

# THE EAGLE



*A Publication of Lubambe Copper Mine*

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**The Lubambe Extension  
Project – Advanced Concept Study  
Reveals viability of World Class Mine**







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*Nick Bowen*

## Ceo's Message

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**T**he year 2020 has ended and without doubt, the biggest challenge has been the advent of COVID -19 which has impacted us all in some way. Tragically, some of our friends and family have died from COVID -19 while some of our employees have fallen sick. Our everyday lives are just not the same any more. .

To deal with this global health challenge, the Mine has put in place a number of protocols, all guided by the Ministry of Health to help in minimising the ever-present risk of more of our employees contracting the deadly virus. I do appreciate the huge effort everyone has put in at the mine to comply with requirements for social distancing and the wearing of masks among other interventions. I urge all of you to remain vigilant and abide by all health guidelines as we fight this invisible enemy.

In November, we suffered the first tragic death of an employee, Elijah Maseka from a rockfall incident. This was a shock to us all and a reminder of the risks that are present in Mining. Although we have maintained a very good safety record as a mine, Elijah's death was a wake up call for us not to be complacent in our safety journey and never to take safety for granted.

COVID -19 and the low copper price in the first half of the year presented us with many challenges and we had to focus on cost reductions and minimizing waste development. Pleasingly, we achieved a rapid reduction in costs and have been able to keep our costs down.

On the production front, total meters developed for second half of 2020 were down by 5 per cent compared to the second half of 2019. The mine modified its operational plan and development in light of the COVID 19 pandemic and also the low copper price on the international market.

Ore tonnes mined for second half of 2020 were 6% per cent below the second half of 2019. The fatal accident in November and other operational challenges resulted in stoppage of stopping operations to rehabilitate some of the stopping fronts. This has resulted in lower copper produced in the second half of 2020 compared to the first half of 2019.

On a positive note, the copper price recovered and improved to a level not seen in the last 7 years, so we now have an opportunity to deliver some good results at Lubambe.

As we move into the new year 2021, our key targets are:

- Increasing development to above 1,400 meters per month
- Increasing stopping to between 110, 000 to 120, 000 tonnes per month
- Increasing hoisting to 150, 000 tonnes per month [5,000 tonnes every day] and by mid-year 180,000 tonnes per month [6,000 tonnes per day]
- Delivering a head grade above 2%
- Milling 6,000 tonnes per day
- And then delivering 2,500 to 3,000 tonnes of copper every month

We must achieve all this, but in a safe manner. A change in how we operate everyday will be required to deliver these important targets.

We all must ask ourselves what we are going to do differently in 2021 to ensure that we meet our targets and achieve our vision of making Lubambe the Best Copper Mine in Zambia.

Wishing you and your families the best in the New Year. I look forward to a more productive and successful year at Lubambe in 2021.

Keep safe and enjoy your reading!

Nick Bowen



# THE LUBAMBE EXTENSION PROJECT – ADVANCED CONCEPT STUDY REVEALS VIABILITY OF WORLD CLASS MINE

In August 2020, Lubambe Chief Executive Officer, Nick Bowen, announced the completion of the Advanced Concept Study that confirmed the potential of the Lubambe Extension Project. At 247 Mt @ 3.64% total copper, it is without doubt one of the largest and highest-grade undeveloped copper resources in the world.

The Study is a culmination of fifty years of work that begun in 1970 with the first discovery of high-grade copper mineralisation in the Extension Project area. In excess of \$55 million has been spent on drilling and related works to support the Concept Study.

The Lubambe Extension Project is located approximately six kilometers southeast of the operating Lubambe Copper mine in Chililabombwe.

The Advanced Concept Study

completed in March 2020 by AMC Consultants is premised upon a giant copper-cobalt deposit with potential to be a world class mine once developed. The 247 Mt deposit, as currently defined, is sitting at depths of between 850 - 1,600m below ground level and is located in Lubambe's existing 228 square kilometre Mining License.

*Lubambe CEO, Nick Bowen is excited about the new project.*

*"This exciting prospect for the mine is now ready for the next phase of development. In the next two years, the mine will focus on undertaking detailed studies, design and approval processes to get the mine ready for construction in 2023 and bring the new mine into production in 2028.*

*The billion dollar capital investment project is expected to create approximately 3, 500 jobs for Zambians from construction*

*phase to production including more opportunities for Zambian contractors and local suppliers. Local communities in the mine area will continue to benefit from Lubambe's Corporate Social Responsibility projects which focus on Agriculture, Infrastructure, Education and Health," says Bowen.*

For the first time, the Study has indicated that the Project has the potential to be a large new underground copper mine that will employ thousands of Zambians and make an enormous contribution to Zambia's economy over the next 50 years.

For this fantastic potential to be realised, Lubambe must commence the Pre-Feasibility Study (PFS) and rapidly progress towards a decision to mine.

## Geology and Setting

The Lubambe Extension is in a region that has been synonymous with copper production ever since 1906 when the first commercial mine was commissioned.

The Copperbelt is the world's premier sediment-hosted copper province and home to large and high-grade deposits. It stretches from central Zambia over 500 km into the Democratic Republic of Congo (DRC) and is estimated to contain over 200 Mt of copper and the world largest cobalt reserves.



**Lubambe CEO Nick Bowen handing over a high grade extension core to Mines Minister Richard Musukwa at the official announcement of the Mine's Extension Project in August.**



The Zambian Copperbelt can be distinguished from the Congolese one by deposits of relatively predictable geometry and consistent grade that support long-life, large-scale operations. It is estimated to contain over 88 Mt of copper metal in a series of sub-basins that host more than 20 commercial deposits including 6 giants, and 1 supergiant deposit.

The Lubambe Extension resource forms the heart of this supergiant, centrally located within the Konkola-Musoshi basin with producing mines on either flank. To the south-west is the principle asset of Konkola Copper Mines, the famous Konkola underground mine and associated Fitwaola open pit. To the north-west is the active Lubambe underground mine and further still, the inactive Musoshi underground mine in the DRC.

These operations exploit the same stratiform mineralisation that can be traced some 17 km continuously along strike with a maximum thickness of 24 m and grades of up to 15 % TCu. With a footprint of over 40 sq. km and growing, the Konkola-Musoshi basin is already the largest and richest copper deposit in Zambia and one of the finest copper orebodies in the world.

The Lubambe Extension enjoys the predictable geometry and lateral continuity characteristic of the deposit type. Copper mineralisation occurs as disseminated chalcocite hosted within an easily recognisable argillite bed locally referred to as the Ore Shale 1 (OS1). The OS1 in the Lubambe Extension averages 10 m in thickness and >3.6 % TCu with localised zones of cobalt enrichment grading up to 0.2 % TCo.

## Resource

The 2019 Lubambe Extension Resource Statement recorded a JORC-compliant resource of 206 Mt @ 3.69 % TCu. An exploration drilling campaign completed early 2020 tested the continuity of the

resource to the north-east. Four deep drill holes were successfully completed recording intersections of 10 to 20 m true thickness with average grades >4.0 % TCu. This work has already grown the resource by 20 %, adding ~1.4 Mt of contained copper metal and producing an updated Resource Statement of 247 Mt @ 3.64 % TCu. The updated resource also contains ~ 100 kt of cobalt with no meaningful deleterious elements.

These exploration results demonstrate continuity of a zone of thick, high grade mineralisation over more than 3 km that remains open to the north and east. Beyond this lies ~164 sq. km's of untested ground held exclusively by Lubambe. With the existing mine and Extension resource currently occupying less than 30% of the Company's mining license, this represents a tantalizing opportunity for further growth.

In order to accelerate the evaluation of this vast land holding, Lubambe carried out a 2D seismic survey in November 2019. The survey was designed to test the efficacy of the method ahead of potentially extensive application to future exploration. This ground-breaking work was a first in the Zambian Copperbelt and convincingly proved that seismic surveys are a cost-effective and under-utilized tool of potentially enormous value to Lubambe.

Test work planned for the Pre-Feasibility Study (PFS) will further de-risk metallurgy, interrogate the proposed shaft location, and look to convert sufficient resource to reserve to payback estimated initial capital expenditure.

## Benefits of the Lubambe Extension Project

The Lubambe Extension Project essentially extends the life of the existing Lubambe Mine past the initially projected 2050.



The Lubambe team is very excited about working with government to create a world class mine that will produce 160,000 tonnes a year of copper. All this happening at a time when copper demand is increasing and there is a need for quality long life mines.

The Government of the Republic of Zambia through the Ministry of Mines and Minerals Development has committed to support the Extension Project. At a visit to the mine last August, an elated Minister of Mines Honourable Richard Musukwa promised government support describing the discovery as a milestone. Local mining trade unions have too hailed the development which

will take in more people to be their members.

**Next Steps**

Lubambe is currently in productive discussions with the Zambian Ministry of Mines and other relevant stakeholders on how to bring this billion dollar project to realisation. The next critical steps are to progress the pre-feasibility study of the Lubambe Extension Project and obtain necessary technical and environmental approvals.

The Extension Project as currently envisaged, will involve sinking of new shafts and conveyor declines, development of a new underground mine with initial production of 90,000 tonnes

of copper (in concentrate) per annum and then expanding to 160,000 tonnes.

The initial lifespan of the extended mine now stands at 30 years with further exploration expected to provide many more years of life. Construction of the new mine however, can only commence after necessary approvals by Government and other key stakeholders. There is now another two years of detailed studies, design and approval processes to get the company ready for construction. Lubambe’s current plans are to commence construction in 2023 and bring the new mine into production in around 2028.



*Resource Drilling under the Lubengele Tailings Storage facility (LTSF) in the Extension Area*



# DEEP DRILLING CAMPAIGN FOR LUBAMBE EXTENSION PROJECT DELIVERED SUCCESSFULLY

Lubambe Copper Mine has successfully completed an exploration drilling campaign to gather litho-structural data for the planned Lubambe Extension Project.

The campaign which began in August 2019 and ended in July 2020, has been described as the “most successful deep drilling campaign ever conducted on the Copperbelt” by Lubambe Director Operations Tony Davis.

Some notable achievements recorded include: 100%-hole completion, the longest drill string length of 1,785m ever achieved at Lubambe and zero injuries.

Lubambe Resource Manager, Jon Stacey said that the primary objective of the drilling campaign was to demonstrate that Lubambe had the capacity to execute deep drilling successfully as this was critical to the future of the

Lubambe Extension project and had historically been a significant challenge.

He added that the drilling programme was also conducted to test the continuity of the Extension orebody.

Mr. Stacey noted that the drilling campaign had achieved all of its intended objectives, significantly, growing the Extension resource and adding tremendous value to Lubambe.

*“The Extension Project is the future for Lubambe and this programme is very significant as it positions the mine well to launch works related to the Pre-Feasibility Study. This is a product of careful planning and close management”, he said.*

Mr. Stacey commended the Lubambe Exploration team and contractors for their profession-

alism and positive attitude that led to the successful delivery of the drilling programme.

The Lubambe’s exploration programme was launched in 2018 by Mines Minister Richard Musukwa. At the launch, which took place at the exploration site south of the existing mine, the Minister assured Lubambe of government support including his personal support as Chililabombwe member of Parliament where Lubambe Mine sits.

The Exploration team that has successfully delivered this project, was led by Lubambe’s Exploration Manager Elijah Mwelwa, who worked closely with the drilling contractors Geo-drill and Titan Drilling Services. The team worked double shifts, every day for 11 months to ensure successful completion of the project.



*Drilling on the Causeway of the LTSF by Geodrill*



# LUBAMBE EMBARKS ON OPERATIONAL IMPROVEMENT PATH

Lubambe Copper Mine has embarked on a systematic programme to manage operational improvement.

Director Operations Tony Davis confirmed the development and disclosed the engagement of a specialist operations improvement firm, Partners in Performance (PIP) to assist the Mine to increase production and position it as an attractive, long term and viable asset.

Mr. Davis said for the Mine to realise the improvement in full, improved individual accountability had to take place. He added that it was also important for employees to embrace change.

Business Improvement Manager, Ivan Lister, says the PIP team has set a clear expectation of

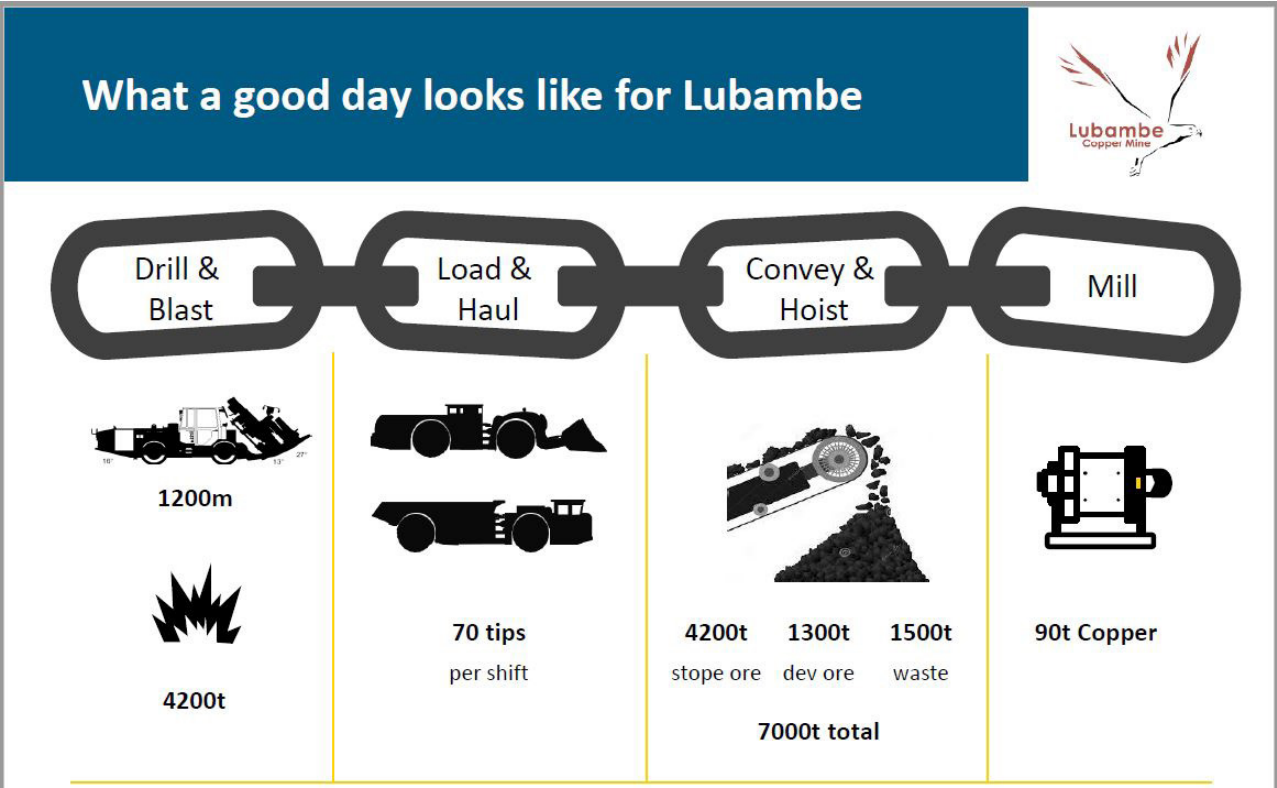
“what a good day looks like” for Lubambe. This is a concept that has been developed to assist the Mine reach its full potential in terms of production.

For Lubambe to have “a good day”, the mine has to Drill and Blast, Load and Haul, Convey and Hoist 5,500 tonnes of ore and 1,500 tonnes of waste per day and Mill 5,500 tonnes of ore per day to achieve the Mine’s daily target of 90 tonnes of Copper in Concentrate.

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The effectiveness of the Operational Improvement Plan is dependent on the supervisors and operators performing their roles. A supervisor is expected to conduct an effective start of shift meeting on time and allocate specific work instructions, while the operator is expected to ensure that they understand the written work instructions given to them and start work on time so that they utilise all hours in a shift.

Additionally, supervisors must communicate any safety hazards and provide accurate and timely feedback regarding equipment and work area status at the end of the shift while operators are expected to work safely with correct PPE and operate equipment within design specifications.



Subsequent stages of the performance improvement programme will involve strengthening internal wiring and putting internal processes and procedures to hold individuals to account as well

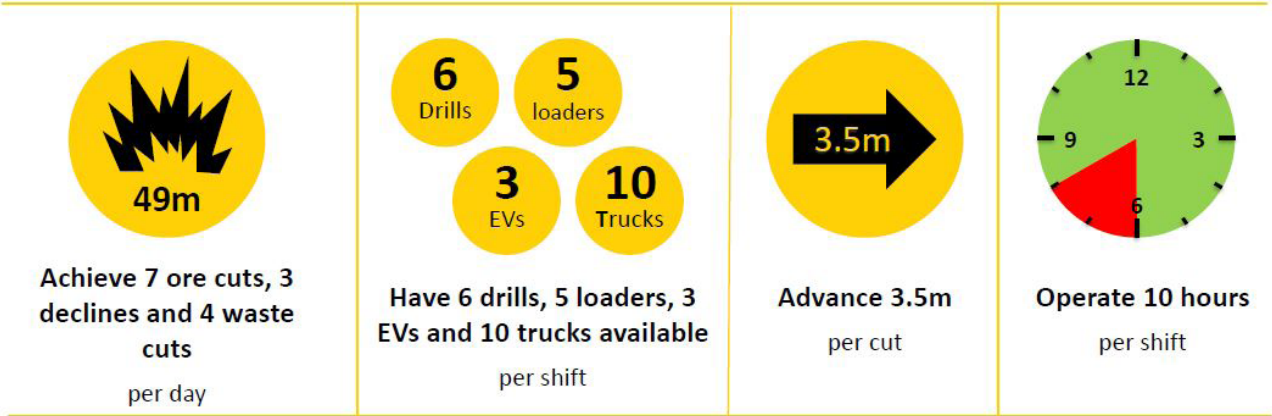
as implementing throughput improvement opportunities.

Mr. Lister said that while the PIP team is supporting Lubambe in this endeavour, the mine must take ownership of the initiative if

it was to succeed by: making time available to work with the PIP team, using tools that had been established to deliver set plans and to have an open mindset to learn as much as possible from the team.

## What a good day looks like: Development

To have a good day, the Development teams must achieve 7 ore cuts, 3 decline cuts and 4 waste cuts ends to reach 49m of development



PIP team members (right) explaining final details of the “wiring” work they are implementing to Lubambe employees



# LUBAMBE PROCURES MINNOVARE PRODUCTION OPTIMISERS

Lubambe Copper Mine has procured and installed two Minnovare Production Optimisers to improve production drill hole accuracy.

The Production Optimisers, have been installed on two of Lubambe's Long Hole Drill Rigs, DLH 13 and 14. They are not only important in improving drilling accuracy, but also critical to increasing drilling rates.

Lubambe Business Improvement Specialist, John Wapabeti, who is the Project Manager for the Production Optimisers, says the Optimisers are aftermarket products designed specifically to minimise long hole setup and collaring error. It supersedes the Original Manufacturer Equipment (OME) hole setup system.

"Production hole accuracy

has been one of the challenges Lubambe has been battling with, and as a result of these inaccuracies, the Mine has incurred additional costs due to delays in production that has led to the re-drilling of inaccurate holes," Mr Wapabeti said.

"Additionally, inaccurate drill holes frequently result in an increased amount of Hanging Wall (HW) Over Break (OB), which reduces the mined head grade, leading to unnecessary costs due to the hauling and milling of needless waste," he added.

Furthermore, reliability and performance of the stoping panels is often negatively impacted by the sub-par hole accuracy, with bridges being formed and slashing rings then being required.

The introduction of the Minnovare Production Optimiser at Lubambe

will present a lot of benefits to the mine, such as: reduction in production drill hole inaccuracy which will result in more reliable production, increased revenue by virtue of improved stope recovery and more reliable and consistence production performance (less bridges and slashing) cost reduction , as there will be significant less Hanging Wall dilution.

## System Setup

The system effectively supersedes the existing Original Manufacturer Equipment hole setup system and is vastly superior in terms of accuracy and reliability. The unit is attached to the boom of the rig and connected wirelessly to a tablet in the operator's cab.

The stope design is uploaded electronically to the tablet, which allows the rigs to set up within a specified tolerance to the designed hole co-ordinates. The rig is not permitted to commence drilling until the setup is also within an acceptable tolerance to the designed hole dump and rotation.

The system essentially eliminates all collaring and setup error for

production drilling which typically accounts for 70 - 80 per cent of the total hole deviation.

The system is now fully operational after the intensive training of relevant personnel such as Surveyors, Production Engineers, Maintenance crews and Drilling crews.



***Project Manager John Wapaeti explaining the use of the Production Optimiser on DLH-14 to Maintenance Foreman Francis Kasongo***

# LCM AND JCHX SIGN NEW DEVELOPMENT CONTRACT

Lubambe Copper Mine and JCHX have signed a new contract and extended an existing one to carry out development works in five ramps of the mine. The two contracts, effective from August 1, 2020 to 31 March 2025 will focus on advancing declines in the East and South limbs to ensure the mine produces about two million tonnes of ore per year.

At the signing ceremony in August 2020, Lubambe Chief Executive Officer Nick Bowen said JCHX was awarded the additional contract because of the the company’s previous good performance.

Mr. Bowen stated that the biggest challenge at the Mine was to get the declines in the East limb down.

“The faster we get the declines down; the more meters would be available and the more stopes could be opened to increase the tonnes. The East limb should have at least two levels of development open at all times and the decline face should have at least five or six faces in every ramp,” he added.

Mr Bowen expressed happiness with the way JCHX and Lubambe teams were collectively managing the de-watering project underground.

Mr. Bowen also disclosed that the contract negotiations were held in a mature and positive manner devoid of any disputes. He urged the two teams to work together for success to be attained.

Mr Bowen added that JCHX’s

performance would be measured on safety, quality of work and ramp development. He emphasised that Lubambe’s good safety record had to be maintained at all costs. “We must maintain the good safety record that the Mine has had. We are a safe mine and we want to continue that way. We do not want to do anything that is unsafe,” Mr Bowen added.

“Lubambe is currently 450 meters deep, but with the new project, it is anticipated that the mine’s depth will double to 900 meters. As the extension project takes off, the shaft and conveyors will not be extended, it will be truck haulage up to the existing tips, hence the need to work together to ensure that our underground roads are in good condition,” the CEO added



*Lubambe CEO Nick Bowen and JCHX Mining Deputy Chief Executive Officer Liu Zhiqiang at the contract signing ceremony*



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Mr. Bowen implored JCHX to work hard and ensure that more than two million tonnes of ore were produced annually moving forward.

JCHX Mining Deputy Chief Executive Officer, Liu Zhiqiang, thanked Lubambe for entrusting them with another contract to develop in the East Limb, particularly the declines. He committed to better performance in the new partnership so that both companies could derive benefit.

He said since March 2017, when they started working with Lubambe, JCHX had learnt a lot in terms of safety, quality and work procedures.

Mr. Zhiqiang said under the first contract, they had with the Mine, JCHX was managing to develop almost 500 meters per month, against an annual target of 2, 170 meters. He said this achievement had been recorded because of the support from Lubambe.

He added that his company thrived on delivering a good service to the client.



***Lubambe senior management team and JCHX senior management team after the signing ceremony***



# LUBAMBE UPGRADES LIME DOSING SYSTEM

Lubambe Copper Mine has upgraded its Lime dosing system at a cost of K1.2 million in order to increase mineral recovery.

Lubambe copper Ore is predominantly chalcocite which occur as finely disseminated mineralisation. This makes it difficult to be recovered if it is not subjected to a fine grind as the mineral is lost in middlings (locked form). Metallurgical Manager Lastone Silomba says a fine grind of 96 percent passing 75 microns screen was required in order to increase mineral recovery. The fine grind improves recovery but gives unwanted effects in filtration and tailings thickener overflow clarity, compared to the coarse grind.

“To counter these effects, Quicklime is used in the Process Plant to improve: Copper recovery due to its affinity to improve floatation kinetics, water quality as it possesses the properties of depressing heavy metals and Tailings thickener overflow clarity. It also reduces the filtered moisture due to its ability to improve cake permeability,” he said.

Before the upgrade, the dosing system presented a lot of challenges such as lime mixing, pumping, line chocks, dosage (pH) control and dust emission, leading to inconsistencies in dosing the lime.

Mr. Silomba noted that since the upgrade, Copper recovery had improved and inconsistencies in lime dosing had been minimised.

The upgrade involved: installation of a lime mixing craw beam and hoist crane, installation of a dosing control system and valves, installation of flush water points along the dosing ring and procuring standby dosing pump and control valve.



***Locked chalcocite mineral grains in the Oxide Rougher Tailings***



***Installed Crawl beam and crane to ease the lime mixing process***



***Lime control valve installed on the Sulphide Rougher Feed sump***



# LUBAMBE ACTS TO MILL MORE TONNES OF ORE

Lubambe Copper Mine has successfully and officially installed the SANDVIK CH420:03 series Pebble Crusher that would assist the Mine to mill 220, 000 dry tonnes per month of ore from the current 2020 average of 127, 380 dry tonnes per month of ore.

Commissioned on 17 September, 2020, the crusher is expected to increase milling capacity and handle the expected production increase from underground. Additionally, it would reduce the anticipated +40mm mill discharge to less than -10mm.

A pebble crusher reduces screen oversize pebbles before recycling in the Semi-Autogenous Mill (SAG mill). Its main objective is to improve the SAG mill throughput. To ensure full utilisation and competent handling of the machine, nine Lubambe employees were trained on how to competently operate the Crusher.

After a seven-day training spear-

headed by SANDVIK Life Cycle Services Manager Luka Chulu and Lubambe's Metallurgical Training Coordinator Eng. James K. Kasanda (FEIZ), the nine employees who comprised of two boiler makers, six artisan fitters and one metallurgist graduated with certificates.

At a graduation ceremony held on October 16, 2020, Metallurgical Manager Lastone Silomba expressed happiness that the training was successfully conducted. He called on the team to ensure that the required tones were milled per year.

"You are now the ambassadors of the operations and maintenance of the unit." We will now rely on you to ensure that the equipment is operated and maintained regularly," Mr. Silomba added.

Mr. Silomba also thanked SANDVIK for a Safe and timely installation, commissioning and training of employees.

Learning and Development Su-

perintendent Rodgers Kayombo thanked management for always meeting the company's training needs. He said it was important for employees to be abreast with such technological advancements if Lubambe was to attain its vision.

He added that there was need for the learners to put the newly acquired skills into practice.

SANDVIK Life cycle Services Manager Luka Chulu thanked Lubambe for partnering with his company on this project. He was confident that the learners had acquired sufficient knowledge.

Fukamila Simusokwe who spoke on behalf of the Class Representative said the training was timely, adding that the new skills would enable them to competently operate the crusher without any difficulties.

The employees were trained in pre-shift checks, start up, monitoring, shutting down and gap adjustments.



*Graduands with senior staff from Lubambe and Sandvik after the graduation ceremony*



*Commissioned SANDVIK CH420:03 series Pebble Crusher*

# OPERATIONAL SUMMARY – SECOND HALF OF 2020

The mine recorded a fatal accident on 22nd November 2020 from a fall of ground incident in the South Limb.

Total meters developed for second half of 2020 were down by 5 per cent compared to the second half of 2019. The mine re-strategised on the development in light of the COVID- 19 pandemic and also the low cop-

per price on the market.

Ore tonnes mined for second half of 2020 were 6% per cent below the second half of 2019. The ED3 belt was taken off line to replace the belt that was worn out in a lot of places in the month of October 2020. This affected the overall output. The fatal accident in November resulted in stoppage of stoping

operations to rehab some of the stoping fronts. This has resulted in lower copper produced in the second half of 2020 compared to the first half of 2019. Also, the lower copper is due to more ore tonnes having been mined from the south limb at 57% which is at a lower grade and high acid soluble copper.

Operational Summary				
		H2 2020	H2 2019	Change %
Safety	LTIFR	0.9	0.00	-100%
	TIFR	0.68	0.64	-6%
Tonnes milled	Tonnes	715,484	905,047	-21%
Mill head grade	%	1.74%	1.60%	9%
Concentrator recovery	%	80.77%	79.53%	2%
Copper produced (contained)	Tonnes	10,065	11,365	-11%
Ore metres developed	Metres	2,186	3,321	-34%
Waste Metres Developed	Metres	2,144	3,423	-37%
Total Metres Developed	Metres	4,330	6,744	-36%
Stoping Tonnes Mined	Tonnes	586,394	670,364	-13%
Development Ore Tonnes Mined	Tonnes	125,438	207,423	-40%
Total ore tonnes mined	Tonnes	711,832	877,787	-19%



# LUBAMBE HEIGHTENS COVID-19 FIGHT – PROCURES SANITISING BOOTHS

Lubambe Copper Mine has procured four Automatic Disinfectant Sprayer Tunnels to minimise person - person transmission of COVID-19 amongst employees at the mine.

The sanitising booths which have been placed at the Mine's three main entrances, automatically switch on when employees approach them, when entering and leaving the Mine premises.

Lubambe Copper Mine Occupational Hygienist Eric Ng'andu says that in this current era of COVID – 19, all employees needed maximum care and protection so that they and their families were protected from contracting the disease.

He said despite recording some positive COVID – 19 cases, the Mine had continued to invest in employee wellness by providing hand sanitisers, face masks and more employee buses to promote social distancing, among other preventative measures.



*Lubambe General Worker, Felix Besa passing through a sanitising booth*

An Automatic Disinfectant Sprayer Tunnel or Sanitization Booth is a door and tunnel type design where two sides of the booth are enclosed with a PVC pipe and the other two sides are open for entry and exit purposes.

When a person enters the tunnel, a sensor which is placed at the side and top centre of the booth, senses motion and gives output to the circuit, which then activates the whole system. All 16 sprayers of the booth are activated and start spraying towards the centre of the tunnel for 5 -10 seconds. The booth sanitises about six to eight employees in a minute.

# PROTECTING THE OZONE LAYER

*By Gideon Sinkamba*

## *What is Ozone?*

Ozone is a naturally occurring gas that is found in trace quantities throughout the atmosphere, but most abundant in the stratosphere at an altitude of 10-50 km above the Earth. Ozone is a molecule of oxygen with three oxygen atoms. Ozone in the stratosphere is formed by the action of solar radiation on oxygen molecules in a process called photolysis. Oxygen (O<sub>2</sub>) molecules are broken down to yield atomic oxygen, which in turn combines with molecular oxygen to produce ozone (O<sub>3</sub>) which forms a band like layer called the "Ozone Layer".

In the 1980s Scientific evidence conclusively linked man-made substances known as Chlorofluorocarbons (CFCs) and Halons to the depletion of the Ozone layer and indicated that depletion had long started.

## *Ozone depleting chemicals:*

A number of man-made chemicals are capable and are responsible of destroying stratospheric ozone. These contain chlorine or bromine or fluorine which are extremely reactive when in a free state and can therefore attack ozone. It has scientifically been proven that emission of man-made chemicals like chlorofluorocarbons (commonly known as CFCs), halons, Carbon Tetrachloride, Methyl Chloroform, Methyl bromide into the atmosphere have a destructive effect on the Ozone Layer.

Although exceedingly rare, ozone molecules play a vital role in the life on Earth. They absorb harmful solar ultraviolet (UV -B) radiation from the sun preventing most of it from reaching the Earth's surface, shielding humans and all other animals and plants from harmful radiation effects. Ozone also largely determines the thermal structure of the atmosphere (10-50 km) above the Earth, where temperatures play a role in regulating the Earth's climate.

## *To protect the Ozone layer, we need to do the following:*

Avoid the consumption of gases dangerous to the ozone layer, due to their content or manufacturing process. Some of the most dangerous gases are CFCs (chlorofluorocarbons), halogenated hydrocarbon, methyl bromide and nitrous oxide. Lubambe Copper Mine does not use any of the above gases in its equipment.

Buy local products. In this way, you are not only getting fresh products but you avoid consuming food that has traveled long distances. As the more distance traveled, the more nitrous oxide is produced due to the medium used to transport that product. Buy more Zambian products, where possible.



Maintain air conditioners, as their malfunctions cause CFC to escape into the atmosphere. At Lubambe Copper Mine, air conditioners are maintained regularly (quarterly) by trained, licensed and competent technicians who at all times ensure prevention of CFCs from escaping to the environment.

The Mine has also put in place measures to impose existing national and international restrictions on ozone-depleting substances.

### ***What Can Lubambe Employees do to Protect the Ozone Layer***

While the vast majority of Ozone Depleting Substances ODS usage is either industrial or commercial, individuals can help in the following ways:

1. Buy air-conditioning and refrigeration equipment that do not use HCFCs as refrigerant.
2. Buy aerosol products that do not use HCFCs or CFCs as propellants.
3. Conduct regular inspection and maintenance of air-conditioning and refrigeration appliances to prevent and minimize refrigerant leakage.
4. For existing air-conditioning and refrigeration appliances that operate on HCFCs or CFCs, the refrigerant should be recovered or recycled whenever an overhaul of equipment is to be carried out. Replacing or retrofitting such equipment to operate on non-HCFCs refrigerant should also be considered.
5. When motor vehicle air-conditioners need servicing, make sure that the refrigerants are properly recovered and recycled instead of being vented to the atmosphere.

***LET'S PUT OUR HEADS TOGETHER TO CREATE A SAFER LUBAMBE,  
ZAMBIA, AFRICA AND GLOBE!***

# KONKOLA COMBINED SCHOOL GETS NEW SCIENCE LABORATORY



*Construction of Konkola laboratory*

Lubambe Copper Mine has sponsored the construction of a science laboratory for learners at Konkola Combined School at a cost of K788 thousand.

Built in 1956 and with a current student population of 1,017, the school has had no science laboratory to offer practical lessons to learners in various science subjects. School Head Teacher Mr. Joseph Chaila says this situation has adversely affected the performance of learners and the overall pass rate of the school.

Mr. Chaila has described Lubambe as a good corporate citizen, committed to complementing government's developmental efforts.

Suwilanji Sinyenga, a grade nine pupil at the school says the construction of the laboratory will make learning more enjoyable and consequently improve the pass rate at the school.

Another learner, Enock Dalitso Kango says he was happy that the school would now have a laboratory. Kango said he was optimistic that learner performance in science related subjects would

improve once the laboratory was fully operational.

He said it has been difficult for learners to grasp what was being taught by teachers because they did not have an opportunity to carry out practical experiments in science subjects like Biology, Chemistry and Physics. Kango thanked Lubambe Copper Mine for the construction of the lab which he said would benefit many learners at the school.

Lubambe Community and Stakeholder Relations Manager, Lomthunzi Mbewe, said the project was part of Lubambe's strategic focus to support communities in its operating area.

She added that the Mine would continue to engage community members in project identification so that all projects worked for the good of the community.

A local contractor, Bamcon Projects Limited of Chingola has been engaged to construct the lab which is expected to be completed in March, 2021.



# LUBAMBE FUNDS MAINTENANCE WORKS ON CHINGOLA - KASUMBALESA ROAD

Lubambe Copper Mine has entered into a strategic partnership with the Road Development Agency (RDA) and Local Authorities in Chingola and Chililabombwe to work on a 38 km section of the Chingola-Kasumbalesa road which is part of the T3 road.

In this partnership, Lubambe is providing construction material worth over K350,000 while the two local authorities are providing labour. RDA is providing technical guidance and support through supervision of the works, as well as provision of machinery.

Lubambe Communications Manager Loyce Saili says that the Chingola-Kasumbalesa road is a critical link for the Mine as it facilitates transportation of copper concentrate from the Mine to smelters in other Copperbelt towns.

Mrs Saili said the repair of the road would also

benefit local and international travellers who frequently use the road to and from the Democratic Republic of Congo.

RDA Copperbelt Regional Manager Joseph Himululi said such partnerships were critical to the development of the country. He said RDA had developed a Public Private Partnership (PPP) funding model to upgrade the Chingola-Kasumbalesa road.

Chililabombwe Municipal Council Director Engineering Services, Musa Chibawe said that the main scope of work involved road patching of the stretch from Solwezi turnoff to Kasumbalesa Petroda Filling Station.

Eng. Chibawe thanked Lubambe for being a good Corporate Citizen by ensuring that the road was safe and passable for all road users.



*Maintenance works on the Chingola-Kasumbalesa road*

# WOMEN'S COOPERATIVE GETS FACE MASK CONTRACT

Lubambe Copper Mine has awarded a K121,200 contract to Bwikalo Embroidery and Tilitonse Women's Club to make 2,400 branded face masks for its employees.

Bwikalo Embroidery branded and supplied the material while Tilitonse Cooperative sewed the face masks.

This is the second contract that the Mine has awarded to the Konkola based Cooperative to sew reusable face masks for its employees. The first project involved the sewing and supply of 4,800 face masks at a cost of

K61,000.

Community and Stakeholder Relations Manager Lomthunzi Mbewe says the aim of the project was to minimise the risk of miners contracting COVID-19 and ensure that miners were working in a safe environment.

Ms. Mbewe added that the Mine had contracted the same cooperative to make 1,600 re-usable face masks for learners at Konkola Combined School, Miyanda and Kasapa Primary Schools.



*Tilitonse women sewing face-masks for Lubambe employees.*

Tilitonse Women's Club Trustee Sarah Nkumbalume thanked the Mine for ensuring that the club was always kept active. "I want to thank Lubambe Copper Mine for imparting various skills and knowledge in us. We are always kept busy by various projects. My appeal to the mine is that they should continue with these works. These projects have brought so much change in our lives", she added.

The Mine has empowered the club with three sewing machines as a way of improving member's livelihoods. In the first quarter of 2020, the Mine awarded contracts to the Cooperative to make school uniforms for orphaned and vulnerable children (OVCs) in schools surrounding the Mine area.



# SEVEN KILOMETRES OF COMMUNITY ROADS GET FACELIFT

Lubambe Copper Mine has constructed new cemetery roads in Konkola and Kasapa Townships to ease movement of people in these communities.

The Mine has also improved the state of the road leading to the Lubambe Agricultural Project site.

Joseph Mwila Ward Councillor Spolian Simwanda has thanked the Mine for the works done on the roads. He said the cemetery road was impassable, making it difficult for mourners to get to the burial site.

Annoya Zulu Ward Councillor Kangwa Nsofwa Lupele says the newly constructed cemetery road has brought joy to the people of Kasapa and Kebumba.

Lubambe Copper Mine Civil Works Engineer Davey Phiri disclosed that the Konkola cemetery road that was rehabilitated was 2 kilometres while the Kasapa cemetery road was 1.5 kilometres and the one leading to the agricultural project site was 3.5 kilometres.

Community and Stakeholders Relations Manager Lomthunzi Mbewe said Lubambe would continue to assist Communities around the mine in a bid to uplift their living standards.



*Old Cemetery Road*



*New cemetery road*

# 11 PER CENT PAY RISE FOR LUBAMBE UNIONISED WORKERS

Labour Unions and Management at Lubambe Copper Mine have signed a new Collective Agreement awarding unionised employees a pay rise of 11 per cent across the board.

The new Collective Agreement which has granted employees better pay than last year, covers the period 1 January 2021 to 31 December 2021. In 2020, unionised workers were given a pay rise of 8.5 percent.

Speaking at the signing ceremony of the Collective Agreement in Chingola on 31 December 2020, Director Operations, Tony Davis congratulated the unions and management for negotiating in good faith and reaching consensus on time

Mr. Davis said he was happy that despite the year 2020 being a challenging one, Lubambe Management and the Labour Unions were able to conclude the negotiations on a positive note.

Speaking on behalf of the three Labour Unions represented at the Mine, Mine Workers Union of Zambia (MUZ) Deputy General Secretary, Godfrey Kupila expressed happiness that employees were awarded a better pay this year, and added that the unions would play a critical role in ensuring that production at the Mine improved.

Mr. Kupila said the unions will support Lubambe's business and ensure that their members produced the required tonnes for the Mine to operate profitably.



**Director Operations Tony Davis with Mine Workers Union of Zambia (MUZ) Deputy Secretary General Godfrey Kupila after signing the Collective Agreement. In the background on the left is the Lubambe Management team and on the right are union representatives.**

Under the new Collective Agreement, Management and the Labour Unions have agreed to a uniform funeral grant for death of an employee, registered dependent and biological parent of K7,500 per death, from the previous K6,625 for an employee and K4,750 for a registered dependent and biological parent per death. The parties have also agreed that the Company will bear all reasonable costs of medical referrals of employees including transport to and from the hospital and incidentals, this includes procedures such as Computed Tomography (CT) Scan, Magnetic Resonance Imaging (MRI) Scans and Ear, Nose and Throat (ENT) conditions.

In line with the New Collective Agreement, the Company will also facilitate processes that will allow employees to gain access to funding from recognised lending institutions to enable them become house and land owners on Company owned land.

Lubambe employees were represented by their three Labour Unions, the Mine Workers Union of Zambia, National Union of Mine and Allied Workers and the United Mine Workers Union of Zambia.



# LUBAMBE TOASTS ZAMBIA’S 56 YEARS OF INDEPENDENCE

Chililabombwe District Commissioner Roy Ngosa has challenged Zambians and particularly Chililabombwe residents to secure the economic future of the country by working hard and engaging in initiatives that will promote national economic development.

Mr. Ngosa said although Zambia secured its political independence 56 years ago, there was urgent need for citizens to renew their efforts to transform Zambia’s economy.

Speaking at celebrations to mark Zambia’s 56 years of independence in Chililabombwe, the district commissioner paid tribute to Zambia’s freedom fighters for their contribution to the liberation struggle.

Mr. Ngosa said that the future of Zambia lay in the hands of

all Zambians. He challenged Chililabombwe residents who attended the celebrations at Konkola stadium to stand up and secure the economic emancipation of the country through various personal and government driven initiatives.

“In order to experience massive development and effective service delivery in the district, there is need for all stakeholders to work together to sustain the developments that have so far been achieved and continue working together to foster development. At 56 years, it is important to harness the unity that the country has enjoyed since independence,” the District Commissioner added.

The District Commissioner also urged foreign investors to explore investment opportunities in the various economic sectors

while urging corporates from various economic sectors in the district to improve productivity. Lubambe Copper Mine is one of Chililabombwe’s large mining assets with 80% shares owned by EMR Capital of Australia and 20 % owned by ZCCM - IH on behalf of the Government of the Republic of Zambia.

The main Independence activities in Chililabombwe included: fireworks display and hoisting of the flag on Independence Eve and a March Past and entertainment on Independence Day.

Lubambe Copper Mine was represented by 20 employees who participated in the District March Past. The Mine also made monetary contribution towards the successful hosting of the activities.



*Lubambe employees marching to Konkola Stadium*

One of the marchers, Yone Kibombwe, an HR Clerk at Lubambe, said he was happy and honoured to have been nominated to represent the company at the event. “As a young person, I am proud that we had an opportunity to look back and appreciate what our fore fathers did for the country. As young

people, we need to be reminded about the importance of this day,” he added.

Formally known as Northern Rhodesia, Zambia was a colony of Britain before gaining its independence on October 24, 1964. The country’s first President was Dr. Kenneth Kaunda and served

the nation from 1964 to 1991.

This year’s celebrations were commemorated under the theme “Zambia at 56: One Land, One Nation-Building our Future Proud and Free”.



*Chililabombwe District Commissioner reading his speech at Konkola Stadium*



# LUBAMBE COPPER MINE - BRIDGING SKILLS GAP FOR BETTER PERFORMANCE

In a bid to build a sustainable and adaptive organisation of well trained and competent employees, Lubambe has exposed its employees to continuous learning and development for improved performance at the Mine.

Since 2016, the Lubambe Copper Mine Training Centre has been offering various training to its employees.

To ensure compliance to set rules and standards, the training school has trained all current employees in Safety and Health, Security, Fire Safety, Code of Ethics, Total Quality Management, HIV and Aids, among others.

The Mine has a Learning and Development Procedure, which

is anchored on five strategies. These include: Technical Training, Behavioural Training, Leadership and Management Training, Expatriate Roles as well as the Graduate Development Programme.

Learning and Development Superintendent Rodgers Kayombo says that Lubambe's learning and training procedure is purposed to build a sustainable and adaptive organisation of talented, well trained and competent individuals whose performance will enhance the company's abilities to perform at a level consistent with growth, now and in the future.

To foster good working relationships for the betterment of employees, the Mine signed three

Memoranda of Understanding (MOU) in 2020 with three registered Technical Education, Vocational and Entrepreneurship Training (TEVET). This is also to ensure that employees are up date with new Technological advancements in their various fields.

In March 2020, the Lubambe Training School, spearheaded a **High Voltage Switching Authorisation training**. Twenty-one employees received theory and practical training in High Voltage Switching Authorisation. High Voltage Switching Authorisation Training is classified as a High-Risk Operation. The learners graduated with a 90 per cent pass rate.



*General Manager Operations Tony Davis, Engineering Manager Robbie Wiggett and Training and Development Superintendent Rodgers Kayombo at a parade with the High Voltage switching graduands*



Before the training, the Mine used to experience some electrical incidents during racking in and out of the electrical circuit breakers. There was no strict adherence to isolation procedures and there was a lack of understanding of the Zambian Electrical Legislation.

After the training, incidents during racking have tremendously reduced, there is also strict adherence to the isolation procedures and the electricians now have a better understanding of the Zambian Electrical Legislation.

In November 2020, the Mine also sponsored three employees to undergo training in maintenance planning and scheduling at the Kafue Gorge Regional Training Centre. This training has enabled employees to track Key Performance Indicators, draw maintenance schedules and identify key components that make up maintenance planning and scheduling, areas which were challenging to the trainees before they received training.

The Mine has also sponsored seven Mine Captains and eight

Process Foremen to study Mining Engineering and Metallurgical Engineering at the University of Zambia. Fourteen employees from the electrical section have been trained in Optic Fibre Splicing, Programmable Logical Control and Variable speed Drives Senamics. Consequently, the Mine has seen a reduction in equipment down time and improved trouble shooting skills in Winder operations, underground units and process plant.



*Training in Customer Authorised 66kV switching*





Community and Stakeholder Relations Manager Lomthunzi Mbewe with Communications Manager Loyce Saili after receiving the second CSR award on behalf of Lubambe from the Corporate Social Responsibility (CSR) Network of Zambia for outstanding achievement in building capacity of women in Konkola Township.



Lubambe holds inaugural Long Service Awards. Management and award recipients after the awards ceremony



Lubambe holds second Long Service Awards. Forth from left is Lubambe's longest serving employee Nickson Sichivula, who has serviced the mine for 20 years.



Lubambe CEO's hands being sanitised by Mine's Minister Richard Musukwa when he visited the Mine in August. Looking on is Chililabombwe District Commissioner Roy Ngosa



Mine Manager Alfred Ng'ambi briefing Mines Minister Richard Musukwa on operations of the Lubambe mine rescue team and fire teams in August





*Mines Minister Richard Musukwa operating a Lubambe loader by tele-remote when he visited the Mine in August*



*Dewatering team "cooling off" after a successful assignment.*



*Lubambe installs water pipeline from the 750m bore hole to end water blues at the mine. In picture is Moses Ng'andu and Demus Lubengele tightening bolts.*



*Status Hitech officially hands over a Fire Suppression System to Lubambe in September*





Lubambe CEO Nick Bowen with Ministry of Mines Permanent Secretary Mr. Barnaby Mulenga, Ministry of Water Development, Sanitation and Environmental Protection Permanent Secretary Mabvuto Sakala and Lubambe's Extension Resource Manager Jon Stacey at the Mine in September



Lubambe Emergency response team saves 15-year-old boy involved in a hit and run accident who was found laying helpless by the road side



Lubambe Communications Manager Loyce Saili gives counsel to pupils at Konkola Combined School. Looking on is CSR Manager Lomthunzi Mbewe



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