



CASE STUDY

JINFENG GOLD MINE TO DOUBLE OUTPUT OVER THE NEXT 2 YEARS WITH RCT'S REMOTE CONTROL SOLUTIONS



RCT's Field Service Technician, Clarke Holmes with the ATX2200-LS remote control unit



Remote control by Line-of-Sight of the underground loader

REQUIREMENT

Eldorado Gold's target is to double the output at their Jinfeng Gold Mine over the next 2 years. In order to achieve their production target, the company needed to identify a way in which it could continue to mine, safely and efficiently.

The solution is to incorporate a change to the current mining method of "over-hand cut and fill" and to include long-hole open stoping, which requires remote loader capabilities to recover the ore from large unsupported areas.

The Carlin type ore deposit mined in Jinfeng is commonly associated with poor to fair rock types and high grade areas that self-mine, this can jeopardise the safety of the operators and machines.

The ability to continue to mine in these unstable conditions without jeopardising the safety of the operators is the key factor to increasing productivity at the mine. Jinfeng took the first, significant step towards tele remote control with the implementation of RCT's Line-of-Sight control of their Caterpillar R1700 LHD vehicles.

RCT SOLUTION

Where an area is unsupported, such as long hole open stopes, removing the operator from the hazardous area and allowing them to control their machine from a safe location some distance away, allows continued production without exposing personnel to any risk.

The significant safety improvements available through remote control of equipment first caught the interest of Jinfeng mine management resulting in the installation of two ATX2200 Line-of-Sight remote solutions at the gold mine. This allowed them to control their R1700 LHD vehicles from a safe distance and to continue to operate in the unsupported conditions.

The successful implementation of RCT's ATX2200 Line-of-Sight Solutions at the Jinfeng operation heralds the beginning of remote control operation at the mine which is one of the largest foreign owned gold mines in the People's Republic of China.

RCT's team installed the remote control systems at Jinfeng on two underground loaders (LD002 & LD005) and trained 14 Jinfeng staff (including underground operators, underground trainers and maintenance personnel) in safe operating techniques, fault finding and diagnostics of the Line-of-Sight remote system.

Successful completion of the training enabled the operators to control the underground loader LD005 from over 400 metres away using Line-of-Sight control.

The comprehensive operator training included classroom theory and practical operation of the loader on remote control. Eldorado maintenance staff underwent RCT's Level 2 training which allowed them to not only operate the remote loader but to identify potential faults and understand the internal diagnosis software functions and settings.

"Remote control loaders are essential for safe long hole open stoping, and to ensure the safety of the operators," said Jackie Bock, Underground Foreman at Guizhou Jinfeng Mining LTD, "this commissioning and training will enable us to recover ore from places that are considered too high-risk for exposure to our operators."



Training at Jinfeng Gold Mine

OUTCOMES

The comprehensive support and training provided to operators, training and maintenance staff at Jinfeng has empowered them with the skills necessary to gain the most from their Line-of-Sight equipped machines.

With machine maintenance now possible, immediately or as required and on site, machine downtime is minimised and production can continue with minimal interruption. This, together with the ability to continue to operate in the unstable environment, has a significant impact on production with an increase in operations.

CLIENT COMMENTS

With the successful installation and the achievement of positive outcomes from the Line-of-Sight control systems, Jinfeng are now looking at implementing teleremote control to approved machines.

While the benefits of RCT's Automated Mining Solutions were already well known to the Underground Foreman, from his own experience at another operation, its application at Jinfeng provides significant opportunity to increase safety for the operators prior to the operation moving to a new and more productive mining method. "I have seen the benefits of RCT's remote control solutions in other operations so am confident in achieving positive outcomes at Jinfeng," said Bock.

"To further lift our production, we are looking to change our mining method to long hole open stope mining," said Bock. "We have seen the success of RCT's solutions at a sister mine, so we have confidence in achieving successful outcomes here at Jinfeng with the Teleremote Solution."

RCT COMMENTS

The customer has already seen improvements in safety and productivity with the installation of our Line-of-Sight Solution at Jinfeng," said RCT's Account Manager, Shane Smith, "this will provide further efficiencies for the operation. Using Teleremote control of machines removes any risk to the operator, enabling operation in potentially hazardous areas without compromising safety."

RCT is continuing to work with Jinfeng to assist the operation in achieving their target of doubling their output over the next 2 years.

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