Ministry of Mines
National Mineral Exploration Trust

Minutes of the 24th Technical-cum-Cost Committee (TCC) meeting held on 07th, 08th and 09th Oct, 2020 and extended 24th TCC on 16th Oct, 2020 through videoconferencing at Geological Survey of India, DGCO, A-II Pushpa Bhawan, New Delhi-62

The 24th meeting of Technical-Cum-Cost Committee (TCC) of National Mineral Exploration Trust (NMET) was held under the chairmanship of Shri Janardan Prasad, Addl. Director General, Geological Survey of India (ADG, GSI), and Chairman, TCC, NMET on 07th, 08th and 09th October, 2020 and extended 24th TCC on 16th Oct, 2020 at GSI, DGCO, A-II Pushpa Bhawan, New Delhi through videoconferencing. The technical experts and representatives of Notified Exploration Agencies (NEAs) participated through their respective VC nodes. The list of participants is in **Annexure-1**.

Dr. L. P. Singh, Director, GSI & Member Secretary, TCC-NMET, welcomed Shri Janardan Prasad, ADG, GSI & Chairman, TCC, Members of the TCC and participants representing various NEAs. He briefly talked about the reconstituted TCC committee and introduced new chairman Shri Janardan Prasad, ADG, GSI and new Director & HoD, NMET Shri Amit Saran.

Shri Amit Saran welcomed the participants and expressed his happiness for being the part of NMET and technical discussion of TCC.

Shri Janardan Prasad, ADG, GSI and Chairman, TCC welcomed all the participants. After brief introductory session with all the participants the proceedings of meeting started as per circulated agenda.

The agenda-wise discussion followed.

24.1: Technical evaluation of new project proposals:

24.1.1:

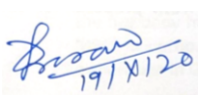
(a) Heliborne Survey (Phase-I) over 8 mineral target zones identified from interpreted Legacy Aero-geophysical data in parts of Odisha, Chhattisgarh, AP, Telangana and Karnataka.

(b) Heliborne Time Domain Electromagnetic (TDEM) and Magnetic Survey over target mineral areas H1 and H2 as follow up surveys recommended by analysis of Aero-geophysical data over OGP Blocks 1 & 2 (Phase-I).

(c) Multi-sensor Aero-geophysical surveys over blocks 13 to 22 in adjoining Obvious Geological Potential (OGP) areas under National Airborne Geophysical Mapping Programme (NAGMP).

i. Two project proposals have been submitted by GSI i.e. (i) heliborne survey as a follow up programme in the areas covered by legacy data of GSI and Odisha State





Government in three areas like H1 (Odisha), H2 (Narayanpet - Mehboobnagar and H3 (Bangalore - Penukonda and (ii) heliborne survey as a follow up programme of NAGMP in potential zones H1 in parts of Rajasthan and H2 in parts of Madhya Pradesh.

ii. Technical parameters of the two projects mentioned above have been discussed in details in which minor modifications on selection of line spacing, demarcation of blocks with locality names, targeted minerals have been suggested. The proposals have been found technically in order with minor corrections, however the cost evaluation of the proposals could not be made as the components of work required for heliborne Survey are not available in SoC of NMET. Further, GSI has submitted a cost estimate without due approvals from the Ministry/ Standing Finance Committee (SFC)/EFC which could not be considered for cost evaluation.

iii. It is pertinent to mention that as per the decision of 16th EC meeting it has already been conveyed that GSI should take approval from Standing Finance Committee (SFC)/Ministry of Mines for carrying out the above projects under NMET fund. Followed by approval, GSI should complete tendering process and other statutory clearances [for estimated budget] and then submit the proposal for consideration of TCC because SoC rates are not available with NMET for the Heliborne Survey and related activities. [Refer bullet 2 page- 7 of the minutes of 16th EC meeting]. In response to this, GSI has conveyed that the proposal was submitted to Ministry in March, 2020 and the approval is awaited.

iv. Regarding proposal on **Multi-sensor Aero-geophysical surveys over blocks 13 to 22** the committee opined that it is already mentioned in the National Mineral Exploration Policy 2016 (NMEP) that national aero-geophysical mapping program is to be done. However, GSI needs to resubmit the proposal after completing the process as mentioned in para iii above for proposals on heliborne survey.

In view of this the committee has recommended that GSI may resubmit all the three project proposals after getting the following from Ministry/SFC/EFC, etc.: (i) approval to carry out heliborne survey and multi sensor aero-geophysical survey in proposed blocks (ii) expenditure sanction after due tendering process and (iii) approval to meet the expenditure from NMET Fund.

24.1.2: Reconnaissance survey (G4) for graphite and manganese ore in Rengali Graphite block. (including expired lease hold area of M/s. B. K. Agarwal and M/s T. Pradhan) (9.41 sq.km area) District- Balangir, Odisha.

i. The project proposal has been submitted by MECL for reconnaissance survey (G4 stage) for graphite and manganese in Bolangir district Odisha.

ii. The geological/ geophysical parameters proposed for G4 stage exploration have been technically evaluated by the committee and it has been decided that the available geological map on 1:12,500 scale of GSI may be used by MECL. The geophysical survey along with some scout drill holes with varying depth may be

taken up at this stage. After completing G4 stage exploration and on getting encouraging results, the project proposal may be submitted for next higher stage of exploration with systematic drilling.

The Committee recommended the proposal for approval of Reconnaissance Survey (G4) for graphite and manganese ore in Rengali Graphite block (including expired lease hold area of M/s. B. K. Agarwal and M/s T. Pradhan) (9.41 sq.km area) District- Balangir, Odisha with estimated cost of Rs. 411.30 Lakhs including GST in time schedule of 12 months for carrying out the proposed work and submission of report as per Annexure-2A & 2B.

24.1.5: Reconnaissance Survey (G4) for Manganese in Antapali Block, District- Balangir, Odisha.

i. The project proposal has been submitted by MECL for reconnaissance survey (G4 stage) for manganese in Antapali Block, District- Balangir, Odisha.

ii. The technical evaluation of the proposed geological/ geophysical parameters for G4 stage exploration have been done by the committee and it has been decided that the available geological map on 1:12,500 scale may be used by MECL. There is no need of geological mapping on 1:4,000 scale at this stage of work. The geophysical survey along with some scout drill holes with varying depth may be taken up at this stage. After receiving encouraging results, the project proposal may be submitted for next higher stage of exploration with systematic drilling and other required analyses.

The Committee recommended the proposal for approval of Reconnaissance Survey (G4)* for Manganese in Antapali Block, District- Balangir, Odisha *with estimated cost of Rs. 155.77 Lakhs including GST in time schedule of 12 months for carrying out the proposed work and submission of report as per Annexure-3A & 3B.

24.1.6: Preliminary Exploration (G3) for Manganese in Kumiapali Block, District- Bolangir, Odisha.

i. The project proposal has been submitted by MECL for preliminary survey (G3) for manganese in Kumiapali Block, District- Bolangir, Odisha.

ii. The geological/ geophysical parameters proposed for G3 stage exploration have been technically evaluated by the committee and it has been decided that the project may be taken up for G4 stage exploration with available geological map on 1:12,500 scale. The committee suggested compiling all available geoscience data and taking up the geophysical and scout drill components at this stage. After receiving encouraging results, the project proposal may be submitted for G3 stage of exploration with systematic drilling and other required parameters to keep the project cost effective.

iii. Accordingly, the title of the proposal should be modified as **Reconnaissance Survey (G4)**

The Committee recommended the proposal for approval of Reconnaissance Survey (G4) for Manganese in Kumiapali Block, District- Bolangir, Odisha *with estimated cost of Rs. 237.99 Lakhs including GST in time schedule of 12 months for carrying out the proposed work and submission of report as per Annexure-4A & 4B.*

24.1.7: General Exploration (G2) in Naila Ki Dhani Copper Block, Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan.

i. The project proposal was submitted by MECL for general exploration (G2) for copper in Naila Ki Dhani Copper Block, Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan.

ii. The proposal has been technically evaluated by the committee for its various geological/geophysical components and their suitability in the G2 stage exploration. It has been suggested that the geological map of GSI may be used and bore holes may be planned along the borehole profiles of the drilled boreholes of GSI.

iii. It has also been suggested that the geophysical survey, geophysical logging along with systematic drilling with maximum 200m vertical depth of intersection may be taken up by MECL.

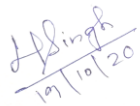
The Committee recommended the proposal for approval of General Exploration (G2) in Naila Ki Dhani Copper Block, Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan with estimated cost of Rs. 807.59 Lakhs including GST in time schedule of 16 months for carrying out the proposed work and submission of report as per Annexure-5A & 5B.

24.1.8: General Exploration (G2) for copper mineralisation in Tonda block, Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan.

i. The project proposal has been submitted by MECL for general exploration (G2) for copper mineralisation in Tonda block, Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan.

ii. The proposal has been technically evaluated by the committee for its various geological/geophysical parameters and their suitability in the G2 stage exploration. It has been suggested that the geological map of GSI may be used and bore holes may be planned along the profiles of drilled boreholes of GSI.

iii. It has been suggested that the geophysical survey, geophysical logging along with systematic drilling with maximum 200m vertical depth of intersection may be taken up by MECL.





iv. The committee has suggested that the structural disposition in Naila Ki Dhani and Tonda blocks is to be correlated for better understanding of mineralisation as both these blocks are adjacent to each other with NE-SW and NW-SE trends respectively.

v. Committee also suggested, if the results of borehole of northeastern extremity of Naila ki Dhani become very encouraging and the results of borehole of northwestern extremity of Tonda block become very encouraging then the area in between two blocks may demand mapping and drilling and blocks may have to be joined. Decision in this regard will be taken after completion of drilling in two blocks.

The Committee recommended the proposal for approval of General Exploration (G2) for copper mineralisation in Tonda block, Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan with estimated cost of Rs. 650.39 Lakhs including GST in time schedule of 14 months for carrying out the proposed work and submission of report as per Annexure-6A & 6B.

24.1.9: Preliminary Exploration (G3) for copper in part of South of Kesharpur Block (Block ID-ER-ODS-09), District- Mayurbhanj, Odisha.

i. The project proposal has been submitted by MECL for preliminary exploration (G3) for copper exploration in part of South of Kesharpur Block (Block ID-ER-ODS-09), District- Mayurbhanj, Odisha.

ii. MECL has proposed to assess the geophysical anomaly within the area by drilling 10 nos. boreholes with total 2000 m drilling meterage to decipher the continuity of the Cu-lodes along strike and dip directions.

iii. MECL has conveyed that total 0.19 MT of copper with 0.28% Cu has been estimated by cross section method under 334 category of UNFC.

iv. The proposal was discussed in detail and it has been decided that the project with 0.28% Cu resource may not be suitable for taking up for next higher (G3) stage as the minimum cut off required for Cu exploration is 0.5%.

The committee recommended not to take up the project on Preliminary Exploration (G3) for copper in part of South of Kesharpur Block (Block ID-ER-ODS-09), District- Mayurbhanj, Odisha at this stage.

24.1.10: Reconnaissance Survey (G4) for Copper in Namapur Block of 115 sq.km area, District- Rajanna Sircilla (Erstwhile Karimnagar), Telangana.

i. The project proposal has been submitted by MECL for reconnaissance survey (G4) for copper in Namapur Block of 115 sq.km area, District- Rajanna Sircilla (Erstwhile Karimnagar), Telangana.

ii. The proposal has been technically evaluated by the committee and it has been decided that MECL may take up this project by implementing geological mapping on 1:12,500 scale, collection of bed rock samples, stream sediment samples and pitting & trenching.

iii. Based on the encouraging results the progress of work will be reviewed and it has been decided that the geophysical parameters and drilling will be taken up in next stage of exploration.

The Committee recommended the proposal of Reconnaissance Survey (G4) for Copper in Namapur Block of 115 sq.km area, District- Rajanna Sircilla (Erstwhile Karimnagar), Telangana with estimated cost of Rs. 54.83 Lakhs including GST in time schedule of 12 months for carrying out the proposed work and submission of report as per Annexure-7A & 7B.

24.1.11: Detailed exploration for coal (G1) through outsourcing in Tendumuri block, Mand Raigarh Coalfield, District- Raigarh, Chhattisgarh.

i. The project proposal has been submitted by CMPDI for detailed exploration (G1) for coal through outsourcing in Tendumuri block, Mand Raigarh Coalfield, District-Raigarh, Chhattisgarh.

ii. CMPDI has conveyed that about 50% area falls in forest cover, hence initially exploration will be taken up in non-forest area and simultaneously process for obtaining forest clearance will be initiated.

iii. After detailed technical discussion, the committee has decided that the project may be taken up with initial borehole spacing of 800m x 800m and work is to be initiated from eastern side where borehole control of previous study of GSI is available. Based on the encouraging outcome the close spaced 400m x 400m drill holes may be taken up. The progress of project will be reviewed annually.

iv. CMPDI shall ensure forest clearance for taking up project over entire area in scheduled time.

The committee recommended the proposal of Detailed exploration for coal (G1) through outsourcing in Tendumuri block, Mand Raigarh Coalfield, District- Raigarh, Chhattisgarh with estimated cost of Rs. 4128.85 Lakhs including GST in time schedule of 36 months for carrying out the proposed work and submission of report as per Annexure-8A & 8B.

24.1.12: Detailed exploration for coal (G1) through outsourcing in Ramnagar block, Mand Raigarh Coalfield, District- Raigarh, Chhattisgarh.

i. The project proposal has been submitted by CMPDI for Detailed exploration for coal (G1) through outsourcing in Ramnagar block, Mand Raigarh Coalfield, District-Raigarh, Chhattisgarh.

ii. CMPDI has conveyed that about 30% area falls in forest cover, hence initially exploration will be taken up in non-forest area and simultaneously the process for obtaining forest clearance will be initiated.

iii. After detailed technical discussion, the committee has decided that the project may be taken up with initial borehole spacing of 800m x 800m. Based on the encouraging outcome the close spaced 400m x 400m drilling may be carried out. The progress of project will be reviewed annually.

iv. CMPDI shall ensure forest clearance for taking up project over entire area in scheduled time.

The committee recommended the proposal of Detailed exploration for coal (G1) through outsourcing in Ramnagar block, Mand Raigarh Coalfield, District- Raigarh, Chhattisgarh with estimated cost of Rs. 2947.96 Lakhs including GST in time schedule of 36 months for carrying out the proposed work and submission of report as per Annexure-9A & 9B.

24.1.13: Detailed Exploration (G1) for lignite through outsourcing in RS Mangalam Block-B (Ramnad Lignite Field), District- Ramanathapuram, Tamil Nadu.

i. The project proposal has been submitted by CMPDI for detailed exploration (G1) for lignite through outsourcing in RS Mangalam Block-B (Ramnad Lignite Field), District-Ramanathapuram, Tamil Nadu.

ii. The detailed discussions were held with the NLCIL, MECL and CMPDI on area of exploration and boundary issues of the proposed project. The NLCIL has conveyed that a proposal was submitted to CMPDIL in March, 2019 for carrying out detailed exploration in R.S. Mangalm block under Central Sector Scheme of Detailed Exploration of Coal and Lignite for a total metreage of 3,45,000m covering an area of 157 sq km involving 960 boreholes during the years 2019-20, 2020-21, 2021-22, 2022-23, 2023-24, 2024-25 and 2025-26.

iii. Subsequently, CMPDI advised NLCIL to bifurcate the R.S. Mangalam block into 4 sub-blocks (Block- A, B, C and D) and proposal for carrying out detailed exploration in R.S. Mangalam Block-A involving 83,000m of drilling in 232 Boreholes was submitted to CMPDI by NLCIL.

iv. Meantime, a MOU between NLCIL and MECL was signed on 16th November 2019 for taking up detailed exploration, initially in R.S. Mangalam, Block-A and to continue the exploration in other sub-blocks as per annual exploration programme to be given by MOC/CMPDIL. Based on the MOU, the exploration work in R.S. Mangalam, Block-A was commenced during the month of Dec-2019 and the work is continuing.

v. The proposal under consideration to TCC, NMET is for block B of R. S. Mangalam covering an area of 39.86 sq km involving 90,500m of drilling through outsourcing.

vi. The CMPDI has conveyed that only 9,000m drilling has been carried out so far by MECL in the block A and it is apparent that at this pace of drilling the work of block A could be completed in nine years. In such

circumstances the outsourcing of remaining blocks is a better option.

vii. The committee asked that a NOC from MECL and NLCIL has to be submitted by CMPDI in order to avoid any complications related to the provisions of earlier MOU between MECL and NLCIL.

viii. After detailed technical discussion, the committee has decided that the project may be taken up with initial borehole spacing of 800m x 800m. Based on the encouraging results the close spaced 400m x 400m drilling may be initiated. The progress of project will be reviewed annually.

The committee recommended the proposal of Detailed Exploration (G1) for lignite through outsourcing in RS Mangalam Block-B (Ramnad Lignite Field), District- Ramanathapuram, Tamil Nadu with estimated cost of Rs. 5762.60 Lakhs including GST in time schedule of 48 months for carrying out the proposed work and submission of report as per Annexure-10A & 10B.

24.1.14: Reconnaissance Survey (G4) for Potash in Bharusari sub basin, North Western part of Rajasthan, district - Hanumangarh, Rajasthan.

i. The project proposal was submitted by MECL for reconnaissance survey (G4) for potash in Bharusari sub-basin, North Western part of Rajasthan, district - Hanumangarh, Rajasthan.

ii. MECL has proposed topographic survey and geological mapping over 125.5 sq. km area.

iii. It has been conveyed that the total resources of all three sub basin [Satipura, Bharusari, and Lakhasar] is 2476.58 MT with 4.70% K and 23.54% Na. Out of which, Bharusari Sub basin contain 388.31MT with 4.68% K and 17.17% Na.

iv. It is pertinent to mention that worldwide average reported potash grades in explored deposits of evaporate type range from 5.3% to 38% K. Most reported grades in operating mines range from 11% to 25% K2O. In general, the lowest average grade that is currently being mined is in the range of 8-10% K2O.

v. In view of this it has been decided that MECL may take up the Potash exploration in Bharusari sub basin for G3 stage exploration and demarcate the maximum thickness of Potash zones with more than 5% K.

vi. MECL will select a total of 12 boreholes (PBH-1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 14 and 15) around GSI drilled boreholes area for G3 stage exploration.

vii. Accordingly, MECL has to modify the title of project to G3 stage and work components as discussed in meeting.

The Committee recommended the proposal for approval of Preliminary Exploration (G3) for Potash in Bharusari sub basin, North Western part of Rajasthan, district - Hanumangarh, Rajasthan with estimated cost of Rs. 1754.13 Lakhs including GST in time

schedule of 18 months for carrying out the proposed work and submission of report as per Annexure-11A & 11B.

24.1.15: (a) Reconnaissance Survey (G4) for deep-seated concealed mineralisation for multi metal (basemetal, major, minor, REE & trace elements) in Churu area (2127 sq. km), Aravalli Fold Belt, Districts- Churu, Sikar and Jhunjhunu, Rajasthan.

(b) Reconnaissance Survey (G4) for deep-seated concealed mineralisation for multi metal (basemetal, major, minor, REE & trace elements) in Dausa area (195 sq. km), Aravalli Fold Belt, District- Dausa, Rajasthan.

i. Both the project proposals mentioned above have been submitted by MECL for reconnaissance survey (G4) for deep seated concealed mineralisation

ii. MECL has mentioned in the proposal that they have been asked by GSI to take up the drilling work in these areas as a follow up of outcome of GSI-Geoscience Australia collaborative project UNCOVER.

iii. The proposal was sent to GSI for comments and it has been conveyed that the project UNCOVER is still under implementation stage and geological report is yet to be brought out. GSI also clarified that no request has been made to MECL to carry out the work as proposed in the above two proposals.

iv. In view of above the committee decided that the implementation of drilling project as proposed by MECL may not be judicious at this stage without the outcome and recommendation of the ongoing project UNCOVER.

v. After detailed deliberations it has been decided not to approve above mentioned proposals of MECL.

The committee recommended not to take up the projects on (a) **Reconnaissance Survey (G4) for deep-seated concealed mineralisation for multi metal (basemetal, major, minor, REE & trace elements) in Churu area (2127 sq. km), Aravalli Fold Belt, Districts- Churu, Sikar and Jhunjhunu, Rajasthan and (b) Reconnaissance Survey (G4) for deep-seated concealed mineralisation for multi metal (basemetal, major, minor, REE & trace elements) in Dausa area (195 sq. km), Aravalli Fold Belt, District- Dausa, Rajasthan.**

24.2: Review of the progress of ongoing projects:

24.2.1: Deep Seismic Reflection Survey (DSRS) and Magneto Telluric (MT) Survey for Northern Transect of Project: Uncover of GSI

i. The project proposal was approved in 10th EC meeting and approval was conveyed to GSI on 31.10.2018.

ii. Shri Hemraj Suryawanshi, DDG, NMH-II conveyed that the work is to be carried out by ONGC under an MoU between GSI and ONGC and all issues related to the same

are in the process of being resolved. Committee noted it.

iii. It was also conveyed to the committee that GSI is also in the process of finalisation of an ambitious pan-India project proposal on DSRS and MT survey under baseline geoscience data generation for a comprehensive understanding of the 3D architecture of potential areas. The committee appreciated and conveyed that an elaborate discussion on this will be required as and when proposal is received.

The committee noted it.

24.2.2: Review of exploration work of Veeranam Block-II for taking decision to take up exploration work in Veeranam Block III & IV.

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

ii. Further, it has been conveyed that G1 level exploration for lignite in Veeranam Block was approved in 4th EC meeting held on 21st February, 2017 at a cost of ₹6763.44 Lakhs (excluding tax). The work commenced on 22nd February, 2017 with a time schedule of 36 months i.e. to be completed by 21st February, 2020. The block was proposed by NLC India Limited and was to be executed by MECL.

iii. MECL has conveyed that the exploration work in two blocks have been completed and requested for permission to initiate work in remaining blocks.

iv. The committee advised MECL to take up exploration in the remaining blocks.

The committee recommended to take up exploration activities in the remaining two blocks as per approved scheduled timeline.

24.2.3: Review of exploration work of Malangtoli sub-block-H for iron ore (G3) for taking decision on future work.

i. The progress of work carried out so far in the project has been apprised by MECL to the committee. The MECL has conveyed that the drilling work has been carried out in non-forest area and the forest clearance is yet to be received. MECL has also conveyed that the encouraging results have been received in the explored area and the ore body have been delineated with the exploration carried out so far. Further MECL has proposed to close the ongoing G3 stage exploration work and take up the exploration in G2 stage to assess the resources.

ii. After detailed discussion, it has been decided that the ongoing project work is to be terminated and technical report is to be submitted by MECL. After assessment of encouraging results, the G2 stage work may be planned.

The Committee recommended to terminate the ongoing exploration work and MECL to submit the Geological report for the exploration work carried out so far. After assessment of mineral resource, the next stage of exploration may be planned.

24.3: Other additional agenda

24.3.1: Fresh Nomination of External Peer Reviewers for scrutiny of Geological Reports submitted by Exploration Agencies.

i. The member secretary, TCC, NMET requested for fresh nomination of external peer reviewers for scrutiny of geological reports submitted by NEAs.

ii. The committee discussed about the suggested name of the reviewers and recommended for approval of EC **(annexure-12).**

The committee recommended the name of the reviewers for scrutiny of the geological reports submitted by NEAs after the completion of exploration work of the approved NMET projects (annexure-12).

24.3.2: Modified satellite imagery studies and payment of actual cost of satellite imagery studies for approved project "Reconnaissance Survey (G4) for Prospect Evaluation of the sporadic occurrences of Molybdenite, South of Karimnagar (56 N/4), District- Siddipet and Karimnagar, Telangana".

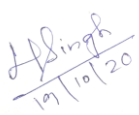
i. The TSMDC has requested for modification of project Reconnaissance Survey (G4) for Prospect Evaluation of the sporadic occurrences of Molybdenite, South of Karimnagar (56 N/4), District- Siddipet and Karimnagar, Telangana by including some more area. It has also been conveyed that no work has been done so far in the project.

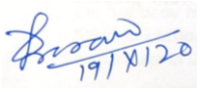
ii. It is pertinent to mention that the project was approved in the 16th EC meeting held in Feb'2020.

iii. The committee desired that in future pre-mature proposals which needs immediate modifications /corrections need not to be submitted to TCC.

The committee suggested TSMDC to complete the project and submit technical report for the approved project. Committee also suggested to submit fresh proposal for the extended area, if required.

24.3.3: Time over run of ongoing projects executed by Exploration Agencies.





i. The NEAs have requested for time over run for the ongoing projects as work could not be carried out since implementation of lockdown in March, 2020 due to COVID19.

ii. In view of prevailing pandemic situation evolved due to COVID19, the committee has recommended a time over run of 6 months for all the ongoing projects.

iii. Regarding OMECL projects the committee advised to submit the forest clearance details thereafter the time extension will be accorded for taking up other exploration activities (drilling, sampling etc.).

The committee recommended for approval of timeline extension for the projects (annuxure-13) in next EC.

Meeting ended with a vote of thanks by the Member Secretary, TCC, NMET.



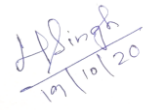


Mineral Exploration Projects/Blocks recommended by 24th TCC held on 07th, 08th and 09th Oct, 2020 and extended 24th TCC on 16th Oct, 2020

S. No.	Project/Block Name	Commodity	Stage	Duration (Months)	Approved Cost (₹ Lakhs including GST)
Implementing Agency: MECL					
1	Reconnaissance survey (G4) for graphite and manganese ore in Rengali Graphite block. (including expired lease hold area of M/s. B. K. Agarwal and M/s T. Pradhan) (9.41 sq.km area) District- Balangir, Odisha.	Graphite & Manganese	G4	12	**411.30**
2	Reconnaissance Survey (G4) for Manganese in Antapali Block, District- Balangir, Odisha.	Manganese	G4	12	**155.77**
3	Reconnaissance Survey (G4) for Manganese in Kumiapali Block, District- Bolangir, Odisha.	Manganese	G4	12	**237.99**
4	General Exploration (G2) in Naila Ki Dhani Copper Block, Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan.	Copper	G2	16	**807.59**
5	General Exploration (G2) for copper mineralisation in Tonda block, Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan.	Copper	G2	14	**650.39**
6	Reconnaissance Survey (G4) for Copper in Namapur Block of 115 sq.km area, District- Rajanna Sircilla (Erstwhile Karimnagar), Telangana.	Copper	G4	12	**54.83**
7	Preliminary Exploration (G3) for potash in Bharusari sub basin, North Western part of Rajasthan, district- Hanumangarh, Rajasthan.	Potash	G3	18	**1754.13**
Implementing Agency: CMPDI					
8	Detailed exploration for coal (G1) through outsourcing in Tendumuri block, Mand Raigarh Coalfield, District- Raigarh, Chhattisgarh.	Coal	G1	36	**4128.85**
9	Detailed exploration for coal (G1) through outsourcing in Ramnagar block, Mand Raigarh Coalfield, District- Raigarh, Chhattisgarh.	Coal	G1	36	**2947.96**
10	Detailed Exploration (G1) for lignite through outsourcing in RS Mangalam Block-B (Ramnad Lignite Field), District- Ramanathapuram, Tamil Nadu.	Lignite	G1	48	**5762.60**
				Total	**16911.41**

24th Technical-cum-Cost Committee (TCC) NMET held on 07th, 08th and 09th Oct, 2020 and extended 24th TCC on 16th Oct, 2020 through videoconferencing at Geological Survey of India, DGCO, A-II Pushpa Bhawan, New Delhi-62

S. No.	Name/Designation	Status	Remarks
1	Shri Janardan Prasad, ADG & HoD, SR, GSI	Chairman, TCC, NMET	Attended in person
2	Shri Ranjan Kumar Sinha, Controller General (Retd.) Indian Bureau of Mines	TCC Member	Attended via videoconference
3	Shri P. Tarafdar, Dy. Director General (Retd.) Geological Survey of India	TCC Member	Attended via videoconference
4	Dr. Manoranjan Mohanty, Dy. Director General (Retd.) Geological Survey of India	TCC Member	Attended via videoconference
5	Shri Naeem Ahmad, General Manager-Exploration (Retd.), CMPDI Ltd.	TCC Member	Attended via videoconference
6	Dr. Anjani Kumar, Dy. General Manager (Exploration) & HoD-Planning (Retd.), MECL	TCC Member	Attended via videoconference
7	Shri J. V. Ramarao, Dy. Director General (GP), Geological Survey of India	TCC Member	Attended via videoconference
8	Dr. L. P. Singh, Director, Geological Survey of India	Member Secretary, TCC, NMET	Attended in person
9	Shri Amit Saran, Director, NMET, MoM	TCC Member	Attended in person
10	Shri H. K. Verma, DGM (Finance), HCL	TCC Member	Attended via videoconference
11	Shri P. K. Maharana, AGM (Finance), NALCO	TCC Member	Attended via videoconference
12	Shri Vinay Pal, Assit. Cost Account Officer (Finance), Geological Survey of India	TCC Member	Attended in person



Annexure-1

List of Participants in 24th Technical-cum-Cost Committee (TCC) NMET, held on 07th, 08th and 09th Oct, 2020 and extended 24th TCC on 16th Oct, 2020 through videoconferencing at Geological Survey of India, DGCO, A-II Pushpa Bhawan, New Delhi-62.

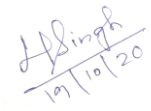
S. No.	Name/Designation	Email ID	Contact No	Organisation
1	Shri Janardan Prasad, ADG & HoD, SR, GSI, Hyderabad	janardan.prasad@gsi.gov.in	7763800788	Chairman, TCC
2	Shri Ranjan Kumar Sinha, Controller General (Retd.) IBM	sinhark57@rediffmail.com	9421777637	Member, TCC
3	Shri Pradipta Tarafdar, DDG (Retd.) GSI	tarafdar.pradipta@gmail.com	9503088847	Member, TCC
4	Shri Manoranjan Mohanty, DDG (Retd.) GSI	manoranjanmoha@gmail.com	9483511287 8249014425	Member, TCC
5	Shri J. V. Ramarao, DDG (GP) (Retd.) GSI	rarajammi@gmail.com	9440691284	Member, TCC
6	Shri Anjani Kumar, (Retd.), MECL	anjanikumar1957.ak@gmail.com	9975350576	Member, TCC
7	Shri Naeem Ahmed, (Retd.), CMPDI	ahmadnaeem17@yahoo.co.in	8588092153	Member, TCC
8	Shri Amit Saran, Director & HoD,NMET	amit.saran@nic.in	9717647259	Member, TCC
9	Dr. L. P. Singh, Director, GSI	nmet-tcc@gov.in	9490748249	Member Secretary, TCC
10	Shri P. K. Maharana	pmaharana@rediffmail.com	8500669500	Member, TCC
11	Shri H. K. Verma	hkverma.1960@gmail.com	9752860983	Member, TCC
12	Shri Vinay Pal, ACAO, GSI	palvinay009@gmail.com	8527368161	Member, TCC
13	Shri K. C. Sahoo, Dy.DG (G)	rmh2.wr@gsi.gov.in	9437977007	RHM-II, WR, GSI, Jaipur
14	Shri Hemraj Suryawanshi, Dy.DG (G)	hodm2gsi@gmail.com	9425603674	NMH-II, GSI, Nagpur
15	Dr. B. K. Sahu, Dy.DG (G)	b.sahu@gsi.gov.in	9437568969	RSAS, Bengaluru
16	Shri P. C. Das, Director (GP)	rsasddggp@gmail.com	9483623603	RSAS, Bengaluru
17	Dr. Deshraj Trivedi, Senior Geologist	nmet-tcc@gov.in	9419244294	NMET
18	Shri Subhash Kumar, Senior Geologist	nmet-mines@gov.in	9868302624	NMET
19	Shri Shashi Kant, ACAO	nmet-mines@gov.in	9015585789	NMET
20	Shir K. Rajasekhar Reddy General Manager (Mining)	tsmdcltd@gmail.com	8008558580	TSMDC, Hyderabad
21	Shri M. S. Jairam DDG (Retd.), GSI, Technical advisor	tsmdcltd@gmail.com	9866987154	TSMDC, Hyderabad
22	Dr. Ch. Sravan Kumar, DGM (Geology)	sravankumar@nmdc.co.in	9490760005	NMDC, Hyderabad
23	Shri M. Venkateswarlu, Joint Director	directorminests@gmail.com	94408 17784	DGM, Telangana
24	Shri B. P. Raturi, GM, (Exploration)	bpraturi100@gmail.com	9422806417	MECL, Nagpur
25	Shri Yogesh Sharma, General Manager (BD)	yogesh21@hotmail.com	9810163792	MECL, Nagpur
26	Mr. Kailash Dongre (Joint Director Geology)	kailashdongre.kd@gmail.com	9424282791	DGM, Chhattisgarh
27	Dr A. K. Panda, GM (Exploration)	gmexpl.cmpdi@coalindia.in	8987788782	CMPDI
28	Dr R. P. Singh, Mnager (Geology)	gm.exploration.cmpdil@gmail.com	8987789047 9431358716	CMPDI
29	Shri Sudeepta Sundar Parida, Assistant Geologist	ssparida.geo@gmail.com	865833344	DGM, Tamil Nadu
30	Dr. P. K. Nayak, Manager (Geology)	pknayak257@gmail.com	6372651516	OMECL
31	Dr. P. C. Mishra, Dy. Director Geology	pcmishra66@rediffmail.com		DGM, Odisha
32	Shri S. Kamaraj, HoD (Geology)	cgm.geo@nlcindia.in	9486681360	NLCIL
33	Shri Shiva Kumar M, SM (ME)	bmed@kioclltd.com	9481444686	KIOCL

Annexure-2A

Estimated Cost for Reconnaissance Survey (G4) for Graphite and Manganese Ore in Rengali Block, District- Balangir Odisha (Total block area- 9.41 sq km; Nos. of Boreholes- 5; Borehole depth range- 100 m average; Completion Time- 12 Months)							
S. No.	**Item of Work**	**Unit**	**Rates as per NMET SoC 2020-21**		**Estimated Cost of the Proposal**		**Remarks**
			SoC- Item- S. No.	**Rates as per SoC**	**Qty.**	**Total Amount (Rs)**	
A	**GEOLOGICAL WORK**						
1	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS	Nos	1.6.2	19,200	5	96,000	
2a	Geologist Party days (1 party)-Field	day	1.2	11,000	130	14,30,000	
2b	Geologist Party days (1 party)-HQ	day	1.2	9,000	60	5,40,000	
2c	4 labours/ party (Rs 350/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	1,400	130	182,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
3a	Core Sampling -1 Samplers Labour charge not included	day	1.5.2	5,100	90	4,59,000	
3b	4 labours/ party (Rs 350/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	1,400	90	1,26,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub-Total A	**2,833,000**	
B	**GEOPHYSICAL SURVEY**						
1	Gravity Survey	Nos	3.1a	3,800	1,900	7,220,000	
2	IP, SP, Resistivity and Magnetic Survey	Line Km	3.4b	1,44,869	90	1,30,38,237	
3	Surveyor Work	days	1.6.1a	8,300	120	9,96,000	
4	4 labours/ party (Rs 350/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	1,400	120	1,68,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub-Total B	**21,422,237**	
C	**PITTING AND TRENCHING**						
1	Trenching (1m x 2mx 150 m)	Cu m	2.1.1	3,300	200	6,60,000	
					Sub-Total C	**6,60,000**	
D	**DRILLING**						
1	Drilling (1 rig)	m	2.2.1.4a	11,500	500	57,50,000	
2	Borehole deviation Survey	m	2.2.6	330	500	1,65,000	
3	Land / Crop Compensation	per BH	5.6	20,000	5	1,00,000	Amount will be reimbursed as per actuals

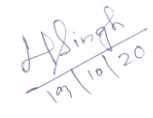
							or max. Rs. 20000 per BH with certification from local authorities.
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
5	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	1,400	50,400	
6	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	6	3,00,000	
8	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
9	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
10	Road Making (Flat Terrain)	Km	2.2.10a	22,020	5	1,10,100	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly.
					Sub-Total D	**69,85,500**	
E	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Primary & Check samples for Graphite**						
	a. Proximate Analysis for Graphite (Ash, Moisture, V.M. and F.C.) for Primary Samples	Nos	4.1.16	3,000	200	6,00,000	
	b Proximate Analysis for Graphite (Ash, Moisture, V.M. and F.C.) for Internal (5%) and External (10%) Check Samples NABL Lab	Nos	4.1.16	3,000	30	90,000	
ii)	**Primary & Check samples for Manganese**						
	a. Primary Samples for 6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insoluble)	Nos	4.1.7a + 7b	2,841	200	5,68,200	
	b-Internal (5%) and External (10%) Check samples from NABL Lab for 6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insoluble)	Nos	4.1.7a + 7b	2,841	30	85,230	
iii)	**Composite Samples**						
	a. Proximate Analysis for Graphite (Ash, Moisture, V.M. and F.C.)	Nos	4.1.16	3,000	20	60,000	
	b. Total Sulphur (S)	Nos	4.1.14	1,900	20	38,000	
	c. 6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insoluble)	Nos	4.1.7a + 7b	2,841	20	56,820	
2	**Physical & Petrological Studies**						
i)	X-RD Studies on composite	Nos	4.5.1	4,000	10	40,000	
ii)	ICP-MS studies (21 Trace elements- Cu, Pb, Zn, Cd, Sn, W, Sb, Ce, Nb, Ba, La, Bi, Co, Ni, Sr, Mo, V,	Nos	4.1.14	7,731	10	77,310	

	Ta, Ag, Zr & Ga)						
iii)	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
iv)	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	
v)	Preparation of polished section	Nos	4.3.2	1,549	10	15,490	
vi)	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
vii)	Specific Gravity determination	Nos	4.8.1	1,605	20	32,100	
					Sub-Total E	**17,71,320**	
F	**Drill Core Preservation**						
	One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	100	1,59,000	
					Sub-Total F	**1,59,000**	
G					**Total- A to F**	**3,38,31,057**	
H	**Geological Report Preparation**		**5.2**	For the projects having cost more than Rs. 300 lakhs- A minimum of Rs. 9 lakhs or 3% of the value of work whichever is more		**10,14,932**	
I	**Peer review Charges**		**As per EC decision**			**10,000**	
J	**Total Estimated Cost without GST**					**3,48,55,989**	
K	**Provision for GST (18% of J)**					**62,74,078**	GST will be reimbursed as per actual and as per notified prescribed rate
L	**Total Estimated Cost with GST**					**4,11,30,067**	
							or Say Rs. 411.30 Lakhs
Note- If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item No. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.							



Annexure-2B

Time schedule/action plan for Reconnaissance Survey (G4) for Graphite and Manganese Ore in Rengali Block, District- Balangir Odisha															
			1	2	3	4	5	6	7	8	9	10	11	12	
1	Camp Setting	Month													1 month
2	Geophysical Work	Month													
	a. Gravity Survey	Stn													1900 Stations
	b. IP, SP, Resistivity and Magnetic Survey	L.Km													90 l.km
3	Survey Party days (1 Party)	Party days													120 Days
4	Geophysical Report	Month													2 month
5	Pitting Trenching (5 Pit & 7 Trenches)	Cu.m													300 Cu m
6	Surface Drilling (1 rig)	m.													400m in 5 Bhs
7	Geologist Party days (1Party)	Party days													120 Days
8	Sampling Party days, Core Sampling (1 party)	Party days													90 Days
9	Camp Winding	Months													1 month
10	Laboratory Studies	Months													310 Nos
11	Geologist Party days, HQ (1Party)	Party days													60 Days
12	Report Writing with Peer Review	Months													4 months



Annexure-3A

Estimate Cost for Reconnaissance Survey (G4) for Manganese in Antapali Block, District- Balangir, Odisha (Total block area- 2.30 sq km; Nos. of Borehole- 5; Borehole depth range- 80 m average; Completion Time- 12 Months)							
S. No.	**Item of Work**	**Unit**	**Rates as per NMET SoC 2020-21**		**Estimated Cost of the Proposal**		**Remarks**
			SoC- Item- S. No.	**Rates as per SoC**	**Qty.**	**Total Amount (Rs)**	
A	**GEOLOGICAL WORK**						
1	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS	Nos	1.6.2	19,200	5	96,000	
2a	Geologist Party days (1 party)-Field	day	1.2	11,000	120	13,20,000	
2b	Geologist Party days (1 party)-HQ	day	1.2	9,000	60	5,40,000	
2c	4 labours/ party (Rs 350/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	1,400	80	1,12,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
3a	Core Sampling -1 Samplers Labour charge not included	day	1.5.2	5,100	60	3,06,000	
3b	4 labours/ party (Rs 350/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	1,400	60	84,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub-Total A	**24,58,000**	
B	**GEOPHYSICAL SURVEY**						
1	Gravity and Magnetic Survey	Nos	3.1b	4,500	500	22,50,000	
2	Surveyor Work	days	1.6.1a	8,300	30	2,49,000	
3	4 labours/ party (Rs 350/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	1,400	30	42,000	
					Sub-Total B	**25,41,000**	
C	**PITTING AND TRENCHING**						
1	Trenching (1m x 2mx 100 m)	Cu m	2.1.1	3,300	200	6,60,000	
					Sub-Total C	**6,60,000**	
D	**DRILLING**						
1	Drilling (1 rigs)	m	2.2.1.4a	11,500	400	46,00,000	
2	Borehole deviation Survey	m	2.2.6	330	400	1,32,000	
3	Land/Crop Compensation	per BH	5.6	20,000	5	1,00,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH

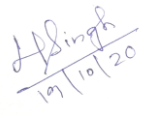
							with certification from local authorities
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
5	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	1,300	46,800	
6	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	5	2,50,000	
7	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
8	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
9	Road Making (Flat Terrain)	Km	2.2.10a	22,020	5	1,10,100	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly.
					Sub-Total D	**57,48,900**	
E	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Primary & Check samples**						
	a. Primary Samples for 6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insoluble)	Nos	4.1.7a + 7b	2,841	200	5,68,200	
	b-Internal (5%) and External(10%) Check samples from NABL Lab for 6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insolubles)	Nos	4.1.7a + 7b	2,841	30	85,230	
ii)	**Composite Samples**						
	6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insoluble)	Nos	4.1.7a + 7b	2,841	30	85,230	
2	**Physical & Petrological Studies**						
i)	X-RD Studies on composite	Nos	4.5.1	4,000	10	40,000	
ii)	ICP-MS studies (34 Trace elements-Cd, Sn, W, Sb, Ce, Nb, Ba, La, Bi, Co, Ni, Sr, Mo, V** etc.,	Nos	4.1.14	7,731	10	77,310	
iii)	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
iv)	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	
v)	Preparation of polished section	Nos	4.3.2	1,549	10	15,490	
vi)	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
vii)	Specific Gravity determination	Nos	4.8.1	1,605	10	16,050	
					Sub-Total E	**9,95,680**	
F	**Drill Core Preservation**						
	One complete borehole plus mineralised cores of remaining BHs of the Block, all cost included {80m for one borehole, 30m mineralised zone for remaining 5 Bhs, (80+(30x5)=230)	m	5.3	1,590	100	1,59,000	
					Sub-Total F	**1,59,000**	
G					**Total- A to F**	**1,25,62,580**	

H	**Geological Report Preparation**		**5.2**	For the projects having cost more than 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		**6,28,129**	
I	**Peer review Charges**		**As per EC decision**			**10,000**	
J	**Total Estimated Cost without GST**					**1,32,00,709**	
K	**Provision for GST (18% of J)**					**23,76,128**	GST will be reimbursed as per actual and as per notified prescribed rate
L	**Total Estimated Cost with GST**					**1,55,76,837**	
							or Say Rs. 155.77 Lakhs
Note- If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item No. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.							



Annexure-3B

Time schedule/action plan for Reconnaissance Survey (G4) for Manganese in Antapali Block, District- Balangir, Odisha														
			1	2	3	4	5	6	7	8	9	10	11	12	
1	Camp Setting	Month													0 month
2	Geophysical Work	Month													500 Stations
3	Survey Party days (1 Party)	Party days													30 Days
4	Geophysical Report	Month													2 month
5	Pitting Trenching (5 Pit & 7 Trenches)	Cu.m													200 Cu m
6	Surface Drilling (1 rig)	m.													400m in 5 Bhs
7	Geologist Party days (1Party)	Party days													120 Days
8	Sampling Party days, Core Sampling (1 party)	Party days													60 days
9	Camp Winding	Months													1 month
10	Laboratory Studies	Months													310 Nos
11	Geologist Party days, HQ (1Party)	Party days													60 days
12	Report Writing with Peer Review	Months													4 months

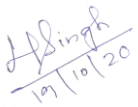


Annexure-4A

Estimate Cost for Reconnaissance Survey (G4) of Manganese Mineralisation in Kumiapali Block, District- Balangir, Odisha (Total block area- 8.92 sq km; Nos. of Borehole- 5; Borehole depth range- 80m average; Completion Time- 12 Months)							
S. No.	**Item of Work**	**Unit**	**Rates as per NMET SoC 2020-21**		**Estimated Cost of the Proposal**		
			SoC- Item- S. No.	**Rates as per SoC**	**Qty.**	**Total Amount (Rs)**	**Remarks**
A	**GEOLOGICAL WORK**						
1	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS	Nos	1.6.2	19,200	5	96,000	
2a	Geologist Party days (1 party)-Field	day	1.2	11,000	130	14,30,000	
2b	Geologist Party days (1 party)-HQ	day	1.2	9,000	60	5,40,000	
2c	4 labours/ party (Rs 350/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	1,400	130	1,82,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
3a	Core Sampling -1 Samplers Labour charge not included	day	1.5.2	5,100	90	4,59,000	
3b	4 labours/ party (Rs 350/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	1,400	90	1,26,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub-Total A	**28,33,000**	
B	**GEOPHYSICAL SURVEY**						
1	Gravity and Magnetic Survey	Nos	3.1b	4,500	1,800	81,00,000	
2	Surveyor Work	day	1.6.1a	8,300	60	4,98,000	
3	4 labours/ party (Rs 350/day/labour) (As per rates of Central Labour Commissioner)	day	5.7	1,400	60	84,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub-Total B	**86,82,000**	
C	**PITTING AND TRENCHING**						
1	Trenching (1m x 2mx 150 m)	Cu m	2.1.1	3,300	300	9,90,000	
					Sub-Total C	**9,90,000**	

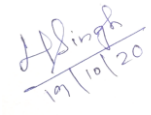
D	**DRILLING**						
1	Drilling (1 rig) up to 300m	m	2.2.1.4a	11,500	400	46,00,000	
2	Borehole deviation Survey	m	2.2.6	330	400	1,32,000	
3	Land / Crop Compensation	per BH	5.6	20,000	5	1,00,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
5	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	1,300	46,800	
6	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	5	2,50,000	
7	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
8	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
9	Road Making (Flat Terrain)	Km	2.2.10a	22,020	5	1,10,100	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly.
					Sub-Total D	**57,48,900**	
E	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Primary & Check samples**						
	a. Primary Samples for 6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insolubles)	Nos	4.1.7a + 7b	2,841	200	5,68,200	
	b-Internal (5%) and External(10%) Check samples from NABL Lab for 6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insolubles)	Nos	4.1.7a + 7b	2,841	30	85,230	
ii)	**Composite Samples**						
	6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insolubles)	Nos	4.1.7a + 7b	2,841	30	85,230	
2	**Physical & Petrological Stusies**						
i)	X-RD Studies on composite	Nos	4.5.1	4,000	10	40,000	
ii)	ICP-MS studies (14 Trace elements-Cd,Sn,W,Sb,Ce,Nb,Ba,La,Bi,Co, Ni, Sr, Mo, V**	Nos	4.1.14	7,731	10	77,310	
iii)	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
iv)	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	
v)	Preparation of polished section	Nos	4.3.2	1,549	10	15,490	
vi)	Complete mineragraphic study report	Nos	4.3.4	4,232	10	42,320	
vii)	Specific Gravity determination	Nos	4.8.1	1,605	10	16,050	
					Sub-Total E	**9,95,680**	
F	**Drill Core Preservation**						
	One complete borehole plus mineralised cores of all the BHs of the Block, all cost included	m	5.3	1,590	100	1,59,000	

	{80m for one borehole, 5m mineralised zone for remaining 4 Bhs,						
					Sub-Total F	**1,59,000**	
G					**Total- A to F**	**1,94,08,580**	
H	**Geological Report Preparation**	**No**	**5.2**	For the projects having cost more than Rs. 150 lakh but less than Rs. 300 lakhs - A minimum of Rs. 7.5 lakhs or 3% of the value of work whichever is more		**7,50,000**	
I	**Peer review Charges**		**As per EC decision**			**10,000**	
J	**Total Estimated Cost without GST**					**2,01,68,580**	
K	**Provision for GST (18% of J)**					**36,30,344**	GST will be reimbursed as per actual and as per notified prescribed rate
L	**Total Estimated Cost with GST**					**2,37,98,924**	
							or Say Rs. 237.99 Lakhs
Note - If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item No. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.							



Annexure-4B

Time schedule/action plan for Reconnaissance Survey (G4) of Manganese Mineralisation in Kumiapali Block, District- Balangir, Odisha														
			1	2	3	4	5	6	7	8	9	10	11	12	
1	Camp Setting	Month													1 month
2	Geophysical Work	Month													1800 Stations
3	Survey Party days (1 Party)	Party days													60 Days
4	Geophysical Report	Month													2 month
5	Pitting Trenching (5 Pit & 7 Trenches)	Cu.m													300 Cu m
6	Surface Drilling (1 rig)	m.													400m in 5 Bhs
7	Geologist Party days (1Party)	Party days													130 Days
8	Sampling Party days, Core Sampling (1 party)	Party days													90 days
9	Camp Winding	Months													1 month
10	Laboratory Studies	Months													310 Nos
11	Geologist Party days, HQ (1Party)	Party days													60 days
12	Report Writing with Peer Review	Months													4 months

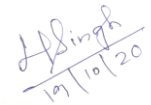


Annexure-5A

Estimate Cost for General Exploration (G2) for Copper Ore in Naila Ki Dhani Copper Block, Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan (Total block area- 1.83 sq km; Nos. of Borehole- 18; Borehole depth range- 90m to 300m; Completion Time- 16 Months)							
S. No.	**Item of Work**	**Unit**	**Rates as per NMET SoC 2020-21**		**Estimated Cost of the Proposal**		**Remarks**
			SoC- Item- S. No.	**Rates as per SoC**	**Qty.**	**Total Amount (Rs)**	
A	**GEOLOGICAL WORK**						
1	**Borhole logging & sampling & report writing**						
a	Charges for one Geologist per day at HQ	day	1.3	9,000	60	540,000	
b	Charges for one Geologist per day at field	day	1.3	11,000	270	29,70,000	
c	Labour (2 Nos) Base rate - Rs.350 X 2 = 700	day	5.7	700	270	1,89,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
2	**Survey (on 1:2000 Scale)**						
a	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS	Per Point of observation	1.6.2	19,200	18	3,45,600	
b	Charges of one Surveyor (1 Party)	one surveyor per day	1.6.1a	8,300	60	4,98,000	
c	Labours (4 Nos) Base rate - Rs. 350 x 4 = 1400/-	day	5.7	1,400	60	84,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
d	Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	270	13,77,000	
e	Labours (4 Nos) Base rate - Rs. 350 x 4 = 1400/-	day	5.7	1,400	270	3,78,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub-Total A	**63,81,600**	
B	**Borehole Geophysical Logging**						
1	Base log	Per m	3.11a	151	4,140	6,25,140	
2	Induced Polarosation (I.P)	Per m	3.11p	93	4,140	3,85,020	
3	Resistivity	Per m	3.11c	39	4,140	1,61,460	
4	SP	Per m	3.11b	39	4,140	1,61,460	
5	Spectral Gamma	Per m	3.11o	164	4,140	6,78,960	
					Sub-Total B	**20,12,040**	
C	**DRILLING**						

1	Drilling (Medium Hard Rock)	m	2.2.1.4a	11,500	4,140	4,76,10,000	
2	Borehole deviation Survey by Multishot Camera	m	2.2.6	330	4,140	13,66,200	
3	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	18	3,60,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	18	36,000	
5	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	4,600	1,65,600	
6	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	8	4,00,000	
8	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	2	5,00,000	
9	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	2	5,00,000	
10	Road Making (Flat Terrain)	Km	2.2.10a	22,020	15	3,30,300	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly.
11	Drill Core Preservation	per m	5.3	1,590	1,500	23,85,000	
					Sub-Total C	**5,36,53,100**	
D	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Primary samples**						
	a. for Cu	Nos	4.1.7a	2,506	1,080	27,06,480	
ii)	**Check samples Internal (5%) and External (10%)**						
	for Cu	Nos	4.1.7a	2,506	165	4,13,490	
iii)	**Composite Samples**						
	a) For 5 Radicals (Cu, Ni, Co , W Mo)	Nos	4.1.7a	2,506	50	1,25,300	
	b) Geo-Technical Sample	Nos	N.A	14,663	10	1,46,630	will be reimbursed as per actual
	c) Beneficiation Study	Nos	4.7.2 as per IBM Rate	2,83,927	1	2,83,927	will be reimbursed as per actual
					Sub-Total D	**36,75,827**	
E	**Petrological samples (Surface & BH Core Samples)**						
i	Preparation of thin section	Nos	4.3.1	2,353	20	47,060	
ii	b) Study of Thin Section	Nos	4.3.4	4,232	20	84,640	
					Sub-Total E	**1,31,700**	
F	**Mineragraphic Studies (Surface & BH Core Samples)**						
a	Preparation of polished section	Nos	4.3.2	1,549	30	46,470	
b	Study of Polished Section	Nos	4.3.4	4,232	30	1,26,960	

c	Digital Photographs	Nos	4.3.7	280	30	8,400	
					Sub-Total F	**1,81,830**	
G	**Specific Gravity Determination**						
	Specific Gravity Determination	No.	4.8.1	1,605	20	32,100	
					Sub-Total G	**32,100**	
H					**Total- A to G**	**6,60,68,197**	
I	**Geological Report Preparation**	**5 Hard copies with a soft copy**	**5.2**	For the projects having cost more than Rs. 300 lakhs- A minimum of Rs. 9 lakhs or 3% of the value of work whichever is more subject to Max. Rs. 20 lakhs		**19,82,046**	
J	**Peer review Charges**		**As per EC decision**			**10,000**	
K	Preparation of Exploration Proposal (5 Hard copies with a soft copy)	5 Hard copies with a soft copy	5.1	2% of the Cost or Rs. 3.8 Lakhs whichever is lower		3,80,000	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
L	**Total Estimated Cost without GST**					**6,84,40,243**	
M	**Provision for GST (18% of L)**					**1,23,19,244**	GST will be reimbursed as per actual and as per notified prescribed rate
N	**Total Estimated Cost with GST**					**8,07,59,487**	
							or Say Rs. 807.59 Lakhs
Note - If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.							



Annexure-5B

Time schedule/action plan for General Exploration (G2) for Copper Ore in Naila Ki Dhani Copper Block, Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan																		
S. No.	Activities	Unit	MONTHS															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1	Camp Setting	Month																	1 month
2	Core Drilling (2 rigs)	m.																	4140m (in 18 Bhs)
3	Borehole Geophysical Studies	m.																	4140m (in 18 Bhs)
4	Survey Party days	day																	60 days
5	Geologist Party days (1 Party)	day																	270 days
6	Sampling Party days, Core Sampling (1 Party)	day																	270 days
7	Camp Winding	Month																	1 month
8	Laboratory Studies	Nos.																	1375 Nos (Primary/ Check/ Composite/Physical)
9	Geologist Party days (1 Party), HQ	day																	60 days
10	Report Writing	Month																	5 month
NOTE																			
1	**Commencement of project may be reckoned from the day the exploration acreage is available along with all statutory clearances.**																		
2	**Time loss on account of monsoon/agricultural activity/forest clearance/local law & order problem/ lockdown etc. will be additional to above time line.**																		

Annexure-6A

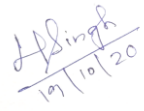
Estimate Cost for General Exploration (G2) for Copper Ore in Tonda Copper Block, , Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan (Total block area- 0.56 sq km; Nos. of Borehole- 13; Borehole depth range- 140 m to 400m; Completion Time- 14 Months)							
S. No.	**Item of Work**	**Unit**	**Rates as per NMET SoC 2020-21**		**Estimated Cost of the Proposal**		**Remarks**
			SoC- Item- S. No.	**Rates as per SoC**	**Qty.**	**Total Amount (Rs)**	
A	**GEOLOGICAL WORK**						
1	**Borhole logging & sampling & report writing**						
a	Charges for one Geologist per day at HQ	day	1.3	9,000	60	5,40,000	
b	Charges for one Geologist per day at field	day	1.3	11,000	210	23,10,000	
c	Labour (2 Nos) Base rate - Rs.350 X 2 = 700	day	5.7	700	210	1,47,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
2	**Survey (on 1:2000 Scale)**						
a	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS	Per Point of observation	1.6.2	19,200	13	2,49,600	
b	Charges of one Surveyor (1 Party)	one surveyor per day	1.6.1a	8,300	60	4,98,000	
c	Labours (4 Nos) Base rate - Rs. 350 x 4 = 1400/-	day	5.7	1,400	60	84,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
d	Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	120	6,12,000	
e	Labours (4 Nos) Base rate - Rs. 350 x 4 = 1400/-	day	5.7	1,400	120	1,68,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub-Total A	**46,08,600**	
B	**Borehole Geophysical Logging**						
1	Base log	Per m	3.11a	151	3,550	5,36,050	
2	Induced Polarization (I.P)	Per m	3.11p	93	3,550	3,30,150	
3	Resistivity	Per m	3.11c	39	3,550	1,38,450	
4	SP	Per m	3.11b	39	3,550	1,38,450	
5	Spectral Gamma	Per m	3.11o	164	3,550	5,82,200	
					Sub-Total B	**17,25,300**	

C	**DRILLING**						
1	Drilling up to 300m (Medium Hard Rock)	m	2.2.1.4a	11,500	3,250	3,73,75,000	
2	Drilling 301 to 600 m (Medium Hard Rock)	m	2.2.1.4b	12,420	300	37,26,000	
3	Borehole deviation Survey by Multishot Camera	m	2.2.6	330	3,550	11,71,500	
4	Land / Crop Compensation (in case the BH falls in agricultural Land)	per BH	5.6	20,000	13	2,60,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
5	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	13	26,000	
6	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	4,600	1,65,600	
7	Monthly Accommodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	7	3,50,000	
8	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	2	5,00,000	
9	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	2	5,00,000	
10	Road Making (Flat Terrain)	Km	2.2.10a	22,020	15	3,30,300	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly.
11	Drill Core Preservation	per m	5.3	1,590	650	10,33,500	
					Sub-Total C	**4,54,37,900**	
D	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Primary samples**						
	a. for Cu	Nos	4.1.7a	2,506	300	7,51,800	
ii)	**Check samples Internal (5%) and External(10%)**						
	for Cu	Nos	4.1.7a	2,506	45	1,12,770	
iii)	**Composite Samples**						
	a) For 5 Radicals (Cu, Ni, Co , W Mo)	Nos	4.1.7a	2,506	60	1,50,360	
	b) Geo-Technical Sample	Nos	N.A	14,663	10	1,46,630	will be reimbursed as per actual
	c) Beneficiation Study	Nos	4.7.2 as per IBM Rate	2,83,927	1	2,83,927	will be reimbursed as per actual
	Sub-Total -D					**14,45,487**	
E	**Petrological samples (Surface & BH Core Samples)**						
i	Preparation of thin section	Nos	4.3.1	2,353	20	47,060	
ii	Study of Thin Section	Nos	4.3.4	4,232	20	84,640	
					Sub-Total E	**1,31,700**	
F	**Mineragraphic Studies (Surface & BH Core Samples)**						
a	Preparation of polished section	Nos	4.3.2	1,549	20	30,980	

b	Study of Polished Section	Nos	4.3.4	4,232	20	84,640	
c	Digital Photographs	Nos	4.3.7	280	20	5,600	
					Sub-Total F	**1,21,220**	
G	**Specific Gravity Determination**						
	Specific Gravity Determination	No.	4.8.1	1,605	20	32,100	
					Sub-Total G	**32,100**	
H					**Total- A to G**	**5,35,02,307**	
I	**Geological Report Preparation**		**5.2**	For the projects having cost more than Rs. 300 lakhs - A minimum of Rs. 9 lakhs or 3% of the value of work whichever is more		**16,05,069**	
J	**Peer review Charges**		**As per EC decision**			**10,000**	
K	**Total Estimated Cost without GST**					**5,51,17,376**	
L	**Provision for GST (18% of K)**					**99,21,128**	GST will be reimbursed as per actual and as per notified prescribed rate
M	**Total Estimated Cost with GST**					**6,50,38,504**	
							or Say Rs. 650.39 Lakhs
Note- If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.							

Annexure-6B

Time schedule/action plan for General Exploration (G2) for Copper in Tonda Copper Block, Eastern Khetri Copper Belt, District- Jhunjhunu, Rajasthan																
Sl. No.	**Activities**	**Unit**	**MONTHS**													**Total**
			1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	
1	Camp Setting	Month															1 month
2	Core Drilling (2 rigs)	m.															3550m (in 13 Bhs)
3	Borehole Geophysical Studies	m.															3500m (in 13 Bhs)
4	Survey Party days	day															60 days
5	Geologist Party days (1 Party)	day															210 days
6	Sampling Party days, Core Sampling (1 party)	day															120 days
7	Camp Winding	Month															1 month
8	Laboratory Studies	Nos.															475 Nos (Primary/ Check/ Composite/Physical)
9	Geologist Party days (1 Party), HQ	day															60 days
10	Report Writing	Month															5 month
NOTE																	
1	**Commencement of project may be reckoned from the day the exploration acreage is available along with all statutory clearances.**																
2	**Time loss on account of monsoon/agricultural activity/forest clearance/local law & order problem/ lockdown etc. will be additional to above time line.**																



Annexure-7A

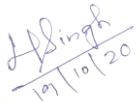
Estimated cost for Reconnaissance Survey (G4) for Copper in Namapur Block, District- Rajanna Sircilla (Erstwhile Karimnagar), Telangana Total block area- 115 sq km; Completion Time- 12 Months							
S. No.	**Item of Work**	**Unit**	**Rates as per NMET SoC 2020-21**		**Estimated Cost of the Proposal**		**Remarks**
			SoC- Item- S. No.	**Rates as per SoC**	**Qty.**	**Total Amount (Rs)**	
1.0	**Geological Mapping (LSM), Other Geological Work & Surveying**						
1.1	Satellite imagery/Aerial photo interpretation studies						
	a) Charges for procurement of satellite imageries	Nos	1.1.a	0	1	0	If required; will be reimbursed as per actual
	b) Geologist man days (1 No) for interpretation (HQ)	days	1.1.b	9000	15	135000	
1.2	Large scale (LSM) Geological mapping						
	a) Geologist man days (1 No) for Geological Mapping (Field)	days	1.2	11,000	120	1320000	
	Labour (field) for Geological mapping work (Total 4 Nos i.e. 2 workers per one geologist)	per worker	5.7	350	240	84000	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
	b) Geologist man days (1 No.) for Geological map & Report (HQ)	days	1.2	9,000	60	540000	
1.3	**Survey work**						
	a) Surveyor man days (1 Nos)	days	1.6.1.a	8,300	0	0	
	b) Labour (field) for Surveying work (Total 4 workers per one Surveyor)	per worker	5.7	350	0	0	
	c) Demarcation of Block boundary by DGPS	Nos	1.6.2	19,200	0	0	
					Sub-Total A	**2079000**	
2.0	**Mineral Investigation**						
2.1	Trenching/Pitting[$]						
	a) Excavation of trenches 2 Nos (1m*50m*2m)	per cu m	2.1.1	3,330	200	666000	
	b) Excavation of pits 5 Nos (1mx1mx2m) *if required	per cu m	2.1.2	3,800	10	38000	If required

2.2	**Drilling**						
	a) Drilling up to 300m Rigs) (Medium Hard Rock)	per m	2.2.1.4 a	11,500		0	
2.3	Borehole deviation survey	per m	2.2.6	330		0	
2.4	Borehole pillaring						
	a) construction of concrete pillar (12"x12"x30")	per borehole	2.2.7.a	2,000		0	
	b) Borehole plugging by cement	per m	2.2.7.b	150		0	
2.5	Transportation of drill rigs & truck associated per drill (To & Fro from HQ)	per km	2.2.8	36		0	
2.6	Monthly accommodation charges for drilling camp	monthly	2.2.9	50,000		0	
	a) Drilling camp setting (2 rigs)	per drill	2.2.9a	250,000		0	
	b) Drilling camp winding (2 rigs)	per drill	2.2.9b	250,000		0	
2.7	Approach road making in rugged- hilly terrain (Partly rugged-hilly terrain)	per km	2.2.10b	32,200		0	
					Sub-Total B	**704000**	
3.0	**Geophysical Surveys#**						
3.1	Magnetic Surveys (10-30 line km)	per station	3.2a	1,800		0	
3.2	Self-potential (8-20 line km)	line km	3.3a	29,600		0	
3.3	Induced Polarisation survey (10-20 line km)	line km	3.4a	69,950		0	
3.4	Resistivity Imaging/Profiling with twin separation (station interval up to 10 m)	line km	3.6c	300,000		0	
3.5	a) Surveyor man days (1 Nos)	days	1.6.1.a	8,300		0	
	b) Labour (field) for Surveying work (Total 4 workers per one Surveyor)	per worker	5.7	350		0	
					Sub-Total C	**0**	
4.0	**Laboratory Studies**						
4.1	Chemical Analysis						
	i) Surface sampling (Bed Rock Samples/Soil/Stream Sediment)						
	a) For Cu, Pb, Zn	per sample	4.1.7b	2,506	150	375900	
	b) For Co, Mo, Se & Te	per sample	4.1.7b	2,506	15	37590	
	c) For Au & Ag (Gold) by Fire Assay	per sample	4.1.5a	4,760	10	47600	
	d) REE analysis(14 elements) by ICP-MS	per sample	4.1.13	5,380	20	107600	

	method						
4.2	iv) Check Samples (Bed Rock/Soil/Stream Sediment Samples) - 5% Internal & 10% External						
	a) For Cu, Pb, Zn	per sample	4.1.7b	2,506	23	57638	
	b) For Co, Mo, Se & Te	per sample	4.1.7b	2,506	5	12530	
	c) For Au & Ag (Gold) by Fire Assay	per sample	4.1.5a	4,760	0	0	
	iii) Pit & Trench, Primary & Check Samples (5% Internal +10% External)						
	a) For Cu, Pb, Zn	per sample	4.1.7b	2,506	100	250600	
	b) For Co, Mo, Se & Te	per sample	4.1.7b	2,506	25	62650	
	c) For Au & Ag (Gold) by Fire Assay	per sample	4.1.5a	4,760	10	47600	
4.3	ii) BH Core Sampling, Primary & Check samples (5% internal +10% External)						
	a) For Cu, Pb, Zn	per sample	4.1.7b	2,506	0	0	
	b) For Co, Mo, Se & Te	per sample	4.1.7b	2,506	0	0	
	c) For Au & Ag (Gold) by Fire Assay	per sample	4.1.5a	4,760	0	0	
	d) REE analysis (Only if 1 BH drilled after positive bedrock assay for REE)	per sample	4.1.13	5,380	0	0	
4.4	iii) Composite Samples	per sample					
	a) For Cu, Pb, Zn	per sample	4.1.7b	2,506	0	0	
	b) For Cd, Sb, Co, Ni, Mo, Ga, Fe, S, As, Hg, Se & Te	per sample		4,851	0	0	
	c) For Au & Ag (Gold) by Fire Assay	per sample	4.1.5a	4,760	0	0	
4.5	a) Whole rock analysis by XRF (SiO_2, Al_2O_3, Fe_2O_3, TiO_2, MnO, CaO, Na_2O, K_2O+H_2O, MgO, P_2O_5, CO_2 & S)	per sample	4.1.15a	4,200	0	0	
4.6	b) Analysis of rock sample (composite) for determination of package by 34 elements by ICP-AES/ICP-MS	per sample	4.1.14	7,731	0	0	
4.7	Petrological studies						
	a) Preparation of thin section	per sample	4.3.1	2,353	20	47060	
	b) Study of thin section for petrography	per sample	4.3.4	4,232	20	84640	
	c) Preparation of polished section	per sample	4.3.2	1,549	10	15490	
	d) Study of polished section for	per sample	4.3.4	4,232	10	42320	

	mineragraphy						
	e) Digital photomicrograph of thin polished section	per sample	4.3.7	280	10	2800	
4.8	Specific Gravity Determination (BH)	per sample	4.8.1	1,605	0	0	
4.9	g) X-RD Studies for identifiction of minerals on composite sample	Nos	4.5.1	4,000	15	60000	
					Sub-Total D	**1252018**	
5.0	**Miscellaneous**						
5.1	Drill core preservation	per m	5.3	1590	0	0	
5.2	Land/crop compensation	per borehole		20000	0	0	
5.3	Preparation of Exploration Proposal	Nos	5.1	380000	1	380000	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
5.9	Report Peer Review Charges*	lumpsum		10000	1	10000	
					Sub-Total E	**390000**	
6.0	**Total (A + B + C + D + E)**					**4425018**	
7.0	**Geological Report Preparation**	Nos	**5.2**	**For the projects having cost up to Rs. 50 lakhs - A minimum of Rs. 1.5 lakhs or 5% of the value of work whichever is more**	1	**221251**	
8.0	**Total Estimated Cost without GST**					**4646269**	
9.0	**Provision for GST (18%)**					**836328**	GST will be reimburse as per actual and as per notified prescribed rate
10.0	**Total Estimated Cost with GST**					**5482597**	
							or Say Rs. 54.83 Lakhs

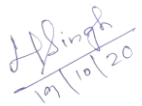
Note:		
	If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.	
*	Marked items not indicated in SoC and required to be taken up during the course of exploration shall be charged separately (as per actuals)	
$	Trenching/Pitting dimensions are tentative may vary depending upon the geology and field conditions	
i	Satellite imageries shall be procured from website/NRSA as the case may be and procurement charges if any shall be charged at actuals.	
#	2nd level of work shall be carried out after review of 1st level work i.e. Geological mapping, geochemical sampling and analysis	



Annexure-7B

Time schedule/action plan for Reconnaissance Survey (G4) for Copper in Namapur Block, District- Rajanna Sircilla (Erstwhile Karimnagar), Telangana

S. No.	Activities	Unit	Months											
			1	2	3	4	5	6	7	8	9	10	11	12
1	Remote sensing study (Geologist 1 party)	Day												
2	Geologist (1 party) for Geological mapping, Trenching & Pitting etc- Field	Day												
3	Sample preparation of Surface sample (1 party)	Day												
4	Analytical work of surface samples (primary+ check)	Nos.												
5	Geologist party days (1 party) for data processing & maps & Reports -HQ	Day												
6	Geophysical survey - (Geophysicst 1 party days) -Field	Day												
7	Camp Setting	Month												
8	Drilling* (2 Rig operation)	m.												
9	Survey Party days (2 Party)	day												
10	Geologist Party days for drilling & sampling (1 Parties)-Field	day												
11	Core Sampling (2 Party)	day												
12	Camp winding	Month												
13	Laboratory Studies* (Chemical, Physical & Petrological etc.)	Nos.												
14	Geologist Party days (1 Party)-HQ	day												
15	Geological Report	Month												

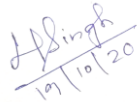


Annexure-8A

Estimated cost for Detailed Exploration (G1) of Coal through outsourcing in Tendumari Block, Mand Raigarh Coalfield, District- Raigarh Chhattisgarh Total Area- 12.53 sq km; Nos. of Borehole- 90; Borehole depth range- 440 m to 700 m; Completion Time- 36 Months							
		Item no in SoC	Unit	Rates as per NMET SoC	Total		Remarks
S. No.	Item Work				Qty.	Amount in Rs.	
I	**OUTSOURCING WORK**						
A	**Drilling**						
1	Drilling for coal (Rates prescribed by the Ministry of Coal)	2.2.1.1b	m	5619	50000	280950000	
2	Construction of concrete pillar (12"x12"x30')	2.2.7a	Per BH	2000	90	180000	
3	Borehole plugging by cement-NQ size - 150/m	2.2.7b	Per m	150	50000	7500000	
				Sub-Total A		**288630000**	
B	**GEOPHYSICAL STUDIES**						
1	Borehole Geophysical logging (As per MoC Rate 2020-21)*	3.11	m	656	25000	16400000	
				Sub-Total B		**16400000**	
				Total Estimated cost of work proposed for outsourcing (A + B)		**305030000**	
II	**DEPARTMENTAL WORK**						
A	**Monitoring Work**						
i	**GEOLOGICAL WORK**						
a	Monitoring Work (Surveyor)	1.6.1b	Day	8300	90	747000	
b	Monitoring Work (Geological Party days-Field)	1.5.1b	Day	11000	750	8250000	
c	Monitoring Work (Geological Party days-HQ)	1.5.1b	Day	9000	750	6750000	
ii	**GEOPHYSICAL STUDIES**						
a	Monitoring Work - (Geological Party days-Field)	3.19	Day	11000	0	0	
b	Monitoring Work - (Geological Party days-HQ)	3.19	Day	9000	270	2430000	
				Sub-Total C		**18177000**	
B	**Sample Preparation**	**1.5.2**	**Day**	**5100**	**270**	**1377000**	
C	**Laboratory Studies**						
	I. Chemical Analysis						
1	**Band By Band Analysis**						
a	Ash + Moisture	4.2.6	per sample	700	2350	1645000	
b	House Keeping	4.2.1	per sample	115	2350	270250	
2	**Overall analysis**						

a	Proximate analysis	4.2.7	per sample	935	1175	1098625	
b	Moisture at 60% RH & 40C	4.2.8	per sample	1010	1175	1186750	
c	Gross Calorific Value (if already charges moisture determination is included)	4.2.11	per sample	1505	1175	1768375	
d	Overall Sample preparation & House Keeping	4.2.3	per sample	795	1175	934125	
3	**Special Test**						
a	Ultimate analysis (C, H, N, S)	4.2.17	per sample	9945	235	2337075	
b	Total Sulphur	4.2.14	per sample	1900	235	446500	
c	Distribution of Sulphur	4.2.15	per sample	3695	235	868325	
d	HGI including sample preparation	4.2.18	per sample	3805	235	894175	
e	AFT (Ash Fusion Temperature) (rage MRA/OA including ash preparation)	4.2.20	per sample	2745	235	645075	
f	Ash analysis	4.2.25	per sample	325	235	76375	
4	**Petrographic analysis**						
a	Sample preparation including Pellet preparation for petrography	4.3.14a	per sample	1160	20	23200	
b	Quantification of Maceral composition	4.3.14b	per sample	10060	20	201200	
c	Quantification of Microlithotype composition	4.3.14c	per sample	20000	20	400000	
d	Detailed Maceral Analysis (with photomicrography)	4.3.14e	per sample	25000	20	500000	
e	Detailed Microlithotype Analysis (with photomicrography)	4.3.14g	per sample	25000	20	500000	
5	Phsico Mechanical Studies (Geotechnical)	4.8	Per BH	3400000	1	3400000	
6	Analysis of Sample - ICP-AES/ICPMS for 34 elements	4.1.14	per sample	7731	50	386550	
					Sub-Total D	**17581600**	
D	**Miscellaneous Charges**						
a	Preparation of Exploration Proposal	5.1	lump sum	380000	1	380000	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	Tendering process cost	2.3	lump sum	500000	1	500000	
c	Expenses for attending pre bid & post bid meetings (TA/DA for officers to attend pre and post bid meetings)	5.5.2	One time	300000		0	Admissible in case of auction of block

d	Operational charges for CMPDI	Point 3 of SOC		1500000		1500000	Admissible on actual outsourced cost
e	Land crop compensation	5.6	Per BH	20000	90	1800000	50% block area under forest cover. Amount will be reimbursed as per actuals or max. Rs. 20000 per BH after producing the certificate of local authorities
f	Core Preservation (1 borehole)	5.3	Per m	1590	740	1176600	
g	DGPS Survey of boundary, borehole points	1.6.2	per point	19200	100	1920000	As per the actual subject to maximum of 100 points
h	Geological Report preparation	5.1		200000	1	200000	
i	3D ore body modelling using Minex software	5.3		250000	1	250000	
d	Peer Review			10000	1	10000	
					Sub-Total E	**7736600**	
	Total Estimated cost of work carried out through department (C + D + E)					**44872200**	
	Total (A + B + C + D + E)					**349902200**	
	GST (@18%)					62982396	GST will be reimburse as per actual and as per notified prescribed rate
					Grand Total	**412884596**	
							or say Rs. 4128.85 Lakh
Notes-	**The cost of Outsourced Component (as mentioned at S. No.- I) will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. If any part of the remaining component is outsourced, the amount will also be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the components by NEA on its own, a Certificate regarding non outsourcing of any component is required.**						
	***** GPL rates is Rs 656/- per meter , the break up is as follow						
		Probe	SoC item No	Rate 2020-21 (in Rs)			
	Base Log	Base Log	3.11a	162			
	Natural Gamma	Natural Gamma	3.11h	96			
	Density	Dual Density	3.11d	110			
	Caliper	Caliper	3.11g	20			
	Deviation	Deviation	3.11m	96			
	SPR	SPR	3.11i	41			
	Sonic Log	Sonic Log	3.11k	131			
	Total			**656**			



Annexure-8B

Time schedule/action plan for Detailed Exploration (G1) of Coal through outsourcing in Tendumari Block, Mand Raigarh Coalfield, District- Raigarh Chhattisgarh

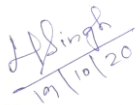
S. No.	Activities		Financial Year 2020-21					Financial Year 2021-22											Financial Year 2022-23												Financial Year 2023-24						
		Months	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1	Outsourcing	3 months																																			
2	Mobilising	1 month																																			
3	Drilling (Nos of rigs-4 rigs)	25 months																																			
4	Monitoring Work (Surveyor)	90 days																																			
5	Monitoring Work - (Geophysical Party days-HQ)	270 days																																			
6	Monitoring Work (Geological Party days-Field)	750 days																																			
7	Core Sampling	Days																																			
8	Laboratory Studies (Band By Band)	Nos.																																			
9	Laboratory Studies (Overall)	Nos.																																			
10	Laboratory Studies (Special)	Nos.																																			
11	Laboratory Studies (Petrography, Trace element & Geotechnical)	Nos.																																			
12	DGPS Survey	100 Points																																			
13	Monitoring Work (Geological Party days-HQ)	750 days																																			
14	Report Writing	7 months																																			
15	3D Modeling	6 months																																			

Annexure-9A

Estimated cost for Detailed Exploration of Coal through outsourcing in Ramnagar Block, Mand Raigarh Coalfield, District- Raigarh Chhattisgarh Total Area- 9.36 sq km; Nos. of Borehole- 65; Borehole depth range- 440 m to 750 m; Completion Time- 36 Months							
		Item no in	Unit	Rates as per	Total		Remarks
S. No.	Item Work	SoC		NMET SoC	Qty.	Amount in Rs.	
I	**OUTSOURCING WORK**						
A	**Drilling**						
1	Drilling for Lignite (Rates prescribed by the Ministry of Coal)	2.2.1.1b	m	5619	34500	193855500	
2	Construction of concrete pillar (12"x12"x30')	2.2.7a	Per BH	2000	65	130000	
3	Borehole plugging by cement	2.2.7b	Per m	150	34500	5175000	
					Sub-Total A	**199160500**	
B	**GEOPHYSICAL STUDIES**						
1	Borehole Geophysical logging (As per MoC Rate 2020-21)*	3.11	m	656	17250	11316000	
					Sub-Total B	**11316000**	
				Total Estimated cost of work proposed for outsourcing (A + B)		**210476500**	
II	**Departmental Work**						
A	**Monitoring Work**						
i	**GEOLOGICAL WORK**						
a	Monitoring Work (Surveyor)	1.6.1b	Day	8300	65	539500	
b	Monitoring Work (Geological Party days-Field)	1.5.1b	Day	11000	750	8250000	
c	Monitoring Work (Geological Party days-HQ)	1.5.1b	Day	9000	750	6750000	
ii	**GEOPHYSICAL STUDIES**						
a	Monitoring Work - (Geophysical Party days-Field)	3.19	Day	11000	0	0	
b	Monitoring Work - (Geophysical Party days-HQ)	3.19	Day	9000	195	1755000	
					Sub-Total C	**17294500**	
B	**Sample Preparation**	**1.5.2**	**Day**	**5100**	**195**	**994500**	
C	**Laboratory Studies**						
	I. Chemical Analysis						
1	**Band By Band Analysis**						
a	Ash + Moisture	4.2.6	per sample	700	1700	1190000	
b	House Keeping	4.2.1	per sample	115	1700	195500	

2	**Overall analysis**						
a	Proximate analysis	4.2.7	per sample	935	850	794750	
b	Moisture at 60% RH & 40C	4.2.8	per sample	1010	850	858500	
c	Gross Calorific Value (if already charges moisture determination is included)	4.2.11	per sample	1505	850	1279250	
d	Overall Sample preparation & House Keeping	4.2.3	per sample	795	850	675750	
3	**Special Test**						
a	Ultimate analysis (C, H, N, S)	4.2.17	per sample	9945	170	1690650	
b	Total Sulphur	4.2.14	per sample	1900	170	323000	
c	Distribution of Sulphur	4.2.15	per sample	3695	170	628150	
d	HGI including sample preparation	4.2.18	per sample	3805	170	646850	
e	AFT (Ash Fusion Temperature) (rage MRA/OA including ash preparation)	4.2.20	per sample	2745	170	466650	
f	Ash analysis	4.2.25	per sample	325	170	55250	
4	**Petrographic analysis**						
a	Sample preparation including Pellet preparation for petrography	4.3.14a	per sample	1160	15	17400	
b	Quantification of Maceral composition	4.3.14b	per sample	10060	15	150900	
c	Quantification of Microlithotype composition	4.3.14c	per sample	20000	15	300000	
d	Detailed Maceral Analysis (with photomicrography)	4.3.14e	per sample	25000	15	375000	
e	Detailed Microlithotype Analysis (with photomicrography)	4.3.14g	per sample	25000	15	375000	
5	Phsico Mechanical Studies (Geotechnical)	4.8	Per BH	3400000	1	3400000	
6	Analysis of Sample - ICP-AES/ICPMS for 34 elements	4.1.14	per sample	7731	50	386550	
					Sub-Total D	**13809150**	
D	**Miscellaneous Charges**						
a	Preparation of Exploration Proposal	5.1	lump sum	380000	1	380000	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	Tendering process cost	2.3	lump sum	500000	1	500000	
c	Expenses for attending pre bid & post bid meetings (TA/DA for officers to attend pre and post bid meetings)	5.5.2	One time	300000		0	Admissible in case of block auction.

d	Operational charges for CMPDI	Point 3 of SOC		1500000		1500000	Subject to actual outsourced cost
e	Land crop compensation	5.6	Per BH	20000	65	1300000	30% block area is under forest cover. Amount will be reimbursed as per actuals or max. Rs. 20000 per BH after producing the certificate of local authorities.
f	Core Preservation (1 borehole)	5.3	Per m	1590	750	1192500	
g	DGPS Survey of boundary, borehole points	1.6.2	per point	19200	100	1920000	As per the actual, subject to maximum of 100 points
h	Geological Report preparation	5.1		200000	1	200000	
i	3D ore body modelling using Minex software	5.3		250000	1	250000	
d	Peer Review			10000	1	10000	
					Sub-Total E	**7252500**	
	Total Estimated cost of work carried out through department (C + D + E)					**39350650**	
	Total (A + B + C + D + E)					**249827150**	
	GST (@18%)					44968887	GST will be reimburse as per actual and as per notified prescribed rate
					Grand Total	**294796037**	
							or say Rs. 2947.96 Lakh
Notes-	**The cost of Outsourced Component (as mentioned at S. No.- I) will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. If any part of the remaining component is outsourced, the amount will also be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the components by NEA on its own, a Certificate regarding non outsourcing of any component is required.**						
	* GPL rates is Rs 656/- per meter , the break up is as follow						
		Probe	SoC item No	Rate 2020-21 (in Rs)			
	Base Log	Base Log	3.11a	162			
	Natural Gamma	Natural Gamma	3.11h	96			
	Density	Dual Density	3.11d	110			
	Caliper	Caliper	3.11g	20			
	Deviation	Deviation	3.11m	96			
	SPR	SPR	3.11i	41			
	Sonic Log	Sonic Log	3.11k	131			
	Total			**656**			



Annexure-9B

Time schedule/action plan for Detailed Exploration (G1) of Coal through outsourcing in Ramnagar Block, Mand Raigarh Coalfield, District- Raigarh Chhattisgarh

S. No.	Activities		Financial Year 2020-21					Financial Year 2021-22											Financial Year 2022-23												Financial Year 2023-24						
		Months	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1	Outsourcing	3 months																																			
2	Mobilising	1 month																																			
3	Drilling (Nos of rigs-4 rigs)	25 months																																			
4	Monitoring Work (Surveyor)	65 days																																			
5	Monitoring Work - (Geophysical Party days-HQ)	195 days																																			
6	Monitoring Work (Geological Party days-Field)	750 days																																			
7	Core Sampling	Days																																			
8	Laboratory Studies (Band By Band)	Nos.																																			
9	Laboratory Studies (Overall)	Nos.																																			
10	Laboratory Studies (Special)	Nos.																																			
11	Laboratory Studies (Petrography, Trace element & Geotechnical)	Nos.																																			
12	DGPS Survey	100 Points																																			
13	Monitoring Work (Geological Party days-HQ)	750 days																																			
14	Report Writing	7 months																																			
15	3D Modeling	6 months																																			

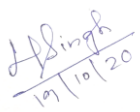
J.P.Singh
19/10/20

Annexure-10A

Estimated cost for Detailed Exploration of Coal through outsourcing in R S Manglam B Block, District- Ramanathpuram, Tamil Nadu Total Area- 39.96 sq km; Nos. of Borehole- 248; Borehole depth range- 319 m to 392 m; Completion Time- 48 Months							
		Item no in SoC	Unit	Rates as per NMET SoC	Total		Remarks
S. No.	Item Work				Qty.	Amount in Rs.	
I	**OUTSOURCING WORK**						
A	**Drilling**						
1	Drilling for Lignite (Rates prescribed by the Ministry of Coal)	2.2.1.1a	m	3989	90500	361004500	
2	Borehole Pillaring - Construction of Concreate Pillar	2.2.7a	Per BH	2000	248	496000	
3	Borehole plugging by cement-NQ size - 150/m	2.2.7b	Per m	150	90500	13575000	
					Sub-Total A	**375075500**	
B	**Geophysical Studies**						
1	Borehole Geophysical logging (As per MoC Rate 2020-21)*	3.11	m	601	90500	54390500	
					Sub-Total B	**54390500**	
C	**Laboratory Studies**						
	I. Chemical Analysis						
1	**Band By Band Analysis**						
a	Ash + Moisture	4.2.6	per sample	700	1984	1388800	
b	House Keeping	4.2.1	per sample	115	1984	228160	
2	**Overall analysis**						
a	Proximate analysis	4.2.7	per sample	935	992	927520	
b	Moisture at 60% RH & 40C	4.2.8	per sample	1010	992	1001920	
c	Gross Calorific Value (if already charges moisture determination is included)	4.2.11	per sample	1505	992	1492960	
d	Overall Sample preparation & House Keeping	4.2.3	per sample	795	992	788640	
e	Bulk Density**		per sample	500	992	496000	
3	**Special Test**						
a	Ultimate analysis (C, H, N, S)	4.2.17	per sample	9945	197	1959165	
b	Total Sulphur	4.2.14	per sample	1900	197	374300	
c	Distribution of Sulphur	4.2.15	per sample	3695	197	727915	
d	HGI including sample preparation	4.2.18	per sample	3805	197	749585	
e	AFT (Ash Fusion Temperature) (rage MRA/OA	4.2.20	per sample	2745	197	540765	

	including ash preparation)						
f	Ash analysis	4.2.25	per sample	325	197	64025	
4	**Petrographic analysis**						
a	Sample preparation including Pellet preparation for petrography	4.3.14a	per sample	1160	25	29000	
b	Quantification of Maceral composition	4.3.14b	per sample	10060	25	251500	
c	Quantification of Microlithotype composition	4.3.14c	per sample	20000	25	500000	
d	Detailed Maceral Analysis (with photomicrography)	4.3.14e	per sample	25000	25	625000	
e	Detailed Microlithotype Analysis (with photomicrography)	4.3.14g	per sample	25000	25	625000	
e	Mean Ro%	4.3.14j	per sample	16345	25	408625	
5	Phsico Mechanical Studies (Geotechnical)	4.8	Per bh	700000	2	1400000	
6	Analysis of Sample - ICP-AES/ICPMS for 34 elements	4.1.14	per sample	7731	20	154620	
					Sub-Total C	**14733500**	
	Total Estimated cost of work proposed for outsourcing (A + B + C)					**444199500**	
II	**DEPARTMENTAL WORK**						
A	**Monitoring Work**						
i	**Geological work**						
a	Monitoring Work (Surveyor)	1.6.1b	Day	8300	248	2058400	
b	Monitoring Work (Geological Party days-Field)	1.5.1b	Day	11000	1050	11550000	
c	Monitoring Work (Geological Party days-HQ)	1.5.1b	Day	9000	1050	9450000	
ii	**GEOPHYSICAL STUDIES**						
a	Monitoring Work - (Geological Party days-Field)	3.19	Day	11000	0	0	
b	Monitoring Work - (Geological Party days-HQ)	3.19	Day	9000	744	6696000	
					Sub-Total D	**29754400**	
B	**Sample Preparation**	**1.5.2**	**Day**	**5100**	**496**	**2529600**	
C	**Miscellaneous Charges**						
a	Preparation of Exploration Proposal	5.1	lump sum	380000	1	380000	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	Tendering process cost	2.3	lump sum	500000	1	500000	
c	Expenses for attending pre bid & post bid meetings (TA/DA for officers to attend pre and post bid meetings)	5.5.2	One time	300000		0	Admissible in case of block auction.

d	Operational charges for CMPDI	Point 3 of SOC		1500000		1500000	Subject to actual outsourced cost
e	Land crop compensation	5.6	Per BH	20000	248	4960000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH after producing the certificate of local authorities
f	Core Preservation (1 borehole)	5.3	Per m	1590	750	1192500	
g	DGPS Survey of boundary, borehole points	1.6.2	per point	19200	150	2880000	As per actual subject to maximum of 150 points
h	Geological Report preparation	5.1		200000	1	200000	
i	3 D ore body modelling using Minex software	5.3		250000	1	250000	
j	Peer Review			10000	1	10000	
					Sub-Total E	**11872500**	
	Total Estimated cost of work carried out through department (D + E)					**44156500**	
	Total (A + B + C + D + E)					**488356000**	
	GST (@18%)					87904080	GST will be reimburse as per actual and as per notified prescribed rate
					Grand Total	**576260080**	
							or say Rs. 5762.60 Lakh
Notes-	**The cost of Outsourced Component (as mentioned at S. No.- I) will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. If any part of the remaining component is outsourced, the amount will also be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the components by NEA on its own, a Certificate regarding non outsourcing of any component is required.**						
	* GPL rates is Rs 601/- per meter, the break up is as follow						
		Probe	SoC item No	Rate 2020-21 (in Rs)			
	Base Log	Base Log	3.11a	162			
	Natural Gamma	Natural Gamma	3.11h	96			
	Density	Density	3.11d	110			
	Caliper	Caliper	3.11g	20			
	SP	SP	3.11b	41			
	SPR	SPR	3.11i	41			
	Sonic Log	Sonic Log	3.11k	131			
	Total			**601**			
	** A lumpsump rate of Rs 500/- has been considered for bulk density test.						



Annexure-10B

Time schedule/action plan for Detailed Exploration of Coal through outsourcing in R S Manglam B Block, District- Ramanathpuram, Tamil Nadu

S. No.	Activities		Financial Year 2020-21					Financial Year 2021-22											Financial Year 2022-23											
		Months	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1	**Outsourcing**	3 months																													
2	**Mobilising**	1 month																													
3	**Drilling (Nos of rigs-4 rigs)**	35 months																													
4	**Monitoring Work (Surveyor)**	248 days																													
5	**Monitoring Work - (Geophysical Party days-HQ)**	744 days																													
6	**Monitoring Work (Geological Party days-Field)**	1050 days																													
7	**Core Sampling**	Days																													
8	**Laboratory Studies (Band By Band)**	Nos.																													
9	**Laboratory Studies (Overall)**	Nos.																													
10	**Laboratory Studies (Special)**	Nos.																													
11	**Laboratory Studies (Petrography, Trace element & Geotechnical)**	Nos.																													
12	**DGPS Survey**	150 Points																													
13	**Monitoring Work (Geological Party days-HQ)**	1050 days																													
14	**Report Writing**	9 months																													
15	**3D Modeling**	8 months																													

S. No.	Activities		Financial Year 2023-24												Financial Year 2024-25						
		Months	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
1	**Outsourcing**																				
2	**Mobilising**																				
3	**Drilling (Nos of rigs-4 rigs)**																				
4	**Monitoring Work (Surveyor)**																				
5	**Monitoring Work - (Geophysical Party days-HQ)**																				
6	**Monitoring Work (Geological Party days-Field)**																				
7	**Core Sampling**																				
8	**Laboratory Studies (Band By Band)**																				
9	**Laboratory Studies (Overall)**																				
10	**Laboratory Studies (Special)**																				
11	**Laboratory Studies (Petrography, Trace element & Geotechnical)**																				
12	**DGPS Survey**																				
13	**Monitoring Work (Geological Party days-HQ)**																				
14	**Report Writing**																				
15	**3D Modeling**																				

Annexure-11A

Estimate Cost for Reconnaissance Survey (G3) of Potash Mineralisation in Bharusari Sub-Basin, District.- Hanumangarh, Rajasthan (Total block area- 14.17 sq km; Nos. of Borehole- 12; Borehole depth range- 695m to 735m; Completion Time- 18 Months)							
S. No.	**Item of Work**	**Unit**	**Rates as per NMET SoC 2020-21**			**Estimated Cost of the Proposal**	**Remarks**
			SoC- Item-S. No.	**Rates as per SoC**	**Qty.**	**Total Amount (Rs)**	
A	**GEOLOGICAL WORK**						
1a	Survey Party days (1 party)	day	1.6.1a	8,300	210	17,43,000	
1b	4 labours/ party (Rs 350/day/labour)	day	5.7	1,400	210	2,94,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
1c	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes by DGPS	Nos	1.6.2	19,200	12	2,30,400	
2a	Geologist Party days (1 party)-Field	day	1.2	11,000	365	40,15,000	
2b	Geologist Party days (1 party)-HQ	day	1.2	9,000	180	16,20,000	
2c	4 labours/ party (Rs 350/day/labour)	day	5.7	1,400	365	5,11,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
3a	Core Sampling - 1 Samplers	day	1.5.2	5,100	365	18,61,500	
3b	4 labours/ party (Rs 350/day/labour)	day	5.7	1,400	365	5,11,000	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub-Total A	**1,07,85,900**	
B	**GEOPHYSICAL SURVEY**						
1	Dual Density	m	3.11d	102	8,600	8,77,200	
2	Spectral Gamma	m	3.11o	164	8,600	14,10,400	
3	Resistivity	m	3.11c	39	8,600	3,35,400	
4	Neutron	m	3.11f	74	8,600	6,36,400	
5	Caliper	m	3.11g	19	8,600	1,63,400	
6	Deviation	m	3.11m	90	8,600	7,74,000	
					Sub-Total B	**41,96,800**	
C	**DRILLING**						
1	Drilling (4 rigs) up to 300m	m	2.2.1.4a	11,500	3,600	4,14,00,000	
	Drilling (4 rigs) 301-600m	m	2.2.1.4b	12,420	3,600	4,47,12,000	

	Drilling (4 rigs) 601-900m	m	2.2.1.4c	13,225	1,400	1,85,15,000	
2	Land / Crop Compensation	per borehole	5.4	20,000	12	2,40,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
3	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	12	24,000	
4	Borehole plugging by cement	m	2.2.7b	150	8,600	12,90,000	
5	Transportation	Km	2.2.8	36	9,600	3,45,600	
6	Accommodation for 4 rigs/month	Month	2.2.9	1,00,000	24	24,00,000	
8	Camp Setting	Nos	2.2.9a	2,50,000	4	10,00,000	
9	Camp Winding	Nos	2.2.9b	2,50,000	4	10,00,000	
10	Road Making (Flat Terrain)	Km	2.2.10a	22,020	10	2,20,200	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly.
					Sub-Total C	**11,11,46,800**	
D	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
	i) Primary & Check samples						
	a. Analysis for 9 Radicals i.e. K,Na,Mg,Cl,Br,I,Li,CaSO4,WI (BH core samples)	Nos	4.1.7a + 7b	3,846	3,000	1,15,38,000	
	b-Internal (5%) and External (10%) Check samples from NABL Lab for 9 Radicals i.e. K,Na,Mg,Cl,Br,I,Li,CaSO4,WI (BH core samples)	Nos	4.1.7a + 7b	3,846	450	17,30,700	
	ii) Composite Samples				-	-	
	9 Radicals i.e. K,Na,Mg,Cl,Br,I,Li,CaSO4,WI	Nos	4.1.7a + 7b	3,846	100	3,84,600	
2	**Physical & Petrological Studies**				-	-	
i)	X-RD Studies on composite	Nos	4.5.1	4,000	10	40,000	
ii)	Specific Gravity determination	Nos	4.8.1	1,605	10	16,050	
iii)	Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
iv)	Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	
					Sub-Total D	**1,37,75,200**	
E	**Drill Core Preservation**						
	One complete borehole plus mineralised cores of all the BHs of the Block, all cost included {700 for one borehole, 300m halite zone for remaining 11 Bhs, (700+(300x11)=4000m)	m	5.3	1,590	4,000	63,60,000	
					Sub-Total E	**63,60,000**	
F					**Total- A to E**	**14,62,64,700**	

G	**Geological Report Preparation**	5 Hard copies with a soft copy	5.2	For the projects having cost more than Rs. 300 lakhs - A minimum of Rs. 9 lakhs or 3% of the value of work whichever is more subject to Max. Rs. 20 lakhs		**20,00,000**	
H	**Proposal Preparation**	5 Hard copies with a soft copy	5.1	2% of the Cost or Rs. 3.8 Lakhs whichever is lower		**3,80,000**	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
I	**Peer review Charges**					**10,000**	
J	**Total Estimated Cost without GST**					**14,86,54,700**	
K	**Provision for GST (18% of L)**					**2,67,57,846**	GST will be reimbursed as per actual and as per notified prescribed rate
L	**Total Estimated Cost with GST**					**17,54,12,546**	
or Say Rs. 1754.13 Lakhs							
Note- If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.							



Annexure-11B

Time schedule/action plan for Reconnaissance Survey (G3) of Potash Mineralisation in Bharusari Sub-Basin, District- Hanumangarh, Rajasthan																				
Sl. No	Activities	Unit	Financial year 2020-21			Financial year 2021-22											Financial year 2022-23			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
			4/20	5/20	6/20	7/20	8/20	9/20	10/20	11/20	12/20	1/21	2/21	3/21	4/21	5/21	6/21	7/21	8/21	9/21	
1	Camp Setting	Month																			1 month
2	Drilling (4 rigs operation)	m.																			8600 m in 12 Bhs
3	Borehole Geophysical Studies																				8600 m in 12 Bhs
4	Survey Party days (1 Party)	day																			210 days
5	Geologist Party days, Field (1 Pary)	day																			365 days
6	Core Sampling (1 Party)	day																			365 days
7	Camp Winding	Month																			1 month
8	Laboratory Studies	Nos.																			358 Nos
9	Geologist Party days, HQ (1 Party)																				180 days
10	Report Writing	Month																			6 months
NOTE																					
1	Commencement of project may be reckoned from the day the exploration acreage is available along with all statutory clearances.																				
2	Time loss on account of monsoon/agricultural activity/forest clearance/local law & order problem/ lockdown etc. will be additional to above time line.																				

Annexure-12

Nomination of external experts for peer review of Geological Report submitted by implementing agencies

S. No.	Name/Designation	Domain area/expertise
1	Shri Sarat Kumar Jena, DDG (Retd.), GSI	Iron/manganese
2	Shri K. Koteswara Rao, DDG (Retd.), GSI	Gold
3	Dr. P. R. Golani, DDG (Retd.), GSI	Basemetal/REE
4	Shri B. B. Sharma, Director (Retd.), GSI	Basemetal
5	Shri G. N. Dwivedi, ADG, (Retd.), GSI	Gold
6	Dr. R. K. Sharma, Director (Retd.), GSI	Basemetal/Copper
7	Shri K. Shashidharan, DDG (Retd.), GSI	Gold, Tungsten, REE
9	Shri D. K. Rai, DDG (Retd.), GSI	Basemetal /Copper /limestone
10	Dr. L. S. Shekhawat, DDG (Retd.), GSI	Gold/Basemetal
11	Shri S. K. Thakur, GM (Exploration) (Retd.), MECL	Coal
12	Dr. Rajgopal Mohanty, Addl. Director (Retd.), AMD	REE & RM, Beach Sand Minerals
13	Shri C. R. Dash, Director (Retd.), GSI	Iron & Manganese
14	Shri Ajay Kumar Mohanty, GM (Exploration) (Retd.), CMPDI	Coal & Lignite
15	Shri Binod Kumar, DDG (Retd.), GSI	Basemetal/Gold
16	Shri R. N. Singh (Retd.), GSI	Basemetal
17	Shri Gautam Mukherjee, Director (Retd.), GSI	Coal
18	Shri M. Mohan, ADG (Retd.), GSI	Tungsten
19	Dr. S. K. Biswas, Director (Retd.), GSI	Gold
20	Dr. A. K. Chaturvedi, Additional Director, (Retd.), AMD	Rare Earth Exploration, Airborne Geophysical Surveys
21	Shri S. K. Lagoo, Manager (Geology) (Retd.), MECL	Basemetal
22	Shri Paras Nath, DGM (Exploration) (Retd.), MECL	Coal
23	Dr. K. N. S. Yadav, DGM (Geophysics) (Retd.), MECL	Geophysical exploration



Annexure-13

List of the projects for the timeline extension to be discussed during 24th TCC meeting

S. No.	Block/Project	Implementing Agency	Actual Schedule date of completion	Revised/approved Scheduled Timeline	Required timeline extension (months/uoto)	Status of Exploration work/Geological Report
1	Reconnaissance Survey for limestone in Sangmania Block, district- Stana, Madhya Pradesh. (G4)	**MPSMCL**	26/11/2020 14 Months	--	26/05/2021 (6 month)	Work in progress
2	Jeteya Block, Buruborta and Dumurjowa, District- West Singbhum, Jharkhand. (G4)	**TSMDC**	19/10/2018 6 Months	31/10/2019 Extended in 14th EC meeting.	31/03/2020	Geological Report submitted
3	Gupteswar Block, District- Koraput, Odisha. (G4)	**TSMDC**	19/10/2018 6 Months	31/10/2019 Extended in 14th EC meeting.	31/03/2020	Geological Report submitted
4	General Exploration for manganese ore in Pimperkunta block, Bheempur mandal, District- Adilabad, Telangana. (G2)	**TSMDC**	27/03/2021 12 Months	--	27/09/2021 (6 months)	Work in progress
5	Reconnaissance Survey for prospect evaluation of the sporadic occurrences of Molybdenite, South of Karimnagar (56 N/4), District- Siddipet and Karimnagar, Telangana. (G4)	**TSMDC**	27/03/2021 12 Months	--	27/09/2021 (6 months)	Work in progress
6	Matmari Block for Gold, District- Raichur, Karnataka. (G4)	**NMDC**	06/10/2017 12 Months	30/04/2020 Extended in 14th EC meeting.	31/08/2020	Geological Report submitted
7	Nandgaon-Goa-Mahewa Block for Gold and basemetal, District- Chhatarpur, Madhya Pradesh. (G4)	**NMDC**	06/10/2017 12 Months	30th June 2020 Extended in 16th EC meeting.	31/08/2020	Geological Report submitted
8	Bukkapatna Block for Gold, District- Tumkur, Karnataka. (G4)	**NMDC**	06/10/2017 12 Months	31/10/2019 Extended in 15th EC meeting.	31/10/2020	Geological Report submitted
9	Dumarguda Bauxite Block, District- Surguja, Chhattisgarh. (G3)	**DGM Chhattisgarh**	20/04/2019 10 Months	30/09/2019 Extended in 14th EC meeting.	30/11/2020	Geological Report submitted
10	Murtadand Bauxite Block, District- Surguja, Chhattisgarh. (G3)	**DGM Chhattisgarh**	20/02/2019 8 Months	--	31/08/2021	Geological Report submitted
11	Dandkesra Bauxite North Area, Mainpat, District- Surguja, Chhattisgarh. (G3)	**DGM Chhattisgarh**	20/02/2019 8 Months	31/07/2019 Extended in 14th EC meeting.	30/11/2020	Geological Report submitted
12	Parpatia Bauxite Area, Mainpat, District- Surguja, Chhattisgarh. (G3)	**DGM Chhattisgarh**	20/04/2019 10 Months	30/09/2019 Extended in 14th EC meeting.	30/11/2020	Geological Report submitted
13	Khamardih-Gatadih Limestone Area, District- Raigarh, Chhattisgarh. (G3)	**DGM Chhattisgarh**	20/12/2018 6 Months	30/09/2019 Extended in 14th EC meeting.	30/11/2020	Geological Report submitted

14	Khairha Limestone Area, District- Raigarh, Chhattisgarh. (G3)	**DGM Chhattisgarh**	20/12/2018 6 Months	--	30/11/2020	Geological Report submitted
15	Chendradadar Bauxite Block, District- Kabirdham, Chhattisgarh. (G3)	**DGM Chhattisgarh**	11/02/2020 12 Months	--	28/02/2021	Work in progress
16	Lurena Bauxite Block, District- Surguja, Chhattisgarh. (G3)	**DGM Chhattisgarh**	11/02/2020 12 Months	--	31/03/2021	Work in progress
17	Gopaltola (Salhewara) Iron Block, District- Rajnandgaon, Chhattisgarh. (G4)	**DGM Chhattisgarh**	11/02/2020 12 Months	--	31/03/2021	Work in progress
18	Lakhasar Potash Block, District- Bikaner, Rajasthan. (G3)	**MECL**	25/05/2019 16 Months	24/03/2020 Extended in 12th EC meeting	24/06/2020 (3 months)	Geological Report submitted
19	Tamiya Manganese Block, District- Balangir, Odisha. (G4)	**MECL**	15/09/2019 13 Months	31/03/2020 Extended in 15th EC meeting	30/06/2020 (3 months)	Geological Report submitted
20	Veeranam Lignite Block-1, District- Cuddalore, Tamil Nadu. (G1)	**MECL**	21/02/2020 36 Months	31/03/2020 Extended in 15th EC meeting	30/06/2020 (3 months)	Geological Report submitted
21	Rengali Manganese Block, District- Balangir, Odisha. (G4)	**MECL**	15/10/2019 14 Months	31/03/2020 Extended in 15th EC meeting	31/08/2020 (5 months)	Geological Report submitted
22	Rengali Manganese Block, District- Balangir, Odisha. (G2)	**MECL**	15/11/2019 15 Months	30/04/2020 Extended in 16th EC meeting	30/06/2020 (2 months)	Geological Report submitted
23	Malangtoli Iorn Sub-H Block, District- Sundargarh, Odisha. (G3)	**MECL**	20/06/2019 12 Months	30/05/2020 Extended in 16th EC meeting	28/02/2021	Work in progress
24	Veeranam Lignite Block-2, District- Cuddalore, Tamil Nadu. (G1)	**MECL**	21/02/2020 36 Months	31/07/2020 Extended in 15th EC meeting	31/12/2020 (5 months)	Drilling completed.
25	Babja Manganese Block, District- Balangir, Odisha. (G2)	**MECL**	30/08/2019 10 Months	31/07/2020 Extended in 16th EC meeting	30/11/2020 (4 months)	Geological Report submitted
26	Baseline Environmental Studies for Manganese Blocks, District- Balangir, Odisha.	**MECL**	29/08/2020 11 Months	--	29/11/2020 (3 months)	Work in progress.
27	Unjini Limestone Block, District- Ariyalur, Tamil Nadu. (G2)	**MECL**	25/09/2020 8 Months	--	25/01/2021 (4 months)	Drilling completed.
28	Biarpalli Manganese Block, District- Balangir, Odisha. (G2)	**MECL**	30/12/2019 14 Months	30/09/2020 Extended in 16th EC meeting	30/12/2020 (3 months)	Drilling completed.
29	Deravad-Area Copper Block, District- Udaipur, Rajasthan. (G4)	**MECL**	04/06/2021 9 Months	--	04/12/2021 (6 months)	Drilling in progress.
30	Babja Manganese Block, District- Balangir, Odisha. (G4)	**MECL**	30/10/2019 12 Months	30/10/2020 Extended in 16th EC meeting	No time extension required.	Geophysical survey studies completed. No further work is allowed by local people.

31	Biarpalli Manganese Block, District- Balangir, Odisha. (G4)	**MECL**	30/10/2019 12 Months	30/10/2020 Extended in 16th EC meeting	28/02/2021 (4 months)	Drilling completed.
32	Anadawadi Limestone Block, District- Ariyalur, Tamil Nadu. (G2)	**MECL**	25/11/2020 10 Months	--	25/02/2021 (3 months)	Drilling completed.
33	Sendurkhar Bauxite Block, District-Kabirdham, Chhattisgarh. (G3)	**MECL**	29/06/2020 9 Months	--	28/02/2021 (3 months)	Drilling completed.
34	Alathiyur Limestone Block, District- Ariyalur, Tamil Nadu. (G2)	**MECL**	24/11/2020 11 Months	--	25/03/2021 (3 months)	Drilling completed.
35	Adanakurichi Limestone Block, District- Ariyalur, Tamil Nadu.(G2)	**MECL**	27/11/2020 11 Months	--	25/03/2021 (3 months)	Drilling completed.
36	Recherla Coal Block, Godavari Valley Coal Field, West Godavari, Andhra Pradesh. (G3)	**MECL**	02/04/2019 24 Months	31/12/2020 Extended in 12th EC meeting	31/03/2021 (3 months)	Drilling completed.
37	Dunguripalli Manganese Block, District- Balangir, Odisha. (G3)	**MECL**	29/07/2020 10 Months	31/01/2021 Extended in 16th EC meeting	31/03/2021 (2 months)	Drilling completed.
38	Silpunji Iron & Manganese Ore Block, District- West Singhbhum, Jharkhand. (G3)	**MECL**	18/05/2020 8 Months	--	20/05/2021 Forest clearance obtained on 19th September 2020	Work in progress.
39	BRH Iron Ore Mines, NEB Range M/s RMMPL, ML No. 2010, District- Ballary, Karnataka. (G2)	**MECL**	09/09/2021 13 Months	--	Subject to submission forest clearance certification	work in progress.
40	Khandadhar Iron Ore Block, District- Sundargarh, Odisha (50.91 sq km) (G4)	**OMECL**	30/08/2019 10 Months	--	Subject to submission forest clearance certification	Geological mapping completed.
41	Khandadhar Iron Ore Sub-Block-C, District- Sundargarh, Odisha (2.93 sq km) (G2)	**OMECL**	30/08/2019 10 Months	--	Subject to submission forest clearance certification	Geological mapping completed.
42	Keluamali bauxite block, District- Kalahandi, Odisha (G3)	**OMECL**	11/04/2020 14 Months	--	Subject to submission forest clearance certification	Geological mapping completed.
43	Majhingamali bauxite block, Districts- Rayagada& Kalahandi, Odisha (G3)	**OMECL**	11/02/2020 12 Months	--	Subject to submission forest clearance certification	Geological mapping completed
44	Tarhapani (West) bauxite block, District- Koraput, Odisha (G3)	**OMECL**	11/02/2020 12 Months	--	Subject to submission forest clearance certification	Geological mapping (1:4000) completed
45	Nunapaimali bauxite block, District- Rayagada, Odisha (G3)	**OMECL**	11/02/2020 12 Months	--	Subject to submission forest clearance certification	Geological mapping completed
46	Karnapodikonda bauxite block, District- Koraput,	**OMECL**	11/12/2019 10 Months	--	Subject to submission forest	Geological mapping

	Odisha (G3)				clearance certification	completed
47	Khandadhar Iron Ore Sub-Block-A, District- Sundargarh, Odisha (4.03 sq km) (G2)	**OMECL**	11/04/2020 14 Months	--	Subject to submission forest clearance certification	Geological mapping completed.
48	Udbur Gold & Nickel Block, District- Mysore, Karnataka. (G4)	**KIOCL**	03/04/2017	30/06/2020 24 Months 14th EC meeting	31/12/2020	Drilling completed.
49	Neerbudhihal Block-East Limestone (KAR_NLDB_3363_E), District- Bagalkote, Karnataka. (G4)	**KIOCL**	29/11/2020 14 Months	--	28/02/2021	Work in progress.
50	Neerbudhihal Block-West Limestone (KAR_NLDB_3363_W), District- Bagalkote, Karnataka. (G4)	**KIOCL**	26/11/2020 14 Months	--	31/03/2021	Work in progress.

