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COMMERCIAL COAL MINES AUCTION FOR 40
MINES ON NOVEMBER 15, SAYS COAL SECRETARY



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Out of a total of 152 total mines auctioned, including 91 mines under commercial mining, as many as 51 mines are in production. The Centre is planning to open an auction of around 40 commercial coal mines later this month, said Amrit Lal Meena, secretary, of the Ministry of Coal, on Monday.

“Commercial coal mines auction is going to be launched very soon. The minister is likely to open the next round of commercial coal mines auction on November 15,” Meena told reporters at the 10th Asian Mining Congress.

According to him, around 40 commercial coal mines would be auctioned in the latest round.

Coal output

Meena said production from already operational commercial and captive coal mines is expected to touch around 15 per cent of the coal output of the country this fiscal. Out of a total of 152 total mines auctioned, including 91 mines under commercial mining, as many as 51 mines are in production.

“Last year, these mines produced a total of 116 million tonnes of coal, which is about 14 per cent of the country’s total production. This year, all these mines and seven-eight new mines will come into production and they will produce 162 million tonnes, which will constitute roughly 15 per cent of the country’s production,” the coal secretary said, adding it took around 51 months time to make these coals operational.

The Ministry of Coal, in coordination with the State governments and the Ministry of Environment and Forests, is accelerating all the clearance procedures for all the commercial and captive coal mines auction holders, Meena said.

According to him, no recipients of commercial and captive mines have returned their blocks so far.

Since the first auction of commercial mining in 2020, a total of 91 coal

mines have been auctioned over three years in seven tranches under commercial coal mining. Out of these 91 coal mines, nine mines have received all the permissions and five coal mines have started production. Production during FY 23 from commercial mines was 7.2 million tonnes.

Domestic production

In the current financial year, production from the commercial mines is expected to cross 10 million tonnes. “As per the plan, they are doing well,” Meena said.

He said during the current financial year domestic coal production was expected to be around 1012 million tonnes. “About 85 per cent of this coal production goes to the power sector, while 15 per cent goes to the other sector of the economy,” the coal secretary said.

During the last financial year, domestic coal production was 892 million tonnes.

Meena said the government’s policies are to support more and more domestic coal production. “In 2019-20, in the total coal consumption basket, 26 per cent was the share of imported coal. In 2022-23, the share of imported coal has gone down to 21 per cent. Further, if we compare during the first six months of 2023-24, there is a further reduction of 10 per cent. So, with the increase of domestic coal, the import is coming down,” he said.

“For various sectors of consumers like steel, high grade and coking coal is required, which is not available in our country. So, that coal has to be imported. But our efforts are to ensure coal availability to all sectors,” the secretary added.

To a question, Meena said there are “no further plans” to list the two subsidiaries of Coal India Limited, Bharat Coking Coal (BCCL) and Central Mine Planning & Design Institute (CMPDI).

“CIL is listed. It is doing very well. Market capitalisation has gone up by 26 per cent in last year.” he pointed out.

Source: The Hindu Business Line

INDIA'S STEEL MINISTRY FAST-TRACKS WORK ON SOURCING COKING COAL FROM MONGOLIA

Joint working group of Indian and Mongolian government officials is “being activated” to look into the issue

India's Steel Ministry has reached out to Mongolia as it looks to start work on creating logistics support and explore possible investments for bringing in coking coal from the Central Asian nation. Union Steel Secretary Nagendra Nath Sinha told businessline that a joint working group of Indian and Mongolian government officials is “being activated” to look into the issue.

Also, there is an ongoing discussion to increase sourcing of coking coal from Russia, Indonesia and New Zealand, apart from Mongolia. The move comes in the wake of increasing volatility in coking coal prices, especially in the case of shipments coming in from Australia. Coking coal prices (the bench-marked prime hard coking coal grade from Australia) have over the last six months seen a \$100 per tonne jump. The average lowest price was \$230 per tonne earlier this year and had risen to \$367 per tonne. On Wednesday, coking coal price moderated to \$315 per tonne-odd levels.

“We don't intervene in the markets (to control price volatility). But there is a joint working group (India and Mongolia), which we will activate (to tap alternate sourcing markets). I believe the last meeting took place in 2021. However, I have reached out to the Ambassador of Mongolia and we hope to activate that mechanism to get a better understanding of their mines, the washeries, logistics and so on,” he said, while speaking on the sidelines of the Indian Steel Association's annual conclave.

Earlier discussions within the Ministry saw Mongolian officials being told that there was a need to set up washeries, which would allow India access to better grades of coal (lower ash content).

According to Sinha, the Ministry also needs to understand the “ca-

capacity” that Mongolia has in order to import coking coal to India. Mongolia is a land-locked country – with China and Russia – being its key neighbours; and most of its trade takes place through the ports of these two nations. “The joint working group will undertake various explorations (including a look into logistics aspects). On Tuesday (November 7), I had reached out (through MEA) to the Ambassador. Hopefully with greater involvement with the Ministries and the industry we should be in a position to achieve some results,” he said. Internal discussions of the Ministry had pointed out to alternative routes being explored if sourcing from Mongolia had to happen. Concerns persist on Chinese intervention. Reportedly, Mongolia has rail connectivity to Russia and China and the ports of these countries. The push is towards leveraging these lines for exporting coal. Three major rail projects have been commissioned in 2022 and four new railroad checkpoints will be opened, primarily with a focus on mineral transportation.

Mongolian coal on exchanges

Mongolia incidentally is exporting its coal at prices set via auctions on the Mongolian Stock Exchange (MSE), beginning February, and has reportedly stopped signing direct sales contracts with overseas buyers.

The government there approved a regulation requiring parties involved in coal exports to make their trades through open electronic trading via the MSE. Under the previous trading mechanism, buyers only paid mine mouth prices to miners and sorted out the logistics by themselves. The new so-called “border prices” will factor in the transportation fees and aim to simplify the coal export process, it is being said.

Source: The Hindu Business Line

JSW STEEL, ARCELOR MITTAL IN RACE TO BUY VEDANTA MINES, STEEL ASSETS

Vedanta's ask price for both assets at Rs 10,000 cr

JSW Steel and ArcelorMittal feature among the likely bidders for the iron ore mines and a steel plant of ESL Steel, which is a part of mining magnate Anil Agarwal-owned Vedanta Ltd. The development indicates potential acquisition opportunities and strategic investments in the iron and steel industry as various entities explore options to expand their portfolios and operations.

Vedanta Group has set an enterprise valuation of Rs 10,000 crore for these assets. However, potential buyers are aiming for a reduced valuation, indicating negotiations and considerations for the final acquisition price, the Business Standard reported on October 12.

Vedanta had initially acquired the plant from Electro-steel Steels in June 2018 under the Insolvency and Bankruptcy Code, marking its entry into the sector. But, as debt concerns escalated, the LSE-listed company started looking out for the possibility of selling the asset, triggering discussions on its valuation. The final acquisition price will likely be determined through negotiations between Vedanta and the potential buyers of the ESL Steel assets.

"Both the assets could be sold separately, and the combined ask price is around Rs 10,000 crore. The offers, however, are expected in the range of Rs 7,500 crore to Rs 8,000 crore," the financial daily said, citing a source. A spokesperson for Vedanta said the company "continues to review its strategic priorities in the normal course of its capital allocation discussions".

Source: Business Standard

AFRICAN NATIONS, MONGOLIA ON MINES MINISTRY'S RADAR FOR SEARCH OF CRITICAL MINERALS

While Congo is a market where the Ministry is keen to look into for both cobalt and copper, Zimbabwe is mostly for platinum group elements, chrome, lithium, among others

India's Mines Ministry is tapping into overseas markets across Africa and Mongolia in its search for critical minerals primarily cobalt and copper.

While Congo is a market where the Ministry is keen to look into for both cobalt and copper, Zimbabwe is mostly for platinum group elements (PGE), chrome, lithium, among others. Mongolia is mostly for interests in copper (and coal).

Cobalt is an essential mineral used for batteries in electric cars, computers, and cell phones. Incidentally, not all copper deposits contain cobalt, but nearly all cobalt in Congo is sourced from copper deposits.

Some of these critical minerals, the list of which was identified by the Ministry earlier this year, are the cornerstone for India's switch to green mobility and transition towards a lower carbon footprint. The list of these 30-odd minerals include antimony, beryllium, bismuth, cobalt, copper, gallium, germanium, graphite, hafnium, indium, lithium, molybdenum, niobium, nickel, PGE, phosphorous, potash, rare earth elements (REE), rhenium, silicon, strontium,

tantalum, tellurium, tin, titanium, tungsten, vanadium, zirconium, selenium and cadmium.

Officials aware of the discussions told businessline that instead of making direct investments at a G2G (government-to-government level), the pitch is primarily to facilitate investment by private players or government-backed and government-owned companies. Industry associations are being tapped into to bring in their members and explore investment opportunities across "mineral-rich" African nations, while also tap into Mongolia appropriately.

Exploring investments

The Ministry also has been planning to tap into Mongolia and there have been discussions to send a delegation to the Central Asian nation to explore investment possibilities.

"So the government will not be making direct investments this time. But we would look at facilitating investments from private companies, CPSEs, or even government-backed companies. Industry associations have been asked to bring their members on-board and check interest in investing in these countries," said an official, who has been a part of the discussions.

Source: The Hindu Business Line

COMMERCIAL COAL MINE AUCTIONS TOTALLY TRANSPARENT, FAIR & BASED ON METHODOLOGY : COAL MINISTRY

It may be noted that a large number of mines offered received no bid despite repeated offering during last seven rounds.

Ministry of Coal has clarified that after cancellation of 204 coal mines in 2014, coal mines are being auctioned through a transparent mechanism and for various end uses – power and non-regulated sectors. With the maturing of auction-based regime for captive coal mines and with an aim of boosting the country's production and reducing its dependence on coal imports, a well-considered and forward looking policy was brought for commercial mining in 2020. Under the policy, for successful implementation of commercial coal mining and to bring quick decision making, an Empowered Committee of Secretaries (ECoS) comprising Secretary (Department of External Affairs), Secretary (Department of Legal Affairs), Secretary (Ministry of Petroleum and Natural Gas) and Secretary (Coal) as members was constituted.

As per Methodology for commercial coal mines' auctions, in case of less than two Technically Qualified Bidders, for a mine, the first attempt of auction for that mine shall be annulled and the second attempt of auction may be initiated with the approval of Competent Authority. However, in case of only one bidder again in the second attempt, the matter will be referred to the ECoS for appropriate decision with respect to allocation of mine. Till date, 11 coal mines have been allocated to different bidders with the approval of ECoS based on single bid after 2nd attempt of auction, on the basis of transparency in auction, reasonability of offer and number of rounds the mines have been offered. It may be noted that a large number of mines offered received no bid despite repeated offering during last seven rounds. From the above auctioned 11 coal mines, only one coal mine i.e. Gondbahera Ujheni East coal mine has been successfully won by the Adani Group i.e. MP Natural Resources Pvt Ltd. Other mines have also been successfully auctioned

to others at the same percentage revenue share at which Gondbahera Ujheni East was auctioned.

Commercial coal mine auctions are a tremendous success. Since, first auction of commercial mining in 2020, a total of 91 coal mines have been successfully auctioned during a short period of three years in seven tranches under the commercial coal mining. Out of these 91 coal mines, nine coal mines have received all the permissions and five coal mines have started production. Production during FY 23 from commercial mines was 7.2 million tonne(MT).

Further, no correlation has been established between Cavill Mining Pvt Ltd and Adani Group. Also, as per the provisions of the Tender Document, the affiliate shall mean, a person who, directly or indirectly: (1) Controls such Bidder; (2) is Controlled by such Bidder; (3) is Controlled by the same person, who directly or indirectly, controls such Bidder; or (4) is an Associate Company of such Bidder. In this case, it cannot be established that Cavill Mining Pvt Ltd is an affiliate of Adani Group. Furthermore, in case a misrepresentation has been found at any stage of the auction process, the Ministry of Coal has a right to take appropriate actions as per clause 5.12 of the tender document.

The auction of coal blocks to the private and public sector is conducted as per CMSP and MMDR Acts on a transparent, open and accessible process. The Ministry of Coal has followed the spirit of the Supreme Court order on coal auctions. The Coal sector was freed from distortions, vested interests and sectoral allocations and brought everyone to a level playing field for efficient, fair and fast allocation of coal blocks to achieve Atmanirbharata in coal production in the country.

Sr. No.	Name of the Coal Mine	State	Successful Bidder	Final Offer submitted by the bidder	Vesting/ Allocation Date	Tranches in which mine was before final Allocation	Tranches in which mine was subsequently put for auction
1	Kuraloi (A) North	Odisha	Vedanta Limited	15.25%	03-09-2021	Nil	1st round of commercial auction
2	Gondbahera Ujheni East	Madhya Pradesh	MP Natural Resources Private Limited	5.00%	10-10-2022	Nil	2nd round of commercial auction
3	Tokisud Block II	Jharkhand	Twenty First Century Mining Private Limited	5.00%	08-02-2023	Nil	2nd round of commercial auction
4	Ashok Karkatta Central	Jharkhand	Moonpie Metaliks Private Limited	6.50%	Vesting Order Not Yet Issued	Nil	3rd round of commercial auction
5	Kasta (East)	West Bengal	Jitusol Developers Private Limited	5.00%	12-12-2022	Nil	3rd round of commercial auction
6	Marki Barka	Madhya Pradesh	Birla Corporation Limited	6.00%	17-01-2023	1st	3rd round of commercial auction
7	Barra	Chhattisgarh	Bharat Aluminium Company Limited	5.00%	12-12-2022	2nd	3rd round of commercial auction
8	Maiki North	Madhya Pradesh	Maiki South Mining Pvt. Ltd.	5.00%	12-12-2022	Nil	3rd round of commercial auction
9	Alaknanda	Odisha	Rungta Sons Private Limited	5.00%	12-12-2022	2nd	4th round of commercial auction
10	Choritand Tiliaya	Jharkhand	Rungta Metals Private Limited	11.25%	08-06-2023	1st, 2nd & 4th	5th round of commercial auction
11	Sitanala	Jharkhand	JSW Steel Limited	5.00%	08-06-2023	3rd & 4th	5th round of commercial auction

Source: pib.gov.in

INSIDE INDIA'S 'DEEP OCEAN MISSION', A CHALLENGE HARDER THAN GOING TO SPACE

'Samudrayaan' will be India's crewed expedition to a depth of 6,000 m in the central Indian Ocean.

The Deep Ocean Mission (DOM) is India's ambitious quest to explore and harness the depths of the ocean. As part of this initiative, India will, for the first time, embark on a journey to a depth of 6,000 metres in the ocean using an indigenously developed submersible with a three-member crew. The mission will require technologies to access and transport tonnes of valuable minerals from the ocean-bed in an environmentally safe manner. The following interview, with M. Ravichandran, Secretary of the Ministry of Earth Sciences, breaks down the mission and its salient features and challenges. It was conducted by Bhavya Khanna, a scientist in the Ministry.

DOM is India's ambitious programme, chiefly implemented by the MoES. DOM was approved by the Union Cabinet in 2021 at a cost of nearly Rs 4,077 crore over a five-year period in a phased manner. The mission has six pillars:

- i) Development of technologies for deep-sea mining and a manned submersible to carry three people to a depth of 6,000 metres in the ocean. The submersible will be equipped with a suite of scientific sensors, tools and an integrated system for mining polymetallic nodules from the central Indian Ocean;
- ii) Development of ocean climate change advisory services, involving an array of ocean observations and models to understand and provide future climate projections;
- iii) Technological innovations for the exploration and conservation of deep-sea biodiversity;
- iv) Deep-ocean survey and exploration aimed at identifying potential sites of multi-metal hydrothermal sulphides mineralisation along the Indian Ocean mid-oceanic ridges;
- v) Harnessing energy and freshwater from the ocean; and
- vi) Establishing an advanced Marine Station for Ocean Biology, as a hub for nurturing talent and driving new opportunities in ocean biology and blue biotechnology.
- vii) The 'New India 2030' document outlines a blue economy as the sixth core objective for India's growth. The years 2021-2030 have been designated by the United Nations as the 'Decade of Ocean Science', and Prime Minister Narendra Modi has, on several occasions, emphasised the need for India to work towards sustainably harnessing the ocean's potential for the nation's growth.
- viii) DOM is one of nine missions under the Prime Minister's Science, Technology, and Innovation Advisory Council (PMSTIAC). It is imperative that DOM supports the blue-economy priority area, blue trade, and blue manufacturing in India.
- ix) MoES institutes, especially the Centre for Marine Living Resources and Ecology (CMLRE), Indian National Centre for Ocean Information Services (INCOIS), National Centre for Coastal Research (NCCR), National Centre for Polar and Ocean Research (NCPOR) and National Institute of Ocean Technology (NIOT) will collaborate with other national institutes and academia to achieve the objectives outlined in DOM, albeit with well-segregated responsibilities. DOM's progress is closely monitored by special councils and committees comprising experts

from across the national and multi-institutions, given its status as a priority and focus area for us.

- x) Please tell us about the progress of the first pillar of DOM, which requires the development of technologies for deep-sea mining and a crewed submersible.
- xi) The NIOT, an autonomous institute under MoES, has been entrusted with the mandate of developing indigenous technologies to address engineering challenges associated with exploring and utilising oceanic resources. As a part of DOM, India's flagship deep ocean mission, 'Samudrayaan', was initiated in 2021 by the Minister of Earth Sciences.
- xii) With 'Samudrayaan', India is embarking on a groundbreaking crewed expedition to reach a depth of 6,000 m to the ocean bed in the central Indian Ocean. This historic journey will be accomplished by Matsya 6000, a deep-ocean submersible designed to accommodate a crew of three members. Equipped with a suite of scientific sensors and tools, Matsya 6000 boasts an operational endurance of 12 hours, which is extendable to 96 hours in the event of an emergency.
- xiii) The design of Matsya 6000 has now been completed. Our initial phase will involve testing and experimentation at a depth of 500 metres (shallow water) within the upcoming year, followed by a realisation of the full 6,000-metre depth capability within two to three years. The shallow-water personnel sphere of Matsya6000 has been certified for human-rated operations at up to 500-m water depths. A human acclimatisation test in a shallow-water sphere was successfully conducted with three personnel for two hours at a depth of 7 m.

The Ministry is also working on an integrated system to mine polymetallic nodules of precious minerals from the central Indian Ocean bed. The minerals we can mine from the ocean bed in the central Indian Ocean region, allocated to us by the United Nations International Seabed Authority (ISA), include copper, manganese, nickel, and cobalt.

NIOT has successfully conducted deep-sea locomotion trials on the seabed at a depth of 5,270 m using our underwater mining system, 'Varaha.' This milestone is a step towards future exploration and harvesting of deep-sea resources. With encouraging progress observed in field tests and trials, we remain steadfastly on course.

The deepest point in the oceans, the Mariana Trench, is 11,000 m deep. Why has a depth of 6,000 m been chosen?

The decision to target a depth of 6,000 m for the DOM holds strategic significance. India has committed to the sustainable extraction of valuable resources, including polymetallic nodules and polymetallic sulphides. ISA has allocated a 75,000-sq.-km region in the central Indian Ocean and an additional 10,000 sq. km at 26° S to India for this purpose.

Polymetallic nodules, which contain precious metals like copper, manganese, nickel, iron, and cobalt, are found approximately 5,000 m deep, and polymetallic sulphides occur at around 3,000 m in the central Indian Ocean. Therefore, our interests span depths of 3,000-5,500 m. By equipping ourselves to operate at a depth of 6,000 m, we can effectively cater to both the Indian Exclusive Economic Zone and the central Indian Ocean.

It is said that exploring the deep oceans is more challenging than exploring outer space. Can you elaborate on some of the important challenges of India's DOM?

Indeed, exploring the depths of the oceans has proved to be more challenging than exploring outer space. The fundamental distinction lies with the high pressure in the deep oceans. While outer space is akin to a near perfect vacuum, being one meter underwater puts as much pressure on an object of one square meter area as if it were carrying about of 10,000kg of weight, which is equivalent to a huge adult elephant. Operating under such high-pressure conditions requires the use of meticulously designed equipment crafted from durable metals or materials. Additionally, electronics and instruments find it simpler to function in a vacuum or in space. Conversely, inside the water, poorly designed objects collapse or implode.

Landing on the ocean bed also presents challenges due to its incredibly soft and muddy surface. This factor renders it exceedingly difficult for heavy vehicles to land or manoeuvre, as they would inevitably sink.

Moreover, extracting materials requires them to be pumped to the surface, an undertaking that demands a large amount of power and energy. Unlike controlling rovers on distant planets, remotely operated vehicles prove ineffective in the deep oceans due to the absence of electromagnetic wave propagation in this medium. Visibility also poses a significant hurdle as natural light can penetrate only a few tens of metres beneath the surface, whereas space observations are facilitated through telescopes.

All these intricate challenges are further compounded by factors like variations in temperature, corrosion, salinity, etc., all of which must also be dealt with.

This is where NIOT plays an important role. Since its establishment in 1993, NIOT has provided scientific engineering solutions for a wide variety of earth-system-related issues. These solutions span beach restoration and buoy observations to the creation of vehicles tailored for polar regions and lakes. One of the pillars, which revolves around developing technologies for deep-ocean crewed missions and mining systems, has been progressing well.

Please tell us about the Matsya6000. Where does this keep us on the global front?

The Matsya6000 is India's flagship deep-ocean human submersible that aims to reach the ocean bed at a depth of 6,000 m. Accompanied by three crew members, called "aquonauts", the submersible carries a suite of scientific tools and equipment designed to facilitate observations, sample collection, basic video and audio recording, and experimentation.

The primary mission of Matsya6000 revolves around exploration. Notably, countries such as the U.S.A., Russia, China, France, and Japan have already achieved successful deep-ocean crewed missions. India is poised to join the ranks of these nations by demonstrating expertise of and capability for deep-ocean crewed missions. As a country, this makes us very proud. It is also important to note that our focus remains on developing these technologies indigenously, aligned with the vision of 'Atmanirbhar Bharat'.

Matsya6000 seamlessly combines the best and most feasible features of remote operated vehicles (ROVs) and autonomous remote vehicles (AUVs). Although its sub-sea endurance is limited, it offers an excellent intervention mechanism and operates untethered. This feature positions it ideally for deep-sea observation missions.

The interior of Matsya 6000 is designed to accommodate three humans travelling within a specialised sphere with a diameter of 2.1 m. The human sphere would weigh approximately 28 tonnes and have a short-sleeved environment with life

support, where oxygen is supplied and carbon dioxide is scrubbed away.

Constructed from a titanium alloy, the sphere is engineered to withstand pressures of up to 6,000 bar. It is equipped with propellers enabling movement in all six directions and features three viewports that allow the crew to observe its surroundings in real-time.

There will be about 12 cameras and 16 lights powered by lithium polymer batteries with an energy budget of 1 kWh. Communication is achieved through sound – an acoustic phone and modem. The navigation and positioning systems are state-of-the-art, too.

The overall dimensions of Matsya are 9 m in length, 3 m in breadth, and 5 m in height. Importantly, it will not be actively lowered through sinking; instead, it will function as a free-floating system, for energy efficiency. It can move at a speed of about 5.5 km/hr using underwater thrusters, which is adequate.

With Matsya, India will be the only country to have an entire ecosystem of underwater vehicles encompassing deep-water ROVs, polar ROVs, AUVs, deep-water coring systems, and more.

Please tell us about the Indian deep-ocean mining system 'Varaha'. Which other countries have successfully taken up deep-sea mining so far?

ISA has granted deep-ocean exploration and mining contracts to several countries, including China, France, Germany, Japan, Russia, South Korea, and India. Our own deep-ocean mining vehicle, 'Varaha', is a self-propelled track-based seabed mining system.

It operates on the flexible riser technique: the mining vehicle is lowered to the ocean bed from a surface ship using a high-strength flexible cord system. Once the vehicle reaches the ocean bed, it will be able to move around while the surface ship moves in tandem.

Positioned at a pre-surveyed mineral-rich site, Varaha uses a high-power pressure pump system to facilitate the extraction of precious polymetallic nodules. These nodules are pumped from the ocean bed to the surface ship.

Last year, NIOT successfully conducted deep-sea locomotion trials of 'Varaha' at a depth of 5,270 m in the central Indian Ocean. Over a span of 2.5 hours, the surface ship covered a distance of 120 m with Varaha. This achievement marked the world's deepest dive for an underwater mining machine.

'Varaha' was able to collect the polymetallic nodules from the ocean bed during the trial. An environmental impact assessment for this operation has been submitted to international authorities, signifying the successful completion of stage 1.

Nonetheless, much work remains in stage 2, which includes the extraction of valuable minerals. In this stage, our mining system has to make a slurry by combining polymetallic nodules with ocean water on the ocean bed using a powerful crusher. Then, the mineral slurry will be pumped up to the surface (5,000-6,000 m) through a riser. Given that the power supply – of about 1 MW per hour – can only be supplied from the surface ship, the pump must be very powerful. More power would mean very high riser friction. The slurry has to be transported so that the minerals can be extracted. We are working on addressing all these aspects, and our progress is promising.

I would like to add that the Ministry of Earth Sciences, various national institutes, and academia all involved as part of DOM have demonstrated excellent collaboration, knowledge exchange, and pooling of human capital. This embodies the very essence of the scientific zeal that defines our nation. By 2025, we are confident of moving the DOM ahead. Our commitment to success and service remains unwavering.

Source: The Hindu

NMDC ARM TO COMMENCE GOLD MINING IN AUSTRALIA

State-owned NMDC's subsidiary Legacy Iron Ore is poised to commence gold mining operations in Western Australia.

Legacy's Mount Celia Gold Project will start ore mining at Blue Peter pits in the next two to three months. "It is a watershed achievement for the 66-year-old NMDC as it adds a new geography and a new mineral to its portfolio," India's largest iron ore producer said on Monday. Steel Secretary Nagendra Nath Sinha, CMD (additional charge) Amitava Mukherjee and Legacy CEO Rakesh Gupta on Sunday participated in a groundbreaking cer-

emony for the mining operations. The groundbreaking event marks the culmination of a rigorous process that involved securing necessary statutory approvals and finalising the mining contract with Bain Global Resources.

A release from the Steel Ministry said surface and mine infrastructure works have progressed rapidly, setting the stage for ore mining to commence in the Blue Peter pits in the coming weeks. The first ore for processing at Paddington Gold Mine is scheduled for the first quarter of 2024 and set to become a significant contributor to India's gold production landscape.

Source: The Hindu Business Line



“THE WORLD NEEDS YOUR LIGHT: SHINE ON!”

In a world that often feels filled with challenges, darkness, and uncertainty, there is a deep longing for inspiration, hope, and positive change. Each of us has the capacity to be a beacon of light in this world, illuminating the path towards a better future. Each one of us can explore the importance of sharing our unique qualities, talents, and kindness to make the world a brighter place and inspire those around us.

1) Embrace Your Uniqueness

Every individual is a pool of talents, experiences, and perspectives that are entirely unique. When we embrace our individuality, we bring a new perspective to the world. Just as each star in the night sky contributes to the beauty of the universe, your uniqueness contributes to the rainbow of humanity. The world needs your distinct light to shine on and add depth to the human experience.

2) Acts of Kindness

Kindness has the power to heal wounds, mend broken hearts, and bridge gaps between people. Small acts of kindness can have a ripple effect, inspiring others to pay it forward. Whether it's helping a neighbor, supporting a friend in need, or simply being polite and considerate, your kindness can be the catalyst for positive change in the world.

3) Inspire and Empower

As Mahatma Gandhi once said, “You must be the change you want to see in the world.” Your actions and choices can serve as a model for others. By being a source of inspiration and empowerment, you encourage those around you to step into their own potential and become lights in their communities. Lead by

example, and watch as your light encourages others to shine as well.

4) Promote Positivity

In a world often bombarded by negativity, your positivity can be a breath of fresh air. Positivity is contagious, and it can shift perspectives and bring hope to even the most challenging situations. By maintaining an optimistic outlook and spreading positivity, you contribute to a brighter and more optimistic world.

5) Pursue Your Passions

When you passionately pursue your interests and dreams, you not only fulfill yourself but also inspire others to do the same. Your journey can serve as a testament to the power of determination and ambition. Share your experiences, both the successes and the challenges, and encourage others to follow their own passions.

6) Advocate for Change

If you are passionate about a cause or social issue, use your voice and actions to advocate for change. Be an advocate for those who lack a voice, and stand up for what you believe in. By shining a light on important issues, you can make a meaningful impact and help create a more just and equitable world.

In a world that often seems overshadowed by darkness, the power to bring light rests within each one of us. We have the ability to be a beacon of hope, kindness, and positive change. The world needs your light to shine on, to inspire, to heal, and to make it a better place. Embrace your uniqueness, share your kindness, inspire and empower others, promote positivity, pursue your passions, and advocate for change. In doing so, you can truly be the light that the world so desperately needs. Together, we can create a brighter, more beautiful future for all.

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