THE PROVIDER OF VALUABLE INTELLIGENCE TO THE ZIMBABWE MINING COMMUNITY

Mining ZIMBABWE

ISSUE 54 2022



0 618528 356556

2021 INAUGURAL ANNUAL MINING INDUSTRY AWARDS

& THE WINNERS ARE...

10 2021 INAUGURAL ANNUAL MINING INDUSTRY AWARDS WINNERS

18 AMMZ SETS THE TONE FOR 2022

32 UNDERGROUND MINING SET-UP A to Z

WE VALUE YOUR ENERGY NEEDS



24/7 Gas Supplies is a newly formed subsidiary of Consha Enterprise which imports and distributes Liquified Petroleum Gas (LPG). LPG is a clean-burning, sustainable and efficient fuel and a vital source of energy for hundreds of millions of people throughout the world today. It is a multi-Purpose energy with literally thousands of applications. We offer energy solutions for industrial and domestic use.

OUR BRANCHES

2B BRISTOL ROAD, BELMONT, BULAWAYO
FIRST RIGHT TURN JUST BEFORE ZUVA GARAGE AS YOU LEAVE TOWN ON MATOPOS ROAD, 1ST GREY GATE.

SOKUSILE SHOPPING CENTRE
BEHIND PEOPLES' MARKET, OPPOSITE NKULUMANE POST OFFICE.

FOURWINDS SHOPPING CENTRE.
ALONG MATOPS ROAD.

LP GAS NOW AFFORDABLE!

+263 716949 266 | +26378 185 8232 | +263 29 224 3545 www.247gas.co.zw sales@247gas.co.zw

CONSHA CONSTRUCTION

DREAM IT WE BUILD IT



WE PROVIDE INNOVATIVE INFRASTRUCTURE AND CIVIL WORK SOLUTIONS TO **AGRICULTURE, COMMERCIAL, COMMUNICATIONS, HOUSING, MINING, TOURISM AND PUBLIC WORKS**

CONTACT US ON: +263 292 243 545 +263 715 030 683 **EMAIL US ON:** sales@conshaconstruction.co.zw



The Boundary Bar is an upscale yet casual dining experience, We place great emphasis on great service and a comfortable setting. The Boundary is a high-energy sports bar & music centric restaurant and entertainment unlike any others.

Our Location

Tuskers Cricket Club
Queens Sports Club, Bulawayo

FOR BOOKINGS CALL: 0782 548 122 0772 433 306 0777 015 180
FACEBOOK: The Boundary Bar & Restaurant

THE BOUNDARY

Mining
ZIMBABWE

WRITERS/ JOURNALISTS
Rudairo Mapuranga - rudairomap@gmail.com
Anerudo Mapuranga
Keith Sungiso
Dumisani Nyoni
Prince Sunduzani

SALES & ADVERTISING

Kelvin Sungiso
kelvin@miningzimbabwe.com
Cell/Whatsapp: 0775523000

PUBLISHER
Timelison Media (Zimbabwe)

ABOUT PUBLICATION

Mining Zimbabwe is the premier source of Zimbabwe Mining News. Our core focus is the Zimbabwe 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's sole purpose is growing and empowering the Mining Industry and highlighting all its challenges as well as putting forth expert solutions

AVAILABLE IN RETAILS STORES

FOLLOW US ON SOCIAL MEDIA

Online Awards

AWARDED TOP 60 MINING BLOG

BEST Mining BLOG EXPERTIDO.ORG

TIMELISON MEDIA

Address
4th Floor Fidelity Life Towers Harare
Tel: +263 242 777728| Whatsapp +263 772 701 730

Advertising: *info@miningzimbabwe.com*
Web: *www.miningzimbabwe.com*

CONTENT

Mining Zimbabwe Magazine |Issue 54



INSIDE MINING ZIMBABWE

06 THE CLEAR PERSPECTIVE

09 Mining Companies should intensify CSR: President

10 Inaugural mining industry awards WINNERS

14 How Mine on Tech improvements to bolster production



16 How mine reduces work injuries by 96 per cent

18 AMMZ sets the tone for 2022

20 Karo acquisition is a gamechanger for Tharisa

21 Zim elevation in KP and ADPA a chance to correct the narrative

22 Artisanal miners want a piece of the diamond cake

24 Zim eyes becoming the world's biggest lithium producer

26 Zimplats records zero environmental non-compliance incidents



28 Mike Appel Industrial, continues to breathe new air into Zimbabwe's industrial compressor market

30 Zimbabwe On Track To Reach The $12 Billion Mining Economy

32 Underground mining set up from A – Z

36 Arcadia lithium mine transaction completion expected by second quarter

37 Parly hopes Mines bill tabling, consultations kick start in June



COMBINED
TECHNICAL SERVICES



We Are Specialists In:

- Machining
- Hydraulics
- Line Boring
- Bucket Repairs
- Metal Fabrication
- Drivetrain Repairs
- Wear Management



We Also Offer:

Technical Know-how | On-sight Support | Training | Logistics | Partner Programs



We have a quality Testing Facility for:

- Axles
- Propshafts
- Transmissions
- Hydraulic Cylinders

Authorized Distributors & Partners

Nordbak® KESSLER-CO DANA ZF



Office 303, Block 2, Longchen Plaza
Belvedere, Harare, Zimbabwe

STAND 40/41 TURF INDUSTRIAL SITE, NGEZI, ZIMPLATS
+263 242 778 375, +263 242 200 8696 +263 772 235 179
sales.ngezi@combinedtec.co.zw • sales@combinedtec.co.za

Website: www.combinedtec.co.zw

Mining Zimbabwe heading for Mining Indaba, Cape Town



THE CLEAR PERSPECTIVE

We are excited to announce that Mining Zimbabwe has been awarded the Best Mining Media House in recognition of its stellar coverage of Small-scale and Artisanal Miners in Zimbabwe.

The awards, by the Ministry of Mines and Mining Development are aimed at honouring mining and related institutions that excelled in the previous year and made a significant contribution to the expansion of the mining sector.

To advance the Zimbabwe story, Mining Zimbabwe will participate in **THE WORLD'S LARGEST AFRICAN MINING INVESTMENT EVENT**, the Mining Indaba in Cape Town. The Mining Zimbabwe magazine will be distibuted at the event to tell the story of Zimbabwe's growth in mining and also attract partners in growing the sector in line with the Government's Economic Vision.

"There is a global misconception that Zimbabwe is a country with little to no Mining activity. It is in this light we decided to partner with Mining Indaba to tell the true Zimbabwean Resources story. Issue 55 of Mining Zimbabwe aims to certify that Zimbabwe is a momentous contender with a fully functioning mining economy that is fully backed by world-class equipment suppliers, service providers, highly qualified personnel and a government bent on seeing a thriving mining industry.

The May Magazine will highlight the country's ability in order to instil confidence for investors to just bring their personal belongings and Capex, as the rest is available locally,". It is also without a doubt an opportunity for the country to showcase the abundant mineral resources and investment opportunities available in the Zimbabwean Mining sector.

Our May 2022 Mining Zimbabwe magazine will be placed on the Media Centres at Mining Indaba in Cape Town creating an opportunity for Zimbabwe to showcase its abilities to World-Class mining Investors.

This is the chance for us as a country to shine. Partner with us today contact us on 077 552 3000

Sungiso

ACOL CHEMICAL

MINING CHEMICALS

Quote from a customer!!

"Without doubt the most reliable chemical supplier and the most respected and well known brand in Zimbabwe "

With references like that we don't need to advertise!

Servicing the mining industry in Zimbabwe without interruption for over 40 years.

Mining Manager
Ray Chiridza +263 712 605 141
Mining Sales Bulawayo
Moideen Brown 08677007425

Mining Sales Harare
Tendai Munjoma +263 774 491 477
Jonathen James and Mapfumo Marerwa
08677007426



HALSTED
BUILDERS
EXPRESS

www.halsteds.co.zw

SMART THINKING SMART RESULTS



SMART
BUILDING SOLUTIONS

6 Borgward Road, Msasa, Harare, Zimbabwe
P.O. Box AY73, Amby, Harare, Zimbabwe
Tel: +263 242 447 748/9
Cell: +263 718 582 917, +263 782 722 395
Email: sales@sbs.co.zw
www.sbs.co.zw

Smart Building Solutions is a full service construction company specialising in Traditional Building, Prefabricated Building, Container Hiring And Conversions, Walling Materials And Component, Steel and Aluminium Window and Door frames.

We are Smart Thinking, practically minded manufacturer and provider of residential, commercial, industrial, specialised and low cost building projects and services throughout Zimbabwe and the Southern African region.

Be Smart, Be Safe, Sanitise, Social Distance and Always Wear A Mask!

PRODUCT ZIMBABWEAN

HEADOUPH
ENGINEERING

SPECIALIST IN RUBBER AND CONVEYOR BELT SPLICING

INDUSTRIAL RUBBER CONVEYORS AND GENERAL ENGINEERING

- Conveyor belts Hot/ Cold Splicing
- Rubber Lining/ Ceramic Lining
- Hoses and Fittings
- Sandblasting/ Painting
- Fabrication and Structural installations

44 Auckland road Crn Plymouth road & Southerton Harare
0242 621266/7 0772 866 260 0773 488 726
sales@headouph.co.zw
www.headouph.co.zw

Mining Companies should intensify CSR: President

President Mnangagwa has called on mining companies to empower their host communities through conducting programs that ensure sustainable poverty alleviation and responsible mining.

Prince Sunduzani

Speaking at the inaugural mining industry excellence awards, the President said the mining companies have a special role to play in ensuring communities are not reliant on handouts but can sustain themselves.

He said companies should initiate developmental programs that help develop the people of Zimbabwe.

The environmental damages created by mining operations are severe and long-lasting as it negatively impacts sustainable development.

Globally, CSR has been suggested as one of the ways through which the difficulties associated with mining can be improved. Investors have taken a paradigm shift, land chief among their requirements before financing mining companies is their social responsibility and environmental management policies.

"I commend some within the mining sector for the outstanding Corporate Social Responsibility programs, particularly as we shift from the welfare - handouts - approach to broad-based and inclusive empowerment. "I thus, challenge more mining companies to complement Government efforts in the development of communities where they operate from, through implementing empowering Corporate Social Responsibility initiatives.

"These must be anchored on structured development programmes and projects that resonate with our quest of leaving no one and no- place behind.

"The mining sector should also strive for greater sustainability, competitiveness, and modernisation as we grow the economy," he said.

Mining companies should ensure that they cover their host communities' basic services like roads, water, health care, electricity, and sanitation.

Masvingo people living with disabilities in Mining won the Best community and social responsibility program award at the ceremony.



And the winners are...



President Mnangagwa and Minister Chitando preparing to hand-out awards

The 29th of March 2022 saw the debut of the Ministry of Mines and Mining Development's Mining Excellence Awards.

Rudairo Mapuranga

The colourful ceremony saw the gathering of the Mining Industry's finest players who were rewarded for excelling in different categories of the mining sector. Timelison Media's Mining Zimbabwe got the Best Artisanal and Small-scale Mining Media Award at the ceremony held at State House.

High-level attendees included President Mnangagwa, Vice President Chiwenga, Minister of Mines and Mining Development and his Deputy, ZMF President Ms Henrietta Rushwaya, Mines Portfolio Committee chairman Hon Edmond Mkaratigwa, MMCZ GM Mr Tongai Muzenda, Fidelity Gold Refiners General Manager Magaramombe among others.

The following were the winners of the 2021 Inaugural Mining Excellence Awards.

Best Artisanal And Small-Scale Miners Media Awards: Mining Zimbabwe

Mining Zimbabwe is a leading publication whose core focus is Zimbabwe's Mining Industry, Mining News, trends, new technologies being developed and used to improve the sector, as well as new opportunities and investments.

Minister's Award : Tsingshan Holdings

Tsingshan Group through its subsidiary Dinson Iron and Steel Company (DISCO) is currently establishing a Carbon Steel Plant in Chivhu-Mvuma. The Carbon Steel Plant is set to be the largest in Zimbabwe and possibly in the region, with its establishment undoubtedly going to greatly impact on the human settlement patterns in the area. The steel plant will produce 1.2 million tonnes of carbon steel per annum. It links with projects in Dinson Colliery in Hwange (Coke Project) and Afrochine Smelting in Selous (Ferrochrome Project) in line with the MoU signed with the Government of Zimbabwe after the President's visit to China in 2018.

Gold Producer Of The Year: Freda Rebecca Gold Mine (Pvt) Ltd

Freda Rebecca is a Leading Gold Producer in Zimbabwe and a key contributor to the USD 4 Billion Gold Industry by 2023. Freda Rebecca Gold Mine specializes in the extraction, purification and value addition of gold.

Most Improved Gold Producer Of The Year Award: How Mine

How Mine is situated in the Bulawayo Greenstone Belt. How Mine has been in operation since 1942 and has produced over 1.1 million ounces of gold to date. How Mine is reaping the benefits of a USD5 Million Investment in a Shaft Sinking Project commissioned in 2020. How Mine is currently undertaking exploration, both on surface and underground, inorder to open up the resource base for expansion.

Best Safety Health And Environment Program: Zimshec

ZIMSHEC is an organization founded by small scale and artisanal miners in Zimbabwe to promote occupational health and safety, environmentally friendly and sustainable mining practices as well as reduce the number of people trapped in mines due to poor mining practices. The organization was launched on the 10th of September 2021 inspired by several trainings undertaken by the ZELA with support from Christian Aid.

Ferrochrome Producer Of The Year: Afrochine Smelting

Afrochine Smelting (Pvt) Ltd was established in 2012 and is a subsidiary of Chinese firm called the Tsingshan Group. Afrochine is a leading producer of High Carbon Ferrochrome in Zimbabwe. The company is currently operating 5 state of the art Ferrochrome Smelting Plants in Selous, Mashonaland West.

Most Improved Ferrochrome Producer Of The Year: Jinyi Enterprises (Pvt) Ltd

Jin Yi (Pvt) Ltd is a ferrochrome producer that will establish 2 sets of smelting furnaces in 2022 and export 3 thousand tonnes per month of High Carbon Ferrochrome from February 2023.

Coal Producer Of The Year: Zambezi Gas (Pvt) Ltd

Zambezi Gas Zimbabwe (Pvt) Ltd is a wholly-owned Zimbabwean private limited company operating in the coal mining and coalbed methane exploration industry since its incorporation on August 1st, 2002. Zambezi Gas explores, mines, processes and markets coal, coke and their associated by-products. In 2021, Zambezi Gas purchased 2 excavators and 6, 100 tonne dump trucks which will boost production after self-mining commences. A total of USD 10 million was invested in the new equipment.

Most Improved Coal Producer Of The Year: Zhong Jian

Zhong Jian is a leading coal mining company in Hwange, Matebeleland North. In 2021, Zhong Jian commenced construction of a coke battery of 300 000 tonnes per year capacity. The Coke Oven Batter is expected to contribute significantly to the value addition of coal to coke.

Coke Producer Of The Year: South Mining (Pvt) Ltd

South Mining's expansion project was officially opened by His Excellency The President Cde Dr. E.D Mnangagwa on the 16th of July 2020. The construction of Phase 2 Coke Batteries with an additional 140 000 tonnes per annum capacity commenced in 2021 and is expected to be completed by Quarter 2 2022.

Most Improved Coke Producer Of The Year: South Mining (Pvt) Ltd

South Mining is one of the leading coke producers in Zimbabwe. Two Coke Oven Batteries are currently in operation with a capacity of 12000 tonnes per month each.

Pgms Producer Of The Year: Zimplats (Pvt) Ltd

ZIMPLATS is a leading mining company in Zimbabwe specializing in Platinum Group Metals such as platinum, palladium, rhodium, iridium, ruthenium and osmium. ZIMPLATS signed a memorandum of understanding with the Government of Zimbabwe in 2021 that will see the company invest USD1.8 billion to expand its operations by the year 2025.

Most Improved Pgms Producer Of The Year: Unki Mines

Development of the underground operations at Unki Mines commenced in 2008 with production from the concentrator starting in late 2010. A milling nameplate capacity of 120,000 tonnes per month was achieved in 2011. Since then, production has been increasing due to optimization of underground teams' operational performance and mineral processing capacity improvements. Unki Mines developed an employee residential scheme together with amenities and a school at the Impali housing scheme in Shurugwi which caters for its production crews. Unki Mines installed smelting facilities in 2018 in response to the government call for local beneficiation and value addition which saw the conversion of concentrates into matte before export. By 2019 Unki Mines underground production had increased to 180 000 tonnes per month. A concentrator expansion to 210,000 tonnes per month was commenced in 2020 and was completed in late 2021. Anglo American Platinum has invested in excess of USD 560 million in developing mine, concentrator, smelter and employee housing. Unki achieved IRMA 75 in 2021 becoming the first mine in the world to be assessed by the Initiative for Responsible Mining Assurance (IRMA).

Diamond Producer Of The Year: Riozim Murowa Diamonds (Pvt) Ltd

RZM Murowa is one of the leading private limited diamond mines in Zimbabwe, operating a 24-hour open-pit mine situated in Ward 18 of Runde Rural District Council in the Zvishavane District of Zimbabwe. Operations are sorely based in Zimbabwe with the Headquarters located at Newlands in Harare.

RZM Murowa is one of the leading private limited diamond mines in Zimbabwe, operating a 24-hour open-pit mine situated in Ward 18 of Runde Rural District Council in the Zvishavane District of Zimbabwe. Operations are sorely based in Zimbabwe with the Headquarters located at Newlands in Harare.

Since beginning production in 2004, RZM Murowa's current name-plate capacity is approximately 1.2 million carats per annum of predominantly white, gem-quality diamonds. In 2015 RioZim took over the management of Murowa at a time the company had stopped mining sighting viability issues. RioZim led a strategic overhaul exercise for the Company which resulted in a radical change in its business by steering it to a new life of mine plan, new approach to mining and a massive brownfield expansion of the plant code-named 'Project Sunrise'. After having more than tripled its capacity in 2016, RZM Murowa today is a global top 10 diamond mine enabling it to become one of the biggest exporters and foreign currency generators for Zimbabwe.

In 2019, the RZM Murowa Board approved a 500 tonne per hour expansion project code-named Project Crown Jewel (PCJ). The project will see the company process all ore sources on-site, namely K1, K2, K3, low-grade ore and re-crush stockpiles to maximise diamond recovery. Despite the delays caused by Covid-19, the project has presented many opportunities including the employment of 679 local people to support the various work streams. PCJ will be commissioned in the second quarter of 2022. Running concurrently with PCJ are an Underground and Exploration growth programmes that will increase the Life of Mine of the business.

RZM Murowa is "more than diamonds" as it's making a significant impact in the country that goes way beyond producing diamonds. The Company is firmly committed to building a sustainable legacy that will improve the economy and lives in our communities, region and country. This is achieved through royalty, tax contributions, initiatives and robust sustainable development projects. Our successes to date lie in a highly skilled workforce of over 1000 in strength and shareholder support in ensuring that the company continues on its journey into the future. The business is certified to three ISO standards namely 14001: 2015 attained in 2008, 45001: 2018 attained in 2019 and 9001:2015 attained in 2021.

International Memberships
- ***Kimberly Process Certification Scheme***
- ***Natural Diamond Council***
- ***Responsible Jewellery Council***
- ***Rapnet***
-

Local Memberships

- ***Business Council for Sustainable Development Zimbabwe***
- ***Employers' Confederation of Zimbabwe***
- ***Zimbabwe Chamber of Mines***

Belonging to the various industry bodies and being an affiliate to International bodies allows RZM Murowa to add its voice to the important diamond industry discussions and sustainable world-class practices.

Diamond Exporter Of The Year: Zimbabwe Consolidated Diamond Company (Pvt) Ltd

The Zimbabwe Consolidated Diamond Company (Pvt) Ltd (ZCDC) is wholly owned by the Government of Zimbabwe through the Ministry of Mines and Mining Development. It holds special diamond grants in Chiadzwa and Chimanimani.

ZCDC started operations in March 2016 following the Government's policy on the consolidation of diamond mines in the country. The consolidation policy sought to ensure transparency, accountability and global marketing of the country's diamonds.

However, for the past 4 years to 2020, ZCDC had been making perennial financial losses, a situation which has since been reversed during the 2021 financial year. With a focused, dedicated, and formidable leadership team, the year 2021 became the first-ever financial year whereupon ZCDC declared a profit. This was all due to a cocktail of technical and business interventions related to changing processes, technology, and employee mind-set to turn around the company's fortunes.

In 2021, ZCDC exceeded its diamond production target by a whooping 30%, a feat which was achieved with a 50% reduction in the cost of doing business. Currently, Portal A in Chiadzwa which has an estimated life of mine of at least 8 years is the producing mine. The company is currently conducting extensive exploration and evaluation programs countrywide.

Regarding community development, ZCDC is carrying out focused and sustainable community development initiatives and constant engagement through implementation in line with the Initiative for Responsible Mining Assurance (IRMA) standard. The diamond company is on an upward trajectory of achieving its aspirations of becoming a World-Class Diamond Producer for the long-term benefit of the nation.

The Corporate Social Responsibility Program Of The Year: Mimosa Mining Company

Mimosa Mine is carrying out various projects to increase process efficiency. A concentrate handling facility to use a bulk loading bunker was commissioned in 2021. The company is also working on a process optimization project to improve recovery from the metallurgical plant. A number of Corporate Social Responsibility Projects were done in 2021 including Livestock Revitalization – artificial insemination and bull donations, building local bridges, boreholes and gardening projects. This will all target increasing revenue and helping the nation attain a USD12 Billion mining economy.

Best Gold Buyer Of The Year: Better Brands (Pvt) Ltd

Better Brands (Pvt) Ltd, is a leading gold buying agent in Zimbabwe. The company remains honoured by the Government's empowerment programmes and challenged by His Excellency's mining sector targets. Better Brands is a key player in the Government's target to increase the annual gold deliveries to 100 tonnes by 2023.

Best Community And Social Responsibility Programs: Masvingo People Living With Disabilities In Mining

Small Scale Gold Producer Of The Year: Mag Mac Mine (Pvt) Ltd

Mag Mac Mine (Pvt) Ltd was the leading Small Scale Gold Producer in Zimbabwe in 2021. In 2021, Mag Mac Mine delivered a total of 75.7122 kg of gold.

Most Improved Small Scale Gold Producer Of The Year: Ultra-Power Investments (Pvt) Ltd

Ultra-Power Investments (Pvt) Ltd was the most improved small scale gold producer in 2021. A total of 18.0187kg of gold was delivered in 2021 compared to 13.1294kg in 2020 representing a 37.2% increase.















INAUGURAL ZIMBABWE MINING INDUSTRY AWARDS 2021



























How Mine on Tech improvements to bolster production





How Mine has undertaken a raft of technological improvements and exploration activities to bolster its production and increase the sustainability of the Bulawayo-based gold mine and has engaged Zesa to double its power supply to support the current expansion currently underway.

Prince Nkosinathi Sunduzani

The company, owned by Bulawayo mining company says it's committed to contributing to the country's growth in line with the country's mining vision.

Speaking at the Association of Mine Managers' meeting held in Bulawayo last month, the company's Mine Manager Engineer Elton Gwatidzo said they are currently running two active exploration areas with a third potential exploration area being explored.

He said as part of its expansion plan to tap into the vast resources, How mine is currently looking into open-pit mining.

The company is also looking to ramp up its milling tonnage to increase its current throughput by about 14 per cent as well as running a shaft sinking process to open up more resources.

The measures put in place have already started bearing fruits as evidenced by the 59 per cent leap in production in 2021.

Major works have already started taking shape at the mine and renovations and machine upgrades are underway.

"In terms of strategy of the business, it is premised on 8 main points of focus in terms of expansion and growth driven by exploration. We are running two active exploration areas, the third potential exploration area we've got a consultant whose currently doing environmental sustainability and special impact assessment. We have areas that we are targeting for open pit material, this is to augment our expansion plan. We also look seriously at our costs to impact profitability. We are running a milling tonnage ramp up which seeks to increase our current throughput by about 14 per cent," said Eng Gwatidzo.

"The main reason being is that it doesn't have significant disruption to our current production we have other alternatives that are higher than this number. We are also running a shaft sinking process. We are currently sinking below 32 levels and our target is to open up the resources between 32 levels and 36 levels. This means that we are currently running phase 2 which is at 36 million dollars. We have realized that our power is not adequate to support the expansion we are doing and we are working with Zesa to upgrade our current supply of power from the current installed 10 mva to 20 mva"

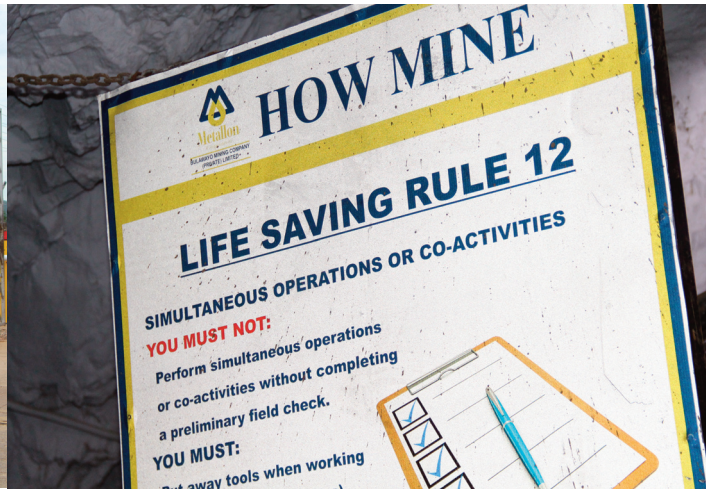
The Company's managing director Mr Kimpton Chiota reiterated similar sentiments, saying the company is expecting all these measures to bolster production and profitability by the end of this year.

He said the company is committed to improving the communities' livelihoods as well as supporting national initiatives to grow the country's economy.

"We are fully committed to the Government's several growth initiatives, that include a US$12 billion mining industry by the year 2023, and as BMC, we will endeavour to do all we can to support these noble Government undertakings, whilst we continue to do our best to contribute to the community and country as a whole. In line with that, BMC is embarking on several projects aimed at sustaining operations and capacity expansion."

The company has been trying to dust off a drop in production caused by the hyperinflation era and recently by the effects of covid 19.







How Mine safety team conducting safety training

How mine reduces work injuries by 96 per cent

Bulawayo Mining Company owned gold producer, How Mine, has employed strategies to improve the safety and health of its workers which has seen it achieving a reduction in injuries from 299 to 12 per year.

Prince Nkosinathi Sunduzani

The company has made great strides in ensuring a safe working environment as a result of an integrated systems approach which has seen them using three different systems.



Eng Elton Gwatidzo

How Mine manager Engineer Elton Gwatidzo said the company has achieved a significant decline in work injuries and is working flat out to achieve zero injuries at the mine.

Workplace safety is one of the most important activities at a mine as lack of it may result in productions losses and loss of life.

"In terms of safety performance, we have come a long way. Through the introduction of our systems. We are currently running three iso-certified systems that are ISO 9001, ISO 40001 and ISO 45001. We are running these as an integrated system as an improvement since 2007 where we started with iso 40001 on environmental management only," said Mr Gwatidzo

"Over the years we have incorporated the other two ie quality management systems as well as safety management systems and we have upgraded these to our business management excellence system. This has seen a significant decline in the number of accidents on an annual basis from as high as 299 to about 12 the lowest in a year. It's a major strategic area where we are looking at the journey to zero harm."

The company's Managing director Mr Kimpton Chiota said the company's achievements are a result of employing best safety practices.

He urged other mining industry players to subscribe to peer organizations and improve information sharing on best safety practices.

Mr Chiota said How Mine has benefitted immensely in the recent past from member organizations that participated in the investigation of a fall of ground incident experienced early last year.

"Transfer and share mining-related knowledge and best practices amongst each other. As the Chairman of the Chamber of Mines SHE Committee, I want to further encourage member operations to share SHE knowledge and practices, both in good times and those bad times when undesirable incidents such as fatal accidents are experienced. Participation in these forums positively influences the direction regarding health and safety practices and management, professional registration, education, qualifications, and Legislation, just to mention a few," he said.

Navigating below surfaces and in large chasms is a unique occupation, and it takes special preparation to mine. Underground and even in open channels, workers run into new problems and a strange environment. Because the areas feature extremes in temperatures, air quality, and impacts, safety is a major consideration for mining operations.

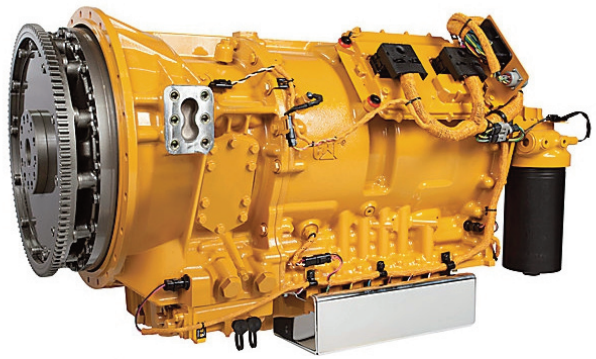
Factoring in the range of risks on the job can be difficult, but improving mine safety can be easier.

Through testing and experience, the mining process has been tweaked to add resources and safety.

NASHY
MINING COMPONENTS

NASHY MINING COMPONENTS

Nashy Mining Components is an Engineering Services Company which specializes in the provision of ENGINE DYNO TESTING for mining mobile equipment and the repair of drive train components and engines, (i.e. Repair of Transmissions, Drive shafts, Final drives, Axles and Engines) for GHH, CAT, Bell, Sany, Belaz, Luigong, XCMG and Beml equipment.











We supply these Brands and more...

GHH SOLID AS A ROCK · CAT · BELL · SANY · BELAZ · LIUGONG · XCMG

ENGINE DYNO TESTING • TRANSMISSION AND GEARBOX • ENGINE REPAIR & MAINTANANCE • AXLE REPAIR & MAINTENANCE • SERVICE CONTRACT

248 Williams Way
Unit 12, Msasa, Harare

Tel: +263 242 442 591/2
Mob:+263 732 222 219

+263 772 573 573
Nashy-Mining-Component

nashymining.co.zw
Email: sales@nashymining.co.zw

AMMZ sets the tone for 2022



Mining industry captains have pledged to ensure the safety and health of their workforce while advancing the interests of their businesses through sustainable production.

Prince Sunduzani and Rudairo Mapuranga

Mine Managers, under the banner of the Association of Mine Managers Zimbabwe (AMMZ) visited Bulawayo Mining Company's How Mine for a Technical visit, where they pledged to take up measures that enhance the safety of their workers and reduce workplace injuries and loss of life.

The AMMZ first technical visit of 2022 as usualattracted Mine Managers, representatives from the Chamber of Mines and relevant equipment suppliers.

The visit was the first for AMMZ in 2022 under the leadership of How Mine Manager Engineer Elton Gwatidzo who was elected President of the Association late last year.

Mr Elton Gwatidza pledged to support the country's drive toward economic sustainability through enhanced production in line with the national development strategy.

The Association according to Gwatidzo continues to encourage mines to have a fully functioning team that acts as the first line of response in the event of an accident. The distribution of rescue teams across the country is still thin and response times are very long.

Gwatidzo said that of major concern is the state of the National Training Facilities as these require refurbishment to ensure the health and safety of trainees.

"A process is underway to refurbish the facilities and support from the mining industry has been requested. We urge mines to respond positively in order to secure the continued services of the Mine Rescue Association."

AMMZ has continued to offer health and safety services to the industry despite the COIVD-19 restrictions.He decried erratic power supply by the national utility but said this was an opportunity to tap into other alternative sources of power.



"In terms of challenges and opportunities, we are looking at issues of power supply. We know that there is a lot of investment in the country with regards to other alternative sources of electricity as our utility is not so reliable on this front," said Mr Gwatidzo.

Chamber of Mines of Zimbabwe chairperson SHE Committee Mr Kimpton Chiota encouraged Mine Managers to prioritize the health and safety of workers as they are the driving force of operations on the ground.

"As the Chairman of the Chamber of Mines SHE Committee, I want to further encourage member operations to share SHE knowledge and practices, both in good times and those bad times when undesirable incidents such as fatal accidents are experienced.

"As Mine Managers, you are the driving force behind the operations, ensuring the safety and health of your workforce, while advancing the interests of the business through sustainable production.
"Participation in these forums positively influences the direction regarding health and safety practices and management, professional registration, education, qualifications and legislation, just to mention a few," Chiota said.



The Managers and stakeholders present had the opportunity to tour How Mine facilities and see the new developments at the mine.













AMMZ TECHNICAL VISIT TO BULAWAYO MINING COMPANY'S HOW MINE MARCH 2022





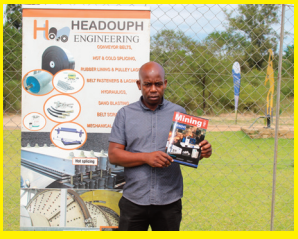




















Karo acquisition a gamechanger for Tharisa



Mining, exploration, processing and beneficiation group Tharisa Plc's acquisition of a controlling stake in the Karo platinum group metals (PGMs) project will significantly consolidate Tharisa's position as one of the world's most forward-thinking and low-cost producers of PGMs in Africa.

Anerudo Mapuranga

Tharisa announced in March that it has exercised its farm in option and acquired a controlling interest in Karo Mining Holdings Limited ('Karo Holdings') for a purchase consideration of USD27.0 million to be settled through the issue of 13.69 million new Tharisa shares ('the Acquisition') to The Leto Settlement ('Leto'), a related party, thereby increasing its shareholding in Karo Holdings from 26.8 percent to 66.3 percent. Leto will retain a balance of 33.7 percent.

According to the Chief Executive Officer of Tharisa, Phoevos Pouroulis Karo project, which has 20 year when added to the more than 60-year LOM of the Tharisa PGM and chrome operations in South Africa, sets the foundation for Tharisa's growth, particularly in the downstream value-enhancing beneficiation sector life of mine (LOM).



"The development of a strategically significant tier one, high-grade, high-return, low-cost PGM resource is a natural evolution for Tharisa as it fulfils its strategy of becoming an integrated diversified developer of new metal assets.

"Tharisa will develop and deliver its next PGM mine, Karo Platinum, in a world-class geological district that is supported by a pro-mining environment. The Karo Project is strategically located within a Special Economic Zone with the Mining Lease valid for the life of mine.

"The investment and development of the Karo Project will create noteworthy employment and upliftment opportunities for the communities within the project area, as well as the creation of an economic hub with significant multiplier effects. The Karo Project will provide all stakeholders with a secure, sustainable and value accretive future.

"The long-life Karo Project, when added to the more than 60-year LOM of the Tharisa PGM and chrome operations in South Africa, sets the foundation for Tharisa's growth, particularly in the downstream value-enhancing beneficiation sector. The development of the Karo Project will significantly consolidate Tharisa as one of the world's most forward-thinking and low-cost producers of PGMs in Africa.

"As always, we will follow the highest ESG standards as we produce the metals needed to support the rapid growth of the hydrogen economy that help reduce global dependency on fossil fuels and continue to play a vital role in reducing carbon and NOx emissions.

"With the challenges and uncertainty to the supply chain of these vital precious metals, a new short-dated source of primarily platinum and palladium metals is a significant risk mitigant for global users and provides security and certainty of supply," he said.



Zim elevation in KP and ADPA a chance to correct the narrative



The imminent elevation of Zimbabwe to the Chairmanship of the biggest diamond oversight organisations, the Kimberly Process and African Diamonds Producers Association (ADPA), has the potential to bolster the country's diamond sector.

Prince Nkosinathi Sunduzani

This is an endorsement of the country as a formidable diamond player, in terms of policy and practice.

It serves as a vindication of the country which has over the past two decades been marred with controversy.

The Kimberly Process Certification Scheme is the core of the Kimberly Process, which is a multi-lateral trade regime established in 2003 by the United Nations General Council to prevent the flow of conflict diamonds with member states implementing control of shipments of rough diamonds and certifying diamonds as conflict-free.

As chair, Zimbabwe will oversee the implementation of the Kimberley Process Certification Scheme (KPCS) and operations of the working groups, committees and administration that activate the Kimberley Process.

Mining industry captains and government authorities say the fact that Zimbabwe will lead such prestigious organisations shows the level of trust and confidence in the country and how it handles the process.

Zimbabwe in 2021 put its hat in the ring to be named vice-chair of the KP, the traditional stepping stone to becoming chair with very little dissent from members.

Currently, Botswana is chairing the process, and Zimbabwe is serving as vice-chair, subsequently Zimbabwe will serve as chair in 2023.

This, coupled with Zimbabwe's assumption of the ADPA chairmanship next month will likely serve as a major boost for Zimbabwe's diamond industry as such responsibilities serve as an endorsement by other peers in the diamond industry.

It will not be a surprise if investment in the sector realises a significant rise in investment and demand for its diamonds.

The country's Mines and Mining Development Ministry's deputy Minister Kambamura said, "This shows confidence in Zimbabwe by the international community. Also, the country will next month take over as chair of the ADPA, which is yet another signal for an endorsement of the country."

Why is this such a big deal?

This is a big deal because Zimbabwe, seeing that over the years, the country has had a bad reputation internationally in the diamond industry. Whether the controversy over its diamonds is true or not is not the point, but the appearance of wrongdoing itself is damaging to the Zimbabwean diamonds Market. So this acceptance without much controversy and resistance from global players is very significant for Zimbabwe.

For example:

The story out there is that following the discovery of large deposits of diamonds in the Marange area, the government of Zimbabwe, in 2008, launched a heavy crackdown on illegal miners which left 200 or so people dead and several others injured. Subsequently, in November 2009 the Kimberley Process blocked the export of Marange diamonds subject to Zimbabwe's completion of a work plan on how they will handle the country's diamonds and diamond mining.

So, with some players and international media even suggesting that Zimbabwe's diamonds were blood diamonds, the reputation of the country was damaged.

In 2019, the United States announced that it will prevent diamonds from Marange, claiming that they were produced with forced labour.

Despite that Local NGOs, which have a history of being critical of Zimbabwe, refuted the claims.

Having the country as chairman is indeed a vindication of some of the allegations it has endured. It's a chance to restore its reputation.

The fact that Zimbabwe's bid for the vice-chairmanship which puts the country in line to take over chairman generated very little controversy is a clear indication of trust. This is so considering what happened when the United Arab Emirates was chair in 2016. NGOs threatened to boycott the Kimberly process as they said the UAE conducted harmful diamond trading practices.

So for Zimbabwe, to be elected without much controversy is a huge feat for the country.

The Country has a chance to clean its tainted reputation.

Zimbabwe is expecting a Kimberly Process Assessment team visit slated for next month which is meant to scrutinize the country's diamond mining operations in line with international best practices.

A delegation of member states and organizations that include South Africa, Angola, the DRC, and the European Union, the United States among others, is expected in the country to vet Zimbabwes' diamond processes and ascertain its compliance with set guidelines for diamond mining operations.

This is an opportunity for the country to showcase that it is ready and has implemented areas that were identified as needing panel beating.

What needs to be done for Zim to be compliant with KP review certification requirements?

It's simple! Just implement the recommendations made during the last KP visit in 2012.

This has already started in the country, with stakeholders conducting meetings to conscientize each other and measure

Please turn over

measure themselves against the requirements.

According to KP focal person in Zimbabwe, Arnold Mukombachoto, who is also deputy director of gold, PGMs and gemstones in the Ministry of Mines and Mining Development, this is what is required of Zimbabwe :

Import And Export Controls.

· There is a need to develop specific procedures for the import or export of rough diamonds at all key ports of entry or exit such as the Forbes border post.

Internal Controls.

· In the 2012 report, concern, concern was raised on the lack of perimeter fencing and adequate security systems in Marange.

· Incidences of illegal panners in areas that are not directly supervised by the security agents of the active diamond mining comp active diamond mining companies were also raised in the last report.

He however said, improved security systems are currently being used by the diamond miners (drones) and evidence of reduced incidences of illegal panners should be presented by the Minerals Flaura and Fauna Unit(MFFU) to provide the evidence.

Production And Trade Statistics.

· Statistics from the industry (production) and export/import statistics (trade) from (trade) from the KP export authority (MMCZ) should tally.

· Additionally, as part of measures to ensure the value addition and beneficiation of diamonds locally, the diamond policy provides for 1 0% of the rough diamond production to be set aside for the local cutting and polishing industry. therefore, sales and export statistics from this sector are also important.

· Quarterly and annual production and trade statistics are uploaded to the KP website by all member countries. member countries.

Stakeholder Engagement.

· Currently, the pre-assessment assessment visits have brought together the three pillars of the KP namely, government, industry and Civil Society Organisations in preparing for the review visits.

· This has led to resolution of legacy issues particularly in the Marange, Arda Transau and Sese communal lands.

· In the 2012 report, progress on the implementation of Marange - Zimunya Community Share Ownership Trust (CSOT) was raised.

· The ongoing exercise has also brought together the diamond industry players which will enhance industry self-regulation in the sector.

Environmental Issues.

· The 2012 review visit reported on the deterioration of the water quality in rivers in Marange since the start of diamond mining operations

· A paper was published on the impact of Marange diamond mining operations on water quality and this was used as the basis for the conservation.

· ZCDC, Anjin and the CSOs confirm the current water quality.

Artisanal miners want a piece of the diamond cake



The Government is looking into the possibility of involving artisanal miners in the formal mining of diamonds to avert conflicts that come with the operations of illegal miners in diamond-rich areas.

Prince Nkosinathi Sunduzani

In an interview with Mining Zimbabwe, Mines and Mining Development Deputy Minister Polite Kambamura said the government will look into the issue and conduct consultations to ascertain its feasibility.

This was in response to calls by the civil society to draft artisanal miners into the lucrative diamond industry, as a way of eliminating conflict and increasing production in that sector.

The Centre for Natural Resources Governance (CNRG) is on record saying, Government should create space for artisanal miners and allow them to operate legally and ensure diamonds are sold to the State as a measure to stop the continued invasion of the diamond fields. "Well, we will look into the issue. But as you know this requires consultation, so we will consult the relevant stakeholders and then we take it from there," said Kambamura.

"We will have to consult widely because we don't know whether or not that will work in the Zimbabwean context," he continued.

Over the years, analysts have been calling for the involvement of artisanal miners in the diamond industry to help boost production.

In 2019, a think tank, the Human rights organization Centre for Research and Development (CRD) expressed concern over mining safety and urged the government to legalise artisanal diamond mining. This was in the wake of four deaths in the Chiyadzwa diamond fields.

Their logic is that the model worked in the Gold sector where ASMs are responsible for delivering about 60 per cent of gold deliveries Fidelity Gold refinery.

Zimbabwe is looking to host a team of Kimberly Process assessment officials in the country in a few days.

Part of the requirements the country has to meet in the diamond sector is the elimination of conflict in the mining of precious stones.

Industry stakeholders, led by CSOs have said drafting a policy on artisanal miners and taking them on board will help eliminate that conflict.

However, critics of this, claim that diamonds are too precious and should be protected, they posit that having artisanal miners might fuel conflict than avert it.



FAMS

FORWARDING & MANAGEMENT SERVICES

Exclusive Agent of DSV

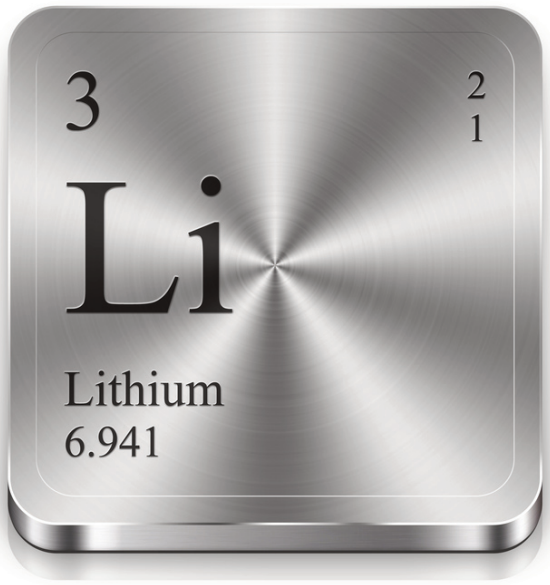
Beitbridge
Bulawayo
Plumtree
Forbes
Mutare
Chirundu

CONTACT US: FAMS Zimbabwe
107 Kelvin Road South, Graniteside
Harare, Zimbabwe
Tel: (+263) 867 700 7400, Email: info@fams-zimbabwe.com
Website: www.fams-international.com

- Airfreight
- Ocean Freight
- Road Freight
- Customs Clearance
- Logistics Management
- General & Bonded Warehousing
- Project Cargo Management

Other Countries FAMS operate:
Malawi, Angola & Mauritius

Zim eyes becoming the world's biggest lithium producer



Zimbabwe is determined to benefit from the high global demand for lithium as it eyes becoming the world's biggest "white gold" producer after 2023.

Rudairo Mapuranga

With the world superpowers committed to phasing out new gasoline and diesel engine vehicles by 2040, the recent growth in electric vehicle (EV) adoption has fueled a global boom in lithium production.

The adoption and rise in popularity of EVs and the world's shift towards clean energy have resulted in world lithium production increasing significantly between 2016 and 2020, up from 40,000 tonnes to 86,300 tonnes.

Currently, three countries, Australia, Chile, and China are accountable for 86% of the world's lithium production. Between 1995 and 2010 Lithium production grew steadily, up from 9,500 tonnes to 28,000 tonnes. But the advent of rechargeable batteries and electric vehicles brought in a new wave of demand, fueling an exponential production surge.

Australia currently is the world's biggest lithium producer accounting for 46.3% of the total lithium production of 40,000 tonnes.

According to the Deputy Minister of Mines and Mining Development Dr Polite Kambamura, the government's thrust is to overtake Australia as the biggest lithium producer in the world.

He said that the value-addition of lithium is important as the country seeks to maximize and get a true value for its lithium.

"We look forward to becoming a world leader in Lithium production. Government's main thrust is on local Lithium value addition and beneficiation," Dr Kambamura said.

In 2021 the country was the 6th biggest lithium producer in the world after Australia, Chile, China, Argentina and Brazil with the production being carried out by only Bikita Minerals with production from Arcadia Lithium mine very insignificant as it was operating as a pilot project.

The production of lithium in Zimbabwe amounted to 1,200 metric tons in 2021. Figures have fluctuated in the period of consideration, with a peak production of 1,600 metric tons recorded in 2018 and a low of just 417 metric tons in 2020.

A Brief History of Lithium Mining

Countries began producing significant amounts of lithium after World War II, with annual production averaging 5,000 tonnes between 1955 and 1980.

The U.S. was by far the largest lithium producer until 1995, followed by Zimbabwe and Australia. From 1995 to 2010, Chile took over as the dominant producer with a lithium mining boom in the Salar de Atacama, the country's largest salt flat.

Lithium future production for Zimbabwe

Lithium-ion batteries are crucial to the defence sector because of their lightweight, high efficiency, and long life. They're found in nearly every defence weapon system and used in military vehicles, boats, submarines, and aircraft. Soldiers on patrol can carry 15-25 pounds of lithium batteries to power night vision goggles, weapon optics, phones, and GPS systems.

World superpowers like the US and China have warned of the need to develop more sources of lithium, to maintain their hold on world politics thereby creating a serious rush.

Currently, the country has three mines with a confirmed mineable resource in Arcadia Lithium Mine formerly owned by Prospect Resources, Bikita Minerals and Kamativi Tin Mine.

Three Chinese energy companies have snapped up controlling shareholdings in Zimbabwean lithium mines during the past four months, as China, the world's biggest EV market, increasingly gravitates toward Africa to diversify the supply of lithium. According to experts, the increasing sniffing of Chinese companies in controlling the country's lithium industry indicates that the country has the potential to become the world's biggest lithium producer.

Lithium mine sets off a boom in mining development

Zimbabwe has proven that it has abundant lithium resources. As an important mineral resource, the lithium mine is attracting more and more investors, which will change the development prospects of Zimbabwe's mining industry.

Experts have predicted that the country has the potential to supply nearly 40 per cent of the world's lithium demand as initial exploration by different companies like Premier African Minerals is proving that lithium reserves in the country are next to none in Africa.

Lithium ore products contribute to economic development

The government through the Ministry of Mines and Mining Development has been planning to open a lithium ore processing plant in Bulawayo to increase the added value of lithium mine products.

INVESTING IN AFRICAN MINING INDABA

a Hyve event

9-12 May 2022 | CTICC, Cape Town

The Evolution of African Mining has begun

Unprecedented line-up of Pan-African Ministers, mining CEOs and global investors

HEADS OF STATE CONFIRMED



H.E. Mokgweetsi Masisi
President
Botswana



H.E. Hakainde Hichilema
President
Republic of Zambia

HEADLINERS TAKING THE AGENDA BY STORM



Hon. Gwede Mantashe
Minister of Mineral Resources & Energy
South Africa



Duncan Wanbald
Chief Executive
Anglo American Group



Sinead Kaufman
Chief Executive – Minerals
Rio Tinto



Mark Bristow
CEO
Barrick Gold



Mxolisi Mgojo
CEO
Exxaro Resources



Roger Baxter
CEO
Minerals Council South Africa



Clive Johnson
President & CEO
B2Gold



Alberto Calderon
CEO
AngloGold Ashanti

SECURE YOUR PLACE TODAY | **MININGINDABA.COM**

Join the conversation | #MI2022

SAFE & SECURE

Zimplats records zero environmental non-compliance incidents



ZIMPLATS CEO Mr Alex Mhembere

Zimbabwe's biggest Platinum Group of Metals (PGM) producer ZIMPLATS has continued to set an example as the leading environmental compliance mining company with the group recording zero incidents relating to environmental non-compliance during the half-year ended 31 December 2021.

Anerudo Mapuranga

According to Zimplats Directors' Report and Condensed Consolidated Interim Financial Statements for the period, Zimplats continued with the quest to improve water stewardship during the half-year with recycled water accounting for 43 per cent of the total water consumed compared to 33 per cent achieved in the same period last year.

The report shows that the company's rehabilitation of the open pits and the tailings storage facilities progressed as planned thereby certifying Zimplats' position in environmental care and maintenance.

According to the company CEO Mr Alex Mhembere, the Group recorded two lost-time injuries during the half-year resulting in a lost-time injury frequency rate (LTIFR) of 0.22 per million man-hours. There were no lost-time injuries recorded in the prior period.

"A safety response strategy was formulated for implementation across the operations using lessons learned from these accidents. Technology-driven employee behaviour monitoring and modelling will be central to the recovery plan in addition to the ongoing programmes around contractor management, change management, tailgating incidents to pick leading indicators and safety campaigns targeting the main causes of accidents in our operations, " Mhembere said.

Operations

According to Mhembere, the group's production during the half-year declined due to disruptions at Mupfuti Mine during a changeover of the trackless mining equipment service provider. Ore Mined fell by 5% with 6E production decreasing by 2%.

"Ore mined during the half-year reduced by 5% to 3.5 million tonnes from 3.7 million tonnes for the same period last year. This was mainly due to production disruptions at Mupfuti Mine during a changeover of the trackless mining equipment service provider. The process has since been completed.

"Tonnes milled were unchanged from the same period last year at 3.4 million. Six elements (platinum, palladium, rhodium, gold, ruthenium and iridium) (6E) mill head grade at 3.42g/t was 2% lower than the same period last year due to higher contribution of ore from lower-grade mines.

ZIMPLATS
Member of the Implats Group

"6E production decreased by 2% to 283 829 ounces from 288 310 ounces in the same period last year driven by the drop in 6E head grade," Mhembere said.

Financial

Revenue at US$585 million was 13% lower than the same period last year largely due to negative revenue from movements in commodity prices arising from pipeline sales following the decrease in average metal prices compared to the second half of the previous financial year. The gross revenue per 6E ounce for the half-year at US$1 813 was 19% lower than the US$2 241 for the same period last year. This was partly offset by an 8% increase in 6E ounces sold from 301 225 ounces in the prior period to 322 752 ounces because of the sale of matte stockpiled due to an administrative delay in the export of production towards the end of the previous financial year.

The cost of sales at US$294.9 million was marginally lower than the same period last year's US$297.4 million.

Consequently, the gross profit margin was 50%, a 6% reduction from 56% achieved in the same period last year.

The half-year results were impacted by net foreign currency exchange losses of US$21.8 million (2021 - US$0.1 million) arising mainly on Zimbabwean Dollar (ZW$) denominated monetary assets due to the depreciation of the ZW$. The ZW$ depreciated by 27% from US$1: ZW$85.47 as at 30 June 2021 to US$1: ZW$108.70 as at 31 December 2021.

Cash operating cost per 6E ounce produced at US$707 increased by 10% from the US$642 reported in the same period last year. This was driven by inflation-related price increases on some major consumables, an increase in labour costs associated with headcount increase and the impact of a 5% decrease in tonnes of ore mined on fixed costs.

Resultantly, profit before income tax for the period at US$261 million was 30% lower than US$375.4 million recorded in the same period last year. Income tax for the half-year at US$90.3 million (2020: US$124.7 million) resulted in profit after tax for the period of US$170.7 million compared to US$250.6 million achieved in the same period last year.

The Group generated net cash inflows from operating activities amounting to US$261.3 million (2020: US$189.7 million) and paid dividends of US$85 million (2020: US$44 million). The cash and cash equivalents balance as at 31 December 2021 was US$429.4 million (30 June 2021: US$344.8 million and 31 December 2020: US$226.1 million).

OUTLOOK

"The financial year 2022 has brought with it several challenges and opportunities for the Group. The operating environment was characterised by declining metal prices, high US$ inflation, devaluation of the local currency (ZW$) and a Covid-19 fourth wave. The Group managed to go through the first six months of the year without any Covid-19 induced interruptions. We anticipate a sustainably good operating environment and continued enforcement of Covid-19 protocols which will ensure that the Group will safely meet its targets."

MIKE APPEL
INDUSTRIAL

Atlas Copco Authorised Distributor



Industrial Compressors



Lighting Towers



Mobile Compressors



Generators

For all your Atlas Copco Industrial solutions, from new equipment to after sales service and support call on Mike Appel.

CONTACT US TODAY

+263 242 757 718 / 772 077 540

info@mikeappel.co.zw | www.mikeappel.co.zw

Atlas Copco distributor, Mike Appel Industrial, continues to breathe new air into Zimbabwe's industrial compressor market



The appointment of Mike Appel Industrial, a division of The Mike Appel Group, as Atlas Copco Compressor Technique's authorised distributor in Zimbabwe just over a year ago, has been a resounding success.

Thanks to this valuable partnership customers across the region continue to reap the rewards of superior quality product delivery supported by excellent after-sales service.

"There is no doubt that partnering with a company like Atlas Copco, a world-renowned pioneer in compressed air research, technology and sustainability, gives us a competitive edge, evidenced by our healthy supply of new capital equipment to Zimbabwean mining and industrial customers during the first year of our distributorship," states The Mike Appel Group's Managing Director, Lindsay Chanakira. "This includes the delivery and installation of two GA250 screw compressors on a gold mine, with reports of satisfaction with both machines, as well as the upgrade of a GA200 compressor from 7.5 bar to 10 bar at a platinum mine."

Alongside an order for a ZE4 blower Mike Appel Industrial commissioned a new GA250 compressor for a cement giant and also won a tender for the supply of two ZT45 compressors to one of the biggest hospitals in Zimbabwe.

The business relationship between the two companies started in 2015 with Mike Appel Industrial supplying Atlas Copco industrial diesel generators to Zimbabwe's mining, healthcare, agro-processing, construction, manufacturing and telecommunications sectors.

"Mike Appel's exceptional reputation in Zimbabwe's business arena that spans an impressive 72 years is what earned the company Atlas Copco's authorised distributorship," states Compressor Technique's Business Development Manager - Daryn Jack. "As they have been actively servicing customers in our industry and in various other avenues for many years, formalising the relationship by signing them on as our authorised distributor and in so doing, assisting and servicing customers in our portfolio, simply made sound business sense."

In line with the distributor agreement which was signed in October 2019 Mike Appel Industrial supplies Atlas Copco Compressor Technique's extensive stationary electric compressor portfolio of oil-injected and oil-free piston, scroll, tooth, vane and screw type machines as well as preventative maintenance kits and accessories.

The Mike Appel Group's footprint has expanded exponentially since its founding in 1948 to provide precision engineering services to the growing Zimbabwean motor industry. Today the Mike Appel Group serves diverse markets across the country. Alongside compressors other areas of specialisation include engineering services, the supply of motor spares, generators, lighting towers and solar solutions.

"Our vision to lead in the area of engineering services in Zimbabwe ensures that our approach to all our projects is driven by excellence, professionalism and quality," comments Lindsay. "Our proud reputation for the delivery of quality products coupled with excellent service from a team of highly trained, experienced professionals to our individual and corporate customers is augmented by our strategic partnerships with reliable and trusted global brands like Atlas Copco."

Elaborating on the Atlas Copco brand Lindsay points out that as the founder of industrial compressed air back in 1873 the company possesses an extensive amount of knowledge and insight which they openly share with industries relying on compressed air. "Moreover, Atlas Copco compressors and spares typically operate beyond their design lifecycle and are accompanied by warranties, translating to the lowest cost of ownership for customers."

MIKE APPEL ENGINEERING

Atlas Copco distributor, Mike Appel Industrial, continues to breathe new air into Zimbabwe's industrial compressor market

Lindsay goes on to laud Compressor Technique's experienced team of technicians that cater to site inspections and preventative and breakdown maintenance for Mike Appel Industrial's vast clientele. "We also receive back-up support from Atlas Copco's Product Specialists in South Africa," she adds.

According to Daryn Atlas Copco considers distributor support as essential in maintaining successful distributor partnerships and he elaborates on the various support channels available to Atlas Copco distributors, "Dedicated Product Managers from the new equipment division assist with technical information and share knowledge on new units and Sales Representatives render assistance with technical proposals, pricing, etc. Our distributors also have access to our Technical Specialists for advice on all troubleshooting issues on our machinery and there is also a dedicated contact for spare parts support. As their dedicated Business Development Manager, I am the direct liaison between Mike Appel Industrial and Atlas Copco Compressor Technique. I assist them to develop and grow the areas of business in the country by conducting regular regional visits to their premises and attending customer meetings with them to show customers that our distributors have Atlas Copco's full support."



Atlas Copco extends this support through regular distributor training offering platforms such as online theory, self-training, online/virtual product (product launches) and technical training sessions to keep technicians up to date on technical knowledge. Advanced technical training is also offered at Atlas Copco's training academy in Egypt.

"Additionally, we conduct onsite training for the technical teams of both our distributors and customers and I provide support during customer visits as and when needed," said Daryn.

Atlas Copco's range of training programs for Mike Appel Industrial's technicians and sales personnel has impressed Lindsay which she says helps them to continue expanding their scope and expertise in the field. "We found the weekly distributor online product training sessions hosted by Atlas Copco Compressor Technique South Africa's Industrial Air Division during October and November 2020 extremely valuable."

Adding further value and convenience for distributors are Atlas Copco's online spare parts ordering and processing systems. Distributors have access to the Global Business Portal that allows them to gain access to all Atlas Copco equipment, including new products and developments, accessories and compressor related information of a technical or sales nature which Lindsay describes as "extremely useful", adding that this information is also readily available on the Atlas Copco website.

Turning to the subject of challenges and opportunities within the Zimbabwean landscape Lindsay says, "Although we face a number of challenges in Zimbabwe, there are some great opportunities too. The fact that there is vast room for improvement and development in all major sectors of our economy such as mining, manufacturing and agriculture is providing an opportunity for small and medium-scale start-up enterprises that would otherwise struggle to compete in saturated markets, as evident in developed countries, to thrive. In addition, Zimbabwe has large reserves of raw materials and minerals required to produce high value capital equipment as well as the personnel to implement such."

Wrapping up, Daryn says, "As distributors are ultimately an extension of our business it is important that they share Atlas Copco's Vision and Mission and that their Core Values align with ours. In addition the service they provide must be of sound product and technical expertise, all of which Mike Appel Industrial has most certainly upheld. Their professionalism and unparalleled service delivery combined with their impressive footprint and market presence in Zimbabwe are win-wins for both companies and add value for our customers across the region."

He continues, "We are extremely privileged to have them as our authorised distributor in Zimbabwe; through this partnership we look forward to even bigger and greater things from The Mike Appel Group to the ultimate benefit of our customers."

102 – 104 Sara House Graniteside
Harare
Tel: +263 242 757718 / 772077 / 770540

Email: info@mikeappel.co.zw
Tel: +263 (242) 771159
Operating hrs Mon - Fri: 9:00 - 17:00

MIKE APPEL ENGINEERING

ZIMBABWE ON TRACK TO REACH THE $12 BILLION MINING ECONOMY



Zimbabwe, in 2019, set a monumental target to reach a $12 billion mining economy by 2023, at a time when its earnings were a little below US$3 billion.

by Prince Nkosinathi Sunduzani

The mining economy has grown to $5 billion.

The target represented a triple ambition, which critiques said was overzealous, while the proponents of the program hailed the proprietors and backed the move as achievable.
The mining industry generates approximately 65 per cent of Zimbabwe's annual exports and contributes over 12 per cent to the gross domestic product while employing hundreds of thousands of workers.

The US$12 billion mining economy represents an almost 300% increase from the USD2.7 billion registered in 2017. The multi-billion-dollar industry will be driven by gold, platinum, diamond, chrome, iron ore, coal, and lithium.

It's not a secret that the country is well endowed with minerals. Reports posit that the land-locked country has over 60 known minerals and these have significant deposits.









President Mnangagwa with Mines Minister Winston Chitando at the official opening of Eureka Gold Mine in Guruve

The country boasts the second-largest platinum deposit and high-grade chromium ores in the world, with approximately 2.8 billion tons of platinum group metals and 10 billion tons of chromium ore.

However, the country's problem is not a lack of minerals. The country had been saddled with policy inconsistencies and a bad reputation chasing away investment.

In launching the initiative, the President of Zimbabwe, Emmerson Mnangagwa envisaged that investments and benefits accruing from a thriving mining sector will be critical building blocks for a prosperous Zimbabwe.

Under the US$12 billion mining roadmap, gold is expected to contribute US$4 billion, platinum US$3 billion while chrome, iron, steel diamonds, and coal will contribute US$1 billion.

Lithium is expected to contribute US$500 million while other minerals will contribute US$1,5 billion.

This is indeed very ambitious, but the real question is whether or not this is achievable. Looking so far at what has been happening the industry is indeed growing although more still needs to be done in terms of policy, and investment in exploration and opening up of new and old mines.

Now with a little over a year left, we try to look at what has happened so far.

What is the Government saying?

Since the inception of the drive to more than triple the mining economy, as expected, the government has been confident that this target was within reach.

The Mines and Mining Development Minister Winston Chitando who has been at the helm since then sounds very confident and unapologetic about his Ministry's set target.

Mining Zimbabwe caught up with his deputy Dr Polite Kambamura who, in the interview, said that the government, which is running out of time to achieve its goal, is targeting low-hanging fruits to catapult earnings and bring closer to the 12-billion-dollar mining economy reality.

He singled out the beneficiation of minerals and targeted small-scale miners to add to the trough.

"Currently we are targeting low hanging fruits, that's where we are putting our efforts, especially in the gold sector. The artisanal small-scale miners don't need much capital, they don't need many investors from outside and also we are looking on value addition and beneficiation of chrome to ferrochrome, of cocking coal top bitumen beneficiation of our diamonds."

Several significant strides were achieved which are indicative of the growth of the mining sector.

This ranges from increased local beneficiation of minerals, opening up of closed mines, investment in downstream industries, and relaxation of certain policies.

The Minister of Mines and Mineral Development Hon Winston Chitando said the government has enabled a conducive environment for the growth of the sector, in pursuit of the 12 billion dollar target.

He mentioned quite a several projects that happened this year.

"It's a projection made on concrete targets, last year there were many projects which we commissioned this year. Which includes the reopening of the Eureka mine, the expansion of the Shamva mine, and the Cam and Motor plant at RioZim, We have Unki commissioning which is due. There is expansion taking place at Murowa. ZCDC grew from 1.5 million carats to 5 million."

Now is the time to vigorously push for some of the contentious issues which have been identified by industry players.

It is good that President Mnangagwa called on the Ministry and the Mkaratigwa led Mines Portfolio Committee to up their game on policy implementation.

He demanded the expedition of the implementation of the amendment of the mines and mineral act.

For the elimination of disputes, the operationalisation of the Cadastre system will also be important in ensuring that the sector performs at full throttle.

Underground mining set up from A - Z



When any ore body lies a considerable distance below the surface, the amount of waste that has to be removed in order to uncover the ore through surface mining becomes prohibitive, and underground techniques must be considered. Counting against underground mining are the costs, which, for each ton of material mined, are much higher underground than on the surface. There are a number of reasons for this, not the least of which is that the size of underground mining equipment because of ground conditions, ore body geometry, and other factors is much smaller than in the open pit. Also, access is much more limited. All of this means that productivity, as measured in tons produced per worker per shift, can be 5 to 50 times lower, depending on the mining technique, than on the surface. Balanced against this is the fact that underground only ore is mined, whereas in the open pit there are often several tons of waste stripped for each ton of ore.

Once a decision has been made to go underground, the specific mining method selected depends on the size, shape, and orientation of the ore body, the grade of mineralization, the strength of the rock materials, and the depths involved. For example, if the ore is very high grade or carries a high price, then a higher cost method can be used. In order to minimize the mixing of ore and waste, highly selective extraction methods are available, but if ore and waste can be separated easily later (for example, by using magnets in the case of magnetite), then a less-selective bulk mining method may be chosen.

The orientation, specifically the dip, of the ore body is particularly important in method selection. If the dip is greater than about 50°, then systems using gravity to move the ore can be considered. If the dip is less than about 25°, then systems using rubber-tired equipment for ore transport can be considered. For ore bodies having dips in between these, special designs are required.

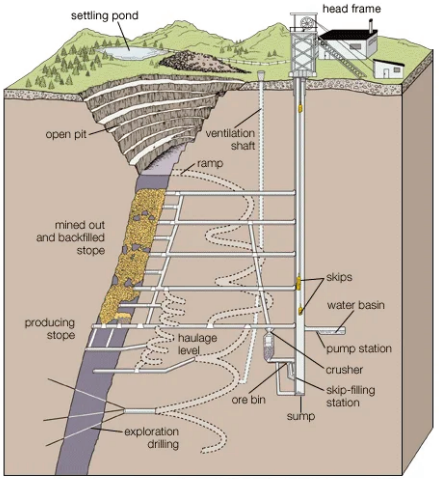
The openings made in the process of extracting ore are called stopes or rooms. There are two steps involved in stoping. The first is development that is, preparing the ore blocks for mining and the second is production, or stoping, itself. Ore development is generally much more expensive on a per-ton basis than stoping, so that every effort is made to maximize the amount of stoping for a given amount of development. For steeply dipping ore bodies, such as the one illustrated in the figure, this means having as large a distance as possible between production levels. The resulting larger openings would offer an opportunity to use larger, more productive equipment, and fewer machines and workplaces would be needed to achieve a given production level.

In stoping, the geometry that is, the size and shape of the ore body imposes one constraint on the size of openings that can be constructed, and the strength of the ore and wall rocks imposes another. Most rock materials are inherently much stronger than the concrete used in the construction of highways, bridges, and buildings, but they also contain structural defects of various types, and it is these defects that determine the strength of the rock structure. If the defects are very close together, filled with crushed materials, and unfavourably oriented, then the underground openings must be kept small.

As one goes deeper into the Earth, the thickness and, consequently, weight of the overlying rock increase. Pressure from the sides also increases with depth; the amount of this pressure depends on the rock type and the geologic situation, but it can range from about one-third of the vertical pressure to as high as three times the vertical. In the world's deepest mines, which are more than 4 km (2.5 miles) below the surface, pressure becomes so intense that the rock literally explodes. These rock bursts are major limitations to mining at depth. A specialized field of engineering known as rock mechanics deals with the interaction between rock mass and mine openings.

Mine Development

Prior to the production of ore, a certain capital investment in mine development work is required. In open-pit mines this consists of building access roads and stripping the overlying waste material in order to expose the ore and establish the initial bench geometries. For an underground mine the development stage is considerably more complicated. Some of the development components of an underground mine are illustrated in the figure.



Vertical openings: shafts and raises

The principal means of access to an underground ore body is a vertical opening called a shaft. The shaft is excavated, or sunk, from the surface downward to a depth somewhat below the deepest planned mining horizon. At regular intervals along the shaft, horizontal openings called drifts are driven toward the ore body. Each of these major working horizons is called a level. The shaft is equipped with elevators (called cages) by which workers, machines, and material enter the mine. Ore is transported to the surface in special conveyances called skips.

Shafts generally have compartments in which the media lines (e.g., compressed air, electric power, or water) are contained. They also serve as one component in the overall system of ventilating the mine. Fresh air may enter the mine through the production shaft and leave through another shaft, or vice versa.

Another way of gaining access to the underground is through a ramp that is, a tunnel driven downward from the surface. Internal ramps going from one level to another are also quite common. If the topography is mountainous, it may be possible to reach the ore body by driving horizontal or near-horizontal openings from the side of the mountain; in metal mining these openings are called adits.

Continued on the next page>>

Ore that is mined on the different levels is dumped into vertical or near-vertical openings called ore passes, through which it falls by gravity to the lowest level in the mine. There it is crushed, stored in an ore bin, and charged into skips at a skip-filling station.

In the head frame on the surface, the skips dump their loads and then return to repeat the cycle. Some common alternative techniques for ore transport are conveyor belts and truck haulage. Vertical or near-vertical openings are also sometimes driven for the transport of waste rock, although most mines try to leave waste rock underground.

Vertical or subvertical connections between levels generally are driven from a lower level upward through a process called raising. Raises with diameters of 2 to 5 metres (7 to 16 feet) and lengths up to several hundred metres are often drilled by powerful raise-boring machines. The openings so created may be used as ore passes, waste passes, or ventilation openings. An underground vertical opening driven from an upper level downward is called a winze; this is an internal shaft.

Horizontal openings: drifts

All horizontal or subhorizontal development openings made in a mine have the generic name of drift. These are simply tunnels made in the rock, with a size and shape depending on their use for example, haulage, ventilation, or exploration. A drift running parallel to the ore body and lying in the footwall is called a footwall drift, and drifts driven from the footwall across the ore body are called crosscuts. A ramp is also a type of drift.

Because the drift is such a fundamental construction unit in underground mining, the process by which it is made should be described. There are five separate operations involved in extending the length of the drift by one round, or unit volume of rock. Listed in the order in which they are done, these are drilling, blasting, loading and hauling, scaling, and reinforcing. Drilling is done in various ways depending on the size of the opening being driven, the type of rock, and the level of mechanization. Most mines use diesel-powered, rubber-tired carriers on which several drills are mounted; these machines are called drill jumbos. The drills themselves may be powered by compressed air or hydraulic fluid. In percussive drilling a piston is propelled back and forth in the cylinder of the drilling machine. On the forward stroke it strikes the back end of a steel bar or drill rod, to the front of which is attached a special cutter, or bit. The cutter's edges are pushed into the bottom of the hole with great force, and, as the piston moves to the back of the cylinder, the bit is rotated to a new position for the next stroke. Through the action of high energy, frequency (2,000 to 3,000 blows per minute), and rotation speed, holes may be drilled in even the hardest rock at a high rate.

A pattern of parallel blastholes is drilled into the rock face at the end of the drift. The diameter of these holes ranges from 38 to 64 mm (1.5 to 2.5 inches), but in general one or more larger-diameter uncharged holes are also drilled as part of the initial opening. These latter serve as free surface for the other holes to break as well as expansion room for rock broken by the blast.

Explosives may be placed in the blastholes in the form of sticks or cartridges wrapped in paper or plastic, or they may be blown or pumped in. They are composed of chemical ingredients that, when properly initiated, generate extremely high gas pressures; these in turn induce new fractures in the surrounding rock and encourage old fractures to grow. In the process rock is broken and displaced.

For many years dynamite was the primary explosive used underground, but this has largely been replaced by blasting agents based on ammonium nitrate (AN; chemical formula NH4NO3) and fuel oil (FO; chemical formula CH2). Neither of these components is explosive by itself, but, when mixed in the proper weight ratio (94.5 percent AN, 5.5 percent FO) and ignited, they cause the following chemical reaction:

$$3NH_4NO_3 + CH_2 \longrightarrow CO_2 + 7H_2O + 3N_2 + \text{heat}.$$

The products of the above reaction (carbon dioxide, water, and nitrogen, respectively) are commonly present in air. If there is too much fuel oil in the mixture, however, the poisonous gas carbon monoxide will be formed; with too little fuel oil, nitrous oxides, also poisonous, are formed. For this reason gases are carried out of the mine through the ventilation system, and blasting is normally done between shifts or at the end of the last shift, when the miners are out of the mine.

Blastholes must be fired in a certain order so that there is sufficient space to accommodate the broken rock. Those closest to the large empty holes are fired first, followed by those next to the resulting larger hole. This continues until the holes at the contour are reached. To create such an expanding pattern, the timing of explosions is very important. There are both electric and nonelectric systems for doing this. In the electric system an electric current is passed through a resistive element contained in the blasting cap. When this heats up, it initiates a fuse head, which in turn ignites a chemical compound that burns at a known rate. This combination serves as the timing or delay element within the cap. At the other end of the delay is the primer, an explosive (generally lead azide, mercury fulminate, or pentaerythritol tetranitrate [PETN]) that, upon detonation, releases a great deal of energy in a very short time. This is sufficient to ignite the larger amount of ANFO explosive packed into the hole. The most common time interval between adjacent delays is 25 milliseconds. Other caps are available in which the delays are introduced electrically through the use of microcircuitry. These have the advantage of extremely little variation among caps of the same delay period; also, the number of delay periods available is much greater than with burning-compound caps.

After blasting, the broken ore is loaded and transported by machines that may be powered by compressed air, diesel fuel, or electricity. Highly mechanized mines employ units that load themselves, haul the rock to an ore pass, and dump it. Known as LHD units, these come in various sizes denoted by the volume or weight of the load that they can carry. The smallest ones have a capacity of less than 1 cubic metre (1 ton), whereas the largest have a 25-ton capacity. In small, narrow vein deposits, tracked or rubber-tired overshot loaders are often employed. After the bucket of this machine is filled by being forced into the pile, it is lifted and rotated backward so that it dumps into a built-in dump box or attached railcar. Overshot loaders are commonly powered by compressed air.

Another type of loading machine features special gathering arms that sweep or scrape the broken material into a feeder, whence it is fed via an armoured conveyor belt into waiting trucks or railcars.

Although most loading machines have an onboard operator-driver, some are controlled remotely via television monitor.

After the broken rock has been removed (and sometimes even during the loading process), the roof, walls, and face are cleaned of loose rock.

Continued on the next page>>

This process is called scaling. In small openings scaling is normally done by hand, with a special steel or aluminum tool resembling a long crowbar being used to "bar down" loose material. In larger openings and mechanized mines, a special machine with an impact hammer or scaling claw mounted on a boom is used. Scaling is an extremely important step in making the workplace safe.

Depending on the ground conditions and the permanence of the openings, various means of rock reinforcement may be employed before beginning a new round of drifting. The ideal is for the rock to support itself; this is accomplished by keeping rock blocks in place, thereby allowing rock arches or beams to form, but often these blocks need to be reinforced by various implements, the most common being rock bolts inserted into holes drilled around the opening. In one technique a steel bolt equipped with an expansion anchor at the end is inserted into the hole. Rotation of the bolt causes the anchor to expand against the wall of the hole, and further rotation compresses a large steel faceplate, or washer, against the rock, effectively locking the blocks together. A pattern of such bolts around and along an opening creates a rock arch. If the rock pieces are quite small, a steel net (much like a chain-link fence) or steel straps can be placed between the bolts. Some mines simply cement reinforcing bar or steel cables in the boreholes. Shotcrete, concrete sprayed in layers onto the rock surfaces, has also proved to be a very satisfactory means of rock reinforcement.

Ventilation and lighting

Ventilation is an important consideration in underground mining. In addition to the obvious requirement of providing fresh air for those working underground, there are other demands. For example, diesel-powered equipment is important in many mining systems, and fresh air is required both for combustion and to dilute exhaust contaminants. In addition, when explosives are used to break hard rock, ventilation air carries away and dilutes the gases produced.

Special fans, controls, and openings are used to direct fresh air to the working places and spent or contaminated air out of the mine. In very cold climates incoming ventilation air must first be warmed by gas- or oil-fired heaters. On the other hand, in very deep mines, because of high rock temperatures, the air must be cooled by elaborate refrigeration systems. This makes the energy costs associated with ventilation systems very high, which in turn has created a trend toward sealing unused sections of the mine and changing from diesel to electric machines.

Properly lighted working places are very important for both safety and productivity. Each underground miner is equipped with a hard-hat-mounted lamp with the battery worn on the belt. In some mines this is the primary source of lighting under which the various jobs are done. In others, however, many jobs have been taken over by machinery equipped with high-powered lights that fully illuminate the working areas.

Fixed lighting is installed along travel ways and at shaft stations, dumping points, and other important locations.

Water control

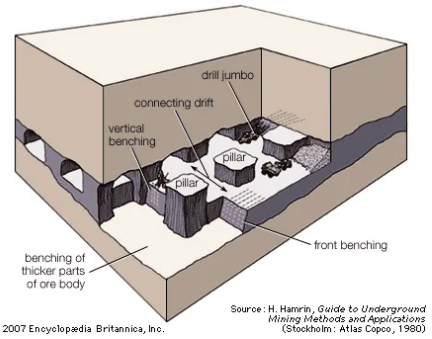
The amount of water encountered in underground mining operations varies greatly, depending on the type of deposit and the geologic setting. Some mines must be prepared only to reuse the water introduced in such operations as drilling; others must contend with large inflows from the surrounding rock. In extreme cases special water doors and underground chambers must be constructed in order to control sudden large inflows. Typically, mine water flows or is pumped to a central collection point called a settling basin, or sump. From there it is pumped through pipes located in the shaft to the surface for treatment and disposal.

Mining flat-lying deposits

Many of the ore deposits mined today had their origins in an ocean, lake, or swamp environment, and, although they may have been pressed, compacted, and perhaps somewhat distorted over time, they still retain the basic horizontal orientation in which the minerals were originally deposited. Such deposits are mined by means of either of two basic techniques, longwall or room-and-pillar, depending on the thickness, uniformity, and depth of the seam, the strength of the overlying layers, and whether surface disturbance is permitted.

Room-and-pillar mining

The most common mining system is room-and-pillar. In this system a series of parallel drifts are driven, with connections made between these drifts at regular intervals. When the distance between connecting drifts is the same as that



between the parallel drifts, then a checkerboard pattern of rooms and pillars is created, as shown in the figure. The pillars of ore are left to support the overlying rock, but in some mines, after mining has reached the deposit's boundary, some or all of the pillars may be removed.

Longwall mining

In the longwall system the ore body is divided into rectangular panels or blocks. In each panel two or more parallel drifts (for ventilation and ore transport) are driven along the opposite long sides to provide access, and at the end of the panel a single crosscut drift is driven to connect the two sides. In the crosscut drift, which is the "longwall," movable hydraulic supports are installed to provide a safe canopy under which the seam can be mined. A cutting machine moves back and forth under this protective canopy, cutting the mineral from the longwall face, and an armoured conveyor carries the mineral to the access drifts, where it is transferred onto other conveyor belts and out of the panel. As the mineral is removed, the supports are moved up, allowing the overlying layers of rock to cave in back of the canopy.

The process as described above is for softer rocks—such as trona, salt, potash, mineral-bearing shale, and coal—which can be cut by machine. (Longwall mining of coal is discussed in greater detail in coal mining: Underground mining.) In hard rocks, such as the gold- and platinum-bearing reefs of South Africa, the same basic pattern is followed, but in these cases the seam is removed by drilling and blasting, and the ore is scraped along the face to a collection point. Roof support is provided by hydraulic props, wooden packs, and rock or sand fill.

Mining steeply dipping deposits

Many vein-type deposits are not flat-lying but, because of the way they were emplaced or distortions that have taken place, are found in various vertical or near-vertical orientations.

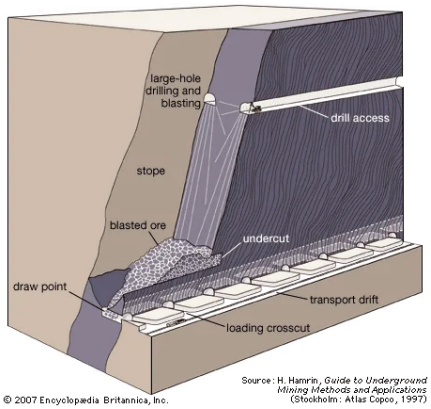
Continued on the next page>>

Often there are sharp boundaries between ore and gangue as will be assumed in this discussion.

Blasthole stoping

When the dip of a deposit is steep (greater than about 55°), ore and waste strong, ore boundaries regular, and the deposit relatively thick, a system called blasthole stoping is used. A drift is driven along the bottom of the ore body, and this is eventually enlarged into the shape of a trough. At the end of the trough, a raise is driven to the drilling level above. This raise is enlarged by blasting into a vertical slot extending across the width of the ore body. From the drilling level, long, parallel blastholes are drilled, typically 100 to 150 mm (about 4 to 6 inches) in diameter. Blasting is then conducted, beginning at the slot; as the miners retreat down the drilling drift, blasting successive slices from the slot, a large room develops. Several techniques are available for extracting blasted ore from the trough bottom.

There are a number of variations on blasthole stoping. In sublevel stoping, shorter blastholes are drilled from sublevels located at shorter vertical intervals along the vertical stope. A fairly typical layout is shown in the figure. In vertical retreat mining the stope does not take the shape of a vertical slot. Instead, the trough serves as a horizontal slot, and only short lengths at the bottoms of the blastholes are charged with explosives, blowing a horizontal slice of ore downward into the trough. Another short section of the blastholes is then charged, and the process is repeated until the upper level has been reached.



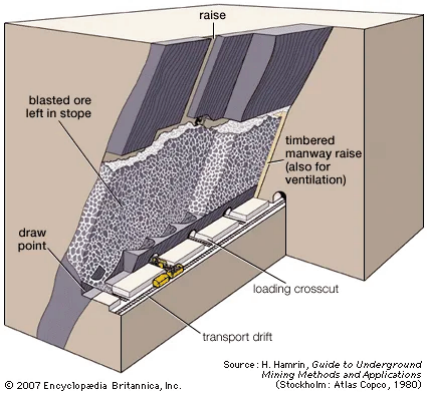
© 2007 Encyclopædia Britannica, Inc.

Source: H. Hamrin, *Guide to Underground Mining Methods and Applications* (Stockholm: Atlas Copco, 1997)

Shrinkage stoping

Shrinkage stoping is used in steeply dipping, relatively narrow ore bodies with regular boundaries. Ore and waste (both the hanging wall and the footwall) should be strong, and the ore should not be affected by storage in the stope.

The miners, working upward off of broken ore, drill blastholes in a slice of intact ore to be mined from the ceiling of the stope, and the holes are charged with explosives. From 30 to 40 percent of the broken ore is withdrawn from the bottom of the stope, and the ore in the slice is blasted down, replacing the volume withdrawn. The miners then reenter the stope and work off the newly blasted ore.



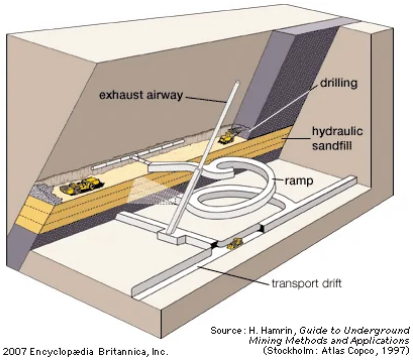
© 2007 Encyclopædia Britannica, Inc.

Source: H. Hamrin, *Guide to Underground Mining Methods and Applications* (Stockholm: Atlas Copco, 1980)

Cut-and-fill mining

This system can be adapted to many different ore body shapes and ground conditions. Together with room-and-pillar mining, it is the most flexible of underground methods. In cut-and-fill mining, the ore is removed in a series of horizontal drifting slices. When each slice is removed, the void is filled (generally with waste material from the mineral-processing plant), and the next slice of ore is mined. In overhand cut-and-fill mining, the most common variation, mining starts at the lower level and works upward. In underhand cut-and-fill mining, work progresses from the top downward. In this latter case cement must be added to the fill to form a strong roof under which to work.

Overhand cut-and-fill mining in a stope with access provided by a ramp is illustrated in the figure. In this particular design raises are constructed in the fill as mining proceeds upward. These perform various functions, such as manways or ore passes, but an alternative would be to load and haul the rock by LHD to an ore pass located in the footwall.



© 2007 Encyclopædia Britannica, Inc.

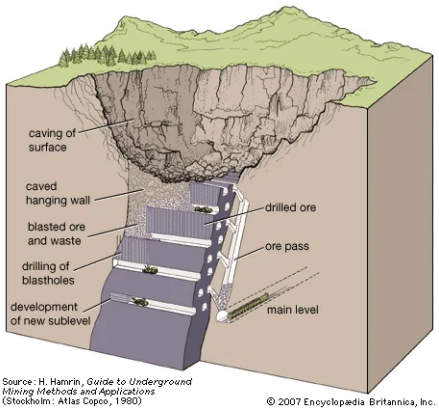
Source: H. Hamrin, *Guide to Underground Mining Methods and Applications* (Stockholm: Atlas Copco, 1997)

Where ground conditions permit, it is possible to use a combination of cut-and-fill mining and sublevel stoping called rill mining. In this method drifts are driven in the ore separated by a slice of ore two or three normal slices high. As in sublevel stoping, vertical slices are removed by longhole drilling and blasting, but, as the slices are extracted, filling is carried out. In this way the amount of open ground is kept small.

Sublevel caving

This method owes the first part of its name to the fact that work is carried out on many intermediate levels (that is, sublevels) between the main levels. The second half of the name derives from the caving of the hanging wall and surface that takes place as ore is removed.

In the transverse sublevel caving system shown in the figure, parallel crosscuts are driven through the ore body on each sublevel from the footwall drift to the hanging wall. Drifts on the next sublevel down are driven in the same way, but they are positioned between those above. Blastholes are then drilled in a fan pattern at regular intervals along the crosscuts. Blasting begins at the hanging wall on the uppermost sublevel. As the broken ore is removed, caved material from the hanging wall and above follows, so that, as more and more ore is drawn, the amount of waste removed with it increases. When the amount of waste reaches a certain level, loading is stopped and the next fan is blasted. For certain minerals such as magnetite, in which ore and waste can be easily and inexpensively separated, dilution of the ore is less of a problem than for other minerals.



Source: H. Hamrin, *Guide to Underground Mining Methods and Applications* (Stockholm: Atlas Copco, 1980)

© 2007 Encyclopædia Britannica, Inc.

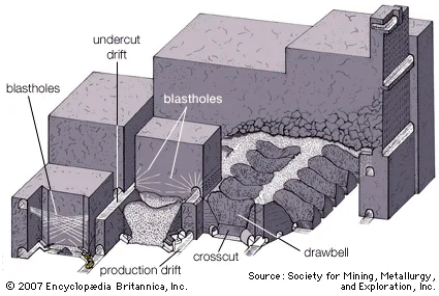
Continued on the next page>>

Mining massive deposits

Several of the methods described above (e.g., blasthole stoping, sublevel caving) can be applied to the extraction of massive deposits, but the method specifically developed for such deposits is called panel/block caving. It is used under the following conditions:

(1) large ore bodies of steep dip,
(2) massive ore bodies of large vertical extension,
(3) rock that will cave and break into manageable fragments, and
(4) surface that permits subsidence.

Two development levels—the production level and, 15 metres (50 feet) higher, the undercut level—are established at some distance (100 to 300 metres [330 to 980 feet]) below the top of the ore. A series of parallel drifts are driven at the undercut level, and the rock between the drifts is blasted. This forms a large horizontal slot that removes the support from the overlying ore so that it caves. In the caving process the ore body breaks into pieces small enough to be easily removed from the bottom troughs, or drawbells, which are located at the production level. LHD machines or similar conveyances transport the ore to ore passes.



As ore is withdrawn from the troughs, caving progresses upward, eventually reaching the surface. Only the ore initially extracted in creating the troughs and undercuts has to be drilled and blasted; the remaining ore is broken as it moves its way downward to the production level. The challenge is obviously to maintain the troughs and draw points during the drawing period.

Source: britannica

Arcadia lithium mine transaction completion expected by second quarter

Australia Stock Exchange-listed mining and exploration junior Prospect Resources has said that the transaction for the sale of Arcadia Lithium Mine is expected to be completed by the second Quarter of 2022.

According to the company, Prospect shareholders voted overwhelmingly in favour of the transaction at an Extraordinary General Meeting held on 25 February 2022 and completion of the transaction is expected by early Q2 2022.

Hoayou has been given the nod by the Chinese government to complete the transaction.

Huayou has notified Prospect that it has obtained the outbound investment certificate for the Transaction from the Ministry of Commerce of the People's Republic of China (MOFCOM) required for the completion of the Transaction.

Application for filing and registration by the National Development and Reform Commission (NDRC) has been submitted by Huayou. Once completing the filing and registration by NDRC, Huayou will apply for the relevant exchange registrations from a qualified bank supervised by the State Administration of Foreign Exchange (SAFE) and these confirmations are expected to be received in due course.

As announced in December the Transaction for the sale of Prospect's 87% interest in the Arcadia Lithium Project (Arcadia) and associated intercompany loan to Huayou, for approximately US$377.8 million (A$528.4 million) in upfront cash consideration will see the Chinese firm controlling 100 per cent of the Arcadia lithium mine.

Prospect Resources announced that the application for filing and registration by the National Development and Reform Commission (NDRC) has been submitted by Huayou. Once completing the filing and registration by NDRC, Huayou will apply for the relevant exchange registrations from a qualified bank supervised by the State Administration of Foreign Exchange (SAFE) and these confirmations are expected to be received in due course.

Prospect Resources Limited announced that it is going to use up to US$60 million in proceeds from the sale of the Arcadia Lithium mine to fund the Step Aside lithium project and Other battery metal claims in Zimbabwe.

Prospect Resources recently executed Binding agreements for the sale of the Arcadia Lithium Project, to Huayou International Mining (Hong Kong) Limited for approximately US$377.8 million ($528.4 million) in upfront cash consideration.

According to the company, subject to transaction completion, and following payment of requisite Zimbabwean taxes and transaction fees, Prospect expects to distribute approximately $430 – 450 million to shareholders and intends to retain a cash balance of between $30 and $60 million to progress other battery metals projects in Zimbabwe and pursue new battery and electrification metals growth opportunities globally.

"Prospect plans to retain a cash balance of $30 – 60 million4 ($0.06 - $0.13/share2) to progress its other battery metals projects in Zimbabwe and/or pursue other growth projects in the battery and electrification metals space globally," the company said.

Currently, Prospect Resources assets are Step Aside Project in Zimbabwe and Other battery metal tenements also in Zimbabwe.

Step Aside comprises ~140 hectares of claims located in the Harare Greenstone Belt, west of the Mashonganyika Fault, and approximately 8 kilometres north of Arcadia Lithium mine.

The potential of the area was confirmed by the positive regional stream and soil sample geochemistry results and four mineralized pegmatites have been mapped from east to west at the surface.

Observations made at Arcadia indicate that several parallel narrow pegmatites can coalesce into thicker pegmatites down dip.
The exploration programme is underway with the commencement of rock chip sampling. If successful, to be followed up by trenching alongside RC drilling, to help with determining the sub-surface strike extensions, providing greater detail as to the thickness and strike length of the underlying pegmatite.

Parly hopes Mines bill tabling, consultations kick start in June



Mines Parliamentary Portfolio Committee on a gold fact finding mission at Blanket Mine

The Parliamentary Portfolio on Mines and Mining Development is optimistic that crucial processes leading to the approval of the new Mines and Minerals bill by the President will kick start in June.

Rudairo Mapuranga

President Emmerson Dambudzo Mnangagwa speaking at the inaugural 2021 Mining Industry Sector Awards at State House last month recommended that the Mines Minister speeds up the process of amending the Mines and Minerals Act and said that the snail's pace at which the amendment of the Mines and Minerals Act has been moving is against the work ethics of the Second Republic.

"The amendment of the Mining and Minerals act has rather taken too long Hon Minister (Winston Chitando), and this is against the expectation and work ethics of the second Republic. The amendment process must be speeded up to capture the interest of the various mining stakeholders and best practices in the sector," the President said.

The President also encouraged the Parliamentary Portfolio Committee on Mines and Mining Development Chairperson to push hard for the tabling of the bill. He also reinvigorated the mining industry to remain compliant with the current Mines and Minerals act.

Speaking to Mining Zimbabwe after the inaugural Mining Awards at the State House, Parliamentary Portfolio Committee on Mines and Mining Development Chairperson Hon Edmond Mkaratigwa said parliament was petitioning on why the bill remains outstanding. He said that the parliament was sure that the process of tabling the bill in Parliament will start in June with the committee expected to carry out consultations afterwards.

"We want to do a workshop with the Ministry of Mines and institutions under them regarding the finalisation of that bill so that it can be tabled, we want to come up with a roadmap. We have a petition on why the Mines and Minerals bill remains outstanding so as we dispose of that petition, I'm sure the bill will find itself into Parliament and as soon as the Minister tables it in parliament as a committee we will then carry out consultation throughout the country. We are hoping that by June we will be sailing." Mkaratigwa said.

There has been public outcry from small scale miners and peggers who feel that they were being sidelined from the proceedings of the Mines and Minerals bill however, the Minister of Justice and Parliamentary Affairs Hon Ziyambi Ziyambi however clarified that stakeholders were not at all sidelined but the drafters of the bill were following the law and would not do so as it would undermine the rule of law.

"The bill once it goes through the necessary cabinet processes will be gazetted and all Zimbabweans will be called by Parliament to make submissions on it.

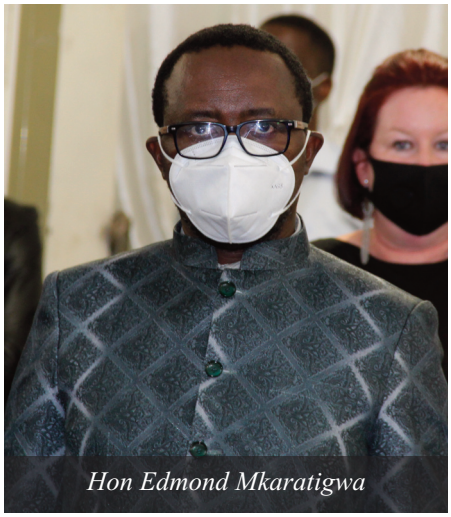
"As the mining sector, you can then hold a workshop if you so wish where my drafters and mines officials can attend to hear your input which can be documented and included in the portfolio committee on mines report for presentation to Parliament. So hold your horses and allow the Mines Ministry and drafters to finish. I know it has taken long and it's frustrating," Ziyambi said.

Hon Mkaratigwa said the Bill was not yet back to Parliament from which the general public will be consulted therefore making it difficult if not impossible for parliament to consult all stakeholders.

I have reiterated time and again that consultations are still part of the law-making process of the Parliament of Zimbabwe as provided for in the Constitution of Zimbabwe.

"All views to the contrary or insinuating that the process has already been passed, are not being honest to the realities which I trust they know very well.

"Our plan as already communicated is to have an all stakeholders conference and that remains as advised. If there is any change, the different mining stakeholders will be advised and that same applies when we have conducted consultations, adequate notice is always provided.



Hon Edmond Mkaratigwa

www.zimlowbeds.co.zw

ZIM LOWBEDS



Custom transport solutions

Plant & Machinery Equipment

We are the ultimate providers of transport solutions for abornomal equipment or machinery to the Mining, Construction, Civil Works, Agriculture and Road Maintence sectors.







Contact Us

1377 Ambleside Road, Aspindale, Harare
quote@zimlowbeds.co.zw
+263 7 19529090 /+263 7 13296449
+263 864 4307377

HOWO

TRUCK SALES & SPARES



- Engine Parts
- Chassis Parts
- Cabin Parts
- Gearbox Parts

Tel: 0864 429 6517 Cell: 0719 529 082 / 0719 529 081

12 Coventry Road Workington

69 Steven Drive Msasa

sales@howo.co.zw

www.howo.co.zw



MITSUBISHI MOTORS
Drive your Ambition

The All New Mitsubishi Triton Now Available at ZIMOCO

KEY FEATURES

2.4L DI-DC 4x4
6 Speed Automatic Transmission
Super Select II 4WD System
Electronic Off-Road Assistance
Hill Descent Control
Rear Diff Lock

18" Alloy Wheels
Rear View Camera
Touch Screen Radio
Leather Seats
First Free Service at 10,000kms
Warranty - 3 years/100,000kms

ZIMOCO
SPECIALISED SERVICE FOR SPECIAL BRANDS

SAM LEVYS VILLAGE SHOWROOM:
Shop 111, Sam Levy's Village, Borrowdale, Harare
Tel: (+263) 242 885729-30 or 885748-50
Mobile: (+263) 772 130 253
enquiries@zimoco.co.zw | www.zimoco.co.zw