

MINUTES OF THE 63rd MEETING OF THE CENTRAL GEOLOGICAL PROGRAMMING BOARD

Kushabhau Thakre International Convention Centre, Bhopal, Madhya Pradesh

(22nd January 2024)

63.01.00	The 63 rd meeting of the Central Geological Programming Board (CGPB) was held on 22 nd January 2024 at Kushabhau Thakre International Convention Centre, Bhopal, Madhya Pradesh. The list of participants is given at Annexure-I.
INAUGURAL SESSION	
Welcome address by Shri Janardan Prasad, Director General, GSI	
63.02.00	Shri Janardan Prasad, Director General, GSI extended a hearty welcome to Shri V.L. Kantha Rao, IAS, Secretary, Mines; Shri Sanjay Lohiya, IAS, Additional Secretary, Mines; Shri Asit Saha, DDG, PSS-P&M, GSI; delegates and participants of the Central Ministries/organizations, PSUs, State Departments, academic institutions, private entrepreneurs and media to the 63 rd meeting of the Central Geological Programming Board (CGPB) which is held annually for adoption of field season programs (FSP) of GSI and to discuss future mineral exploration strategy, geoscience programs and inter-organizational coordination.
Brief Overview of CGPB and FSP 2024-25 by Director General, GSI	
63.02.01	<p>Shri Janardan Prasad, Director General, GSI, presented “Brief Overview of CGPB & items to be taken for FSP 2024-25”. He apprised the gathering about CGPB. He stated that the composition of CGPB and its twelve committees have been reconstituted vide a series of resolutions, and in the year 2023, the CGPB and its twelve committees have been further reconstituted vide resolution dated 18.08.2023. The revamped CGPB comprises members from 12 Ministries/Departments of Govt. of India, Advisor (Minerals) of NITI Aayog, 30 Heads of Central Organizations, 06 representatives of Industries, Secretaries (Mining and Geology) of State Governments, Directors of Geology & Mining of States, GSI and any other special invitee with the permission of the Chairman.</p> <p>He informed that the Annual Program of GSI for FS 2024-2025 has been made 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 stated in brief that a total of about 1055 standard programs have been finalized to be taken up for execution in FS 2024-25.</p>
Address by Shri Sanjay Lohiya, Additional Secretary (Mines)	
63.02.02	Shri Sanjay Lohiya, Additional Secretary (Mines) during his address, emphasized on the significance of CGPB meeting which acts as the highest forum through which various agencies involved in geoscience

	<p>activities come together and get an opportunity to interact with each other. With the amendment in the MMDR Act 2023, Central Government has allowed auction of critical minerals blocks against which a new scheme has been launched by NMET wherein a provision has been made allowing NPEAs for direct submission of critical mineral proposals to NMET. He requested all State DGMs/DMGs for handholding the private agencies in preparation and submission of proposals.</p> <p>Additional Secretary, Mines requested all exploration agencies to come forward for sharing the data on NGDR at the earliest. In this regard, he requested DDGs of State Units, GSI for taking the responsibility of collecting the data from State DGMs/DMGs for further digitization by BISAG and uploading on NGDR by respective State DGMs/DMGs. He requested DDG-in-charge, NGDR for ensuring timely updates in NGDR so that all stakeholders can make use of the repository.</p> <p>Furthermore, Additional Secretary, Mines requested private agencies to propose good projects on beneficiation and processing of critical minerals as these projects will now get an opportunity of getting directly sanctioned through a newly introduced scheme of NMET. He emphasized on the fact that now the time has come for taking utilizing emerging technologies like AI/ML, prospectivity modelling, drone-based surveys in the field of mineral exploration. He urged GSI, State DGMs, private agencies to undertake such pilot projects.</p> <p style="text-align: right;">(Action: All stakeholders)</p>
Release of publications by dignitaries	
63.02.03	<p>Following publications were released on the occasion:</p> <ol style="list-style-type: none"> 1. Geology and Mineral Map of the UT of Ladakh 2. Geology and Mineral Resources of Andhra Pradesh (Miscellaneous Publication No. 30 Part –VIII B, Second Edition) 3. Explanatory Brochure on Geological and Mineral Map of Tamil Nadu and Puducherry (1: 500,000 scale) 4. District Resource Maps of Goa (South Goa and North Goa Districts) 5. Manganese, Phosphorite, Graphite and associated mineralization of Jhabua Belt, Jhabua and Alirajpur districts of Madhya Pradesh (Bulletin Series A, No. 71) 6. The Annual Report of Geological Survey of India (GSI) for FS 2022-23 <p>A report on “Meso Scale Geological and Geotechnical Investigation on Joshimath Township, Chamoli District, Uttarakhand was handed over to the representative from State DGM, Uttarakhand.</p>
Address by Shri V.L. Kantha Rao, Secretary (Mines) & Chairman, CGPB	
63.02.04	<p>The Secretary, Mines appreciated the impressive participation in the CGPB meeting having an equal mix of stakeholders from central agencies, state govts., industries, PSUs, He mentioned four keywords relevant to the gathering - mapping, investigation, prospecting and</p>

	<p>exploration. He emphasized for doubling the efforts on investigation, prospecting and exploration. He apprised about the vision 2047, wherein, the aspiration of Ministry of Mines is to achieve 100% exploration in onshore and offshore minerals and reducing dependence on import of critical minerals from 100% to 40%. To achieve the vision of AatmaNirbhar Bharat, India @2047, the Secretary (Mines) requested all the Central and State Government exploration Departments/Agencies to double the efforts in geo-scientific activities.</p> <p>He apprised that NGDR launched recently in December 2023 has the potential to be helpful in doubling the efforts in exploration through the exchange of data among various organizations.</p> <p>(Action: All stakeholders)</p>
PLENARY SESSION-I	
Approval of the Minutes of 62nd CGPB	
63.03.01	Minutes of the 62 nd CGPB meeting held on 9 th February, 2023 was placed by Shri Asit Saha, DDG, PSS-P&M, GSI and was unanimously approved by the House.
Review of Follow-up Action on Minutes of 62nd CGPB Meeting by Shri Asit Saha, DDG, PSS-P&M, GSI	
63.04.01	<p>Issue (Suggestion: CGM, Tamil Nadu)</p> <p>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.</p> <p>Additional Secretary (Mines) apprised that molybdenum has been declared as a critical mineral and five blocks of molybdenum have been put on auction by M/o Mines.</p> <p>2. Declaration of the non-metallic as major mineral industrial minerals like Calcite, Dolomite and Dunite.</p> <p>Secretary (Mines) informed that the issues pertaining to minor-major minerals will be collated and a committee would be constituted to resolve the issues.</p> <p>(Action: Ministry of Mines)</p>
63.04.02	<p>Issue (Suggestion: DGM, Assam)</p> <p>1. If the Geological Survey of India, SU: Assam can explore the surrounding area of Burahungdong, namely Therevelongso area with latitude 92°39'15" and longitude 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.</p> <p>DDG, PSS-P&M apprised that GSI will hand over G3 stage geological report on Limestone in Sikilangso area, Dima Hasao District, Assam to the State Government in the upcoming second State Mining Minister's Conference.</p>

	<p>Furthermore, he informed that based on the request of Govt. of Assam, a limestone exploration project (G3 stage) in Krungming area, Dima Hassao District of Assam has been taken up during FS 2023-24 and the project is under execution.</p> <p style="text-align: right;">(Action: GSI)</p> <p>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.</p> <p>GSI apprised that 56 scanned copies of exploration reports have been collected from DGM, Assam which will be handed over to BISAG-N. Further, BISAG-N has been requested to take up the digitization of exploration reports of stakeholders for uploading in NGDR portal.</p> <p style="text-align: right;">(Action: GSI & BISAG-N)</p>
63.04.03	<p>Issue (Suggestion: DGM, Nagaland)</p> <p>Geophysical survey for prospecting Ni-Cr-Co bearing Magnetite and Chromite in Naga Hills Ophiolite at Phur, Phek district, Nagaland.</p> <p>DDG, PSS-P&M apprised that one G3 stage exploration on "Preliminary investigation of iron ore around Purr-Sutsu, Phek District, Nagaland" involving Geo-physical mapping (Magnetic survey: 15 L. km) is under execution during FS 2023-24.</p> <p style="text-align: right;">(Action: GSI)</p>
63.04.04	<p>Issue (Suggestion: DMM, West Bengal)</p> <p>DMM West Bengal has three Major Mineral (Non-Coal and Non-Fuel) deposits in nine different areas as per published reports of GSI, namely,</p> <ol style="list-style-type: none"> 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 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. <p>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</p>

	<p>requested.</p> <p>As requested by DMM, WB, GSI has defined the boundaries of the few minerals bearing lands using DGPS system and also prepared 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, details of which are as follows:</p> <p>1. Three nos. of Apatite blocks, viz. Chirugora, Purdaha and Mednitarn had been DGPS-surveyed and Part-IVA documents submitted to DMM, WB. It may be mentioned here that DGPS survey and preparation of Part-IVA document of Pankridih Apatite Block has been taken up by DMM, WB on the basis of investigation work taken up by State Govt. during 1978-79.</p> <p>2. Two nos. of Rare Metal blocks, viz. Beku and Belamu-Khatanga had been DGPS-surveyed and Part-IVA documents submitted to DMM, WB.</p> <p>Based on a recent request of DMM West Bengal, DGPS survey has been carried out and Part-IVA document has been sent to DMM, WB for Tamakhun Copper prospect while DGPS survey in Mal Khola Block of Gorubathan area is going to be taken up shortly.</p> <p>Secretary (Mines) expressed his displeasure over the fact that no auction has been done in the State of West Bengal since 2015. He directed DMM West Bengal to ensure auction of at least one block in West Bengal before 1st March 2024.</p> <p style="text-align: right;"><i>(Action: DMM, West Bengal)</i></p>
63.04.05	<p>Issue (Suggestion: DCI, Manipur)</p> <p>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.</p> <p>DDG, PSS-P&M apprised that exploration could not be taken up in Kamjong District, Manipur due to resistance and unrest still prevailing in the area. On improvement of the situation, the project would be taken up. Moreover, DCI, Manipur will try to obtain necessary permission from the local authorities.</p> <p style="text-align: right;"><i>(Action: GSI & DCI, Manipur)</i></p>
63.04.06	<p>Issue (Suggestion: IREL (India) Limited)</p> <p>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.</p> <p>2. Non-implementation of Atomic Mineral Concession Rules – 2016 by the State Governments causing hindrance for winning the</p>

	<p>Atomic Minerals (Beach Sand Minerals).</p> <p>AMD informed that the desired coordinates have been submitted to DMG Odisha for BSM bearing area along the Odisha coast.</p> <p>Additional Secretary (Mines) advised AMD for holding a workshop at Bhubaneswar or some other place, wherein, Ports, Shipping & Waterways; Housing and Urban Affairs, Commerce & Transport Ministries and Departments of Central as well as State Governments including GSI, MECL & IBM can be invited to spread awareness among various stakeholders regarding sterilization of Atomic Minerals occurring along the coastal stretches. He further advised for taking up similar exercises in the state of Andhra Pradesh.</p> <p style="text-align: right;">(Action: AMD)</p>
63.04.07	<p>Issue (Suggestion: DMG, Punjab)</p> <p>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.</p> <p>DDG, PSS-P&M apprised that the field work pertaining to G4 stage project on potash in Shergarh- Dalmirkhera block, Fazilka district, Punjab has been completed and the final report will be circulated by 31st March, 2024.</p> <p style="text-align: right;">(Action: GSI)</p> <p>2. As deliberated in the SGPB meeting regarding the fluoride contamination, a project may be taken up in this regard also.</p> <p>DDG, PSS-P&M apprised that the item on fluoride contamination in Sangrur and Mansa districts of Punjab and Fatehabad, Jind and Hissar district of Haryana is under execution during current F.S. 2023-24.</p> <p>Besides, another item titled "Geo-environmental studies of trace element and heavy metal contamination in the ground water of Ludhiana & Shaheed Singh Nagar districts, Punjab and Bhiwani & Rohtak Districts, Haryana" has been taken up in collaboration with CGWB during F.S. 2023-25.</p> <p style="text-align: right;">(Action: GSI & CGWB)</p>
63.04.08	<p>Issue (Suggestion: CWC)</p> <p>1. 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</p>

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. 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.

Subarnarekha-Mahanadi interlinking project: Initially, GSI took preliminary traverses in and around the proposed Subarnarekha-Mahanadi interlinking project in September, 2022 and April, 2023. Accordingly, MoU has been signed between GSI and CWC on 19.04.2023 with one year validity. Subsequently, detailed geological mapping and geological logging of drill cores of the proposed Subarnarekha barrage at Hatibari site has been completed. Study notes for the same has been provided to the project authority.

In March, 2024, geological logging of the drill cores at the proposed cross drainage structures (aqueduct) across Baitarini, Salandi, Bansa, Gangahar, Burhabalang, Jambhira etc has been carried out.

The work is in progress as per the request received from the project authority, i.e., CWC.

Pachnad Barrage Project, Uttar Pradesh: The MoU for the Geological and geotechnical works between GSI, NR and CWC, Faridabad was signed on 14/9/2023. The bore hole logging of the bore holes along the barrage axis and upstream as well as downstream has been completed and the report has been sent to CWC, Faridabad. Due to its fundamental requirement in preparation of geological map, the contour map of the area was sought from CWC. CWC has now provided the required contour map on 15/3/2024. Preparation of Thematic maps and the chapter on Geology are under progress. The work is expected to be completed by 15/4/2024.

2. 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. Government of Ladakh has given consent to CWC for taking up the work of preparation of DPR of Drass-Suru Link Project vide letter dated 19.7.2022. Chenab Division, CWC, Jammu is conducting preliminary studies of the Project based on available data so visit of GSI has not been taken place in 2022-23 and MoU has not been submitted because quantum of work will be calculated after preliminary studies by CWC. GSI will be approached for this work in 2023-24.

DDG, PSS-P&M apprised that joint traverses have been taken by the

	<p>team members of GSI, CWC, CEA, I&FC, PDC Ladakh and NHPC on 23.06.2023 for the field inspection visit to the Drass - Suru HEP Stage-</p>
63.04.09	<p>Issue (Suggestion: DMG, Jharkhand)</p> <p>Proposal of precious & semi-precious Mineral and REE under NMET funding. DGMS should take proactive steps for auctioning of the blocks.</p> <p>DDG, PSS-P&M apprised that GSI has planned to handover 50 nos. of G2/G3 resource bearing Geological Reports (GRs) including 3 GRs (G3 stage) on Graphite-Vanadium, Gold-Vanadium & REE etc. and 37 Geological Memorandum (GMs) to the respective state governments as well as Ministry of Mines in the upcoming 2nd Mining Minister's Conference. Further, GSI's state unit offices under the guidance of MoM interacts with the state DGMS/DMGs at regular interval through JWG meeting, SGPB/CGPB sub-committee meeting to render assistance as required by DGMS/DMGs so that the already handed over blocks may be auctioned. On the issue of taking proactive steps for auctioning of the blocks as advised by the Additional Secretary (Mines) in the 62nd CGPB meeting, DDG, PSS-P&M informed that the response regarding status of auction of the blocks has been received from State DGMS/ DMGs.</p>
63.04.10	<p>Issue (Suggestion: NLC India Limited)</p> <p>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.</p> <p>DDG, PSS-P&M apprised that NGPM survey in 25 Toposheets including TS no. 58J/12, 58J/14, 58J/15, 58J/16, 58N/1, 58N/2, 58N/3, 58N/4, 58N/5 and 58O/1 has been outsourced to a Govt. agency (NGRI) by GSI as one-year project (NMET funded) which is scheduled to be completed by 31.03.2024. After completion of project and acceptance of all the deliverables, the gravity-magnetic data of the 10 Toposheets will be shared with NLC India Limited</p> <p style="text-align: right;">(Action: GSI)</p> <p>Secretary (Mines) highlighted the usefulness of data exchange among the stakeholders and advised NLC India Limited to be in constant touch with the agencies for receiving the data as and when made available.</p> <p style="text-align: right;">(Action: NLC India Limited)</p>
63.04.11	<p>Issue (Suggestion: DGM, Arunachal Pradesh)</p> <p>Preliminary exploration of coal in and around Namgoi area, under Nampong Circle of Changlang District and Wakka area, Under Wakka Circle of Longding District of Arunachal Pradesh.</p> <p>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.</p>

	<p>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.</p> <p>During FS 2024-25, GSI has proposed one G4 stage coal and associated mineral exploration project in Garu-Rilu-Daring area, Lower Siang district, Arunachal Pradesh.</p> <p>DGM, Arunachal Pradesh informed that the proposal will be modified and resubmitted to CMPDI as the area is falling closer to the border areas of Burma region.</p> <p>(Action: DGM, Arunachal Pradesh)</p> <p>Secretary (Mines) highlighted the role of State DGMs in taking initiatives for timely execution of exploration projects. He instructed ADG & HoD, GSI, NER to ensure that the necessary technical support be provided to DGM, Arunachal Pradesh in preparation and resubmission of the proposals.</p> <p>He instructed GSI to engage all the Deputy Director General of GSI's State Units for facilitating the proposals placed by State DGMs so as to provide handholding to State DGMs in execution of the proposed field items.</p> <p>(Action: GSI)</p> <p>Additional Secretary (Mines) opined that exploration projects should not be dropped only on the basis of falling in the vicinity of border areas.</p> <p>Secretary (Mines) informed that there is a defined policy in Ministry of Defense to take up projects in the border areas of the country. In cases of mining, no permission is required for areas falling 20 kms away from the border areas. He further assured that all concerned agencies will work together for obtaining the necessary permission from Ministry of Defense to take-up exploration projects in border areas.</p> <p>(Action: All Stakeholders)</p>
63.04.12	<p>Issue (Suggestion: DMG, Odisha)</p> <p>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 Cr₂O₃ 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% Cr₂O₃ ore were considered as mine rejects earlier</p>

	<p>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 & Cr₂O₃ ores.</p> <p>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.</p> <p>DDG, PSS-P&M apprised that about 2.80 million tons of resource with average 0.86% Ni at 0.5 % Ni cut-off has been estimated in the mine dump. The report finalization is in progress and it will be circulated by January, 2024.</p> <p>Secretary (Mines) raised concern over utilization of the Nickel tailings.</p> <p>DMG, Odisha informed that the experiment was done with the idea of extracting low-grade chrome as the State of Odisha faces shortage of chrome resources but the experiment yielded promising values of Nickel as a by-product.</p> <p>Additional Secretary (Mines) informed that as Sukrangi Chromite mine dump is an existing mine of OMC, hence, decision on the beneficiation study and processing of Nickel may be taken by OMC.</p> <p>Secretary (Mines) suggested for auctioning of Nickel tailings. Apart from GSI's report, he suggested that a parallel experiment may be carried out by agencies like IBM or any other CSIR research institute just to cross-check the results of the project as Nickel tailings will be further put for auction. He also gave the example of KGF tailings having different percentages of gold as calculated by different industries.</p> <p style="text-align: right;">(Action: GSI and DMG, Odisha)</p>
63.04.13	<p>Issue (Suggestion: DMG, Karnataka)</p> <p>1. Considering the time required for uploading all such data in NGDR portal, DMG Karnataka suggest to have GSI layers of ongoing FSP and next FSP proposal boundaries by GSI and ongoing exploration programs of DMG (including mineral concession boundaries), NEA's & NPEA's published either in NMET portal or state remote sensing centre website/portal. This will definitely help all the stake holders to access the data at single point of source while carving out any new proposals.</p> <p>GSI informed that status map of the field season projects of GSI pertaining to FS 2022-23 and 2023-24 are available in National Geoscience Data Repository (NGDR) (https://geodataindia.gov.in) portal for consultation of the stakeholders and also to avoid duplication and overlapping issues. The data regarding FS 2024-25 of GSI will be uploaded immediately after completion of online approval process.</p> <p style="text-align: right;">(Action: GSI)</p>

	<p>DDG, PSS-P&M requested to all the stakeholders for uploading the annual programs and geosciences data in NGDR portal at the earliest. (Action: All Stakeholders)</p> <p>2. Detailed study on recent Earthquakes reported in Karnataka to assess the reasons and suggest the mitigation plans.</p> <p>GSI informed that the project entitled “Micro-earthquake studies around Vijayapura, Kalaburagy and Bidar districts of North Karnataka State” has already been taken up in FS 2023-24 and sensitization to the local villagers and local authorities has also been done. (Action: GSI)</p> <p>3. To take up detailed mapping of Bauxite/Aluminous laterite deposits of Belgavi district, Karnataka during FSP 2023-24.</p> <p>DDG, PSS-P&M apprised that one project titled “Reconnaissance Survey for Bauxite, REE & associated minerals in Bailur-Tirth Kunde area, Khanapur Taluk, Belgavi District, Karnataka.” has been taken up in FS 2023-24 and it is under execution. During FS 2024-25, GSI has proposed to take up a G4 stage project on bauxite around Belvatti- Yellur area, Belgavi district, Karnataka. (Action: GSI)</p>
63.04.14	<p>Issue (Suggestion: DGM, Maharashtra)</p> <p>Proposed Field Programme for Field Season 2022-23 Directorate of Geology and Mining, Government of Maharashtra, Nagpur in Collaboration with Geological Survey of India</p> <p>1) Preliminary exploration for locating Copper and associated mineralization in Motegaon-Aregaon area, Tah. Chimur, Dist. Chandrapur (T.S. No. 55 P/11) (G3 stage).</p> <p>DDG, PSS-P&M apprised that the collaborative mineral exploration project between GSI and DGM, Maharashtra on copper and associated mineral taken up in FS 2022-23 in Motegaon-Aregaon area is continued in FS 2023-24 and the drilling activities is under progress. (Action: DGM, Maharashtra and GSI)</p>
63.04.15	<p>Issue (Suggestion: DGM, Ladakh)</p> <p>1. Joint expedition to explore Semi-Precious Gem stones at Padum Zaskar valley Ladakh.</p> <p>2. To study Stage-III and Stage-II investigations of Limestone deposit reported at Shargole, Kargil.</p> <p>DDG, PSS-P&M apprised that no proposal was received from DGM Ladakh for taking up joint expedition for exploring Semi-Precious Gem stones at Padum Zaskar valley Ladakh, thus, no action has been taken further in this regard.</p> <p>DGM Ladakh informed that expedition would be taken up in the current year at Padum Zaskar valley Ladakh. It was further informed that G4</p>

	<p>stage exploration has been taken by DGM Ladakh in Limestone deposit at Shargole, Kargil. Due to lack of infrastructure facilities in UT Ladakh, DGM Ladakh was not able to take up chemical analysis of limestone samples.</p> <p>Secretary (Mines) instructed ADG & HoD, GSI, Northern Region to visit the office of DGM Ladakh for providing all possible required support and help to the UT Ladakh. Furthermore, He directed HoD, GSI, Northern Region to carryout chemical analysis of samples in the chemical laboratory of GSI.</p> <p style="text-align: right;">(Action: GSI & DGM, Ladakh)</p> <p>Secretary (Mines) mandated all such proposals placed upon the request of State DGMs/DMGs are to be taken into consideration by the DDG & Head of GSI's State Units present in the particular State so as to provide handholding to State DGMs/DMGs in preparation and timely submission of proposals and thereby taking up exploration projects at the earliest.</p> <p style="text-align: right;">(Action: GSI and all State DGMs/DMGs)</p>
63.04.16	<p>Issue (Suggestion: DMG, Sikkim)</p> <p>Landslide Hazard Mapping and Detailed Geological Studies of Gaguney Landslide at Pathing, Yangang, Namchi district, Sikkim in 1:2000 Scale.</p> <p>DDG, PSS-P&M apprised that GSI has already taken up the project titled "Detailed site-specific landslide investigation of the Pathing Slide, Pathing-Ravangla Road, Namchi District, Sikkim" for FS 2023-24 and the work is under execution.</p> <p style="text-align: right;">(Action: GSI)</p>
<p>Agenda Items received from stakeholders were placed before the house for discussion by Shri Asit Saha, DDG, PSS-P&M, GSI</p>	
63.05.01	<p>Issue (Suggestion: Tata Steel)</p> <p>1. Adding new reserves of medium-grade and high-grade manganese ore to sustain meet requirement of installed capacities of the Manganese Alloy Industries in India. As per IMY-2021, India is having 504MT of Manganese resource of which 75MT is in reserve category. Here, reserve to resource ratio is only 15%. Dedicated efforts are therefore required to convert these resources into reserves.</p> <p>DDG, PSS-P&M apprised that GSI has augmented 25.00 MT resource of manganese in the state of Madhya Pradesh, Odisha, Jharkhand, Andhra Pradesh, Karnataka, Telangana etc., since amendment of MMDR Act, 2015 and handed over 16 resources bearing G2/G3 reports and 36 Geological Memorandums on manganese to the concerned state governments for auctioning since 2015. Further, 7-G2 and 1-G3 reports was handed over in the 2nd Mining Minister's Conference.</p> <p>Additional Secretary (Mines) requested TATA Steel and all other steel making industries present in the meeting for detailed study of the Geological Reports of GSI and tracing out such reports which can be</p>

	<p>auctioned. In this regard, he also requested the industry to interact with the State Government and Ministry of Mines.</p> <p>The resources are converted to reserves by the lessee after auctioning of the blocks by taking up feasibility studies.</p> <p style="text-align: right;">(Action: Tata Steel)</p> <p>2. Mineral wise Integration of available Geo-science data (Ferrous, Non-Ferrous, Critical and Strategic Minerals) at all India level and make it available to explorers and miners.</p> <p>DDG, PSS-P&M apprised that GSI has developed a portal on National Geosciences Data Repository (NGDR) (https://geodataindia.gov.in) with an aim to bring all baseline geosciences and mineral exploration data generated by GSI and all other stakeholders in the country e.g. state DGMs, CPSEs, academia, private sectors etc. in a single platform for use of all explorers and miners.</p> <p>Secretary (Mines) requested all stakeholders to submit suggestions and feedbacks on NGDR portal, if any improvement needs to be done pertaining to NGDR. Furthermore, he advised GSITI for organising IT related workshop on NGDR for all the stakeholders.</p> <p style="text-align: right;">(Action: All stakeholders & GSI)</p> <p>3. Capability Building for private exploration agencies in exploration, beneficiation and processing for critical and strategic minerals, particularly the battery minerals.</p> <p>GSI apprised the house that GSITI has already conducted four training programs on REE & RM, Critical Minerals and Strategic Minerals during the current year 2023-24 and the training programmes have been attended by DGMs/DMGs and PSUs. One training program on "Exploration of Critical and Strategic Minerals" has been proposed to be held in March, 2024.</p> <p>For 2024-25, GSITI has proposed to conduct training programs on (1) Course on Exploration of Critical and Strategic Minerals and (2) Refresher Course on Exploration of Critical Minerals. The private agencies may contact to GSITI for participating in the training programs on payment basis as per the Schedule of Charges (SoC) of GSI.</p>
63.05.02	<p>Issue (Suggestion: DGM, Assam)</p> <p>1. DGM, Assam had done preliminary exploration work for Beryl abundance in pegmatite veins in gneissic group of rocks (by Dr. B.C. Barooah & J.D. Goswami in F.S. 1971-72) in the following areas:</p> <p style="padding-left: 40px;">A. Dwarka (26° 3' 0" N 90° 30' 40" E) and Kharmuja (26° 26' 11" N 90° 33' 45" E) in the Goalpara district and (Dr. B.C. Barooah and A.H. Choudhury in F.S. 1976-77) in pegmatite veins of Shillong Group of rocks.</p> <p style="padding-left: 40px;">B. Rangali (26° 35' 0" N 93° 45' 0" E) in Karbi Anglong District</p>

	<p>and found crystalline and light green coloured Beryl upto 30 cm length and 20 cm diameter.</p> <p>Therefore, we request GSI, SU: Assam to take up a G4 level exploration programme in the next Field Season for ensuring economic status of the beryl and associate deposits.</p> <p>DDG, PSS-P&M apprised the house that none of these exploration reports recommended for any follow-up exploration of beryl in pegmatite veins within the gneissic group of rocks. However, taking into consideration of the request received from DGM, Assam, the area has been planned to be scanned once again for any such beryl occurrence during the execution of other proposed G-4 item in TS 78J/7 around Chakrashila Hill areas and of the NGCM project (covering Toposheets 78 J/10, 14 and 16) during FS 2024-25. Based on the outcome of these reconnaissance studies, G-4 stage Item on Beryl Exploration will be considered by GSI in FS 2024-25. The referred report received from DGM; Assam is also being studied.</p> <p>For the Rangali area in Karbi Anglong District, falling in the boundary between Toposheets 83F/10 and 83F/14, DDG, PSS-P&M apprised that reconnaissance studies will be taken up during the execution of the proposed NGCM work in TS 83F/14 in FS 2024-25 by GSI and based on its outcome, G4 Item on Beryl Exploration will be considered by GSI. (Action: GSI)</p> <p>2. DGM, Assam also would like to request the GSI, SU: Assam for taking up G4 level mineral exploration programme in Singhasan Pahar of the Barail Range in the Karbi Anglong district which has been seen as a store house of iron ore and other mineral deposits for many years. DGM, Assam may depute one of its geologists to work with the exploration geologist team of GSI in that project.</p> <p>DDG, PSS-P&M apprised the house that GSI has already proposed to take up Reconnaissance survey in FS 2024-25 for REE and associated mineralisation in and around Samchampi-Samteran alkaline-carbonatite complex, Karbi Anglong District, Assam, in the southern part of Singhasan Pahar.</p> <p>GSI also welcomed participation of one geologist from DGM, Assam to work with the team of GSI. (Action: GSI)</p>
63.05.03	<p>Issue (Suggestion: HZL)</p> <p>1. The auction blocks under mining lease (ML) do have information of G2 level exploration, which indicates presence of mineral in ground with certain confidence. However, there is very limited / no is available related to other 2 axis as per UNFC. The work for ML should be taken up to pre-feasibility level, wherein mining plan can be submitted with IBM.</p>

HZL requested for inclusion of the feasibility and economic axes in G2/G3 stage Geological Reports, which will be put for auction as Mining Licence. Furthermore, GSI should develop capability to study the feasibility and economic axes.

Secretary (Mines) informed that Geologists of GSI do not have any expertise to study the feasibility and economic axes of G2/G3 geological reports. He further suggested to work out on the scope of including a chapter on feasibility and economic analysis in the geological reports for ML blocks.

(Action: All stakeholders)

2. The block size of G4 and G3 blocks must be large enough to develop and execute proper exploration on ground.

GSI informed that potential blocks having areal extent of 50 to 100 sq. km is being taken for reconnaissance survey [G4] through large scale mapping and sampling. The mineralized zones, if any, demarcated during the G4 survey are further taken up as preliminary exploration [G3] through detailed mapping and drilling to assess the mineralization potentiality. Following the successful completion of exploration and resource assessment, adjacent blocks are amalgamated (if required) to enhance resources covering larger area to make it economically viable for subsequent exploration and exploitation.

Appreciating the efforts of GSI, the representative of HZL apprised that GSI and MECL work on larger blocks during the time of G3/G2 stages of mineral investigation but when it comes for auction, these blocks get smaller based on the mineral occurrences. Therefore, it is requested that the auctioning block should be at least 50 sq km.

DMG Karnataka informed on the practices followed in Karnataka wherein GRs are scrutinised by the State Level Technical Committee comprising the members from IBM, GSI & DMG Karnataka. IBM being one of the members in the committee and also involved in approving the mining plan, takes into consideration all such issues which may demand the increase in the block size of block size of G4 and G3 blocks, thereby helping in resolving the issue.

Secretary (Mines) responded that suggestions are always welcome from private industries. He advised that the exploration blocks including the ore body should be large enough which is to be kept in mind during investigation, exploration and report writing.

(Action: All stakeholders & GSI)

3. Private industry professional geologist should be member of NMET committee.

DDG, PSS-P&M apprised the house that the matter shall be referred to NMET.

4. Potential for critical minerals should be tested across massive

	<p>sulphide belts in India.</p> <p>The baseline geoscience information is available on NGDR portal. NEA and NPEAs can delineate areas for critical mineral exploration based on the available data.</p> <p style="text-align: right;">(Action: All NPEAs)</p>
63.05.04	<p>Issue (Suggestion: DGM, Odisha)</p> <p>The mineral blocks explored by agencies may host more than one mineral where one mineral is the primary minerals while other mineral (s) may be recovered after necessary processing of ROM. In such cases, Priority and nomenclature should be given to major commodity during auction process.</p> <p>Secretary (Mines) informed that the issues pertaining to major-minor minerals would be dealt by a separate committee to be constituted by Ministry of Mines.</p> <p style="text-align: right;">(Action: Ministry of Mines)</p>
63.05.05	<p>Issue (Suggestion: DMG, Bihar)</p> <p>1. During the SGPB Meeting held on 28.07.2023, it was opined that for the development of the state and strengthening of the DMG, Bihar following steps must be taken up immediately:</p> <ul style="list-style-type: none"> i. As a follow up of the discussion with the Dy. Director General, GSI a Memorandum of Understanding (MoU) between DMG, Bihar and State Unit: Bihar, GSI, Patna to be arrived at, on the following aspects: <ul style="list-style-type: none"> a. Geologists of DMG to be associated with different items of GSI to get guidance from Geologists of GSI in understanding different aspects of mapping and mineral investigation. b. Utilisation of the facility of Chemical Laboratory of GSI for analysis of samples collected by geologists of the Department. c. To help geologists of the Department in the use of different software at GSI, Patna. d. Petrological study support to the officers of DMG, Bihar by Petrology Laboratory. <p>DDG, PSS-P&M informed that GSI is ready to extend all possible support to the geologists of DMG, Bihar.</p> <p>2. Following items on mineral search may be taken up by GSI or other exploration agencies for identification of Mineral Blocks:</p> <ul style="list-style-type: none"> a. Reconnaissance survey for tin, tungsten and REE in Dhanras Hill area, Aurangabad & Gaya districts, Bihar. <p>DDG, PSS-P&M apprised the house that one G4-stage mineral investigation project titled "Reconnaissance survey for REE mineralization in and around Bishunpur-Jaigir-Bhatua Chhati areas of Gaya district, Bihar and Chatra district, Jharkhand" has been proposed</p>

to be taken up during FS 2024-25.

(Action: GSI)

b. Regional exploration for coal in Kasri – Batesharthan area, Bhagalpur district, Bihar.

The Kasri–Batesharthan area, Bhagalpur district, Bihar has been explored for REE by GSI. Understandably, this is the fringe part of the basin and no economic coal deposit is expected in the area.

2. Items on Geochemical Mapping/ Environmental Geology/ Public Good Geoscience may also be taken up which will help in identification of areas of contamination of groundwater, surface water, soil etc. due to presence of deleterious elements.

a. Geochemical mapping of the area falling between hard rock terrain of south Bihar and River Ganges: Total 8 nos. of toposheets (63O/12, 63O/16, 72C/12, 72C/16, 72G/12, 72G/16, 72K/16, 72O/04) which have not been taken up earlier may be taken up as several outcrops of hard rock are exposed in these toposheets. Geochemical mapping will help in identification of geochemical anomalies resulting in formulation of items on Mineral Investigation or Environmental Geology.

DDG, PSS-P&M apprised that Geochemical Mapping under NGCM in four toposheets viz. 63O/12, 63O/16, 72G/12 & 72G/16 was already completed. However, the remaining four toposheets viz. 72C/12, 72C/16, 72K/16 & 72O/04 falling in parts of Indo-Gangetic Alluvium is not within priority area. However, these toposheets will be taken up in due course after verification of exposure levels.

b. Replenishment study of rivers originating from southern hilly terrain of Bihar except Sone, Phalgu, Kiul and Chanan for assessment of sand replenishment and identification of inland placer pockets.
c. Revisiting the potential of thermal springs in Bihar from the perspective of thermal energy.

DDG, PSS-P&M apprised the house that GSI is in discussion with DMG Bihar regarding the replenishment study of Rivers and potentiality of thermal springs in Bihar. DMG Bihar may contact Geothermal Division, GSI, Central Region for necessary guidance.

Secretary (Mines) expressed his concern over no auctions being conducted in the state of Bihar. He advised DGM Bihar to complete the auction process at the earliest.

DMG Bihar informed that total no. of six blocks will be put up for auction

	<p>in the current year.</p> <p style="text-align: right;"><i>(Action: DMG, Bihar)</i></p>
63.05.06	<p>Issue (Suggestion: GSI)</p> <p>Information regarding block explored by State DGMs/DMGs (prior to MMDR Amendment Act, 2021) DDG, PSS-P&M apprised that the agenda is based on the discussion and suggestion given by the Secretary (Mines). Furthermore, he presented the summary of state DGMs/ DMGs explored blocks & present status based on data received from State DGMs/ DMGs.</p> <p>Secretary (Mines) requested to DDGs of all the State Units, GSI for visiting the respective offices of State DGMs/DMGs for listing out the areas/blocks previously explored (UNFC G4/G3 equivalent stage) by the State DGMs/DMGs (prior to MMDR Amendment Act 2021) which has neither been auctioned nor given for further stage of exploration (G3/G2 stage) to any exploration agency till date. He requested all State DGMs/DMGs to work out on these areas/blocks else these would be handed over to other interested agencies with the idea of doubling the efforts in exploration. The matter may be discussed in JWG meetings.</p> <p style="text-align: right;"><i>(Action: GSI & State DGMs/DMGs)</i></p>
63.05.07	<p>Issue (Suggestion: DMG Karnataka)</p> <p>1. Offshore sand deposit evaluation in line with studies carried out in Kerala to meet the future requirement of sand in Karnataka.</p> <p>Secretary (Mines) welcomed the suggestion made by DMG Karnataka. He further requested all coastal State DGMs/DMGs for taking initiatives in offshore mining sector.</p> <p style="text-align: right;"><i>(Action: DGM/DMG of Odisha, Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, Maharashtra, Gujarat)</i></p> <p>2 .To take up exploration projects of Magnesite, Kyanite & Sillimanite by GSI.</p> <p>DDG, PSS-P&M apprised that GSI has not found any potential zones of Magnesite, Kyanite & Sillimanite to carry out further systematic exploration, however, thematic mapping programs are being carried out in various parts of Karnataka to identify mineral potential zones.</p>
63.05.08	<p>Issue (Suggestion: DMG, Jharkhand)</p> <p>1. Declaration of a nodal agency in State who will have shape files of all the ongoing or proposed exploration projects in the state by various exploration agencies. It will help to overcome the issue of overlapping and duplication of work and also help in providing the consent of exploration to various Notified Exploration Agencies.</p> <p>Additional Secretary (Mines) apprised DGM Jharkhand about the launch of NGDR portal which serves as a single point platform for hosting all kinds of geosciences data. He further informed about the</p>

	<p>presentation on NGDR to be held in the afternoon session for building expertise on utilization of NGDR data.</p> <p>Secretary (Mines) emphasised on the task of collecting the data from various central agencies apart from GSI for bringing the data into one platform. He called industries for engaging in the field of data analysis so as to build expertise in analysing geosciences data.</p> <p style="text-align: right;">(Action: All stakeholders & GSI)</p> <p>2. Exploration of Cesium in Bihar Mica Belt by MECL or any other exploration agencies.</p> <p>DDG, PSS-P&M apprised that GSI has proposed to take up 2 nos. of G3 stage projects titled “(1) Preliminary Exploration for Li and other Rare Metals in and around Dhab Block, Koderma District, Jharkhand and (2) Preliminary Exploration for Li and other Rare Metals in and around Angar Block, Koderma District, Jharkhand” in upcoming FS 2024-25.</p> <p style="text-align: right;">(Action: GSI)</p>
63.05.09	<p>Issue (Suggestion: NMDC)</p> <p>1. Iron Ore Exploration in Odisha</p> <p>DDG, PSS-P&M apprised that GSI has taken up 34 Iron exploration projects (i.e 4- G4, 14- G3 & 16- G2) in the state of Odisha since the year 2015. For upcoming FS 2024-25, GSI has proposed to take up 3 exploration items (1- G4 and 2- G3) on Iron in the state of Odisha. GSI has already handed over 18 resources bearing G2/G3 reports on Iron to the state of Odisha for consideration in the auctioning process.</p> <p>2. Diamond Exploration in Chhattarpur District, Madhya Pradesh.</p> <p>DDG, PSS-P&M informed that GSI has carried out 7 nos. G4 stage exploration projects on diamond in Madhya Pradesh including Chhattarpur district, since MMDR Amendment 2015.</p>
63.05.10	<p>Issue (Suggestion: DGM, Chhattisgarh)</p> <p>1 .The State of Chhattisgarh has one of the most important geological setups comprising of the Indian Shield, exposing rock sequence from Archaean to Recent. Combination of cratons, mobile belts and supracrustal belts occupying a large part of the state has provided conducive environment for hosting a large variety of mineral deposits. The Archaean and the Proterozoic rocks are the storehouse for minerals experiencing almost all the metallogenic epochs in geological history.</p> <p>Since DGM Chhattisgarh has been actively involved in the exploration of bulk commodities such as Limestone, Bauxite and Iron Ore, GSI should focus more on other critical and strategic mineral, REE, Base metal deposits and other precious and semi-precious in the state. Furthermore, South Chhattisgarh considering its Geological Potential is a store house of such</p>

	<p>commodities. GSI should focus also on Southern Chhattisgarh which remains unexplored/partially explored.</p> <p>Secretary (Mines) advised DG, GSI for taking up exploration projects in South Chhattisgarh as requested by DGM Chhattisgarh. In case of any law & order problems prevailing in the area, DGM Chhattisgarh shall provide local assistance to GSI by sensitizing the local agencies for taking up field investigations.</p> <p>DGM, Chhattisgarh informed that seven in-house iron ore projects have been taken up and are currently operational in south Chhattisgarh. He further added that as south Chhattisgarh holds good potential for critical and strategic minerals like REE, Tin, Lithium, GSI should take up exploration items in the area which remains unexplored/partially explored.</p> <p>As suggested by DGM Chhattisgarh for taking up field items in South Chhattisgarh, Additional Secretary (Mines) requested DDG, SU: Chhattisgarh, GSI to formulate items in the state of Chhattisgarh in consultation with DGM Chhattisgarh.</p> <p>(Action: GSI & DGM, Chhattisgarh)</p>
63.05.11	<p>Issue (Suggestion: Survey of India)</p> <p>As per the “National Geospatial Policy-2022” Survey of India (Sol) is sharing the geospatial data free of cost to Govt. agencies. The said data can be availed from data dissemination portal of Sol, http://onlinemaps.surveyofindia.gov.in/. Survey of India has also launched its CORS based realtime positioning services through dedicated CORS portal https://cors.surveyofindia.gov.in/ which are free of cost for Govt. Agencies.</p> <p>Survey of India is in process of creating accurate Geoid Model for the entire country, which is likely to be completed by 2025. Hence, member organisations which are collecting or using the Gravity data, may share the data for its optimum utilization.</p> <p>Secretary (Mines) informed that Survey of India is ready to share in the data on NGDR portal. He further added that a good coordination persists between all central agencies and GSI. He emphasized on building NGDR as a platform which has the capability to host the data of various central agencies, PSUs, private industries, GSI and all other exploration entities onto one platform.</p> <p>(Action: All Stakeholders & GSI)</p>
63.05.12	<p>Issue (Suggestion: CGWB)</p> <p>Collaborative study on aquifer response to seismicity: Studies by CGWB have shown that there are evidences of visible impact of seismic activities on groundwater levels. Taking it forward, CGWB proposes a collaborative study involving CGWB, GSI and BARC on evolving an earthquake warning criteria from aquifer responses to seismicity. The study will be based on Monitoring and</p>

	<p>Assessment of Precursor, Co-seismic and Post-seismic Hydrogeological responses in Eastern Himalayan areas through High Frequency–RTDAS from Deeper Aquifers.</p> <p>The Nodal agency for all earthquake related matters is the National Centre for Seismology (NCS) under MoES. CGWB may approach NCS for taking up these studies.</p> <p style="text-align: right;"><i>(Action: CGWB & NCS)</i></p>
63.05.13	<p>Issue (Suggestion: GSI)</p> <p>To relinquish the leasehold areas for coal exploration which are not potential from CBM point of view.</p> <p>Coalfields having very low potentiality for CBM are kept under CBM leasehold Since no Regional and Detailed exploration can be planned in CBM leasehold areas, DGH was requested to relinquish the areas which are not potential for CBM and to introduce a clear-cut policy so that the coal exploring agencies can venture into those areas.</p> <p>It was also decided that the details of all the blocks ear-marked for exploration by GSI in FS 2024-25 would be sent to DGH for relinquishment and the relinquished areas were to be duly notified by MoP&NG. A meeting has been held in this regard involving GSI, DGH and CMPDI on 12th January, 2024</p> <p>DGH apprised the following points-</p> <ul style="list-style-type: none"> • DGH has identified three low to moderate prospective zones of CBM bearing areas-in IB River basin of Odisha, Kanha basin of Madhya Pradesh and Satpura basin. These three areas would be released up and given to GSI. The internal approval is being taken up by DGH in the ministry. • In the recently conducted round of CBM auction, MoP&NG has offered 16 blocks for auction but only three were successfully auctioned due to insufficiency of the data in the remaining blocks. GSI, CMPDI & DGH would work together for generating data to fill up the gap areas in such basins. • Borehole and log data pertaining to CBM acreages would soon be handed over to GSI. All CBM specific data will be provided to GSI. <p style="text-align: right;"><i>(Action: DGH & GSI)</i></p>
63.05.14	<p>Issue (Suggestion: GSI)</p> <p>Integration and compilation of offshore multi-beam bathymetry data and joint surveys for critical minerals in the international waters.</p> <p>Meetings with NCPOR were held, on 28.11.2023, 19.12.2023 and 09.01.2024 to understand the data gap and sharing of data between GSI and MoES. NCPOR has provided access to its database via VPN. Moreover, they have also shared the core</p>

	<p>sample collected by NCPOR within the EEZ with GSI during their visit. Further meetings will be conducted for sorting out issues related to data sharing, if any and for future collaborations.</p> <p>Towards the surveys for critical minerals in international waters two officers from MCSD, GSI will be participating in the cruise of NCPOR scheduled to start from 03.02.2024.</p> <p>A Meeting with NCPOR was held, on 28.11.2023, to understand the data gap and sharing of data between GSI and MoES. A follow-up meeting was held on 19.12.2023. The NCPOR team visited MCSD, GSI on 08/09.01.2024 for finalization of map preparation. Metadata and details of sharable data available with GSI have been shared with NCPOR. NCPOR has provided seamless access to its database and data is being downloaded based on requirement. One officer is in voyage onboard ARGEO SEARCHER in the joint program for hydrothermal sulphide exploration. One more officer will be participating in the second voyage which is scheduled from Mid-march 2024. One MBES data acquisition programs off Cape Comorin is planned to be taken in the month of April 2024 onboard R V Samudra Ratnakar.</p> <p>Secretary (Mines) requested DDG & HoD, Marine & Coastal Survey (M&CS), GSI to conduct a workshop at Mangalore involving all the stakeholders.</p>
63.05.15	<p>Issue (Suggestion: GSI) (Action: GSI & MoES)</p> <p>Use of remote sensing technology in mineral exploration. GSI and Space Application Centre (SAC), Ahmedabad have principally agreed to sign a MoU on the following field to boost mineral exploration activities in the country.</p> <ol style="list-style-type: none"> Capability development in the field of satellite data processing and interpretation for coastal, mineral exploration, geo hazards and other geological applications Generation or modification of image processing algorithms for Image enhancement and classification based on backscatter and multibeam data and ROV footage of offshore areas Advanced image processing and spectral analysis for effective delineation of alteration zones, structures, host rock, fluid pathways etc for targeting the hydrothermal, magmatitic and residual deposits. Developing advanced processing technologies for Hyperspectral data based on different mineral system approach. Developing new AI, ML, DL application for mineral exploration using Remote sensing data. Effective utilization and developing new techniques on Hyperspectral data processing for REE, critical and noble metals.

	<p>Draft MoU sent to SAC on 30.11.2023. SAC is requested to expedite for signing of MoU so that both GSI and SAC can take up programme in the next field season.</p> <p>Representative from NRSC, ISRO assured that MoU will be expedited as requested by GSI.</p> <p style="text-align: right;">(Action: NRSC, ISRO)</p>
63.05.16	<p>Issue (Suggestion: GSI)</p> <p>Sharing of metadata and status map of coastal exploration programs of AMD to avoid duplication.</p> <p>To assess the heavy mineral resources in coastal area in continuation of the established offshore heavy mineral potential in TW area of India, GSI wants to take up programme in the beach areas of the country. As AMD also carries out similar projects in the coastal area for atomic mineral, the status map of exploration of AMD may be shared with GSI to avoid duplication of work.</p> <p>AMD suggested for sending the specific proposal of the area to be taken up for exploration by GSI.</p> <p>Additional Secretary (Mines) suggested GSI & AMD to share the boundary points of the exploration project areas taken up at their ends to avoid duplication.</p> <p style="text-align: right;">(Action: GSI & AMD)</p>
63.05.17	<p>Issue (Suggestion: GSI)</p> <p>Information on Landslide Temporal Data to operationalize experimental Regional Landslide Early Warning System in landslide prone states of India.</p> <p>GSI in collaboration with the British Geological Survey (BGS) under the National Environmental Research Council (NERC), UK funded, multi-consortium LANDSLIP project (www.landslip.org) has developed a prototype regional Landslide Early Warning System (LEWS) for India, and the same is currently being evaluated and tested by GSI in two pilot areas in India (Darjeeling district, West Bengal, and the Nilgiris district, Tamil Nadu).</p> <p>All Landslide prone states are requested to provide Landslide Temporal Data (of last 10-15 years) for fine tuning of experimental Regional Landslide Early Warning System. SDMA's of Uttarakhand, Himachal, Sikkim, Kerala and Karnataka under MoU are providing temporal data at District level on case-to-case basis. If the data for entire states are provided it will be beneficial in testing of the model and operationalization of LEWS.</p> <p>DDG & Head, NM-IV, GSI apprised that Regional Landslide Early Warning System (LEWS) is under experimental stage of testing for forecasting of landslide bulletin in landslide prone states of India. For the requisite data for testing the prototype framework, GSI is continuously</p>

	<p>pursuing the states. He further informed that there is no record available for the date and time of landslides occurrences in India which may pose problem in developing a credible validation model.</p> <p>On getting informed by GSI that there is no such national level Landslide Warning System developed in India, Secretary (Mines) advised to GSI for sending a formal intimation to Ministry of Home Affairs regarding the development of LEWS.</p> <p>Additional Secretary (Mines) suggested for developing a portal whereby all landslide data can be filled in, which may prove beneficial to the society.</p>
(Action: GSI)	
PLENARY SESSION-II	
Placing of proposals of GSI by DDG, PSS-P&M, GSI	
63.06.01	<p>DDG, PSS-P&M presented "Proposals of GSI pertaining to FS-2024-25" and conveyed the following:</p> <ul style="list-style-type: none"> • GSI has formulated 1055 scientific programs for the year 2024-25, which includes programs under mineral exploration out of which 188 programs are on strategic-critical minerals. • Out of these 1055 scientific programs, 190 projects have been taken on baseline data generation, 392 are mineral development projects and 133 are mineral discovery projects. • Thrust has been given on the exploration of strategic - critical and fertilizer minerals. A total of 188 programs on strategic & critical minerals including 18 programs on fertilizer minerals have been proposed for FS 2024-25. • Total 56 programs have been taken on Geoinformatics & Data Analysis. • About 129 programs have been proposed under Public Good Geosciences. • 155 projects have been taken on Training & Capacity Building catering to GSI as well as outside agencies. • Total 25 items have been linked with State Request/SGPB/CGPB recommendations. • 18 programs in collaboration with national institute/university/agency/State Govt.; 3 sponsored training courses in collaboration with ISRO; 3 sponsored international courses will be taken up with MEA and 19 sponsored geotechnical projects with PSU/Central Govt. Institute/State Govt. Departments. • GSI has introduced certain new initiatives in FS 2024-25- Horizontal and vertical Geochemical Assessment of Core Deccan Trap areas (GCA-CDT), Critical Mineral Assessment Programme (CMAP) for assessing critical mineral potentiality in laterites across the country, Predictive Geological Map (PGM) in completely soil covered areas (pilot projects), Mineral Prospectivity Analysis using AI/ML technologies, Alteration Mapping using multispectral/hyperspectral data and Research

	and Assessment of Pegmatite with special focus on Critical Minerals
63.06.02	<p>Secretary (Mines) invited the comments from all the stakeholders and agencies present in the meeting on the proposals of F.S. 2024-25 placed by DDG, PSS-P&M, GSI.</p> <p>The Director, CSIR-IMMT, Bhubaneshwar ensured to provide all the required support to GSI to carrying out beneficiation studies of critical minerals. He declared that they have developed beneficiation and extraction techniques for 9 no. of critical minerals. He apprised the house about the mission of CSIR on “Mapping and Tapping of Critical Minerals”. Furthermore, he added that MoU is to be signed between GSI & IMMT, Bhubaneshwar for beneficiation studies of critical minerals very soon. Lastly, he ensured all support to Central departments, State DGMs/DMGs, GSI and private industries for beneficiation studies of critical minerals.</p> <p style="text-align: right;">(Action: All stakeholders)</p> <p>Secretary (Mines) appreciated the support shown by CSIR-IMMT, Bhubaneshwar and requested private industries and State DGMs for engaging CSIR labs in the study of critical minerals. He informed that a joint review would be taken up in the month of March, 2024 for assessing the progress of the projects taken up by private industries and evaluating the results of these projects in order to adopt appropriate technology for beneficiation and extraction of critical minerals in the coming days.</p> <p style="text-align: right;">(Action: State DGMs/DMGs, MoM and CSIR-IMMT Bhubaneswar)</p> <p>Jindal Steel suggested for demarcating the areas of the proposed projects of GSI pertaining to FS 2024-25 which are falling in the buffer zone of a national park/wildlife sanctuary or are lying under Eco-sensitive zones since the coordinates of all the national parks and wildlife sanctuaries.</p> <p style="text-align: right;">(Action: GSI)</p> <p>The technical advisor of KABIL emphasized identifying mineral phases during G3 stage of mineral exploration projects so that it helps in beneficiation studies required to be done further. He also requested to develop a mineral-wise SOP for critical minerals.</p> <p>Secretary (Mines) directed GSITI to constitute a committee for undertaking the task of formulating a mineral-wise SOP for critical minerals. He urged upon consulting the international best practices in this regard.</p> <p style="text-align: right;">(Action: GSI)</p> <p>HZL requested for developing QAQC protocols for increasing the reliability of the assay results in case of samples collected by Government exploration agencies. Training sessions may also be organised in GSI across India for adopting the QAQC protocols. HZL is ready to help GSI in developing these protocols.</p> <p style="text-align: right;">(Action: GSI)</p>

	<p>UltraTech Cement requested that GSI can take up few projects on minor minerals.</p> <p>Secretary (Mines) raised concern regarding the policy on minor minerals followed by States and if any minor mineral project could be taken up by GSI.</p> <p>Additional Secretary (Mines) replied that GSI is currently focussing on critical minerals than bulk minerals. He further stated that legally NMET fund is available for major minerals.</p> <p>CGM Gujarat apprised that policy followed for minor minerals varies from State to State. Some of the states as Rajasthan follow the practice of submitting a premium of 2% for minor minerals to State Funds while other States do not have the same policy. He opined for giving NMET assistance to the States for drilling work especially for minor minerals like China clay and bentonite, owing to the great demand and also having exploration cost at the higher end as deeper drilling is required to be done for such minor minerals.</p> <p>It was decided that CGM Gujarat may send a separate request to the Ministry of Mines in this regard.</p> <p style="text-align: right;">(Action: Ministry of Mines)</p> <p>Since lithium and REE values were higher in the analysed samples of Mica pertaining to Bihar Mica Belt, DMG Jharkhand has already submitted a proposal to MECL for taking up an investigation of critical minerals in Bihar Mica Belt. But somehow it couldn't be taken up by MECL. DMG Jharkhand requested that the project may be carried out in Bihar Mica Belt for critical mineral investigation.</p> <p>MECL replied that proposals were already submitted to NMET and one project on REE has already been approved.</p> <p>Secretary (Mines) advised MECL and DMG Jharkhand to discuss the issue and resolve it at the earliest.</p> <p style="text-align: right;">(Action: MECL and DMG, Jharkhand)</p>
Stakeholders workshop on National Geoscience Data Repository (NGDR)	
63.06.03	<p>Shri P.K. Singh, DDG & M-IIIC, GSI presented talk on NGDR, whereby, he briefed all the stakeholders about the utility of this cloud-based portal, that hosts all pre-competitive baseline geological and mineral exploration data for making it available to all participants belonging to the mineral and mining sectors of this country. Furthermore, he explained about the various layers present in the NDGR portal such as geology, geomorphology, geochemistry, geophysics, seismotectonic, mineral, tectonic, NAGMP, marine, landslide, geochronology etc. At the end, DDG, M-IIIC, GSI requested all stakeholders for providing soft copies of their geological reports to upload in NGDR portal.</p> <p>The Data and functionalities of the NGDR portal was demonstrated by Shri Diptansu Sengupta, Sr. Geologist, GSI.</p> <p>Additional Secretary (Mines) requested State DGMs and other</p>

	<p>exploration agencies for digitizing all the old geological reports available in their respective departments for further transferring these reports to NGDR and to directly upload the new reports on the portal which are generated post the launch of NGDR. In this connection, he requested DDG & In-charge, NGDR, GSI to track the progress of digitization work of State DGMs. He urged upon completing the task of uploading all the geological reports on NGDR by at the earliest.</p> <p style="text-align: right;">(Action: All the State DGMs/DMGs, MECL, IBM)</p> <p>Additional Secretary (Mines) advised GSITI to conduct a training module for the officers of State DGMs including GSI and to train them on NGDR i.e., how to download various data sets, handholding practice for attendee, integrations of geo-scientific data, case studies etc.</p> <p>He instructed to the officers of GSI that all the reports from FS 2023-24 onwards, to be uploaded in NGDR portal and the report will be considered as circulated after its uploading in NGDR portal.</p> <p style="text-align: right;">(Action: GSI)</p> <p>Additional Secretary (Mines) requested all State DGMs/ Central organisations/ PSUs/ Private Industries to complete the stakeholder admin registration process in the NGDR portal. He also requested DDG & In-charge, NGDR, GSI to prepare a list of stakeholder admins of all the organisations.</p> <p style="text-align: right;">(Action: All Stakeholders & GSI)</p> <p>CGM, Gujarat suggested for including the mining lease (ML) data on NGDR portal.</p> <p>The representative of NLC informed that Integrated Lignite Resources Information System exclusively for lignite where all lignite exploration plan and data explored by NLC, State/Central Govt. are available with NLC and it can be shared in NGDR portal. In this regard, Additional Secretary (Mines) advised NLC to share the available data for its uploading in NGDR portal.</p> <p style="text-align: right;">(Action: NLC India Ltd.)</p>
	<p style="text-align: center;">Open Session for discussion chaired by Additional Secretary, Ministry of Mines</p>
<p>63.07.01</p>	<ul style="list-style-type: none"> Shri A.K. Jha, QCI-NABET suggested that exploration, proved reserve, minable reserve data done by Private Mineral Exploration Agencies may be shared in the inventory. <p>Welcoming the suggestion, Additional Secretary (Mines) apprised that Ministry of Mines will try their best for uploading data in NGDR. He requested to QCI-NABET for completing the registration process in NGDR portal.</p> <p style="text-align: right;">(Action: QCI-NABET)</p> <ul style="list-style-type: none"> HZL suggested a single window compliance clearance in cases of G4 & G3 level exploration block, since it is just an exploration stage.

Additional Secretary (Mines) informed that Ministry of Mines is trying their best to resolve the forest issue.

- HZL further opined legacy cores of the boreholes to be transferred to the lessee after the allotment of mining lease.
- The Director (Technical), Mines informed that only the skeletized cores of the mineralized zones are preserved.
- KABIL responded that cores are being preserved in the core library of GSI for R&D purpose and are available for study by the stakeholders.
- Additional Secretary (Mines) apprised that the best practices followed in other countries will be explored, accordingly decision will be taken.

(Action: GSI)

- DGM, Jharkhand requested that the cadastral map and forest cover map may be superimposed over explored mineral blocks in NGDR.

Shri P.K. Singh, DDG & In-charge, NGDR, GSI apprised that Mathrubhumi portal of Department of Land Resources has incorporated cadastral data of only ten districts.

Additional Secretary (Mines) emphasised on getting GPS based cadastral data of states revenue departments for creating a layer on NGDR portal comprising cadastral data including the data available on Mathrubhumi portal of Department of Land Resources. He further requested to obtain the forest data from PARIVESH portal of MoEF&CC for building a layer comprising forest data on NGDR.

(Action: GSI)

- BISAG-N apprised that mines data available in NGDR portal has been categorised into the mines falling under major and minor leases.

Additional Secretary (Mines) also suggested for updating the data incorporated in NGDR portal at regular intervals.

(Action: GSI)

- DMG Odisha requested for NPEAs to get fund directly from NMET without getting countersigned by GSI.

Additional Secretary (Mines) apprised that NPEAs can now directly submit proposals to NMET for critical and deep-seated minerals. He stated that comments of the respective State Govt. and DDG, State Unit, GSI will be taken into consideration in the

	TCC meeting of NMET for approval the project.
CONCLUDING SESSION	
Concluding remarks by stakeholders	
63.08.01	<p>Secretary (Mines) requested Ministry of Steel to involve steel industries in the field of critical mineral exploration. He further requested NMDC to engage some start-ups and data analytics for preparation of critical mineral exploration blocks.</p> <p style="text-align: right;">(Action: Ministry of Steel)</p> <p>Ministry of Coal apprised that while extracting white hydrogen from shale at the time of coal exploration may open the scope of discovering critical minerals in future. He requested for submission of annual exploration data to Ministry of Coal by all Govt./Pvt. agencies undertaking coal exploration in the country.</p> <p style="text-align: right;">(Action: All Stakeholders)</p> <p>Secretary (Mines) requested for arranging a meeting with Ministry of Coal regarding exchange the data.</p> <p style="text-align: right;">(Action: Ministry of Mines)</p> <p>ISM-Dhanbad spoke on the project- study of base metal sulphides in Singhbhum, Bihar using AI/ML applications taken up in collaboration with HCL and GSI. It was requested for recording the data on the water-depth at which water gets pumped out at the time of drilling on NGDR portal. This may help in contouring of water map and better preparation of mine-plan.</p> <p>Furthermore, CGWB apprised that lithologs of the core are being generated during drilling operations. It was suggested for adding a layer of aquifer maps on NGDR portal which can be taken from National Groundwater Information Centre.</p> <p>Secretary (Mines) instructed GSI for analyses of groundwater data collected by CGWB during drilling operations.</p> <p style="text-align: right;">(Action: GSI)</p> <p>NCPOR apprised that EEZ data has been shared with GSI. In addition, GSI will also be participating with NCPOR for deep sea exploration in the first week of February, 2024 in the coming cruise season.</p> <p>DGM, Rajasthan stated that NIT will be issued for 51 blocks soon.</p> <p style="text-align: right;">(Action: DGM, Rajasthan)</p> <p>DMG, Telangana stated that three blocks are ready for auction in the State.</p> <p>Secretary (Mines) advised DMG, Telangana to issue NIT for these blocks before March, 2024.</p> <p style="text-align: right;">(Action: DGM, Telangana)</p> <p>DGM, Uttar Pradesh stated that 7 blocks have been successfully</p>

	<p>auctioned out of 19 block and NITs have been issued for four blocks. (Action: DGM, Uttar Pradesh)</p> <p>DMG, Odisha apprised that draft NITs have been submitted for 11 blocks out of 19 listed blocks. (Action: DGM, Odisha)</p> <p>Geological Society of India requested for getting funds from NMET for releasing publications on geological sciences. Secretary (Mines) said that a decision will be taken keeping the matter in mind.</p> <p>FIMI expressed his concern over non-availability of limestone to cement industries operating in the State of Meghalaya as no limestone blocks are being auctioned in Meghalaya, although GSI has completed limestone exploration in Meghalaya. It was further requested for limestone exploration in the state of Telangana.</p> <p>Secretary (Mines) apprised that DGM Telangana will soon be holding auctions for limestone blocks in the State.</p> <p>Additional Secretary (Mines) quoted a supreme order verdict given for the State of Meghalaya which says that mineral belongs to the owner of the land or the Tribal Chief. He mentioned about Rule 27 of MCR, 2016 wherein a private arrangement is made between Tribal Chief and lessee for transferring the lease. Further, he added that NoC is given by State Govt. for signing of the lease.</p> <p>Secretary (Mines) suggested that a review meeting to be held with State Govt. of Meghalaya within next 10-15 days for facilitating the State Government to expedite holding of auctions in the State so that the exploration reports are gainfully utilized. (Action: Ministry of Mines)</p>
	<p>Summary of CGPB deliberation discussion by Director General, GSI</p>
63.08.02	<p>Summing up the day's proceedings, DG, GSI assured that GSI will work energetically to enhance the exploration activity towards reaching the vision of Aatmanirbhar Bharat by 2047 in the mining sector as suggested by Secretary (Mines). He assured that contemporary research in the field of critical and strategic mineral will be taken up in collaboration with other institutes like CSIR.</p> <p>DG, GSI welcomed the suggestion of Additional Secretary (Mines) for introducing the applications of emerging technologies viz. Drone technology, AI/ML to enhance the mineral exploration activities in the country. He stated that NGDR portal will be a key platform for further exploration and accordingly, the stakeholders can submit the proposal to NMET for funding.</p> <p>Furthermore, he stated that decisions made during the discussion of agenda points in the CGPB meeting will be duly followed up by GSI. Some of the major decisions include- handholding State DGMs in preparation and submission of field proposals, conducting IT related</p>

	<p>workshop/hands on training pertaining to NGDR portal, preparation of SOP for critical mineral exploration, holding workshop at Mangaluru in February 2024 for the future scope of off-shore marine exploration etc.</p> <p>Lastly, he assured that GSI will strive to attain excellence and will persevere towards quality achievement and fruitful outcome in the field season programs of FS 2024-25.</p>
Closing remarks by Shri V.L. Kantha Rao, Secretary, Mines	
63.08.03	<p>In his closing remarks, Shri V.L. Kantha Rao, IAS, Secretary, M/o Mines emphasised on the importance of building inter-agency coordination through the platform of CGPB meeting. He announced that he himself will take review meeting once in every month regarding the action taken so far on the decisions of the 63rd CGPB meeting. He requested DG, GSI for holding a meeting in the month of April, 2024 so as to review the inter-agency decisions made in the meeting. He stated that geoscientific interactions can lead to develop business relationships and fostering coordination among the organisations of Govt. of India. Moreover, he expected every GSI field officer to work confidently and seamlessly in collaboration with the State Govts. and private sectors. He desired CGPB activities to align with the vision envisaged by the Govt. of India. He spoke on working together for a better India that generates many mining opportunities whereby mining contributes to fulfil the requirements of the industry.</p> <p style="text-align: right;">(Action: GSI & all stakeholders)</p>
Vote of thanks	
63.09.01	The meeting ended with vote of thanks proposed by DDG, GSI, International Affairs.

Annexure-I

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