

**Ministry of Mines**  
**National Mineral Exploration Trust**  
**Draft Minutes of 5<sup>th</sup> meeting of Technical-cum-Cost Committee -II (TCC-II)**  
**held on 27<sup>th</sup>, 28<sup>th</sup> and 29<sup>th</sup> January, 2025**

The 5<sup>th</sup> 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 27<sup>th</sup>, 28<sup>th</sup> and 29<sup>th</sup> January, 2025.

Members of TCC-II, NMET and representatives from DGM Nagaland, DMR Meghalaya, DGM Jharkhand, DGM Assam, Mineral Exploration and Consultancy Limited (MECL), M/s Envirogreen Consultants (India) Pvt. Ltd., M/s PRB Infra Projects Private Limited, M/s Tata Steel Limited, M/s Mining Tech Consultancy Services Limited, M/s Gems Projects Private Limited, M/s Geovale Services Private Limited, M/s Geo Marine Solutions Pvt. Ltd., M/s Engeotech Consultants, M/s GeoExpOre Pvt. Ltd., M/s Vardan Environet LLP, M/s Critical Mineral Trackers, M/s GMMCO Technology Services Ltd. 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). Shri Pradeep Singh expressed that submission of increasing numbers of mineral exploration proposals to NMET, by NEAs & NPEAs is very satisfactory.

**Agenda 5.1 Technical Evaluation of New Project Proposals**


**Agenda 5.1.1 Preliminary Exploration (G3) for Limestone in Lohagarh Block, Pratapgarh district, Rajasthan**

**[Implementing Agency: M/s. Envirogreen Consultants (India) Pvt. Ltd]**

- a) The proposed block of 9 sq. km area, falls in Survey of India Toposheet nos. 46I/5 & 45L/8, in parts of Pratapgarh district, Rajasthan and exposes rocks of the Mukundpura Formation of the Debari Group which is known for its potential basemetal and gold mineralisation.
- b) M/s. Envirogreen Consultants (India) Pvt. Ltd informed that previous exploration in the proposed block area was carried out by Geological Survey of India in Field Season 1978-79 & 1979-80. The geological mapping was done on 1:5000 scale & 1: 6000 scale along with collection of groove samples for chemical analysis. GSI has carried out G4 stage investigation in majority of the proposed area.
- c) The geological map of the area shows dolomite marble as the main lithology.
- d) As per the result of chemical analysis of 8 samples, CaO value ranges from 29.50% to 50.46%, SiO<sub>2</sub> value ranges from 2.16% to 26.52% and MgO value ranges from 1.93% to 19.99%.
- e) DMG, Rajasthan (DMGR) informed that the proposed block overlaps with area of DMGR exploration project.
- f) In view of the above the committee did not recommend the proposal.

***Recommendation TCC-II***

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



**Agenda 5.1.2 Preliminary Exploration (G3) for REE and Copper in Hirnoda Block, Jaipur District, Rajasthan.**  
**[Implementing Agency: MECL]**


- a) The proposed block of 8.76 sq. km area, falls in Survey of India Toposheet no. 45N/05, in parts of Jaipur District, Rajasthan.
- b) MECL informed that the Hirnoda block falls in the reconnaissance permit no. 7/2004 (Sawar-Jobner block) of M/s Hindustan Zinc Limited (HZL) measuring 4392.65 sq km of area in Ajmer, Jaipur and Tonk districts of Rajasthan. RP was awarded by the state govt. order no. F-18(1)/Gr-2/2005 dated 23/10/08 as per approval given by central govt. vide letter no. 4/149/2005. MIV dated 10/10/2007. Four blocks viz Block A (90.4 sq km), Block B (628.50sq km), Block C- (104.70sq km) and Block-D (170sq km), were demarcated by M/S HZL and 31 inclined coring BHs were drilled in Block B, C and D. MECL has taken into account BH No.- DD10SJ004, which falls within the proposed block and BH No.- DD11SJ014, falling outside the proposed Block which is about 10 km towards NE from BH No.- DD10SJ004. Both these BHs were proven positive in terms of REEs and Copper Mineralisation.  
Four (4) REEs zone were encountered in BH No.- DD10SJ004 having La+Ce ranging from 0.28% to 0.64%, along with 5 Low grade Cu Zones ranging from 0.06 % Cu to 0.1 % Cu. During the interpretation of subsurface data, MECL has projected Cu-REE Mineralisation to the surface and correlated the projected surface mineralised zone of both the positive BHs and delineated the possible strike of mineralisation.
- c) MECL further informed that the delineated possible strike of mineralisation corroborates with the negative Bouguer anomaly map of gravity data and the high magnetic anomaly coincides with the proposed block. Anomaly Map of Gravity Data (NGPM) was downloaded from NGDR portal.
- d) The committee advised topographical and geophysical survey (Gravity and IP Survey) in the proposed block. Profile interval of 200m x 50m station interval is suggested for geophysical survey. Three (3) boreholes in 1<sup>st</sup> phase with 400m spacing and total 1200 meterage has been agreed. Analysis of Cu by AAS method is advised for 300 samples.
- e) The committee further advised to generate cover thickness map after IP survey. Predictive Geological and Structural Maps are also to be generated.

**Recommendation TCC-II**

***The committee recommends the proposal for approval of EC for "Preliminary Exploration (G3) for REE and Copper in Hirnoda block, Jaipur, Rajasthan" with an estimated cost of ₹439.36 Lakh (including GST) within the time schedule of 12 months and submission of the report as per Annexures 2A & 2B. The work will be reviewed after 3 months. Three (3) Boreholes of 400m depth(1200 meterage) will be drilled in Phase-I in 400m spacing.***

**Agenda 5.1.3 Reconnaissance Survey (G4) for REE & Rare Metals mineralization in Mithibor-Dolariya area (141.06 sq. km), Chota Udaipur and Dahod Districts, Gujarat**  
**[Implementing Agency: MECL]**

- a) The proposed block covering an area of 141.06 sq. km, falls in Survey of India Toposheet nos. 46F/14, 46F/15, 46J/02 & 46J03 in parts of Chota Udaipur and Dahod Districts, Gujarat.
- b) MECL informed that, Commissioner of Geology & Mining, Gujarat has identified 795 sq. km area covering Panchmahal, Dahod, Vadodara district for Graphite, Manganese, Wollastonite, W, Ta, REE, Li, Nb, Zr. The proposed region was previously investigated by



CGM by means of pitting, trenching, and drilling for Graphite. The resource that was estimated for Graphite commodity is about 0.79 to 1.68 MT with F.C. content- 9.27% to be maximum. GSI has also reported Graphite from Redhana village falling within the block.

The area is covered by GSI through its National Geochemical Mapping (NGCM) program. Out of total 440 samples analyzed in the area, 80 samples yielded anomalously high  $\Sigma$ HREE concentration ( $> 100$  ppm) and 55 samples yielded  $\Sigma$ REE  $> 1000$  ppm. The maximum concentration of  $\Sigma$ REE (Total) being 8847 ppm and that of  $\Sigma$ HREE is 986 ppm.

- c) CGM Gujarat have recommended that, in view of high potentiality of rare and critical metal occurrences indicated by GSI STM and NGCM and AMD placer mineralization studies, the area need to be explored in detail for possible HREE and rare metal mineralization.
- d) As per the comments from GSI the proposed block is completely overlapping with G4 block of GSI (FY 2018-19, 2019-20, 2021-22)

#### **Recommendation TCC**

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


#### **Agenda 5.1.4 Reconnaissance Survey (G4) for Wollastonite in Bhadli area (174.00 sq. km), Banaskantha District, Gujarat**

**[Implementing Agency: MECL]**

- a) The proposed block of 174 sq. km area, falls in Survey of India Toposheet nos. 45D/06 & 45D/07 in parts of Banaskantha District, Gujarat.
- b) MECL informed that, GSI in 1969, has carried out preliminary studies in the adjacent toposheet 45D/11 for wollastonite and reported a well-developed wollastonite zone 250 m long and 25 m wide from the Ghora village area. Inferred resource was calculated to be 30,000 tonnes in total having an average wollastonite content of 80%.  
GSI, carried out investigation for wollastonite in 1992 in parts of toposheet no. 45D/11. Skarn zones were located near the contact of calc-silicate rocks and intrusive granites. Three wollastonite deposits were reported from the area having dimension of 35 m x 4 m located 1.5 km WNW of Ghora, 100 m x 2 m located 1.5 km NE of Dhanpura and 300 m x 2 m also located 1.5 km NE of Dhanpura. The wollastonite of Ghora and Dhanpura analysed  $\text{SiO}_2$  - 46.16%, CaO- 44.75%,  $\text{Fe}_2\text{O}_3$ - 0.37%, LOI-3.21% and MgO -0.65% in average. It was also recommended that the assessment of wollastonite was to be carried out in future.
- c) The Commissioner of Geology and Mining (CGM), Gujarat has identified the proposed block for exploration of wollastonite based on previous work. They have formulated the block near the previously reported wollastonite mineralization and geology of the area.
- d) The committee advised modifications in the proposed block area by exclusion of sand covered area, reservoir etc. Approximately 500 m of scout drilling will be carried out only after establishing the wollastonite mineralized zone by means of geological mapping, bedrock sampling and trenching.

#### **Recommendation TCC**

***The committee recommends the proposal for approval of EC for "Reconnaissance Survey (G-4) for Wollastonite in Bhadli Block (107.89 sq. km), District: Banaskantha, Gujarat" with an estimated cost of ₹160.76 Lakh (including GST) within the time schedule of 10 months and submission of the report as per Annexures 3A & 3B. The work will be reviewed after 3 months. Ten(10) Scout Boreholes of 50m depth(500 meterage) will be drilled.***



**Agenda 5.1.5 Reconnaissance Survey (G4) for REE & Rare Metals mineralization in Sebalpani area (116.28 sq. km), Banaskantha District, Gujarat.**

**[Implementing Agency: MECL]**

- a) The proposed block of 116.28 sq. km area, falls in Survey of India Toposheet nos. 45D/15 in parts of Banaskantha District, Gujarat.
- b) MECL informed that, the Commissioner of Geology and Mining (CGM), Gujarat has identified several blocks for exploration of different mineral commodities 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) issued a NOC to MECL to take up exploration investigation in those blocks. CGM Gujarat has recommended further exploration for Sn, W, Ta, REE, Li, Zr, Cu, Pb, Zn, Ni-Cr-PGE in the study area.
- c) In the proposed block, 30 stream samples were collected by GSI, out of which 7 stream samples show Total REE (TREE) of more than 1000 ppm (1090.17 to 2384.79 ppm) and 14 samples show more than 500 ppm (529 to 966.15 ppm). The TREE value in the proposed block varies from 206.31 to 2384.79 ppm. HREE and LREE values vary from 33.01 ppm to 295.37 ppm and 136.94 ppm to 2144.32 ppm respectively. Higher values of REE and Nb (200 to 316 ppm), are concentrated typically around Sebalpani and Dhareda area and it was recommended by GSI, that REE anomalous area may be taken up for further exploration.
- d) As the proposed exploration block falls in Balaram Ambaji Wildlife Sanctuary and its Eco Sensitive Zone, the committee does not recommend the proposal for approval.


***Recommendation TCC***

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

**Agenda 5.1.6 Preliminary Exploration (G3) for Bauxite and Associated Minerals in Julrai Block (8.12 sq. km) Kachchh District, Gujarat.**

**[Implementing Agency: MECL]**

- a) The proposed block of 8.12 sq. km area, falls in Survey of India Toposheet nos. 41A/14 & 41A/15 in parts of Kachchh District, Gujarat.
- b) MECL informed that the Commissioner of Geology and Mining (CGM), Gujarat has carried out exploration in Kachchh basin for bauxite and identified several blocks for exploration of Bauxite based on previous works. They published the information of these blocks in Gujarat's Mineral Wealth booklet. CGM, Gujarat (via official email dated 14/11/2024) and issued an NOC in favour of MECL to take up exploration investigation in the proposed Julrai Bauxite block (G-3 stage).
- c) In this area, the bauxite deposits are associated with the laterites of the Matanomadh Formation. The area is explored by CGM through pitting and trenching. The chemical analysis results show a good percentage of  $Al_2O_3$ , averaging 52.53% with  $SiO_2$  percentage of 5.80%. They reported a resource of 27.85 m.t of bauxite in the area. In the vicinity of this block, there are leases of bauxite and thus the block is proposed for G3 level exploration. Geological mapping of Mesozoic and Tertiary rocks of Kachchh by GSI (FSP- 1981-82 & 1984-85) of the area reveals presence of Bauxite. MECL team also conducted field visit and identified bauxite associated with Laterite in and around the proposed block.
- d) As per the comments from GSI, 3.5 sq. km. area of the proposed exploration block is overlapping with the ongoing G4 project of GSI.
- e) The committee advised modification in the proposed block boundary to remove overlap with ongoing projects of GSI. Eight boreholes will be taken up during the 1st phase of exploration. Remaining 22 boreholes will be taken up after review by TCC-II, NMET.



### **Recommendation TCC**

***The committee recommends the proposal for approval of EC for "Preliminary Exploration (G-3) for Bauxite and associated minerals in Julrai Block, District: Kachchh, Gujarat" with an estimated cost of ₹246.49 Lakh (including GST) within the time schedule of 14 months and submission of the report as per Annexures 4A & 4B. The work will be reviewed after 6 months. Drilling of 8 Boreholes of 30m depth in Phase-I will be done, remaining 22 boreholes will be taken up after review.***

### **Agenda 5.1.7 Preliminary Exploration (G3) for Bauxite and Associated Minerals in Dhrang Block (4.86 sq. km), Kachchh District, Gujarat [Implementing Agency: MECL]**

- a) The proposed block of 4.86 sq. km area, falls in Survey of India Toposheet no. 41A/14 in parts of Kachchh District, Gujarat.
- b) MECL informed that the Commissioner of Geology and Mining (CGM), Gujarat has carried out exploration in Kachchh basin for bauxite and identified several blocks for exploration of Bauxite based on previous works. They published the information of these blocks in Gujarat's Mineral Wealth booklet. CGM, Gujarat (via official email dated 14/11/2024) issued a NOC in favour of MECL to take up exploration investigation in some of those blocks. The proposed Dhrang Bauxite block (G-3 stage) is one of them.
- c) In this area, the bauxite deposits are associated with the laterites of the Matanomadh Formation. The area is explored by CGM through pitting and trenching. The chemical analysis results show a good percentage of  $Al_2O_3$ , averaging 50.40% with  $SiO_2$  percentage of 1.90%. They reported a resource of 17.8 m.t of bauxite in the area. In the vicinity of this block, there are leases of bauxite and thus the block is proposed for G3 level exploration. Geological mapping of Mesozoic and Tertiary rocks of Kachchh by GSI (FSP- 1981-82 & 1984-85) of the area reveals presence of Bauxite. MECL team also conducted field visit and identified bauxite associated with Laterite in and around the proposed block.
- d) The committee advised that 6 boreholes will be taken up during the 1st phase of exploration, remaining 9 boreholes will be taken up after review by TCC-II, NMET.

### **Recommendation TCC**

***The committee recommends the proposal for approval of EC for "Preliminary Exploration (G-3) for Bauxite and associated minerals in Dhrang Block, District: Kachchh, Gujarat" with an estimated cost of ₹150.99 Lakh (including GST) within the time schedule of 14 months and submission of the report as per Annexures 5A & 5B. The work will be reviewed after 6 months. In Phase-I only 6 Boreholes of 30m depth will be drilled in 400m x 400m spacing, remaining 9 boreholes will be taken up after review.***

### **Agenda 5.1.8 Reconnaissance Survey (G4) for Phosphorite in Kaphalda area (16.68 sq.km), Dehradun and Tehri Garhwal Districts, Uttarakhand.**

#### **[Implementing Agency: MECL]**

- a) The proposed block of 16.68 sq. km area, falls in Survey of India Toposheet no. 53J/03 in parts of Dehradun and Tehri Garhwal Districts, Uttarakhand.
- b) MECL informed that, the proposed Kaphalda Block, located in the Mussoorie Syncline, is surrounded by significant phosphorite deposits like Kimoi, Masrana, Durmala, Silagoan-Bhusti, and Bhusti-Jhamthiogaon, previously explored by GSI and PPCL. Durmala Block, a prominent phosphorite zone, exhibits phosphate beds varying in thickness (0.40 with ore body continuity over 5.7 km) between Masrana and Bhusti at altitudes of 1650m-1950m above MSL.





- c) Phosphatic beds in these areas are associated with black cherts and shales of the Lower Tal Formation. However, lateral intertangling relationships between the units have been observed. The Kaphalda Block lacks exposed phosphate beds, as noted during PPCL mapping, but systematic exploration is needed to confirm continuity with the high-grade deposits in Block areas. Geological similarities and the high-grade potential of adjacent blocks make the Kaphalda Block a promising prospect for detailed exploration to establish its phosphorite resources.
- d) The committee agreed for 3 boreholes with 300m total depth. Committee advised analysis to check the sulphur content. Suitable zones near adjoining Phosphatic bands should be checked for REE chemistry and its mineralogy. EPMA studies for pyrite chemistry and REE minerals were also suggested.

**Recommendation TCC**


***The committee recommends the proposal for approval of EC for "Reconnaissance Survey (G-4 Stage Exploration) For Phosphorite & associated minerals in Kaphalda Block, Districts: Dehradun & Tehri Garhwal, State: Uttarakhand" with an estimated cost of ₹318.45 Lakh (including GST) within the time schedule of 12 months and submission of the report as per Annexures 6A & 6B. The work will be reviewed after 5 months. Three(3) Boreholes of 100m depth each will be drilled.***

**Agenda 5.1.9 Reconnaissance Survey (G4) for Limestone in Bhatiya Area in the Village Bhatiya-Gokalpur, District- Devbhumi Dwarka, Gujarat  
[Implementing Agency: M/s. PRB Infraprojects Pvt. Ltd.]**

- a) The proposed block covering an area of 10 sq. km area, falls in Survey of India Toposheet nos. 41F/04 & 41F/08 in parts of Devbhumi Dwarka District, Gujarat.
- b) M/s. PRB Infraprojects Pvt. Ltd. informed that, based on the exploration by CGM the block was put up for G4 for further exploration but due to lack of some important information it could not be auctioned. CGM, Gujarat granted NOC of few blocks to PRB Infraprojects Pvt. Ltd., Nagpur to take up for G4 stage of exploration under NMET as a prelude to consider proposal of this block for auction as ML.
- c) GSI has carried out geological mapping in the parts of Saurashtra area in the FS 1971-72 and has reported occurrence of high-grade limestones in the Gaj Formation. GSI has also carried out work on delineation of Cement and Chemical grade Limestone in Okhamandal taluka, Jamnagar District, Gujarat. (FSP 1994-95) in parts of TS. 41F/03 & 41F/04.
- d) CGM Gujarat has carried out exploration by drilling in Jodhpur village in 2018-19, on a grid of 200 meters, by drilling 13 boreholes and limestone was encountered in every borehole. Detailed survey for Limestone of Okhamandal Taluka of Jamnagar district by CGM in FS 2010-11 recorded that the limestone deposit found in the area is of bedded type which adds up to potential of limestone occurring in the proposed block area.
- e) The committee agreed for 3 boreholes with total 120 meterage.

**Recommendation TCC**

***The committee recommends the proposal for approval of EC for "Reconnaissance Survey (G4) for Limestone in Bhatiya Area in the Village Bhatiya-Gokalpur, District: Devbhumi Dwarka, Gujarat" with an estimated cost of ₹69.61 Lakh (including GST) within the time schedule of 10 months and submission of the report as per Annexures 7A & 7B. The work will be reviewed after 5 months. Drilling of 3 Boreholes of 40m depth each will be done.***

**Agenda 5.1.10 Preliminary Exploration (G3) for Manganese and Associated Minerals in Kankura Block, West Singhbhum District, Jharkhand**  
**[Implementing Agency: M/s. TATA Steel Limited]**


- a) The proposed block of 5.6 sq. km area, falls in Survey of India Toposheet No. 73F/08 in parts of West Singhbhum District, Jharkhand.
- b) M/s. TATA Steel Limited informed that the block falls in the north-central part of the famous horseshoe shaped Bonai-Keonjhar Synclinorium which hosts large deposits of iron and manganese ore. The surrounding area of the block is known for rich history of mining of iron and manganese ore. As per the records available in Bhukosh and NGDR Portal, previous surface investigations by LSM have reported occurrence of manganese ore in the proposed block.
- c) Geologists of Natural Resources Division in Dec '24 and Jan '25 had conducted field geological investigation within the proposed block and could identify 8 manganese ore bodies on surface which can be clubbed in 4 mineralized zones (2 large and 2-small). In the other parts also, there is indication of manganese in laterite and shale and there is possibility to have concealed manganese ore bodies below surface.
- d) The committee advised that geophysical survey will be helpful in exploration. Magnetic survey with 100m x 100m spacing has been advised.

**Recommendation TCC**

*The committee recommends the proposal for approval of EC for "Preliminary Exploration (G3) for Manganese and Associated Minerals in Kankura Block, District: West Singhbhum, Jharkhand" with an estimated cost of ₹395.78 Lakh (including GST) within the time schedule of 15 months and submission of the report as per Annexures 8A & 8B. The work will be reviewed after 5&9 months. Drilling of 14 Boreholes of 100m depth (1400 meterage) will be done in 200 m grid spacing.*

**Agenda 5.1.11 Reconnaissance Survey (G4) for REE & RM near Mandli-Nagana Village, Barmer District, Rajasthan**  
**[Implementing Agency: M/s. Mining Tech Consultancy Private Limited]**

- a) The proposed block of 18 sq. km area, falls in Survey of India Toposheet no. 45B/08 & 45B/12 in parts of Barmer District, Rajasthan.
- b) M/s. Mining Tech Consultancy Private Limited informed that, as per previous studies undertaken by GSI REE and RM mineralization is reported within Malani Igneous Suite of rocks (basalt & rhyolites). Existence of 3 Rhyolite flows are reported around Chiriyā, Thob-Patodi & Bagawas areas in Barmer, Rajasthan. Low gravity values (-25.0mGal to -11.0mGal) were reported near to Thob-Patodi & Bagawas villages in geophysical mapping (NGPM).
- c) GSI NGCM programs carried out during 2022 indicate anomalous values of REEs (La, Ce, Hf, Nd) and Y & Zr within Malani Rhyolites near Patodi, Thob & Bagawas in toposheet 45B/8 and near Mandli, Nagana & Korna villages in toposheet 45B/12. Based on the outcome of these studies, GSI has taken up Reconnaissance Survey (G4) for REE mineralization around Patodi-Thob area within 100km<sup>2</sup> area in toposheet 45B/08 for FSP 2024-25.
- d) As per the advice of the TCC-II committee in the 4<sup>th</sup> meeting, MTCS has prepared this revised proposal for G4 level exploration of REE & RM in 2 blocks near Mandli (Block-A: 8.0km<sup>2</sup>) and Nagana (Block-B: 10.0km<sup>2</sup>) covering a total area of 18.00km<sup>2</sup>.
- e) The committee advised that, based on geophysical data a predictive geological and structural map has to be generated and based on that the drilling will be decided. Cover thickness map also is required to be prepared. Gravity and Magnetic survey in 200m x



200m grid have been suggested. Bed rock samples should be collected along the profile lines. REE minerals needs to be identified.

**Recommendation TCC**

***The committee recommends the proposal for approval of EC for "Reconnaissance Survey (G4 Stage) for Rare Earth Elements (REE) & Rare Metals (RM) in Mandli-Nagana Area, District:Barmer, Rajasthan" with an estimated cost of ₹90.80 Lakh (including GST) within the time schedule of 6 months and submission of the report as per Annexures 9A & 9B. The work will be reviewed after 4 months.***

**Agenda 5.1.12 Reconnaissance Survey (G4) for bauxite in Chandipat Block, Gumla District, Jharkhand.**

**[Implementing Agency: M/s. Gems Projects Private Limited]**

- a) The proposed block of 15.13 sq. km area, falls in Survey of India Toposheet no. 73A/03 (OSM F45A3) in parts of Gumla District, Jharkhand.
- b) M/s. Gems Projects Private Limited informed that, the proposed area is located at Southwestern limit of the Chhotanagpur Gneissic Complex. Several occurrences of Bauxite mineralization have been reported within the Chhotanagpur Gneissic Complex. There are working Bauxite Mines around the proposed area. A number of bed rock samples were collected and analyzed for Alumina and Silica content.
- c) Since the comments from State DGM are awaited the committee does not recommend the proposal for approval.


**Recommendation TCC**

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

**Agenda 5.1.13 Reconnaissance survey (G4) for basemetal in Burogaon-Bitala-Mogan areas, District Lalitpur, Uttar Pradesh**

**[Implementing Agency: M/s. Geovale Services Pvt. Ltd.]**

- a) The proposed block of 166 sq. km area, falls in Survey of India Toposheet no. 54L/09 in parts of Lalitpur District, Uttar Pradesh.
- b) M/s. Geovale Services Pvt. Ltd. informed that there is extensive presence of advance argillic alteration represented by many pyrophyllite-diaspore horizons, and presence of many NNE-SSW trending Giant Quartz Veins (GQVs) that continue for few tens of kilometers with a width of few tens of meters (Basu, 1986; Bhattacharya and Singh, 2013). There is a strong possibility that such large tracts of advanced argillic alteration represent either high sulphidic alteration (commonly associated with porphyry Cu-Mo-Au deposits), or crustal abundance of elements like Au, As and Bi in different parts of the block. The GQVs on the other hand, are related to extensive hydrothermal activity associated with some epigenetic mineralization.
- c) Some previous reports of Au, Mo and Cu mineralization incidences in the area exist (Pati et al., 2014; Pati et al., 1997; Singh and Singh, 1986). Some test drilling was also carried out in the Palar area located in the northern part of the present block (Absar et al., 1999). The test drillings were not successful in locating any substantial base-metal or gold mineralization. However, the drilling data indicated a strong possibility of finding base metal and gold mineralization at depths beyond the drilled depth. GSI's NGCM data show positive anomaly (i.e. >5 times crustal abundance) for elements like Au, As and Bi in different parts of the block.
- d) The committee advised that, borehole planning for sub surface exploration will be decided after review of the first phase of work.





### **Recommendation TCC**

*The committee recommends the proposal for approval of EC for "Reconnaissance Survey (G4 stage) for Basemetals in Burogaon-Biltala-Mogan area, District:Lalitpur, Uttar Pradesh" with an estimated cost of ₹317.52 Lakh (including GST) within the time schedule of 14 months and submission of the report as per Annexures 10A & 10B. The work will be reviewed after 6& 12 months. Four (4) boreholes (1 BH 400m, 3 BH 200m) will be drilled. Drilling will start after review.*

### **Agenda 5.1.14 Preliminary exploration (G-3) for limestone in Khongkha Block 1 and Khongkha Block 2, Kiphire District, Nagaland.**

**[Implementing Agency: DGM Nagaland]**

- a) The proposed block covering an area of 2.33 sq. km area (1.129 sq. km Khongkha Block 1 and 1.193 sq. km Khongkha Block 2), falls in Survey of India Toposheet no. 83K/14 in parts of Kiphire District, Nagaland.
- b) DGM Nagaland informed that, the detailed limestone exploration of Mimi-Pyakatsu block of Mimi limestone deposit, Kiphire district in 2014 (MECL-DGM collaboration under promotional funding) has reported the overall limestone resource of the block as 167.77 million tonnes under 332 & 333 categories of UNFC over an area of 5 sq. km. The Mimi limestone deposit is the largest limestone deposit in Nagaland which extends over a strike length of 10 km from Khongka in southwest to Longpotrop in northeast. The Khongka limestone block is located just 18 km south of the Mimi limestone deposit. The Khongka in addition to the Mimi limestone deposit is capable of sustaining mega cement plant set up in the vicinity of the deposit area for several decades. The Khongka limestone contains CaO content of 31.22-55.86%, MgO 0.06-1.96% and SiO<sub>2</sub> 0.13-7.39%.
- c) Upon completion, the proposed exploration program will yield crucial data on the limestone resource, including its grade and its potential for commercial use. The output of regional exploration will form the basis for further detailed exploration of the block and mining of the resources which will ultimately have positive economic impact to Nagaland state.
- d) The committee advised geological mapping on 1:4000 scale in the proposed exploration area. In place of specific gravity, bulk density should be considered.


### **Recommendation TCC**

*The committee recommends the proposal for approval of EC for "Preliminary Exploration (G-3) for Limestone in Khongkha Block 1 and Khongkha Block 2, District:Kiphire, Nagaland" with an estimated cost of ₹765.98 Lakh (including GST) within the time schedule of 15 months and submission of the report as per Annexures 11A & 11B. The item will be reviewed after 6& 10 months. Drilling of 11 boreholes of 100m depth will be done.*

### **Agenda 5.1.15 Preliminary exploration (G-3) for limestone in Mimi Kheti Block A and Mimi Kheti Block B, Kiphire District, Nagaland.**

**[Implementing Agency: DGM Nagaland]**

- a) The proposed block covering an area of 3.6 sq. km area (1.8 sq. km. area for each Block), falls in Survey of India Toposheet no. 83K/14 in parts of Kiphire District, Nagaland.
- b) DGM Nagaland informed that, during the preliminary investigation carried out in Mimi-Pyakatsu Block of Mimi- Limestone Belt, Kiphire District, Nagaland during the field season of 1972-73 and 1973-74, a total of six limestone bands inter-layered with phyllites and quartzites were encountered. It occurs over a distance of 3.1 km with uniform quality. Of the total inferred mineral resources (333) of 111.07 million tonnes in the Mimi-Pyakatsu Block, the main limestone band alone accounts for 66 million



tonnes. The earlier workers have carried out detailed geological mapping on 1:4000 scale covering 4.5 sq.km. A total meterage of 531.50m was drilled in 5 exploratory boreholes in Mimi-Pyakatsu block over strike length of 1.37 km by DGM, Nagaland.

After drilling 531.5m in 9 boreholes out of approved 1000m target in 9 boreholes DGM, Nagaland had shown their inability to drill the remaining four boreholes due to limited accessibility and challenging terrain conditions. Subsequently, the matter was discussed in the 27th SCPP meeting held in MOM, New Delhi on 4th September 2013 and decided that the Director (Technical), MECL will visit the exploration block to find out the possibility of continuation of work. The official visited the block and after discussion with the DGM officials, it was decided that surface outcrop samples may be collected from the locations of non-drilled borehole points for logical conclusions. It was informed that that the investigations carried out in this block was on wider grid and the resources have been placed under 332 and 333 categories of UNFC and further necessary to explore the block sufficiently with optimum pitting and drilling in order to assess the tremendous limestone potential.

- c) Upon completion, the proposed exploration program will yield crucial data on the limestone resource, including its grade and its potential for commercial use. The output of regional exploration will form the basis for further detailed exploration of the block and mining of the resources which will ultimately have positive economic impact to Nagaland state.
- d) The committee advised that, band wise resource should be calculated. Inclined boreholes to intersect the body at 30m vertical depth was suggested.

#### **Recommendation TCC**

*The committee recommends the proposal for approval of EC for "Preliminary Exploration (G-3) for Limestone in Mimi Kheti Block A and Mimi Kheti Block B, District:Kiphire, Nagaland" with an estimated cost of ₹1166.70 Lakh (including GST) within the time schedule of 15 months and submission of the report as per Annexures 12A & 12B. The item will be reviewed after 6 & 10 months. Drilling of 21 boreholes of 40m to 100m depth (1910 meterage) will be done.*

#### **Agenda 5.1.16 Reconnaissance Survey (G-4 Stage) for Nickel, Cobalt and PGE in Botad Block, Botad District, Gujarat**

**[Implementing Agency: M/s Critical Mineral Trackers]**

- a) The project was proposed by M/s Critical Mineral Trackers
- b) As per the comments from GSI, the proposed exploration block is overlapping with G4 block of GSI.
- c) The committee advised the agency to modify the block boundary and G4 area of GSI to be excluded from the proposal.

#### **Recommendation TCC**


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

#### **Agenda 5.2 Review of Ongoing Projects/ Completed Project & Timeline Extension**

#### **Agenda 5.2.1 Reconnaissance Survey (G4) for Gold, Copper, graphite and associated minerals in Jamtola-Khandapar Block, Balaghat District, State: Madhya Pradesh.**

**[Implementing Agency: MECL]**

- a) MECL informed that the proposal was recommended by 57<sup>th</sup> TCC meeting held on 26<sup>th</sup> & 27<sup>th</sup> September 2023 and the project was approved in the 32<sup>nd</sup> EC Meeting held on 06<sup>th</sup>



December, 2023. The sanction order was issued on 12<sup>th</sup> December, 2023 with timeline of 12 months and approved cost was INR 2,16,29,787/-.

- b) The exploration block of 96.62 sq. km area falls in Survey of India toposheet no. 64C/09 in parts of Balaghat District, Madhya Pradesh.
- c) MECL informed based on the geological mapping, surface sample results and ground geophysical survey results, total 8 Nos. Scout boreholes are planned in two potential areas i.e. Khandapar (395m 4 bh) & Karwahi (300m in 4 bh) to test the geophysical anomalies. MECL requested for additional 195m drilling (3 bh) along with additional 143 Nos. samples (primary+check) to investigate the geophysical anomalies in depth. In view of the above, the committee agreed for additional 60m drilling in the block. The revised cost is 7.25% higher than the original cost.

**Recommendation TCC**

***The committee recommends the proposal for approval of EC for "additional 60m drilling" with an additional cost of ₹15.68 lakhs. The revised estimated cost of the project is ₹231.91 Lakh (including GST) as per Annexures 13A.***

**Agenda 5.2.2 Preliminary Exploration (G3) for Glauconitic Sandstone in Deulha Block, Satna District, Madhya Pradesh.**

**[Implementing Agency: MECL]**

- a) MECL informed that the project was approved in the 35<sup>th</sup> EC Meeting held on 16<sup>th</sup> May, 2024. The sanction order was issued on 4<sup>th</sup> June 2024 with timeline of 12 months and approved cost was INR 1,05,18,311/-.
- b) MECL informed that Forest Clearance is awaited for this exploration block and asked for timeline extension of 3 months from the date of Forest Clearance.
- c) The committee decided to wait till the end of February 2025 for the forest clearance.

**Recommendation TCC**

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

**Agenda 5.2.3 Preliminary Exploration (G3) for Glauconitic Sandstone in Jhari Block, Satna District, Madhya Pradesh.**

**[Implementing Agency: MECL]**

- a) MECL informed that the project was approved in the 35<sup>th</sup> EC Meeting held on 16<sup>th</sup> May, 2024. The sanction order was issued on 4<sup>th</sup> June 2023 with timeline of 12 months and approved cost was INR 72,40,770/-.
- b) MECL informed that Forest Clearance is awaited for this exploration block and asked for timeline extension of 3 months from the date of Forest Clearance.
- c) The committee decided to wait till the end of February 2025 for the forest clearance.


**Recommendation TCC**

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

**Agenda 5.2.4 Preliminary Exploration (G3) for Vanadium and Titanium in Dandi-Onjal-Surwada Block in Navasari and Valsad Districts, Gujarat.**

**[Implementing Agency: M/s. Geo Marine Solutions Pvt Ltd.]**

- a) M/s. Geo Marine Solutions Pvt. Ltd. informed that the project was approved in the 33<sup>rd</sup> EC Meeting held on 19<sup>th</sup> February, 2024. The OM was issued on 12<sup>th</sup> March, 2024 with timeline of 12 months (up to 11.03.2025) and approved cost was INR 89,78,326/-.



- b) M/s Geo Marine Solutions Pvt Ltd. proposed to reorient the sample analysis scheme for precisely targeting the ore minerals concentrated in between 125 micron to 63 micron, without any addition in cost.
- c) M/s Geo Marine Solutions Pvt Ltd. informed that the metal content in the whole of magnetic fractions (A, B & C) are not reflecting the true metal values because immature coarse sediments (rock fragments) within the magnetic fractions are diluting the metal concentration. So, separation of right size fraction in which ore minerals are concentrated is required. The agency further asked for 90 days time extension for the proposed work.
- d) Considering the presence of larger proportion of lithic-rock fragments, and the observation by the agency based on the available data that ore-minerals are concentrated in 63-125micron size, the committee observed that possibility of a sizeable portion of heavy ore minerals being locked up in the coarser lithic fragments cannot be ruled out. If proved so, a screening followed by two-stage grinding of coarser fractions would yield better recovery and value-addition. In view of this, the committee advised to analyse few representative samples, and down-stream samples of sequential sizing and magnetic fractions with proper material balance, so that the observation at (b) above can be validated as well as effectively put into practice

**Recommendation TCC**

***The committee approved 3months timeline extension upto 11<sup>th</sup> June 2025 for completion of the project.***

**Agenda 5.2.5 Preliminary exploration (G3) of ion adsorption clay and laterite hosted supergene enriched REE deposits in Sung valley block, East Khasi Hills and West Jaintia Hills Districts, Meghalaya**

**[Implementing Agency: DMR Meghalaya]**

- a) DMR Meghalaya informed that the project was approved in the 32<sup>nd</sup> EC Meeting held on 06<sup>th</sup> December, 2023. The sanction order was issued on 12<sup>th</sup> December, 2023 with timeline of 15 months and approved cost was INR 3,00,93,518/-.
- b) DMR Meghalaya presented the progress of the exploration work.
- c) The committee advised that, borehole spacing should be 200m. Four (4) boreholes in SW part of the block (each 40m depth) and two (2) boreholes in the NE part of the block (each 40m depth) were suggested. Further, the committee advised all regolith from core samples to be analysed properly. Zones of HREE, LREE, Sc, Ni, Co are to be correlated. Cluster analysis was suggested for REE, Sc and Co. Additional 15 EPMA was agreed by the committee.


**Recommendation TCC**

***The committee agreed for drilling in the project as per the discussions and recommended additional 15 nos. of samples for EPMA analysis. The revised costsheet is to be submitted in the next review of the project.***

**Agenda 5.2.6 Reconnaissance Survey (G4 Stage) for Graphite and associated minerals around, Amdol, Jharegaon & Bhayawari, District: Betul, M.P.**

**[Implementing Agency: M/s GeoExpOre Pvt Ltd.]**

- a) GeoExpOre Pvt Ltd. informed that the project was approved in the 33<sup>rd</sup> EC Meeting held on 13<sup>th</sup> March, 2024. The OM for the project was issued on 12<sup>th</sup> March 2024 with timeline of 12 months and approved cost was INR 1,05,04,174 /-.
- b) M/s GeoExpOre Pvt Ltd. presented the progress of exploration. The agency informed that so far only 12 samples have been analysed for Graphite though 40 nos. of BR

- samples are collected. Sixty percent of the area is covered by agricultural land.
- Further M/s GeoExpOre Pvt Ltd. reported that high concentration of rare metals were recorded in the pegmatite samples and hence, instead of targeting Graphite, GeoExpOre proposed to target pegmatite bearing zones.
  - M/s GeoExpOre Pvt Ltd. proposed five (5) trenches for understanding the depth persistence of pegmatite in the block (trenches were already sanctioned for Graphite).
  - The committee asked NMET secretariat to provide the GSI reports to GeoExpOre for geophysical data.

**Recommendation TCC**

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

**Agenda 5.3 Review of Ongoing Procurement Projects & Timeline Extension**

**Agenda 5.3.1 Financial Assistance from NMET funds to procure Machinery Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities.**

**[Implementing Agency: DGM Jharkhand]**

- DMG Jharkhand informed that the project was approved in the 28<sup>th</sup> EC Meeting held on 16<sup>th</sup> March, 2023. The sanction order was issued on 18<sup>th</sup> August, 2023 with timeline of 12 months and approved cost was INR 5,27,90,000/-.
- DGM Jharkhand proposed addition of Ultra-Pure Water System as an accessory with procurement of ICPMS.
- The committee suggested that tendering can be done including the additional item.

**Recommendation TCC**

***The committee approved the inclusion of Ultra-Pure Water System as an accessory with procurement of ICPMS.***

**Agenda 5.3.2 Financial Assistance from NMET funds to procure Machinery Laboratory Equipment/instruments etc. aimed at enhancing the exploration activities.**

**[Implementing Agency: DGM Assam]**

- DMG Assam informed that the 02 projects were approved in the 27<sup>th</sup> EC Meeting held on 10<sup>th</sup> January, 2023 for procurement of Machinery Laboratory Equipment/instruments etc. The sanction order for Project -1 was issued on 24<sup>th</sup> March 2023 with timeline of 12 months and approved cost was INR 4,03,64,950/- and Sanction order for Project-2 on 30<sup>th</sup> May, 2024 with timeline of 12 months and approved cost was INR 1,07,00,000/-.
- DGM Assam presented progress of procurement in Project -1 :

**List of items procured through GeM Portal:**

**Table A**

Sl. No.	Items approved by NMET	Approved rate (₹ in lakhs)	Cost incurred (₹ in lakhs)
1.	GIS software	25	23.92
2.	Handheld GPS	6	6.00
3.	Brunton compass	0.60	0.35
4.	Total Station	5	4.95
<b>Total Cost incurred</b>		<b>36.6</b>	<b>35.22</b>

**DGM Assam informed the revised costs (As per the market rates) for some of the**



items to be procured as following:

**Table B**

Sl. No.	Items received as per the 48th TCC Meeting of NMET, MoM, GOI.	Approved Price (₹ in lakhs)	Price settled as L1 (₹ in lakhs)	Remarks by DGM Assam
1.	Pulveriser( Vibratory cup Mill and Jaw Crusher)	20.00	9.26	Supply order is issued to L1 holder. After getting supply, payment will be disbursed to the supplier. Accordingly, Utilization Certificate will be uploaded in the PFMS portal.
2	Press pellet machine	3.90	1.985	Supply order issued.
		23.9	11.245	

Further, DGM Assam requested for approval of revised cost for procurement of the some of the machinery/instruments . The committee was informed that the items are being purchased through GeM portal. The revised cost presented by DGM Assam and recommendation of TCC-II is given in Table C and Table D below:

**Table C**

Sl no.	Items	Qty	Approved Cost (₹ in lakhs)	Revised Cost (₹ in lakhs)	Remarks	Recommendation Cost by TCC-II (₹ in lakhs)/Remarks	Additional cost (₹ in lakhs)/
1	Reflected light research microscope with software attached camera	1	12.00	25	There is no Ore Microscope in present set up of DGM Assam. Revised rate is given as per market price.	25	13
2	Hot plates (with stirrer)	1	0.1	0.4	Revised rate is given as per market price.	0.4	0.3
3	Microwave desiccation System	1	15	25	Revised rate is given as per market price.	TCC advised to go for custom bid in GeM portal by hiding the approved price.	-
4	Bomb Calorimeter	1	2.00	25.00	Revised rate is given as per market price.	14 (as recommended to DGM Nagaland)	12
	<b>Total</b>		<b>29.1</b>	<b>75.4</b>			<b>25.3</b>

**Table D**

Sl. No.	Item	Approved by NMET			Revised by DGM				Additional cost
		Quantity	Approved Estimated Cost (in Lakhs) per Unit	Total Approved Estimated Cost (in Lakhs)	Revised Quantity	Revised Estimated Cost (in Lakhs) per Unit	Revised Total Cost (in Lakhs)	Reason for Cost Revision	
5	Drilling Bits								
	NX Casing Bit	3	0.0385	0.1155	3	0.11	0.33	Revised rate is	0.2145
	NX Casing Shoe Bit	5	0.0375	0.1875	5	0.106	0.53		0.3425

	BX Casing Bit	3	0.031	0.093	3	0.098	0.294	given as per market price.	0.201
	BX Casing Shoe Bit	5	0.03	0.15	5	0.092	0.46		0.31
	AX Casing Bit	3	0.0285	0.0855	3	0.085	0.255		0.1695
	AX Casing Shoe Bit	5	0.027	0.135	5	0.08	0.4		0.265
	BX Diamond Core Bit	20	0.0285	0.57	20	0.096	1.92		1.35
	BX Reamer Shell (Single Tube)	5	0.018	0.09	5	0.064	0.32		0.23
	BX Reamer Shell (Double Tube)	3	0.018	0.054	3	0.064	0.192		0.138
	NX Diamond Core Bit	10	0.035	0.35	10	0.116	1.16		0.81
	NX Reamer Shell (Single Tube)	5	0.0345	0.1725	5	0.072	0.36		0.1875
	NX Reamer Shell (Double Tube)	5	0.034	0.17	5	0.072	0.36		0.19
	AX Diamond Core Bit	20	0.026	0.52	20	0.09	1.8		1.28
	AX Reamer Shell (Single Tube)	5	0.016	0.08	5	0.06	0.3		0.22
	AX Reamer Shell (Double Tube)	5	0.0165	0.0825	5	0.06	0.3		0.2175
6	Drill Rod								
	BW Drill Rod with Coupling R/H 3.00 Mtr Long	100	0.045	4.5	100	0.112	11.2	Revised rate is given as per market price.	6.7
	AW Drill Rod with Coupling R/H 3.00 Mtr Long	100	0.0335	3.35	100	0.103	10.3		6.95
7	Casing							Revised rate is given as per market price.	
	HX M.S. Flush Coupled Casing with coupling 3.00 Mtr Long and Screw flush but joins with square from of thread parallel screwing thread protection should be provided in both hands	5	0.07	0.35	5	0.18	0.9		0.55
	HX Casing 5 Feet Long	3	0.0385	0.1155	3	0.148	0.444		0.3285
	HX Casing 3 Feet Long	3	0.0265	0.0795	3	0.116	0.348		0.2685
	HX Casing 2 Feet Long	3	0.0225	0.0675	3	0.088	0.264		0.1965
	HX Casing 1 Feet Long	3	0.0185	0.0555	3	0.08	0.24		0.1845
	NX M.S. Flush Coupled Casing with coupling 3.00 Mtr Long and Screw flush but joins with square from of thread parallel screwing thread protection should be provided in both hands	50	0.048	2.4	50	0.176	8.8		6.4
	NX Casing 5 Feet Long	3	0.028	0.084	3	0.096	0.288		0.204
	NX Casing 3 Feet Long	3	0.0225	0.0675	3	0.09	0.27		0.2025
	NX Casing 2 Feet Long	3	0.0165	0.0495	3	0.072	0.216		0.1665
	NX Casing 1 Feet Long	3	0.014	0.042	3	0.056	0.168		0.126

	BX M.S. Flush Coupled Casing with coupling 3.00 Mtr Long and Screw flush but joins with square from of thread parallel screwing thread protection should be provided in both hands.	50	0.0425	2.125	50	0.13	6.5		4.375
	BX Casing 5 Feet Long	3	0.0245	0.0735	3	0.106	0.318		0.2445
	BX Casing 3 Feet Long	3	0.0185	0.0555	3	0.094	0.282		0.2265
	BX Casing 2 Feet Long	3	0.015	0.045	3	0.076	0.228		0.183
	BX Casing 1 Feet Long	3	0.0125	0.0375	3	0.058	0.174		0.1365
	AX M.S. Flush Coupled Casing with coupling 3.00 Mtr Long and Screw flush but joins with square from of thread parallel screwing thread protection should be provided in both hands.	100	0.0385	3.85	100	0.112	11.2		7.35
	AX Casing 5 Feet Long	3	0.021	0.063	3	0.098	0.294		0.231
	AX Casing 3 Feet Long	3	0.016	0.048	3	0.088	0.264		0.216
	AX Casing 2 Feet Long	3	0.012	0.036	3	0.08	0.24		0.204
	AX Casing 1 Feet Long	3	0.0105	0.0315	3	0.07	0.21		0.1785
8	Core Barrel								
	NX Core Barrel 3.00 Mtr Long (single Tube)	2	0.065	0.13	2	0.164	0.328	Revised rate is given as per market price.	0.198
	BX Core Barrel 3.00 Mtr Long (single Tube)	2	0.05	0.1	2	0.14	0.28		0.18
	BX Core Barrel 3.00 Mtr Long (Double Tube)	2	0.085	0.17	2	0.344	0.688		0.518
	AX Core Barrel 3.00 Mtr Long (single Tube)	2	0.0325	0.065	2	0.124	0.248		0.183
	AX Core Barrel 3.00 Mtr Long (Double Tube)	2	0.065	0.13	2	0.27	0.54		0.41
9	Core Lifter								
	NX Core Lifter (Single Tube)	5	0.003	0.015	5	0.007	0.035	Revised rate is given as per market price.	0.02
	NX Core Lifter (Double Tube)	5	0.003	0.015	5	0.007	0.035		0.02
	BX Core Lifter (Single Tube)	5	0.0025	0.0125	5	0.006	0.03		0.02
	BX Core Lifter (Double Tube)	5	0.0025	0.0125	5	0.006	0.03		0.02
	AX Core Lifter (Single Tube)	5	0.0018	0.009	5	0.0055	0.0275		0.02
	AX Core Lifter (Double Tube)	5	0.0018	0.009	5	0.0055	0.0275		0.02
	<b>Total</b>		<b>1.3256</b>	<b>21.0495</b>		<b>4.573</b>	<b>64.398</b>		<b>43.35</b>

- c) DGM Assam informed the committee that the procurement of WD XRF, Accessories of NQ Series and Fusion bead machine (Project 1) and procurement of laboratory equipment/ Machinery/ Instruments for Project -II is under process.

**Recommendation TCC**

**The committee recommended revised cost for machinery laboratory equipment/instruments (Project -1) as given at Table C and Table D with total**

***additional cost of ₹68.65 Lakhs along with time extension upto 31<sup>st</sup> March 2025.***

#### **Agenda 5.4 Cost Evaluation of New project proposals**

##### **Agenda 5.4.1 Cost Evaluation of New project proposals**

The recommendation of the TCC-II, NMET for cost evaluation of new proposals are included in the recommendation of agenda from 5.1.2 to 5.2.5.

#### **Agenda 5.5 Project Evaluation for In-Principle Approval**

##### **Agenda 5.5.1 Preliminary Exploration (G3) of Phosphorite Block in Deopur Manakpura area in Chhatarpur District of Madhya Pradesh (proposed area 3.86 sq. km.)**

**[Implementing Agency: M/s. Engeotech Consultant]**

- a) The proposed block covering an area of 3.86 sq. km area, falls in Survey of India Toposheet no. 54P/3 in parts of Chhatarpur District of Madhya Pradesh.
- b) M/s. Engeotech Consultant informed that, in Sagar and Chhatarpur districts of M.P. there are many deposits of Phosphorite available in Hirapur Rock Phosphate belt of Bijawar Group of Paleo-Proterozoic age. Considering the current situation of the reserves/resources and production of Phosphorite in the Country, it is necessary to discover new deposit and review status of Phosphorite deposits which have been reported and explored previously by various Exploration agencies. In Deopur Manakpura Block significant resources of Phosphorite are expected. Initial exploration of these blocks has been done by G.S.I. and subsequent sampling done by Engeotech Consultant recently showed good results in surface samples.
- c) After detailed exploration (G4 stage mineral exploration) by GSI, it was concluded that considering the poor results of Deopur, Manakpura, Jhalauthar and Machheri Blocks no further exploration needs to be taken up, especially since the area was under Dense Forest cover. The GSI carried out exploration about 35 years ago. Now consumption criteria of Phosphorite have changed and new Threshold value and Minerals (Evidence of Mineral Contents) Rules -2015 have come in force. In view of above it is necessary to carry out detailed exploration freshly under G3 Stage, so that some mineral potential blocks can be identified as per criteria of Minerals (Evidence of Mineral Contents) Rules-2015.
- d) As per the comments received from GSI, there is complete overlap of the proposed exploration block with the approved exploration block of GSI for field season 2025-26.


#### ***Recommendation TCC***

***The committee does not agree for In-Principle Approval of the proposal.***

##### **Agenda 5.5.2 Reconnaissance Survey (G4) for Limestone in and around Amanganj, Gunnor & Pawai Area in Panna District of Madhya Pradesh (Proposed Area 93.13 km<sup>2</sup>)**

**[Implementing Agency: M/s. Engeotech Consultant]**

- a) The proposed block of 93.13 sq. km area, falls in Survey of India Toposheet nos. 63D/03 & 63D/07, in parts of Panna District of Madhya Pradesh.
- b) M/s. Engeotech Consultant informed that, GSI has mapped entire belt in 1980-81 and occurrence of limestone has been indicated in this belt but very little work has been done in the proposed block. In the area Limestone is reported and very little mining activity of limestone has been reported in the adjoining area. Exploration is carried by



M/s JK Cement Limited., M/s Springway Mining Pvt. Ltd., M/s Eco Cements etc. in the adjacent areas. The Limestone is clearly visible in the river and nala scarp.

- c) Further it was informed by M/s. Engeotech Consultant that, chemical analysis of samples from the northern boundary of the proposed G4 exploration block has been done by private agencies which gave very good CaO % (52.33%). Therefore, it is being inferred that the entire area is mineralized with high grade limestone. Exploration blocks and Leases of adjoining area supports the continuity of limestone mineralization.
- d) The committee advised that more samples are to be collected to enhance the confidence level for presence of limestone mineralisation.

**Recommendation TCC**

***The committee agreed for In-Principle Approval of the proposal subject to consent from DGM Madhya Pradesh.***

**Agenda 5.5.3 Preliminary Exploration (G3) for Graphite and associated minerals in and around Ankli Block, Dahod District, Gujarat**  
**[Implementing Agency: M/s. GeoExpOre Pvt Ltd]**

- a) The proposed block of 2.2 sq. km area, falls in Survey of India Toposheet nos. 46F/14, in parts of Dahod District, Gujarat.
- b) M/s. GeoExpOre Pvt Ltd informed that, based on the positive analytical results for fixed carbon and other trace elements, the Geological Survey of India (GSI) has recommended that detailed mineral exploration may be carried out in Ankli as well as Jhab-Nadatod regions. However, GeoExpOre carved out Ankli Block for further G3 stage of exploration as Jhab-Nadatod is falling under Forest cover. Further, out of 22 samples, 12 samples are falling in the proposed Ankli block. The Geochemical analysis of these BR samples is showing promising value 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.

**Recommendation TCC**


***The committee agreed for In-Principle Approval of the proposal subject to consent from CGM Gujarat.***

**Agenda 5.5.4 Preliminary Exploration (G3) for Graphite and Vanadium mineralization in and around Sewadih block, Garhwa district, Jharkhand**  
**[Implementing Agency: M/s. GeoExpOre Pvt Ltd]**

- a) The proposed block of 2 sq. km area, falls in Survey of India Toposheet nos. 64M/9 & 64M/13, in parts of Garhwa District, Jharkhand.
- b) M/s. GeoExpOre Pvt Ltd informed that, based on the positive analytical results for fixed carbon and other trace elements, the Geological Survey of India (GSI) has recommended for detailed mineral exploration (G3) in the area. Therefore, GeoExpOre carved out Sewadih Block for further G3 stage of exploration.
- c) As per the comments received from GSI the proposed block is 95 % overlapping with G3 block of GSI.

**Recommendation TCC**

***The committee does not agree for In-Principle Approval of the proposal.***





**Agenda 5.5.5 Reconnaissance Survey (G4) for Basemetal in Chupra Khet area, Pithoragarh District, Uttarakhand**  
**[Implementing Agency: M/s. Geovale Services Pvt. Ltd.]**

- a) The proposed block of 88 sq. km area, falls in Survey of India Toposheet nos. 62C/1 & 62C/5, in parts of Pithoragarh District, Uttarakhand.
- b) Modified area was presented by M/s. Geovale Services Pvt. Ltd., excluding the MECL overlap area.
- c) M/s. Geovale Services Pvt. Ltd. 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 has already analyzed a few samples from the nearby area and got about 10% Zn on Kuta limestone.
- d) Geovale has observed carbonaceous shale/phyllite associated with the limestone in the proposed block and analyzed a few samples. Highest value of W is 277 ppm and V is 275 ppm. Another gossan sample developed over carbonaceous shale showed elevated concentration of polymetals (i.e. Pb is 161ppm, V 283, W 129 ppm, Zn 319 ppm). Similar carbonaceous shale/phyllite within the carbonates of Pithoragarh Formation in Askot project area is found to be rich in vanadium, Cu and other basemetals (W: max. 284 ppm, Mo: max. 222 ppm, As: max. 596 ppm, Cu: 543 ppm, Pb: 119 ppm).

**Recommendation TCC**

***The committee agreed for In-Principle Approval of the proposal subject to consent from DGM Uttarakhand.***

**Agenda 5.5.6 Reconnaissance Survey (G4) for REE in Bhimsar Block, Kachchh District, Gujarat**  
**[Implementing Agency: M/s. Geovale Services Pvt. Ltd.]**

- a) NOC from CGM Gujarat is essential for In-Principle Approval of the proposal.

**Recommendation TCC**

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

**Agenda 5.5.7 Reconnaissance Survey (G4) for REE in Gandher Block, Kachchh District, Gujarat**  
**[Implementing Agency: M/s. Geovale Services Pvt. Ltd.]**

- a) NOC from CGM Gujarat is essential for In-Principle Approval of the proposal.

**Recommendation TCC**

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


**Agenda 5.5.8 Reconnaissance Survey (G4) for REE in Rudramata Block, Kachchh District, Gujarat**  
**[Implementing Agency: M/s. Geovale Services Pvt. Ltd.]**

- a) NOC from CGM Gujarat is essential for In-Principle Approval of the proposal.

**Recommendation TCC**

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

**Agenda 5.5.9 Reconnaissance Survey (G4) for REE in Vadasar Block, Kachchh District, Gujarat**  
**[Implementing Agency: M/s. Geovale Services Pvt. Ltd.]**



- a) NOC from CGM Gujarat is essential for In-Principle Approval of the proposal.

**Recommendation TCC**

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

**Agenda 5.5.10 Reconnaissance Survey (G4) for REE in Vithon Block, Kachchh District Gujarat**

**[Implementing Agency: M/s. Geovale Services Pvt. Ltd.]**

- a) NOC from CGM Gujarat is essential for In-Principle Approval of the proposal.

**Recommendation TCC**

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

**Agenda 5.5.11 Reconnaissance Survey (G4) for Graphite and Vanadium in Khola area, Almora District, Uttarakhand**

**[Implementing Agency: M/s. Geovale Services Pvt. Ltd.]**

- a) The proposed area of 63 sq. km falls in Survey of India toposheet no. 530/14 in parts of Almora District, Uttarakhand.
- b) As per the comments received from GSI the proposed area is partially overlapping with GSI block of FS 2020-21 and also with proposed block for FS 2025-26.
- c) The committee opined that map of the GSI blocks are needed for decision making. NMET will provide the shape files of the maps to M/s. Geovale Services Pvt. Ltd. for modification in the proposed block area.

**Recommendation TCC**

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

**Agenda 5.5.12 Reconnaissance Survey (G4) for Basemetal prospect in Khajar area, Shivpuri District, Madhya Pradesh**

**[Implementing Agency: M/s. Geovale Services Pvt. Ltd.]**

- a) The proposed exploration block of 108 sq. km area falls in Survey of India toposheet nos. 54K/4, 54K/8, 54L/1 & 54L/5 in parts of Shivpuri District, Madhya Pradesh.
- b) As per the comments received from GSI there is some overlap of the proposed block with GSI block of FS 2023-24.
- c) The committee opined that map of the GSI blocks are needed for decision making. NMET will provide the shape files of the maps to M/s. Geovale Services Pvt. Ltd. for modification in the proposed block area.


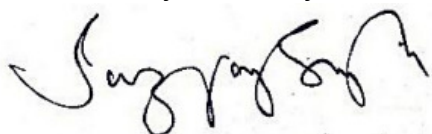
**Recommendation TCC**

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

**Agenda 5.5.13 Reconnaissance Survey (G4) for Basemetal Prospect in Nanaura Area, Lalitpur District, Uttar Pradesh**

**[Implementing Agency: M/s. Geovale Services Pvt. Ltd.]**

- a) The proposed exploration block of 110 sq. km area falls in Survey of India toposheet nos. 54L/1 & 54L/5 in parts of Lalitpur District, Uttar Pradesh.
- b) M/s. Geovale Services Pvt. Ltd. informed that this block has a similar geology of the Mailar block (Geovale is currently carrying out exploration), where potassic alteration has taken place which might be caused by high sulphidation alteration associated with porphyry Cu-Mo-Au type of deposits. In view of high mineralization potential of the area for porphyry copper the area needs to be studied for its fertility and mineral deposits in a Mineral System Analysis Framework. There are gneiss within Giant Quartz Veins (GQV)



which shows high sulphide mineralization. This Curvature/jogs host a pyrophyllite deposit, which indicate advanced high sulphidic alteration related to the porphyry system. In a similar set up in Geovale's Mailar Project a good Cu anomaly have been observed.

**Recommendation TCC**

***The committee agreed for In-Principle Approval of the proposal subject to consent from DGM Uttar Pradesh.***

**Agenda 5.5.14 Reconnaissance Survey (G4) for Nickel, Copper, REE and associated mineralisation around Mandawariya-Silora area, Kishangarh, 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 nos. 45J/14 & 45J/15 in parts of Ajmer, Rajasthan.
- b) M/s. Vardan Environet LLP informed that GSI has carried out work of different stages during different time in the area, in continuation of which the proposed block is located. Hence there is a strong possibility of continuation of mineralization of copper and graphite, since the same geological milieu is continuing in the proposed block area. DMG, Rajasthan has carried out exploration for copper in Srinagar area which is south of the proposed block and proved some copper resources.
- c) Ghosh et. al., GSI, (FS; 2018-21) reported 0.95% Cu. and 0.1 g/t Gold in bedrock samples from Harmara block. GSI Drilled 3 boreholes in Harmara West Block under Project RMT. Intersected Cu lodes of 2.15m and 3.0m with 0.21% and 0.27% Cu respectively Graphite lode of 2.95m with 5.66% FC at 5.0% cut off and 10.0m & 5.0m width with 9.0% & 6.08% FC at 5.0% cut off in two of the boreholes. Vanadium also intersected in 2 lodes of 4.15m & 4.20m with 0.12% V<sub>2</sub>O<sub>5</sub> in one borehole. GSI (2004-05), reported streaks, stringers and blebs of pyrite and chalcopyrite from Mohanpura area.
- d) The DMG has reported 8.0m x 1.0% Cu average grade (172-180m depth) 14.0m X 1.90% Cu (193.0 to 207.0m) in Srinagar located south of the proposed block. AMD have reported 0.37% Cu in one borehole out of 11 drilled in the area.
- e) The committee advised that previous borehole data to be included. The overlapping area of 4.5 sq. km with DMG Rajasthan to be excluded from the proposal.

**Recommendation TCC**

***The committee agreed for In-Principle Approval of the proposal.***

**Agenda 5.5.15 Reconnaissance survey (G4) for REE Minerals in Arnameta Block, Balaghat district, Madhya Pradesh**


**[Implementing Agency: M/s. Critical Mineral Trackers]**

- a) The proposed exploration block of 111 sq. km area falls in Survey of India toposheet no. 64B/4 in parts of Balaghat district, Madhya Pradesh.
- b) M/s. Critical Mineral Trackers informed that based on NGCM data of GSI the block has been proposed.
- c) The committee opined that for taking up a G4 stage exploration block for REE, NGCM data alone is not sufficient. Geophysical data, Radiometric data, NGPM data etc. may be consulted with few sample collection in the proposed block and their analysis.

**Recommendation TCC**

***The committee deferred the proposal.***

**Agenda 5.5.16 Reconnaissance Survey (G4) for Vanadium in Chhindwara Vanadium**



**Block, Chhindwara district, Madhya Pradesh**  
**[Implementing Agency: M/s. GMMCO Technology Services Ltd]**

- a) The proposed exploration block of 91.18 sq. km area falls in Survey of India toposheet no. 55J/16 in parts of Chhindwara district, Madhya Pradesh.  
M/s. GMMCO Technology Services Ltd informed that Geological Survey of India (GSI) reported that vanadium occurs in association with graphite in graphite mica schist and carbon phyllites, as well as in basalts. M/s. GMMCO Technology Services Ltd opined that the lithology of the block is similar and has favourable geological setup for vanadium mineralisation. The geochemical sample data from the GSI NGCM indicates the presence of vanadium in the identified block, with concentrations ranging from 242 ppm to 457 ppm in soil samples and 179 ppm to 614 ppm in stream sediments.
- b) The committee opined that more information about host rock is required. The most significant source of vanadium is Titaniferous Magnetite, Graphite etc. for which detailed information is essential. On the basis of geochemical data (NGCM) alone the project should not be taken up.

***Recommendation TCC***

***The committee does not agree for In-Principle Approval of the proposal.***

**Agenda 5.5.17 Reconnaissance Survey (G4) for Copper and other associated minerals in  
Roopu Ka Bas, Alwar district, Rajasthan**  
**[Implementing Agency: M/s. GMMCO Technology Services Ltd]**

- a) The proposed exploration block of 25.24 sq. km area falls in Survey of India toposheet no. 54A/7 in parts of Alwar district, Rajasthan.
- b) M/s. GMMCO Technology Services Ltd informed that Khera-Mundiyawas Copper Block Exists in Southern portion of the proposed study area. GSI carried out G2 level of exploration in the Khera-Mundiyawas Copper Block and estimated 35.71 million tonnes of copper with 0.34 % grade at 0.2% cut off which includes 3.61 million tonnes Au at 0.77 g/t Au cutoff and 2.51 million tonnes of Ag ore with 6.72 gm. The proximity of the Jodhawas-Khera area to the Khetri Copper Belt and Alwar Copper Belt, which are both known for their copper deposits, supports the regional continuity of mineralization. The copper occurrences in the Alwar basin form an integral part of the larger metallogenic province of Rajasthan, where copper mineralization is well documented.
- c) As per the comments received from DGM Rajasthan, southern part of the proposed block may fall under buffer zone of Sariska Tiger Reserve.

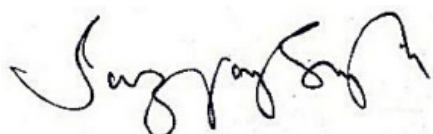
***Recommendation TCC***

***The committee does not agree for In-Principle Approval of the proposal.***



**List of participants attended 5<sup>th</sup> meeting of Technical-cum-cost Committee (TCC-II) of  
NMET held on 27<sup>th</sup> and 28<sup>th</sup> January, 2025 through video conferencing mode**

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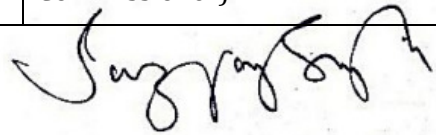
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Annexure 2A

**Estimate Cost for Preliminary Exploration (G3) for REE and Copper in Hirnoda Block, Jaipur District, Rajasthan.**  
**[Block area- 8.76 sq. km; BH No.- 03 Nos, Meterage -1200m, BH depth- 400m, Schedule timeline- 12 months, Review - after 3 months]**  
**Name of the Agency - MECL**

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item -Sl No.	Rates as per SoC	Qty.	Amount (Rs)	
A	GEOLOGICAL WORK						
	Mapping, Borehole logging, sampling & Report writing						
i	Charges for one Geologist per-HQ	day	1.2	9,000	60	5,40,000	
ii	Charges for one Geologist- Field	day	1.2	11,000	150	16,50,000	Geological Mapping on 1:4000 Scale, BH Monitoring, Zone Identification and Geological Core-Logging etc.
iii	2 labours/ party (As per rates of Central Labour Commissioner)	day	5.7	526	300	1,57,800	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Core Sampling -1 Samplers Labour charge not included	day	1.5.2	5,100	87	4,43,700	
v	4 labours/ party for sampling (As per rates of Central Labour Commissioner)	day	5.7	526	348	1,83,048	Amount will be reimburse as per the notified rates by the Central Labour




							Commissioner or respective State Govt. whichever is higher
	<b>Sub Total- A</b>					<b>29,74,548</b>	
<b>B</b>	<b>GEOPHYSICAL SURVEY</b>						
i	Gravity Method- Regional/Detailed	Per Station	3.1a	3,800	1,500	57,00,000	Profile Interval of 200m * 50m, i.e (Strike Interval * Station Interval totalling to 1500 Stations)
ii	Induced Polarisation (Dipole- Dipole)	Line Km	3.4a	69,950	82	57,35,900	Cover thickness map , predictive geological and predictive structural map to be generated after IP survey
iii	Charges for Geophysicist party days at CHQ for data processing and Interpretation	day	3.18	9,000	60	5,40,000	
	<b>Sub Total- B</b>					<b>1,19,75,900</b>	
<b>C</b>	<b>Survey (on 1:4000 Scale)</b>						
i	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS and boundary coordinates	Per Point of observatio n	1.6.2	19,200	7	1,34,400	3 BHs and 4 boundary coordinates
ii	Charges of Surveyor	one surveyor per day	1.6.1a	8,300	30	2,49,000	For Topographic Survey, BH fixation and Boundary Point Marking

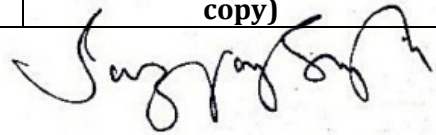


iii	Labours Charges for survey work	day	5.7	526	120	63,120	Amount will be reimburse as per the notified rates for unskilled labor by the Central Labour Commissioner or respective State Govt. whichever is higher
	<b>Sub Total- C</b>					<b>4,46,520</b>	
<b>D</b>	<b>DRILLING</b>						
i	Drilling upto 300m (Hard Rock) (1 rig )	m	2.2.1.4a	11,500	900	1,03,50,000	
ii	Drilling between 301m-600m (Hard Rock) (1 rig )	m	2.2.1.4b	12,420	300	37,26,000	
iii	Borehole deviation Survey by mutishot camera	m	2.2.6	330	1,200	3,96,000	
iv	Land / Crop Compansation	per BH	5.6	20,000	3	60,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
v	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	7	14,000	
vi	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	1,860	66,960	(To and fro ) As per actuals
vii	Monthly Accomodation Charges for drilling Camp (up to 1 Rigs)	month	2.2.9	50,000	4	2,00,000	
viii	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
ix	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	




x	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	3	66,060	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed later
xi	Core Preservation: One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	600	9,54,000	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	<b>Sub Total- D</b>					<b>1,63,33,020</b>	
<b>E</b>	<b>LABORATORY STUDIES</b>						
<b>1</b>	<b>Chemical Analysis</b>						
<b>i</b>	<b>Primary &amp; Check samples</b>						
	a.) BRS & Core samples for REE and associated trace elements (34/36 elements) by ICPMS (REE+ Hf, Ta, Rb, Zr, Ge, Ba, B, Be, Li, Nb, Y, Sc, U, Th, Sr, Cs, Sn, W)	Nos	4.1.14	7,731	300	23,19,300	Bed Rock Samples -20 & Core samples- 280
	d.External (10%) Check samples for 34-Elements by ICPMS	Nos	4.1.14	7,731	30	2,31,930	
	Primary samples by AAS Method		4.1.7a	2,506	300	7,51,800	
	External check (10%) by AAS		4.1.7a	2,506	30	75,180	
<b>ii</b>	<b>Composite Samples for REE and Copper Zones</b>	Nos	4.1.14	7,731	30	2,31,930	
<b>2</b>	<b>Physical &amp; Petrological Studies</b>						
<b>i</b>	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 polished section	Nos	4.3.2	1,549	10	15,490	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
v	Digital Photographs	Nos	4.3.7	280	10	2,800	
vi	Whole Rock Analysis (Major oxide and 8 additional trace elements) (SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , MnO, MgO, CaO, Na <sub>2</sub> O, K <sub>2</sub> O, K <sub>2</sub> O, TiO <sub>2</sub> , P <sub>2</sub> O <sub>5</sub> , FeO, +H <sub>2</sub> O)	Nos	4.1.15a	4,200	10	42,000	
vii	Specific gravity studies	Nos	4.8.1	1,605		-	
viii	Bulk Density Determination	Nos	4.10	3,540	5	17,700	
ix	XRD	Nos	4.5.1	4,000	10	40,000	
x	EPMA	Per Hrs	4.4.1	8,540	8	68,320	
	<b>Sub Total- E</b>					<b>39,04,620</b>	
	<b>Total A to E</b>					<b>3,56,34,608</b>	
<b>F</b>	<b>Geological Report Preparation</b>		<b>5.2</b>	For the projects having cost exceeding Rs. 300 lakhs - A minimum of Rs. 9 lakhs or 3% of the value of work whichever is more		<b>10,69,038</b>	
<b>G</b>	<b>Peer review Charges</b>		<b>As per EC decision</b>			<b>30,000</b>	
<b>H</b>	<b>Preparation of Exploration Proposal (5 Hard copies with a soft copy)</b>	<b>5 Hard copies with a soft copy</b>	<b>5.1</b>	2% of the Cost or Rs. 5.00 Lakhs whichever is lower		<b>5,00,000</b>	




<b>I</b>	<b>Total Estimated Cost without GST</b>	<b>3,72,33,646. 24</b>	
<b>J</b>	<b>Provision for GST (18% of I)</b>	<b>67,02,056.32</b>	GST will be reimburse as per actual and as per notified prescribed rate
<b>K</b>	<b>Total Estimated Cost with GST</b>	<b>4,39,35,702. 56</b>	
	<b>Rs. (in lakhs)</b>	<b>439.36</b>	
<b>Note:</b>			
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 by the agency.		




Annexure 2B															
Time Schedule/ Action Plan for Preliminary Exploration (G3) for REE and Copper in Hirnoda Block, Jaipur District, Rajasthan.															
S. No.	Particulars	Months	1	2	3	Review	4	5	6	7	8	9	10	11	12
1	Camp Setting	Months													
2	Geophysical Survey	Months													
3	Geophysicist Party days at CHQ- 1 Party	Months													
2	Survey Party days (1 Party)	days													
4	Drilling (1 rig)	m													
5	Geologist Party days (1 Party)	days													
6	Sampling days forBRS and Core Sampling (1 Party)	days													
7	Camp winding	Months													
8	Laboratory Studies	days													
9	Geologist days, HQ	days													
10	Report Writing with Peer Review	days													






## Annexure 3A

**Estimate cost for Reconnaissance Survey (G4) for Wollastonite in Bhadli area (174.00 sq km), Banaskantha District, Gujarat**  
**[Nos. of Borehole- 10; Borehole depth range: 50m; Schedule timeline- 10 months, Review - 3 months]**

**Name of the Agency - MECL**

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item -Sl No.	Rates as per SoC	Qty.	Amount (Rs)	
A	GEOLOGICAL WORK						
1	Geological Mapping (1:4000), Borehole logging, sampling & Report writing						
i	Charges for Geologist- Field (1 party)	day	1.2	11,000	180	19,80,000	
ii	Charges for one Geologist - HQ	day	1.2	9,000	60	5,40,000	
iii	2 labours/ party (Rs 526/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	526	360	1,89,360	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Bedrock, Trench and Core Sampling -1 Sampler Labour charge not included	day	1.5.2	5,100	30	1,53,000	
v	4 labours/ party (Rs 522/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	526	120	63,120	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 and boundary coordinates	Per Point of observation	1.6.2	19,200	10	1,92,000	10 BHs




	<b>Sub Total- A</b>					<b>31,17,480</b>	
<b>B</b>	<b>TRENCHING &amp; PITTING</b>						
i	Trenching (1m X 2m X 10m)	per cubic m	2.1.1	3330	300	<b>9,99,000</b>	15 nos of pit will be carried out
	<b>Sub Total- B</b>					<b>9,99,000</b>	
<b>C</b>	<b>DRILLING</b>						
i	Drilling upto 300m (1 rig )	m	2.2.1.4a	11,500	500	57,50,000	Scout Drilling
ii	Land / Crop Compansation	per BH	5.6	20,000	10	2,00,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
iii	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 rigs)	Km	2.2.8	36	2,200	79,200	Certification in this regard is required to be provided
v	Monthly Accomodation 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)	Nos	2.2.9a	2,50,000	1	2,50,000	
vii	Drilling Camp Winding up Cost (1 rigs)	Nos	2.2.9b	2,50,000	1	2,50,000	
viii	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	4	88,080	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	115	1,82,850	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	<b>Sub Total- C</b>					<b>69,20,130</b>	
<b>D</b>	<b>LABORATORY STUDIES</b>						
<b>1</b>	<b>Chemical Analysis</b>						
i	<b>Primary &amp; Check samples for Wollastonite</b>						

	a. Channel Primary samples for major oxide studies (i.e. CaO, SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> , FeO, MnO, P <sub>2</sub> O <sub>5</sub> , MgO, Na <sub>2</sub> O, K <sub>2</sub> O, LOI) by XRF method.	Nos	4.1.15a	4,200	55	2,31,000	BRS samples would be collected from Channel
	b. Trench Primary samples for major oxide studies (i.e. CaO, SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> , FeO, MnO, P <sub>2</sub> O <sub>5</sub> , MgO, Na <sub>2</sub> O, K <sub>2</sub> O, LOI) by XRF method.	Nos	4.1.15a	4,200	75	3,15,000	
	c. Borehole Primary samples for major oxide (i.e. CaO, SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> , FeO, MnO, P <sub>2</sub> O <sub>5</sub> , MgO, Na <sub>2</sub> O, K <sub>2</sub> O, LOI) by XRF method.	Nos	4.1.15a	4,200	70	2,94,000	
	d. External(10%) Check samples from NABL Lab (i.e. CaO, SiO <sub>2</sub> , Al <sub>2</sub> O <sub>3</sub> , Fe <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> , FeO, MnO, P <sub>2</sub> O <sub>5</sub> , MgO, Na <sub>2</sub> O, K <sub>2</sub> O, LOI) by XRF method.	Nos	4.1.15a	4,200	20	84,000	
	e. 34 element ICPMS Study for Sn, W, Rb, Sr, Cs, U, Th, F, Cu, Pb, Zn, Ni, Co, Mo, Li, Ga, V, As, Au, Ag & REEs (La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc)	Nos	4.1.14	7,731	20	1,54,620	
<b>2</b>	<b>Physical &amp; Petrological Studies</b>						
<b>i</b>	<b>For Petrographic Studies:</b>						
	a. Preparation of thin section	Nos	4.3.1	2,353	40	94,120	
	b. Complete petrographic study report	Nos	4.3.4	4,232	40	1,69,280	
	c. Modal analysis of thin section	Nos	4.3.8	3,780	40	1,51,200	
	d. Aspect Ratio Study	Nos	4.3.4	4,232	10	42,320	




<b>iv</b>	<b>For Mineragraphic Studies</b>						
	a. Preparation of polished section	Nos	4.3.2	1,549	5	7,745	
	b. Complete mineragraphic study report	Nos	4.3.4	4,232	5	21,160	
<b>v</b>	<b>Digital Photographs</b>	Nos	4.3.7	280	20	5,600	
<b>vi</b>	<b>Bulk Density</b>	Nos	4.10	3,540	5	17,700	
<b>vii</b>	<b>XRD Analysis for mineral phase study</b>	Nos	4.5.1	4,000	20	80,000	
	<b>Sub Total- D</b>					<b>16,67,745</b>	
<b>D</b>	<b>Total A to D</b>					<b>1,27,04,355</b>	
<b>E</b>	<b>Geological Report Preparation</b>		<b>5.2 ii</b>	For the projects having cost exceeding Rs. 50 lakhs - A minimum of Rs. 2.5 lakhs or 5% of the value of work whichever is more. 3000 per each additional copy		<b>6,35,218</b>	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET. For 2 separate geological report.
<b>F</b>	<b>Peer review Charges</b>		<b>As per EC decision</b>			<b>30,000</b>	
<b>G</b>	<b>Preparation of Exploration Proposal (5 Hard copies with a soft copy)</b>	<b>5 Hard copies with a soft copy</b>	<b>5.1</b>	2% of the Cost or Rs. 5 Lakhs whichever is lower		<b>2,54,087</b>	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
<b>H</b>	<b>Total Estimated Cost without GST</b>					<b>1,36,23,660</b>	
<b>I</b>	<b>Provision for GST (18% of H)</b>					<b>24,52,259</b>	GST will be reimburse as per actual and as per notified prescribed rate




<b>J</b>	<b>Total Estimated Cost with GST</b>	<b>1,60,75,919</b>	<b><i>or Say Rs. 160.76Lakh</i></b>
<b>Note:</b>			
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 by the agency.		






**Annexure 3B**

**Time Schedule/ Action plan for Reconnaissance Survey (G4) for Wollastonite in Bhadli area (174.00 sq km), Banaskantha District, Gujarat**

Sl. No.	Particulars	Months	1	2	3	Review	4	5	6	7	8	9	10
1	Camp Setting/ mobilization	Months											
2	Geologist days (1 party)	days											
3	Pitting &Trenching												
4	Drilling (2 rig)	m											
5	Sampling days (1 party)	days											
6	Camp winding	Months											
7	Laboratory Studies	days											
8	Geologist days, HQ	days											
9	Report Writing with Peer Review	days											




## Annexure 4A

**Estimate cost for Preliminary Exploration (G3) for Bauxite and Associated Minerals in Julrai Block (8.12 sq. km) Kachchh District, Gujarat.**  
**[Block area- 8.12 sq. km; Schedule timeline- 14 months; BH-30 nos;BH depth - 30 m, Drilling- 900m; Review- After 6 months]**

**Name of the Agency – MECL**

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item - Sl No.	Rates as per SoC	Qty.	Amount (Rs)	
A	GEOLOGICAL WORK (1:4000 scale) & TOPOGRAPHICAL SURVEY (1:4000 scale)						
i	Charges for one Geologist- Field	day	1.3	11,000	180	19,80,000	
ii	Charges for one Geologist per- HQ	day	1.3	9,000	60	5,40,000	
iii	2 labours/ party (As per rates of Central Labour Commissioner)	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
iv	Sampling party days-1 Samplers Labour charge not included	day	1.5.2	5,100	181	9,23,100	
v	4 labours/ party (As per rates of Central Labour Commissioner)	day	5.7	526	724	3,80,824	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
vi	Survey Party Days for topographical contour survey, block boundary and borehole points fixation	day	1.6. 1a	8,300	40	3,32,000	
vii	4 labours for surveyor	day	5.7	526	160	84,160	
	Sub Total- A					44,29,444	
B	PITTING AND TRENCHING						
i	Pitting	Cu m	2.1.2	3800	150	5,70,000	
ii	Trenching	Cu m	2.1.1	3330	50	1,66,500	

	<b>Sub Total- B</b>					<b>7,36,500</b>	
<b>C</b>	<b>LABORATORY STUDIES</b>						
<b>1</b>	<b>Chemical Analysis</b>						
<b>i</b>	<b>Primary &amp; Check samples for Bauxite BRS/Chip/Channel/Trench/BH samples)</b>						
	a. Primary Samples for 5 radicals i.e. Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub> , Fe <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> & LOI- XRF	Nos	4.1.15a	4,200	700	29,40,000	BH-600, BRS-50, Pit/Trench-50
	b. For each additional trace elements viz. V, Sc & Ga- XRF	Nos	4.1.15b	1,263	600	7,57,800	From BH primary 3 samples
	c.External (10%) Check samples for 5 radicals i.e. Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub> , Fe <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> & LOI	Nos	4.1.15a	4,200	70	2,94,000	
	d. External (10%) Check samples for each additional trace elements viz. V & Ga	Nos	4.1.15b	1,263	60	75,780	
<b>2</b>	<b>Physical,Petrological, Mineralogical Studies</b>						
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 polished section	Nos	4.3.2	1,549	10	15,490	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
v	Digital Photographs	Nos	4.3.7	280	10	2,800	
vi	X-RD studies for mineral identification	Nos	4.5.1	4,000	10	40,000	

vii	ICP-AES/ICPMS (sequential technique) for 34 elements i.e. 16 other elements viz. Li, Ga, In, Be, Ge, Mo, Ni, Cr, Ta, W, Ba, Co, Rb, Sr, Zr, Nb ;16 REE viz. La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Sc, Y; 02 Actinides viz. U, Th.	Nos	4.1.14	7,731	20	1,54,620	Samples to be taken from the lithomerge & Bentonite clay. Orientation survey for REE zone from pits.
viii	Bulk density determination	Nos	4.10	3540	10	35,400	
ix	Combined determination of Trihydrate Alumina (THA-140°C), Monohydrate Alumina (MHA-240°C) & Reactive Silica	Nos	4.1.17a	6700	10	67,000	
	<b>Sub Total- C</b>					<b>44,91,060</b>	
<b>D</b>	<b>DRILLING</b>						
i	Drilling upto 300m (Soft Rock) (1 rigs )	m	2.2.1.1b	7,168	900	64,51,200	First 8 boreholes will be taken up during the 1st phase of exploration. Rest 22 bhs will be taken up after review by NMET committee. MoC Rate
ii	Land / Crop Compansation	per BH	5.6	20,000	30	6,00,000	
iii	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	30	60,000	
iv	Transportation of Drill Rig & Truck associated per drill- 2 rigs	Km	2.2.8	36	5,160	1,85,760	As per actuals (To and Fro for 2 rigs)
v	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	5	2,50,000	
vi	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	2	5,00,000	
vii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	2	5,00,000	
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.

ix	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS	Nos	1.6.2	19,200	35	6,72,000	30 Boreholes+ 5 Block Boundary points
x	Drill core preservation: One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	500	7,95,000	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	<b>Sub Total- D</b>					<b>1,00,58,000</b>	
<b>E</b>	<b>Total A to D</b>					<b>1,97,15,004</b>	
<b>F</b>	<b>Geological Report Preparation</b>		<b>5.2</b>	For the projects having cost exceeding Rs. 150 lakhs but less than Rs.300 lakhs - A minimum of Rs. 7.5 lakhs or 3% of the value of work whichever is more		<b>7,50,000</b>	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
<b>G</b>	<b>Peer review Charges</b>		<b>As per EC decision</b>			<b>30,000</b>	
<b>H</b>	<b>Preparation of Exploration Proposal</b>	<b>5 Hard copies with a soft copy</b>	<b>5.1</b>	2% of the Cost or Rs. 5.0 Lakhs whichever is lower		<b>3,94,300</b>	EA has to submit the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
<b>I</b>	<b>Total Estimated Cost without GST</b>					<b>2,08,89,304</b>	






<b>J</b>	<b>Provision for GST (18% of I)</b>	<b>37,60,074.73</b>	GST will be reimburse as per actual and as per notified prescribed rate
<b>K</b>	<b>Total Estimated Cost with GST</b>	<b>2,46,49,378.81</b>	
	<b>or Say Rs. In Lakhs</b>	<b>246.49</b>	
<b>Note:</b>			
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 by the agency.		




Time Schedule/ Action plan for Preliminary Exploration (G3) for Bauxite and Associated Minerals in Julrai Block (8.12 sq. km) Kachchh District, Gujarat																	
S. No.	Particulars	Months/ Days	1	2	3	4	5	6	Review	7	8	9	10	11	12	13	14
1	Camp Setting	months															
2	Geological Mapping & BR sampling	months															
3	Survey days (Topographic survey & BH/BB survey)	days															
4	Pitting/Trenching	cu.m															
5	Drilling (2 rigs)	m															
6	Geologist days	days															
7	Sampling days, BRS, Pit & Core Sampling	days															
8	Camp winding	months															
9	Laboratory Studies	months															
10	Geologist days, HQ	days															
11	Report Writing with Peer Review	months															




Annexure 5A							
Estimate cost for Preliminary Exploration (G3) for Bauxite and Associated Minerals in Dhrang Block (4.86 sq. km) Kachchh District, Gujarat [Block area- 4.86 sq. km; Schedule timeline- 14 months; BH-15 nos; Bh depth - 30m Drilling- 450m; Review- After 6 months]							
Name of the Agency – MECL							
S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item - Sl No.	Rates as per SoC			
					Qty.	Amount (Rs)	
A	GEOLOGICAL WORK (1:4000 scale) & TOPOGRAPHICAL SURVEY (1:4000 scale)						
i	Charges for one Geologist- Field	day	1.3	11,000	150	16,50,000	
ii	Charges for one Geologist per- HQ	day	1.3	9,000	60	5,40,000	
iii	2 labours/ party (As per rates of Central Labour Commissioner)	day	5.7	526	300	1,57,800	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Sampling party days-1 Samplers Labour charge not included	day	1.5.2	5,100	90	4,59,000	
v	4 labours/ party (As per rates of Central Labour Commissioner)	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
vi	Survey Party Days for topographical contour survey, block boundary and borehole points fixation	day	1.6. 1a	8,300	40	3,32,000	
vii	4 labours for surveyor	day	5.7	526	160	84,160	
	Sub Total- A					34,12,320	
B	PITTING AND TRENCHING						

i	Pitting	Cu m	2.1.2	3800	100	3,80,000	
ii	Trenching	Cu m	2.1.1	3330	50	1,66,500	
	<b>Sub Total- B</b>					<b>5,46,500</b>	
<b>C</b>	<b>LABORATORY STUDIES</b>						
<b>1</b>	<b>Chemical Analysis</b>						
<b>i</b>	<b>Primary &amp; Check samples for Bauxite BRS/Chip/Channel/Trench/BH samples)</b>						
	a. Primary Samples for 5 radicals i.e. Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub> , Fe <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> & LOI	Nos	4.1.15a	4,200	340	14,28,000	BH-300, BRS-20, Pit/Trench-20
	b. For each additional trace elements viz. V , Sc & Ga	Nos	4.1.15b	1,263	300	3,78,900	From BH primary samples
	c.External (10%) Check samples for 5 radicals i.e. Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub> , Fe <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> & LOI	Nos	4.1.15a	4,200	34	1,42,800	
	d. External (10%) Check samples for each additional trace elements viz. V , Sc & Ga	Nos	4.1.15b	1,263	30	37,890	
<b>2</b>	<b>Physical,Petrological, Mineralogical Studies</b>						
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 polished section	Nos	4.3.2	1,549	10	15,490	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
v	Digital Photographs	Nos	4.3.7	280	10	2,800	
vi	X-RD studies for mineral identification	Nos	4.5.1	4,000	10	40,000	

vii	ICP-AES/ICPMS (sequential technique) for 34 elements i.e. 16 other elements viz. Li, Ga, In, Be, Ge, Mo, Ni, Cr, Ta, W, Ba, Co, Rb, Sr, Zr, Nb ;16 REE viz. La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Sc, Y; 02 Actinides viz. U, Th.	Nos	4.1.14	7,731	15	1,15,965	Samples to be taken from the lithomerge & Bentonite clay horizons. Orientation survey for REE zone from pits.
viii	Bulk density determination	Nos	4.10	3540	10	35,400	
ix	Combined determination of Trihydrate Alumina (THA-140°C), Monohydrate Alumina (MHA-240°C) & Reactive Silica	Nos	4.1.17a	6700	10	67,000	
	<b>Sub Total- C</b>					<b>23,72,415</b>	
<b>D</b>	<b>DRILLING</b>						
i	Drilling upto 300m (Soft Rock) (1 rigs )	m	2.2.1.1b	7,168	450	32,25,600	First 6 boreholes will be taken up during the 1st phase of exploration. Rest 9 bhs will be taken up after review by NMET committee.
ii	Land / Crop Compansation	per BH	5.6	20,000	15	3,00,000	
iii	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	15	30,000	
iv	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	4,648	1,67,328	Certification in this regard is required to be provided
v	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	3	1,50,000	
vi	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	2	5,00,000	2 rigs
vii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	2	5,00,000	2 rigs
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.



ix	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS	Nos	1.6.2	19,200	19	3,64,800	15 Boreholes+ 4 Block Boundary points
x	Drill core preservation: One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	200	3,18,000	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	<b>Sub Total- D</b>					<b>55,99,768</b>	
<b>E</b>	<b>Total A to D</b>					<b>1,19,31,003</b>	
<b>F</b>	<b>Geological Report Preparation</b>		<b>5.2</b>	For the projects having cost exceeding Rs. 50 lakhs but less than Rs.150 lakhs - A minimum of Rs. 2.5 lakhs or 5% of the value of work whichever is more		<b>5,96,550</b>	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
<b>G</b>	<b>Peer review Charges</b>		<b>As per EC decision</b>			<b>30,000</b>	
<b>H</b>	<b>Preparation of Exploration Proposal</b>	<b>5 Hard copies with a soft copy</b>	<b>5.1</b>	2% of the Cost or Rs. 5.0 Lakhs whichever is lower		<b>2,38,620</b>	EA has to submit the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
<b>I</b>	<b>Total Estimated Cost without GST</b>					<b>1,27,96,173</b>	
<b>J</b>	<b>Provision for GST (18% of I)</b>					<b>23,03,311</b>	GST will be reimburse as per actual and as per notified prescribed rate
<b>K</b>	<b>Total Estimated Cost with GST</b>					<b>1,50,99,484</b>	
	<b>or Say Rs. In Lakhs</b>					<b>150.99</b>	
<b>Note:</b>							
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 by the agency.




**Time Schedule/ Action plan for Preliminary Exploration (G3) for Bauxite and Associated Minerals in Dhrang Block (4.86 sq. km) Kachchh District, Gujarat**

S. No.	Particulars	Months/ Days	1	2	3	4	5	6	Review	7	8	9	10	11	12	13	14
1	Camp Setting	months															
2	Geological Mapping & BR sampling	months															
3	Survey days (Topographic survey & BH/BB survey)	days															
4	Pitting/Trenching	cu.m															
5	Drilling (2 rigs)	m															
6	Geologist days	days															
7	Sampling days, BRS, Pit & Core Sampling	days															
8	Camp winding	months															
9	Laboratory Studies	months															
10	Geologist days, HQ	days															
11	Report Writing with Peer Review	months															



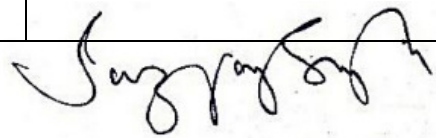

## Annexure 6A

**Estimate Cost for Reconnaissance Survey (G4) for Phosphorite in Kaphalda area (16.68 sq.km), Dehradun and Tehri Garhwal Districts, Uttarakhand.**

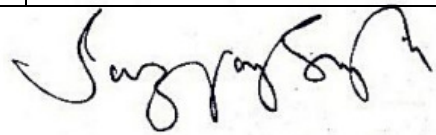
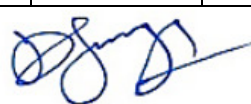
**Total Area - 16.68 sq km; Completion Time -12 Months, Review after 5 months, Drilling 300 m, BH - 3 Nos**

**Name of the Agency - MECL**

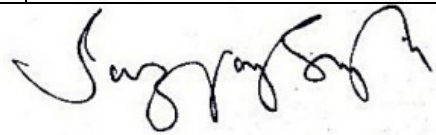
S.N	Item of Work	Unit	Rates as per NMET SoC 2020-21		Rate@3.35 times for Himalya region	Estimated Cost of the Proposal		Remarks
			SoC-Item -Sl No.	Rates as per SoC		Qty.	Total Amount (Rs)	
<b>A</b>	<b>GEOLOGICAL WORK</b>							
a	Charges for Geologist at field for Large scale mapping (1: 12,500), Surface sampling and drilling	day	1.2	11,000	36,850	180	66,33,000	
b	Labour Charges for Geologist;	day	5.7	526	1,762	360	6,34,356	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	30	5,12,550	
d	Labour Charges for Sampling Work; Base rate - Rs. 526/ per day	day	5.7	526	1,762	120	2,11,452	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or




								respective State Govt. whichever is higher
e	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19200	64,320	3	1,92,960	3 Core Drill BHs
	<b>Sub-Total A</b>				-		<b>81,84,318</b>	
<b>B</b>	<b>PITTING AND TRENCHING</b>				-			
a	TRENCHING	Cu m	2.1.2	3,800	12,730	100	<b>12,73,000</b>	
<b>C</b>	<b>DRILLING</b>				-		-	
1	Core Drilling up to depth of 300 m - Medium hard Rock	m	2.2.1.3	10,100	33,835	300	1,01,50,500	
2	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	67,000	3	2,01,000	
3	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	6,700	3	20,100	
4	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	121	2,670	3,22,002	Approx 1335 km from Nagpur to Kaphalda Block
5	Monthly Accomodation Charges for drilling Camp	month	2.2.9	50,000	1,67,500	4	6,70,000	
6	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	8,37,500	1	8,37,500	
7	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	8,37,500	1	8,37,500	
8	Road Making (Hilly Terrain)	Km	2.2.10b	32,200	1,07,870	3	3,23,610	

9	<b>Drill Core Preservation</b>		<b>5.3</b>	<b>1,590</b>	5,327	150	7,98,975	
	<b>Sub-Total C</b>						<b>1,41,61,187</b>	
<b>D</b>	<b>Sub Total A to C</b>						<b>2,36,18,505</b>	
<b>E</b>	<b>Charges for Geologist at HQ for data processing</b>	<b>day</b>	<b>1.3</b>	<b>9,000</b>		<b>60</b>	<b>5,40,000</b>	
<b>F</b>	<b>LABORATORY STUDIES</b>							
<b>1</b>	<b><u>Chemical Analysis</u></b>							
<b>i)</b>	<b>Primary Samples (Surface + BH Core + Trench )</b>							
	Phospharite (P2O5%, CaO%, MgO%, Na2O%, K2O%, MnO%, SiO2%, Al2O3%, Fe2O3% & LOI%.) by XRF	Nos	4.1.15a	4,200		200	8,40,000	Surface samples-100, BH Core-60, Trench samples - 40
<b>ii)</b>	<b>External check samples (10%)</b>							
	Phospharite (P2O5%, CaO%, MgO%, MnO%, SiO2%, Al2O3%, Fe2O3% & LOI%.) by XRF	Nos	4.1.15a	4,200		20	84,000	
<b>iii)</b>	<b>REEs &amp; Trace Elements Ananlysis by ICPMS</b>							
	REEs and associated Trace Elements Ananlysis by ICPMS	Nos	4.1.14	7,731		20	1,54,620	Suitable zones adjoining phophatic band should be carefully checked for REE chemistry and its mineralogy . REE & associated




								trace elements -30
<b>2</b>	<b>Physical &amp; Petrological Studies</b>							
<b>i)</b>	Preparation of thin section	Nos	4.3.1	2,353		20	47,060	
<b>ii)</b>	Complete petrographic study report	Nos	4.3.4	4,232		20	84,640	
<b>iii)</b>	Preparation of polish section	Nos	4.3.2	1,549		20	30,980	
<b>iv)</b>	Complete mineragraphic study report	Nos	4.3.4	4,232		10	42,320	
<b>v)</b>	Digital Photographs	Nos	4.3.7	280		10	2,800	
<b>vi)</b>	XRD Study	Nos	4.5.1	4,000		30	1,20,000	
<b>vii)</b>	EPMA	Hrs	4.4.1	8,540		15	1,28,100	for Pyrite chemistry and REE minerals- 5 sections
	<b>Sub-Total -F</b>						<b>15,34,520</b>	
<b>G</b>	<b>Total D+E+F</b>						<b>2,56,93,025</b>	






<b>H</b>	<b>Geological Report Preparation</b>	<b>5 Hard copies with a soft copy</b>	<b>5.2</b>	For the projects having cost exceeding Rs 300 Lakh, A minimum of Rs 9.0 Lakh or 3% of the work whichever more and Rs 10000/- per each additional copy			<b>7,50,000</b>	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
<b>I</b>	<b>Peer review Charges</b>		<b>As per EC decision</b>				<b>30,000</b>	
<b>J</b>	<b>Preparation of Exploration Proposal (5 Hard copies with a soft copy)</b>	<b>5 Hard copies with a soft copy</b>	<b>5.1</b>	<b>2% of the Cost or Rs. 5.00 Lakhs whichever is lower</b>			<b>5,13,861</b>	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
<b>K</b>	<b>Total Estimated Cost without GST</b>						<b>2,69,86,886</b>	




<b>L</b>	<b>Provision for GST (18% of L)</b>	<b>%</b>					<b>48,57,639</b>	GST will be reimburse as per actual and as per notified prescribed rate
<b>M</b>	<b>Total Estimated Cost with GST</b>						<b>3,18,44,525</b>	
<b>or Say Rs. , In Lakhs:</b>							<b>318.45</b>	
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							
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 by the agency.							




**Annexure 6B**

**Time Schedule/Action Plan for Reconnaissance Survey (G4) for Phosphorite in Kaphalda area (16.68 sq.km), Dehradun and Tehri Garhwal Districts, Uttarakhand**

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




## Annexure 7A

**Estimate Cost for Reconnaissance Survey (G4) for Limestone in Bhatiya Area in the Village Bhatiya-Gokalpur, District- Devbhumi Dwarka, Gujarat**

**Name of the Agency - PRB Infraprojects Private Ltd.**

**Area - 10 sq.km, BH- 3nos, Meterage - 120m, Timeline - 10 months, Review - 5 months**

Item	Item of Work	Item	SOR Sr No & Rates		Estimated Cost		Remarks
Sr No.	Item	Unit	Sr. No.	Rates	Qty.	Amount (Rs)	
<b>A</b>	<b>Survey work</b>						
1	DGPS Survey BH fixation and RL determination (03 BHP & 5 BP)	Per Point	1.6.2	19,200	8	153600.00	
	<b>Sub Total-A</b>					<b>153600.00</b>	
<b>B</b>	<b>GEOLOGICAL WORK</b> (Mapping 1:12500 scale)						
	Geological mapping and other works & surveying						
i	Charges for one Geologist- Field	day	1.2	11,000	150	1650000.00	
ii	Charges for one Geologist per- HQ	day	1.2	9,000	60	540000.00	
iii	2 labours/ party	day	5.7	526	300	157800.00	
iv	Sampling -1 Samplers	day	1.5.2	5,100	23	117300.00	
v	Sampling 4 labours/ party	day	5.7	526	92	48392.00	
	<b>Sub Total- B</b>					<b>2513492.00</b>	
<b>D</b>	<b>LABORATORY STUDIES</b>						
<b>1</b>	<b>Chemical Analysis</b>						
i	A. Major Oxides - XRF	Nos	4.1.15a	4,200	159	667800.00	Core samples - 90, surface samples -60, composite samples -9




	B. External Check Samples - 10%	Nos	4.1.15a	4,200	16	67200.00	
	Chemical Analysis; Primary (Surface samples) by conventionol & wet Analysis for 6 radicals i.e. CaO, MgO, Al2O3, SiO2, Fe2O3 and LOI	Nos	4.1.1	8,157	0	0.00	
	External Check sample Analysis; by conventionol & wet Analysis for 6 radicals i.e. CaO, MgO, Al2O3, SiO2, Fe2O3 and LOI	Nos	4.1.1	8,157	0	0.00	
ii	Composite Samples Analysis; by conventionol & wet Analysis For 12 radicals (CaO, MgO, Al2O3, SiO2, Fe2O3, SO3, P2O5 , LOI, MnO2, K2O, Na2O and Cl.)	Nos	4.1.1	8,157	0	0.00	
<b>2</b>	<b>Physical, Petrological, Mineralogical Studies</b>					0.00	
i	ICP-OES/ICP-MS (sequential technique) sample package for 34 elements i.e.16 other elements viz. Li,Ga,In,Be,Ge,Mo,Cr,Ta,W,Ba,Co,Rb,Sr,Zr,Nb,Ni,: 18 REE viz. La,Ce,Pr,Nd,Sm,Eu, Gd,Tb,Dy,Ho,Er,Tm, Yb,Lu,Sc,Y:02 Actinides viz.U,Th (Per BH 3 Sample)	Nos	4.1.14	7731	9	69579.00	
ii	Digital Photographs	Nos	4.3.7	280	20	5600.00	
iii	Study of Thin Section	Nos	4.3.4	4232	10	42320.00	
iv	Prepration of thin section	Nos	4.3.1	2353	10	23530.00	
<b>E</b>	<b>Geotechnical Laboratory</b>					0.00	
i	Bulk Density	Nos	4.1	3540	5	17700.00	
	<b>Sub Total- C</b>					<b>893729.00</b>	
<b>F</b>	<b>DRILLING- in house</b>					0.00	




i	Core Drilling (scout BH 03 Nos.) x Each 40mts depth = Total 120Mtrs.	M	2.2.1.1b	7,168	120	860160.00	
ii	Land / Crop Compansation (As Per Requirment)	per BH	5.6	20,000	3	60000.00	
iii	Construction of concrete Pillar (3BHP +5 BP)	per BH	2.2.7a	2,000	8	16000.00	
iv	Transportation of Drill Rig & associated (1Rig 2812km.Up & Dn)	Km	2.2.8	36	2,812	101232.00	To and fro from Nagpur to Bhatiya
v	Monthly Accomodation Charges for drilling Camp	month	2.2.9	50,000	3	150000.00	
vi	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	250000.00	
vii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	250000.00	
viii	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	5	110100.00	As per actuals
ix	Core Preservation (Aprox 70% of Drill core & 3BH Complet 120Mtr.)	m	5.3	1,590	80	127200.00	
	<b>Sub Total- D</b>					<b>1924692.00</b>	
	<b>Total A to D</b>					<b>5485513.00</b>	
<b>G</b>	Geological Report Preparation (A minimum of Rs.2.5 lakhs or 5% of the value of work whichever is more)	1No.	<b>5.2</b>			<b>2,74,275.65</b>	
<b>H</b>	Peer review Charges	1No.		30000		<b>30,000</b>	
<b>I</b>	Preparation of Exploration Proposal (2% of the Cost or Rs. 5 Lakhs whichever is lower)	<b>1No.</b>	<b>5.1</b>			<b>1,09,710.26</b>	
<b>J</b>	<b>Total Estimated Cost without GST</b>					<b>58,99,498.91</b>	
<b>K</b>	<b>Provision for GST (18% of I)</b>					<b>1061909.80</b>	
<b>L</b>	<b>Total Estimated Cost with GST</b>					<b>69,61,408.71</b>	
	<b>Or say Rs, In Lakhs:</b>					<b>69.91 Lakh</b>	




**Time Schedule/ Action Plan for Reconnaissance Survey (G4) for Limestone in Bhatiya Area in the Village Bhatiya-Gokalpur, District-  
Devbhumi Dwarka, Gujarat**

	Month	1	2	3	4	5	review	6	7	8	9	10
	ITEM Of WORK											
1	Prefield preparations											
2	Geological mapping on 1:12500 scale, bedrock sampling and analyses											
3	Drilling and core sampling preparation and analyses											
4	Interpretation of analytical data, finalisation of lithologs, maps etc.											
5	Report preparation and Peer review											
6	Final Report Submission											






**Estimate Cost for Preliminary Exploration (G3) for Manganese and Associated Minerals in Kankura Block, West Singhbhum District, Jharkhand**  
**Name of the Exploration Agency - Natural Resources Division, Tata Steel Limited**  
**Total Area - 5.60 Sq. Km; Drilling-1400 m, BH: 14nos, 100m depth , Completion Time - 15 Months; Reviews: 5 months, 9 months**

Sl. No	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Additional charge for most affected LWE districts	Total Amount (Rs)	Remarks
			SoC-Item-S. No.	Rates as per SoC	Qty.	Total Amount (Rs)	Factor of multiplication		
<b>1</b>	<b>Geological Mapping, sampling and chemical analysis - Inhouse</b>								
1.1	Geologist: (1:5000 scale) with sampling, Rig site geology, core logging, sample advise etc.	Mandays	1.2	1100 0	180	1980000	1.25	2475000	
1.2	Geologist	Mandays	1.2	1100 0	0	0	1.25	0	Drilling Supervision, core logging etc for 2 rigs operation
1.3	Geologist:at HQ	Mandays	1.2	9000	60	540000		540000	30% of the field mandays
1.4	Geologist: Final report compilation and submission	Mandays	1.2	9000	0	0		0	
1.5	Labour charges (for sample collection, packaging, carrying)	Mandays	5.7	526	360	189360	1.25	236700	2 labour per Geologist; Amount will be reimbursed as per the notified rates by the Central Labour Commission or respective State Govt. whichever is higher.




1.6	Charges for one sampler per day (for sample preparation)	Mandays	1.5.2	5100	77	392700		392700	1. 10 samples to be prepared in a day 2. 6 days working per week 3. All samples from mapping and drilling
1.7	Labour charges (for sample preparation)	Mandays	5.7	522	308	160776		160776	1. 4 persons per day 2. Minimum 10 samples to be prepared in a day
1.8	Chemical analysis of BRS, channel/ groove samples-XRF	No. of Samples	4.1.15a	4200	100	420000		420000	
1.9	External Checks (10%)-XRF	No. of Samples	4.1.15a	4200	10	42000		42000	
1.10	QAQC Samples (10%)	No. of Samples	4.1.5a	2380	0	0		0	by ICP-AES/ Wet Chemical
<b>2</b>	<b>Mineragraphic study and related analysis</b>								
2.1	Preparation of thin polished section of rock	No. of Samples	4.3.2	1549	10	15490		15490	
2.2	Complete mineragraphic report of rock samples	Per sample	4.3.4	4232	10	42320		42320	
2.3	XRD analysis for identification of minerals (Random)	Per sample	4.5.1	4000	10	40000		40000	
2.4	Trace element study by ICP-MS	Per sample	4.1.14	7731	10	77310		77310	
<b>3</b>	<b>Geophysical Survey - Outsourced</b>								
3.1	Magnetic Surveys	No. of Stations	3.2a	1800	421	757800	1.25	947250	Station interval = 100m; Section spacing = 100m
3.2	Self potential	Line Km	3.3a	2960 0	30	888000	1.25	1110000	
3.3	Induced Polarization (Dipole-Dipole)	Line Km	3.4a	6995 0	20	1399000	1.25	1748750	

4	<b>Topographical, borehole collar and boundary Survey - Inhouse</b>								
4.1	Surveyor	Mandays	1.6.1a	8300	60	498000	1.25	622500	
4.2	Labour charges (for survey work)	Mandays	5.7	526	240	126240	1.25	157800	
4.3	Fixation of BH by DGPS - internal	Per point	1.6.2	19200	14	268800	1.25	336000	Final collar survey.
4.4	Boundary Pillar fixation - internal	Per point	1.6.2	19200	12	230400	1.25	288000	
5	<b>Diamond core drilling (NQ size) and related activities - Outsourced</b>								
5.1	Drilling	Per m	2.2.1.3a	10100	1400	14140000	1.25	17675000	No. of boreholes = 14 Average depth of per hole = 100m
5.2	Drill core preservation		5.3	1590	450	715500		715500	
6	<b>Bulk density and Chemical analysis of drill core samples - Internal</b>								
6.1	Bulk density determination	No. of Samples	4.10	3540	12	42480		42480	As per approved SOP/guideline of GSI/IBM
6.1	Analysis for core samples-XRF method	No. of Samples	4.1.15a	4200	450	1890000		1890000	
6.2	External Checks (10%)	No. of Samples	4.1.15a	4200	45	189000		189000	
6.3	QAQC Samples (10%)	No. of Samples	4.1.5a	2380	0	0		0	
7	<b>Project Cost without GST</b>					<b>25045176</b>		<b>30164576</b>	
8	Total Outsourced Cost							22371620	
9	Tendering process cost for outsourced activities		2.3					447432	2% of the approved project cost or 5 lakh whichever is lower
10	Operational Charges against outsourced activities		6(iii)					1493581	

11	Peer review by external expert		As per EC decision			30000		30000	15 days
12	Preparation of exploration proposal		5.1			500000		500000	2% of the project cost or 5 lakh which ever is low.
13	Geological Report Preparation		5.2			904937		904937	Project value exceeding Rs. 150 lakh but less than 300 lakh: A minimum Rs. 7.5 lakh or 3% of the value of the work whichever is more.
14	<b>Total Project cost (without GST)</b>							<b>33540527</b>	
	<b>Provision for GST (18%)</b>							6037294.8	
15	<b>Total Project Cost with GST</b>	%				18		<b>395,77,821</b>	
	<b>Or say Rs, In Lakhs:</b>							<b>395.78</b>	
<b>Note</b>									
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 by the agency.								




**Time Schedule / Action Plan for Preliminary Exploration (G3) for Manganese and Associated Minerals in Kankura Block, West Singhbhum District, Jharkhand**

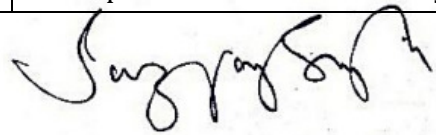
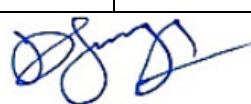
Sl. No.	Activity Plan	1	2	3	4	5	Review-1	6	7	8	9	Review-2	10	11	12	13	14	15
1	Lithological Mapping (1:5000 scale) and Sampling																	
2	Sample preparation for chemical analysis																	
3	Sample analysis																	
4	Mineragraphic, XRD, trace element study																	
<b>1st Review by TCC on progress and Outcome</b>																		
5	Geophysical survey (Magnetic, SP and IP) over potential areas																	
6	Processing and interpretation of Geophysical survey data																	
7	Synthesis of all data, interpretation and review																	
<b>2nd Review by TCC on progress and Outcome</b>																		
8	Exploratory drilling, borehole collar survey etc																	
9	Logging, sampling, sample preparation, interpretation resource assessment																	
<b>Final Review by TCC on progress and Outcome</b>																		
10	Peer Review																	
11	Final Report preparation and submission																	



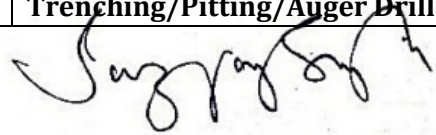
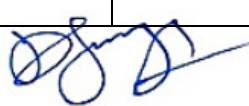

## Annexure 9A

**Estimate Cost for Reconnaissance Survey (G4) for REE & RM near Mandli-Nagana Village, Barmer District, Rajasthan****Area: 18.00 sq.km, Schedule timeline: 06 months, Review: After 04 months****Name of the Agency - Mining Tech Consultancy Services Limited**

S. No.	Item	Unit *	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item No. *	Rates as per SoC * (a)	Qty. (b)	Total Amount (Rs) (a*b)	
<b>A</b>	<b>Geological Mapping Other Geological Work &amp; Surveying</b>						
	Geological mapping (1:12,500 scale), pitting & geochemical sampling						
1	Charges for Geologist per day (Field) for geological mapping, pitting & geochemical sampling	day	1.2	11,000	60	6,60,000	
2	Labours Charges; Base rate	day	5.7	526	120	63,120	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher.
4	Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	30	1,53,000	
5	Labours (4 Nos) for sampling	day	5.7	522	120	62,640	
3	Charge for procurement of Satellite Imagery (CartoDEM, 2.5m posting, DSM, 14km x 14km scene) for Remote sensing, multispectral and DEM data analysis)	day	1.1	Actual cost	1	-	

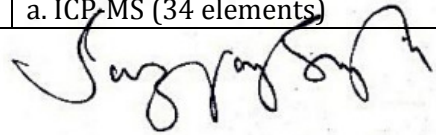
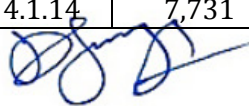



4	Geologist (HQ)	day	1.2	9,000	30	2,70,000	
	<b>Sub Total- A</b>					<b>12,08,760</b>	
<b>B</b>	<b>Ground Geophysical Survey (Out sourced)</b>						
1	a. Gravity-Magnetic Survey	Station	3.1b	4,500	900	40,50,000	(200 x 200 grid) Predictive Geological, structural and cover thickness map are to be prepared. Potentiality map for REE
	b. Radiometry Survey	Station		200	600	1,20,000	As per actual
2	Geophysicist party days (Field)	per day	3.18	11,000	-	-	
3	Labours Charges - 4 No	day	5.7	522	-	-	
4	Geophysicist party days (HQ)	per day	3.18	9,000	-	-	
	<b>Sub Total- B</b>					<b>41,70,000</b>	
<b>C</b>	<b>Survey work</b>						
a	DGPS Survey for BH fixation & RL determination	Per Point of observation	1.6.2	19,200	-	-	
b	Charges of Surveyor (1 party) for Geophysical survey layout work	one surveyor per day	1.6.1a	8,300	-	-	
c	Labours Charges for survey work - 2 no	day	5.7	522	-	-	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher.
	<b>Sub-Total C</b>					-	
<b>D</b>	<b>Trenching/Pitting/Auger Drilling</b>						



a	Excavation of Pits between 2.0m to 5.0m depth	per cu.m	2.1.3	5,330	50	2,66,500	
b	Excavation of Trenches	per cu.m	2.1.1	3,300	-	-	
c	Auger Drilling upto 150m (Soft Rock)	m	2.2.2	4,760	-	-	
	<b>Sub-Total D</b>					<b>2,66,500</b>	
<b>E</b>	<b>SCOUT DRILLING</b>						
1	Drilling upto 300m (Very Hard Rock)	m	2.2.1.5a	12,650	-	-	
2	Borehole deviation Survey by Multishot Camera	m				-	
3	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	-	-	
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	-	-	
5	Transportation of Drill Rig & Truck associated per drill (1 Auger Drill rig)	Km	2.2.8	36	-	-	
6	Monthly Accommodation Charges for drilling Camp (1 Auger Drill Rig)	month	2.2.9	50,000	-	-	
7	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	-	-	
8	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	-	-	
9	Road Making (Flat Terrain)	Km	2.2.10a	22,020	-	-	
10	Drill Core Preservation	per m	5.3	1,590	0	-	
	<b>Sub Total E</b>					-	
<b>F</b>	<b>LABORATORY STUDIES</b>						
1	<b>Chemical Analysis (ICP-MS: 34 elements)</b>						
i)	<b>Geochemical Sampling-Surface samples (Bedrock/Channel /Pit/Stream sediment)</b>						
	a. ICP-MS (34 elements)	Nos	4.1.14	7,731	150	11,59,650	Vertical groove samples
ii)	<b>Surface Check samples (10% External)</b>						
	a. ICP-MS (34 elements)	Nos	4.1.14	7,731	15	1,15,965	
iii)	<b>Trench samples</b>						
	a. ICP-MS (34 elements)	Nos	4.1.14	7,731	-	-	

iv)	<b>Trench Check samples (10% External)</b>						
	a. ICP-MS (34 elements)	Nos	4.1.14	7,731	-	-	
v)	<b>Auger Drill samples</b>						
	a. ICP-MS (34 elements)	Nos	4.1.14	7,731	-	-	
vi)	<b>Auger Drill Check samples (10%External)</b>						
	a. ICP-MS (34 elements)	Nos	4.1.14	7,731	-	-	
vii)	<b>Core Samples</b>						
	a. ICP-MS (34 elements)	Nos	4.1.14	7,731	-	-	
viii)	<b>Core Check samples (10%External)</b>						
	a. ICP-MS (34 elements)	Nos	4.1.14	7,731	-	-	
2	<b><u>Physical &amp; Petrological Studies</u></b>						
i	Preparation of thin section	Nos	4.3.1	2,353	-	-	
ii	Study of thin section	Nos	4.3.4	4,232	-	-	
iii	Preparation of thin polished section	Nos	4.3.2	1,549	15	23,235	REE minerals need to be identified
iv	Study of thin polished section	Nos	4.3.4	4,232	15	63,480	
v	Digital Photographs	Nos	4.3.7	280	20	5,600	
vi	Whole Rock Analysis (XRF Analysis)	Nos	4.1.15a	4,200	10	42,000	
vii	XRD Analysis	Nos	4.5.1	4,000	10	40,000	
viii	EPMA studies	per hour	4.4.1	8,540	8	68,320	
	<b>Sub Total F</b>					<b>15,18,250</b>	
<b>G</b>	<b>Total A to F</b>					<b>71,63,510</b>	
	<b>Tendering Cost</b>						
	<b>Operational Charges</b>						
<b>H</b>	<b>Geological Report Preparation</b>	<b>5 Hard copies with a soft copy</b>	<b>5.2</b>	<b>5.2 (i/ii/iii/iv )</b>		<b>3,58,176</b>	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
<b>I</b>	<b>Peer review Charges</b>		<b>As per EC decisio</b>			<b>30,000</b>	

			<b>n</b>				
<b>J</b>	<b>Preparation of Exploration Proposal (5 Hard copies with a soft copy)</b>	<b>5 Hard copies with a soft copy</b>	<b>5.1</b>	2% of the Cost or Rs. 5.0 Lakhs whichever is less		<b>1,43,270</b>	EA 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.
<b>K</b>	<b>Total Estimated Cost without GST</b>					<b>76,94,956</b>	
<b>L</b>	<b>Provision for GST (18% of K)</b>					<b>13,85,092</b>	GST will be reimbursed as per actual and as per notified prescribed rate
<b>M</b>	<b>Total Estimated Cost with GST</b>					<b>90,80,047</b>	
				<b>or Say Rs. In Lakhs</b>		<b>90.80</b>	
<b>Note</b> :							
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 by the agency.						




Annexure 9B									
Time Schedule/ Action Plan for Reconnaissance Survey (G4) for REE & RM near Mandli-Nagana Village, Barmer District, Rajasthan									
S. No	Activity	Type of Job	Months						
			1	2	3	4	Review	5	6
1	Desktop study with Satellite data (including obtaining clearances etc)	HQ							
2	Geological Mapping (including bedrock & stream sediment sampling)	Field							
3	Geophysical survey (including mobilization & data acquisition)	Field							
4	Geophysical survey (interpretation & report)	HQ							
5	Laboratory Studies of Samples	Field							
6	Geological Report Preparation & submission to NMET	HQ							




**Annexure 10A**

**Estimate Cost for Reconnaissance survey (G4) for basemetal in Burogaon-Biltala-Mogan areas, District Lalitpur, Uttar Pradesh**  
**Total Area - 166 sq. km; Core drilling: 4BH 1000m (1 BH 400m, 3 BH 200m each); Completion Time -14 Months, Review: 6 months & 12 months**

**Name of the Agency - Geovale Service Pvt. Ltd.**

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)	
<b>1</b>	<b>Geological Work</b>						
<b>A</b>	<b>Geological Mapping (1:12,500) &amp; sampling</b>	166 sq km					
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 for 60 days)	one geologist per day	1.2	11,000.00	240	26,40,000.00	2 geologist @120 days (4months)
c	Labor (Field days) (2 workers per geologist, i.e Total 4 No.)	per labor day	5.7	526.00	480	2,52,480.00	Amount will be reimburse as per the notified rates by the Central Labor Comission or respective State Govt. whichever is higher
<b>B</b>	<b>Pitting</b>						
a	Pitting	per cu.m	2.1.2	3,800.00	100	3,80,000.00	No of samples 100 samples
	<b>Sub-Total 1</b>					<b>38,12,480.00</b>	
<b>2</b>	<b>Laboratory Studies</b>						




<b>A</b>	<b>Geochemical Analysis for regional and detail survey</b>						50 BRS; 100 pitting samples
a	XRF (major oxides)	per sample	4.1.15a	4,200.00	100	4,20,000.00	
b	Check samples for XRF	per sample	4.1.15a	4,200.00	10	42,000.00	
c	ICPMS (34 elements)	per sample	4.1.14	7,731.00	100	7,73,100.00	
d	Analysis for gold by fire assay technique	per sample	4.1.5a	2,380.00	10	23,800.00	
e	Check samples	per sample	4.1.5a	2,380.00	5	11,900.00	
f	XRD	per sample	4.5.1	4,000.00	10	40,000.00	10% of total samples
g	Sampler man-days	one sampler per day	1.5.2	5,100.00	29	1,49,812.50	
h	Labor(4 workers per sampler)	per labor day	5.7	526.00	118	61,805.00	Amount will be reimburse as per the notified rates by the Central Labor Comission or respective State Govt. whichever is higher
	<b>Sub-Total 2</b>					<b>15,22,417.50</b>	
<b>3</b>	<b>Petrological studies</b>						
a	Thin Polished section preparation	per sample	4.3.2	1,549.00	100	1,54,900.00	
b	Microscopic study	per sample	4.3.4	4,232.00	100	4,23,200.00	
	<b>Sub-Total 3</b>					<b>5,78,100.00</b>	
<b>Review</b>							
<b>4</b>	<b>Geophysical Survey- in house</b>						
a	S.P. & Shallow electrical resistivity (10-20 line km)	per line km	3.3c	60,000.00	10	6,00,000.00	




b	Magnetic (20 sq km, 2000 points)	per station	3.2a	1,800.00	1000	18,00,000.00	
c	Expert Charges for Geophysicist (HQ)	Geophysicist per day	3.18	9,000.00	20	1,80,000.00	
	<b>Sub-Total 4</b>					<b>25,80,000.00</b>	
<b>5</b>	<b>Geological Work (Drilling; In-house)- After Review</b>						Sub surface exploration/ drilling will be carried out after review by TCC
a	Core drilling up to 300m depth (4 BH)	per meter	2.2.1.4a	11,500.00	900	1,03,50,000.00	No of samples 300 samples
b	Core drilling between 301 to 400 m (1BH 300 to 600m)	per meter	2.2.1.4b	12,420.00	100	12,42,000.00	
c	Land / Crop Compansation	per BH	5.6	20,000.00	4	80,000.00	In house drilling 1200 km from Kolkata to Burogaon (2 rigs, 2 trucks to and fro)
d	Transportation of Drill Rig & Truck associated per drill (2 rigs)-Two way	km	2.2.8	36.00	4800	1,72,800.00	
e	Monthly Accomodation Charges for drilling Camp	month	2.2.9	50,000.00	4	2,00,000.00	
f	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000.00	2	5,00,000.00	
g	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000.00	2	5,00,000.00	
h	Approach Road making for rugget/hilly terrain	km	2.2.10b	32,200.00	4	1,28,800.00	
i	Drill core preservation	per meter	5.3.0	1,590.00	250	3,97,500.00	
	<b>Sub-Total 5</b>					<b>1,35,71,100.00</b>	
<b>6</b>	<b>Laboratory Studies</b>						
<b>7</b>	<b>Geochemical Analysis (BH samples)</b>						(300BHS)



a	XRF (major oxides)	per sample	4.1.15a	4,200.00	20	84,000.00	
b	Check samples for XRF	per sample	4.1.15a	4,200.00	2	8,400.00	
c	ICPMS (34 elements)	per sample	4.1.14	7,731.00	300	23,19,300.00	
d	Analysis for gold by fire assay technique	per sample	4.1.5a	2,380.00	40	95,200.00	
e	Check samples	per sample	4.1.5a	2,380.00	4	9,520.00	
f	XRD	per sample	4.5.1	4,000.00	5	20,000.00	
g	EPMA	per hour	4.4.1	8,540.00	10	85,400.00	
h	Sampler man-days	per day	1.5.2	5,100.00	48	2,44,800.00	
i	Labor (4 workers per sampler)	per labor day	5.7	526.00	192	1,00,992.00	Amount will be reimburse as per the notified rates by the Central Labor Comission or respective State Govt. whichever is higher
	<b>Sub-Total 6</b>					<b>29,67,612.00</b>	
<b>7</b>	<b>Petrological studies (After Review)</b>						
a	Thin Polished section preparation	per sample	4.3.2	1,549.00	100	1,54,900.00	
b	Microscopic study	per sample	4.3.4	4,232.00	100	4,23,200.00	
	<b>Sub-Total 7</b>					<b>5,78,100.00</b>	
	<b>Total (Sub-Total 1-7)</b>					<b>2,56,09,809.50</b>	




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 whichever is lower	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 TCCNMET 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 150 lakhs but less than 300 lakhs-A minimum of 7.5 lakhs or 3% of the value of work whichever is more	1	7,68,294.29	Final report submission, peer review and project conclusion
10	Report Peer Review	Lump sum	As per EC	30,000.00	1	30,000.00	
<b>Project Cost without GST</b>						<b>2,69,08,103.79</b>	
<b>18% GST</b>						<b>48,43,458.68</b>	GST will be reimbursed as per actual and as per the applicable notified rate
<b>Total Project Cost</b>						<b>3,17,51,562.47</b>	
	<b>Or Say Rs. In Lakhs</b>					<b>317.52</b>	
<b>Note</b>							
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 by the agency.



Time Schedule/ Action Plan for Reconnaissance survey (G4) for basemetal in Burogaon-Biltala-Mogan areas, District Lalitpur, Uttar Pradesh																		
Sl. No.	Activities	Unit	MONTHS															
			1	2	3	4	5	6										
1	Geologist Party days	day							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																

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## Annexure 11A

**Estimate Cost for Preliminary exploration (G-3) for limestone in Khongkha Block 1 and Khongkha Block 2, Kiphire District, Nagaland**  
**(Total Area=2.31 sq. km. Drilling- 1100m, 11nos. BHs, Timeline- 15 months, Review : 6 & 10 months)**

**Name of the Agency - Directorate of Geology and Mining, Nagaland**

Sl. No.	Work/Activity	Item No. in NMET SoC 2020	Unit	Rate as per NMET SoC 2020	Estimated cost of the Proposal		Remarks
				Rate(Rs.)	Qty	Amount (Rs)	
A	GEOLOGICAL WORK						
	i) Detailed geological mapping 1:4000 scale, core logging and sampling. Charges for one geologist per day at field.	1.3 & 1.5.1a	per day	11000	180	1980000	
	iii) Labour charges for geological work	5.7	per day	526	360	189360	Amount will be reimbursed as per the notified rates by the Central Labour Commission or respective State Govt., whichever is higher
	Sub-total A1					2169360	
	3.35 times the normal SoC rate for exploration work in NE and Himalaya region Sub-total A2					7267356	
	B						
TOPOGRAPHICAL SURVEY WORK							
	i) Charges for surveyor per day at field without labour	1.6.1a	per day	8300	90	747000	
	ii) Labour charges for survey work	5.7	per day	526	360	189360	Amount will be reimbursed as per the notified rates by the Central Labour Commission or respective State Govt., whichever is higher




	iii) DGPS Survey of boreholes including labour and boundary coordinates (including charges for labours deployed for the work)	1.6.2	per point	19200	26	499200	
	<b>Sub-Total B1</b>					<b>1435560</b>	
	<b>3.35 times the normal SoC rate for exploration work in NE and Himalaya region Sub-total B2</b>					<b>4809126</b>	
<b>C</b>	<b>DRILLING - out sourced</b>						
	i) Core drilling	2.2.1.3a	per m	10100	1100	11110000	
	ii) Transportation of drill rig and truck associated per drill to and from headquarter and field site	2.2.8	per km	0	0	0	Distance being 366 km each trip and Considering transportation of 1 drill rigs to and from Dimapur to field site
	iii) Accommodation	2.2.9	monthly	0	0	0	
	iv) Camp setting	2.2.9a	per drill	0	0	0	
	v) Camp Winding	2.2.9b	per drill	0	0	0	
	v) Road making (Hilly terrain)	2.2.10b	per km	0	0	0	
	vi) Borehole plugging by cement	2.2.7b	per m	150	0	0	NQ size: Rs. 150/m, HQ size: Rs. 200/m
	vii) Construction of concrete pillar (12"x12"x30")	2.2.7a	per BH	2000	0	0	




	viii) Core preservation Charges in GI Sheets Core Boxes	5.3	per m	1590	1100	1749000	This amount will be reimbursed as per actual meter of drilled cores and after successful delivery of drilling cores to the concerned core libraries/authorities.
	<b>Sub-Total C1</b>					<b>12859000</b>	
	<b>3.35 times the normal SoC rate for exploration work in NE and Himalaya region C2</b>					<b>Sub-Total 43077650</b>	
<b>D</b>	<b>SAMPLE WORK</b>						
	i)Charges for one sampler per day without labour	1.5.2	per day	5100	81	413100	
	ii) Labour charges for sampling	5.7	per day	526	324	170424	Amount will be reimbursed as per the notified rates by the Central Labour Commission or respective State Govt., whichever is higher
	<b>Sub-Total D1</b>					<b>583524</b>	
	<b>3.35 times the normal SoC rate for exploration work in NE and Himalaya region D2</b>					<b>Sub-Total 1954805.4</b>	
<b>E</b>	<b>Sub Total of escalated 3.35 times the normal SoC rate for exploration work in NE and Himalaya region: Sub Total E (Sub-total A2+B2+C2+D2)</b>					<b>57108937.4</b>	
<b>F</b>	<b>HEADQUARTER WORK</b>						
	i) Charges for one geologist per day at Headquarters.	1.3 & 1.5.1a	per day	9000	60	540000	
	<b>Sub-Total F</b>					<b>540000</b>	
<b>G</b>	<b>LABORATORY STUDIES</b>						
	<b>Chemical analysis</b>						

	i) Primary samples (major oxides)	4.1.15a	per sample	4200	500	2100000	
	ii) Check samples (major oxides)	4.1.15a	per sample	4200	50	210000	
	iii) Composite samples (major oxides)	4.1.15a	per sample	4200	70	294000	
	v) Outcrop samples- Primary (major oxides)	4.1.15a	per sample	4200	30	126000	
	<b>Physical analysis</b>						
	i) Preparation of thin section	4.3.1	per sample	2353	20	47060	
	ii) Complete petrographic studies	4.3.4	per sample	4232	20	84640	
	iii) Bulk density (BH core + surface samples)	4.8.3	per sample	1568	10	15680	
	iv) XRD analysis	4.5.1	per sample	4000	10	40000	
	<b>Sub-Total G</b>					2917380	
<b>H</b>	<b>Total cost of outsourced component (Sub Total C2)</b>					43077650	Reimbursement of outsourced component will be made as per Paragraph 3 of SoC and item no. 6.0 (iii). The copy of contract agreement for outsourced component is required to be provided.
<b>I</b>	<b>Total cost in-house component( Sub total A2+B2+D2+F+G)</b>					17488667.4	






<b>J</b>	<b>Total cost of the project (outsourced component+in-house component)</b>					60566317.4	
<b>K</b>	<b>MISCELLANEOUS CHARGES</b>						
	i) Preparation of Exploration Proposal	5.1	5 Nos. Hard Copies along with soft copy	2% of approved Project cost subject to Maximum of 5 lakh whichever is lower.	5 Nos. Hard Copies along with soft copy	500000	EA has to submit the Hard Copies and the soft copy of the final proposal along with maps and plan as suggested by the TCC-NMET in its meeting while clearing the proposal
	ii) Peer Review Charges	as per EC decision		0	0	30000	
	iv) Operational charges for outsourced component	Paragraph 3 (ii) of SoC and item no. 6.0 (iii)		For projects having cost more than 1 crore. Rs. 8.75 Lakhs plus 5% on the balance of outsourced cost in excess of Rs. 1Cr will be paid to the EA. The maximum ceiling of operational charges is Rs. 15 Lakhs.	0	1500000	
	Tendering processing cost for outsourced component	2.3		2% of the approved project cost or 5 lakh whichever is lower		500000	
	v) Geological Report preparation	5.2(iv)	5 Nos. Hard Copies along with soft copy	For the project costs exceeding Rs. 300 Lakhs, A Minimum of Rs. 9 lakhs or 3% of the work whichever is more subject to a maximum amount of Rs. 20 lakhs and additional Rs. 10000/- per each additional copy.	5 Nos. Hard Copies along with soft copy	1816989.522	This amount will be reimbursed after submission of the final geological report in Hard Copies (5 Nos) and the soft copy to NMET by the EA.
	<b>Sub-Total K</b>					<b>4346989.522</b>	
	<b>Total estimated cost of the project without GST (Sub-Total J+K)</b>					<b>64913306.92</b>	




	<b>Provision for GST @18%</b>	<b>11684395.2 5</b>	<b>GST will be reimbursed as per actual and as per applicable and as per notified rate</b>
	<b>Total estimated cost of the project with GST</b>	<b>76597702.1 7</b>	
	<b>Or say Rs. In Lakhs</b>	<b>765.98</b>	
<b>Note:</b>			
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 by the agency.		




**Annexure 11B**

**Time Schedule/ Action pLan for Preliminary exploration (G-3) for limestone in Khongkha Block 1 and Khongkha Block 2, Kiphire District, Nagaland**

ACTIVITY	1	2	3	4	5	6		7	8	9	10		11	12	13	14	15
Pre-field study, Geological mapping 1:4000 scale and topographical survey							Review					Review					
Drilling and sampling, core logging																	
Sample preparation																	
Analytical works																	
Geological report documentation and preparation																	




## Annexure 12A

**Estimate Cost Preliminary exploration (G-3) for limestone in Mimi Kheti Block A and Mimi Kheti Block B, Kiphire District, Nagaland.**  
**(Total Area=3.54 sq. km, Drilling- 1910m, Bh- 21 nos., Depth 40-100m , Timeline - 15 months, Review - after 6 &10 months )**

**Name of the Agency - Directorate of Geology and Mining, Nagaland**

Sl. No.	Work/Activity	Item No. in NMET SoC 2020	Unit	Rate as per NMET SoC 2020	Estimated cost of the Proposal		Remarks
				Rate(Rs.)	Qty	Amount (Rs)	
A	GEOLOGICAL WORK						
	i) Detailed geological mapping 1:4000 scale, core logging and sampling. Charges for one geologist per day at field.	1.3 & 1.5.1a	per day	11000	180	1980000	
	iii) Labour charges for geological work	5.7	per day	526	360	189360	Amount will be reimbursed as per the notified rates by the Central Labour Commission or respective State Govt., whichever is higher
	Sub-total A1					2169360	
	3.35 times the normal SoC rate for exploration work in NE and Himalaya region Sub-total A2					7267356	
B	TOPOGRAPHICAL SURVEY WORK						
	i) Charges for surveyor per day at field without labour	1.6.1a	per day	8300	90	747000	




	ii) Labour charges for survey work	5.7	per day	526	360	189360	Amount will be reimbursed as per the notified rates by the Central Labour Commission or respective State Govt., whichever is higher
	iii) DGPS Survey of boreholes including labour and boundary coordinates (including charges for labours deployed for the work)	1.6.2	per point	19200	30	576000	
	<b>Sub-Total B1</b>					<b>1512360</b>	
	<b>3.35 times the normal SoC rate for exploration work in NE and Himalaya region Sub-total B2</b>					<b>5066406</b>	
<b>C</b>	<b>DRILLING - out sourced</b>						
	i) Core drilling	2.2.1.3a	per m	10100	1910	19291000	
	ii)Transportation of drill rig and truck associated per drill to and from headquarter and field site	2.2.8	per km	36	0	0	Distance being 348 km each trip and Considering transportation of 2 drill rigs to and from Dimapur to field site
	iii)Accommodation	2.2.9	monthly	50000	0	0	
	iv) Camp setting	2.2.9a	per drill	250000	0	0	
	v)Camp Winding	2.2.9b	per drill	250000	0	0	
	v)Road making (Hilly terrain)	2.2.10b	per km	32200	0	0	
	vi) Borehole plugging by cement	2.2.7b	per m	150	0	0	NQ size: Rs. 150/m, HQ size: Rs. 200/m

	vii) Construction of concrete pillar (12"x12"x30")	2.2.7a	per BH	2000	0	0	
	viii) Core preservation Charges in GI Sheets Core Boxes	5.3	per m	1590	1910	3036900	This amount will be reimbursed as per actual meter of drilled cores and after successful delivery of drilling cores to the concerned core libraries/authorities.
	<b>Sub-Total C1</b>					<b>22327900</b>	
	<b>3.35 times the normal SoC rate for exploration work in NE and Himalaya region</b>					<b>74798465</b>	
	<b>Sub-Total C2</b>						
<b>D</b>	<b>SAMPLE WORK</b>						
	i)Charges for one sampler per day without labour	1.5.2	per day	5100	112	571200	
	ii) Labour charges for sampling	5.7	per day	526	448	235648	Amount will be reimbursed as per the notified rates by the Central Labour Commission or respective State Govt., whichever is higher
	<b>Sub-Total D1</b>					<b>806848</b>	
	<b>3.35 times the normal SoC rate for exploration work in NE and Himalaya region</b>					<b>2702940.8</b>	
	<b>Sub-Total D2</b>						
<b>E</b>	<b>Sub Total of escalated 3.35 times the normal SoC rate for exploration work in NE and Himalaya region:</b>					<b>89835167.8</b>	
	<b>Sub Total E (Sub-total A2+B2+C2+D2)</b>						
<b>F</b>	<b>HEADQUARTER WORK</b>						
	i) Charges for one geologist per day at Headquarters.	1.3 & 1.5.1a	per day	9000	60	540000	
	<b>Sub-Total F</b>					<b>540000</b>	

G	LABORATORY STUDIES						
	Chemical analysis						
	i) Primary samples (major oxides)	4.1.15a	per sample	4200	700	2940000	
	ii) Check samples (major oxides)	4.1.15a	per sample	4200	70	294000	
	iii) Composite samples (major oxides)	4.1.15a	per sample	4200	100	420000	
	v) Outcrop samples- Primary (major oxides)	4.1.15a	per sample	4200	30	126000	
	Physical analysis						
	i) Preparation of thin section	4.3.1	per sample	2353	20	47060	
	ii) Complete petrographic studies	4.3.4	per sample	4232	20	84640	
	iii) Bulk Density	4.8.1	per sample	1568	10	15680	
	iv) XRD analysis	4.5.1	per sample	4000	10	40000	
	Sub-Total G					3967380	
H	Total cost of outsourced component (Sub Total C2)					74798465	Reimbursement of outsourced component will be made as per Paragraph 3 of SoC and item no. 6.0 (iii). The copy of contract agreement for outsourced component is required to be provided.
I	Total cost in-house component( Sub total A2+B2+D2+F+G)					19544082.8	
J	Total cost of the project (outsourced component + in-house component)					94342547.8	
K	MISCELLANEOUS CHARGES						




	i) Preparation of Exploration Proposal	5.1	5 Nos. Hard Copies along with soft copy	2% of approved Project cost subject to Maximum of 5 lakh whichever is lower.	5 Nos. Hard Copies along with soft copy	<b>500000</b>	EA has to submit the Hard Copies and the soft copy of the final proposal along with maps and plan as suggested by the TCC-NMET in its meeting while clearing the proposal
	ii) Peer Review Charges	as per EC decision		-	-	<b>30000</b>	
	iv) Operational charges for outsourced component	Paragraph 3 (ii) of SoC and item no. 6.0 (iii)		For projects having cost more than 1 crore. Rs. 8.75 Lakhs plus 5% on the balance of outsourced cost in excess of Rs. 1Cr will be paid to the EA. The maximum ceiling of operational charges is Rs. 15 Lakhs.		<b>1500000</b>	Will be reimbursed as per point 3 of NMET-SoC after recalculation when actual cost of outsourcing component will be provided. The copy of contract agreement for outsourced component and work completion report are also required to reimburse the operational charges
	Tendering processing cost for outsourced component	2.3		2% of the approved project cost or 5 lakh whichever is lower		<b>500000</b>	
	v) Geological Report preparation	5.2(iv)	5 Nos. Hard Copies along with soft copy	For the project costs exceeding Rs. 300 Lakhs, A Minimum of Rs. 9 lakhs or 3% of the work whichever is more subject to a maximum amount of Rs. 20 lakhs and additional Rs. 10000/- per each additional copy.	5 Nos. Hard Copies along with soft copy	<b>2000000</b>	This amount will be reimbursed after submission of the final geological report in Hard Copies (5 Nos) and the soft copy to NMET by the EA.
	<b>Sub-Total K</b>					<b>4530000</b>	
	<b>Total estimated cost of the project without GST (Sub-Total J+K)</b>					<b>98872547.8</b>	






	<b>Provision for GST @18%</b>	17797058.6	GST will be reimbursed as per actual and as per applicable and as per notified rate
	<b>Total estimated cost of the project with GST</b>	116669606.4	
	<b>Or say Rs. In Lakhs</b>	1166.70	
<b>Note:</b>			
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 by the agency.		




**Time Schedule/ Action plan for Preliminary exploration (G-3) for limestone in Mimi Kheti Block A and Mimi Kheti Block B, Kiphire District, Nagaland**

ACTIVITY	1	2	3	4	5	6		7	8	9	10		11	12	13	14	15
Pre-field study, Geological mapping 1:4000 scale and topographical survey							REVIEW					REVIEW					
Drilling and sampling, core logging																	
Sample preparation																	
Analytical works																	
Geological report documentation and preparation																	




Annexure 13A									
Revised Estimated cost for Reconnaissance survey (G4) for Gold, Copper Graphite and associated minerals in Jamtola-Khandapar Block, District: Balaghat, State: Madhya Pradesh. [Block area- 96.62 sq. km; Schedule timeline- 12 months] Name of the Agency - MECL									
S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Revised Qty.	Revised Amount	Remarks
			SoC- Item -Sl No.	Rates as per SoC	Qty.	Amount (Rs)			
A	<b>GEOLOGICAL WORK (1:12,500 scale)</b>								
i	Charges for one Geologist- Field	day	1.2	11,000	120	13,20,000			
ii	Charges for one Geologist per- HQ	day	1.2	9,000	60	5,40,000			
iii	2 labours/ party (Rs 443/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	494	240	1,18,560			Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Sampling Party Days -1 Sampler Labour charge not included	day	1.5.2	5,100	66	3,36,600			




v	4 labours/ party (Rs 443/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	494	264	1,30,416			Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
vi	Survey Party Days	day	1.6. 1a	8,300	10	83,000			
vii	4 labours for surveyor	day	5.7	494	40	19,760			
	<b>Sub Total- A</b>					<b>25,48,336</b>			
<b>B</b>	<b>GEOPHYSICAL SURVEY</b>								
i	I.P. cum Resistivity, S.P., Magnetic	Line Km	3.4b	14,48,693.0	3	36,21,733			25 Line Km is advised by TCC
ii	Charges for one Geophysicist per day at field	day	3.18	11,000	0	-			
iii	Charges for one Geophysicist per day at HQ	day	3.18	9,000	15	1,35,000			
	<b>Sub Total- B</b>					<b>37,56,733</b>			
<b>C</b>	<b>PITTING AND TRENCHING</b>								
i	Trenching	Cu m	2.1.1	3330	200	6,66,000			(150 + 50 ) = (Gold+Graphite)
	<b>Sub Total- C</b>					<b>6,66,000</b>			
<b>D</b>	<b>DRILLING</b>								
i	Drilling upto 300m (Hard Rock) (1 rigs )	m	2.2.1.4a	11,500	500	57,50,000	60	6,90,000	
ii	Borehole deviation Survey	m	2.2.6	330	500	1,65,000	60	19,800	
iii	Land / Crop Compansation	per BH	5.6	20,000	5	1,00,000	3	60,000	Amount will be reimburse as per actuals or max. Rs. 20000 per BH with certification from local authorities
iv	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	3	6,000	

v	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	500	18,000	-	-	Certification in this regard is required to be provided
vi	Monthly Accomodation Charges for drilling Camp	month	2.2.9	50,000	2	1,00,000	-	-	
vii	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	-	-	
viii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	-	-	
ix	Approach Road Making (Flat Terrain)	Km	2.2.10a	22,020	4	88,080	-	-	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed for max. 4 km.
x	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and by DGPS	Nos	1.6.2	19,200	5	96,000	-	-	
xi	Borehole core preservation-One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	250	3,97,500	-	-	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	<b>Sub Total- D</b>					<b>72,24,580</b>		<b>7,75,800</b>	
<b>E</b>	<b>LABORATORY STUDIES</b>								
<b>1</b>	<b>Chemical Analysis</b>								
<b>i</b>	<b>Bedrock/Channel/Stream/Trench/BH etc Samples) for Au and Ag</b>								
	a) Primary samples for Au by fire Assay and Ag by AAS	Nos	4.1.5a & 4.1.7a	4,886	400	19,54,400	60	2,93,160	200+100+100=400 (Surface+Trench+BH)




	b) Internal Check samples (5% of Primary samples)	Nos	4.1.5a	4,760	-	-	-	-	
	c) External Check sample (10% of Primary samples)	Nos	4.1.5a	4,760	40	1,90,400	6	28,560	
ii	<b>Bedrock/Channel/Stream/Trench/BH etc Samples) for 34 elements by ICP-MS</b>							-	
	d) 34 element Package analysis by ICP-MS	Nos	4.1.14	7,731	50	3,86,550	-	-	
iii	<b>Bedrock/Channel/Stream/Trench/BH etc Samples) for Graphite (Proximate Analysis)</b>							-	
	g) Primary samples for Graphite (Proximate Analysis)	Nos	4.1.16	3000	80	2,40,000	70	2,10,000	
	h) Internal Check samples (5% of Primary samples)	Nos	4.1.16	3000	0	-	-	-	
	i) External Check sample (10% of Primary samples)	Nos	4.1.16	3000	8	24,000	7	21,000	
iv	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	-	-	
v	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	-	-	
vi	Preparation of polished section	Nos	4.3.2	1,549	10	15,490	-	-	
vii	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	-	-	
viii	Digital Photographs	Nos	4.3.7	280	10	2,800	-	-	




<b>Ix</b>	Whole Rock Analysis (Major oxide and 8 additional trace elements)	Nos	4.1.15a & b	7,568	10	75,680	-	-	Must include V <sub>2</sub> O <sub>3</sub> due the presence of Graphite
<b>x</b>	Specific Gravity Determination	Nos	4.8.1	1,605	5	8,025	-	-	
	<b>Sub Total- E</b>					<b>30,05,515</b>		<b>5,52,720</b>	
<b>F</b>	<b>Total A to E</b>					<b>1,72,01,164</b>			
<b>G</b>	<b>Geological Report Preparation</b>		<b>5.2</b>	For the projects having cost exceeding Rs. 150 lakhs and less than Rs. 300 lakhs - A minimum of Rs. 7.5 lakhs or 3% of the value of work whichever is more		<b>7,50,000</b>			Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
<b>H</b>	<b>Peer review Charges</b>		<b>As per EC decision</b>			<b>30,000</b>			




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. 5.0 Lakhs whichever is lower	3,44,124			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				1,83,25,288		13,28,520.00	
J	Provision for GST (18% of I)				32,98,551.75		2,39,133.60	GST will be reimburse as per actual and as per notified prescribed rate
K	Total Estimated Cost with GST				2,16,23,839.25		15,67,653.60	
				or Say Rs. In Lakhs	216.24		15.68	
				Total Revised cost	231.91			The revised cost is 7.25% higher than the original cost
				% of Approved Cost			7.25	%
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 by the agency.

A handwritten signature in black ink, appearing to be 'Surya Singh', written in a cursive style.A handwritten signature in blue ink, appearing to be 'Surya Singh', written in a cursive style.