MINUTES OF THE 61st MEETING OF THE CENTRAL GEOLOGICAL PROGRAMMING BOARD

A. P. Shinde Symposium Hall, Indian Council of Agricultural Research, NASC Complex, Pusa, New Delhi

(24th March 2022)

61.01.00 The 61st meeting of the Central Geological Programming Board (CGPB) was held on 24th March 2022 at A.P. Shinde Symposium Hall, Indian Council of Agricultural Research (ICAR), NASC Complex, Pusa, New Delhi. The list of participants is given at Annexure-I.

INAUGURAL SESSION

Welcome address by Shri. R.S Garkhal, Director General, GSI

Shri. R.S. Garkhal, Director General, GSI extended a hearty welcome to Shri Alok Tandon, IAS, Secretary, Mines; Shri Sanjay Lohiya, IAS, Additional Secretary, Mines; Shri S. Raju, Additional Director General, GSI, delegates and participants of the Central Ministries / organizations, PSUs, State Departments, academic institutions, private entrepreneurs and media to the 61st meeting of the Central Geological Programming Board (CGPB) which is held annually for adoption of field season programmes (FSP) of GSI and to discuss future mineral exploration strategy, geoscience programmes and inter-organizational coordination.

Brief Overview of CGPB and FSP 2022-23 by Shri. R.S. Garkhal, DG, GSI

61.02.01 Shri R.S. Garkhal, Director General, GSI, CGPB presented "Brief Overview of CGPB & FSP 2022-23". He apprised the gathering about the brief history of CGPB.

He informed that the Annual Programme of GSI for FS 2022-2023 has been drawn keeping in view of the stated policies of the Central Government, the requirement of the States as proposed in SGPB meetings, and discussion/outcome of the CGPB sub-committee (I-XII) meetings. He highlighted the following points:

- All the programmes of GSI for FS 2022-23 have been peer reviewed internally (100%) and 20% randomly selected programmes have been externally peer reviewed.
- A total of about 983 standard items are planned to be taken up for execution in FS 2022-23.
- GSI has given thrust in its Baseline Geoscientific Data Generation (Mission-I) programmes viz. STM, NGCM, NGPM with special emphasis to fast-track completion of national flagship programme viz. NGCM in priority areas of the country. The geochemical dataset with other complementary geological and geophysical datasets will be useful to identify mineral potential zones for further exploration.
- Under Baseline Geoscientific Data Generation, 387 programmes are included.
- Mineral investigation programmes on different commodities with G4 to G2 stages are formulated with an aim to generate potential blocks and augment resources.

- Thrust has been given for exploration of Strategic Critical and Fertilizer minerals
- A total of 250 items are included under Mission-II activities of which 222 are under Mineral Resource Assessment (204 mineral exploration, 2 Project Uncover, 3 R&D and 13 Regional Mineral Targeting), 14 pertain to Natural energy Resources (10 coal, 1 lignite, 2 R&D items and 1 programmes of Geothermal Resource assessment) and 14 offshore marine mineral investigation.
- In view of the rapid depletion of surface/near-surface deposits, GSI has shifted its thrust to probe deep-seated deposits under and Project UNCOVER in collaboration with Geoscience Australia will be in full swing during FS 2022-23.
- Regional Mineral Targeting (RMT) programme by integration of all baseline data of ground survey and aerial survey in GIS platform for prognosticating newer areas for mineral exploration will continue this year.
- During FS 2022-23, 57 mineral exploration programmes are being taken up as spin-off from the previous year concluded programmes viz. STM, NGCM, NGPM and NAGMP.
- With the state-of the art ocean going research vessel Samudra Ratnakar along with other two coastal vessels, marine survey including regional/detailed mineral exploration, high resolution seabed mapping and coastal process studies will continue in TW and EEZ including foray in International Waters for the first time.
- Under Geoinformatics (Mission –III) a total of 54 items are proposed to be taken up during FS 2022-23.
- A total of 145 items are being taken up under Fundamental and Multidisciplinary Geosciences (Mission –IV) during FS 2022-23.
- GSI Training Institute under Mission-V will conduct courses on various themes for capacity building in the earth science domain as per changing operational needs of GSI as well as for participants from other institutes of India and abroad.
- A total of 147 courses of Training and Capacity Building are proposed to be taken up in 2022-23 which include 99 technical and 48 administrative courses.
- 32 programmes have been proposed on State Government request/SGPB committee recommendations/CGPB committee recommendations. Apart from these, GSI has also proposed 36 programmes in collaboration with universities/ agencies and under sponsorship of different authorities, etc.

Release of Publications

61.02.02 Following publications were released on the occasion:

- 1. Coffee Table Book on
 - (1) Brahmaputra: The Mystic River of the North East (2020) by Geological Survey of India.
 - (2) **Dimension stone granite deposits of Tamil Nadu (2020**) by Geological Survey of India.

- 2. Special Publication no. 121, Geology and Mineral Resources of Bundelkhand Granitoid Complex (2021). ISSN 02540436
- 3. Special Publication no. 124, A Compendium of Coal Resources of Odisha
- 4. Brochure on **Celebrating 75 Years of India's Independence** by Geological Survey of India Training Institute
- Training Calendar of Geological Survey of India Training Institute for year 2022-2023
- 6. District Resource Maps of Gadchiroli and Bhandara District, Maharashtra by Central Region, Geological Survey of India
- 7. Large Scale mineral belt maps of The Ukwa sector, Sausar Mobile Belt and Gobarwahi-Karli-Asalpani Sector, Sausar Mobile Belt, Maharashtra by Central Region, Geological Survey of India.

Address by Shri Sanjay Lohiya, Additional Secretary (Mines)

61.02.03 The Additional Secretary, Mines expressed his immense pleasure to be amongst the geoscientists and other stakeholders in the 61st meeting of Central Geological Programming Board (CGPB) for deliberating on the geoscientific activities of GSI. He mentioned that many reforms have taken place in the mining sector in the last two years under the leadership of Honourable Minister and Secretary, Mines. MMDR Act was amended in March 2021 and the act has simplified mining sector regulations in the country in the form of renewal of distinction between captive and merchant mines, simpler prospecting-cum-mining lease regimes, transfer of permission from old lessees to new lessees.

The Additional Secretary, Mines informed that in the current FY, GSI has handed over 230 reports to State Govt. for auction purposes. As a part of AatmaNirbhar Abhiyaan in May 2020, it was announced that 500 blocks will be put on auction. He stressed on the fact that much more work is required to be done in this direction. He requested all officers of GSI to commit themselves to all activities planned and not to leave spill over for the next year. He emphasized that the sample analysis must be completed within three months and reports to be prepared in another three months so as to make reports available to the State Govts as early as possible for further action. He requested senior officers of GSI to brainstorm and put in monitoring system for early processing of results of field service.

The Additional Secretary, Mines mentioned that NMET has initiated certain reforms in its procedure to fasten the sanction of exploration projects through technical committee meetings. He announced that NMET will release 125 crores in current FY for the first time to various implementing agencies. The State Govts. were requested to submit exploration projects to NMET for funding as NMET sponsors 100% exploration cost. He conveyed that the officers of NMET and DDGs in charge of GSI from each SUs will help State Govts. in the formulation of proposals.

The Additional Secretary, Mines apprised that recently the Honourable Minister has approved sanction of funds more than 4 crores for procurement of machinery, equipment and software to strengthen the exploration capabilities. The amount to be sanctioned for this purpose will be limited to 10% of the amount sanctioned to the State Govt. by NMET. As per directions from H'ble Minister of Mines, twenty lakh rupees will be sanctioned for each State and another twenty lakh rupees will

be released as incentive by NMET in this regard. The Additional Secretary, Mines emphasized that this amount should be utilized by State Govts. to strengthen their State Geological departments.

The H'ble Minister, Mines has also approved another scheme for reimbursement of 50% of cost of exploration subject to certain restrictions by holders of Composite License (CL) which are auctioned for deep seated and critical minerals. The winners of CL are to be made aware of the scheme by the State Govts. He impressed upon the State Govts. to bring the scheme to the notice of all prospective bidders, wherever auctions and bidding are yet to take place, so that bidders show more interest in auctioning of CL.

The Additional Secretary, Mines informed that GSI has increased its focus on deep seated mineral deposits. The auctions have been simplified for deep seated mineral deposits.

In the end, the Additional Secretary, Mines opined that deliberations of the meeting will go a long way in giving a boost to mineral exploration in the country and will help to achieve self-reliance in base metals and critical minerals.

Address by Shri Alok Tondon, Secretary (Mines) & Chairman, CGPB

- 61.02.04 1. The Secretary, Mines began his address by welcoming all the participants at the 61st meeting of the Central Geological Programming Board (CGPB). He felt heartened to state that the GSI through CGPB has been taking up the visionary step of taking up collaborative exercises since 1966. He emphasized on the fact that the program formulated by GSI through in-house and collaborative deliberations can be perused to know the diverse domains in which GSI is working with its expertise and long field and laboratory experience.
 - 2. The Secretary, Mines in his speech addressed that there are some issues especially concerning mineral exploration where participation of private sector is of paramount importance. In this context, he mentioned that Ministry of Mines, in association with QCI-NABET, has launched a scheme for accreditation of private agencies in mineral sector. So far, a total of 7 agencies have been accredited by QCI-NABET and one agency has been notified by Central Government. It is expected that the private sector will bring necessary investment, expertise and innovation in the field of mineral exploration.
 - 3. The Secretary, Mines highlighted the importance of CGPB mechanism, which gets enhanced significance for development of collaborative programs and synergy.
 - 4. The Secretary, Mines informed that Ministry of Mines has handed over 152 G4 mineral blocks to the state governments for auctioning of mineral concessions in September 2021 and November 2021 to increase the pace of mineral exploration and mining in the country. Further 24 G3/G2 reports have been handed over to State Governments since April, 2021. Keeping up with our determination to increase the pace of auction, another 07 resource bearing G3/G2 stage geological reports and 50 geological memoranda of G4 mineral blocks will be handed over to respective state governments by Shri Pralhad Joshi, Hon'ble Minister of Mines, Coal and Parliamentary Affairs.

- 5. In order to resolve the issues faced by State Government in auctioning, Ministry of Mines have constituted Joint Working Group (JWG) for different states having member from GSI, MECL, State DGMs. The JWG have proved to be a very effective platform in resolving the hindrances faced by State Government in auctioning. In order to broaden the spectrum of the JWG, Joint Secretary (Policy), Ministry of Mines, Director (Technical), Ministry of Mines, Regional Controller of Mines, IBM, and PCCF from State Government are also included as members of the JWG.
- 6. The Secretary, Mines expressed his sincere thanks to State Governments for their active cooperation which has resulted in the successful auctioning of more than 145 mineral blocks in the country. With further impetus given by the reforms made in the year 2021, more than 146 blocks have been put up for auction in the financial year 2021-22. Of this, 34 blocks have been successfully auctioned.

Secretary, Mines concluded his address on a positive note, hoping that the deliberations of the 61st CGPB meeting will be fruitful in furtherance of transformative process in geoscience activities including mineral exploration in the country.

PLENARY SESSION-I

Review of Follow-up Action on the agenda items of 61st CGPB Meeting by Shri Asit Saha, Dy. DG, PSS & Member Secretary, CGPB

61.03.01 | Issue-1 (Suggestion: DMG, Telangana):

- 1. Proposed Field Season Projects in 2021-2022 by GSI, SU, Telangana-Inclusion of following projects:
- i. Exploration for Garnet in Khammam, Bhadradri-Kothagudem, Mahabubabad Districts.

GSI informed that the exploration programmes have been prioritized for strategic, critical and fertilizer minerals as per the priority set by MoM. The exploration for garnet cannot be taken up by GSI in the present scenario. Whenever the possibilities will arise, GSI will take up the exploration projects for garnet and other related commodities.

iii. Mineral investigation for occurrences of Semi-precious stones in the State by GSI, State Unit, Hyderabad.

GSI has the same response as stated in Issue-1.

iv. Preparation of District-wise Geology & Mineral Resources Manuals in the State by GSI. State Unit, Hyderabad.

GSI stated that there are 33 districts in Telangana. Out of these 33 DRMs, 10 DRMs pertaining to Adilabad, Jogulamba Gadwal, Mahboobnagar, Narayanpet, Nizamabad, Rangareddy, Vikarabad, Warangal (Urban), Warangal (Rural), Rajanna Siricilla districts have been finalized and can be freely downloaded from the OCBIS portal. The remaining 23 DRMs are in the final stage of processing and likely to be released by 2022-23.

(Action: GSI, SR)

61.03.02 Issue-2 (Suggestion: DMG, Andhra Pradesh):

1. DMG Andhra Pradesh requested the GSI to take up Investigations for Iron Ore free hold areas in Kadapa and Kurnool districts on priority basis.

GSI stated that the SU: Andhra Pradesh is carrying out exploration on Manganese ore in different stages (G2/G3/G4) during every FSP in Vizianagaram and Srikakulam district since FS 2017-18. During F.S. 2020-21 also, three G3 stage exploration on Manganese ore are in progress in Vizianagaram and Srikakulam districts. The reports pertaining to three G3 stage exploration on Manganese ore executed during FS 2020-21 will be handed over to the State Government of Andhra Pradesh by May, 2022.

(Action: GSI, SR)

2. Regarding difficulty in exploration due to forest clearance issue for taking up exploration programmes for Iron Ore in Ananthapuram District, Lead & Zinc areas in Guntur District, Aluminous Laterite and Bauxite exploration for new deposits etc.

The response received from Ministry of Mines stated that the issues faced by the mineral exploration agencies for carrying out exploration in the forest areas are being taken up by MoM with MoEFCC in detail.

Guidelines under the provisions of the Forest (Conservation) Act, 1980 for undertaking prospecting/ exploration/seismic survey in forest area; streamlining of procedure issued by MoEFCC dated 17th November, 2020 are to be followed. The Forest (Conservation) Act, 1980 is required to be abided by everyone and possibilities are being explored to find what best can be done so that the forest clearance issues are resolved at the earliest.

(Action: MoM)

61.03.03 Issue-3 (Suggestion: CGM, Tamil Nadu):

1. Fixation of rate of royalty for Molybdenum: The rate of royalty of Molybdenum has not been fixed in the Second Schedule of the Act.

Director (Tech) Mines informed that the royalty rate of Molybdenum has been fixed by the Govt. and is now available on the website of Ministry of Mines.

2. Declaration of the non-metallic industrial minerals like Calcite, Dolomite and Dunite as Major Minerals

MoM has sent the proposal regarding the above issue to IBM for examination and it is being looked after by MoM.

(Action: MoM)

61.03.04 Issue-4 (Suggestion: DGM, Assam):

1. If the Geological Survey of India, SU: Assam can explore the surrounding area of Bura hungdong, namely Therevelongso area with lat 92°39'15" and long 25°27'23" of SOI toposheet No. 83 C/11, Dima-Hasao district, the State of Assam will be benefited for new Limestone area or any other valuable mineral.

GSI responded that SU: Assam will take up the limestone exploration in Sikilangso block (G3-stage) Dima Hasao district in FS 2022-23.

DGM Assam replied that as per the agenda submitted by them, they have proposed limestone exploration near Bura Hungdong area.

DDG & HoD, GSI, NER responded that as the area is less near Bura Hunglong, GSI has taken up exploration in the adjoining Sikilangso area having same geological setup.

2. As per the minutes of the 16th meeting of CGPB committee-XI held on 23rd September, 2020 at CHQ, GSI, Kolkata, all the technical reports of exploration done by this Directorate are physically available. These reports may be made available to the GSI for digitization.

GSI informed that the DDG, SU: Assam has met Principal Secretary of Assam and requested to provide the list of reports to be digitized. The reports may be digitized under the NGDR project.

(Action: GSI, NER & DGM, Assam)

61.03.05 Issue-5 (Suggestion: DGM, Nagaland):

1. Geophysical survey for prospecting Ni-Cr-Co bearing Magnetite and Chromite in Naga Hills Ophiolite at Phur, Phek district, Nagaland.

GSI informed that a detailed discussion on detailed investigation of Ni-Cr-Co bearing magnetite in the Naga Hill Ophiolite belt was held during 41st SGPB meeting of Nagaland and it was conveyed that detailed investigation will be carried out by DGM, Nagaland.

61.03.06 Issue-6 (Suggestion: DGMR, Mizoram):

Mineral Exploration at strategic locations within Mizoram to cater the demand of developmental construction agencies by GSI, NER.

GSI conveyed that it does not take up exploration of minor minerals. In case of any technical support, the same can be provided by GSI. At present, GSI has prioritized its mineral exploration programmes for strategic, critical and fertilizer minerals.

61.03.07 Issue-7 (Suggestion: DGM, Arunachal Pradesh):

Agenda No. 1

Department of Geology and Mining, Arunachal Pradesh is proposed to explore the hidden mineral resources of the state. CMPDIL, Ranchi is requested to provide technical assistance for the preparation of DPR for exploration proposal in the state considering the fact that there are umpteen opportunities in Arunachal Pradesh.

CMPDIL replied that they have entered into a MoU with DGM Arunachal Pradesh on 25.02.2022 for exploration of coal, other minerals and supplementary services and the work is in progress. CMPDIL is also in constant touch with DGM not only for exploration but also for the tendering purposes.

Agenda No. 2

All Central Agencies such as GSI and CMPDIL were requested to provide necessary training for all the officers of the Department of Geology and Mining, Arunachal Pradesh.

GSI stated that in FY 2020-21, many people from DGM Arunachal Pradesh have been trained, to the tune of around 50 officers. In 2021-22, such trainings could not

be materialized due to COVID-19 pandemic. For 2022-23, GSITI training calendar has been published in www.gsi.gov.in and www.training.gsiti.gsi.gov.in, which can be accessed by the officers of DGM Arunachal Pradesh anytime. GSITI can also be approached in case of requirements for any customized trainings by DGM Arunachal Pradesh.

(Action: DGM Arunachal Pradesh)

Agenda No. 3

Survey investigation and Beneficiation studies of Brine seepage in and around Laptang, Sumsi, Polung, Namsang, Borduria, Kaimai, Polung & Paniduria Village of Tirap District, Arunachal Pradesh.

GSI responded that in FS 2022-23, GSI is taking up one Lithium exploration project in Tirap district as requested by DGM Arunachal Pradesh.

61.03.08 Issue-8 (Suggestion: DG(O), Odisha):

- 1. Ministry of Mines is considering to conduct exploration through private exploring agencies where the funding will be done by NMET. State DGM or GSI should be entrusted to examine the scheme of exploration, supervise & monitor the activities of the agency during the course of exploration. The agency should submit a copy of the geological report to the State Govt.
- 2. The blocks selected for exploration of notified minerals by private agencies should be allotted by a technical committee examining the credentials & expertise of the intending exploring agency.

Sh. Sanjay Lohiya, Additional Secretary, MoM requested stakeholders to abide by the orders regarding the notification of private exploration agencies. He explained that it will be taken care of that the private exploration agencies share the geological reports with State/Central Govt. If private exploration agencies are engaged through NMET, it will be taken care of that some detailed guidelines are issued for sharing of the reports as well as their activities get monitored. The guidelines will also be formulated as to how State Govt. can engage private exploration agencies.

(Action: Ministry of Mines)

61.03.09 Issue-9 (Suggestion: DMG, Jharkhand):

Mineral Exploration for Diamond Exploration in Gumla and Simdega District

Directorate of Geology Proposes Mineral Exploration of Diamond in Simdega district on the basis of Geological Report available with GSI. This work may be carried out by some expert organization like NMDC.

NMDC denied to take up diamond Exploration work in the area Simdega-Gumla. DMG, Jharkhand has proposed MECL to take up the diamond Exploration work in the area Simdega-Gumla district, Jharkhand.

MECL has approached DMG Jharkhand for previous work done by GSI and the report will be studied and then the proposal may be submitted to NMET, Ministry of Mines.

NGRI responded that JSPL did some work in the Simdega-Gumla district and have found some kimberlitic pipes. NGRI has scientific understanding with JSPL diamond division when it existed earlier. They have done some analytical work for heavy indicator minerals and geophysical surveys across one of the kimberlitic

pipes which JSL located. They also have some core samples available with them. NGRI desires to partner with some exploration agency for R & D part of the diamond exploration work in Simdega-Gumla district, Jharkhand.

ADG & HoD, SR, GSI replied that NGRI can have collaboration with MECL.

MECL responded for taking up the diamond project in Jharkhand.

NGRI responded that they would like to share the data of one of the kimberlitic pipes which they stated in their response.

DGM Jharkhand replied that they have earlier requested NMDC for diamond exploration work in Simdega-Gumla district, Jharkhand. NMDC refused to carry out the work due to law and order situation. Then, the project was offered to MECL. DGM Jharkhand mentioned that a lot of work has been done by GSI in the area and the background information of the area is available with them. However, DGM Jharkhand is unable to take up the project through any exploration agency or themselves. They requested through CGPB platform for obtaining the approval to engage an exploration agency for diamond exploration work in Simdega-Gumla district, Jharkhand.

Director (Tech), MoM replied that diamond exploration can be taken up by MECL in Simdega-Gumla district. On submission of the geological report by MECL, the matter will be examined further.

(Action: MECL & DGM Jharkhand)

61.03.10 Issue-10 (Suggestion: DMM, WB):

Agenda 1:

DMM West Bengal has three nos. of Major Mineral (Non-Coal and Non-Fuel) deposits in nine different areas as per published reports of GSI, namely,

- 1. Apatite/ Rock Phosphate in four no of areas: i) Chirugoda, ii) Purdaha, iii) Parkidih and iv) Kutni, all belong to the District of Purulia.
- 2. Rare Metal deposits in two Blocks namely Beku and Belamu, both belonging to P.S. Jhalda, District-Purulia.
- 3. Base Metals deposits in two Blocks namely i) Gorubathan ii) adjoining Kumai area, Kalimpong District.
- 4. Tungsten deposit in Chhendapathar area of Bankura District.

For the above mentioned nine areas, GSI has been requested to define the boundaries of mineral bearing lands using DGPS system. A summary of the Geological Report as per Proforma-IVA, of the Notification no. G.S.R. 304 (E) dated 17.04.2015. (Evidence of Mineral Content) Rule, 2015, for five no of areas namely, Chirugoda, Purdaha, Parkidih, Beku and Gorubathan is also requested.

GSI responded that as per Proforma-IVA along with DGPS survey data for Beku, Belamu-Khatanga, Chirugoda, Purdaha blocks has already been submitted to DMM, West Bengal on 4th February, 2021.

The part -IVA report for Gorubathan Block is kept in readiness and not yet submitted due to the want of DGPS survey data. In the JWG meeting held on

08.02.2022 with State DGM officials, it is decided that a joint survey would be taken up by GSI and DMM West Bengal to complete DGPS surveys in Gorubathan Block.

(Action: GSI, ER)

Agenda 2: The Sponge Iron Production Units of our State are suffering badly owing to severe scarcity of sustained supply of Iron Ore from other neighbouring States, as there is an absence of Iron Ore mines in the State of West Bengal.

Mineral Allocation of the available Mineral Resources is "to ensure equitable distribution of Mineral Wealth to sub serve the common good", as per Sr.1 VISION Pg.01 of National Mineral Policy, 2019.

Therefore, DMM West Bengal requested to explore the possibilities of lying down suitable Guiding Principles, through Long Term Linkage of purchasing a small part of Iron Ore Mineral Reserve from the adjoining States (e.g. Jharkhand, Odisha), who belong to the category of Leading Iron Ore Producing States in our country, for the survival of the MSME Units of our State.

MoM has responded that DMM, West Bengal may make a request to MoM in this regard.

DMM West Bengal is yet to submit such a proposal to Ministry of Mines.

(Action: DMM West Bengal)

Agenda 3:

Using NMET Fund, MECL has been requested by DMM West Bengal for exploration (up to G2 Level), of well-known Multi-Metal Deposits of Gorubathan area (as per existing G3 level GSI report). As the area is mostly Forest Covered, MECL has requested DMM WB for the possibilities of obtaining Forest Clearance for Sakam and Dalinga forest region of Gorubathan areas.

MoEFCC responded that no such proposal w.r.t. Forest Clearance for Sakam and Dalinga forest region of Gorubathan areas is pending with their Ministry.

MoM responded that the issues faced by the mineral exploration agencies for carrying out exploration in the forest areas are being taken up by MoM with MoEFCC in detail. Guidelines under the provisions of the Forest (Conservation) Act, 1980 for undertaking prospecting/ exploration/ seismic survey in forest area may be followed.

(Action: MoM)

61.03.11 Issue-12 (Suggestion: DGM, Maharashtra):

DGM, Maharashtra has informed that one proposal of G3/G2 stage of exploration for Aluminous Laterite and Bauxite in and around Shiltaralwadi, tahsil Rajapur, district Ratnagiri and second proposal of G4/G3 stage of exploration for Aluminous Laterite and Bauxite in and around Kudopi, tehsil Malwan, district Sindhudurg are being proposed for exploration for joint collaboration with GSI for field season 2021-2022. The detailed proposals will be submitted shortly.

DGM, Maharashtra briefed the house that the Regional Office, Kolhapur has started exploration work for Aluminous Laterite and Bauxite in and around Shil-Taralwadi, tehsil Rajapur, district Ratnagiri individually. Therefore, GSI is requested to kindly note that the prospecting with joint survey may not be required for this scheme.

In the other area in and around Kudopi, tehsil Malwan, district Sindhudurg, GSI has taken up G4/G3 stage of exploration for Aluminous Laterite and Bauxite in FS 2021-22 as requested by DGM Maharashtra and the work is in progress.

61.03.12 Issue-13 (Suggestion: DCI, Manipur):

1. DCI, Manipur has requested GSI for taking up G4 stage investigation of chromite in Sirohi-Lunghar villages, Ukhrul District, Manipur Area- 7.8 sq. km. (Toposheet No. 83 K/8)

GSI responded that the item has been included in the annual programme for FS: 2021-22 and the investigation is under progress. The field work will be completed in few days.

2. DCI, Manipur has requested GSI for taking up preliminary Exploration for chromite, Ni, Cu, and PGE in Hangkau village, Kamjong District, Manipur (G3). GSI is requested to take up G3 stage chromite exploration in the area.

GSI responded that they have already included two mineral exploration items (G3 & G4) in Ukhrul District for chromite, cobalt and associated minerals (Ni, V, PGM, base metals) as proposed by DCI Manipur for FS 2021-22. However, due to stiff local resistance and non-availability of permission for carrying out any work, the exploration programmes of FS 2021-22 were shelved. Similarly, one G4 project for chromite, nickel and associated base metals around Kangpat-Phaipok-Kongkhan area, Naga Hills Ophiolite Belt, Kamjong District, Manipur has been proposed for FS 2022-23, but the item has been shelved apprehending similar resistance.

GSI recommended that DCI Manipur may take up the exploration activities themselves and GSI, NER will extend all possible technical guidance for the same. The Additional Secretary, Ministry of Mines requested the state units in-charge of GSI to look into the issue of local resistance problems in the states like Manipur and so. He suggested GSI to have correspondences with DCI Manipur, considering significant improvement in the states like Manipur in last few years.

(Action: DCI Manipur & GSI, NER)

61.03.13 Issue-14 (Suggestion: CMPDI):

1. CMPDI requested regarding waiving off forest clearance for exploration drilling & geophysical seismic survey in forest area.

MoM responded that the issue faced by the mineral exploration agencies for carrying out exploration in the forest areas are being taken up by MoM with MoEFCC.

(Action: MoM)

2. Release of CBM overlapped coal blocks by Directorate General of Hydrocarbons (DGH), MoPNG for identification and augmentation of coking and good grade coal resources.

CMPDIL informed that as per directive from MoC and MoP & NG, meeting was held between CMPDI & DGH for resolving issue of overlap areas of CBM blocks & coal

blocks in different coalfields and presently there is no overlap area in CBM block (either relinquished or under relinquishment). The matter has been resolved.

61.03.14 Issue-15 (Suggestion: FIMI):

FIMI stressed on the thrust for geological exploration for limestone in the State of Tamil Nadu.

With fast depleting mineable limestone resources in the state, it is requested that focus on limestone exploration should be given in the state of Tamil Nadu.

GSI updated on the status of limestone exploration carried out by GSI in Tamil Nadu:

- (i) A total of eight limestone investigations at various stages have been carried out in Tamil Nadu in last 15 years by the State Unit: Tamil Nadu and Puducherry, GSI, Chennai.
- (ii) In addition to this, two more limestone investigations are proposed for FS 2022-23.
- (iii) Four limestone reports (One G-2, one G-3 and two G-4) and four Geological Memorandums have been handed over to State Govt., Tamil Nadu.
- (iv) Potential areas are being identified for taking up further investigations in future based of ground feasibility.

The Additional Secretary, Ministry of Mines stressed on the fact that the process of taking up exploration activity and thereafter submission of geological reports will not serve the purpose until auctions take place.

DGM Tamil Nadu replied that as a result of frequent meetings with GSI, one limestone block has been confirmed and it is brought for auctioning. A High-Level Committee reviewed the blocks to be auctioned, and after completing the necessary formalities, the blocks will be notified very shortly.

FIMI responded that there is a serious issue of crunch of raw material faced by the cement industries of Tamil Nadu. Due to this, Tamil Nadu is forced to import high grade limestone from outside. FIMI requested that whatever number of reports had been handed over to the State Govt. of Tamil Nadu, these should be immediately brought to auction.

DDG & NMH-II, SR replied that two G-2 level reports has been handed over to the State Govt. of Tamil Nadu belonging to the district of Ariyalur in Tamil Nadu.

(Action: DGM Tamil Nadu)

2. Suggestion for Pilot Testing Facilities at Regional GSI Laboratories

GSI responded that setting up of Pilot testing facilities is not under the domain of GSI, as GSI do not have trained man power and lab facilities to carry out such studies.

IBM responded that they are engaged in mineral beneficiation study of all ores and minerals, except coal and atomic minerals since last more than 60 years. The three Laboratories and Pilot Plants of IBM located at Nagpur, Ajmer and Bangalore are catering to the need of Indian Mineral Industry and Exploration agencies of the country.

However, IBM also mentioned that setting up Pilot Testing Facilities will require some new/additional facilities need to be created/ added. In view of the present need and future requirements of the country there is an urgent need for strengthening i.e. upgradation, modernization and expansion of mineral processing facilities of IBM.

61.03.15 Issue-16 (Suggestion: IREL (India) Limited):

Point 1

IREL has the concern regarding sterilization of Atomic Minerals (Beach Sand Minerals) in the coastal stretches of Tamil Nadu, Kerala, Andhra Pradesh and Odisha due to change of land use towards various construction and infrastructure development activities.

DGM Tamil Nadu responded that the matter is under consideration of State DGM.

DGM Andhra Pradesh responded that the proposal has been made to APMDC for reservation of Beach Sand Mineral (BSM) areas, out of which two areas have been reserved by MoM for APMDC. The remaining areas are pending for approval in the ministry.

DMG Odisha replied that AMD can take a notice of the issue and can identify the BSM areas so that they can be reserved for exploration in future.

(Action: DGM Tamil Nadu, Odisha, Kerala and Andhra Pradesh)

Point 2

Non-implementation of Atomic Mineral Concession Rules – 2016 by the State Governments causing hindrance for winning the Atomic Minerals (Beach Sand Minerals).

DGM Andhra Pradesh responded that AMD has submitted geological reports in respect of 14 beach sand mineral deposits to Government of Andhra Pradesh to initiate the process of grant of mining lease. DGM Andhra Pradesh have requested to nominate a Government Company specifically APMDC as a prospective lessee for grant of ML. DAE has nominated APMDC as a prospective lessee in respect of two (02) BSM deposits. Nomination of a Government Company for the remaining BSM deposits is under consideration of DAE.

DMG Odisha responded that DAE has nominated IREL-IDCOL (JV) as a prospective lessee in parts of Bajarkot-Brahmapur Coastal tract located in Puri district. Government of Odisha has conveyed that ML over an extent of 1487.746 Ha can be granted against the BSM deposit area of 2499.91 Ha in favour of the nominated agency for Brahmagiri BSM deposit located in Puri district.

DGM Tamil Nadu responded that the Central Government after consultation with the State Government of Tamil Nadu, has reserved five (05) BSM blocks in Kanyakumari district, Tamil Nadu in favour of IREL for undertaking prospecting or mining operations.

DGM Kerala informed that geo-referencing work for the 35 BSM deposits has been completed. AMD is in the process of submission of revised geological reports to Government of Kerala for conveying the precise area to DAE for nomination of a Government Agency for grant of Mining Lease.

(Action: AMD, DGM Tamil Nadu, Odisha, Kerala and Andhra Pradesh)

61.03.16 Issue-17 (Suggestion: NMDC Limited):

NMDC is a "NODAL EXPLORATION AGENCY" as per Sub-Section (1) of Section (4) of MMDR, 1957 and has been conducting Regional to Detailed exploration since last six decades for various minerals. Twice, NMDC has submitted the proposal to MOM,GOI (Satyavama Portal -2019 & 2020 under Science and Technology Yojana for AatmaNirbhar Bharat in Mining Advancement). This is a joint Research Based Project with Presidency College Kolkata. This research project will be first of its kind in India which would prove "Ore Beneath Ore Concept" for Iron Ore in India. The deepest boreholes drilled by NMDC in world class Bailadila Iron Ore Mines would be used for the project. The cost of the project would be nominal. NMET may fund the project in National Interest. This project would also generate revenue under AatmaNirbhar Bharat.

NMDC replied that there are eighteen iron ore deposits which are found in Bailadila Iron Ore Mines. They requested for some amount of funding from NMET for proving the concept of "Ore Beneath Ore Concept" in India. They informed that they have also done structural analysis, REEs, trace, oxygen, carbon and iron isotope studies in Bailadila Iron Ore Mines.

The Additional Secretary, Ministry of Mines replied that the funding of the project would be decided after the submission of the report by NMDC.

(Action: NMDC)

61.03.17 | Issue-19 (Suggestion: NGRI):

Update regarding the MoU between NGRI and GSI.

GSI responded that MoU was signed between NGRI and GSI over e-platform on 28.10.2021 for seismic data processing employing various special processing technologies like Amplitude Versus Offset (AVO), Reverse Time Migration (RTM) and Full Waveform Inversion (FWI) Code. This work is being done with MCSD division of GSI, Mangalore and is currently in progress.

61.03.18 Issue-20 (Suggestion: WIHG):

Geophysical Component under the NGPM program

Title: Gravity-Magnetic and DGPS survey for the investigation of basement structures and lineaments along selected corridors in the Foreland and adjoining Sub and Lesser Himalayan regions of Kumaun and Eastern Garhwal.

GSI responded that the work can be taken up after signing of the MoU with WIHG. GSI also informed that a meeting was held between GSI & WIHG on 23.02.2022 at Dehradun. The survey locations were intimated by WIHG. The matter is under progress.

(Action: GSI & WIHG)

Geological dating

WIHG-GSI Collaborative Research on Application of Luminescence as thermos-chronometer in understanding the rock exhumation in Garhwal Himalaya. GSI responded that as per the e-mail received from Dr. Anil Kumar, Sci-D, WIHG on 16.03.2022, it is informed that a detailed proposal will be submitted to GSI soon.

(Action: GSI & WIHG)

61.03.19 Issue-22 (Suggestion: GSI):

- 1. The Geotechnical Investigations are being taken up on request basis in GSI as sponsored project.
- 2. In case of Engineering Geology and Landslide studies, GSI needs to be declared as nodal agency for Geotechnical Investigations.
- GSI responded that they have a good team of engineering geologists and geotechnologists. GSI requested for the submission of proposals from the Central Government Ministries/organizations/agencies/ PSUs etc. for getting geotechnical investigations done by GSI for their civil engineering projects.
- 3. GSI can take up studies on generating a spatial database on Geotechnical and Geohazard themes based on systematic survey (baseline data).

GSI responded that they are planning to generate basic geotechnical data in future, and is pondering on the modalities of basic geotechnical data collection.

Agenda Items received from Stakeholders were placed before the House for discussion by Shri Asit Saha, Dy. DG, PSS (P&M)

61.04.01 Issue-1:

- 1. As per the proposed field programme of GSI, SU: Assam, the exploration of limestone will be carried out at Saijilangsho, Dima- Hassao dist. If GSI carry out the exploration works up to G3 level, the Directorate can be able to auction the area.
- 2. As GSI Training Institute provides training as Orientation Course for newly recruited geologist, geophysicist, chemist etc. Therefore if GSI allows the 2-3 officers of DGM, Assam to participate in the orientation course of different modules in the training Calendar of 2022-23, then the Directorate will be highly benefited.

(Suggestion: DGM, Assam)

Issue already discussed under para no. 61.03.04

61.04.02 Issue-2:

As per the provisions of MMDR - Amendment Act-2021 allocation of mines for major minerals will be done by way of auction only.

Government of India has also framed rules with regards to mine allocation through auction. As per these rules before putting any area for auction existence of mineral resources are required to be established as per UNFC norms and provisions under Minerals (Evidence of Mineral contents) Rules-2021. In view of this, Directorate has proposed following exploration programme for ensuing field season 2021-22.

1) General Exploration scheme for locating Limestone in Dhunki-Lakhmapur Karva area, Tah. Korpana, Dist. Chandrapur (T.S. No. 56M/1) (G2 stage):- **Objective:** - To Prove existence of Limestone in Dhunki – Lakhmapur Karva area, Tah. Korpana, Dist. Chandrapur as per MEMC Rules 2021.

Location: - The area is bounded by Latitude 19°45′12″N to 19°46′61.″N and Longitude 79°11′41.8″E to 79°12′31.4″E and located in Survey of India Toposheet no. 56 M/1.

2) Reconnaissance Survey scheme for locating Limestone in Lingandoh area, Tah. Jiwati, Dist. Chandrapur (T.S. No. 56M/02) G4 stage:-

Objective: - To Prove existence of Limestone in Lingandoh area, Tah. Jiwati, Dist. Chandrapur as per MEMC Rules 2021.

Location: - The area is bounded by Latitude 19°62′11″N to 19°63′55″N and Longitude 79°13′16″E to 79°15′19″E and located in Survey of India Toposheet no. 56 M/02.

3) Preliminary Exploration scheme for locating Limestone in Borgaon-Khairgaon-Erai area, Tah. Korpana, Dist. Chandrapur (T.S. No. 56M/01) G3 stage:-

Objective: - To Prove existence of Limestone in Borgaon-Khairgaon-Erai area, Tah. Korpana, Dist. Chandrapur as per MEMC Rules 2021.

Location: - The area is bounded by Latitude 19°49′52.65″N to 19°51′41.08″N and Longitude 79°08′40.36″E to 79°10′04.27″E and located in Survey of India Toposheet no. 56 M/01.

4) Preliminary Exploration scheme for locating Limestone in Kolgaon-Wegaon block area, Tah. Wani, Dist. Yavatmal (T.S. No. 55L/16) G3 stage:-

Objective: - To Prove existence of Limestone Kolgaon-Wegaon area, Tah. Wani, Dist. Yavatmal as per MEMC Rules 2021.

Location: - The area is bounded by Latitude $20^{\circ}03'52.00''N$ to $20^{\circ}04'50.00''N$ and Longitude $78^{\circ}50'40.00''E$ to $78^{\circ}51'25.00''E$ and located in Survey of India Toposheet no. 55 L/16.

5) Preliminary Exploration scheme for locating Limestone in Murti area, Tah. Wani, Dist. Yavatmal (T.S. No. 56M/1) (G3 stage):-

Objective: - To Prove existence of Limestone in Murti area, Tah. Wani, Dist. Yavatmal as per MEMC Rules 2021.

Location: - The area is bounded by Latitude 19°49′15.67″N to 19°49′48.82″N and Longitude 79°02′11.84″E to 79°03′12.72″E and located in Survey of India Toposheet no. 56 M/1.

6) Reconnaissance Survey scheme for delineating Iron ore deposits in Kharra and adjoining area in Gondia Tahsil, district Gondia. (T. S. No. 64C/03) G4 stage:-

Objective: - To Explore Iron ore deposits in Kharra and adjoining area in Gondia Tahsil, district Gondia as per MEMC Rules 2021.

Location: - The area is bounded by Latitude 21°31′11.99″N to 21°27′36.28″N and Longitude 80°02′50.06″E to 80°06′3.24″E and located in Survey of India Toposheet no. 64C/03.

7) Reconnaissance Survey scheme for delineating Kyanite-Sillimanite deposits in Zari area in Lakhandur Tahsil, Bhandara district. (T. S. No.55P/13) G4 stage

Objective: - To Prove existence of Kyanite-Sillimanite deposits in Zari area in Lakhandur Tahsil, Bhandara district as per MEMC Rules 2021.

Location: - The area is bounded by Latitude 21°51′57.16″N to 20°47′33.98″N and Longitude 79°53′47.50″E to 79°55′45.14″E and located in Survey of India Toposheet no. 55 P/13.

8) Reconnaissance Survey cum Preliminary exploration scheme to delineate Manganese deposits in Tangla-Salai-Ghoti Chichda area in Ramtek Tahsil, Nagpur district. (T. S. No. 550/6 and 550/7) G4/G3 stage

Objective: - To Explore Manganese in Tangla-Salai-Ghoti-Chichda area in Ramtek Tahsil, Nagpur district as per MEMC Rules 2021.

Location: - The area is bounded by Latitude 21°29′55.2″N to 21°32′21.05″N and Longitude 79°22′51.78″E to 79°26′27.75″E and located in Survey of India Toposheet no. 55O/6 and 55O/7.

9) Reconnaissance Survey cum Preliminary exploration for locating Limestone in Dol-Dongargaon block area, Tah. Wani, Dist. Yavatmal (T.S. No. 55L/16) (G4/G3 stage):-

Objective: - To Prove existence of Limestone deposits in Dol-Dongargaon area, Tah. Wani, Yavatmal district as per MEMC Rules 2021.

Location: - The area is bounded by Latitude $20^\circ07'28.13''N$ to $20^\circ10'3.87''N$ and Longitude $78^\circ52'27.31''E$ to $78^\circ54'43.62''E$ and located in Survey of India Toposheet no. 55 L/16.

10) Reconnaissance Survey for delineating Bauxite/ Al- Laterite in Yelwan-Jugai area in Shahuwadi Tahsil, Kolhapur district. (T. S. No.47H/13) G4 stage

Objective: - To Explore Bauxite in Yelwan-Jugai area in Shahuwadi Tahsil of Kolhapur district as per MEMC Rules 2021.

Location: - The area is bounded by Latitude $16^{\circ}50'00''N$ to $16^{\circ}52'00''N$ and Longitude $73^{\circ}51'00''E$ to $73^{\circ}54'30''E$ and located in Survey of India Toposheet no. 47 H/13.

11) Preliminary exploration & General exploration for delineating Bauxite/ Al- Laterite deposits in Gothane area in Rajapur Tahsil, Ratnagiri district. (T. S. No.47H/10) G3/G2 stage

Objective: - To Explore Bauxite in Gothane area of Ratnagiri Tahsil & district as per MEMC Rules 2021.

Location: - The area is bounded by Latitude 16°39′55″ N to 16°40′49″N and Longitude 73°33′36″E to 73°34′15″ E and located in Survey of India Toposheet no. 47H/10.

12) Reconnaissance Survey & Preliminary exploration for delineating Bauxite/ Al- Laterite in Ambiwali and Kante area in Mandangad Tahsil,

Ratnagiri district. (T. S. No.47G/1) G4 & G3 stage

Objective: -To Explore Bauxite in Ambiwali and Kante area in Mandangad Tahsil of Ratnagiri district as per MEMC Rules 2021.

Location: - The area is bounded by Latitude 17°56′46.11″N to 17°58′40.62″N and Longitude 73°4′16.96″E to 73°5′61.50″E and located in Survey of India Toposheet no. 47G/1.

13) Preliminary exploration for delineating Bauxite/ Al- Laterite deposits in Kudopi area in Malvan Tahsil, Sindhudurg district. (T. S. No.47H/11, 47 H/12) G3 stage

Objective: - To Explore Bauxite in Kudopi area in Malvan Tahsil of Sindhudurg district as per MEMC Rules 2021.

Location: - The area is bounded by Latitude 16°13′00″N to 16°15′30″N and Longitude 73°31′44″E to 73°33′00″E and located in Survey of India Toposheet no. 47H/11, 47H/12.

CONSTRUCTION MINERALS: -

14) Reconnaissance survey scheme to delineate the areas suitable for extraction of construction minerals and to locate other minerals of economic importance in Tah. Erandol and Dharangaon Dist. Jalgaon. (T. S. No. 46P/5)

Objective: To delineate suitable areas for extraction of construction minerals in villages Savde, Ringangaon, Kharchi, Pimpalkothe, Kadholi in Erandol Tahsil and villages Bambhori, Borgaon in Dharangaon Tahsil District Jalgaon district to locate the minerals of economic importance associated with Deccan trap and to demarcate the contacts between different lithounits.

Location: - The area is bounded by Latitude 20°55′00″N to 21°00′00″N and Longitude 75°15′00″E to 75°30′00″E and located in Survey of India Toposheet no. 46P/5.

(Suggestion: DGM, Maharashtra)

GSI has taken note of it in order to avoid the duplication of the work and GSI is not taking project in the areas proposed by DGM Maharashtra.

Item no. 2 (c)

PROPOSED FIELD PROGRAMME FOR FIELD SEASON 2021-22 DIRECTORATE OF GEOLOGY AND MINING, GOVERNMENT OF MAHARASHTRA, NAGPUR IN COLLABORATION WITH GEOLOGICAL SURVEY OF INDIA

1) Preliminary Exploration for locating Bauxite/Aluminous Laterite in Kudopi area, Tah. Malvan, Dist. Sindhudurg (T.S. No. 47H/11 & 47H/12), G3 stage:-

Objective:- To Prove existence of Bauxite/Aluminous laterite in Kudopi area, Tah. Malvan, Dist. Sindhudurg as per MEMC Rules 2021.

Location:- The area is bounded by Latitude 16°13′42″N to 16°15′30″N and Longitude 73°30′00″E to 73°31′44″E and located in Survey of India Toposheet no.47 H/11 & 47 H/12.

2) Preliminary Exploration for locating Copper and associated mineralization in Lawari area, Tah. Chimur, Dist. Chandrapur (T.S. No. 55P/I1), G3 stage:-

Objective:- To Prove existence of Copper and Associated Minerals in Lawari area, Tah. Chimur, Dist. Chandrapur as per MEMC Rules 2021.

Location:- The area is bounded by Latitude 20°29′02.07″N to 20°29′31.57″N and Longitude 79°30′57.43″E to 79°31′36.66″E and located in Survey of India Toposheet no. 55P/11.

(Suggestion: DGM, Maharashtra)

DDG, PSS-P&M appraised the house that GSI has taken up Preliminary Exploration for locating Bauxite/Aluminous Laterite in Kudopi area, Tah. Malvan, Dist. Sindhudurg (T.S. No. 47H/11 & 47H/12) and the work is in progress. Regarding Preliminary Exploration for locating Copper and associated mineralization in Lawari area, Tah. Chimur, Dist. Chandrapur (T.S. No. 55P/I1) GSI is yet to receive any proposal/ MoU draft from DGM.

(Action: DGM, Maharashtra)

61.04.03 Issue-3:

1. In the SGPB meeting, it was discussed that the resource for Potash and Halite will be calculated and report will be handed over to the State Government Punjab. It is submitted that additional bore holes should be drilled for delineation of Potash, Halite in Evaporite basins in the State of Punjab, with the request that the drilling and deep exploration may be carried on fast track basis. This will enhance the economic and mineral potential of the State of Punjab.

(Suggestion: DMG, Punjab)

GSI informed that as requested a regional level exploration programme for potash is-being taken up in Field Season 2022-23.

(Action: GSI)

2. Further, as deliberated in the SGPB meeting regarding the fluoride contamination, a project may be taken up in this regard also.

(Suggestion: DMG, Punjab)

GSI informed that, presently a project entitled "Geo-environmental appraisal of Uranium, Arsenic and Selenium contamination in the surface/sub-surface water of Ramtirath Jagga, Talwandi, and Suratiya and adjoining areas of Toposheet No 44O/1 of Punjab and Haryana" has been taken up for two years during FS- 2020-21 and 2021-22 from SU: P, H & HP, Chandigarh.

In this project, fluoride values have also been analyzed. High values of Fluoride up to 8.6ppm is observed in the groundwater of the area (permissible limit 1.5 ppm as per WHO. It is observed that the shallow aquifer of 7-30m is most contaminated for Uranium, Selenium and Fluoride. The report of this project will be handed over to DGM Punjab as and when it is circulated.

(Action: GSI)

61.04.04 Issue-4:

Requesting the Ministry of Mines, Govt. of India to grant NMET fund to DGMR, Mizoram for conducting Survey of Sand and Other minor minerals Deposits (DSR & EMP) in Mizoram.

"In order to prepare District Survey Reports (DSRs) and preparation of EMP for sand and Other minor mineral deposits in eleven (11) Districts of Mizoram as mandated by NGT for Environmental Clearances to be funded by Ministry of Mines through NMET Funding due to fund constrains in the State (as resolved in the para 26.04.02 of 26th SGPB Meeting 2021)".

(Suggestion: DGMR, Mizoram)

NMET responded that NMET funds may be utilized for exploration of major minerals as per schedule.

Further Ministry of Mines responded that Notified Exploration Agency (NEA) may submit mineral exploration proposals to NMET for consideration of funding. The proposal will be examined and decision can be taken thereof.

(Action: DGMR, Mizoram)

61.04.05 Issue-5:

CWC is involved in the Survey & Investigation and DPR preparation works of water resources projects for which Geo-Technical investigations are being done in consultation to concerned GSI Office. Currently, process for taking up the work for Survey & Investigation and DPR preparation for two water resources projects namely Pachnad Barrage Project, Uttar Pradesh and Subarnarekha-Mahanadi Interlinking Project is underway and MoU for the aforesaid projects will be signed very soon. Brief details of the projects are as below:-

> Pachnad Barrage Project

The Irrigation & Water Resources Department, Govt. of Uttar Pradesh has planned to construct a gated barrage across Yamuna River at Pachnad which is about 30 km south-east of Auraiya in Uttar Pradesh. The barrage is comprised of two under sluices towards both banks and a weir in middle portion of the river. Each under sluice has three bays of 18 m clear waterway separated by two 2.5 m thick piers, while weir portion has 35 bays of 18 m clear waterway separated by 34 numbers of 2.5 m thick piers. The abutment to abutment length of the barrage is 843.50 m, and a fish ladder is also provided for free movement of the fish. The crest level of the under sluice and weir portions are fixed at 99.0 m and 101.0 m, respectively. Pond level is fixed at 109.0 m Level. A 65 m long horizontal stilling basin at level 97.0 m for under sluice and 98.0 m for barrage with an end sill of 1.8 m height in a slope of 2H:1Y is proposed for dissipation of the energy.

> Subarnarekha-Mahanadi Link Project

Subarnarekha-Mahanadi (S-M) Link Project is one of the many inter-linking rivers projects under the Himalayan Rivers Development Component of National Perspective Plan (NPP). The link project is proposed to off take from proposed Subarnarekha Barrage at Chorchaita village in Medinipur district of West Bengal across river Subarnarekha. The link canal envisages diversion of 17,900 MCM of

Brahmaputra water received through Manas-Sankosh-Teesta-Ganga link and Ganga(Farakka)-Damodar-Subarnarekha linkage system at proposed Subarnarekha Barrage through 376.9 km long link canal before joining the proposed Mahanadi (Barmul)-Godavari link of Peninsular Component at RD 60 km. The link project is anticipated to provide an annual irrigation of 2,15,500 Ha in the Culturable Command Area (CCA) of 1,63,424 ha. Totalen-route water utilization of this link is 7, 113 MCM. The balance water of 10,787 MCM will be transferred through proposed Mahanadi-Godavari link.

The work for Survey & Investigation and DPR preparation of above-mentioned projects is likely to be started in January-2022. Therefore, it is requested that work of Geotechnical investigations for above mentioned projects may be included in agenda items of 61st CGPB meeting.

Exact quantum of work shall be intimated once MoU is finalized.

(Suggestion: CWC)

Welcoming the suggestions GSI informed that geotechnical investigations may be taken up on receipt of request from the sponsoring authority following the already established modalities of MoU.

61.04.06 Issue-6:

An Alarming Stagnation in Mineral Exploration under the Private Sector is holding up hopes of achieving AatmaNirbhar Bharat in non-bulk Critical/Strategic Minerals & Metals.

India is endowed with abundant Mineral Resources of both Bulk-minerals (Iron ore, Manganese ore, Bauxite, Chromite, Titaniferous-magnetite, Limestone and Coal) and, non-bulk minerals and metals such as Copper, Lead, Zinc, Cobalt, Gold, Molybdenum, Tungsten, Rare Earth Elements and Rare Metals, Potassium and a few other minerals. But the irony is that the country is spending huge amount of money in importing the non-bulk, so called deep-seated minerals and metals. Considering the current scenario, the Honourable Prime Minister of India has given a call to make India AatmaNirbhar in import-dependent minerals and metals.

Despite the fact that India has the drill proven Resources of the said import-dependent minerals and metals and India's geological potential supports new discoveries of these minerals, there has been no effort at converting the existing drilled Mineral Resources into mineable Mineral Reserves and Reserves into new mines in the country. India continues to remain underexplored. The expenditure on exploration (mainly by the Union Government) has been dismal. Exploration under the private sector has come to a standstill. FDI into mineral exploration has completely dried up. The current serious stagnation in mineral exploration and non-conversion of existing non-bulk Mineral Resources and Reserves into new mines could be traced to the extant MMDR Act-2015. The Act with its innumerable amendments till March 2021 has not been helpful in triggering large scale exploration in the country mainly because of the Auction-mode of granting mineral concessions (CL & ML). On the one hand, the Act is non-facilitatory for investment by the domestic exploration companies and, on the other hand the Act has resulted in flight of Indian private capital to overseas mineral-friendly destinations.

Further, the Glasgow Climate Pact 2021, recognizes that the limiting global warming to 1.5°C requires rapid, deep and sustained reductions in global

greenhouse gas emissions, including reducing global CO₂ emissions by 45% by 2030 relative to the 2010 level and to net zero around mid-century. To honour the Glasgow Pact for the global good, India has to drastically reduce the fossil fuel consumption (Coal and Oil) and quickly focus on exploration and mining of non-conventional energy-storage minerals for manufacturing EVs and to harness solar and wind energy on large scale.

To achieve these goals, India has got no other option but to encourage the private enterprises by doing away with the failed Auction-mode of granting mineral concessions and adopt a combination of FCFS and PPP (PSU-Private-Partnership) mode of granting both CL and ML.

(Suggestion: Geological Society of India)

Additional Secretary, MoM clarified that as per the Minerals (Evidence of Mineral Contents) Rules, 2015, the grant of a mining lease for potential block can only be achieved through a mandatory auction process.

AS, MoM urged private sector agencies to come forward to take active participation in auction processes.

61.04.07 Issue-7:

 Mineral Exploration for Diamond Exploration in Gumla and Simdega District.

A. Background Information: -

Diamond Mineralization is reported in Gumla and Simdega district of Jharkhand. As per Report published in Mineral year Book of IBM G4 stage investigation to locate Kimberlite lamproite bodies was taken up in parts of Simdega district. Reconnaissance mapping of an area of 700 sq km has been completed and 150 stream sediment samples were collected from suitable trap sites. Regional samples were collected from 4th and 5th order streams and detailed samples from 2nd and 3rd order streams. The samples were processed to get heavy mineral concentrate in two fractions, coarser between - 1.25 to 0.5mm and finer between -0.5 to 0.17mm. Total 10 nos. of the heavy mineral concentrates were scanned and minerals which are suspected to be derived from the mantle were separated for further analysis. A total of 25 nos. of PS and 20 nos. of PCS were collected for studies. The investigation has carried out in FS 2014-15.

B. In 59th CGPB meeting Directorate of Geology proposed Mineral Exploration of Diamond in Simdega district on the basis of Geological Report available with GSI through expert organization like NMDC. NMDC denied to take up this work.

Department of Mines & Geology Proposes Diamond exploration in Gumla & Simdega District through NMET Fund. This work can be taken by MECL.

(Suggestion: DMG, Jharkhand)

Issue already discussed under para no. 61.03.09

2. Proposal of precious & semi-precious Mineral and REE under NMET funding.

Geological survey of India has been engaged in many Geological exploration projects of precious & semi-precious minerals and REE in the State of Jharkhand. DMG, Jharkhand request to provide potential Blocks for G2/G3 level of exploration so that new proposals of geological exploration can be taken by MECL and CMPDIL in the State under NMET funding to prepare minerals Blocks for Auction.

(Suggestion: DMG, Jharkhand)

It is informed that in 2021, GSI has already handed over six (6) geological memoranda (GM) to DMG, Jharkhand for commodities viz., Gold & associated minerals, phosphorite and Basemetal for auctioning of CL and four (4) more GMs for commodities viz., Copper & Gold, Iron and Manganese will be handed over in the today's meeting.

Appreciating GSI for handing over of the reports to State Government, Additional Secretary, MoM requested State Governments to auction the G4 reports of Basemetals and REE available with them at the reasonable reserve price to attract the bidder.

He also advised that in case the bidder is not available then DGMs can further request for upgradation of those reports to G3 or G2 stage exploration by GSI or other agencies.

(Action: All State DGMs/DMGs)

61.04.08 Issue-8:

Exemption of Forest Clearance for G4 level Exploration and simplified process for G3 & G2 level of exploration activities in the forest areas.

(Suggestion: DMG, Karnataka)

Director Tech MoM informed the house that some major issues faced by the various exploration agencies have been listed out and will be taken up with the MoEFCC. One such issue of pitting and trenching is also under consideration and MoEFCC will be emphasized to make necessary changes in the Survey and Investigation guidelines of MoEFCC so that pitting and trenching is allowed in mineral exploration.

AS (Mines) emphasized state DGM/DMG to have close interaction/frequent meetings with state PCCF, Principal Secretary / Chief Secretary to sort out the forest clearance and EC.

MoEFCC conveyed that the ministry is in the process of amending the forest conservation acts and rules and shall consider the exemption of activities that does not involve felling of trees.

(Action: MoM, MoEFCC, State DGMs)

61.04.09 Issue-9:

NMDC has established facilities like Gerrytz Jig Plant (for processing of stream sediment samples for the recovery of Kimberlite Indicator Minerals), 1TPH Dense Media Separation Plant (Bateman Make-South Africa) and microscopic lab facility for Diamond exploration. This is a unique facility established by NMDC in Central Indian Diamond Province (CIDP). Since five decades no diamond mine is added in the Country (before and after MMDR Amendment Act, 2015), it is proposed that NMDC may be considered as Nodal Diamond Mining Agency in the Country. NMDC is a Public Sector

Company which is into diamond exploration, mining and sales for over 50 years.

(Suggestion: NMDC Limited)

Additional Secretary, MoM clarified that no agency can be declared as nodal agency for any particular mineral commodity.

61.04.10 Issue-10:

For carrying out suitable geophysical survey by GSI in unexplored Tertiary sediments area and as per GSI's response given in the agenda notes for 60th CGPB meeting, GSI may cover initially 10,500 sq. km in Tamil Nadu under NGPM. Based on the outcome, potential area if any may be taken up through scout drilling to plan for future regional exploration for lignite.

(Suggestion: NLC India Limited)

GSI informed that as many as 14 toposheets (10750 sq. km.) would cover the proposed 10500 sq. km area of lignite exploration in Tamil Nadu. GSI has already carried out NGPM in about 3100 sq km under 4 toposheets (Nos. 58K/1, K/2, K/3, K/5), and remaining 7650 sq km (appx.) of 10 toposheets would be covered by Phase-1 outsourcing of G-M survey through NMET fund. Acquired data can be shared in accordance with the Data Sharing and Accessibility Policy (DSAP) of GSI and Geospatial policy 2021.

61.04.11 Issue-11:

- 1. For Geological Investigations of Drass Suru Project in UT of Ladakh, under IBO, CWC, Chandigarh, three to four field visits of GSI would be required.
- 2. GSI assistance is required for the Geological Investigations of four new projects namely 1) Buroi Medium Irrigation Project, Assam 2) Burisuti Medium Irrigation Project, Assam 3) Medium Irrigation Project in Mebo Area, Arunachal Pradesh 4) Medium Irrigation Project in Kaya Valley Area, Arunachal Pradesh, under BBO, CWC, Guwahati for providing the geological inputs towards preparation of DPR. In this regard, field work pertaining to the mentioned 04 projects is most likely to commence during first quarter of calendar year 2022.
- 3. For the work of Survey & Investigation and Preparation of DPR of Pachnad Barrage Project, Auraiya, Uttar Pradesh and Subarnarekha-Mahanadi Link Project under YBO, CWC, New Delhi, which is most likely to be started in January-2022, involvement of GSI is required for the work of Geotechnical Investigations.

(Suggestion: RMCD, CWC)

Welcoming the suggestions GSI informed that geotechnical investigations may be taken up on receipt of request from the sponsoring authority following the already established modalities of MoU.

(Action: GSI)

61.04.12 Issue-12:

1. Tamil Nadu: We had in the past represented the need for carrying out exploration over limestone in the State of Tamil Nadu and along the coastal regions of the eastern states especially Odisha and Andhra Pradesh. Geological Survey of India (GSI) had carried out exploration over 8 limestone

deposits in Tamil Nadu in the past 15 years. Two of these deposits are in Ariyalur, four in Cuddalore and two in the districts of Tiruchirappalli and Karaur respectively. Barring the two blocks of Ariyalur, the resource number is not available for the rest of the explored blocks. However, neither of the explored blocks have been brought under auction so far. The State Government is presently under the process of selecting a Transaction Advisor for the auction process. The actual process of auction is still some time away. Even after auction, it will take somewhere between 4 to 6 years to obtain all statutory clearances and the blocks to become operational. Once these two explored blocks of Ariyalur are auctioned, no further blocks would be available for auction. The availability of limestone is scarce for some of the operating plants in Tamil Nadu who are forced to buy expensive High-Grade Limestone from outside the country thus leading to revenue losses to the industry as well as to the Government. As was the practice in the State of Tamil Nadu where mineral bearing lands were purchased earlier, and mineral concessions (PL or ML) granted to companies by State Government only on the areas where surface rights were held by these companies.

However, grant of mineral concessions was stopped by State Government on these lands with the amendment in MMDR in the year 2015. Individual cement companies have purchased sizable blocks of possible mineral bearing land which has not been explored either by the companies (as no mineral concession was granted) or by the State Government. Data on land holdings by individual cement companies have been provided to the State Government of Tamil Nadu to facilitate formation of individual blocks for exploration and subsequent auction. With no auction having taken place ever since the auction regime kicked in and with rapid depletion of existing limestone reserves, there is an urgent need for the new blocks to be brought under exploration in the state of Tamil Nadu. There is ample scope of exploration within the District of Ariyalur which has the maximum number of operating cement plants and a large limestone deposit which mostly remains unexplored other than the areas granted to companies previously.

Issue already discussed under para no. 61.03.14

2. Odisha and Andhra Pradesh: While several limestone deposits have been reported within the States of Odisha and Andhra Pradesh which are inland and many of the areas have been granted under mineral concession to various companies there is a need to identify blocks lying along the coastal tracts of these states. The thrust on coastal locations is to facilitate export of limestone/ clinker through sea route to the states of West Bengal in the north which does not have any known deposit of limestone so far and to Tamil Nadu in the south which is facing limestone deficit. Given the market dynamics presently, these states are witnessing rapid growth in consumption of cement and the trend is likely to continue in foreseeable future hence the need to explore coast-based limestone deposits.

(Suggestion: FIMI)

GSI conveyed that at present GSI's thrust is on exploration of Strategic, Critical and Fertilizer minerals, etc. On receipt of specific request, GSI may take up limestone investigations in the coastal tract of Andhra Pradesh and Odisha after evaluation of the technical merit and feasibility.

Additional secretary, MoM requested the state DGM to prepare project proposal with the resources available with them and submit it to the NMET for further exploration.

Director Tech., MoM added that the proposal for exploration of Limestone can be submitted to NMET through MECL.

(Action: State DGMs)

61.04.13 Issue-13:

1. Modernization & upgradation of Mineral Processing facilities of IBM.

With the continuous depletion in the quality & grade of resources of mineral commodities, the thrust on beneficiability of the ore & minerals will increase. IBM is the only central govt. organization in the country having facilities to test and beneficiate all types of mineral and ores. As mandated by the government, IBM carries out beneficiation studies of samples submitted by GSI free of charge. Further, IBM also takes up beneficiation studies of various minerals, ores, subgrade samples received from various organizations on chargeable basis. IBM has its three Mineral Processing plant at Nagpur, Bangalore and Ajmer to conduct such studies. However, due to ageing of equipment, there is an urgent need for modernization & upgradation of Mineral Processing facilities of IBM.

2. Examination of available freehold areas.

IBM maintains the National Mineral Inventory (NMI) for the freehold & leasehold areas. It is observed that there are many freehold areas with resources. These deposits may be further examined by GSI for ascertaining their suitability for auction or for further exploration to make them auctionable. In this connection IBM has already shared the data for Lead-Zinc, Bauxite, Copper and Gold vide email dated 26.11.2021. Further data on other minerals will be shared depending on the success of these data already shared.

(Suggestion: IBM)

It was informed that GSI is examining the data regarding scope for further exploration in these area/blocks. If any favorable areas/blocks are identified in the free hold areas, it can be taken up for next stage of exploration in the subsequent FSPs.

(Action: GSI)

61.04.14 Issue-14:

1. Detailed and Regional Exploration of Coal: Ministry of Coal, Gol has approved the proposal for detailed exploration of West & East Namchik-Namphuk Coalfield of Changlang district and regional exploration of Naitong-Bogapani and Thalat area in Tirap district and Khumdu and Khachang area in Changlang District, A.P. Subsequently, the MoU has already signed on 25th February 2021 in between the State DGM and CMPDIL, GoI, for the development of various minerals and technical guidance for the exploration of minerals blocks. State DGM officers have also taken necessary training from CMPDIL. Tender process in respect of detailed investigation of coal is under pipeline. In this regards, State Government is requested to CMPDIL to expedite

the necessary support for the finalization of tender process in respect of Regional Exploration of Coal.

Already discussed under para no. 61.03.07

2. It is requested to GSI, IBM AND CMPDIL to provide necessary training for the officers of the Department of Geology and Mining in the following subjects:-

SI.	Name of the course/training	Level of officers
No.		
1	Advance course in geological	Geologist / Assistant Mineral
	mapping	Development Officer
2	A capsule course in exploration in	Geologist / Assistant Mineral
	minor minerals	Development Officer
3	Refresher course in map digitization	Surveyor / Draughtsman
	for draughtsman	
4	Course in application of remote	Geologist / Technical Assistant
	sensing and GIS for mineral	
	exploration	
5	Refresher course in surveying using	Surveyor / Draughtsman /
	Total Station and GPS and data	Mineral Guards
	processing	
6	Course in application of Geo-	All departmental officers
	informatics in Disaster Management	
7	Advance course in drilling rig	Technical Assistant (Mining) /
	operation	(Geology)

Already discussed under para no. 61.03.07

 Preliminary exploration of coal in and around Namgoi area, under Nampong Circle of Changlang District and Wakka area, Under Wakka Circle of Longding District.

Tertiary coal has been reported in and around Namgoi area in Nampong Circle, Changlang District. Similarly, Coal occurrence is also reported in Wakka area, under Wakka Circle of Longding District of Arunachal Pradesh.

It is therefore requested for Preliminary Exploration of coal of the aforesaid areas to ascertain the presence of coal reserve for an area of 10 sq. km each in two districts in collaboration with the CMPDI and State DGM.

(Suggestion: DGM, Arunachal Pradesh)

Arunachal Pradesh is requested to send proposals to CMPDI for technical vetting and approval from CGPB Com-V. The project will be funded through Central Sector Scheme of MoC.

(Action: DGM, Arunachal Pradesh)

61.04.15 Issue-15:

1. Out of the existing four (04) no. of Apatite/Phosphate deposits, namely, Purdaha, Chirugora, Medinitanr and Kutni, all situated in Purulia district, W.B., explored by GSI in G-3 Level equivalent more than three decades back. GSI,

ER, is therefore requested to update their Mineral database (from G3 to G2 Level as a follow up action of 46th SGPAB (Item No. 46.05.01) as well as 49th SGPAB Agenda Item from the end of D.M.M. W.B.) as a part of their Annual Field Session Programme: 2022-2023 to identify and ascertain the most prosperous Apatite resource, considering the UNFC Three Axes parameters, among the aforesaid Four (04) Apatite deposits in Purulia district, WB, as deemed fit by them.

(Suggestion: DMM, West Bengal)

Additional Secretary, MoM requested DMM, West Bengal to have a meeting of reconstituted Joint Working Group (JWG) for resizing of the blocks put up for auctions. He also requested all DGM to keep in touch with their respective GSI SU DDGs to resolve any other issues pertaining to G4 reports handed over to them.

(Action: All DGMs /DMG's)

2.GSI, ER is also requested to extend their Laboratory facilities for Major Oxide Analysis at free of cost to the state of West Bengal for the purpose of establishing the River Bed Dolomite resources present in Alipurduar district of West Bengal. In this context, the District Survey Report of Alipurduar district is requested to be analyzed by GSI regarding the matter of potential prospective River Bed Dolomite deposits and suggest for upgradation and modifications required if any.

(Suggestion: DMM, West Bengal)

GSI stated that all the chemical laboratories of GSI are overburdened with the samples generated through GSI field projects. However, if specific request is received, analysis can be done on cost basis following the GSI SoC post completion of analyses of GSI's own samples.

3. It is also a request to CGPB to prepare the guidelines & procedure for Base Price Fixation and Parameters involved therein for Exploration Reports of Minerals in G-4 Level, where no Mineral Reserve details are available (for example: Rudra Gold Project Report in districts of Bankura and Purulia, as submitted by GSI, ER), in connection to the Auction Procedure for Composite License for those areas, as amended in March and June of 2021 in the MMDR Act.

(Suggestion: DMM, West Bengal)

Additional Secretary MoM, expressed that the base price can be fixed by the state Government considering the various factors involved in the auctioning of block.

(Action: DMM, West Bengal)

61.04.16 Issue 16:

1. Directorate of Geology had undertaken an investigation for subgrade chromite and nickel ore stacked in the old abandoned stabilized dumps within the Talangi chromite mines of M/s IDCOL in Sukinda Ultramafic Complex during F.S. 2016-17 which spread over an area of 0.6 Ha. During the investigation programme, 60 channel samples from seven channels, 110 trench / pits samples were collected and analyzed. It has been observed that out of 170 numbers of total samples about 24% of samples have been

analyzed in which Cr_2O_3 value ranging from 10.23% to 20.94%. Out of the 110 pit samples, 30 samples indicated Ni values ranging from 0.52% to 0.86% and Co values ranging from 20 to 260 ppm. The height of the dumps varies from 5 to 11m and are partially stabilized. As mining of chromite ore in the Sukinda Chromite Ultramafic Complex dates back to early nineties and as practice less than 25% Cr_2O_3 ore were considered as mine rejects earlier and are now available in the dumps, so the stacked ores need to be assessed in view of revised threshold values. A good number of old stabilized dumps are available in the ML areas in Sukinda & Baula-Nuasahi Complex, which are believed to host appreciable quantities of Co, Ni & Cr_2O_3 ores.

With the above backdrop, it is suggested to carry out a collaborative assessment programme involving State Directorate of Geology and Geological Survey of India to assess the commodities in a scientific manner by geo-statistical method.

(Suggestion: DG, Odisha)

GSI responded that the details of samples collected from abandoned stabilized dumps, channel samples, pit samples with existing mine plan of the lessee with geological map may be submitted to GSI, SU: Odisha office along with the ML report / report of the lessee of Sukinda-Baula-Nuasahi Complex for assessment of Chromite, Nickel and Cobalt in the old stabilized dumps. After going through the details, one Research Programme may be formulated in Sukinda & Baula-Nuasahi complex involving Officers from Directorate of Geology, Govt. of Odisha and GSI for assessment of the different commodities in the ML area of Sukinda-Baula-Nuasahi Complex.

(Action: DG, Odisha)

2. Exploring agencies like MECL/OMECL/CMPDIL/APMDC etc. have availed funding for many exploration programmes in Odisha from NMET and some of the explorations have been completed while many are at different stages of exploration in various terrains. It is MECL/OMECL/CMPDIL suggested that those exploration programmes need to involve officers of the State Govt. Department so that officers can be exposed to the modern techniques of exploration and simultaneously can contribute their expertise in the field of in-house exploration & capacity building as emphasized in the NMP, 2019.

(Suggestion: DG, Odisha)

NMET responded that the State Govt. officials are free to associate with the concerned NEA during the exploration activities.

CMPDIL informed that Officers of State Government will be involved in future projects implemented by CMPDI in Odisha through NMET funds.

MECL commented that suggestion of DGM Odisha can be considered.

(Action: DG, Odisha, MECL, CMPDIL)

61.04.17 Issue-17

Agenda 1

The Governments is promoting mineral exploration in the country utilizing National Mineral Exploration Trust (NMET) funds. With reference to the NMEP, 2016, the following issues may be addressed

- a) GSI has recently identified 100 blocks (G4) and handed over for Detail exploration. It appears that GSI and MECL are the only agencies carrying out regional exploration work. The NMET empaneled private agencies may be involved in such exploration work since no such block has so far been allotted to any of the private agencies.
- b) Some of the NEAs are carrying out their own empanelment process with new set of conditions which is contrary to the framework evolved by NMET. The concept of "Explorer" and "Exploration Contractor" as formulated by NMET has been ignored and many of the empanelment is basically that of exploration contractors, thereby underplaying the role and the valuable expertise of an Explorer (sensu stricto). The NMET empanelment therefore appears to have become redundant.
- c) The country has a huge potential for discovering new deposits, especially for commodities in which the country is deficient, but in the country except GSI is there no other agency among the NEAs who have proper experience in regional exploration (Virgin to G4, G4 to G3). The Government should plan for identification of new blocks for deficient mineral commodities in future.
- d) GSI, having expertise & logistics may be entrusted to carry out all these detail exploration work with the NMET Fund.
- e) Small/ Start up exploration agencies may also be involved/ encouraged to undertake these detail exploration work with the NMET Fund.
- f) Small & start up Mineral Exploration Agencies are facing Fund Crunch. Is there a provision for funding from the NMET Fund through DGM can be done for acquiring exploration & related Sample Analytical Laboratory Equipments?
- g) Also such small & start up Mineral Exploration Agencies may be involved in the areas of low & lean grade Iron, Manganese, Bauxite etc. for the reconnaissance survey (G4) for resource assessment for the Posterity.
- h) GSI & MGMI may be included in the technical & cost Committee (TCC) of NMET.

Agenda 2

Hiring of Consultants for Monitoring of the Projects

Is hiring of Consultants for Monitoring of the Projects, executing through NMET Funding a mandatory process. Seeing the limited number of approved consultant, their numbers may be increased and the list of recruited/ notified consultant till date may be provided.

It is also suggested to increase the maximum age of such consultants up to 75 years, subject to their physical fitness.

Agenda 3

Exploration of Coking Coal.

Through prognostication & regional exploration GSI and CMPDI has already identified some Blocks mainly in Karanpura area having coking coal occurring well within 300m i.e. in quarriable depth having huge indicated resource. These blocks may be taken up for detail exploration to establish the actual Reserve by GSI with its expertise and vast human resource available.

For posterity regional exploration for coking coal occurring beneath 1200m or below up to 2000m may be assessed along with CBM&/or Shale gas, if any, by deploying deep drilling machines mainly in ECL areas.

Is any reallocation of these mining Blocks & other lease hold is proposed by the Ministry?

Agenda 4

As per NMP-19, Government agencies will continue to perform the tasks assigned to them for survey and exploration, the private sector would be encouraged to take up exploration activities. Government agencies will expend public funds particularly in areas where private sector investments are not forthcoming due to reasons such as high uncertainties. Special attention will be given towards exploration of energy, critical minerals, fertilizer minerals, precious metals and stones, strategic minerals and other deep seated minerals which are otherwise difficult to access and for which the country is mainly dependent on imports. Therefore Exploration shall be incentivized to attract private investments.

Referring to the above policy decision, Is Ministry of Mines depriving the Premier Institute GSI by allowing other Ministry or Undertaking or Private Agencies to venture for exploration in Base Metal, Iron, Manganese etc.?

Agenda 5

GSI may collaborate with similar work of Ministry of Earth Science. It is also proposed that being oldest premier Institute of Earth Science, GSI may be included in Ministry of Earth Science.

Agenda 6

Training for technical Officers of different State DGM

MGMI having Resource Personals, infrastructure & Logistics may be entrusted in Training Programme of MOM on sustainable mining practices & skill development. MGMI has the expertise & resources to arrange such training, if entrusted with NMET Fund. MGMI may kindly be favored with appropriate responsibility.

Agenda 7

The Indian River Inter link is a proposed Large-Scale Geo-Civil Engineering Mega Project, which aims to control effectively Water Resources in India by linking some of the major Rivers by a designed natural gradient controlled network of Reservoirs, canals, tunnels, Hydel Power Projects etc., mainly to enhance Irrigation and Ground water Resources i.e. Recharges to reduce persistent Draught or Flood in some parts or other. To complete the Project planning and implementation huge number of Geoscientists are required.

Therefore, a sincere holistic approach is required to study all these river systems along with their Bank/ terrain Morphometry, slope stability, seepage etc. and to establishing the most favorable natural geomorphic gradient. GSI, having all these expertise & human resources may be involved by the concerned Ministry in this Project & DG, GSI may be asked to open up new Division in each regional Offices.

GSI is willing to participate in such programmes following all necessary modalities.

Agenda 8

GSI's Central Repository

GSI have the largest & rarest collections of fossils (Plants, Vertebrates& Invertebrates including many Type Fossils); Rocks & Minerals along with Meteorites in Asia. GSI should maintain a proper inventory of the Rare Collections in a time bound frame by digitizing the existing inventory and thereby arranging proper preservation, display etc. for providing facilities to the National & International Scholars/ Researchers for carrying out further Research Work.

GSI should open up a GEOARCHAEOLOGY Division under M-IV in collaboration with Archaeological Survey of India to establish the glorious ancient great Indian ancient Civilization and help in Conservation/ preservation of all these Sites.

Agenda 9

Diversification of GSI's Activities as per the time demand/National requirement-GSI should be allowed to open/ given a leading role in the recently constituted International Exploration Agency- like/in KABIL (KhanijBidesh India Limited)/International Wing of GSI should start Geo-exploration work outside India.

Agenda 10

As Geological Mapping is a Dynamic process, therefore, large scale mapping programme has to be undertaken in so called Systematically mapped areas, especially in Himalayan & Deep Sea Areas.

- Fundamental Geoscience:- To fulfill its responsibility towards advancement of Geoscience, GSI should undertake more fundamental researches in Mineralogy, Petrology and Paleontology
- Multidisciplinary Geoscience:- GSI should undertake more sponsored projects in Engineering Geology/ Geotechnical Investigation
- Societal projects:--- GSI should give more emphasizes in studies on Landslides, Earthquakes, Climate Change, Coastal Studies, Glaciology, Desert Geology, Palaeoclimate, Environment, Carbon sequestration studies & Medical Geology
- Special Studies:--- Meteorite & Planetary Science, Experimental Petrology, Deep geology, Geochronology & Isotope Studies, Stratigraphy, Gemology, Polar Studies

Status of the following may be uploaded in GSI portal----

- Geological map prepared on 1:50,000 scale for the entire country is made available on GSI portal "BHUKOSH".
- Initiation of Search for Concealed and Deep-Seated Deposits.

(Suggestion: MGMI)

Detailed response to each of the issues has been listed in the Agenda Note. MGMI has been requested to go through the responses given in the Agenda Note against the issues raised by them and to revert back if felt necessary.

(Action: MGMI)

61.04.18 Issue-18

1. Proposal for reviewing and reviving of the MOU between IIT ISM and GSI in scientific and academic partnership.

(Suggestion: IIT (ISM), Dhanbad)

GSI informed that the MoU is valid for a period of 5 yrs. and will expire in August, 2023. It will be renewed thereafter.

2. Proposal for imparting specialized training in the field of Structural geology and Petrology and its applications in mineral exploration to the officers of GSI and State Geological Departments on outsourced basis.

(Suggestion: IIT (ISM), Dhanbad)

GSI informed that GSITI imparts similar trainings in the field of structural Geology and Petrology and its application in mineral exploration to the officers of GSI and State Geological Departments free of cost.

61.04.19 Issue-19

1. All G-2 Level Exploration Reports/Geological Reports (GR) should contain / include maps/plates showing complete borehole location plan of the prospected/explored block superimposed on cadastral plan (Patwari /Revenue map on I:4,000) of the concerned villages.

(Suggestion: DGM, Chhattisgarh)

GSI informed that, if the georeferenced GIS compatible file of cadastral plan (Patwari /Revenue map on 1:4,000) is provided by the State DGM, maps/plates showing complete borehole location plan of the prospected/explored block superimposed on cadastral plan (Patwari /Revenue map on 1:4,000) of the concerned villages may be incorporated in all G-2 Level Exploration Reports/Geological Reports (GR).

2. All such G-2 Level Explored /Prospected blocks Reports should also be accompanied by a detailed DGPS Survey Report of the entire Explored block with complete land schedule and Khasra list.

The required inputs/ data can be gathered more easily & simultaneously during the exploration work/preparation of report and will help tremendously in expediting of the auction process of concerned mineral block.

(Suggestion: DGM, Chhattisgarh)

GSI informed that in most of the G2 level blocks during exploration DGPS survey is carried out by GSI. G2 level work done prior to MMDR amendment Act 2015 may not contain block boundary defined by DGPS survey. In such cases GSI can provide necessary assistance to State DGM for carrying out DGPS survey.

As State Government is the custodian/record keeping agency for land scheduling and Khasra list, this issue may be dealt by concerned state government authorities.

61.04.20 Issue-20

1. Release of Coal Bed Methane Block area in Ib River Coal field- GSI, erstwhile Coal Wing was associated with coal exploration in Odisha since 1970s and carried out investigation of a number of Blocks in Ib Basins. Potential exploration area for coal is gradually diminishing in Ib Coalfield. It is pertinent to mention here, that lot of coal potential area is reserved as leasehold area for CBM- which is not now under any exploration activity. Since the coal from Ib River valley has very low maturity and less vitrinite reflectance, the coal is not favourable for release of coal bed methane. In this consequence, part of the CBM area may be released for coal exploration to

GSI, which will continue in future and augmentation of the resources in national coal inventory.

(Suggestion: GSI)

GSI informed that MoC has agreed to the proposal. GSI may carry out the regional exploration within CBM released area of IB Valley Coalfield in co-ordination with CMPDI.

2. In the quest of unconventional energy of shale gas, lower Gondwana shale-heterolith litho-assemblages of Jharia Coalfield have been explored by GSI since 2014 through drilling to envisage their potentiality for shale gas generation. In this connection, it may be mentioned here that the first meeting of the Joint Shale Gas Committee comprising Essar, GEECL, ONGC, GSI, CIMFR, CMPDI & DGH; was convened on 19.02.2020 at DGH, Noida. GSI presented the achievements and highlights of the shale gas projects taken up by GSI since 2014 in Jharia Coalfield. It was agreed in the meeting that shale related data generated by GSI will be shared with DGH to facilitate the shale exploration in the country. Accordingly, replying a letter from HOD (AE), DGH to DG, GSI (vide, DGH/SHALE GAS/GSI/MAR/2020 dated 02-03-2020), all the relevant data acquired during the shale gas exploration projects in Jharia Coalfield by GSI were shared with DGH.

After completion of the exploration project for shale gas in FS 2020-2021, another exploration project in G4 stage in the south-central part of Jharia Coalfield is thought to be proposed as a standard FSP of GSI in FS 2022-23. The proposed area falls within the CBM Leasehold area of DGH in Jharia Coalfield, for which consent of DGH for taking up the project is required.

(Suggestion: GSI)

Representative from DGH informed that the proposal has not been received by them. Once it is received the same can be examined.

PLENARY SESSION-II

Placing of Proposals of GSI pertaining to FS 2022-23 by Director General, GSI

- **61.05.01** Director General, GSI presented "Proposals of GSI Pertaining to FS 2022-23" and conveyed the following:
 - 1. GSI has formulated 983 scientific programmes for the year 2022-23, which includes 250 programs under mineral exploration.
 - Thrust has been given on NGCM programmes for completion in priority areas by 2024 (except IGP and Thar Desert) and exploration of strategic-critical and fertilizer minerals.
 - 3. A total of 106 programmes on strategic & critical minerals including 41 programmes on Rare Earth Elements-Rare Metals and 20 programmes on fertilizer minerals and have been proposed for FS 2022-23.
 - 4. Total 32 no. of items have been linked with State request/SGPB/CGPB recommendations.
 - 5. About 100 programs having high socio-economic impact have been proposed under Public Good Geosciences.

16 programs in collaboration with national institutes, organizations, IITs etc.;
 2 sponsored training courses will be taken up with ISRO and 20 sponsored geotechnical projects with State Govt. Departments have been taken in FS 2022-23.

Presentation on "Exploration of Deep Seated Mineral" by Shri. Hemraj Suryavanshi, DDG & NHM-II, GSI

- 61.05.02 Shri Hemraj Suryavanshi, HOD & Dy. DG, GSI, CR presented talk on "GSI's Efforts on Exploration for Concealed & Deep-Seated Mineral Deposits (Since 2016)". The salient points of the presentation are as follows:
 - About 50% of Indian Subcontinent Gives Cover Challenge and Opportunity for High Risk Mineral Exploration.
 - NAGMP taken up by GSI in 2017, to acquire uniform aerogeophysical data mainly magnetic and radiometric survey with 300m line spacing at 80m flight height. Survey over 5 blocks (1, 2, 3, 4 & 11) completed. For remaining blocks work is under progress in order of prioritisation.
 - New initiatives are being taken up for supporting mineral industry and expanding
 mineral search space in the country. This include UNCOVER India Projects in
 three transects, Five Field and In-house Workshops in India with experts of GA,
 Enhancing Discovery Rate in Greenfield Areas under Regional Mineral
 Targeting (RMT) –through Geoscience Integration. A total of Thirteen (13) RMTs
 and Three (03) Transects are under progress and Creation of National Drill Core
 Libraries ongoing.
 - Since 2018-19 GSI has taken up 18 RMT programmes.
 - In last few years, Major Deep seated Mineral Prospects Identified by GSI (beyond 300m depth are Mundiyawas-Khera: Cu+Au+Ag semiconcealed deposit (proved up to 400 m depth), Madansahi-Kesharpur-Dudhiasol: Cu±Au±Ni semiconcealed deposit (proved upto 350 m depth) and Adash: Cu±Au±Ni±Graphite (proved upto 280 m depth).
 - GSI focuses on unraveling the analogous deposits of Malanjhkhand Cu deposit, Norilsk type Ni-Pd in fringes of Deccan Traps, Fertility fact checks of Bundelkhand Craton through comprehensive studies and Active foreign collaboration in the future.

CONCLUDING SESSION

Summary of CGPB deliberation discussion by Director General, GSI

- 61.06.01 Shri R.S. Garkhal, DG, GSI extended a hearty welcome to Chief Guest of the meeting Shri Pralhad Joshi, Hon'ble Minister of Parliamentary Affairs, Coal and Mines, Govt. of India and all the dignitaries present on the dias.
 - Summing up the day's proceedings, DG, GSI highlighted the role of CGPB for providing an active platform to the State Geology and Mining departments, Central Government institutions, PSUs, Private sector organizations etc. for discussing mineral exploration programmes and geoscientific activities under one roof.
 - Agenda received from States/Central Govt. agencies/PSUs/other agencies have been deliberated in the meeting. The policy related issues pertaining to Ministry of Mines were answered by the Additional Secretary, Mines and Director (Tech.), Mines in the meeting.

- 3. The Annual Programme of GSI comprising 983 standard programmes under different missions for F.S. 2022-23 was discussed before the committee.
- 4. Thrust has been given on baseline data generation and mineral exploration programmes particularly exploration for strategic-critical and fertilizer minerals.
- 5. 32 programmes have been proposed on State Government request/SGPB committee recommendations/CGPB committee recommendations. Apart from this, GSI has also proposed 36 programmes in collaboration with universities/agencies and under sponsorship of different Govt. authorities etc.
- 6. GSI will be handling over 50 more Geological Memorandums and 7 resource bearing G2, G3 stage Geological reports (GRs) to the State Governments of Andhra Pradesh, Telangana, Tamil Nadu, Karnataka, Chhattisgarh, Madhya Pradesh, Maharashtra, Jharkhand, Odisha, Rajasthan and Gujarat for consideration in the auctioning process.

Remarks by Shri. Alok Tandon, Secretary, Mines

61.06.02 Shri Alok Tandon, Secretary, Mines in his concluding remarks expressed happiness over the overwhelming response from all participants in the proceedings of the meeting.

Appreciating the efforts of GSI in formulating field season programmes for year 2022-23 as discussed in the meeting, he stated that ensuing Field Season has right mix of activities covering the five missions of GSI with 250 programs of mineral exploration for strategic minerals, nonferrous/basemetal, ferrous, fertilizer, precious metals & minerals, industrial minerals etc. including 14 offshore marine exploration programmes.

He showed his happiness over the 32 programs that has been taken up in forthcoming Field Season on specific request of the State Government and 36 collaborative/sponsored projects.

Emphasizing the importance of SGPB meetings, he urged State Government to timely conduct the SGPB meetings as regional issues arising from these meetings can be comprehensively discussed in the CGPB meeting.

He informed the gathering about the National Geoscience Data Repository (NGDR) of GSI which envisages to place exploration data of all private and public agencies working in the country on one platform.

He apprised the house on the latest amendments in the mineral policies by MoM for ease of doing business and to attract the participation of private agencies, with an expectation that the private agencies will take up the challenges of comprehensively exploring the mineral potentiality of the country.

Last but not the least, he conveyed his best wishes to officers of GSI for a very productive year ahead in terms of scientific achievement and congratulates GSI for handing over of the Geological Memorandum and geological report to the respective State Government for initiating auction.

Handing over of GRs and GMs to State Governments and Release of video on marine mineral exploration by GSI

61.06.03 Geological reports

Seven (07) Mineral Exploration reports were handed over to representatives from 3 state governments i.e., Odisha, Rajasthan, Chhattisgarh.

The break-up is as follows:

Two (2) G2 stage reports pertaining to commodities Copper, Iron and Manganese were handed over to Govt. of Odisha.

Two (2) G2 stage reports pertaining to commodities Limestone and Bauxite were handed over to Govt. of Chhattisgarh.

Three (3) G3 stage reports pertaining to commodities Copper and Potash were handed over to Govt. of Rajasthan.

Geological Memorandum

Fifty (50) geological memorandums of G4 potential blocks were handed over to representatives from 11 state governments i.e., Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu and Telangana.

The break-up is as follows:

Two (02) geological memorandums pertaining to commodity Iron were handed over to Govt. of Andhra Pradesh.

Five (05) geological memorandums pertaining to commodities Phosphorite, Gypsum and limestone were handed over to Govt. of Chhattisgarh.

Two (02) geological memorandums pertaining to commodities Nickel, Chromium and Base metal were handed over to Govt. of Gujarat.

Four (04) geological memorandums pertaining to commodities Manganese, Gold and associated mineral, Iron and Copper were handed over to Govt. of Jharkhand.

Six (06) geological memorandums pertaining to commodities bauxite, gold and polymetals were handed over to Govt. of Karnataka.

Eight (08) geological memorandums pertaining to commodities Graphite, basemetals, diamonds, nickel, limestone and manganese were handed over to Govt. of Madhya Pradesh.

Six (06) geological memorandums pertaining to commodities Iron ore, manganese and copper were handed over to Govt. of Maharashtra.

Four (04) geological memorandums pertaining to commodities manganese were handed over to Govt. of Odisha.

Nine (09) geological memorandums pertaining to commodities basemetal, nickel with PGE and limestone were handed over to Govt. of Rajasthan.

One (01) geological memorandum pertaining to commodities graphite were handed over to Govt. of Tamil Nadu.

Two (03) geological memorandums pertaining to commodities iron ore were handed over to Govt. of Telangana.

A video on offshore marine exploration by GSI has also been released by Hon'ble Minister of Mines on the occasion. The audio-visual gives an introduction of past, present and future offshore mineral activities of GSI, study of offshore mineral resources viz. Lime mud, heavy mineral placers, phosphorite, sand and Fe-Mn crusts and nodules, augmented by the state-of-the-art vessel - R V Samudra Ratnakar and it's on board scientific equipment.

Address by the Hon'ble Minister, Minister of Mines

61.06.04 Shri Pralhad Joshi, Hon'ble Minister of Parliamentary Affairs, Coal & Mines, in his address, urged the Geological Survey of India (GSI) to make an effort to reduce the time frame taken in completing field survey and submission of reports on potential mineral resource deposits in the country. The Hon'ble Minister, Mines asked GSI to complete survey and preparation of report in a year's time with the help of latest technologies.

> Addressing the 61st CGPB Meeting, he expressed that GSI having a legacy of 172 years of existence as a prestigious institution is expected to contribute to the recent efforts of the Ministry of Mines to be self-reliant in mineral resources. Shri Joshi said that efforts of GSI and private sector can contribute considerably towards this. The Minister pointed out that India is having vast deposits of minerals. However, many minerals are being imported in huge quantities as in the case of fertilizers.

> The Hon'ble Minister, Mines called upon the scientists of GSI to analyze global trends in preparing potential mineral deposit reports. Stressing upon the importance of latest technology in mining exploration, Shri Joshi promised all kinds of assistance to GSI from the Ministry of Mines.

Vote of thanks

61.07.01 The meeting ended with vote of thanks proposed by Dr. S. Raju, ADG & NMH-IV, GSI.

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