

**MINUTES OF THE 41<sup>ST</sup> STATE GEOLOGICAL PROGRAMMING BOARD MEETING  
HELD ON THE 6<sup>TH</sup> OF AUGUST 2021, AT GEOLOGY AND MINING OFFICE  
CONFERENCE HALL, DIMAPUR, NAGALAND.**

41.1.0	The 41 <sup>st</sup> SGPB was held on the 6 <sup>th</sup> of August 2021 under the chairmanship of Shri. K. Libanthung Lotha, IAS, Commissioner & Secretary to the Govt. of Nagaland, Geology & Mining Department. Shri. Kashiho Sangtam, Hon'ble Minister of Soil and Water Conservation and Geology & Mining graced the meeting as the Guest of Honour. The meeting was attended by DGM officials along with delegates from GSI and other departments such as PHE, Water Resource, BRO. The list of participants is appended at Annexure-I.
41.1.1	The chairman in his introductory address welcomed all the delegates and dignitaries from various organizations and departments. He expressed that it is an opportunity and a privilege to be a part of this special platform where interactions with intellectuals and technical experts can make one gain more knowledge and exchange ideas. He stated that it is the time to revive and reform our knowledge and skills to be put into best use for the development of the state and the community.
41.1.2	Shri. Abenthung Lotha, Joint Director & HOD, in his welcome address extended his warm welcome to all the members for participating in the 41 <sup>st</sup> SGPB meeting. He mentioned that SGPB is held annually to update professional knowledge, exchange ideas and work progress in similar field of interest and discuss new perspectives and rationales to accelerate geological activities in the state and that the department has made significant progress in its geo-scientific works. However, he stressed on the urgent need for systematic exploration and evaluation of mineral resources in line with national mineral resource classification and reporting system to open more avenues and opportunities for investors in the mineral industry. He expressed hope that there will be a gainful discussion and wished the meeting a success.
41.1.3	Guest of Honour, Shri. V. Kashiho Sangtam, Hon'ble Minister, Soil & Water conservation and Geology & Mining, in his inaugural speech asserted that mineral resources is the backbone of a Nation's economy and growth. He said that Nagaland has been blessed with substantial mineral resources but the exploitation of the minerals for the state's economic benefit remained a "far cry" reality. However, he urged the department to generate adequate scientific and technical information so as to provide perspectives for policy making and decisions in exploitation of the resources by the State or any major investors. He mentioned that Growth and development are positive impacts of rapid urbanization; yet it has also resulted in a number of negative impacts in relation to earth resources like depletion of groundwater, risk of people living in landslide prone areas and other anthropogenic disasters etc. hence the need to formulate judicious policies in order to mitigate the impending disasters and challenges. Lastly, he expressed hope that the meeting would ignite new ideas in order to tackle the challenges hindering the progressive work of the department in particular and stimulate clear perspective for economic development in general.
41.2.0	Shri. Longrikaba, Joint Director, moderated the technical session of the 41 <sup>st</sup> State Geological Programming Board.
41.2.1	Confirmation of the 40 <sup>th</sup> SGPB Meeting Minutes.
41.3.0	<b>Appraisal of work done by various agencies/Departments</b>
41.3.1	<b>Geological Survey of India, Manipur- Nagaland Circle:</b> Shri. J.K. Angami, Director, highlighted the following projects being carried out by GSI, SU: Manipur-Nagaland, Dimapur during FS 2021-22. 1. Specialised thematic mapping to decipher the tectonic-stratigraphy and constrain the age of the Naga Metamorphic rocks around Nimi-Saramti area.

	<ol style="list-style-type: none"> <li>2. Specialized thematic mapping in and around Purr-Pungro-Vhipur areas of Kiphire and Tuensang Districts, Nagaland to characterize ophiolite suite of rocks and delineate the associated mineralization.</li> <li>3. Geochemical mapping in Toposheet No. 83J/13 covering parts of Mon, Longleng districts, Nagaland, Charaideo and Sivasagar district Assam.</li> <li>4. Geochemical mapping in Toposheet No. 83J/14 in parts of Longleng, Mon, Mokokchung districts, Nagaland.</li> <li>5. Geochemical mapping in toposheet No. 83N/1 &amp; 2 in parts of Mon district Nagaland.</li> <li>6. Compilation of district resources Maps on 1:250,000 scale for Kohima, Dimapur and Peren districts, Nagaland.</li> <li>7. Site-specific landslide investigation of Thangthore landslide, Thangthore village, Kiphire district, Nagaland.</li> <li>8. Detailed (1:1000 Scale) site specific Geotechnical Investigation of Kiammoung Landslide, Noklak district, Nagaland.</li> <li>9. Meso Scale (1:10,000) landslide susceptibility mapping along Zubza-Kohima Road section (NH-29), Kohima district, Nagaland.</li> <li>10. Geo-environmental studies to constrain the extent of arsenic, fluoride and other associated heavy metal contamination in water around Dimapur and Kohima city, Nagaland.</li> </ol> <p><b>Highlights of Field Season 2020-21</b></p> <ol style="list-style-type: none"> <li>1. Reconnaissance survey for nickeliferous laterite, chromium, PGE and associated base metals around Mollen-Washelo in ultramafic-mafic rocks in parts of Ophiolite Belt, Phek District, Nagaland.</li> <li>2. Reconnaissance survey for shale gas around Chedema-Dihoma area, Kohima district, Nagaland. (G-4)</li> <li>3. Geoenvironmental studies to constrain the extent of arsenic, fluoride and other associated heavy metal contamination in water around Dimapur, Kohima city, Nagaland.</li> </ol>
41.3.2	<p><b>Nagaland State Mineral Development Corporation Limited (NSMDC):</b> The moderator read out the activities undertaken by NSMDC.</p> <ol style="list-style-type: none"> <li>1. Decorative and dimensional Stone Plants.</li> <li>2. Mineral industry Growth centre, Kiruphema</li> <li>3. Construction of concrete hollow and paver block, chequered tiles manufacturing units etc, at DDSP, Chumukedima, Dimapur.</li> </ol>
41.3.3	<p><b>Water Resource Department:</b> ER. Razouvolie Kelio, Additional Chief Engineer, Water Resource Department, highlighted the activities of their department. The Department of water Resources, Nagaland, is implementing 262 Nos of MDTW CSS Schemes under PMKSY-HKGP (GW) from Ministry of Jal shakti. The scheme covers foothill sectors of five districts of the State of Dimapur, Peren, Wokha, Mokokchung and Mon where groundwater studies have been carried out by CGWB. The scheme is intended for small and marginal farmers having a land holding of 2-4 Ha utilizing the ground water for boosting agricultural production by growing HYV and value-added crops. Till date 71 Nos of tube wells have been completed with 22 Nos using solar powered pumpsets and the remaining 49 Nos using electrical pumpsets, covering a total of 181 Ha for irrigation.</p>
41.3.4	<p><b>PHED</b> The official from PHED gave a brief report on the work done and activities on groundwater as followed.</p>

	<ol style="list-style-type: none"> <li>1. List of Technical information on groundwater available with PHED.</li> <li>2. Proposal being put up to the Ministry of Jal shakti, Department of Drinking Water &amp; Sanitation, Govt. of India for a larger Scale Map (Ground water prospect map of Nagaland State on 1:10,000 Scale.)</li> <li>3. The Department has established 12 active water quality testing laboratories in all the district headquarters in Nagaland.</li> <li>4. The Department is actively carrying out an IEC (Information Education and Communication) on judicious use of water, water conservation, cleaning, protection of water resources, rainwater harvesting, recycle and reuse of grey water and management etc.</li> <li>5. Providing technical guidance, required data and information to Master level students and researchers.</li> </ol>
41.4.0	<p><b>Appraisal of work done by the directorate of Geology &amp; Mining, Dimapur, Nagaland during 2020-2021</b></p> <ol style="list-style-type: none"> <li><b>1. Mineral Investigation</b> <ol style="list-style-type: none"> <li>a) G-4 level exploration of Ni-Co-Cr-Magnetite in Mollen-Jopi-Ziphu ridge and adjoining areas, Naga Hills Ophiolite, Phek District, Nagaland</li> <li>b) G-3 level exploration of limestone in Salumi Block, Kiphire district, Nagaland.</li> <li>c) Regional coal exploration Melak-Tzurang valley coalfield, Mokokchung district, Nagaland.</li> <li>d) G-4 exploration of coal resources along Khar Thrust between New Camp and Tuli, Mokokchung district.</li> <li>e) G-4 level exploration of limestone deposits at Khongkha area, Kiphire district, Nagaland.</li> <li>f) Brief report on preliminary geological investigation for Semi-Precious stone (Chalcedony and Agate) downstream of Layoti nallah, Phek district, Nagaland.</li> <li>g) Mineral resources mapping of Kiphire district.</li> <li>h) Geo-morphological study of Dhansiri and Chathe River for sand, geavel/boulder mining in Dimapur district, Nagaland.</li> </ol> </li> <li><b>2. Geo-Engineering Activities</b> <ol style="list-style-type: none"> <li>a) Seismic microzonation of greater Dimapur city, Nagaland</li> <li>b) Installation of Sub-surface drain to control the movement of the landslides at Peraciezie, High School Colony, Kohima.</li> <li>c) Geological investigation of landslides at Peraciezie, Kohima and Old KMC dumping site (Dzuchie) along NH-29.</li> <li>d) Brief report on geotechnical and landslide study along NH-2 Mokokchung-Amguri road section and NH-702D Mokokchung-Mariani road section, Mokokchung district.</li> <li>e) Brief report on soil stability test for foundation study in urban areas of Chumukedima, Dimapur district.</li> <li>f) Geo-environment impact assessment studies along Kohima-Dimapur road section (NH-29) due to road cutting and widening.</li> </ol> </li> <li><b>3. Mineral Development</b> <ol style="list-style-type: none"> <li>a) Coal: The Department is implementing the Nagaland Coal Policy and Rules, 2006 for supervising, monitoring and administering the grant of Coal Prospecting License (CPL), Coal Mining Lease (CML), monitoring mines and collecting coal royalty from the licensees, firms, coal operators, transporters etc.</li> <li>b) Minor Mineral: The Department is implementing the Nagaland Minor Mineral Concession Rules (NMMCR) 2004 for grant of mineral concession and mining lease/quarry permit to various firms and agencies. Royalty is being collected at all designated gates and mines under Dimapur District</li> </ol> </li> </ol>

	<p>and its adjoining areas. Prepared sand mining and gravel management guidelines for effective control of illegal mining in the State.</p> <p><b>4. Groundwater Section</b></p> <p>a) Construction and development of tube wells on exploratory and deposit basis. During 2020-2021, 12(twelve) Nos of exploratory tube wells and 2 Nos of tube wells under deposit works have been constructed.</p> <p>b) Feasibility studies &amp; site selection</p> <p>c) Periodic water level monitoring from national hydrographic network stations (NHNS) in Nagaland.</p> <p>d) Groundwater Quality Studies of steams and wells for agricultural and industrial waste contamination in Peren, Dimapur and Wokha districts.</p> <p>e) Survey of geological potentiality and geomorphic setting of Baghty valley.</p> <p>f) Identification of flood prone areas for mitigation measures.</p> <p><b>5. Chemical Laboratory</b></p> <p>a) Water sample analysis: A total of 298 samples were analyzed.</p> <p>b) Limestone sample analysis: 3 (Three) samples of limestone has been analyzed in the laboratory.</p> <p>c) Coal Sample analysis: 5 (Five) samples of Coal were received and analyzed during the period.</p> <p>d) 2 (Two) quartz samples were received for silica test.</p>
41.5.0	<b>Approval of Field Season Programme for 2022-2023:</b> The proposed field season programme for 2022-2023 was presented before the house for discussion and the same was approved after modification.
41.6.0	<b>Discussion on Agenda Items</b>
<b>Agenda 1</b>	<p>i) The State Govt. is encouraged to put up proposals for landslide studies for planning of land use and disaster management plans in urban sprawling areas.</p> <p>ii) A block has been tentatively identified by GSI for detailed exploration of Nickle-Chromium-cobalt bearing Magnetite and PGE in the Naga Hill Ophiolite Belt of Phek and Kiphire districts. In this regard the status of magnetite exploration carried out by Geology &amp; Mining was solicited.</p> <p><b>(suggestion: GSI MN Circle)</b></p>
41.6.1	The Department requested GSI to propose for a detailed landslide investigation involving drilling for a complete study of subsurface parameters to provide proper remedial measures. Funding for collaborative projects on landslide studies between GSI and the Geology & Mining was initiated which required further discussion. On the suggestion for data sharing the Department agreed subject to discussion with further communication.
<b>Agenda 2</b>	Allotment of stone quarry and sand gravel with sufficient yielding along/nearby roads of BRO for smooth execution of construction and maintenance activities. <b>(Suggestion: Boarder Road Task Force)</b>
41.6.1	On the agenda given by BRO the department informed that quarry permit/mining lease can be obtained from the department under Nagaland Minor Mineral Concession rules by submitting requisite documents.
41.7.0	<p><b>Concluding Remark:</b></p> <p>The Chairman of the 41<sup>st</sup> SGPB, Shri. Libanthung Lotha, IAS, Commissioner &amp; Secretary thanked all the participants for a successful deliberation. He encouraged all to develop oneness, share data and knowledge and execute as one body for better coordination and to avoid overlapping of works. H also suggested that power point presentations should be included in the future meetings.</p> <p><b>The meeting ended with vote of thanks proposed by Er. Tsuknung Jamir, Joint Director.</b></p>