Ministry of Mines

National Mineral Exploration Trust

Minutes of the 58th Technical-cum-Cost Committee (TCC) meeting held on 30th October, 31st October and 01st November, 2023 through video conferencing

The 58thmeeting of Technical-cum-Cost Committee [TCC] of National Mineral Exploration Trust [NMET] was held through video conferencing under the chairmanship of Dr. S. Ravi, Dy. Director General, Geological Survey of India (DDG, GSI) and Chairman, TCC, NMET on 30th & 31st October and 01st November, 2023.

Members of TCC-NMET and representatives from MECL, MPSMC Ltd., DMG Karnataka, GSI, OMC, Directorate Industries & Commerce, Geological & Mining Section, Tripura CMPDI, DGM Odisha, DGM Chhattisgarh, M/s. United Exploration India Pvt. Ltd., DGM Maharashtra and M/s. Gemcokati Exploration Pvt. Ltd., have attended the meeting through their respective VC modes.

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

Shri C. Parthasarathi, Director, GSI and Member Secretary, TCC-NMET, welcomed Dr. S. Ravi, DDG, GSI and Chairman, TCC, NMET, Members of the TCC and participants representing various Notified Exploration Agencies [NEAs].

Dr. S. Ravi, DDG, GSI and Chairman, TCC, welcomed the members of TCC and participants representing various Notified Exploration Agencies [NEAs]. In his opening remarks, the Chairman advised the agencies to be innovative in their approach and bring out proposal targeting critical minerals. Taking cognizance of the opinions from various members of the TCC, the chairman advised the NEAs and NPEAs to timely complete the projects and also propose work components within their capabilities.

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

Agenda 58.1: Technical evaluation of new project proposals:

Agenda 58.1.1. Reconnaissance survey (G-4 stage) for diamond in adjacent area of Angira-B and Angira –A block (10.0 sq.km area), district- Chattarpur, Madhya Pradesh [Implementing Agency: MECL]

a) The proposed block is located within the Meso-Proterozoic Kaimur group platformal sediments extending into the Palaeoproterozoic Bijawar group metasediments to the north. The geology of the area is defined by lithologies of the Bundelkhand Craton and overlying Proterozoic sedimentary basins. The oldest rock types include granitoid gneiss with enclaves of dolerite, gabbro, amphibolite and quartz reefs - all of which have been grouped as the 2500 Ma Bundelkhand Craton.

b) MECL conveyed that based on the available database; they have carved out 10.0 sq. km along with Angira-A block which is notified by DGM, Madhya Pradesh in the Name of MECL for detailed Diamond exploration and adjoining area of Angira-B block for G-4 level exploration.

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c) MECL informed that as per available data base of previous exploration agency (Rio Tinto Exploration India Private Limited) discovered 08 Nos. of Kimberlite/ Lamproite in this area. Out of these 08 Kimberlite/ Lamproite 03 major and 01 minor bodies found in Atri and Angira Area were explored. Exploration in the remaining 04 minor sized bodies found in proposed area (as per reports), could not be completed as per the norms shortage of time and interest the exploring agency. Other than the 08 identified bodies few more untested targets also present in the proposed area.

d) It has conveyed that the available Database has only drill holes collar information and lithology logs. Data about sampling and analytical results are either not available or not in legible format in the reports.

e) The committee suggested to propose a G3 item including the area to the north-western part of the already approved G3 item, as the area is already mapped in detail by Rio Tinto, encompassing the bodies identified in the north can be taken further developed through appropriate scale of mapping and suitable methods of geophysical survey, mainly magnetic.

f) Accordingly MECL proposed a G3 item incorporating the suggestions by the house and carved out 2.30 sq km area on the basis of the available database of previous agency.

g) The committee suggested that magnetic survey should be included in the NQT and to be carried out on priority, outcome of which will be discussed in the review meeting to decide other geophysical components. CSMT survey should be employed on a body only. Eight stations in a profile line are sufficient. Hence the work should be carried out judiciously. Magnetic survey should be completed before CSMT. The cost sheet of the item should be excluding CSMT.

h) The project will be reviewed after 6 months & 12 months.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Preliminary exploration (G3) for diamond in adjacent area of Angira-B and Angira –A block (2.30 sq.km area), district- Chattarpur, Madhya Pradesh" with an estimated cost of Rs. 561.54 lakh (including GST) within time schedule of 18 months and submission of report as perannexure-2A & 2B.

Agenda 58.1.2. Reconnaissance Survey (G-4 Stage) for REE And Rare Metal Mineralization in Nawadih Block, District- Giridih & Koderma, Jharkhand. [Implementing Agency: MECL]

a) The proposed Nawadih Block belongs to Bihar Mica belt which hosts numerous economical deposits. Geologically the area hosts favourable conditions for REEs and RMs hosted in pegamtites, micasSchist, phyllites etc. (indicated in the Geology Map of Bhukosh).

b) MECL has downloaded NGCM data from bhukosh portal of GSI for stream sediments, soil and regolith falling in toposheet no. 72H/14 and calculated LREE, HREE and TREE values, whose range are given in below tables :

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Group	Crustal abundance of REEs (After Mason & Moore 1982) in ppm		Summary of Stream Sediment Samples in Nawadih Block	
	Element	Crustal abundance	Minimum (ppm)	Maximum (ppm)
LREE	Lanthanum (La)	30	78.71	1294.59
	Cerium(Ce)	60	140.10	2297.17
	Praseodymium (Pr)	8.2	17.32	46.80
	Neodymium (Nd)	28	68.23	804.63
	Samarium (Sm)	06	1.85	155.11
HREE	Europium (Eu)	1..2	1.6	38.93
	Gadolinium (Gd)	5.4	12.07	138.30
	Terbium (Tb)	0.9	1.59	14.59
	Dysprosium (Dy)	3	8.46	59.94
	Holmium (Ho)	1.2	1.86	9.94
	Erbium (Er)	2.8	4.29	19.45
	Thulium (Tm)	0.5	0.8	2.77
	Ytterbium (Yb)	3.4	4.67	17.58
	Lutetium (Lu)	0.5	0.71	2.82
	Scandium (Sc)	22	9	13
	Ytrium (Y)	33	46	244
LREE		**132.2**	**316.84**	**4798.29**
HREE		**73.9**	**99.38**	**526.05**
Total REE		**206.1**	**416.61**	**5324.34**

c) The project proposal was send to GSI for comments. In response to this GSI has informed that more than 70% of the block is overlapping with GSI explored block in FS: 2019-20 & FS: 2021-22.

d) Keeping in view of above, the committee suggested to examine the findings and recommendations in reports and accordingly submitted the proposal in next TCC meeting.

Recommendation of TCC:

The committee suggested not to take up the project to avoid duplication of exploration work.

Agenda 58.1.3.Reconnaissance Survey (G-4 Stage) for Iron in Parsili-Karmai Block (18.34 Sq. Km) District- Sidhi, MadhyaPradesh. [Implementing Agency: MECL]

a) The Proposed block is part of the ENE-WSW trending linear Mahakoshal Greenstone belt which extends from Narsinghpur district in MP to Palamu District in Jharkhand. Regionally, the rocks

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include quartzite, conglomerate, phyllite, chert, dolomite, limestone and Banded Iron Formation inter-layered with metabasalt.

b) It has been conveyed that the proposed block belongs to Agori formation.

c) MECL conveyed that the area has been extensively studied by number of workers. Specialized Thematic Mapping was carried out in parts of Mahakoshal Belt and adjoining granitoids in the Tikhwa-Karda area, Sidhi, and Shahdol districts (Parts of Toposheet 63H/4,8,12,16) by Utkarsh Tripathi, Yuvaraj M and Ravishankar D, Geologists (2013-15). Gupta et.al (2017) carried out mapping in 1:25000 scale in toposheet 63H/11 & 12 and identified iron occurances as possible iron ores in BHC/BHQ/BHJ and lateritic ores with underlying blue dust deposits.Geochemical mapping of Toposheet no. 63H/12 in parts of Sidhi and Shahdol districts of M.P was carried out by Anuj Kumar and Rajnish Kumar (2018-19). Reconnaisance survey for basemetal, gold and PGE was carried out by GSI in Parsili-Tal-Karmahi area during FSP 2021-22. During the course of exploration the entire area was mapped in 1:12,500 scale and sampling was done for basemetal, gold and PGE.

d) MECL further conveyed that they have conducted field visit in the proposed block and has identified the host rocks of iron viz. BIF/ Ferruginous quartzites at several places. A total of 6 no. of BRS/Chip samples were collected and analysed in MECL chemical lab. Samples are showing Fe values ranging from 38.28 to 55.25 %. The analytical results of Samples analysed in MECL chemical lab are mentioned below:

Sr. no.	Sample no.	Latitude	Longitude	T. Fe %	T. Mn %	SiO_2 %	Al_2O_3 %	P_2O_5 %	CaO%	MgO%
1	P-06	24.173	81.568	5.37	0.03	88.67	2.04	0.05	0.16	0.29
2	P-07	24.175	81.560	41.68	0.01	21.82	6.32	0.82	0.12	0.46
3	P-08	24.174	81.568	55.25	0.04	4.51	3.43	1.05	0.08	0.28
4	P-09	24.176	81.569	54.78	0.05	5.02	3.32	1.35	0.06	0.22
5	P-13	24.172	81.506	38.84	0.01	24.11	9.36	0.51	0.05	0.33
6	P-14	24.161	81.511	38.28	0.01	25.22	11.79	0.05	0.05	0.11

e) The project proposal was send to GSI for comments. In response to this GSI has informed that the project is slightly overlapping with basemetal block & Basemetal-PGE-Gold block worked by GSI.

f) The committee has informed that the proposed area lies adjacent to a PL holding area of M/s. Ojaswi Mining, Katni, M.P. (which is currently in auction platform). The PL holder reported an average grade of 58.76% Fe.

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g) After the detailed deliberation, committee agreed to take up the project and suggested MECL to concentrate on ferruginous quartzite, BIF, and laterite and recommended that potential bodies should be sampled first through surface sampling, with further course of action to be decided based on the results. The committee also suggested to update the geological map as mapping has already been carried out the area.

h) The project will be reviewed after 4 months.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Reconnaissance Survey (G-4 Stage) for Iron in Parsili-Karmai Block (18.34 Sq. Km) District- Sidhi, Madhya Pradesh" with an estimated cost of Rs. 132.14 lakh (including GST)within time schedule of 08 months for carrying out the proposed work and submission of report as perannexure-3A & 3B.

Agenda 58.1.4. Reconnaissance Survey (G4 stage) for Phosphorite in Bada Malhera Bizawar Phosphorite Block, Chhatarpur District, Madhya Pradesh. [Implementing Agency: MPSMC Ltd.]

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Agenda 58.1.5. Reconnaissance Survey (G4 stage) for Phosphorite in Chhatarpur Bizawar Phosphorite Block, Chhatarpur District, Madhya Pradesh [Implementing Agency: MPSMC Ltd.]

a) The proposed blocks belong to the Hirapur Phosphorite Formation and falls in Chhatarpur district of Madhya Pradesh. There are four distinct units of phosphorites which include shale-phosphorite, secondary-phosphorite, and ironstone-phosphorite and quartz-breccia phosphorite.

b) The committee was informed that MPSMC Ltd. has resubmitted the proposal mentioned at Agenda 58.1.4 as "*Reconnaissance exploration for fertilizer mineral Phosphorite in proposed phosphorite block around Ranital & Adhiyara Village of Hirapur Phosphorite deposit at Chhatarpur District, Madhya Pradesh for (G4 Stage*)".

c) MPSMC Ltd. has conveyed that the Hirapur Phosphorite Deposit was assessed, P_2O_5 content ranging from 10% to 52.54%. Recommendations included direct use, blending, and the establishment of a centralized beneficiation plant, along with a comprehensive plan for large-scale mining and beneficiation. GSI and MECL have confirmed the presence of phosphorite in the region and recommended further detailed studies to identify potential mineralization zones.

d) The committee opined that the proposed blocks are falling outside the domain of Karrai and Bijawar Formations which are potential for phosphorite. Therefore committee suggested to go through the latest LSM map of proposed area carried out by GSI before carving out the blocks for phosphorite investigations in detail. Further committee also suggested to visit the area and collect few samples from the finalized area. The proposal may be submitted in next TCC meeting if results are encouraging.

Recommendation of TCC:

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The committee after reviewing the proposals recommended MPSMC to visit the area and carry out random sampling for phosphorite. Further, it recommended MPSMC to modify the block restricting within the host lithology.

Agenda 58.1.6. Reconnaissance Survey (G4 stage) for Iron and Bauxite in Dhimarkheda-01 Block, Dhimarkheda Tehsil Katni District, Madhya Pradesh [Implementing Agency: MPSMCL]

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Agenda 58.1.7.Reconnaissance Survey (G4 stage) for Iron, Limestone and Bauxite in Dhimarkheda-02 Block, Dhimarkheda Tehsil Katni District, Madhya Pradesh [Implementing Agency: MPSMCL]

MPSMCL withdrawn the project mentioned at Agenda 58.1.6 & 58.1.7 and will be submitting the same to TCC review after visiting the field area to assess the viability.

Recommendation of TCC:

The committee agreed with MPSMCL, to visit the proposed areas and carry out check sampling and submit the proposals, if area is found potential.

Agenda 58.1.8. Reconnaissance exploration for fertilizer mineral Phosphorite in proposed Rajnagar Chhatarpur phosphorite block in and around Hirapur Phosphorite deposit at Chhatarpur District, Madhya Pradesh for (G4 Stage). (Area: 487 sqkm) [Implementing Agency: MPSMCL]

a) Geologically, the area belongs to the Hirapur Phosphorite Formation in Bijawar group of Gangau iron formations over the basement of Bundelkhand Granite Complex.
b) It has been conveyed that the previous work done by GSI, MECL & NMDC also indicates presence of phosphorite deposits. In 1978, GSI reported 8.45 million tonnes of resources with 15% to 35% of P2O5 in in Bijawar Group, District Sagar and Chhatarpur. During 2010-12, GSI reported P2O5% value ranging from 10.15% to 33.15% in Surajpura Block. During 1984-87, MECL drilled 93 no of bore holes of total meterage of 7141.65m in Mardeora Block, Chhatarpur & Sagar Districts and reported 10% to 52.54% P2O5. MPSMCL conveyed that based on this evidence of mineralization, the present exploration program has been formulated.
c) After the detailed deliberation, the committee opined that proposed block falls outside the domain of Karrai and Bijawar Formations which are potential for phosphorite. Therefore, committee suggested MPSMCL to go through the latest LSM map of proposed area carried out by GSI before carving out the blocks for phosphorite investigations in detail.

Recommendation of TCC:

The committee reviewed the project and recommended MPSMCL to modify the block targeting the host rock for Phosphorite and submit again in the next TCC for review.

Agenda 58.1.9. Preliminary Exploration (G-3 Stage) for God & Associated Minerals in Sirigeri Block, District-Ballari Karnataka. [Implementing Agency: DMG, Karnataka]

a. The proposed area falls in Hunagund-Kushtagi Schist belt and aims to target the shear zone trending NNW-SSE direction delineated in the western margin of the schist belt. Four sulphide

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ore zones delineated by GSI during the geological mapping were based on the sulphide minerals, field evidences and analytical results for gold values. Out of the four zones, three zones namely Zone-I, Zone-II and Zone-III falls in the GM block of GSI.

b. It has been conveyed that Geological Memorandum (GM) of the Sirigeri block (Code: SR-KA-07-Block-17-Sirigiri, Commodity: Gold), spanning an area of 25.1 sqkm, was officially handed over to the Karnataka State Government by the Geological Survey of India (GSI) on November 29, 2021. This block was placed for a second attempt auction but was annulled. Consequently, the exploration division of the Department of Mines and Geology, Karnataka has identified a 2 sqkm portion within the larger 25.1 sqkm GM block for G3 stage gold exploration. This zone was traced over a strike length of 900m with a width ranging from 100-150 m.

c. Further it has been conveyed that DMG team of geologists carried out pre-field investigation from 13-9-2022 to 17-9-2022, and the team had observed shear zone with the indication of sulphide mineralization. Two BRS samples collected during the traverse was analyzed for gold, out of which one sample had indicated gold value of 300 ppb and the other had indicated nil value.

d. GSI followed by DMG, Karnataka reported presence of ancient working for gold in form of pounding marks and pestle stones. DMG team has noticed shear zone bearing the indication of alteration zone with dissemination of sulphides which is extending over a strike length of 900 m.

e. After the detailed deliberation, the committee suggested DMG, Karnataka to carry out the G3 item in the proposed block. The committee also suggested to explore simultaneously the remaining area of GM block through geophysical survey and surface sampling.

f. Review of the project will be held after six months.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Preliminary Exploration (G-3 Stage) for God & Associated Minerals in Sirigeri Block, (District-Ballari Karnataka" with an estimated cost of Rs. 345.19 lakh (including GST) within time schedule of 12 months for carrying out the proposed work and submission of report as perannexure-4A & 4B.

Agenda 58.1.10. Reconnaissance Survey (G4 stage) for Iron in Burhipada Block (Area – 75.8017 Sq. Km), District-Keonjhar, Odisha. [Implementing Agency: OMC]

a) The proposed block belongs to Tomka-Daitari IOG Belt. The litho assemblages occupying in this entire belt comprises actinolite chlorite schist, talc tremolite schist, BHQ/ BMQ/ BHJ with pockets of iron ore, lenticular patches of conglomerate, gritty quartzite, carbonaceous phyllite , ferruginous shale and phyllite which are surrounded by granite towards both east, west and north. Dolerite dykes are found to occur as the intrusive rock to all these lithounits.

b) The project proposal was send to GSI for comments. In response to this GSI has informed that as per the available information, about 80% of the proposed area is overlapping with the area earlier explored by GSI under G-4 stage during 2005-06. During FS 2005-06, LSM of 50.0 sq.km and detail mapping of 2.0 sq.km on 1:2000 scale around Burhipada, Pangaposhi & Madhyapur blocks have been carried out. During FS 2006-07, 04 BHs were drilled in Pongaposhi (02 BHs) and Madhyapur blocks (02 Bhs). Based on the above studies, two nos of Geological Memorandum (ER_OD_18_ Pangapashi_Burhipada_IV & ER_OD_18_Madhyapur_IV) of the DM blocks (Madhyapur and

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Burhipada_Pangaposhi) have been handed over to the State Govt. for auction as Composite License. As mentioned in their proposal, the CL block of Burhipada have been excluded from the proposed block. However, the CL block of Madhyapur have not been excluded from the proposed block for G-4 stage investigation under NMET funding.

c) The committee suggested to select block within the proposed area upgrade the block to G3 stage of exploration by tracing the band of BIF.
d) Accordingly, OMC has modified the proposal and identified 3 blocks out of which Madhyapur block has been recommended to be executed presently.
e) The committee agreed to take up the project at G3 Stage of exploration in Madhyapur block (6.5 sq.km), which involves detailed mapping at 1:4000 scale and boreholes are suggested to be drilled at 800 m spacing, vertical depth of intersection of the zone should be 30 m.
f) The project will be reviewed after 6 months

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Reconnaissance Preliminary Exploration (G-3 Stage) for Iron Ore in Madhyapura Block (6.5 sq.km) , Dist: Keonjhar, Odisha." with an estimated cost of Rs. 197 lakh (including GST)within time schedule of 12 months for carrying out the proposed work and submission of report as perannexure-5A &5B.

Agenda 58.1.11 Reconnaissance Survey (G4 stage) for Gold in Mankarchua Block (Area – 29.1568 Sq. Km), District -Angul-Deogarh, Odisha [Implementing Agency: OMC]

a) The proposed area for gold exploration belongs to Bonai – Keonjhar IOG Belt. The project area is represented by Quartz Pebble conglomerates (QPC) which were deposited in a fluvial system over a cratonised Granite-Greenstone basement. The same Granite-Greenstone association is also seen in the previously applied blocks of Salaikena and Dimirimunda in Keonjhar district. The QPC are late Archean to Early Proterozoic in age. As per studies conducted by Atomic Minerals Directorate the QPC have been found to be uraniferous. In Singhbhum craton, QPC occurrences in the Iron Ore Group (IOG) basins surrounding the Singhbhum Granite batholith, and the basal sediments of the Dhanjori volcano-sedimentary basin, show presence of gold.
b) The project proposal was send to GSI for comments. In response to this GSI has informed that as per the available data, the proposed area is completely overlapping with the earlier G-4 stage investigation for gold carried out by GSI during FS 2019-20. A G-3 block, carved out from the G-4 stage investigation was taken up for investigation during FS 2022-23 for gold and associated elements in Mankarhachua Block, Angul District. Although, detailed geological mapping was completed, drilling could not be initiated due to local resistance. The G-3 block is also coming under the G-4 block proposed by OMC.
c) In view of above, the committee suggested to drop the item to avoid duplication of exploration work.

Recommendation of TCC:

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The committee suggested not to take up the project to avoid duplication of exploration work.

Agenda 58.1.12 Engaging Technical Supervision and Quality Control (TS-QC) Consultant for NAGMP Block-15 [Implementing Agency: GSI]

a) NMET in its 25th meeting held on 29th June 2022 approved TS-QC project for two Blocks-14 &15 at a combined estimated cost of Rs.5.20 Cr. in time schedule of 24 months.

b) GSI conveyed that NMET has sanction at an amount of INR 2,66,50,055/- vide OM No.: F.No.23/273/2022-NMET/257 dated 09.10.2023 for Block-14.

c) The committee was informed that Block -15 has location of Parts of Gujarat (Bhuj, Banaskantha, Patan, Mehsana, Sabarkantha, Aravali, Mahisagar, Kheda, Gandhinagar, Ahmedabad, Surendranagar and Morbi) with an area of 54,494 sq.km. (1,99,813 line Km).

d) The TEC (Finance) recommended to award the contract to the M/s IDPeX Private Limited (A joint Venture company of M/s Paterson, Grant & Watson Limited, Canada, M/s International Geoscience Services Ltd, UKand M/s DATACODE, India), the L1 bidder, at a total cost of INR 2,14,56,000/- (Rupees Two Crore Fourteen Lakh Fifty Six Thousand only) inclusive of 18% GST. This L1 amount is 8.999% less than the NMET approved estimated cost of INR 2,35,77,934/- as per the proposal submitted by GSI in May2022 to NMET.

e) Further GSI also requested for the time duration of 24 months from the date of signing of MoA.

f) The committee agreed to recommend the cost of INR 2,14,56,000/- (Rupees Two Crore Fourteen Lakh Fifty Six Thousand only) inclusive of 18% GST within a given timeline.

Recommendation of TCC:

The committee recommended INR 2,14,56,000/- (Rupees Two Crore Fourteen Lakh Fifty Six Thousand only) inclusive of 18% GST to carry out TS-QC work NAGMP Block-14 within given period of time.

Agenda 58.1.13 Deep Seismic Reflection Survey (DSRS) & Magnetotelluric (MT) Survey along Churu, Rajasthan to Tikamgarh, M.P, - Northern Transect under the project UNCOVER of GSI by CSIR-NGRI on nomination basis through NMET fund [Implementing Agency: GSI]

a) The project was recommended in 56th TCC of NMET held on 31st August and 1stSeptember, 2023. Accordingly, in meeting of 31st EC, EC recommended the project " Deep Seismic Reflection Survey (DSRS) & Magnetotelluric (MT) Survey along Churu, Rajasthan to Tikamgarh, M.P., - Northern Transect under the project UNCOVER of GSI" with a cost of ₹100.73 Crore (excluding GST) with a timeline of 36 months subject to approval of Delegated Investment Board (DIB) and Hon'ble Minister of Mines.

b) GSI conveyed that in the review meeting of NMET funded projects on 9th October, 2023, Addl. Secretary, MoM asked GSI either to optimize the cost of the DSRS-MT survey along the northern transact or decide about to send the proposal to the Delegated Investment Board (DIB) and Hon'ble Minister of Mines for approval.

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c) The committee was informed that on 12th October 2023, DG GSI, Director NGRI along with the members of DSRS MT survey team in GSI and NGRI discussed regarding the optimization of cost of the project and agreed mutually to optimize the cost around 100 crore including GST.

d) GSI informed that the initial plan included five 20-kilometer 2D cross-profiles orthogonal to the main transect in the primary transect of a 600-kilometer 2D seismic profile extending from Churu in Rajasthan to Tikamgarh in Madhya Pradesh. However, in the current proposal, these smaller cross-profiles of 20 kilometres each have been omitted without deviating from the primary objectives. The rationale behind this decision is that these smaller cross profiles fail to satisfy the criteria necessary for generating a comprehensive 3D subsurface image. Though these profiles may yield some additional information along the primary transect, their limited length prevents the acquisition of a complete foldage (CMP foldage) which, in turn, would result in a sub-optimal subsurface image. By integrating these small cross-profiles, the financial burden of the seismic survey would increase without a proportional improvement in data quality. Therefore, the decision to omit them is supported by both economic and scientific considerations. Instead, the emphasis is placed on executing a 2D seismic survey along the main transect to achieve the primary research goals.

e) After the detailed deliberation, the committee agreed for recommendation and asked for justification from GSI that the objective of the project will remain same after the modification of the proposal.

Recommendation of TCC:

The committee recommended the project "Deep Seismic Reflection Survey (DSRS) & Magnetotelluric (MT) Survey along Churu, Rajasthan to Tikamgarh, M.P, - Northern Transect under the project UNCOVER of GSI by CSIR-NGRI on nomination basis through NMET fund" with an estimated cost of ₹ 9973.13 lakh with a timeline of 36 months for approval of EC, subject to providing technical justification ensuring that altering the line interval will not compromise the primary objective of the item and its implications on the item's objectives as per annexure-6A & 6B.

Addl. Agenda 58.1.14 Reconnaissance Survey (G-4 stage) for Umriha Limestone Block, District Satna, Madhya Pradesh [Implementing Agency: MPSMC Ltd.]

a) The proposed block belongs to Bhander Group of Vindhyan Supergroup. The limestone deposits of the Bhander Group within the Vindhyan Supergroup are renowned globally.

b) MPSMC ltd. conveyed that there are lots of working mines around the proposed block. Previous researchers have confirmed the existence of limestone. Currently, the quality and quantity can be determined through chemical analysis of systematic surface samples, as well as through techniques such as pitting, trenching, and core boreholes.

c) The project proposal was send to GSI for comments. In response to this GSI has informed that the proposed block is completely overlapping with already explored limestone in Rewa - Satna area, G4 Stage.

d) In view of above, the committee decided to drop the item to avoid duplication of the work.

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Recommendation of TCC:

The committee suggested MPSMC Ltd. not to take up the project to avoid duplication of exploration work.

Addl. Agenda 58.1.15 Reconnaissance Survey (G-4 stage) for Banki Limestone Block, District Chhatarpur, Madhya Pradesh [Implementing Agency: MPSMC Ltd.]

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Addl. Agenda 58.1.16 Reconnaissance Survey (G-4 stage) for Salaiya Limestone Block, District Chhatarpur, Madhya Pradesh [Implementing Agency: MPSMC Ltd.]

a) The proposed blocks belong to Semri Group of Vindhyan Supergroup. The limestones of Semri Group of Vindhyan Supergroup are worldwide known for limestone deposits.
b) Maps prepared by all earlier GSI exploration have already established the presence of limestone in the region.
c) The project proposal was sent to GSI for comments. In response to this GSI has informed that the proposed block is overlapping with following blocks:
    i. A report on investigation for base metal mineralization in Semri Group of rocks in Piparia-Imlichowk belt, Damoh and Chhatarpur districts, M.P.
    ii. A report on the investigation for base metal mineralization in Semri Group of rocks in Piparia-Imlichowk belt, Damoh and Chhatarpur districts, M.P.
    iii. Piparia-Imlichowk Belt-G4 for Basemetal
d) The committee suggested to combine the blocks into a single block of 25 sqkm with regular block boundary and to propose as a G4 stage exploration item. Accordingly, MPSMC ltd. presented the modified blocks.
e) In view of above, the committee agreed to take up G4 Stage exploration project in Banki Salaiya block and suggested review it after 4 months.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Reconnaissance Survey (G-4 stage) for Banki- Salaiya Limestone Block, District Chhatarpur, Madhya Pradesh" with an estimated cost of Rs. 48.08 lakh (including GST) within time schedule of 09 months for carrying out the proposed work and submission of report as per annexure-7A & 7B.

Addl. Agenda 58.1.17 Reconnaissance Survey (G-4 stage) for Bhatura Limestone block, Satna-District, Madhya Pradesh [Implementing Agency: MPSMC Ltd.]

a) The proposed block belongs to the Bhander Series Limestone Deposit. Bhander limestone formation of Bhander series has a thickness of about 35-45 metres in adjacent Hinauti limestone mines of Prism Johnson Cement.
b) The project proposal was sent to GSI for comments. In response to this GSI has informed that the proposed block is overlapping with Durjanpur-Chhirri G4 Block for Limestone.
c) In view of above, the committee suggested to upgrade the item and submit the proposal for G3 stage exploration. The committee also opined that the item will not be approved for the minor

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minerals commodities (sandstone, shale and porcellanite) which are under the purview of State Government. Therefore committee directed to modify the proposal according to Limestone (excluding minor minerals) and also suggested to make block with regular block boundary.

d) Accordingly MPSMC ltd. modified the block (1.5 sq.km.) and presented in the meeting.

e) The committee agreed to recommend G3 stage exploration in Bhatura Limestone block (1.5 sq.km.), subject to availability of consent letter from the state.

f) The project will be reviewed after 4 months.

Recommendation of TCC:

The committee recommended the proposal for approval of EC for "Preliminary Exploration (G-3 stage) for Bhatura Limestone block, District Satna, Madhya Pradesh" with an estimated cost of Rs. 62.71 lakh (including GST) within time schedule of 08 months

Addl. Agenda 58.1.18 Reconnaissance Survey (G-4 Stage) for Limestone Block around Jhanajhar Village, Satna District, Madhya Pradesh. [Implementing Agency: MPSMC Ltd.]

a) The proposed area belongs to the Bhander Series Limestone Deposit .The Bhander limestone formation within the Bhander series exhibits a thickness ranging from approximately 35 to 45 meters, as observed in the nearby Hinauti limestone mines operated by Prism Johnson Cement.

b) MPSMC ltd. conveyed that in the region, three separate limestone layers have been identified: the Upper limestone, the lower limestone, and the purple to grey argillaceous limestone. The highest quality limestone is found exclusively within the Lower grey limestone stratum.

c) The project proposal was send to GSI for comments. In response to this GSI has informed that the proposed block is overlapping with following blocks:

i. Report on the Investigation for Flux Grade Limestone in Rewa - Satna area, Madhya Pradesh.
ii. Garhwar_G4 Block for Limestone
iii. Sejhata G3 block for Limestone

d) In view of above, the committee decided to drop the item to avoid duplication of the work.

Recommendation of TCC:

The committee suggested not to take up the project to avoid duplication of exploration work.

Agenda 58.2: Proposal on Financial Assistance for Procurement of Machinery/ Equipment etc.

Agenda 58.2.1. Financial assistance from NMET funds to procure machinery/ laboratory equipment/ instruments etc. aimed at enhancing the exploration activities

[Implementing Agency: Directorate Industries & Commerce, Geological &Mining Section, Tripura]

a) The Directorate Industries & Commerce, Geological & Mining Section, Tripura, has submitted the project proposals for procurement of machineries/ laboratory equipment/ instruments etc. aimed at enhancing the exploration activities under the NMET scheme to provide financial assistance of ₹ 5.00 Cr. for each North Eastern Region States for their strengthening their capacity.

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b) The committee evaluated the proposal for procurement of machinery/ laboratory equipment/instruments etc. After detailed discussion with representative of Directorate Industries & Commerce, Geological & Mining Section, Tripura, the procurement of following items was agreed:

Sl. No.	Name of the equipment	Rate (approx.)	Unit	Amount (in Lakhs)
1.	Digital Camera	1.50 lacs	02	3.00
2.	Brunton Compass	0.027 lacs	07	0.189
3.	Geological Hammer	0.020	07	0.14
4.	Handheld GPS	0.735 lacs	02	1.47
5.	GIS Software	25 Lacs	01	25
6.	Total Station	6.96lacs	01	6.96
				Total = Rs. **36.759**

Recommendation of TCC:

The proposals have been examined and discussed with the representative of the State Government and the Committee in principle agreed to recommend the proposal for consideration of EC. The estimated cost for procurement of items detailed above stands at ₹36.759 Lakhs.

The committee further opined that due process of procurement including item wise cost estimation as per extant Government of India financial rules be followed by Directorate Industries & Commerce, Geological & Mining Section, Tripura in consent with the competent authority of State Department/ State Financial Wing (Division). The state Govt. should also ensure full utilization of the instruments/ software to be procured.

Addl. Agenda 58.2.2. Additional Item for financial assistance from NMET funds to procure machinery/ laboratory equipment/ instruments etc. aimed at enhancing the exploration activities.

a) The Executive Committee (EC) of NMET in its 27th and 30th meetings held on 10th January, 2023 and 6thJune 2023 respectively, accorded approval for 54 items for providing financial assistance to State DGMs/ DMGs.

b) Considering the request of various State Government, the committee reviewed 47 items and out of this, the committee recommended 33 items for approval of EC.

Recommendation of TCC:

The committee recommended following 33 items for procurement by State Governments :

Sl. No.	Additional Items	Sl. No.	Additional Items
1	Millipore water Purification System	17	Fluorescent Spectrometer
2	Analytical Weighing Balance	18	Photo Meter
3	Magnetic Susceptibility Meter	19	Turbidity Meter
4	Jaw Crusher	20	Multiparameter Water Tester (pH, Conductivity, TDS, Salinity, Temperature)

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5	Digital Viscometer	21	Triplet Loupe
6	Digital Electronic Weighing Scale	22	Gemicrosscope
7	Platinum Crucible	23	Refractometer
8	Magnetic Separator	24	Dichroscope
9	Heavy Liquid Separation Facility	25	Polariscope
10	Rotary sample divider	26	Spectroscope
11	Automated sieve shaker Digital recorder with ultrasonic sieve cleaner	27	Vibrating Cup Mill
12	Shaking Table	28	Moisture Balance
13	Centrifugal concentrator	29	Viscosity Apparatus
14	Procurement of CRM, Certified Reference Materials	30	Planetary Ball Mill (PBM)
15	High-capacity microwave sample digestion unit	31	Ion Selective Electrodes
16	XRD equipment	32	Resistivity Meter

The committee also decided to prepare one single specification which is mandatory for field. This list will be based on the data provided by GSI, NGRI, AMD, IBM, MECL. Regarding this NMET will write letter to thee organizations seeking the required data. Approval of the proposal is subject to this specification.

Addl. Agenda 58.2.3. Financial assistance from NMET funds to procure machinery/ laboratory equipment/ instruments etc. aimed at enhancing the exploration activities [Implementing Agency: DTCI Manipur]

a) The Executive Committee (EC) of NMET in its 27th meeting held on 10th January, 2023 approved the project for procurement of machinery/ laboratory equipment/ instruments etc. aimed at enhancing the exploration activities with estimated cost of ₹ 221.35 Lakh and timeline of 12 months to DTCI Manipur.

b) It has been conveyed that out of 20 items, DTCI Manipur has floated the tender for 10 items and to procure the items, ₹88,74,209.00/- amount is required.

c) After the detailed deliberation, the recommendation of the committee are as follows::

Sl. No.	Equipment/software	Rate as approved by NMET (in ₹)	Bidder rate (in ₹)	Unit	TCC Recommendation
1	Hand Held GPS	50,000	55,000	3	1,65,000
2	Geologist Hammer	10,000	4,160	3	12,480
3	Portable Water Analysis	15,000	1,10,916	3	Revise Tender(In Consultation with GSI)

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4	Research Polarising Microscope with software Transmitted and Reflected Light with accessories	12,00,000	21,00,414	1	21,00,414
5	GIS Software	13,00,000	24,54,400	1	24,54,400
6	DGPS	16,00,000	19,17,500	1	19,17,500
7	Total Station	6,96,000	7,69,000	1	7,69,000
8	Hot plate	10,000	60,227	1	Revise Tender(In Consultation with GSI)
9	Core Splitter Hydraulic	2,00,000	4,75,540	1	Revise Tender (In Consultation with GSI)
10	Digital Camera	60,000	1,96,300	1	Revise Tender(In Consultation with GSI)
					Total Rs.74,18,794

Recommendation of TCC:

The committee approved₹ 74,18,794 for 6 items and suggested to revise the tender in consultation with GSI for 4 items as mentioned in the above table.

Agenda 58.3: Review of Ongoing Projects / Completed Projects & timeline extension.

Agenda 58.3.1. Timeline Extension of OGP Block-6. [Implementing Agency: GSI]

a) Multi-Sensor Aero-geophysical Surveys over Obvious Geological Potential areas of India, Blocks-6 was approved in the 19th EC on 26.03.2021.

b) Accordingly, office memorandum was issued by NMET on 31-07-2021 with a timeline of 17 months for completion of the project.

c) GSI informed the committee that Memorandum of Agreement (MoA) was signed between GSI & M/s Sander Geophysics Ltd., Canada (PIA) on 29.10.2021. As per the MOA, expiration of contract was on 01.03.2023.

d) In the 29th meeting of NMET held on 16thMarch 2023, the EC approved the timeline extension for Block - 6 upto 31.03.2024, without any cost escalation. Thereafter, Addendum-1 to the MoA was signed on 30.03.2023 timeline was extended up to 31.03.2024.

e) The GSI informed the committee that the survey was commenced on 05.12.2022 with one aircraft and the second aircraft was mobilised for survey but could not be utilised for data acquisition due to delay in the clearance from DGCA. The data acquisition could not be completed due to the following reasons:

   i. Delay in obtaining permissions.
   ii. Delay in mobilisation of aircraft attributable to weather conditions.
   iii. Unforeseen weather condition during the data acquisition.
   iv. Non-flying season falling within the contract period.

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v. Operational co-ordination with Air Force Academy, Dundigal & Air Force Station, Hakimpet, Telangana.

f) Further, GSI informed the committee that survey had stopped due to onset of monsoon and demobilization of aircrafts from 01.06.2023.

g) The committee was informed that on 03.10.2023, PIA requested for extension of contract up to 31.12.2024 without any cost escalation. This has the approval of DG, GSI.

Recommendation of TCC

After discussion, the committee recommended GSI to submit the status of execution of the project, outcome of the work till today including interpretation and proper justification for the delay to TCC so as to discuss the same in the EC for the extension of timeline up to 31.12.2024.

Agenda 58.3.2. Timeline Extension of NAGMP Block-14 [Implementing Agency: GSI]

a) GSI informed that the MoA for NAGMP Block-14, a NMET funded project, between GSI and M/s Sander Geophysics India Pvt. Ltd. (a Joint venture company of M/s Sander Geophysics Ltd, Canada and M/s Pan India Consultant Pvt. Ltd, New Delhi, India) was signed on 20.07.2022 with 18 months duration with the sanctioned cost of ₹ 33,47,90,000 /-.

b) During the review meeting held by the DG, GSI on 27.09.2023 with all the Project Implementation Agencies (PIAs) regarding the progress of work, the PIA for NAGMP Block-14 has requested timeline extension of the project due to various reasons beyond their control. DG instructed the PIA to submit a comprehensive proposal with proper justification accounting for time loss due to various factors.

c) Accordingly, the PIA M/s Sander Geophysics India Pvt. Ltd. has submitted request on 03.10.2023 for extension of contract up to 31.03.2025 without any cost escalation.

d) A committee at RSAS, GSI had studied the request observed the following:

Sl. No	Description of the work	Months required to complete the work	Period in months
1	Data acquisition (Milesone-1 to Milestone-5)	From December, 2023 to June, 2024	7
2	Data processing, Integration, Interpretation and submission of all final report and deliverables	From July, 2024 to January, 2025	7
3	GSI review final and acceptance of the deliverables submitted by PIA	February, 2025	1
		Total Time required to complete the project	15 Months

e) The committee at RSAS observed that as per the information received from the PIA, 1st aircraft will be deployed in November, 2023 and 2nd aircraft will arrive in December, 2023. Based on above, if survey commences from December, 2023, 15 months' time line is required to complete the project and the required project extension is up to 28.02.2025. Hence, the extension is required for 13 months from the existing expiry of contract i.e. 31.01.2024 to 28.02.2025. This has the approval of DG, GSI.

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f) Based on the above, TCC was requested for approval of timeline extension by 13 months revising the project completion date from 31.01.2024 to 28.02.2025 for OGP Block-14 for completion of the project without any additional cost.

Recommendation of TCC

After discussion, the committee recommended GSI to submit the status of execution of the project, outcome of the work till today including interpretation and proper justification for the delay to TCC so as to discuss it in the forthcoming EC meeting. Further the TCC sought GSI to submit an assurance for not seeking extension beyond 31.12.2024 instead of 28.2.2025.

Agenda 58.3.3. Preliminary exploration for coal in Gurwani block, Main Basin, Singrauli Coalfield, District: Singrauli, Madhya Pradesh. [Implementing Agency: CMPDI]

a) The project was approved in the 23rd Supplementary EC Meeting of NMET held on 16.03.2022 for a period of 14 months. The sanction order for the project was issued on 26th April, 2022.
b) CMPDI informed that the forest clearance for the work was received on 21.03.2023 and completed drilling and Geophysical studies for 3842.50m.
c) The comments of the peer reviewer has also been incorporated.
d) Grade Wise – Depth Wise Inferred Resource of coal in Million Tonnes are given below.

GROSS INFERRED RESOURCE (UNFC: 333)													
DEPTH RANGE	**GRADE WISE RESOURCES (Mt)**												
	G3	**G4**	**G5**	**G6**	**G7**	**G8**	**G9**	**G10**	**G11**	**G12**	**G13**	**G17**	
THICK SEAMS (>0.90 m)													
0-300	4.232	8.416	13.587	12.803	39.206	40.818	64.013	37.476	12.041	50.244			**282.421**
300-600	8.807	11.058	29.759	48.228	29.696	21.800	77.622	--	3.251	4.200			**234.421**
Thick seam Total	13.039	19.474	43.346	61.031	68.902	62.618	141.635	37.476	15.292	54.444			**517.257**
THIN SEAMS (0.50-0.90m)													
0-300			3.422	2.416				2.668					**8.506**
300-600	1.210	2.050	2.671	1.854	1.620	5.729	5.858	4861		2.319	2.055	2.479	**32.706**
Thin seam Total	1.210	2.050	6.093	4.270	1.620	5.729	5.858	7.529		2.319	2.055	2.479	**41.212**
Grand Total Resource (Mt)	**14.249**	**21.524**	**49.439**	**65.301**	**70.522**	**68.347**	**147.493**	**45.005**	**15.292**	**56.763**	**2.055**	**2.479**	**558.469**

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e) Seam Wise Gross Inferred Coal Resource

SEAM NAME	Thick Seam	Thin Seam	Total
SEAM VIII	65.585	0	65.585
SEAM VII	122.532	0	122.532
SEAM L-7	0	5.682	5.682
SEAM VI	36.23	0	36.23
SEAM VB	11.81	6.607	18.417
SEAM L-6	3.109	6.307	9.416
SEAM IV	78.328	0	78.328
SEAM IIIC	58.672	0	58.672
SEAM IIIT	48.911	2.05	50.961
SEAM IIIB	29.08	0	29.08
SEAM II	52.318	1.55	53.868
SEAM L-3	7.431	4.125	11.556
SEAM IT	0	4.326	4.326
SEAM IB	3.251	5.657	8.908
SEAM I	0	1.21	1.21
SEAM L-1	0	3.698	3.698
TOTAL RESOURCE	517.257	41.212	558.469

f) Further, CMPDI requested for approval of House Keeping charges of B/B samples in addition to approve quantity as given below

Item	Approved Quantity	Executed Quantity	Approval Required for	Rate (Rs.)	Amount (Rs.)*
House Keeping ; B/B Samples	500	522	22 samples	115.00	2530.00
		Total Amount including GST *18%			2985.40

Recommendation of TCC

The committee noted and discussed the outcome of the project and agreed for submission of GR to NMET secretariat along with an approval for the additional amount of Rs. 2985.40/- (Rupees two thousand nine-hundred eighty five and forty paise only) towards housekeeping.

Agenda 58.3.4. Reconnaissance survey (G4) for coal in North of Chulaha Bhulia block (8.77 sq km), Sohagpur Coalfield, District: Anuppur, Madhya Pradesh. [Implementing Agency: CMPDI]

a) The project was approved in the 24th EC meeting of NMET held on 18.05.2022 for a period of 12 months.

b) The project has been completed and the comments of the peer reviewer have been incorporated.

c) Drilling and Geophysical studies upto 2550.00m was carried out in the block.

d) The seam-wise resource estimation is as given below:

Depth	Seam Name	Resource (MT)	Remarks
300-600	I	3.1	DEVOLATISED Coal (JHAMA)
	IIIT	56.6	DEVOLATISED Coal (JHAMA)

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	INDEX	11	DEVOLATISED Coal (JHAMA)
	INDEX	2	NON-COKING COAL (G8 Grade)
	IVB	8	DEVOLATISED Coal (JHAMA)
	IVT	9.1	DEVOLATISED Coal (JHAMA)
	VB	4.2	DEVOLATISED Coal (JHAMA)
	VB	35.8	DEVOLATISED Coal (JHAMA)
	VT	42.4	DEVOLATISED Coal (JHAMA)
	VT	6.2	NON-COKING COAL (G8 Grade)
	Total All Seams	**12.4**	**NON-COKING COAL (G8 Grade)**
	Total All Seams	**165.9**	**DEVOLATISED Coal (JHAMA)**
	GRAND TOTAL	**178.3**	

e) The depth wise resource calculation is as given below:

Depth	Grade	Resource (MT)
0-300	**----**	**---**
300-600	**G7**	**4.2**
300-600	**G8**	**8.2**
300-600	**DEVOLATISED COAL (JHAMA)**	**165.9**
	GRAND TOTAL	**178.3**

Recommendation of TCC

The committee noted the outcome of the project and recommended CMPDI to submit the GR to NMET secretariat at the earliest.

Agenda 58.3.5. Preliminary exploration for coal in Dhaska Naugai block, East of Bisrampur Coalfield, District: Surguja, Chhattisgarh. [Implementing Agency: CMPDI]

a) The project was approved in the 23rd supplementary meeting of EC on 16.03.2022 with a cost of 293.58 Lakhs for a period of 12 months.

b) CMPDI informed that the forest permission was received on 31.05.2023. Thereafter drilling has been completed for 1284.20m and geophysical studies for 1167.90m.

c) The details of Barakar Coal Seams encountered in the Block (Boreholes Drilled by CMPDI) is given below:

Sequence of Seam / Parting	Depth Range of Seam (m)		Thickness (m)		No. of intersections
	Minimum	Maximum	Minimum	Maximum	
II top	72.63	73.19	0.56	0.56	1
II Bottom	23.25	74.89	0.14	0.55	2
I	Not developed				

Recommendation of TCC

The committee noted the outcome of the project and recommended CMPDI to submit the GR to NMET secretariat at the earliest.

Agenda 58.3.6. Preliminary exploration (G3) for coal in Ulia-Gamhardih Block, East of Bisrampur Coalfield,

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District: Surguja, Chhattisgarh. [Implementing Agency: CMPDI]

a) The project was approved in the 24th EC meeting held on 18.05.2022 for a period of 12 months.

b) CMPDI informed that the forest permission was received on 31.05.2023. Thereafter drilling has been completed for 894.30m and geophysical studies for 798.30m. The sample analysis is in progress.

c) The details of Barakar Coal Seams encountered in the Block (Boreholes Drilled by CMPDI) is given below:

Sequence of Seam / Parting	Depth Range of Seam (m)		Thickness (m)		No. of intersections
	Minimum	Maximum	Minimum	Maximum	
II	9.55	79.34	10.95	29.50	3
II TOP	11.28	98.23	1.47	4.37	4
II MIDDLE	34.90	104.18	1.34	2.05	2
II BOTTOM	16.10	115.10	0.64	20.81	4
I	33.60	173.00	0.60	5.30	8

Recommendation of TCC

The committee noted the outcome of the project and recommended CMPDI to submit the GR to NMET secretariat at the earliest.

Agenda 58.3.7. Preliminary exploration for Manganese in Hardatal block (1.38 sq. km), District: Balangir, Odisha. [Implementing Agency: DGM Odisha]

a) The project was approved in 25th EC meeting of NMET with an estimated cost of ₹ 1.52 Cr. within 9 months duration.

b) The 30th EC of NMET on 06.06.2023 and sanctioned ₹ 6, 90,000/- (Rupees Six lakh ninety thousand only) towards additional cost for 60 m of drilling.

c) Considering the additional drilling and 259 nos of additional sample analysis DGM, Odisha requested for time extension upto 31st March 2024.

d) The committee suggested DGM, Odisha to give justification of the additional sample analysis and additional drilling in written. TCC recommended prioritizing the analysis of the first level boreholes.

Recommendation of TCC:

The committee reviewed the project and recommended DMG, Odisha to submit the details of additional drilling, mineralized zones delineated and number of samples generated along with chemical analysis to NMET so as to discuss it in the forthcoming EC meeting to seek financial sanction for additional cost and timeline extension approval up to 31.3.2024.

Agenda 58.3.8. Preliminary Exploration (G-3 stage) for Potash in Bharusari North Block, Dist- Hanumangarh, Rajasthan [Implementing Agency: MECL]

a) The EC of NMET approved the proposal in its 29th meeting held on 31ST March, 2023 for a period of 06 months.

b) The sanction order for the same was issued on 17th April 2023

c) MECL started the exploration work immediately on 21/04/2023 by deploying rig for drilling borehole no MPB-13 (PBH-03).

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d) The committee was informed that due to the vastness of the Bharusari sub basin (around 725 sq. km), the study cannot be carried out in one go for the entire sub basin. Hence, Bharusari Block (14.17 sq Km) was explored with drilling of 7868 m in 12 nos of BH on 800 m x 800 m grid in the vicinity of GSI drilled boreholes P-49, P-51, P-56, P-62 and P-64.

e) Accordingly MECL established total net resource of 57.397 m.t with average grade of 5.19% K2O at 3% K cut off and 14.531 m.t with 6.78% K2O at 5% cut off.

f) In continuation, MECL further proposed the Bharusari North Block and TCC, NMET recommended the exploration scheme with drilling of 3500 m in 5 Nos of boreholes to cover 10 sq.km area along with Geophysical, Geological work and chemical analysis. The same proposal was approved by EC, NMET.

g) Accordingly, MECL launched exploration campaign on 21st April, 2023 deploying drilling rig at the borehole number MBP-13 and completed the drilling activity on 16th August, 2023 by closing the borehole number MBP-17. MECL has drilled a total 3028 m in 5 numbers of boreholes along with associated geological and geophysical activity.

h) In accordance with the approved proposal MECL started its exploration campaign in the Bharusari North block with commencement of drilling in BH No. MBP-13 on 21.04.2023 and concluded with completion of drilling in BH No MBP-17 on 16.08.2023 and drilled a total of 3028 m of drilling in 5 boreholes over an area of 10.00 sq km.

i) It has been observed that bottom most five halite cycles, i.e., H1, H2, H3, H4 and H5 are persistently developed whereas H6 halite cycle is not developed in borehole number P-59 whereas H-7 halite cycle is not developed in the borehole MBP-15.

j) The resource estimated in the block based on the data of 5 boreholes of MECL and 1 boreholes of GSI at 2% , 3% and 5% K cut off with minimum thickness of 1.00 m by area of influence method

CUT-OFF CATEGORY	**TOTAL NET Inferred+ Reconnaissance Resource of Potash (Million Tonnes)**	**Average Grade (% K) (%K)**
AT 2% K CUT OFF	279.964	3.10 (3.73)
AT 3% K CUT OFF	108.154	3.90 (4.70)
AT 5% K CUT OFF	12.607	6.16 (7.42)

k) MECL informed the committee that the GR has been peer reviewed and comments of the r reviewer has been incorporated.

l) Further, MECL requested for time extension of 15 days up to 31.10.2023 without deduction of any cost.

Recommendation of TCC:

***The committee noted the outcome of project, agreed for submission of GR and recommended 15 days timeline extension up to* 31.10.2023 without any deduction in project cost.**

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Agenda 58.3.9. Preliminary Reconnaissance Survey (G-4 stage) for Tungsten, Tin & Rare Metals in Datia-Bijapur Block, Datia & Shivpuri Districts, Madhya Pradesh[Implementing Agency: MECL]

a) The project was approved in the 23rd EC meeting of NMET held on 16.03.2022 costing 183 Lakhs with 18 months' time line. The sanction order was issued on 25. 03.2022.

b) Block results were reviewed in 53rd TCC, where committee recommended closed space sampling at anomalous zones, i.e., >500 ppm of W.

c) Further, the block was reviewed in 57th TCC, after detailed deliberation committee opined that values are not encouraging, and recommended the project for time extension of 01 month i.e. up to 24th Oct, 2023 for submission of geological report.

d) Total 200 samples of Datia-Bijapur were analyzed W, Sn, Cu, Pb, Zn & Ta.

W (PPM)	Sn (PPM)	Cu (ppm)	Pb (ppm)	Zn (Ppm)	Mo (ppm)	Ta (ppm)	Au (PPB)
0.71	0.83	4.21	1.68	2.26	0.75	0.86	1.06
59.80	14.02	137.59	521.74	102.15	513.56	72.33	16.88

e) Peer review comments are received on 20th Oct 2023, comments and suggestions are incorporated for submission of FGR.

f) MECL requested for time extension up to 10th November 2023 for submission of GR.

Recommendation of TCC:

The committee noted the outcome of project, agreed for submission of GR and recommended time extension up to 10th November 2023.

Agenda 58.3.10. Reconnaissance Survey (G-4 stage) for Manganese & Graphite in Larambha-Kanaital & Pudapadar- Bharatbahal Block, Balangir District, Odisha. [Implementing Agency: MECL]

a) The proposal was approved in 23rd meeting of EC held on 16th March 2022 with timeline of 18 months.

b) The project was reviewed in 46th TCC and later in the in 51st TCC, where the committee suggested to carry out drilling in the most potential areas.

c) Out of 05 potential zones identified during reconnaissance survey, drilling has been carried out only in 02 zones/areas (i.e. Zone-3 and Zone-4) to assess the subsurface disposition of the mineralization at shallower depth. Further lateral and vertical continuities of the mineralization in the said two potential areas need to be proved.

d) The peer reviewer has commented that the present reconnaissance survey area is a large area, hence two new blocks may be carved out based on the location of potential areas and geological disposition of the mineralization excluding the river in the central part and a hillock along the eastern boundary. Further, the block may be upgraded to further level of exploration by carving out two new blocks.

e) MECL has requested for extension of timeline up to 1 month to submit the report.

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Recommendation of TCC:

The committee noted the outcome of project and recommended MECL to submit the GR by properly recommending the suitable block for further exploration under G3 stage of exploration. The committee also approved the extension of timeline up to one month.

Agenda 58.3.11. Preliminary Exploration (G-3 stage) for Graphite & Manganese in Salepali Block, in Balangir District, Odisha [Implementing Agency: MECL]

a) The proposal was approved in 26th meeting of EC held on 25th August 2022.

b) The block was reviewed in 52nd TCC held on 27th and 28th April 2023 after the completion of geological mapping, trenching and drilling of 2 boreholes. The committee suggested to drill 3 more boreholes in the block, which was already approved.

c) Exploration work in the block has been completed.

d) Exploratory trenching of 150 cu.m and drilling of 480m in 8 boreholes including 6 conditional boreholes were approved

e) Considering the flaky nature of graphite in the area, mineralised zones have been delineated at 2% FC cut-off

Mineralised Zone intersected in Trenches						
Sl. No.	**Trench No.**	**Thickness (m)**	**Moisture (%)**	**ASH (%)**	**VM (%)**	**FC (%)**
1	T-2	3.00	2.05	87.64	7.75	2.56
2	T-2	5.00	1.86	89.95	5.96	2.23
3	T-3	1.00	2.92	86.34	8.57	2.17
4	T-4	1.00	2.17	81.07	5.12	11.64
5	T-4	3.00	2.68	87.18	7.88	2.26

Mineralised Zone intersected in Boreholes						
Sl. No.	**BH No.**	**Thickness (m)**	**Moisture (%)**	**Ash (%)**	**VM (%)**	**FC (%)**
1	MSG-01	1.12	1.34	89.16	7.17	2.33
2	MSG-01	4.90	0.80	90.77	6.25	2.18

f) MECL informed that 0.179 m.t. with 2.29% FC at 2% FC cut-off over a cumulative strike length of 240m up to a vertical depth of 65m with an average thickness of 2.02m.

g) MECL informed that GR has been peer reviewed and ready for submission.

h) Further, committee was requested for one month extension up to 31st October 2023.

Recommendation of TCC:

The committee noted the outcomes of project and recommended MECL to submit the GR with suitably suggesting block for further exploration within 31st October, 2023.

Agenda 58.3.12. Reconnaissance Survey (G-4 stage) for Copper in Sukwari Bagwari Block, District- Sidhi, Madhya Pradesh. [Implementing Agency: MECL]

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a) The project was approved by EC in **22nd** meeting held on **22ndDec** 202**1 and reviwed** in 44th, 51st and 54th TCC meetings.
b) MECL informed that GR is prepared and has been peer reviewed**.**
c) Geological Mapping was carried out on1:12,500 along with surface sampling. General Strike of the litho-units is NE-SW dipping 40-60° towards SE direction.
d) On the basis of Surface Sample result, 05 positive zones were identified.
e) After technical deliberations in 44th TCC meeting, committee recommended for Trenching at all the five positive locations.
f) Accordingly, 5 nos of trenches were excavated and sampled. Out of 35 nos of trench samples, 24 samples analyzed Cu values >1000 ppm (Range 1068-6576 ppm)
g) Analytical results of trenches were reviewed in 51st TCC meeting held on 27-28th March 2023. After technical deliberations, committee has recommended scout boreholes along the profile lines of trenches.
h) Accordingly, drilling in 6 boreholes (i.e. borehole nos. MSB-01 to MSB-06) has been carried out for a total of 454.50m against an approved meterage of 500.00m.
i) Copper mineralization has been confirmed in borehole no. MSB-01 and MSB-03 having cumulative strike length of 200m and 1.5m thickness. Gold instances has also been found in borehole no. MSB-03.
j) As per UNFC and MEMC rules, a total of 27969.481 tonnes (0.028 million tonnes) of Net In-situ Reconnaissance Resources (334 category) of Copper with average grade of 1.36% Cu have been estimated by cross sectional method.
k) MECL informed that GR has been prepared and sent for the peer review on 17.10.2023. Comments from peer reviewer has been received by email on 30.10.2023. The report is to be submitted after attending all the suggestions and corrections marked by the peer reviewer**.**
l) Considering the above, MECL requested for time extension up to 20th Nov, 2023

Recommendation of TCC:

The committee noted the outcome of project and suggested MECL to consider only those zones which fulfills the required stopping thickness and IBM stipulated cut-offs. The committee also approved the extension of timeline up to 20th Nov.2023 to submit the GR to NMET by recommending block, if any, for further exploration.

Agenda 58.3.13. Reconnaissance Survey (G-4 stage) Tungsten, Tin & Rare Metals in Govindpur Block, Datia & Shivpuri Districts, Madhya Pradesh [Implementing Agency: MECL]

a) The project was approved in the 26th EC of NMET with cost of INR 169 lakhs, timeline for execution of project is 12 months i.e 20th Sept. 2022.
b) Block results were reviewed in 53rd TCC, where committee recommended closed space sampling at anomalous zones, i.e., >500 ppm of W.
c) Block was reviewed again in 57th TCC and after detailed deliberation, the committee noted the outcome of project and recommended the project for time extension of 01 month i.e. up to 19th October, 2023 for submission of geological report.
d) The project was submitted for peer review and the suggestions of the peer reviewer have been incorporated in the GR.

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e) The MECL informed the committee that the occurrence of copper mineralisation in the area is sporadic, discontinuous and present as specks/disseminations in place where quartz vein intrusion bearing traces of sulphides and malachite encrustations are observed within granites at village Pitsura and Baroni khurd, sonagir. Due to sporadic nature extent of mineralization could not be established.

f) The occurrence of Tungsten and Tin mineralisation is also sporadic, discontinuous and tungsten and tin are identified in mineragrpahic studies conducted, however in the bedrock samples the W analysis range varies from 0.71ppm (min) to 1214 ppm (max) and for Tin range varies from 0.83 ppm (min) to 18 ppm (max).

Recommendation of TCC:

The committee noted the outcomes of project, approved the extension of timeline up to 10th November, 2023 to submit the GR to NMET with apt recommendations.

Agenda 58.3.14. Reconnaissance Survey (G-4 stage) for Manganese in Katori Jhiria Block, District- Balaghat, Madhya Pradesh [Implementing Agency: MECL]

a) On recommendation of TCC of NMET, the EC in the 27th meeting held on 10th January 2023, approved the G-4 proposal for execution. As per the approved quantum MECL.

b) Sanction order for the project was issued on 03.02.2023

c) MECL informed that based on the geological mapping and sampling, 4 potential areas for manganese and one potential area for iron was demarcated. The manganese ore mainly pyrolusite & psilomelane and iron ore mainly hematite and goethite are observed.

d) Four potential area of 1.46 sq. km. for manganese and 0.12 sq.km area for iron ore have been identified on the basis of geological mapping and sampling.

e) Geophysical survey has been carried out in the potential areas A, B & C where manganese bodies are observed. The approved station was 450 but total 2230 station acquired in 12 line with station spacing of 10m and line spacing of 300m. Based on the magnetic anomaly three zones have been identified.

f) On the basis of geochemical and geophysical results trenching and borehole will be planned

g) The boundary of Katori Jhiriya Block is modified and the revised coordinates are given below.

Corner points	Latitudes (N)	Longitudes (E)	Total Area
A	21°45'34.67"	79°58'43.03"	152.5 Sq.km
B	21°44'09.20"	80°00'51.48"	
C	21°31'49.76"	79°53'44.88"	
D	21°34'41.30"	79°48'37.04"	
E	21°34'58.84"	79°48'07.56"	
F	21°36'33.59"	79°49'36.16"	
G	21°36'22.14"	79°50'13.27"	
H	21°36'35.10"	79°55'21.90"	
I	21°42'01.51"	79°55'25.79"	

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Recommendation of TCC:

The committee noted the outcomes of project and approved the modified block boundary coordinates and the total area mentioned in the table above and agreed for planning scout boreholes to test the subsurface mineralization.

Agenda 58.3.15. Reconnaissance Survey (G-4 stage) for Basemetals in Tarichar- Khur Block, District- Niwari, Madhya Pradesh. [Implementing Agency: MECL]

a) The proposal was approved in the 27th meeting of EC held on 10th January 2023.
b) MECL informed that mapping target has been achieved as proposed and encouraging values of W was reported from the area. But only one sample showed encouraging copper value.
c) The committee suggested MECL not to carry out trench across all the reefs but one or two reefs with good tungsten values should be systematically established through channel sampling. Survey through UV lamp may be employed in the areas wherever W values are found.
d) The committee also recommended to convert the trench samples to bedrock sample.

Recommendation of TCC:

The committee reviewed the progress of the work and recommended to prepare a G3 stage item for W in the area by carrying out UV lamp survey. TCC also recommended to finish the work and submit the final GR within stipulated time

Agenda 58.3.16. Reconnaissance Survey (G-4 stage) for Manganese and Graphite in Talijuri Gunchadihi Block, District- Bolangir, Odisha. [Implementing Agency: MECL]

a) The project was en approved in 27th meeting of EC held on 10th January 2023.
b) The geological mapping and geochemical sampling works have been commenced on 09.2.2023 and completed on 08.6.2023.
c) MECL informed that Geological mapping on 1:12500 scale has been completed over 80 sq.km area and could collect only 09 bedrock samples as most of the area is soil covered.
d) Further, MECL informed that 6 out of the 09 bedrock samples showed graphite with FC values ranging from 6.12% to 31.87%. Details are given below.

Sl.No.	Sample No.	Moist%	Ash %	VM %	FC %
1	TG-BR-01	1.14	79.96	7.81	11.09
2	TG-BR-02	2.76	87.50	8.00	1.74
3	TG-BR-03	0.80	58.88	9.06	31.26
4	TG-BR-04	2.52	90.79	6.06	0.63
5	TG-BR-05	1.38	94.69	3.58	0.35
6	TG-BR-06	0.34	87.85	5.23	6.58
7	TG-BR-07	0.45	84.98	6.53	8.04
8	TG-BR-08	0.34	68.64	6.15	24.87
9	TG-BR-09	0.30	88.70	4.88	6.12

e) MECL has proposed potential area for Geophysical survey (Magnetic & SP) : 2.52 sq.km (20 L.km)

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f) MECL informed that 5 no. of trenches, to a cumulative dimension of 100 cu.m, are proposed in the area reported with old workings and float ores of graphite and manganese. It also informed the committee that trenches 1 to 3 will be excavated along the old workings and Trench 4 to 5 will be carried out in the float ore area.

Recommendation of TCC:

The committee noted the outcome of project and while approving the plan for trenching work in the area it also advised MECL to prepare interpreted geological map based on which the proposed geophysical surveys are to be carried out.

Agenda 58.3.17. Reconnaissance Survey (G-4 stage) for Tin, RM and REE in Pendra Block, District- Gaurela-Pendra-Marwahi, Chhattisgarh. [Implementing Agency: MECL]

a. The project was approved by the EC in its 27th meeting held on 10th January, 2023 approved the proposal and communicated via O.M F .No 23/302/2023-NMET/327 dated 6th February, 2023.
b. MECL informed that Mapping and detailed sampling has been carried out and encouraging values of V have been reported.

Recommendation of TCC:

The committee reviewed the project and suggested MECL to identify the mineral phases of REE and V through petrographic sampling and delineate the potential zones based on the surface sampling and geological mapping before initiating drilling in the area.

Agenda 58.3.18. Reconnaissance Survey (G-4 stage) for Polymetals (Cu, Au and Ag) in Miregaon Block, District-Bhandara, Maharashtra [Implementing Agency: MECL]

a) The proposal was approved in 28th meeting of EC held on 25th August 2022 over an area of 40.769 sq.km with 12 months' timeline. The sanction order was issued by NMET on 27.03.2023.
b) Geological Mapping and Sampling work has been completed. On the basis of geological mapping and sampling, one potential area of 0.2 sq. km. over a strike length of 350m has been earmarked.
c) The committee was requested to permit trenching followed by Geophysical Survey as approved in the NQT.
d) MECL informed that on the basis results of trenching and geophysical survey, borehole will be drilled after 2nd review.

Recommendation of TCC:

The committee noted the outcome of project and suggested MECL to include Gondia district in the title. Besides, the committee also recommended MECL to plan Geophysical survey across the quarry and its southern extension. Trenching and drilling components in the item should be completed at the earliest and should come for review in December, 2023.

Agenda 58.3.19. Preliminary Exploration (G-3) for Copper in Thakurdih Charakmara Block, East SinghbhumDistrict, Jharkhan [Implementing Agency: MECL]

a) The project was approved by 23rd EC of NMET on 11th March 2022 for a cost of 3.88 crore with 18 months' timeline.
b) The project was reviewed in 46th and 52nd TCC meeting.

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c) Copper ore Resource estimated at 0.20% Cu cut-off with 2.00 m stopping thickness and 3.0m maximum parting in Charakmara and Area-1 of Thakurdih-Charakmara block.

Summary of Resource in ThakurdihCharakmara Block						
Area Name	UNFC	Net Recourse (Tonnes)	Average Grade (Cu%)	Avg. Thickness (m)	Lode No.	Total Metal content(Tonnes)
Charakmara	(333)	40516	0.27	2.96	1	109
Area-1	(334)	128689	0.39	3.23	1B, 1AA	502
Total		169205 (0.17 m.t)	0.37	3.16	-	611

d) The draft GR is ready and to be submitted for Peer Reviewer in 1st week of Nov, 2023.

e) After attending peer review comments (if any) Final GR will be submitted by 15th Dec, 2023.

Recommendation of TCC:

The committee noted the outcome of the project and recommended time extension up to 15th December 2023.

Agenda 58.3.20. Preliminary Exploration (G-3) for Diamond in Tikamgarh Cluster, Tikamgarh District, Madhya Pradesh [Implementing Agency: MECL]

a) The project was approved in the 24th EC meeting of NMET for a time schedule of 15 months.

b) MECL informed that the sanction order for the project was issued on 1st June 2022.

c) Committee was informed that MECL is yet to receive results of 19 samples submitted for EMPA study at IIT, Bombay.

d) Further, MECL informed that if any Phase-1 samples found positive, there is a provision to collect follow up samples in positive catchment areas or else report will be submitted before 31st January, 2024.

e) Considering the same MECL requested to extend the timeline up to 31st March 2024 (07 months).

f) The committee opined that the agencies are bound to explore possible tie ups with laboratories before submission of projects to NMET and deferred the time extension until after receipt of the laboratory results.

Recommendation of TCC:

The committee after reviewing the project requested MECL to study the capabilities of the agencies before submitting samples to them. Further, it recommended MECL to present the outcome of the samples in the next TCC to consider the extension of timeline.

Agenda 58.3.21. Preliminary Exploration (G3) for Bauxite in Tarhapani (West) Block, District- Koraput, Odisha. [Implementing Agency: OMC]

a) The project was approved in 11th EC meeting of NMET with an estimated cost of ₹ 2.12 Cr. In the 20th TCC meeting additional cost of 14.31 Lakhs was approved for the project.

b) The 29th EC meeting held on 31.03.2023 approved time extension up to 31.05.2023.The project was last reviewed in the 51st TCC meeting.

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c) OMC has estimated the resource of both bauxite and laterite. A G3 stage item has already been proposed in the area as spin-off

d) The Comments of the peer reviewer has been incorporated and the GR is ready for final submission.

e) OMC proposed for timeline extension up to 15.11.2023

Recommendation of TCC:

The committee noted the outcome of the projects and recommended submission of GR with timeline extension up to 15th November 2023.

Agenda 58.3.22. Review and Extension of timeline of Preliminary Exploration (G3) for Bauxite in Karnapodikonda Block in Narayanpatna Tehsil, District - Koraput, Odisha. [Implementing Agency: OMC]

a) The project was approved in 11th EC meeting of NMET with an estimated cost of ₹ 1.71 Cr. In the 20th TCC meeting additional cost of 11.45 Lakhs was approved for the project.

b) The 29th EC meeting held on 31.03.2023 approved timeline extension up to 30.09.2023.

c) OMC informed the committee that a part area falls in red corridor and drilling was delayed due to the community issues in the area. Further, drilling has started after liaisoning with local community. Core drilling completed with 1027.60 m in 53 boreholes and laboratory studies are progress.

d) Considering the above, OMC requested for extension of timeline up to 31st March 2024.

Recommendation of TCC:

The committee reviewed the progress of the work and recommended for timeline extension up to 31st March 2024. Further, the committee advised OMC to present the progress of the work either in December, 2023 or January, 2024 TCC meeting.

Agenda 58.3.23. Extension of timeline of Preliminary Exploration (G3) for Bauxite in Keluamali Block, District - Kalahandi, Odisha. [Implementing Agency: OMC]

a) The project was approved in 11th EC meeting of NMET with an estimated cost of ₹ 3.39 Cr. In the 20th TCC meeting additional cost of 17.17 Lakhs was approved for the project.

b) The 29th EC meeting held on 31.03.2023 approved timeline extension up to 31.10.2023.

c) OMC informed that Drilling couldn't be initiated due to the local issues in the area and negotiation with local bodies are in progress to resolve the issue. Geological mapping, Surface Sampling & chemical analysis have been completed

d) Considering the above, OMC requested for extension up to 31st April 2024.

Recommendation of TCC:

The committee reviewed the progress of the work and recommended for timeline extension up to 31st March 2024. Further, the committee advised OMC to present the progress of the work either in January, 2024 or February, 2024 TCC meeting.

Agenda 58.3.24. Reconnaissance Survey (G4 Stage) for Graphite in Nawadih Block, District: Balrampur, State: Chhattisgarh [Implementing Agency: DGM Chhattisgarh (NPEA: United Exploration India

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Pvt. Ltd.)]

a) The project was approved in 30th EC meeting held on 06.06.2023 of NMET with 9 months duration.
b) United Exploration India (UEIPL) has carried out work in the approved area and proposed for permission to work further west side.
c) The committee was informed that eastern part of the area is mainly dominated by granite/ granite pegmatites, whereas western part is dominated by quartz mica schist along with graphite schist. Graphite schist noted in the western part of the block covers an area of around 8.5 sq. km. Graphite exposures are mostly having 4 to 8m length and width maximum of 2m and are having ENE-WSW trend .
d) UEIPL requested for revision in the study area. However, GSI has informed that the proposed area is overlapping with the ongoing GSI, SU: CG's Jogni-Sonhara G4 block of FS 2023-24. The overlap is observed to be over 90%.

Recommendation of TCC:

The committee reviewed the progress and advised **United Exploration India Pvt. Ltd** ***not to modify the area as it has >90% overlap with the GSI's exploration block. Further the committee recommended the NPEA to complete all the assigned work within stipulated timeline and submit the GR with proper recommendations.***

Agenda 58.3.25 Reconnaissance Survey (G-4 Stage) for Iron Ore in Alenga-Nendwadi Block, District: Gadchiroli, Maharashtra [Implementing Agency: DGM Maharashtra (NPEA: Gemcokati Exploration Pvt. Ltd.)]

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Agenda 58.3.26. Reconnaissance Survey (G-4 stage) for Iron Ore in Marampalli-Jinjgaon Block, District: Gadchiroli, Maharashtra.[Implementing Agency: DGM Maharashtra (NPEA: Gemcokati Exploration Pvt. Ltd.)]

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Agenda 58.3.27. Reconnaissance Survey (G-4 Stage) for Iron Ore in Tadgaon-Wateli Block, District: Gadchiroli, Maharashtra. [Implementing Agency: DGM Maharashtra (NPEA: Gemcokati Exploration Pvt. Ltd.)]

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Agenda 58.3.28. Reconnaissance Survey (G4) for Iron Ore in Gilanguda-Padur Block, District: Gadchiroli, Maharashtra. [Implementing Agency: DGM Maharashtra (NPEA: Gemcokati Exploration Pvt. Ltd.)]

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Agenda 58.3.29. Reconnaissance Survey (G-4) for Iron Ore in Murwada-Tumarikodi Block, District: Gadchiroli, Maharashtra. [Implementing Agency: DGM Maharashtra (NPEA: Gemcokati Exploration Pvt. Ltd.)]

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a) The projects mentioned in agenda points 58.3.25 to 58.3.29 were approved in 30th EC meeting held on 06.06.2023 of NMET with 8 months duration.
b) Gemcokati Exploration Pvt. Ltd informed the committee that the field work was limited due to local issues. Mapping of inaccessible areas were completed with the help of remote sensing.
c) The committee suggested that large scale mapping should be carried out with proper ground check and the remote sensing data can be used as supporting tool.
d) The committee opined that band delineated through remote sensing data should be ground checked. The present map showing the disposition of BIF bands has not been supported by structural data. Map of all the five blocks can be considered under reconnaissance level. But SOC is paid only towards what has been done. Here no field work of required level has been carried out to generate map on 1:12500 scale.
e) The committee advised to complete the surface samples.

Recommendation of TCC:

The committee reviewed the progress and opined that the disposition of the BIF bands demarcated on the basis of remote sensing data is not tallying with the structural understanding of the terrain. It advised the NPEA to carryout proper ground checking of the remote sensing data and assess the bands through surface sampling wherever possible. Further, the committee suggested the NPEA to present the outcome of the work in the TCC meeting of November, 2023 for technical review.

Agenda 58.3.30 Preliminary Exploration (G3) for Limestone in Savalhira block, District: Chandrapur, Maharashtra [Implementing Agency: DGM, Maharashtra]

a) The project was approved in 25th EC meeting held on 29.06.2022 with an estimated cost of 73.73 Lakhs within 14 months duration.
b) DGM Maharashtra informed the committee that only 4 boreholes (out of 6) could be drilled so far due to ongoing farming activities.
c) DGM Maharashtra also assured that the remaining 2 boreholes will be drilled by January 2024
d) DGM proposed for timeline extension up to April 2024.

Recommendation of TCC:

The committee reviewed the progress of the work and recommended to complete the work and submit the GR within 31st March 2024.

Addl. Agenda 58.3.31 Reconnaissance survey for Copper in Chalima Block (101.84 sq.km) in Giridih district, Jharkhand [Implementing Agency: MPSMC Ltd.]

a) The Block was recommended in 34thTCC and approved by 22nd EC of NMET with timeline of 12 months from Jan - 2022.
b) After carrying out pitting and trenching in the block during the month of Feb-2023 by MECL, the block was reviewed in 52ndTCC held on 27th& 28th April, 2022 and based on results and technical deliberation, committee has approved for 5 nos. of scout boreholes (310m) with a time line extension up to Oct-2023.

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c) Application for Forest clearance was submitted on 05.06.2023 and got permission on 21.07.2023.

d) Subsequently, drilling was started on 12.08.2023 (delay was due to incessant rains in the region) and till date only two boreholes could be completed and the third boreholes is running. Cumulative drilling achievement is 220.00m in three boreholes. Two boreholes have indicated copper mineralization through visual estimation.

e) Owning to collection of revenue data, forest clearance and rainy season drilling got delayed, remaining two boreholes are falling in cultivation land i.e. paddy, likely to harvest by December'23.

f) Farmers are protesting and denied drilling activity in these locations. Hence, the drilling program have been suspended till December' 2023.

g) MECL requested for extension of time line for a period of three months for drilling to be commenced in the month of December' 2023 i.e. up to March-2024.

Recommendation of TCC:

Considering the limitations, the committee recommended timeline extension up to 31st March 2024.

List of participants from NMET in the 58th Technical-cum-Cost Committee (TCC) meeting held on 30th,31st October and 1st November 2023 through video conferencing

S.NO	Name and Designation	Status	Remarks
1	Dr. S. Ravi, Dy. Director General, SU: Karnataka & Goa, GSI Bangalore.	Chairman, TCC	Through VC
2	Shri I.R. Kirmani, ADG (Retd.), GSI.	Member	Through VC
3	Shri Hemraj Suryavanshi, Addl. Director General (Retd.), GSI	Member	Through VC
4	Shri K. Koteshwar Rao, Dy.D.G. (Retd.) GSI.	Member	Through VC
5	Dr. S. K. Kulshrestha, DDG-RMH-III, NER, GSI, Shillong	Member	Through VC
6	Shri S.K. Adhikari, Chief Mining Geologist, IBM, Nagpur.	Member	Not Attended
7	Dr. E.V.S. S.K Babu, Scientist (G), NGRI.	Member	Through VC
8	Shri K.L. Mundra, Head-RMRE, AMD, Hyderabad	Member	Through VC
9	Shri A.R. Sengupta, Director (IFD), Ministry of Mines.	Member	Not Attended
10	Shri Vivek Kumar Sharma,Director, NMET, Ministry of Mines.	Member	Through VC
11	Shri P.K. Maharana, AGM (Finance), NALCO, Bhubaneswar.	Member	Through VC
12	Shri Ravi Kumar Gupta General Manager (Finance) HCL, Kolkata.	Member	Through VC
13	Smt. Vandana, Cost Accounts Officer, RSAS, Bangalore, GSI.	Member	Through VC
14	Shri C. Parthasarathi, Director, GSI &Member Secretary, TCC- NMET, GSI, Bengaluru	Member Secretary	Through VC

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Annexure-1

List of participants attended 58th Technical-cum-Cost Committee (TCC) meeting of NMET Dated: 30th, 31st October and 1st November 2023 through videoconferencing

Sl. No.	Name/Designation	Email ID	Contact No	Organization
1.	Dr. S. Ravi, Dy. Director General, SU: K&G, GSI Bangalore	s.ravi1@gsi.gov.in	9441138834	Chairman, TCC
2.	Shri I.R. Kirmani, ADG (Retd.), GSI	irkirmani@yahoo.com	9414014723	Member TCC
3.	Shri Hemraj Suryavanshi, Addl. Director General (Retd.), GSI	hemrajgsi@gmail.com	7477042176	Member TCC
4.	Shri K. Koteshwar Rao, Dy.D.G. (Retd.) GSI.	kkrao1957@gmail.com	9000117969	Member TCC
5.	Dr. S. K. Kulshrestha, DDG-RMH-III, NER, GSI, Shillong	s.kulshrestha@gsi.gov.in	9413330658	Member TCC
6.	Dr. E.V.S. SK Babu, Scientist (G), NGRI.	evsskbabu@ngri.res.in	9441535852	Member TCC
7.	Shri K.L. Mundra, Head-RMRE, AMD, Hyderabad	headrmre.amd@gov.in	9414785663	Member TCC
8.	Shri Vivek Kumar Sharma,Director, NMET, Ministry of Mines	vksharma.ofb@gov.in	7024570055	Member Ex-office
9.	Shri P.K. Maharana, AGM (Finance), NALCO, Bhubaneswar	pmaharana@rediffmail.com	8500669500	Member TCC
10.	Shri Ravi Kumar Gupta General Manager (Finance) HCL, Kolkata	ravi_g@hindustancopper.com	9433274328	Member TCC
11.	Smt. Vandana, Cost Accounts Officer, RSAS, Bangalore, GSI.	vandana@gsi.in	8660939235	Member TCC
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Annexure: 2A

Estimated cost for Preliminary Exploration (G-3) for Diamond in Adjacent Area of Angira-B & Angira-A, Chhatarpur District, Madhya Pradesh
Total block area- 2.30 sq km; Completion Time- 18 Months, Review: 6months & 12months

Sl. No	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item-S. No.	Rates as per SoC	Qty.	Total Amount (Rs)	
	Geological, Sampling & Survey Days						
1	**Large scale (LSM) Geological mapping/ Detailed Mapping (1:2000)/Trenching/Drilling**						
1.1	Geologist man days (1 party Field)	days	1.2	11,000	180	19,80,000	
1.2	Labour Charges for Mapping work	per worker	5.7	504	360	1,81,440	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. - whichever is higher
1.3	Geologist man days (HQ)	days	1.3	9,000	120	10,80,000	(Mineral identification days by 2 geologists included & data collation)
1.4	Sampling Charges (Geochemical /Trenching/Pitting/Drilling)	day	1.5.2	5,100	40	2,04,000	
1.5	Labour Charges for Sampling Work	day	5.7	504	160	80,640	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. - whichever is higher

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	Sub-Total 1					**35,26,080**	
2	**Geophysical Surveys***						
2.1	Magnetic Surveys	per station	3.2a	1,800	1800	32,40,000	
2.3	CSMT/TDEM	per station	3.7a	21,197	0	0	100*50 (Rate from NGRI-CSMT)
2.4	Surveyor Charges	days	1.6.1.a	8,300	100	8,30,000	
2.5	Labours Charges for Survey Work	per worker	5.7	504	400	2,01,600	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. - whichever is higher
2.6	Geophysicist man days (HQ)	days	3.18	9,000	45	4,05,000	Data interpretation
	Sub-Total 2					**46,76,600**	
3	**Pitting**						
	Pitting	cu.m	**2.1.3**	5,330	320	17,05,600	
	Sub-Total 3					**17,05,600**	
4	**Drilling****						
4.1	a) Drilling up to 300m (2 Rigs) (Hard Rock)	per m	2.2.4 a	11,500	2000	2,30,00,000	bh:10
4.2	Borehole pillaring a) construction of concrete pillar (12"x12"x30")	per bh	2.2.7.a	2,000	10	20,000	
4.3	Transportation of drill rigs &truck associated per drill (To & Fro from HQ) (2 rig)	per km	2.2.8	36	2000	72,000	(To & Fro from HQ = 1000 kms for 1 rig)
4.4	Monthly accommodation charges for drilling camp	monthly	2.2.9	50,000	4	2,00,000	
4.5	a) Drilling camp setting (2 rigs)	per drill	2.2.9a	2,50,000	2	5,00,000	
4.6	b) Drilling camp winding (2 rigs)	per drill	2.2.9b	2,50,000	2	5,00,000	
4.7	Approach road making in flat terrain (Flat terrain)	per km	2.2.10a	22,020	5	1,10,100	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed for max. 5 km.

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4.8	Drill core preservation	per m	5.3	1590	2000	31,80,000	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
4.9	Land/crop compensation	per borehole	5.6	20000	10	2,00,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
4.10	Demarcation Fixation of borehole and determination of co-ordinates & Reduced Level (RL) of the boreholes by DGPS (including charges for labours deployed for the work).	Per point of observation	1.6.2	19,200	10	1,92,000	bh:10
4.11	High-Resolution Acoustic Televiewer, Magnetic Susceptibility, Induction probe, Density, Spectral Gamma, Calliper can be used for the borehole logging	m	3.12		2000	12,44,691	
	Sub-Total 4					**2,92,18,791**	
5	**Laboratory Studies**						
5.1	Chemical Analysis						
	i) Surface sampling/Pit/BH (Stream/Soil/Bed Rock/Pit Samples/Core)						
	ii) Soil/ Bedrock/ Core Sample					-	
	a. Separation of heavy minerals from stream sediment samples of - 2mm size through gravity and magnetic separation	per sample	4.3.6b	13,820	220	30,40,400	20nos-pit, 200nos.- drill core
	b. Heavy mineral separation by liquid	per sample	4.3.6a	2,380	220	5,23,600	20nos-pit, 200nos.- drill core
	c. EPMA studies for suspected Heavy Mineral grains	Per hour	4.4.1	8,540	50	4,27,000	

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	d. Trace elements (34 element)	No. of samples	4.1.14	7,731	270	20,87,370	Trace elemental study, Soil/Bedrock- 250 nos. & Pit- 20 nos.
	e. XRF	No. of samples	4.1.15a	4,200	50	2,10,000	Major oxides, Soil/Bedrock- 50 nos
	Physical Laboratory						
5.4	**Petrological studies/Specific Gravity etc.**						
	a) Preparation of thin section (Surface & BH)	per sample	4.3.1	2,353	25	58,825	
	b) Study of thin section for petrography	per sample	4.3.4	4,232	25	1,05,800	
	c) Specific Gravity	per sample	4.8.1	1,605	10	16,050	
	d) Gemological study	per sample	4.3.13	1,820	50	91,000	
	Sub-Total 5					**65,60,045**	
6	**Total (1 to 5)**					**4,56,87,116**	
7	**Geological Report Preparation**	Nos	5.2	A Minimum of Rs. 9 lakhs or 3% of the work	1	**13,70,613**	For the projects having cost up to exceeding Rs. 300 Lakhs: A Minimum of Rs.9 lakhs or 3% of the value of work whichever is more subject to a maximum amount of Rs. 20 lakh and Rs. 10000/- per each additional copy.
8	**Preparation of Exploration Proposal**	**Nos**	**5.1**	2% or Rs. 500000 which is less	**1**	**5,00,000**	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.

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9	**Report Peer Review Charges**	**lumpsum**	**As per EC decision**	**30000**	**1**	**30,000**	
10	**Total Estimated Cost without GST (6+7+8+9)**					**4,75,87,729**	
11	**Provision for GST (18%)**					**85,65,791**	GST will be reimbursed as per actual and as per notified prescribed rate
12	**Total Estimated Cost with GST**					**5,61,53,521**	
					Rs. in Lakhs	**561.54**	
Note -							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						

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Annexure 2B

Time schedule for G-3 Level Exploration for Diamond in Proposed adjacent area of Angira-A & Adjacent area, District: Chhatarpur, Madhya Pradesh.

Sl. No.	Activities	Unit	MONTHS																	
			1	2	3	4	5	6		7	8	9	10	11	12		13	14	15	16	17	18
1	Geologist Party days in field (1 Party)	day																				
2	Geophysics Party Days (1 Party Field)																					
3	Geophysics Party Days (1 Party HQ)																					
4	Survey Party days (1 Party)	day																				
5	Camp Setting	Month																				
6	Camp Winding	Month																				
	Pitting/Trenching							Review							Review							
7	Surface Drilling (2 rig)	m.																				
8	Sampling Party days, Soil/Pit Sample 100 days +Core Sample200days	day																				
9	Laboratory Studies	Nos.																				
10	Geologist Party days in HQ (60 days for hand picking of KIMs + 60 days GR)	day																				
11	Geological Report Writing with Peer Review	Month																				

Note: 1. Commencement of project may be reckoned from the day the exploration acreage is available along with all statutory clearances like forest etc.

2. Time loss on account of monsoon/agricultural activity/forest clearance/local law & order problem may be additional to above time line.

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Annexure 3A

Estimated cost for Reconnaissance survey (G4) for Iron in Parsili-Karmai Block, Districts: Sidhi, State: Madhya Pradesh. [Block area- 18.34 sq. km; Schedule timeline- 08 months, Review: after 4 months]

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC- Item -Sl No.	Rates as per SoC	Qty.	Amount (Rs)	
A	**GEOLOGICAL WORK (Mapping update in 1:12,500 scale)**						
i	Charges for one Geologist- Field	day	1.2	11,000	60	6,60,000	
ii	Charges for one Geologist per-HQ	day	1.2	9,000	30	2,70,000	
iii	2 labours/ party for geologist	day	5.7	504	120	60,480	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
iv	Core Sampling -1 Samplers Labour charge not included	day	1.5.2	5,100	37	1,88,700	
v	4 labours/ party for sampler	day	5.7	504	148	74,592	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State

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							Govt. whichever is higher
	Sub Total- A					**12,53,772**	
B	**PITTING AND TRENCHING**						
i	Trenching	Cu m	2.1.1	3330	50	1,66,500	
	Sub Total- B					**1,66,500**	
C	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i	**Primary & Check samples for Iron-Manganese BRS/Chip/Channel/Trench/BH samples)**						
	a. Primary Samples for Total Fe, Total Mn, Al2O3, P2O5, CaO, SiO2 and Acid insolubles	Nos	4.1.15a	4,200	270	11,34,000	(Surface Samples-80, Trench Samples-40, BH Samples-150)
	b. External (10%) Check samples for 4 Radicals Fe, Al2O3, P2O5 & SiO2	Nos	4.1.15a	4,200	27	1,13,400	
ii	**Trace element study (34 Elements)**	Nos	4.1.14	7,731	5	38,655	
2	**Physical, Petrological, Mineralogical Studies**						
i	Preparation of thin section	Nos	4.3.1	2,353	5	11,765	
ii	Complete petrographic study report	Nos	4.3.4	4,232	5	21,160	
iii	Preparation of polished section	Nos	4.3.2	1,549	5	7,745	
iv	Complete mineragraphic study report	Nos	4.3.4	4,232	5	21,160	
v	Digital Photographs	Nos	4.3.7	280	5	1,400	

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vi	Whole Rock Analysis (Major oxides)	Nos	**4.1.15a**	4,200	5	21,000	
	Sub Total- C					**13,70,285**	
D	**DRILLING**						
i	Drilling upto 300m (Very Hard Rock) (1 rigs)	m	2.2.1.5a	12,650	500	63,25,000	bh:5 (After Review)
ii	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
iii	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	5	10,000	
iv	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	1,050	37,800	Certification in this regard is required to be provided
v	Monthly accommodation Charges for drilling Camp	month	2.2.9	50,000	3	1,50,000	
vi	Drilling Camp Setting Cost	Nos	2.2.9a	2,50,000	1	2,50,000	
vii	Drilling Camp Winding up Cost	Nos	2.2.9b	2,50,000	1	2,50,000	
viii	Approach Road Making (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
ix	Bore Hole Fixation and determination of co-ordinates & Reduced Level of the boreholes and by DGPS	Nos	1.6.2	19,200	5	96,000	5 Boreholes

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x	One complete borehole plus mineralised cores of all the remaining Bhs	m	5.3	1,590	200	3,18,000	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
	Sub Total- D					**76,46,900**	
E	**Total A to D**					**1,04,37,457**	
F	**Geological Report Preparation**		**5.2**	For the projects having cost exceeding Rs. 50 lakhs but less than 150 lakhs - A minimum of Rs. 2.5 lakhs or 5% of the value of work whichever is more		**5,21,873**	Reimbursement will be made after submission of the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
G	**Peer review Charges**		**As per EC decision**			**30,000**	
H	**Preparation of Exploration Proposal**	**5 Hard copies with a soft copy**	**5.1**	2% of the Cost or Rs. 5 Lakhs whichever is lower		**2,08,749**	EA has to submit the final proposal along with Maps and Plan as suggested by the TCC-NMET in its

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							meeting while clearing the proposal.
I	**Total Estimated Cost without GST**					**1,11,98,079**	
J	**Provision for GST (18% of I)**					**20,15,654.22**	GST will be reimburse as per actual and as per notified prescribed rate
K	**Total Estimated Cost with GST**					**1,32,13,733.21**	
				Rs. In Lakhs		**132.14**	
Note:							
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**						
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**						

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Annexure 3A

Time Schedule of Reconnaissance survey (G4) for Iron in Parsili-Karmai Block, Districts: Sidhi State: Madhya Pradesh. [Block area- 18.34 sq. km; Schedule timeline- 08 months]											
S. No.	**Particulars**	**Months**	**1**	**2**	**3**	**4**		**5**	**6**	**7**	**8**
1	Camp Setting	**Months**									
2	Trenching	**cu.m**									
3	Drilling (1 rig)	**m**									
4	Geologist days	**days**									
5	Sampling days, BRS/Trench/Core Sampling	**days**					**Review**				
6	Camp winding	**Months**									
7	Laboratory Studies	**days**									
8	Geologist days, HQ	**days**									
9	Report Writing with Peer Review	**days**									

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Annexure-4A

Estimated cost for Preliminary Exploration (G3) God & Associated Minerals for Sirigeri Gold, District Ballari, Karnataka. Timeline: 12 months Review: after 6 months

S.N	Item of Work		Unit	Rates as per NMET SoC			Proposed Cost	
				SoC Item No	Work/Activity description	Rates as per SoC	Qty	Amount (Rs)
A	**Geological Mapping (1: 2000, 02.00 sqkm)**							
i	Geologist Party days (1) -Field Both Mapping and drilling		Days	1.2		11,000	200	22,00,000
ii	Geologist Party days (1) -HQ		Days	1.2		9,000	50	4,50,000
iii	Labour Charges (2 labours)		Days	5.7		504	400	2,01,600
iv	Trenching (25 sq.km)		Per Cu m	2.1.1		3,330	400	13,32,000
Total (A)								**41,83,600**
B	**Survey works**							
i	Demarcation of lease boundary and fixation of borehole and determination of coordinates and RL (Including charges deployed for the work) by DGPS		Per point of observation	1.6.2		19,200	10	1,92,000
ii	Survey Party days (1 party) without Labour for contouring (2m interval)		one Surveyor per day	1.6.1a		8,300	50	4,15,000
iii	Labour Charges (4 labours)		Labour day	5.7		504	200	1,00,800
Total (B)								**7,07,800**
C	**Ground Geophysical Survey- out source**							
i	IP cum resistivity, S P, Magnetic for 2 Sq.Km		Per Line km	3.4b		14,48,693	4	57,94,772

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ii	IP Geophysical for 23 Sq.km			Per Line km	3.4a		69,950	60	41,97,000
Total (C)									**99,91,772**
D	**Drilling- out source**								
i	Surface drilling (01 rig- Hard rock- NQ)			m	2.2.1.4 a		11,500	690	79,35,000
ii	Core preservation			m	5.3		1,590	350	5,56,500
Total (D)									**84,91,500**
E	**Sampling /Other geological work**								
i	Sampler charges			Days	1.5.2		5,100	90	4,59,000
ii	Labour charges (4 nos)			Days	5.7		504	360	1,81,440
Total (E)									**6,40,440**
F	**Analysis (outsource)**								
i	Sample analysis	Primary samples for Gold (Fire Assay)	Trench Samples	per samples	4.1.5a		2,380	300	7,14,000
ii			BRS	per samples	4.1.5a		2,380	50	1,19,000
iii			BH Core samples	per samples	4.1.5a		2,380	250	5,95,000
iv		External check (10%) Major oxides	Trench Samples	per samples	4.1.15a		2,380	30	71,400
v			BRS	per samples	4.1.15a		2,380	5	11,900
vi			BH Core samples	per samples	4.1.15a		2,380	25	59,500
vii		Selected samples (ICP-MS method)	34 elements	per samples	4.1.14		7,731	50	3,86,550
viii	Petrological samples	Preparation of thin section		per samples	4.3.1		2,353	20	47,060

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ix	(Bh Core Samples)	Polished Section		per samples	4.3.2		1,549	10	15,490
x		Study of Thin and polished section		per samples	4.3.4		4,232	30	1,26,960
xi	Bulk density	Core samples		per samples	4.10		3,540	2	7,080
Total (F)									**21,53,940**
Total (A+B+C+D+E+F)									**2,61,69,052**
G	Peer review of report			lump sum	MOM office Memorandum dated 12 July 2023		30,000	1	30,000
H	Preparation of Exploration Proposal				as per 28th EC meeting	2% of approved project Cost subject to maximum of 5 Lakhs.			5,23,381
I	Exploration Report			no	5.2 iii	For the projects exceeding Rs. 150 Lakhs but less than 300 Lakhs: A Minimum of Rs. 7.5 lakhs or 3% of the work whichever is more		1	7,50,000

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J	Tendering process cost			2.3	One time, in case of outsourced components of project work. 2% of the approved project cost or 5 lakh whichever is lower will be paid exploration agency		1	4,01,614
K	operational charges.(Reimbursement of cost in case of outsourced components of project work)			6 (iii)	Cost of outsourced components of the project work will be reimbursed as per actuals. In addition, 8.75 lakh plus 5 percent on the balance amount of outsourced cost in excess of 1 crore will be paid to exploration agency towards operational charges. Maximum celling of operational charges is 15 lakh.			1379035.6

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L	Grand Total		2,92,53,083
M	GST 18%		52,65,555
N	Grand Total with GST (18%)		**3,45,18,638**
	Rs. in Lakhs		**345.19**
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**		
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**		
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**		
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**		

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Annexure 4B

Time Schedule of Preliminary Exploration (G-3) for Gold & Associated Minerals in Sirigere Gold District: Ballari Karanataka

Sl.	Details of works	Months											
		1	2	3	4	5	6	7	8	9	10	11	12
1	Camp Setting												
2	Detailed Scale Geological Mapping (Area 2 Sqkm), Trenching and BRS (Area 25 Sqkm)												
2.1	Geologist Party days- Field (01 Party)												
2.2	Geologist Party days- Head Quarters (01 Party)												
2.3	Laboratory works												
3	Trenching (25 sq.km)												
4	Topographical Survey												
35	Surface Drilling [Includes Preparatory work for drilling approach road and platform preparation, drilling (2rig 690 m drilling)]						Review						
5.1	Geologist Party days- Field (01 Party)												
5.2	Geologist Party days- Head Quarters (01 Party)												
5.3	Laboratory works (including 23 Sq.Km area samples)												
6	Survey Works (Includes Survey party days for DGPS survey of Boreholes and boundary points- Topography survey -01 party)												
7	Camp Winding												
8	Preparation of Reports and maps including Peer Review												

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Annexure 5A

Estimated cost for Preliminary Exploration (G3) for Iron Ore in Madhyapura Block, Dist:Keonjhar, Odisha. Area:6.5 sq.km
Timeline:12 months, Review: after 6 months

Sl. No.	Sr. No. (SOC)	Work/Activity	Unit	Charges/ Cost (Rs.)	Total Unit	Total Cost (Rs.)
		Mapping(1:4000)				
		Inhouse				
1	**1.5.1b**	Geology HQ	Man days	9,000	50	4,50,000
2	**1.5.1b**	Geology Field	Man days	11,000	150	16,50,000
		Labour		504	300	1,51,200
		Outsourced Component				
	Lab. Studies					
		XRF (Major Oxides)	4.1.15a	4,200	300	1260000
		External Check (10%)	4.1.15a	4,200	30	1,26,000
		Preparation of thin section	4.3.1	2,353	5	11,765
		Study of thin Section	4.3.4	4,232	5	21,160
		Digital Photography	4.3.7	280	5	1,400
3	**1.5.2**	Sampler	Per Sampler	5,100	41	2,09,100
		Labour		504	164	82,656
4	**1.6.2**	DGPS Survey	Points	19,200	11	2,11,200
		Surveyor	Per day	8,300	30	2,49,000
5	**2.2.1.5**	Drilling in Hard Rock	Per Meter	12,650	750	94,87,500
		Total				**1,16,59,781**
		Drill core preservation	5.3	1,590	350	5,56,500
		Sub Total (1 to 8)				**1,44,67,481**
		Peer Review				**30,000**
		Preparation of Exploration Proposal	5.1			**2,89,350**
		Tender processing cost	2.3			**2,33,196**

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		Operational Charges	6iv			**9,57,989**
9	**5.2**	Geological Report with 5 copies		A minimum of Rs.2.5 lakh or 5% of the Project Cost, whichever is more		7,23,374
TOTAL					**1,67,01,389**	
GST 18%						**30,06,250**
Total with GST					**1,97,07,639**	
Rs. in lacs						**197 lakh**
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**					
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**					
3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**					
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**					

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Annexure 5B

Time Schedule of Preliminary Exploration (G3) for Iron Ore in Madhyapura Block, Dist:Keonjhar, Odisha. Area:6.5 sq.km

Sl. No.	Activities	Months												
		1	2	3	4	5	6	Review	7	8	9	10	11	12
1	Camp Setting													
2	Geological Mapping (1: 4,000 scale)													
3	Rock Chip Sampling													
4	Chemical analysis of Rock Chip Samples													
5	Review of Field data													
6	Exploratory drilling													
7	Thin Section Preparation													
8	Survey Party													
9	Camp Demobilization													
10	Chemical analysis of Core samples & Laboratory Studies													
11	Geological Report Writing													

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Annexure-6A

Modified DSRS-MT Survey Budget estimate: Acquisition, Processing, and Interpretations (API) as worked out by CSIR-NGRI:

S. No.	Type of Survey	Quantum of Work	Unit Cost Rs. (Lakh)	Estimated Cost (Lakh)	
1.	Acquisition, Processing, and Interpretation (API) of DSRS (Explosive source)	485 LKM [Main Line]	11.77	5708.45	
2.	Acquisition, Processing, and Interpretation (API) of DSRS (Vibroseis source)	215 LKM [115 LKM Main Line + 100 LKM Parallel Line]	6.20	1333.00	
3.	Acquisition, Processing, and Interpretation (API) of Magnetotellurics		Rate	Amount	1410.50
	Short-period MT	461 (at 1 km spacing)	2.00	922.00	
	Mid-period MT	93 (at 5 km spacing)	3.00	279.00	
	Long-period MT	57 (at 10 km spacing)	3.50	199.50	
	Mob/De-mob	2 (1 per field season)	5.00	10.00	
			Sub Total	1410.50	
Total: Rs.8451.95 Lakhs					
GST 18%: 1521.35 Lakhs					
Total budget (Including 18% GST): Rs.9973.30 Lakhs					

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Annexure-6B

Sl. No.	Item	Duration in Months											
		3	6	9	12	15	18	21	24	27	30	33	36
A	**DSRS (Explosive source):**												
1	Tendering to outsource job services, explosives Pre-field visit, Logistical arrangements for the field, Obtaining the necessary permissions, Instruments testing, etc.												
2	Experimental Studies												
3	Data Acquisition, Analysis, and Processing												
4	Repetition of data acquisition (if required)												
5	Analysis, Modelling (1D & 2D), Interpretation and Report preparation												
B	**DSRS (Vibroseis Source)**												
1	Reconnaissance field survey and logistics permissions from the governing bodies and outsourcing of job services, of the Vibroseis												
2	LVL survey, Experimental studies, and finalization of the data acquisition parameters												
3	Production survey												
4	Data analysis processing												
5	Interpretation and Report preparation												
1	Integration of results by different methods (Grav., Mag, MT and Seismic)												
2	Preparation and submission of the final report												

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Sl. No.	Item	Duration in Months											
		3	6	9	12	15	18	21	24	27	30	33	36
C	**Magnetotellurics**												
1	Pre-field visit, Logistical arrangements for the field, Obtaining the necessary permissions, Instruments testing, etc.												
2	1st phase of the field campaign												
3	Data processing												
4	Initial analysis and 1D modelling of acquired MT data												
5	2nd phase of the field campaign												
6	Data processing												
7	Repetition of data acquisition (if required)												
8	Analysis, modelling (1D & 2D), interpretation and report preparation												
D	**Combined Interpretation**												
1	Integration of results by different methods (Grav., Mag, MT and Seismic)												
2	Preparation and submission of the final report												

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Annexure 7A

Estimated cost for Reconnaissance survey (G4) for BANKI & SALAIYA LIMESTONE BLOCK (G4) District Chhatarpur, Madhya Pradesh

Sl	Item of Work	Unit	SOC Item No	Rates as per SOC	Qty	Amount (Rs)	Remarks
(a)	(b)	(c)	(d)	(e)	(f)	(g)=(e)*(f)	
1	**LARGE SCALE GEOLOGICAL MAPPING WORKS (1:12,500 scale & 25 sq k.m area)**					**10,20,560**	**1020560**
1.1	Geologist Party days - Field	days	1.2	11,000	70	7,70,000	770000
1.2	Geologist Party days - HQ		1.2	9,000	20	1,80,000	180000
1.3	Labour charges for geological field work	days	5.7	504	140	70,560	70560
2	**PITTING & TRENCHING WORKS**					**76,000**	
2.1	Pitting	cum	2.1.2	3,800	20	76,000	**76000**
3	**SURVEY WORKS (Outsourced)**					**1,79,000**	179000
3.1	Fixation of borehole and determination of Co- ordinates and RL by DGPS	days	1.6.2	19,200	5	96,000	96000
3.1	Survey man days for Forest Clearance works	days	1.6.1b	8,300	10	83,000	83000
4	**DRILLING (Outsourced) (After Review)**					**18,44,250**	**1844250**
4.1	Surface Drilling Outsourced (01 rig - Hard Rock) Outsource	m.	2.2.1.4a	11,500	150	17,25,000	1725000
4.2	Core preservation	m	5.3	1,590	75	1,19,250	119250
4.3	Land/Crop compensation (in case the BH falls in agriculture land)	per borehole	5.6	20,000		-00	
4.4	Land/Crop compensation (in case the trenches falls in agriculture land)	per trench	5.6	20,000		-00	
5	**LABORATORY STUDIES**					**1,28,088**	**128088**
5.1	Sampler charges	days	1.5.2	5,100	18	91,800	91800
5.2	Labour for sampling	Labour charges per day	5.7	504	72	36,288	36288

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6	**Laboratory studies**					**5,31,835**	
6.1	Complete analysis of dolomite or limestone	per sample	4.1.9	2,900	125	3,62,500	**BRS:30, pit:20 & Bh:75**
6.2	External Check samples (10%)	per sample	4.1.9	2,900	13	37,700	
6.3	Preparation of Standard Thin section	per sample	4.3.1	2,353	5	11,765	
6.4	Complete Petrological Report of rock sample	per sample	4.3.4	4,232	5	21,160	
6.5	XRD	per sample	4.5.1	4,000	5	20,000	
6.6	Digital photomicrographs of Thin section	per sample	4.3.7	280	5	1,400	
6.7	ICPMS 34 elements	per sample	4.1.1.4	7,731	10	77,310	
Sub Total (01 TO 06)						**37,79,733**	
7	**Peer review of report**					**30,000**	
8	Preparation of Exploration Project Proposal		5.1	2% of the project cost or Rs 5 lakh whichever is lower	(5 Hard copies along with Soft copy)	**75,594.66**	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.

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9	Exploration Report preparation	Lump sum	5.2(i)	For the projects having cost upto Rs 50 lakhs : A Minimum of Rs.1.5 lakhs or 5% of the value of work whichever is more	5 Hard copies along with Soft copy)	**1,88,986.65**	EA has to submit the final Geological Report in Hard Copies (5 nos) and the soft copy to NMET.
GRAND TOTAL (1 to 9)						**40,74,314**	
	Tender Pro.	**2.3**				38080	**19,04,000**
	Operational Charges	**6 (i)**				**1,90,400**	
	Total Estimated Cost without GST					**43,02,794**	
	Provision for GST (18% of I)					**7,33,377**	GST will be reimbursed as per actual and as per notified prescribed rate
	Total Estimated Cost with GST					**48,07,691**	
	Rs. in lacs					**48.08**	
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**						
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**						

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3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**

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Annexure 7B

Time Schedule of Reconnaissance survey (G4) for BANKI & SALAIYA LIMESTONE BLOCK (G4) District Chhatarpur, Madhya Pradesh

Sr No	Activities	Unit	Months									
			1	2	3	4	REVIEW	5	6	7	8	9
1	Camp Mobilization & Setting	Months										
2	Geological Survey Work	Months										
3	Core Drilling, Core Logging,	Months										
4	Pitting & Trenching	Months										
5	Sample Preparation & Analysis	Months										
6	Geological Report preparation	Months										
7	Report Study, enlisting of various modification & Final copy of report preparation.	Months										

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Annexure 8A

Estimated cost for Preliminary Exploration (G3) for Bhatura Limestone Block Satna-District, Madhya Pradesh

Sl. No.	Item of Work	Unit	SOC Item No	Rates as per SOC	Qty	Amount (Rs)
(a)	(b)	(c)	(d)	(e)	(f)	(g)=(e)*(f)
1	**LARGE SCALE GEOLOGICAL MAPPING WORKS (1:4000 scale & 1.5 sq km area)**					**9,00,480.00**
1.1	Geologist Party days - Field	days	1.2	11,000	60	6,60,000
1.2	Geologist Party days - HQ		1.2	9,000	20	1,80,000
1.3	Labour charges for geological field work	days	5.7	504	120	60,480
2	**PITTING & TRENCHING WORKS**					**38,000.00**
2.1	Pitting	cum	2.1.2	3,800	10	38,000
4	**SURVEY WORKS (Outsourced)**					**10,17,000.00**
4.1	Fixation of borehole and determination of Co- ordinates and RL by DGPS	days	1.6.2	19,200	40	7,68,000
4.3	Survey man days for Forest Clearance works	days	1.6.1a	8,300	30	2,49,000
5	**DRILLING (Outsourced)After Review**					**21,14,000.00**
5.1	Surface Drilling Outsourced (01 rig - Hard Rock) Outsource	m.	2.2.1.4	11,500	170	19,55,000
5.2	Core preservation	m	5.3	1,590	100	1,59,000
5.3	Land/Crop compensation (in case the BH falls in agriculture land)	per borehole	5.6	20,000		-00
5.4	Land/Crop compensation (in case the trenches falls in agriculture land)	per borehole	5.6	20,000		-00
6	**LABORATORY STUDIES**					**99,624.00**
6.1	Sampler charges	days	1.5.2	5,100	14	71,400
6.2	Labour for sampling	Labour charges per day	5.7	504	56	28,224
7	**Laboratory studies**					**4,36,160.00**
7.1	Complete analysis of dolomite or limestone	per sample	4.1.9	2,900	105	3,04,500
7.2	External Check samples (10%)	per sample	4.1.3	2,900	10	29,000
7.4	Preparation of Standard Thin section	per sample	4.3.1	2,353	5	11,765
7.5	Complete Petrological Report of rock sample	per sample	4.3.4	4,232	5	21,160

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7.6	XRD	per sample	4.5.1	4,000	5	20,000
7.7	Digital photomicrographs of Thin section	per sample	4.3.7	280	10	2,800
7.8	ICPMS 34 elements	per sample	4.1.1.4	7,731	5	38,655
7.9	Bulk Density Test	per sample	4.10	3,540	2	7,080
7.10	Decrepitation test for limestone	per sample	4.7.3	1,200	1	1,200
					Sub Total (01 TO 07)	**46,05,264**
8	**Peer review of report**					**30,000**
9	Preparation of Exploration Project Proposal		5.1	2% of the project cost or Rs 5 lakh whichever is lower	(5 Hard copies along with Soft copy)	**92,105.28**
10	Geological Report preparation	lumpsum	5.2(i)	For the projects having cost upto Rs 50 lakhs : A Minimum of Rs.1.5 lakhs or 5% of the value of work whichever is more	5 Hard copies along with Soft copy)	**2,30,263.20**
11	Operational Charges					297200
12	Tender					59440
GRAND TOTAL (1 to 12)						**53,14,272**
	GST 18%					**9,56,569.05**
	Grand Total (with GST 18%)					**62,70,841.53**
	Rs. in Lacs					**62.71**
1	**Strict adherence to the Ministry of Finance's and GFR guidelines is mandatory. Every transaction must adhere to GFR rule 21.**					
2	**In case of delay/non- performance, the appropriate action will be taken by competent authority against delinquent agency as per prevailing govt. of India rules/guidelines on procurement.**					

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3	**If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.**
4	**Necessary efforts should be made to minimize any adverse impact on the environment during exploration activities.**

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Annexure-8A

Time Schedule of Preliminary Exploration (G3) for Bhatura Limestone Block Satna-District, Madhya Pradesh											
Sr No	**Activities**	**Unit**	Months								
			1	**2**	**3**	**4**		**5**	**6**	**7**	**8**
1	Camp Mobilization & Setting	Months					**R e v i e w**				
2	Geological Survey Work	Months									
3	Core Drilling, Core Logging,	Months									
4	Pitting & Trenching	Months									
5	Sample Preparation & Analysis	Months									
6	Geological Report preparation	Months									
7	Report Study, enlisting of various modification & Final copy of report preparation.	Months									

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