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shareholding in Blanket
Mine - 12*

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**AUTHORISED
DEALER**

In anticipation of Zimbabwe's economic rebirth

Legend has it that the Zambezi river god, Nyaminyami, was angered by the construction of the Kariba dam. If so, he must have been enraged by the 38 years of ruinous economic policies in Zimbabwe, which reduced a once thriving nation to a stuttering state.

Within the mining sector, for example, the lack of investment capital over the past decade has created a nascent buyer's market for Zimbabwe's mineral wealth including diamonds, gold, chrome, nickel, coal – and especially platinum, of which Zimbabwe has the third largest global reserves.

THE Chamber of Mines of Zimbabwe (Chamber) says the first half of the year was a difficult period for the mining sector on account of a "difficult environment", which could continue way into the second half.

They cited top five challenges plaguing the mineral sector and these include electricity supply, shortages of foreign currency, general rise in the cost of inputs, shortage of capital and international market movements.

But the country is at a promising inflection point. The winds of

change have gathered, and the new president Emmerson Mnangagwa will guide Zimbabwe in the right direction – at least as far as the economy is concerned.

Emmerson Mnangagwa is broadly seen as a reform-minded leader and will now benefit from the political support needed to implement business-friendly economic reforms, which will strengthen investor confidence

Caledonia Mining has signed a memorandum of understanding (MOU) to acquire Fremiro Investments' 15% stake in the Blanket gold mine in Zimbabwe. This deal comes after the Zimbabwe Government amended the Zimbabwean Indigenisation and Economic Empowerment Act in March. According to the amendment, gold mining businesses are no longer required to implement the 51% indigenisation requirement.

For the first time in a generation, some Zimbabweans see a path to exact opportunities on a renewed drive for progress and economic growth.

S. Mpofu



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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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In an economy said to have the highest unemployment levels in the world yet very rich in natural resources now maybe the time for ordinary urban based Zimbabweans in big cities including Harare, Bulawayo and many others in the diaspora to improvise, think outside the box and seriously consider investing in mining.



Time to Invest in gold Mining

In an economy said to have the highest unemployment levels in the world yet very rich in natural resources now maybe the time for ordinary urban based Zimbabweans in big cities including Harare, Bulawayo and many others in the diaspora to improvise, think outside the box and seriously consider investing in mining.

In tough economic times like these it will be worthwhile to seriously consider looking to the natural mineral resources for a change. With a President preaching investment, Zimbabweans should note that mining investment contributes positively to the economy in so many ways including employment creation and help get "the Jewel of Africa" back on track.

The quicker and more affordable way to venture into mining is small-scale mining.

Small scale miners this year have emerged as

the cornerstone of the Mining sector after smashing production records, producing and delivering more gold than large-scale mining houses, statistics have showed. Data from the country's sole gold buyer, Fidelity Printers and Refiners, shows that during May 2018 the small-scale mining sector produced 2,2 tons of the yellow metal compared to 1,2 tonnes delivered by primary producers and this is one industry that small players are clearly outshining the major players and you too can be part of this revolution.

Many have the perception of mining being associated with Amakorokoza, a sometimes-violent machete wielding bunch who at times butcher their own mates for precious minerals like gold. Although it does happen its extremely isolated cases and usually at abandoned or disused mines.

This is one industry that the country has to offer that can turn around fortunes of many



Time to Invest in gold Mining

for the better. I have first-hand witnessed young gold dealers flouting their wealth with fancy cars drinking like nobody's business yet should one ask people in the same area they will tell you how tough Zimbabwe is with no jobs in sight yet these miners seem to be living in their own 'kinder' Zimbabwe.

Gold Mining

Gold is the simplest and easiest mineral to try in mining and like most miners will tell you, you can never go wrong with gold. We take you through steps you can take to venture into gold mining as it is the easiest to mine and assistance is quickly available.

Gold is sold at an average price of \$39/gram depending on density (prices updated daily by FPR). Should you have average claims you are guaranteed of good returns. Miners are paid 70% of their earnings in hard cash (US\$) and FPR is always ready to pay for the precious mineral. Gold is available in all regions in the country and advice is easy to come-by. Not much training is required and it is possible to partner with some other people to reduce the burden of costs.

Option one (Obtaining mining claims)

1.1 When a Prospecting License holder has identified a mineral deposit that he/she is interested in, he/she appoints an agent or an Approved Prospector to peg on his behalf.

1.2 The agent is required to physically peg the area by marking the deposit with a Discovery Peg. He/ She should also post



Prospecting, Discovery and Registration Notices on the ground. The notices must be posted in a conspicuous manner to alert other prospectors. (Costs between \$500 - \$700)

1.3 Before posting these notices the agent is required to inform/or seek consent from the landowner of his intention to prospect. (If the landowner refuses then the Mining board sits and decides)

NB: Consent is only sought from the landowner if prospecting on a farm less than 100 hectares, otherwise the prospector is only required to inform the farm/landowner in writing either by registered mail or delivery by hand.

1.4 All areas classified as not open to prospecting and pegging or reserved against prospecting and pegging cannot be pegged, e.g. cultivated lands, dip tanks, Dams, etc.

1.5 Each Prospecting License can peg up to a maximum of 10 claims at 1Ha each.

1.6 An application for registration must be submitted to the Ministry of Mines and Mining Development offices. The application must have copies of the

following attachments:

- (a) Prospecting license(s);
- (b) Prospecting Notice;
- (c) Discovery Notice (Base Minerals);
- (d) Notification of intention to prospect to the landowner;
- (e) A map in triplicate to the scale of 1:25000.

1.7 If the Provincial Mining Directors satisfied that all pegging procedures have been followed he shall issue a certificate of registration upon payment of the gazette fee. This allows the holder to start mining operations subject to meeting other obligations like Environment Impact Assessment (EIA).

1.8 Within three months from the date of registration the miner is required to erect permanent beacons on the ground.

1.9 All precious mineral claims are supposed to be continuously worked on in order to obtain renewal of title. Claims have a 12month tenure after which they shall expire or be renewed.

Time to Invest in gold Mining

From previous page



1.10 Gold and other precious metal claims are inspected by production and capital expenditure.

1.11 Base metal claims can be protected by payment.

1.12 If a mining claim is transferred or sold a Certificate of Registration After Transfer shall be issued by the Ministry of Mines and Mining Development.

1.13 Failure to renew title will result in the forfeiture of a mining claim. Furthermore, loss of title can be through cancellation or abandonment.

Second option (Gold buying)

The requirements

To become a gold buyer a gold buying permit is required and is obtained at Fidelity Printers and Refiners which has branches across Zimbabwe and is headquartered in Msasa, Harare.

For a prospective gold buyer, the criteria below must be satisfied before issuance of such gold buying agency permit:

1. Police clearance for individual buyers and for company directors.
2. To sign a declaration letter committing oneself that one will deliver the required quantity per month.
3. For renewals, minimum average

deliveries of required quantity per month under the expired license.

4. For companies, company profile and director's names and physical addresses.
5. Passport size photo for the principal license holder and company directors.
6. Current tax clearance certificate for companies.

Option 3 Custom Millers

All custom millers are Fidelity Printers and Refiners' gold buying agents in terms of SI 178 of 2005 section 3.

A report from the area where one intends to buy gold from with names people willing to sell gold to you and the following must be met:

- 1) Quantities one is willing to sell to you either per week/ month.
- 2) They must provide their ID and phone numbers.
- 3) They must as well countersign.

Most notable Zimbabwean Companies like, **RDavis, Mine Machines, Machinery Exchange** have machines for sale/hire at very reasonable rates and at very short notice.

Conclusion

The economic story should put investors

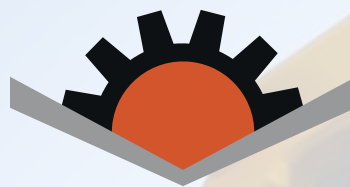
off, but the history of the country is not necessarily its future. Zimbabwe's heart has kept beating; its pulse needs the quickening of fresh investment. Zimbabwe can be part of an impressive African renaissance, in which the resurgent economies of Rwanda, Ethiopia and Tanzania are leading the charge.

Zimbabwe has the second largest reserves in the world of platinum and equivalently large diamond reserves. Gold and coal prospects are nothing to ignore. The capital requirements are too big for some investors while the typical politics of extractive industries confound other investors. The reality of the on-ground situation is less tricky than international news sources paint it.

But capitalizing on such opportunities still requires a short stop in Harare and understanding the politics. For those investors fearful of entering the extractive processes, there is value-add potential in downstream manufacturing, for example, with jewellery.

Despite all the critics, Zimbabwe is still making progress as a result of a dedicated and hard-working populace that believes in the country. Avoid the politics and talk business and you will see its potential.

Investors should consider that now might be a good time to do more than sit on hands and observe.



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Due diligence & Joint Venture Terms on Community Trust Diamond Concession In the Marange Diamond Fields

Exclusive access for initial due diligence and Pre-Agreed Joint Venture Terms on a Community Trust Diamond Concession in the Marange Diamond Fields

Vast Resources plc, the AIM-listed mining company with operating mines in Romania and Zimbabwe, is pleased to announce that it has concluded an agreement (the Agreement) with Red Mercury (Pvt) Ltd (Red Mercury) for exclusive access to a diamond concession area (the Heritage Concession) in what has become known as the Marange Diamond Fields in the Chiadzwa region of Zimbabwe.

The purpose of the agreement is to carry out initial due diligence on the area with a view to concluding a joint venture agreement (the Joint Venture), the principal terms of which have been agreed, for exploration, mining and marketing. The 15km Heritage Concession is close to an area of Vast's historic Marange Diamond Fields claim and is understood to be an extension of the same geological system.

Red Mercury is a company owned by the Marange-Zimunya Community Share Ownership Trust (MZ Community Trust), which is registered as a Community Share Ownership Trust under the laws of Zimbabwe and which has received an undertaking from the Government of Zimbabwe for a licence to mine on the Heritage Concession.

Under the Agreement, Red Mercury will be responsible for providing a full mining licence and Vast will be responsible, subject to the results of exploration and subject to Zimbabwe's

future indigenisation laws when changed as anticipated not being an effective bar to investment, to procure funding such as is necessary to develop an efficiently operating diamond mine on the Heritage Concession.

The agreed principles of the Joint Venture:

1. Give Vast effective control of exploration and mining on the Heritage Concession and also of marketing of the diamonds in consultation with Red Mercury;
2. Comply with current indigenisation laws of a 51/49 ownership split, but, should the future indigenisation laws, if any, allow, provide for a profit split that will result in Mercury/MZ Community Trust receiving no less than 25% of the profits, plus a grant payment for the purpose of benefitting the local community equal to 10% of all expenditure on capital equipment procured for mining;
3. Require dividends to be paid annually of at least 50% of profits which can be distributed lawfully and without breach of contract to third parties;
4. Commit Vast to giving support to the local community and participating jointly with Red Mercury in cultural heritage ancestral activities;
5. Promote local jewellery manufacture with a proportion of the production.

The due diligence access period is for two months or such longer period as the parties may agree (the Due Diligence Period). During the Due Diligence Period the parties are to use all reasonable efforts to conclude the Joint Venture for exploration, mining and marketing, according to the main principles and commercial terms which have been established and pre-agreed.

Due diligence & Joint Venture Terms on Community Trust Diamond Concession in the Marange Diamond Fields

Following the accession of the new Government in Zimbabwe indigenisation laws were abolished for most types of mining but retained for diamonds. Under the existing law, within such period as the Minister may prescribe, either 51% ownership is required by a Designated Entity or by a Community Share Ownership Trust such as MZ Community Trust or an indigenisation and empowerment option must be earned through the use of credits. However there has been a more recent statement from the President of Zimbabwe that this law is about to change, and a change is widely expected.

Mark Mabhudhu, Director of Vast Resources Zimbabwe Ltd and former CEO of Government owned Zimbabwe Consolidated Diamond Company Ltd, commented, The concession area has not been mined before and by virtue of its geographical positioning within the Marange Diamond Fields it is anticipated to contain economically viable diamondiferous alluvials as well as conglomerate ore resources.



Mark Mabhudhu

Andrew Prelea, Chief Executive of Vast, commented, Shareholders will be aware that we have long held an historic diamond interest in Zimbabwe. With an evolving political backdrop, the countrys mining landscape is beginning to change and new opportunities are emerging.

Whilst we await further developments on our historic claims, we are delighted to be strengthening our operating presence in the area and building on our relations in-country through this agreement with Red Mercury, which we believe paves the way for future growth.

Having already agreed the principal terms of the future Joint Venture with the MZ Community Trust, we have confidence that once the Due Diligence Period is complete, subject to final results, we can move swiftly in building a valuable diamond arm of our business, which is mutually beneficial for all stakeholders. We are grateful for the opportunity to be a part of the re-emerging diamond sector in Zimbabwe and look forward to providing the market with further updates on developments in due course.

For further information, visit www.vastresourcesplc.com or please contact Vast resources on +44 (0) 20 7236 1177

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Caledonia increases its shareholding in Blanket Mine to 64%

Caledonia Mining Corporation Plc is pleased to announce that it has entered into a Memorandum of Understanding ("MOU") with Fremiro Investments (Private) Limited ("Fremiro") with the intention to purchase Femiro's 15% share holding in Blanket Mine (1983) (Private) Limited ("Blanket").

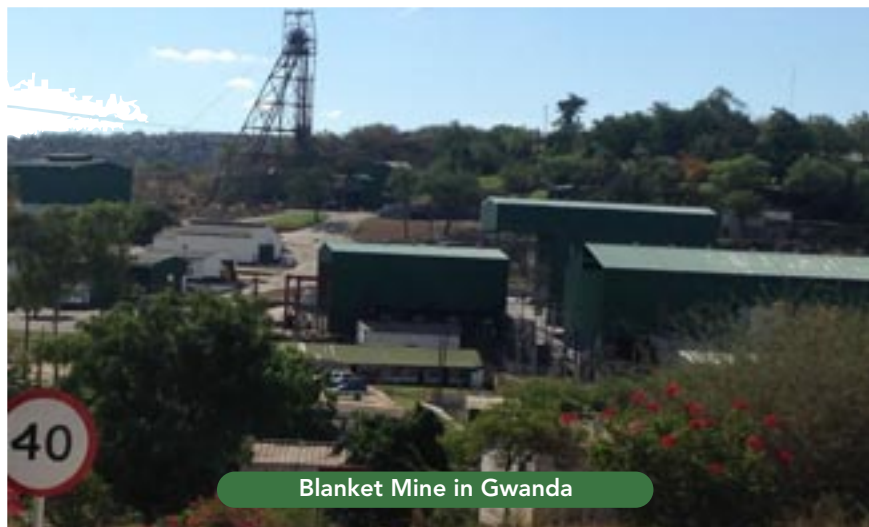
The transaction remains subject to approvals from various Zimbabwean regulatory authorities and the execution of a legally binding sale agreement.

Highlights

- Caledonia has entered into an MOU with Fremiro to purchase Fremiro's 15% shareholding in Blanket.
- Caledonia will acquire Fremiro's shareholding in Blanket for a gross consideration of \$16.667 million to be settled through a combination of: the cancellation of the loan between the two entities which stood at \$11.467 million as at June 30, 2018; and on the issue of 727,266 new shares in Caledonia at an issue price of \$7.15 per share.
- On completion of the transaction, Caledonia will have a 64 per cent shareholding in Blanket and Fremiro will hold 6.42 per cent of Caledonia's diluted equity.

Background

Fremiro acquired its 15% shareholding in Blanket when Caledonia implemented transactions in 2012 in compliance with the Zimbabwean Indigenisation and Economic Empowerment Act (the "Act"). As part of the transactions, Caledonia sold 41% of Blanket Mine to the following indigenous Zimbabwean shareholders:



Blanket Mine in Gwanda

Fremiro - 15%

NIEEF - 16%

Blanket Employee Trust Services (Private) Limited - 10%

shareholding in Blanket with the constituent

Blanket shareholders as follows:

The financing of these acquisitions was facilitated through approximately \$30m of facilitation loans to the above parties apportioned pro rata between the parties based on shareholding.

On completion of the transaction, Caledonia will have an effective 64% shareholding in Blanket

Wholly-owned subsidiaries of Caledonia - 64%
NIEEF - 16%
Blanket Employee Trust Services (Private) Limited - 10%
Gwanda Community Share Ownership Trust - 10%

In line with previous public statements, Caledonia has expressed an interest in increasing its shareholding in Blanket, a strategy of which the above transaction forms a key component.

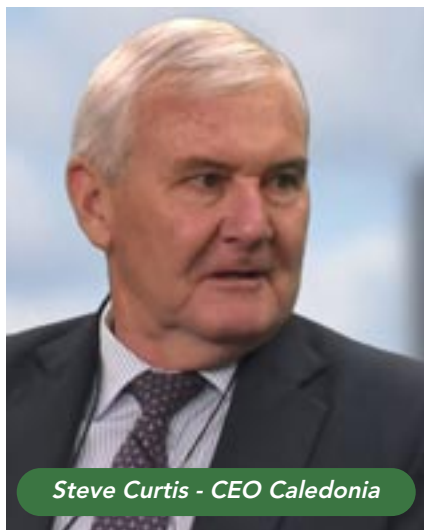
In addition, 10% of Blanket was donated to the local community in the form of the Gwanda Community Share Ownership Trust. Following amendments to the Act passed in March 2018 which removed the 51% indigenisation requirement for gold mining businesses, Caledonia and NIEEF have agreed to enter into a transaction whereby Caledonia purchases Fremiro's 15% shareholding in Blanket.

Commenting on the transaction, Steve Curtis, Chief Executive Officer, said: "We are delighted to agree a transaction with Fremiro for the purchase of their 15% stake in Blanket; they have been a supportive shareholder of Blanket since 2012 and we welcome them as shareholders in Caledonia.

On completion of the transaction, Caledonia will have an effective 64%

"Blanket is well-advanced on implementing the investment programme

Caledonia increases its shareholding in Blanket Mine to 64%



Steve Curtis - CEO Caledonia

which commenced in early 2015 and is expected to result in Blanket achieving an annual production rate of at least 80,000 ounces per annum by 2021, at a low cash

cost. Caledonia is evaluating further investment opportunities in Zimbabwe. Such new opportunities, if they result in one or more transactions, are likely to be held directly by Caledonia and/or its subsidiaries rather than by Blanket. By moving its participation up from Blanket to Caledonia, Fremiro is well-positioned to participate with Caledonia in any further investment opportunities.

"We are also very pleased to increase our shareholding in Blanket to a majority stake, moving from 49 per cent to 64 per cent following this transaction. Blanket Mine

has been an excellent investment for Caledonia since we originally invested in Zimbabwe in 2006 and we are delighted to be able to increase our shareholding in this outstanding asset.

"Today's transaction forms an important step in our stated goal of increasing our shareholding in Blanket since the Zimbabwean government removed the indigenisation requirement for gold mining businesses earlier this year. "We look forward to evaluating further investment opportunities in Zimbabwe as they become available".



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INNOVATION

AT THE YARD WITH MB CRUSHER

Crushing and recycling has

become a key aspect of demolition and mining and

quarrying operations and the need to make the most

of all available material, has prompted astute operators to use also the waste material which

once was simply piled up, thorough away or brought to a disposal. That's the reason why it's important to find new

solutions to recycle inert waste at low cost.

MB Crusher has created a product range that allows companies to manage the full cycle of recycling at the site simplifying crushing, screening and handling of aggregates and allowing companies to save time and money.

MB, the italian Crushing technology

MB Crusher is the inventor of the crusher bucket and the world leader in the field of equipment for crushing, demolition and recycling. With more than 60 years of crushing experience, the Azzolin family, owner of MB Crusher, had a vision of a crusher applicable to excavators. With the flexibility and mobility of an accessory and the performance of a larger machine, they wanted to replace the traditional crusher in most applications. It was this vision that resulted in the first worldwide patented crushing bucket, 100% Made in Italy, guaranteeing high levels of productivity on site and allowing all customers to be much more competitive in their yards.

Nowadays MB offers the widest range of crusher buckets, 12 models from the smallest, like the MB-C50 (for mini excavators) the MB-L – that can be mounted on wheel loaders, skid steer loaders and backhoe loaders, to the largest, the BF150.10, suitable for excavators from 70 tons. Furthermore, MB

completes its range with 7 models of screening buckets (for excavators, loaders, skid steer loaders and backhoe loaders) 4 grapple rotary movement models and 3 new drum-cutters.

Reuse onsite saves time and material costs

MB crusher bucket versatility of use and advantages have led to the very high production levels: directly on site, the machine crushes any type of material, and allows the product that requires crushing to be collected by placing it in a mound on the truck or in the site to be filled in, thus hastening operations. Its application areas are far-reaching: from quarries to mines and from environmental reclamations to rock applications, from general building demolition and the redevelopment of disused industrial and urban areas to the treatment of materials from digs, from the earth moving sector to road works.

The benefits of the MB product range don't stop with the lowered operating costs, safety is also an advantage. For example, in a traditional mobile quarrying operation there's the heightened risk of conveyors. The beauty of the MB concept is that it is the loading tool, the processing plant and the stockpiler, all in one. With an MB attachment, companies save money, minimise their safety risk and recycle materials already at their disposal.

Moreover the crusher bucket is easy to transport, has low maintenance costs, does not require an additional operator (other than the one who operates the excavator), and saves fuel that would have been used up by a mobile crusher, which would in any event be powered by an excavator. Not to mention the environmental 'cleanliness' of jobs carried

out with a minimum amount of dust and noise levels with low environmental impact.

Even large companies, that already have big crushing plants within their quarries, are deciding more and more often to also adopt the MB crusher buckets, which allow them to cover many situations and special processes, such as confined areas and spaces that are difficult to access.

MB Crusher technical advantages

MB crusher buckets are the only ones in the world that do not need drainage and they also ensure higher productivity. In fact, MB's crushing power exceeds 110m³/hour thanks to our exclusive power enhancer, which allows the bucket to crush the hardest and most tenacious materials such as basalt and granite. This ensures a finished product with the lowest price in the market and in compliance with the high quality standards required for waste material reuse.

Furthermore MB Crusher are the only ones to have a low hydraulic demand both in terms of the need for pressure and hydraulic flow rate. Also, the AAA+ plumbing series allows substantial hydraulic cooling during the work steps, thus lengthening excavator life. The extreme compactness and low centre of gravity improves balance and drastically reduces strain on the excavator arm.

MB Crusher holds a series of certifications, including UNI EN ISO 9001:2008, CE, TUV, GOST and RINA (the latter is for welding processes) and it employs Hardox-certified materials to give customers the best possible products.

MB worldwide

MB Crusher's focus on innovation is

proven by the number of awards that the company has won over the years, including the 1° Grand Prix at the 2007 International Exhibition of Inventions in Geneva, something which no Italian company had achieved for more than 20 years.

Today the company is established globally through seven international subsidiaries and has logistics centres located in various countries around the world along with an extensive network of authorised dealers and service support worldwide. There are many important projects where MB Crusher products have been involved. For example, MB Crusher has been partner in the development of the South Caucasus Pipeline and Trans Anatolian Pipeline, providing 13 Screening Buckets MB-S18 for operations development in Azerbaijan, Georgia and Turkey. Then two MB products (the Crusher Bucket 135.8 and the Screening Bucket MB-S18) have been used in a big quarry in Al Kharj, a small village in the south of Riyadh, in Saudi Arabia, working to recover inert material to be reused for the construction of in the new subway in Riyadh.



MB Crusher buckets have been used also in the construction of Soccer City Stadium in Johannesburg where the World Cup final has been held on July 2010. Today MB Crusher products are used in many sites all over Africa.

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HPE Hyundai R260LC-9S crawler excavators new in Southern Africa



New to HPE Africa's range of Hyundai Earthmoving Equipment, is the robust R260LC-9S crawler excavator, which is now available to the Southern Africa market.

"Notable features of this series include advanced engine technology for high productivity, fuel efficiency and low emissions; computer aided power for optimum control of the machine and a high-strength operator cab, with exceptional visibility for greater safety on site," explains Alex Ackron, managing director of HPE Africa. "The re-designed hydraulic system ensures fast, smooth and precise control. Advanced hydraulic technologies offer improved pump flow, which minimises fuel consumption and the auto boom-swing priority function delivers maximum performance. Ground-line access to components enables easy maintenance, minimising downtime of the machine."

Hyundai 9S series excavators are fitted with carefully selected components, designed for extended service life. Bushings have long-life lubrication intervals of 250 hours; hydraulic filters offer a service life of at least 1 000 hours and hydraulic oil offers 2 000 hours of service. Efficient cooling systems and integrated

pre-heated systems extend service intervals and minimise operating costs.

For greater durability, the x-leg type centre frame of the undercarriage is integrally welded, with reinforced box-section trackframes. Lubricated rollers, idlers, track adjusters with shock



absorbing springs and sprockets and a track chain with double or triple grouser shoes, form part of the robust undercarriage.

All buckets are welded with high-strength steel, and booms and arms are welded with a low-stress, full-box section design.

The new Hyundai Hi-Mate system enables users to remotely track and monitor this machine's performance. This advanced telematics system provides detailed reports of individual machines and a fleet's

working summary, supplying relevant information that is critical in preventative maintenance programmes and considerably reduces downtime.

Hyundai R260LC-9S excavators are suitable for efficient operation in civil engineering, mining, aggregates, construction and plant hire industries.

HPE Africa is the sole distributor in Southern Africa of Hyundai earthmoving equipment, as well as Soosan hydraulic hammers and McCloskey crushing and screening units. The company offers a technical advisory, support and maintenance service.

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BLTworld airscape dust control bulk-handling

New to the range of bulk handling systems from BLTWORLD, is the contact-free AirScape® conveyor belt skirting system, which significantly reduces material spill, dust formation and explosion hazards at transfer points and other critical sections in the conveyor chain.

Because this system hovers freely above the conveyor belt, skirt friction and belt damage is eliminated and service life is extended.



therefore no belt wear or damage. Motor power requirements are reduced as there is no belt-skirt friction and because there is continuous skirting with no gaps, product loss is minimal.

"The AirScape system - which encompasses inward facing, hardened-steel diagonal blades - operates according to a new principle where it hovers 1-2 mm, on the left and right side above the conveyor belt. These blades deflect larger particles inwards, while using the air-flow of the conveyor belt and conveyed material to create an inward suction, flowing any dust and fine particles back into the product flow," explains Ken Mouritzen, managing director, BLTWORLD. "Through these diagonally fitted plates and the speed of the running belt, air is drawn from the outside inwards. As a result, neither the dust nor material can escape.

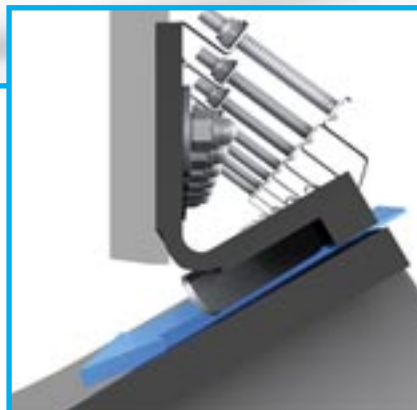
"Conventional skirting is pressed against a conveyor belt to keep dust and material in the middle of the belt, but after a period, wear of the skirting and belt can be so severe, that material and dust escapes. Material spillage at transfer points needs to be removed and regular maintenance of belt skirting and transfer points is necessary.

"With the AirScape dust-free and contact-free, side sealing system for belt conveyors, there is no skirt contact and

"Studies show, that even three years after installation and with continuous use in harsh conditions, the AirScape system hardly shows any signs of wear. Operational costs are also reduced because there is no need for spillage collection, regular maintenance, or replacement parts."

This system is available in pairs of left and right hand 2 m, inter-connectable pieces, to form any required length and is available in two different base widths of 90 mm and 60 mm, to suit various belt widths and chute sizes. For flexibility on site, this system is completely extendable.

AirScape is fitted using spacers, floating the blades just above the belt and is attached to the outside of the chute by utilising existing skirt clamps or a simple bolt and nut system. It is longitudinally adjustable to follow the contours of



conveyor belt rollers and the belt trough angle.

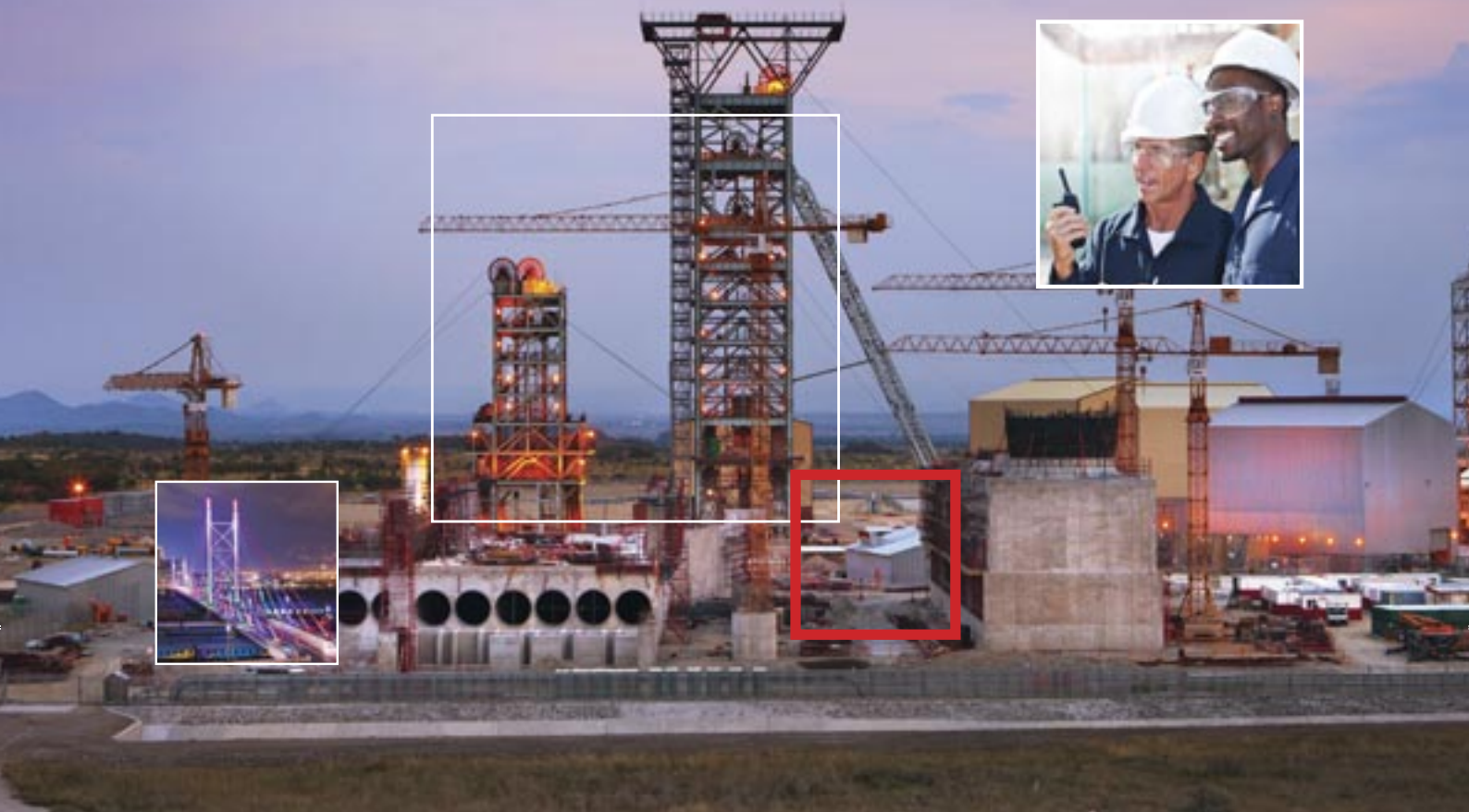
This durable system consists of non-flammable and anti-static

Polyurethane materials and blades made from Hardox/ Stainless Steel. FDA-approved materials are also available for specific conveyor handling applications.

This system - designed and manufactured in Germany by ScapeTec Trading, to the highest quality standards - is available from BLTWORLD throughout Africa and the Indian Ocean Islands. The BLTWORLD team provides an assessment and solutions service for planning and implementing each project. Correct installation of suitable equipment, ensures cost efficiency, optimum performance and safety, reduced risk of breakdown and extended service life of the conveyor system.

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Becker Mining South Africa

Is soon to install a robust atmospheric and environmental monitoring system at a mine in Zimbabwe.

Becker Mining South Africa – specialists in safety and communications technologies for the mining sector is soon to install a robust atmospheric and environmental monitoring system at a mine in Zimbabwe.

The high accuracy Becker Varis SmartSense® gas monitoring system has integrated features for the detection of ambient temperature, humidity and barometric pressure.

"A dependable atmospheric and environmental monitoring system, which enhances safety and improves productivity in the mining sector, forms an essential part of critical underground and above-ground communications and safety systems," says Andrew Trentelman, senior general manager: Electronics, Becker Mining South Africa. "This project in Zimbabwe will encompass the installation of 19 environmental points underground at the mine, where each SmartSense device becomes an

environmental station, monitoring up to seven different parameters.

"Apart from the accurate detection and monitoring of ambient temperature, humidity and barometric pressure, every device will also monitor up to four gases, including Oxygen (O₂), Methane (CH₄), Carbon Dioxide (CO₂), Carbon Monoxide (CO), Hydrogen Sulphide (H₂S) and Nitrogen Dioxide (NO₂).

"An important advantage of the Becker Varis SmartSense® SSFM-100 device over conventional monitoring systems, is all features are integrated into one compact device. There is no need for complex cable connections or troublesome programming or difficult calibration. Additional analog/digital input ports provide compatibility with other devices, to accommodate the mine's expansion requirements. For example, an additional sensor connectivity could be for air-flow.

"What's also important, is this system which adheres to stringent local and international quality and safety regulations is also certified for safe and reliable use in hazardous areas."

In this project, the SmartSense system will be integrated over an existing Ethernet fiber backbone, to communicate measured levels in real time to surface. The realtime information from the 19 monitoring stations, being available over TCP/IP protocol, enables integration to other related systems using OPC connectivity. These systems include SCADA integration over the existing LAN network.

This hybrid system is customisable to all installation requirements, including copper (RS485/Ethernet) Radio Frequency (UHF – VHF data radio / Wi-Fi) and fiber optics data connectivity. There are various graphical representation methods to display data, including the Becker Mining Systems application for smart phones, or integration into existing SCADA systems.

The Becker Varis team has designed this system for easy installation and effortless calibration. There is no need to remove the monitoring head for external calibration - the system can be adjusted even during operation.

The SmartSense SSFM-100 fixed monitor has three fully programmable alarm set points for alarm and output controls, with a Short-Term Exposure Limit (STEL) and Time Weighted Average (TWA) limits, displayed on a large LCD screen. It is possible to view the reading from up to 5 m away. An adjustable back-light makes this device suitable for both underground and above-ground applications.

BECKER MINING SOUTH AFRICA

Is soon to install a robust atmospheric and environmental monitoring system at a mine in Zimbabwe.



displayed on a large LCD screen. It is possible to view the reading from up to 5 m away. An adjustable back-light makes this device suitable for both underground and above-ground applications.

An internal battery provides power back-up for use in remote areas for up to eight hours and robust industry power supplies ensure safe operation in harsh conditions. This system, with low power consumption, has an Index Protection IP67 rating for protection against the ingress of dust and liquids.

The Smartsense system, with its integrated controller functions, operates as a 'black box' and stores critical information, which could be critical in a post-accident investigation. Stored information includes the calibration record, alarm history and data logging.

The 'watchdog' feature alerts the

user/maintenance team of any system errors, for example, if the system has detected inaccurate measurements or calibration errors. This information is communicated both locally through the maintenance LED and remotely on the supervisory platform.

Preventative maintenance of this low maintenance system requires simple procedures between monthly and quarterly to ensure optimum performance and extended service life. It is important that sensor intake areas are kept clean, with no obstructions.

This device is supplied with three types of mounting brackets for easy installation panel, roof bolt or cable mounting.

Becker Mining South Africa's commitment to providing a critical service to the mines and general industry encompasses the design and manufacture of products and

systems, using the latest technology. Mine safety is significantly enhanced by the implementation of one or a combination of Becker's specialised multi-technological solutions.

Becker Mining's high performance, fit for purpose solutions for underground and surface mining installations, include Leaky Feeder, Wi-Fi, tagging and tracking, as well as environmental monitoring PDS solutions.

In addition to communications solutions, Becker also offers IS and flameproof underground electrical reticulation products, as well as fluid transfer, rigging, rope attachment, steel arch tunnel support and underground transportation systems. An important feature of these systems is they are designed to facilitate future upgrades.

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Becker Mining South Africa is soon to install a robust atmospheric and environmental monitoring system at a mine in Zimbabwe

Improving wear life for better grinding performance and lower cost-per-ton milled

Mitak foundry: global castings heavyweight offers highest quality HCWI mill and ore-chute lining solutions

High chrome white irons (HCWI) are renowned in mining ore processing plants for their hard-wearing, abrasion-resistant qualities. They have proven ideal for highly durable mill liners and for protecting ore-chutes.

The Johannesburg-based Mitak is one of the largest dedicated HCWI foundries globally. "Mitak was established in 1973 and, over the years, we have developed a great understanding of the HCWI alloy range. This has laid the foundation for our competence and capability," says Graham Anderson, Business Development Director of Mitak.

In mining, two of the harshest applications for cast components are in mill linings and in ore-handling chute linings. Both are typically subject to extreme levels of erosive, corrosive and gouging wear. Over the decades, Mitak has developed a range of singularly effective HCWI alloys suited to these conditions.

To enhance wear resistance, castings are all through-hardened with their final hardness being from 550BHN to in excess of 713BHN, depending on the application.

The company has built the quality of its HCWI products on the expertise of its metallurgical and production teams. As such, the company specialises in abrasion-resistant solutions and possesses extensive knowledge in the area of corrosion retardation. Mitak manufactures liners for use in wet or dry milling applications, for ball, rod and fully autogenous grinding (FAG) mills.

"Over the past 45 years, we have manufactured nearly 500 sets of mill liners and, in the process, built up a vast reservoir of expertise about a wide range of comminution and materials handling applications and enabled the development of specialised alloys that meet world-class mill liner standards," Anderson says.

Employing more than 500 people, Mitak currently casts more than 850 tons a month, with the capacity to cast up to 1,000



tons a month. It is one of the few foundries in the world that can cast HCWI castings weighing up to 18 tons finished mass.

"A major advantage offered by Mitak is that we are a 'one-stop' supplier. The entire manufacturing process, from pattern-making, casting, machining, heat treatment and inspection, is carried out at the Alrode site. This allows for stringent quality control at every step of the process," he explains.

QUICK FACTS

Mitak currently casts more than 850 tons a month, with the capacity to cast up to 1,000 tons a month

These manufacturing processes are supported by Mitak's considerable metallurgical and application knowledge.

In the foundry industry, the Mitak engineering team takes pride in being at the leading edge of technological development.

"At Mitak, we have the ability to reverse-engineer existing liners with the use of the latest laser and optical equipment. The company can then render the liners as solid models and supply full digital assemblies of the mill," he adds. More cutting-edge technology assists Mitak in the manufacture of the patterns and the company has invested in one of the country's largest CNC-controlled, 5-axis pattern millers which ensures the pattern exactly matches the solid model from which it is derived. Mitak also has the capability to manufacture patterns with great accuracy using additive printing processes.

"We further employ some of the latest advancements in moulding and heat treatment to manufacture the cast components, which ensures the correct level of quality and that

Improving wear life for better grinding performance and lower cost-per-ton milled



the casting concerned mates accurately with existing components," he continues. Finally, Mitak uses the latest digital technology to check the parts after they are cast.

The development team also conducts ongoing research into new applications for HCWI; as well as new techniques to improve the wear-resistance and mechanical strength of the liners it produces.



"Our success as a supplier of mill liners is based primarily on our ability to fully understand our customers' needs and to work cooperatively to provide optimal solutions," he adds. In order to meet frequent urgent deadlines, Mitak employs sophisticated finite planning software to

ensure that delivery dates are achieved and that lead times are kept to an absolute minimum.

"We employ some 50 trained quality personnel who are not only responsible for final inspection but are actively involved in monitoring each phase of production to ensure that Mitak's high levels of manufacturing excellence are maintained and improved," he asserts. In terms of quality control and product support, service does not end with final delivery, as Mitak remains involved in monitoring mill performance and liner wear on an ongoing basis and is able to provide accurate data to the customer on the thickness and profile of the liners, as well as the overall wear patterns observed in the mill.

"Our primary focus at Mitak is to improve wear life and thereby ensure better grinding performance for longer and, ultimately, a lower cost-per-ton milled," he continues.

Some 75% of Mitak's castings are currently exported, principally to Europe mostly through the major OEMs of process equipment. Many of these companies have placed their trust in Mitak quality, forging relationships that have existed for more than 35 years. "What is more, Mitak's components are frequently exported back to South Africa to be put into service in mines in Africa as part of completed OEM equipment," he explains.

"It is widely known that most mill liners used in Sub-Saharan African mines are sourced from foundries in either Canada, USA or the Far East. This places Mitak in competition mainly with other foundries rather than OEMs and means that we will not jeopardise the excellent relationships we have built with our core customer base," he adds.

"Our primary focus at Mitak is to improve wear life and thereby ensure better grinding performance for longer and, ultimately, a lower cost-per-ton milled," - Anderson

Mitak is confident that as a African supplier, it should have the opportunity to provide a very competitive offering in terms of quality, price and service. "Mitak has a compelling case to bring to the mining industry for mill lining spares: our range of alloys has been proven in the harshest mining environments the world over; and our castings are made according to some of the most stringent international standards. With service and expertise to back this up, we believe we have great value to add," Anderson concludes.

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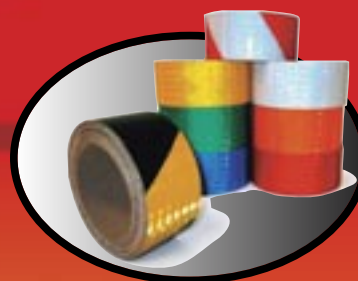
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Case 885B series motor graders available for the Southern African market



Case 885B series motor graders available from CASE Construction SA- have the latest technological and design features for improved performance and enhanced productivity.

"Enhancements to this range include the flexibility of a torque converter lock-up system for efficient transmission, a roll-away mouldboard plough for lower fuel consumption and a re-designed cab, with a larger field of vision for enhanced safety and greater operator comfort," says Ross Collard, managing director of CASE Construction SA, part of the Capital Equipment Group (CEG) of Invicta Holdings Limited. "CASE Construction SA continuously improves the performance and design features of its extensive range of earthmoving equipment to meet market requirements."

Case 885B series graders have low fuel consumption, turbocharged, high

performance Common Rail Tier 3 engines.

Case offers the ZF transmission, with a

torque converter lock-up system, that provides an increase in torque of up to 70%. This feature is suitable for heavy tasks requiring extra traction and can be locked for less demanding work.

When lock-up is engaged, the transmission operates in direct-drive mode, with electronic shift change for the six forward and three reverse gears. This mode, with increased fuel efficiency, does not require extra torque and is therefore ideal for levelling and spreading.

When lock-up is disengaged by the operator at the push of a button, the transmission reverts back to working with the torque converter.



Lock-up engages automatically to match torque and engine speed as long as the pre-set electronic transmission module parameters are met.

The Case de-clutch system, which is activated when the operator applies brakes, improves handling speeds for tools, including the blade, ripper and scarifier.

This de-clutch system directs all engine power to the hydraulic system as at that moment the engine is disengaged from the transmission. As a result, loss of power during operation is prevented and fuel economy is improved.

Another advantage of this transmission

Case 885B series motor graders available for the Southern African market

of this transmission system is the option of operating in automatic or manual mode. The operator is able to manually shift gear or opt for automatic control.

The Transmission Control Unit (TCU) manages all the input of data provided when the transmission is operating and ensures optimum performance, extended service life of the machine and also improved operator comfort. The transmission also has a diagnostic system that detects potential problems and displays them as error codes on the panel or via a laptop connection.

Case 885B series grader axles have been designed for improved traction on the ground. The front axle has a welded steel structure with high resistance cast iron components. The straight line geometry offers 580 mm ground clearance over the machine's entire length. The wheel lean angle is 12° to the right or left, with up to 15° of oscillation to be able to cope efficiently on irregular terrains. The cast iron tandem type rear axle has a welded steel plate structure that enables safe operation in difficult conditions. Tandem oscillation is 20° to each side.

The hydraulic system of this series is designed for complete precision of movement and blade control. When ground resistance is high and the hydraulic system pressure needs to be increased, the load sensing system reduces hydraulic flow since the machine needs force and not flow.

Brakes are oil bath cooled self-adjusting, multidiscs with one circuit to each side of the rear axle. This ensures precise



stopping power and extends service life of components.

The orbital valve hydrostatic steering is powered by a gear pump and provides a steering angle of 48° to both sides. The turning radius is 7,250 mm, which enables the operator to perform tasks efficiently in restricted areas, with faster steering.

This series has been designed for minimal downtime and reduced maintenance requirements.

The ROPS/FOPS feature offers maximum safety and protection against roll over and falling objects. Both open or closed cabs are mounted on the rear chassis, which enables manoeuvring from the rear, as well as direct control over the degree of frame articulation.

The new design of this series is more rounded, with an improved glassed-in area that provides greater all round visibility. The spacious cab has re-designed ergonomics for more space and improved comfort. All controls are positioned for easy access and fast

control.

The 885B series grader mouldboard, which is manufactured from score resistant, high carbon content steel, is shaped for material roll-off. The design of this robust mouldboard, with a multi-radius roll-away profile, minimises mechanical load, ensures effortless cutting, lower fuel consumption and extended component life. The blade circle has an unrestricted 360° rotation angle for optimum flexibility during operation.

This series has been designed for minimal downtime and reduced maintenance requirements.

CASE Construction SA supports its range of loaders, backhoe loaders, excavators, telehandlers, skid steers and graders - with a technical advisory and maintenance service throughout the country. Operator and mechanic training is also provided.

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Top Eight deepest mines in the world

Eight of the ten deepest mines in the world are in South Africa, while the remaining two - Kidd Creek and Creighton - are both located in Ontario, Canada. We profile the top ten deepest mines in the world.

Mponeng Gold Mine



AngloGold Ashanti's Mponeng gold mine, located south-west of Johannesburg in South Africa, is currently the deepest mine in the world. The operating depth at Mponeng mine ranged from between 2.4km to more than 3.9km below the surface by the end of 2012. Ongoing expansions have resulted in deeper digging at Mponeng, pushing the record to beyond the four kilometre mark.

TauTona Gold Mine



TauTona, AngloGold Ashanti's gold mine in the West Wits region of South Africa, ranks as the second deepest mine in the world.

Although mining at TauTona currently takes place at depths ranging from between 1.85km to 3.45km, its mining depth was extended to 3.9km underground with the addition of a secondary shaft in 2008.

Savuka Gold Mine



Savuka gold mine, also located in the West Wits region of South Africa and operated by AngloGold Ashanti, is the third deepest mine in the world. The mine exploits the gold contained reefs at a depth of more than 3.7km.

Driefontein Mine



The Driefontein mine, owned by Gold Fields, is located near Carletonville in the Gauteng Province of South Africa. The mine lies within the West Wits Line Goldfield of the Witwatersrand Basin. It is currently the fourth deepest mine in the world with its depth extended up to 3.4km.

Kusasaletu Gold Mine



The Kusasaletu gold mine operated by Harmony is located 75km west of Johannesburg, on the West Wits Line near Carletonville, Gauteng, in South Africa. It is currently the fifth deepest mine in the world as it exploits the Ventersdorp Contact Reef (VCR) up to a depth of 3,276m below the surface.

Moab Khotsoeng Gold Mine



Moab Khotsoeng gold mine is one of AngloGold Ashanti's Vaal River operations in the South Africa. The mine is located around 180km south-west of Johannesburg near the towns of Orkney and Klerksdorp. The mine is in production since 2003. It currently ranks as the sixth deepest mine in the world, with its mining depth ranging between 2.6km and 3.054km below surface.

South Deep Gold Mine



The South Deep gold mine, owned and operated by Gold Fields, is the seventh deepest mine in the world. The South African gold mine extends up to 2,995m below surface. The mine, covering an area of 4,268ha, is located 45km south-west of Johannesburg.

Kidd Creek Copper and Zinc



The Kidd Creek copper / zinc mine, located 27km north of Timmins in Canada, is the eighth deepest mine. The mining depth at Kidd Creek extends up to 2,927m beneath the surface.

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, Chimanimani, 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, Kadoma.

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, Hwange
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

Growing need to improve health and safety standards for Small-Scale Miners

Although, there are no official statistics, estimates suggest that small-scale gold mining in Zimbabwe controls more than 60 percent of active gold deposits in the country, with more than one million people involved in small-scale mining.

According to official data from the Ministry of Mines and Mining Development the country's primary producers yielded 24,8 tonnes of gold in 2017. In 2016, the sub-sector contributed 40 percent to the country's total gold output while during the same period, primary producers or the large-scale mining companies accounted for 55 percent of total gold output.

Though, artisanal and small scale mining is considered as a critical poverty reduction strategy for millions of people around the world, according to a recent influential Global Report on artisanal and small-scale mining produced by the Mining, Minerals, and Sustainable Development Project, it is one of the most unsafe human activities which pose serious dangers to human health and the environment.

Zimbabwe has tens of thousands in small-scale gold miners, and they commonly use mercury to process gold. They mix the mercury with the ore to create a gold-mercury amalgam, and then burn the mercury off so the raw gold remains. These miners include hundreds of children who are exposed to the toxic effects of mercury during illegal mining. Among the children who faced chronic exposure to mercury through mining work; the youngest was nine. These



young children bear the burden of mercury's deadly impacts because their developing bodies make them vulnerable. Another disturbing encounter was that of a 16-year-old pregnant girl who was working with mercury with the help of her young husband, unaware that the foetus was highly vulnerable to mercury exposure, and that the result could be a lifelong disability.

Certainly, small-scale mining has its ugly side. Negative externalities like damage to the environment, disrespect for property rights, violence, alcoholism, spread of diseases, injuries and deaths deserves to be mitigated. Research suggests that the industry has, over the years, been marred by recurrent accidents that have killed and maimed dozens of workers, if not scores while on the other hand official estimates indicate that about three mining accidents take place in the artisanal and small-scale miners per day.

Reported leading types of accidents in the sector include being hit by falling objects, suffocation from chemical fumes, and crushing injuries. Other occupational health hazards in mining include exposure to intense heat, poor ventilation, vibration, poisoning, dust, explosion, fumes, and improper choice of working tools, absence of personal protective equipment and being trapped or buried.

The mining is also associated with Amakorokoza, a sometimes-violent machete-wielding bunch who at times butcher their own mates for precious minerals. It happens extremely in isolated cases and usually at abandoned or disused mines.

The majority of small-scale mining related accidents, fatalities, and ailments are likely undocumented, and as a result are underrepresented in national and international statistics.

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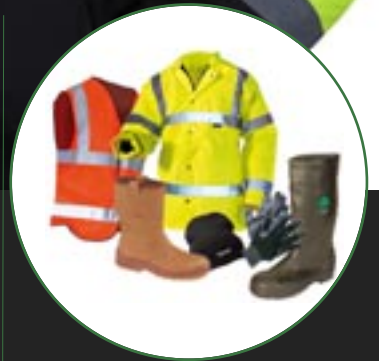


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