Equinox looks for virtual mining edge

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For Immediate Release

A FORWARD looking Australian company will break new industry ground in the development phase of a major African copper project by using a "fleet" of advanced equipment training simulators to appraise and train more than 330 operators and a further 270 maintenance and support personnel prior to arrival of the project's $US160 million mobile equipment fleet.

Equinox Minerals Ltd, which aims to bring the $US450 million Lumwana project in Zambia on stream late next year, believes its investment in four Immersive Technologies' Advanced Equipment (AE) Simulators will help it achieve a smooth production ramp-up and meet early mine productivity and operating cost goals at a time of widespread shortages of skilled workers.

Lumwana, set to become Africa's largest copper mine with initial annual output of more than 180,000 tonnes of equivalent copper metal, will have a total operating workforce of about 1500 people.

It will employ large-scale bulk openpit mining methods to move up to 130 million tonnes per annum of ore and waste from the Malundwe pit in the first five years of operation. The initial mobile equipment fleet consists of 28 Hitachi EH4500 (242t-payload) dump trucks, four Komatsu PC5500 hydraulic electric shovels, a Komatsu PC5500 hydraulic excavator, a Komatsu PC3000 hydraulic excavator and 27 ancillary items, including Sandvik Tamrock production drills, and dozers, graders, loaders and water trucks.

Equinox will use the AE Simulators as a central part of its assessment process during recruitment of the estimated 330 or so people required to operate its mining equipment – many of whom are not expected to have operating experience – and thereafter as part of a continuous improvement program for operators aimed at maintaining their skills and safety awareness at industry benchmark levels. Lumwana mine manager Jon Yelland, a strong advocate of modern simulator training technology, said the Immersive Technologies AE Simulators had a vital role to play in development of the mine.

The Zambian Copper-belt has a long history of mining activity, but substantial current investment in mines and production capacity is increasing demand for available labour. This and the well-documented industry-wide shortage of skilled workers meant greenfield projects such as Lumwana faced a significant challenge to recruit and train an adequately skilled workforce.

Yelland said the challenge was heightened by current pressure from extended equipment delivery lead times, tyre availability and prices, and high fuel costs.

"We need to train a lot of operators fairly quickly and we won't have the equipment on site to enable us to do it," he said.

"It would be physically impossible to train such a high number of operators in the time available. We can get the simulators faster than we can the equipment, and that will enable high-level training to start much sooner that it otherwise could.

"It's crucial. With the investment in the trucks and other equipment, we've really got to have good operators and the shortage of tyres worldwide will put additional pressure on operators to perform at a high level to minimise damage. We can't afford with 28 trucks and six tyres on each truck not to be getting greater than 5000 hours on those tyres straight up.

"So we must have, one, the roads prepared properly and, two, operators must be aware of the importance of operating the vehicles in the correct manner from the start.
"That is one of the things we've worked on with Immersive Technologies so that there will be focus on that in the training room.

"We're a low-grade deposit and therefore minimising operating cost is very, very important."
Lumwana is one of the world's largest undeveloped copper deposits, with a measured and indicated resource of 269 million tonnes grading 0.8% copper. Apart from its use of large bulk mining methods and equipment, Equinox plans to utilise an electrical trolley-assist system to dramatically reduce its mine haulage costs.

Yelland said the level of realism offered by the Immersive Technologies AE Simulators meant operators could be exposed to, and trained to be familiar with, a full range of operating scenarios – including emergency situations, the actual mine layout, equipment control stations and operating procedures, over typical shift periods, long before they got behind the wheel of a multi-million-dollar haul truck.

The comprehensive monitoring and reporting capabilities of the simulators also gave Equinox the ideal tool to pursue continuous improvement of operating and safety standards.

"The technology really has come a long way in the past five years or so," Yelland said.

"As a training tool in the development phase of the project it's going to give us a huge benefit, not only during assessment of operators prior to the equipment arriving on site, but also getting them used to the equipment, the mine and things like the trolley-assist, which is going to be new to most of them.

"We want to get them thinking about the way and standards Equinox wants to operate to.

"We have a tool that enables us to move along a progressive improvement path – all the time training operators on equipment without adversely impacting the productivity of real machines in the pit, or risking damage to a machine or of course the safety of the operator.

"Immersive Technologies has certainly been very proactive. They've been focused on developing a product that can be used for training and continuous improvement by mining operations around the world."

Immersive Technologies regional manager, Africa and South-East Asia, Paul Davis said the company was supplying Equinox with four transportable AE Simulators with Conversion Kits™ for trucks, shovels and excavators, and a five-year customer support package.

"It's certainly encouraging that companies are looking at simulators, not only as a central component of start-up training programs, but also as a key driver of continuous improvement in Operator efficiency" he said.

"This and other recent simulator sales in Africa have confirmed Immersive Technologies' position as the leading provider of advanced mine simulator training solutions in Africa."

About Immersive Technologies

Established in 1993, Immersive Technologies is the leading global provider of operator training simulators to the mining and earthmoving industries.

With more than 70 AE Simulators deployed in 16 countries around the world, the company's simulators are integral to the operations of many world-leading mining companies who use the technology to improve operational safety and efficiency while driving down maintenance costs.

Immersive Technologies' exclusive alliances with several leading original equipment manufacturers (OEMs) ensures its extensive range of AE Simulators achieve a superior level of realism and accuracy through the use of exclusively licensed proprietary data and machine technical information from the OEM.

The company's expanding customer support base includes offices in Australia and the United States of America.

For more information about Immersive Technologies, visit **www.ImmersiveTechnologies.com**