MINUTES OF THE 6[th] MEETING OF TECHNICAL COMMITTEE OF NATIONAL MINERAL EXPLORATION TRUST (NMET) HELDAT GSI, TRAINING INSTITUTE, HYDERABAD ON 2[nd] & 3[rd] DECEMBER, 2016

The 6[th] Meeting of Technical Committee of National Mineral Exploration Trust (NMET) was held at GSI, Training Institute, Hyderabad on 02-12-2016 &03-12-2016 under the Chairmanship of Dr P. R. Golani, Dy. Director General, GSI Training Institute for technical appraisal of Twenty Nine (29) new proposals submitted by MECL, CMPDIL, NMDC, NLC, KIOCL & DGM, Jharkhand and review of three (3) proposalon going proposals undertaken under NMET funding.

Dr P.R. Golani, Dy Director General, GSI,&Chairman Technical Committee of NMET welcomed all the members of the committee. He appraised the committee regarding new proposals to be discussed and to review of ongoing proposals. He also requested all the participants from different PSU's State DGM's to give their introduction as some of the participants were new in the meeting. List of Participants is enclosed as Annexure.

Dr. Golani in his opening remarksweleomed all members and advised to proceed for block wise technical presentation of the proposals, starting with new proposals.He advised the participants to present their proposals starting from Director DGM Jharkhand.

A- DGM, Jharkhand :

Kumari Anjali, Director, DGM Jharkhand presented the proposals of Jharkhand stating that 4 (Four) proposals were discussed in the Meeting held on 18[th] November 2016, Dy DG GSI State Unit Jharkhand. The Four proposals are as Under

1. Exploration (G-4) for Bauxite in Sukurahatu - Koenatoli Plateau and around Kolda, District Gumla Jharkhand.
2. Exploration (G-4) for Bauxite in Jamira-pat Daswanpat, District -- Latehar,Jharkhand.
3. Exploration (G-4) for Bauxite in Chormaurwa area, Tumbal and Kukudtoli, District-- Latehar, Jharkhand.
4. Exploration (G-4) for Bauxitein Ligirpat Bauxite Block of District-Gumla, Jharkhand

The committee observed that proposals were not submitted in the format provided for preparation of proposals to be submitted in the NMET meeting for evaluation. Hence it is suggested that the same may be submitted in the format with all requisites. DGM, Jharkhand informed that they will submit the proposals by 7[th] January 2017 for discussion.

The committee also informed DGM, Jharkhand and all other Participants that the responsibility of forest clearance, providing Lease hold status lies with the respective state Governments.

B- NMDC, HYDERABAD:

NMDC presented the proposal stating that five proposal allotted by Ministry of Mines for Regional exploration are to be discussed in the Meeting. The proposals are :

1. Regional Exploration (G-4) for Iron Ore in Jampani_Dilkiburu-Danguaposi Block, (Block ID: ER-JH-01), District - West Singhbhum Jharkhand/.
2. Regional Exploration (G-4) for Iron Ore and Manganese in Degve-Kalna-Asaniya Block, (Block ID: CR-MH-01), District- Sindhudurg, Maharashtra.
3. Regional Exploration (G-4) for Gold & Associated elements in Matmari Block, (Block ID: SR-KAR-05), District- Raichur, Karnataka.
4. Regional Exploration (G-4) for Gold & Associated elements in Bukkapatna Block, (Block ID: SR-KAR-05), District- Tumkur Karnataka.

5. Regional Exploration Block (G-4) for Gold and Basemetal Minerals in Nandgaon-Gora-Mahewa Area (Block ID CR-MP-05), District- Chattarpur, Madhya Pradesh.

Mr Habibullah Khan, again informed that a part of Lease area is overlapping in CR_MH_01 block of Maharashtra . The committee members observed that only List of proposals were submitted and proposals are not submitted in the requisite format hence NMDC will submit the proposals in the format. NMDC members informed that they will submit the proposals by 5th January to Member Secretary, Technical Committee NMET. The committee again suggested that the matter of overlapping of blocks may be discussed with DGM, Maharashtra and Geological Survey of India.

Shri Alok Sharma suggested that the proposer will submit a certificate that in the proposed area no other Organisations are doing exploration in the area .

C- DGM, ANDHRA PRADESH:

Shri P. Rajababu , DGM, Andhra Pradesh informed that The Chigargunta Proposal was discussed in the earlier meeting and as per decision of committee DGM has started the process of auctioning of the Blocks. Further He informed that DGM, Andhra Pradesh requested MECL for exploration of Manganese in Vijayanagaram district A.P. MECL informed that MECL requires the basic geological data of the area for preparation of Proposal and as soon as DGM sends the data MECL will prepare the proposal and submit to NMET for approval.

D- Director Geology Odisha :

Shri G.K. Bhyyen, Joint Director, Director Geology Odisha informed that Odisha Govt has requested MECL to prepare proposals in four Blocks of Odisha and enquired about the status of the same from MECL. MECL informed that MECL is preparing Proposal of one Block of Kalahandi & Koraput District for Bauxite and the same will be put up for approval in the next meeting of NMET. Regarding other blocks MECL informed that there is problem of doability in the proposed area hence MECL will take up exploration in one block and then decide for taking up of work in the remaining blocks. Member of Odisha agreed for the same.

E- DGM, Karnataka:

Shri B.R. Suresh Sr Geologist, DGM Karnataka enquired about the Iron ore proposal of Ballary area to be taken up by MECL. MECL informed that proposal has been approved in the 5th Meeting of Technical committee and MECL will start the work shortly. DGM again informed that there is no fresh proposal from DGM, Karnataka.

F- CMPDIL, Ranchi

Shri R.P. Singh, Dy Manager (Geology), CMPDIL, Ranchi presented five proposals of CMPDIL for evaluation & discussion in the meeting.

1. Regional Exploration for coal in Rajadahi Block, Mand - Raigarh Coal Field, Chhattisgarh.
2. Regional Exploration for coal in Reonti Block, Tata Pani Ramkoala Coal Field, Chhattisgarh.
3. Regional Exploration for coal in Kotmer Block, Mand - Raigarh Coal Field, Chhattisgarh.
4. Regional Exploration for coal in Nonbirra Block, Mand - Raigarh Coal Field, Chhattisgarh.
5. Regional Exploration for coal in Recherla Block, Godavari Valley Coal Field, Andhra Pradesh.

The proposal put by CMPDIL were discussed and it is observed that in some of the Blocks exploration work is already going on as these blocks were approved by CGPB Committee -V. Hence The Committee decided that the blocks which are running will not be discussed for exploration work in this meeting as there is no provision of funding of the running blocks. All the five blocks given above has been approved by the CGPB Committee V. Work in three blocks at Sl. 1 to 3 has already started by MECL.

1. Regional Exploration for coal in Nonbirra Block, Mand - Raigarh Coal Field, Chhattisgarh. The project has been approved by CGPB Committee V.

The proposal of Regional Exploration for Coal was to be started by MECL but there is some quarries regarding fixing of boundary. In view of above the decided that

There is boundary disputed and Technical observations made by GSI are to be resolved and the proposed is to be modified accordingly and submitted in the NMET format.

2. Regional Exploration for coal in Recherla Block, Godavari Valley Coal Field, Andhra Pradesh. The project was approved by CGPB Committee V. G-3 level exploration has to be carried out in the Block. There was a land acquisition problem and has to be sorted out with State Government. After detailed discussion the committee decided that a total of 16 boreholes in an area of 22 sq.km have to be drilled. Geophysical Logging has to be carried out in all the boreholes. Gravity and Magnetic Survey carried out by GSI has to be included in the Project report. Environmental and Land use study is to be included in the study. Cost estimates have to be prepared as per NMET format, prepared by MECL as per approved schedule of Charges of Govt. of India. The committee observed that the proposal does not include geological map on the requisite scale in which the exploration programme is designed and the floor contour plan of the targeted seam of the proposed area not provided in the proposal. CMPDIL informed that this proposal has been approved by Mission-IIB of GSI which deals with exploration of coal. The Technical committee has gone through the recommendations of the CGPB committee – IV and taking cognigence of the recommendations the committee is of the opinion that the project may be recommended for implementation. However with specifications which was approved by CGPB Committee-V (16 boreholes with 16000m drilling at 1317 Lakhs estimated cost) it is stressed that hence forth CMPDIL should insure that the project being put up for evaluation by Technical Committee of NMET should include all relevant Geological informations for taking up a considered decision.

G- NLC, Neyveli, TamilNadu.

Neyveli Lignite Corporation has sent two proposals of Lignite exploration of TamilNadu Area i.e.

1. **Detailed Exploration in Veeranam Lignite Block, District- Cuddalore, Tamil Nadu.**
2. **Detailed Exploration in Palamkottai Lignite Block, District- Cuddalore, Tamil Nadu.**

The first proposal was prepared & submitted by MECL and the 2nd one was prepared & submitted by NLC (May be submitted in the proper format). The proposals were discussed and it is observed that there is no map plans etc with the Detailed Exploration proposal for lignite in Palamkottai Lignite Block, District Cuddalore, Tamil Nadu. The proposal of Detailed Exploration for lignite in Veeranam Lignite Block, District Cuddalore, Tamil Nadu was discussed in detail and in principle the proposal is approved by the committee. However, committee feels that the block may be divided into 5 blocks and 2 blocks may be started implemented preferably adjacent blocks. The fund requirement for the 2 blocks may be re-estimated accordingly. The work may be initiated from northern side. NLC should sent the five blocks boundary within 10 days to Member Secretary.

The proposal of **Detailed Exploration in Palamkottai Lignite Block, District- Cuddalore, Tamil Nadu** may be submitted in the requisite format & with plates & Maps.

H- Kudurmukh Iron Ore Compan y Ltd (KIOCL)

KIOCL has sub mitted two proposals i.e

1- **G-4 Explorat ion of I ron Ore Blocks in T irumankaradu area (Block Id- SR TN-04), Tirupur-Distr ict, Tamil Nadu.**

2. **G-4 Explora tion of Gold and assoc iate d elemen ts in Udbur Block (Block Id SR KAR_07), Dis trict- Mys ore, Karnataka**

The abov e proposals were discussed and the details are given belo w:-

1- G-4 Explor ation of Iron Ore Blocks in Tirumankar adu area (Block Id- SR_TN-04), Tirupur- District, Tam il Nadu.

The comm ittee discusse d the proposal in detail and ag reed to the propo sal with the following modifications

a) For Bed rock sa mples given at para 4.1.4 the com mittee su gge sted that in Iron exploration 1 sam ple from one sq. km area is not required. Sa mples should be collected from BMQ from the total p roposed area .

b) In the Stag e 1 Rep ort at para 4.1.5 the Sketch word should be removed and geolog ical map with interpreta tion of sa mple data may be given.

c) The comm ittee enquired from KIOCL official that how much minimum resour ces are required for prepara tion of 1 auctionable block. KIOCL officials told that minimum of 150 million tonnes a re required for an auctionable bloc k.

d) Reconnaissance survey pertaining to Iron bands may be carried out bey ond the block boundary to know the co ntinuity of BMQ bands .

e) Ground Geophy sical Survey to be carried out a fter completion of Geolo gical Mapp ing in Stag e – I Work espe cially the Mag netic s urvey in the total Mineralised Zone Areas .

f) DTC (Dev ice Tube Concentra te) tes t need not be carried out at this s tage o f work.

g) Sta ge I work shoul d be com pleted in 4months as propo sed and the t otal Time schedule m ay be reduced from 14 months to 12 months.

h) 150 Numbe r of Bed rock sam ples are to be collected in the s tage-I and Pitting and Trenchin g -100 Cu m is to be car ried out in the block.

i) Drilling work is to be taken up based on the results of Geolo gical Mapping , Geophy sical survey and Geochem ical Sam pling work and Location of Boreholes will be as pe r decision of Technical Co mmittee .

j) The boreholes shall be drilled up a vertical depth of 60m and the num ber of boreholes shall be res tricted to a round 6 00m drilling in 5 only with.

The com mittee decided that review of data gene rated shall be done after completion of Geolog ical Mapping and Geoche mical sam pling work.

2. G-4 Exploration of Gold and associat ed elements in Udbur Block (Block Id SR_ KAR_07), District- M ysore, Karn ataka

The comm ittee evaluate d the propo sal in detail and agreed for taking up the work of the proposal w ith the following m odifications: -

a) KIOCL informed that around 15 sq .km area is covered by forest and forest officials are not allowing to enter in the forest cov ered a reas. The com mittee decided that Forest pe rmissio n may be taken for the forest covered area and in the meani me geolog ical mapping may be taken up in the fores t free areas .

b) As out crops in the area are limited and area is covered by soil out crop samples will be less hence soil sam ple and strea m sedim ent sa mples may be increased and total sa mples (Strea m, Bed rock and soil) should be a round 45 0N0.

c) Trenchin g of 200 cu m may be car ried out in the area .

d) Geophysical component will be decided after Geological Mapping & Geochemical Sampling work.

e) Drilling work is to be taken up based on the results of Geological Mapping and Geochemical Sampling work and Location of Boreholes will be as per decision of Technical Committee.

f) The boreholes shall be drilled up a vertical depth of 60m and the number of boreholes shall be restricted to 5 only. The numbers of drill core samples are to be modified as per drilling meterage as per requirement. DGPS survey may be done for 5 points.

g) The Thin Section and polished sections are to be preserved.

h) Modal analysis is not required at this stage.

The committee decided that review of data generated shall be done after completion of Geological Mapping and Geochemical sampling work.

I- Mineral Exploration Corporation Limited (MECL), Nagpur, Maharashtra :

MECL submitted 12 proposals for discussion in the meeting.

1- Regional Exploration Proposal (G-4 level) for Copper, Gold & REE in Jhalara-Matasula-Manpur-Bhabrana-Amalva Area (Block ID Raj-03), District:- Udaipur & Dungarpur, Rajasthan.

The committee discussed the proposal in detail and agreed to the proposal with the following modifications.

a) Geological Mapping and Survey to be carried out on 1:12500 Scale. Remote sensing studies are not required in view of 1:12500 scale mapping for smaller an area of 100-200 sq.km.

b) NGCM & NGPM Data of GSI to be included from GSI Data.

c) Helibourne Survey not required as Aero geophysical Survey data is available the data has to be overlaid to the NGCM data. If required quantum of ground geophysics proposed can be increased.

d) Pitting & Trenching of about 200 cu. m. is to be carried out in the potential zone areas and to be carried out before drilling work is taken up.

e) Borehole drilled by GSI should be plotted.

f) Number of REE samples may be increased from 20 to 50 numbers.

g) The IBM member suggested that locations of water bodies (River & Ponds), Forest Covered areas, Sanctuary & National monuments etc are to be plotted on the map from the available Toposheet.

h) Topographic survey of Potential zone area has to be carried out and few points in the block are to be surveyed by DGPS with WGS-84 system.

i) NGCM data of GSI to be studied and stream sediments samples (unit cell samples) will be collected judiciously from the area where anomalous values are observed in GSI data.

j) Some boreholes may be logged for Atomic minerals

The committee decided that review of data generated shall be done after completion of Geological Mapping and Geochemical sampling work.

2. Regional Exploration Proposal (G-4 level) for Copper & Gold in Kukra-Padwa-ven area (Block ID RAJ-04), District :- Udaipur, (Rajasthan).

The committee discussed the proposal in detail and agreed to the proposal with the following modifications

a) Geological Mapping and Survey to be carried out on 1:12500 Scale. Remote sensing studies are not required in view of 1:12500 scale mapping for smaller an area of 100-200 sq.km.

b) NGCM Data/ Report of GSI to be collected and the data to be included.

c) Helibourne Survey not required as Aero geophysical Survey data is available the data has to be overlaid to the NGCM data.

d) Pitting & Trenching of about 100 cu. m. is to be carried out in the potential zone areas and to be carried out before drilling work is taken up.

e) Borehole drilled by GSI should be plotted.

f) Number of bed rock samples to be given as 100 NO. Se & Te number samples to be changed to 10 Nos.

g) Soil samples to be decided after study of NGCM data of GSI (2015-16).

h) The IBM member suggested that locations of water bodies (River & Ponds), Forest Covered areas, Sanctuary & National monuments etc are to be plotted on the map from the available Toposheet.

i) Topographic survey of Potential zone area has to be carried out and few points in the block are to be surveyed by DGPS with WGS -84 system.

j) The proposed spectroscopic samples/ ICPMS samples are to be analysed for 48 elements by ICPMS and X RF studies.

k) The number of Petrological samples to be reduced to 30 Nos. In case of whole rock analysis the MgO element is to be included.

l) NGCM data of GSI to be studied and unit cell samples will be collected judiciously from the area where anomalous values are observed in GSI data.

The committee decided that review of data generated shall be done after completion of Geological Mapping and Geochemical sampling work.

3. Regional Exploration Proposal (G-4 level) for Basemetals associated Elements, Gold & REE in Kachola- Amargarh-Jhikri Area (Block ID Raj-05), District: Bhilwara, (Rajasthan).

The committee discussed the proposal in detail and agreed to the proposal with the following modifications

a) Geological Mapping and Survey to be carried out on 1:12500 Scale. Remote sensing studies are not required in view of 1:12500 scale mapping for smaller an area of 100-200 sq.km.

b) NGCM/NGPM Data / Report of GSI is available and to be collected from GSI and the data to be included. NGCM data of GSI to be studied and unit cell samples will be collected judiciously from the area where anomalous values are observed in GSI data. Soil samples are to be collected based on the NGCM data and malics.

c) Helibourne Survey not required as Aero geophysical Survey data is available the data has to be overlaid to the NGCM data.

d) Pitting & Trenching of 100 cu m has to be carried out in the potential zone areas and to be carried out before drilling work is taken up.

e) Borehole drilled by GSI should be plotted.

f) IP and SP ground geophysical survey is to be carried out in the potential zones.

g) The IBM member suggested that locations of water bodies (River & Ponds), Forest Covered areas, Sanctuary & National monuments etc are to be plotted on the map from the available Toposheet.

h) Topographic survey of Potential zone area has to be carried out and few points in the block are to be surveyed by DGPS with WGS -84 system.

i) The proposed spectroscopic samples/ ICPMS samples are to be analysed for 48 elements by ICPMS and X RF studies.

j) Drilling to done upto a vertical depth of 60m and maximum metrage will be upto 600m in 5 boreholes.

The committee decided that review of data generated shall be done after completion of Geological Mapping and Geochemical sampling work.

4. Regional Exploration Proposal (G-4 level) for Basemetals & Silver in Satdudhiya-Lakhola-Bharak Block, (Block ID Raj-06), District: Bhilwara, Rajsamand & Chittaurgarh, (Rajasthan).

The committee discussed the proposal in detail and agreed to the proposal with the following modifications

a) Geological Mapping and Survey to be carried out on 1:12500 Scale. Remote sensing studies are not required in view of 1:12500 scale mapping for smaller an area of 100-200 sq.km.

b) NGCM & NGPM Data/ Report of GSI is available and to be collected from GSI and the data to be included. Gravity and Magnetic map are also available. NGCM data of GSI to be studied and unit cell samples will be collected judiciously from the area where anomalous values are observed in GSI data.

c) Helibourne Survey not required as Aero geophysical Survey data is available the data has to be overlaid to the NGCM data.

d) The proposed ground geophysical survey work has to be increased as the area is near to world class lead zinc deposit of Rajpura- Dariba.

d) Pitting & Trenching of 100 cum has to be carried out in the potential zone areas and to be carried out before drilling work is taken up.

e) 33 Boreholes with 4735m of drilling is done by GSI should be plotted on map and the data to be evaluated before field work.

f) IP and SP ground geophysical survey is to be carried out in the potential zones and may be carried out with 5 KV to 10 KV IP Units as there are copper zones in depth. Gravity & Magnetic Survey is also to be carried out in larger area.

g) The IBM member suggested that locations of water bodies (River & Ponds), Forest Covered areas, Sanctuary & National monuments etc are to be plotted on the map from the available Toposheet.

h) Topographic survey of Potential zone area has to be carried out and few points in the block are to be surveyed by DGPS with WGS -84 system.

i) The proposed spectroscopic samples/ ICPMS samples are to be analysed for 48 elements by ICPMS and X RF studies.

The committee decided that review of data generated shall be done after completion of Geological Mapping and Geochemical sampling work.

5. Proposal for Regional Exploration (G-4 level) for Iron in Kanawat-Chala-Karath-Bagholi Area, (Block ID-WR-RAJ-07), District: Jhunjhunu & Sikar, (Rajasthan).

The committee discussed the proposal in detail and agreed to the proposal with the following modifications

a) Geological Mapping and Survey to be carried out on 1:12500 Scale. Remote sensing studies are not required in view of 1:12500 Scale mapping for smaller an area of 100-200 sq.km.

b) NGPM Data (2007-08) / Operation Hard Rock data /Report of GSI are available and to be collected from GSI western region and the data to be included. Gravity and Magnetic map are also available.

c) Helibourne Survey is done by AMD and a formal letter may be written to for supply of Electro Magnetic Survey data only.

d) The proposed ground geophysical survey (Gravity & Magnetic) work has to be increased.

e) Pitting & Trenching of 100 cu m has to be carried out in the potential zone areas and to be carrical out before drilling work is taken up.

f) The number of geochemical survey to be increased and analysis to be carried out.

g) Samples to be collected and analysed for Mo, Cu, Au and Iron.

h) Drilling component to be decided after Geophysical Mapping.

i) Geological Map to be prepared after interpretation of sub surface data.

h) The IBM member suggested that locations of water bodies (River & Ponds), Forest Covered areas, Sanctuary & National monuments etc are to be plotted on the map from the available Toposheet.

j) Topographic survey of Potential zone area has to be carried out and few points in the block are to be surveyed by DGPS with WGS 84 system.

i) The proposed spectroscopic samples/ ICPMS samples are to be analysed for 48 elements by ICPMS and X RF studies.

The committee decided that review of data generated shall be done after completion of Geological Mapping and Geochemical sampling work.

Evaluation of remaining Proposals of MECL could not be taken up because of time constraint hence decided that these proposal will be evaluated in the next meeting to be convened shortly.

The meeting ended with vote of thanks.

(Dr. Joyesh Bagchi)
Director (MoM) &
Member Technical Committee, NMET

(Shri Lalit Khasdeo, Sr Geologist)
For P. Tarafdar)
Director, GSI &
Member, Technical Committee, NMET

(Dr. Manoranjan Mohanty)
Deputy Director General, GSI &
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(Alok Sharma)
G.M. (Exploration), CMPDIL, Ranchi
Member Technical Committee of NMET

(Shri S. K. Thakur)
GM- Exploration &
Member Secretary Technical
Committee of NMET

(Dr. P.R. Golani)
Dy. Director General
Geological Survey of India &
Chairman Technical Committee of NMET