

## Policy Initiatives:

### (A) Amendment to MMDR Act and Rules

The Second Schedule to the MMDR Act, 1957 has been amended to rationalize the royalty rate of 12 critical and strategic minerals, viz., Beryllium, Cadmium, Cobalt, Gallium, Indium, Rhenium, Selenium, Tantalum, Tellurium, Titanium, Tungsten and Vanadium vide Notification No. G.S.R. 152 (E) dated 01.03.2024.

Specification and rationalization of royalty rates of critical minerals has facilitated the auction of mineral blocks of critical minerals.

(1) The following rules have been framed and notified in pursuance of the MMDR Act:

(i) The Minerals (Other than Atomic and Hydro Carbons Energy Mineral) Concession Rules, 2016 has been amended through the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Amendment Rules, 2024 notified vide G.S.R. 50(E) dated 21.01.2024 to implement the provision of exploration license, to clarify provisions regarding disposal of minerals below threshold value and for rationalization of penalty for small miners having lease area up to 25 hectares and approved production up to 2.0 lakh tonnes. The Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Amendment Rules, 2024 are available at Ministry of Mines' website on web link - <https://mines.gov.in/admin/storage/app/uploads/65fd6174b1a681711104372.pdf>

(ii) The Mineral Conservation and Development Rules, 2017 have been amended through the Mineral Conservation and Development (Amendment) Rules, 2024 notified vide G.S.R. 51(E) dated 21.01.2024 for implementing provision of exploration licence, for rationalization of penalty for small miners having lease area up to 25 hectares and approved production up to 2.0 lakh tonnes and to relax the requirement of submission of mining plan for its review and for submission of self-assessment report for star rating, for the mines where mining or mining operations have been discontinued and such discontinuance has been duly reported. The Mineral Conservation and Development (Amendment) Rules, 2024 are available at Ministry of Mines' website on web link - <https://mines.gov.in/admin/storage/app/uploads/65ae539091136105923472.pdf>

(iii) The Mineral (Auction) Rules, 2015 has been amended through the Mineral (Auction) Amendment Rules, 2024 notified vide G.S.R. 49(E) dated 21.01.2024 to implement the provision of exploration licence which was introduced through the MMDR Amendment Act, 2023. The Mineral (Auction) Amendment Rules, 2024 are available at Ministry of Mines' website on web link - <https://mines.gov.in/admin/storage/app/uploads/65ae5352376011705923410.pdf> The Minerals (Evidence of Mineral Contents) Rules, 2015 has been amended through the Minerals (Evidence of Mineral Contents) Amendment Rules, 2024 notified vide G.S.R. 52(E) dated 21.01.2024 to implement the provisions of the MMDR Amendment Act, 2023. The Minerals (Evidence of Mineral Contents) Amendment Rules, 2024 are available at Ministry of Mines' website on web link -

<https://mines.gov.in/admin/storage/app/uploads/65ae53c19cab41705923521.pdf>

(iv) The Atomic Minerals Concession Rules, 2016 has been amended through the Atomic Minerals Concession (Amendment) Rules, 2024 which have been notified vide G.S.R. 106(E) dated 14.02.2024 to implement the provisions of the MMDR Amendment Act, 2023. The Atomic Minerals Concession (Amendment) Rules, 2024 are available at Ministry of Mines website on web link: <https://mines.gov.in/admin/storage/app/uploads/65e6e33f561941709630271.pdf>

(v) The Minerals (Other than Atomic and Hydro Carbons Energy Mineral) Concession Rules, 2016 has been amended through the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession (Second Amendment) Rules, 2024 which have been notified vide G.S.R 118(E) dated 20.02.2024. Through the said rules, methodology for calculation of Average Sale Price of several critical minerals was specified. The Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession(Second Amendment) Rules, 2024 are available at Ministry of Mines website on web link: <https://mines.gov.in/admin/storage/app/uploads/663482301e1eb1714717232.pdf>

**(a) Amendment to OAMDR Act and Rules**

The First Schedule of the OAMDR Act, 2002 has been amended to rationalize the royalty rate of offshore Minerals, viz., Construction sand, Dolomite, Limestone and Lime mud, Polymetallic Nodules and crusts, overburden or waste. vide No. S.O. 4760(E), dated 29.10.2024.

Specification and rationalization of royalty rates of offshore minerals would facilitate the auction of mineral blocks in the offshore area under the OAMDR Act.

(1) The following Rules have been framed and notified in pursuance of the OAMDR Act:

(i) The Offshore Areas (Existence of Mineral Resources) Rules, 2024 have been notified vide G.S.R. 315(E) dated 06.06.2024. Through the said rule, criteria for auction to grant production lease (PL) and composite licence (CL) was specified. Rules also provide exploration norms for Construction Grade Silica Sand, Non- Construction Grade Calcareous Sand, Calcareous mud or Lime- mud, Phosphatic Sediment, Deep Sea Minerals, REE Minerals, Hydrothermal Minerals/ Iron Manganese Crusts & Nodule of mineral deposits. The Offshore Areas (Existence of Mineral Resources) Rules, 2024 are available at Ministry of Mines website on web link: <https://mines.gov.in/admin/download/666ab5ceae0021718269390.pdf>

(ii) The Offshore Areas Mineral Trust Rules, 2024 have been notified vide G.S.R. 490(E) dated 09.08.2024. Through the said rule, research and studies with respect to offshore areas and mitigation measures for any adverse impact, providing relief upon the occurrence of any disaster, activities for the interest and benefit of persons affected by operations, funding institutions for undertaking studies for mineral development, sustainable production operations, adoption of advanced scientific & technological practices and mineral extraction metallurgy, funding procurement of sophisticated scientific equipment by government organizations and using the Trust Fund for other purposes. The said Rule also provides contribution to Offshore Areas Mineral Trust (OAMT) Funds at 10% of royalty. The Offshore Areas Mineral Trust Rules, 2024 are available at Ministry of Mines website on web link: <https://mines.gov.in/admin/download/66c7132bfe341724322603.pdf>

(iii) The Offshore Areas Mineral (Auction) Rules, 2024 have been notified vide G.S.R. 502(E) dated 14.08.2024. Through the said rule, it provides for 2-round Ascending Forward Online Electronic Auction, minimum percentage of the value of mineral dispatched (“reserve price”) have been specified in the tender document, bidder shall quote a percentage of value of mineral dispatched equal to or above the reserve price. The Periodic Payments of Auction Premium — as per final bid in auction, Royalty / fixed rent, Contribution to Offshore Areas Mineral Trust — 10% of royalty and Contribution towards the International Seabed Authority (applicable only beyond 200 NM). This rule also provide one time payments for Bid security, Upfront Payment, Performance Security for Production Lease (PL) and Composite Licence (CL). The Offshore Areas Mineral (Auction) Rules, 2024 are available at Ministry of Mines website on web link: <https://mines.gov.in/admin/download/66c2cca830a291724042408.pdf>

(iv) The Offshore Areas Operating Right Rules, 2024 have been notified vide G.S.R. 646(E) dated 16.10.2024. Through the said rule, it regulates the grant of operating rights, viz. Production lease, Composite licence and stipulate key terms and conditions of operating rights to be complied by operating right holder. Rules also provide conditions for lapse, surrender, termination and transfer of operating rights. Rules also have separate chapter for mineral valuation, including, methodology for payment of royalty, auction premium. The Offshore Areas Operating Right Rules, 2024 are available at Ministry of Mines website on web link: <https://mines.gov.in/admin/download/67124e3f456b41729252927.pdf>

## **(b) Others Reforms**

(i) In exercise of the powers conferred under the proviso of clause (b) of sub-section (1) of Section 6 of the Mines and Mineral (Development and Regulation) Act, 1957, the area limit for prospecting licence and mining lease in respect of each of the 24 critical and strategic minerals listed in Part-D of the First Schedule to the MMDR Act, 1957 has been increased to 100 Sq. Km and 50 Sq. km. respectively, for each of the States vide order dated 22.02.2024.

(ii) Vide the MMDR Amendment Act, 2021, enabling provisions have been made so that private entities may be notified under Section 4(1) of the MMDR Act for conducting exploration without prospecting licence and also for funding of eligible private exploration agencies from NMET. In pursuance of these amendments, the Ministry has accepted the scheme of accreditation of private exploration agencies developed by the QCI-NABET and issued guidelines on 12.08.2021 for notification of accredited private exploration agencies. So far 28 Private Exploration Agencies have been notified for the said purpose.

(iii) Ministry of Mines vide Order dated 21.10.2024, issued directions under Section 20A of the MMDR Act, The Central Government, in the national interest, for the scientific and sustainable development and exploitation of mineral resources, directed that the Central Government shall henceforth notify the mineral blocks and conduct their auction for grant of exploration license under sub-section (4) and (6) section 10BA of the Act, vide order dated 21.10.2024.

(iv) In exercise of the powers conferred by sub-section (2) of section 16 of the Offshore Areas Mineral (Development and Regulation) Act, 2002 (17 of 2003), the Central Government made amendments in the First Schedule to the said Act vide No. S.O. 4760(E), dated 29.10.2024 to specify the royalty rates for Construction Sand, Polymetallic Nodules and Crusts and Overburden or waste and to revise the royalty rates

for Dolomite and Limestone and Lime mud.

## **B India International Trade Fair (IITF) 2024**

The Ministry of Mines Pavilion has been awarded the First Position (Gold) for excellence in display in India International Trade Fair (IITF), 2024 out of 49 Ministries. The theme of Ministry's pavilion was 'Minerals to Milestones'. The pavilion highlighted the Ministry's contributions toward achieving Prime Minister's vision of a Viksit Bharat by 2047. The pavilion offered a dynamic blend of innovation, heritage, and sustainability, captivating visitors of all ages. Over 80,000 Visitors Explored Innovation, Technology, and Heritage at the Mining Pavilion.



## **C Status of Auction and District Mineral Fund (DMF)**

Since the introduction of auction regime in 2015, 442 mines are auctioned in the country. During the Year 2024-25, 88 mineral blocks have been successfully auctioned till 10.12.2024. Out of these, 51 mineral blocks were auctioned for Mining Lease (ML) and the remaining 37 were auctioned as Composite Licence (CL). Out of the 442 blocks auctioned since 2015, ML/CL has been executed in case of 109 and 54 blocks are in production. During the year 2024-25, Rajasthan and Madhya Pradesh have successfully auctioned the maximum number of blocks, i.e. 33 and 14 blocks respectively. In the year 2023 a total number of 35



Limestone Mineral were auctioned which was the highest mineral auctioned in the year 2023, similarly this year also a highest number of 42 Limestone mineral were auctioned followed by 9 Nos of Graphite Mineral. During the year 2024-25 a total of 151 NITs have been issued by different states till date, the details of which are as follows:

<b>State-wise Summary of number of blocks put up for auction</b>	
<b>States</b>	<b>2024-25</b>
<b>Bihar</b>	3
<b>Chhattisgarh</b>	9
<b>Karnataka</b>	18
<b>Madhya Pradesh</b>	33
<b>Rajasthan</b>	61
<b>Goa</b>	3
<b>Telangana</b>	3
<b>Central Government</b>	21
<b>Total</b>	151

## **2. Steps taken by Ministry of Mines for Critical and Strategic Minerals in FY. 2024-25.**

- i. To enhance the exploration program for identifying potential mining sites in order to boost domestic production for the critical and strategic minerals, Geological Survey of India (GSI), in current year 2024-25, has taken up 195 mineral exploration projects for critical and strategic minerals across the country.
- ii. Ministry of Mines has been empowered to auction blocks for grant of Exploration Licence through an order dated October 21, 2024 under section 20A of MMDR Act 1957.
- iii. Central Government has successfully auctioned 24 blocks of critical and strategic minerals.
- iv. Ministry has also focussed on funding various projects of mining exploration through National Mineral Exploration Trust (NMET). In current year 2024-25, NMET has funded 40 projects of critical minerals through various exploration agencies.
- v. To encourage private participation in exploration, Ministry of Mines has notified 28 private exploration agencies (NPEAs). These agencies are taking up exploration projects through funding from NMET.
- vi. To support the critical minerals sector, Government has eliminated customs duties on 25 minerals and reduced Basic Customs Duties (BCD) on 2 minerals.
- vii. Union Finance Minister in the Union Budget 2024-25 has announced the setting up of a Critical Mineral Mission for domestic production, recycling of critical minerals and overseas acquisition of critical mineral assets on 23<sup>rd</sup> July, 2024.

## **3. Successful auction of 24 critical mineral blocks in four tranches by Central Government**

In connection to the Mines and Minerals (Development and Regulation) Amendment Act, 2023, the Ministry of Mines has notified 66 Notice Inviting Tenders (NITs) for 48 blocks launched in 04 tranches, 20 blocks in Tranche I in Nov 2023, 18 blocks Tranche II in Feb 2024, 7 blocks in Tranche III in March 2024 and 21 blocks in Tranche IV in June 2024. A total of 24 critical mineral blocks are successfully auctioned having minerals viz., Lithium, REE, Graphite, Vanadium, Nickel, Chromium, Cobalt, Manganese, Glauconite,

Platinum Group of Elements (PGE), Tungsten, and Phosphorite. These blocks are spread across the States of Andhra Pradesh, Arunachal Pradesh, Bihar, Jharkhand, Madhya Pradesh, Maharashtra, Karnataka, Odisha, Tamil Nadu, Uttar Pradesh and Chhattisgarh. States of Arunachal Pradesh, Bihar and Tamil Nadu has marked their presence on the auction map of India with their maiden auctions of critical and strategic mineral blocks.

#### **4. District Mineral Foundation**

Section 9B of MMDR Act empowers State Governments to establish District Mineral Foundation (DMF) to work for welfare and benefit of persons, and areas affected by mining related operations and make rules for composition and functions of the DMFs in the State.

Under section 20A of the MMDR Act, Union Government circulated Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) guidelines on 16.09.2015 with directions to State Governments to incorporate the same into the DMF rules framed by them. The DMF is funded by statutory contributions from holders of mining lease. Funds under DMF are accrued at the concerned districts and are utilised by the DMF as per the guidelines for implementation of projects under PMKKKY. Accordingly, DMF has been constituted in 645 districts in 23 States.

Further, on 15/01/2024, Government of India has issued the revised PMKKKY guidelines and increased the percentage of utilisation in high priority sectors from at least 60% to at least 70%. New sectors of Housing, Agriculture and Animal Husbandry, along with general guidelines regarding convergence of schemes, project management unit, endowment fund and affected areas in more than one district are introduced. Further, new guidelines have also incorporated amendments and addition in section 'Transparency & Accountability', State Level Monitoring Committee, grievance redressal and compliance mechanism.

Ministry of Mines has also launched the National DMF Portal on 20th July, 2024 for facilitating the administration and monitoring of DMFs, and ensuring transparency by making details available to the public.

Till Oct 2024, a total of Rs. 101157.66 Cr. has been collected under DMF out of which Rs 86888.75 Cr have been allocated for various projects under PMKKKY and Rs. 54480.20 Cr has been utilized. Total 358370 projects have been sanctioned under the scheme and a total 199343 projects have been completed so far.

#### **D Critical Mineral Mission**

##### **Announcement of Critical Mineral Mission:**

During the Budget speech on 23<sup>rd</sup> July 2024 Union Finance Minister, announced establishment of the Critical Mineral Mission in the Union Budget speech 2024-25 as follows:

*“We will set up a Critical Mineral Mission for domestic production, recycling of critical minerals, and overseas acquisition of critical mineral assets. Its mandate will include technology development, skilled workforce, extended producer responsibility framework, and a suitable financing mechanism.”*

The Mission will be driven by the objective of ensuring a sustainable, resilient, and self-reliant critical minerals value chain in India. The Mission will focus on the entire value chain of the critical minerals sector i.e. from Exploration, Extraction, Processing, End-use, Recycling and Recovery.

Following the announcement of the Critical Minerals Mission, the Ministry of Mines organized a budget seminar on the 'National Critical Minerals Mission', on 14th August, 2024 in New Delhi. The primary objective of this seminar was to promote productive dialogue and collaboration with all industry stakeholders in developing a robust strategy for the National Critical Minerals Mission.



*Budget seminar on the 'National Critical Minerals Mission', held on August 14, 2024.*

### **Critical Minerals Summit:**

The Ministry of Mines along with CEEW, Shakti Sustainable Energy Foundation and TERI organized a Critical Minerals Summit: Enhancing Beneficiation and Processing Capabilities' on April 29-30, 2024 at the India Habitat Centre, New Delhi.

The objective of the Summit was to equip government and industry stakeholders with the knowledge, connections and tools necessary to accelerate the domestic production of Critical Minerals, supporting India's economic growth and sustainability objectives. The Summit served as a platform for transformative dialogue and collaboration, setting the stage for further conversations for short listing the steps required to be taken for India's emergence as a global leader in critical mineral sector.



*Critical Minerals Summit held on April 29-30, 2024.*

### **Closed Door round table discussion on Critical Minerals Policy:**

On the side-lines of the Critical Minerals Summit, a closed-door roundtable discussion on the Critical Minerals Policy was held on 30<sup>th</sup> April 2024. The meeting included representatives from a diverse range of stakeholders, including industry, civil society, public sector undertakings (PSUs), think tanks, and academia. The purpose of the discussion was to gather ideas and suggestions from these varied perspectives to support the drafting of India's Critical Minerals Policy.



*Closed-door roundtable discussion on the Critical Minerals Policy, held on April 30, 2024*

### **Industry consultations**



1. An industry interaction on various multilateral cooperation initiatives in the minerals sector was held on 24<sup>th</sup> April 2024 at the Ministry of Mines, under the chairpersonship of Dr. Veena Kumari Dermal, Joint Secretary. The discussion emphasized the need to leverage these platforms to strengthen the critical minerals supply chain and safeguard India's interests in the critical minerals sector.



*Industry interaction held on 24<sup>th</sup> April 2024*

### **Inter-ministerial Meetings**

1. Secretary, Ministry of Mines, Government of India, Shri V. L. Kantha Rao chaired the second meeting of the Inter-Ministerial Group held On 25 April 2024, on Critical Minerals to formulate a coordinated approach and holistic strategy for securing critical minerals supply chain for India. The discussion focused on strengthening the supply chain through both bilateral and multilateral engagements and advancing critical mineral projects.



*Second meeting of the Inter-Ministerial Group held on April 25, 2024.*

2. The first Inter Ministerial committee meeting on “Mechanism for Indian Companies to Acquire Critical Minerals Abroad” was held on 3<sup>rd</sup> June, 2024 under the chairmanship of Additional Secretary, Ministry of Mines. In the meeting a detailed discussion took place regarding the challenges associated with the current mechanism for acquiring critical minerals abroad and to simplify the acquisition process.

3. The 3<sup>rd</sup> meeting of the Inter-Ministerial Group on Critical Minerals was held on 16 September, 2024 under the chairmanship of Shri V.L. Kantha Rao, Secretary, Ministry of Mines. In the meeting, representatives from various ministries & PSUs engaged in productive discussions to ensure a secure supply of critical minerals for India.



*Third meeting of the Inter-Ministerial Group on Critical Minerals, held on September 16, 2024*

**Minerals Security Partnership (MSP):**

Minerals Security Partnership is an ambitious new US-led multilateral partnership to secure supply chains of critical minerals, aimed at reducing dependency on China. In June 2023, India became newest partner (14th member country) in MSP, to accelerate the development of diverse and sustainable critical energy minerals supply chains globally while agreeing to the principles of the MSP including environmental, social and governance standards. A list of 32 MSP projects has been shared for consultation and India's participation in MSP projects. Ministry of Mines attended the several VC meetings held under MSP platform.

An Indian delegation led by Shri Sanjay Lohiya, Additional Secretary, Ministry of Mines attended the Mineral Security Partnership (MSP) Principals' meeting and MSP Forum Meeting on 26<sup>th</sup> September 2024 in New York, USA.



*Indian Delegation, participated in Mineral Security Partnership (MSP) Principals' meeting and MSP Forum Meeting on 26<sup>th</sup> September 2024 in New York.*

### **UN Secretary-General's Panel on Critical Transition Minerals:**

The UN Secretary-General's Panel on Critical Transition Minerals was launched on 26 April, 2024 with the aim to bring together a diverse group of governments and other stakeholders across the entire minerals value chain to set a global common and voluntary principles for energy transition. Dr. Veena Kumari Dermal, Joint Secretary, Ministry of Mines participated in discussions across four work streams of the panel. The Panel's final report – "Resourcing the energy transition: principles to guide critical energy transition minerals towards equity and justice" was released on 11 September, 2024.

### **Indo-Pacific Economic Framework (IPEF):**

The Indo-Pacific Economic Framework (IPEF) is a strategic economic initiative launched by the United States in May 2022 to enhance economic cooperation among Indo-Pacific nations

The Ministry of Mines participated in several VC meetings for the four work streams- a. Mineral Resource Mapping; b. Trade Promotion c. Mineral recovery and recycling d. Labour and Environmental Standards under the IPEF Critical Minerals Dialogue.



## Cooperation with International Banks:

1. Smt. Madhumita Banerjee, Sr. Geologist attended 2024 Regional Cooperation and Integration (RCI) Conference on Enhancing Critical Minerals for the Clean Energy Transition from 15-17 October, 2024 in Hanoi, Viet Nam organized by Asian Development Bank. The Conference provided a venue to discuss ADB's policy directions for and the role of regional cooperation in clean energy transition and decarbonization; discuss policies and strategies for enhancing critical minerals for clean energy transition; explore technologies and innovations etc.



*RCI Conference organized by ADB from 15-17 October, 2024 in Hanoi, Viet Nam*

2. A workshop on "World Bank Assistance for developing a resilient supply chain for critical minerals through the Resilient and Inclusive Supply Chain Enhancement (RISE)" was held on 24<sup>th</sup> October 2024 under the chairmanship of Shri Sanjay Lohiya, Additional Secretary, Ministry of Mines.

## Other important meetings held to strengthen the Critical Mineral value chain:

1. Shri V.L. Kantha Rao, Secretary Ministry of Mines held a meeting with H.E. Ms Christina Scott, Acting High Commissioner of UK to India and discussed about India-UK Tech and Security initiatives as well as cooperation in the areas of critical minerals exploration, beneficiation and circularity.
2. Mohammad Sadiq Superintending Geologist attended a meeting of US-India Energy Storage Task Force (ESTF) Steering Committee members with US delegation & IESA on 16<sup>th</sup> July, 2024.
3. Expenditure Finance Committee (EFC) meeting to consider the proposal for "Appraisal of National Critical Mineral Mission (NCMM)" was held on 15.09.2024 in Ministry of Finance, North Block, New Delhi.



4. Shri Anshoo Pandey, Director, Ministry of Mines, delivered a presentation titled “strengthening India’s critical mineral sector” at the Madhya Pradesh Mining Conclave- 2024, held on 18.10.2024. The presentation emphasized the themes of self-reliance and sustainable resource development.



*Presentation delivered by Shri Anshoo Pandey, Director, Ministry of Mines at Madhya Pradesh Mining Conclave- 2024, held on October 18, 2024.*

5. A delegation led by Shri V. L. Kantha Rao, Secretary, Ministry of Mines participated in the International Mining and Resources Conference (IMARC) 2024 and other bilateral engagements from 28<sup>th</sup> October to 1<sup>st</sup> November 2024, in Sydney and Perth, Australia.



*Indian Delegation in IMARC 2024*

6. A meeting between the Ministry of Mines, India, and the Queensland Government was held on December 13, 2024, at 11:30 AM via video conference. This meeting was a follow-up to the conversation held at IMARC, Sydney, and focused on exploring collaboration opportunities to address India's critical minerals needs, especially for supporting high-technology industries.
7. Shri V. L. Kantha Rao, Secretary, Ministry of Mines held a meeting with a delegation from the Democratic Republic of Congo (DRC) led by the H.E. Mr. Wabenga Kalebo Theo, Permanent Secretary, Ministry of Foreign Affairs, DRC on April 9, 2024. Both sides discussed areas of cooperation in critical mineral sector, processing of precious and semi-precious stones as well as capacity building and skill development.





*Bilateral meeting with Democratic Republic of Congo (DRC) held on April 9, 2024.*

8. Shri V.L. Kantha Rao, Secretary Ministry of Mines, Government of India held a meeting on 20 February, 2024 with H.E. Ms Christina Scott, Acting High Commissioner of UK to India and discussed about India-UK Tech and Security initiatives as well as cooperation in the areas of critical minerals exploration, beneficiation and circularity.



*Bilateral meeting with Acting High Commissioner of UK to India held on 20 February, 2024.*

## **E National Mineral Exploration Trust (NMET)**

The National Mineral Exploration Trust (NMET) was established by the Government of India vide Gazette Notification in August 2015, in pursuance of subsection (1) of Section 9C of the Mines and Minerals (Development and Regulation) Act, 1957, with the objective to boost the regional and detailed mineral exploration activities.

### **Milestone achievements for Year 2024 (01.01.2024 to 16.12.2024)**

NMET has approved 120 mineral exploration & procurement projects with an approved cost of ₹ 609.54 Cr. Out of 120 projects, 102 pertain to mineral exploration, 4 pertain to baseline survey and 14 pertain to procurement of equipment/machinery/software.

- i. During the year 2024 (Jan-Nov), the total NMET fund accrued is ₹ 894.57 Cr., out of which expenditure of ₹ 292.11 Cr. has been incurred.
- ii. NMET has funded 29 projects of 11 Notified Private Exploration Agencies (NPEAs) amounting to Rs. 56.24 Cr of which 20 pertain to critical minerals and 09 non-critical minerals.
- iii. NMET has provided financial assistance to States and Central agencies/PSUs for 14 projects amounting to ₹ 194.11 Cr. for procurement of machinery equipment.
- iv. During the year 2024, 05 blocks explored with NMET funding were successfully auctioned.

- v. Phase-I of the proposal of GSI to set up a “Data Processing, Interpretation and Integration Centre (DPIIC)” to enhance geophysical data processing was sanctioned by NMET at approved cost of Rs. 4.07 Cr.
- vii. Incentive of ₹ 16.60 Cr. was provided to 8 States (Karnataka, Madhya Pradesh, Gujarat, Andhra Pradesh, Maharashtra, Rajasthan, Uttar Pradesh and Chhattisgarh) for auction of mineral blocks during the year 2024.
- viii. NMET provides funding support to Start-ups and MSMEs under the S&T PRISM scheme of Ministry of Mines to support R&D projects. Till date, NMET has funded 11 Projects under the S&T Prism scheme of Ministry of Mines with approved cost of ₹12.46 Cr.
- ix. To encourage private participation in exploration, during the year, the Scheme for partial reimbursement of exploration expenses for holders of Exploration Licence was introduced to provide partial reimbursement of exploration expenses with ceiling of ₹20Cr.
- x. The Scheme for partial reimbursement of exploration expenses to Composite Licence holders, introduced in the year 2022, was modified in the year 2024, whereby the ceiling for partial reimbursement was enhanced to ₹ 8 Cr.
- xi. The scheme for engagement of Notified Private Exploration Agencies (NPEAs) was modified on 27th June 2024 to allow all NPEAs to submit mineral exploration projects proposals directly to NMET for all major minerals other than minerals mentioned in Part B of the First Schedule of the MMDR Act, 1957.
- xii. To encourage mineral exploration in districts affected by Left Wing Extremism (LWE), the cost of field components of exploration work in most affected LWE Districts’ was enhanced by 1.25 times of the normal SoC rates on 8th July 2024. The districts most affected include total 12 districts in the States of Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra and Odisha.
- xiii. A new committee namely, TCC-II was constituted for further expediting the cost and technical evaluation of project proposals submitted by exploration agencies.
- xiv. To handhold NEAs/NPEAs in formulating exploration projects and enhance capacity building, NMET has funded 08 state-level workshops and 01 National level workshop organised at GSITI, Hyderabad NMET.

## **F Brief Activities on International Cooperation**

### **Signing of Memorandum of Understanding:**

- A Memorandum of Understanding (MoU) between Ministry of Mines and Govt. of Republic of Cote d’Ivoire for collaboration in the field of Geology and Mineral Resources has been signed on the side-line of Mining Indaba-2024 on 5th February, 2024 in South Africa.
- A Memorandum of Understanding (MoU) was signed between the Ministry of Mines and Shakti Sustainable Energy Foundation for providing knowledge support in the field of Critical Minerals in New Delhi on 30th April, 2024 is the side-lines of high level conference on ‘The Critical Minerals Summit: Enhancing Beneficiation and Processing Capabilities’ organised by Ministry of Mines and in collaboration with the Shakti Sustainable Energy Foundation (SSEF), the



Council on Energy, Environment and Water (CEEW), and the International Institute for Sustainable Development (IISD).

- The Ministry of Mines has signed a Memorandum of Understanding (MoU) with the International Energy Agency (IEA) on cooperation in the area of Critical Minerals. The MoU has been exchanged on 13<sup>th</sup> November, 2024 at Shastri Bhawan, New Delhi.

## **1. Joint Working Group (JWG) Meetings:**

- An Indian delegation led by Shri Vivek Kumar Bajpai, Joint Secretary, Ministry of Mines participated in the 2<sup>nd</sup> Joint Working Group (JWG) for cooperation in the field of Geology and Mineral Resources between India and Zambia held during 10<sup>th</sup> to 11<sup>th</sup> June, 2024 in Lusaka, Zambia.
- The 4<sup>th</sup> India-Australia Joint Working Group meeting on Critical Minerals was held on 29.10.2024 in Sydney, Australia Co-chaired by Shri V.L Kantha Rao, Secretary, Ministry of Mines.

## **2. Bilateral/ Multilateral Meetings with Foreign Countries:**

- An Indian delegation led by Ms. Farida M. Naik, Joint Secretary, Ministry of Mines participated in the 'Future Minerals Forum 2024' held at Riyadh, Saudi Arabia from 9<sup>th</sup> - 11<sup>th</sup> January, 2024.
- 7<sup>th</sup> India-US forum was held from 27 to 29 January at the Imperial Hotel in New Delhi. This event was attended by Shri. V.L. Kantha Rao, Secretary, Ministry of Mines on 28.01.2024. During the event Shri V.L. Kantha Rao, Secretary, Ministry of Mines, stated that both countries would take up joint projects on Geoscientific Data Processing, R & D in the processing of Critical Minerals, opportunities for Junior Mining Companies and the recycling of Critical Minerals.
- An Indian delegation led by Shri V. L. Kantha Rao, Secretary (Mines) participated in 105<sup>th</sup> International Organizing Committee Meeting of the World Mining Congress, CRU World Copper Conference held in Santiago, Chile during 14<sup>th</sup> to 18<sup>th</sup> April, 2024.
- India delegation led by Shri V. L. Kantha Rao, Secretary, Ministry of Mines participated in BRICS Round Table on "Prospects for Cooperation in BRICS in the Sphere of Exploration and Management of Mineral Resources", and Other Bilateral Meetings held in Moscow, Russia during 15<sup>th</sup> to 18<sup>th</sup> July, 2024.
- The 9<sup>th</sup> meeting of the India-Russia Sub-Group on Mining of the Working Group on Modernization and Industrial Cooperation under the Intergovernmental Russian-Indian Commission on Trade, Economic, Scientific, Technical and Cultural Cooperation (IRIGC-TEC) was held on 11<sup>th</sup> September, 2024 through hybrid mode. The Indian delegation was headed by Shri Vivek Kumar Bajpai, Joint Secretary, Ministry of Mines, Government of India, the Co-chair of Indian side. The Russian delegation was headed by Mr. Ivan Markov, Director of the Department of Metallurgy and Materials of the Ministry of Industry and Trade of the Russian Federation, the Co-chair of the Russian side.

- An Indian delegation led by Shri Sanjay Lohia, Additional Secretary, M/o Mines attended the MSP Principal and MSP Forum meetings in New York, USA on 26<sup>th</sup> September, 2024.
- Shri Sukhdeep Singh, Joint Director, Ministry of Mines attended the 20th Annual General Meeting of the Intergovernmental Forum (IGF) held during the period 18<sup>th</sup> to 21<sup>st</sup> November 2024 in Geneva, Switzerland.

### **3. Participation in the International Mining events to showcase India's capabilities, interest and opportunities in mining sector:**

- An India Delegation led by Shri Sanjay Lohiya, Additional Secretary, Ministry of Mines participated in Mining Indaba-2024 event held at Cape Town, South Africa from 5<sup>th</sup> to 8<sup>th</sup> February, 2024. An Indian Pavilion was also set up to showcase capability and opportunity in Indian mining and mineral sector. Further, An MoU between Ministry of Mines and Govt. of Republic of Cote d'Ivoire for collaboration in the field of Geology and Mineral Resources has been signed on the sideline of Mining Indaba-2024.
- An Indian delegation led by Shri V.L. Kantha Rao, Secretary (Mines) participated in Prospector Developers Association of Canada (PDAC)-2024 event held at Toronto, Canada from 3<sup>th</sup> to 6<sup>th</sup> March, 2024. An Indian Pavilion was set up to showcase capability and opportunity in Indian mining and mineral sector. An India Day Session was also held on 4<sup>th</sup> March, 2024 at PDAC2024.
- An Indian delegation led by Shri Vivek Kumar Sharma, Director, Ministry of Mines visited the Democratic Republic of Congo to participate in the DRC Mining Week Expo & Conference, held from 12<sup>th</sup> to 14<sup>th</sup> June, 2024, in Lubumbashi, Congo.
- Smt. Farida M Naik led an Indian delegation to Mongolia for participation in Mining Week 2024 and 'International Quarrying and Mining Exhibition & Convention' (Mine Pro 2024) from 02.10.2024 to 03.10.2024.
- Shri V.L Kantha Rao, Secretary, M/o Mines led an Indian delegation to Australia for participation in IMARC 2024 and other bilateral engagements in Australia from 28.10.2024 to 01.11.2024. The 4<sup>th</sup> India -Australia Joint Working Group meeting on Critical Minerals was held on 29.10.2024 in Sydney, Australia.
- Shri Dinesh Mahur, Joint Secretary, Ministry of Mines led a 33 members' Indian delegation to participate in "The Mining Show 2024" held at Dubai, UAE from 26<sup>th</sup> to 27<sup>th</sup> November 2024.

#### **KABIL:**

- The Ministry of Mines has set up Khanij Bidesh India Limited (KABIL), a joint Venture company with equity contributions from National Aluminium Company (NALCO), Hindustan Copper Limited (HCL), and Mineral Exploration and Consultancy Limited (MECL). Its overarching mission is to identify and acquire overseas mineral assets that hold critical and strategic significance, specifically targeting minerals like Lithium, Cobalt, and others.
- On 15.01.2024, KABIL signed an Exploration and Development Agreement with CAMYEN, a state-owned enterprise of Catamarca province of Argentina, for Exploration and mining of five Lithium Blocks in Argentina.
- KABIL is also constantly having interactions with Critical Mineral Office in Australia with the primary objective of acquiring critical and strategic mineral assets.

## **G National Aluminium Company limited (NALCO)**

NALCO has achieved stellar business performance in FY 2023-24, which are outlined below:

### **A. Performance Highlights for FY 2023-24:**

#### **(I) Financial Highlights:**

- NALCO has posted revenue of Rs.13,149 Cr.
- NALCO has recorded net profit of Rs 2,060 Cr in the year, registering an increase of 33% w.r.t FY 2022-23.
- The Company continues to retain its position of lowest cost producer in Bauxite and Alumina production in the World in 2023.

#### **(II) Production Highlights:**

- Achieved highest ever annual Bauxite transportation of 75,27,016 tonne since inception in FY 23-24, surpassing the previous highest of 75,11,075 tonne achieved in the FY 21-22.
- Smelter Plant achieved highest ever cumulative metal production of 4,63,428 tonne in FY 23-24. The previous highest was 4,60,000 tonne in FY 22-23 and FY 21-22.



- Coal production & dispatch of 2 Million Tonnes have been accomplished from the **Utkal-D** Coal Mines for the fiscal year 2023-24, aligning with the approved mining plan.



### **(III) Sales Highlights:**

- Highest ever cumulative annual metal sale of 4,70,108 tonne up to Mar'24 in FY 23-24, surpassing the previous highest of 4,64,090 tonne up to March'23 in FY 22-23.

### **(IV) New Product:**

- Launched a new product AL-59 on 28.03.2024. This will cater primarily for producing Alloy conductors for electrical transmission and distribution.

### **(V) Procurement:**

#### **GeM Procurement:**

- GeM procurement of Rs.3,459 Cr in FY 23-24 against a target of Rs.3,382 Cr.
- Procurement of services through GeM has increased more than fourfold i.e. Rs.234 Cr achieved in FY 23-24 against Rs. 54 Cr achieved in FY 22-23.

## **B. Performance Highlights for FY 2024-25 (Till Nov'2024)**

### **(I) Financial Highlights:**

- NALCO has posted PAT of Rs. 1,062.18 Cr in the 2<sup>nd</sup> quarter (Q2) of FY 24-25. The cumulative PAT for H1 of FY 24-25 is Rs. 1,663.40 Cr in, an increase of 199.36% over the same period in previous year i.e. FY 23-24.
- The revenue from operations is Rs.6,857.58 Cr in the H1 of FY 24-25, an increase of 10.20% over the same period in previous FY 23-24.



- NALCO has announced an interim dividend of Rs.4 per equity share (80% on the face value of Rs.5 each) amounting to Rs.734.65 crore for FY 24-25.

## **(II) Production Highlights:**

- Panchpatmali Bauxite Mines has achieved highest ever Bauxite production of 6,72,114 tonne for the month of October since inception, in Oct' 24, surpassing the previous highest of 6,63,219 tonne in October'18.
- Annual Coal production and dispatch target of 02 Million Tonne of Utkal-D Coal Mine for FY 24-25 achieved on 17.10.2024 and 22.10.2024 respectively.

## **(III) Sales Highlights:**

- Achieved highest ever cumulative domestic metal sale of 2,93,032 tonne up to the month of Nov'24 since inception, surpassing the previous highest of 2,92,548 tonne up to Nov'22 in FY 2022-23.

## **C. Other Highlights**

### **(I) Project Highlights:**

#### **Expansion projects:**

##### **Pottangi Bauxite Mines:**

- Mining lease deed executed with Collector, Koraput on 13.06.2024.

##### **JV Projects:**

#### **Khanij Bidesh India Limited (KABIL) - JV with HCL and MECL for Acquisition of Overseas Minerals:**

- KABIL and CAMYEN have signed the exploration and development agreement for five lithium mines blocks on 15.01.2024.
- Catamarca mining authority has issued resolution stating KABIL as mining operator for the 5 blocks.
- Non-invasive exploration activities started on 04.10.2024 in the 4 blocks with Geological mapping, Geochemical sampling, survey, etc.
- Registration of Branch office of KABIL at Catamarca approved on 27.11.2024.

### **(II) CSR initiatives:**

- The Company has taken up many projects for socio economic development of local populace. The thrust areas of implementation are Healthcare, Education, Drinking water, Rural development, Environmental sustainability and Development of Iconic city, Puri. Few of the notable flagship CSR schemes of the Company are noted below:

## Health Care:

- Door step health service by Mobile Health Unit (MHU): NALCO runs eight Mobile Health Units (MHUs) in and around 250 peripheral villages, providing medical treatment to over 100,000 patients annually. Around 1.18 lakh patients benefitted in FY 2023-24.
- Financial support in FY 2023-24, for upgradation and procurement of health care facilities i.e. (i) Upgradation of Community Health Centers (CHCs) in Koraput district (ii) Procurement of battery-operated ambulance & Mortuary Freezer Cabinet for SCB Medical College & Hospital, Cuttack (iii) Procurement of wild animal rescue vehicles for State Wild Life Organization.

## Education:

- **Indradhanush:** For bringing the tribal students to the mainstream of education, NALCO has sponsored 1,191 students from Maoist dominated peripheral villages of Koraput district for formal education in 3 reputed residential schools in Odisha.
- **NALCO Ki Ladli:** In line with Beti Bachao, Beti Padhao' Mission of GoI, NALCO has provided financial assistance to Meritorious girl students of BPL families at Angul and Damanjodi sector. Till date 816 girls are supported to complete their high school education.
- Provision of quality education to periphery students in vernacular medium schools at Angul and Damanjodi.

## Iconic City Projects:

- NALCO has taken the responsibility of Shri Jagannath Temple, Puri & its surrounding under PM's Iconic Shrine Development Programme to upgrade the infrastructure & maintain cleanliness.
- The Company has given special emphasis on Renovation and beautification of Gandhi Park as a tourist spot, temple illumination, beautification of Puri town with thematic painting based on Jagannatha culture, operation of Battery-Operated Vehicle from Jagannath Ballav Math to Shree Jagannath Temple, Railway Station for differently-abled passengers, senior citizens & sick people, RO based water posts at different locations inside Puri Town.

## (III) Major Awards & Accolades:

- NALCO's Panchpatmali Bauxite Mine, Alumina Refinery and Smelter Plant brought laurels for the company upon being awarded with the prestigious CII-EXIM Bank Business Excellence Award-2023 in different categories such as,
  - ✓ Alumina Refinery, Damanjodi bestowed with the honour of "CII-EXIM Bank Award for Business Excellence 2023".
  - ✓ Panchpatmali Bauxite Mine, Damanjodi won the coveted "Platinum" recognition.
  - ✓ Smelter Plant, Angul bagged the coveted "GOLD PLUS" recognition.
- Conferred with the prestigious Dun & Bradstreet Award-2023 for Business Excellence in the non-ferrous metals sector on 06<sup>th</sup> Oct'23.
- Captive Power Plant has bagged Odisha State "Best Performance Award 2023" for energy conservation in the category of CPP on 14<sup>th</sup> Dec'2023 from GoO.

- Smelter Plant was adjudged as the “Best performer in Odisha with 5 star rating” recognition in CII ENCON Energy Conclave’2023 in Kolkata for its strong commitment towards Energy Efficiency.
- Smelter plant was adjudged with” Excellent Energy Efficient” unit in CII National Energy Conservation Award’ 2023 for its strong commitment towards Energy Efficiency at CII Summit, Hyderabad in September’ 2023.
- IBM has conferred 5-star rating award to NALCO’s South Block of Panchpatmali Bauxite Mines for its sustainable mining for the FY 2022-23 on 7<sup>th</sup> August’24.
- Conferred with Top Exporter Gold Trophy Award under large enterprise category for the year 2019-20 & 2020-21 at EEPC’s 38<sup>th</sup> & 39<sup>th</sup> Eastern Region Export Awards ceremony held at Kolkata on 29.07.2024.
- NALCO Port Facilities, Vishakhapatnam awarded 1<sup>st</sup> Prize in Special Campaign 3.0 for maintaining clean and sustainable land use practices conducted by Vishakhapatnam Port Authority across all Port Terminal Operators.
- The Company received highest state honour ‘Biju Patnaik Sports Award 2023’ for best contribution for promotion of Sports & Games on 29<sup>th</sup> August’24, National Sports Day’ 2024.

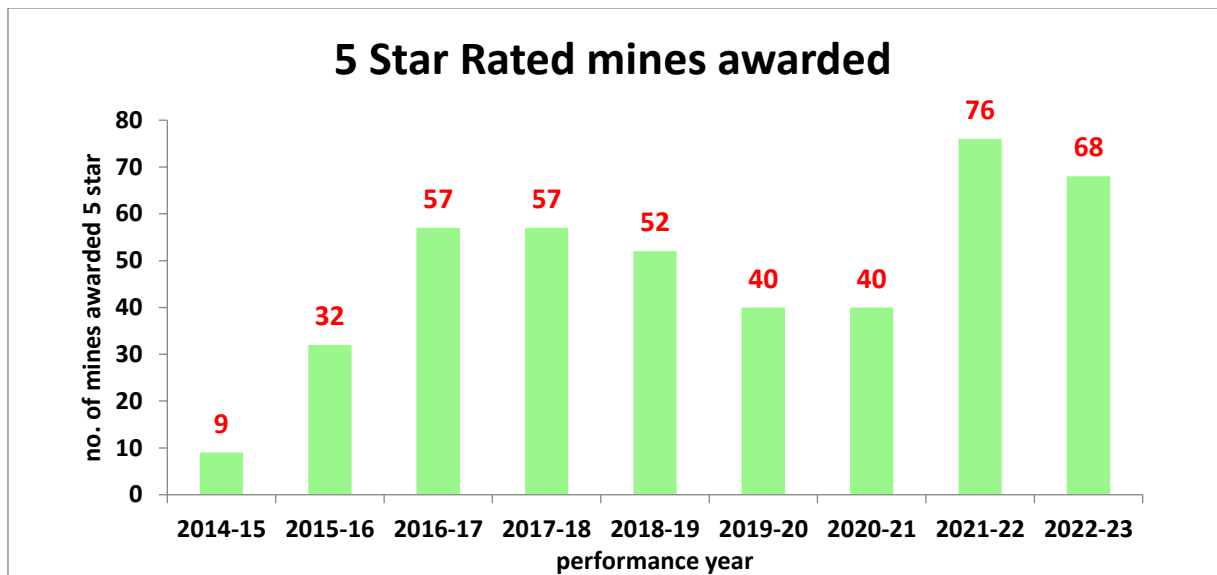
## **H Indian Bureau of Mines (IBM)**

Besides IBM’s core charter of functions, i.e. carrying out various field inspections, Ore Dressing investigations, some of the major achievements are;

### **1. Implementation of the Sustainable Development Framework (SDF) through online evaluation system of Star Rating of Mines:**

Minister of Mines Shri Pralhad Joshi on 23.01.2024 at State Mining Ministers’ Conference launched a New template for Star Rating of Mines, an online platform based on the industry feedback and the experience of previous years, new star rating templates have been prepared for small mines and large mines separately instead of common star rating templates for all the mines, for implementation from performance year 2023-24 onwards.

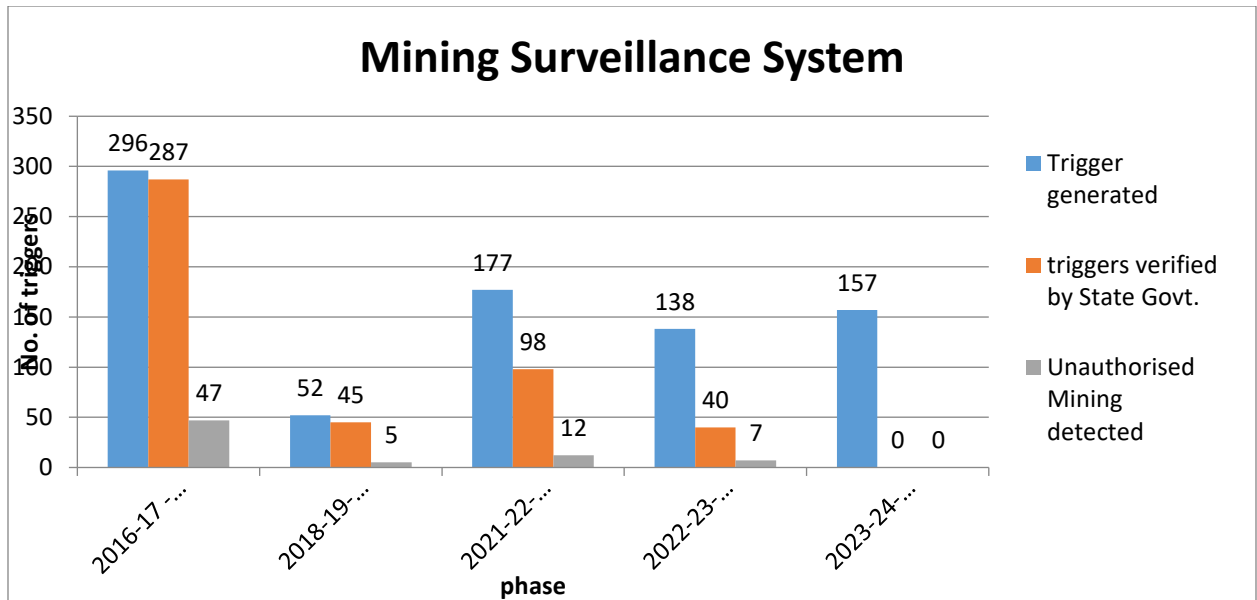
Sixty Eight mines secured five Star rating for the reporting year 2022-23 and were felicitated by Union Minister of Coal and Mines, Shri G. Kishan Reddy and Minister of State for Coal and Mines Shri Satish Chandra Dubey on 7.8.2024 at New Delhi. The year wise 5 Star Rated mines since inception of Star Rating System are given below:



*Felicitation of five star rated mines by the Minister of Mines on 7.8.2024*

- 2. Mining Surveillance System (MSS)** is a satellite-based monitoring system which aims to establish a regime of responsive mineral administration by curbing instances of illegal mining activity through automatic remote sensing detection technology. Using the Mining Surveillance System, during 4th phase in 2022-23, 138 triggers are generated for major minerals. So far, 40 triggers have been verified and 07 cases of unauthorized mining have been detected. During the 5th Phase after the approval accorded by competent authority i.e. Ministry of Mines for uploading the 157 triggers generated during 2023-24 on MSS portal, the same were forwarded to the respective State Governments for verification and appropriate action.





**3. Mining Tenement System (MTS):** Two new modules – Final Mine Closure Plan module and Exploration License/Composite License/Prospecting License module of Mining Tenement System were unveiled by the Minister of Mines, in the programme to recognize the performance of 5-star rated mines held at a Felicitation Ceremony at Dr. Ambedkar International Centre, New Delhi on 07.08.2024.

**Final Mine Closure Plan module**

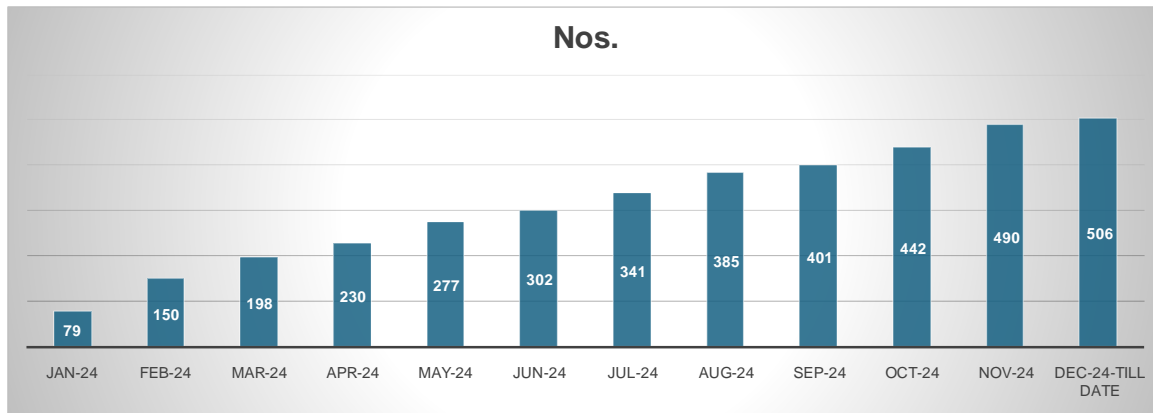


*Unveiling of FMCP module by the Minister of Mines on 7.8.2024*

**Registration Module:** During the Year 2024 till November, 2024, a total of 529 Nos. of registration for different business domains has been carried out in the portal. From Jan.2024 to Nov. 2024, 31 Miners, 218 Traders, 118 End Users, 89 Stockiest and 73 Exporters have registered. Cumulatively Up to November, 2024, 8123 Miners, 5597 End Users, 10617 Traders, 3057 Stockiest, 1708 Exporters have registered online.

**Mining Plan Module:** During the year 2024, till date, 2024, 506 Mining Plans have been submitted online in IBM-MPAS. DPR in respect of the other modules is in progress and they will become operational in phased manner.





### Cumulative Mining Plans Submission - Trend

Senior Officers of the Indian Bureau of Mines led by Shri P.K. Bhattacharjee, Controller of Mines (MTS) attended the 27th National Conference on e-Governance organised by the Department of Administrative Reforms and Public Grievances (DARPG) in Mumbai on 3rd September, 2024. During the Conference, a Paper on Mining Tenement System (MTS) of IBM was selected for publication in the compendium released by DARPG.

**Award for e-Governance Initiatives to IBM:** With implementation of mining Tenement system, IBM in its effort to modernize its e-governance outreach has switched paths to hi-tech modes for effective regulation and to establish a digital regime of responsive Mineral Administration system. For this exemplary contribution in e-Governance Initiative for Government Service, IBM received the Award trophy accompanied by Certificate of Recognition at the 2nd Elets AAtmanirbhar Bharat Summit held in New Delhi on 1.03.2024. The award was received by Shri P.N. Sharma, CCOM—MDR (I/c) & Shri Manish K. Maindiratta, RCOM — on behalf of IBM.



*Certificate of Recognition & trophy to IBM at the 2nd Elets AAtmanirbhar Bharat Summit, 1.03.2024.*

- UAV survey related activities: IBM issued Standard Operating Procedures under sub rule (5) of rule 34A of MCDR, 2017 for carrying out drone survey and submission of Digital Aerial Images of Mining areas to IBM. A register of receipt of drone/ satellite data submitted by the lessees under rule 34A of MCDR 2017 is being maintained at IBM. IBM at its Headquarters has recently commissioned its largest Data Centers with capacity of 131 Terabytes. During 2024, up **November, 2024**, 1349 mines have submitted online Drone data on Drone Data Management System portal.

**Indian Bureau of Mines**  
**Drone Data Management System**

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Sr. No.	Mine Code	Region Name	State Name	Version of Submission	Submission DateTime	File Size	Download Action	Period of Data	Total Production (in Million Tons)	Total Excavation (in Million Tons)	Total Area (in Hectares)	Submission Type	Data Type	Documents Type	HQ Comment Action	HQ Comment
1	38ME00014	Gowalhati	Meghalaya	38ME00014Y2023-2	2024-12-10 12:28:25	2.17GB	<a href="#">Download</a>	2003	0	0	4.00	Annual Submission	satellite	zip file	<a href="#">Comment</a>	
2	38ME00014	Gowalhati	Meghalaya	38ME00014Y2022-1	2024-12-09 15:42:19	2.17GB	<a href="#">Download</a>	2002	0	0	4	Mining Plan Submission	satellite	Drone Data ( DTM, DTM, DTM, etc. CSV	<a href="#">Comment</a>	
3	38GUJ08021	Gandhinagar	Gujarat	38GUJ08021Y2023-2	2024-12-09 15:04:32	1.24GB	<a href="#">Download</a>	2003	73.58	119.00	24.2811	Annual Submission	drone	zip,doc,pdf,xls,shp	<a href="#">Comment</a>	
4	38GUJ01098	Gandhinagar	Gujarat	38GUJ01098Y2023-2	2024-12-07 14:57:22	5.48GB	<a href="#">Download</a>	2003	0.2613	0.2613	101.17	Annual Submission	drone	TIF, jpg, Shp, CSV, pdf, excel, doc	<a href="#">Comment</a>	
5	38APR14038	Hydrabad	Telangana	38APR14038Y2023-3	2024-12-07 14:06:39	12.62GB	<a href="#">Download</a>	2023	0.99	0.99	42.8	Annual Submission	satellite	38APR14038Y2023.zip	<a href="#">Comment</a>	
6	38APR14038	Hydrabad	Telangana	38APR14038Y2023-2	2024-12-07 13:53:23	0.29GB	<a href="#">Download</a>	2023	0.99	0.99	42.8	Annual Submission	satellite	38APR14038Y2023.zip	<a href="#">Comment</a>	
7	38CHG01016	Raipur	Chhattisgarh	38CHG01016Y2023-1	2024-12-06	1.10GB	<a href="#">Download</a>	2023	0.0061	0	15.8	Annual	satellite	38CHG01016Y2023	<a href="#">Comment</a>	



*Analysis of drone data imageries in MIDPAS Portal*

- Visit of Union Minister of Coal & Mines, Shri G. Kishan Reddy to the IBM HQ at Nagpur and IBM's Modern Mineral Processing Lab and Pilot Plant at Hingna, Nagpur**



Union Minister of Coal & Mines, Shri G. Kishan Reddy chaired a Review Meeting at Indian Bureau of Mines Headquarters in Nagpur. Additional Secretary & CG, IBM, Shri Sanjay Lohiya briefed the Minister on role and functions of IBM. The Minister was also briefed on Star Ratings System for Sustainable Mining Practices and Mining Tenement System during the Review Meeting. The meeting focused on streamlining operations, enhancing mineral exploration efforts, and leveraging technology to boost transparency and efficiency in the sector.

Reaffirming the commitment to sustainability and green initiatives The Minister also planted a sapling as part of the **Ek Ped Maa Ke Naam** campaign initiated by PM Shri Narendra Modi ji, at the IBM headquarters in Nagpur.

The Minister of Coal & Mines, Shri G. Kishan Reddy, also visited IBM's Modern Mineral Processing Lab and Pilot Plant at Hingna, Nagpur. The Minister inaugurated the state-of-the-art facilities, including Field Emission Scanning Electron Microscope, Digital X-Ray Diffraction Machine, Pot Grate Sintering Equipment, Fire Assay facility, Proximate Analyzer, and Air Pulsated Immersion Control Jig at the lab. These cutting-edge technologies will boost mineral analysis & capabilities, thereby supporting mineral exploration and Narendra Modi government's goal of achieving Atma Nirbharta in Minerals. The lab is crucial in supporting India's strategic mineral mission, fostering self-reliance in mineral resources. These advanced technologies will enhance mineral analysis capabilities, contributing to India's strategic mineral mission by improving accuracy, efficiency, and sustainability in mineral processing.



*Shri G. Kishan Reddy, Union Minister of Coal & Mines at IBM HQ at Nagpur & at IBM's Modern Mineral Processing Lab and Pilot Plant at Hingna, Nagpur*

## 6. Average Sale Price (ASP):

IBM has recently made a giant leap forward with the advancements of its MTS Project by launching the New Average Sale Price (ASP) Module. Minister of Mines Shri Pralhad Joshi on 23.01.2024 at **State Mining Ministers' Conference** launched the Average Sale Price (ASP) module, an online platform where the real-time data of submitted returns was automatically fetched from the returns module (ibmreturns.gov.in). Overall, this system facilitated the ease of doing business & cut down the time requirement to generate the ASP. This New ASP Module enables IBM to bridge the time gap in the release of the Average Sale price of minerals. During the current year 2024, Average Sale Price (ASP) for Minerals and Metals up to **September**, 2024 has been hosted on IBM website.



7. IBM brought out important publications like Indian Minerals Year Book 2022 (Vol. I to III), Half Yearly Bulletin on mineral Information for the period April 2023 to September, 2023 & Oct.23 to Mar.24 issues, and Monthly Statistics of Mineral Production (MSMP) up to September, 2024 issue to disseminate the technical data for interest of all stakeholders.
8. **Human Resources Development:** Annual Capacity Building Plan (ACBP) of IBM has been approved by the competent authority and monitoring the implementation of ACBP (2024-25) as per the set quarterly target as mentioned in ACBP Training Calendar (2024-25), is in progress. Six Course Modules from IBM have been uploaded on iGOT Platform. As part of the capacity building of human resources, during 2024, upto November 2024, IBM conducted 06 training programmes in which 60 IBM employees, 39 Industry personnel and 69 State DGM Officials participated and revenue of Rs. 5,26,500/- was generated.



*माननीय कोयला एवं खान मंत्री तथा कोयला एवं खान राज्य मंत्री के हाथों भारतीय खान ब्यूरो के दो अधिकारियों को आदर्श कर्मयोगी पुरस्कार*

9. Indian Bureau of Mines in commemoration of its 77<sup>th</sup> Foundation Day on 1<sup>st</sup> March 2024 observed the Day as Khanij Diwas. To mark the occasion a bunch of events was conducted and a grand function was organised at its Headquarters in Nagpur as well as at all zonal/regional offices and ore dressing laboratories on 1<sup>st</sup> March 2024. As a part of the programmes for Celebration of 76<sup>th</sup> Foundation Day of IBM, a voluntary Blood donation Camp was organized at IBM HQ on 28.04.2023 in association with Ashirwad Foundation GSK Blood Centre. IBM family participated enthusiastically and 43 employees donated blood in this camp. All the donors were felicitated with certificate of appreciation.

#### 10. 'Swachhata Hi Seva' (SHS) Campaign 2024 at IBM

IBM HQ and all its Regional Offices had been actively joined the Nation in observing the Campaign on "Swachhata Hi Seva" that commenced on 14th September 2024. As a curtain-raiser to the SHS Campaign, IBM had released a Poster which was prominently displayed on all its premises across the country.

From Gandhinagar to Guwahati, Udaipur to Bhubaneswar and at the Headquarters in Nagpur -- Indian Bureau of Mines offices across the country actively participated in SHS activities. Employees of IBM posted at Modern Mineral Processing Laboratory, Hingna, Nagpur participated in a Cyclothon to spread awareness about cleanliness. Some IBM officials from the Udaipur Regional Office conducted SHS related activities at a local school. A walkathon was organised by the Kolkata Zonal Office of IBM. The Bhubaneswar Regional Office organised a Safai mitra Shivir and honoured sanitation workers.

IBM's Nagpur HQ had undertaken a series of activities from 17.09.2024 to 02.10.2024 under the SHS Campaign. TB Awareness & Screening Camp was organized at HQ on 26.09.2024. The camp received an enthusiastic response from the officers and staff of IBM who got themselves screened for the infectious disease. Expert talks were also delivered on the occasion, underscoring the importance of maintaining good hygiene practices. IBM officers planted saplings on the premises of HQ on 17.09.2024 as part of the "Ek Ped Maa Ke Naam" plantation drive.

11. **Implementation of E-HRMS** : IBM implemented eHRMS that provides provision for maintaining eService book, employee's personal information, family details, nominees, education, qualification,

transfer history, annual confidential reports, leave records etc. Implementation of eHRMS, is facilitating to alleviate transparency, quick and continuous access to employees records which is difficult in manual handling.

**12. IBM Regional Offices:** 1. New Regional Office of IBM at Vijaywada Andhra Pradesh: To strengthen the mineral administration process in the mineral rich State of Andhra Pradesh, a regional office of IBM is now functional. Territorial jurisdiction of the Vijaywada RO covering all the districts of Andhra Pradesh were notified vide Gazette Notification No. T-43010/2/2024-TS-IBM-HQ Nagpur, the 24<sup>th</sup> July, 2024.

2. IBM Regional Offices at Dehradun, Guwahati & Ranchi shifted in its own buildings.

## I **HINDUSTAN COPPER LIMITED (HCL)**

- The Company has achieved copper ore production of 3.78 million tonne in FY 2023-24 which is highest in last four years and about 13% higher than FY 2022-23.
- The Metal in Concentrate (MIC) production for FY 2023-24 of the company reached 27,404 tonne which is highest in last five years and about 11% higher than FY 2022-23.
- In FY 2023-24, Malanjkhand Copper Project (MCP) Unit has achieved ore production of 2.55 Million tonne which is 106% of the target of 2.40 Million tonne and 18% higher than FY 2022-23. Khetri Copper Complex (KCC) Unit has achieved ore production of 1.23 million tonne which is 103% of the target of 1.20 Million tonne and 11% higher than FY 2022-23.
- Taloja Copper Project (TCP) Unit has achieved 27,833 tonnes of CCR production (for third party tolling) of FY 2023-24 which is higher by 21,275 tonnes as compared to 6,558 tonnes for FY 2022-23.
- HCL was achieved Capex for FY 2023-24 was Rs.480.87 Crore against the target of Rs. 350 Crore.
- The Board of Directors of HCL in its meeting held on 24.05.2024 in Kolkata had approved the financial results for the FY 2023-24. The PBT achieved for the FY 2023-24 was at Rs 410.43 crore on Revenue from Operations of Rs 1717 crore as against Rs. 395.66 crore and Rs. 1677.33 crore in FY 2022-23 respectively. The EBITDA of the Company has risen to Rs 601.42 crore with EBIDTA margin a robust 34%. The Board has recommended a dividend of 30.11 % of PAT for FY 2023-2024. The payout on this account is estimated to be Rs 88.97 Crore to the shareholders of the company.
- The Profit Before Tax on standalone basis during the half year ending Sept 2024 has been Rs 289.46 crore as against Rs 144.96 crore in the corresponding period of the last year showing an increase of around 100%. The Profit Before Tax for the quarter ending Sept 2024 has been at Rs 135.33 crore as against Rs 82.75 crore in the corresponding period of the last year, an increase of around 64 %. The



Total Income of the company for half year ending September 2024 has been achieved at Rs. 1050.49 crore which is higher by around 35 % compared to corresponding period of the last year. The EBIDTA margin achieved has been a robust 38%.

- Minister of Mines, Coal & Parliamentary affairs, Chief Minister of Madhya Pradesh visited the HCL stall at 'Mining & Beyond' exhibition of 2<sup>nd</sup> Mining Ministers conference at Bhopal on 23.01.2024, where a miniature model of Ram Mandir, Ayodhya was displayed. HCL had supplied Copper Strips & Copper Wire Rods for joining the rocks in Ram Mandir construction.



- HCL organized a Vendor's Meet on 08.01.2024 at Kolkata, where Vendors joined the meeting physically as well as virtually.
- HCL-MCP team received the 5-star rating memento at Mines Environment and Mineral Conservation (MEMC) Week celebrated under the aegis of IBM, Jabalpur region on 13.01.2024.



- 61<sup>st</sup> Annual Metalliferous Mines Safety Week (MMSW) competition 2023 has been celebrated under the aegis of DGMS, CHAIBASA REGION on 21.01.2024 in Ranchi. The event was attended by Director (Mining) and ICC team wherein several awards were won by ICC team.
- Secretary (Mines) inaugurated 63<sup>rd</sup> CGPB Meeting & Pavilion of participating organizations including HCL on 22.01.2024 at Bhopal. The event was attended by CMD, HCL. In the sideline of CGPB, Ministry of Mines organized 2<sup>nd</sup> edition of the National Mines Ministers' Conference on 23.01.2024 which was organized by Minister of Mines, Coal & Parliamentary affairs, Chief Minister of MP. Secretary (Mines), Addl. Secretary (Mines), JS (Mines) and other officials of Ministry also attended the program.
- KABIL, a JV Company between NALCO, HCL and MECL, signed an agreement with Camyen SE - a state-owned enterprise of Argentina on 15.01.2024. This is the first ever Lithium exploration & mining project by a JV of PSUs. Minister of Mines, Coal & Parliamentary affairs attended the signing event virtually.
- Mining Indaba, 2024 was held between 5<sup>th</sup> - 8<sup>th</sup> Feb'2024 at Cape Town, South Africa. HCL was the nodal organization showcasing Indian Mining Sector on behalf of MoM, Gol. INDIA pavilion was inaugurated on 05.02.2024 by Mr Prabhat Kumar, High Commissioner of India to South Africa and Mr Sanjay Lohiya, Addl. Secy., Ministry of Mines, Gol.



- Rozgar Mela was held on 12.02.2024, wherein 20 Offers of Appointments were issued by HCL. Shri Raosaheb Patil Danve, Minister of State, Ministry of Railways, Ministry of Coal and Ministry of Mines, Govt. of India, gave the offer of appointment at Kolkata, to one of the selected candidates as Assistant Foreman (Mining), in MCP, HCL's Unit in Madhya Pradesh.
- HCL participated in the ICDC Copper Conference held at Mumbai on 22.02.2024.
- The 34<sup>th</sup> MEMC week closing ceremony was organized by IBM, Ajmer region, at JK Cement Works, Nembhada. Khetri mine of KCC won 1<sup>st</sup> prize in Environmental Monitoring, 3<sup>rd</sup> prize in overall



performance category in UG Mines, Publicity & Propaganda and Mineral conservation. Kolihan mine of KCC won 2<sup>nd</sup> prize in Publicity & Propaganda and 3<sup>rd</sup> prize in Waste Dump Mgt. respectively on 17.03.2024.

- A 45-day-long training programme on Tailoring & Small Business was held for 20 local young women by MCP unit under its CSR scheme where Certificates & sewing machines were given to all. A plantation drive under Corporate Social Responsibility scheme was organized at KCC unit on 14.03.2024.
- MCP unit's Mines won the following awards at the 1<sup>st</sup> MMSW 2023 at Parasia (MP).
  - 1<sup>st</sup> prize in Electrical Equipment & Installation & Vocational Training and First-aid
  - 2<sup>nd</sup> prize in Overall & Transport and Use of Explosive.
- MCP unit, under its CSR Programme provided support for library development and promotion of sports in 44 schools of Birsa Block and handed over Books, Book Shelves and Sports kits to these schools.
- Director (Mining) of HCL had taken part at the International Conference on Nonferrous Metals & Material Science 2024 organized by The Indian Institute of Metals, Kolkata Chapter on 29.03.2024.
- At the Ministry of Mines pavilion in the world-famous Sonepur Pashu Mela organized at Harihar in Saran district, Bihar, on 19.11.2024, Union Minister of State for Coal and Mines, Govt. of India, Shri Satish Chandra Dubey and Deputy Chief Minister and Minister of Mines, Govt. of Bihar, Shri Vijay Kumar Sinha, were welcomed by Shri Ghanshyam Sharma, CMD, HCL.



- HCL participated in the 105<sup>th</sup> International Organizing Committee Meeting of the World Mining Congress, Santiago, Chile held between 14<sup>th</sup> – 17<sup>th</sup> April 2024. The meeting had representation from over 21 countries and 30+ global mining leaders.
- MCP unit has successfully achieved in installing and commissioning of Underground Leaky Feeder based communication system covering 16 km of mine. This wireless communication system will help in achieving Digitization, Automation & increased Safety in underground mining operations.
- HCL has been granted the license from Bureau of Indian Standards (BIS) to use ISI mark in the Continuous Cast Copper Rod produced at TCP Unit under IS:12444-2020 standard for Copper Wire Rods for Electrical Applications w.e.f. from 17.04.2024.
- HCL participated in the ICSG meetings held from 24<sup>th</sup> -25<sup>th</sup> April 2024 at the Study Groups' Headquarters in Lisbon, with the Indian delegation led by AS (Mines).
- HCL participated in the Critical Mineral Summit: Enhancing Beneficiation and Processing Capabilities held between 29<sup>th</sup> -30<sup>th</sup> April 2024 in New Delhi.
- Secretary (Mines), visited the MCP unit from 8<sup>th</sup> – 9<sup>th</sup> May 2024. He reviewed the performance of the unit and visited the Underground Mine, Concentrator Plant, Tailing Dam and Paste Fill Plant. CMD, Director (Operations) and Director (Mining) were present at MCP during the visit of Secretary (Mines).
- JS (Mines) interacted with the representatives of M/s Deloitte on 25.06.2024 in New Delhi on the draft Vision document of India on Copper prepared by them. M/s Deloitte was appointed by HCL as a nodal coordinating agency on behalf of the Ministry of Mines. The meeting was attended by CMD, HCL.
- HCL's Contributory Pension Scheme 2023 was approved by the Ministry of Mines w.e.f. 01.04.2023 on 05.07.2024 which will benefit HCL employees & their family members as social security to the employees post retirement from service.
- HCL has successfully installed and commissioned 4.5 MWp Ground Mounted Solar Plant at MCP unit which will cater 50% of the base load of MCP in day time and mitigate CO<sub>2</sub> emission by 7250 Ton (approx.) per annum.
- Products of Self-help Groups (SHG) supported under the CSR Program of HCL were showcased for selling in Dilli Haat, New Delhi, as an initiative of the Ministry of Mines to provide an exposure to SHGs and build public awareness about the contribution of Mining sector to welfare of the people.
- Hindustan Copper Ltd was felicitated with Mines Safety Award (MSA) 2024 in Kolkata on 28.07.2024, the program was inaugurated by Director General Mines Safety, Shri Prabhat Kumar along with CMD, HCL, Director (Mining), HCL and other senior officers. KCC unit won 3<sup>rd</sup> prize in the category of Metal Belowground Medium.



- HCL has successfully upgraded its ERP system with Oracle e-biz suite R12 which went live on 07.08.2024.
- The 57<sup>th</sup> Annual General Meeting of Hindustan Copper Ltd. was held on 26.09.2024, at the Registered office in Kolkata through VC.
- A one to one discussion was held between Chief Minister of Madhya Pradesh (M.P.) in the sideline of the Roadshow of Govt. of M.P. held in Kolkata on 20.09.2024. The investment plan of HCL at MCP was appraised.
- HCL has won the ASSOCHAM “Award for Excellence in Non-Coal Mining - Outstanding Contribution in the Non-Coal Mining Industry” in Kolkata on 27.09.2024. The award was received by CMD, HCL, and Director (Mining), HCL, along with other senior executives.
- An open tender for sale of entire quantity of copper concentrate of the company has been finalized, M/s Kutch Copper Limited emerged as H1 Bidder & M/s Hindalco became H2 bidder. As per terms of the tender, LoI has been placed to H1 & H2 bidders in 70:30 ratio with the quoted price of H1 bidder for a period of one year. The H1 offer received against current tender is better than last year.



- An Underground Mine Safety Training session was conducted by Prof. R.M. Bhattacharjee from IIT-ISM, Dhanbad, at HCL's Corporate Office. CMD, HCL, Director (Mining) & other senior officers attended the session.
- M/s National Productivity Council (NPC), a Government of India organization, was engaged by HCL to develop a comprehensive plan for achieving the company's net zero emission target by 2047, and the detailed report on HCL's Net Zero Plan has been submitted by NPC.

- Union Minister of Coal & Mines and Minister of State for Coal & Mines and other Senior dignitaries visited the Stalls of HCL at the DMF Gallery where the artefacts made by the Self-Help Groups created under the CSR scheme at KCC and ICC unit as livelihood programs focusing on women empowerment were displayed.
- MCP unit participated in the "The Friend of Tigers" Meet organised by Madhya Pradesh Tiger Foundation Samiti of Forest Department, Govt. of MP, at Pench Tiger Reserve on 26.05.2024. MCP unit presented its contribution towards wildlife conservation under its CSR.
- CMD, HCL attended the critical mineral auction program of the Ministry of Mines held at New Delhi on 24.06.2024. The program was inaugurated by the Union Minister of Coal & Mines, Shri G. Kishan Reddy and Minister of State for Coal & Mines, Shri Satish Chandra Dubey.
- HCL begins the Swachhata Hi Sewa (SHS) Campaign 2024 from 17.09.2024 which would last till 02.10.2024, under the theme of "Swabhav Swachhata – Sanskaar Swachhata", marking a decade of progress in cleanliness and sanitation. CMD, HCL, administered the Swachhata pledge to all employees of HCL. HCL has planned a series of activities across its various Units focusing on extensive cleanliness drives, thrust on fitness with Prabhat Pheris and Cyclathons, plantation drives ("Ek Ped Maa Ke Naam") to encourage the green mission, promotion of cultural activities, beautification of parks, wall paintings, waste to art activities, awareness against waste of food, health camps for sanitation workers, etc.
- Minister of State for Coal and Mines, Shri Satish Chandra Dubey inaugurated the restarting of Surda Mine on 05.10.2024 in presence of Shri Ramdas Soren, Minister of Water Resources Department, Minister of Higher Education and Minister of Technical Education in Government of Jharkhand, Shri Bidyut Varan Mahato, MP, Jamshedpur, and other senior officials and dignitaries.
- An MOU was signed by KCC unit in Rajasthan, on 7.10.2024 with Khetri Municipality, for sourcing 1.2 MLD treated water from the STP under construction at Khetri Town, for KCC Plant.
- In the 53<sup>rd</sup> Zonal Mine Rescue Competition 2024 held on the 28<sup>th</sup> -29<sup>th</sup> Oct. 2024 at WCL Nagpur, MCP rescue team won 2<sup>nd</sup> prize in the Turnout Drill.



- The Indian delegation, led by Secretary, Ministry of Mines, Shri V. L. Kantha Rao and Shri Gopal Baglay, India High Commissioner to Australia Jointly inaugurated the Indian Pavilion at IMARC, Australia on 30.10.2024. Delegation from HCL participated in IMARC-2024.

- The 31<sup>st</sup> Mines Environment & Mineral Conservation Week was celebrated at Kendadih Copper Mine of ICC unit, under the aegis of the Indian Bureau of Mines (IBM), Ranchi Region on 21.10.2024.
- A cheque of Rs 58.84 crore was presented to Minister of Mines, Shri G. Kishan Reddy by CMD, HCL favouring the President of India, on account of Dividend for the FY 2023-24, in New Delhi on 22.10.2024. Minister of State, Mines, Shri Satish Chandra Dubey, Joint Secretary, Ministry of Mines, Shri Vivek Bajpai and other dignitaries were also present during the occasion.
- Union Minister of Coal and Mines, Shri G Kishan Reddy visited the KCC unit on 28.11.2024 to review the performance of KCC and its future plans. He visited the Khetri & Kolihan mines and concentrator plant. CMD, HCL and senior officials from Ministry of Mines and HCL were also present. Minister also inaugurated a Health Hall built under HCL's CSR initiative in Gothra, Khetrinagar and the 800 KW capacity ground based Solar Plant in Khetri Copper Complex. Minister interacted with the employees who were injured in the mine accident in Kolihan Mines on 14.05.2024. Minister further declared that HCL shall provide an ambulance to Public Health Centre (PHC) Gothra.



- Union Minister of Coal and Mines, Shri G Kishan Reddy visited the HCL stall in the Ministry of Mines Pavilion at IITF 2024 and was warmly greeted by CMD, HCL.
- In the 38<sup>th</sup> Mines safety week 2024-2025, Ajmer Region First Aid Competition organized by Shree cement, 2<sup>nd</sup> & 3<sup>rd</sup> position achieved by KCC team and Kolihan Copper Mine team respectively.
- HCL observed its 57<sup>th</sup> Foundation Day on 09.11.2024. Employees completing maximum number of iGoT courses were awarded by CMD, HCL.
- In recognition of the exemplary performance of Hindustan Copper Limited during the National Learning Week, HCL was given a Certificate of Recognition by the Minister of State for Personnel, Public Grievances and Pensions of India, Dr Jitender Singh, during the valediction ceremony of the National Learning Week on 14.11.2024.





- MCP Mining team participated in the Trade Test of Metalliferous Mines Safety Week - 2024 held at Tirodi mines on the 20.11.2024 and won the prizes in the categories of Mining Mate, LHD Operator/ LPDT, Cable Bolt operator, Pump Operator, Welder and Fitter.
- 1 Megawatt (MW) Solar Power Plant in MCP Unit, Madhya Pradesh was inaugurated on 22.11.2024 by CMD, HCL.



- Malankhand Technical Association (MTA) National Seminar was held on 23.11.2024 in MCP unit, themed on "Mining and Processing innovations and Technology Perspectives for the NextGen". CMD, HCL, Director (Mining) & Independent Lady Director, HCL graced the occasion.

## **J Geological Survey of India (GSI)**

1. GSI has completed 9480 sq. km Specialized Thematic Mapping (on 1:25,000 scale) out of 25000 sq. km target during Annual Programme 2024-25 till November 2024.



2. GSI has completed 30680 sq. km Geochemical Assessment of Core Deccan Trap (on 1:50,000 scale) out of 120,000 sq. km target during Annual Programme 2024-25 till November 2024.
3. GSI has completed 72546.5 sq. km National Geophysical Mapping (on 1:50,000 scale) out of 2,20,000 sq. km target during Annual Programme 2024-25 till the end of November 2024. Another 33395.53 sq. km of Geophysical Mapping (on 1:50,000 scale) was completed by outsourcing during FS 2024-25 till November 2024 using NMET fund.
4. GSI has completed 9308.7 sq. km Large Scale Mapping (on 1:10,000/12,500 scale) out of 21,500 sq. km target during Annual Programme 2024-25 till November 2024.
5. National Aero-Geophysical Mapping Programme (NAGMP), a flagship program of GSI to acquire uniform aero-geophysical data over the pre-identified Obvious Geological Potential area. During, Annual Programme of GSI 2024-25 till November, 2024, around 42674 sq.km has been covered through NAGMP for identifying potential areas for further exploration.
6. GSI has taken up about 448 mineral exploration projects during 2024-25.
7. To give impetus on exploration for strategic, critical and fertilizer minerals, GSI has taken 195 projects on critical and strategic minerals like REE, Li, Mo, potash, tungsten, graphite etc. during FS 2024-25.
8. During the 63rd Central Geological Programming Board (CGPB) held in January 2024, GSI handed over a total of 50 nos. of Geological Reports (G2/G3) to the MoM and State Government. Out of 50 geological reports 29 geological reports (07 nos. copper, 05 nos. limestone, 07 nos. manganese, 04 nos. gold, 03 nos. iron ore and one each of dunite, zinc and magnetite) were handed over to the state government and 21 nos. of GR of critical minerals (04 nos. graphite, 04 nos. tungsten, 03 nos. phosphorite/phosphate, 02 nos. potash, 02 nos. glauconite, 02 nos. REE and one each of cobalt, molybdenum, nickel and vanadium) were handed over to MoM. Simultaneously, GSI handed over 37 nos. Geological Memorandums (GM/G4) to the state government and MoM. Out of 37 nos. geological memorandums 32 nos. were handed over (10 nos. bauxite ore, 07 nos. copper, 04 nos. iron ore, 04 nos. limestone, 03 nos. of gold, 02 nos. manganese and one each of emerald and zinc) to state government and 05 nos. (03 nos. graphite and one each of nickel and phosphate) to MoM. In the month of November 2024, 09 geological reports were handed over to UT Ladakh (02 nos. evaporites, 02 nos. borax and one each of granite, limestone, chromite, sulphur and fluorite).
9. GSI has implemented Online Core Business Integrated System (OCBIS) portal to fulfil the responsibility to disseminate multi-thematic geoscientific information freely for the use of all concerned stakeholders through “Bhukosh”, the flagship Geospatial portal of GSI, following extant policies and guidelines. This data can be utilised by anyone for mineral prognostication as well as to generate new knowledge through research. During 2024 (till November, 2024), 43713 downloads have been made by external users for the geospatial data.

10. Under Mission-III (Geoinformatics), GSI has taken up the projects on Map, Data Integration, Publication, Data repository and management, IT infrastructure, etc.). The major activity under Mission-III includes i) Mineral Prospectivity Mapping using geostatistical (with geological, NGCM, NGPM data sets) and AI/ML modelling ii) Development of Standards for National Fundamental Geospatial Data Theme on Geology in India iii) Creation of Legacy Borehole Data Repository (LBDR) in Bhukosh, iv) Maintenance National Geoscience Data Repository (NGDR) and uploading of GSI and stake holders reports, v) Synthesis and collation of All India National Geochemical Map data (NGCM) and National Geophysical Map data (NGPM), vi) Updation and preparation of Mineral Belt Map (MBM) (1:50K) on Geospatial Platform, vii) Compilation Of Geological District Resource Maps, viii) Creation of GIS database in respect of Base metals, precious metals, PGE and Diamond etc., ix) Compilation and preparation of Geological and Mineral Resource map of different states etc. x) Special Publication on North Singhbhum Mobile Belt (NSMB) xi) “Bulletin Series A” on “Coalfields of Central India” xii) Special publication on ultramafic-alkaline suites of rocks of North East India xiii) Special Publication on Ophiolites of North East India xiv) Special Publication on Geology of the Cuddapah Basin, India xv) Bulletin Series-A: Phosphorite Deposits of Rajasthan & Gujarat.
11. NGDR Data Management and Analysis Centre (NDMAC): DG, GSI inaugurated the the advanced NGDR Data Management and Analysis Centre (NDMAC) to enhance the capabilities of integraton and analysis of baseline geoscience data. The centre, equipped with state-of-the-art facilities, will enhance data management and analysis capabilities for NGDR portal.



*Shri Asit Saha, DG, GSI, inaugurated the advanced NGDR Data Management and Analysis Centre (NDMAC) in Salt Lake, Kolkata on 13<sup>th</sup> November, 2024.*

12. GSI has long been involved in systematic execution of various multidisciplinary geoscientific programs under its Mission-IV activities. During Annual Programme 2024- 25, GSI has taken up 88 projects under geotechnical and geohazard management, 34 projects of climate change and ecosystems studies and 49 fundamental geoscience and research projects.
13. GSI as part of the multi consortium LANDSLIP project ([www.landslip.org](http://www.landslip.org)) in collaboration with British Geological Survey (BGS) has developed a prototype rainfall induced Landslide Early Warning (LWS) for two study areas, i.e. Darjeeling district of West Bengal and Nilgiri district, Tamil Nadu till 2020. Since 2020 the validation as well as development of LEWS for different terrains has been under progress and during FS 2024-25 the projects covered different areas in 11 states.
14. The state-of-the-art National Landslide Forecasting Centre (NLFC) was inaugurated on 19th July 2024 by the Union Minister of Coal and Mines, Government of India. The establishment of NLFC has been a progressive development of this collaboration. With the inauguration of National Landslide Forecasting Centre (NLFC), GSI has started issuing landslide forecast bulletins of Darjeeling, Kalimpong districts of West Bengal, and the Nilgiris of Tamil Nadu in operational mode and also issuing landslide forecast bulletins on experimental mode to 13 other districts spread over four other states viz Sikkim (6 districts), Uttarakhand (4 districts), Himachal Pradesh (2 districts), and Kerala (1 district) for feedback and ground testing. On this occasion, Minister of Coal and Mines, Government of India launched the web portal of National Landslide Forecasting Centre (Bhusanket) and a user friendly mobile App (Bhooskhalan).



*Union Minister, Coal and Mines Inaugurating the National Landslide Forecasting Centre in presence of senior officials*



*Bhooskhalan mobile app*

15. GSI has been carrying out real-time recording, monitoring, analysis and scientific study of earthquakes through its seismic observatories established in different parts of the country. GSI also maintains 34 permanent GNSS (Global Navigation Satellite System) stations, across the country for tectonic geodesy, geodynamic and crustal deformation studies and research.
- 16.
17. Seismo-Geodetic Real Time Data Processing Centre (SGRDPC) of GSI maintains 10 real-time seismo-geodetic observatories established at different locations across India for acquisition and processing of the real time seismic data to determine earthquake parameters. Data of significant events are shared with various regions/stake holders as and when required for further research work. During 2024-25, response studies were conducted using VHSR (micro-tremor) by the Nakamura technique and vertical electrical sounding in the Lahaul, Kinnaur, and Spiti districts of Himachal Pradesh related to earthquake-induced landslide studies. In a significant move GSI has shared the real time data with MoES for seamless integration of earthquake data.



18. As part of Mission–IV activities, fundamental research is being carried out in diverse geoscientific domains viz., Petrology, Palaeontology, Planetary Geoscience, Polar and Glacial Geology, as well as Geochronology & Isotope Geology. Some of the important researches undertaken in FS 2024-25 include identification of Ni-rich serpentinite zone in Andaman ophiolites; study of the coastal morphodynamics and identifications of vulnerable areas with special emphasis on coastal deposits of natural economic resources, understanding the genesis of PGE and Ni, Co, Cr, V mineralization and fertility of the mafic-ultramafic enclaves/intrusions within the basement gneisses of central part of Western Bastar Craton. To identify the possible correlation of spherical Fe-enriched nodules with the Martian blueberries and to understand the importance of metal segregation in such nodule forming process and its potential, a research project has been taken up by Meteorite and Planetary Science Division in the Kutch region. The Geochronology & Isotope Geology Division has developed the protocol for S & O isotopes and published the first S & O data in Secondary Ion Mass spectrometer from India. Palaeontological investigations have unearthed a rich assemblage of dinosaurian bones from the Middle Jurassic Kaladongar Formation and Khadir Formation of Kutch Basin. The dinosaurian bones are pre-Bajocian in age and are probably the oldest records from the Western India.
19. National Meteorite Repository (NMR) was inaugurated by Director General, Shri Asit Saha at Geological Survey of India (GSI), Central Headquarter, Kolkata on 28th October, 2024 in the august presence of senior officer of GSI and Dr. Arindam Guha, Scientist (SG) & Head, Applications, RRSC-East, ISRO.



*National Meteorite Repository (NMR) was inaugurated by Shri Asit Saha, Director General at Geological Survey of India (GSI), Central Headquarter, Kolkata.*

20. During Annual Programme FS 2024-25, (till November, 2024) GSI Training Institute has conducted 98 nos. training programmes on various themes. A total of 2172 participants have been trained from GSI, various DGMs and from other organizations. Apart from training 13 online workshop/seminar/lectures have been conducted with a participation of 4774 participants.

21. The international activities of the Geological Survey of India (GSI) continued by way of interaction with numerous international scientific organisations/ bodies and foreign agencies through active involvement in collaborative programmes and scientific projects including participation in seminars/ symposia/ workshops/meetings, etc. Geological Survey of India being the premier earth science organization in the country has been collaborating with other countries for knowledge sharing and technology upgradation. Glimpse of activities during 2024 is given below:

- i) Two officers of GSI participated in the Future Mineral Forum 2024 from 9th January to 11th January, 2024 in Riyadh, Saudi Arabia.



*Dr. Sudip Bhattacharyya, Dy. DG, GSI showcased India's NGDR portal and advocated for AI/ML integration. He spotlighted GSI's Training Institute, a hub for international training and capacity enhancement*



*Dr. Sudip Bhattacharyya, Dy. DG, GSI, and Shri Abhishek Das, Sr. Geologist, GSI, engaged in a constructive dialogue with Fraser Alexander representatives on the reduction, reclamation, and recycling of mine wastes*



*Meeting with Saudi Geological Survey (SGS) to discuss possible areas of collaboration*



*Meeting with Dr. Augustine Raj, Head of Exploration, Eurasian Resources Group (ERG)*

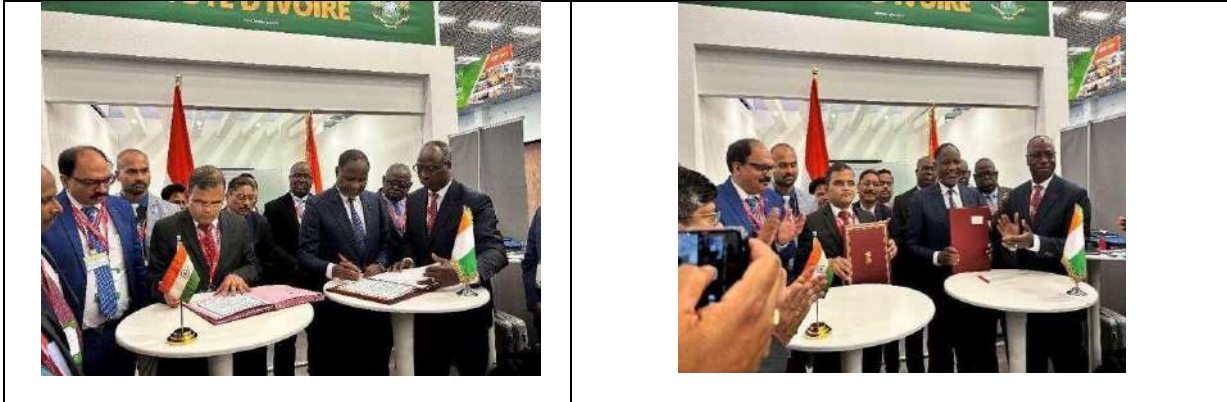
ii) Two officers participated in Mining Indaba- 2024 scheduled from 5th February to 8th February, 2024 in Cape Town, South Africa.



*Inauguration of Indian Pavilion by H. E. Shri Prabhat Kumar, Indian High Commissioner, South Africa and leader of the delegation Shri Sanjay Lohiya, Additional Secretary, MoM, GoI*

*Bilateral meetings of Indian delegation with Zambia*



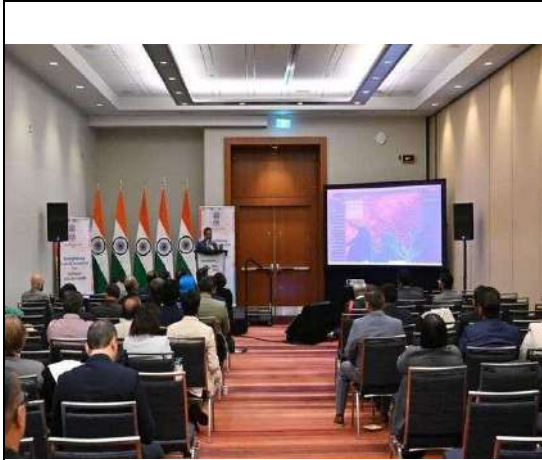


*Signing of MoU between the Republic of India and the Republic of Cote d'Ivoire*



*Networking of GSI team*

- iii) Two officers participated in PDAC- 2024 scheduled between 3<sup>rd</sup> March to 6<sup>th</sup> March, 2024 in Toronto, Canada.



iv) Two officers attended the International Intensive Course on UNESCO Global Geoparks 2024 in Lesvos Island, Greece from 27<sup>th</sup> May, 2024 to 03<sup>rd</sup> June 2024.



*Indian delegate Dr. Snigdha Ghatak, Deputy Director General GSI, interacting with the UNESCO and GGN Executive Board members*

*Indian delegates Dr Snigdha Ghatak, Deputy Director General and Shri Suhel Ahmed, Director receiving certificate from the UNESCO and GGN Executive Board members after successful completion of the course*



v) Two officers accompanied the Indian delegation to participate in 2nd Joint Working Group (JWG) meeting from 10<sup>th</sup> to 11<sup>th</sup> June, 2024 in Lusaka, Zambia.



*Dr. Joyesh Bagchi, ADG, GSI delivering the presentation on GSI's capacities and capabilities*



*Dr. Joyesh Bagchi, Addl. Director General, Geological Survey of India felicitating Dr. Hapenga Kabeta, Permanent Secretary, Ministry of Mines and Minerals Development, Zambia in presence of H.E. Shri Ashok Kumar, the High Commissioner of India at Zambia*

vi) Twenty officers participated in the 37<sup>th</sup> International Geological Congress held in Busan, Republic of Korea between 25<sup>th</sup> to 31<sup>st</sup> August, 2024.









**Major highlights of the PR initiatives undertaken by Geological Survey of India in the year 2024 are listed below:**



**The 63<sup>rd</sup> Central Geological Programming Board Meeting was convened in Bhopal on 22<sup>nd</sup> January 2024 to discuss and finalize field season program for the year 2024-25 and plan new initiatives for the year.**



*Assam Mineral Wealth Workshop has been carried out in Guwahati on 10<sup>th</sup> May 2024.*



*Union Minister of Coal and Mines, Shri G. Kishan Reddy inaugurated the National Landslide Forecasting Centre (NLFC) on 19<sup>th</sup> July 2024 at GSI Dharitri building, Salt lake sector-V, Kolkata.*





*Union Minister of Coal & Mines, Shri G. Kishan Reddy inaugurated mineral exploration Hackathon on Innovative Mineral Hunt Techniques by GSI on 20<sup>th</sup> July 2024 at Hyderabad.*



*GSI participated in the 37<sup>th</sup> International Geological Congress at Busan, South Korea from 25<sup>th</sup> to 31<sup>st</sup> August 2024.*



*Workshop on UNESCO Global Geoparks in India by UNESCO and GSI held from 23<sup>rd</sup> to 26<sup>th</sup> September 2024, with a focus on preserving country's geological heritage of global importance.*



*Shri Satish Chandra Dubey, Minister of State for Coal and Mines participated in the Swachhata hi Seva campaign carried out in Mandro geoheritage site, Sahibganj district, Jharkhand.*





*Union Minister of Coal & Mines, Shri G. Kishan Reddy, inaugurated the Rooftop Solar Power Plant at GSITI on 12<sup>th</sup> October 2024, marking a new step towards renewable energy.*



*The Geological Survey of India achieved a transformative milestone during National Learning Week (19<sup>th</sup>–27<sup>th</sup> October 2024), launched under the visionary Mission Karmayogi by Prime Minister Shri Narendra Modi with eight of its employees honored with the prestigious Adarsh Karmayogi Award.*



*Vice President of India, Shri Jagdeep Dhankhar inaugurated the GSI Geoscience Museum on 15<sup>th</sup> December 2024 at Gwalior.*

## **K Mineral Exploration and Consultancy Ltd. (MECL)**

Mineral Exploration and Consultancy Limited (MECL), a Miniratna I CPSE under the Ministry of Mines, has a rich history since its inception in 1972. Operating as a premier national mineral exploration agency, its mission is “To provide high quality, cost effective and time bound geo-scientific services for exploration & exploitation of minerals”. MECL conducts regional and detailed exploration of mineral acreages on behalf of State Governments, Directorate of Geology and Mines and major mining companies. With over five decades of experience, MECL provides integrated mineral exploration services, including Geological Reports and consultancies, to Central and State Governments, as well as CPSEs. MECL has demonstrated remarkable performance throughout the financial year 2024-25. With continued progress in mineral exploration, revenue generation, and business development, MECL remains committed to fostering growth, sustainability, and social responsibility. The company has also maintained a strong focus on community development through its CSR initiatives, ensuring that its operations positively impact local populations. Below are the key achievements of MECL for FY 2024-25 up to Nov-2024.

### **1. Exploration Activities and Performance**

MECL has surpassed its exploration targets for FY 2024-25, drilling a total of 2,68,244 meters up to November, 2024, significantly exceeding the target of 2,33,750 meters, marking a growth of 34.02% compared to the previous fiscal year. The exploration covered a wide array of minerals, including bauxite, copper, iron, potash, graphite, coal, and lignite, reflecting MECL's extensive contribution to India's mineral inventory, especially for strategic and high-demand minerals.

### **2. Financial Performance and Revenue Growth**

In the period from April to November 2024, MECL recorded a cumulative revenue of ₹220.00 crore, representing a 34.28% increase from ₹163.84 crore during the same period last year. The

company also achieved a significant net profit of ₹37.39 crore, a 75.79% increase from ₹21.27 crore in FY 2023-24. This growth is attributed to MECL's expanded market presence, increased project approvals, and effective resource management.

### **3. Geological Reports and National Mineral Inventory**

MECL continues to play a key role in enhancing the National Mineral Inventory. As of November 2024, the company has submitted 33 geological reports, covering various minerals such as coal, lignite, copper, iron ore, manganese, graphite, potash, limestone, nickel, and gold. These contributions have added valuable resources to the national inventory.

### **4. Project Approvals and Ongoing Work**

MECL has successfully secured 34 project approvals from NMET, totalling ₹104.59 crore. Further, 4 additional projects, worth ₹10.00 crore, are recommended by TCC. Currently exploration is in progress in 41 blocks which include 17 critical mineral blocks.

### **5. Business Development and Commercial Partnerships**

The Business Development & Commercial Division has seen substantial growth, with available work valued at over ₹622 crore as of November 2024. MECL has established several high-profile collaborations, including partnerships with GSI, HCL, NALCO, NTPC, and NMDC. MoUs with entities like CMPDIL, Directorate of Mines & Geology, Goa, Directorate of Geology & Mining, Madhya Pradesh are expected to generate sustained growth in the coming years.

### **6. Strategic Diversification and Consultancy Services**

MECL, as part of its diversification strategy, provides technical consultancy to Central and State Governments for feasibility studies and mineral block auctions. Supporting the Ministry of Mines for providing technical inputs for auctionable blocks. So far four tranches have been launched, including three this year, offering 49 blocks, of which 24 were successfully auctioned. MECL is now preparing for the 5th tranche while expanding services to include geochemical analysis for coal and power companies, CPSEs, and state governments. Further MECL has deputed its Geophysicists at Catamarca, Argentina for monitoring geophysical survey work for 5 lithium prospects for KABIL. Additionally, MECL is continuously conducting NGPM surveys in collaboration with the Geological Survey of India through a Memorandum of Understanding (MOU), aimed at generating essential baseline data for future exploration and resource development.

#### **Capacity Augmentation:**

MECL has significantly strengthened its operational capacity with the addition of four state-of-the-art hydrostatic drill rigs, capable of drilling up to 1500 meters with N series W/L drill rods, and extending to 1800 meters with B series W/L drill rods. Additionally, we have secured NMET funding to establish a National Facility aimed at boosting exploration capabilities by

introducing advanced geological, geophysical, and geochemical analytical equipment. These advancements enhance MECL's ability to efficiently tackle deeper exploration challenges, ensuring continued excellence in service delivery and positioning us to meet the growing demands of the mining and exploration sectors.

## **7. Corporate Social Responsibility (CSR) Initiatives**

MECL remains dedicated to socio-economic development through its CSR and Sustainable Development initiatives. Focus areas include education, health, infrastructure, and community welfare, all aimed at improving the quality of life for local populations. MECL ensures that its CSR projects align with the Department of Public Enterprises' guidelines, ensuring sustainability and effectiveness. Currently program towards health care and preventive health care (portable water purifier, wheel chairs, X-ray machine), financial assistance for providing vaccination initiatives, eye camps, cataract surgeries etc are in progress. The program for FY 2024-25 also includes financial assistant to towards community awareness for eradication of Tuberculosis (TB) and providing healthcare services.

## **8. Contributions to National Mineral Inventory**

MECL's exploration activities have contributed significantly to the National Mineral Inventory, adding around 2,637 million tonnes of mineral reserves. These include key minerals such as coal, lignite, iron ore, limestone, manganese, copper, graphite, potash, and rock phosphate, solidifying MECL's position as a major contributor to India's mineral resources.

## **9. Dividend**

Demonstrating sound financial management, MECL declared a dividend of ₹24.15 crore for FY 2023-24, contributing to the nation's exchequer and reinforcing MECL's profitability as a responsible public sector entity.

## **10. Digital Transformation: MECL E-Office Inauguration**

MECL took a significant step towards digital transformation with the inauguration of its E-Office by Union Minister of Coal & Mines, Government of India, Shri G. Kishan Reddy. This digital initiative will enhance operational efficiency, streamline workflows, and foster transparency, ensuring that MECL remains at the forefront of innovation and governance.

## **11. Industry Engagement and Workshops**

MECL actively engaged with the industry in 2024 through a series of workshops and events:

- **Critical Mineral Summit:** MECL participated in the summit on enhancing beneficiation and processing capabilities, organized by the Ministry of Mines, in April 2024. Exploring the Mineral Wealth of Assam: A workshop in Guwahati, focusing on mineral exploration reforms, ongoing activities, and the critical mineral auction process, organized with the Ministry of Mines and GSI.



- Capacity Building for Exploration: MECL's team visited Perth, Australia, to explore advanced geophysical and geological technologies for enhancing exploration capabilities.
- Hackathon 2024: A successful digital innovation event fostering collaboration within the mineral exploration sector.
- Workshop on Gujarat's Mineral Wealth: Co-hosted with Commissioner of Geology and Mining (CGM), Government of Gujarat and NMET, Ministry of Mines, Govt of India a one-day workshop titled “Gujarat's Mineral Wealth: A Responsible Exploration and Development Paradigm.
- IMARC-2024, Sydney Australia: MECL showcased India’s exploration and mining capabilities and initiatives for critical mineral exploration in overseas location.
- Mining Show 2024, Dubai: MECL showcased India’s mining sector contributions at the event, organizing the India Pavilion.
- IITF-2024: MECL participated in the India International Trade Fair, demonstrating advanced exploration technologies like Ground Penetrating Radar (GPR) and X-Ray Fluorescence (XRF).
- Exploration Norms Workshop: Co-hosted with GSI and Ministry of Mines to revisit current exploration norms, involving various stakeholders.
- Deep Seismic Reflection Survey Workshop: A workshop focusing on seismic surveys for mineral exploration, attended by industry experts and stakeholders.

## **12: Award and recognition**

- The company also secured 1st position in the National Learning Week for achieving the "Minimum 4-Hour Learning Goal." Besides that, MECL is one of the leading agency under Ministry of Mines to carry out exploration work through NMET funding.

MECL’s performance in FY 2024-25 up to December 2024 reflects its robust growth trajectory and unwavering commitment to India’s mineral exploration and development. With outstanding achievements in exploration, business development, and financial performance, MECL is well-positioned to continue playing a pivotal role in the nation’s mineral sector. Through strategic diversification, technical expertise and a strong focus on corporate responsibility, MECL remains a key player in shaping India’s sustainable mineral future.



*Exploratory  
Drilling  
activity in  
Coal Field*



*India  
Pavilion,  
India's  
mining sector  
contributions  
at the Dubai  
Mining Show,  
November  
2024*



*MECL Stall  
at India  
International  
Trade Fair,  
demonstratin  
g advanced  
exploration  
technologies*





*1st position in the National Learning Week for achieving the "Minimum 4-Hour Learning Goal.*



*Induction of New High Capacity Drill Rigs*



*Workshop to Revisit the current Exploration Norm,*



*Inauguration of e-office by Shri G. Kishan Reddy, Union Minister of Coal and Mines, Govt. of India*



*Shri Indra Dev Narayan, CMD, MECL, presents a cheque of ₹24.15 cr. to Shri G. Kishan Reddy, Union Minister of Coal & Mines, Govt. of India, for FY 2023-24, in the presence of Shri Sanjay Lohiya, Addl, Sec.MoM, Shri Pankaj Pandey, Director (Technical), MECL, & Shri Ghanshyam Sharma, Director (Finance), MECL."*





*Workshop on  
“Gujarat's  
Mineral  
Wealth: A  
Responsible  
Exploration  
and  
Development  
Paradigm*



*Geological  
Mapping  
being carried  
in Argentina*

**L Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC), Nagpur**

During 2024-25 upto Dec 2024, JNARDDC completed six project and sixteen R&D projects are in progress for various government and non-government organization. JNARDDC is setting in a recycling division in JNARDDC with DAIKI Aluminium, Japan as the knowledge partner.

### **Designated Sector Expert**

JNARDDC is the designated aluminium sector expert for the following key authorities: -

- **NITI Aayog** -
  - REE (Rare earth element) from red mud and coal fly ash
- **Bureau of Energy Efficiency (BEE)**, Ministry of Power –
  - Sector expert for “National Mission for Enhanced Energy Efficiency”-PAT 2/3/4 cycle
  - Waste utilization of SPL & Dross
- **BIS**, Bureau of Indian Standards for standards-
  - Guidelines for Al-scrap
  - The standard for aluminium alloys
- **Referee Lab for Coal**
  - JNARDDC is nominated referee lab for coal sample analysis of third party sampling of coal
- **MoM (Ministry of Mines)** –
  - Carrying out functions earmarked for MRA as stipulated in the “National Non-Ferrous Metal Scrap Recycling Framework 2020.
  - Implementing agency for promoting startups and MSMEs
  - EPR for aluminium scrap
  - Vision document on recycling for non-ferrous sector

### **Implementation of S&T- PRISM Scheme for Startups & MSMEs**

Union Minister of Coal and Mines, Shri G. Kishan Reddy and Minister of State for Coal and Mines, Shri Satish Chandra Dubey handed over project sanction letters for ₹ 11.26 Crores to ten startups / MSMEs under the S&T PRISM 2.0 scheme on 24<sup>th</sup> June 2024. It's a major initiative of the Ministry of Mines to promote Startups, MSMEs and Individual Innovators for projects up to 2 years duration, which have direct bearing on mineral and metal sector, applied and sustainable aspect of mining, metallurgy and industrial applications. The grant will enable them to graduate to a level where they will be able to raise investments from angel/Venture Capitalist or they will reach a position to seek loans from commercial banks/financial institutions. The apex committee chaired by Secretary (Mines), Shri V L Kantha Rao, sanctioned funds to the following ten agencies :- (i) Sakshi Chem Sciences Pvt Ltd, Nagpur (ii) XYMA Analytics Pvt Ltd, Chennai (iii) Kimberlite Chemicals India Pvt Ltd, Bengaluru (iv) Greenewelty Pvt. Ltd, Bhubaneswar (v) OGPEX Geoscience (OPC) Pvt Ltd, Thane, Mumbai (vi) Innocule Materials and Additives Pvt Ltd, Bhubaneswar (vii) Corrosion Intelligence Pvt Ltd, New Delhi (viii) Lohum Materials Pvt Ltd, Delhi (ix) JAMP INDUSTRIES, Nagpur & (x) Relira Blastech, Itwari, Nagpur. The funding is positioned to act as a bridge between development and commercialization of innovative technologies/products/services in a relatively hassle free manner. JNARDDC played the pivotal role as the implementing agency by evaluating the proposals to the final award of the project with Director, JNARDDC as the

chairman of the Technical Evaluation Committee. It underscores the Ministry's focus on innovation-driven growth through Startups and MSMEs.



#### **Patent :**

- Granted for “An improved heat treatment process for production of heat resistant Al-Zr alloy wire for overhead conductor” No. 533417 on 17.04.2024
- Filed for “Modified Route of Synthesis for High Pure  $\alpha$ -alumina Using Virgin Aluminium Metal” (jointly with NALCO)

#### **Seminars and technical collaborations**

JNARDDC along with other academic and scientific institutes organized and participated in the following major seminars.

- 28th International Conference on Non-ferrous Metals (ICNFM-2024), 12-13 July 2024, Bhubaneswar; [www.nonferrousmet.net/](http://www.nonferrousmet.net/)
- XII<sup>th</sup> International Congress and Exhibition “Non Ferrous Metals and Minerals- 09-13 Sep 2024, Krasnoyarsk, Russia
- 12<sup>th</sup> International Bauxite, Alumina & Aluminium Conference & Exhibition IBAAS-IIM 2024, 25-27 Sep 2024, BITS Pilani, Goa
- 5th International Structural Integrity Conference and Exhibition 22-24 October 2024, VNIT, Nagpur.

JNARDDC team also visited DAIKI Japan for signing the MOU for setting up the recycling unit at JNARDDC with DAIKI as the knowledge partner.





### **Technical Testing & Consultancy work:-**

JNARDDC carried forward its reputation of being an outstanding analytical lab by analyzing around 15,000 third party referee sample analysis of coal samples provided by QCI, New Delhi and others. Besides coal the Centre carried out characterization of bauxite, Lime stone, graphite, Pulp, iron ore, Manganese ores, rare earth elements etc of M/s Lloyd Metals and Energy Ltd of Surjagarh Iron mine, Gadchiruli, OMC, MECL, MOIL etc of around 5500 samples. The institute also sold around 35 CRMs.

### **Awards / Recognition**

JNARDDC scientists out performed in various technical events and secured the following awards.

- *2nd position in Environment & sustainability session* for the presentation of the paper titled “Investigation of the Composition & Sintering Temperature of Industrial Waste Materials Synthesized Ceramic Membranes” at CHEMIX ‘24, VNIT Nagpur on 6-7 April, 2024. Prachi P Pradhan, Scientist
- *Best paper award* to on the topic “A Step Towards the Production of Alumina Trihydrate (ATH) Using Non-metallurgical Grade Bauxite Following Soda Sintering Process” for the Bauxite-Alumina session at 12th IBAAS held at BITS Pilani K K Birla Campus, Goa during 25th -27th September 2024. Prachi P Pradhan, Scientist
- *Best Oral Presentation award* in Non-Ferrous Metal Processing Session for the paper titled “Optimising electrical and mechanical properties of A356 alloys with high Fe and Cr, Mo & V additions” at 78th IIM-ATM 2024 Bengaluru. R Anil Kumar, Scientist
- *Certificate of appreciation* by BARC, Mumbai for excellent analytical competence of JNARDDC lab in ILCE of alumina.

- Appreciation award to JNARDDC at 8<sup>th</sup> NABL PTP/RMP Conclave for the Indigenization of Certified reference materials (CRMs) for Wrought aluminium alloys by JNARDDC during 29-30th August 2024 at Mysore



#### **Swachhta Hi Seva Campaign 2024**

The highlight of this year SHS campaign was the construction of Waste to Art Sculpture model made of 1.6 tons aluminium scrap which was installed in Ranilaxmibai Udyan Public Park, Wadi National Highway NH-6 with the theme " Recycle today for a better tomorrow". The model was inaugurated by Shri Nitin Gadkari, Union Minister (Road Transport & Highways) in the presence of Dr Agnihotri Director JNARDDC & Dr V Deshmukh CEO Nagar Parishad, Wadi; R Vishakha & R Srinivasan, Nodal Officers of JNARDDC. The Institute organized a Safai Mitra Suraksha Shivar cum TB camp in association with State Health Dept for all workers and safai karamcharis of JNARDDC and Nagpur Nagar Parishad in presence of WHO officials. Present during the camp were Dr Vidyanand Gaikwad, Dr Aparna Pawade, Dr Singh from District TB office, Govt of Maharashtra and Dr Sanket Nandekar WHO official of Vidarbha region. 115 volunteers participated during cleanliness drive and disposed off 1.5 tones dry waste and cleaned the CTU Smrutinagar Duttawadi Nagpur. Under "Ek Ped Maa Ke Naam" initiate a mass plantation drive was undertaken in presence of Dr Vijay Deshkumh, CEO, Nagar Parishad Wadi, wherein employees & citizens planted more than 50 plants at Smruti Nagar, Wadi, Nagpur. 'Swachhata Run' and public awareness campaign of RRR activities by organized by Feedback Foundation NGO Gurugram at JNARDDC campus. The Institute also felicitated all the local sanitation workers on Swachh Bharat Diwas to acknowledge their contribution to this zeal. It was selected for showcasing before PM by Ministry of Mines.





*Waste to Art Sculpture model inaugurated by Shri Nitin Gadkari, Union Minister (Road Transport & Highways)*

### **National Sports Day**

JNARDDC carried forward the previous year theme “Sports are an enabler to an inclusive and fit society” and celebrated National Sports Day 2024 to honour the legacy of Major Dhyan Chand and the spirit of sportsmanship. With a view to promote physical fitness a 4-member relay team lead by Director, JNARDDC participated in the Asia’s longest prestigious Cycle Race Across India 2.0 sponsored by Indian Oil, from Kashmir to Kanyakumari covering 3758kms. The team completed the race in just 6 days and 10 hours with non-stop cycling and *secured the first position out of 22 teams* which included participants from Poland and Kenya. The JNARDDC team was sponsored by MECL & GSB. The winning team was honoured by MECL and event sponsor Indian Oil Ltd.





## Skill development

- iGoT : All JNARDDC employees are registered on iGOT and completed their courses as per CNA including courses mandated during National Learning Week (19-27 Oct 2024)
- JNARDDC topped in X-Small organization category in the number of learning hours in Karmayogi Platform and Dr Anupam Agnihotri, Director, JNARDDC was honoured with a certificate by Dr. Jitendra Singh, Minister of State (MOS) for Personnel, Public Grievances, and Pensions (PP) on 14<sup>th</sup> Nov 2024. JNARDDC was one of the top performers on iGOT with special emphasis during national learning week.



## M National Institute of Rock Mechanics (NIRM)

NIRM has been in the service of the nation for 35 years combining industry specific applied research activities in enabling scientific and engineering solutions through site characterisation, design and excavation of underground structures, advanced monitoring of rock mass and testing services.

NIRM adopts latest techniques and keeping itself abreast with latest trends in rock engineering and rock mechanics investigation for providing various scientific services with its dedicated team of scientists. NIRM scientific solutions ensure that the large magnitude of investments for various civil, mining and hydel projects are efficient in terms of valuable scientific and engineering inputs, and pave way for sound economics of operations of the structures.

Key area of NIRM activities are :

1. **Site Characterisation**– NIRM has capability to characterise various project sites like mining, tunnel, dam, power plants and critical infrastructures based on engineering geological, seismotectonic, engineering geophysical, engineering seismological and in-situ geotechnical tests of rockmass.

2. **Design and Excavation** – surface and underground mine design, excavation engineering, controlled blasting, numerical modelling, design of hill slopes
3. **Advanced Monitoring** – microseismic monitoring, slope stability monitoring, conventional monitoring
4. **Testing Services** - laboratory testing of rock samples & wire ropes and in-situ testing of various mining accessories using NDT technique

National Institute of Rock Mechanics (NIRM-HO) is located at Eshwar Nagar, Outer Ring Road, Banashankari 2nd Stage Bengaluru-560 070 Karnataka, India and NIRM-RO is located at Kolar Gold Fields, Karnataka 563117. The HO encompasses eight specialised areas of applied research providing scientific consultancy services to mining, civil and other critical infrastructure sectors. The RO caters to the material testing requirements of the industry with its Centre for Testing Services (CTS).

### **NIRM Performance and Projections**

From 01 January 2024 till 30 December 2024 NIRM completed 51 projects worth 16.54 crores. NIRM likely to add 10 more projects in the field of mining, civil and critical infrastructure sectors till March 31, 2025. The flow of work at NIRM is dependent on industry requirements and projects running at national and state level which is always variable.

Financially, during this period NIRM has managed to reach 95% of previous year projects in number reaching upto 76% of cash flow compared to previous year. NIRM is continuing its efforts for meeting industry requirements in rock engineering and rock mechanics related measurements and challenges with augmented scientific instrumentation and upgraded facilities with the support of Ministry of Mines, Govt. of India. Some part is sourced through internal resources generated.

NIRM has zero funding and aims to work for financial sustainability with its high-quality services under challenging variable industry conditions and trends. NIRM requires strong support in terms of capital upgradation, skilled young human resources, and overall financial support to the tune of at least ₹8 crores annually.

Ministry of Mines has given greater support and initiatives through industry and research organisations for wider collaboration in mining, power, nuclear and infrastructure sectors. With this support NIRM looks forward to gear up its activities to reach better its performance by reaching out to various industries and global organisations.

**Updating of Skills and awareness of industry trends:** The scientists and scientific staff of the institute are self-motivated to give their best for the challenges provided through work enquiries and provide efficient solutions that are site specific.

Scientists participate in various training programmes and workshops and conferences to remain aware of the latest trends in the geo-construction industry. NIRM scientists have been members

of Expert Committees for BIS, ISRM, ISEG, MEAI, KSDC, KSDMA, IGS, IGU, ISET, and ISRM-TT.

NIRM provided internship training for 30 students from different educational institutions like engineering colleges, science colleges and various university students in the field of geological investigations, tectonic investigations, seismological monitoring, rock excavation, numerical modelling and design and testing of rockmasses and rocks in-situ and in laboratories.

## **Glimpses of work done and Achievements**

### **NIRM-GSI MoU**

NIRM and GSI have signed an MoU in March 2024 under the instruction of the Ministry of Mines for collaboration in Pumped Storage Projects (PSP). With modern equipment and a coherent team of experienced and dedicated Scientists, NIRM combines research activities and consulting services to provide customised solutions for a wide range of rock mechanics and rock engineering problems. GSI a premier organisation engaged in fundamental and multi-disciplinary geoscientific activities in the country since 1851. GSI has been providing geoscientific inputs for ongoing infrastructure development projects under Water Resources Development Projects and Nuclear Power Projects with its skills in engineering geological and geotechnical services.

### **NIRM services contribute to India's civil, mining and infrastructure sectors**

NIRM contributions have been significant in terms of value addition to planning, design, excavation, and construction stages of minor and major projects. NIRM investigations and reports are appreciated and incorporated in various project decisions and regulations in mining, civil, hydel and critical infra sectors. Optimisation of method/techniques in mining, tunnelling and other large underground excavations have minimised hazards, improved productivity thereby reducing cost of projects thus indirectly contributing to project cost efficiency and national spending on such projects.

**NIRM Scientific Publications:** In addition to providing timely solutions to industries, NIRM has published 15 technical papers through national and international conferences, symposium, peer reviewed journals and other technical publications. Including technical reports, the publications are 51 for this period.

### **NIRM in international arena**

NIRM work is recognised and approached by various industries in India, Sri Lanka, Bhutan and Nepal. NIRM is associated with civil and hydel projects in Bhutan and Nepal for more than 2 decades now. Myanmar, Gulf are some of the regions where NIRM has found such opportunities in the past and is striving to work with concerned industry to provide services across the borders.

### **Glimpse of NIRM scientific outcome**



The Kirthai-II Hydroelectric project (930 MW) is a runoff of the river with a 121 m high concrete gravity dam scheme to come up on the river Chenab in Padder Tehsil, Kishtwar district, Jammu & Kashmir. All the components of Kirthai II H. E. Project will be housed in the Pias Granites, which appear generally fresh, massive, and hard.



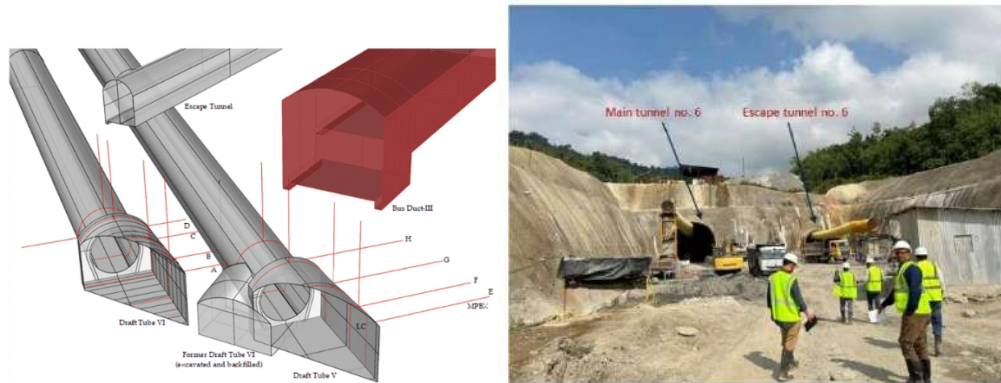
The in-situ direct shear parameters of rock mass are one of the important engineering parameters required for the stability analysis and design of the rock structures was completed in an exploratory drift. This is crucial for Engineering Geological Investigations for the Railway Tunnels for the Proposed Electrification of Hassan (HAS) – Subrahmanya Road (SBHR) in Mysuru Division, South Western Railway was carried out for rock mass classification and characterization of bracket areas of unlined excavated portion of tunnels between Donigal and Subrahmanya Road of Hassan (HAS). Comprehensive report with identifications of geological defects in the excavated tunnel surface of bracket areas and recommendations for treatments based on rock mass characterization and site geological conditions was done.



Plate 1: 1<sup>st</sup> Collapse from face-IV, ingress of debris flow on 7<sup>th</sup> January 2023  
 Plate 2: 1<sup>st</sup> time pipe roofing was done on 27<sup>th</sup> April 2023

Analysis of geotechnical and geodetic instrumentation data for critical reaches / excavations like draft tube tunnels V and VI, tail race tunnel, downstream surge chamber and additional surge tunnels was carried out using numerical modelling tools. Notably, there are no physical

deformation indications on the downstream wall surface at RD 70. Based on instrumentation monitoring post-excitation indicates stable conditions. Physical observations are recommended for the downstream wall from RD 75 to 195. The geodetic monitoring showed negligible deformations during the reporting period.

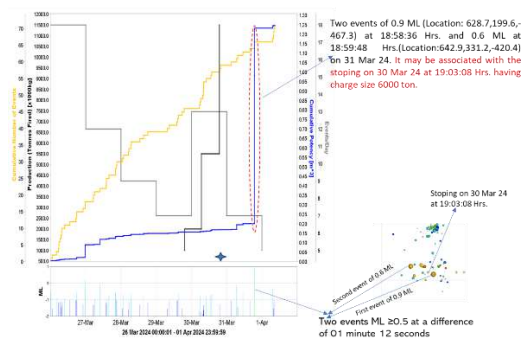


(left) Layout showing installation locations for DT V and DT VI, (right) NIRM scientists at Tunnel No. 6 Dimapur-Kohima Railway Line

The total station survey recorded a maximum total displacement of 36 mm at RD 70 EL 593.2 D/S until the last month of reporting. The design of support for different rock classes and the methodology for underground excavation to expedite the progress.

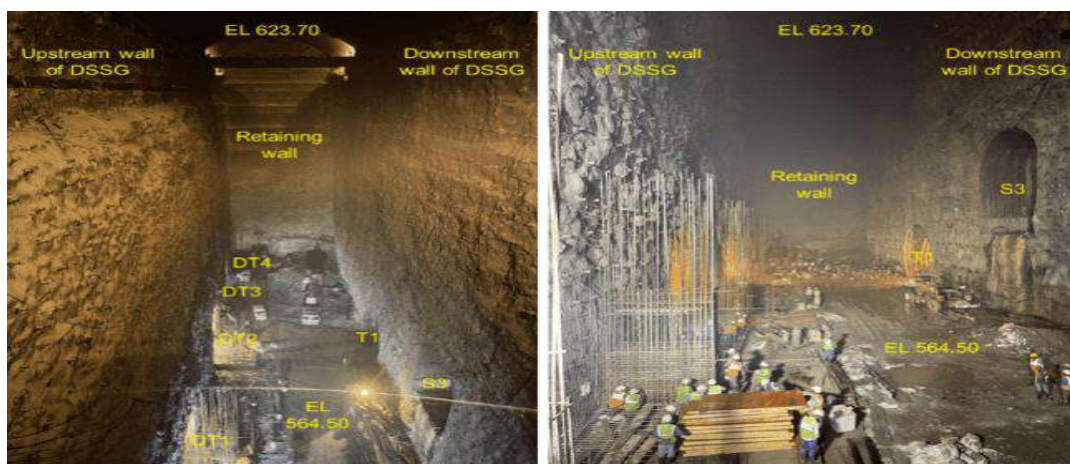
The geotechnical interpretative report anticipates that tunnels 6, 7, and 10 will mostly encounter rock classes III, IV, and V, with less of classes VI and VII. Numerical design processes require comprehensive data on rock mass characteristics, properties, in-situ stresses, and intended excavation sequence. Yielding support systems are recommended in situations where squeezing rock conditions arise due to extremely poor rock mass conditions and areas of high stress concentration. A proper three-dimensional (3D) numerical modelling analysis is recommended for better assessing the stability of the tunnel excavation. It is recommended to create 3D geological logs that encompass the entire circumference of the tunnel. Incorporating intermediate adits throughout the tunnel alignment can provide extra working faces for tunnel excavation and reduce the total time needed for the excavation.

NIRM scientists provided support through guidance on seismic network installation, health of the monitoring system, and overall coverage of the underground mines for improving the monitoring efficacy. In addition, review of the quality of data being received, analysis of the seismic events, evaluation of seismic hazard was carried out with seismic event-based back analysis and for forecasting probable hazard and production.



*Analysis of seismic events and mining shows the change of seismic source parameters with time during production cycle; NIRM scientists visit to HCL Malanjkhanda mines for addressing stability issue with the proposed microseismic monitoring.*

Seismic hazard closer to stoping operations was done development strategy. The maximum probable ML of a seismic event at RAM was forecast as  $M_L 2.8$ . NIRM provided advanced excavation strategy for two major underground structures at PHPA-II, Bhutan. Poor geological rockmass conditions encountered in the excavation stretches was successfully tackled by adopting site specific excavation techniques. Excavation of additional surge tunnels (AST-S2 and AST-S1) was successfully completed by adopting heading and benching method in water charged weak rockmass conditions without hampering the activities in the adjacent tunnels. Draft tube V and VI was successfully excavated and supported by adopting suitable controlled blasting techniques. Suitable controlled blast designs implemented.



*NIRM executed excavation in complex geology successfully at the PHPA-II- Bhutan, which was recently commissioned and generating power.*

To excavate the tunnels controlled the over break to less than 8%, while average overbreak recorded in the gallery was 0.27m. NIRM has taken all the necessary precautionary measures in designing the blast to reduce the influence of blast induced ground vibrations on the surrounding rockmass and structures. Any underground excavations need a systematic blasting approach to overcome serious damage to the surrounding rockmass and structures to enhance the safety of men and machineries. NIRM strongly recommends that blasting activities for further excavation.

#### **8.22 List of major projects during April 2023- March 2024 include:**

1. NDT of critical components and HEMM equipment testing at Zawar Mines, M/s.HZL, Rajasthan
2. NDT of winder vital parts, structural stability test, HEMM and its load bearing components of Kayad mine
3. Quality checking of raw granite blocks for new Anubhava Mantap project Basavakalyan
4. Quality checking of granite stones to be used for construction of Shri Ram temple at Ayodhya



5. Review of engineering geological/geotechnical mapping and characterization of rock mass for the Bherughat and twin tunnels, portals areas of 4 laning of Tejainagar to Balwara section of NH-347BG, Madhya Pradesh
6. Engineering geological investigation of the railway tunnels for the proposed electrification of Hassan (HAS)-Subrahmanya road (SBHR) in Mysore Division South western Railway
7. Construction stage Eng. Geological mapping of the foundation floor of on-site emergency support centre for Tarapur Atomic Power Station, Maharashtra
8. Engineering Geological investigation of balance stretch of tunnel alignment for realignment (ch 1800 to 3300 m) of Sengulam Augumentation Scheme (85 MU) Idukki dist, Kerala.
9. Review of Eng. Geological Investigation of 1.2 Km Twin tunnels of Six-lane Access controlled greenfield highway section of NH-150C at Kurnool Andhra Pradesh
10. Geophysical investigation to characterise the overburden rock mass and to locate the shallow aquifers along the hydro tunnel alignment of Sengulam Augmentation scheme, Idukki District, Kerala
11. Geophysical investigation to assess the cause of cracks in the SCADA control room building of HPCL Mangalore
12. Geophysical survey for assessment of contamination of ground around the bio-compost yard of Sri Chamundeshwari sugars ltd.
13. Guidance and support to Micro seismic monitoring at Rampura Agucha Mine, Hindustan Zinc Ltd.
14. Mine & Dump slope stability analysis for Lloyds metals & Energy ltd. Surjagarh, Gadchiroli, Maharastra
15. Assessment of Granite Building Stone quarry of Thomas OD at Resurvey Nos: 234/1, 234/2 & 234/5 in Muppiyanadu vilage, Vythri Taluk, Waynadu district Kerala. For an extent of 1.3307 Ha
16. To carry out in situ direct shear test at the power house area of Kirthal-II, HE Projects Jammu & Kashmir
17. Dilatometer test at Nalla Somanadri (Gattu) Lift Irrigation Scheme (NSLIS)
18. Consultancy services for Geotechnical studies for GMDC's Ambaji Multimetal and Kadipani Expansion Mines/Projects.
19. Slope stability studies for left bank slope / Abutment of concrete dam of Subansiri Lower Hydroelectirc project (200 MW) NHPC LTD.
20. Numerical Modelling studies for optimisation of Mining parameters at the open cast mines (Kadipani fluorspar and Kadipani Expansion project ) of GMDC ltd Gujarat
21. Numerical Modelling studies for Optimisation of mining parameters at Ambaji underground mine of GMDC ltd. Gujarat.
22. Technical guidance for controlled blasting and monitoring of ground vibration for the excavation of hard rock Malabar hill sets, RIL MUMBAI ( Phase -2)
23. Optimisation of blast design parameters and monitoring of blast vibration at Utkal D Coal Mines Chendipada, Angul dist, Odisha
24. Study on providing safe charges for blasting conducted to construct turbine building of unit 5 & 6 of Kaiga atomic power plant, Kaiga
25. Phase II Extension-3 Monitoring of ground vibration and air overpressure due to blasting carried out for construction of uit 5& 6 of Kaiga atomic power plant, Kaiga, Karnataka.

26. Extension of Tehnical Guidance Services for Excavation of various powerhouse complex components of Punatsangchhu-II (1020 MW ) Hydroelectric project by controlled blasting, Punatsangchhu-II hydroelectric project authority (PHPA-II) Bhutan.
27. Seismotectonic Evaluation for the proposed Jaitapur Nuclear Power Plant within 50 km of radius, Jaitapur, Corporation of Maharashtra.
28. Seismotectonic Evaluation - feasibility study for the propose IREL, Chatrapur, Ganjam District, Odisha
29. Macro Landslide Hazard Zonation Mapping in the area surrounding the proposed chutka Madhya Pradesh Atomic Power Project at Village-Chutka, District-Mandla, Madhya Pradesh
30. QA support for the ongoing Geological/Geotechnical investigations at mahi Banswara Rajasthan Atomic power project, Banswara Rajasthan

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**Sunil Kumar Tiwari**