Ministry of Mines
National Mineral Exploration Trust

Minutes of the 28th Technical-cum-Cost Committee (TCC) meeting held on 11th and 12th February, 2021 and extended TCC on 22nd February, 2021 through videoconferencing at Geological Survey of India, DGCO, A-II Pushpa Bhawan, New Delhi

The 28th meeting of Technical-cum-Cost Committee [TCC] of National Mineral Exploration Trust [NMET] was held under the chairmanship of Shri Janardan Prasad, Additional Director General, Geological Survey of India [ADG, GSI], and Chairman, TCC, NMET on 11th and 12th February, 2021 and extended TCC on 22nd February, 2021 at GSI, DGCO, A-II Pushpa Bhawan, New Delhi through videoconferencing. The TCC members and representatives of Exploration Agencies [EAs] participated through their respective VC nodes. The list of participants is at **Annexure-I**.

Dr. L. P. Singh, Director, GSI and Member Secretary, TCC-NMET, welcomed Shri Janardan Prasad, ADG, GSI & Chairman, TCC, Members of the TCC and participants representing various EAs. He briefed about the project proposals submitted by EAs for consideration of 28th TCC meeting.

Shri Janardan Prasad, ADG, GSI and Chairman, TCC welcomed the participants. Subsequently, the proceeding of meeting was initiated as per circulated agenda.

The agenda-wise discussion followed.

28.1: Technical evaluation of new project proposals:

28.1.1. General Exploration (G2) for bauxite in Dandkesra north, District- Surguja, Chhattisgarh.

a. The Mainpat Plateau is a large dissected tableland spread over about 400 sq km area and consist of Precambrians (gneisses, phyllites and schists intruded by granites, pegmatites and basic dykes), Gondwanas and Deccan Trap basalt. At places Precambrians are exposed in foothills and overlain by the Gondwanas at the western flank and covered by Deccan trap basalt. On Mainpat plateau, the Deccan Trap basalts had undergone extensive chemical weathering and highly mobile and soluble constituents like Si, Mg, Ca, Na and K were leached out and least mobile chemical constituents like Al, Fe and Ti remained in place which formed laterite and bauxite in the area.

b. All the three blocks viz. Dandkesra north, Parpatia and Dumarguda, proposed for G2 stage bauxite exploration, have been carved out from the Tableland Mainpat Plateau.

c. The G3 stage exploration for bauxite over an area of 1.048 sq km in Dandkesra north block, Mainpat Tahsil, Surguja District, Chhattisgarh was carried out by Directorate of Geology and Mining [DGM], Chhattisgarh through NMET fund.

d. It has been informed that the irregular pockets and discontinues body of bauxite with joint sets and fractures were recorded in the area. The analyses of samples, during G3 stage exploration, has indicated 34.65% to 55.44% Alumina and 2.65% to 4.98% Silica. The bauxite has been observed at the depth persistence of 0.60m to 11.40m below ground

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level with 3.29m average thickness. Total 4.883 MT of bauxite resources was estimated through G3 stage exploration.

e. Now DGM, Chhattisgarh has proposed to carry out G2 stage exploration over an area of 0.50 sq km including 475m drilling in 43 nos. of boreholes at a grid interval of 100m.

f. Based on the encouraging results of G3 stage exploration, the committee has recommended to take up the G2 stage exploration in the said block.

g. The committee suggested that the map generated during the G3 stage exploration may be utilised for plotting of all the data acquired during G2 stage investigation and further contouring may not be required to change the scale of map. The surface bedrock sampling, pitting and petrographic studies were already covered during G3 stage. Therefore, only drilling needs to be done following closer grid pattern in G2 stage exploration. All the boreholes of G3 and G2 stages are to be considered for resource estimation.

The Committee recommended the proposal for approval of General Exploration (G2) for bauxite in Dandkesra north, District Surguja, Chhattisgarh with estimated cost of Rs. 129.32 Lakh including GST in time schedule of 15 months for carrying out the proposed work and submission of report as per Annexure-IIA & IIB.

28.1.2. General Exploration (G2) for bauxite in Parpatia, District- Surguja, Chhattisgarh.

a. The bauxite reported from the block is grey, light pink to pinkish brown in color occurring in two distinct groups i.e. pissolitic bauxite and massive bauxite. It occurs in irregular and discontinuous body within the laterite profile derived from Deccan Trap.

b. It has been conveyed that during G3 stage exploration, a resource of 18.33 MT bauxite was established by DGM, Chhattisgarh with average grade 37.98 % Al_2O_3, 3.78% SiO_2 and 31.30% Fe_2O_3 in Parpatia bauxite block, Mainpat tahsil, Surguja district, Chhattisgarh.

c. Now DGM, Chhattisgarh has proposed to take up the G2 stage exploration over 2.65 sq km in the Parpatia block with 252 nos. of boreholes at 100x100m grid interval with 3000m drilling.

d. Based on the encouraging results of G3 stage exploration carried out by DGM, Chhattisgarh, the committee suggested to take up G2 stage exploration in the proposed block.

The Committee recommended the proposal for approval of General Exploration (G2) for bauxite in Parpatia, District- Surguja, Chhattisgarh with estimated cost of Rs. 547.94 Lakh including GST in time schedule of 15 months for carrying out the proposed work and submission of report as per Annexure-IIIA & IIIB.

28.1.3. General Exploration (G2) for bauxite in Dumarguda, District- Surguja, Chhattisgarh.

a. The DGM Chhattisgarh has carried out G3 stage exploration in the Dumarguda block with detailed geological mapping of 2.39 sq km area on 1: 4,000 scale along with 447.90m of drilling in 39 nos. of boreholes.

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b. The bauxite resource of 10.67 MT was established in the Dumarguda block with average thickness of 2.11m bauxite. The average alumina, silica and iron percentage have been reported at 42.93%, 2.87% and 23.95% respectively.

c. Based on the encouraging results of G3 stage exploration carried out by DGM, Chhattisgarh, the committee suggested to take up the G2 stage exploration over the proposed area.

d. Now DGM Chhattisgarh has proposed to take up G2 stage exploration over 1.24 sq km area, with 98 nos. of boreholes at grid interval of 100x100m with total drilling meterage of 1,120m.

The Committee recommended the proposal for approval of General Exploration (G2) for bauxite in Dumarguda, District- Surguja, Chhattisgarh with estimated cost of Rs. 248.56 Lakh including GST in time schedule of 15 months for carrying out the proposed work and submission of report as per Annexure-IVA & IVB.

28.1.4. Reconnaissance Survey (G4) Iron Ore in Rowghat area, District- Kanker, Chhattisgarh.

a. The proposal on Reconnaissance Survey (G4) for Iron Ore in Chhattisgarh state was discussed during 27th TCC meeting wherein Committee suggested to resubmit the revised proposal by combining adjacent blocks to a single block.

b. Now DGM, Chhattisgarh has resubmitted the revised project for G4 stage exploration over an area of 150 sq km in Rowghat area with cumulative collection of 300 samples [250 nos. of bed rock/groove and 50 nos. of pitting/trenching samples].

c. Geologically, the area is represented by quartz mica schist, banded magnetite quartzite (BMQ) and granite gneiss of Bengpal Group and banded haematite quartzite (BHQ) of Bailadila Group intruded by acid and basic dykes.

d. It has been conveyed that the block under consideration is potential for Iron Ore occurrence and three to four iron ore bodies has been identified by the previous workers. The Rowghat Iron Ore deposit, situated adjacent to proposed block is an explored and proved Iron Ore deposit in the area.

e. Based on the geological set up and proved potentiality of the adjacent area, it has been deduced that the proposed block may be potential and the committee has suggested to take up G4 stage exploration in the proposed Rowghat area.

f. Besides sampling, exhaustive structural and geological data needs to be collected from different type of lithology exposed in the area during mapping.

The Committee recommended the proposal for approval of Reconnaissance Survey (G4) Iron Ore in Rowghat area, District- Kanker, Chhattisgarh with estimated cost of Rs.62.70 Lakh including GST in time schedule of 18 months for carrying out the proposed work and submission of report as per Annexure-VA & VB.

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28.1.5. Reconnaissance Survey (G4) for Copper in Mincheri Block (36.835 sq. km), District- Ballari, Karnataka.

a. MECL has proposed to carry out geological mapping on 1:12,500 scale over an area of 36.835 sq.km to demarcate structural features and surface manifestation of the ore bodies.

b. It has been conveyed that the range to the south and southwest of Bellary town is known as the copper mountain, although no in-situ occurrences of copper ore have been noticed. Some ancient workings are known to exist about 5 miles west of Bellary.

c. Yeswantnagar, located in western margin of Sandur schist belt is known for its copper, nickel mineralization. The area was explored by GSI during 1983-1985 and 0.24% Cu and 0.15% Ni was reported.

d. Based on the deliberations the committee suggested that the adjoining area/areas with some reported evidences of mineralization be included in the target area which may help in the study of control of mineralization. Accordingly a revised proposal may be submitted.

The Committee suggested to resubmit the proposal with incorporating all available geoscience data indicating signatures of copper mineralization in the area.

28.1.6. General Exploration (G2) for Iron Ore near Kajlodiya, Tehsil-Banera, District-Bhilwara, Rajasthan. [Recommended in 23rd TCC held on 12th and 13th February, 2020].

a. The project proposal was recommended by TCC in its 23rd TCC meeting for approval of Executive Committee. However, the project was not approved in the 16th EC meeting due to administrative decision. Subsequently, in view of the decision of 17th EC meeting the proposal has been reconsidered by the TCC.

b. MECL has conveyed that the mineralization in the proposed block extends over a strike length of 1.73 Km in magnetite-amphibole quartzite. The presence of pyrite, pyrrhotite and chalcopyrite have been recorded in the magnetite quartzite bodies. It has also been informed that the magnetite quartzite consist of several individual bands at more than 20% Fe content.

c. MECL has conveyed that the high magnetic geophysical anomaly have been recorded in the area during G3 stage exploration which indicates a potential magnetite deposit in the block.

d. Based on G3 stage exploration, MECL has estimated a mineral resource of 23.8 MT and 3.56 MT under inferred and indicated categories respectively at 20% Fe cut-off using cross-sectional method.

e. The committee suggested that boreholes of first level intersection to be drilled in gap areas with 50m vertical depth of intersection as earlier boreholes had been drilled like this and second level boreholes are to be planned with 100m vertical depth of intersection.

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The Committee suggested that the proposals may be considered for approval of EC subject to submission of a certificate from Rajasthan State detailing demand and availability of Iron Ore in the State and requirement/demand vis-à-vis availability of Iron Ore resources in Bhilwara district, Rajasthan as per the decision of 17th EC meeting Agenda 17.1.

The Committee recommended the proposal for approval of General Exploration (G2) for Iron Ore in Kajlodiya, Tehsil- Banera, District- Bhilwara, Rajasthan at estimated cost of Rs. 596.84 Lakh including GST in time schedule of 18 months for carrying out proposed work and submission of report as per Annexure-VIA and VIB.

28.1.7. Evaluation of Graphite Resources in already explored G2 manganese blocks of Tamiya, Rengali, Babja and Biarpalli, District- Balangir, Odisha.

a. It has been conveyed that a manganese resource of 3.31 MT with an average grade of 22.56% Mn in the four blocks viz. Tamiya, Rengali, Babja and Biarpalli have been established through G2 stage exploration.

b. Ten primary samples from Biarpali (G2) block [BH No. MBM-18] were analyzed for graphite more than 4% FC was recorded in seven samples which indicates the graphite mineralization in the blocks. [Average Grade- 4.70 % FC].

c. Besides this, flaky graphite mineralisation was also observed during petrographic study of core sample collected from Babja (G2) Block [BH no. MBJM- 10].

d. Based on the preliminary studies and encouraging results, as summarised above, MECL has proposed to carry out sampling and chemical analysis for establishment of graphite mineralisation in Tamiya, Rengali, Babja and Biarpalli blocks.

e. The DGM, Odisha has conveyed that the manganese blocks [Tamiya, Rengali, Babja and Biarpalli] are being considered for auctioning of mineral concession and MECL has not indicated any graphite mineralisation in the earlier reports submitted to DGM, Odisha. In case there is any graphite mineralisation, the same be reported at the earliest so that the auctioning process may be ceased.

f. Based on the deliberation the committee suggested to take up the sampling and chemical analysis work for establishment of graphite mineralisation.

g. The Committee also suggested that a letter may be written by MECL to DGM, Odisha to postpone the auctioning process till the analyses of graphite samples are completed, under intimation to NMET.

The Committee recommended the proposal for approval of Evaluation of Graphite Resources in already explored G2 stage manganese blocks of Tamiya, Rengali, Babja and Biarpalli, District- Balangir, Odisha at estimated cost of Rs. 57.73 Lakh including GST in time schedule of six (6) months for carrying out proposed work and submission of report as per Annexure-VIIA and VIIB.

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28.1.8. Preliminary Exploration (G3) for Rare Metals and REE in Bisariya- Bansaruli-Jamtoli Area, District: Ranchi, Jharkhand.

a. The block falls in southern part of Chhotanagpur Gneissic Complex (CGC) terrain and in western part of the E-W trending North Purulia Shear Zone (NPSZ). The area is exposed by thin pegmatite and aplite, quartz veins, quartzite, granite gneiss, meta-sediments and meta-basic rocks. The area is dominantly covered by 3-5 m soil cover and represented by moderate to gentle undulating topography.

b. It has been conveyed that the concentration of Cs (upto 0.29%), Rb (Upto 0.11%) and Li (upto 0.13%) has been observed in the Kutru area by GSI in 2001. Further, during FS 2010-12 the anomalous concentration of Li, Rb and Cs was also recorded by GSI around Kotam- Kutru area.

c. The analytical results of bedrock samples indicated the presence of REE in granites and significant concentration of Rb (ranging from <10 ppm to 2395 ppm), Cs (ranging from < 10 ppm to 254 ppm), and Li (ranging from <5 ppm to 98 ppm).

d. CMPDI has proposed to take up G3 stage exploration in Bisariya- Bansaruli- Jamtoli area over 10.00 sq km on 1:2,000 scale for establishing potentiality of RM and REEs. The proposed block lies along the North Purulia Shear Zone and ENE-WSW Lineament.

e. Based on the deliberations and discussion following observations have been made by the committee:

   i. The available geological maps on 1:50,000; 1: 25,000 and 1:12,500 scales needs to be incorporated in the proposal along with demarcation of the proposed blocks taken up by GSI and CMPDI, as both the agencies are working in the same area, to avoid any duplication of work.

   ii. The proposed block may be demarcated on the 1:12,500 scale map along with the earlier sample locations and analytical values.

   iii. Locationwise information must be produced on rock types which have given anomalous values for RM and REE.

   iv. A thick soil cover of 3-5m has been observed in the area, therefore pits may not help to expose total soil section and the bedrock lying below it. Instead by short drilling whole section of soil cover along with the lowest talus and scree zones and a few metres (2 to 3 metres) bedrock samples may be collected. The thickness of talus and scree bearing zones need to be studied from boreholes and sampled for analyses and bedrock samples also to be studied and analysed. Sample length may be maintained as maximum one metre. The NQT needs to be modified accordingly.

   v. A few trenches may help to study the continuity of pegmatite veins and their sampling which were shown in photographs.

   vi. G 3 stage guideline of MEMC rule may be followed to plan the grid of borehole points.

   vii. A railway track has been observed in the proposed area, which needs to be taken into consideration while proposing the block to avoid any accessibility issue. The block, if deemed fit, may be bifurcated into two parts as Eastern and Western blocks.

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viii. The committee opined that extensive petrographic studies may be vital for fruitful outcome of such project and for identification of some minerals EPMA, XRD and SEM-EDX may also be required.

Based on the observations mentioned above, the committee suggested to resubmit the revised proposal by including the requisite maps, revised NQT and available geoscience data in the next TCC meeting.

28.2. Review of exploration work for the ongoing projects

28.2.1. Review of exploration work for Murtadand Bauxite (G3) Block, District- Surguja, Chhattisgarh [Implementing Agency: DGM, Chhattisgarh].

a. The project was approved in 08th EC meeting held on 12.6.2018 with estimated cost Rs. 47.58 Lakh with time schedule of eight months.

b. DGM, Chhattisgarh informed that the detailed mapping was started but due to local agitation the field work halted.

c. The DGM Chhattisgarh conveyed that the law and order issue will be resolved shortly in consultation with the state administration.

The committee suggested to initiate the exploration work as soon possible after resolving the local issue.

28.2.2. Review of exploration work for Chendradadar Bauxite (G3) Block, District- Kabirdham, Chhattisgarh [Implementing Agency: DGM, Chhattisgarh].

a. The project was approved in 11th EC meeting held on 7.2.2019 at estimated cost Rs. 106.66 Lakh with time schedule of 12 months.

b. It has been conveyed that drilling in only 31 boreholes against the set target of 45 boreholes and detailed geological mapping over 1.16 sq km against the set target of 2.0 sq km have been completed. The remaining area could not be covered due to forest issue.

c. It was also informed that sample analyses and geological repot writing are in progress. The geological report will be submitted in due course of time.

The Committee suggested to complete the sample analyses and finalisation of geological report. The committee opined that the view on recommendation for G2 stage exploration will be taken after submission of geological report incorporating analytical results.

28.2.3. Review of exploration work for Lurena Bauxite (G3) Block, District- Surguja, Chhattisgarh [Implementing Agency: DGM, Chhattisgarh].

a. The project was approved in 11th EC meeting held on 7.2.2019 at estimated cost of Rs. 112.18 Lakh and time schedule of 12 months.

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b. DGM, Chhattisgarh informed that the work has been suspended due to local resistance from villagers and Covid-19 pandemic. Efforts have been made to resolve the local law and order issue in consultation with district administration and it is expected that the exploration work would be initiated shortly.

The committee suggested to resolve the issue and complete the exploration work.

28.2.4. Review of exploration work for Gopaltola Iron Ore (G4) Block, District-Rajnandgaon, Chhattisgarh. [Implementing Agency: DGM, Chhattisgarh].

a. The project was approved in 11th EC meeting held on 7.2.2019 at estimated cost of Rs. 108.57 Lakh and time schedule of 12 months.

b. DGM, Chhattisgarh informed that the block area [42.24 sq km] is under forest cover and DGM is in process to resolve the forest clearance issue.

The committee suggested to take appropriate measures to get forest clearance and complete the exploration work.

28.3: The meeting ended with vote of thanks by Director and Member Secretary, TCC, NMET.

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List of TCC members attended 28th Technical-cum-Cost Committee (TCC) meeting of NMET held on 11th and 12th February, 2021 and extended TCC on 22nd February, 2021 through videoconferencing at Geological Survey of India, DGCO, A-II Pushpa Bhawan, New Delhi

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

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Annexure-I

List of participants attended 28th Technical-cum-Cost Committee (TCC) meeting of NMET held on 11th and 12th February, 2021 and TCC extended on 22nd February, 2021 through videoconferencing at Geological Survey of India, DGCO, A-II Pushpa Bhawan, New Delhi

S. No.	Name/Designation	Email ID	Contact No	Organisation
1	Shri Janardan Prasad, ADG & HoD, SR, GSI, Hyderabad	janardan.prasad@gsi.gov.in	7763800788	Chairman, TCC
2	Shri Ranjan Kumar Sinha, Controller General (Retd.) IBM, Noida	sinhark57@rediffmail.com	9421777637	Member, TCC
3	Shri Pradipta Tarafdar, DDG (Retd.) GSI, Kolkata	tarafdar.pradipta@gmail.com	9503088847	Member, TCC
4	Shri Manoranjan Mohanty, DDG (Retd.) GSI, Bhubaneshwar	manoranjanmoha@gmail.com	9483511267 8249014425	Member, TCC
5	Shri J. V. Ramarao, DDG (GP) (Retd.) GSI, Hyderabad	rarajammi@gmail.com	9440691284	Member, TCC
6	Shri Anjani Kumar, (Retd.), MECL, Nagpur	anjanikumar1957.ak@gmail.com	9975350576	Member, TCC
7	Shri Naeem Ahmed, (Retd.), CMPDI, Aligarh	ahmadnaeem17@yahoo.co.in	8588092153	Member, TCC
8	Shri Amit Saran, Director & HoD, NMET	amit.saran@nic.in	9717647259	Member, TCC
9	Dr. L. P. Singh, Director, GSI, New Delhi	nmet-tcc@gov.in	9490746249	Member Secretary, TCC
10	Shri P. K. Maharana, DGM (F), NALCO, Bhubaneshwar	pmaharana@rediffmail.com	8500669500	Member, TCC
11	Shri Vinay Pal, ACAO, GSI, New Delhi	palvinay009@gmail.com	8527388161	Member, TCC
12	Shri Hemraj Suryawanshi, Dy.DG (G)	nodm2gsi@gmail.com	9425603674	NMH-II, GSI, Nagpur
13	Dr Dipayan Guha, Dy. Director General, Ranchi	ddg.sujh@gsi.gov.in	9123998985	SU, Jharkhand
14	Dr. Deshraj Trivedi, Senior Geologist	nmet-tcc@gov.in	9419244294	NMET
15	Shri Subhash Kumar, Senior Geologist	nmet-mines@gov.in	9868302624	NMET
16	Shri B. P. Raturi, GM, (Exploration)	bpraturi100@gmail.com	9422806417	MECL, Nagpur
17	Smt. Ujjwala Sharma, Sr. Geologist		8957806004	MECL
18	Mr. Kailash Dongre, Joint Director (Geology)	kailashdongre.kd@gmail.com	9424282791	DGM, Chhattisgarh
19	Shri S. N. Dodia, Additional Director	adgudaipur.mg@rajasthan.gov.in	9414737417	DGM, Rajasthan
20	Shri P. C. Mishra, Dy. Director	directorgeology_odisha@yahoo.co.in		DGM, Odisha

Annexure-IIA

Estimated cost for General Exploration (G2) for bauxite in Dandkesra north, District- Surguja, Chhattisgarh.

Total block area- 1.048 sq km; Nos. of Borehole- 43; Borehole depth range- 10-12m; Completion Time- 15 Months

S. No.	Item of work	Rate as per NMET SoC			Estimated Cost		Remarks
		Unit	SoC-Item – S. No.	Rate as per NMET SOC (Rs.)	Qty	Amount (Rs.)	
A.	**Mineral Investigation**						
1	Surface drilling (1 rig)	m	2.2.1.1b	5242	475	2489950	
2	Approach Road making to drill site (flat terrain)*	Per km	2.2.10a	22020	2	44040	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly
3	Transportation of Drill Rig & Truck associated per Drill (1 rig)	Per km	2.2.8	36	700	25200	certification in this regard is required to be provided
4	Monthly Accommodation charges for drilling camp	Monthly basis	2.2.9	50000	10	500000	certification of deployment of drill rigs are required
4.1	Drilling Camp Setting cost	per drill	2.2.9a	250000	1	250000	
4.2	Drilling Camp Winding up cost	per drill	2.2.9b	250000	1	250000	
5	Construction of concrete pillar	Per B.H.	2.2.7a	2000	43	86000	
					Sub Total-A	**3645190**	
B.	**Geological work**						
1	Survey Party Days (1 party)	Per day	1.6.1a	8300	30	249000	
1.1	Labour Charges (04 labourer)	Per day	5.7	341	120	40920	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
1.2	Demarcation of lease boundary, Fixation of borehole and determination of co-ordinates & RL of the boreholes by DGPS	Per Point observation	1.6.2	19200	50	960000	
2	Geologist Party Days- Field	Per day	1.3	11000	120	1320000	
3	Geologist Party Days - HQ	Per day	1.3	9000	30	270000	

2.1	Labour Charges	Per day	5.7	341	240	81840	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
4	Core sampler	Per day	1.5.2	5100	50	255000	
4.1	Labour Charges	Per day	5.7	341	200	68200	Amount will be reimbursed as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
C.	**Laboratory studies**				**Sub Total-B**	**3244960**	
a)	**Specific Gravity of rock sample**	per sample	4.8.1	1605	10	16050	
b)	**Chemical Analysis**						
1	Primary + Check Samples						
(i)	Major oxides by XRF (whole rock) Primary Samples 7 radicals (TiO_2, Ga, V, SiO_2, Al_2O_3, Fe_2O_3% & LOI)	per sample	4.1.15a	4200	350	1470000	
(ii)	For Check Samples 7 radicals (TiO_2, Ga, V, SiO_2, Al_2O_3, Fe_2O_3% & LOI)	per sample	4.1.15a	4200	20	84000	
2	Combined determination of THA,MHA & Reactive Silica	per sample	4.1.17a	6700	10	67000	
3	Determination of Bond Work Index	per sample	4.1.17e	10000	10	100000	
D.	**Miscellaneous charges**				**Sub Total-C**	**1737050**	
1	Drill core preservation	Per meter	5.3	1590	475	755250	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
2	Land/crop compensation	Per BH	5.6	20000	43	860000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
					Sub Total-D	**1615250**	
E	**Other charges**				**Total A + B + C + D**	**10242450**	

1	Preparation of exploration proposal	Nos	5.1	2% of the Cost or Rs. 3.8 Lakhs whichever is lower	Hard Copy - 5 Nos Soft Copy - 1 Nos.	204849	EA has to submit the Hard Copies (5 Nos) 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.
2	Geological Report Preparation	Nos	5.2	Exploration cost of work exceeding Rs. 50 lakhs but less than Rs. 150 Lakh - A minimum of Rs. 2.5 lakh or 5% of the value of work whichever is more	Hard Copy - 5 Nos Soft Copy - 1 Nos.	512123	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET
					Total A to E	10959422	
					Provision for GST @ 18%	1972696	GST will be reimburse as per actual and as per notified prescribed rate
					Grand Total	12932117	***Say Rs. 129.32 Lakh***

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

Annexure-IIB

Time Schedule/Action Plan for General Exploration (G2) for bauxite in Dandkesra north, District- Surguja, Chhattisgarh

S. No.	Activities	Unit	Time Schedule														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Camp Setting	Month															
2	Surface Drilling (1 drill rig)	Month															
3	Survey Party days (1 Party)	Month															
4	Geologist Party days (1 Party), Field	Month															
5	Sampling Party days (Core Sampling (1 party))	Month															
6	Laboratory Studies	Month															
7	Camp Winding	Month															
8	Report Writing	Month															
9	Geologist part days, HQ	Month															

Annexure-IIIA

Estimated cost for General Exploration (G2) for bauxite in Parpatia, District- Surguja, Chhattisgarh.

Total block area- 2.65 sq km; Nos. of Borehole- 252; Borehole depth range- 10-12m; Completion Time- 15 Months

S. No.	Item of work	Rate as per NMET SoC			Estimated Cost		Remarks
		Unit	SoC-Item -S. No.	Rate as per NMET SOC (Rs)	Qty.	Amount (Rs.)	
A.	**Mineral Investigation**						
1	Surface drilling (4 rigs)	m	2.2.1.1b	5242	3000	15726000	
2	Approach Road making to drill site (flat terrain)*	Per km	2.2.10a	22020	10	220200	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly
3	Transportation of Drill Rig & Truck associated per Drill (4 rigs)	Per km	2.2.8	36	700	25200	certification in this regard is required to be provided
4	Monthly Accommodation charges for drilling camp for 4 rigs	Monthly basis	2.2.9	50000	6	300000	certification of deployment of drill rigs are required
4.1.	Drilling Camp Setting cost	per drill	2.2.9a	50000	6	300000	
4.2.	Drilling Camp Winding up cost	per drill	2.2.9b	250000	4	1000000	
5	Construction of concrete pillar	Per B.H.	2.2.7a	250000	4	1000000	
				2000	252	504000	
B.	**Geological work**				**Sub Total-A**	**19075400**	
1	Survey Party Days (1 party)	Per day	1.6.1a	8300	60	498000	
1.1	Labour Charges (04 labourer)	Per day	5.7	341	240	81840	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
1.2	Demarcation of lease boundary, Fixation of borehole and determination of co-ordinates & RL of the boreholes by DGPS	Per Point observation	1.6.2	19200	100	1920000	
2	Geologist Party Days- Field	Per day	1.3	11000	180	1980000	
3	Geologist Party Days- HQ	Per day	1.3	9000	60	540000	
2.1	Labour Charges	Per day	5.7	341	360	122760	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or

							respective State Govt. whichever is higher
3	Core sampler	Per day	1.5.2	5100	250	1275000	
3.1	Labour Charges (04 labourer)	Per day	5.7	341	1000	341000	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub Total-B	6758600	
C.	Laboratory studies						
a)	Specific Gravity of rock sample	per sample	4.8.1	1605	10	16050	
b)	Chemical Analysis						
1	Primary + Check Samples						
(i)	Major oxides by XRF (whole rock) Primary Samples 7 radicals (TiO_2, Ga, V, SiO_2, Al_2O_3, Fe_2O_3% & LOI)	per sample	4.1.15a	4200	2016	8467200	
(ii)	For Check Samples 7 radicals (TiO_2, Ga, V, SiO_2, Al_2O_3, Fe_2O_3% & LOI)	per sample	4.1.15a	4200	100	420000	
2	Combined determination of THA, MHA & Reactive Silica	per sample	4.1.17a	6700	10	67000	
3	Determination of Bond Work Index	per sample	4.1.17e	10000	10	100000	
					Sub Total-C	9070250	
D.	Miscellaneous charges						
1	Drill core preservation	Per meter	5.3	1590	3000	4770000	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
2	Land/crop compensation	Per BH	5.6	20000	252	5040000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
					Sub Total-D	9810000	
					Total A + B + C + D	44714250	
E	Other Charges						

1	Preparation of exploration proposal	Nos.	5.1	2% of the Cost or Rs. 3.8 Lakhs whichever is lower	Hard Copy - 5 Nos. Soft Copy - 1 Nos.	380000	EA has to submit the Hard Copies (5 Nos) 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.
2	Geological Report Preparation	Nos.	5.2	Exploration cost of work more than Rs. 300 Lakh - A minimum of Rs. 7.5 lakh or 3% of the value of work whichever is more	Hard Copy - 5 Nos. Soft Copy - 1 Nos.	1341428	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET
					Total A to E	**46435678**	
					Provision for GST @ 18%	**8358422**	GST will be reimburse as per actual and as per notified prescribed rate
					Total	54794099	***Say Rs. 547.94 Lakh***

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

Annexure-IIIB

Time Schedule/Action Plan for General Exploration (G2) for bauxite in Parpatia, District- Surguja, Chhattisgarh

S. No.	Activities	Unit	Time Schedule														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Camp Setting	Month															
2	Surface Drilling (1 drill rig)	Month															
3	Survey Party days (1 Party)	Month															
4	Geologist Party days (1 Party), Field	Month															
5	Sampling Party days [Core Sampling (1 party)]	Month															
6	Laboratory Studies	Month															
7	Camp Winding	Month															
8	Report Writing	Month															
9	Geologist part days, HQ	Month															

Annexure-IVA

Estimated cost General Exploration (G2) for bauxite in Dumarguda, District- Surguja, Chhattisgarh.

Total block area- 2.39 sq km; Nos. of Borehole- 98; Borehole depth range- 10-12m; Completion Time- 15 Months

S. No.	Item of work	Rate as per NMET SoC			Estimated Cost		Remarks
		Unit	SoC-Item -S No.	Rate as per NMET SoC (Rs)	Qty.	Amount (Rs.)	
A.	**Mineral Investigation**						
1	Surface drilling (2 rigs)	m	2.2.1.1b	5242	1120	5871040	
2	Approach Road making to drill site (flat terrain)*	Per km	2.2.10a	22020	2	44040	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly
3	Transportation of Drill Rig & Truck associated per Drill (2 rigs)	Per km	2.2.8	36	700	25200	certification in this regard is required to be provided
4	Monthly Accommodation charges for drilling camp for 2 rigs	Monthly basis	2.2.9	50000	6	300000	certification of deployment of drill rigs are required
4.1	Drilling Camp Setting cost	per drill	2.2.9a	250000	2	500000	
4.2	Drilling Camp Winding up cost	per drill	2.2.9b	250000	2	500000	
5	Construction of concrete pillar	Per B.H.	2.2.7a	2000	98	196000	
					Sub Total-A	**7436280**	
B.	**Geological work**						
1	Survey Party Days (1 party)	Per day	1.6.1a	8300	60	498000	
1.1	Labour Charges (04 labourer)	Per day	5.7	341	240	81840	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
1.2	Demarcation of lease boundary, Fixation of borehole and determination of co-ordinates & RL of the boreholes by DGPS	Per Point observation	1.6.2	19200	100	1920000	
2	Geologist Party Days - Field	Per day	1.3	11000	120	1320000	
3	Geologist Party Days -HQ	Per day	1.3	9000	60	540000	
2.1	Labour Charges	Per day	5.7	341	240	81840	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher

3	Core sampler	Per day	1.5.2	5100	100	510000	
3.1	Labour Charges (04 labourer)	Per day	5.7	341	400	136400	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
C.	**Laboratory studies**				**Sub Total-B**	**5088080**	
a)	**Specific Gravity of rock sample**	per sample	4.8.1	1605	10	16050	
b)	**Chemical Analysis**						
1	Primary + Check Samples						
(i)	Major oxides by XRF (whole rock) Primary Samples 7 radicals (TiO_2, Ga, V, SiO_2, Al_2O_3, Fe_2O_3% & LOI)	per sample	4.1.15a	4200	790	3318000	
(ii)	For Check Samples 7 radicals (TiO_2, Ga, V, SiO_2, Al_2O_3, Fe_2O_3% & LOI)	per sample	4.1.15a	4200	40	168000	
2	Combined determination of THA,MHA & Reactive Silica	per sample	4.1.17a	6700	10	67000	
3	Determination of Bond Work Index	per sample	4.1.17e	10000	10	100000	
D.	**Miscellaneous charges**				**Sub Total-C**	**3669050**	
1	Drill core preservation	Per meter	5.3	1590	1120	1780800	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities. As per actual drill core preservation
2	Land/crop compensation	Per BH	5.6	20000	98	1960000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
					Sub Total-D	**3740800**	
E	**Other Charges**				**Total A + B + C + D**	**19934210**	
1	Preparation of exploration proposal	Nos.	5.1	2% of the Cost or Rs. 3.8 Lakhs whichever is lower	Hard Copy - 5 Nos. Soft Copy - 1 Nos.	380000	EA has to submit the Hard Copies (5 Nos) 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.
2	Geological Report Preparation	Nos	5.2	Exploration cost of work more than Rs. 150 upto 300 Lakh - A minimum of Rs. 7.5 lakh or 3% of the value of work whichever is more	Hard Copy - 5 Nos Soft Copy - 1 Nos	7500000	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
					Total A to E	21064210	
					Provision for GST @ 18%	3791558	GST will be reimburse as per actual and as per notified prescribed rate
					Total	24855768	**Say Rs. 248.56 Lakh**
Note- If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.							

Annexure-IVB

Time Schedule/Action Plan for General Exploration (G2) for bauxite in Dumarguda, District- Surguja, Chhattisgarh

S. No.	Activities	Unit	Time Schedule													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Camp Setting	Month															
2	Surface Drilling (1 drill rig)	Month															
3	Survey Party days (1 Party)	Month															
4	Geologist Party days (1 Party), Field	Month															
5	Sampling Party days [Core Sampling (1 party)]	Month															
6	Laboratory Studies	Month															
7	Camp Winding	Month															
8	Report Writing	Month															
9	Geologist part days, HQ	Month															

Annexure-VA

Estimated cost for Reconnaissance Survey (G4) Iron Ore in Rowghat area, District- Kanker, Chhattisgarh.

Total block area- 150 sq km (1:12,500 scale); Completion Time- 18 Months

S. No.	Item of work	Rate as per NMET SoC			Estimated Cost		Remarks
		Unit	SoC-Item -S No.	Rate as per NMET SOC (Rs)	Qty.	Amount (Rs.)	
A.	**Geological work**						
1	Geologist Party Days (1 Party) - Field	Per day	1.3	11000	240	2640000	
2	Geologist Party Days (1 Party) - HQ	Per day	1.3	9000	60	540000	
3	Labour Charges (04 labourer)	Per day	5.7	400	960	384000	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub Total- A	**3564000**	
B.	**Laboratory studies**						
	Chemical Analysis						
1	Primary + Check Samples						
i	for Primary Samples 6 radicals (Fe%, Mn%, SiO2%, Al2O3%, P%, S%)	per sample	4.1.15a	4200	300	1260000	Groove/chip samples-250 nos. and pitting/trenching samples- 50 nos.
iii	for Check Samples 6 radicals (Fe%, Mn%, SiO2%, Al2O3%, P%, S%)	per sample	4.1.15a	4200	30	126000	
iii	Analysis of Gold by Fire Assay Method	per samples		2380	25	59500	
2	Thin Section Preparation	per sample		2353	15	35295	
3	Polished Section Preparation	per sample		1549	10	15490	
					Sub Total- B	**1496285**	
					Total A + B	**5060285**	

C.	Other Charges						
1	Geological Report Preparation	Nos	5.2	Exploration cost of work more than Rs.150 Lakh and upto 300 - A minimum of Rs. 7.5 lakh or 3% of the value of work whichever is more	Hard Copy - 5 Nos. Soft Copy - 1 Nos.	253014	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
					Total A to C	5313299	
					Provision for GST @ 18%	956394	GST will be reimburse as per actual and as per notified prescribed rate
					Total	6269693	*Say Rs. 62.70 Lakh*
Note- If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC, in case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.							

Annexure-VB

Time Schedule / Action Plan for Reconnaissance Survey (G4) Iron Ore in Rowghat area, District- Kanker, Chhattisgarh																			
S. No.	Activities	Unit	Time Schedule																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Camp Setting	Month																		
2	Geologist Party days (1 Party), Field	Month																		
3	Sampling Party days	Month																		
4	Laboratory Studies	Month																		
5	Report Writing	Month																		
6	Geologist part days, HQ	Month																		

Annexure-VIA

Estimated cost for General Exploration (G2) for Iron Ore near Kajlodiya, Tehsil-Banera, District- Bhilwara, Rajasthan.

Total block area- 516.859 hectare; Nos. of Borehole- 21; Borehole depth range- 60m to 210m; Completion Time-18 Months

S. No.	Item of Work	Unit	Rates as per NMET SoC 2020-21		Estimated Cost of the Proposal		Remarks
			SoC-Item -S. No.	Rates as per SoC	Qty.	Amount (Rs)	
A	**Geological work**						
1	**Borhole logging & sampling & report writing**						
a	Charges for one Geologist per day at HQ	day	1.3	9,000	60	540,000	
b	Charges for one Geologist per day at field	day	1.3	11,000	150	1,650,000	
c	Labour (2 Nos) Base rate - Rs.420	day	5.7	420	300	126,000	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
2	**Survey (on 1:2000 Scale)**						
a	Demarcation of lease boundary, Fixation of borehole and determination of co-ordinates & RL of the boreholes by DGPS	Per Point of observation	1.6.2	19,200	40	768,000	
B	Charges for one Sampler per day (1 Party)	one sampler per day	1.5.2	5,100	115	586,500	
c	Labours (4 Nos) Base rate - Rs. 420 per labour day	man day	5.7	420	460	193,200	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub Total- A	**3,863,700**	
B	**Pitting for Bulk Sampling**						
1	Pitting (1m x 1m x 1m), 5 pits	per cu m	2.1.1	3,330	5	16,650	
2	Charges for one Sampler per day (1 Party), for Bulk sampling	one sampler per day	1.5.2	5,100	-	-	
3	Labours (4 Nos) Base rate - Rs. 420 per labour day	manday	5.7	420	-	-	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub Total- B	**16,650**	

C	DRILLING						
1	Drilling up to 300m (Very Hard Rock)	m	2.2.1.5a	12,650	2,825	35,736,250	
2	Borehole deviation Survey by Multishot Camera	m	2.2.6	330	2,825	932,250	
3	Land / Crop Compansation (in case the BH falls in agreecultural Land)	per BH	5.6	20,000	21	420,000	Amount will be reimbursed as per actuals or max. Rs. 20000 per BH with certification from local authorities
4	Construction of concrete Pillar (12"x12"x30")	per borehole	2.2.7a	2,000	21	42,000	
5	Transportation of Drill Rig & Truck associated per drill	Km	2.2.8	36	3,600	129,600	certification in this regard is required to be provided
6	Monthly Accomodation Charges for drilling Camp (up to 2 Rigs)	month	2.2.9	50,000	12	600,000	certification of deployment of drill rigs are required
8	Drilling Camp Setting Cost	Nos	2.2.9a	250,000	2	500,000	
9	Drilling Camp Winding up Cost	Nos	2.2.9b	250,000	2	500,000	
10	Road Making (Hilly Terrain)	Km	2.2.10b	32,200	20	644,000	Road Making will be considered as per the requirement and Road Making Charges will be reimbursed accordingly.
11	Drill Core Preservation	per m	5.3	1,590	1,100	1,749,000	This amount will be reimbursed after successful delivery of the cores to concerned libraries/authorities
					Sub Total- C	**41,253,100**	
D	**LABORATORY STUDIES**						
1	**Chemical Analysis**						
i)	**Primary samples**						
	a. Primary Samples. For 6 radicals Fe, SiO2 & Al2O3, P,S & LOI	Nos	4.1.7a &b	2,841	900	2,556,900	
ii)	**Check samples Internal (5%)**						
	a. for Cu, Ni, Mo, Co	Nos	4.1.7a &b	2,841	45	127,845	
iii)	**Check samples Extrnal (10%)**						
	a. for Cu, Ni, Mo, Co	Nos	4.1.7a &b	2,841	90	255,690	
iv)	**Composite Samples**						
	Composite Samples for 7 radicals (Fe%, SiO2%, Al2O3%, P%, Mn%, S% & V2O5%)	Nos	4.1.7a &b	3,176	85	269,960	

v)	Bulk Density	Nos	4.1	3,540	10	35,400	
vi)	Beneficiation Study						
	Transportation of Beneficiation Samples	Km	2.2.8	36	1,800	64,800	
	Beneficiation Study ***	Nos	4.7.2 as per IBM Rate	283,927	1	283,927	will be reimbursed as per actual
E					Sub Total- D	3,594,522	
					Total (A to D)	48,727,972	
F	Geological Report Preparation	5 Hard copies with a soft copy	5.2	For the projects having cost more than Rs. 300 lakhs- A minimum of Rs. 9 lakhs or 3% of the value of work whichever is more subject to Max. Rs. 20 lakhs		1,461,839	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
G	Peer review charges		As per EC decision			10,000	
H	Preparation of Exploration Proposal (5 Hard copies with a soft copy)	5 Hard copies with a soft copy	5.1	2% of the Cost or Rs. 3.8 Lakhs whichever is lower		380,000	EA has to submit the Hard Copies and the soft copy of the final proposal along with Maps and Plan as suggested by the TCC-NMET in its meeting while clearing the proposal.
I							
J					Total A+B+C+D+F+G+H	50,579,811	
					Provision for GST (18%)	9,104,366	GST will be reimburse as per actual and as per notified prescribed rate
K					Total	59,684,177	***Say Rs. 596.84 Lakh***

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

Annexure-VIB

Time Schedule/Action Plan for General Exploration (G2) for Iron Ore near Kajlodiya, Tehsil-Banera, District- Bhilwara, Rajasthan																				
S. No.	Activities	Unit	Time Schedule																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Camp Setting	Month																		
2	Surface Drilling (2 drill rig)	Month																		
3	Survey Party days (1 Party)	Month																		
4	Geologist Party days (1 Party), Field	Month																		
5	Sampling Party days																			
	Core Sampling (1 party)	Month																		
	Bulk Sampling (1 party)	Month																		
6	Laboratory Studies	Month																		
7	Beneficiation Studies	Month																		
9	Camp Winding	Month																		
10	Report Writing	Month																		
11	Geologist part days, HQ	Month																		
1. Commencement of project may be reckoned from the day the exploration acreage is available along with all statutory clearances.																				
2. Time loss on account of monsoon/agricultural activity/forest clearance/local law & order problem will be additional to above time line.																				

Annexure-VIIA

Cost Estimate for Evaluation of Graphite Resources in already explored G2 manganese blocks of Tamiya, Rengali, Babja and Biarpalli, Distnct-Balangir, Odisha. Timeline- 6 Months

S.N	Item of Work	Rates as per NMET SoC			Estimated Cost		Remark
		Unit	SoC item No.	Rate	Qty.	Total Amount (Rs.)	
A	**Geological work**						
1a	Geologist Party days (1 party)- Field	day	1.3	11,000	45	495,000	
1b	Geologist Party days (1 party)-HQ	day	1.3	9,000	60	540,000	
1c	Vehicle and POL charges for field	Month		40,000	-	-	not admissible as per SoC
2a	Core Sampling -2 Samplers (Labour charge not included)	day	1.5.2	5,100	100	510,000	
2b	4 labours (Base Rate - Rs 450/day/labour)	day	5.7	450	400	180,000	Amount will be reimburse as per the notified rates by the Central Labour Commissioner or respective State Govt. whichever is higher
					Sub Total- A	**1,725,000**	
B	**Laboratory studies**						
1	**Chemical Analysis**						
i)	**Primary & Check samples for Graphite**						
	a. Proximate Analysis (Ash, Moisture, V.M. and F.C.) for Primary samples	Nos	4.1.16	3,000	786	2,358,000	
	b. Proximate Analysis (Ash, Moisture, V.M. and F.C.) for Internal (5%) and	Nos	4.1.16	3,000	39	117,000	
	Proximate Analysis (Ash, Moisture, V.M. and F.C.) External(10%) Check samples from NABL Lab	Nos	4.1.16	3,000	79	237,000	
ii)	**Composite Samples**						
	a. Proximate Analysis (Ash, Moisture, V.M. and F.C.)	Nos	4.1.16	3,000	30	90,000	
	b. Total Sulphur (S)	Nos	4.2.14	1,900	30	57,000	
2	**Petrological Studies**						
	a. Preparation of thin section	Nos	4.3.1	2,353	10	23,530	
	b. Complete petrographic study report	Nos	4.3.4	4,232	10	42,320	EA has to submit complete petrographic study report to NMET.
C					**Sub Total- B**	**2,924,850**	
					Total A+B	**4,649,850**	

D	Geological Report Preparation		5.2			232,493	EA has to submit the final Geological Report in Hard Copies (5 Nos) and the soft copy to NMET.
E	Peer review Charges					10,000	
					Total A+B+D+E	4,892,343	
					Provision for GST @18%	880,622	
					Total	5,772,964	*Say Rs. 57.73 Lakh*
Note- If any part of the project is outsourced, the amount will be reimbursed as per the Paragraph 3 of NMET SoC and Item no. 6 of NMET SoC. In case of execution of the project by NEA on its own, a Certificate regarding non outsourcing of any component/project is required.							

Annexure-VIIB

Time Schedule/Action Plan for Evaluation of Graphite Resources in already explored G2 manganese blocks of Tamiya, Rengali, Babja and Biarpalli, District- Balangir, Odisha.

			1	2	3	4	5	6
1	Geologist Party days (1 Party)	Month						
2	Core Sampling Party days (1 party)	Month						
3	Laboratory Studies	Month						
4	Report Writing with Peer Review	Month						

03/03/21