remarks |
|----------|---|-----------------------|-----------------------|------------------|--------------------------------|---------------------|-----------------------|------------------|--------------|---------------------|--|
| | | | SoC-Item - SI No. | Rates as per SOC | Quantum | Total Amount (Rs) | SoC-Item - SI No. | Rates as per SOC | Quantum | Total Amount (Rs) | |
| 1 | Geological Work | | | | | | | | | | |
| A | Geological Mapping (1:12,500) & sampling | | | | | | | | | | |
| a | Geologists (HQ) days (1 No) | one geologist per day | 1.2 | 9,000.00 | 55 | 4,95,000.00 | 1.2 | 9,000.00 | 55 | 4,95,000.00 | |
| b | Geologist field-days (2 No. geologists) | one geologist per day | 1.2 | 11,000.00 | 250 | 27,50,000.00 | 1.2 | 11,000.00 | 250 | 27,50,000.00 | 252 sq.km |
| c | Labor (Field days) (2 workers per geologist) | per labor day | 5.7 | 497.00 | 500 | 2,48,500.00 | 5.7 | 494.00 | 500 | 2,47,000.00 | Amount will be reimburse as per the notified rates by the Central Labor Commission or respective State Govt. whichever is higher |
| B | Pitting | | | | | | | | | | |
| a | Pitting | per cu.m | 2.1.2 | 3,800.00 | 200 | 7,60,000.00 | 2.1.2 | 3,800.00 | 200 | 7,60,000.00 | 25 pits, 200 cubic meter, 50 samples |
| | Sub-Total 1 | | | | | 42,53,500.00 | | | | 42,52,000.00 | |

| | | | | | | | | | | | |
|---|--|------------|---------|-----------|-----|---------------------|---------|-----------|-----|---------------------|---|
| 2 | Laboratory Studies | | | | | | | | | | |
| A | Geochemical Analysis for orientation, reconnaissance, regional survey | | | | | | | | | | 10 Orientation sample, 60 Reconnaissance sample, (100 BR,200 RS, 30SSS) |
| a | XRF (major oxides) | per sample | 4.1.15a | 4,200.00 | 40 | 1,68,000.00 | 4.1.15a | 4,200.00 | 40 | 1,68,000.00 | |
| b | Check samples for XRF | per sample | 4.1.15a | 4,200.00 | 4 | 16,800.00 | 4.1.15a | 4,200.00 | 4 | 16,800.00 | |
| b | Heavy Liquid Separation | per sample | 4.3.6a | 2,380.00 | 20 | 47,600.00 | 4.3.6a | 2,380.00 | 20 | 47,600.00 | |
| c | Magnetic Separation | per sample | 4.3.6b | 13,820.00 | 20 | 2,76,400.00 | 4.3.6b | 13,820.00 | 20 | 2,76,400.00 | |
| a | ICPMS (34 elements) | per sample | 4.1.14 | 7,731.00 | 330 | 25,51,230.00 | 4.1.14 | 7,731.00 | 330 | 25,51,230.00 | |
| b | Check samples for ICPMS | per sample | 4.1.14 | 7,731.00 | 33 | 2,55,123.00 | 4.1.14 | 7,731.00 | 33 | 2,55,123.00 | |
| a | XRD | per sample | 4.5.1 | 4,000.00 | 40 | 1,60,000.00 | 4.5.1 | 4,000.00 | 40 | 1,60,000.00 | |
| b | Check samples for XRD | per sample | 4.5.1 | 4,000.00 | 0 | - | 4.5.1 | 4,000.00 | 0 | - | |
| | Sub-Total 2 | | | | | 34,75,153.00 | | | | 34,75,153.00 | |
| 3 | Petrological studies | | | | | | | | | | |
| a | thin section preparation | per sample | 4.3.1 | 2,353.00 | 10 | 23,530.00 | 4.3.1 | 2,353.00 | 10 | 23,530.00 | Only for orientation samples |
| b | Microscopic study | per sample | 4.3.4 | 4,232.00 | 10 | 42,320.00 | 4.3.4 | 4,232.00 | 10 | 42,320.00 | |
| c | SEM-EDX | per hour | 4.4.2 | 2,940.00 | 30 | 88,200.00 | 4.4.2 | 2,940.00 | 30 | 88,200.00 | |
| d | EPMA | per hour | 4.4.1 | 8,540.00 | 15 | 1,28,100.00 | 4.4.1 | 8,540.00 | 15 | 1,28,100.00 | No of samples 5 |

| | | | | | | | | | | | |
|----------|--|----------------------|-------|-----------|-----|---------------------|-------|-----------|-----|---------------------|---|
| | Sub-Total 3 | | | | | 2,82,150.00 | | | | 2,82,150.00 | |
| 4 | Sampling work | | | | | | | | | | |
| e | Sampler man-days | one sampler per day | 1.5.2 | 5,100.00 | 62 | 3,16,200.00 | 1.5.2 | 5,100.00 | 62 | 3,16,200.00 | |
| f | Labor (Field days) (4 workers per sampler) | per labor day | 5.7 | 494.00 | 248 | 1,22,512.00 | 5.7 | 494.00 | 248 | 1,22,512.00 | Amount will be reimburse as per the notified rates by the Central Labor Comission or respective State Govt. whichever is higher |
| | Sub-Total 4 | | | | | 4,38,712.00 | | | | 4,38,712.00 | |
| 5 | Geophysical Survey (after review) | | | | | | | | | | |
| a | Resistivity Profiling (Station interval 200m.) | per line km | 3.6a | 58,880.00 | 40 | 23,55,200.00 | 3.6a | 58,880.00 | 40 | 23,55,200.00 | Geophysical survey along the structural discontinuities 20 line km and regolith and placer thickness determination 20 line-km |
| b | Magnetic Surveys (10-30 line km) | per station | 3.2a | | 0 | | 3.2a | 1,800.00 | 0 | - | 60 sq. km. |
| c | Expert Charges for Geophysicist (HQ) | Geophysicist per day | 3.18 | 9,000.00 | 0 | - | 3.18 | 9,000.00 | 10 | 90,000.00 | |
| | Sub-Total 5 | | | | | 23,55,200.00 | | | | 24,45,200.00 | |
| 6 | Geological Work (after review) | | | | | | | | | | |

| | | | | | | | | | | | |
|---|--|-----------|----------|-----------|------|---------------------|----------|-----------|------|---------------------|--|
| a | Core Drilling (4 Boreholes) 600m | per meter | 2.2.1.3a | 10,100.00 | 600 | 60,60,000.00 | 2.2.1.3a | 10,100.00 | 600 | 60,60,000.00 | Core drilling is proposed in lieu of auger drilling. |
| b | Land / Crop Compensation | per BH | 5.6 | 20000 | 4 | 80,000.00 | 5.6 | 20000 | 4 | 80000 | |
| c | Transportation of Drill Rig & Truck associated per drill (2 rigs)- Two way | km | 2.2.8 | 36 | 9400 | 3,38,400.00 | 2.2.8 | 36 | 9400 | 338400 | Kolkata to Bhuj 2,350 km; (2,300*2)*2=9,400km |
| d | Monthly Accomodation Charges for drilling Camp | month | 2.2.9 | 50000 | 3 | 1,50,000.00 | 2.2.9 | 50000 | 3 | 150000 | |
| e | Drilling Camp Setting Cost | Nos | 2.2.9a | 250000 | 1 | 2,50,000.00 | 2.2.9a | 250000 | 1 | 250000 | |
| f | Drilling Camp Winding up Cost | Nos | 2.2.9b | 250000 | 1 | 2,50,000.00 | 2.2.9b | 250000 | 1 | 250000 | |
| g | Approach Road making for rugget/hilly terrain | km | 2.2.10b | 32200 | 4 | 1,28,800.00 | 2.2.10b | 32200 | 4 | 128800 | |
| h | Drill core preservation | per meter | 5.3 | 1590 | 400 | 6,36,000.00 | 5.3 | 1590 | 400 | 636000 | |
| | Sub-Total 6 | | | | | 78,93,200.00 | | | | 78,93,200.00 | |
| 7 | Laboratory Studies | | | | | | | | | | |

| | | | | | | | | | | | |
|---|--|--|---------|--|-----|-----------------------|---------|--|-----|-----------------------|---|
| | Geochemical Analysis (BH samples) | | | | | | | | | | Drillcore samples' analysis |
| a | XRF (major oxides) | per sample | 4.1.15a | 4,200.00 | 100 | 4,20,000.00 | 4.1.15a | 4,200.00 | 100 | 4,20,000.00 | pit sample 50; BH sample 600 samples for each meter |
| b | Check samples for XRF | per sample | 4.1.15a | 4,200.00 | 10 | 42,000.00 | 4.1.15a | 4,200.00 | 10 | 42,000.00 | |
| c | ICPMS (34 elements) | per sample | 4.1.14 | 7,731.00 | 300 | 23,19,300.00 | 4.1.14 | 7,731.00 | 300 | 23,19,300.00 | |
| d | Sampler man-days | per day | 1.5.2 | 5,100.00 | 51 | 2,61,375.00 | 1.5.2 | 5,100.00 | 51 | 2,61,375.00 | |
| e | Labor (4 workers per sampler) | per labor day | 5.7 | 504.00 | 205 | 1,03,320.00 | 5.7 | 494.00 | 205 | 1,01,270.00 | |
| | Sub-Total 7 | | | | | 31,45,995.00 | | | | 31,43,945.00 | |
| | Total (Sub-Total 1-7) | | | | | 2,18,43,910.00 | | | | 2,19,30,360.00 | |
| 6 | Preparation of Exploration Proposal (5 Hard copies with a soft copy) | Lumpsum | 5.1 | 2% of the cost subject to a maximum of 5 lakhs | 1 | 5,00,000.00 | 5.1 | 2% of the cost subject to a maximum of 5 lakhs | 1 | 4,38,607.20 | This amount will be reimbursed after submission of the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCCNMET in its meeting while clearing the proposal. |
| 7 | Final report preparation | A minimum of ₹ 9 lakh or 3% of the value of work | 5.2 | For the projects having cost exceeding | 1 | 6,55,317.30 | 5.2 | For the projects having cost exceeding | 1 | 7,50,000.00 | This amount will be reimbursed after submission of the final Geological Report in Hard Copies |

| | | | | | | | | | | | |
|---------------------------------|--|---|-----------|---|---|-----------------------|-----------|---|---|-----------------------|---|
| | | whichever is more subject to a maximum amount of ₹ 20 lakh and ₹ 10,000/- per each additional copy. | | 150 lakhs but less than 300 lakhs-A minimum of 7.5 lakhs or 3% of the value of work whichever is more | | | | 150 lakhs but less than 300 lakhs-A minimum of 7.5 lakhs or 3% of the value of work whichever is more | | | (5 No.s) and the soft copy to NMET by the EA. |
| 8 | Report Peer Review | Lump sum | As per EC | 30,000.00 | 1 | 30,000.00 | As per EC | 30,000.00 | 1 | 30,000.00 | |
| Project Cost without GST | | | | | | 2,25,29,227.30 | | | | 2,31,48,967.20 | |
| 18% GST | | | | | | 40,55,260.91 | | | | 41,66,814.10 | |
| Total Project Cost | | | | | | 2,65,84,488.21 | | | | 2,73,15,781.30 | |
| | | | | | | 2,65,84,488.21 | | | | 2,73,15,781.30 | |
| Note | | | | | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | | | | | | |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | | | | | | |

Revise Cost for Reconnaissance Survey (G-4) for Evaluation of Placer Xenotime Prospect in Ujol River Basin, Gujarat

Implementing Agency - Geovale Services Pvt. Ltd.

Total Area - 350 sq. km; Total augur drilling meterage: 206m, No of BHs= 25 ; Completion Time - 15 Months (Extended)

| S.N | Item of work | Unit | Rates as per NMET SoC | | Estimated Cost of the Proposal | | Rates as per NMET SoC | | Revised Cost | | Remarks |
|-----|---|-----------------------|-----------------------|------------------|--------------------------------|---------------------|-----------------------|------------------|--------------|---------------------|--|
| | | | SoC-Item - SI No. | Rates as per SOC | Quantum | Total Amount (Rs) | SoC-Item -SI No. | Rates as per SOC | Quantum | Total Amount (Rs) | |
| 1 | Geological Work | | | | | | | | | | |
| A | Geological Mapping (1:12,500) & sampling | | | | | | | | | | |
| a | Geologists (HQ) days (1 No) | One geologist per day | 1.2 | 9,000.00 | 35 | 3,15,000.00 | 1.2 | 9,000.00 | 35 | 3,15,000.00 | |
| b | Geologist field-days (2 No. geologists) | One geologist per day | 1.2 | 11,000.00 | 120 | 13,20,000.00 | 1.2 | 11,000.00 | 120 | 13,20,000.00 | 350 sq.km |
| c | Labor (Field days) (2 workers per geologist) | per labor day | 5.7 | 494.00 | 240 | 1,18,560.00 | 5.7 | 494.00 | 240 | 1,18,560.00 | Amount will be reimburse as per the notified rates by the Central Labor Commission or respective State Govt. whichever is higher |
| | Sub-Total 1 | | | | | 17,53,560.00 | | | | 17,53,560.00 | |
| 2 | Remote Sensing | | | | | | | | | | |

| | | | | | | | | | | | |
|------------|--|-----------------------|---------|-----------|-----|--------------------|---------|-----------|-----|--------------------|--|
| | Geologists Mandays for Multispectral and DEM data analysis | One geologist per day | 1.2 | 9,000.00 | 40 | 3,60,000.00 | 1.2 | 9,000.00 | 40 | 3,60,000.00 | |
| | Sub-Total 2 | | | | | 3,60,000.00 | | | | 3,60,000.00 | |
| 3 | Geological Work | | | | | | | | | | |
| i) | Pitting | per cu.m | 2.1.2 | 3,800.00 | 100 | 3,80,000.00 | 2.1.2 | 3,800.00 | 408 | 15,50,400.00 | 51 pits, 408 cubic meter, 51 samples completed |
| ii) | Geochemical analysis (200 SSS+50 Pit samples) | | | | | | | | | | |
| a | Heavy Liquid Separation | per sample | 4.3.6a | 2,380.00 | 250 | 5,95,000.00 | 4.3.6a | 2,380.00 | 252 | 5,99,760.00 | 252 completed |
| b | Gravity and magnetic Separation | per sample | 4.3.6b | 13,820.00 | 250 | 34,55,000.00 | 4.3.6b | 13,820.00 | 62 | 8,56,840.00 | 62 completed |
| c | XRF (major oxides) | per sample | 4.1.15a | 4,200.00 | 200 | 8,40,000.00 | 4.1.15a | 4,200.00 | 200 | 8,40,000.00 | |
| d | Check samples for XRF | per sample | 4.1.15a | 4,200.00 | 20 | 84,000.00 | 4.1.15a | 4,200.00 | 20 | 84,000.00 | |
| e | ICPMS (34 elements) | per sample | 4.1.14 | 7,731.00 | 200 | 15,46,200.00 | 4.1.14 | 7,731.00 | 200 | 15,46,200.00 | |
| f | Check samples for ICPMS | per sample | 4.1.14 | 7,731.00 | 20 | 1,54,620.00 | 4.1.14 | 7,731.00 | 20 | 1,54,620.00 | |
| g | XRD | per sample | 4.5.1 | 4,000.00 | 20 | 80,000.00 | 4.5.1 | 4,000.00 | 22 | 88,000.00 | |
| h | Check samples for XRD | per sample | 4.5.1 | 4,000.00 | 2 | 8,000.00 | 4.5.1 | 4,000.00 | 0 | - | |

| | | | | | | | | | | | |
|----------|--|---------------------|-------|-----------|-----|---------------------|-------|-----------|-----|---------------------|---|
| | Sub-Total 3 | | | | | 71,42,820.00 | | | | 57,19,820.00 | |
| 4 | Petrological studies | | | | | | | | | | |
| a | Thin section preparation | per sample | 4.3.1 | 2,353.00 | 30 | 70,590.00 | 4.3.1 | 2,353.00 | 30 | 70,590.00 | Only for orientation samples |
| b | Microscopic study | per sample | 4.3.4 | 4,232.00 | 30 | 1,26,960.00 | 4.3.4 | 4,232.00 | 30 | 1,26,960.00 | |
| c | Sampler man-days | one sampler per day | 1.5.2 | 5,100.00 | 35 | 1,78,500.00 | 1.5.2 | 5,100.00 | 35 | 1,78,500.00 | |
| d | Labor (Field days) (4 workers per sampler) | per labor day | 5.7 | 494.00 | 140 | 69,160.00 | 5.7 | 494.00 | 140 | 69,160.00 | Amount will be reimburse as per the notified rates by the Central Labor Comission or respective State Govt. whichever is higher |
| | Sub-Total 4 | | | | | 4,45,210.00 | | | | 4,45,210.00 | |
| 5 | Geophysics | | | | | | | | | | |
| a | VES (SP & Shallow Electrical Resisitvity) | per line km | 3.3c | 60,000.00 | 20 | 12,00,000.00 | 3.3c | 60,000.00 | 21 | 12,60,000.00 | Geophysical survey along the structural discontinuities 20 line km and regolith and placer thickness determination 20 line-km |
| b | GPR Survey | per line km | 3.17 | 30,000.00 | 10 | 3,00,000.00 | 3.17 | 30,000.00 | 11 | 3,30,000.00 | As per Actuals |
| c | Augur Drilling (25 Boreholes) 200m | per meter | 2.2.2 | 4,760.00 | 200 | 9,52,000.00 | 2.2.2 | 4,760.00 | 206 | 9,80,560.00 | 206m drilling completed, In-house drilling |
| | Sub-Total 5 | | | | | 24,52,000.00 | | | | 25,70,560.00 | |

| | | | | | | | | | | | |
|---|----------------------------------|---------------|----------|----------|-----|---------------------|---------|----------|-----|---------------------|--------------------------------|
| 6 | Laboratory Studies | | | | | | | | | | |
| | Geochemical Investigation | | | | | | | | | | Drillcore samples' analysis |
| a | XRF (major oxides) | per sample | 4.1.15 a | 4,200.00 | 200 | 8,40,000.00 | 4.1.15a | 4,200.00 | 204 | 8,56,800.00 | |
| b | Check samples for XRF | per sample | 4.1.15 a | 4,200.00 | 20 | 84,000.00 | 4.1.15a | 4,200.00 | 20 | 85,680.00 | |
| c | ICPMS (34 elements) | per sample | 4.1.14 | 7,731.00 | 200 | 15,46,200.00 | 4.1.14 | 7,731.00 | 324 | 25,04,844.00 | |
| d | Check sample for ICPMS | per sample | 4.1.14 | 7,731.00 | 20 | 1,54,620.00 | 4.1.14 | 7,731.00 | 32 | 2,50,484.40 | |
| e | XRD | per sample | 4.5.1 | 4,000.00 | 10 | 40,000.00 | 4.5.1 | 4,000.00 | 14 | 56,000.00 | |
| f | Check sample for XRD | per sample | 4.5.1 | 4,000.00 | 1 | 4,000.00 | 4.5.1 | 4,000.00 | 0 | - | |
| | Sub-Total 6 | | | | | 26,68,820.00 | | | | 37,53,808.40 | |
| 7 | Petrological Studies | | | | | | | | | | |
| a | Thin Section Preparation | per sample | 4.3.1 | 2353 | 25 | 58,825.00 | 4.3.1 | 2353 | 53 | 1,24,709.00 | |
| b | Microscopic Study | per sample | 4.3.4 | 4232 | 25 | 1,05,800.00 | 4.3.4 | 4232 | 53 | 2,24,296.00 | |
| c | SEM | per hour | 4.4.2 | 2940 | 20 | 58,800.00 | 4.4.2 | 2940 | 8 | 23,520.00 | |
| d | Sampler man-days | per day | 1.5.2 | 5100 | 25 | 1,27,500.00 | 1.5.2 | 5100 | 48 | 2,44,800.00 | |
| e | Labor (4 workers per sampler) | per labor day | 5.7 | 494 | 100 | 49,400.00 | 5.7 | 494 | 192 | 94,848.00 | |
| | Sub-Total 7 | | | | | 4,00,325.00 | | | | 7,12,173.00 | |

| | | | | | | | | | | | |
|---|--|--|-----|--|---|-----------------------|-----|--|---|-----------------------|---|
| | Total (Sub Total 1-7) | | | | | 1,52,22,735.00 | | | | 1,53,15,131.40 | |
| 6 | Preparation of Exploration Proposal (5 Hard copies with a soft copy) | Lumpsum | 5.1 | 2% of the cost subject to a maximum of 5 lakhs | 1 | 3,04,454.70 | 5.1 | 2% of the cost subject to a maximum of 5 lakhs whichever is lower | 1 | 3,06,302.63 | This amount will be reimbursed after submission of the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCCNMET in its meeting while clearing the proposal. |
| 7 | Final report preparation | A minimum of ₹ 9 lakh or 3% of the value of work whichever is more subject to a maximum amount of ₹ 20 lakh and ₹ 10,000/- per each addition | 5.2 | For the projects having cost exceeding 150 lakhs but less than 300 lakhs-A minimum of 7.5 lakhs or 3% of the value of work whichever is more | 1 | 7,50,000.00 | 5.2 | For the projects having cost exceeding 150 lakhs but less than 300 lakhs-A minimum of 7.5 lakhs or 3% of the value of work whichever is more | 1 | 7,50,000.00 | This amount will be reimbursed after submission of the final Geological Report in Hard Copies (5 No.s) and the soft copy to NMET by the EA. |

| | | | | | | | | | | | |
|---------------------------|--|----------|-----------|-----------|---|-----------------------|-----------|-----------|---|-----------------------|--|
| | | al copy. | | | | | | | | | |
| 8 | Report Peer Review | Lump sum | As per EC | 30,000.00 | 1 | 30,000.00 | As per EC | 30,000.00 | 1 | 30,000.00 | |
| Total Project Cost | | | | | | 1,63,07,189.70 | | | | 1,64,01,434.03 | |
| 18% GST | | | | | | 29,35,294.15 | | | | 29,52,258.13 | |
| Total Project Cost | | | | | | 1,92,42,483.85 | | | | 1,93,53,692.15 | |
| | | | | | | 1,92,42,484 | | | | 1,93,53,692 | |
| Note | | | | | | | | | | | |
| 1 | Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21. | | | | | | | | | | |
| 2 | In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement. | | | | | | | | | | |
| 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 NEA on its own, a Certificate regarding non outsourcing of any component/project is required. | | | | | | | | | | |
| 4 | Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities. | | | | | | | | | | |
| 5 | Any item of work not mentioned above shall be added as per SoC. | | | | | | | | | | |
| 6 | All the Geological Reports and data are to be uploaded on NGDR as per MERT template. | | | | | | | | | | |