



SOUVENIR

34th Mines Environment & Mineral Conservation Week, 2023-24
Under the aegis of Indian Bureau of Mines Ajmer Region

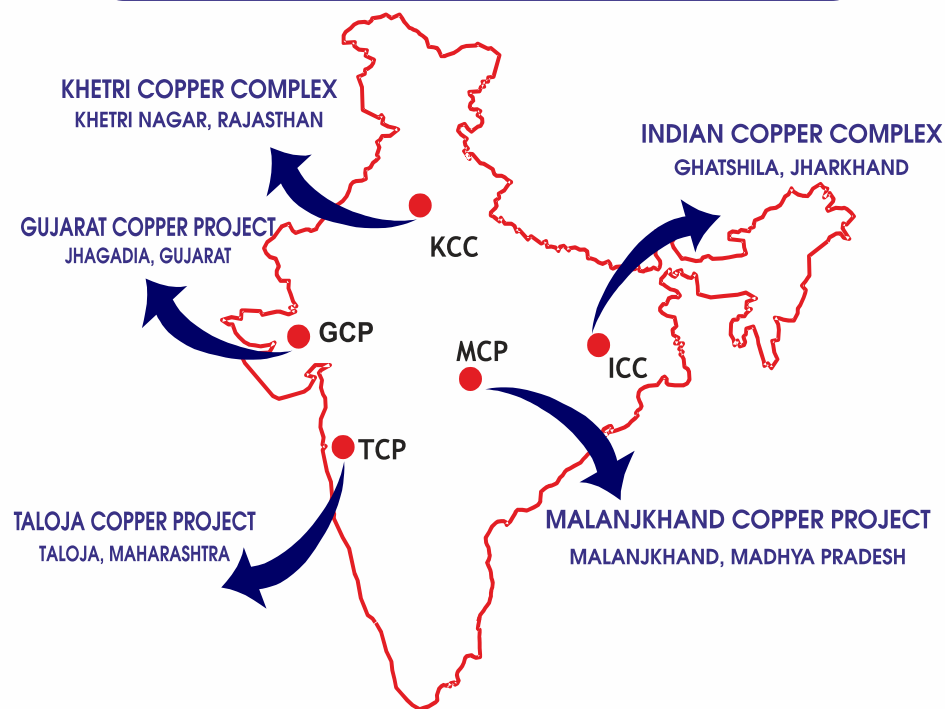


Hosted By : JK Cement Works, Kailash Nagar, Nimbahera, Dist. Chittorgarh (Raj.) - 312617
memcw2023.24@gmail.com <https://www.memcassociationajm.com>

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34th Mines Environment & Mineral Conservation Week, 2023-24



34th Mines Environment & Mineral Conservation Week, 2023-24

Under the aegis of Indian Bureau of Mines Ajmer Region

(9th Dec. to 15th Dec 2023)

FINAL DAY FUNCTION

(15th March - 2024, Friday)

Hosted by



Mines Environment & Mineral Conservation Association, Ajmer Region

Under the aegis of Indian Bureau of Mines Ajmer Region



34 वाँ खान पर्यावरण एवं खनिज संरक्षण सप्ताह-2024

पर्यावरण संरक्षण शपथ

हम सब "खान पर्यावरण एवं खनिज संरक्षण सप्ताह"
के अवसर पर यह प्रतिज्ञा करते हैं कि हम
सब अपनी खानों में कार्य करते समय खान पर्यावरण एवं
खनिज संरक्षण के प्रत्येक नियम एवं अधिनियम
का सर्वदा पालन करेंगे।
हम हृदय से यह शपथ लेते हैं कि हम अपने
खनन क्षेत्र एवं आसपास के वातावरण
को हमेशा प्रदूषण मुक्त रखेंगे तथा हम सब
प्रकृतिक संपदा के संरक्षण करने का भरसक प्रयास करेंगे।



CONTENT'S

OUR INSPIRATIONS

INFORMATORY 34TH MEMCW 2023-24

ACTIVITY GLIMPSES FROM FLAG RECEIVING TO FLAG OFF

GLIMPSES OF TEAM - WISE MINES INPECTIONS

PREVIOUS YEAR PRIZE WINNER LIST

NOTIFICATION & AMENDMENTS

ARTICLES

WELLWISHER



34th Mines Environment & Mineral Conservation Week, 2023-24



OUR INSPIRATIONS





34th Mines Environment & Mineral Conservation Week, 2023-24



कलराज मिश्र
राज्यपाल, राजस्थान



सत्यमेव जयते

Kalraj Mishra
Governor, Rajasthan

संदेश

मुझे यह जानकर प्रसन्नता हुई है कि इण्डियन ब्यूरो ऑफ माइंस, अजमेर क्षेत्र द्वारा 34 वें 'माइंस एनवायरमेंट एण्ड मिनरल कन्जर्वेशन वीक-2023-24' के अवसर पर आप एक स्मारिका का प्रकाशन करने जा रहे हैं।

खनन उद्योग ने भारतीय अर्थव्यवस्था के सुदृढ़ीकरण में निरंतर महती भूमिका निभाई है। राजस्थान खनिज सम्पदा में समृद्ध प्रदेश है। सुरक्षित खनन और पर्यावरण संरक्षण भी आज के समय की सबसे बड़ी आवश्यकता है। खनन सुरक्षा सप्ताह पर्यावरणीय दृष्टि से जागरूकता लिए हो। चाहता हूँ, सतत विकास की अवधारणा के साथ खनन उद्योग का विकास हो।

पर्यावरण संरक्षण के साथ यदि सुरक्षित खनन होता है तो इसका सभी स्तरों पर लाभ होगा।

मेरी स्मारिका के लिए हार्दिक शुभकामनाएं हैं।

कलराज मिश्र
(कलराज मिश्र)

राज भवन, सिविल लाइन्स, जयपुर-302006
Raj Bhawan, Civil Lines, Jaipur-302006
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Hosted by JKcement



34th Mines Environment & Mineral Conservation Week, 2023-24



प्रल्हाद जोशी
PRALHAD JOSHI
ಪ್ರಲ್ಹಾದ ಜೋಶಿ



75
आज़ादी का
अमृत महोत्सव

संसदीय कार्य, कोयला एवं खान मंत्री
भारत सरकार
नई दिल्ली
MINISTER OF PARLIAMENTARY AFFAIRS,
COAL AND MINES
GOVERNMENT OF INDIA
NEW DELHI

Message

I congratulate the Indian Bureau of Mines, Ajmer Region on the 34th Mine Environment & Mineral Conservation Week 2023-24. This week-long event highlights how the mining industry is playing an important role in maintaining ecological balance, while catering to the country's economic needs and preserving natural resources.

Sustainable mining will ensure that a mineral-rich state like Rajasthan can maximise extraction while simultaneously promoting social aspirations of the local citizens. In this regard, initiatives like these emphasise legal, moral and social commitment for the cause of mineral conservation and protection of the environment.

I extend my best wishes to the organisers and participating delegates on the 34th Mine Environment & Mineral Conservation Week.

(Pralhad Joshi)



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Hosted by JKcement



34th Mines Environment & Mineral Conservation Week, 2023-24



संजय लोहिया, आईएएस
अपर सचिव एवं महानियंत्रक (प्रभारी)
SANJAY LOHIYA, IAS
Additional Secretary & Controller General (Incharge)



भारत सरकार
GOVERNMENT OF INDIA
खान मंत्रालय
MINISTRY OF MINES
भारतीय खान ब्यूरो
INDIAN BUREAU OF MINES

Dated 29th December, 2023

MESSAGE

It is pleasure to note that 34th Mines Environment and Mineral Conservation Week of Ajmer region has been celebrated from 09th December, 2023 to 15th December, 2023 and final day function is scheduled on 15th March, 2024.

The mining industry has moved hand in hand with Government of India in striving for sustainable growth of mining sector in the country. The recent introduction of online submission of Mining Plan and Drone survey data has been accepted by the industry. Use of IoT enabled technologies and electric vehicles and machinery are need of the hour.

The Mines Environment and Minerals Conservation Council creates awareness among the mining fraternity towards optimum utilization of resources through systematic and scientific mining. The MEMC week gives an opportunity to miners to show their good work and exchange ideas with other miners. It also provides an opportunity for recognizing the good work done by the miners.

I wish to congratulate all the employees of mines, their owners and the organizing committee members of the MEMC week for their continuous efforts along with the host, M/S J.K. Cement Limited and wish them all success in conduct of the MEMC week.


(SANJAY LOHIYA)

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34th Mines Environment & Mineral Conservation Week, 2023-24



पीयूष नारायण शर्मा
Peeyush Narayan Sharma



भारत सरकार
GOVERNMENT OF INDIA
खान मंत्रालय
MINISTRY OF MINES
भारतीय खान ब्यूरो
INDIAN BUREAU OF MINES
मुख्य खान नियंत्रक का कार्यालय
OFFICE OF THE CHIEF CONTROLLER OF MINES

MESSAGE

I am indeed very happy to note that M/s J. K. Cement Limited is hosting 34th Mines Environment & Mineral Conservation Week for the year 2023-24 is being celebrated from 09.12.2023 to 15.12.2023 under the aegis of Ajmer Regional Office of Indian Bureau of Mines, covering participation of various major mineral mines of Rajasthan State so as to bring the awareness regarding preservation of environment and proper utilization of mineral resources located in the region. On this occasion a Souvenir is being released to commemorate the occasion.

The sustainable development of mineral resources along with the natural and socio-economic environment requires balance between Environmental, Social & Economical verticals. All the mining activities should be planned in such a scientific manner that optimum exploitation of mineral is done without disturbing the surrounding environment and also restore to its original beauty after mineral extraction.

The state of Rajasthan under the jurisdiction of Ajmer Regional Office of Indian Bureau of Mines is richly endowed with various minerals like Lead and Zinc, Copper, Limestone, Wollastonite, Garnet, Siliceous Earth, Vermiculite, Iron Ore, Selenite, Rock Phosphate etc. The state is in forefront of these mineral production in the country. Though the mining industry is playing a vital role in the growth and development of our National Economy, it is also necessary to realize the significance of the environmental protection and importance of mineral conservation in the mining areas. Thus the important mines of these minerals are actively participating in the celebration to bring the awareness in mineral conservation, environment protection and social responsibilities etc. in mining fraternity.

I am sure that the regular observance of Mines Environment and Mineral Conservation Week would remind us towards our legal, moral and social commitments for the cause of mineral conservation and protection of environment in mining areas of the region.

I convey my best regards to all mine managements as well as the organizers for this endeavor and wish all success for the week.

With best Wishes.

(Peeyush Narayan Sharma)
Chief Controller of Mines I/C

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34th Mines Environment & Mineral Conservation Week, 2023-24



पंकज कुलश्रेष्ठ
मुख्य खाननियंत्रक (प्रभारी)

भारत सरकार
GOVERNMENT OF INDIA
खान मंत्रालय
MINISTRY OF MINES
भारतीय खान ब्यूरो
INDIAN BUREAU OF MINES

Dated 20th February, 2024

MESSAGE

It gives me immense pleasure to know that the 34th Mines Environment & Mineral Conservation Week, 2023-24 was celebrated from 09th December, 2023 to 15th December, 2023 under the aegis of Ajmer Regional Office of Indian Bureau of Mines, covering participation of various major mineral mines of Rajasthan State.

The Mines Environment and Mineral Conservation Week is an excellent platform for reviewing our efforts towards the sustainable development of minerals and to exchange new wherewithal for scientific mining. I am sure, regular observance of Mines Environment and Mineral Conservation Week will go a long way to remind us of our commitments towards mineral conservation and environmental protection.

I congratulate the organizing Committee and especially the host company M/s J. K. Cement Ltd. for this endeavor and wish grand success of the celebrations.


(Pankaj Kulshrestha)

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34th Mines Environment & Mineral Conservation Week, 2023-24



अभय अग्रवाल
Abhay Agrawal
खान नियंत्रक(उत्तरांचल)
Controller of Mines (North Zone)



भारत सरकार
GOVERNMENT OF INDIA
खान मंत्रालय
MINISTRY OF MINES
भारतीय खान ब्यूरो
INDIAN BUREAU OF MINES
खान नियंत्रक(उत्तरांचल) का कार्यालय
Office of The Controller of Mines (North Zone)

No. D-21014/2/2016 Udp

Dated, 12 फरवरी 2024

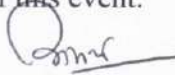
Message

It gives me immense pleasure to learn that the 34th Mines Environment & Mineral Conservation Week, 2023-24, of Ajmer Region was celebrated under the aegis of Indian Bureau of Mines, Office of Regional Controller of Mines, Ajmer, during 09th December, 2023 to 15th December, 2023, in which different mines of major minerals participated.

Minerals are vital components for everyone lives and are finite in nature. These minerals are non-renewable resources and cannot be replenished or created, once they are depleted. International commitments towards reducing carbon emissions requires the country to urgently relook at its mineral requirements for energy transition and net-zero commitments. Thus, we are now witnessing the significance of critical minerals as a building block, for the growth of our nation. India has identified 30 critical minerals crucial for its self-reliance and growth which are vital for high-tech and renewable energy technologies. Minerals like Lithium, cobalt, graphite, and rare earth elements are vital for modern technologies including smartphones, electric vehicles, and renewable energy sources. Thus, it must be our endeavor to seize the potential of minerals to fuel India's economic growth and technological advancement through their conservation and optimum utilization. Such optimum utilization of natural resources can be ensured through systematic and scientific mining activities, as well as through awareness amongst the stakeholders.

Mine Environment & Mineral Conservation Week has a greater significance in enhancing awareness towards maintaining harmonious equilibrium between ecofriendly mining & accelerated economic development under the principles of sustainable development. Such celebrations remind us our duty for ensuring the mineral conservation along with the protection of environment and also gives an impetus to the cause.

On the occasion of Final day function of MEMC Week 2023-24, I extend my warm wishes for the grand success of this celebration and also convey my heartily wishes to all the mining community, organizing team of M/s J. K. cement Ltd. & mentors of this event.


(अभय अग्रवाल)

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34th Mines Environment & Mineral Conservation Week, 2023-24



MADHAV SINGHANIA

DMD & CEO

JK Cement Ltd.



MESSAGE

It gives us immense pleasure to note that the 34th Mines Environment & Mineral Conservation Week 2023-24 is being celebrated in the metalliferous mines of the Ajmer Region under the aegis of the Indian Bureau of Mines, Ajmer region. The Concluding Day Function is being hosted by our company, JK Cement Works, M/s JK Cement Ltd, at Nimbahera on 15th March 2024.

I feel that the celebration of events like this would lead to acceleration and dedicated efforts towards improving mining environments and mineral conservation. This would be possible through contributions not only from mining entrepreneurs but also from individual stakeholders.

There is a great need for the adoption of environmentally friendly and ecologically appropriate technology in mines, and I am confident that such celebrations will serve their objective in creating much-needed awareness in the mining industry to cope with future challenges.

I am sure that the Mines Environment and Mineral Conservation Week will provide a unique opportunity for meaningful interaction and create awareness towards environmental protection and mineral conservation.

I extend my heartiest wishes to all the participating mines, their employees, organizations, and IBM officials to make the MEMC Week 2023-24 celebration a grand success.

(Madhav Singhania)

Hosted by





34th Mines Environment & Mineral Conservation Week, 2023-24



R.B.M. Tripathi
Unit Head & President (O)
Nimbahera & Mangrol
JK Cement Limited



MESSAGE

I am delighted to know that the 34th Mines Environment & Mineral Conservation Week 2023-24, is being celebrated from 09th December to 16th December 2023 under the aegis of Indian Bureau of Mines, Ajmer Region and the concluding day function is being hosted by JK Cement Limited.

Such celebrations are a powerful tool of creating awareness of Mineral Conservation by proper utilisation of low-grade minerals as available in the present scenario for long time sustainability. Also importance of preservation of environmental awareness among the workers, supervisors and mines management including the surrounding society. Mines Environment & Mineral Conservation week provides a forum for review and interaction on mineral conservation and environment protection by the experts in their respective fields from different organisations.

Celebration of this Week will meet the overall objectives of perpetuating the spirit of environment protection as well as provide a good platform for all Manual, Mechanized Mines and Underground Mines to share valuable and creative ideas and work together for ecofriendly mining and conservation of mineral for future generation.

I wish the celebration of Mines Environment & Mineral Conservation Week, 2023-24 a grand success.

(R.B.M. Tripathi)

Hosted by



34th Mines Environment & Mineral Conservation Week, 2023-24



Manish Toshniwal
Convener
34th MEMCW 2023-24



MESSAGE

It is a great pleasure for J K Cement Limited (Unit: J K Cement Works, Nimbahera) to be the Host for 34th Mines Environment & Mineral Conservation Week, 2023-24 celebrations and I am thankful to the Indian Bureau of Mines, Ajmer Region for giving this opportunity.

Adding value to rich mineral resources of our country at faster pace is of critical importance and is the key factor in achieving high economic status for our nation. At the same time, the approach to win the mineral wealth should be to optimize production by keeping intact environmental conservation requirements. All the mining activities should be planned in a scientific and systematic manner without disturbing the environment and restore it to the original primeval beauty after mining.

Mines Environment & Mineral Conservation Week celebrated every year makes the mining fraternity aware of their responsibilities and ensures learning from others experiences. Such events play a significant role to create environmental awareness among miners and society at large.

I am confident that this event will contribute to development of technology and methodology both in mining and mineral processing industries for better environment and mineral conservation. It will also serve as a platform to exchange the ideas & technological development for mineral conservation and protection of environment.

I wish the Mines Environment & Mineral Conservation Week a grand success


(Manish Toshniwal)

Hosted by 



34th Mines Environment & Mineral Conservation Week, 2023-24



चन्द्रेश बोहरा
Chandresh Bohra

उप खान नियंत्रक एवं प्रभारी अधिकारी
Dy. Controller of Mines & In-charge



भारत सरकार
Government of India
खान मंत्रालय
Ministry of Mines
भारतीय खान ब्यूरो
Indian Bureau of Mines
माखुपुरा औद्योगिक क्षेत्र, अजमेर 305002
Makhupura Industrial Area, Ajmer-305002

From the **PATRON'S DESK**

It is a great pleasure to us that the 34th Mines Environment and Mineral Conservation Week was celebrated from 9th December, 2023 to 15th December, 2023 by the major mineral mines of Rajasthan state under the aegis of Ajmer Regional office of Indian Bureau of Mines.

The MMDR Act, 1957 ("1957 Act") was the principal legislation that was enacted with a view to regulate the minerals and mining sector in India. The 1957 Act has undergone meticulous amendments in the years 2015, 2016, 2020 and 2021 to bring sweeping reforms in the mineral sector with the changing times. These amendments helped to boost mineral production, improve ease of doing business, effusively utilize the potential of the mineral sector, increase employment opportunities; increase production and time bound operationalization of mines and resolve long pending issues that have slowed the growth of the mining sector in the country.

Recently, Ministry of Mines has further amended MMDR Act, 1957 through the MMDR Amendment Act, 2023 notified vide gazette dated 09.08.2023 w.e.f. 17.08.2023 in which 24 minerals has been notified as Critical and Strategic minerals. The amendment confers the power to grant mineral concession of these minerals to Central Government so that Central Government can prioritise auction of these minerals looking at the requirements of the country. The revenue generated from these auctions shall accrue to State Governments. The objective of the said amendment is to increase exploration and mining of critical minerals and ensure self-sufficiency in supply of critical minerals which are essential for the advancement of many sectors, including high-tech electronics, telecommunications, transport and defence. The Central Government has also launched the first tranche of e-auction of 20 mineral blocks of critical and strategic minerals on 29.11.2023 which include blocks of Lithium, Rare Earth Elements, Platinum Group of Minerals, Nickel, Potash etc. These all changes pave a positive pathway for the mission of making India self-reliant.

Rajasthan is the richest state in terms of availability and variety of minerals in the country and produces about 16 different major minerals. Rajasthan is the sole producer of Lead & Zinc ores, Selenite and Wollastonite and almost entire production of silver in the country comes from Rajasthan. The State is a major producer of copper ore/conc., limestone, rock phosphate etc. The prominent mining activities carried out in this state brought economic development and growth to the state. The modern mining process involves prospecting of the mineral deposit to its exploitation and finally reclamation of the degraded land due to mining for other uses once the mine is closed. The process of exploitation of mineral resources from the nature often leaves its scar on the environment creating ecological imbalance and adverse impact on the environment. In this regard, a small effort has been made by the Mines Environment and Mineral Conservation Week to create awareness not only in the mining industry but also in the people of the neighbourhood focusing the sustainable development and overcome the challenges for protection of environment in the mining areas.

It is also bring to kind notice that during this week long celebration of 34th MEMC Week from 9th December, 2023 to 15th December, 2023, total 68 major mineral mines comprising 10 underground mines and 58 opencast mines, participated whole heartedly. These mines have been inspected by 06 teams travelling across the largest state of the country and submitted the evaluation sheet. The Final Day Function is scheduled on 15th March, 2024 which will be hosted by M/s J. K. Cement Limited, Nimbahera.

On this auspicious occasion, I would like to appreciate the efforts of the management of all the mining participating lessees and at the same time my sincere thanks to all the Executive Committee members of 34th MEMC Week, 2023-24 and host M/s J. K. Cement Limited, Nimbahera for their whole hearted co-operation for organizing this week-long celebration and full support to make this event a grand success.

चन्द्रेश बोहरा

Hosted by





34th Mines Environment & Mineral Conservation Week, 2023-24



ORGANISING COMMITTEE

Patron

Sh. Chandresh Bohra
DCOM & Incharge, IBM, Ajmer

Chairman

Sh. R B M Tripathi
Unit Head, J K Cement Ltd

Convener

Sh. Manish Toshniwal
Head Mines, J K Cement Limited

Co Chairman

Sh. K C Meena
SBU Director, Kayad Mines (HZZ)

Coordinator

Dr. A. Z. Khan
Regional Mining Geologist

Secretary

Sh. Dilip Kumar Dhakar
Sr. GM, J K Cement Limited

Treasurer

Sh. Ashok Kumar Joshi
DGM, J K Cement Limited

SOUVENIR COMMITTEE

Sh. Data Ram Gurjar
IBM, Ajmer

Sh. Narendra Jangir
Nuvoco Vista Co.

Sh. R. C. Vyas
JK Cement Ltd.

Sh. Vijendra Kashyap
HZZ

PRIZE COMMITTEE

Sh. Nitin Purohit
Nuvoco Vista Co.

Sh. Vikas Pitaliya
JK Cement Ltd.

Sh. Vijendra Kashyap
HZZ

Hosted by





34th Mines Environment & Mineral Conservation Week, 2023-24



EXECUTIVE MEMBERS

Sh. M. K. Garg,
M/s Shree Cement Ltd

Sh. Raju Jain,
M/s Wonder Cement Ltd

Sh. V.D. Mali,
M/s Aditya Cement

Sh. G. D. Gupta,
M/s Hindustan Copper Ltd

Sh. Ritesh Kaimal,
M/s Nuvoco Vistas Corp Ltd, Chittorgarh

Sh. Ram Murari,
M/s Hindustan Zinc Ltd, Zawar

Sh. Kishor Kumar,
M/s Hindustan Zinc Ltd, Agucha

Sh. Rajeev Verma
M/s RSMM Ltd, Jhamarkotra

Sh. Praveen Lodha,
M/s J K Laxmi Cement Ltd

Sh. K.C. Meena,
M/s Hindustan Zinc Ltd, Kayad

Sh. P. R. Prajapat,
M/s RSMM Ltd, Sanu Mines

Sh. K K Singh,
M/s Birla Cement Ltd, Chittorgarh

Sh. Vinod Jangir
M/s Hindustan Zinc Ltd, RD Complex

Sh. Bajarang Lal,
M/s Manglam Cement Ltd

Sh. Sandeep Singh,
M/s Ambuja Cement Ltd, Pali

Sh. Lokesh Shrimali,
M/s Ambuja Cement Ltd, Nagaur

Sh. Ajay Shrivastav,
M/s ACC, Lakheri

Sh. U. P. Pahadia,
M/s Wolkem Industries Ltd

Sh. M. K. Mishra
M/s The India Cement Ltd

Sh. K. P. Singh,
M/s Udaipur Cement Works Ltd

Sh. Dilip Ojha,
M/s Seema Mines & Minerals

Sh. Deepak Kalla,
M/s JK White Cement Works

Sh. Dinesh Patil,
Jindal Saw Limited

Sh. Ganpat Ram,
M/s Nuvoco Vistas Corp. Ltd, Pali

Sh. Bhismedeb Sahoo,
M/s Ultratech Nathdwara Cement Ltd

Sh. Bharat Gokharu,
M/s Ultratech Cement Ltd, Jaitaran

Sh. A. K. Jaiswal
M/s RSMML, Bikaner

Sh. Nitin Purohit,
M/s NU Vista Ltd, Nagaur

Sh. Bhupendra Khorpia,
M/s Ultratech Cement Ltd, Kotputli

Sh. U. S. Ranawat
Kochariya Mine (Small Mines)

Sh. S. K. Soni,
QP- Consultant

Sh. Gopi Chand Dhayal,
M/s UTCL (Birla White), Nagaur

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ACTIVITY GLIMPSES FROM FLAG RECEIVING TO FLAG OFF



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MEMCW 2022- 23





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GENERAL BODY MEETING



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EXECUTIVE BODY MEETING



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FLAG-OFF CEREMONY





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TEAM WISE INSPECTION





34th Mines Environment & Mineral Conservation Week, 2023-24



INSPECTION

Team -1



Team -2



Team -3



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INSPECTION

Team - 4



Team - 5



Team - 6



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LIST OF PARTICIPATING MINES





34th Mines Environment & Mineral Conservation Week, 2023-24



List of Participating Mines In 34th Memc Week, 2023-24

GROUP A1 (FULLY MECHANISED MINES- PRODUCTION > 3.5 MT)					
S No.	Mine Name	Lessee	Mineral	District	Email
1	Nimbeti 9/93	Shree Cement Ltd.	Limestone	Pali	Mahendra.Garg@shreecement.com, shreebwr@shreecementltd.com
2	Aditya(24/92)	Ultratech Cement Ltd.	Limestone	Chittorgarh	vijaykumar.mali@adityabirla.com
3	Basantgarh/Lakshmi Cement(10/99)	J.K. Lakshmi Corp. Ltd.	Limestone	Sirohi	plodha@lc.jkmail.com
4	Bhatkotri(22/07)	Wonder Cement Ltd.	Limestone	Chittorgarh	mk.bokadia@wondercement.com,
5	Amlia (6/94)	Ultratech Nathdwara Cement Ltd.	Limestone	Sirohi	gajendra.s@adityabirla.com
6	Mohanpura Jodhpura(03/2003)*	Ultratech Cement Ltd.	Limestone	Jaipur	bhupendra.khorpia@adityabirla.com
7	Malia Khera(4/2003)	J.K.Cement Works	Limestone	Chittorgarh	manish.toshniwal@jkcement.com
8	Morak (2/76)	Manglam Cement Ltd.	Limestone	Kota	bajrang.lal@mangalamcement.com
9	Dhedhwas(631/05)	Jindal Saw Ltd.	Iron Ore	Bhilwara	dinesh.patil@jindalsaw.com, naveen.airan@jindalsaw.com
10	Jai Surjana(10/83)	Birla Cement Works	Limestone	Chittorgarh	kashi.singh@birlacorp.com, narendra.menaria@birlacorp.com
11	Jhamarkotra (1/1988)	R.S.M.M Ltd.	Rock Phosphate	Udaipur	minephos.rsmml@rajasthan.gov.in, rajeevrsmm@gmail.com, sljhingonia.rsmml@rajasthan.gov.in

GROUP A2 (FULLY MECHANISED MINES-3.5 MT >PRODUCTION> 1.2 MT)					
S No.	Mine Name	Lessee	Mineral	District	Email
1	Sanu I(27/96)	R.S.M.M Ltd.	Limestone	Jaisalmer	prprajapat.rsmml@rajasthan.gov.in
2	Sanu II(01/97)	R.S.M.M Ltd.	Limestone	Jaisalmer	prprajapat.rsmml@rajasthan.gov.in
3	Sita Ji Ka Khera(9A/92)	Nuvoco Vistas Corp. Ltd.	Limestone	Chittorgarh	somnath.banerjee@nuvoco.in
4	RAS II/Patankerpura(02/94)	Ambuja Cement Ltd.	Limestone	Pali	sandeep.singh9@adani.com, amit.sharma9@adani.com
5	Karunda (3/2003)	J.K.Cement Works	Limestone	Chittorgarh	manish.toshniwal@jkcement.com
6	Mangrol Tila Khera (7/97)	J.K.Cement Works	Limestone	Chittorgarh	manish.toshniwal@jkcement.com
7	Marwar Mundwa-I(111/07)	Ambuja Cement Ltd.	Limestone	Nagaur	l.shrimali@adani.com, mayur.potkatara@adani.com
8	Dhanora (73/2011)	Wonder Cement Ltd.	Limestone	Chittorgarh	mk.bokadia@wondercement.com
9	Lampiya(627/05)	Jindal Saw Ltd.	Iron Ore	Bhilwara	dinesh.patil@jindalsaw.com, naveen.airan@jindalsaw.com
10	Daroli 1(2/88 ,186/08)	Udaipur Cement Works Ltd	Limestone	Udaipur	krishansingh@ucwl.jkmail.com, mines@ucwl.jkmail.com
11	Parthipura (1/1993)	The India Cements Ltd.	Limestone	Banswara	bans_mines@indiacement.co.in, manishkumar1.m@indiacement.co.in
12	Sheopura Kesarpura (24A/97)*	Shree Cement Ltd.	Limestone	Ajmer	Mahendra.Garg@shreecement.com, shreebwr@shreecementltd.com



34th Mines Environment & Mineral Conservation Week, 2023-24



GROUP A3 (FULLY MECHANISED MINES- PRODUCTION less than 1.2 MT)					
S No.	Mine Name	Lessee	Mineral	District	Email
1	Shyamgarh(3A/13)	Shree Cement Ltd.	Limestone	Ajmer	Mahendra.Garg@shreecement.com, shreebwr@shreecementltd.com
2	Mohrai Dagla(29/99)	Ultratech Cement Ltd.	Limestone	Pali	kushal.jain@adityabirla.com, deepakkumar.s@adityabirla.com
3	Lakheri(01/92)	Acc Ltd	Limestone	Bundi	Ajaykumar.Shrivastava@Adani.Com
4	Mangrol(26/08)	J.K.Cement Works	Limestone	Chittorgarh	manish.toshniwal@jkcement.com
5	Nimbahera (2/97)	J.K.Cement Works	Limestone	Chittorgarh	manish.toshniwal@jkcement.com
6	Thandiberi(7/94)	Ultratech Nathdwara Cement Ltd.	Limestone	Sirohi	gajendra.s@adityabirla.com
7	Daroli 2(64/79,23/01)	Udaipur Cement Works Ltd	Limestone	Udaipur	krishansingh@ucwl.jkmail.com, mines@ucwl.jkmail.com
8	Digrana(377/90)	Nuvoco Vistas Corp. (Nirma Ltd.)	Limestone	Pali	nitin.purohit@nuvoco.com
9	RAS I/Dayalpura(10/94)	Ambuja Cement Ltd.	Limestone	Pali	sandeep.singh9@adani.com, amit.sharma9@adani.com
10	Arniya Joshi(10/06)	Nuvoco Vistas Corp. Ltd.	Limestone	Chittorgarh	somnath.banerjee@nuvoco.in
11	Marwar Mundwa-II 3/94	Ambuja Cement Ltd.	Limestone	Nagaur	l.shrimali@adani.com, mayur.potkatara@adani.com

GROUP-B (UNDER GROUND MINES)					
S No.	Mine Name	Lessee	Mineral	District	Email
1	Sindesar Khurd(07/95)	Hindustan Zinc Ltd.	Lead Zinc Ore	Rajsamand	Vinod.Jangir@vedanta.co.in, anshul.khandelwal@vedanta.co.in
2	Agucha(8/99)	Hindustan Zinc Ltd.	Lead Zinc Ore	Bhilwara	kishore.s@vedanta.co.in, ranjan.gupta@vedanta.co.in
3	Mochia(3/1989)	Hindustan Zinc Ltd.	Lead Zinc Ore	Udaipur	Ram.Murari@vedanta.co.in, shashi.shukla@vedanta.co.in
4	Baroi(3/1989)	Hindustan Zinc Ltd.	Lead Zinc Ore	Udaipur	Ram.Murari@vedanta.co.in, shashi.shukla@vedanta.co.in
5	Rajpura Dariba(02/89,166/08)	Hindustan Zinc Ltd.	Lead Zinc Ore	Rajsamand	Vinod.Jangir@vedanta.co.in, sandeep.rajput@vedanta.co.in
6	Kayad 16/92	Hindustan Zinc Ltd.	Lead Zinc Ore	Ajmer	kastoor.meena@vedanta.co.in, vijendra.kashyap@vedanta.co.in
7	Balaria (3/1989)	Hindustan Zinc Ltd.	Lead Zinc Ore	Udaipur	Ram.Murari@vedanta.co.in, shashi.shukla@vedanta.co.in
8	Khetri (8/93)	Hindustan Copper Ltd.	Copper Ore	Jhunjhunu	sree_k@hindustancopper.com, rathi_g@hindustancopper.com
9	Kolihan (8/95)	Hindustan Copper Ltd.	Copper Ore	Jhunjhunu	sree_k@hindustancopper.com, rathi_g@hindustancopper.com
10	Zawarmala (3/1989)	Hindustan Zinc Ltd.	Lead Zinc Ore	Udaipur	Ram.Murari@vedanta.co.in, shashi.shukla@vedanta.co.in

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GROUP C (MECHANISED MINES/Newly Added)					
S No.	Mine Name	Lessee	Mineral	District	Email
1	Chawandia (1/88)	M.W. Mines Pvt. Ltd.	Limestone	Nagaur	drmsg@mwmmines.com, mines@mwmmines.com
2	Dhanappa 03/93	J.K. White Cement Works	Limestone	Nagaur	deepak.kalla@jkcement.com
3	Rajshree II(3/95)	Ultratech Cement Ltd.	Limestone	Nagaur	gopi.dhayal@adityabirla.com, vivek.bhardwaj@adityabirla.com
4	Kheratarla 1/95	Wolkem Industries Ltd.	Wollastonite	Pali, Udaipur	khera@wolkem.com, upp@wolkem.com
5	Rajshree I-1/91	Ultratech Cement Ltd.	Limestone	Nagaur	gopi.dhayal@adityabirla.com, vivek.bhardwaj@adityabirla.com
6	Sinla(492/93)	Nuvoco Vistas Corp. (Nirma Ltd.)	Limestone	Pali	nitin.purohit@nuvoco.com
7	Kapuria(1/01)	Seema Minerals & Metals	Siliceous Earth	Jaisalmer	seemamineral@hotmail.com, info@seemadiatomite.com
8	Thob-2 (12/92)	R.S.M.M Ltd.	Selenite	Barmer	akjaiswal.rsmml@rajasthan.gov.in
9	Gothra(47/07)	Shree Cement Ltd.	Limestone	Jhunjhunu	Mahendra.Garg@shreecement.com, shreebwr@shreecementltd.com
10	Gagrana (1/78)	Manglam Cement Ltd.	Limestone	Nagaur	bajrang.lal@manglamcement.com
11	Nagaur blocks 3b1	Nu Vista Ltd.	Limestone	Nagaur	chetan.agarwal@nuvoco.com, ganpat.ram@nuvoco.com
12	Thob 02/98	J.K. White Cement Ltd.	Selenite	Barmer	deepak.kalla@jkcement.com
13	Parewar Limestone Block-B	Wonder Cement Ltd.	Limestone	Jaisalmer	mk.bokadia@wondercement.com
14	Sarsani 3B2 Limestone Block	Jsw Cement Ltd	Limestone	Nagaur	abhishek.surana@jsw.in

GROUP D (SMALL MINES)					
S No.	Mine Name	Lessee	Mineral	District	Email
1	Morija New (2/75,2/97R)	Nand Lal Agarwal	Iron Ore	Jaipur	nla_ironore@yahoo.com,
2	KoduKota(Gokulpura)2/93	Akd Gem Garnet Mines	Garnet	Bhilwara	akdgem@yahoo.com, anildasot12@gmail.com,
3	Kala Khunta (3/83 ,04/04)	Asian Mining Associates	Manganese Ore	Banswara	amamnore@gmail.com, ds747521@gmail.com,
4	Papra kala(6/05)	Deepak Singh	Iron Ore	Jhunjhunu	vsshekhawat0091@gmail.com
5	Preetampuri (15/2000)	Daulatram Ram Goyal	Iron Ore	Sikar	goyalmineral@gmail.com, mining.sunil@gmail.com
6	Kochariya(432/07)	Ummed Singh Ranawat	Garnet	Bhilwara	neetukanwarv77@gmail.com
7	Luhakana(2/1999)	Manoj Kedia	Iron Ore	Jaipur	kediamineral@gmail.com, kediaminerals@rediffmail.com
8	Bariyara(4/10)	Jaipur Magmatics Pvt Ltd	Siliceous Earth	Barmer	js@haritsons.com, vinod@haritsons.com,
9	Khiwandi 05/98	Sher Singh Gehlot	Magnesite	Pali	manishgehlot789@gmail.com
10	Kharoti Dhaniya	Sikha Modi	Iron Ore	Jhunjhunu	chhaganlalmodi@gmail.com
11	Sodpura Wollastonite	Wolkem Industries	Wollastonite	Pali	upp@wolkem.com

Based on the production (ROM) reported in FY 2022-23

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PREVIOUS YEAR PRIZE WINNER LIST





34th Mines Environment & Mineral Conservation Week, 2023-24



LIST OF PRIZE WINNING MINES

33rd MINES ENVIRONMENT & MINERAL CONSERVATION WEEK 2022-23 (AJMER REGION)

FULLY MECHANISED GROUP A-1 (Production more than 3.0 MT)			
S.No.	Field	Prize	Name of Mine
1	AFFORESTATION	1st	Dhedwas Iron Ore Mine M/s Jindal Saw Ltd.
		2nd	Malia Khera Limestone M/s. J.K. Cement Works.
		3rd	Bhatkotri Limestone Mine M/s. Wonder Cement Ltd.
2	WASTE DUMP MANAGEMENT	1st	Mohanpura Jodhpura Limestone Mine M/s Ultra Tech Cement Ltd.
		2nd	Morak Limestone Mine M/s Manglam Cement Ltd.
		3rd	Basantgarh Limestone Mine M/s J.K.Lakshmi Cement Limited
3	SYSTEMATIC AND SCIENTIFIC DEVELOPEMNT	1st	Malia Khera Limestone M/s. J.K. Cement Works.
		2nd	Bhatkotri Limestone Mine M/s. Wonder Cement Ltd.
		3rd	Aditya Limestone Mine M/s. Aditya Cement Works.
4	MINERAL CONSERVATION	1st	Basantgarh Limestone Mine M/s J.K.Lakshmi Cement Limited
		2nd	Morak Limestone Mine M/s Manglam Cement Ltd.
		3rd	Jhamarkotra Rock Phosphate Mine M/s. RSMM Ltd.
5	RECLAMATION & REHABILITATION	1st	Morak Limestone Mine M/s Manglam Cement Ltd.
		2nd	Sanu-I Limestone Mine M/s. RSMM Ltd.
		3rd	Amlı Limestone Mine M/s Binani Cement Limited
6	MINERAL BENIFICIATION	1st	Jhamarkotra Rock Phosphate Mine M/s. RSMM Ltd.
		2nd	Dhedwas Iron Ore Mine M/s Jindal Saw Ltd.
		3rd	Sanu-I Limestone Mine M/s. RSMM Ltd.
7	ENVIRONMENTAL MONITORING	1st	Amlı Limestone Mine M/s Binani Cement Limited
		2nd	Nimbeti Limestone Mine M/s. Shree Cement Ltd.
		3rd	Mohanpura Jodhpura Limestone Mine M/s Ultra Tech Cement Ltd.
8	SUSTAINABLE DEVELOPMENT	1st	Malia Khera Limestone M/s. J.K. Cement Works.
		2nd	Aditya Limestone Mine M/s. Aditya Cement Works.
		3rd	Nimbeti Limestone Mine M/s. Shree Cement Ltd.
9	PUBLICITY AND PROPAGANDA	1st	Nimbeti Limestone Mine M/s. Shree Cement Ltd.
		2nd	Aditya Limestone Mine M/s. Aditya Cement Works.
		3rd	Basantgarh Limestone Mine M/s J.K.Lakshmi Cement Limited
10	OVERALL PERFORMANCE	1st	Malia Khera Limestone M/s. J.K. Cement Works.
		2nd	Nimbeti Limestone Mine M/s. Shree Cement Ltd.
		3rd	Aditya Limestone Mine M/s. Aditya Cement Works.
		3rd	Morak Limestone Mine M/s Manglam Cement Ltd.

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34th Mines Environment & Mineral Conservation Week, 2023-24



LIST OF PRIZE WINNING MINES

33rd MINES ENVIRONMENT & MINERAL CONSERVATION WEEK 2022-23 (AJMER REGION)

FULLY MECHANISED GROUP A-2 (3.0 MT>Production > 1.2 MT)			
S.No.	Field	Prize	Name of Mine
1	AFFORESTATION	1st	Jai Surjana Limestone Mine M/s. Birla Corp. Ltd.
		2nd	Sitaram Ji Ka Khera Limestone Mine M/s. NUVOCO Vistas Corpn. Ltd.
		3rd	RAS II Limestone Mine M/s. Ambuja Cement Ltd.
2	WASTE DUMP MANAGEMENT	1st	Karunda Limestone. Mine M/s. J.K. Cement Works.
		2nd	Sitaram Ji Ka Khera Limestone Mine M/s. NUVOCO Vistas Corpn. Ltd.
		3rd	Jai Surjana Limestone Mine M/s. Birla Corp. Ltd.
3	SYSTEMATIC AND SCIENTIFIC DEVELOPEMNT	1st	Mangrol Tila Khera Limestone Mine M/s. J.K. Cement Works.
		2nd	Dhanora Limestone Mine M/s. Wonder Cement Ltd.
		3rd	Sanu-II Limestone Mine M/s. RSMM Ltd.
4	MINERAL CONSERVATION	1st	RAS II Limestone Mine M/s. Ambuja Cement Ltd.
		2nd	Parthipura limestone Mine M/s. India Cement Ltd.
		3rd	Lampiya Iron Ore Mine M/s. Jindal Saw Ltd.
5	RECLAMATION & REHABILITATION	1st	Sanu-II Limestone Mine M/s. RSMM Ltd.
		2nd	Daroli-I Limestone Mine M/s. Udaipur Cement Works Ltd.
		3rd	Parthipura limestone Mine M/s. India Cement Ltd.
6	MINERAL BENIFICIATION	1st	Lampiya Iron Ore Mine M/s. Jindal Saw Ltd.
		2nd	Marwar Mundwa-I Limestone Mine M/s. Ambuja Cement Ltd.
		3rd	Mangrol Tila Khera Limestone Mine M/s. J.K. Cement Works.
7	ENVIRONMENTAL MONITORING	1st	Daroli-I Limestone Mine M/s. Udaipur Cement Works Ltd.
		2nd	Sanu-II Limestone Mine M/s. RSMM Ltd.
		3rd	Marwar Mundwa-I Limestone Mine M/s. Ambuja Cement Ltd.
8	SUSTAINABLE DEVELOPMENT	1st	Mangrol Tila Khera Limestone Mine M/s. J.K. Cement Works.
		2nd	Dhanora Limestone Mine M/s. Wonder Cement Ltd.
		3rd	Karunda Limestone. Mine M/s. J.K. Cement Works.
9	PUBLICITY AND PROPAGANDA	1st	Dhanora Limestone Mine M/s. Wonder Cement Ltd.
		2nd	Sitaram Ji Ka Khera Limestone Mine M/s. NUVOCO Vistas Corpn. Ltd.
		3rd	Jai Surjana Limestone Mine M/s. Birla Corp. Ltd.
10	OVERALL PERFORMANCE	1st	Dhanora Limestone Mine M/s. Wonder Cement Ltd.
		2nd	Mangrol Tila Khera Limestone Mine M/s. J.K. Cement Works.
		3rd	Sanu-II Limestone Mine M/s. RSMM Ltd.

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34th Mines Environment & Mineral Conservation Week, 2023-24



LIST OF PRIZE WINNING MINES

33rd MINES ENVIRONMENT & MINERAL CONSERVATION WEEK 2022-23 (AJMER REGION)

FULLY MECHANISED GROUP A-3 (Production less than 1.2 MT)			
S.No.	Field	Prize	Name of Mine
1	AFFORESTATION	1st	Nimbahera Limestone Mine M/s. J.K. Cement Works.
		2nd	Shyamgarh Limestone Mine of M/s Shree Cement Ltd.
		3rd	Digrana Limestone Mine M/s. Nuvoco Vistas Corpn. Ltd.
2	WASTE DUMP MANAGEMENT	1st	Digrana Limestone Mine M/s. Nuvoco Vistas Corpn. Ltd.
		2nd	Nimbahera Limestone Mine M/s. J.K. Cement Works.
		3rd	Shyamgarh Limestone Mine of M/s Shree Cement Ltd.
3	SYSTEMATIC AND SCIENTIFIC DEVELOPEMNT	1st	Thandiberi Limestone Mine M/s. UltraTech Nathdwara Cement Ltd.
		2nd	Digrana Limestone Mine M/s. Nuvoco Vistas Corpn. Ltd.
		3rd	Sheopura Kesarpura Limestone Mine M/s. Shree Cement Ltd.
4	MINERAL CONSERVATION	1st	Lakheri Limestone Mine M/s. ACC Ltd.
		2nd	Thandiberi Limestone Mine M/s. UltraTech Nathdwara Cement Ltd.
		3rd	Sheopura Kesarpura Limestone Mine M/s. Shree Cement Ltd.
5	RECLAMATION & REHABILITATION	1st	Sheopura Kesarpura Limestone Mine M/s. Shree Cement Ltd.
		2nd	Lakheri Limestone Mine M/s. ACC Ltd.
		3rd	Thandiberi Limestone Mine M/s. UltraTech Nathdwara Cement Ltd.
6	MINERAL BENIFICIATION	1st	Daroli-II Limestone Mine M/s. Udaipur Cement Works Ltd.
		2nd	Shyamgarh Limestone Mine of M/s Shree Cement Ltd.
		3rd	RAS I Limestone Mine M/s. Ambuja Cement Ltd.
7	ENVIRONMENTAL MONITORING	1st	RAS I Limestone Mine M/s. Ambuja Cement Ltd.
		2nd	Daroli-II Limestone Mine M/s. Udaipur Cement Works Ltd.
		3rd	Arniya Joshi Limestone Mine M/s Nuvoco Vistas Corpn. Ltd.
8	SUSTAINABLE DEVELOPMENT	1st	Mangrol Limestone Mine M/s. J.K. Cement Works.
		2nd	Arniya Joshi Limestone Mine M/s Nuvoco Vistas Corpn. Ltd.
		3rd	RAS I Limestone Mine M/s. Ambuja Cement Ltd.
9	PUBLICITY AND PROPAGANDA	1st	Digrana Limestone Mine M/s. Nuvoco Vistas Corpn. Ltd.
		2nd	Mangrol Limestone Mine M/s. J.K. Cement Works.
		3rd	Daroli-II Limestone Mine M/s. Udaipur Cement Works Ltd.
10	OVERALL PERFORMANCE	1st	Digrana Limestone Mine M/s. Nuvoco Vistas Corpn. Ltd.
		2nd	Thandiberi Limestone Mine M/s. UltraTech Nathdwara Cement Ltd.
		3rd	Sheopura Kesarpura Limestone Mine M/s. Shree Cement Ltd.

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34th Mines Environment & Mineral Conservation Week, 2023-24



LIST OF PRIZE WINNING MINES 33rd MINES ENVIRONMENT & MINERAL CONSERVATION WEEK 2022-23 (AJMER REGION)

FULLY MECHANIZED (GROUP B UG)			
S.No.	Field	Prize	Name of Mine
1	AFFORESTATION	1st	Balaria Lead & Zinc. Mine, M/s. Hindustan Zinc Ltd.
		2nd	Rajpura Dariba Lead & Zinc Mine M/s. Hindustan Zinc Ltd.
		3rd	Kolihan Copper Mine M/s. Hindustan Copper Ltd.
2	WASTE DUMP MANAGEMENT	1st	Rampura Agucha Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
		2nd	Kolihan Copper Mine M/s. Hindustan Copper Ltd.
		3rd	Sindesar Khurd Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
3	SYSTEMATIC AND SCIENTIFIC DEVELOPEMNT	1st	Kayad Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
		2nd	Sindesar Khurd Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
		3rd	Rampura Agucha Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
4	MINERAL CONSERVATION	1st	Khetri Copper Mine M/s. Hindustan Copper Ltd.
		2nd	Zawarmala Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
		3rd	Baroi Lead & Zinc. Mine, M/s. Hindustan Zinc Ltd.
5	RECLAMATION & REHABILITATION	1st	Rampura Agucha Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
		2nd	Mochia Lead & Zinc Mine M/s. Hindustan Zinc Ltd.
		3rd	Rajpura Dariba Lead & Zinc Mine M/s. Hindustan Zinc Ltd.
6	MINERAL BENIFICIATION	1st	Rajpura Dariba Lead & Zinc Mine M/s. Hindustan Zinc Ltd.
		2nd	Mochia Lead & Zinc Mine M/s. Hindustan Zinc Ltd.
		3rd	Sindesar Khurd Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
7	ENVIRONMENTAL MONITORING	1st	Baroi Lead & Zinc. Mine, M/s. Hindustan Zinc Ltd.
		2nd	Khetri Copper Mine M/s. Hindustan Copper Ltd.
		3rd	Zawarmala Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
8	SUSTAINABLE DEVELOPMENT	1st	Sindesar Khurd Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
		2nd	Kayad Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
		3rd	Baroi Lead & Zinc. Mine, M/s. Hindustan Zinc Ltd.
9	PUBLICITY AND PROPAGANDA	1st	Kayad Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
		2nd	Balaria Lead & Zinc. Mine, M/s. Hindustan Zinc Ltd.
		3rd	Khetri Copper Mine M/s. Hindustan Copper Ltd.
10	OVERALL PERFORMANCE	1st	Sindesar Khurd Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
		2nd	Rampura Agucha Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
		2nd	Kayad Lead & Zinc Mine, M/s. Hindustan Zinc Ltd.
		3rd	Khetri Copper Mine M/s. Hindustan Copper Ltd.

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34th Mines Environment & Mineral Conservation Week, 2023-24



LIST OF PRIZE WINNING MINES 33rd MINES ENVIRONMENT & MINERAL CONSERVATION WEEK 2022-23 (AJMER REGION)

FULLY MECHANIZED (GROUP C MECH.)			
S.No.	Field	Prize	Name of Mine
1	AFFORESTATION	1st	Mohrai Dagla Limestone Mine M/s. Ultra Tech. Cement Ltd.
		2nd	Chawandia Limestone Mine M/s. M.W. Mines Pvt. Ltd.
		3rd	Rajshree II Limestone Mine M/s. Ultra Tech Cement Ltd.
2	WASTE DUMP MANAGEMENT	1st	Rajshree I Limestone Mine M/s. Ultra Tech Cement Ltd.
		2nd	Gothra Limestone Mine M/s. Shree Cement Ltd.
		3rd	Sinla Limestone Mine M/s Nuvoco Vistas Corpn. Ltd.
3	SYSTEMATIC AND SCIENTIFIC DEVELOPEMNT	1st	Kheratarla Wollestonite Mine M/s. Wolkem Industries Ltd.
		2nd	Dhanappa Limestone. Mine M/s. J.K. White Cement Works.
		3rd	Sinla Limestone Mine M/s Nuvoco Vistas Corpn. Ltd.
4	MINERAL CONSERVATION	1st	Kheratarla Wollestonite Mine M/s. Wolkem Industries Ltd.
		2nd	Kapuria Siliceous Earth Mine M/s. Seema Mines & Minerals Ltd.
		3rd	Thob-II Selenite Mine M/s. RSMM Ltd.
5	RECLAMATION & REHABILITATION	1st	Dhanappa Limestone. Mine M/s. J.K. White Cement Works.
		2nd	Chawandia Limestone Mine M/s. M.W. Mines Pvt. Ltd.
		3rd	Kapuria Siliceous Earth Mine M/s. Seema Mines & Minerals Ltd.
6	MINERAL BENIFICIATION	1st	Rajshree II Limestone Mine M/s. Ultra Tech Cement Ltd.
		2nd	Kheratarla Wollestonite Mine M/s. Wolkem Industries Ltd.
		3rd	Chawandia Limestone Mine M/s. M.W. Mines Pvt. Ltd.
7	ENVIRONMENTAL MONITORING	1st	Sinla Limestone Mine M/s Nuvoco Vistas Corpn. Ltd.
		2nd	Mohrai Dagla Limestone Mine M/s. Ultra Tech. Cement Ltd.
		3rd	Rajshree I Limestone Mine M/s. Ultra Tech Cement Ltd.
8	SUSTAINABLE DEVELOPMENT	1st	Dhanappa Limestone. Mine M/s. J.K. White Cement Works.
		2nd	Rajshree II Limestone Mine M/s. Ultra Tech Cement Ltd.
		3rd	Marwar Mundwa-II Limestone Mine M/s. Ambuja Cement Ltd.
9	PUBLICITY AND PROPAGANDA	1st	Marwar Mundwa-II Limestone Mine M/s. Ambuja Cement Ltd.
		2nd	Gothra Limestone Mine M/s. Shree Cement Ltd.
		3rd	Thob-II Selenite Mine M/s. RSMM Ltd.
10	OVERALL PERFORMANCE	1st	Dhanappa Limestone. Mine M/s. J.K. White Cement Works.
		2nd	Kheratarla Wollestonite Mine M/s. Wolkem Industries Ltd.
		3rd	Rajshree II Limestone Mine M/s. Ultra Tech Cement Ltd.

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34th Mines Environment & Mineral Conservation Week, 2023-24



NOTIFICATION/ AMENDMENTS & SOP





रजिस्ट्री सं. डी.एल.- 33004/99

REGD. No. D. L.-33004/99

सत्यमेव जयते

भारत का राजपत्र The Gazette of India

सी.जी.-डी.एल.-अ.-15032022-234217
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असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 201]
No. 201]

नई दिल्ली, मंगलवार, मार्च 15, 2022/फाल्गुन 24, 1943
NEW DELHI, TUESDAY, MARCH 15, 2022/PHALGUNA 24, 1943

खान मंत्रालय

अधिसूचना

नई दिल्ली, 15 मार्च, 2022

MINISTRY OF MINES

NOTIFICATION

New Delhi, the 15th March, 2022

G.S.R. 204(E).— In exercise of the powers conferred by sub-section (3) of section 9 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following further amendments in the Second Schedule to the said Act, namely:—

2. In the Second Schedule to the Mines and Minerals (Development and Regulation) Act, 1957,—
- (i) after item 16 and the entries relating thereto, the following item and entries shall be inserted, namely:—

“16A.	Emerald:	Ten per cent. of average sale price on <i>ad valorem</i> basis.”;
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- (ii) after item 20 and the entries relating thereto, the following item and entries shall be inserted, namely:—

“20A.	Glauconite and Potash:	Two point five per cent. of price for Muriate of Potash published by the Government of India, Ministry of Chemicals and Fertilizers, Department of Fertilizers chargeable on the contained K ₂ O in ore produced for those dispatched for making such Muriate of Potash.”;
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34th Mines Environment & Mineral Conservation Week, 2023-24



(iii) after item 32 and the entries relating thereto, the following item and entries shall be inserted, namely:—

“32A.	Molybdenum:	Seven point five per cent. of London Metal Exchange Molybdenum metal price chargeable on the contained Molybdenum metal in ore produced.”;
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(iv) after item 35 and the entries relating thereto, the following item and entries shall be inserted, namely:—

“35A.	Platinum Group of Metals:	
	(i) Platinum and Palladium;	Four per cent. of London Bullion Market Association price chargeable on the Platinum and Palladium metals in ore produced;
	(ii) Rhodium, Iridium and Ruthenium;	Four per cent. of Johnson Matthey Precious Metals Management price chargeable on the Rhodium, Iridium and Ruthenium metals in ore produced;
(iii) Osmium:		Four per cent. of Osmium-Preis.com price chargeable on the Osmium metal in ore produced.”;

4

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

(v) for item 44 and the entries relating thereto, the following item and entries shall be substituted, namely:—

44.	“Sillimanite, Kyanite and Andalusite:	Twelve per cent. of average sale price on <i>ad valorem</i> basis.”.
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(vi) against item 55, in second column, the entry “Kyanite,” shall be omitted.

[F. No. M.VI-16/91/2021-Mines VI]

Dr. VEENA KUMARI DERMAL, Jt. Secy.

Note: The Second Schedule to the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) was amended vide G.S.R. 175(E), dated the 31st March, 1975 and was lastly amended vide G.S.R. 445(E), dated 14th July, 2020.

Hosted by





रजिस्ट्री सं० डी० एल०—(एन)04/0007/2003—23

REGISTERED NO. DL—(N)04/0007/2003—23



भारत का राजपत्र The Gazette of India

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असाधारण

EXTRAORDINARY

भाग II — खण्ड 1

PART II — Section 1

प्राधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

सं० 19] नई दिल्ली, बुधवार, अगस्त 9, 2023/ श्रावण 18, 1945 (शक)
No. 19] NEW DELHI, WEDNESDAY, AUGUST 9, 2023/SRAVANA 18, 1945 (SAKA)

इस भाग में भिन्न पृष्ठ संख्या दी जाती है जिससे कि यह अलग संकलन के रूप में रखा जा सके।
Separate paging is given to this Part in order that it may be filed as a separate compilation.

MINISTRY OF LAW AND JUSTICE (Legislative Department)

New Delhi, the 9th August, 2023/Sravana 18, 1945 (Saka)

The following Act of Parliament received the assent of the President on the 9th August, 2023 and is hereby published for general information:—

THE MINES AND MINERALS (DEVELOPMENT AND REGULATION) AMENDMENT ACT, 2023

No. 16 OF 2023

[9th August, 2023.]

An Act further to amend the Mines and Minerals (Development and Regulation) Act, 1957.

BE it enacted by Parliament in the Seventy-fourth Year of the Republic of India as follows:—

CHAPTER I

PRELIMINARY

1. (1) This Act may be called the Mines and Minerals (Development and Regulation) Amendment Act, 2023.

Short title and commencement.

(2) It shall come into force on such date as the Central Government may, by notification in the Official Gazette, appoint.



34th Mines Environment & Mineral Conservation Week, 2023-24



2 THE GAZETTE OF INDIA EXTRAORDINARY [PART II—

Amendment of section 3. 2. In section 3 of the Mines and Minerals (Development and Regulation) Act, 1957 (hereinafter referred to as the principal Act), in section 3,— 67 of 1957.

(i) after clause (aa), the following clause shall be inserted, namely:—

'(aaa) "exploration licence" means a licence granted for undertaking reconnaissance operations or prospecting operations or both in respect of minerals specified in the Seventh Schedule;'

(ii) in clause (ae), after the words "composite licence", the words ", exploration licence" shall be inserted;

(iii) for clause (ha), the following clause shall be substituted, namely:—

'(ha) "reconnaissance operations" means any operations undertaken for preliminary prospecting of a mineral through regional, aerial, geophysical or geochemical surveys and geological mapping, and include pitting, trenching, drilling and sub-surface excavation;'

Amendment of section 4. 3. In section 4 of the principal Act, in sub-section (1), after the words "prospecting licence", the words "or of a exploration licence" shall be inserted.

Amendment of section 4A. 4. In section 4A of the principal Act,—

(i) for the marginal heading, the following marginal heading shall be substituted, namely:—

"Termination of prospecting licences, exploration licences or mining leases.";

(ii) in sub-section (1), for the words "prospecting licence", at both the places where they occur, the words "prospecting licence or exploration licence" shall be substituted;

(iii) in sub-section (3), after the words "prospecting licence", the words "or exploration licence" shall be inserted.

Amendment of section 5. 5. In section 5 of the principal Act, for the marginal heading, the following marginal heading shall be substituted, namely:—

"Restrictions on the grant of mineral concession."

Amendment of section 6. 6. In section 6 of the principal Act,—

(a) for the marginal heading, the following marginal heading shall be substituted, namely:—

"Maximum area for which mineral concession may be granted.";

(b) in sub-section (1),—

(i) after clause (aa), the following clause shall be inserted, namely:—

"(ab) one or more exploration licences covering a total area of more than five thousand square kilometres:

Provided that the area granted under a single exploration licence shall not exceed one thousand square kilometres;"

(ii) in clause (c), for the words "reconnaissance permit, mining lease or prospecting licence", the words "mineral concession" shall be substituted.

Substitution of Chapter heading of Chapter III. 7. In Chapter III of the principal Act, for Chapter heading, the following Chapter heading shall be substituted, namely:—

"PROCEDURE FOR OBTAINING MINERAL CONCESSION IN RESPECT OF LAND IN WHICH THE MINERALS VEST IN THE GOVERNMENT".



8. In section 10 of the principal Act,—

Amendment of section 10.

(i) for the marginal heading, the following marginal heading shall be substituted, namely:—

"Application for mineral concession.";

(ii) in sub-section (4), in clause (a), for the words, figures and letters "sections 10B, 11, 11A or the rules made under section 11B", the words, figures and letters "sections 10B, 10BA, 11, 11A, 11B or 11D" shall be substituted.

9. After section 10B of the principal Act, the following section shall be inserted, namely:—

Insertion of new section 10BA.

"10BA. (1) The provisions of this section shall not apply to—

Grant of exploration licence for minerals specified in Seventh Schedule through auction.

(a) the areas covered under section 17A;

(b) the minerals specified in Part A of the First Schedule;

(c) the minerals specified in Part B of the First Schedule where the grade of atomic mineral is equal to or greater than such threshold value as may be notified by the Central Government from time to time;

(d) any land in respect of which the minerals do not vest in the Government.

(2) Notwithstanding anything contained in sections 10B and 11, an exploration licence may be granted in any area by the State Government for the purpose of undertaking reconnaissance or prospecting operations or both in respect of any mineral specified in the Seventh Schedule.

(3) The Central Government may, by notification in the Official Gazette, and for reasons to be recorded in writing, amend the Seventh Schedule so as to modify the entries therein with effect from such date as may be specified in the said notification.

(4) The State Government shall, after obtaining the previous approval of the Central Government, and in such manner as may be prescribed by the Central Government, notify the areas in which exploration licence shall be granted, subject to such terms and conditions as may be specified in the notification.

(5) The Central Government may require the State Government to notify the area for grant of exploration licence within such period as may be fixed in consultation with the State Government, and in case the State Government does not notify the area within such period, the Central Government may, after the expiry of the period so fixed, notify the area for grant of exploration licence.

(6) The State Government shall, for the purpose of granting exploration licence through auction by method of competitive bidding, including e-auction, select an applicant who fulfils the eligibility conditions as specified in this Act and grant exploration licence to such applicant.

(7) Where—

(a) the State Government has not successfully completed auction for the grant of exploration licence; or

(b) after completion of auction, the exploration licence or letter of intent for grant of exploration licence has been terminated or lapsed for any reason whatsoever,

the Central Government may require the State Government to conduct and complete the auction or re-auction process, as the case may be, within such period as may be fixed in consultation with the State Government, and in cases where such auction or re-auction process is not completed within such period, the Central Government may, after the expiry of the period so fixed, conduct auction for the grant of exploration licence for such area:



Provided that upon successful completion of the auction, the Central Government shall intimate the details of the preferred bidder in the auction to the State Government and the State Government shall grant exploration licence for such area to such preferred bidder in such manner as may be prescribed by the Central Government.

(8) The holder of exploration licence shall be entitled to a share of applicable amount quoted in the auction of mining leases payable by the lessee to the State Government in respect of the area granted in mining lease pursuant to the prospecting operations undertaken by the holder of such exploration licence:

Provided that the share in applicable amount payable to the holder of exploration licence by the lessee of such area shall be allowed only in respect of the minerals specified in the Seventh Schedule.

(9) The Central Government shall by rules provide for the manner of conducting auction for grant of exploration licence, including its terms and conditions, the bidding parameters for selection, share payable to the holder of exploration licence from out of the applicable amount quoted in auction of mining leases payable by the lessee of such area, the period for such payment and such other conditions as may be necessary.

(10) Notwithstanding anything contained in section 7,—

(a) the exploration licence shall be granted for a period of five years from the date of execution of the exploration licence;

(b) if, after three years from the date of execution of exploration licence, but before the date of its expiry, the holder of the exploration licence makes an application for the extension of the period of that licence, the State Government may, on being satisfied that within the period of five years, it shall not be possible for the holder of such licence to complete the reconnaissance or prospecting operations for reasons beyond his control, extend the said period to a further period not exceeding two years.

(11) After three years from the date of execution of the exploration licence, the holder of such licence may retain an area not exceeding twenty-five per cent. of the total area covered under that licence for the purpose of continuing reconnaissance or prospecting operations and shall surrender the remaining area after submitting a report to the State Government stating the reasons for retention of the area proposed to be retained by him and the boundaries of that area.

(12) The holder of the exploration licence shall, within three months of the completion of the operations for which licence has been granted, or of the date of expiry of the exploration licence, whichever is earlier, submit a geological report to the State Government explaining the result of the reconnaissance and prospecting operations, in such manner as may be prescribed.

(13) If the holder of the exploration licence fails to complete the reconnaissance and prospecting operations before expiry of the exploration licence, or fails to submit the geological report within the period specified in sub-section (12), the State Government may take such action as it deems fit, including imposition of penalty.

(14) Within six months from the date of receipt of the geological report from the holder of the exploration licence, the Central Government or the State Government shall initiate the auction process for grant of one or more separate mining leases under section 10B or section 11 or section 11D, as the case may be, in respect of the area where existence of mineral content is established and shall select the preferred bidder for grant of such mining leases within one year from the date of receipt of the geological report:

Provided that in case the preferred bidder is not selected within the period so specified, the State Government shall pay to the person who was the holder of exploration licence such amount, and in such manner, as may be prescribed."



34th Mines Environment & Mineral Conservation Week, 2023-24



SEC. 1]

THE GAZETTE OF INDIA EXTRAORDINARY

5

10. After section 11C, the following section shall be inserted, namely:—

"11D. (1) Notwithstanding anything contained in this Act, the Central Government shall, for the purpose of granting mining lease or composite licence in any area in respect of any mineral specified in the Part D of the First Schedule, select, through auction by method of competitive bidding, including e-auction, a preferred bidder who fulfils the eligibility conditions as specified in section 5, on such terms and conditions, and in such manner, as may be prescribed.

(2) Upon successful completion of the auction, the Central Government shall intimate the details of the preferred bidder in the auction to the State Government and the State Government shall grant mining lease or composite licence for such area, to such preferred bidder, in such manner, as may be prescribed by the Central Government.

(3) The royalty, dead rent, applicable amount quoted in the auction and any other statutory payment in relation to the mining lease or composite licence auctioned by the Central Government shall accrue to the State Government or concerned authorities, as the case may be, as if the auction has been conducted by the State Government."

Insertion of new section 11D.

Central Government to conduct auction for grant of mining lease or composite licence in respect of minerals specified in Part D of First Schedule.

11. In section 12 of the principal Act,—

(a) for the marginal heading, the following marginal heading shall be substituted, namely:—

"Registers of mineral concession.";

(b) in sub-section (1),—

(i) in clause (e), the word "and" shall be omitted;

(ii) after clause (f), the following clauses shall be inserted, namely:—

"(g) a register of applications for exploration licences; and

(h) a register of exploration licences,".

Amendment of section 12.

12. In section 12A of the principal Act,—

(i) after the words "composite licence", wherever they occur, the words "or exploration licence" shall be inserted;

(ii) in sub-section (4), in the proviso, for the words "or of a composite licence", the words "or composite licence" shall be substituted.

Amendment of section 12A.

13. In Chapter IV of the principal Act, for Chapter heading, the following Chapter heading shall be substituted, namely:—

"RULES FOR REGULATING THE GRANT OF MINERAL CONCESSIONS".

Substitution of Chapter heading of Chapter IV.

14. In section 13 of the principal Act, in sub-section (2),—

(i) clause (ac) shall be omitted;

(ii) in clause (qgg), for the words, figures and letters "mining lease or composite licence under section 10B, 11, 11A, 11B", the words, figures and letters "mineral concession under section 10B, 10BA, 11, 11A, 11B, 11D" shall be substituted;

(iii) after clause (v), the following clauses shall be inserted, namely:—

"(va) the manner of notifying the areas for grant of exploration licence under sub-section (4) of section 10BA;

(vb) the manner of granting exploration licence to the preferred bidder under the proviso to sub-section (7) of section 10BA;

Amendment of section 13.



(vc) the manner of conducting auction for grant of exploration licence, the terms and conditions thereof, the bidding parameters for selection, the share payable to the holder, the period for payment and other conditions under sub-section (9) of section 10BA;

(vd) the manner of submitting geological report under sub-section (12) of section 10BA;

(ve) the amount to be paid and the manner of payment under the proviso to sub-section (14) of section 10BA;";

(iv) after clause (x), the following clauses shall be inserted, namely:—

"(xa) the terms and conditions and the manner of selecting a preferred bidder under sub-section (1) of section 11D;

(xb) the manner of granting a mining lease or composite licence to a preferred bidder under sub-section (2) of section 11D;".

Amendment of section 17A.

15. In section 17A of the principal Act, in sub-sections (1), (1A) and (2), after the words "prospecting licence", the words "or exploration licence" shall be inserted.

Amendment of section 18A.

16. In section 18A of the principal Act, in sub-section (1), after the words "prospecting licence", at both the places where they occur, the words "or exploration licence" shall be inserted.

Amendment of section 19.

17. In section 19 of the principal Act, for the marginal heading, the following marginal heading shall be substituted, namely:—

"Mineral concession to be void if in contravention of Act."

Amendment of section 21.

18. In section 21 of the principal Act, in the *Explanation*, after the words "composite licence", the words ", exploration licence" shall be inserted.

Amendment of section 24A.

19. In section 24A of the principal Act, for the marginal heading, the following marginal heading shall be substituted, namely:—

"Rights and liabilities of a holder of mineral concession."

Amendment of First Schedule.

20. In the principal Act, in the First Schedule,—

(i) after the figures and letter "11C", the figures and letter "11D" shall be inserted;

(ii) for Part B, the following Part shall be substituted, namely:—

"PART B

Atomic minerals

1. Minerals of the "rare earths" group containing Uranium and Thorium.
2. Phosphorites and other phosphatic ores containing Uranium.
3. Pitchblende and other Uranium ores.
4. Uraniferous allanite, monazite and other thorium minerals.
5. Uranium bearing tailings left over from ores after extraction of copper and gold, ilmenite and other titanium ores.
6. Beach sand minerals, that is, economic heavy minerals found in the teri or beach sands, which include ilmenite, rutile, leucoxene, garnet, monazite, zircon and sillimanite.";



(iii) after Part C, the following Part shall be inserted, namely:—

"PART D

Critical and Strategic Minerals

1. Beryl and other beryllium bearing minerals.
2. Cadmium bearing minerals.
3. Cobalt bearing minerals.
4. Gallium bearing minerals.
5. Glauconite.
6. Graphite.
7. Indium bearing minerals.
8. Lithium bearing minerals.
9. Molybdenum bearing minerals.
10. Nickel bearing minerals.
11. Niobium bearing minerals.
12. Phosphate (without uranium).
13. Platinum group of elements bearing minerals.
14. Potash.
15. Minerals of the "rare earths" group not containing Uranium and Thorium.
16. Rhenium bearing minerals.
17. Selenium bearing minerals.
18. Tantalum bearing minerals.
19. Tellurium bearing minerals.
20. Tin bearing minerals.
21. Titanium bearing minerals and ores (ilmenite, rutile and leucosene).
22. Tungsten bearing minerals.
23. Vanadium bearing minerals.
24. Zirconium bearing minerals and ores including zircon."

21. In the principal Act, after Sixth Schedule, the following shall be inserted, namely:—

Insertion of
new Seventh
Schedule.

"THE SEVENTH SCHEDULE

[See sections 3 (aaa), 10BA(2) and 10BA(3)]

Minerals

1. Apatite.
2. Beryl and other beryllium bearing minerals.
3. Cadmium bearing minerals.
4. Cobalt bearing minerals.
5. Copper bearing minerals.



6. Diamond.
7. Gold.
8. Graphite.
9. Indium bearing minerals.
10. Lead bearing minerals.
11. Lithium bearing minerals.
12. Molybdenum bearing minerals.
13. Niobium bearing minerals.
14. Nickel bearing minerals.
15. Potash.
16. Platinum group of elements bearing minerals.
17. Minerals of 'rare earths' group.
18. Rhenium bearing minerals.
19. Rock Phosphate.
20. Selenium.
21. Silver.
22. Tantalum bearing minerals.
23. Tellurium bearing minerals.
24. Tin bearing minerals.
25. Titanium bearing minerals and ores (ilmenite, rutile and leucoxene).
26. Tungsten bearing minerals.
27. Vanadium bearing minerals.
28. Zinc bearing minerals.
29. Zirconium bearing minerals and ores including zircon."

DR. REETA VASISHTA,
Secretary to the Govt. of India.

CORRIGENDA

THE BIOLOGICAL DIVERSITY (AMENDMENT) ACT, 2023

No. 10 OF 2023

In the BIOLOGICAL DIVERSITY (AMENDMENT) ACT, 2023 (10 OF 2023), as published in the Gazette of India, Extraordinary, Part II Section, 1, dated the 3rd August, 2023, Issue No. 13,—

- (i) in page 2, line 41, *for* "refferred", *read* "referred";
- (ii) in page 4, line 17, *for* "Biodivesity", *read* "Biodiversity";
- (iii) in page 5, line 16, *for* "Pachayati", *read* "Panchayati";
- (iv) in page 8, line 3, *for* "Commitee", *read* "Committee";



SEC. 1]

THE GAZETTE OF INDIA EXTRAORDINARY

9

- (v) in page 8, line 22, *for* “affiairs”, *read* “affairs”;
- (vi) in page 8, line 31, *for* “sustainble”, *read* “sustainable”;
- (vii) in page 8, line 39, *for* “princiapal”, *read* “principal”;
- (viii) in page 11, line 25, *for* “as prescribed”, *read* “as may be prescribed”;
- (ix) in page 12, line 10, *for* “veriety”, *read* “variety”;
- (x) in page 12, line 17, *for* “veriety”, *read* “variety”;
- (xi) in page 12, line 20, *for* “veriety”, *read* “variety”;
- (xii) in page 12, line 26, *for* “substiuuted”, *read* “substituted”;
- (xiii) in page 13, line 1, *for* “prinicipal”, *read* “principal”;
- (xiv) in page 13, line 11, *for* “princiapl”, *read* “principal”;
- (xv) in page 13, line 34, *for* “penalities”, *read* “penalties”;
- (xvi) in page 14, line 3, *for* “accordance the”, *read* “accordance with the”.



रजिस्ट्री सं. डी.एल.- 33004/99

REGD. No. D. L.-33004/99



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असाधारण

EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (i)

PART II—Section 3—Sub-section (i)

प्राधिकार से प्रकाशित

PUBLISHED BY AUTHORITY

सं. 583]

नई दिल्ली, बृहस्पतिवार, अक्टूबर 12, 2023/आश्विन 20, 1945

No. 583]

NEW DELHI, THURSDAY, OCTOBER 12, 2023/ASVINA 20, 1945

MINISTRY OF MINES

NOTIFICATION

New Delhi, the 12th October, 2023

G.S.R. 736(E).—In exercise of the powers conferred by sub-section (3) of section 9 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following further amendments in the Second Schedule to the said Act, namely:—

2. In the Second Schedule to the Mines and Minerals (Development and Regulation) Act, 1957,—

(i) after item 28 and the entries relating thereto, the following item and entries shall be inserted, namely:—

“28A.	Lithium:	Three per cent. of London Metal Exchange price chargeable on the Lithium metal in the ore produced.”;
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(ii) in item 33, for the word “Monazite”, the words “Monazite occurring in beach sand minerals” shall be substituted;

(iii) after item 34 and the entries relating thereto, the following item and entries shall be inserted, namely:—

“34A.	Niobium:	
	(i) Primary (produced from ores other than Columbite- tantalite)	Three per cent. of average sale price of Niobium metal chargeable on the Niobium metal contained in the ore produced.
	(ii) By-product (produced from ores other than Columbite-tantalite)	Three per cent. of average sale price of Niobium metal chargeable on the by-product Niobium metal contained in the ore produced.”;



34th Mines Environment & Mineral Conservation Week, 2023-24



[भाग II—खण्ड 3(i)]

भारत का राजपत्र : असाधारण

3

(iv) after item 38 and the entries relating thereto, the following item and entries shall be inserted, namely:—

“38A.	Rare Earth Elements (produced from ores other than Monazite occurring in beach sand minerals):	One per cent. of average sale price of Rare Earth Oxide (REO) chargeable on the Rare Earth Oxide contained in the ore produced.”.
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[F. No. M.VI-16/85/2022-Mines VI]

Dr. VEENA KUMARI DERMAL Jt. Secy.

Note:- The Second Schedule to the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) was amended vide G.S.R. 175(E), dated the 31st March, 1975 and was lastly amended vide G.S.R. 204(E), dated 15th March, 2022.



रजिस्ट्री सं. डी.एल.- 33004/99

REGD. No. D. L.-33004/99


भारत का राजपत्र
The Gazette of India

सी.जी.-डी.एल.-अ.-15032022-234213
CG-DL-E-15032022-234213

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 202] नई दिल्ली, मंगलवार, मार्च 15, 2022/फाल्गुन 24, 1943
No. 202] NEW DELHI, TUESDAY, MARCH 15, 2022/PHALGUNA 24, 1943

MINISTRY OF MINES

NOTIFICATION

New Delhi, the 15th March, 2022.

G.S.R. 205(E).—In exercise of the powers conferred by section 13 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following rules further to amend the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016, namely:—

1. (1) These rules may be called the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Amendment Rules, 2022.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 (hereinafter referred to as the said rules), in rule 45,—

(i) in the heading of the rule, after the word, “Tungsten”, the words “and other minerals” shall be inserted;

(ii) after sub-rule (3), the following sub-rule shall be inserted, namely:—

“(4) The following formula shall be used by Indian Bureau of Mines for arriving at the average sale price of Glauconite and Potash:

(i) Average Sale Price for Glauconite & Potash	=	Domestic price of Muriate of Potash (MOP) as published in the monthly bulletins of Department of Fertilizers, Government of India.	X	Percentage of K ₂ O content in Glauconite/Potash deposit.	X	0.4 (conversion factor).”
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[F. No. M.VI-16/91/2021-Mines VI (Part)]

Dr. VEENA KUMARI DERMAL, Jt. Secy.

Note: The Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 were published in the Gazette of India, Part II, section 3, sub-section (i) *vide* number G.S.R. 279(E) dated the 4th March, 2016 and lastly amended *vide* number G.S.R. 775(E), dated the 2nd November, 2021.

1788 GI/2022

(1)

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रजिस्ट्री सं. डी.एल.- 33004/99

REGD. No. D. L.-33004/99

सत्यमेव जयते

भारत का राजपत्र
The Gazette of India

सी.जी.-डी.एल.-अ.-12102023-249364
CG-DL-E-12102023-249364

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 584] नई दिल्ली, बृहस्पतिवार, अक्टूबर 12, 2023/आश्विन 20, 1945
No. 584] NEW DELHI, THURSDAY, OCTOBER 12, 2023/ASVINA 20, 1945

MINISTRY OF MINES

NOTIFICATION

New Delhi, the 12th October, 2023

G.S.R. 737(E).—In exercise of the powers conferred by section 13 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following rules further to amend the Minerals (Other than Atomic and Hydro Carbons Energy Mineral) Concession Rules, 2016, namely:—

1. **Short title and commencement.**— (1) These rules may be called the Minerals (Other than Atomic and Hydro Carbons Energy Mineral) Concession (Amendment) Rules, 2023.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Minerals (Other than Atomic and Hydro Carbons Energy Mineral) Concession Rules, 2016,—

(i) in rule 44, after clause (i), the following clause shall be inserted, namely:—

"(ia) In respect of Lithium, the equivalent lithium metal prices calculated on the basis of the weekly prices of lithium hydroxide monohydrate or other appropriate compound of lithium published by London Metal Exchange in a month shall be multiplied by the reference rate for the day of publication of the Reserve Bank of India or any agency authorised by the Reserve Bank of India, for the currency in which the price is obtained.";

(ii) in rule 45, after sub-rule (4), the following sub-rule shall be inserted, namely:—



34th Mines Environment & Mineral Conservation Week, 2023-24



2

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

“(5)(a) The Indian Bureau of Mines shall publish average sale price of Rare Earth Oxide in Indian Rupees on the basis of prices published by United States Geological Survey (USGS) or other reputed publications by multiplying the price of Rare Earth Oxide by average reference rate of Reserve Bank of India for the month for the currency in which the price is obtained and in case the price of Rare Earth Oxide is not available on monthly basis, the average sale price shall be published on the basis of price of Rare Earth Oxide for the last available calendar year.

(b) The State Government shall arrive at average sale price of the ore containing Rare Earth Elements in the following manner, namely:—

Average sale price of the ore containing Rare Earth Elements	=	Sum of (percentage of individual rare earth oxide contained in the ore multiplied by average sale price of that rare earth oxide published by Indian Bureau of Mines).
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(6) The Indian Bureau of Mines shall publish average sale price of Niobium in Indian Rupees on the basis of prices published by United States Geological Survey (USGS) or other reputed publications for Ferro-Niobium for the last available calendar year by multiplying such price with the following, namely:—

- (i) average reference rate of Reserve Bank of India for the said calendar year, and
- (ii) the conversion factor of 1.59.”

[F. No. M.VI-16/85/2022-Mines VI]

DR. VEENA KUMARI DERMAL, Jt. Secy.

Note:- The Minerals (Other than Atomic and Hydro Carbons Energy Mineral) Concession Rules, 2016 were published in the Gazette of India, Part-II, section 3, sub-section (i) *vide* number G.S.R. 279(E), dated the 4th March, 2016 and lastly amended *vide* number G.S.R. 205(E), dated the 15th March, 2022.



रजिस्ट्री सं. डी.एन.- 33004/99

REGD. No. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

सी.जी.-डी.एल.-अ.-21012024-251548
CG-DL-E-21012024-251548

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 44] नई दिल्ली, रविवार, जनवरी 21, 2024/माघ 1, 1945
No. 44] NEW DELHI, SUNDAY, JANUARY 21, 2024/MAGHA 1, 1945

MINISTRY OF MINES
NOTIFICATION

New Delhi the 21st January, 2024

G.S.R. 50(E).— In exercise of the powers conferred by section 13 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following rules further to amend the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016, namely:—

1. Short title and commencement.— (1) These rules may be called the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Amendment Rules, 2024.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 (hereinafter referred to as the said rules), in rule 3, for the words, brackets, figures and letters, “and (ii) minerals listed in Part A and Part B of the First Schedule to the Act”, the following clause shall be substituted, namely:—

“(ii) minerals listed in Part A of the First Schedule to the Act; and (iii) minerals listed in Part B of the First Schedule to the Act having grade equal to or more than the threshold value as specified under the Atomic Minerals Concession Rules, 2016”.

486 GI/2024

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34th Mines Environment & Mineral Conservation Week, 2023-24



2

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

3. In the said rules, after rule 9A, the following rule shall be inserted, namely:—

“9B. Exploration licence granted through auction.— (1) The exploration licence deed of the exploration licence granted to a successful bidder under sub-rule (4) of rule 19G of the Mineral (Auction) Rules, 2015 shall be in the format specified in Schedule V-A.

(2) The exploration licensee may, at any time, surrender a part or the entire area to the State Government, subject to following conditions, namely:—

- (i) the surrender shall be made only after submission of the report of the operations undertaken upto the date of surrender in the area being surrendered in accordance with the scheme of reconnaissance or prospecting or both, as the case may be;
- (ii) the surrender shall be made only after completing reclamation of the area being surrendered;
- (iii) the exploration licensee shall state the reasons for retention of the area proposed to be retained by him and the boundaries of the area being retained and surrendered;
- (iv) the area retained may be contiguous or non-contiguous area;
- (v) the exploration licensee shall undertake reconnaissance or prospecting operations or both in the area retained in accordance with the scheme of reconnaissance or prospecting or both;
- (vi) in case no such operations is proposed in any area under the scheme of reconnaissance or prospecting, the exploration licensee shall mandatorily surrender such area;
- (vii) the State Government after being satisfied that the surrender of an area is conforming to the conditions specified in this rule, may accept such surrender;
- (viii) a supplementary exploration licence deed shall be executed between the licensee and the State Government in the format specified in Schedule V-B for the part of the area retained at each instance of the surrender of area.

Provided that after three years from the date of execution of the exploration licence, the exploration licensee may retain an area not exceeding twenty-five per cent. of the total area covered under the original licence granted to him for the purpose of continuing reconnaissance or prospecting operations and shall surrender the remaining area in compliance of the above conditions and sub-section (11) of section 10BA.

4. In the said rules, after rule 10, the following rule shall be inserted, namely:—

“10A. Extension of period of exploration licence.— (1) An application for extension of an exploration licence under sub-section (10) of section 10BA for the purpose of completing reconnaissance or prospecting operations or both shall be made after three years from the date of its execution but at least ninety days before the expiry of the licence and shall be accompanied by a statement containing the following, namely:—

- (a) reasons for seeking such extension beyond five years from the date of execution of the exploration licence deed;
- (b) a report of the details of reconnaissance or prospecting operations or both undertaken by the applicant in the format as specified under rule 9 of the Mineral Conservation and Development Rules, 2017;
- (c) the details of the area retained by the exploration licensee including the boundaries of that area;
- (d) the details of expenditure incurred;
- (e) the numbers of man days for which the work was undertaken; and
- (f) the justification for the additional period required to complete the prospecting work.

(2) The State Government shall send an acknowledgement of receipt of the application to the applicant in Schedule II within a period of three days of receipt of the application.

(3) The State Government may condone delay in submission of an application made after the time limit specified under sub-rule (1), provided that the application has been made before the expiry of the period of the exploration licence.

(4) An application for the extension of the period of an exploration licence shall be disposed of by the State Government before the expiry of the period of the exploration licence.”

5. In the said rules, in rule 11,—

(i) in the marginal heading, for the words “and composite licence”, the words “, composite licence and exploration licence” shall be substituted.



(ii) in sub-rule (1),—

(a) in the opening portion, for the words “prospecting licence holder or a composite licence holder”, the words, “prospecting licence, composite licence or exploration licence” shall be substituted;

(b) in clause (c),—

(A) the words “holding a prospecting licence or a composite licence” shall be omitted;

(B) the word “prospecting” shall be omitted;

(c) in clause (e), after the word “prospecting”, the words “or reconnaissance” shall be inserted;

(d) in clause (g), after the word “prospecting”, the words “or reconnaissance” shall be inserted;

(e) in clause (h), after the word “prospecting”, at both the places where they occur the words “or reconnaissance” shall be inserted;

(f) in clause (i), after the word “prospecting”, the words “or reconnaissance” shall be inserted;

(g) in clause (j), after the word “prospecting”, the words “or reconnaissance” shall be inserted;

(h) in clause (k), the word “prospecting”, at both the places where it occurs, shall be omitted;

(i) in clause (l),—

(A) for the words “prospecting operations”, the words “prospecting or reconnaissance operations” shall be substituted;

(B) for the words “prospecting licence”, the word “licence” shall be substituted;

(iii) in sub-rule (3), after the words “composite licence”, wherever they occur, the words “or an exploration licence” shall be inserted;

(iv) in sub-rule (5), after the words “composite licence”, at both the places where they occur, the words “or exploration licence” shall be inserted;

(v) in sub-rule (6),—

(a) after the words “composite licence”, the words “or exploration licence” shall be inserted;

(b) after the words “prospecting licence”, the words “or an exploration licence, as the case may be” shall be inserted.

(vi) after sub-rule (6), the following sub-rules shall be inserted, namely:—

“(7) Surrender of area shall be made in accordance with the provisions of rule 9B.

(8) The exploration licensee shall, within a period of three months of the completion of the operations for which licence has been granted, or from the date of expiry of the exploration licence, whichever is earlier, submit a geological report to the State Government and the Indian Bureau of Mines explaining the result of the reconnaissance and prospecting operations in the form of a geological report prepared in accordance with rule 5 of the Mineral (Evidence of Mineral Contents) Rules, 2015; identifying the area suitable for grant of a mining lease.

(9) The exploration licensee shall not in any manner disclose the information, scheme and reports prepared under these rules or any other geological information related to reconnaissance or prospecting operations to any person other than the Government or authority specified in these rules or any other rules made under the Act, without prior approval of the Central Government.

(10) If the exploration licensee fails to complete the reconnaissance or prospecting operations or both in accordance with the scheme of reconnaissance or prospecting or both, as the case may be, before expiry of the exploration licence for the areas retained by him, or fails to submit the geological report within the period specified in sub-rule (8), then,—

(i) he shall not be eligible to receive any share out of the auction premium of the mining lease granted in the area covered by his exploration licence;

(ii) he shall be debarred from taking part in any auction for grant of exploration licences in any State for a period upto three years; and

(iii) the State Government may forfeit the performance security.”.



34th Mines Environment & Mineral Conservation Week, 2023-24



4

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

6. In the said rules, in rule 12, in sub-rule (1), in clause (k), after the second proviso, the following provisos shall be inserted, namely:—

“Provided also that permission under the second proviso shall be granted only in case where such overburden or the waste rock or mineral below threshold value cannot be used for any of the purposes by reason of which use it can be called a mineral other than minor mineral:

Provided also that permission under this sub-rule may be revoked at any time after giving an opportunity of hearing to the lessee;”

7. In the said rules, in rule 17, in sub-rule (2), the following shall be inserted, namely:

“Provided that if the mining or mineral processing operations in a mine is discontinued for a period exceeding two hundred and seventy days before the expiry of five years period for which the mining plan was approved on the last occasion; and the holder of the mining lease has sent the notice to the authorised officer and the State Government under rule 28 of the Mineral Conservation and Development Rules, 2017, the holder shall not be required to submit mining plan for review during the period of such temporary discontinuation, but shall submit the mining plan for review and obtain approval of the competent authority on the same before reopening of the mine.”

8. In the said rules, in rule 23,—

- (i) in the marginal heading, after the words “composite licence”, the words “or exploration licence” shall be inserted;
- (ii) after the words “composite licence”, wherever they occur, the words “or exploration licence” shall be inserted;
- (iii) in sub-rule (3), after the word “prospecting”, the words “or reconnaissance” shall be inserted;
- (iv) in sub-rule (11), after the words “the lessee”, the words “or the licensee” shall be inserted.

9. In the said rules, in rule 23B,—

- (i) in the marginal heading, after the words “composite licence”, the words “or exploration licence” shall be inserted;
- (ii) in sub-rule (1) and (2), after the words “composite licence”, the words “or exploration licence” shall be inserted.

10. In the said rules, Schedule I, Schedule III and Schedule IV shall be omitted.

11. In the said rules, after Schedule V, the following Schedules shall be inserted, namely:—

“Schedule – V-A

[See rule 9A(1)]

Format of Exploration Licence

This deed for grant of an exploration licence (“Licence”) is made by and between the following, namely:—

PARTIES:

1. The Governor of [State], acting through [Department of Mines and Geology of the State] (the “State Government”).

AND

2. [Name of the licensee] [incorporated in India under the Companies Act, [1956/2013] with corporate identity number [CIN], whose registered office is at [address of registered office], India and principal place of business is at [place of business, if different from registered office]] OR [an individual who is citizen of India, having income tax permanent account number [number], residing at [address]] OR [persons listed in SCHEDULE A organised as a [firm/association of persons] in the name of [name of the firm or association of individuals], all of whom are Indian citizens and resident in India] (the “Licencee”).

BACKGROUND:

- A. The Licencee had participated in an electronic auction for grant of an exploration licence, pursuant to which the Licencee has become eligible for grant of an exploration licence.
- B. Accordingly, the State Government is now executing this Licence for grant of a Licence to the Licencee in consideration of the fee, royalties, covenants and agreements hereinafter reserved and contained on the part of the Licence to be paid, observed and performed.

1. DEFINITIONS

The expressions used in this Licence shall have the same meaning as ascribed to them under the Act and the rules made thereunder.



2. GRANT OF LICENCE

The State Government hereby grants the Licence to the Licensee over an area described in Schedule B ("Licence Area") for conducting reconnaissance or prospecting or both reconnaissance and prospecting operations for a period of five years, commencing from the date of the execution of the exploration licence with respect to following mineral(s), [name of the minerals].

3. RIGHTS AND OBLIGATIONS

- 3.1. The rights and obligations of the State Government and the Licensee shall be as specified in the Act and the rules made thereunder, including without limitation the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.
- 3.2. Without prejudice to the generality of the foregoing,
- (a) the Licensee shall,—
- (i) at all times comply with the provisions of the Act and the rules made thereunder and any other applicable law;
 - (ii) make prompt payment of royalty and any other payment required to be made by the Licensee;
 - (iii) pay such compensation as may be assessed by lawful authority in accordance with the law in force on the subject for all damage, injury, or disturbance which may be done by the Licensee in exercise of the powers granted by this Licence and to indemnify and keep indemnified fully and completely the State Government against all claims which may be made by any person or persons in respect of any such damage, injury or disturbance and all costs and expenses in connection therewith;
 - (iv) take measures, at his own expense, for the protection of environment like planting of trees, reclamation of mined land, use of pollution-control devices, and such other measures as may be prescribed by the Central or State Government from time to time;
 - (v) without delay send to the Deputy Commissioner or Collector a report of any accident causing death or serious bodily injury or serious injury to property or seriously affecting or endangering life or property which may occur in the course of the operations under this Licence;
 - (vi) weigh or cause to be measured or weighed upon some part of the Licence Area all minerals from time to time won from the Licence Area, with [number of days] prior notice being given to the Deputy Commissioner or Collector every such measuring or weighing in order that he or some person on his behalf may be present thereat;
 - (vii) submit to the State Government a full report of the work done by the Licensee and disclose all information acquired by the Licensee in the course of the operations carried on under this Licence regarding the geology and mineral resources of the area covered by the Licence; and
 - (viii) pay stamp duty and registration charges as may be applicable in respect of this Licence.
- (b) the State Government shall:
- (i) have the right to, at all times to enter into and upon and to grant or demise to any person or persons whomsoever liberty to enter into and upon the Licence Area for all or any purposes other than those for which sole rights and Licence are hereby expressly conferred upon the Licensee, including without limitation, to make on, over or through the said lands such roads, tramways and ropeways as shall be considered necessary or expedient for any purposes and to obtain from and out of the said lands such stone, earth or other materials as may be necessary or requisite for making, repairing or maintaining such roads, tramways, railways and ropeways to pass and re-pass at all times over and along such roads, tramways, railways and ropeways for all purposes and as occasion may require;
 - (ii) have the right to appropriate any performance security provided by the Licensee in accordance with terms of such performance security and require the Licensee to replenish the performance security. In case the performance security has been provided through a security deposit after termination of the Licence and fulfilment of all obligations of the Licensee, such security deposit shall be returned to the Licensee after appropriate deductions without any interest; and
 - (iii) have the right to carry out or perform any work or matters which in accordance with the covenants in that behalf are to be carried out or performed by the Licensee, but have not been so carried out or performed within the time specified in that behalf, and the Licensee shall pay the State Government on demand all expenses which shall be incurred in such carrying out or performance of the same.



34th Mines Environment & Mineral Conservation Week, 2023-24



6

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

3.3. If the State Government is desirous of exercising its right of pre-emption with respect to any mineral(s) the State Government shall pay the average sale price of such minerals as published by Indian Bureau of Mines prevailing at the time of pre-emption.

Provided that no such amount shall be payable for any mineral(s) other than those specified in the Seventh Schedule.

3.4. In the event of the existence of a state of war or emergency (of which existence the President of India shall be the sole judge and a notification to this effect in the Gazette of India shall be conclusive proof) the State Government with the consent of the Central Government shall from time to time and at all times during the said term have the right (to be exercised by a notice in writing to the licensee or licensees) forthwith take possession and control of the works, plant, machinery and premises of the Licensee on or in connection with the Licence Area or the operations under this Licence and during such possession or control, the Licensee shall conform to and obey all directions given by or on behalf of the Central or State Government regarding the use of employment of such works, plants, premises and minerals, provided that fair compensation, which shall be determined in default of agreement by the State Government shall be paid to the Licensee for all loss or damage sustained by him or them by reason or in consequence of the exercises of the powers conferred by this clause and provided also that the exercise of such power shall not determine the said term hereby granted or affect the terms and provisions of this clause.

3.5. If after the receipt of an offer of compensation for any damage which is likely to arise from the proposed operation of the Licensee, the occupier of the surface of any part of the said lands shall refuse his consent to the exercise of the rights and powers reserved to the State Government and granted by this Licence, the Licensee shall report the matter to the State Government and shall deposit with it the amount offered as compensation and if the State Government is satisfied that the amount of compensation is reasonable or if it is not so satisfied and the Licensee shall have deposited with it such further amount as the State Government may consider reasonable, the State Government shall order the occupier to allow the Licensee to enter upon the said land and carry out such operations as may be necessary for the purpose of the Licence. In assessing the amount of such compensation the State Government shall be guided by the principles of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation & Resettlement Act, 2013.

3.6. Every notice required to be given to the Licensee shall be given in writing to such person as may be nominated by the Licensee and such nomination shall be informed to the State Government in writing. If no such nomination is made then the notice shall be sent to the Licensee by registered post or speed post addressed to the Licensee at the address shown in the application for the Licence or at such other address in India as the Licensee may designate from time to time and every such service shall be deemed to be proper and valid service upon the Licensee and shall not be questioned or challenged by him.

3.7. If in any event the orders of the State Government are revised, reviewed or cancelled by the Central Government in pursuance of proceedings under the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016, the Licensee shall not be entitled to compensation for any loss sustained by the Licensee in exercise of the powers and privileges conferred upon the Licensee by these presents.

4. GOVERNING LAW

This Licence and all questions of its interpretation shall be construed in accordance with the laws of India. In the event of any dispute in relation to the this Licence and in respect of all matters touching the relationship of the Licensee and the State Government, suits of petitions shall be filed in civil courts at [name of the city] and it is hereby expressly agreed that neither party shall file a suit or appeal or bring any actions at any place other than the courts named above.

In witness whereof there presents have been executed at the [name of place] on [date].

SCHEDULE A – LIST OF PERSONS*

Sl. No.	Name	PAN Number	Address

* To be deleted if the Licensee is not an association of individuals.



SCHEDULE B: AREA OF EXPLORATION LICENCE
(Description of area, including Geo-coordinates, to be provided.)

Schedule – V-B
[See rule 9A]

Format of Supplementary Exploration Licence

This deed for grant of an exploration licence (“Licence”) is made by and between the following:

PARTIES:

1. The Governor of [State], acting through [*Department of Mines and Geology of the State*] (the “**State Government**”).
AND

2. [Name of the licensee] [incorporated in India under the Companies Act, [1956/2013] with corporate identity number [CIN], whose registered office is at [address of registered office], India and principal place of business is at [place of business, if different from registered office]] **OR** [an individual who is citizen of India, having income tax permanent account number [number], residing at [address]] **OR** [persons listed in *SCHEDULE A* organised as a [firm/association of persons] in the name of [*name of the firm or association of individuals*], all of whom are Indian citizens and resident in India] (the “**Licencee**”).

BACKGROUND:

- A.** The Licencee had participated in an electronic auction for grant of an exploration licence, pursuant to which the Licencee has become eligible for grant of an exploration licence.
- B.** The State Government has executed exploration Licence on..... for grant of a Licence over the area described in Schedule B (“**Licence Area**”) to the Licencee for a period from.....to..... in consideration of the fee, royalties, covenants and agreements hereinafter reserved and contained on the part of the Licence to be paid, observed and performed.
- C.** On...../after three years after such execution, the Licencee made an application to retain an area described in Schedule B-I/II/III... stating the reasons for retention of such area.
- D.** Accordingly, the State Government is executing this supplementary exploration Licence over the [retained area/ final retained area after three years] as described in Schedule B-I/II/III..
- E.** All the other terms and conditions of the exploration licence shall be applicable to this supplementary licence.

1. DEFINITIONS

The expressions used in this Licence shall have the same meaning as ascribed to them under the Act and the rules made thereunder.

2. GRANT OF LICENCE

The State Government hereby grants the Supplementary Licence to the Licencee over an area described in Schedule B-I/II/III.. (“**Final/ Retained Area**”) for conducting reconnaissance/ prospecting/ both reconnaissance and prospecting operations for balance period out of five years (for retained area)/ for a balance period of two years (for final area), from the date of the execution of the exploration licence with respect to following mineral(s), [name of the minerals].

3. GOVERNING LAW

This Licence and all questions of its interpretation shall be construed in accordance with the laws of India. In the event of any dispute in relation to the this Licence and in respect of all matters touching the relationship of the Licencee and the State Government, suits of petitions shall be filed in civil courts at [name of the city] and it is hereby expressly agreed that neither party shall file a suit or appeal or bring any actions at any place other than the courts named above.

In witness whereof there presents have been executed at the [name of place] on [date].



34th Mines Environment & Mineral Conservation Week, 2023-24



8

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

SCHEDULE A – LIST OF PERSONS*

Sl. No.	Name	PAN Number	Address

* To be deleted if the Licencee is not an association of individuals.

SCHEDULE B: AREA OF EXPLORATION LICENCE

(Description of area, including Geo-coordinates, to be provided.)

SCHEDULE B-I: AREA OF SUPPLEMENTARY EXPLORATION LICENCE

(As retained out of the total area granted EL after surrender of part area)

(Description of area, including Geo-coordinates, to be provided.)

SCHEDULE B-II: AREA OF SUPPLEMENTARY EXPLORATION LICENCE

(As retained out of the total area granted EL after surrender of part area)

(Description of area, including Geo-coordinates, to be provided.)

SCHEDULE B-{N}: AREA OF SUPPLEMENTARY (FINAL) EXPLORATION LICENCE

(As finally retained after a period of three years from the date of execution of the EL)

(Description of area, including Geo-coordinates, to be provided.).”.

12. In the said rules, in Schedules IX and X, after the words “composite licence”, wherever they occur, the words “or exploration licence” shall be inserted.

13. In the said rules, for Schedule XII, the following shall be substituted, namely:—

“SCHEDULE-XII

[see rule 54(2)]

AMOUNT OF FINE

Rule No.	Marginal heading of the Rule	Amount of fine for leases having lease area up to 25 hectare and having per annum approved production capacity up to 2 lakh tonnes (in Rs.)	Amount of fine for the cases other than those covered in column (3) (in Rs.)
(1)	(2)	(3)	(4)
Sub-Rule (2) of rule 17	Modification and review of Mining Plan	1,000/- per day, subject to maximum 5,00,000/-	2,000/- per day, subject to maximum 5,00,000/-”.

[F. No. M.VI-1/3/2023-Mines VI (Part1)]

Dr. VEENA KUMARI DERMAL, Jt. Secy.

Note:— The principal rules were published in the Gazette of India, Part II, Section 3, Sub-section (i) vide number G.S.R. 279(E), dated the 4th March, 2016 and lastly amended vide number G.S.R. 737(E), dated the 12th October, 2023.



रजिस्ट्री सं. डी.एल.- 33004/99

REGD. No. D. L.-33004/99

सत्यमेव जयते

भारत का राजपत्र The Gazette of India

सी.जी.-डी.एल.-अ.-18022022-233617
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असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)
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सं. 134] नई दिल्ली, शुक्रवार, फरवरी 18, 2022/माघ 29, 1943
No. 134] NEW DELHI, FRIDAY, FEBRUARY 18, 2022/MAGHA 29, 1943

MINISTRY OF MINES

NOTIFICATION

New Delhi, the 18th February, 2022

G.S.R. 137(E).—In exercise of the powers conferred by section 13 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following rules further to amend the Mineral (Auction) Rules, 2015, namely:—

1. (1) These rules may be called the Mineral (Auction) Amendment Rules, 2022.
(2) They shall come into force on the date of their publication in the Official Gazette.
2. In the Mineral (Auction) Rules, 2015,—
 - (a) in rule 16, in sub-rule (2), for the words “and the area so demarcated shall be classified into forests land, land owned by the State Government, and land not owned by the State Government”, the words “, or global positioning system” shall be substituted;
 - (b) in rule 17, in sub-rule (1),—
 - (i) in clause (b), in sub-clause (i), for the words “divided into forest land, land owned by the State Government, and land not owned by the State Government”, the words “, or global positioning system” shall be substituted;
 - (ii) in clause (c), for sub-clause (ii), the following sub-clause shall be substituted, namely:—

“(ii) details of the area identified, demarcated using total station and differential global positioning system, or global positioning system.”.

[F. No. M.VI-1/2/2022-Mines VI]

Dr. VEENA KUMARI DERMAL, Jt. Secy.

Note:— The Mineral (Auction) Rules, 2015 were published in the Gazette of India, Part II, Section 3, Sub-section (i) vide number G.S.R. 406(E), dated the 20th May, 2015 and lastly amended vide number G.S.R. 857(E), dated the 14th December, 2021.

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भारत का राजपत्र
The Gazette of India

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असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)
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सं. 507]
No. 507]

नई दिल्ली, शुक्रवार, सितम्बर 1, 2023/भाद्र 10, 1945
NEW DELHI, FRIDAY, SEPTEMBER 1, 2023/BHADRA 10, 1945

MINISTRY OF MINES

NOTIFICATION

New Delhi, the 1 September, 2023

G.S.R. 648(E).—In exercise of the powers conferred by section 13 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following rules further to amend the Mineral (Auction) Rules, 2015, namely:—

1. Short title and commencement:— (1) These rules may be called the Mineral (Auction) Amendment Rules, 2023.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Mineral (Auction) Rules, 2015 (hereinafter referred to as the said rules), in rule 5, in sub-rule (2), the following proviso shall be inserted, namely:—

“Provided that where details of the land is available in the Prime Minister Gati Shakti - National Master Plan for Multi-modal Connectivity platform or land record portal of the State Government or any other Government authority, the State Government may use such details for classification of the land.”.

3. In the said rules, in rule 9,—

(i) in sub-rule (1), in clause (a), for the words “land not owned by the State Government; and”, the following shall be substituted, namely:—

“land not owned by the State Government:

Provided that where details of the land is available in the Prime Minister Gati Shakti - National Master Plan for Multi-modal Connectivity platform or land record portal of the State Government or any other Government authority, the State Government may use such details for classification of the land; and”;

(ii) in sub-rule (2), in clause (b), for the words, “land not owned by the State Government; and” the following proviso shall be substituted, namely:—

“land not owned by the State Government:

Provided that where details of the land is available in the Prime Minister Gati Shakti - National Master Plan for Multi-modal Connectivity platform or land record portal of the State Government or any other Government authority, the State Government may use such details for classification of the land; and”;

4. In the said rules, after rule 9A, the following rule shall be inserted, namely:—

“9B. Conduct of auction of mining lease by Central Government under section 11D.—(1) The State Government shall intimate to the Central Government the details of all the areas or mines available with the State Government for auction of mining lease, in respect of any mineral specified in the Part D of the First Schedule to the Act within forty-five days of the commencement of the Mineral (Auction) Amendment Rules, 2023.

5641 GI/2023

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34th Mines Environment & Mineral Conservation Week, 2023-24



2

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

(2) The State Government shall intimate to the Central Government regarding the following, namely:—

(a) receipt of any geological report in respect of any mineral specified in the Part D of the First Schedule to the Act for auction of mining lease from Geological Survey of India, Mineral Exploration Corporation Limited or any other Government or private entity, within a period of forty-five days of receiving it;

(b) termination of mining lease or lapsing of letter of intent for mining lease in respect of any mineral specified in the Part D of the First Schedule to the Act, within fifteen days from such termination or lapse;

(3) The Central Government may require the State Government to provide the details specified under rules 5 and 9 for conduct of auction and the State Government shall provide such details to the Central Government within thirty days.

(4) For conducting an auction by the Central Government for grant of mining lease under section 11D, the provisions of rules 5 to 9, as applicable to a State Government, shall *mutatis mutandis* be also applicable to the Central Government.

(5) Upon successful completion of the auction, the Central Government shall intimate the details of the preferred bidder in the auction to the State Government and the State Government shall grant mining lease for such area to such preferred bidder in accordance with rule 10.”

5. In the said rules, after rule 17A, the following rule shall be inserted, namely:—

“17B. Conduct of auction of composite licence by Central Government under section 11D.—(1) The State Government shall intimate to the Central Government the details of all the areas or mines available with the State Government for auction of composite licence, in respect of any mineral specified in the Part D of the First Schedule to the Act within a period of forty-five days of the commencement of the Mineral (Auction) Amendment Rules, 2023.

(2) The State Government shall intimate to the Central Government regarding the following, namely:—

(a) receipt of any geological report in respect of any mineral specified in the Part D of the First Schedule to the Act for auction of composite licence from Geological Survey of India, Mineral Exploration Corporation Limited or any other Government or private entity, within a period of forty-five days of receiving it;

(b) termination of composite licence or lapsing of letter of intent for composite licence in respect of any mineral specified in the Part D of the First Schedule to the Act, within fifteen days from such termination or lapse;

(3) The Central Government may require the State Government to provide the details specified under rules 16 and 17 for conduct of auction and the State Government shall provide such details to the Central Government within thirty days.

(4) For conducting an auction by the Central Government for grant of composite licence under section 11D, the provisions of rules 16 and 17, as applicable to a State Government, shall *mutatis mutandis* be also applicable to the Central Government.

(5) Upon successful completion of the auction, the Central Government shall intimate the details of the preferred bidder in the auction to the State Government and the State Government shall grant composite licence for such area to such preferred bidder in accordance with rule 18.”

[F. No. M.VI-1/3/2023-Mines VI]

Dr. VEENA KUMARI DERMAL, Jt. Secy.

Note: The Mineral (Auction) Rules, 2015 were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i), *vide* number G.S.R. 406(E), dated the 20th May, 2015 and lastly amended, *vide* number G.S.R. 137(E), dated the 18th February, 2022.

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असाधारण
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PART II—Section 3—Sub-section (i)
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सं. 43] नई दिल्ली, रविवार, जनवरी 21, 2024/माघ 1, 1945
No. 43] NEW DELHI, SUNDAY, JANUARY 21, 2024/MAGHA 1, 1945

MINISTRY OF MINES
NOTIFICATION

New Delhi the 21st January, 2024

G.S.R. 49(E).— In exercise of the powers conferred by section 13 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following rules further to amend the Mineral (Auction) Rules, 2015, namely:—

1. Short title and commencement.— (1) These rules may be called the Mineral (Auction) Amendment Rules, 2024.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Mineral (Auction) Rules, 2015 (hereinafter referred to as the said rules), in rule 2, in sub-rule (1),—

(a) after clause (a), the following clause shall be inserted, namely:—

“(aa) “auction premium” means the amount payable by the lessee under sub-rule (2) of rule 13;”;

(b) in clause (d), for the words, brackets, letters and figures “sub-clause (iii) of clause (b) of sub-rule (4) of rule 9”, the words, brackets, figures and letter “clause (iii) of sub-rule (9) of rule 9 or clause (iii) of sub-rule (10) of rule 19E” shall be substituted;

(c) in clause (e), for the words, brackets and figures “sub-clause (iv) of clause (a) of sub-rule (4) of rule 9”, the words, brackets, figures and letter “sub-rule (8) of rule 9 or sub-rule (9) of rule 19E” shall be substituted;

(d) in clause (i), after the words and figure “of rule 18”, the words, brackets, figures and letter “sub-rule (3) of rule 19G” shall be inserted;

(e) in clause (j), for the words, brackets and figures “sub-clause (ii) of clause (a) of sub-rule (4) of rule 9”, the words, brackets, figures and letter “sub-rule (6) of rule 9 or sub-rule (7) of rule 19E” shall be substituted.

3. In the said rules, in rule 4, after sub-rule (2), the following sub-rule shall be inserted, namely:—

“(3) Exploration licence under section 10BA in an area in respect of any mineral specified in the Seventh Schedule of the Act shall be granted in the manner specified under Chapter III A.”.

4. In the said rules, in rule 6, after sub-rule (5), the following sub-rules shall be inserted, namely:—

485 GI/2024

(1)



(6) A bidder shall submit only one bid in an auction of a mineral block and no affiliate of a bidder shall submit a bid in the same auction where such bidder has submitted bid.

(7) In case a bidder submits more than one bid in an auction of a mineral block or an affiliate of a bidder submits bid in same auction where such bidder has submitted bid, the bids submitted by the bidder and its affiliate shall be rejected.

Explanation.— For the purposes of this rule,—

(i) “Affiliate” with respect to a bidder shall mean a person who, (a) controls such bidder, (b) is controlled by such bidder, (c) is under common control with such bidder, (d) is an associate company of the bidder, or (e) is a subsidiary company of such bidder;

(ii) the expressions “associate company”, “control” and “subsidiary company” shall have the same meanings as assigned to them in the Companies Act, 2013 (18 of 2013).’.

5. In the said rules, in rule 9, in sub-rule (12), in the second proviso, after the word “three”, the words “, and even in case of a single technically qualified bidder” shall be inserted.

6. In the said rules, in rule 11, in sub-rule (1), the following proviso shall be inserted, namely:—

“Provided that for the preferred bidder selected pursuant the notice inviting tender issued after the date of commencement of the Mineral (Auction) Amendment Rules, 2024, the amount of upfront payment shall not exceed five hundred crore rupees.”

7. In the said rules, in rule 12, in sub-rule (1), the following proviso shall be inserted, namely:—

“Provided that for the preferred bidder selected pursuant the notice inviting tender issued after the date of commencement of the Mineral (Auction) Amendment Rules, 2024, the amount of performance security shall not exceed five hundred crore rupees.”

8. In the said rules, in rule 19,—

(i) in sub-rule (1), after the proviso, the following proviso shall be inserted, namely:—

“Provided further that for the preferred bidder selected pursuant the notice inviting tender issued after the date of commencement of the Mineral (Auction) Amendment Rules, 2024, the amount of performance security shall not exceed two hundred and fifty crore rupees.”

(ii) in sub-rule (3), the following proviso shall be inserted, namely:—

“Provided that for the holder of composite licence selected pursuant the notice inviting tender issued after the date of commencement of the Mineral (Auction) Amendment Rules, 2024, the amount of performance security specified in sub-rules (2) and (3) shall not exceed five hundred crore rupees.”

9. In the said rules, after rule 19, the following shall be inserted, namely:—

“CHAPTER III A

GRANT OF EXPLORATION LICENCE

19A. Prerequisites for auction of exploration licence.— (1) The State Government may initiate auction process for grant of exploration licence with respect to an area within the State, in respect of the minerals specified in Seventh Schedule of the Act, in accordance with the provisions of the Act and this Chapter.

(2) Any person intending to obtain exploration licence in respect of an area may submit a proposal to the State Government in the format specified in Schedule V along with available geoscience data for notification of the area for auction to grant an exploration licence.

(3) In order to identify a block for auction for grant of exploration licence, including in any area proposed by any person under the sub-rule (2), the State Government shall constitute a committee consisting of the following members, namely:—

(a) Principal Secretary or Secretary in the Mining and Geology Department of State Government (by whatever name called) – Chairman;



34th Mines Environment & Mineral Conservation Week, 2023-24



[भाग II—खण्ड 3(i)]

भारत का राजपत्र : असाधारण

3

- (b) Deputy Director General, State Unit of Geological Survey of India – Member;
- (c) Regional Controller of Mines of Indian Bureau of Mines – Member;
- (d) Regional Director of Atomic Minerals Directorate for Exploration and Research – Member;
- (e) Director in the Mining and Geology Department of State Government (by whatever name called) – Member Secretary.

(4) The committee shall identify and recommend to the State Government the blocks for auction for grant of exploration licence out of—

- (i) the area identified by the Geological Survey of India or the Directorates of Mining and Geology of State Government (by whatever name called) or any other agency of the Central Government or State Government;
- (ii) the area proposed by any person under sub-rule (2); or
- (iii) any other area,

on the basis of geological information available in the National Geoscience Data Repository (NGDR) or in similar platforms or on the basis of the available geological reports or the like.

(5) The committee shall reject or recommend the proposal received under sub-rule (2) within a period of sixty days of its receipt in the State Government with such modification as it deem fit.

(6) The committee while identifying and recommending the block shall exclude from the block the areas covered under the following, namely:—

- (i) a subsisting mineral concession;
- (ii) a notice inviting tender for auction of a mineral concession that has been issued and is under process;
- (iii) a subsisting letter of intent issued for grant of a mineral concession pursuant to an auction process, or letter of intimation issued by the Department of Atomic Energy regarding the prospective lessee under rule 6 of the Atomic Minerals Concession Rules, 2016;
- (iv) a mining lease or composite licence granted that has expired, lapsed, surrendered or terminated or notice inviting tender for auction of a mineral concession that has been terminated;
- (v) exploration operations by an entity specified or notified under second proviso to section 4; or
- (vi) notification for undertaking an operation issued under section 17 or notification for reservation issued under section 17A:

Provided that if the committee is of opinion that it is expedient in the interest of conservation of mineral resources or for the scientific and sustainable development and exploitation of minerals specified in the Seventh Schedule of the Act, it may include the area covered under clause (iv) in the block recommended for grant of exploration licence.

(7) The State Government may reject or accept the recommendation of the committee with such modification as it deem fit and send the details of identified block for previous approval of the Central Government for auction under sub-section (4) of section 10BA, within sixty days of its receipt.

(8) The Central Government shall grant or reject the previous approval within sixty days of its receipt and thereafter the State Government shall notify the identified block for conducting auction for grant of exploration licence within sixty days of receipt of the previous approval.

(9) The State Government shall, prior to issuance of the notice inviting tender with respect to auction, identify and demarcate the area where an exploration licence is proposed to be granted through auction, specifying its boundary latitude and longitude coordinates.

19B. Eligibility for exploration licence.— (1) For the purpose of participating in the auction of exploration licence, an applicant shall meet the requirements as specified in section 5 and the terms and conditions of eligibility as specified in Schedule I.

(2) The eligibility for participating in the auction shall be determined as per the terms and conditions of eligibility for participating in the auction and the Successful Bidder shall be decided solely on the basis of financial bids submitted by the eligible bidders.

(3) A bidder shall submit only one bid in an auction of a mineral block and no affiliate of a bidder shall submit a bid in the same auction where such bidder has submitted bid.



(4) In case a bidder submits more than one bid in an auction of a mineral block or an affiliate of a bidder submits bid in same auction where such bidder has submitted bid, the bids submitted by the bidder and its affiliate shall be rejected.

Explanation.— For the purposes of this rule,—

- (i) “Affiliate” with respect to a bidder shall mean a person who, (a) controls such bidder, (b) is controlled by such bidder, (c) is under common control with such bidder, (d) is an associate company of the bidder, or (e) is a subsidiary company of such bidder;
- (ii) the expressions “associate company”, “control” and “subsidiary company” shall have the same meanings as assigned to them in the Companies Act, 2013 (18 of 2013).

19C. Electronic auction for exploration licence.— (1) An auction shall be conducted only through an online electronic auction platform.

(2) The State Government may utilise any online electronic auction platform which meets the minimum technical and security requirements as specified in the Guidelines for compliance to Quality requirements of e-Procurement Systems issued by the Standardisation Testing and Quality Certification Directorate, Department of Information Technology, Ministry of Communications and Information Technology, Government of India.

19D. Bidding parameters for exploration licence.— (1) The State Government shall specify in the tender document the maximum percentage share (known as “ceiling price”) of the auction premium that shall be payable by the future lessee of mining lease which shall be auctioned pursuant to the prospecting operations undertaken under the exploration licence being auctioned:

Provided that the ceiling price shall not be less than twenty-five per cent.

(2) The bidders shall quote, for the purpose of receiving payment from the State Government, a percentage share of the auction premium payable by such future lessee equal to or below the ceiling price and the bidder quoting the minimum percentage in accordance with the bidding process specified in rule 19E shall be the preferred bidder.

19E. Bidding process for exploration licence.— (1) Subject to the provisions of rule 19A, the State Government shall issue a notice inviting tender, including on their website, to commence the auction process and such notice shall contain brief particulars regarding the area under auction, including,—

- (a) particulars of the area identified and demarcated, specifying its boundary latitude and longitude coordinates; and
- (b) available geoscience data.

(2) The tender document issued by the State Government shall contain,—

- (a) particulars of the area identified and demarcated, specifying its boundary latitude and longitude coordinates; and
- (b) information on available geosciences data.

(3) The bidders shall be provided a fixed period, as notified by the State Government, to study the tender document and such reports and the bidding process shall commence only on expiry of such period.

(4) The auction shall be a descending reverse online electronic auction and shall comprise of attempts of auction with each attempt of auction consisting of a first round of auction and a second round of auction.

(5) In the first round of auction, the bidders shall submit,—

- (A) a technical bid comprising amongst others, documentary evidence to confirm eligibility as per the provisions of the Act and the rules made thereunder to participate in the auction, bid security and such other documents and payments as may be specified in the tender document; and
- (B) an initial price offer which shall be a percentage share of the auction premium that shall be payable by the future lessee whose mining lease shall be auctioned pursuant to the prospecting operations undertaken under the exploration licence being auctioned.

(6) The bid security shall be submitted in the form of a bank guarantee or through security deposit and shall be for an amount equivalent to,—

- (a) fifty lakh rupees for area less than or equal to five hundred square kilometers; and
- (b) one crore rupee for area more than five hundred square kilometers but less than or equal to one thousand square kilometers.



(7) Only those bidders who are found to be eligible in accordance with the terms and conditions of eligibility specified in rule 19B and whose initial price offer is equal to or less than the ceiling price, referred to as "technically qualified bidders", shall be considered for the second round of auction.

(8) The lowest initial price offer amongst the technically qualified bidders shall be the limiting price for the second round of online electronic auction.

(9) The technically qualified bidders shall be ranked on the basis of the ascending initial price offer submitted by them and the technically qualified bidders holding the first fifty per cent. of the ranks (with any fraction rounded off to higher integer) or the top five technically qualified bidders, whichever is higher, shall qualify as qualified bidders for participating in the second round of electronic auction:

Provided that if the number of technically qualified bidders is between three and five, then all the technically qualified bidders shall be considered as qualified bidders:

Provided further that in the event of identical initial price offers being submitted by two or more technically qualified bidders, all such technically qualified bidders shall be assigned the same rank for the purposes of determination of qualified bidders and in such case, the aforementioned fifty per cent. shall stand enhanced to the extent of tie occurring within the first fifty per cent.

Illustrations

1. In the event there are a total of ten technically qualified bidders, and each technically qualified bidder submits different initial price offer, then the technically qualified bidders holding the first fifty per cent. of ranks shall be considered to be qualified bidders.

2. If three such technically qualified bidders submit the same initial price offer and are ranked in first fifty per cent. of the total number of ranks, then, all the three technically qualified bidders shall be considered to be qualified bidders and the total number of qualified bidders shall stand increased by two.

(10) Where the total number of technically qualified bidders is three or more, the auction process shall proceed to the second round of auction which shall be held in the following manner, namely:—

(iv) the qualified bidders may submit their final price offer which shall be a percentage share of the auction premium that shall be payable by the future lessee whose mining lease shall be auctioned pursuant to the prospecting operations undertaken under the exploration licence being auctioned and lower than the limiting price for the second round:

Provided that the final price offer may be revised by the qualified bidders till the conclusion of the auction as per the technical specifications of the auction platform;

(v) The auction process shall be annulled if none of the qualified bidders submits a final price offer on the online electronic auction platform;

(vi) The qualified bidder who submits the lowest final price offer shall be declared as the "preferred bidder" immediately on conclusion of the auction.

(11) Where the total number of technically qualified bidders is less than three, then no technically qualified bidder shall be considered to be qualified bidder and the first attempt of auction shall be annulled.

(12) On annulment of the first attempt of auction, the State Government may decide to—

(a) commence the auction process *de novo* with a separate set of terms and conditions and ceiling price as it may deem fit and necessary; or

(b) conduct the second attempt of auction.

(13) In case the State Government decides to conduct the second attempt of auction as specified under sub-rule (12), the terms and conditions of the second attempt of auction shall remain the same as in the first annulled attempt of auction:

Provided that the lowest initial price offer of the technically qualified bidders if any in the first annulled attempt shall be the ceiling price in first round of the second attempt:

Provided further that the bidding shall continue to the second round even in case the number of technically qualified bidders is less than three, and even in case of a single technically qualified bidder.

19F. Conduct of auction of exploration licence by Central Government.— (1) The State Government shall intimate to the Central Government regarding the following, namely:—

(a) identification and recommendation of any area for auction of exploration licence by the committee under rule 19A within a period of fifteen days of receiving it;



- (b) decision of the State Government on the recommendation of the committee under rule 19A within a period of fifteen days of such decision;
- (c) publication of notice under sub-section (4) of section 10BA along with its copy, within fifteen days of publication of such notice;
- (d) issue of notice inviting tender for auction for mining lease under rule 19E along with its copy, within fifteen days of issue of such notice;
- (e) outcome of any auction for exploration licence, within fifteen days of completion of auction; and
- (f) termination, lapse or surrender of exploration licence or terminating or lapse of letter of intent for exploration licence, within fifteen days from such termination, lapse or surrender.

(2) In case the Central Government decides to notify an area for auction or conduct auction for exploration licence under sub-section (5) or sub-section (7) of section 10BA, as the case may be, the provisions of these rules regarding auction in respect of exploration licence, as applicable to a State Government, shall *mutatis mutandis* be also applicable to the Central Government.

(3) Upon successful completion of the auction, the Central Government shall intimate the details of the preferred bidder in the auction to the State Government and the State Government shall grant exploration licence for such area to such preferred bidder in accordance with rule 19G.

19G. Grant of exploration licence.— (1) The preferred bidder shall submit a performance security in the manner specified in sub-rule (1) of rule 19H within fifteen days after being declared as preferred bidder, and upon receipt of such performance security, the State Government shall issue a letter of intent to the preferred bidder within fifteen days of receipt of performance security:

Provided that the State Government may, for the reasons to be recorded in writing, extend the period of fifteen days for submission of performance security by further fifteen days.

(2) In case the preferred bidder fails to submit the performance security within the period or extended period specified in sub-rule (1), the State Government shall,—

- (a) forfeit the bid security of the preferred bidder; and
- (b) offer the bidder who had submitted second-lowest price offer in the second round of auction to meet the lowest final price offer and if the said bidder agree to the said offer in writing and submit the performance security within fifteen days of receipt of offer, the State Government shall declare the said bidder as the preferred bidder and issue letter of intent to him:

Provided that the State Government may, for the reasons to be recorded in writing, extend the period of fifteen days by further fifteen days.

(3) On receipt of the letter of intent the preferred bidder shall be considered to be the successful bidder upon fulfilment of the following conditions, namely:—

- (a) compliance with all the terms and conditions of eligibility;
- (b) obtaining all consents, approvals, permits, no-objections and the like as may be required under applicable laws for commencement of reconnaissance or prospecting operations or both; and
- (c) submitting the scheme of reconnaissance or prospecting or both in accordance with the Mineral Conservation and Development Rules, 2017.

(4) Upon fulfilment of the conditions specified in sub-rule (3), the State Government shall grant an exploration licence to the successful bidder and such exploration licence shall be subject to the provisions of the Act and the rules made thereunder.

Provided that on expiry of a period of one year from the date of the letter of intent, no exploration licence deed shall be executed and the letter of intent shall be invalidated leading to annulment of the entire process of auction:

Provided further that the State Government may allow a further period of six months for execution of the exploration licence deed, if the reasons for delay were beyond the control of the preferred bidder.

(5) The exploration licensee shall conduct geological exploration (reconnaissance or prospecting operations or both) of the area under the exploration licence so as to ascertain evidence of mineral contents and shall submit periodic reports in accordance with the Act and rules made thereunder, and all reports, studies and other documentation related to the geological exploration of the area under the exploration licence shall be submitted to the State Government with its copy to the Indian Bureau of Mines.

(6) Period of exploration licence shall be in accordance with sub-section (10) of section 10BA.



(7) The exploration licensee may, at any time, surrender a part or the entire area to the State Government, subject to the conditions specified in rule 9B of the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016:

Provided that after three years from the date of execution of the exploration licence, the exploration licensee may retain an area not exceeding twenty-five per cent. of the total area covered under that licence for the purpose of continuing reconnaissance or prospecting operations and shall surrender the remaining area after submitting a report to the State Government stating the reasons for retention of the area proposed to be retained by him and the boundaries of that area.

(8) If an exploration licensee,—

- (a) fails to complete reconnaissance and prospecting operations within the period permitted under sub-section (10) of section 10BA; or fails to establish the existence of mineral contents as specified in rule 5 of the Minerals (Evidence of Mineral Contents) Rules, 2015 for grant of mining lease and submit the geological report within the period specified under sub-section (12) of section 10BA, such licensee shall not be eligible to receive any share out of the auction premium of the mining lease granted in the area covered by his exploration licence and the State Government may take any action as it deems fit, including imposition of penalty in form of appropriation of performance security;
- (b) completes reconnaissance and prospecting operations within the period permitted under sub-section (10) of section 10BA and submits to the State Government and the Indian Bureau of Mines the result of the prospecting operations in the form of a geological report prepared in accordance with rule 5 of the Mineral (Evidence of Mineral Contents) Rules, 2015; identifying the area suitable for grant of a mining lease within the period specified under sub-section (12) of section 10BA, then such licensee shall be entitled to receive the percentage share in auction premium of the mining lease in accordance with these rules.

(9) Exploration licensee shall prepare separate geological report for each block identified for grant mining lease under sub-rule (8).

19H. Performance Security for exploration licence.— (1) The amount of performance security shall be as follows, namely:—

- (a) one crore rupees for area less than or equal to five hundred square kilometers; and
- (b) two crore rupee for area more than five hundred square kilometers but less than or equal to one thousand square kilometers.

(2) The performance security shall be provided through bank guarantee in the format as specified in Schedule IV or through security deposit, which may be appropriated in the following events, namely:—

- (a) non-adherence to scheme of reconnaissance or prospecting, as the case may be;
- (b) disclosure of exploration data to an unauthorized entity;
- (c) non-disclosure of entire exploration data, reports or any other information related to exploration to State Government or any other Government organisation authorised to receive such information under the law;
- (d) serious discrepancy in exploration data, reports or any other information related to exploration to State Government or any other Government organisation authorised to receive such information under the law; or
- (e) contravention of the provision of these rules and the exploration licence deed.

(3) The percentage of performance security to be appropriated in the events specified in sub-rule (2) shall be specified in the tender document or decided by the State Government as it deem fit.

(4) In case of appropriation of performance security, the exploration licensee shall replenish or top-up the performance security within thirty days of such appropriation to keep the amount of performance security maintained at the amount specified under sub-rule (1).

(5) The State Government on being satisfied that the holder of exploration licence has completed prospecting operations but is unable to establish the existence of mineral contents even after making all possible efforts in accordance with the Minerals (Evidence of Mineral Contents) Rules, 2015, shall return performance security.

19I. Payment to the holder of exploration licence.— (1) The State Government shall pay by electronic transfer to the exploration licensee the percentage share quoted by him in the auction of exploration licence out of the auction premium deposited in a month by the future lessee who has obtained mining lease in auction pursuant to the prospecting operations undertaken by the exploration licensee, within thirty days of deposit of auction premium.

(2) The share of the exploration licensee shall be payable for entire period of fifty years of the mining lease or till exhaustion of resources, whichever is earlier.



(3) In case of termination, lapse or surrender of mining lease, share of the exploration licensee shall be payable out of the auction premium deposited by the subsequent lessee of the area for the remaining period out of fifty years from the date of commencement of the first lease for the area or till exhaustion of resources, whichever is earlier.

(4) The percentage share quoted by the exploration licensee shall be applicable for each mineral specified in the Seventh Schedule to the Act whose existence of mineral content has been established by him in accordance with the exploration norms required for grant of mining lease under Mineral (Evidence of Mineral Contents) Rules, 2015.

(5) The share of the exploration licensee shall be payable out of auction premium of all the mining leases of the minerals specified in the Seventh Schedule to the Act, auctioned pursuant to the prospecting operations undertaken by the exploration licensee.

(6) Exploration licensee shall not be entitled to receive share in respect of mineral not specified in the Seventh Schedule of the Act or whose existence of mineral content has not been established by him in accordance with the exploration norms required for grant of mining lease under Mineral (Evidence of Mineral Contents) Rules, 2015.

(7) Notwithstanding anything contained in this rule, the exploration licensee and lessee may enter into agreement regarding payment of the share to exploration licensee, such as lump-sum payment in lieu of percentage share in auction premium; and upon such agreement,—

(a) the exploration licensee and lessee shall submit a copy of such agreement to State Government; and

(b) subsequent to coming into effect of the agreement, the auction premium payable by lessee to the State Government shall reduce by the percentage share of exploration licensee and the State Government shall not be liable pay any amount to exploration licensee.

(8) After completion of prospecting operations and submission of geological report to the State Government in accordance with the rules, the exploration licensee may transfer his right to receive percentage share to any other entity, with the previous approval of the State Government and the State Government shall accept or reject previous approval within ninety days of receipt of such application.

(9) In case an exploration licensee becomes lessee of a mining lease auctioned pursuant to the prospecting operations undertaken by him, then such lessee shall deposit auction premium to the State Government after deducting the percentage share that would have been payable to the exploration licensee.

(10) The State Government shall pay by electronic transfer to the exploration licensee a share in each installment of the upfront payment payable by the lessee under rule 11 in the following manner, namely:—

(i) the share in each installment shall be equal to the percentage quoted by exploration licensee in the auction of exploration licence multiplied by the amount of installment of the upfront payment;

(ii) the share in each installment shall be paid to exploration licensee by the State Government within thirty days of deposit of the installment by the lessee; and

(iii) the payments to exploration licensee under this sub-rule shall be adjusted in full at the earliest against the share in auction premium payable to the exploration licensee under this rule.

19J. Auction for mining lease pursuant to exploration licence.—

(1) The manner and terms and conditions for auction of a mining lease specified in Chapter II of these rules shall be applicable for auction of mining lease of a block identified pursuant to the prospecting operations undertaken under an exploration licence, subject to the conditions specified in this rule.

(2) The State Government shall initiate the auction process for grant of mining lease under section 10B read with section 11 within six months from the date of receipt of the geological report from the exploration licensee in respect of the area where existence of mineral content is established as specified in rule 5 of the Mineral (Evidence of Mineral Contents) Rules, 2015 and shall select the preferred bidder for grant of such mining leases within one year from the date of receipt of the geological report:

Provided that in respect of any mineral specified in the Part D of the First Schedule to the Act, the auction process for grant of mining lease shall be conducted by the Central Government under section 11D and rule 9B.

(3) In case the preferred bidder is not selected within the period so specified in sub-rule (2), the State Government shall pay to the exploration licensee an amount equivalent to one per cent. of the expenditure incurred towards reconnaissance or prospecting operations or ten lakh rupees per month, whichever is higher, till selection of the preferred bidder for the mining lease or till annulment of second attempt of auction due to insufficient number of bidders and such payment made to exploration licensee will be adjusted with the amount payable to him out of auction premium to be deposited by the holder of mining lease.



Explanation.— For purposes of this sub-rule, the amount payable shall be determined on the basis of account submitted by the exploration licensee of the expenditure incurred towards reconnaissance or prospecting operations duly certified by a chartered accountant.

(4) In case of termination, lapse or surrender of mining lease or termination or lapse of letter of intent for mining lease granted pursuant to exploration licence, the State Government shall give an opportunity to the exploration licensee to obtain mining lease in such area at the same auction premium discovered in the auction of the mining lease.

(5) In case of refusal of the exploration licensee to obtain mining lease under sub-rule (5), the State Government or the Central Government, as the case may be, shall initiate auction process and select preferred bidder for such area within the period specified in sub-rule (2) and in case the preferred bidder is not selected within the said period, the State Government or the Central Government, as the case may be, shall pay to the exploration licence holder in accordance with sub-rule (3).

(6) The exploration licensee shall not be prohibited from participating in the auction for the mining lease auctioned pursuant to the prospecting operations undertaken by him subject to fulfillment of the eligibility conditions under rule 6.

(7) The tender document for auction of mining lease shall, in addition to the details specified in sub-rule (2) of rule 9, shall contain the following, namely:—

- (a) raw data and bore-hole cores generated by such agency during prospecting operations and periodic report submitted by such agency in respect of the block shall be made available for inspection to bidders in the auction;
- (b) the ownership structure or shareholding details of the exploration licensee.

(8) A bidder participating in auction for mining lease shall declare to the State Government or the Central Government, as the case may be, if he is related party of the exploration licensee pursuant to whose prospecting operations the mining lease is being auctioned.

(9) The State Government or the Central Government, as the case may be, shall intimate other bidders in auction regarding participation of exploration licensee or his related party in the auction.

(10) In case the exploration licensee or his related party participate as bidder in the auction of mining lease being auctioned pursuant to his prospecting operations, then, in the second round of online electronic auction, name of licensee or his related party and his final price offer (including revised final price offers during bidding) shall remain visible to all the qualified bidders.”.

10. In the said rules, after rule 23, the following rule shall be inserted, namely:—

“24. Participation in auction for mining lease or composite licence by an agency covered under proviso to sub-section of (1) of section 4.— (1) The manner and terms and conditions for auction of a mining lease or composite licence specified in Chapter II and Chapter III, respectively of these rules shall be applicable for auction of a block identified pursuant to the prospecting operations undertaken by an agency covered under proviso to sub-section of (1) of section 4, subject to the conditions specified in this rule.

(2) An agency covered under proviso to sub-section of (1) of section 4 who has undertaken exploration of a mineral specified in the Part D of the First Schedule of the Act or the Seventh Schedule of the Act shall not be prohibited from participating in the auction for the mining lease or composite licence auctioned pursuant to the prospecting operations undertaken by such agency for such mineral subject to fulfillment of the eligibility conditions under rule 6.

(3) The tender document for auction of mining lease or composite licence shall, in addition to the details specified in sub-rule (2) of rule 9, shall contain the following, namely:—

- (a) raw data and bore-hole cores generated by such agency during prospecting operations and periodic report submitted by such agency in respect of the block shall be made available for inspection to bidders in the auction;
- (b) the ownership structure or shareholding details of such agency.



34th Mines Environment & Mineral Conservation Week, 2023-24



10

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

(4) A bidder participating in auction for mining lease or composite licence shall declare to the State Government or the Central Government, as the case may be, if he has explored the block pursuant to whose prospecting operations the mining lease or composite licence is being auctioned or is related party of such agency.

(5) The State Government or the Central Government, as the case may be, shall intimate other bidders in auction regarding participation of such agency or his related party in the auction.

(6) In case such agency or his related party participate as bidder in the auction of mining lease being auctioned pursuant to his prospecting operations, then, in the second round of online electronic auction, name of such agency or his related party and his final price offer (including revised final price offers during bidding) shall remain visible to all the qualified bidders.”.

11. In the said rules, in Schedule I, after para 2 and before the *Explanation*, the following para shall be inserted, namely:—

“3. In the auction of exploration licence, the applicant shall have a net worth of more than or equal to twenty-five crore rupee.”.

12. In the said rules, in Schedule IV, for the words, brackets and figures, “FORMAT FOR PERFORMANCE SECURITY FOR COMPOSITE LICENCE [see rule 19(4)]”, the following shall be substituted, namely:—

“FORMAT FOR PERFORMANCE SECURITY FOR COMPOSITE LICENCE AND EXPLORATION LICENCE

[see rule 19(4) and rule 19H(2)]”.

13. In the said rules, after Schedule IV, the following Schedule shall be inserted, namely:—

“**SCHEDULE V**

[see rule 19A(2)]

FORMAT FOR SUBMITTING PROPOSAL FOR AUCTION OF AN AREA FOR GRANT OF EXPLORATION LICENCE

To,
The Director,
Mining and Geology Department,
Government of ___ [mention name of State Government]

Madam/ Sir,

Under the provision of sub-rule (2) of rule 19A of the Mineral (Auction) Rules, 2015, I/we am/are submitting the following details and other particulars of the area for consideration of the State Government to auction exploration licence in respect of the area. It is submitted that I/we intend to participate in auction of exploration licence in respect of the said area.

1. Name and Address of the Applicant

(a)	Name:	
(b)	Postal address:	
(c)	Telephone Number (Office):	
(d)	Fax number (Office):	
(e)	Mobile No.:	
(f)	Telephone Number (Residence):	
(g)	E-Mail address:	

2. Location Details of the Area Proposed for Auction

(a)	State	
(b)	District (s)	
(c)	Nearby Village(s)	
(d)	Survey of India (SOI) Toposheet (s) No.	
(e)	Area in sq. km	
(f)	Boundary coordinates of the proposed block (in Decimal degree)	

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3. Mineral Potential of the Area

(a)	Name of Mineral(s) identified/ expected in the area/ block	
(b)	Basis on which mineral potential in the area has been identified	
(c)	List of documents and references relied upon in support of item (b) above.	

4. Documents to be enclosed with the application

- i) Location of the proposed block demarcated on Survey of India (SOI) Toposheet No.
- ii) Documents mentioned in item 3(c) above.

Place:

Date:

Signature of Applicant”.

[F. No. M.VI-1/3/2023-Mines VI]

Dr. VEENA KUMARI DERMAL, Jt. Secy.

Note:— The principal rules were published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i), *vide* number G.S.R. 406(E), dated the 20th May, 2015 and lastly amended, *vide* number G.S.R. 648(E), dated the 1st September, 2023.



रजिस्ट्री सं. सी.एन.- 33004/99

REGD. No. D. L.-33004/99


भारत का राजपत्र
The Gazette of India

सी.जी.-एम.एच.-अ.-02022022-233069
CG-MH-E-02022022-233069

असाधारण
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 399]
No. 399]

नई दिल्ली, मंगलवार, फरवरी 1, 2022/माघ 12, 1943
NEW DELHI, TUESDAY, FEBRUARY 1, 2022/ MAGHA 12, 1943

MINISTRY OF MINES
(INDIAN BUREAU OF MINES)

ORDER

Nagpur, the 24th January, 2022

S.O. 414(E).—In pursuance of Section 18 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) read with sub-rule (1) of Rule 24 of Mineral Conservation and Development Rules 2017, the final mine closure plan document shall be accompanied by a non-refundable fee of rupees twenty five thousand only per square kilometers of the entire or part area of the mining lease for which such mine closure plan has been submitted to the Indian Bureau of Mines for approval.

This order shall come into force with immediate effect from the date of notification in the Official Gazette of India.

[F. No. T-43010/CGBM/2017]

SANJAY LOHIYA, Controller General (I/C)

654 GI/2022

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REGD. No. D. L.-33004/99


भारत का राजपत्र
The Gazette of India

सी.जी.-डी.एल.-अ.-11042022-235040
CG-DL-E-11042022-235040

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 280] नई दिल्ली, सोमवार, अप्रैल 11, 2022/चैत्र 21, 1944
No. 280] NEW DELHI, MONDAY, APRIL 11, 2022/CHAITRA 21, 1944

MINISTRY OF MINES
NOTIFICATION

New Delhi, the 11th April, 2022.

G.S.R. 294(E).—In exercise of the powers conferred by section 18 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following rules further to amend the Mineral Conservation and Development Rules, 2017, namely:—

1. (1) These rules may be called the Mineral Conservation and Development (Amendment) Rules, 2022.
(2) They shall come into force on the date of their publication in the Official Gazette.
2. In the Mineral Conservation and Development Rules, 2017, in Schedule-I,—
(a) in Form F1 and Form G1, in the table under the sub-heading “@Grades of ROM ore dispatched:”, for the rows titled “Iron Ore” and the corresponding entries relating thereto, the following shall respectively be substituted, namely:—

MINERAL	GRADES
Iron ore	(a) Below 45% Fe ROM (For Magnetite Ore only)
	(b) 45% to below 51% Fe ROM
	(c) 51% to below 55% Fe ROM
	(d) 55% to below 58% Fe ROM
	(e) 58% to below 60% Fe ROM
	(f) 60% to below 62% Fe ROM
	(g) 62% to below 65% Fe ROM
	(h) 65% and above Fe ROM”;

2582 GI/2022

(1)



34th Mines Environment & Mineral Conservation Week, 2023-24



2

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

(b) in Form F1, Form G1, Form L and Form M,—

(i) in the table under the sub-heading “**Grades of minerals to be reported in the above tables are as given below. (If separate grades are not mentioned below, report the mineral name against grade):”, for the rows titled “Iron Ore” and the corresponding entries relating thereto, the following shall be substituted, namely:—

“MINERAL	GRADES
Iron ore	(i) Lumps:
	(a) Below 45% Fe (For Magnetite Ore only)
	(b) 45% to below 51% Fe
	(c) 51% to below 55% Fe
	(d) 55% to below 58% Fe
	(e) 58% to below 60% Fe
	(f) 60% to below 62% Fe
	(g) 62% to below 65% Fe
	(h) 65% and above Fe
	(ii) Fines:
	(a) Below 45% Fe (For Magnetite Ore only)
	(b) 45% to below 51% Fe
	(c) 51% to below 55% Fe
	(d) 55% to below 58% Fe
	(e) 58% to below 60% Fe
	(f) 60% to below 62% Fe
	(g) 62% to below 65% Fe
	(h) 65% and above Fe
	(iii) Concentrates
	(iv) Calibrated Lump Ore (CLO) <i>(Quantity already reported in Lumps should not be reported against CLO)</i>
	(a) Below 62% Fe (CLO any size)
	(b) 62% to below 65% Fe (5-18 mm size CLO)
	(c) 62% to below 65% Fe (10-40 mm size CLO)
	(d) 62% to below 65% Fe (CLO others)
	(e) 65% and above Fe (5-18 mm size CLO)
	(f) 65% and above Fe (10-40 mm size CLO)
	(g) 65% and above Fe (CLO others)”.



34th Mines Environment & Mineral Conservation Week, 2023-24



[भाग II—खण्ड 3(i)]

भारत का राजपत्र : असाधारण

3

(ii) at the end of the table, the following Note shall be inserted, namely:—

Note.— Any kind of Hematite Iron Ore below 45% Fe, but above threshold value, shall be included in the grade slab of ‘45% to below 51% Fe’.

[F. No. M.VI-16/130/2021-Mines VI]

Dr. VEENA KUMARI DERMAL, Jt. Secy.

Note : The Mineral Conservation and Development Rules, 2017 were published in the Gazette of India, Part II, section 3, sub-section (i) *vide* number G.S.R. 169(E), dated the 27th February, 2017 and lastly amended *vide* number G.S.R 780(E), dated 3rd November, 2021.



रजिस्ट्री सं. डी.एच.- 33004/99

REGD. No. D. L.-33004/99


सत्यमेव जयते

भारत का राजपत्र The Gazette of India

सी.जी.-एम.एच.-अ.-20022023-243746
CG-MH-E-20022023-243746

असाधारण
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)

प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 689]	नई दिल्ली, बृहस्पतिवार, फरवरी 16, 2023/माघ 27, 1944
No. 689]	NEW DELHI, THURSDAY, FEBRUARY 16, 2023/MAGHA 27, 1944

MINISTRY OF MINES
(Indian Bureau of Mines)

ORDER

Nagpur, the 14th February, 2023

S.O. 719(E).—In exercise of the powers conferred under rule 58 of the Mineral Conservation and Development Rules, 2017 and with the previous approval of the Central Government in the Ministry of Mines, the Controller General, Indian Bureau of Mines hereby directs all the holders of mining lease and the preferred bidders who are issued with a letter of intent for grant of a mining lease to submit a copy of the digital aerial images which they submit to Indian Bureau of Mines under rule 34A of the said rules to the State Government also within the time specified in rule 34A of the said rules.

2. This order shall come into force on the date of its publication in the Official Gazette.

[F. No. 285-A047/1/2022-GM and MM-IBM-HQ]

SANJAY LOHIYA, Controller General (I/C)

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रजिस्ट्री सं. डी.एल.- 33004/99

REGD. No. D. L.-33004/99


सत्यमेव जयते
भारत का राजपत्र
The Gazette of India

सी.जी.-एम.एच.-अ.-16052023-245892
CG-MH-E-16052023-245892

असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (ii)
PART II—Section 3—Sub-section (ii)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 2092]
No. 2092]

नई दिल्ली, मंगलवार, मई 16, 2023/वैशाख 26, 1945
NEW DELHI, TUESDAY, MAY 16, 2023/VAISAKHA 26, 1945

MINISTRY OF MINES
(Indian Bureau of Mines)
ORDER

Nagpur, the 12th May, 2023

S.O. 2185(E).—Whereas, Ministry of Environment, Forest and Climate Change issued a notification S.O.5481(E) dated 31 December, 2021 mandating filling of fly ash in the mine voids and mixing of the same to the extent of 25% with the external dumps in all working leases located within 300 kms of radius from any Thermal Power Plant.

Whereas, a safety and feasibility study is required to be undertaken for all such operational mines with the due permissions from DGMS and other regulatory authorities.

Therefore, in pursuance to the Rule-58 of Mineral Conservation and Development Rules, 2017, it is hereby directed to undertake this study within a period of 60 days. It is further directed to submit a copy of the study report forthwith to the respective Regional Controller of Mines under whose jurisdiction the lease is located.

This order shall come into force on the date of its publication in the official gazette.

[F. No. M-11024(FLY)/1/2022-CCOM-MDR-IBM_HQ]
SANJAY LOHIYA, Controller General (I/C)

3146 GI/2023

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रजिस्ट्री सं. डी.एन.- 33004/99

REGD. No. D. L.-33004/99



भारत का राजपत्र The Gazette of India

सी.जी.-डी.एल.-अ.-21012024-251549
CG-DL-E-21012024-251549

असाधारण
EXTRAORDINARY

भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)

प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 45]

नई दिल्ली, रविवार, जनवरी 21, 2024/माघ 1, 1945

No. 45]

NEW DELHI, SUNDAY, JANUARY 21, 2024/MAGHA 1, 1945

MINISTRY OF MINES

NOTIFICATION

New Delhi the 21st January, 2024

G.S.R. 51(E).— In exercise of the powers conferred by section 18 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following rules further to amend the Mineral Conservation and Development Rules, 2017, namely:—

1. Short title and commencement.— (1) These rules may be called the **Mineral Conservation and Development (Amendment) Rules, 2024.**

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Mineral Conservation and Development Rules, 2017 (hereinafter referred to as the said rules), in rule 4,—

(i) for sub-rule (1), the following sub-rule shall be substituted, namely:—

“(1) Every holder of a reconnaissance permit or prospecting licence or the preferred bidder selected for grant of composite licence or exploration licence, shall submit to the Controller General or the authorised officer a scheme of reconnaissance or prospecting or both, as the case may be, within a period of ninety days from the date of execution of the permit or licence or issuance of letter of intent, indicating the manner in which he proposes to carry out the reconnaissance or prospecting operations or both in the area covered under the permit or licence.”;

(ii) in sub-rule (2), in the opening para, after the words “reconnaissance or prospecting”, the words “or both” shall be inserted.

3. In the said rules, in rule 5,—

(i) in sub-rule (1),—

(a) after the words “reconnaissance or prospecting”, the words “or both” shall be inserted;

(b) after the words “composite licence”, the words “or exploration licence” shall be inserted;

(ii) in sub-rule (2), after the words “composite licence”, the words “or exploration licence” shall be inserted;

(iii) after sub-rule (2), the following sub-rule shall be inserted, namely:—

“(3) In case of exploration licence, a modified scheme of reconnaissance or prospecting or both shall be submitted to the Controller General or the authorised officer after three years from the date of execution of the licence, indicating the manner in which the licensee proposes to continue the reconnaissance and prospecting operations in the area retained under the licence under sub-section (11) of section 10BA.”.

487 GI/2024

(1)

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34th Mines Environment & Mineral Conservation Week, 2023-24



2

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

4. In the said rules, in rules 6 and 7, after the words “composite licence”, the words “or exploration licence” shall respectively be inserted.

5. In the said rules, in rule 8,—

(i) in sub-rule (1), after the words “composite licence”, the words “or exploration licence” shall be inserted;

(ii) in sub-rule (2),—

(a) after the words “composite licence”, the words “or exploration licence” shall be inserted;

(b) after the words “prospecting operations”, occurring at both the places, the words “reconnaissance or prospecting operations” shall be substituted.

6. In the said rules, in rule 9,—

(i) in the marginal heading, after the words “composite licence”, the words “or exploration licence” shall be inserted;

(ii) for sub-rule (1), the following sub-rules shall be substituted, namely:—

“(1) Every holder of a reconnaissance permit or prospecting licence or composite licence or exploration licence shall submit to the Regional Controller or the authorised officer in this behalf, as the case may be, and to the State Government, a half-yearly report along with Form B of the Schedule-I as under, namely:—

(i) report of the operations undertaken from 1st January to 30th June or part period thereof to reach by 15th August of each year; and

(ii) report of operations undertaken from 1st July to 31st December or part period thereof to reach by 15th February of each year.

(1A) The exploration licensee shall, within three months of the completion of the operations for which licence has been granted, or from the date of expiry of the exploration licence, whichever is earlier, submit geological report to the State Government and to the Controller General or the authorised officer of the Indian Bureau of Mines, as the case may be, explaining the result of the reconnaissance and prospecting operations in the form of a geological report prepared under rule 5 of the Minerals (Evidence of Mineral Contents) Rules, 2015; identifying the area suitable for grant of a mining lease.”;

(iii) for sub-rule (3), the following sub-rule shall be substituted, namely:—

“(3) Every agency authorised under the second proviso to sub-section (1) of section 4 shall submit to the State Government and the authorised officer a half-yearly report along with Form B of the Schedule-I as per the stipulated period provided in sub-rule (1).”.

7. In the said rules, after rule 9, the following rule shall be inserted, namely:—

“9A. Restriction on disclosure of information, scheme and reports.— The holder of exploration licence shall not in any manner disclose the information, scheme and reports prepared under these rules or any other geological information related to reconnaissance or prospecting operations to any person other than the Government or authority specified in these rules or any other rules made under the Act, without prior approval of the Central Government.”.

8. In the said rules, in rule 11, in sub-rule (4), the following proviso shall be inserted, namely:—

“Provided that if the mining or mineral processing operations in a mine is discontinued for a period exceeding two hundred and seventy days before the expiry of a period of five years for which the mining plan was approved on the last occasion; and the holder of the mining lease has submitted prescribed notice to the authorised officer and the State Government under rule 28, the holder shall not be required to submit mining plan for review during the period of such temporary discontinuation, but shall submit the mining plan for review and obtain approval of the competent authority on the same before reopening of the mine.”.

9. In the said rules, in rules 12, 46, 47, 48, 50, 52, 53, 54, 55, 56, 59 and 64, after the words “composite licence”, wherever they occur, the words “or exploration licence” shall be inserted.

10. In the said rules, in rule 35, in sub-rule (2), after the first proviso, the following shall be inserted, namely:—

“Provided that if the mining or mineral processing operations in a mine is discontinued for a period exceeding one hundred and eighty days during the previous financial year; and the holder of the mining lease has submitted prescribed notice to the authorized officer and the State Government under rule 28, the holder shall not be required to submit the report and images for the said previous financial year.”.

11. In the said rules, in rules 36, 37, 41, 42 and 44, after the words “composite licence”, wherever they occur, the words “, exploration licence” shall be inserted.



34th Mines Environment & Mineral Conservation Week, 2023-24



[भाग II—खण्ड 3(i)]

भारत का राजपत्र : असाधारण

3

12. In the said rules, in rule 40, after the words “prospecting licence”, the words “, composite licence, exploration licence” shall be inserted.
13. In the said rules, in rule 56, in sub-rule (1), for the words “prospecting”, the words “reconnaissance or prospecting” shall be substituted.
14. In the said rules, in Schedule I,—
- in Form-A, Form-B, Form-H, Form-I, Form-J, Form-K and Form-N, after the words “composite licence”, wherever they occur, the words “or exploration licence” shall be inserted;
 - in Form-A, Form-B, Form-H and Form-I, for the words, “Mineral Conservation Development Rules, 2016”, the words and figures, “Mineral Conservation Development Rules, 2017” shall be substituted;
 - in Form-B, under the heading “IMPORTANT INSTRUCTIONS FOR FILLING THE FORM”, for the first instruction, the following instruction shall be substituted, namely:—
 “* This Form, duly filled in must reach the concerned authorities within the period specified in rules 9(1), 9(2) or 9(4), as the case may be.”;
 - in Form-H, in entry 11, in clause (ii), after the words and symbol “Prospecting Licence/” the words and symbol “Composite licence/exploration licence” shall be inserted.
15. In the said rules, for Schedule II and Schedule III, the following shall be substituted, namely:—

“SCHEDULE-II

[see rule 45(7A)]

AMOUNT TO BE PAID IN CASE OF VIOLATION UNDER RULE 45

Item (1)	Amount (in ₹) (2)	Explanation (3)
Non-submission or incomplete/wrong/false information in monthly returns in Form F1, F2, F3; by the due date	In case of leases having leased area up to 25 hectare and having per annum approved production capacity up to 2 lakh tonnes, ₹5,000/- per day after due date of submission of return as specified in the Rule till rectification of violation. For all other cases, ₹10,000/- per day after due date of submission of return as specified in the Rule till rectification of violation.	In case of referred back returns by Indian Bureau of Mines for incorporating necessary corrections, to be undertaken by the lease holder, and if corrected within the allotted time limit and accepted thereafter by the Indian Bureau of Mines, no amount will be payable for the intervening period for such corrections.
Non-submission or incomplete/wrong/false information in annual returns in Form G1, G2, G3; by the due date	In case of leases having leased area up to 25 hectare and having per annum approved production capacity up to 2 lakh tonnes, Rs. 5,000/- per day after due date of submission of return as specified in the Rule till rectification of violation. For all other cases, ₹10,000/- per day after due date of submission of return as specified in the Rule till rectification of violation.	Failure to rectify in such cases will attract the payment as specified.;
Non-submission or incomplete/wrong/false information in monthly returns in Form L; by the due date	₹5,000/- per day after due date of submission of return as prescribed in the Rule till rectification of violation.	
Non-submission or incomplete/wrong/false information in annual returns in Form M; by the due date	₹5,000/- per day after due date of submission of return as prescribed in the Rule till rectification of violation.	

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34th Mines Environment & Mineral Conservation Week, 2023-24



4

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

SCHEDULE-III [see rule 62(2)]

Rules whose contravention shall be punishable with fine

Rule No.	Marginal heading of the Rule	Amount of Fine for leases having leased area up to 25 hectare and having per annum approved production capacity up to 2 lakh tonnes (in ₹)	Amount of Fine for the cases other than those covered in column (3)(in ₹)
(1)	(2)	(3)	(4)
Sub-rule (4) of rule 11	Mining operations under mining lease	1,000/- per day, subject to maximum 5,00,000/-	2,000/- per day, subject to maximum 5,00,000/-
12	Prospecting and mining operations	1,00,000/-	5,00,000/-
18	Beneficiation studies to be carried out	1,00,000/-	5,00,000/-
19	Machinery and plant	1,00,000/-	5,00,000/-
20	Notice for opening of mine	1,00,000/-	5,00,000/-
23	Submission of progressive mine closure plan	1,00,000/-	5,00,000/-
28	Notice of temporary discontinuance of work in mines and obligations of lease holders	1,00,000/-	5,00,000/-
29	Intimation of reopening of a mine	1,00,000/-	5,00,000/-
46	Notice of certain appointments	1,000/- per day, subject to maximum 1,00,000/-	2,000/- per day, subject to maximum 1,00,000/-
51	Notice of amalgamation of mining lease	1,000/- per day after due date as prescribed in the Rule, subject to maximum 1,00,000/-	2,000/- per day after due date as prescribed in the Rule, subject to maximum 1,00,000/-
55	Employment of geologists and mining engineers	1,00,000/-	5,00,000/-

[F. No. M.VI-1/3/2023-Mines VI (Part2)]

Dr. VEENA KUMARI DERMAL, Jt. Secy.

Note:—The principal rules were published in the Gazette of India, Part II, section 3, sub-section (i) vide number G.S.R. 169(E) dated the 27th February, 2017 and lastly amended vide number G.S.R. 294(E), dated the 11th April, 2022.

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REGD. No. D. L-33004/99

भारत का राजपत्र
The Gazette of India

सी.जी.-डी.एल.-अ.-21012024-251546
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असाधारण
EXTRAORDINARY
भाग II—खण्ड 3—उप-खण्ड (i)
PART II—Section 3—Sub-section (i)
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

सं. 46] नई दिल्ली, रविवार, जनवरी 21, 2024/माघ 1, 1945
No. 46] NEW DELHI, SUNDAY, JANUARY 21, 2024/ MAGHA 1, 1945

MINISTRY OF MINES
NOTIFICATION

New Delhi the 21st January, 2024

G.S.R. 52(E).—In exercise of the powers conferred by section 13 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following rules further to amend the Minerals (Evidence of Mineral Contents) Rules, 2015, namely:—

1. Short title and commencement.— (1) These rules may be called the Minerals (Evidence of Mineral Contents) Amendment Rules, 2024.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Minerals (Evidence of Mineral Contents) Rules, 2015 (hereinafter referred to as the said rules), in rule 2, in clause (iii), after the words and brackets "(67 of 1957)", the words "having grade equal to or more than the threshold value as specified and notified under the Atomic Minerals Concession Rules, 2016" shall be inserted.

3. In the said rules, in rule 5, —

(i) in the marginal heading, after the word and figures "section 11", the words, figures and letter "or section 11D" shall be inserted.

(ii) in the opening portion, after the word and figures "section 11", the words, figures and letter "or section 11D" shall be inserted.

488 GI/2024

(1)



34th Mines Environment & Mineral Conservation Week, 2023-24



2

THE GAZETTE OF INDIA : EXTRAORDINARY

[PART II—SEC. 3(i)]

4. In the said rules, in rule 7,—

(i) in sub-rule (1), after the word and figures “section 11”, the word, figures and letter “or section 11D” shall be inserted;

(ii) in sub-rule (1A), the following proviso shall be inserted, namely:—

“Provided that in respect of any mineral specified in the Part D of the First Schedule to the Act, the proposal shall be submitted to the Central Government.”;

(iii) in sub-rule (1B), the following proviso shall be inserted, namely:—

“Provided that in respect of any mineral specified in Part D of the First Schedule to the Act, in order to identify mineral potentiality of a block based on the available geoscience data where resources are yet to be established as referred in clause (a) of sub-rule (1), including in any block proposed by any person under the sub-rule (1A), the Central Government shall place it before a committee consisting of the following members, namely:—

(a) Additional Secretary or Joint Secretary in the Ministry of Mines, Government of India – Chairman;

(b) Deputy Director General of the State Unit of Geological Survey of India of the State concerned – Member;

(c) Principal Secretary or Secretary in the Mining and Geology Department of State Government (by whatever name called) or his representative – Member;

(c) Director (Technical), Ministry of Mines, Government of India - Member Secretary.”;

(iv) in sub-rule (1D), after the words “State Government”, occurring at both the places, the words “or the Central Government, as the case may be” shall be inserted.

3. In the said rules, in Schedule III,—

(i) after the words and brackets “Government of ___ [mention name of State Government]”, the following shall be inserted, namely:—

“OR

To,

The Director (Technical),

Ministry of Mines,

Government of India,

Shastri Bhawan, New Delhi – 110001.

[*strike-out whichever is not applicable*];

(ii) after the words “for consideration of the State Government”, the words, letter and brackets “/ the Central Government [*strike-out whichever is not applicable*]” shall be inserted.

[F. No. M.VI-1/3/2023-Mines VI (Part3)]

Dr. VEENA KUMARI DERMAL, Jt. Secy.

Note:- The Principal Rules were published in the Gazette of India, Part II, Section 3, Sub-section (i), *vide* number G.S.R.304(E), dated the 17th April, 2015 lastly amended, *vide* number G.S.R. 856 (E), dated the 14th December, 2021.



Guidelines for disposal of applications under Rule 12(1)(k) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016

- (i) Formats for submission of application to the State Government and format prescribed for State Government for furnishing their comments are attached herewith.
- (ii) RCOM/OIC shall submit his recommendations to the concerned Controller of Mines or OIC of the Zonal Office as per the territorial jurisdiction, on the application after examining the facts furnished by the applicant/comments as submitted by the concerned State Government.
- (iii) Controller of Mines or OIC of the Zonal Office shall dispose the application submitting final recommendations of IBM to the concerned State Government endorsing a copy to the RCOM/OIC, and to the CCOM.
- (iv) During examination and disposal of all applications under Rule 12(1)(k) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016, Controller of Mines **shall not agree** to disposal of mineral below threshold value, if the intended use is for any of the purpose by reason of which use it can be called a mineral other than minor mineral. Because, if the intended use is as a mineral other than minor mineral, then instead of seeking permission under Rule 12(1)(k), the lessee should produce and dispatch such mineral in normal course of mining and reflect the same in mining plan as well as monthly and annual returns.
- (v) In case the lessee applies to dispose mineral below threshold value and mentions its use as a minor mineral, an undertaking may be taken from the lessee that the lessee or the person to whom such mineral is disposed, shall not use it for any of the purpose by reason of which use it can be called a mineral other minor mineral.
- (vi) Any application received in IBM shall be disposed within a period of 30 days from its receipt.
- (vii) Any person aggrieved by any order made or direction issued in respect of the applications received under Rule 12(1)(k) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016, by the State Government, may apply for the revision of order or directions as prescribed under Rule 35 of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.



Annexure I

Format of the Application to be submitted to the State Government concerned (for the cases of major mineral proposed to be used as minor mineral)

(To be submitted in three copies)

1. **Lease details-**
 - a. Name of Mine (with location details)
 - b. Name of the Mine owner/Lessee.....
 - c. Date of Execution of lease.....
 - d. Period of the lease: From.....To.....
 - e. Name of the mineral granted in the lease and furnished in lease deed 1)2).....3).....
 - f. Name of the minerals being mined from the lease area
1)..... 2)..... 3)..... 4).....
2. **Details of approved Mining Plan/Review of Mining Plan/Modification in approved mining plan**
 - a. Date of approval of Mining Plan.....
 - b. Date of approval of Modification in approved mining plan/Review of Mining Plan (last approved).....
 - c. Name of the minerals for which Mining Plan/Modification in approved mining plan/Review of mining plan has been approved.....
 - d. Proposed end use of the mineral as furnished in the approved Mining Plan/Modification in approved mining plan /Review of Mining Plan.....
 - e. User specifications of the minerals, as furnished in the approved Mining Plan/Modification in approved mining plan/Review of Mining Plan.....
 - f. Name of the minerals/rocks available within the lease.....
 - g. Details of overburden/ interburden/sideburden/ & mineral rejects available in the lease.....
3. **Name of Mineral (as mentioned in lease deed) intended to being used as minor mineral.....**
4. **Total proposed quantity (in tonnes)of mineral to be used as minor mineral(location to be given on surface plan).....**
5. Detailed chemical analysis report of the mineral (for all the radicals) proposed to be used as minor mineral from an NABL accredited laboratory/Government laboratory.....



34th Mines Environment & Mineral Conservation Week, 2023-24



6. Reasons for not being used as a mineral other than a minor mineral [Tick the appropriate reason]

- a) Mineral being chemically sub-grade material which is below the acceptable limits of users specifications
- b) Material of different physical characteristics not acceptable to the market
- c) Material of sizes other than required by the industry
- d) Material containing deleterious constituents
- e) Combination of the above

7. Use of Mineral being proposed to be disposed off as minor mineral.....

8. Mineral wise production and dispatches data:

(a) Mineral wise Production data as per annual returns furnished to IBM, under Rule 45 of MCDR, 2017 for the last five years

S. No.	Year	ROM(t) Production	Graded	Sub-grade	Reject	Remarks

(b) Mineral wise Dispatch data as per annual returns furnished under Rule 45 of MCDR, 2017, for the last five years

S. No.	Year	Dispatches	Grade	User Industries

(c) Cutoff grade of the Mineral.....

(d) Threshold value (if prescribed) of those minerals proposed to be used as minor mineral.....



9. Mineral wise unsold Stack within mining lease as shown on Surface Plan

Stack No./ID	ROM fractions [Tick the appropriate one]		Location within lease# (grid /Co-ordinates)	Area covered (in hect.)	Volume (in cum)	Bulk density (t/cum)	Tonnage (Vol*B.D.)	Grade (*)	Reasons for non-marketing
	Graded/clean ore	Subgrade/Non-Saleable grade mineral (below Cutoff grade and above threshold value, if prescribed)/ Mineral Rejects							

(*Please enclose analysis certificate from NABL accredited laboratory.)

(# details of such stacks to be listed out separately in a spreadsheet as an Annexure and location of all such stacks to be shown on surface plan duly signed by the authorize signatory, which is to be attached with proposal.)

(#The Surface Plan should indicate-

- a. Date of Survey,
- b. Location: Location and quantity of material/dumps of ROM, non-salable/non-marketable, sub-grade, mineral reject, designated with symbols, tonnages and grade,
- c. Colour code showing stacks/ dumps (with tonnages) intended for seeking permission for use as minor mineral.)

10. Proposed Year wise disposal of the applied stocks:

Year	Stack number/ID	Quantity to be disposed (in tons.)	Grade	Proposed Use



11. **Beneficiability**

- (a) Whether the mineral proposed to be disposed of, can be blended with high grade ore or economically beneficiated (study report to be enclosed) and sold as major mineral. If no then justify.
- (b) Whether the mineral proposed to be disposed of, is beneficiable. If no, then enclose a copy of beneficiation report as may be available.

Signature.....

Name in full:.....

Designation: Owner/Agent/Mining Engineer/Geologist/Manager



Annexure-II

Report of State Government

(After due verification)

The report should address and include the following;

1. Stock measurement and verification report on the number of stacks of Major minerals sought for its use as minor mineral, its location, tonnage and grade. The grade verification can be done from a Government laboratory or an NABL accredited laboratory.
2. Verification certificate issued by the competent authority of State Government for the mineral proposed to be used as minor mineral, based on the stock measurement exercise.
3. Recommended year wise disposal of stock(attach separate sheet)
4. Authentication of Surface Plan submitted under item 8 by the competent authority of State Government.
5. Attach a copy of Annexure-I as submitted by the lessee.
6. Recommendation of the State Government, including the specified period for the use of mineral as minor mineral depending upon the total available stock and its proposed dispatches; to be sent to IBM for consultation.
7. Recommendation of State Government on marketability of the mineral duly supported by financial analysis.

Signature.....

Name in full:

Designation of State Authority.....



Annexure-III

Format of the Application to be submitted to the State Government concerned (for the cases of overburden or the waste rock or the mineral below the threshold value, which is generated during the course of mining or beneficiation of the mineral; or any minor mineral extracted along with the mineral for which lease is granted)

(To be submitted in three copies)

1. Lease details-

- a. Name of Mine (with location details).....
- b. Name of the Mine owner/Lessee.....
- c. Date of Execution of lease.....
- d. Period of the lease: From.....To.....
- e. Name of the mineral granted in the lease and furnished in lease deed 1)2).....3).....
- f. Name of the minerals being mined from the lease area
1).....2).....3).....4).....

2. Details of approved Mining Plan/Modification in approved mining plan/Review of Mining Plan

- a. Date of approval of Mining Plan.....
- b. Date of approval of Modification in approved mining plan/ Review of Mining Plan (last).....
- c. Name of the minerals for which Mining Plan/Scheme of Mining/Review of Mining Plan has been approved.....
- d. Proposed end use of the mineral as furnished in the approved Mining Plan/Modification in approved mining plan /Review of Mining Plan.....
- e. User specifications of the minerals, as furnished in the approved Mining Plan/Modification in approved mining plan /Review of Mining Plan.....
- f. Name of the minerals/rocks available within the lease.....
- g. Details of overburden/ interburden/sideburden/mineral below the threshold value/minor mineral available in the lease.....



34th Mines Environment & Mineral Conservation Week, 2023-24



3. Type of Material intended to be disposed(overburden/ the waste rock/ the mineral below the threshold value/ any minor mineral extracted along with the mineral for which lease is granted).....
4. Total proposed quantity (in tonnes) of material to be disposed (location to be given on surface plan).....
5. Detailed chemical analysis report of the material (for all the radicals) proposed to be disposed (from an NABL accredited laboratory/Government laboratory).....
6. Threshold Value of the mineral (if disposal of mineral below threshold value is proposed)
7. **Material wise Stack within mining lease as shown on Surface Plan**

Stack No. /ID	Type of Stack Overburden/Waste Rock/Mineral below threshold value/ any minor mineral extracted along with the mineral for which lease is granted	Location Within lease# (grid / Co-ordinates)	Area covered (in hect.)	Volume (in cum)	Bulk density (t/cum)	Tonnage (Vol*B.D.)	Grade(*)

(*Please enclose analysis certificate from NABL accredited laboratory.)

(# details of such stacks to be listed out separately in a spreadsheet as an Annexure and location of all such stacks to be shown on surface plan duly signed by the authorized signatory, which is to be attached with proposal.)

(#The Surface Plan should indicate-

- a. Date of Survey,
- b. Location: Location and quantity of overburden/ waste rock/ mineral below the threshold value/ any minor mineral extracted along with the mineral for which lease is granted, designated with symbols, tonnages and grade,
- c. Colour code showing stacks/ dumps (with tonnages) intended for permission for use as minor mineral.)

7A. Intended use of overburden or waste rock or mineral below Threshold value

.....
.....

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8. Proposed Year wise disposal of the applied stocks:

Year	Stack number/ID	Quantity to be disposed (in ton.)	Grade	Proposed Use

Signature.....

Name in full:.....

Designation: Owner/Agent/Mining Engineer/Geologist/ Manager

Annexure-IV

Report of State Government
(After due verification)

The report should address and include the following:

1. Stock measurement and verification report on the number of stacks/dumps of materials proposed for its disposal, its location, tonnage and grade. The grade verification can be done from a Government laboratory or an NABL accredited laboratory.
2. Verification certificate issued by the competent authority of State Government for the material proposed to be disposed.
3. Recommended year wise disposal of stock(attach separate sheet)
4. Authentication of Surface Plan submitted by the lease holder under item 7, by the competent authority of State Government.
5. Attach a copy of Annexure-III as submitted by the lessee.
6. Recommendation of the State Government, including the specified period for the disposal of material depending upon the total available stock; to be sent to IBM for consultation.

Signature.....

Name in full:.....

Designation of State Authority.....



34th Mines Environment & Mineral Conservation Week, 2023-24



भारत सरकार

GOVERNMENT OF INDIA

खान मंत्रालय

MINISTRY OF MINES

भारतीय खान ब्यूरो

INDIAN BUREAU OF MINES



**Standard Operating Procedures under sub rule (5)
of rule 34A of MCDR, 2017 for carrying out Drone
Survey and submission of Digital Aerial (Drone &
Satellite) Images of Mining areas to Indian
Bureau of Mines**

Nagpur

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Standard Operating Procedures under sub rule (5) of rule 34A of MCDR, 2017 for carrying out Drone Survey and submission of Digital Aerial (Drone & Satellite) Images of Mining areas to Indian Bureau of Mines

Contents

Introduction	3
PART-I	6
Standard Operating Procedure for carrying out Drone Survey and submission of digital images to Indian Bureau of Mines.	6
(See sub rule (1) and (5) of Rule 34A of Mineral Conservation & Development Rules, 2017.	6
1. Drone Agency Registration and Permissions.....	6
2. Drone Specification.....	6
3. Sensor/Camera Specification and out put data resolution:	6
4. Drone flying path and flying height:.....	6
5. Survey Area:	7
6. Ground Control Points (GCPs) for Drone Survey:.....	7
7. Drone Survey Time.....	7
8. Co-ordinate Reference system.....	8
9. Preservation of Raw and Processed Data.....	8
10. Data output and formats	8
11. Submission of Data to IBM	10
Standard Operating Procedure for submission of Satellite Imageries to Indian Bureau of Mines.	13
(See sub rule (2) of Rule 34A of Mineral Conservation & Development Rules, 2017.	13
1. Satellite image specification.....	13
2. Ground Control Points (GCP) for Satellite image	13
3. Procurement of Satellite image	13
4. Co-ordinate Reference system.....	14
5. Data output and formats	14
6. Submission of Data to IBM	15



Introduction

To leverage the use of technology, it has been proposed to use a combination of digital aerial (Drone and satellite) images to monitor mining activities in the country.

The digital aerial images as an emerging technology is increasingly being used in agriculture, environmental, geology, mining, town planning and forestry applications and other applications.

Through Satellite imagery, one can view the activities that took place on the ground without human interventions. This can be applicable to the mining sector and mining activities can be monitored through the space. Based on the time series satellite imageries for different periods, change detection study in the mining activities of a mine could be studied mainly pertaining to lateral changes in a broad view. Volumetric calculations can also be done based on stereo pair satellite imageries with certain degree of error.

Drone, typically operate at much lower altitudes as compared to satellites and are also able to provide unique data with regard to spatial resolution and angle of view. Compared to satellite images, drone images can provide lower ground sample distances (GSD) or higher spatial resolutions on the ground.

Drone technology can be extensively applied in the mining sector, i.e. for

- i. Carrying out overall survey of mine for monitoring the mining and allied activities in and around the mining area.
- ii. Lease boundary demarcation using the Ground Control Points (GCPs) and geo-referencing of the leases, monitoring of illegal mining activities etc.
- iii. Volumetric estimation of excavation, reclamation and periodical stock piles monitoring.
- iv. Change detection analysis over a period of time using previously surveyed data.
- v. Monitoring of land use and environmental impact in and around mining area.
- vi. Virtual inspection of mines for regulatory purpose.
- vii. Preparation of contour survey and survey map for filing to various regulatory agencies as well internal use of the industry.

The advantages of Drone Survey are

- (i) Drone Survey in mining improve the overall efficiency of large mine site and quarry management by providing accurate and comprehensive data detailing site conditions in a very short time.
- (ii) The data accuracy and authenticity is better than the traditional survey.



- (iii) High resolution (cm level) data of Drone provides high accuracy and more precise volumetric measurements than traditional surveying methods.
- (iv) Stockpiles of irregular shape and exhibiting craters can be easily surveyed with great precision than using traditional methods.
- (v) Drone Survey is faster, less human intervention in mine and easily-repeatable mining surveys at low cost.
- (vi) Changes between two surveys can be tracked and highlighted automatically.
- (vii) Drone aerial images can be used to generate point clouds, digital surface models, digital terrain models and a 3D reconstruction of a mining site, including its stockpiles.
- (viii) Helps in creating a digital data base which can be used and retrieved at ease and compared.
- (ix) Data generated over a period of time can be stored in digital platform and the time series data can be compared. The data can be used for systematic and scientific mine closure planning, monitoring of reclamation, rehabilitation activities in lease area.

With the above objectives in view, Government of India, Ministry of Mines has amended Mineral Conservation and Development Rules (MCDR), 2017 in the year 2021 requiring submission of digital images by the lessee/ preferred bidders to the IBM. The provisions of rule 34A of MCDR are as follows:

“Rule 34A —(1) Every lessee having—

- (a) an annual excavation plan of one million tonne or more in a particular year; or
- (b) leased area of fifty hectare or more,

shall carry out a drone survey of the leased area and upto hundred metres outside the lease boundary in the month of April or May every year and submit the processed output [digital elevation model (DEM) and Orthomosaic] images obtained from such survey or any other format as may be specified by Indian Bureau of Mines to the Controller General, Indian Bureau of Mines on or before 1st day of July every year:

(2) Every lessee, other than those covered under sub-rule (1), shall submit soft copy of high resolution Georeferenced Orthorectified Satellite images of the leased area and upto hundred metres outside the lease boundary taken in the month of April to June of every year, to the Controller General, Indian Bureau of Mines on or before 1st day of July of the that year in the standards formats such as GEOTIFF along with metadata, or any other format as may be specified by Indian Bureau of Mines in this regard:

Provided that the lessee who has submitted images under sub-rule (3) shall not be required to submit the images under this sub-rule for the year in which images are submitted under sub-rule (3).



(3) Every lessee shall carry out a drones survey of his leased area and upto hundred metres outside the lease boundary within six months before submission of any mining plan document or modification thereto to the Indian Bureau of Mines for approval and shall submit processed output [digital elevation model (DEM) and Orthomosaic] images obtained from such survey to the concerned Regional Controller of Mines and the Controller General, Indian Bureau of Mines along with the application for approval or modification of mining plan:

Provided that the lessee who has submitted the images under sub-rule (1) on or before the 1st day of July falling immediately before submission of mining plan document, shall not be required to submit the same under sub-rule (3).

(4) All preferred bidders who are issued with a letter of intent for grant of a mining lease shall carry out a drone survey of the mining block granted through auction and upto hundred metres outside the block boundary and submit the processed output [digital elevation model (DEM) and Orthomosaic] images obtained from such survey along with the mining plan to the Regional Controller and the Controller General, Indian Bureau of Mines.

(5) The standard operating procedure for carrying out the drone survey and form of the data to be submitted shall be specified by Indian Bureau of Mines from time to time:

Provided that the Indian Bureau of Mines may prescribe any alternate mechanism for survey and submission of data or images other than the mechanism specified in sub-rules (1) to (4), in case of any restriction on use of drones under any law for the time being in force regulating the use of drones”.

Accordingly the following standard operating procedure is proposed to be followed for carrying out drone survey and submission of digital aerial images and satellite imageries to IBM by the mineral concession holders.



PART-I

Standard Operating Procedure for carrying out Drone Survey and submission of digital images to Indian Bureau of Mines.

(See sub rule (1) and (5) of Rule 34A of Mineral Conservation & Development Rules, 2017.

1. Drone Agency Registration and Permissions

Registration with IBM is not required for taking up the drone survey in mining areas. Drone Agencies desirous to undertake mine surveys shall adhere to all the rules, regulation, guidelines etc. notified by Directorate General of Civil Aviation (hereafter referred as DGCA) from time to time. Drone Survey must be conducted as per rules prescribed by the Ministry of Civil Aviation.

The survey may also be carried out by lessee themselves by following all the applicable rules and guidelines as mentioned above.

Prior to flying of Drone, the lessee shall check the airspace map published by DGCA in the given link <https://digitalsky.dgca.gov.in/airspace-map/> or published by DGCA from time-to-time and shall obtain necessary DGCA permission prior to flying in Red and Yellow zones.

2. Drone Specification

Drones used for the survey should be DGCA approved and should possess mandatory safety features as notified by DGCA from time to time.

3. Sensor/Camera Specification:

The camera used in the Drone should be of minimum 20 mega pixel or above resolution RGB camera with capability to capture high quality undistorted pictures. Camera should have the resolution to capture the images less than 5 cm Ground Sample Distance (GSD) or 5 cm per pixel.

4. Drone flying path and flying height:

In order to ensure the generation of a height model photogrammetrically (e.g. Digital Surface or Digital Terrain model, DSM & DTM), images should be acquired with proper overlap. The Drone survey should be planned in such a way that the forward (front) overlap should be minimum 80% and lateral (side) overlap should be minimum 70%.

The Flying Height of the Drone should be as per DGCA prescribed limits, however, the resolution of the Drone image should be very high i.e. up to 5cm GSD or 5cm per pixel or better. Camera angle nadir direction should be vertically downwards (90-degree angle) while carrying out survey.



5. Survey Area:

The survey should cover the entire mining lease area capturing all mining, allied activities and **100m** beyond periphery of the mine lease boundary to monitor the environmental impact and ascertaining any excavation therein. The flight path plan & the numbers of flights taken to cover the entire area shall be provided to IBM along with the output data. For leases having common mine boundary, the survey may be limited up to the lease boundary for the sides where the lease shares common boundary with another lease.

6. Ground Control Points (GCPs) for Drone Survey:

Before undertaking Drone Survey, the following points to be taken care of while establishing GCPs.

- a. Each mine must establish at least five GCPs per sq. km. of lease area or part thereof with calibrated/certified DGPS instrument; e.g. If the lease area is 478Ha, minimum GCP's required is 24 nos. including three permanent GCPs.
- b. If the area is less than one sq. km. the minimum GCPs required shall be four nos.
- c. The GCPs should be well distributed within the lease area. All GCPs must be easily visible in the images obtained from Drone survey. The Dimensions of GCPs thus established should be minimum 50 cm by 50 cm (marked as X with high contrast colours on ground).
- d. At least three permanent GCP shall be placed at undisturbed locations within the lease area and has to be covered in the subsequent surveys to cross check the error in change detection and other analysis.
- e. The error of GCP should be less than 5 cm.
- f. The lease boundary pillars should not be considered as permanent ground control points.
- g. The part of lease area if covered with thick canopy where establishing GCPs are not possible, the number of GCPs required may be proportionately reduced and well distributed in the remaining lease area. Eg. If the lease area of 200 ha is covered with thick canopy out of 478Ha, then 14 GCPs including three permanent GCPs are required to be established in the remaining 278 ha area.

7. Drone Survey Time

In order to maintain consistency in quality of images, it is recommended to carry out the Drone survey in better light condition when the sun is overhead to minimise the shadows in photographs and it is also suggested to avoid partly cloudy days and high winds.



8. Co-ordinate Reference system

The Co-ordinate reference system to be used for acquiring the Drone survey images will be Geographic Coordinate System (GCS) with WGS84 Datum and Decimal Degrees / Degree Minute Seconds as units. The ortho-mosaic shall be submitted in the Universal Transverse Mercator (UTM) with WGS-84 datum and units as Meters. The GCPs survey data and boundary pillar coordinates data shall be submitted in latitude and longitude (Deg. Min. Sec.) and also in UTM format in WGS 84 datum. The precision of the data submitted in GCS with WGS84 Datum should be in the format as (DD MM SS.SSSSSS)”.

9. Preservation of Raw and Processed Data

As per rule 34A of MCDR 2017, Lessee shall submit processed output images obtained from drone survey to IBM. The lessee shall keep the raw and processed data of each survey in safe custody with them for a minimum period of five years and if at any stage the raw and processed data are required by IBM for verification purpose then the same will be made available to the IBM.

10. Data output and formats

The following data output will be provided by each lessee to IBM.

Sl. No.	Data type	Spatial Resolution/ Datum	Format
1.	Orthomosaic image of lease area including 100m buffer zone (single image).	≤ 5cm resolution in UTM WGS-84 datum	Geotiff
2.	Digital Elevation Model (3D): a. DSM including 100m buffer zone b. DTM including 100m buffer zone	≤ 15cm resolution in UTM WGS-84 datum	Geotiff
3.	a. Total GCPs DGPS Survey data (including permanent GCPs)	GCS WGS-84 datum and UTM WGS-84 datum	MS-Excel
	b. Permanent GCPs data		MS-Excel
	c. Plan of GCPs	UTM WGS-84 datum	.shp file in Point Geometry (along with associated files)
4.	RMSE Report	--	.txt/ .doc/ .pdf
5.	Map showing following features for the preceding	UTM WGS-84 datum	.shp file in Polygon Geometry (along



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	<p>financial year (i.e. if survey has been carried out in 2023 then map for only 2022-23 to be submitted)</p> <p>i) ML boundary ii) Actual excavation (mineral and waste) iii) Mineral storage iv) Sub-grade stack v) Overburden/Waste dump vi) Afforestation vii) Backfilled, reclaimed and rehabilitated area viii) Topsoil stack ix) Infrastructure (workshop, mine office, etc.) x) Roads xi) Railways xii) Tailing Pond xiii) Effluent Treatment Plant xiv) Mineral Separation Plant xv) Township area xvi) Others to specify (Green Belt area)</p> <p>Above mentioned applicable landuse data to be provided in a single shape file with proper nomenclature of features in attribute data of the shape file.</p>		with associated files)
6.	a. Lease boundary pillar co-ordinates(as per the lease deed document/LOI in case of preferred bidder)	GCS (lat/long format) and UTM WGS-84 Datum	MS-Excel
	b. Plan of Lease boundary pillar co-ordinates	GCS (lat/long format) and UTM WGS-84 Datum	.shp file in Point geometry (alongwith associated files) (Two Separate .shp files for GCS and UTM shall be submitted)
7.	Drone Survey log sheet	--	.doc/ pdf



11. Submission of Data to IBM

The processed output data of the drone survey as per Para 10 above shall be submitted in soft copy only in storage media (i.e. external hard disk/ pen drive) on or before 1st day of July every year along with the details of the survey carried out as per the format annexed to this SOP at the following addresses.

- (1) The Chief Mining Geologist, Indian Bureau of Mines,
GM&MM Cell, 1st Floor, A- Block
Indira Bhavan, Civil Lines,
Nagpur- 440001, Maharashtra
- (2) Respective Regional Offices
Indian Bureau of Mines
- (3) State Governments

Note: Before submission of the data to Indian Bureau of Mines/ State Government, lessee shall ensure that all the data submitted fully complies with the SOP.



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Annexure-I

Output data submission form for Drone survey for the year.....

Sl. No.	Particulars	Details
1.	Name of the Mine	
2.	Name of the lessee	
3.	Location of the mine (Village/taluka/District/State)	
4.	Total Lease Area (Ha)	
5.	Mine code	
6.	IBM Registration Number under rule 45 of MCDR, 2017	
7.	Mineral	
8.	Method of mining (Opencast/Underground)	
9.	Name of the Drone Agency	
10.	Remote Pilot license No.	
11.	Unique Identification Number (UIN No.) of Drone	
12.	Category of Remotely Piloted Aircraft (Nano/Micro/Small/Medium/Large)	
13.	Type of Drone (fixed wing/multi rotor) with specification	
14.	Survey Start Date and End Date and time (DD/MM/YYYY)	
15.	Name of the pilot and observation during the survey (if any)	
16.	Type of Sensor/camera used along with specification	
17.	Height of the flight (above ground level) and altitude (meter) of ground where Drone flew	
18.	Total Number of GCP's	
19.	Device used for the collection of GCP	
20.	Total RMSE (Root Mean Square Error)	
21.	Name of the Agency who have processed the output data	
22.	Software used for processing the data	



34th Mines Environment & Mineral Conservation Week, 2023-24



23.	Proposed excavation during the preceding year as per Mining Plan (in cu.m) (mineral and waste)	
24.	Actual excavation during the preceding year in cu.m (mineral and waste) as per Annual Return submitted to IBM	
25.	Data folder name and size	
26	UTM Zone considered in Projected Coordinate System	

I hereby declare that the information provided above and the output data submitted along with this Annexure are verified and are correct to my knowledge.

Date:

Place:

Signature

Name in full:

Designation: Owner/ Geologist/
Mining Engineer

Email ID:

Contact No.:



PART- II

Standard Operating Procedure for submission of Satellite Imagery to Indian Bureau of Mines.

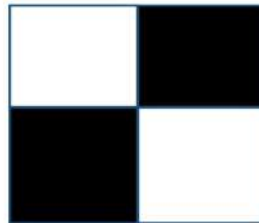
(See sub rule (2) of Rule 34A of Mineral Conservation & Development Rules, 2017.)

1. Satellite image specification

Satellite image to be submitted to IBM should be of high resolution preferably 1.12m or better, multispectral (RGB) and cloud free Geo-referenced Orthorectified satellite image covering the lease boundary with at least 100m buffer taken in the month of April to June of every year.

2. Ground Control Points (GCP) for Satellite image

For geo-referencing of satellite image, each mine shall establish at least 3 permanent GCP within the lease area with calibrated certified DGPS instrument. The GCP shall be marked in a cover free and open to sky place so that it can be identified in satellite image. The dimension of the GCP shall be 2.5 times the resolution of the satellite image so as to be clearly visible in the satellite image. For example: If the satellite image is having resolution of 1m then the dimension of GCP shall be 2.5m. The permanent GCPs can be established over the top of the mine office or some other permanent site within the mine clearly visible to sky.



Example of GCP marking

3. Procurement of Satellite image

The National Remote Sensing Centre (NRSC) of the Indian Space Research Organisation (ISRO)/DOS is vested with the authority to acquire and disseminate all satellite remote sensing data in India, both from Indian and foreign satellites. Lessee may approach NRSC to order the satellite images through User Order Processing System (UOPS) an online web application maintained by NRSC. Users can specify their area and period of interest along with the sensor and product selection. The url of NRSC website is <https://www.nrsc.gov.in>



4. Co-ordinate Reference system

The Co-ordinate reference system to be used for acquiring the satellite image will be Geographic Reference System with WGS84 Datum and Decimal Degrees / Degree Minute Seconds as units. The geo-referenced orthorectified satellite image shall be submitted in the Universal Transverse Mercator (UTM) with WGS-84 datum and units as Meters. The GCPs survey data and boundary pillar co-ordinates data shall be in latitude and longitude (Deg. Min. Sec.) and also in UTM format in WGS 84 datum.

5. Data output and formats

The following data output will be provided by each lessee to IBM

Sl. No.	Data type	Resolution/ Datum	Format
1.	Georeferenced Orthorectified satellite image of lease area including 100m buffer zone (single image).	≤ 1.12m resolution in UTM WGS-84 datum	Geotiff
2.	Meta data	--	.txt
3.	a. Permanent GCPs data	GCS WGS-84 datum and UTM WGS-84 datum	MS-Excel
	b. Plan of GCPs	UTM WGS-84 datum	.shp file in Point Geometry (along with associated files)
4.	RMSE Report	--	.txt/.doc/.pdf
5.	Map showing following features for the preceding financial year (i.e. if survey has been carried out in 2023 then map for only 2022-23 to be submitted) i) ML boundary ii) Actual excavation (mineral and waste) iii) Mineral storage iv) Sub-grade stack v) Overburden/Waste dump vi) Afforestation vii) Backfilled, reclaimed and rehabilitated area viii) Topsoil stack	UTM WGS-84 datum	.shp file in Polygon Geometry (along with associated files)



	ix) Infrastructure (workshop, mine office, etc.) x) Roads xi) Railways xii) Tailing Pond xiii) Effluent Treatment Plant xiv) Mineral Separation Plant xv) Township area xvi) Others to specify (Green Belt area) Above mentioned applicable landuse data to be provided in a single shape file with proper nomenclature of features in attribute data of the shape file.		
6.	a. Lease boundary pillar co-ordinates (as per the lease deed document/LOI in case of preferred bidder)	GCS (lat/long format) and UTM WGS-84 Datum	MS-Excel
	b. Plan of Lease boundary pillar co-ordinates	GCS (lat/long format) and UTM WGS-84 Datum	.shp file in Point geometry (along with associated files) (Two Separate .shp files for GCS and UTM shall be submitted)

6. Submission of Data to IBM

The high resolution orthorectified Satellite images shall be submitted in soft copy only in storage media (i.e. external hard disk/pen drive) on or before 1st day of July every year along with the details of the survey carried out as per the format annexed to this SOP at the following addresses.

- (1) The Chief Mining Geologist, Indian Bureau of Mines,
GM&MM Cell, 1st Floor, A- Block
Indira Bhavan, Civil Lines,
Nagpur- 440001, Maharashtra
- (2) Respective Regional Offices
Indian Bureau of Mines
- (3) State Governments

Note: Before submission of the data to Indian Bureau of Mines/ State Government, lessee shall ensure that all the data submitted fully comply with the SOP.



34th Mines Environment & Mineral Conservation Week, 2023-24



Annexure-II

Output data submission form for satellite image for the year.....

Sl. No.	Particulars	Details
1.	Name of the Mine	
2.	Name of the lessee, Address, Phone and email	
3.	Location of the mine (Village/taluka/District/State)	
4.	Total Lease Area (Ha)	
5.	Mine code	
6.	IBM Registration Number under rule 45 of MCDR, 2017	
7.	Mineral	
8.	Method of mining (Opencast/Underground)	
9.	Details of Satellite from which image has been taken	
10.	Date of acquisition of image	
11.	Total Number of GCP's	
12.	Device used for collection of GCP	
13.	Total RMSE (Root Mean Square Error)	
14.	Proposed excavation during the preceding year as per Mining Plan (in cu.m) (mineral and waste)	
15.	Actual excavation during the preceding year in cu.m (mineral and waste) as per Annual Return submitted to IBM	
16.	Data folder name and size	

I hereby declare that the information provided above and the output data submitted along with this Annexure are verified and are correct to my knowledge.

Date:

Place:

Signature

Name in full:

Designation: Owner/ Geologist/
Mining Engineer

Email ID:

Contact No.:



ARTICLES

Sr. No.	Articles
01	India's New Mining Reforms-towards-Self-Relient India in mineral Sector
02	Application of Big data enabling KPIs of Automation & Digitalization in Mining
03	Artificial Intelligence and Automation in Mining
04	Environmental Impacts of Limestone Mining & Its Control Measures
05	Good Equipment Management Makes your Business Srtonger
06	How to conserve our mineral resourses
07	Impact of Mining: Negative or Positive
08	Importance of Litho Structural Model in underground mining
09	Reversing tide - A case study by Ambuja Cement Ltd
10	Occupational Health in large opencast mines & Preventive Measure





India's new Mining Reforms-towards-Self-Reliant India in mineral sector



Meenakshi Kumawat,
Junior Statistical Officer,
Indian Bureau of Mines,
Ajmer

“Self-reliance is not possible without a strong mining and mineral sector as the two are important pillars of our economy.”

-Shri Narendra Modi, Hon'ble Prime Minister of India

Minerals are valuable natural resources being finite and non-renewable. They constitute the vital raw materials for many basic industries and are a major resource for development. The history of mineral extraction in India dates back to the days of the Harappan civilization. The wide availability of the minerals in the form of abundant rich reserves made it very conducive for the growth and development of the mining sector in India. Since independence, there has been a pronounced growth in the mineral production both in terms of quantity and value. India produces as many as 95 minerals, which includes fuel, metallic, non-metallic, atomic and minor minerals (including building and other materials).

The Parliament of India enacted the Mines and Minerals (Regulation and development) Act on 28.12.1957 to regulate the mining sector which forms the basic framework of mining regulation and development in India. Central Government has made several policy reforms to boost the mineral production in the country and make the country self-reliant in mineral sector. In this regard the Mines and Minerals (Development and Regulation) (MMDR) Act, 1957 has been amended several times. The National Mineral Policy was also enunciated in 1993 by Government paving way for liberalization of mining sector and to encouraging both the private and foreign participation in mineral industry and introduction of state-of-the-art technology in exploration and mining. The National Mineral Policy, 1993 was further replaced with a new National Mineral Policy on 13 March 2008 to provide a change in the role of the Central Government and the State Governments to incentivize private sector investment in exploration and mining and for ensuring level playing field and transparency in the grant of concessions and promotion of scientific mining within a sustainable development framework so as to protect the interest of local population in mining areas.

The MMDR Act, 1957 was comprehensively amended in 2015 to bring several reforms in the mineral sector, notably, mandating method of auction for grant of mineral concessions to Eliminating discretion & bring transparency in allocation of mineral resources, eliminating delay in administration, so as to enable expeditious and optimum development of the mineral resources of the country, establishing District Mineral Foundation (DMF) for the welfare of the people and areas affected by mining and for establishing National Mineral Exploration Trust (NMET) to give thrust on exploration and for ensuring stringent penalty for illegal mining.

The Act was minor amended in the year 2016 and 2020 to address specific emergent issues and comprehensively again amended in the year 2021 to fully harness the potential of the mineral sector, increase employment and investment in the mining sector including coal, increase the revenue to the States, increase the production and time bound operationalization of mines, maintain continuity in mining operations after change of lessee, increase the pace of exploration and auction of mineral resources and resolve long pending issues that have slowed the growth of the sector.

The most significant change brought forth by the MMDR Amendment Act, 2021 is the elimination of the distinction between captive and merchant mines which proposes to remove curbs of end-use for future auctions of mineral mining rights and allowing operators of existing captive mines to sell up to 50% of minerals extracted in a year. The MMDR Amendment Act, 2021 removed the



restriction on transfer of mineral concessions, lapsing of rights of non-auctioned concession holders which have not resulted in mining leases to ensure that concessions to private sector are only granted through auction etc. Statutory clearances to be valid even after expiry or termination/lapse of mining lease and shall be transferred to the successful bidder in the auction for maintaining continuity in mining operations after change of lessee. The MMDR Amendment Act, 2021 also gives powers to the Central Government to conduct an auction of mines if state governments do not conduct auctions in a timely manner.

The MMDR Act recently amended through the MMDR Amendment Act, 2023 with effect from 17.08.2023 omits six minerals including Lithium bearing minerals from the list of atomic minerals specified in Part-B of the First Schedule to the Act and introduced 24 critical minerals listed in the new Part-D of the First Schedule to the said Act, which includes minerals such as Cobalt, Graphite, Lithium, Nickel, Tantalum, Titanium etc. and the power to auction these mineral is vested with the Central Government. Besides auction of critical minerals by the Central Government, in order to further boost exploration of critical and deep-seated minerals, a new mineral concession namely, exploration licence has been introduced for these 29 critical and deep-seated minerals such as gold, silver, copper, zinc, lead, nickel, cobalt, platinum group of minerals, diamonds, etc. which are mentioned in the 7th schedule of the MMDR Act to undertake reconnaissance and prospecting operations for such minerals. This step would facilitate, encourage and incentivize private sector participation in all spheres of mineral exploration for critical and deep seated minerals. The Central Government has launched the first tranche of e-auction of 20 mineral blocks for composite license/mining lease of critical and strategic minerals on 29.11.2023 which include blocks of Lithium, Rare Earth Elements, Platinum Group of Minerals, Nickel, Potash etc. The auction of these blocks aims to expedite the General Exploration (G2 level), achieve the operationalization of mines and create a steady supply of these minerals, thus reducing our reliance on imports and ensuring a more secure and resilient supply chain.

These minerals have various applications in sectors such as space, electronics, communications, energy, electric batteries and are critical in net-zero emission commitment of India. Critical and deep-seated minerals such as Cobalt, Lithium, Nickel, Gold, Silver, Copper are difficult to explore and mine as compared to surfacial or bulk minerals. The country is mostly dependent on imports of these minerals. The exploration licence granted through auction shall permit the licensee to undertake reconnaissance and prospecting operations for critical and deep-seated minerals mentioned in the newly inserted Seventh Schedule to the Act.

The objective of the said amendment is to increase exploration and mining of critical minerals and ensure self-sufficiency in supply of critical minerals which are essential for the advancement of many sectors, including high-tech electronics, telecommunications, transport and defence. These minerals are also vital to power the transition to a low-emission economy and the renewable technologies that will be required to meet the 'Net Zero Emission' commitment of India by 2070.

The auction of these critical and strategic minerals will bring several key benefits, including bolstering domestic production, reducing import dependency, promoting sustainable resource management, attracting investments in the mining sector and the development of key industries crucial for India's industrial and technological advancement. This is a step towards creating a reliable supply chain of these mineral and a step towards making '**आत्म निर्भर भारत-the self-reliant India**' and contribute towards increased economic growth.



APPLICATION OF BIG DATA ENABLING KPIs of AUTOMATION & DIGITALIZATION IN MINING

Submitted by
Dushyant Tailor
Manager- Mining &
Head of Technical Services (Mining)
SK Mine, HZL

Big Data

Big Data can be defined as "data whose scale forces us to go beyond the best practises that prevail at the time." The characteristics of Big Data are known as the "3 Vs";

- Volume (amount of data); this involves enormous amounts of data being processed (e.g., global supply chains and global analytics)
- Velocity (speed of data); this is about streams of high frequency incoming data processing (e.g., sensors, pervasive environments, e-commerce, Internet of Things).
- Variety (diversity of data types/sources); this is about data in different syntactic formats (e.g., spreadsheets, XML, DBMS).

Over the years, as the field of Big Data matured, a fourth "V" was added, standing for Veracity or Value. It is therefore common today to speak of the "4 Vs" of Big Data. These four Vs of Big Data go beyond traditional data processing techniques and therefore require new data processing techniques to enable improved decision making, insight generation and process optimization.

The Big Data Value Chain

Porter (1985) states that value chains are used in business management as a decision support tool to model the chain of activities an organization performs to bring a valuable product or service to market (Curry, 2015). In Curry et al.'s (2014) Big Data value chain, the following key high-level activities are identified:

- a) Data analytics: this is the process of collecting, filtering, and cleansing data before placing it into a data warehouse or other storage solution where data analysis can be performed. Data collection is one of the biggest challenges when it comes to Big Data infrastructure requirements.
- b) Data curation: this is the active management of data during its lifecycle to ensure that it meets the data quality requirements necessary for its use. Data curation can be divided into different



activities, such as content creation, selection, classification, transformation, validation, and preservation.

- c) **Data storage:** It is the retention and management of data in a scalable manner that meets the needs of applications that require rapid access to the data.
- a) **Data usage:** It includes the data-driven activities that require access to data, its analysis, and the tools needed to integrate data analysis into business operations.

Sources of Big Data in Mining

In Big Data analysis, two types of data can be distinguished: structured and unstructured. Structured data is codes and numbers that fit into the database, while unstructured data includes images, videos, audio recordings, etc. This unstructured data needs to be transformed and interpreted before it can be stored. The unstructured data is further divided into semi-structured, which consists of texts and emails, and unstructured, which consists of images, videos and recordings. Big Data in mining is collected in real time and comes from a variety of sources. Some of these sources are;

- **Sensor networks:** There are a number of sensor networks in mines. These include sensors on autonomous/automated vehicles, sensors on conveyor belts, sensors on various drilling machines, sensors on the ground to detect ground conditions, sensors on VOD hardware to measure environmental conditions such as pressure, various gas concentrations, etc., and sensors on other equipment,
- **CCTV cameras** in strategic positions of the mine and those mounted on certain mining vehicles,
- **Mobile devices such as phones and tablets** that the miners carry on them and communication systems,
- **Fleet management systems** such as the various digital solutions used for optimizing mining operations,
- **Human and equipment tracking systems** in underground mines.

The Applications of Big Data in Mining

In the mining industry today, the use of Big Data is not considered a luxury, but a necessity. The use of Big Data is positively impacting companies in a variety of ways, resulting in significant increases in efficiency and revenue. Some of the applications of Big Data in the mining industry include;

- i. **The Prediction of When Equipment Could Fail:** Modern mining equipment is equipped with numerous sensors that send back real-time data about its operation. This data collected by the equipment, which includes information on repair history, fuel consumption, environmental

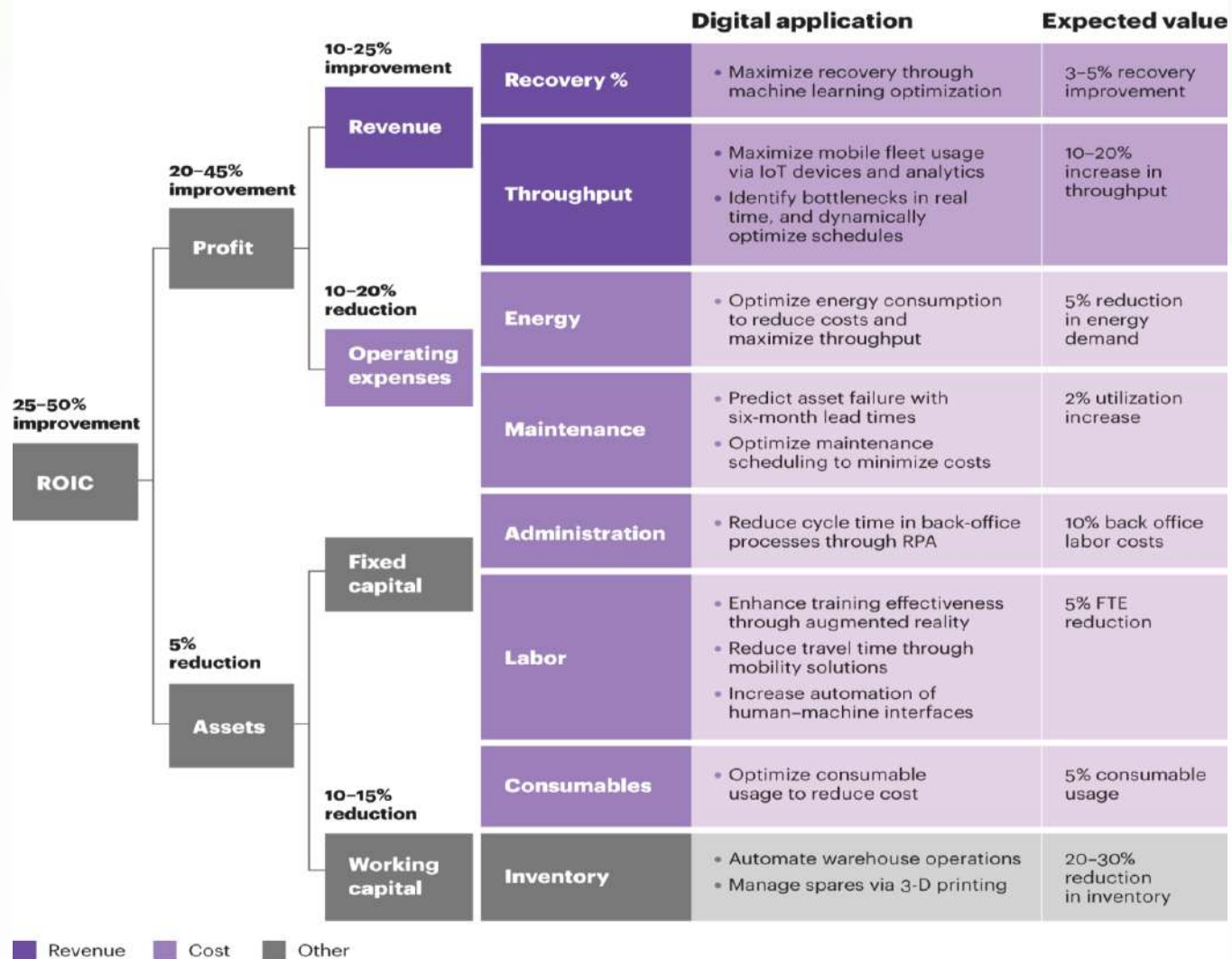


conditions, and overall equipment integrity, allows experts to determine whether the equipment is in need of repair or is at risk of failure. As Delgado (2014) explains, by using Big Data to make these predictions, mining companies can not only increase the overall reliability of machinery, but also improve the efficiency of business operations and ultimately save billions of dollars.

- ii. **Safety and Risk Management:** Delgado (2014) points out that many mining companies around the world have installed automatic ground control systems that are used underground or in open pit mines. These sensitive systems collect data on vibrations in the ground and can determine the structural integrity of the mining operation. In the event of a real, significant hazard such as a tunnel collapse or landslide, the monitoring systems can send out an early warning signal to prompt miners to evacuate before the impending accident.
- iii. **Keeping Track of The Ore across The Value Chain:** One of the areas that may be most inefficient for mining companies is the transport of minerals from the mine to the point of use, sometimes referred to as "pit to port." Much of the data for transportation comes from the use of rail to move goods to port, and many of the deficiencies reported by mining companies are related to the automated process of loading rail cars. Big data analytics can be used to identify where the greatest inefficiencies exist and alert management to where improvements are needed.
- iv. **Exploration for New Mineral Deposits:** With the presence of sensors on drilling equipment, location services from GPS, and Internet of Things technology, mining companies are relying heavily on the use of Big Data in mineral exploration, which is paying off in a big way.
- v. **The Processing of Ore:** Mining companies can use big data to improve ore recovery and quality.
- vi. **Selective Mining:** By analysing feedback from the machine's sensors, mining companies can better understand the composition of ore deposits and can prioritize mining the ore-bearing parts of the deposit, leaving behind areas of lower ore quality, reducing requirements for ore deposits, ore processing and reclamation.



A digital transformation can improve mining profits



Note: ROIC is return on invested capital; IoT is the Internet of Things; RPA is robotic process automation; FTE is full-time equivalent.
Source: A.T. Kearney analysis

Figure: Impact of Digital transformation on mining profits (Source: Kearney)

Key Performance Indicators (KPIs) Of Automating and Digitizing Underground Mining Methods.

- I. **Identification of Key Performance Indicators (KPIs):** Considering automation and digitization Key performance indicators (KPIs) are a collection of quantitative metrics that businesses may use to track and assess how well they are performing in relation to their strategic and operational objectives. KPIs assist in creating benchmarks you can use to regularly assess and monitor your business's operations so that you can spot issues, foresee possible setbacks, and immediately address both. The first and most crucial stage will be to determine the goals of automation and digitalization in order to be able to define the KPIs associated with those processes.



II. As earlier mentioned, the objectives of automating and digitizing underground mining activities are to;

- Increase productivity,
- Increase efficiency,
- Improve safety,
- Decrease cost and to
- Decrease environmental impacts

KPIs will need to be put in place to track how automation is helping to meet these operational goals in order to accomplish these goals. It will be necessary to identify lagging and leading indicators in order to be able to monitor the development of these KPIs. Lagging indicators are measures of output, such as;

- The previous level of productivity of the underground mine,
- The number of accidents in the past,
- The cost of production per ton of ore,
- The amount of fuel and energy consumption
- The number of people working underground.
- The tons of ore produced per year

These lagging indicators show the previous output of the mine and the progress being made can be better appreciated when compared with the leading indicators.

The leading indicators, otherwise known as the KPIs, are “predictive measurements”, which indicate future success. In the context of automating underground mining activities, the key performance indicators include-

- The number of operators working underground: with the implementation of automation, this number is expected to decrease due to operators working away from machines in control centres on the surface,
- The tons of ore produced per day/week/month/year: it is expected to increase,
- The cost of production per ton: it is expected to reduce,
- The work time and schedules i.e. the number of daily working hours and shifts,
- The amount of fuel and energy consumption per day/week/month and year
- The efficiency of machines e.g. trucking loads and cycle times
- The percentage of CO₂ emission
- Operating cost
- The number of accidents



Several software's exist which can be used by companies to collect the data and keep track their KPIs. Some of these include Scoreboard™, Klipfolio dashboard™, and Caron mining solution:

III. Quantitative measurement of the various KPIs for automation and digitization. The following stage will be to quantify the different KPIs using a variety of case studies and comparisons between conventional and new, automated mining techniques.

- **The cost of production per ton of ore:** The literature research earlier mentioned that the Syama mine had implemented automation and digitalization, and as a result, the cost of producing an ounce of gold decreased from \$881 to \$746. A measurable example of the benefit of combining automation and digitalization is this \$135 difference.
- **The work time and schedules or number of daily working hours:** In mines, work schedules are frequently centred on eight-hour shifts, three shifts per day, seven days a week, and all year round. Other schedules could include two shifts every day, lasting eleven hours each, six days a week. However, due to various inefficiencies and the crucial time that is lost when people change shifts, such numbers cannot be actually accomplished. When these unaccounted delays are taken into account, humans really labour an average of 16 hours per day out of the 24 hours allotted for the three shifts of eight hours each. However, the workday can be extended from 16 to 24 hours with the use of technology. This is achievable because autonomous machines will continue to function on their own while humans change shifts, preventing any time lost. This significantly raises productivity and efficiency. This eight-hour increase is a KPI that denotes an increase in work hours. The Syama mine's operations are autonomous and run round-the-clock.
- **The amount of fuel and energy consumption:** According to information found on the ABB website (n.d.), the Boliden Kankberg gold mine in Sweden used ABB Ability Smart Ventilation to manage ventilation, which resulted in savings of 54% of ventilation energy and 21% of air heating energy. This dramatic decrease in energy use is the result of smart ventilation's ability to facilitate efficient energy management. In this instance, the air flow is carefully monitored and managed; fans may be added, deleted, and relocated as needed in the mine; and thanks to algorithms and sensors, the smart ventilation systems can even operate partially on their own. Regarding this subject further, Mining Technology (2017) stated that the Kankberg mine was using roughly 36MW of energy yearly, but that by connecting, automating, and optimising everything, 54% of that energy could be saved, translating to 18MW annually for the



mine. Such a significant decrease in energy use will also result in cheaper operating costs overall.

- **Tons of ore produced per year:** According to Chen (2020), the Kibali gold mine in the Democratic Republic of the Congo produced 814,024 ounces of gold in 2019, which was more than the forecasted 750,000 ounces for that year. An underground gold mine that is largely automated, Kibali has added drill and truck training simulations as well as technologies for monitoring worker safety and controlling ventilation needs to further enhance its technology. The significant rise in output at the Kibali mine is a KPI that shows how automation and digitization can boost productivity.
- **The percentage of CO₂ emission:** The amount of CO₂ emitted from underground mines will significantly decrease with the addition of electric LHDs and battery-powered vehicles to the existing petrol or diesel-powered vehicles. Compared to fuel, electricity is more affordable and environmentally benign. When all underground equipment are fully electrified, there will be no emissions of CO₂, CO, or other harmful gases from exhaust fumes. The Borden mine in Canada is projected to completely electrify in order to reduce greenhouse gases (GHGs) there by 50% annually. This results in a yearly decrease of 5000 tonnes of CO₂. One of the ultimate goals of automating and digitising underground mining techniques is zero CO₂ emission, which has been attained here.
- **The efficiency of the machines:** Machine efficiency are considerably increased in mines by applying automation and digitalization. Some of the factors that determine an underground mining machine's efficiency are its uptime, or how long it can produce ore without experiencing a breakdown, its cycle times, or how long it takes an LHD or haulage truck to haul and dump ore before returning to the loading area and repeating the cycle, and how much ore it can haul per cycle, or the trucking load. The Hecla Casa Berardi mine's fleet size has decreased from thirteen to six vehicles as a result of automation and digitization, and truck cycle times have decreased by 39% and productivity has increased by 20%. These KPIs provide unequivocal evidence of improved equipment efficiencies made possible by automation and digitalization.
- **The number of people working underground:** As far as automation and digitalization of underground mining procedures are concerned, this KPI is crucial because it relates to safety, one of the most crucial factors in mining, as well as cost. The precise mining process, the activities involved, the scope of operations, and other factors all have an impact on how many people are employed underground. The mining industry's ultimate goal is to have operations automated to the point that only robots labour underground,



entirely shielding humans from the accompanying looming dangers. Even while Syama Mine has already shown that to be the case, the mining industry, still has a long way to go to reach that objective. With the use of semi-autonomous devices, it is currently possible to reduce the number of people operating underground.

- **Operating cost:** Mining operational expenses can be drastically cut, by up to half or even more, with the application of automation and digitalization. Simply by using remote operations and automation to handle the mining vehicles, Hecla Casa Berardi mine was able to reduce maintenance expenses by 30%. Less need for machine repair, better energy and fuel management, reduced compensation for fewer underground workers, and more effective use of other resources all contribute to operating cost reductions.

LET'S SAVE THE WORLD
THINK GREEN

Ecology Background



Artificial Intelligence and Automation in Mining



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AI means which differentiates computer systems on the basis of rationality and thinking versus acting. Artificial intelligence is a field, which combines computer science and robust datasets, to enable problem-solving. It's also encompasses sub-fields of machine learning and deep learning, which are frequently mentioned in conjunction with artificial intelligence. These disciplines are comprised of AI algorithms which seek to create expert systems which make predictions or classifications based on inputs data. It is the science and engineering of making machines, especially intelligent computer programs. The Applications for this technology are growing every day, there are also thousands of successful AI applications used to solve specific problems for specific industries.

Artificial intelligence, machine learning and autonomous technologies provide many economic benefits for the mining industry through cost reduction, efficiency & productivity improvement, reduce exposures of workers to hazardous situations, continue production and improve safety.

Mining Digital considers some of the top uses for artificial intelligence (AI) in Mining is leading change in the industry. AI systems are capable of analyzing large quantities of data and providing solutions of companies, with the technology helping to increase speed and safety in Mining operations.

Mining Digital considers some of the top use cases for AI in the Mining & their allied industry.

1. Prediction Supply Chain Distributions; AI model can be used to predict future supply chain information such as forecast demand of specific products and optimizing inventory levels.
2. Energy Optimization: The use of AI and similarly advanced technologies to optimize energy use can benefit the mining industry by analyzing data to identify energy-saving opportunities and improving efficiency as a result.
3. Environmental Data: AI in mining can work to reduce environmental impact and risk on location by analyzing data quickly and efficiently.
4. Prospecting, Exploration & Production planning: AI can help with mining exploration by analyzing huge amount of data, identification on site targets & providing insights on both. It provides greater efficiency on site with regards to both time & Cost. The company uses AI algorithms to process geological and geographical data which helps to identify mining locations & optimized drilling operations.
Production scheduling also helps through use of AI which can help to reduce cost & time for production planning.
5. Predictive Maintenance: AI predictive maintenance models have the capacity to evaluate variables that reflect an asset's current status, make predictions based on usage trends and consequently inform maintenance teams of potential equipment failure in advance.
6. Safety and risk assessments/ Accident analysis: Data analysis and visualization techniques can be used to analyze causes & factors leading to accidents and preventive measures can be designed with more focus on removing causes of accidents.



Artificial Intelligent systems designed with a focus on removal of potentially hazardous situations and hazardous works such as transportation, loading, blasting explosives, installing roof support, removing hazardous gases and dust can help in reducing accidents & fatalities.

7. Robotics
8. Gases and Hazard detection: An impotent application of AI to mining industry can be detection of Hazards, Gases, Toxic dust and radiation in mines.
9. Mining Operations: Mining by its very nature is a dangerous and hazards activity. With the help of AI , machine learning & autonomous technology, the exposure of workers to dangerous UG & surface operations can be minimized.. Machine can autonomously monitor the atmosphere, send signals & warnings. Locate problematic areas, and work continuously even dangerous situations. Therefore, AI can greatly improve the productivity & efficiency of mining operations.
10. Decision Support Systems: Roof support is one of the most important and most hazardous work of mining in Underground Mining. This dangerous operation can have automated where rood support can be made an internal part of the autonomous cutting machine (Longwall method; Shearer drum machine/dint header/ miner) that shields the areas after cutting and installed bolts and temporary support to the worked out exposed strata while moving ahead for further production.
11. Autonomous Vehicles / Transport Vehicle: Now days Vehicle operated from remote site or above surface. A shift incharge can know their equipment running status at CCR. Several manufactures have been working on autonomous in Mining haulage trucks and caterpillar operated its fleet of autonomous trucks (BHP & Rio Tinto) which have reported 15% reduction in operation cost compare to manually operated trucks.
12. Speech recognition: Automatic speech recognition technology use in mobile & computer.
13. Mineral Processing/ Ore Sorting
Application: AI can design to exploit difference on basis of their physical & chemical property or their mineralogical compositions. The application of these system before grinding and crushing machines can greatly increase the efficiency of process and reduce energy cost of crushing & grinding.
14. Current uses of these technology in Mines
 - (i) Biometric Attendance
 - (ii) Provision of GPS System in Equipment
 - (iii) ERP Software for Mines equipment's maintenance and digital record Keeping.
 - (iv) High resolution 360 Degree camera installed in mines for better supervision.
 - (v) Fuel Monitoring Data – real time monitoring data. Histrionic System in Browser for Diesel filling in HEMM
 - (vi) Drone Survey for Mine working annually
 - (vii) Use of SAP
 - (viii) Battery operated transport vehicle
 - (ix) CMMS (Centralized Mine Modeling System) in Mining operation
 - (x) VMS / RFID System in Unmanned weighbridge

Advantages & Disadvantages of AI and Automation in Mining Industry

These technologies can provide excellent solutions to mining and its hazardous and environment degrading operations. It has the potentials to boost the mining industry by increasing production & productivity, reducing exposure of worker to hazardous operations and environment, increasing operational efficiency, reducing energy and fuel consumption. This technology are the future of mining and transportation industry.



Following are advantage for use of these technology:

1. Quick Solutions to problems
2. Reliable results
3. Reduction in number of expensive field and lab experiment
4. 24/7 availability result which increase production & productivity
5. Improve safety
6. Better guidance and control system for mine rescue and safety operations
7. Due to increase productivity, less man power required or reduction in labour cost & improve safety.
8. Increased speed of good decision
9. Simple and timely solutions to complex problems
10. Unsafe and hazardous work done by robots/ machine which increase safety.
11. Reduction in man made errors, mistake and accident
12. Better situational awareness and better decision.
13. More efficiency and production per shift (avoid as shift start& end & tea/lunch break)
14. Reduced processing and sampling costs
15. Less cost related to accidents and compensations.
16. No health hazard, No insurance, retirement & other costs needed for machine.

Following disadvantages or challenges for use of these technology:

1. Losses of Jobs; No employment for communities where mines are being developed
2. Complex human-machine interaction and psychological issues.
3. Reliability of Systems
4. Loss of control over intelligent machines.
5. Security vulnerability (virus, System Hacking)
6. Trust issues
7. Economic challenges as huge investment required
8. Commercial feasibility
9. Non-availability of IT trained people to operate, maintain & implement this system.
10. Highly Variable factors may lead to difficulty in getting the required accuracy.
11. Technology costly for Mines having comparatively less production.

Conclusion:

The most common challenge in the implementation of these technologies in the mining industry is the lack of expertise in this field and unavailability of skilled labour force needed for implementation as well as large amount of capital needed for the automation of systems and operations. One of the biggest challenges in implementing technology is resistance from workers. The oppositions are mostly bases on the fear of losing jobs, unknown behavior of AI and autonomous systems, unequal distribution of wealth and capital, complicated and complex interaction and relationship with technology, and unclear future of technology implementation.

पॉलीबैग को कभी न समझो दोस्त ।

पॉलिथीन है शहर के गन्दगी का प्रमुख स्रोत ॥

पर्यावरण **प्रदूषण** से बीमारिया भरपूर ।

पर्यावरण की **रक्षा** से इन्हे कर सकते हैं दूर ॥



Sustainable Practices: Towards a better tomorrow



DIGENDRA SINGH SOLANKI

DIGENDRA SINGH SOLANKI
MANAGER - GEOLOGY MINES
BIRLA CEMENT LIMESTONE MINES JAI SURAJANA

Environmental Impacts of Limestone Mining & its Control Measures

Limestone, composed mostly of calcium carbonate, is used primarily to produce Portland cement for the building industry. Other products that use limestone include breakfast cereal, paint, calcium supplements, antacid tablets, paper and white roofing materials. Limestone is a karst-forming rock, which produce landforms that are formed by dissolution, and represents about 10 percent of the world's land surface. But limestone cannot be mined without impacting the environment.

Opencast mining activity causes some adverse impacts on the surrounding environment unless proper environmental management plan is adopted. Selecting suitable sites for mining and also adopting all the guidelines prescribed by the Ministry of Environment Forests & Climate change (MoEF&CC) and Indian Bureau of Mines (IBM) can minimize the major possible impacts.

The environmental management must be integrated into the process of mine planning so that ecological balance of the area is maintained and adverse effects are minimized. The Environmental Management Plan (EMP) consists of a set of monitoring programme, mitigation measures, and management control strategies to minimize adverse environmental impacts.

Land Environment: Deviation from planned mining procedure can lead to pits, degradation of land, causing loss of properties and degradation surrounding of landscape.

Management:

- The pits from where the material will be picked should not get deeper or permissible limit.
- Digged out pits will be backfilled after closure of the mine.
- Mined out land will be utilized for plantation purpose.

Water Environment: Groundwater quality can be affected by quarrying limestone by increasing sediment and accidental spills directly into the aquifers. These contaminants can also include material like oil and gas from mining equipment. Because contaminants in ground water move faster through limestone than other types of rocks, quarries in karst areas must be especially careful. Quarrying also removes the entire subcutaneous zone, an important ground-water storage area. Pumping water out of underground mines changes the direction and the amount of groundwater flow. When the operation of a quarry or mine ends, the direct impacts on groundwater quality may decreased but the long-term contamination can persist.



Management: The environmental management for water pollution control includes:

- Water requirements for drinking, plantation and dust suppression will be met by tanker supply.
- Mining in the area will be done up to depth of 3.0-10 m or permissible limit from the surface level well above the ground water table, therefore impact on water regime is not anticipated.
- Monitoring of water quality of nearby surface water, ground water and domestic water will be conducted once in every season except monsoon to evaluate the performance of the mitigation measures.
- Garland drain will be constructed on all sides of quarry along with settling pond to remove the suspended solids from storm water. The collected water shall be used in plantation and spraying on haul roads. Settling ponds will be designed on the basis of silt loading, slope of the lease, detention time required etc.
- Septic tanks and soak pits will be provided for the disposal of domestic effluent generated from mine office.



Air Environment: Dust is one of the most visible impacts associated with limestone quarrying due to the drilling, crushing and screening of the rock. The mine site conditions can affect the impact of dust generated during extraction, including rock properties, moisture, ambient air currents and prevailing winds, and the proximity to population centers. Fugitive dust can escape from trucks traveling on excavation haul roads and from blasting. This airborne dust can travel long distances from a mining site and affect urban and rural residential areas downwind.



Management:

One of the main pollutants in air will be particulate matter (PM), which will be generated during various activities of mining such as, removal of overburden, extraction of ore and movement of mining machinery and vehicles. Following measures will be adopted to minimize air pollution.

- Sharp drill bits will be used for drilling to reduce generation of dust and noise level.
 - Drilling machines will be equipped with water injecting system to prevent dust to get air borne.
 - Rock breaker will be used for breaking over size boulders in order to reduce dust and noise generation, which otherwise generates due to secondary blasting.
 - Controlled blasting and optimization of use of explosive energy will be done which helps in reducing the above emissions
-
- All the vehicles that will be used for transportation i.e. trucks, tippers, and dumpers will be maintained regularly and checked for Pollution under Control.
 - Water spraying will be done on mine haul roads.
 - Green belt/plantation will be developed all along the haul roads and other places to arrest dust.
 - Personal Protective Equipments like dust mask will be provided to all employees working in the likely dusty areas.
 - Ambient Air Quality Monitoring will be conducted on regular basis to assess the quality of ambient air.

Impact of Vibrations Due To Blasting: The ground vibration is expected to be generated during blasting. This can be minimized by adopting down the hole initiation system. Blasting operations, rock bursts and rock bumps, subsidence due to mining operations, deployment of mobile equipments causes ground vibrations. Blasting also generates air vibration waves. Vibration may cause structural damages, which depend on periodical acceleration due to vibration. Air blasts can damage structurally unsound buildings and cause window shattering. Blasting is associated with Fly rock hazard.

Management:

- Blasting will be performed strictly as per the guidelines specified under blasting technology.
- Blasting operations will be carried out only during daytime as per mine safety guidelines
- Proper warning signals will be used
- Adequate safe distance from site of blasting will be maintained.
- During blasting, other activities in the immediate vicinity will be temporarily stopped.
- Drilling parameters like overburden, depth, diameter and spacing will be properly designed to give proper blast.



Noise management:

The following control measures will be adopted to keep the ambient noise levels well below the limits:

- Drilling will be carried out with the help of sharp drill bits which will help in reducing noise.
- Controlled blasting will be done to minimize noise, ground vibration, fly rock and air overpressure.
- Proper maintenance, oiling and greasing of machines at regular intervals will be done to reduce generation of noise.
- Confining the noise generating sources.
- In order to reduce the effect of noise pollution, ear plugs / earmuffs will be provided to all employees.
- Plants with fleshy leaves and other with branches / dense foliage in uniform vertical distribution would mask and absorb noise. Such measures for afforestation expected to curb high-level noise at the source point would be objectively undertaken.
- Periodical noise level monitoring will be done.

Biological Environment: The biodiversity of karst ecosystems means some species are restricted to single-cave ecosystems. As rock is removed by quarrying, any cave passages --- and the habitat it provides --- are destroyed. Animals that inhabit these areas that are mobile will be able to find new habitats to survive. Those species that have adapted to such deep cave zones will simply perish. However the mining activity will not have any significant impact if any such endemic species not found in the region.

Management: There is a requirement to establish a stable ecosystem with both ecological and economic returns. Minimization of soil erosion and dust pollution enhances the beauty of the core and the buffer zone. To achieve this it is planned to increase plantation activities.

Socio-Economic Environment: The project operation will provide livelihood to the poorest section of the society. The overall impact of limestone mining on the social economics of the area shall be a very positive one, as not only it will generate employment opportunities for local population at mine site but also in associated activities for transportation of mined material, etc . It will also give a good boost to the general economy of the area.

Once, all possible environment aspects are adequately assessed and necessary control measures formulated to meet statutory requirements. Thus implementing a project will not have any appreciable negative impacts.



GOOD EQUIPMENT MANAGEMENT MAKES YOUR BUSINESS STRONGER.

Collected By :
Vivek Rawat

Dy General Manager (Mines & Geology)
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EQUIPMENT MANAGEMENT

These days, equipment management matters more than ever. With fierce competition, rising costs and other pressures, your margins are constantly being squeezed. Effectively managing your equipment can do a lot to reduce your operating costs, improve your operations and strengthen your bottom line. Good HEMM manufactures are, ready to help.

If We work with good machines, it will give you **EM Solutions** to bring you technologies and services that help you manage your equipment, get more value from every machine and build a stronger, more competitive business.

The benefits of equipment management help your company achieve four important business objectives:

CONTROL COSTS:

Automated data collection and reporting lets you see what your real costs are, so you can take concrete steps to bring them down.

- **Find and eliminate** unproductive idle time to reduce fuel costs and limit total machine hours for improved resale value.
- **Spot and fix** small problems before they develop into major failures to save big on service costs.
- **Keep up with maintenance schedules** to maximize machine life and reduce total owning and operating costs.

IMPROVE OPERATIONS :

When you can see exactly where your machines are and when they're due for maintenance, you can make better, more informed decisions.

- **Find the best time** to bring a machine in for service or preventive repairs.
- **Decide how you can move equipment** around between jobs so it doesn't sit idle.
- **Determine whether you can take a machine off of a job** and still meet your deadline.

MANAGE PEOPLE:

Technologies can tell you a lot about how well and how much your people are working...and how they should be working instead.

- **Monitor your operators** to see who is running their machines like a pro and who could use some more training.
- **Allocate service personnel** so they stay busy without becoming over tasked.
- **Reward good performance** to promote employee pride and a culture of safety.

REDUCE RISK:

Equipment data helps you deal with day-to-day uncertainties more effectively. You can use it to:

- **Track machine locations** to help keep your equipment safe and secure.
- **Get accurate feedback** on your operations to make tighter, more competitive bids.
- **Decide when to replace older equipment** to get the most advantageous deal for your business.
- **Maintain regulatory compliance** to avoid fines and complications.



How to conserve our Mineral Resources

Sathish Rathore
Dy. Manager Mines
MANGALAM CEMENT LTD
MORAK (KOTA)

Minerals are non-renewable resources. They cannot be replenished and their new reserves created once these are depleted. Also these are earthly treasure which belongs to entire mankind of present and future generations. They have decisive role cultural, social and economic development of mankind. We have moral and social obligations conserve them, avoid their misuse and wastage a: preserve them for use in future.

This could only' possible through the adoption of conservation techniques. In India conservation strategy is more important because of the scarcity of certain important minerals which need conservation and new technological revolution currently going on in the count' which will evolve better mining and processing technology in future for judicious exploitation mineral resources. Mineral resources can be found in almost every aspect of our lives. Granite is widely used as building stone is one of the hardest rocks found in nature. It is made up of three minerals - quartz, feldspar and mica. Gypsum is used in plaster cast which is used on broken arms or legs. The lead in your pencil is made from graphite while crayons and paints are made from talc. The fireworks are made from yellow-colored mineral called sulfur, also used for making matches and explosives, sulphury acid, fertilizers, chemicals and dyestuff.

Copper is a good conductor of heat and electricity obtained from metallic mineral called chalcopyrite or copper pyrite. It so flexible that it can be rolled into flat sheets, wires and other shapes. Hence, copper is used extensively in various electrical appliances. It is also used to make electrical cables and wires, switches, coins, cooking utensils and water pipes. Copper is also used in plumbing, heating, roofing and construction.

Iron is another very important metal that is obtained from minerals such as limonite, hematite and magnetite. These minerals are called iron ores. Iron is mainly used to manufacture steel. Iron and steel are used in almost all industries for manufacturing ships, airplanes, cars, cycles, trucks and vans. They are widely used in the construction industry to make building support and structures. Iron is also used in the manufacture of computers, and office stationery like staples, nails and paper clips.

The mineral manganese is a key component in the production of iron and steel. Today, the technique devised by the Hittites is called smelting of iron. Aluminum is another very important metal that is obtained from its ore bauxite. It is used in the manufacture of automobiles and airplanes and building and electrical materials. It is also used in the bottling and canning industries; kitchen cookware and foil, and personal product like deodorants and cosmetics Gold and silver are rare metals that are popularly used to make jewelry. They are also used to make medallions and coins, and in dentistry and medicine. Certain minerals, called gemstones, are also used to make jewelry. They are hard and come in many beautiful colors. Some gemstones, like diamonds, sapphires, emeralds and rubies, are rare and very expensive and are known as precious stones. Some gemstones, like turquoise, garnet, amethyst, aquamarine, topaz, moonstone, periods and opal, are not as rare and so are known as semi-precious stones.



Gemstones are first cut and polished, then set into precious metals like gold, silver and platinum to make artistic jewelry. Diamond is the hardest mineral found on the earth and so is used for making cutting tools that are used for cutting other gemstones. Minerals are also very essential for all living beings. Iron is present in every living cell. It is very essential for the production of hemoglobin, which is the primary component of red blood cells. Other minerals like zinc, manganese, copper and fluoride are also required in very small amounts in our diet. Minerals are non-renewable resources. It is very important to control their use and conserve minerals for the future.

There are three ways of conserving minerals for future use – reduce, recycle, reuse. You can reduce the amount of waste you create by choosing what rubbish you throw away. Recycling means to return a waste product to a place where it is remade into either the same product or something different. The reuse of metals will also help in reducing the rate of consumption, and help in the conservation of minerals.

According to an estimate it will be depleted of coking coal in 13 years, now coking coal in 116 years, copper in 36 years, and high medium and low grades of iron ores in 32 years, 18! years and 68 years respectively, bauxite in 30 years, lead in 38 years, manganese in 31 years, zinc in 10 years, gold in 10 years and limestone in 446 years. Our position is already critical in respect of energy resources like petroleum. This is an alarming signal which needs judicious conservation policy. Somehow the suggested measures are as follows:-

1. New researches should be undertaken to find out and develop 'replacement minerals' for us in place of scarce minerals which are in short supply and are going to be depleted soon.
2. Researches should also be carried on to develop new technology which should avoid waste and promote maximum utilization of by-products.
3. There should be curbing on wasteful mining methods. Miners should be imparted training to adopt new techniques of mining, use latest technology and machines and take maximum precaution' cause little damage to the environment.
4. There should be proper development of infrastructural facilities in mining areas, suitable location for processing plants and refineries and encouragement to private sectors to establish research units and adequate provision for financial support and loans.
5. Processing plants should invariably be located in mining areas to reduce transport cost. In case of heavy materials like coal it is better to convert it into coking coal or in electricity near the pit heads.
6. There is a great scope for the expansion of several mineral-based industries which open new vista for economic development.
7. New explorations should be carried on to find out locations and new areas of minerals using latest technology. In case of India sea floor exploration and mining may yield good dividend.
8. In conservation policy emphasis should be placed on sustainable mining. Similarly more reliance should be placed on the exploitation and utilization of such mineral resources which are renewable and are in plenty.



IMPACT OF MINING: NEGATIVE & POSITIVE



D.K. Dhakar
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J.K.Cement Works,
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Mining is an economic activity capable of supporting the development goals of countries and societies. Mining and its allied activities have taken big strides during last century contributing significant infrastructure development and raising the living standards of mankind. Mining is a common practice that continues to meet the demands of the current global economy. Mining is the process of collecting minerals in ground. Mining can impact local communities both positively and negatively. Unfortunately, this practice entails excavation or substantial interference of the natural environment. The negative impacts of mining can be recorded at Global, regional and local Level. With negative implications, companies and other key stakeholders can identify various initiative that minimize every anticipated negative impact.

Following are Negative impact of Mining: -

1. Air Pollution
2. Water Pollution
3. Deforestation
4. Land degradation / Agricultural loss
5. Land Erosion
6. Effect on Biodiversity
7. Effect on Aquatic / Terrestrial Organisms
8. Waste Generation
9. Effects of Mine pollution on Human's
10. Impacts associated with Specific Types of Mining
11. Mitigation
12. Health risk and socio-ecological instabilities.
13. Chemical hazard
14. Noise Pollution
15. Increase flooding / landslides or other disaster

Following are Positive impact / Benefits of Mining: -

1. Job Creation and Employment Opportunities
2. Economic Growth and Development (2.5%)
3. Foreign Exchange Earning (Foreign Direct Investment) and Balance of Trade
4. Technological Advancements and Innovation Spillover
5. Infrastructure Investment



6. Contribution to Government Revenues and Public Services (In form of Taxes, cess Royalty DMF, Income & Sale taxes)
7. Economic Resilience and Stability
8. Environmental Stewardship and Sustainability Efforts
9. Global Trade and Investment Attraction
10. Social & Welfare activities:
11. Economy
12. Community Growth: CSR activity by Mining Company
13. Sustainable Mining Practices
14. Raising the living standards
15. Greater use of Alternative fuels (Hazardous & Combustible waste)
16. Green Energy / Solar energy to be use
17. New technology to be use in Blasting, to reduce vibration, noise dust & fly and in Transportation to reduce exhaust, etc

The negative impact may be minimizing by taking following measures: -

1. An Environmental Management Plan (EMP) for sustainable Mining activities. For effective implementation of an EMP, a mid-term corrective measure is essential, such as a time bound action plan , this include a programmed for land reclamation, afforestation, mine water treatment , surface drainage and check dams and sewage treatment.
2. Environmental Impact Assessment (EIA) is one of proven management tools for integrating environment concerns in development process and for improved decision making.
3. Afforestation helps in restoring and enhancing the vegetative cover/ plantation which improve environment.
4. Use of Green energy
5. Use New Technology Equipment which less impact on environment
6. Concept of Zero Waste Mining
7. Waste of other Industry to be use for their product
8. Electric transport vehicles in place of Diesel operated
9. Plantation around pit & nearby area.
10. CSR activities in nearby area to improve their living standard
11. Employment of local people
12. Good land compensation for their land use for mines.

In conclusion, it is import to acknowledge that while mining operations may have certain negative implications for the environment, their substantial positive impact on the economic cannot be overlooked. Therefore, Mining is an essential activity for Development of country.



Importance of Litho-structural Model in Underground Mining

Pankaj Kumar (Head Geology, SK Mine, Hindustan Zinc Limited)
Sourav Banerjee (Geologist, SK Mine, Hindustan Zinc Limited)

Abstract:

The 3D structural modelling is the most essential and core foundation for upgrading the mineral exploration opportunities as well as mine sustainability in terms of development & stoping. Structural modelling provides solution, based on the structural & geotechnical data of drill cores and geological mapping, for managing natural resources through exploration, identifying natural hazards. Now incorporating the spatial positions of the major structural discontinuities i.e., fault, fold, joint, Shears etc., with litho type of a particular area.

So, to mitigate this issue, we have introduced Sequent Leapfrog software at Sindesar Khurd Pb-Zn mine. This software offers advanced 3D visualization capabilities, which allowing us to easily visualize and understand the important structural data like,

1. RQD of drill core,
2. Fracture frequency data of drill core,
3. Litho-structural mapping
4. Geotechnical mapping etc.

This implicit-based modeling approaches are the most widely used method for producing such structural models due to its fast, automatic, and reproducible characteristics. Its user-friendly interface which helps us to process and interpret data more efficiently, saving our time and resources. Based on this model, we can prior analyze the structural attributes & it's severity which will help in reassess the development position & support pattern of drives, ramps & crosscuts, stope design, ventilation raise position. Basically, we used structural models in following operations to make it safe as well as sustainable & they are:

1. Mine heading development.
2. Stope stability.
3. Ventilation raise stability.
4. Sump stability.
5. Underground workshop stability.
6. Underground Man pass stability.

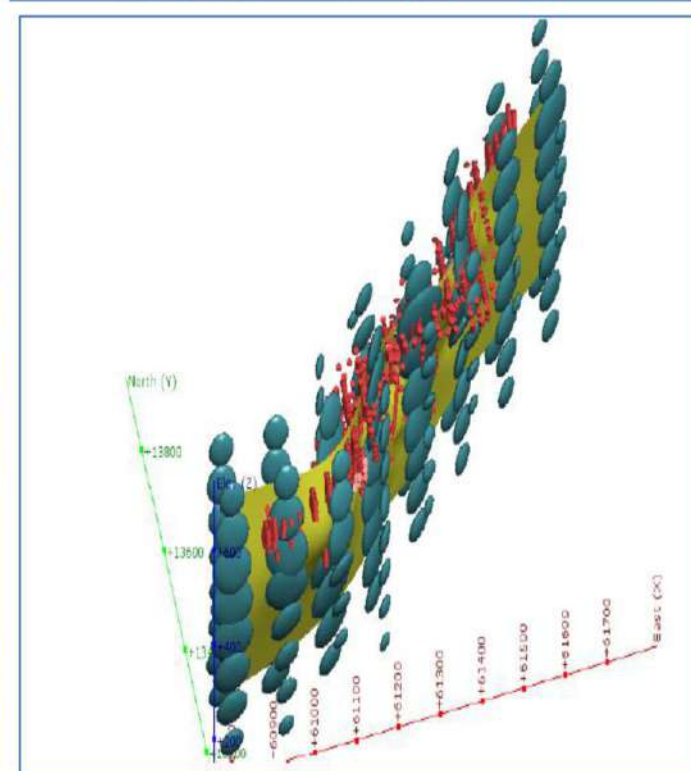
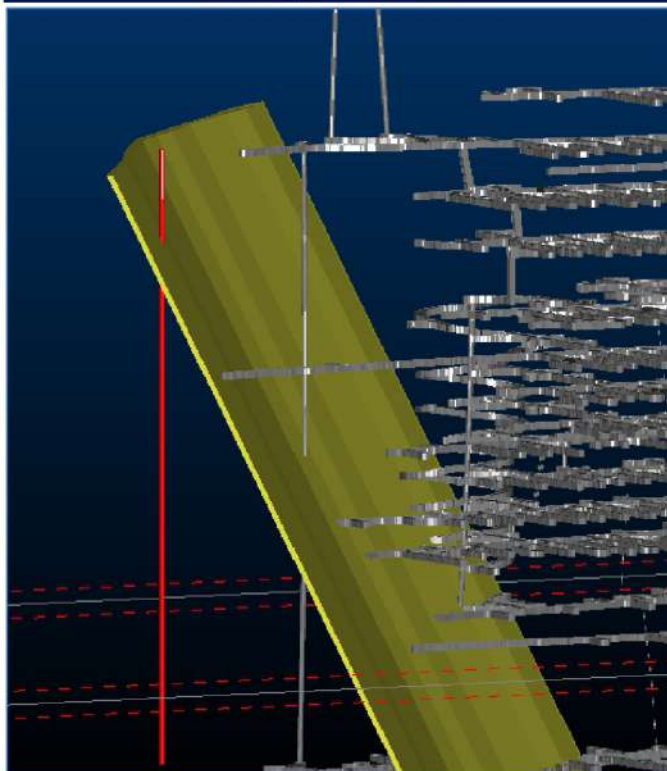
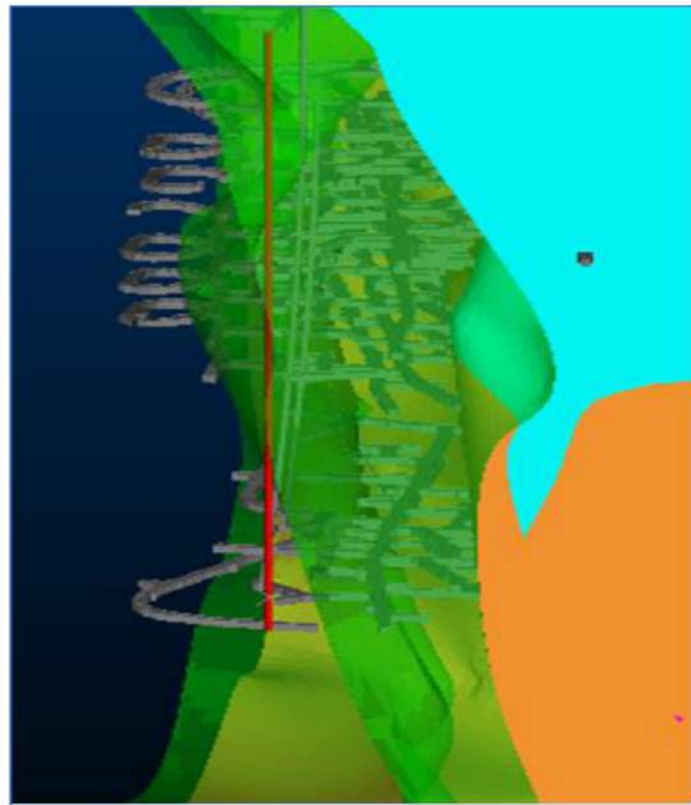
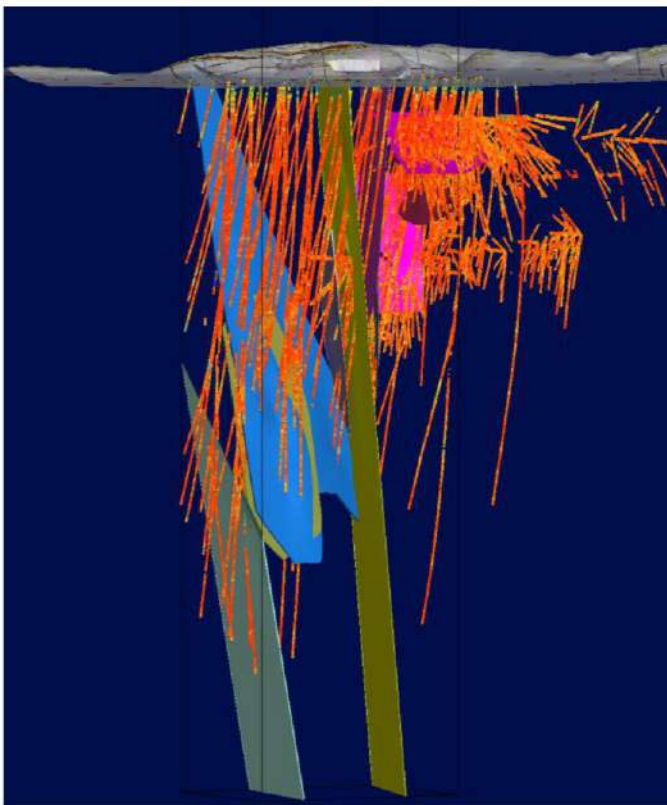


Photo-1&2 Upcoming ventilation raise planning with lithological and structural data.

Photo-3&4 -Major fault in deeper blocks delineated with the help of structural data.



Reversing Tide – A Case study by Ambuja Cements Ltd



Amit Sharma
Sr. Manager (Geology)
Unit-Rabriyawas

Abstract :

This paper reviews the real impact of Cement Industry on surrounding environment. Industry at large is considered as non-environment friendly and always have negative impact on surrounding environment. Among the other 17 industry including Sugar, Distillery, Petro-chemical, etc, Cement Plants have also been confined under 'Red' category by Central Pollution Control Board as most polluting industry. However, now these days industrial development is passing through various positive changes such as utilizing renewal energy, Alternative Fuel resources, bio-fuel/ EVs etc are having a pivotal role towards eco-friendly drive of sustainable development. Out of the above one, far-most essential step towards improving ground water condition – is Rainwater harvesting/recharging. Ambuja Cement as a group is in the top of the list for such noble cause and words of mouth are the real testimony for the same in any of its plants in India. In this paper, a case study of Gujarat area (Kodinar Plant) has been discussed.

1.0 Introduction: Now, Ambuja Cements Ltd (ACL), is a part of the Adani Cementation, is one of the leading cement companies in the Indian cement fraternity.

Operating for over 30 years, Ambuja produces the best cement for construction and is the best cement manufacturing company in India with its uniquely sustainable development projects. It's environment-friendly initiatives including sustainable construction and renewable energy projects have played a key role in creating a blueprint in sustainable development aiding India's efforts to become a green state.

By virtue of its hassle-free customer support and home building solutions coupled with unique cement sustainability initiatives of measuring its True Value and Water Positive index, Ambuja's business has seen a rapid growth in the past decade. The company has a significant presence across western, eastern and northern markets of India for Ordinary Portland Cement (OPC) and Pozzolana Portland Cement (PC).

Ambuja Cements Limited (ACL) is the first certified "Water Positive" cement manufacturing company in the cement manufacturing fraternity of India. According to this year's data verification and certification by DNV GL, ACL is 7.99 times water positive and Ambujanagar unit is 21.10 times water positive (assessment of 2019 water data) –



clearly indicating an overall upward trend in water positive index since 2011 (the first assessment year).

In coastal areas, the ground water is naturally getting discharged into the sea which leads to a hydro-dynamic balance of seawater-freshwater and an interface is formed due to interaction between fresh ground water body from inland area and saline water body of the sea. Due to excessive pumping of water for irrigation and scarce rainfall had created a negative impact on ground water regime. This led to the saline sea water being attracted towards the inland side thus deteriorating both - the overall quality of ground water as irrigated land, thus impacting the socio-economic life of the villagers.

This paper describes the various strategies being adopted by ACL for developing a holistic approach for sustainable development and management of water resources in the Saurashtra region. The endeavors of CSR Team named as Ambuja Cement Foundation, have significantly improved the ground water conditions of the region both in terms of rise in ground water levels and reduction in ground water salinity; thus converting the category of the region from critical to safe ground water development today

2. Water Harvesting initiatives:

Ambuja Cements Ltd, through its CSR wing named as Ambuja Cement Foundation (ACF) had initiated rainwater harvesting projects since inception and successfully resolved the shortage of water for drinking and household needs, as well as irrigation in Kodinar area. ACF also undertook the Integrated Watershed Development Programme with support from the District Rural Development Agencies (DRDA) for the construction of check dams, percolation tanks, wells, link canals etc. As a result of these efforts, the water table has significantly risen. Under the Sardar Patel Participatory Water Harvesting Project, ACF collaborated with the State Government and created enormous water storage capacity. Check dams were built for better percolation, salinity was pushed back by increasing the underground buffer, and households were provided with potable water by constructing roof rain water harvesting structures. Corresponding changes made in agriculture aided water conservation and encouraged cultivation of crops that are less water intensive or resistant to salinity.

ACF completed numerous projects in coastal areas of Kodinar, Sutrapada, Una and Veraval talukas during the period 1993—2020. The works include renovation of Check Dams (CD), construction of new CD, Percolation Tank, link canals, river bed widening, deepening of ponds, construction of waste weirs, recharge wells, percolation wells, farm pond, spreading channels connecting the Tidal Regulators (TR) & Bandharas besides helping to construct rooftop rain water harvesting structures (RRWHS). With completion of these works by ACF, the total water harvesting capacity developed upto 38.73 mcm whereas ACL's mines have been developed to store water upto 10.10 mcm.



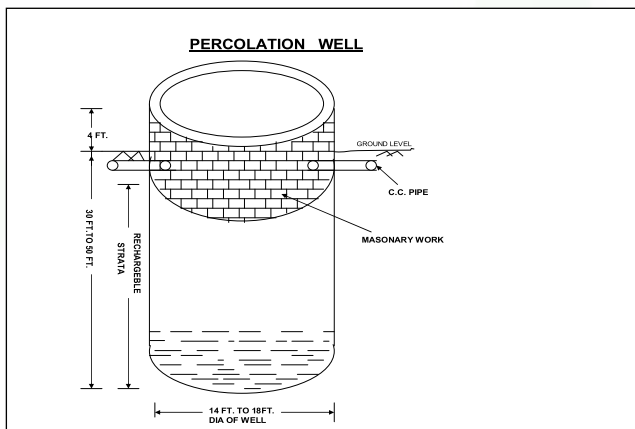
Sr.No	Structure	Total
1	Construction/ renovation of Check dams	225
2	Construction/ renovation of Percolation tanks	119
3	Farm ponds	734
4	Construction of Link canals (kms)	69.26
5	Percolation wells/ Well recharge	1268
6	Renovation of Saline wells	40
7	Roof Rainwater Harvesting Structures	3970

Check dams



Percolation cum recharge well

In this area, open percolation wells are also built in stream beds to expedite the recharge of groundwater tables. The water flow of the stream is distributed by open percolation well through a round structure which allows water to be permeated directly to the ground and recharge the ground water. These pits are suitable for recharging of shallow aquifers



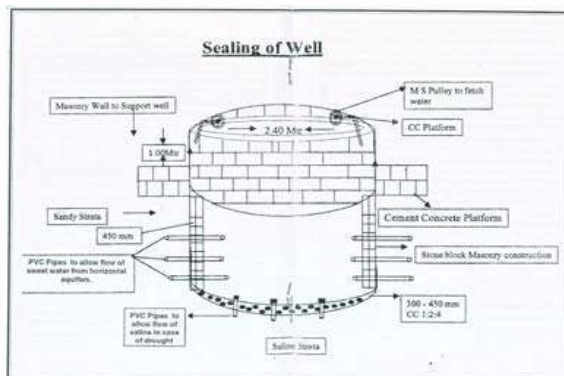
Besides percolation well, the direct well recharge is a micro level activity to reduce salinity, which can be taken up by an individual farmer. ACF encourages farmers to take up this activity and provide assistance with digging pipes and channels to divert



rainwater into open wells. Many farmers expressed that the additional sweet water thus stored in wells helped support fodder cultivation.



In addition to this, ACF also introduced an innovative design to protect the upper layer of fresh water in the dug wells and inject fresh water into saline/ brackish layer to reduce the salinity . The well is constructed to an upper fresh aquifer and then cemented upto an alluvial or soft strata; below this, the well is kept as unlined and utilized as recharge well/ fresh water for drinking .



A Renovated well in salinity affected Math village

Water quality in renovated well in Muldwarka

Sr No	Quality Parameter	Before Renovation	After Renovation
1	Total Hardness	2200	300
2	Chloride	2650	225
3	pH	7.5	8.0
4	TDS	5000	600

Link canals, spreading channels and pond deepening

An artificial waterway constructed for irrigation and navigates through the main river or canal is described as a Link canal. **These kinds of structures are suitable to distribute water in water deficient areas to augment resources and support in creating an overall water- positive environment .** In the absence of these



structures, a large amount of water wastefully drained into the sea. Now, wherever these structures are constructed, water is diverted to nearby water bodies through channels and this eliminates water wastage.



ACF has been instrumental in the construction of about 69.26 kms long interlinking canals joining streams, Bandharas, mined-out pits and village water ponds.

Link canal work between Devka and Khari Rivers in Veraval Taluka

Interlinking of Ponds:

The downstream ponds were interlinked through channels to divert fresh rain water, which was earlier flowing into sea. In this process, first the ponds were deepened to increase their storage capacity. Then, the link channels were constructed to connect the ponds to reduce fresh water entering into sea during monsoon.



Construction of Radial canal:

The Gujarat government constructed a tidal regulator near Panch Pipalva village. However, during a good monsoon, it used to overflow and fresh water was diverted into the sea. With involvement of ACF, 1.50 km radial/ reverse link canal was excavated from the Panch Pipalva tidal regulator to Jantrakhandi village. Ponds in Pipalva village were also deepened. **This project brought significant, positive changes in ground water regime such as:**



- › Farmers started growing two crops in a year
- › Water level rose and was available for the next six months as compare to one month in earlier days
- › Few dry wells got recharged
- › Level of salinity dropped by 15-20 %



Spreading channel from Panch Pipalva TR to Sodam Bandhara

Muldwarka Tidal Regulator:

Based on recommendation, a Tidal Regulator across *Shingoda river* at *Muldrarka* village, where the river enters the Arabian Sea was constructed in the 1980s. Due to technical glitches in the operating vertical gates and corrosion of iron gates, the structure became non-functional. ACF decided to revive this structure through public participation. The state government approved the scheme for revival with ACF under funding pattern of 80:20 ratio of Government support and ACF share. The project was completed in April 2009. The total length of the Tidal regulator structure is 316. 72 mt; water storage in Shingoda river length is around 4 kms and surface storage capacity has 1.63 mcm.

After revival of the project, about 900 acres of land of 300 farmers from the surrounding six villages of Muldwarka were benefitted from 2009.

Situation before commencement



Situation after commencement





Ground water samples collected and analyzed before and after project implementation. Changes in water quality and quantity observed are as summarized below:

Water quality and quantity checked before and after the project

Month of observation	Depth of water from GL (Ft.)	WATER QUALITY TESTING REPORT					
		TDS (500/2000)	PH (6.5-7.5)	Hardness (300-600)	Chloride (250-1000)	Nitride (45)	Fluoride (1.0-1.5)
May – 09 (Year of project completion)	26.25	2271	6.5	1010	1433	100 up	1.5
May – 19 (After the project)	20	1500	7.00	910	950	20	0.4

Hence, the overall watershed development program including construction of Check Dams, Recharge/ Percolation tanks, construction/ deepening of wells, linking reservoirs through canals, RRWHS, Farm Ponds etc have created around 35.19MCM of water storage. The huge amount of fresh water availability has reduced the adverse impact on ground water regime and these structures have contributed a pivotal role to augment the ground water resources in the vicinity. A sense of the water storage structures developed in the project vicinity to improve ground water environment is shown in the following table:

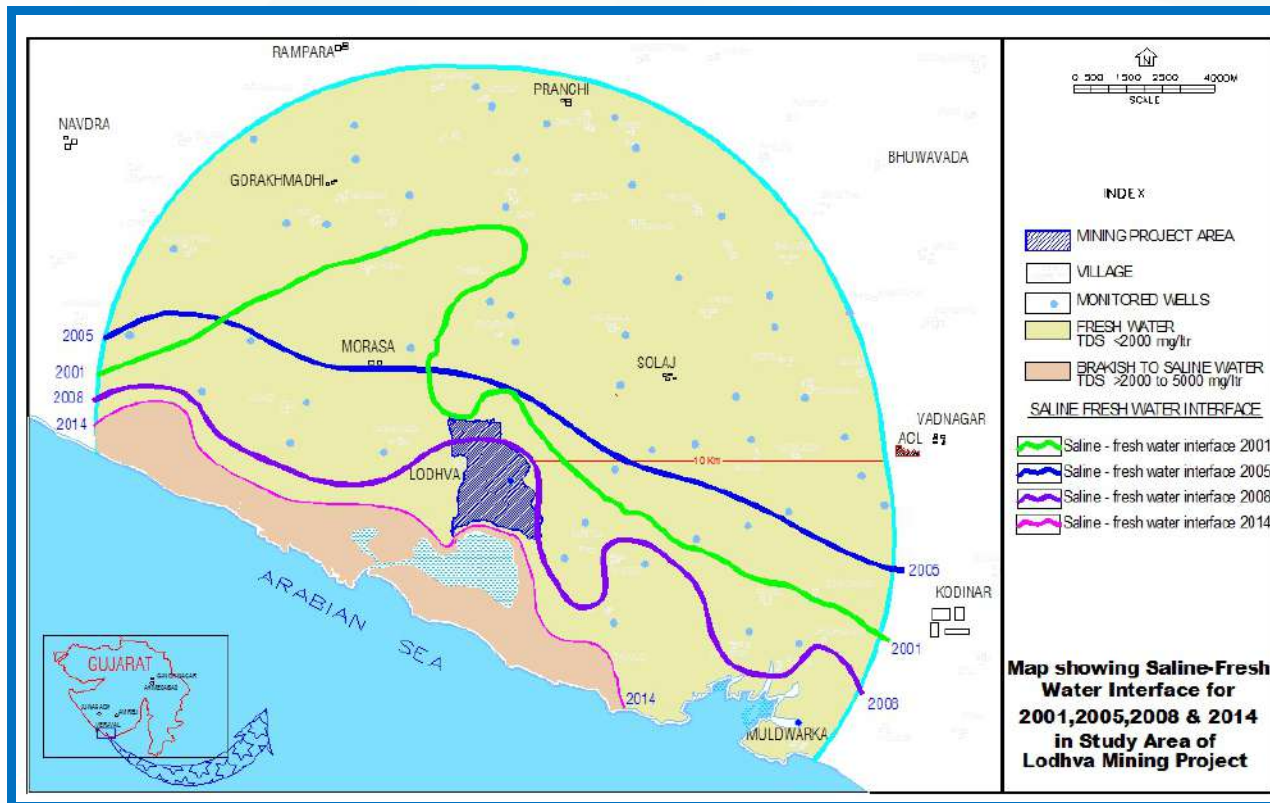
Water Storage developed...

#	Type of works	Number of works	Water storage capacity (mcm)
1	Check dams	225	10.88
2	Well Recharge / Percolation wells	1268	0.50
3	Renovation/Construction of ponds	119	4.306
4	Linking reservoirs through canals	69.26 kms	22.867
5	Farm ponds etc.	734	0.12
6	RRWHS	3970	0.0057
	Total		338.73

The water management and conservation methods adopted by ACF are sustainable in the long term. The projects have been implemented in partnership with the local people and ACF has found this method of working beneficial in many ways.

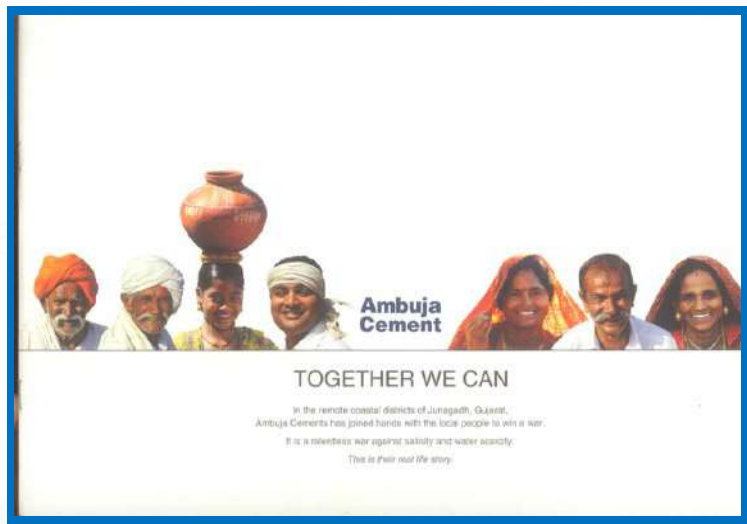
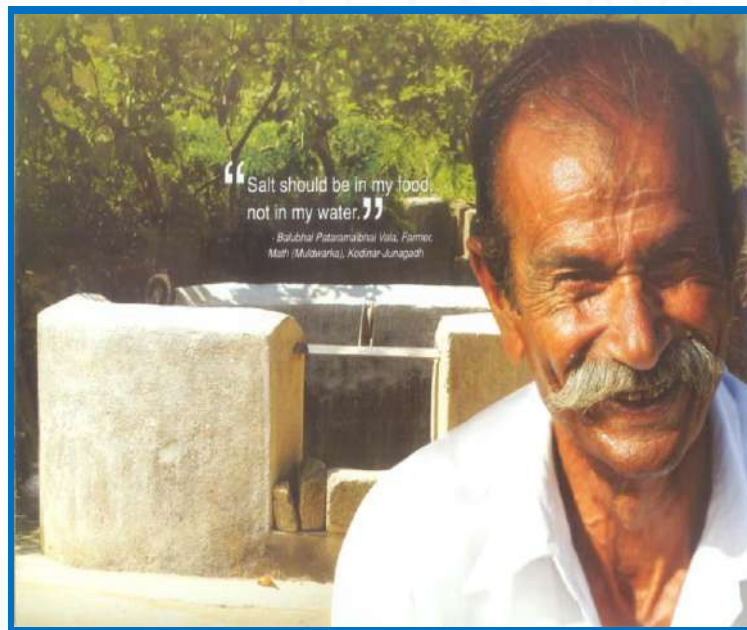
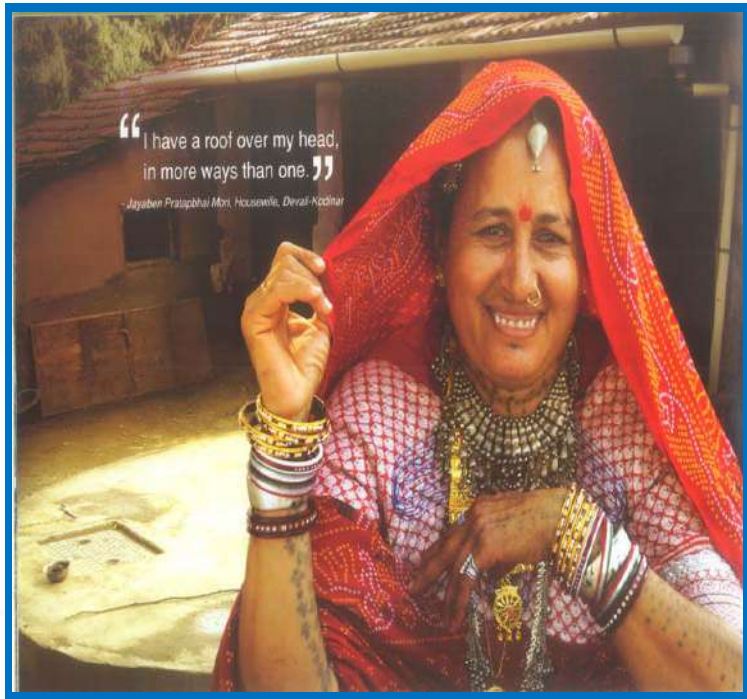
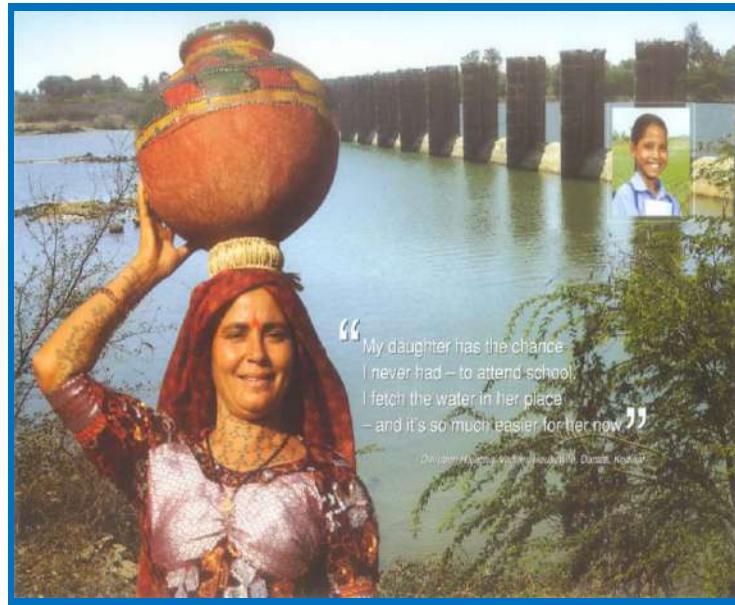


Salinisation of ground water sources can cause severe environmental problems and economic loss. The construction of various artificial recharge structures have significantly improved the ground water condition of the region both in terms of rise in ground water levels and reduction in ground water salinity. A diagram based on real time monitoring is shown below that salinity in the area has pushed back towards seaside as compared to 2001 to 2014:



3.0 Community words: Leaving with few comments by various villagers and photographs illustrating the success story of watershed development work in the area.





4. Sources/References:

- i) Hydrogeological studies conducted by various consultants
- ii) Chemical analysis of Water samples
- iii) Third Party audit Reports
- iv) Rewards / laurels by various Authorities and Publications



Occupational Health in large opencast mines & Preventive Measure

**Ramesh Choudhary
(Sr. Manager) Mines
Mangalam cement ltd (Morak) Kota**

Presence of high concentration of dust in the work place, exposure to noxious gases, fumes and hot humid work environment in underground mines, noise and vibration, poor illumination, ergonomically different abnormal positions during work, working in confined space etc. are the causes of various short-term and long-term health hazards in minimize.

What is Occupational Health Hazard:-The factors that affect the health of the miners while working in the underground mines, surface mines and quarries are called health hazards.

Occupational Health in large Opencast mines provisions: -Noise & Vibrations provisions

- **Audimetry provisions**

Occupational health services

In respect of small mechanized mines, which are operating in the non-coal sector, it may not be possible for small organization to create a special department on Occupational Health Services. For such small mines, it is suggested that an Association of small mine operators creates common facilities and infrastructure for Occupational Health Services. Creation of such facilities is specially needed for asbestos, manganese and mica mines.

Noise and vibration: -The recommendations of DGMS(Tech) circular No 18 of 2013 shall be implemented forth with(protection of workers against Noise and Vibration in Working Environment.

- **Audiometry:-** Audiometry should be introduced as a part of mandatory medical examination of persons seeking employment in mines and for persons engaged in endangered operations / areas where noise level exceed 90 dB(A)

Common Occupational Hazards in Mines

Dust

- Dust is the major hazard in any type of mining operation. Fine dust particles of size range 0.5 micron to 5 micron are injurious to the health of the miners. These dust particles are inhaled through the nose, pass through the respiratory tract (breathing passage) and get deposited in the lungs in the chest cavity.
- An occupational disease, ‘Pneumoconiosis’ is caused due to coal dust. Depending on the nature and composition of dust, the pneumoconiosis may be named as Silicosis (silica), Siderosis (iron) Asbestosis (asbestos fibber), Anthracosis ,Anthraco-silicosis Amitosis (barium), Stenosis (tin) etc.
- Monitoring the dust at the work environment and maintaining a health record of all miners working in dusty areas is useful.

Noise and Vibration

- Hearing defects may be causes due to exposure to excess noise (above 90dB) during work in the long run.
- The disease is called Noise Induced Hearing Loss (NIHL) which does not affect the normal speech range initially. It affects the high frequency (above 4000 Hertz) at first and shifts to the speech frequency gradually.
- The person gradually becomes deaf; irritable, talks in a loud voice, develop sleeplessness and high blood pressure.
- The hearing impairment can be detected early by audiometric test.
- Hearing conservation program should be adopted in every mine in noisy areas to reduce noise hazard.
- This program consists of noise measurement at the work place, control of noise level in the source, on the pathway and at the miner’s ear level, use of ear protection (ear plugs and ear muff), periodic ear examination and audiometer, educating employees about noise hazard and job rotation to minimize exposure.



- A record should be maintained in for every miner for future health assessment.

Poor Illumination

- Poor illumination produces eyestrain and abnormal movement of the eyeball (nystagmus) among the mines, sometimes poor illumination causes accidents.
- Therefore, it is necessary to keep the work area well lighted without shadows or glare. The miners should also wear goggles to protect their eyes.
- Lighting standards at various work places are specified by DGMS, Dhanbad.

Ergonomic Hazards (Equation of Man & Machine-due to pose, posture while working)

- Hot humid work environment and mechanical problems during work lead to health impairment.
- Most of the mines in our country uses various equipment, which are not designed for Indian workers. As a result, most of the miners, who have poor health condition, suffer from fatigue, back pain, and joint pain and work stress.
- In addition to this, poor illumination, lack of ventilation. Hot and humid work environment and mechanical problems during work lead to health impairment.
- To prevent this, proper workstation design, selection of health workers to operate heavy equipment, rest pause and periodic medical examination to assess fitness for the job are some of the important steps to reduce this hazard.

Problems due to Air Pollution

- Both in underground and surface mines, dust nuisance is a problem for the community residing nearby.
- To reduce the environmental degradation and to maintain the ecological balance, reducing dust generation and proper disposal of the overburden should control air pollution.
- Tree plantation at the mining area is another step to reduce air pollution.
- Suspended particulate matter (SPM), smoke, fumes and other chemical pollutants should not be discharged to the atmosphere mercilessly.
- Air pollution causes irritation to the respiratory systems of the people staying nearby. Many people, particularly the children suffer from allergy, asthma, respiratory infection and bronchitis.

Preventive Measures

Engineering Control

Medical Control

Statutory Control

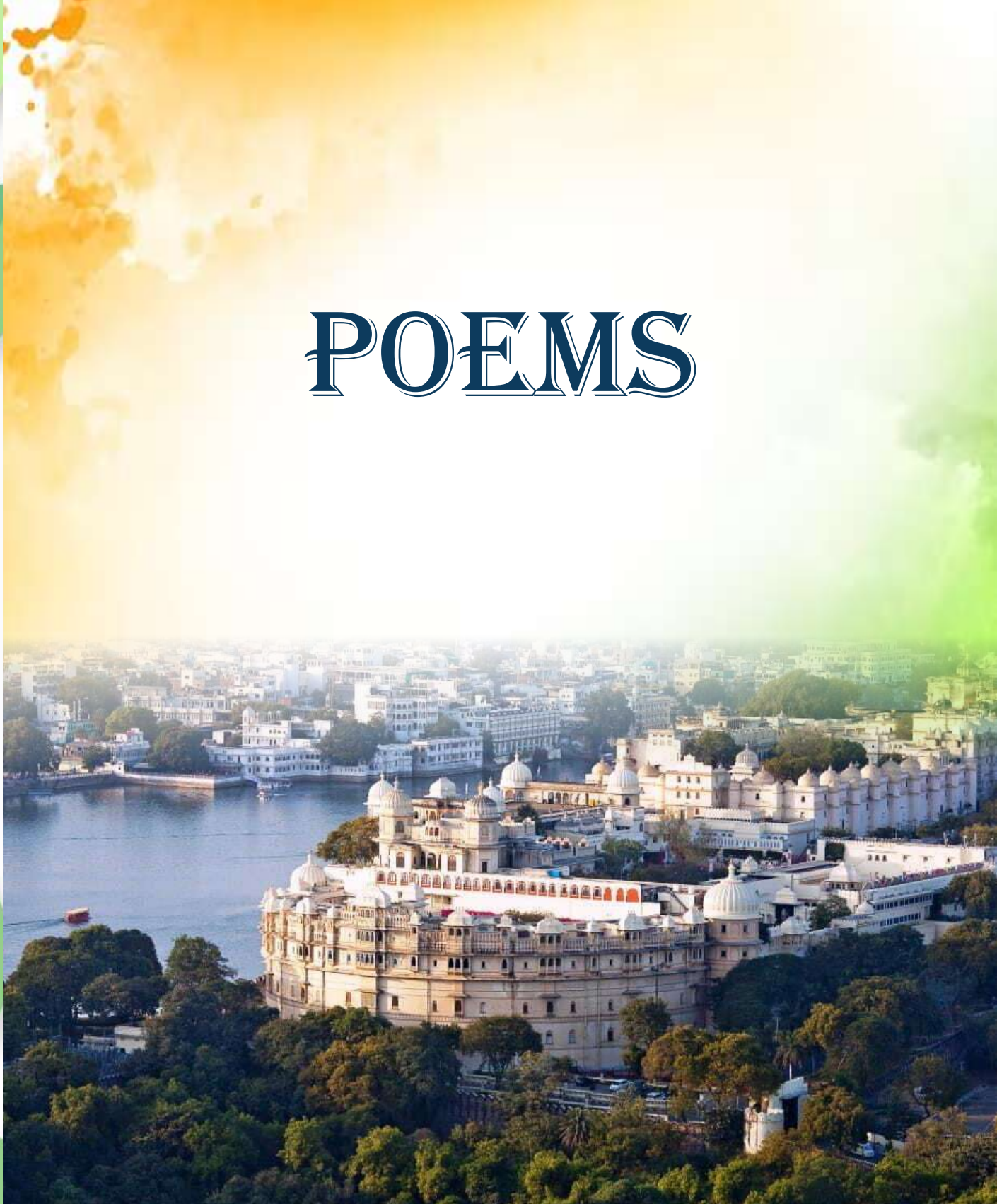
- Engineering control measures should be adopted at the work place and environment to reduce generation of dust, suppression of dust, proper maintenance of equipment and adopting environmental hygiene measures.
- Medical control measures are directed towards the miners with a view to protect their health. The medical center (OHS) should undertake the following need based functions.
- Pre-employment health examination of all miners.
- Emergency medical cares.
- Health Education & Training.
- Health Counseling
- Computerized health information system.
- Medical and occupation health facilities are meager in most of the mines and even nonexistent in a few.



34th Mines Environment & Mineral Conservation Week, 2023-24



POEMS





इन्हे करिये मत, परिन्दो के घर है।
ये है बेजुबाँ, बेसता, बेखबर है।

सभी के लिये अपना सब कुछ ये
देते।

थकसी रे कभी भी नहीं कुठ ये
लेते।

नहीं साथ छोड़े, ये वो हमसफर
है।

ये चाहे तो मौसम की बाँहे पकड़
ले,
चपल मेघ को बाजुओ में जकड़
ले,
फिजा ही बदल दे, ये वो जादूगर
है।

ये देते सदा राहगीरो को छाया,
नगर गांव खेतों में इनकी ही
माया
सघन वादियों में भी रहते निडर
है।

ये ही सारी ऋतुओ का आधार
बनते,

लमारे लिये ये ही सूरज से लडते।
पवन शुद्ध है ये जहा भी जिधर है।

इन्हें काटिये मत परिन्दो के घर है,
ये है बेजुबा बेखता बेखबर है।

Rajaram Cheeta
Mines Foreman
Mangalam Cement limited.

कविता

पहला सुख निरोगी काया,
पर्यावरण को जिसने अपनाया
सफल जीवन उसी ने पाया

पर्यावरण को जिसने बचाया,
ठतिहास के पन्नो मे नाम रुमाया,
धोरा री धरती पर पर्यावरण का जगाया,
1730 में पेड को गले लगाया,
खेजडी काटने का विरोध जताया,
अमृता देवी तुने जान देकर पेड बचाया,
शाह जी बोले इण्डिया सीमेन्ट के पर्यावरण
मंच से
कर्मचारियो पेड़ पोधे लगाओ देवी के नाम
से

हिन्दुस्तान के पेड ने विशाल रुप बनाया,
1989 कि गिनिज बुक ने विश्व को बताया
आन्ध्रप्रदेश के अननतपुर में है बरगद कि
छाया
लेखक लिखता है इण्डिया सीमेन्ट से यही हे
धन और माया।

बलवन्त सिंह
इण्डिया सीमेन्ट



स्लोगन

क्या भरोसा सांसो को,
रुक जाए चलते-चलते !
पेड़ पोधा न हो धरती पर,
रुक जाए सांसे चलते-चलते!

जल, थल, वायु, पर्यावरण की फुलवारी,
इन्हें स्वच्छ रखना, हम सबकी
जिम्मेदारी।

स्वच्छ पर्यावरण, मानव का अटूट अंग,
बिगड़ गया तो, हो जाएगा अपंग!

सोचे नहीं कटके दिखाये,
आओ सब मिलकर, पेड़ लगाये ।

सुरजीत कुमार

GET (PMM-workshop)
Mangalam cement Ltd.
Morak, Kota (Raj.)

आओ इस धरा को स्वर्ग बनाये ...

वृक्ष लगाए ..वृक्ष लगाए ...आओ इस धरा को स्वर्ग बनाये ...
संसाधनों का करे संरक्षण ...मितव्यता का सब को पाढ़ पढाये ...

आओ इस धरा को स्वर्ग बनाये ...

जल जीवन है ..पता है सभी को ...जो भूल गए उनको ..
आओ मिलकर फिर से बताएं ...जल बचाये ...देश बचाये ..

आओ इस धरा को स्वर्ग बनाये ...

नदिया - पर्वत हैं ..कशी और काबा ...जीसस और पगैम्बर भी ..
ना करें इन्हें दूषित ...आओ मिलकर इन्हें स्वच्छ बनाये....

आओ इस धरा को स्वर्ग बनाये

भू -खनिजों का है सिमित भंडार ...ना करे इनका दोहन अपार ...
सामिस्त्रण पे बल दे ...अपनी खदान की आयु बढ़ाये ...
आओ इस धरा को स्वर्ग बनाये ...

रखे सुरक्षा का ख्याल हरदम...ये जीवन है अनमोल उपहार ..
रहें सुरक्षित ..रहें प्रफुलित ...सुरक्षा के नियमों को कभी ना ठुकराएँ ...
आओ इस धरा को स्वर्ग बनाये ...

आओ इस धरा को स्वर्ग बनाये ...



Amit Sharma
Senior Manager (Geology)
Unit-Rabriyawas
Ambuja Cements Ltd



पर्यावरण सुरक्षा का यह कहना,
वृक्ष है धृती का गहना।

एक बच्चा हो, सो पेड़ लगाये,
सौ साल जिये, दीर्घायु कहलाए।

कल, आज और कल,
प्रतिवर्ष पेड़ लगाता चल।

दादा-दादी का यह कहना,
पेड़ है धरती का गहना

KESAR SINGH

Drill mechanic

Mangalam cement Morak

नदियाँ, नहरें, कुएँ, तालाब,

पानी बांट रहे नायाब !!

पानी की कीमत पहचान,

पानी जीवनदायी जान !!

दीर्घ आयु की औषधि है,

शुद्ध पर्यावरण।

मृत्यु का द्वार है, प्रदूषित वातावरण !!

हर मानव में, भर दो यह नारा।

माता-पिता सम, पेड़ हमारा ॥

Praveen Sharma

डोजर ऑपरेटर

मंगलम सिमेन्ट ली.

वृक्ष की महिमा

बड़ से गहराई सीखो, पीपल से सीखो ज्ञान,
नीम खड़ा वह सदा कह रहा, मत सहना
अपमान।

कहे आँवला सभी रसों को जीवन में अपना
लेना,
हे बबुल की सीख न शत्रु, कभी निकट न आने
देना।

जीवन को सुरभीत करलो और सारे जग को
महकाना,
इस विधा को चंदन से ज्यादा कब किसने
पहचाना

लता विटप और कंद-मुल फल फूल सभी का है
कहना,

मत कम आंको हमको हम हर प्राणी का है गहना।

प्राणों की रक्षा हम करते, रोगों को भी हर लेते।
बल बुद्धी योवन हम देते, कंचन सी काया करते।

फिर क्यों हम पर दानव बन कर टुट पडा है
मानव,
बुद्धी विपरित विनाश काले यह शिद्ध कर रहा
मानव।

इससे पहले कि पानी उपर हो जाये सिर से,
विश्व उष्मा कम करने को वृक्ष लगाओ फिर से।

हे आर्यपुत्र अब रावत उठा वनदेवी की,
धरती माता की रक्षा में अब वानप्रस्थ बीते बाकी

जयपर्यावरण

लोकेश वैष्णव

जय सुरजाना

लाईमस्टोन माईन्स



34th Mines Environment & Mineral Conservation Week, 2023-24



पर्यावरण पर कविता

धरती और पर्यावरण, मानव से करे पुकार, मत छोड़ो मेरे अस्तित्व को,

वरना भुगतना पड़ेगा आने वाली पीढ़ी को गम्भीर परिणाम।

हमने अपनी जरूरतों के लिए वातावरण को बहुत दूषित किया है,

फिर भी पर्यावरण ने हम को सब कुछ मुफ्त में दिया है।

प्राणदायनी तत्वो जल, वायु और मिट्टी से,

हमारे जीवन का उद्धार किया है।

फिर भी मानव पेड़ काटता है,

और अपने जीवन को संकट में डालता है।

पर्यावरण नहीं होता तो,

जीवन में रंग कहां से भरता।

पर्यावरण को स्वच्छ बनाये रखना,

मानव जाती का परम कर्तव्य है।।

आओ मिलकर कसम खाते है,

पर्यावरण को स्वच्छ बनाते है।।

आज मिलकर पुनः कसम खाते है,

कि पेड़ लगाकर, प्रदूषण को दूर भगा कर, धरती माता की सेवा करते है।

खान सर्वेक्षक

बिरला सीमेंट लाइमस्टोन माईन्स,

जाई सुरजना

Clean Earth, Green Earth

Slogan

Make It Green

Lives are crying because it is not clean,
Earth is dying because it is not green...

Earth is our dear Mother, do not pollute it,
She gives us food and shelter, just salute it...

With Global Warming, it is in danger,
Let us save it by becoming a strong ranger...

With dying trees and animals, it is in sorrow,
Make green today and green tomorrow...

With melting snow, one day it will sink,
How can we save it, just think...

Trees are precious, preserve them,
Water is a treasure, reserve it...

Grow more trees, make Mother Earth green,
Reduce pollution and make her a Queen...

Digendra Singh Solanki
Manager Geology Mines
Birla Cement Limestone Mines
Jai Surjana

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माँ सा दुलार है पेड़ों के सीने में

कौशिक कर
Mines foreman
JK CEMENT

माँ सा दुलार है पेड़ों के सीने में देते फल, सब्जी और बयार हैं
छाया है इनकी गोदी में दिलों में सिर्फ प्यार है

पक्षियों का आशियाना है इनके हाथों में कदमों में कीट-पतंगों का संसार है
लेते हैं हमसे कार्बन-डाई-ऑक्साइड गैस देते वर्षा और जीवन-दामिनी ऑक्सीजन की बहार है
गोंद मिलता, रबबर मिलता इसी के कारण होता इत्र और परफ्युम का व्यापार है
पेड़-पौधों और जंगल के कारण होता मानव के रोगों का उपचार है
वृक्षों से औरतों के वट - सावित्री की पूजा है होती फूलों से महिलाओं के श्रृंगार के लिए गजरा होता तैयार है
औजौल की सुरक्षा परत है बनाते धरती के जल - मग्न होने में यही तो पानी के आगे बनते दीवार है
घरों के दरवाजे, खड़की इन्ही से बनते हैं इन्हीं से पलेंग, कुसी, कुलर और क्रिकेट खेलने के लिए बल्ला होता तैयार है
इन्हीं से देश की सुरक्षा के लिए बंदुके हैं बनती इन्हीं से अर्थी के लिए सेज होती तैयार है
जीवन इन्ही से चलता है मृत्यु इसी पर साथ ले जाती यार है
माँगते हमसे कुछ नहीं इसलिये पानी मत पिलाओं पर काटो तो मत मेरे यार है

धरती, पानी एवं हवा रखो साफ
वर्ना आने वाली पीढी नहीं करेगी माफ

चक्रवर्ती सिंह चूडावत
माइनिंग मेट
पार्थिपुरा लाइमस्टोन माईन्स
द इंडिया सीमेंट्स लिमिटेड,
बांसवाड़ा वर्क्स.

BE A PART OF SOLUTION
NOT PART OF THE POLLUTION
DON'T DESTROY THE GREENERY
OR IT WILL SPOIL THE SCENERY.

REUSE, REDUCE, RECYCLE
AND NEVER BE CONFUSED.

Vikesh Kumar Kalal
Surveyor
Parthipura Limestone Mine
The India Cements Limited
Banswara Works.

जो देता पेड़ो को पानी
वही व्यक्ति है सच्चा ज्ञानी
प्लास्टिक से होता पर्यावरण प्रदूषण
इसका 500 से 600 सालो में होता विघटन

सोहन सिंह
माईन्स फोरमैन
पार्थिपुरा लाइमस्टोन माईन्स
द इंडिया सीमेंट्स लिमिटेड,
बांसवाड़ा वर्क्स.

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34th Mines Environment & Mineral Conservation Week, 2023-24



(कविता हिंदी) पर्यावरण संदेश

मोहताज हो जाओगे कभी
प्रकृति को निहारने को,
कल था वह आज नहीं,
आज है वो कल नहीं
रोक लो अब भी
कह रही है धरती माता,

पर्वत और पठारों को
नदी और मैदानों को
हरीपाली की चादर ओढ़ें
जंगल और खेतीघानों को

चारों तरफ लूट मची है
प्रकृति की शृंगार की
चीख रही है धरती माता
आंचल अपना बचाने को

सेसा ना हो कभी कहर बन कर, ये
चारों तरफ फैल रहा है
दुषित हवा का वातावरण घटा
नदियां अब सूख रही हैं
पर्वत पठार मिट रहे हैं

जंगल अब वंजर हुए हैं
चारों तरफ दुषित वातावरण है
कहां जी लेंगे हम उनके बिना
देहो अपने लालच को

बचा लो अब भी
धरती के शृंगार को
वक्त है अब भी बरना
मोहताज हो जाओगे कभी
प्रकृति को निहारने को,

नाम = राजेश कुमार सामौरा
रोकन . न. GRS 1117
कम्पनी गुण आर इंडिया

उत्कर्ष स्तरान की है यह पहचान
जिसके अस-पस के पर्यावरण में मुस्तुबाही होर क्क'
समिज सम्पदा की सही (उम्ह) संरक्षण
सही है अब्बार सही पहचान सही रोपी-रोपी और मकल'





“पर्यावरण”

ऐ इंशा अपने जीवन में
तू कभी दो चार वृक्ष लगा दे
जितनी साँसे ली जीवन में
थोड़ा उसका कर्ज़ चुका दें

पेड़ काट - काट के काहे
खुदकुशी कर रहा
जिस डाली पर बैठा हे
उसी को तू काट रहा ॥

सोच समझ कर काम करना
अपने मन का चिंतन करना
प्रदूषण को रोके बिना
क्या सम्भव हे मानव का जीवन

ये कुदरत की नायाब अमानत
धरती पर जीने की हे जमानत
इसके पतन के काम करेगा
ये होगी कुदरत से बगावत ॥

पर्यावरण का रख सम्मान
सबको सम्मति दे भगवान ..॥

Anwer S/O Mohmad Farooq
Welder, Malaikhera Mines
J.K.Cement Works, Nimbahera

ASHWANI PUNIA
(MINING ENGINEER)
MANGALAM CEMENT LTD
MORAK (KOTA)

बड़ से गहराई सीखो, पीपल से सीखो ज्ञान
नीम खड़ा वह सदा कह रहा, मत सहना अपमान

कहे आंवला सभी रसों को, जीवन में अपना लेना
हे बबूल की सीख न शत्रु, कभी निकट आने देना

जीवन को सुरभित करलो और सारे जग को महकाना
इस विद्या को चंदन से, ज्यादा कब किसने पहचाना

लता विटप और कंद मूल फल फूल सभी का है कहना
मत कमतर आंको हमको, हम हर प्राणी का है गहना

प्राणों की रक्षा हम करते, रोगों को भी हर लेते
बल बुद्धि यौवन हम देते, कंचन सी काया करते

फिर क्यों हम पर दानव बन कर टूट पड़ा है यह मानव
बुद्धि विपर्यय विनाशकाले, सिद्ध कर रहा यह मानव

अब भी समय शेष है, मौसम में ठंडक भी बाकी है
हिमखंडों के पिघलन की परिणति क्या तुमने आंकी है

इससे पहले कि पानी ऊपर हो जाए सिर से
विश्व ऊष्मा कम करने को वृक्ष लगाओ फिरसे

हे आर्यपुत्र अब शपथ उठा वनदेवी की प्रकृति मां की
धरती माता की रक्षा में अब वानप्रस्थ बीते बाकी



* कार्यस्थल सुरक्षा *

हम हमारी जिम्मेदारी निभायेंगे,
कार्यस्थल पर हम हर सुरक्षा अपनारेंगे!
हम रहेंगे हमेशा सावधान,
क्योंकि कार्य के साथ होगा हमारा सुरक्षा पर ध्यान।
हमारा यह दैनिक काम होगा,
सबके लिए पहले सुरक्षा का नाम होगा!
हर समय हम हर सावधानी बरतेंगे,
साफ-सुथरी वस्तुएँ ही प्रयोग करेंगे।
हमारी कार्यशैली से सबको हम पैगाम देंगे,
सुरक्षा होगी सर्वोपरि और नये आयाम देंगे!
सुरक्षा की जिम्मेदारी निभाकर हम,
कार्यस्थल पर सबको सुरक्षित करेंगे हरदम !!

— NORMET INDIA PVT. LTD. —
SATYA NARAYAN SHARMA.
T. NO.-176.



34th Mines Environment & Mineral Conservation Week, 2023-24



OUR WELLWISHERS



158

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[^]Based on tests for water repellency carried out at ACC's NABL accredited laboratory.



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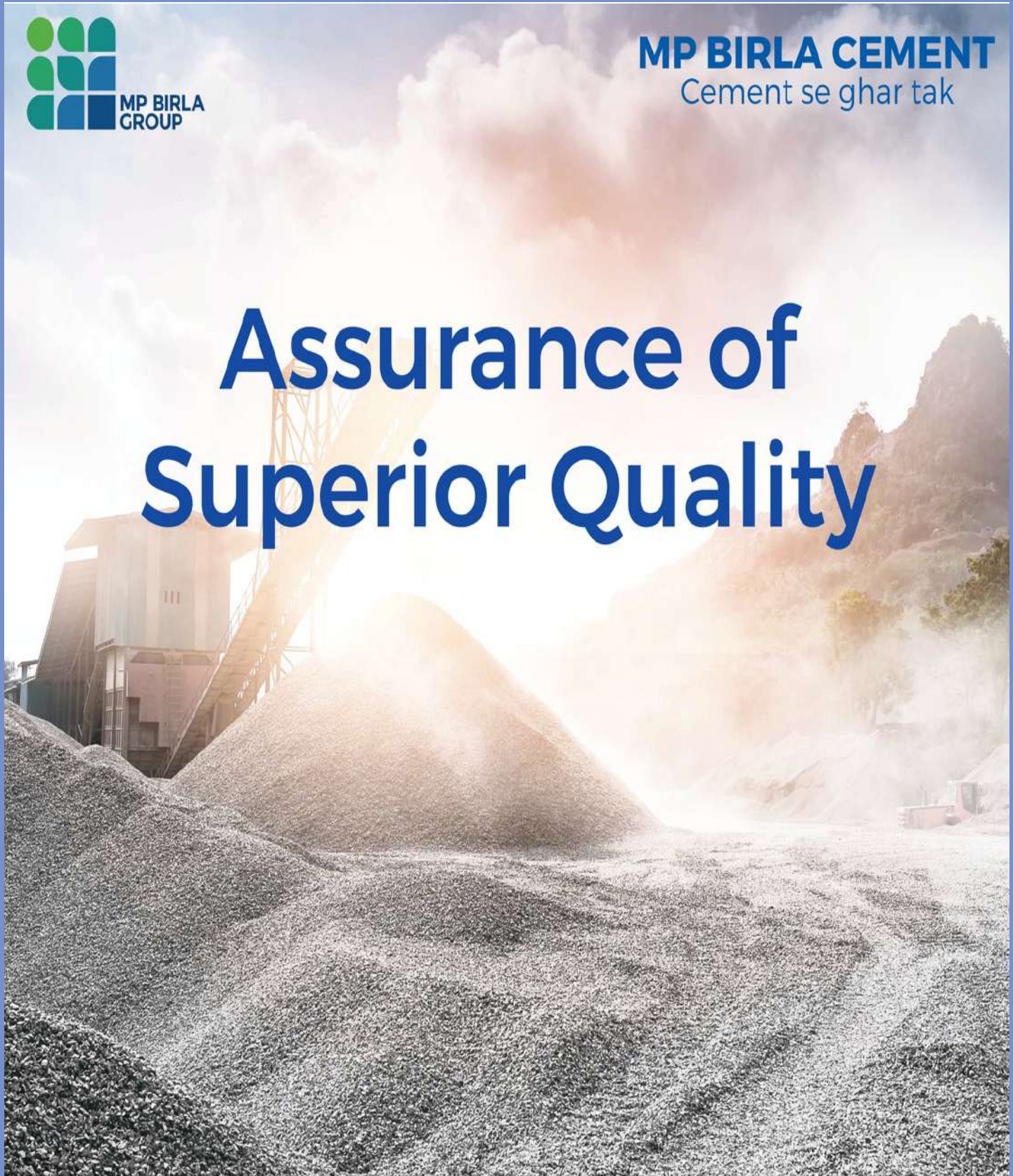
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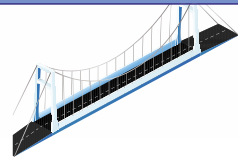


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Source: GCCA GNR Data 2021 - <https://gccassociation.org/gnr/>
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- + 18% P₂ O₅ Powder (RAJPHOS)
An Organic Direct Application Fertilizer

Lignite

- Lignite with calorific value of 2800-3200 Kcal/Kg.
- GOI has allotted Lignite blocks having reserve of more than 400 million tons

Gypsum

- Run Of Mine (ROM) Gypsum-used in Cement industries and land reclamation
- Run of Mine (ROM) Selenite- used for manufacture of Plaster of Paris & Ceramics

Limestone

- +95% CaCO₃ Low Silica<1.5%, Steel Melting Shop (SMS) grade Limestone

Power

- 106.3 MW capacity Wind Energy Project in operation, with generating capacity of 1650 Lac KWH (units) grid quality clean power per year.
- Projects registered under CDM, UNFCCC (Kyoto Protocol) for CERS earnings.
- 5 MW Solar project also in operation at Gajner, Bikaner



Industrial Beneficiation Plant, Jhama, Kota



Panoramic View of Open Pit Lignite Mines, Barmer



Aerial View of Solar Plant at Bikaner



Limestone Crushing Plant at Sanu Mines, Jaipur



Wind Energy Farm at Bada Bagh, Jaipur

OUR STRENGTHS

- Consolidating leadership in Fertilizer, Steel, Cement, and Power Sector.
- One of the Biggest Revenue Contributing PSU to state exchequer.
- Only Producer of SMS grade Limestone & Producer of Natural Gypsum & High Grade Rock Phosphate in the Country.
- Achieved unprecedented growth in Productivity, Turnover, Revenue and Commanding Share in Industrial Mineral Sector of India.
- Established rare distinction of being the first PSU in India to earn foreign exchange by successfully trading Carbon Credit in International Market.
- Taking care for society under CSR. Contribution for Health & Medical, Education, Water Supply, Infrastructure and Community Development, Environment Protection and Plantation in Project Districts.

OUR PROJECTS

Petroleum & Natural Gas

- Wholly owned subsidiary company formed in the name of Rajasthan State Petroleum Corporation Limited for carrying out activities in Petroleum & Natural Gas Sector in Rajasthan.
- A joint venture Company in the name of Rajasthan State Gas Limited with joint venture partner GAIL Gas Ltd has been incorporated for developing City Gas Distribution network in Rajasthan.

Venture to mine out Lignite & Sand

- A joint venture company M/s Barmer Lignite Mining Company Limited has been incorporated with joint venture partner Rajwest Power Limited wherein RSMML hold 51% equity.
- A newly formed strategic business unit has been established to explore business opportunities in sand.

CORPORATE OFFICE

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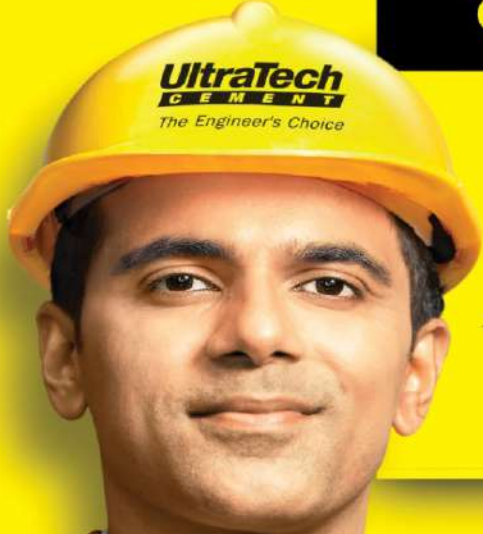
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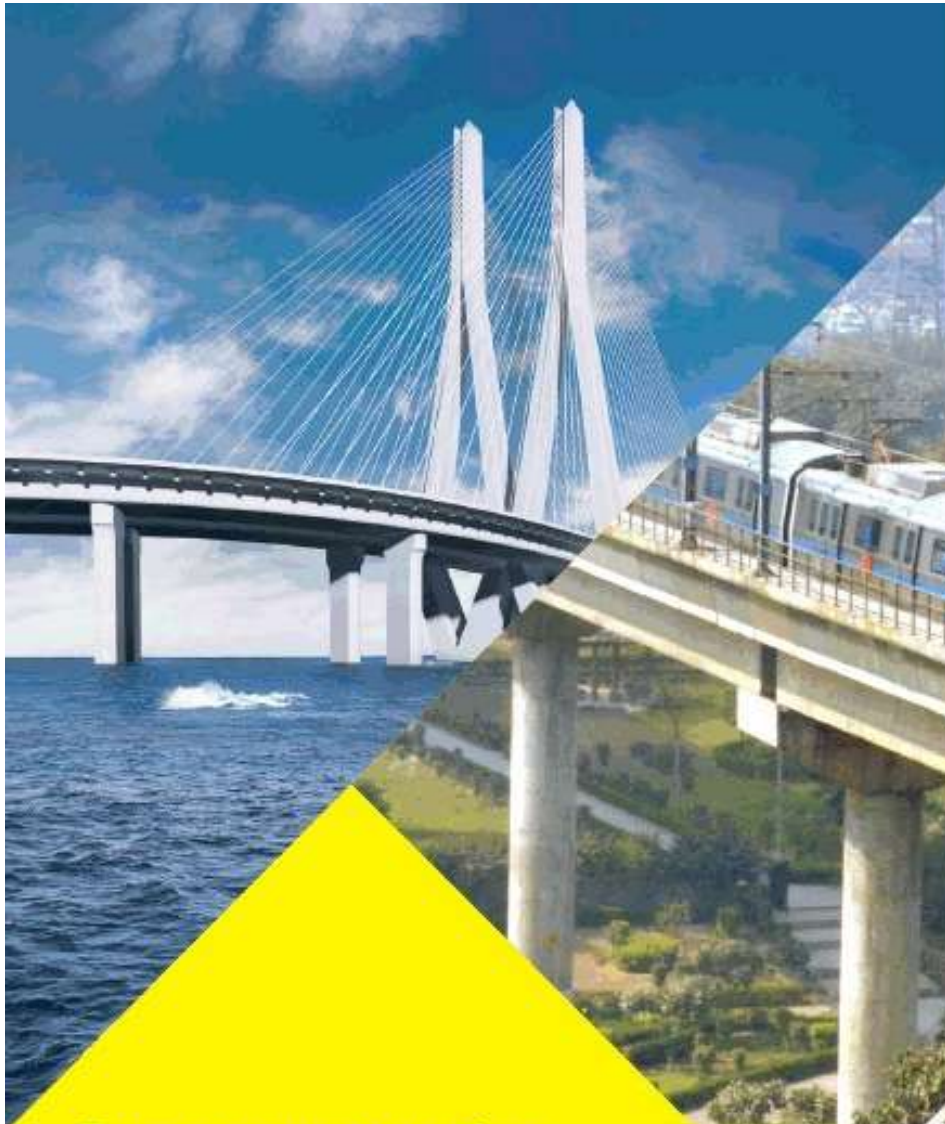
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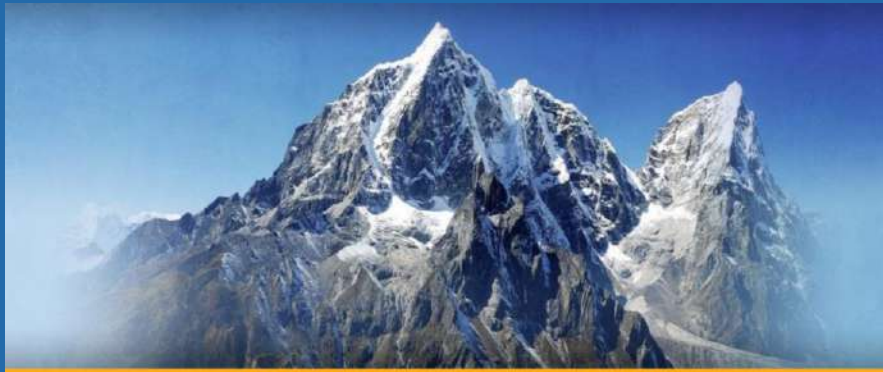
*In the Metals & Mining sector as of 22nd December, 2023

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Robert S. Boynton (1980)

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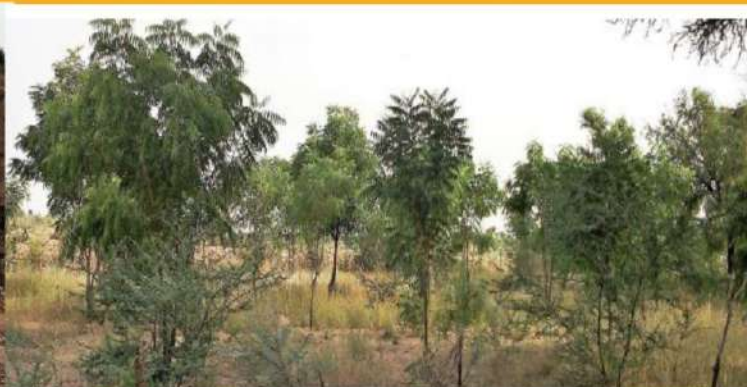
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