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Mining ZIMBABWE

ISSUE 64 2023

TYREZIM Opens its new Commercial Fitment Centre

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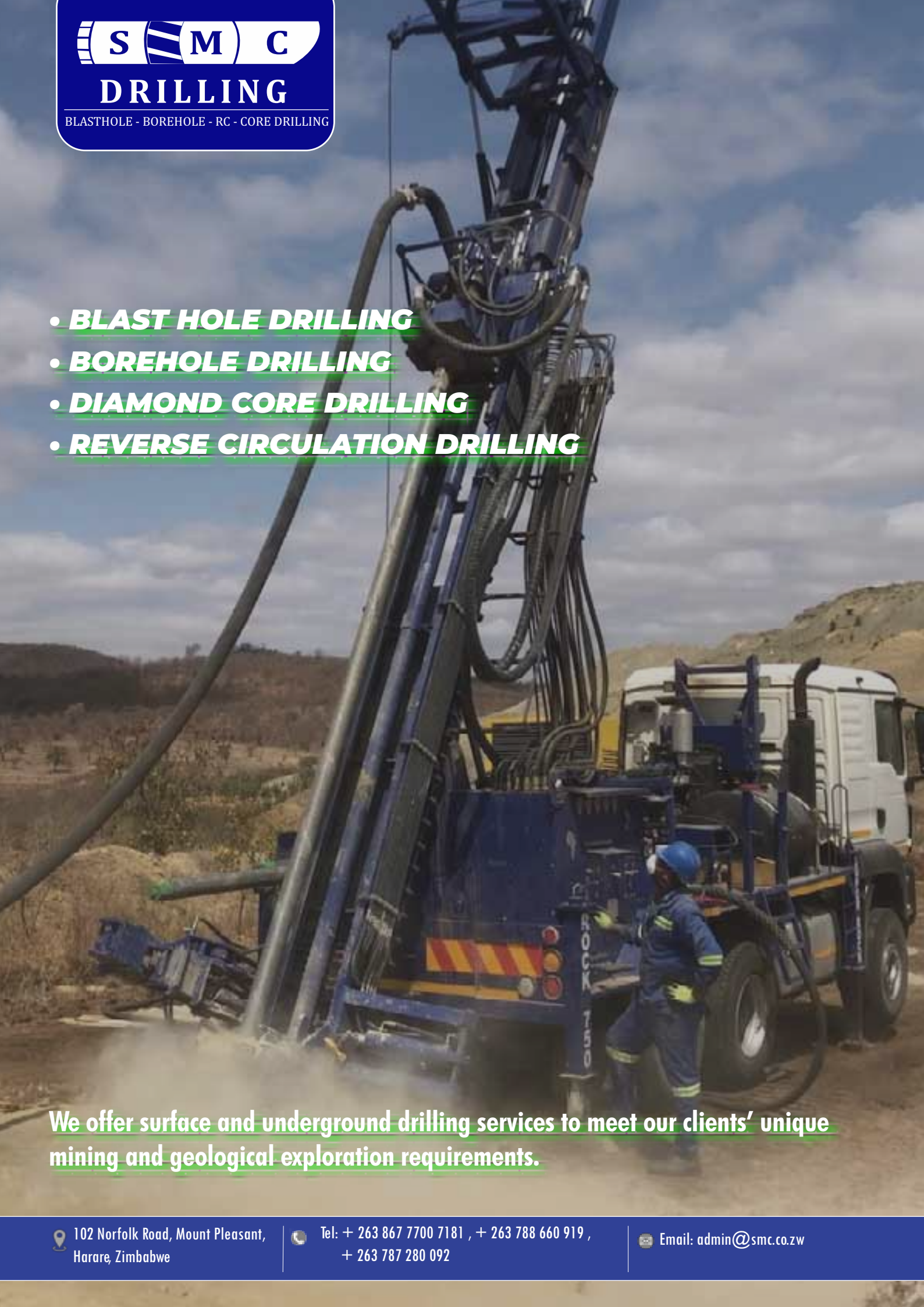
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ABOUT PUBLICATION

Mining Zimbabwe is the premier source of unfilteredZimbabwe 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

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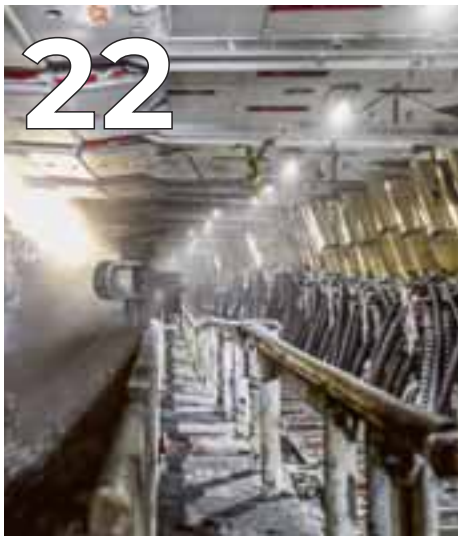

Always Make Every Moment Count

Tongai Muzenda

THE CLEAR PERSPECTIVE

On 26 April 2023, the nation was shocked and saddened to learn about the passing of Tongai Muzenda, the Minerals Marketing Corporation of Zimbabwe (MMCZ) General Manager who perished in a fatal car accident. It's hard to believe that he's gone, leaving behind so many people who loved him and admired his drive and determination.

Tongai was a free spirit who was accomodating and would not hesitate to respond to questions about the happenings at the Minerals Marketing Authority of Zimbabwe.

He was a gifted businessman who already had several successful ventures under his belt at just 28 years old. He was a true inspiration to many young people who looked up to him as a role model of what was possible with hard work and dedication.

Tongai believed that true success wasn't just about making money, but also about making a difference in the lives of others.

In him, I had one of the best interviews which was described at "The best i have ever read by an editor from one of the most prominent Foreign Mining publications.

The news of his sudden passing has been a shock not just for us at Mining Zimbabwe but to many.

The outpouring of grief and support from the community has been a testament to how much he was loved and respected. His legacy will live on through the many lives he touched and the impact he made in the Mining world.

I take this moment to celebrate the life of a truly remarkable man. Tongai's passing is a reminder of how fragile life can be and how important it is to make every moment count.

Rest in peace mukoma Tongai. Your light will continue to shine bright in the many lives you touched.

I hope you enjoy this issue jam packed with safety issues in the Mining Industry.

Remember you can write to us or submit contributions
on email: info@miningzimbabwe.com or WhatsApp: +263 242 777728.

ZIMPLATS Q1 production update

ZIMPLATS' Mined tonnage decreased by 4% from the prior quarter, mainly due to a decrease in number of operating days, from 92 in the prior quarter to 90.

The prior year's performance was impacted by lower availability of trackless mining equipment at Mupfuti Mine, which has since been addressed.

Ore milled decreased by 3% from the prior quarter to 1.88 million tonnes, due to the decreased number of operating days in the period as well as the power outages suffered in the final month of the quarter. The year-on-year increase in milled volumes was due to the inclusion of tonnes milled at Ngezi's third concentrator plant, which was commissioned in September 2022.

6E head grade decreased by 3% from the prior quarter and was 4% lower year-on-year, largely due to an increase in tonnes milled from lower-grade stockpiles, dilution from mining across geological structures, and mining larger construction excavations.

6E metal in final product decreased by 8% from the prior quarter, largely because of lower 6E head grade, 6E concentrator recoveries and milled volumes, each of which declined by 3%. Year-on-year 6E metal in final product remained at similar levels as the 10% increase in tonnes milled was offset by lower head grades and recoveries, and the prior quarter benefitted from a larger release of concentrate inventory.

Financial

Total operating cash costs decreased by 5% from the prior quarter, mainly due to lower production volumes. A total of US$4.6 million was transferred from operating costs — 2.5% of tonnes milled was taken from the stockpile and some concentrate inventory accumulated during the prior quarter was smelted in the period. As a result, the gross cash cost of metal produced decreased by 5% compared to the prior quarter. 6E unit costs increased by 4% to US$869/oz from US$839/oz in the prior quarter.

Year-on-year total operating costs increased by 16% mainly due to inflation, 7% increase in volumes mined and 10% increase in tonnes milled. The benefit of mined and milled volumes on unit costs was offset by decreases in 6E head grade and recoveries, resulting in a year-on-year unit cost increase of 16%.

Zulu Lithium Production Update

Premier African Minerals Limited provided a further update on progress at Zulu Lithium and Tantalum Project.

George Roach, CEO commented, "Subsequent to our update of 12 April 2023, Premier is pleased to provide this additional progress report. Following commissioning of all plant components, work on optimisation of the plant and process control procedures to achieve nameplate throughput continues.

The plant has demonstrated its ability to float Mica/Lepidolite rich concentrates and Spodumene. Open pit mining operations continue and as the pit expands, we are encountering less weathered ore than was originally anticipated and seeing an ore body that is conforming to the predicted internal geological mining model. This is particularly important and will add confidence to future operating guidance.

As announced on the 29 March 2023, cashflow is constrained at Zulu, this is expected to be short term and Premier will implement applicable financing measures to deal with this in the lead up to first revenues from sale of concentrates in the coming weeks. Further near-term updates will follow.

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With Deepest Sympathy

It is with deep sadness that Mining Zimbabwe extends our heartfelt condolences to the Muzenda family, the Mining Community and the nation of Zimbabwe upon the passing of Mineral Marketing Corporation of Zimbabwe (MMCZ) General Manager Tongai Muzenda. The Mining Industry industry has suffered a great loss with the departure of such a passionate and inspiring figure.

Tongai Muzenda was not only a visionary leader, but also a mentor, a friend, and a legacy-leaver. His unwavering commitment to excellence and innovation has left an indelible mark in the Mining world and beyond. He led with generosity and compassion, empowering countless individuals and organizations to achieve their fullest potential.

His absence will be keenly felt, but his legacy will continue to inspire us for generations to come. REST IN PEACE MUKOMA TONGAI

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P.P.E & its Proper Use In Mining

Mining is a very hazardous occupation. It involves countless risks that can pose serious threats to the life and well-being of the workers involved. The mining industry can be challenging and dangerous, and tasks might include drilling, blasting, handling materials, and operating machinery. For this reason, personal protective equipment (PPE) is crucial to ensure the safety of workers.

PPE is equipment designed to protect workers from hazards and risks while performing their duties. Different protective equipment is required for different types of mining activities. This equipment is commonly known as PPE.

PPE for Mining:

There are multiple types of PPE that miners require depending upon the type of mine they are working in. Let's look at the specifics.

Head Protection: Hard hats were first used in mining in the 1930s. These days, modern hard hats have suspension systems that provide stability and comfort. They are moulded from high-density polyethylene that's resistant to impact and penetration from falling objects.

Eye Protection: Some of the most common eye hazards in mining are dust, debris, and particles that could fly into the eyes. That's why eye protection is so important. Safety goggles, face shields, and safety glasses can all protect your eyes from these types of hazards.

Respiratory Protection: Mining activities expose workers to airborne hazards like dust, fumes, and vapors. For this reason, respiratory protection such as dust masks and respirators must be used to protect workers.

Ear Protection: Miners often work in environments where the noise level is high. Excessive noise levels can cause hearing loss and tinnitus. Ear plugs and earmuffs are two types of ear protection that can be used to control workplace noise exposure.

Hand Protection: Miners frequently use hand tools or machines that may cause injuries such as cuts, punctures, and abrasions. Gloves made of leather, synthetic materials, or rubber can offer protection against these risks.

Foot Protection: Miners work on uneven surfaces, and there's always the danger of falling objects. The right footwear must be worn in hazardous mining environments to ensure worker safety. Steel-toed boots with slip-resistant soles and ankle support are the most commonly used footwear for protection in mining.

How to Properly Use PPE in Mining:

Simply wearing PPE is not enough; it must be worn correctly to provide workers with optimal protection. Here are the steps to follow when using PPE on a mining site:

PPE should be inspected and fitted appropriately to ensure that it provides sufficient coverage and protection.

Ensure that workers understand how to correctly use each type of PPE correctly. Training and adequate information can be helpful in this regard.

Workers should wear each piece of PPE needed for the task at hand; often, a combination of PPE will be necessary.

Before and after each use, miners should examine their equipment for signs of wear and tear or damage, particularly those exposed to heavy workloads. Any damaged PPE should be replaced immediately.

When using PPE for extended periods, regular breaks must be taken to reduce any potential harm.

Conclusion:

The mining industry is an essential sector worldwide that poses great risk to the workers involved. That's why it's essential to have adequate PPE equipment that provides sufficient protection on mining sites. When used properly, PPE can significantly reduce the likelihood of accidents, injuries, or fatalities while mining. Therefore, it's crucial that employees are educated on the correct use and importance of each PPE item needed to ensure their safety. Remember, PPE is only effective if it's worn correctly, and if workers are encouraged to use it whenever needed.

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Emergency

Preparedness and response plans for an underground mining operation

Emergency preparedness and response plans are critical for mining operations in Zimbabwe. Especially in underground mines where workers are working in confined spaces and sometimes in hazardous conditions. These plans are designed to minimize the risks to workers and to ensure that a disaster can be quickly and effectively addressed.

To begin with, mining companies should have an emergency management team responsible for developing and implementing the emergency preparedness and response plan. This team should consist of members with specialized knowledge and experience in emergency and rescue operations, disaster management, and occupational health and safety practices.

The emergency preparedness and response plan should be based on a comprehensive risk assessment that identifies specific risks, hazards, and potential emergencies that could arise in the underground mining operation. The plan should also include procedures to be followed in case of fire, explosion, cave-in, flooding, equipment failure, or any other emergency situation.

The emergency preparedness and response plan should also define the roles and responsibilities of different individuals and teams, including mine rescue teams, firefighting teams, and medical personnel. It's also important to have a communication plan in place so that all parties involved can be informed of the emergency situation and take the necessary actions.

In addition, all workers in the underground mining operation should be trained on emergency procedures, including using emergency equipment such as self-rescue devices and first aid kits. Regular drills and simulations should also be conducted to ensure that workers are adequately prepared for a real emergency situation.

It's also important to have well-equipped emergency response stations strategically located within the mine. These stations should be stocked with essential equipment, including medical supplies, firefighting equipment, and rescue gear.

Finally, mining companies in Zimbabwe should constantly review and update their emergency preparedness and response plans to reflect changes in the mine operations and to incorporate new technologies and best practices. It's essential to ensure that the emergency preparedness and response plans are always up-to-date and relevant to the specific risks and hazards associated with underground mining operations.

GOALS

· To ensure the safety of all the workers in an underground mining operation.
· To minimize the risk of emergencies and disasters from occurring.
· To respond effectively and efficiently in case emergencies and disasters occur.
· To restore normalcy as quickly as possible.

Preparedness: Establish an Emergency Response Team

There should be an established Emergency Response Team with clearly defined roles and responsibilities. The team should include:

- ***Emergency Coordinators***
- ***First responders***
- ***Rescue teams***
- ***Medical personnel***

Develop an Emergency Response Plan

Develop an Emergency Response Plan that includes preventive measures, identification of hazards and risks, and the necessary responses in case of an emergency.

Conduct regular training and drills

Conduct regular training and drills to prepare the Emergency Response Team and all workers on what to do in case of an emergency.

Assure equipment and resources availability

Ensure that all the necessary equipment and resources are available, including the first aid supplies, rescue equipment, and communication devices.

RESPONSE:

Evacuate workers

In case of an emergency, evacuate all workers immediately to a designated safe area.

Notify the Emergency Response Team

Notify the Emergency Response Team immediately and provide them with all the necessary information about the situation.

Assess the situation

Assess the situation and determine the necessary response. This could involve rescue operations, medical attention, or communication with external emergency response teams.

Control the situation

Control the situation to prevent further harm or damage. This could include shutting down equipment or isolating the affected area.

Coordinate the response

Coordinate the response with external emergency response teams if necessary.

RECOVERY:

Provide support

Provide support to affected workers, including medical attention and counselling.

Conduct investigations

Conduct investigations to identify the cause of the emergency and develop measures to prevent future occurrences.

Restore normalcy

Restore normalcy by repairing any damage caused by the emergency and resuming mining operations.

In conclusion, having a solid emergency preparedness and response plan is essential for any underground mining operation in Zimbabwe. These plans should be designed, implemented, and regularly updated by specialized emergency management teams, and all workers in the operation should be well trained on the procedures to follow in case of an emergency. With adequate planning and preparedness, disasters can be minimized or avoided altogether, and workers can be better protected in the event of an emergency.

TyreZim opens their new commercial fitment centre – for world class fleet management

On the 5th of December TyreZim opened their brand new commercial fitment centre providing a full world class tyre management service. It's the first of its kind offering superior services to the mining, agricultural, industrial and commercial transport industries.

It's situated on the corner of Douglas Road and Charing Cross in Workington adjacent to the new Driptech branch. TyreZim has another branch fairly close by in Coventry Road, but while the Coventry Road focuses on supply and services for smaller passenger vehicles the Douglas Road branch concentrates on heavy vehicles and bigger fleets.

The new branch offers tyre sales as well as fitting, tyre changing, wheel balancing and alignment services. TyreZim has invested in the latest state of the art machinery produced by Manatec – leaders in the field of tyre management equipment.

In addition, they have a tyre repair service specifically aimed at heavy duty tyres used in the mining and agricultural industries where tyres are often cut or damaged – especially on the walls of the tyre – during normal day to day operations. The repair service is a fraction of the cost of a new tyre and can extend the tyre's life significantly. Tyre repairs carry a warrantee of 500 hours, although the tyres usually last a lot longer before needing to be replaced.

TYREZIM
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TyreZim has a laser etching machine which can engrave information onto any tyre. It's a unique facility that can mark your tyres with your corporate logo to prevent tyres being swapped out for other more used tyres. You can record just about any other relevant information – the date the tyre was fitted, the truck mileage when fitted, its position on the truck (if you want to rotate your tyres), the truck's registration number, the driver's name or any other information you need.

TyreZim also provides a complete world class tyre management service and reports on tyre usage. They can provide information for customers that include unusual or irregular tyre wear and provide solutions for the problem. The reports can indicate which drivers are abusing the tyres and which are driving more carefully and efficiently. The records also provide historical information so fleet owners can track changes in tyre wear and usage. The record keeping and reports service alone can provide a significant saving for fleet owners.

The entrance to the new branch is along Douglas Road – clearly marked by flags and signage along Charing Cross. The facility has been set up so that heavy vehicles enter from Douglas Road – proceed through the wash bay initially, then into the workshop for fitting, balancing and alignment. There are pits so technicians can work underneath the heavy vehicles for axle alignment. The layout and the equipment ensures that vehicles can be processed quickly saving customers time and money.

Clients can make use of all the features of the services on offer, or they can select to use individual parts of the full range as needed.
Once processed vehicles then exit onto Charing Cross without having to manoeuvre or reverse. It's all been carefully planned and thought out by TyreZim's management, Bob and Tom Henson, working in conjunction with Stu Van de Ruit from Agristructures, to come up with the final design that's efficient and cost effective. Incidentally, it also looks like a well-organized, professional and clean workshop facility.

The space for the new workshop is sandwiched between some existing structures. The area was basically empty apart from two old sheds which were demolished to make way for the new structure.

To the left of the entrance is an existing building with a saw-toothed roof. TyreZim and Agristructures spent a while working out the alignment of the new roof for the workshop and how to accommodate the existing roof. The outcome is a high Chromadek roof that soars over the saw toothed roof with a roof pitch that runs parallel to the existing wall and the Durawall boundary. It extends over the saw toothed structure with gaps between the peaks of the saw tooth roof to allow for natural ventilation and keep the workshop cool in summer. The new roof has translucent skylights in order to utilise natural light during the day. To stop the rain coming in through the gaps the new roof extends a few meters over the saw tooth roof to provide some protection. The new roof is so extensive that it captures hundreds of litres of rain water during a storm necessitating the installation of extra-large gutters and downpipes which drain into the municipal storm water drainage.

At the end of the workshop – opposite the main vehicle entrance – an existing single storey structure was extended by about a third to enclose TyreZim's premises and separate it from the adjacent property. The extended structure houses administration offices and ablutions.

TYREZIM
For Tyres You Can Trust.

The workshop is logically set out so vehicles can be processed stage by stage. It's open, light, airy and cool and ultra-modern. While Agristructures supplied the steel framework and the exterior grey Chromadek wall cladding to help blend the TyreZim workshop with the adjacent buildings in a seamless manner.
Shepperton Investments provided the extra strong concrete floor slab and other building work. Claude Neon supplied the exterior signage so TyreZim is unmissable from both Charing Cross and Douglas Road.

For more information, visit the new workshop or call 08677 200 300 or visit their website: www.tyrezim.com

Prevention of falls from heights or into excavations in mining operations

Falls from heights or into excavations are one of the most common accidents that occur in mining operations. These accidents can cause serious injuries, disabilities, and even death. Therefore, it is crucial for mining companies to implement effective prevention measures to minimize the risk of accidents in the workplace.

One of the most effective ways to prevent falls from heights is by providing proper training to workers. Workers should be trained on the safe use of ladders, scaffolds, and other equipment used for working at heights. The training must include the proper inspection, setup, and use of these types of equipment. Workers should also receive instruction on how to properly wear and use personal protective equipment, such as harnesses.

Another effective way to prevent falls from heights is by providing barrier protection. This can be achieved by installing guard-rails, barriers, and screens around exposed edges and openings. This type of protection provides a physical barrier between workers and a potential fall hazard.

In addition to preventing falls from heights, it is equally important to prevent falls into excavations. Workers should be trained to recognize the hazards associated with excavations and how to work safely around them. Excavations should be properly secured with barriers and warning signs to alert workers to the potential hazard.

Mining companies can also implement effective safety policies and procedures to prevent falls. This includes conducting regular safety inspections and audits, addressing hazards promptly, and enforcing safety regulations. Workers should be encouraged to report any safety concerns and incidents to their supervisors immediately.

Technology can also play a significant role in preventing falls from heights or into excavations. For example, many mining companies use drones to perform safety inspections and surveys of mine sites. This allows for a more detailed and efficient assessment of potential hazards and can help identify areas that require additional safety measures.

Overall, preventing falls from heights or into excavations requires a comprehensive approach that includes proper training, barrier protection, effective safety policies and procedures, and the use of technology. By implementing these measures, mining companies can ensure the safety of their workers and prevent the occurrence of serious accidents in the workplace.

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Safety procedures for working in confined spaces

Confined spaces can be extremely hazardous places to work, and all workers who enter confined spaces must be fully trained and competent in appropriate safety procedures. Confined spaces are defined as areas which have limited access and egress, with a high risk of injury or death due to hazardous-materials or lack of oxygen. Examples include storage tanks, sewers, and tunnels.

To ensure that workers are kept safe when entering confined spaces, it is essential to have a thorough safety plan in place. This includes conducting a risk assessment of the confined space before entry, ensuring that all workers are trained in the relevant safety procedures, and providing them with the necessary personal protective equipment (PPE).

One of the most important safety procedures for working in confined spaces is to ensure that proper ventilation is in place. This is essential to prevent the build-up of hazardous gases, which can quickly become lethal. Workers should be equipped with gas detectors to monitor the atmosphere and ensure that the air remains safe to breathe. If there is any doubt about the safety of the air, workers should not enter the confined space.

Another essential safety procedure is to ensure that there is a way of communicating with workers inside the confined space. This could be through the use of radios or other communication devices, or by having a designated safety watch stationed outside the space. It is also essential to have an emergency response plan in place, in case of an accident or other unexpected event.

Before entering a confined space, workers should be fully trained in the use of the relevant PPE, which may include protective clothing, helmets, and breathing apparatus. They should also be trained in the use of any equipment specific to the job, such as winches or hoists.

When working in a confined space, it is important to work methodically and follow established safety procedures at all times. This includes taking regular breaks to prevent fatigue, ensuring that all equipment is properly secured before use, and following established entry and exit procedures.

Finally, it is important to regularly review and update safety procedures for working in confined spaces, to ensure that they remain up-to-date and effective. This might include reviewing risk assessments, updating emergency response plans, and providing additional training for workers as required.

In conclusion, working in confined spaces requires a high degree of care, attention, and planning. By following established safety procedures and ensuring that workers are well-trained and competent, it is possible to minimize the risks associated with working in these hazardous areas. Ultimately, the safety of workers must always be the top priority, and all efforts should be made to ensure that they remain safe and healthy while on the job.

TEAMVIEW

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Fire prevention and suppression techniques at mining operations

Mining operations involve several fire hazards that pose a considerable risk to the environment, equipment, and employee safety. Fire prevention and suppression are crucial techniques to reduce the risk of fire at mining sites, and this article explores the best practices involved.

Fire Prevention Techniques

Preventing fires requires a proactive approach that involves identifying potential risks and taking steps to eliminate them. The following are some of the critical measures to keep mines safe from fire accidents.

Conduct regular inspections and maintenance

The mining equipment, machinery, and electrical systems should undergo regular inspections and maintenance checks. Inspections can identify worn-out equipment, leaking pipes, faulty wiring, or any other factors that could lead to an eventual fire.

Proper storage and handling of flammable materials

Mining operations require the storage of flammable liquids, oil, and fuel. These materials can ignite under specific conditions, leading to a fire accident. It is necessary to store the hazardous materials in a secure location, properly labeled, away from ignition sources. Personnel should follow the right procedures when handling flammable chemicals to minimize the risk of spillage or ignition.

Training and educating employees

Providing fire education and training to employees is a vital aspect of fire prevention. The training should include identifying fire hazards, using fire extinguishers, emergency evacuation procedures, and the importance of reporting potential hazards.

Fire Suppression Techniques

Despite preventive measures, fires can still occur at mining operations. The following are some of the best suppression techniques:

Fire extinguishers

Portable fire extinguishers are essential equipment to put out small fires. Mines should have fire extinguishers located in strategic locations seen by everybody. Employees should receive training on the types of fire extinguishers and how to use them.

Fire sprinkler systems

A fire sprinkler system helps to detect and put out fires automatically, reducing damage and injuries. Incorporating a fire suppression system within a mining operation facility is a valuable investment.

Water cannons and foam systems

Water cannons and foam systems are designed to put out large-scale fires. The mining sector employs these systems to mitigate large fires that may occur in significant mining structures. The systems douse the fire using specialized agents such as water or foam, hindering fuel access to the fire, and eventually putting it out.

Final Thoughts

Preventing fires and suppressing them is a critical aspect of mining operations that demands attention. Successful fire prevention and suppression programs require a partnership between employees and management, from identifying potential hazards, and implementing proactive measures to responding to a fire emergency. Mining operations must establish and adhere to measures that help prevent and mitigate risks associated with fires.

By following the above techniques, mining operations can limit the chances of a fire outbreak, minimize loss of equipment and property, and keep employees safe.

Hazard identification and risk assessment procedures for underground and surface mining

Mining operations can pose various risks to workers and the surrounding environment. Therefore, it is essential to implement effective hazard identification and risk assessment procedures in both underground and surface mining.

Hazard identification involves identifying potential hazards that may arise during mining operations. Hazards can be electrical, mechanical, chemical, or physical in nature. Some of the common hazards associated with mining include:

Falls: Workers may fall from heights due to uneven terrain, unstable structures, or lack of appropriate fall protection gear.

Biological hazards: Workers may be exposed to infectious agents, dust, or other pollutants that cause respiratory problems, skin allergies, or other health issues.

Chemical hazards: Workers may be exposed to chemicals, such as explosives or toxic gases, which can cause respiratory problems or skin irritation.

Noise: Mining equipment and machines can produce high levels of noise, which can lead to hearing loss over time.

Risk assessment involves identifying the consequences of potential hazards and evaluating their likelihood of occurrence. The goal is to determine the risks involved and develop control measures that minimize the severity or frequency of the hazards. The following are some of the risk assessment procedures that can be implemented:

Site inspection: A thorough inspection of the mining site is essential to identify potential hazards, such as unstable ground, rock falls, or flooding.

Hazard mapping: This involves identifying the location and nature of hazards on a map and assessing their likelihood of occurrence.

Risk matrix: This is a tool used to assess the severity and likelihood of potential hazards. It involves assigning a score to each hazard based on its severity and probability of occurrence.

Job safety analysis: This involves evaluating the risks associated with each task performed during mining operations. It can help identify potential hazards and develop control measures.

Once the hazards have been identified and assessed, control measures should be implemented to minimize the risk of injury or damage. These control measures can include:

Training: Workers should receive adequate training on how to operate equipment safely and how to respond to emergencies.

Personal protective equipment: Workers should wear appropriate personal protective equipment, such as hard hats, gloves, and safety glasses.

Engineering controls: This involves modifying equipment or work processes to reduce the risk of injury or damage.

Administrative controls: This includes developing policies and procedures that outline safe work practices, such as job rotation or regular maintenance of equipment.

In conclusion, hazard identification and risk assessment procedures are essential to ensure the safety of workers and the surrounding environment during mining operations. By identifying potential hazards and implementing control measures, mining companies can minimize the risk of injury or damage and ensure a safe work environment.

Electrical safety regulations and procedures for an underground mining operation

Electrical safety regulations and procedures are important aspects of any mining operation, especially one that takes place underground.

These regulations and procedures are put in place to ensure the safety of workers and prevent electrical accidents, which can cause injuries, fatalities, or damage to equipment. In the context of an underground mining operation, electrical safety is even more crucial due to the confined spaces, exposure to hazardous gases and liquids, and the use of heavy machinery. Here are some of the key electrical safety regulations and procedures for an underground mining operation:

Equipment standards:

Any electrical equipment that is used underground must comply with specific industry and government standards. This includes the installation, maintenance, and repair of electrical equipment such as transformers, switchgear, cables, and motors. These standards ensure that the equipment is designed and tested to withstand the harsh conditions of an underground mining environment.

Electrical isolation:

Electrical isolation is the process of disconnecting electrical equipment from the power source during maintenance or repair work. This includes locking out power sources and de-energizing equipment to prevent accidental start-up or electrical shock. Workers must follow proper isolation procedures and verify that the equipment is safely isolated before beginning any work.

Grounding:

Grounding is the process of providing a safe path for electrical current to travel to the earth in case of a fault. In underground mining operations, grounding is essential for equipment safety, especially where there is a risk of electric shock or explosion due to the presence of flammable gases or liquids. Proper grounding procedures must be followed during the installation and maintenance of electrical equipment.

Hazardous area classification:

Underground mining environments often contain hazardous gases or liquids that can ignite or explode in the presence of electricity. Hazardous area classification involves identifying and marking areas of the mine where electrical equipment and wiring must meet specific safety standards to prevent accidents. Workers must be trained to recognize hazardous areas and follow safety procedures when working in these areas.

Risk assessment:

Risk assessment is a critical aspect of electrical safety in the underground mining industry. This involves evaluating the potential hazards associated with electrical equipment, identifying the risks to workers, and implementing safety measures to reduce the risk of electrical accidents. Risk assessments must be conducted regularly to ensure that all safety procedures are up to date and effective.

Training and awareness:

Perhaps the most crucial aspect of electrical safety in underground mining operations is providing workers with proper training and awareness. Workers must be aware of the hazards associated with electrical equipment, know how to recognize and respond to potential hazards, and understand the importance of following safety procedures. Regular training sessions should be conducted to ensure that workers remain aware of electrical safety regulations and procedures.

In conclusion, electrical safety regulations and procedures are essential for preventing electrical accidents in underground mining operations. Employers must ensure that all equipment meets relevant safety standards, and workers must be trained to follow proper safety procedures, including proper isolation, grounding, and hazard identification. By ensuring that electrical safety measures are in place, underground mining operations can significantly reduce the risk of electrical accidents and ensure a safe working environment for all employees.

10 WORST MINING ACCIDENTS IN ZIMBABWE HISTORY

Mining accidents in Zimbabwe have occurred in various forms since the earliest days of mining in the country. Over the years, many miners have lost their lives in these accidents due to a variety of factors, including negligence, inadequate safety measures, and natural disasters. Here are the top 10 worst mining accidents in Zimbabwe:

Hwange coal disaster of 1972:

This was the worst mining disaster in Zimbabwean history, with over 400 miners losing their lives in a coal mine explosion. The incident occurred on June 6, 1972, at the Hwange Colliery Company's Number Two mine.

Battlefields mine collapse of 2019

About 24 gold miners lost their lives when a mine collapsed on February 12, 2019, in the Battlefields area of Mazowe district.

Champion Mine collapse of 1938

37 miners lost their lives after a tunnel collapsed on May 26, 1938, in the Champion Mine near Kadoma.

Battlefields mine flood of 2018

22 illegal gold miners were killed when a shaft collapsed, and water flooded a mine in Battlefields on February 13, 2018.

Turk Mine gas explosion of 1939

25 people perished in a gas explosion at Turk Mine in Bubi district on October 7, 1939.

Jumbo Mine collapse of 2006

Seven miners lost their lives when a tunnel collapsed on October 24, 2006, at the Jumbo Mine in Mazowe district.

Eiffel Flats mine flood of 1971

28 miners were killed and several were injured when a dam burst on December 17, 1971, flooding the Eiffel Flats mine.

June-July mine disaster of 1944:

Over 30 workers lost their lives when a dam burst, flooding mines in the Kadoma district between June and July 1944.

Globe and Phoenix Mine fire of 1974

10 miners died after a fire broke out at the Globe and Phoenix Mine near Kwekwe on April 10, 1974.

Bucks Mine near Gwanda

Seven gold mine workers were killed when the cork skip used in hoisting them to the surface fell down a 240 meter deep shaft after the wire rope snapped. The accident happened at Bucks Mine near Gwanda on 14 May 2022 and the bodies of the deceased workers have since been retrieved after recovery efforts by the Ministry of Mines and Mining Development and other mine rescue teams.

These mining accidents show that the industry has a long way to go in improving safety measures and reducing risk.

It is essential for miners and mining companies to invest in modern equipment, better training, and safer working conditions to prevent these tragedies from happening again.

Additionally, the government must enforce regulations and hold accountable those who disregard safety standards. Only through these measures can Zimbabwe's mining industry become safer for its workers.

Mine and Minerals Amendment Bill: The Case for Mining Rehabilitation Bonds (Part 1)

The Mine and Minerals Amendment Bill Part XV on Provincial Environmental, Rehabilitation and Occupational Health and Safety Trust Funds seeks to set up Provincial EROHS Trust Funds that among other things will seek to address:

(i) any quittance work or other work that will be required in terms of section 203 of the bill ("Open workings to be protected on abandonment, forfeiture or cancellation of location") upon the cessation of mining operations by any small-scale miner in the mining district concerned; and

(ii) any other work required to protect or restore the environment from the consequences of the miner's mining operations, including

a. Tailing and waste dump breaches and contamination;

b. chemical spillage or acid mine drainage .

c. the carrying out of mining environmental and occupational safety works ordered by the PMD

d. with respect to the occupational health and safety of the mining employees, the safeguarding of the occupational health and safety of mining employees on a continuous basis, including

- the prevention of and coping with mine entrapments and inundations; and

- preventing and coping with closed mine risks, including chemical leaks, water contamination and mine collapse; and the prevention and coping with mine fires and explosions.

It is in this broad frame of Provincial EROHS Trust Funds that Mining Rehabilitation Bonds can be used to address some of the requirements of the Bill and aid the functioning of the Trusts. A mining rehabilitation insurance bond is a financial security which often reflects 100 per cent of the estimated rehabilitation cost and is in place to ensure that rehabilitation can be undertaken by the regulator (in our case the Trust Fund) should the mining operator in the province be unable to meet their rehabilitation obligations.

The Bond would be based on the rehabilitation liability represented within approved work plans at particular stages of the operation. This can be varied to work limited to a particular stage of the operation with the mining entities regularly informing the Provincial EROHS Trust team when entering a new stage of the operation hence making necessary adjustments to their bond if required to maintain 100% security for the rehabilitation liability.

A mining rehabilitation bond arrangement would have several advantages for both the Provincial EROHS Trust funds and mining operators including:

1. Low costs in terms of premium even for smaller miners.

2. No tied-up Capital for miners ensuring that they can focus on financing their activities.

3. The bond helps eliminate the trust deficit. Miners may be uncertain that contributions to the trust will be ultimately used for the intended purposes. The Trust can also have control by being a named beneficiary on the Bond.

4. This arrangement has less administrative requirements.

5. The bond will match the exposures posed by miners at each particular stage of their operations reducing the risk of perpetual over funding.

Firstlink assists client's to structure adequate cover for their mining rehabilitation processes. Our clients also benefit from our dedicated claim's service in the event of a loss. Our approach removes ambiguity and complexity often associated with the insurance process.

Talk to us today about cover for your mining operation on (0242)744048/79, 0772392075, 0773589694 or 0772434103 or email info@riskmanagers.co.zw

Tichaona Chihambakwe is the Head of Business Development and Marketing for Firstlink Insurance Brokers.

ZIMPLATS major projects update

The development of Mupani Mine and the upgrade of Bimha Mine progressed as planned during the first quarter.

These projects replace Rukodzi Mine, which was depleted in FY2022, and the Ngwarati, and Mupfuti mines, which will be depleted in FY2025 and FY2028, respectively. Cumulatively, a total of US$295.3 million has been spent on these projects, with an additional US$73.5 million committed, against a project budget of US$468 million.

A total of US$4 million was spent on the Ngezi third concentrator plant during the quarter, bringing the project-to-date expenditure to US$101.1 million, with a further US$3.0 million committed as at end of the quarter, against a project budget of US$104.1 million. The plant operated at design production capacity throughout the quarter.

Implementation of the US$521 million smelter expansion and the SO2 abatement plant project remains on track. The project progressed well during the quarter. A total of US$66.6 million has been spent on the project to date, with a further US$342.5 million committed.

Execution of the 35MW solar plant project at the Selous Metallurgical Complex progressed as planned during the quarter, with a total of US$0.8 million spent and US$35.8 million committed, against a budget of US$37 million. This is the first of the project's four project implementation phases. The final phase is scheduled for completion in FY2027, at a total project cost estimate of US$201 million.

Implementation of the base metal refinery refurbishment project progressed well during the quarter. A total of US$4.6 million has been spent to date, with a further US$20.2 million committed, against a budget of US$189.9 million.

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