

# Mining

Z I M B A B W E

ISSUE  
**08**  
JUL 18

*Wet Pan Milling plant commissioned in Chakari - 07*

*Sustainable future mining the focus of mega partnership - 22*

*Gravity-Borax Method Mercury Free Gold Recovery - 26*

## THE TOUGH That Got Going

*Ten Mining houses that came up with problem mitigating measures to adapt to economic hardships*

**Top 10 issues shaping Mining in 2018**





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## ABOUT PUBLICATION

*Mining Zimbabwe is the premier source of Zimbabwe Mining news. Our core focus is on the ever evolving face of the mining industry, trends, new technologies being developed and used to improve this crucial sector, as well as new opportunities and investments arising from it. Mining Zimbabwe sole purpose is growing and empowering the mining industry and highlighting all its challenges as well as putting forth expert solutions.*

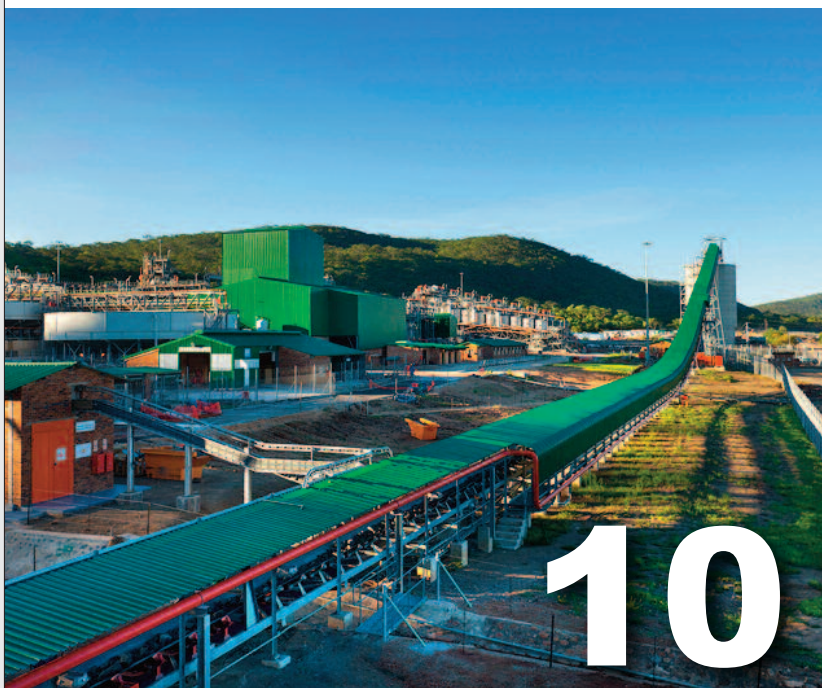


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## Myriad of opportunities in the Zimbabwean mining sector

If anybody can lead us into greater prosperity, lessen the frightening unemployment rates and cash shortages we will be gearing up for an economic upswing in 2018 and beyond.

It's been refreshing to see some changes in the Zimbabwean mining sector especially the amendments to the mining bill and more new players coming into the industry.

Welcome to another edition of Zimbabwe's favourite business-to-business mining magazine, with more positivity in the air, we are now always on our toes to make sure we deliver valuable, exclusive and informative content.

Zimbabwe is poised for growth and, with the country committed to ensuring a sustainable growth path, there is a host of investment opportunities in the mining industry to be capitalised on.

The country boasts the largest concentration of mineral deposits in the world, along the Great Dyke corridor, a linear geological feature that extends more than 550 km northeast to southwest across the centre of the country.

In terms of minerals exploration and extraction, investment opportunities exist in gold coal CBM, chrome, black granite and diamonds. These opportunities include new project development, and the resuscitation of closed mines.

The Zimbabwe's Parliament has passed amendments to the mining bill after removing clauses that required foreign mining companies to list locally, according to an official record of

Parliament's debates.

The mining bill will also for the first time officially recognise small-scale miners, who produce more than 40 percent of Zimbabwe's gold output, meaning that their operations will no longer be considered illegal.

JSE-listed Tharisa has acquired a 26.8% shareholding in Karo Mining for \$4.5-million.

However, Zimbabwe needs up to \$11 billion in order to modernise the mines and boost productivity over the next 5 years



Chamber of Mines president, said with the exception of platinum producers, all other mines, including those of gold nickel, cobalt and coal were operating below their installed capacity.

Unfortunately much of the political noise around the elections is still reverberating and one hopes that potential future president can provide more stable and sound leadership. Only time will tell.

Happy reading everyone

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# News Briefs

## Mnangagwa challenges the ZCDC

PRESIDENT Mnangagwa (ED) has challenged state diamond mining entity, Zimbabwe Consolidated Diamond Company (ZCDC) to upscale production and increase its contribution to the livelihoods of people living in the community it operates in as well as fiscal contribution.

The President's call comes hard on the heels of similar sentiments by Mines and Mining Development Minister Winston Chitando who in May said Government expects ZCDC to start producing 10 million carats of the precious stones by 2023 up from 1,8 million carats the company managed last year



## New Hwange Colliery board officially appointed



MINES and Mining Development minister Winston Chitando has appointed a new board for Hwange Colliery Company Limited (HCCL), whose task is to turn around the coal miner's fortunes.

The new board members are Allan Mashingaidze, Anna Kunda, Flora Ngwenya, Edward Mazoredze, Roger Williams and Valentine Vera.

## "Hope" for Mhangura and Alaska Mine workers?

The recent reopening of Eureka Gold Mine in Guruve through pro-business policies spearheaded by President Mnangagwa has brought hope to former Mhangura and Alaska Mine workers. Mhangura Copper Mines and Alaska Mine, which also hosted the Lomagundi Smelting and Mining entity were closed at the turn of the millennium, after the fall in copper prices on the world market.

Officiating at the official opening of Eureka Mine, President Mnangagwa said Government would continue to facilitate exploration and establishment of new mines, re-open closed ones and increase capacity utilisation.

## Small scale miners seek partnerships

Small scale gold miners say they are keen to partner big miners and benefit from technology transfer as part of their capacity building programme to improve mining systems.

The bond between the big miners and small scale miners is set to result in even higher gold output in the country, increased foreign currency inflows and a possible readmission to the lucrative London Bullion Market for the country's yellow metal.

Zimbabwe Miners Federation (ZMF) Vice President, Mr Ishmael Kaguru said they are engaging big mining companies first for tribute agreements such that the big miners could tribute some of the their mining claims to small scale miners as they build the working relations.

## Women in mining cry fowl

WOMEN in mining have expressed concern over Government's failure to set up supporting structures for their operations saying the gap has left them vulnerable to unfair treatment and victimisation by bigger players.

"There is no structure, there is nothing. That's where I want to try and be a voice but there is no way you can help others without proper structures. There is nothing nationally for women in mining. Ms Blessing Hungwe, said

## Zim explosives smugglers in SA court

Seven suspected Zimbabweans arrested at Beitbridge Border Post last week while attempting to smuggle explosives into South Africa, were yesterday denied bail and remanded to July 4 by a Musina magistrate.

The accused were arrested after their suspicious-looking vehicle was stopped at a police check-point, leading to the recovery of 50 fused caps and 10 blasting cartridges.

## Gold output to tripple

Zimbabwe will treble gold output to 100 tonnes in 12 years on the back of recapitalisation in the gold sector, the Chamber of Mines has said.

Gold output is projected at 30 tonnes this year after the increase in the gold support scheme from \$74 million to \$150 million injected last year. Chamber of Mines chief executive officer Isaac Kwesu told a private sector meeting in Harare that there were plenty of opportunities in the mining sector.

"We are targeting 100 tonnes in the next 12 years. We are likely to produce 30 tonnes this year which is a record," Kwesu said.

# Condition Monitoring Services

## BOOST BUSINESS IN ZIMBABWE

Zimbabwean mining and industrial operations that invested in WearCheck's oil analysis and condition monitoring programme, have reported that their operations are running at optimum efficiency, which translates into enhanced profitability.

Condition monitoring specialists WearCheck first opened in Durban, South Africa more than 40 years ago. Today, they process over 750 000 samples a year, in a network of 15 laboratories in nine countries across the African continent and beyond.

WearCheck Zimbabwe was formed in 2016, after WearCheck acquired the long-established Tribology Services oil analysis laboratory in Harare.

The WearCheck way is to help customers save money and time, via a convenient "one-stop-shop", offering the full spectrum of reliability solutions to getting plant to perform at its peak. As well as traditional used oil analysis, WearCheck Zimbabwe also conducts thermography, vibration analysis, balancing, laser alignment, motor current analysis and milling.



*WearCheck conducts regular training courses for customers who invest in the company's oil analysis and condition monitoring programmes. Here, Ashley Mayer of WearCheck (seated, centre) conducts training at the Mining Skills Training Centre in Zimbabwe.*

Using these preventive maintenance tools substantially reduces the chances of a machine failing without warning, which can often have a catastrophic impact on a production line while repairs are carried out and spare parts are ordered.

The more efficient option is to plan for component down-time using data gathered during condition monitoring, so that remedial work is done when it is needed and before it becomes a disaster. Many Zimbabwean companies have embraced this concept and, as a result, improved their efficiency.

WearCheck's managing director Neil



**Wearcheck MD: Neil Robinson**

Robinson, who is committed to upholding the company's analytical standards at world class level by ongoing staff training to keep up-to-date with global condition monitoring trends, also prioritises on-going investment into state-of-the-art laboratory equipment. In line with this philosophy, WearCheck Zimbabwe recently added an array of new instruments, including a new viscometer.

Says Robinson, "At WearCheck, we take top quality seriously. Our position at the helm of global condition monitoring



*WearCheck Zimbabwe laboratory technician Admire Katanda operates the new Viscometer.*

makes us proud. As does the fact that WearCheck is currently the only condition monitoring company on the African continent with ISO 9001 quality certification and ISO 14001 certification for its environmental management programme, as well as, ISO 17025 accreditation for its laboratory-centric quality management programme."

WearCheck is honoured to be a member of the prestigious International WearCheck Group (IWG), which meets annually to share information on global condition monitoring trends.

In addition to Zimbabwe, the network of WearCheck laboratories extends into South Africa, Zambia, Mozambique, Namibia, DRC, Ghana, India and Dubai, with a presence in several other African countries.

WearCheck Zimbabwe offers on-site sampling, as well as a 24-hour sample turnaround.

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## Wet Pan Milling plant commissioned in Chakari



Since October 2016, under the Gold Development Initiative Fund, Fidelity Printers and Refiners (FPR) has been supporting gold mining operations with focused and customized financial products that keep mining business moving forward.

According to Fidelity, on the 15th of June, 2018, a wet pan milling plant under CSK Resources was commissioned. The Company which is a beneficiary of the fund, contracted Sheafta Mining to construct the Wet Pan Milling plant at Maldon 67 mine in Chakari about 30 kms from Kadoma.

In the same area, FPR has also given 10 miners loan facilities to procure a diesel powered compressor with accessories, diesel generator, lone tonne ore hoist and a 7.50 Hp

submersible pump. Over and above the equipment they will also receive working capital to fund the day to day operations at their mines. The number of miners who have benefitted is expected to rise based on performance of the current group.

Speaking to the miners during the commissioning event, Mr Matthew Chidavaenzi, Head of Gold Development Initiative Fund, encouraged miners to perform in order to be able to repay the loans that they had benefitted from FPR. Failure to do so, miners would risk losing their equipment and having legal loan recovery processes being done.

The Gold Development Initiative Fund intends to aggressively grow market share in the gold mining industry and will focus on building profitable, market oriented and cost-effective products that add value and benefits to the gold producers. Therefore, no matter where the mine is located, or how many ounces they mine, FPR is working towards providing one stop financial services to the gold mining industry, expanding financial inclusion in Zimbabwe and promoting self-sustaining and profitable mining.

The Gold Development Fund (GDF) facility was launched by the Reserve Bank of Zimbabwe (RBZ) as part of initiatives to capacitate small scale miners and boost gold production. This has seen small scale miners break production records and delivering more gold than large-scale heavy weight mining power houses.

# BNC approaches the market for \$6 million to complete smelter

*Future prospects of the company buoyed by firming nickel prices*

Business Writer

**L**isted nickel miner, Bindura Nickel Corporation is soliciting for an additional \$6 million to complete its smelter at Trojan Mine with future prospects of the company closely knitted around current firming nickel prices.

The smelter restart project which started in 2015 and was supposed to be commissioned in 2016 but had to be delayed due to constrained cash flows and low nickel prices.

Despite financial challenges bedevilling BNC, it successfully repaid \$5 million (25 percent) of the \$20 million the company mobilised through a bond issue to restart its Trojan smelter.

BNC managing director Batirai Manhando recently said despite current efforts to complete the smelter, there were still outstanding funds required by the nickel miner to reach project conclusion.

"The prices have gone up and at the smelter we will require an additional \$6 million to complete the project after having raised \$20 million from the bond issue. We are quite optimistic that we would be able to raise that funding this



year from the market," said Manhando.

Manhando said the company has never failed to timely meet its obligations arising from the bond issue.

Asked whether the impending sale of local assets by their London junior market (AIM) listed parent, Asa Resource Plc, Manhando said this will not affect the nickel miner's capacity to repay the bond.

Asa Plc holds majority stake in Zimbabwean based BNC, which has a smelter and nickel mines in Bindura, owns the undeveloped Hunter's Road nickel deposits and is controlling shareholder in Zimbabwe's second biggest gold miner, Freda Rebecca.

BNC contends that resuscitating the Trojan Smelter will significantly cut the cost of transporting nickel matter to export markets.

However despite current efforts to bring sanity to the parent company, controversy has always underlined the hostile take-over of the company by Chinese investor, China International Mining Group Corporation from former Mwana Africa shareholders which triggered a series of controversial decisions.

Since the new holders wrestled the company from the group led by Kalaa Mpinga, asset stripping discontinuation of development projects and allegations of corruption, breach of indiginisation

contracts have remained part of controversies associated with the group.

Legal challenges have also dogged the group while resources were syphoned out of the country at will by the group's executives led by Chinese Yat Hoi Ning.

Mr Barry Dearing, the group's current legal advisor and China International Mining Group Corporation wrestled Mwana Africa from investors led by Kalaa Mpinga through a boardroom coup triggering a series of contentious decisions, some designed to outwit local business systems and laws.

Uncertainty and controversies surrounding Asa Resource Plc has hit hard the prospects of the company recovering especially after seeing its shares suspended from trading on London Stock Exchange after funds mismanagement and corporate governance breaches were flagged at the diversified resources group.

On July 28, 2017, Asa announced that it had requested a suspension of trading of its shares with immediate effect pending clarification of the company's financial position and that the board of directors was taking advice from insolvency practitioners as to the most appropriate course of action they should take.

This therefore saw the appointment of Mark Skelton and Trevor Birch of Duff & Phelps Ltd as joint administrators



Mr Batirai Manhando



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# THE TOUGH that Got Going

*Ten Mining houses that came up with problem mitigating measures to adapt to the economic hardships*

Business Reporter

For past decade the country's mining sector has been facing a myriad of challenges ranging from fluctuating global mineral prices, subdued working capital and above all brain drain due to prevailing economic challenges.

However despite the prevailing economic challenges, some mining houses have managed to defy the odds by coming up with problem mitigating measures to adapt to the hardships.

Some companies during the past decade have folded never to come back, some struggling but without measuring all of them with the same yardstick, some have managed to thrive, posting the best results financially and in production terms.

This Mining Zimbabwe however took time to go through the performance of various companies in a list of 10.

## (1)Caledonia Mining Corporation

The Matabeleland based gold miner despite it being a mid-tier gold producer has managed to outperform its peers in the mining sector. Since inception the mining company immensely showed its image as a good corporate citizen and has been on the best performing companies owned by foreign investors.

Listed on the New York Stock Exchange, the mining firm being run by Steve Curtis is currently carrying out an ambitious expansion drive aimed at producing 80 000 ounces of gold by 2021.



Caledonia CEO Steve Curtis

The company's strategic focus remains the implementation of its investment plan at Blanket Mine which was announced in November 2014 and is expected to extend the life of mine. The mining firm has been consistent in its production and profitability since dollarization and has been one of the companies of note in terms of retaining shareholder value through consistent payment of dividends.

In spite of the hullabaloo around the indigenization issue, the gold mining firm was the first to comply with the draconian legislation.

## (2)Zimplats



Zimplats CEO Alex Mhembe

Zimplats, the country's biggest platinum miner has been true to its economic standing by playing a huge role in

anchoring the ailing Zimbabwean economy.

The mining firm has been consistent in posting positive results and its role in economic development is unquestionable. The platinum miner's total payments to Government in direct and indirect taxes has been sitting at \$17 million in the quarter to March 2018.

The mining firm is currently undertaking a massive expansion project at its Phase as well as development of a new mine (Mupani Mine) at its Ngezi operations. Zimplats however is spending close to \$264 million on the project.

Under the stewardship of the resolute Alex Mhembe, despite the unstable mineral prices the platinum miner has managed to stay afloat, showing no signs of agony.

## (3)Mimosa



Mimosa head office in Harare

The Zvishavane based platinum producer, has always been visible in its corporate responsibility initiatives. Its role in economic development should never be underestimated especially from the fact that it has managed to keep

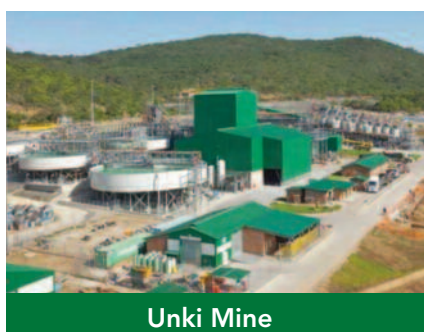


# THE TOUGH that Got Going

alight the mining town of Zvishavane following the folding of the once vibrant Shabani Mines.

The company has been consistent in its production despite earlier clashes with Government where at one time, its South African shareholder mooted shutting down the Zimbabwe mining operation.

## (4)Unki



Unki Mine

Modest in nature and quite in its activities, the Anglo platinum owned miner, Unki has been doing well and this has been seen through its current projects being put in place.

The platinum miner is currently setting up a smelter in Shurugwi at a cost of around \$60 million. This project is in line with Government calls on value addition and beneficiation.

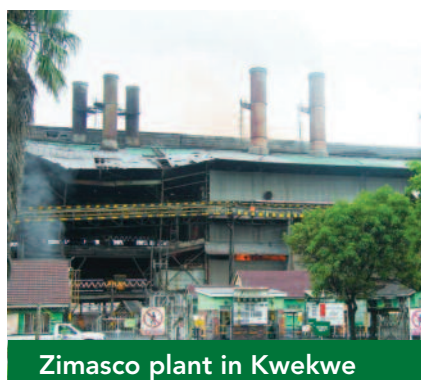
## (5)Africa Chrome Minerals



Zunaid Moti

The chrome miner owned by investment tycoon, Zunaid Moti has been one of the game changers in chrome mining in the country. Since its inception, the miner

has brought state of the art technology used in modern mining in order to improve efficiencies and productivity. The miner has managed to play a major role in the revitalization of chrome mining which has of late been driven by mainly small scale players. Given a chance the miner has the potential to become one of the biggest chrome players in the country.



Zimasco plant in Kwekwe

## (6) Zimasco

Arguably the country's biggest ferrochrome producer, the firm has had its fair share of challenges which saw it being placed under judicial management.

Zimasco was placed under JM in June 2016 after its indebtedness to banks and creditors had gradually increased to about \$65 million. However following various initiatives, the company has since exited judicial management and by January 2018 the company had posted \$160 million in turnover and a profit of \$45 million.

Despite the debt albatross hanging around the firm, Zimasco has managed to defy the odds and has so far managed to repay its debt is one of the profitable companies at the moment.

## (7)Metallon Gold Corporation

The gold miner which is the country's



Metallon's Mzi Khumalo

biggest producer with four mining assets under its portfolio has managed to keep its nose under the water despite challenges threatening its existence. Despite mineral prices slump during the whole of 2017, the miner managed to commission several projects chief among them, the Sands Retreatment plant at Mazowe mine.

The gold miner which owns, Shamva, How mine, Mazowe and Redwing Mine is having its fair share of challenges but has managed to thrive in this difficult operating environment.

Metallon is owned by South African mining magnate and African National Congress (ANC) stalwart, Mzi Khumalo.

## (8)Asa Resource Plc

Despite massive shareholder scandals rocking the group company, its mining subsidiaries, Bindura Nickel Corporation and Freda Rebecca Gold Mine have continued to show massive resilience posting encouraging results. There has been some allegations of externalization of funds at Freda Rebecca by Chinese shareholders amounting to about \$15 million. This was a major setback to the

*Please turn over\*\**

## Ten Mining houses that come up with problem mitigating measures to adapt to the economic hardships

to the mining group, a situation which eventually led to the suspension of its share on the London Stock Exchange.

The mining group is currently under the stewardship of administrators, Mark Skelton and Trevor Birch of Duff and Phelps Limited. There are also plans currently underway to restart the smelter at Bindura Nickel Corporation.

### (9) Makomo Resources



The coal miner based in Matebeleland North has been the main driver of coal mining in the country at a time when the biggest coal miner, Hwange Colliery has been facing capitalization challenges. Over the past five years, Makomo Resources has grown to become the biggest coal miner by output and has also become the biggest supplier of coal to Zimbabwe Power Company.

Over the years the miner has managed to clinch a contract of supplying 600 000 tonnes a month of coal to ZPC and the miner has a monthly output of 160 000 tonnes of coal. At its peak the output was 180 000 tonnes. At the moment Makomo Resources also exports coal to Zambia and Malawi.

### (10) Zimbabwe Consolidated Diamond Mining Company



Following the consolidation of diamond mines by Government, there has been sanity and order in that sector. Production has been consistent and this also saw Government injecting a considerable amount of investment capital to boost production.

The diamond miner however is targeting to produce 10 million carats by 2023, an output which is expected to feed into President Mnangagwa vision of a middle income country by 2030.

The diamond mining sector earnings are expected to hit \$18 billion by 2023.

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# ZimPlats resolution

## of mining lease area and mining tenure issues



Ngezi concentrator Plant

Stakeholders are referred to the announcement that was issued by Zimplats on 5 March 2013 advising that the Government of Zimbabwe ("the Government") had given notice of its intention to compulsorily acquire land 27 948 hectares within Zimplats' special mining lease area.

Stakeholders have been regularly kept informed of developments on the matter through updates contained in Zimplats' periodic reports released to the market. As stakeholders are aware, the proposed compulsory acquisition by the Government of the land within Zimplats' special mining lease area was a matter pending in the courts in Zimbabwe and, as previously advised, the operating subsidiary, Zimbabwe Platinum Mines (Private) Limited ("the operating subsidiary"), had continued to engage the Government on the matter.

**Zimplats has agreed to release to the Government land measuring 23 903 hectares**

Zimplats is pleased to advise stakeholders that the issue concerning the proposed compulsory acquisition of a portion of Zimplats' mining lease area, as well as the issue of security of Zimplats' mining tenure, have been resolved amicably between Zimplats, through the operating subsidiary, and the Government to the mutual benefit of the parties.

Zimplats has agreed to release to the Government land

platinum mining industry in Zimbabwe. Following this release of ground, Zimplats now holds two separate and noncontiguous pieces of land measuring in aggregate 24 632 hectares. Consequently, the operating subsidiary applied for and was granted with effect from 31 May 2018, two separate mining leases over the two pieces of land measuring 6 605 hectares and 18 027 hectares respectively. These mining leases replace the special mining lease which was due for renewal in August 2019.

The two mining leases issued to the operating subsidiary are valid for the life of mine of Zimplats' mining operations and they secure the operating subsidiary's mining tenure.



measuring 23 903 hectares within Zimplats' mining lease area in support of the Government's efforts to enable participation by other investors in the

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# Caledonia moots \$200 million Investment

**Miner submitted its bid on the Zimbabwe Mining Development Corporation (ZMDC)'s gold mines as the miner looks at expanding its footprint locally and regionally.**

New York Stock Exchange listed, Caledonia Mining Corporation will have to make a \$200m investment in order to become a regionally focused 300,000 - 350,000 ounces per annum gold producer.

This comes after the gold miner has reportedly submitted its bid on the Zimbabwe Mining Development Corporation (ZMDC)'s gold mines as the miner looks at expanding its footprint locally and regionally.

In a presentation, Caledonia which owns Matebeleland based Blanket Mine said there are multiple acquisition opportunities in Zimbabwe and sizeable amount of investment will see the company expanding its regional footprint.

"There are multiple acquisition opportunities in Zimbabwe and there are usually small-scale operations, operating at break-even, often with non-compliant resource statement." Some of those operations require urgent recapitalization and remediation of existing operations. \$200m investment is required to build a regionally focused 300,000 -350,000 ounces per annum gold producer," said the gold miner. Caledonia mining is seriously looking at issues of expansion and will be looking at assets that will increase the company's growth.

Following the resource upgrade at its Blanket mine, the mining group has extended the scope of the Central Shaft project by increasing the depth of the shaft by a further 250 metres to a shaft



bottom depth of 1,330 metres.

The extension will allow for a further two production levels (in addition to the two new levels that were already planned) and will potentially extend Blanket's life of mine by four years to 2031.

The extension of the shaft is not expected to delay the achievement of the target production of approximately 80,000 ounces per year by 2021 but it will improve operational flexibility. The move by Caledonia to expand is in line with President Emmerson Mnangagwa's push to have the country's economy work again.

In his inaugural speech, President Mnangagwa said Zimbabwe will pursue an economic revival agenda underpinned by the mining and agriculture sectors, and the latest moves by the state firm are the first steps to maximise on the country's mineral rich deposits. Caledonia Mining Corporation is also in the process of diluting local indigenous shareholders at its 49 percent owned Zimbabwean gold mining unit, Blanket Mine. This move comes after Government in December last year amended the Indigenization and Economic Empowerment Act citing that the 51-49 percent threshold was now

only applying to platinum and diamond mining.

Blanket Mine was one of the first companies to receive their certificates of compliance on indigenisation from Government in 2012, after it signed a conditional agreement to sell a 16 percent stake in Blanket Gold Mine to the National Indigenisation and Economic Empowerment Fund for \$11,74 million.

This agreement was in addition to the conditional agreements that were signed in accordance with the terms of the February 2012 Memorandum of Understanding. These included an agreement signed for the sale of 10 percent of Blanket for a consideration of \$7,34 million to the Blanket Mine Employee Trust that was established for the benefit of the present and future managers and employees of the mine.

Following the amendment of the law, Caledonia Mining Corporation is looking at increasing its stake in Blanket mine, diluting local shareholders in the process.

Caledonia and Blanket however have agreed to implement a rights issue to raise approximately \$4m which will be underwritten by Blanket mine.

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# Universal speed measurement for explosive areas Hand-tachometers

Our mechanical handheld tachometers, HTM's, are designed to accurately measure RPM and surface speed on a wide range of applications. The HTM is a favored measurement device in several industries, including elevator maintenance, the mining industry, yarn and wire measurement and others. The large, clear and easy-to-read dial as well as the wide reading range with high definition make the mechanical hand-tachometers easy to use - without the need for any batteries!

Keeping in mind the need to operate tachometers in areas where there is a risk of explosive atmospheres due to either dust particles or gas, our engineers have carried out modifications to enable this version to be certified for use in ATEX Zones 1 and 2 for use in all gas groups with a temperature class of T4 and also makes it suitable for mining applications I M2c. This certificate approves use in underground mining applications. The device has been designed for short term observation and measurement, not for continuous operation.

The ATEX HTM measures rotational or linear speed using various special contact adaptors supplied with the instrument. With no need for batteries, it has the safety and flexibility to satisfy the most demanding requirements for maintenance and calibration. The reference numbers: EX II 2 G D C II C T4, I M2 c

Easily identified by its yellow, ergonomically-designed casing, the ATEX HTM is available in four different models and is supplied in a hard plastic carrying case complete with a set of adaptors.

RHEINTACHO UK Ltd, a subsidiary of the German company RHEINTACHO Messtechnik GmbH, is specialized in the production of non- electronic measurement and indication instruments as well as tacho generators, and acts as a sales and service center for the UK and Ireland. The German parent company

For over 115 years now, RHEINTACHO Messtechnik GmbH has had a longstanding tradition and has been engaged in the field of rotational speed, a crucial control quantity for mechanical processes. In-house product development, production and assembly departments guarantee quick and innovative solutions to customers' individual requirements. The production range incorporates a wide range of solutions of a high technical

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Further products from RHEINTACHO are:

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- Electrical indicators that visualize process factors such as rotational speed, velocity, flow, positions and filling levels

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## Universal speed measurement for explosive areas Hand-tachometers = RHEINTACHO



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# Volvo CE tests remotely operated wheel loader in underground mining application



Volvo Construction Equipment (Volvo CE) has been involved in a Swedish research project that demonstrated that by applying the latest technology within communication and automation, underground mines could become more efficient and safer. In the Pilot for Industrial Mobile Communication in Mining (PIMM) project, Volvo CE developed and tested its remotely controlled wheel loader 400 metres underground – while the operator commanded the machine from a comfortable office on the surface. This was made possible with the help of other companies and organizations – including Boliden, Ericsson, Telia, ABB, RISE SICS and LTU – which joined forces on the project to explore what the next generation of mobile communication technology, 5G, could mean for business models and communications in a mine.

## Testing in real environments

The PIMM project installed the latest technology for mobile communications in Boliden's Kankberg underground mine, in Sweden, to test how it performed in a challenging application under tough, industrial conditions. In a mine, network delays could have major consequences for safety and productivity. At this stage, the remotely controlled wheel loader is part of a research project and it is not commercially available.

"Volvo CE's mission statement for the project was to prove that the technology we're developing internally is applicable in a customer environment," says Erik Uhlin, Advanced Engineering Program Leader. "

We wanted to highlight that industrial applications in mobile networks aren't just something out of science fiction – they're real. Testing was carried out while production was taking place and that was demanding – but it meant that we were working with real problems, in a real environment. The project was a great

success. The collaboration between all the partners resulted in us showcasing that a future underground mine could not only be more efficient, but also safer."

## Success through collaboration

By collaborating with partners, Volvo CE gained knowledge and experience of data links via mobile networks for real time control. The mobile network that Ericsson built for the Kankberg mine featured the latest in wireless technology. The

**Volvo CE developed and tested its remotely controlled wheel loader 400 metres underground – while the operator commanded the machine from a comfortable office on the surface.**

system was so fast and reliable that it enabled the wheel loader to be controlled from above ground.

"The benefit of working with other technology-based companies is huge," concludes Uhlin. "There was a great openness and willingness to collaborate that further increased what everyone got out of the project. All the partners openly shared their advanced technology and knowledge within digitalization and automation and it was because of this collaboration that the project was a success."



# 5 Simple ways to prevent jobsite accidents



It has been said that "we are what we repeatedly do." Workers do not purposely disregard safety rules and warnings, but it is easy to get distracted and to become complacent, even with training.

Technology aids are great, and product engineers work hard to design out hazards, but safety awareness is the greatest protection against accidents.

Making safety a daily habit requires self-discipline. Know the hazards involved. Be disciplined about using the equipment correctly and understanding and following all safety requirements all the time.

Following good safety practices protects not only equipment operators, but also everyone who works in their proximity so they all can go home safely after their job is done.

While operator safety is paramount, a safe jobsite is also a more efficient and productive one: less downtime from accidents and fewer repair costs from improper machine usage and maintenance.

The following five safety guidelines may seem basic, but they help ensure safe operating practices every day.

## 1. Follow your company's safety program.

Never operate machinery under the influence of drugs or alcohol. Be aware and alert to any potential hazards in your specific working condition. Participate in all required training.

## 2. Know important safety alerts and signal words posted in your work area or on the equipment you operate.

The following words have significant differences in their meaning for safety: Danger. Warning. Caution. Notice. If you're not sure of what a certain safety alert or signal means, ask a supervisor or safety professional.

## 3. Protect yourself.

Wear all necessary personal protective equipment (PPE). Hard hats, gloves, safety glasses and boots may be required in order to operate machinery safely.

## 4. Know the rules.

Most employers have rules governing equipment use and maintenance. Before you start work, check with your supervisor or safety coordinator and be sure about the rules you'll be expected to obey.

## 5. Know the equipment.



Make sure you understand the capabilities and hazards of the equipment you'll be operating. Read the owner's manuals, safety literature and any other resources made available to you.

# Sustainable future mining the focus of mega partnership

*"Via this partnership, we can derive maximum benefit from digitalization and create the sustainable mine of the future."*

The mine of the future is carbon-dioxide-free, digitalized and autonomous. To set a new world standard for sustainable mining at great depth, LKAB, Epiroc, ABB, Combitech and AB Volvo have joined forces in a partnership and are starting a unique testbed in the orefields of northern Sweden.



The testbed, SUM, Sustainable Underground Mining, will be created in LKAB's underground mines in Kiruna and Malmberget and will also take the form of a virtual mine. Here, new technology will be developed and tested in a real mining environment to ensure that the Swedish mining industry can remain competitive and create jobs and growth, both locally in Norrbotten and nationally. This requires new control systems, new and improved mining equipment, as well as complex and efficient management systems that meet future demands for a sustainable industry. Reaching that goal will demand a new type of collaboration, a digital ecosystem in which the partners' digital systems and operations are linked.

**COMBITECH**

"Sweden's mining and minerals industry is competing to be the world's most sustainable. Since sustainability



requirements and technology are now developing at a rapid pace, Swedish companies have to join forces to ensure that we can mine safely and sustainably in the future. That bodes well for a mining nation like Sweden," says Mikael Damberg, Minister for Enterprise and Innovation.



After 2030 LKAB must be ready to mine at greater depth in the Kiruna and Malmberget mines. For this, one of Sweden's biggest industrial investments ever, decisions will have to be taken in the mid-2020s. To be able to realize the technology shift and reduce climate impact, LKAB, ABB, Epiroc, Combitech and AB Volvo have joined forces to find solutions and set a new world standard for sustainable mining at great depth that would entail a major leap in



technological development.

"LKAB has a longstanding tradition of innovation and, to secure long-term

modern mining operation. This aligns well with our focus on autonomous and battery-operated products and solutions that improve productivity and safety in the mines," says Per Lindberg, President and CEO of Epiroc.

"LKAB is taking a whole new approach to the development of future mines with unique digital and sustainable solutions. We look forward to partnering with LKAB, Epiroc, Combitech and AB Volvo and contributing our knowledge of automation and electrification of underground mines and services. Digitalization presents tremendous opportunities and, together with our partners, we are creating the safe and efficient mines of tomorrow," says Johan Söderström, Managing Director, ABB Sweden.



"Via this partnership, we can derive maximum benefit from digitalization and create the sustainable mine of the future. We are proud to participate in a very important effort whereby we can contribute our expertise and experience of linking automated processes and people by means of so-called digital ecosystems," says Hans Torin, CEO, Combitech.



# Sustainable future mining the focus of mega partnership



"Swedish industrial competitiveness is based on innovation, collaboration between society and strong, international companies, and a genuine ambition to find systems solutions that are environmentally, socially and economically sustainable. In this way we are assured, jointly and individually, of our leadership role in the world. For the Volvo Group it is vital to be part of complete systems solutions that create prosperity for society and industry. In a technical paradigm shift where automation, electromobility and interconnected systems play a key role, this collaborative effort will strengthen our competitive advantage globally," comments Martin Lundstedt, President and CEO, AB Volvo.

**Digitalization presents tremendous opportunities and, together with our partners, we are creating the safe and efficient mines of tomorrow,**

Within the framework of the testbed the best means of building an efficient autonomous production system that is carbon-dioxide-free and has the highest conceivable level of safety will be studied. In the future autonomous and digitalized mine people and machines will work side by side. Implementation of the project will require very significant investment on a national scale and the partners are therefore seeking collaboration with more suppliers, the Swedish state, research institutes and universities.

## BAGGER 288



This German mining machine is one of the largest land vehicles on Earth. The excavator pictured here, called Bagger 288, uses its revolving wheel of buckets as a shovel to continually shift 240693.196 of dirt a day. Once it reaches a seam of brown coal, or lignite, it can harvest 265,000 tons of fuel a day. And the crew this behemoth requires? A mere three to four people.

The conveyor belts receive overburden (soil and rock) or lignite from the buckets, and carry the material at more than 17kmh. Each belt is 3,2m wide, big enough to ferry a Smart car with ease.

21m tall, the bucket-wheel is the height of a seven-story building. Each of its 18 buckets is 3492kg (empty!) and can scoop 6.5cubic metres of soil, enough to fill a cargo van.

798.9m<sup>2</sup> of tread carry the Bagger's 13,000 tons of weight at a stately 0.6 km/h.

If we had one at Hwange, i wonder...

# Top 10 issues shaping mining in 2018



**A**s commodity prices enjoy another bull run, how is the mining industry reacting to change? Professional services firm Deloitte Global identified 10 key trends facing the industry in their recent Tracking the Trends report. Here Deloitte's Global Leader of Mining Phil Hopwood explains more.

The last decade has been a rollercoaster of historic highs and historic lows in the mining sector. While the industry currently enjoys strong commodity prices, the next decade is likely to see more vigorous change. But have mining companies learnt the lessons of the past - and how do they need to react to succeed in this new environment?

## 1. Bringing digital to life

Once measured by how well a company extracted resources, the industry's value proposition may be shifting to how well a company acts on information to optimize production, reduce costs, increase efficiency, and improve safety. In short, data - and the ability to organize, manage, and process it - is becoming a competitive differentiator. To succeed in this effort, miners need a clear vision of how the future digital mine might transform core mining processes, the flow of information, and supporting back office processes. Once the information is captured, the use of data-driven analytics will help optimize their systems, from pit to customer.

## 2. Overcoming innovation barriers

To some extent, innovation barriers exist because the design of mines and processing plants hasn't changed in decades. Although commodity prices have begun recovering, mining executives are still feeling the sting of the downturn. As a

result, they are cautious, meaning that innovation efforts are constrained by the need to demonstrate short term returns. The catch is that, unless you are trying new things, you are not learning, and if you are not learning then you will fall behind. Mining companies can only achieve true innovation maturity if they go beyond the basics of operational improvements to embrace innovation in a broader sense.

## 3. The future of work

As the digital mine becomes a reality, the nature of work is set to change dramatically. Repetitive human activities will be replaced by automation and autonomous equipment that reduces labor intensity and improve safety. AI will help knowledge workers and integrated communications support mobile workers, while digital work scheduling and robust cybersecurity will keep operations efficient and protected. These changes will support a more diverse and inclusive workforce.

## 4. The image of mining

Despite the significant contribution of the mining sector to the world's economy, the industry's reputation remains tarnished in many countries due to perceptions that mining contributes to environmental damage, causes a negative impact to the community and engages in dubious practices abroad. In a world influenced by round-the-clock news cycles and opinions aired in the court of social media, this type of backlash is only bound to increase. This will force mining companies to take proactive steps to address, and change, their reputations. This is more than a PR exercise. To rebuild trust with employees, investors, communities, governments and the public, mining companies must back up their messages with action.



# Top 10 issues shaping mining in 2018



## 5. Transforming stakeholder relationships

To expand local employment opportunities, increase tax revenues and meet demands for improved infrastructure and greater environmental protection, many governments of resource-rich countries continue to put pressure on the mining industry. As a result, mining companies still face considerable obstacles to investment, ranging from high royalty taxes, permitting challenges and uncertain tax rules, to demands for local processing. An underlying cause of this friction can be traced to miners' own actions. Some of the social initiatives mining companies have undertaken in the past have failed to deliver their intended results. Increasingly, the industry is realizing that its approach to community and government relations must change. As mines move towards more digital and automated operations, the effect on local employment - the basis of mines' relations with communities - will change. To prevent a backlash, companies will need to leverage the digital infrastructure on behalf of communities, to improve communications, create new education models (e-learning) or deliver other digitally-enabled services. This will require companies to be more creative in understanding the real needs of communities.

## 6. Water management

As ore grades decline, more water is needed to extract the same quantity, pushing up water requirements in the industry. Critically, this growing demand is not offset by available supply, with one-in-four people predicted to live in countries affected by chronic freshwater shortages by 2050. As concerns about water availability grow, communities and environment groups are turning their spotlight on water intensive industries. In light of this, mining companies must enhance their approach to water management.

## 7. Changing shareholder expectations

As shareholder expectations grow, mining companies have begun focusing on reestablishing their credibility in the investor community and with analysts. Rather than pursuing the mega-mergers of the past or building new mines, many are exercising higher degrees of financial discipline.

## 8. Worries about reserves

Intense cost cutting may have improved the short-term fortunes of many miners, but it comes at a cost, with reserves of many commodities sharply down. Gold, copper, silver, nickel and zinc, to name a few, have all experienced reserve depletion in recent years. Despite the pick-up in commodity prices, many miners are struggling to free up the exploration and development budgets needed to exploit new resources.

## 9. Realigning mining boards

To transition to the mine of the future, companies must embrace new talent. To do this, miners need to make a substantial cultural shift. Some companies have already taken steps in this direction by engaging in cross-functional collaboration, seeking out best practices from other industries, strengthening their executive teams and setting targets to achieve greater diversity and inclusion.

## 10. Commodities of the future

To decide which commodities to invest in, and which to get out of, miners need to keep their fingers on the pulse of changing consumer demands and economics, demographics and environmental change. More recently, they have also had to follow the rapidly developing emergence of new technologies. Battery demand is set to soar in anticipation of the exponential growth of electric vehicles and energy storage systems. Demand for lithium is also expected to soar, as is graphite, nickel and copper. The impact of these trends on the mining industry could be transformative.

# GBM Mercury Free Gold Recovery



**GBM method in use**

The Gravity-Borax Method GBM is still unknown to most Artisanal and small-scale gold miners (ASGMs) world-wide as most still use mercury to extract gold.

"Whole-ore amalgamation" is a technique that requires the use of 10–25 g of mercury to produce 1 g of gold. Within the last eight years, it has become evident that this technique is more widely used than earlier anticipated, and artisanal small-scale gold mining (ASGM) is now considered the single largest contributor to global mercury pollution with the environmental release of 900 000kg of mercury per year. The United Nations Environment Programme has estimated that ASGM contributes a 37% share of the anthropogenic emission of mercury to the atmosphere.

Whole-ore amalgamation is commonly practiced in the Philippines. The ore is mixed with water and crushed in a rod mill (a rotating drum with metal rods inside), after which mercury is added and milled with the ore. The gold dissolves in the mercury and forms amalgam. After the milling, the content is poured into a tub where the mercury (holding the gold) sinks to the bottom. Excess mercury is recovered, and by blowtorching the remaining bit of

amalgam, the mercury evaporates leaving behind the gold.

## Leach Gold Without Cyanide

In Benguet province, a group of miners have been using the mercury-free gravity-borax method (GBM) for gold extraction for decades. This method basically requires the same equipment as the amalgamation methods. However, after the rod milling, an ore concentrate holding the heavy minerals is produced by using a launder (gold sluice) and a gold washing pan. The heavy mineral concentrate is mixed with borax powder. By blowtorching the mix, the borax melts and the gold sinks to the bottom.

It has recently been demonstrated that under identical conditions, GBM yields more gold than the traditional amalgamation method. Despite this advantage, GBM is not widely used outside Benguet. No earlier studies have documented that GBM can be implemented in an area using whole-ore amalgamation. technology transfer projects have promoted retorting of amalgam as a preventive technology in ASGM.



A project area in Mindanao, 20% of the miners have already converted to the mercury-free method. Unfortunately, this method is ineffective in areas using whole-ore amalgamation, since up to 90% of the mercury is lost to the tailings (the waste product consisting of ñe sand) and only 10% is lost by blowtorching of amalgam. Thus, only a small fraction of the mercury spill from

whole-ore amalgamation can be recovered with a retort. Introduction of cyanidation techniques has also been suggested as a way to reduce or eliminate the use of mercury in ASGM. Although most cyanide compounds decompose into nontoxic forms, cyanide itself is highly toxic and exchanging one toxic chemical with another may be regarded as a controversial solution.

## BORAX RECOVERS MORE GOLD than MERCURY

**Borax for Higher Gold Recovery**  
We present the results of a project in which GBM was introduced in two mining communities in the Philippines where whole-ore amalgamation was widely practiced. The main objective of the project was to reduce mercury pollution from small-scale gold mining by encouraging ASGMs to use a mercury free method.

Unfortunately, this method is ineffective in areas using whole-ore amalgamation, since up to 90% of the mercury is lost to the tailings (the waste product consisting of ñe sand) and only 10% is lost by blowtorching of amalgam. Thus, only a small fraction of the mercury spill from whole-ore amalgamation can be recovered with a retort. Introduction of cyanidation techniques has also been suggested as a way to reduce or eliminate the use of mercury in ASGM. Although most cyanide compounds decompose into nontoxic forms, cyanide itself is highly toxic and exchanging one toxic chemical with another may be regarded as a controversial solution.

Location	Mercury	Borax
Suerte 1, Bolivia	0.1 gram	0.5 gram
Suerte 2, Bolivia	0.4 gram	0.5 gram
Gaang 1, Philippines	1.2 gram	3.2 gram
Gaang 2, Philippines	2.3 gram	4.8 gram
Gaang 3, Philippines	1.8 gram	4.2 gram
Gaang 4, Philippines	7.2 gram	22.5 gram
Kias, Philippines 1	0.4 gram	1.1 gram
Kias, Philippines 2	0.8 gram	1.3 gram





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# All Minerals and location found in Zimbabwe

Agate	Nyamandhlovu, Chikomba, Lupane
Aluminum	Mutare, Nyanga, Mwenezi
Amazonite	Nyamandhlovu, Rushinga
Amethyst	Nyamandhlovu, Hurungwe, Hwange, Makonde, Lupan
Antimony	Kwekwe, Bubi, Mberengwa, Kadoma, Shurugwi
Arsenic	Bubi, Shurugwi, Mutare, Gwanda
Asbestos	Masvingo, Gwanda, Matobo, Mberengwa, Insiza, Makonde, Umzingwane
Aventurine	Masvingo, Beitbridge
Barites	Kwekwe, Mwenezi
Beryl	Hurungwe, Kariba, Goromonzi, Harare, Mudzi, Rushinga, Mutoko, Bindura, Marondera, Gutu, Buhera, Bikita, Chegutu, Hwange, Mberengwa, Gweru
Bismuth	Gwanda, Insiza, Goromonzi, Hwange
Cesium	Mudzi, Bikita, Goromonzi
Calcite	Hwange, Bindura, Chiredzi, Mwenezi
Chromium	Mberengwa, Guruve, Makonde, Gweru, Kwekwe, Shurugwi, Chegutu, Kadoma, Gwanda, Insiza, Masvingo, Chirumanzu
Citrine	Marondera, Harare, Goromonzi
Clay	Harare, Bulawayo, Gwanda, Gweru
Coal	Gokwe, Chiredzi, Beitbridge, Mwenezi, Hwange, Lupane, Binga, Kariba, Hurungwe, Bikita
Cobalt	Kwekwe, Insiza, Shamva, Bubi, Bindura
Copper	Makonde, Kadoma, Mutare, Chirumanzu, Chegutu, Kwekwe, Shurugwi, Beitbridge, Gokwe, Bindura, Chipinge, Bikita, Insiza, Makonde, Harare, Bulawayo, Shamva, Chiredzi, Nkayi, Mudzi, Chegutu, Bindura, Kwekwe, Hurungwe, Bubi, Makonde, Bikita, Gwanda, Masvingo.
Cordierite	Hurungwe, Beitbridge, Chimanmani, Rushinga, Makuti
Corundum	Beitbridge, Chiredzi, Shurugwi, Marondera, Mberengwa, Mazowe, Rushinga, Insiza, Goromonzi, Wedza, Makoni
Diamond	Gweru, Bubi, Beitbridge, Binga, Mwenezi, Mutare, Chivi
Diatomite	Hurungwe
Dolomite	Mutare, Beitbridge, Makonde, Mudzi, Masvingo, Rushinga.
Emerald	Gutu, Masvingo, Insiza, Mberengwa, Hurungwe.
Feldspar	Harare, Bikita, Umzingwane, Goromonzi
Fireclay	Hwange, Chiredzi, Kwekwe, Lupane, Nkayi, Kadoma, Kwekwe
Flint clay	Mwenezi, Beitbridge
Fluorite	Hwange, Guruve, Binga
Garnet	Beitbridge, Hurungwe, Mudzi, Guruve, Rushinga, Marondera
Graphite	Hwange, Hurungwe, Kariba, Makonde
Gypsum	Beitbridge
Gold	Every district in Zimbabwe
Iron	Kwekwe, Mberengwa, Harare, Kwekwe, Buhera, Gweru, Charter, Chiredzi, Masvingo, Mazowe,



# All Minerals and location found in Zimbabwe

Jade	Masvingo
Kaolin	Kwekwe, Mutare, Bubi, Hwange, Kadoma, Mazowe, Harare, Umzingwane, Nkayi, Chegutu
Kainite	Hurungwe, Nyanga, Mudzi, Rushinga
Lead	Mberengwa, Kwekwe, Gokwe, Mutare, Wedza, Hwange
Limestone	Mberengwa, Gwanda, Bindura, Shamva, Mazowe, Kadoma, Umzingwane, Gweru, Chegutu, Chimanimani, Mudzi, Harare, Hurungwe
Lithium	Goromonzi, Mudzi, Buhera, Bikita, Chegutu, Hwange, Harare, Insiza, Rushinga, Mutoko, Mutare,
Magnetite	Gwanda, Nyanga, Kadoma, Mwenezi, Insiza, Buhera, Mberengwa, Beitbridge, Gweru
Manganese	Kwekwe, Gweru, Makonde, Mberengwa
Mercury	Bubi, Kadoma
Mica	Hurungwe, Rushinga, Kariba, Hwange
Molybdenum	Kwekwe, Insiza, Shurugwi, Makonde, Chipinge, Gweru, Mutare
Mtorolite	Guruve, Mutare
Nickel	Bubi, Makonde, Kwekwe, Insiza, Guruve, Shamva, Shurugwi, Matobo, Chegutu, Bindura, Gweru.
Ochre	Gweru, Kwekwe
Palladium	Kwekwe, Makonde, Shurugwi, Chegutu
Phosphate	Buhera
Platinum	Kwekwe, Makonde, Shurugwi, Chegutu, Centenary
Pyrite	Shurugwi, Gwanda, Mazowe, Kadoma, Bulilimamangwe, Shamva, Hwange.
Salt	Mwenezi
Sapphire	Mudzi
Selenium	Makonde
Silica	Gweru, Kwekwe, Makonde, Chegutu, Gokwe, Harare, Goromonzi
Sillimanite	Hurungwe
Silver	Makoni, Makonde, Kwekwe
Talc	Bubi, Guruve, Insiza, Nyanga, Mutare, Mt Darwin, Mberengwa, Goromonzi, Mutoko, Wedza, Kwekwe, Makoni
Tantalum	Hurungwe, Guruve, Kariba, Mudzi, Mutoko, Shamva, Bindura, Harare, Goromonzi, Murehwa, Mt Darwin, Rushinga, Mazowe, Marondera, Gutu, Masvingo, Buhera, Bikita, Mutare, Hwange, Chivhu, Mberengwa, Chimanimani, Makoni, Insiza
Tin	Hurungwe, Mudzi, Shamva, Bindura, Goromonzi, Harare, Rushinga, Mt Darwin, Nyanga, Gutu, Bikita, Hwange, Masvingo, Mutare
Topaz	Hurungwe, Gweru, Mutare
Tungsten	Hurungwe, Kariba, Shamva, Mazowe, Rushinga, Bindura, Guruve, Mt Darwin, Harare, Mudzi, Goromonzi, Bulawayo, Insiza, Matobo, Gwanda, Umzingwane, Bubi, Buhera, Mberengwa, Kadoma, Bikita, Shurugwi, Mutare, Chipinge, Chegutu, Kwekwe, Chiredzi, Wedza, Gweru, Hwange, Masvingo, Makoni
Vanadium	Mt Darwin, Guruve, Bulawayo
Vermiculite	Buhera, Mudzi
Zinc	Kwekwe, Gokwe, Nyanga

# Good times for small scale miners

*For the first time, the law recognizes small-scale miners and gives them security of tenure, bringing them under regulatory requirements to operate safely and with a view to protecting the environment.*

Staff writer

The approval of new mining legislation in Zimbabwe seeks to open the country up to greater levels of investment and boost its output of minerals, such as chrome and lithium.

The old Mines and Minerals Act was outdated, having been initially passed by the white minority-based Rhodesian regime in 1961, amended under the Mugabe government in 1996 regarding rules on special leases.

For the first time, the law recognizes small-scale miners and gives them security of tenure, bringing them under regulatory requirements to operate safely and with a view to protecting the environment.

In June the Government also signed a 20-year mining deal with the Moti Group and its local partners, Sakunda Holdings, which is also meant to capacitate small-scale miners.

The deal, known as the Zimbabwe Motivation Mining (ZMM), will see the investor availing a \$50 million off take that will go towards small scale miners' operations.

The Minister of Mines, Winston Chitando said small-scale mining is key to Zimbabwe's overall mineral production as the country's geology entails that there are some mineral deposits that are not economically viable for mining by big conglomerates.

On ferrochrome, the minister said the country will soon have two million tonnes per year stainless steel plant built by a Chinese investor, Tsingshan, thus the country needs to up its production figures that stood at 320 000 tonnes last year.



Small scale miners



Small scale miner shows off his Gold

Small-scale miners now account for a large chunk of the country's total mineral output. Early this year, Chitando said the government was going to establish a desk for small-scale miners in the ministry, where there would be a desk for all the major (individual) minerals, i.e. for gold, nickel, chrome and diamonds.

Small-scale miners under the Zimbabwe Miners Federation (ZMF), have welcomed Government's initiatives in the mining sector that they say are set to transform the small scale mining industry as well as improve individual miners' livelihoods.

**"ZMF, have welcomed Government's initiatives in the mining sector that they say are set to transform the small scale mining industry as well as improve individual miners' livelihoods"**

ZMF is the umbrella board representing small-scale miners, and its membership now accounts for more than half of the country's gold deliveries as well as a substantial amount in chrome deliveries and other special stones.

Minister Chitando said it is imperative that the small-scale miners up their production figures in line with President Mnangagwa's vision 2030 to make Zimbabwe an upper middle income country, a vision he said needs maximum mineral utilisation to be achieved. The President has already declared the country's future economic development will be anchored by mining and agriculture.



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