

Namibian Mining review



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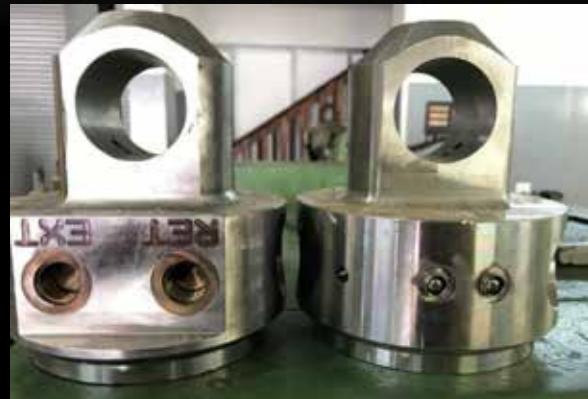
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**Andrew Maramwidze (Editor)**

Illegal mining is a headache that most mining jurisdictions are struggling to deal with, as it comes with a barrel of challenges both on the economic and social front.

These include safety issues, loss of revenue for the government, environmental concerns and safety of people involved in these illegal mining activities.

News that government is seeking to put a stop to illegal sand and gravel mining is a positive development that should be

Everyone is responsible for the environment ...the law alone cannot fight illegal miners

embraced by all stakeholders. And the biggest question is what employment initiatives can be done to plug this plague, the illegal miner risk mostly putting bread on the table. These individuals at the forefront of these illegal mining risk their lives, their operations are not directed by any qualified technician, they are just mining, the sand and gravel can collapse on them, no safety gear, no equipment on site to assist them in the event of an unforeseen accident, their communication with authorities is limited, hence their call for help can take forever. All these dangers and risks cannot be ignored.

However, despite the level of stricter measures or steps taken or put in place, lack of employment and source of revenue will always lead our brothers to seek means to make ends meet, while being sponsored by those with deep pockets, sending them from air-conditioned offices to illegal dig for sand and gravel for their multi-million construction projects and cutting cost

in the process. Maybe a heavy penalty should be charged to the end beneficiaries of these illegal sand and gravel, building should also maybe carry certificates that indicate how environmental friendly were the construction companies.

The collective action cannot just stop with arresting and putting hefty fines for these illegal miners, let the end user also be given the responsibility to say 'NO TO ILLEGAL MINING'.

Some action needs to be done to curb all these illegal ills mostly to our environment, before they balloon into a monster, leaving the country in an eyesore and disturbing the natural ecosystem of our environment.

Remember to share comments, letters and opinions with us.

Enjoy the read!



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Deep Yellow appoints new strategy executive

As Deep Yellow stretches to advance its inorganic pillar of growth strategy, a new Head of Business Development has been appointed. Seasoned corporate and business development executive, Andrew Mirco has been appointed company's Head of Business Development.

"Andrew will spearhead our efforts on executing advanced M&A opportunities to establish a project pipeline for Deep Yellow and, at the appropriate time, will also be responsible for securing project financing for Tumas, to ensure development of this exciting project remains on track."

"The time to act on the M&A front is now and we need to deliver on our stated objectives and, together with development of the Tumas Project, place the Company in a strong position ahead of the looming supply shortage forecast for the post-2023 period," said Managing Director and Chief Executive Officer John Borshoff.

Mirco will also be responsible for leading and progressing development funding as the company's Namibian flagship Tumas Project advances with its DFS currently underway.

Grootfontien project put on spotlight

Under-explored Grootfontein area has been put on extensive exploration by Namibia Critical Metals. With the potential to host magmatic copper-nickel deposits as cumulates or late magmatic disseminations and stock works, the area was recently exposed to an airborne EM survey with a total of more than 2,000 line kilometers at 200 m line spacing.

The survey will cover the priority gold target at Highlands and also the prospective ground for sediment-hosted lead-zinc-silver-copper-vanadium mineralisation in the Berg Aukas area. SkyTEM Surveys ApS Denmark has been contracted for the survey with its SkyTEM312FAST system

"We continue to be encouraged by early results and are excited to move our Grootfontein gold and base metal project to the next stage of exploration. Our technical team in Namibia has done a great job in early-stage analysis of this large underexplored region and we look forward to getting drill-ready as soon as possible" stated Darrin Campbell, the company's President.

Rössing Uranium remains committed to CSR

Rössing Uranium recently donated N\$8000 to the catholic aids action (CAA) Erongo Soup Kitchen.

The funds were collected from Rössing employees through the sale of cupcakes during the World Aids Day celebrations last year to support orphans who lost their parents due to AIDS-related illness.

The company has attested to remaining fixed in its corporate social responsibility, by way of earlier in the year, the company, in order to enhance the quality of engineering education and professional development of academic staff, had offered Industrial Engaged Internships.

"I am proud of all our employees and contractors for their contributions towards the project, this is indeed a testimony that we are working for Namibia," said Rössing Uranium Managing Director, Johan Coetzee.

Tariff increase on the card for bulk customers

The Electricity Control Board (ECB) is set to increase the average

bulk tariff by 2.92 percent from the currently approved tariff of N\$ 1.6500 per kilo watt-hour to N\$ 1.6982 per kilo watt-hour for the period 2021/2022.

NamPower recently effected a bulk tariff increase of 5.8 percent. And the latest approved tariff applies to NamPower bulk customers - regional energy distributors, local authorities, regional councils, and mines. The approved increase follows two years of no bulk tariff increases and the new tariff adjustment would be effective from 01 July 2021.

An amount of N\$ 35 million has been availed to be used for the variable operating cost of the thermal plants by NamPower from the Long Run Marginal Cost, the ECB stated on the 28th April, this amount will be used to mitigate the impact of the tariff increase on consumers and the economy.

"Over the years the tariff included an amount for Long Run Marginal Cost. The Long Run Marginal Cost is intended to ensure a smooth tariff path for the future, especially when NamPower is experiencing cash flow challenges due to expensive power supply options or building new power plants. This means that the Long Run Marginal Cost funds may be used to cushion customers from unexpected tariff hikes" said Foibe Namene, the CEO of the Electricity Control Board.

AfriTin raises £10 million to expand Uis tin mine

AfriTin Mining has announced the successful completion of a placing to raise gross proceeds of approximately £10 million via an accelerated bookbuild.

"We are pleased to announce the oversubscribed Placing which puts the Company into a position to expedite the Phase 1 expansion of our flagship Uis Tin Mine in Namibia at a time of unprecedented high tin prices.

"The proceeds also allow us to further investigate the exciting, significant lithium and tantalum by-product potential we have across our extensive resource base, and further exploration on our regional assets," said Anthony Viljoen, Chief Executive Officer of AfriTin Mining.

The company further said the tin market continues to perform well, and look forward to the added potential of the two by-products which are becoming increasingly essential components in the new technologies industry.

Mining remains economic mainstay

Despite mining being one of the few sectors that supported the economy in 2020, the industry recorded a negative growth rate of 14.5 percent. "Initial growth projections for the mining industry in 2020 stood at 11.1 percent. However, the preliminary National Accounts released by the Namibia Statistics Agency show that the industry recorded a negative growth rate of 14.5 percent. This was a further contraction from the negative growth rate of 9.5 percent posted in 2019," said Chamber of Mines President, Zebra Kasete.

Kasete said growth of the mining sector was negatively impacted by reduced diamond mining output, uranium and metal ore production.

"Uranium production was negatively impacted by the pandemic and water supply disruptions in the first quarter of 2020. Base metals output recorded a strong contraction due to a sharp drop in the production of Special High-Grade Zinc, owing to the closure of Skorpion Zinc mine," he said. Kasete said in total, the industry directly employed 14,435 individuals in 2020, a 12 percent drop in the number of permanent jobs compared to 2019.

New regulations to plug sand, gravel mining loopholes

Authorities are crafting new regulations to curb sand and gravel mining following a national outcry on illegal sand and gravel extraction activities.

Pohamba Shifeta, the Minister of Environment, Forestry and Tourism told parliament recently that un gazetted sand and gravel mining has caused serious destruction to the environment and loss of livelihoods to some communities.

"Precious lives have been lost especially children playing in these unrehabilitated pits, hence our reasons to enforce strict compliance," Shifeta said.

The new sand and gravel extraction regulations are being developed under the Environmental Management Act (Act No. 7 of 2007).

Shifeta said once adopted, the regulations will implement stricter measures and procedures, as well as ensure that culprits are punished accordingly.

Shifeta said his ministry has over the years withdrawn and cancelled a number of environmental clearance certificates where non-compliance to conditions and environmental management plans were observed.

Shifeta also said the ministry, with support from law enforcement agencies, have managed to close a number of sites where illegal sand mining was being carried out.

Meanwhile the ministry spokesperson Romeo Muyunda said the ministry expects to complete the new regulations in the next two to three months.

"The implementation may only start towards the end of the year," Muyunda said. In the meantime, the ministry will continue to implement the current strategies until the new regulations are in place, he added.



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KSB resume manufacturing in Namibia

By GLENN-NORA TJIPURA



KSB Pump and Valves Namibia has opened doors to a new business and new premises early in the year, under the stewardship of DeWet van Wyk.

DeWet, a veteran of the Namibian pumping industry, has been involved in many pumping projects around the country ranging from the procurement and installation of KSB pumps and valves at the country's major water utilities to large-scale mining and agricultural projects, as well as a myriad of smaller projects that have commanded equal attention through the years.

KSB Pump and Valves has evolved from a sales office to the South African operation to a fully-fledged company, coming at a time when soaring demand for pumps and services necessitates a move to bigger premises with a fully stocked distribution warehouse, service, and repair facilities to meet future growth requirements, the company stated in a press release.

"We are fortunate that KSB has been one of the preferred pump suppliers in Namibia for decades and with our vast footprint in Namibia and the Namibian government pushing for more local content the decision was made to establish a fully-fledged Namibian company," said DeWet, about the recent establishment of KSB Pump and Valves Namibia.

Situated in the Northern Industrial area of Windhoek, the company's new premises consist of nine offices, two boardrooms, a reception, and a fully equipped workshop area. The office block is 370m², while the workshop adds a further 420m² to the facility. The workshop has 2 big roller doors for deliveries and collections that make access in and out easy.

The location has easy access to the highway with access to key customers and suppliers in the same area.

"Additionally, we will have a workshop and a field service team to provide maintenance, services and repairs and enough spares to cater for our footprint in Namibia," said DeWet,

"We now provide local content to the Namibian market and will not need to constantly import equipment from South Africa, which unnecessarily lengthens delivery waiting periods," he added.



Lofdal project budget increase

By GLENN-NORA TJIPURA

Japan Oil, Gas and Metals National Corporation (JOGMEC) has officially elected to upscale joint venture agreement which will provide additional funding of \$2,063,000 for further exploration and development programs at Lofdal through to July 31, 2021.

In the JV agreement, JOGMEC is expected to provide \$3,000,000 in Term 1 and \$ 700,000 in Term 2 to earn 40 percent interest in the Lofdal project to earn an additional 10 percent interest, term 3 will require \$10,000,000.

The JV Agreement is structured such that no NMI equity will be issued and it is non-dilutive to NMI shareholders.

"We are very encouraged by the results from our first year of exploration and development at Lofdal with our partner JOGMEC and are delighted with their decision to advance to Term 2.

"JOGMEC has been an exemplary technical and financial partner and has consistently demonstrated their intent to advancing the Lofdal project with the accelerated funding provided." Stated Darrin Campbell, President of Namibia Critical Metals Inc.

He further highlighted that Term 1 was increased from \$3,000,000 to \$4,100,000 and with the further accelerated budgets into Term 2 which will be totaling 6.163 million.

Lofdal project according to the companies press release; is unique as one of only two primary xenotime projects under development in the world, the other project being Browns Range in Australia.

The joint venture with JOGMEC is driven by Lofdal's potential to be a long-term, sustainable supply of heavy rare earths for Japan.

"JOGMEC is mandated to seek a stable supply of natural resources for Japan and they have recognized the potential of Lofdal to provide a secure and sustainable source of heavy rare earths.

"The development of a new mining operation and associated processing facilities would bring significant employment and economic benefits to Namibia, and specifically to the Kunene Region. We are excited to continue to work closely with our partners at JOGMEC in advancing the Lofdal Project to the next stage," said Campbell.



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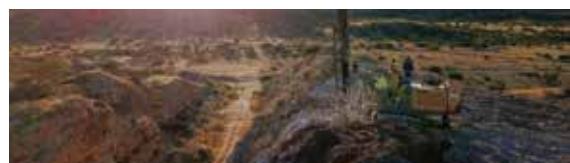
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Mafuta vessel maintenance affect diamonds output

De Beers' rough diamonds output on the local market decreased by 34 percent to 0.3 million carats, a development attributed to Mafuta vessel being under planned maintenance and another vessel remained demobilised as part of the response to lower demand implemented in the third quarter of 2020.

The development comes as the company's first quarter rough diamond production decreased by seven percent to 7.2 million carats, the company's statistics has revealed.

According to authorities at the company the development was driven by operational challenges, including excessive rainfall in Southern Africa and a COVID-19-related shutdown in Canada, as well as planned maintenance in Namibia.

In South Africa's production increased by 55 percent to 1.2 million carats due to planned treatment of higher grade ore from the final cut of the open pit, while

Canada's production decreased by 16 percent to 0.7 million carats, primarily as a result of a COVID-19-related suspension of operations in February.

Meanwhile in Botswana's production decreased by 12 percent to 5.0 million carats, driven by a 24 percent reduction at Orapa due to a lower grade feed to the plant in response to heavy rainfall and operational issues, including continued power supply disruptions.

However demand for rough diamonds in Q1 2021 recovered to pre-COVID-19 levels reflecting the replenishment of the depleted midstream, and renewed confidence by the midstream in response to the return of consumer demand for diamond jewelry in the US and China in the second half of 2020, said De Beers.

The first quarter rough diamond sales totaled 13.5 million carats, 12.7 million carats on a consolidated basis from three sights, compared with 8.9 million carats

(8.3 million carats on a consolidated basis) from two sights in Q1 2020 and 6.9 million carats (6.4 million carats on a consolidated basis) from two sights in Q4 2020.

De Beers further said the company's full year production guidance is unchanged at 32-34 million carats (100 percent basis), subject to trading conditions and the extent of further COVID-19-related disruption.



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Matrix plans to expand footprint, eyes local market

By GLENN-NORA TJIPURA

With an extensive network across eight countries in sub-Saharan Africa, Matrix Petroleum spearheaded by Malvin Chiwanga, the Chief Executive Officer is garnering momentum as it plans to be operating in over 15 countries in Africa by 2022, with Namibia as one of the countries Matrix plans to expand footprint in.

"Since 2019 our target has been to aggressively grow the business outside of Guernsey by eight to ten times and we aim to accomplish this by 2023," said Chiwanga.

For growth of the company, Chiwanga revealed that over £14 million has been invested in infrastructure, ahead of opening a new depot in Namibia, to support the company's growth.

Matrix Petroleum aims to deliver 100 million litres to Namibia each month from January 2022. This could mean employ-

ment for about 1 500 people, in Namibia, some of which would-be contractors.

"We are very much guided by expectations and feel that our awareness of the cultural differences in each country has given us a commercial advantage different markets have different needs and our approach reflects that" iterates Chiwanga.

Matrix has two major distribution channels, the first being its wholesale arm, which concentrates on service stations, with the second focusing on the business to the business sector, where it has forged strong relationships with several industries including airlines, mining, and transport companies.

Some of the challenges the company is facing in its expansion efforts are international attention, differing customer expectations, variable transportation networks, and often limited IT infrastructure, but de-

spite these obstacles, the company has overseen a period of continued growth.

Chiwanga says that one key area for improvement for the company is to improve its carbon footprint, he further adds that they are currently rolling out an aggressive growth program that invests in technology and environmental measures.

"We are trying to reduce the amount of cooling that takes place by using solar and wind power and different building materials, we are vexing to understand the latest best practices and better manage our use of power"

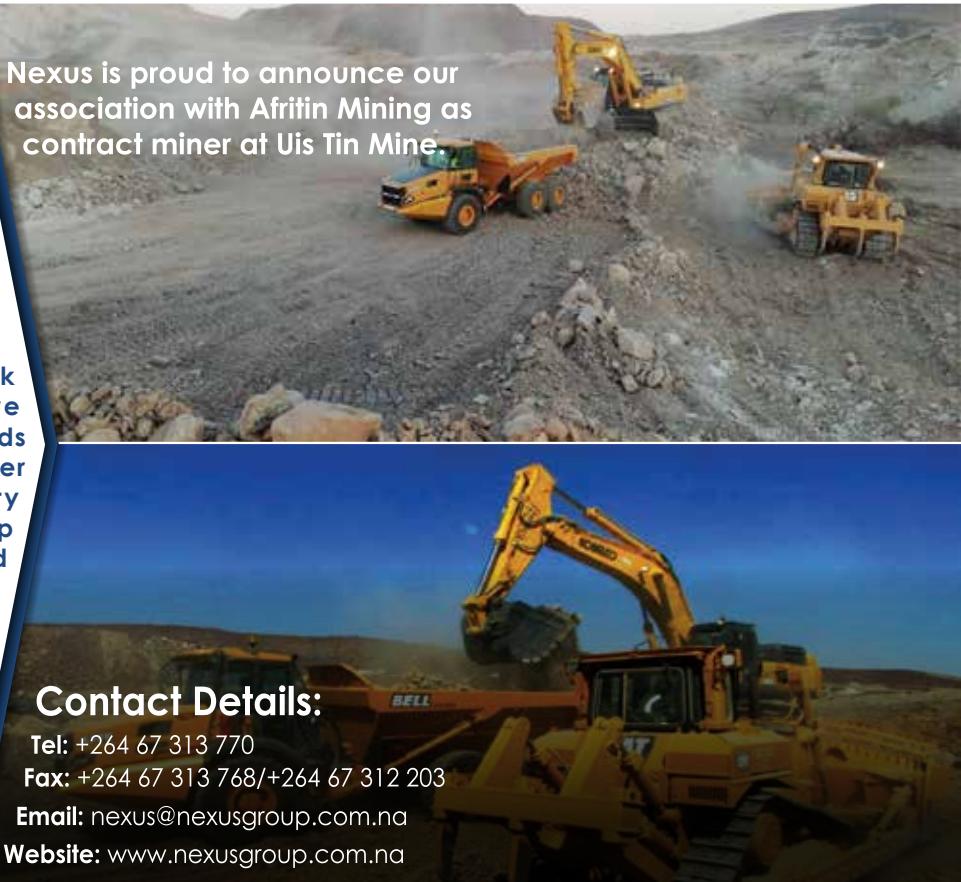
The company plans to make more acquisitions in the future, with Kenya, Uganda and Ghana being areas of interest. Matrix has been in the petroleum business for three years and plans to be listed on the London Stock Exchange by 2023.

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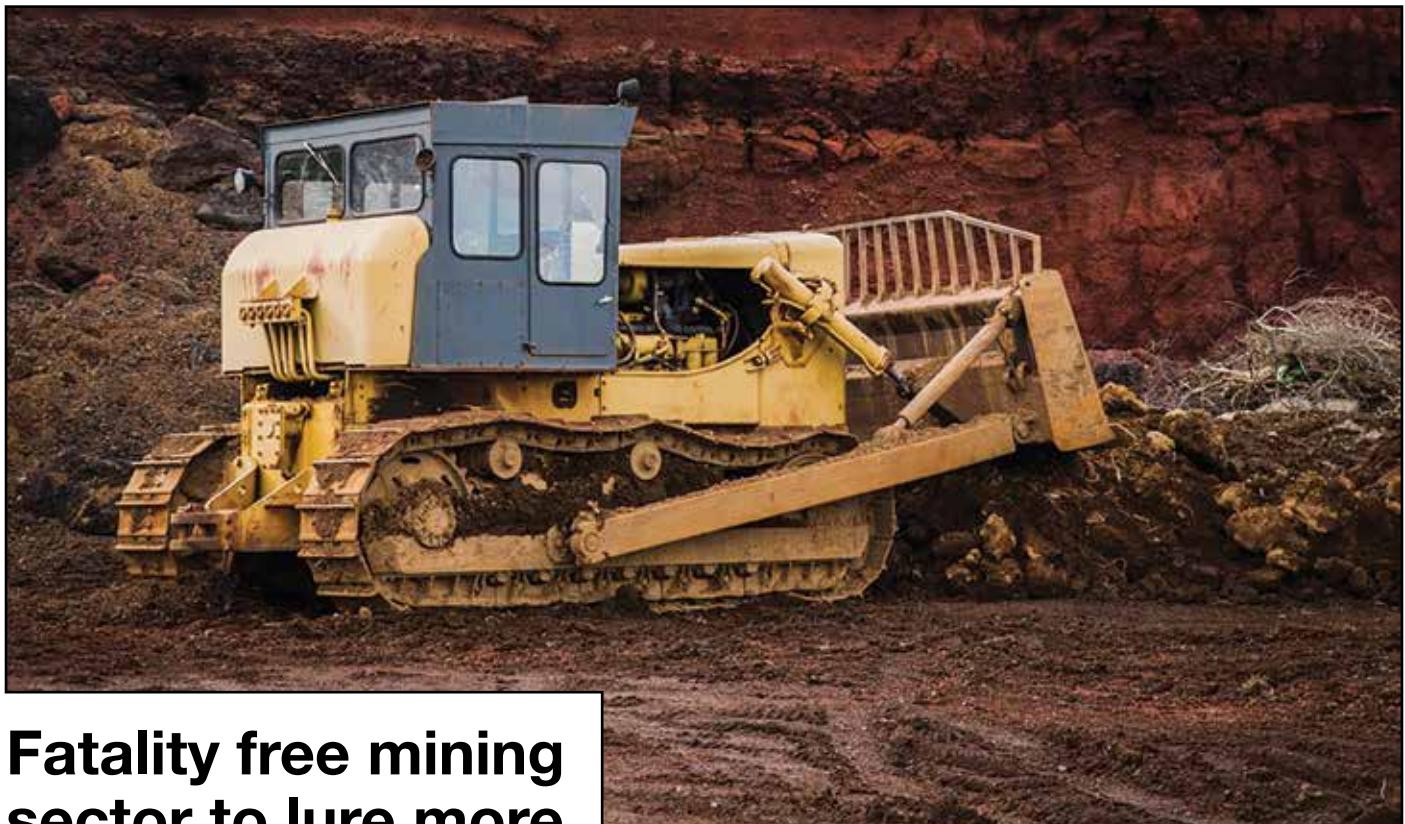


Nexus is proud to announce our association with Afritin Mining as contract miner at Uis Tin Mine.



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Fatality free mining sector to lure more investors

The mining industry has managed to maintain a fatality free environment for the past seven years since 2014.

Chamber of Mines President Zebra Kasete has attributed the development to improved safety regulations.

Kasete said the mining industry has also remained the country's top foreign currency earner and continues to be the largest contributor to government through royalties and corporate tax, while most companies in the sector have managed to steer through the difficult times, though COVID-19 inflicted serious revenue losses in the industry.

The Chamber is optimistic such development will attract more players into the sector, already enjoying a healthy relationship between investors, government and financiers.

He said the strong performance in the industry was spearheaded by the high demand of diamonds as well as major investments in the uranium sector which has improved direct exports to China and other parts of the world.

Meanwhile Kasete said the Chamber is supporting the proposed government empowerment legislation which seeks to negotiate locals participating in the industry more.

Currently the chamber has 103 members affiliated to it and there are 25 mines active.

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Twin Hills exploration forges ahead

Osino Resources has announced maiden mineral resource for its Twin Hills Gold Project in the Erongo region. "The publication of this maiden mineral resource is the culmination of almost five years of hard work, starting in 2016 when Osino commenced greenfield exploration in this area which had seen decades of conventional prospecting by multiple operators and was considered mature by established Namibian geological dogma," said Heye Daun, Osino's President and Chief executive Officer.

According to the company, the mineral resource was estimated from approximately 69,000 meters (m) of diamond core (DD) and reverse circulation (RC) drilling, of which approximately 62,000 m was sampled with available assay data.

In addition, the drill collars were spaced at 50 m x 50 m on surface, with holes inclined at 60°, resulting in an effective data spacing of 50 m along strike and 40 m on section lines.

Some areas were infill drilled at closer spacing and drilling is ongoing with the aim of upgrading the mineral resource to the indicated category by the end of 2021.

Meanwhile Osino entered the area and by deploying innovative techniques, coupled with strong geological experience, sound technical judgement and committed financial support from our early investors, Osino was able to execute an extensive, multi-year exploration program which resulted in the grassroots discovery, below Kalahari sand and calcrete cover, of the Twin Hills Gold Project.

"This is even more exciting as it occurred only 20 km from the largest gold deposit in southern Africa outside of the Wits basin (Navachab). Having spent less than CAD25m and around 69,000 m of drilling in total reflects an industry-leading unit cost and rate of discovery, which is testament to the ability of our team and the quality of our execution."

Daun says the company sees the development as merely the beginning of the journey.

"We are already engaged in progressing Twin Hills to the next level, both in terms of exploration and resource growth and through the fast-tracked development of the project through feasibility and beyond."



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N\$212m budget for mines and energy sector

The Mines and energy minister, Tom Alweendo recently submitted a N\$212.4 million budget to the National Assembly for consideration and approval.

According to the minister, the bulk of the funds - just over N\$62 million is to be allocated to the Energy Security of Supply programme.

The programme is focused on securing sufficient and reliable supply of sustainable electricity and to reduce dependence on imports.

In addition, the funds are to oversee the implementation of three new Solar PV powerplants with a production capacity of 45MW, as the Ministry also envisages to electrify about 36 rural schools with N\$44 million, allocated towards the rural electrification program.

"It is undeniable that the economy is not in a healthy state, that the state revenue has been static while at the same time the pressure to increase expenditure is mounting and that our debt is reaching intolerable levels.

To turn the ship around, it is for us, as elected leaders, to put shoulder to the wheel. To do so with grit, agility and a focus of an eagle. It is for us to recognise that the economy needs a strong shot in the arm," said Alweendo.

Alweendo revealed that to further enhance transparency and efficient service delivery, the ministry is exploring the introduction of on-line mineral rights application system.

More efforts will be geared towards enforcement of laws and conditions of licences to ensure that operations are conducted under safe conditions".

On the other hand for the Creation of Knowledge of Geological Resources programme, just over N\$54 million was allocated to generate baseline geoscience data and information, as well as carry out scientific research.

"Geoscience information enhances knowledge and creates awareness of Namibia's geological system. For the current financial year, the ministry aims to better understand the geological character

and mineral potential of the //Karas and Kunene regions. "This will be achieved by acquiring and interpreting multi-disciplinary geophysical, geochemical and geological data. This work is expected to provide the mineral exploration industry with data and knowledge that reduce risk and encourage mineral exploration in the targeted regions," Alweendo said.

Furthermore, some 10.9 million has been set aside for the Protection of the Diamond Industry programme.

The programme is mainly dedicated to protecting Namibia's diamond resources through sound regulatory oversight.

"We intend to enhance beneficiation of locally produced diamonds in support of the Growth at Home strategy. The ministry will also revise diamond licenses application criteria and conditions; intensify inspection and monitoring of the diamond value chain activities.

In addition, the ministry will continue to build the necessary skills and expertise in-house in the areas of diamond sorting and valuation," said the minister.



Furukawa DCR22 built to combat Southern Africa drilling conditions By GLENN-NORA TJIPURA



Newly launched Furukawa DCR22 drill rig is designed as a tough, rugged-terrain down-the-hole crawler drill rig to conquer Africa's harsh environment.

The drill rig is a combined effort from Local mining equipment supplier ELB Equipment, teaming up with the world-leading Japanese drill rig manufacturer Furukawa.

Initially designed for blast hole drilling on copper-belt operations in Zambia, the Furukawa DCR22 drill rig is a larger capacity unit than its predecessor Furukawa DCR20 rig. The new drill has an increased and unstressed drilling performance and an extensively modernized operating system, along with a vastly improved ground clearance and track stability to add to its rough terrain capabilities.

"The Furukawa DCR22 is the result of the research and development undertaken by Furukawa. The air capacity has been boosted from 24m³/min to 27m³/min FAD (free air delivery) at 25 bar. The new high efficient compressor design also makes it more fuel-efficient with a new operating system using a Canbus system for ease of maintenance, parameter adjustments, and monitoring, and fault-finding," said Jimmy Linton, the National Product Manager Furukawa and RTDrills.

The machine can be configured for different requirements and can be equipped with navigation systems and controls. Traction is delivered via substantially larg-

er track frames for a 50 percent increase in traction and the ground clearance now stands at an impressive 475mm.

The drill rig, which is set to have more power, has its power delivered through a CAT C13 6-cylinder motor providing 328kW, creating more power to drive the rig and the higher capacity compressor two-stage screw compressor with 953 CFM 28 cubic metres per minute. The rotation speed of the drill pipe can be controlled from inside the cab and gives control from 0-120 rpm, with a rotary head torque of 4200 Nm.

"This combines for a safer, faster more powerful, and efficient machine for the best possible cost per metre for drilling. This type of drilling calls for reliability and durability 24/365 low cost of ownership

with the highest availability for the best utilisation," said Linton.

Wepex Geotechnical Engineers Botswana Limited mining contractors are the first to purchase the newly launched Furukawa DCR22 drill rig, ELB Equipment announced last week, the drill will be used for high wall lateral support, as well as blasthole production drilling.

Linton explains that Furukawa DCR20 had been a top seller across the region in SA, Botswana, and Zambia for many years, and the ongoing push for improved productivity, brought about the desire to introduce a rig with a bigger capacity compressor system, big rotor head and more robust undercarriage as requested by many customers over the years.





High-pressure water mist fire-fighting benefits

By LYNNE MCCARTHY*

Fires are unpredictable and can spontaneously combust and start anywhere at any time, with disastrous consequences.

Imagine being stranded on a ship, in the middle of the ocean and a fire spontaneously occurs. The fire brigade would be out of reach and your only saving grace might be to jump ship. Or picture a fire at a museum. Conventional firefighting methods would ruin priceless artifacts if the fire does not destroy it first.

The above are just two scenarios that place a great demand on safe, efficient, and immediate activated fire-fighting solutions.

High-pressure water mist firefighting systems have become the ever-increasing safe choice, firefighting solution, which provides better fire suppression whilst ensuring increased protection of assets, by minimizing potential water damage as significantly less water is used to extin-

guish an incident. By applying high-pressure firefighting systems water is forced through micro nozzles at very high pressure to create a water mist that effectively combats fire.

The high-pressure extinguishing gives maximum protection by cooling through heat absorption and dousing the fire when the water expands through evaporation.

The Danfoss PAH pumps are ideal for high-pressure water mist systems with a flow capacity up to 187 l/min (49.4 gpm). The pumps are designed for tap water at pressures up to 160 barg (2,321 psig). The pumps can be used with high-pressure components, valves, nozzles, etc. from the Danfoss product portfolio to form part of a solution with high reliability and long service life.

Did you know that with the right technology, fires could be effectively extinguished, using 90 percent less water? Danfoss water mist technology reduces water con-

sumption by up to 90 percent, compared to traditional firefighting systems.

Danfoss has its core in engineering for tomorrow. With this in mind, Danfoss will be hosting virtual webinars where the advantages of high-pressure water mist will be demonstrated. The webinars are geared at knowledge sharing around the concept of how high-pressure pumps and valves, power these efficient and important firefighting systems.

The experts at Danfoss will explain and highlight high pressure pumps and valves that enable this water saving technology and share case studies where this technology has solved some of the most challenging firefighting cases, such as small spaces with the highest need for reliability.

**Lynne McCarthy is the Marketing and Communications Specialist at Danfoss Turkey, Middle East & Africa.*

Huge solar park rolled out in Namibia, Botswana

By GLENN-NORA TJIPURA

Namibia, Botswana and other stakeholders have signed a mega solar deal expected to generate up to five gigawatts of solar power and avoid an estimated 6.5 million tons of CO₂ annually.

The Mega Solar project is a part of USAID's Power Africa Initiative, which is committed to assisting the Southern Africa region to transform from reliance on fossil fuels to clean energy, enabling a path to decarbonization.

The project was an outcome of the virtual Leaders' Summit on Climate to catalyze global ambition to address the climate crisis, hosted by United States President Joe Biden on 22-23 April 2021.

"I am very excited that Namibia, Botswana, the United States, the World Bank, the International Finance Corporation, and the African Development Bank have taken important steps forward together on the Mega Solar Project," U.S. Ambassador Lisa Johnson said.

She further added that when fully realized, Mega Solar could be one of the largest solar parks in the world, generating 3,000 – 5,000 megawatts of energy.

The project is said to have the potential to transform Namibia and Bo-

tsvana into two of the globe's most significant producers of solar power, enough to begin exporting renewable energy to the southern Africa region along with curbing their carbon footprint.

Mega Soar's initial goal is to provide additional power from solar photovoltaic and concentrated solar thermal technologies to meet local demand, an ultimate benefit of the collaborative efforts of the Mega Solar partners in strengthening the institutional and technical capacity as well as legal and regulatory frameworks of the focal countries.

"Unlocked by this partnership is the extraordinary development potential for life and globe changing clean energy, emanating from southern Africa on a pioneering scale of massive productive use," Mark Carrato, USAID's Coordinator of Power Africa said.

The Power Africa Initiative – established by the 2013 Electrify Africa Act. The initiative is making a difference across sub-Saharan Africa by improving lives, supporting economic growth, and combating climate change through improved access to clean, reliable, and affordable electricity.



Finance for mining and related enterprises

The Development Bank of Namibia provides comprehensive, tailored financing to support mining, quarrying and related industries.

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Expect more.

Specialised Container Agencies (SCA) - suppliers of niche market container products - has developed SCA Intermodal Side Tipper Bins, that ensure quick, safe and cost-efficient bulk handling in rail and road applications.

"Robust Intermodal Side Tipper Bins have been designed for rapid and efficient off-loading of materials from both rail wagons and road trucks, using specially designed hydraulic tipping cylinders," explains Dirch Olsen, director, Specialised Container Agencies. "SCA's Intermodal Side Tipper Bins, which are easily handled onto container rail wagons and road trucks by a container handler, increase payload on rail wagons, from 54 metric tons to 60 metric tons."

An important feature of Intermodal Side Tipper Bins - which are able to be stacked four-high for storage - is they can be used across different modes of transport, including road and rail, without the need for investment in double handling cargo. This system is boosting the utilisation of rail infrastructure, which significantly reduces transport costs, decreases national road congestion and minimises product damage.

"In areas that are not fully serviced by rail, the intermodal side tipper can be loaded onto road transport, for closed loop, short-haul operations. Road vehicles are then used to carry the tipper bin containing bulk material to the railhead. This means cargo can be received



Specialised Container Agencies (SCA) - suppliers of niche market container products - has developed SCA Intermodal Side Tipper Bins, that provide efficient bulk handling rail solutions, encouraging greater utilisation of rail wagon container haulage.

at non-rail serviced facilities, for example on mines, terminals and ports."

Other equipment in the SCA range includes the newly launched SCA Tippler, which has been developed for fast unloading of open-top containers and side-tip reception feeders that receive bulk materials directly from tipping trucks and loading shovels. The Big Tipper is a 12 m Elevated Container Tipper Frame (ECTF) and the 4-Way Tipper is a versatile tipping frame that is compatible with most 6 m/20 ft skeletal trailers."

This equipment improves efficiencies, lowers operating costs and protects product integrity

during bulk handling.

For further information

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SCA's Intermodal Tipper Bins ensure quick, safe and cost-efficient bulk handling in rail and road applications. What's notable is this intermodal side tipper bin system increases payload on rail wagons – from 54 metric tons to 60 metric tons. A single tipper bin is able to hold 30 metric tons for road transport.

SPECIALISED CONTAINER AGENCIES



Intermodal
Tipper Bin



Big Tipper



Side Tip Feeder



Tippler

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Facing the challenges of Mine Dewatering

wilo

Dewatering is critical to most mining operations, but every mining site faces a variety of challenges. And yet, the whole process is not simply about pumping groundwater: the extraction of it will reduce water entry but can also impact groundwater-dependent ecosystems. For an efficient Water Management, Wilo solutions have been chosen for dewatering the shafts of the Platreef mine in Mokopane.

Around 280 kilometers north-east outside of Johannesburg lies Mokopane, in the province of Limpopo. The area is one of South Africa's richest agricultural zones, producing wheat, tobacco, cotton, beef, maize, peanuts and citrus. But it is also well-known for its rich minerals such as platinum, diamonds and granite. In Mokopane, you can find the Platreef palladium-platinum-nickel- copper-rhodium-gold mine, which is being developed by Ivanplats, a South African subsidiary of Canadian mining company Ivanhoe Mines. The mine consists of the Flatreef underground deposit, which has a strike length of six kilometers and hosts platinum-group elements, nickel, copper and gold resources. The deposit predominantly lies within the Platreef mineralized sequence at a depth

of approximately 700 to 1,100 meters below surface.

Water plays a critical role when it comes to mining, e.g. for transporting sludge or suppressing dust. There is either scarcity or the excess of water causing an issue, which is why a reliable dewatering plan is essential. "Each site's dewatering requirements vary, due to environmental, climatic and geological conditions. Changes in weather conditions can have a significant effect", explains Clemens Pretorius, Account Manager Water Management at Wilo South Africa. "The dewatering system on site must provide a reliable solution. And this is, where Wilo came into the picture." Wilo-ACTUN Zetos borehole pumps are used to transfer water from the shaft bottom which is 1000 meters below

ground level (b.g.l.), to a pumping station, 950m b.g.l., then to another pumping station, 450m b.g.l., and then finally to the surface.

Offering a turnkey solution

At the shaft bottom, 1000 meters down, Wilo is using its ACTUN Zetos K8, horizontally mounted in a cooling shroud below pontoon. Due to the mining environment, a lot of foreign material such as bolts, nuts and sediment end up in the shaft bottom. By using the pontoon, the water is filtered from these substances and can enter the pump free from solids, which will prolong the life cycle immensely. The whole system is operated via a direct on-line (DOL) panel, using minimum and maximum level sensors to



The team from Wilo South Africa. (f.l.t.r): Ziyaad Karriem (Project Assistant), Jano Verreyne (Business Developer), Clemens Pretorius (Account Manager). Source: Wilo SE



One of the holding tanks, which is used on the 950 and 450 metre mark. Source: Wilo SE

automatically start and stop. At the 950 meter mark below the groundwater level, water is first delivered from the shaft bottom into a compartment, also known as the sediment trap, inside the holding tank. This way, the sieved water can overflow the tank. It is designed with an outlet to clean the sediment trap of any residue. It also has so-called overflow, drainage and discharge points. The tank is fitted with low- & high-level sensors that communicate with the control panel. From this level, water is being transported with Wilo-ACTUN Zetos K10. They are horizontally mounted parallel to the holding tank and connected to it via a suction manifold fitted with isolating valves. The pump systems are connected in parallel so that one pump is always in operation and one on standby. Here, the whole system is monitored and steered via a variable speed (VSD) control panel including the minimum and maximum level sensors. VSD control panels are used to manage ramp-down speed in order to reduce water hammer. As soon as the pumps stop, the water column in the pipeline flows backwards and hits the non-return valves. Water hammer can damage the pump and motor if not managed correctly. The same procedure is used at a level of 450 metres.

"What made this project exceptional to me was, that we could offer a turnkey solution and not only 'sell' pumps and motors but offer a complete system solution, designed and sized by us. From pumps, motors and electrical control to gear, tanks, valves etc.", says Jano Ver-

reynne, Business Developer at Wilo South Africa. The system was automated by using Schneider Electric Variable Speed Drives with low- and high-level sensors to stop and start the pumps but also to operate them with their best efficiency. The control gear is incorporated into the mines programmable logic control (PLC) to allow communication with the control rooms. This way, the operator can start and stop the pumps from this room and monitor them. "It was a really interesting project and we are more than proud of it.

The fact that Wilo pulled together expertise from all over the world to support us in South Africa and to get the pumps delivered on time was an amazing feeling. It truly made me feel proud to be part of the Wilo team", states Jano Verreyne. "Another highlight of this project was the fact that we were contacted in the first week of our local Covid-19 lockdown. We managed to get an offer to them, with all the challenges of not being able to travel or meet in person – the new normal, within two weeks from request."



Jano Verreyne from Wilo SA during the fabrication and inspection of the holding tank. Source: Wilo SE

Next-generation drill rigs from Rosond herald the era of smart mining

The deployment of 28 next-generation drill rigs at Kumba Iron Ore in the Northern Cape is part of Anglo American's FutureSmart Mining™ strategy to transform the future of mining. According to the mining giant, step-change innovation is required in terms of technology, digitalisation and sustainability.

Revolutionising the way that drilling is traditionally carried out in the mining industry, the new exploration drill rigs from Rosond of Midrand combine automation, software and data analytics and machine learning. This, in turn, is part of the company's own transition into a fully-fledged drilling technology provider, said Managing Director Ricardo Ribeiro.

"When we developed the new drill rigs initially, we had to understand the broader context of FutureSmart Mining™, which is essentially Anglo American's overarching project to modernise all of its mining operations. Ensuring that our drill rigs conform to this vision also allowed us as a company to tap into the concept of 'smart' mining," explains Ribeiro.

The development process commenced in 2012 with a decision to partner with Comacchio, which had the capability to manufacture according to Rosond's own specifications. A family business too, Comacchio's values and vision aligned closely with that of Rosond, resulting in



the extremely successful partnership that it is today.

"It also resonated with our understanding of how business needs to be conducted. The partnership commenced with a single drill rig in 2012. This was in the field for a good five years before we decided to embark on the development process for what we have currently."

"It is not an off-the-shelf solution, which is very different to the rest of the market. What differentiates us as well is our keen insight into the operational difficulties imposed by the mining environment. Our choice of partner at the end of the day had to take all of this into account," said Ribeiro.

Thanks to this philosophy, Kumba now has the most technically-advanced and innovative drill-rig fleet in the world, let alone in South Africa. "It is a combination of the number of drill rigs and the technology behind them. I honestly do not think that any mining operation in the world currently has the level of technology that has been deployed at Kumba," asserts Ribeiro.

Telemetry will be used to obtain data from the 28-strong drill-rig fleet at the iron ore operation, which will be crucial to underpin the improvement in efficiency and productivity that Anglo American will achieve

in the long term with the new technology. This also represents the next step in the evolution of Rosond itself, which will strive to offer various geological solutions based on interpreting the data itself.

The final batch of 28 state-of-the-art drill rigs were dispatched to Anglo American's Kumba Iron Ore operation in the Northern Cape in December last year to be rolled out at the Kolomela and Sishen mines. It forms part of a R2 billion, five-year tender won by Rosond to supply Anglo American with the latest drilling technology as it modernises its geoscience operations.



Rosond MD-Ricardo-Ribeiro



Operators won't break a sweat with Atlas Copco pneumatic breakers

The powerful, light-weight, and ergonomic RTEX and TEX pneumatic breaker ranges from Atlas Copco can be operated for longer while using less air, presenting the perfect balance between high performance, efficiency and comfort.

The design of the RTEX medium breaker incorporates Atlas Copco's advanced technology in both breaking efficiencies and ergonomics, setting a benchmark in pneumatic technological innovation. This hand-held tool owes its unparalleled breaking efficiency to a number of cutting-edge design features that include: A patented Constant Pressure Control principle, encompassing a Constant Pressure Chamber, which improves energy transfer, providing up to 40% more energy output than conventional units; a longer piston design compared to conventional breakers which increases the interaction time with each blow. The resultant efficient stroke mechanism also radically lowers energy consumption.

Subsequently, the RTEX, weighing only 25kg, can perform the same job equally well as bigger machines that are 5kg to 10kg heavier. The RTEX can also operate for longer while using only half as much compressed air. "A 50% reduction in compressed air consumption for the same breaking capacity means that a compressor only half the size is needed or alternatively, two breakers can be

used on one compressor," notes David Stanford, Business Line Manager, Portable Products, at Atlas Copco Power Technique. "What customers must also keep in mind is that a smaller compressor requires a smaller investment, uses less fuel, has lower emissions and is easier to transport, subsequently delivering an excellent return on investment."

Productivity, low operational costs and operator comfort and safety are central to the design of the RTEX and TEX breakers. A low centre of gravity and perfect balance, thanks to the ingenious Solid or Single Body (SB) design, make these one-piece machines extremely easy to handle.

Fewer parts, and thus less moving components that can wear, improve reliability, extend lifecycle and reduce maintenance. Tool wear is further minimised by the integrated lubricator which holds enough lubricant for a complete standard work shift. These multiple features boost productivity while keeping operational costs to an absolute minimum.

The hand-held breaker's innovative two-step SOFTSTART™ trigger puts operators in full control by ensuring that the first cut is surgically precise with no chisel slippage or misfiring, even under extremely tough conditions. To counter high vibration and noise levels which can result in operator fatigue, compromising safety and productivity, these pneumatic

breakers are HAPS™ (Hand and Arm Protection Systems) enabled: The Constant Pressure Chamber and efficient stroke mechanism keep vibration levels below 5 m/s², enhancing operator comfort to such an extent that working hours can be extended up to six-fold.

The tool's piston switches on air-cushions on both ends of the cylinder, almost fully eliminating metal-to-metal contact when working off-load, further shrinking vibration and wear. The pneumatic breakers are also fitted with a wear-resistant polyurethane silencer that diminishes noise levels by up to an remarkable 75% compared to a machine without a silencer.

The RTEX medium and TEX light pneumatic breakers are ideal for service jobs and general demolition tasks. The TEX range is also available in medium and heavy pneumatic models which are suitable for respectively breaking medium hard materials and for heavy-duty demolition work on asphalt and reinforced concrete.

Atlas Copco supports its RTEX and TEX pneumatic breaker ranges with high-quality Air Line accessories including air hoses, hose nipples, couplings, water separators and Air Oil lubricants, backed by a professional after-sales service that is delivered by a highly skilled and competent team.

WearCheck Windhoek saves money for customers



Jaco Venter, a senior machinery inspector at WearCheck, conducts ultrasonic testing on a winder's brake components during a non-destructive testing (NDT) routine.



WearCheck laboratory technician Serisha Naicker conducts a TAN (total acid number) determination on used oil samples as part of a comprehensive condition monitoring programme.

Ensuring industrial machinery operates at peak performance with reduced maintenance costs – this is the domain of condition monitoring specialists, WearCheck. In Namibia, the company operates both a Windhoek laboratory and an on-site laboratory at the Husab Uranium Project.

With roots in South Africa, where it was established in 1976, WearCheck now provides preventive maintenance expertise via 14 world-class laboratories across nine countries in Africa and beyond. The Namibian mining sector and other local industries have been utilising the wide variety of proactive maintenance services through WearCheck Windhoek, which provides a 24-hour turnaround time for the scientific processing of used oil samples. An on-site sampling service is also available.

Additional predictive maintenance techniques offered by WearCheck – which are employed depending on the type of machinery being monitored – include reliability solutions (RS) services, transformer chemistry services and advanced field services (AFS) such as non-destructive

testing, technical compliance and rope condition assessment. Managing director of WearCheck, Neil Robinson, outlines the concept of proactive maintenance, ‘By monitoring a component’s condition regularly over a period of time, our scientific techniques provide reliable data which enables our diagnosticians to accurately predict whether and when that component will potentially fail.’

‘We can identify and remedy a potential failure before it occurs and recommend a scheduled maintenance plan. This way, catastrophic failure is avoided, thereby enhancing the availability of the machine and ensuring it provides peak performance in the production line.

‘Unplanned component failure can be extremely costly, slowing – or stopping, in some cases – production while the damaged part is repaired, or spares are ordered. By avoiding this situation, our customers save money on unnecessary maintenance costs and maintaining production levels.

‘WearCheck’s philosophy is this – we help our customers to decrease operating

costs and ensure better machine availability. This is directly linked to an increase in their bottom line – in other words, we save our customers time and money.’

There are many techniques to monitor the condition of rotating equipment or machines – for example, whether components need to be replaced or repaired, or how much useful life remains in a system’s lubricant – and we employ many of these methods to ensure that machinery constantly operates at peak performance.

Depending on the operation and the machinery involved, WearCheck technicians recommend the use of different monitoring techniques. The company serves customers in many industry clusters – there is a strong focus on mining, but also construction, manufacturing, earthmoving, industrial, transport, aviation and renewable energy.

For oil-wetted components, samples of used oil and fuel, coolants, grease and other lubricants are analysed in the laboratory. Trace elements found in the samples are interpreted by WearCheck’s highly-qualified diagnosticians, who use

this information to determine whether potential failure is looming.

The company's Reliability Solutions team uses cutting-edge techniques such as scientific vibration and thermography analysis, motion video amplification, operational deflection shape analysis and both motor circuit and signature analysis, as well as a host of related tests to increase the lifespan of machinery and keep it operating at optimum levels. WearCheck's Advanced Field Services (AFS) specialises in three testing types – non-destructive testing, rope testing and technical compliance. The key functions of AFS are to create a secure safety environment for both man and machine, and to reduce operational risks. The company's highly-skilled and experienced inspectors are on call 24/7/365 to assist customers to identify underlying defects and mitigate these risks on critical equipment.

Non-destructive testing uses techniques to test the integrity of a component or system without damaging it. Technical compliance - expert guidance is given to companies to assist with regulatory requirements, highlighting unacceptable conditions and reticulation equipment

compliance during audits. Rope condition assessment - the integrity of steel rope cables is inspected, as per OEM or international standards. WearCheck's South African laboratories are in Johannesburg, Durban, Cape Town and Middelburg, while the international laboratories are in Zambia (at Lumwana mine and Kitwe), Mozambique, Ghana, Zimbabwe, DRC, Namibia, India, and Dubai.

WearCheck remains proud of its status as the only condition monitoring company on the African continent with ISO 9001 quality certification and ISO 14001 certification for its environmental management programme, and ISO 17025 laboratory-centric quality management accreditation.

**For more information, please visit
www.wearcheck.co.za or email
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**WearCheck managing director
Neil Robinson** is dedicated to saving
customers time and money through
regular condition monitoring programmes.



Condition Monitoring is at the heart of machine reliability

WearCheck, Africa's leading condition monitoring company, is dedicated to saving money for you, our customers. We analyse data from condition monitoring and fluid analysis to schedule maintenance and avoid unexpected machine failure.

**Accurately predicting maintenance = saving
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Oil & Fuel Analysis | Transformer Chemistry Services | Reliability Solutions

Gold mining practices have stagnated towards continuously changing environments; mining companies today face a completely new battery of challenges to recover minerals. Historically the reefs were rich and large profits were made with ordinary recovery circuits, today mines are dealing with complicated ores that require fine grinding to allow a 92 – 98 % recovery rate to stay in the game.

From humble beginnings 113 years ago, Loesche, a family owned business has taken the Vertical Roller Mill (VRM) to the forefront of modern day milling. Being well established in the cement industry with a 55% market share worldwide, Loesche has taken the proven design concepts and adapted it to the ore industry especially gold, copper, phosphates and iron. To back the equipment, Loesche has a team of highly qualified staff dedicated to ensuring customer service and satisfaction is achieved.

“New Opportunities in Ore Commination”

Ore deposits today are characterized by significant variations in the mineralogy. The particle size is critical for a sufficient degree of mineral liberation to expose the mineral and the grindability of the ores fluctuate, hence the beneficiation process and especially the comminution process must be flexible. To identify the best process route conventional and new technologies have been investigated by Loesche.

Dry and wet grinding technologies were compared in terms of grinding performance and product quality. Through significant laboratory work done, improved flotation performances of dry ground products have led to the design of a completely new beneficiation process.

The Loesche VRM has adaptable grinding modules which are already proven to be the way forward in other mining industry allowing for variant mineral ores to be milled efficiently to the required particle size. The VRM depending on the roller size has a high reduction ratio; feed from 80mm to 140mm to a product of P80 at 75 micron in one pass, the mill is a closed circuit on its own having the comminution and classification of product in one machine.

Sulphide copper-gold ores are usually sorted by flotation. The standard comminution process to grind the ore to flotation fineness mostly consists of coarse crushing followed by SAG milling or wet ball mill circuits, or alternatively multiple stage crushing followed by Rod and Ball Milling. The two most common compressive comminution technologies are the high

pressure grinding roller (HPGR) and the Vertical-Roller-Mill (VRM). Up to now only the HPGR is already present in a noteworthy number of mining projects whereas VRM technology, a new entrant is still not fully accepted. This is considered a resistance to change considering that VRM technology has a clearly dominant position in classical dry, compressive comminution applications like grinding of cement or granulated blast-furnace slag.

The VRM produces a steeper particle size distribution reducing wastage in the form of ultra-fines and oversize, by this the VRM allows for a good floatation size range having more particles exposed to the floatation process.



“Loesche Commination Principles”

Loesche VRM comminution technology is a particle on particle in bed grinding principle cracking the ore on the mineral lines to expose more minerals to the floatation process with very low specific wear on the liners producing cleaner concentrates. By this, efficiency in energy used can be as much as 40 – 45 % less than a wet ball mill circuit; this is noticed with all power going into the comminution of the ore. Smarter process control ensures consistent grinding to the correct size whilst the mill is in operation. All this is done dry reducing the oxidation of the float product.

“Dry Commination Down Stream Effects”

Dry product allows for a surge silo to op-

erate between the comminution and recovery circuits which will ensure accurate constant feed, this consistent flow with cleaner concentrates reduces reagent consumption. By this a smaller footprint can be envisaged reducing water absorption and evaporation. Increased water reclamation and less pollutant will be experienced affecting the nett OPEX to process a ton of ore.

“Mining Houses Adapting to New Environments”

Challenges from the strict environmental regulations have allowed Loesche VRM technology to become the future in comminution, enabling mining houses to operate in previously difficult conditions not suited to wet processes.

This will allow mines to embrace electrical and water scarcities whilst improving the economics of low grade and complicated ore bodies.

‘Proof of Concept’

Loesche GMBH has been awarded their first gold ore project in Turkey. The plant has been designed to process 240 t/h of low grade sulphide copper gold ore. The decision to go with Loesche VRM technology was due to the client hiring the Loesche containerised mobile laboratory plant which contains a full comminution circuit. The final milled product was processed in a mobile floatation circuit to establish recovery standards.



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Uniting innovation with experience to deliver turnkey mining solutions

The United Mining Services Group is continuing to grow from strength to strength. With projects throughout southern Africa and as far afield as Brazil and the USA, the organisation draws on considerable industry expertise to offer turnkey solutions to clients in the global mining and minerals industries.

Establishment in 2015, United Mining Services (UMS) has brought together specialist resources and a highly experienced management team, headed up by Chief Executive Officer, Digby Glover and Chief Operations Officer, Murray Macnab. A global operation registered in the United Kingdom, UMS's core technical capabilities reside in South Africa, most notably through its Mining Engineering Technical Services (METS) and Shaft Sinkers divisions. Shaft Sinkers will be celebrating 60 years in business this year, while METS will reach the same milestone in 2024.

Glover explains that Shaft Sinkers is the contracting/construction division specialising in shaft sinking, all mine underground and surface construction and specialist services of shaft optimisation. METS is the EPCM arm of the business and has two divisions: METS Mining and METS Process. METS Mining undertakes the design of underground mining structures including shafts, headgear as well as declines. METS Process services the process and metallurgical industry, focusing on the crushing and screening, material handling, beneficiation projects and tailings reclamation process on all commodities, applying a 'fit for purpose' process solution using a modular approach where applicable.

Operating under the UMS Group, Glover says this umbrella offering gives UMS a distinct in-house advantage, backed by six decades of diverse technical expertise. He notes that the organisation is on an upward trajectory, and has attracted some of the best and most experienced mining and processing experts found anywhere, making it into a leading industry role player.

"We have projects in the near term that will expand our operations significantly, backed by a top-class management team and key resources," says Glover.

He adds that as a full suite mining and minerals processing services firm, UMS provides clients with a single source for

the design, costing, scheduling and construction execution of all mining and processing projects. He explains that this allows for seamless integration between the project phases, giving greater cost and schedule accuracy and providing reduced risk for the client.

Currently, UMS have three active shaft sinking projects on three different continents, underscoring not only the organisation's strong track record, but also its wide international reach. The largest of these projects is in Botswana where UMS has been contracted to sink a twin vertical shaft system for a client. UMS Group Executive Project Services, Dr Pieter Louw, says the scope of work includes a production shaft and ventilation shaft which will enable the mine to meet future underground production demands and remain fully ventilated.

He says the shafts will be developed concurrently and blind sunk from the surface using conventional drill and blast equipment. The production shaft will reach a depth of 769 metres and be equipped with a double drum hoist and two 21-tonne skips for production hoisting. Additionally, there will be a double drum hoist man/material cage and counterweight, as well as a single drum hoist with auxiliary cage for personnel.

The ventilation shaft will be 732 metres deep and be equipped with a facility to hoist persons with a mobile emergency winder in case of an emergency. The surface fan evasé is designed to allow access for the mobile winder capsule.

"UMS will mobilise to start the pre-sink in July 2021 and we expect to begin the main sink in 2022," says Louw. The shafts will permit the mine rapid access to underground ore bodies, thereby extending the mine's life and value, while new methodologies to be employed by UMS will allow for safer, more economical shaft sinking.

"UMS will be using vertical muckers, as opposed to conventional cactus grabs. This will significantly improve operational safety as a single operator control allows for a pared down team at the shaft bottom during mucking. We also plan to repurpose a kibble winder into a production hoist, offering significant time and cost savings for the mine," explains Louw.

Macnab adds that the use of remote-control equipment, which has already been successfully utilised on other projects, will further increase the safety of workers and make conditions more ergonomic and comfortable for operators.

"We bring both innovation and experience to a specialised industry by providing clients the full value chain offering of mining services. METS has all the specialist technical and design skills that shaft sinking demands, while Shaft Sinkers deals with capital infrastructure and contract mining," says Macnab.

In South America, UMS is in the process of preparing feasibility studies and designing a new vertical shaft for a mine in Brazil. It expects to begin pre-sinking the 1 500-metre-deep shaft later this year, as the mine extends its longevity by moving from open cast to underground.

Further north, UMS will soon be commencing the main sink on a deep level access shaft for a client in New Mexico, USA in a joint venture with a local business. Once completed, the final shaft will measure 8 metres in diameter and extend 693 metres below surface.

On all three projects METS is responsible for front-end engineering and design work. "Through METS and Shaft Sinkers, we have a wealth of knowledge at our disposal. This deep expertise is available to the entire organisation which in turn passes on cost and time savings to clients," says Macnab.

Alongside a diverse geographical footprint, UMS provides diversity in its offerings, and has successfully completed a number of projects in the gold, chrome and general processing applications. The organisation's combined experience and expertise incorporates over 170 000 metres vertical shafts sunk across the globe, including shaft rehabilitation, shaft towers and mining and tunnelling design.



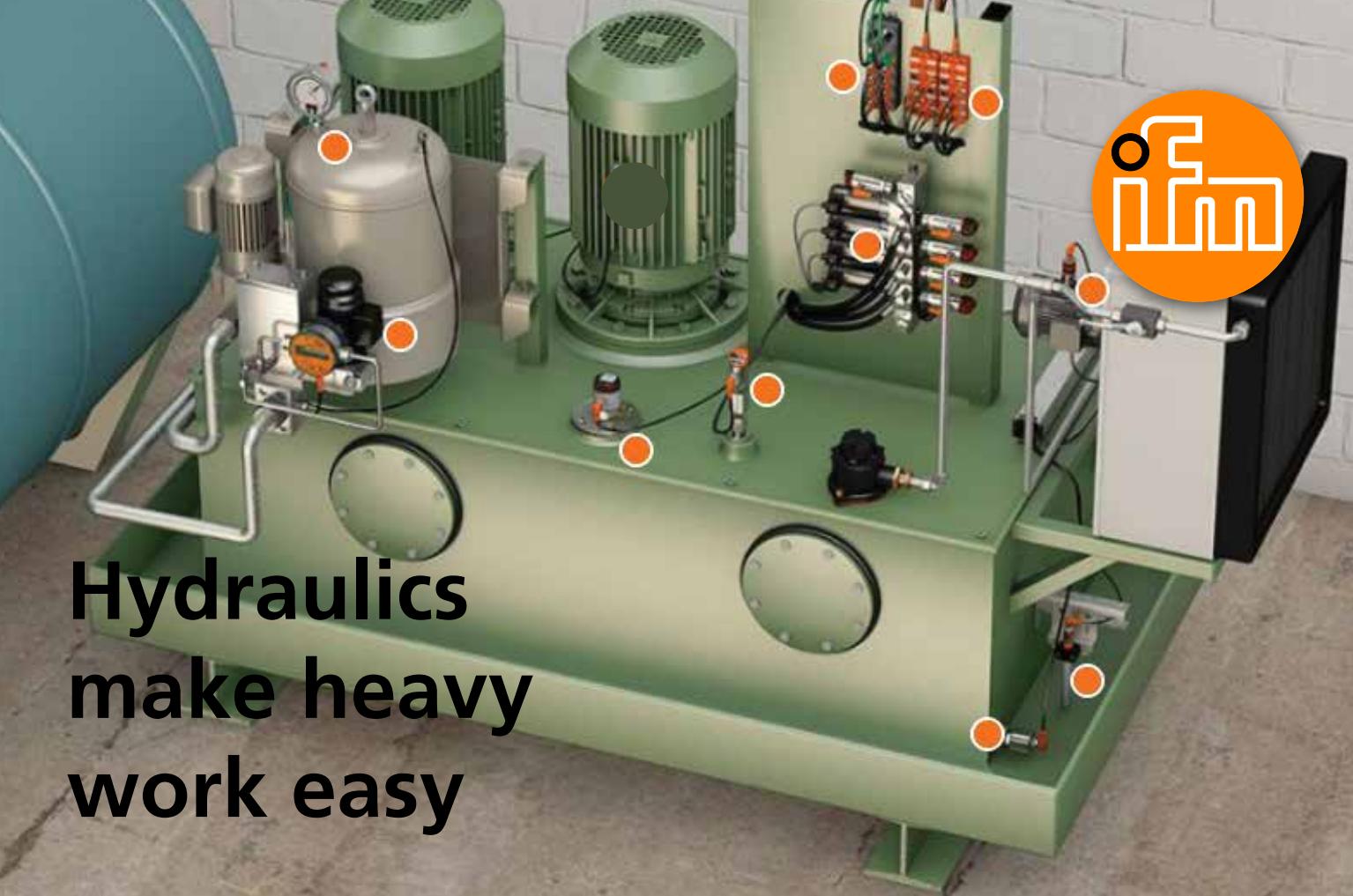
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