

## Case Study

# Zinkgruvan Mining AB, Sweden

## BACKGROUND

Zinkgruvan has been in continuous production since 1857. The primary metal produced is zinc, with lead and silver as by-products. Zinkgruvan is one of the largest underground zinc mines in Sweden and is ranked in the lowest cash cost quartile among global zinc mines.

The operation consists of an underground mine and processing facility with associated infrastructure and a production capacity of 900,000 tonnes of ore throughput. The mine has three shafts with current mining focused on the Burkland and Nygruvan ore bodies. One shaft is used for ore and waste handling; the other two are used for transportation of personnel and for emergency egress. The current flow sheet consists of crushing and autogenous grinding, bulk flotation, concentrate regrind, selective flotation separation of lead concentrates from zinc concentrates, all followed by thickening and filtration of the individual lead and zinc concentrates.

## CHALLENGES

To provide clear and reliable above and below ground communications.

## SOLUTIONS

Zinkgruvan is supported by a VHF Leaky Feeder System. The VHF MCA1000 series Leaky Feeder Head End unit is the nucleus, or core, of PBE's Minecom Leaky Feeder system. Its purpose is to combine the RF outputs of up to 64 low powered Transmitters and the RF inputs of up to 64 VHF Receivers and produce up to 16 PAL video channels with a single 50 ohm output, 19 inch 3RU rack unit, providing the necessary interface between the base radios, video demodulators/ monitors etc. and the leaky feeder cable.

The standard MCA1000 Head End is capable of providing up to 8 full duplex channels. Additional channel expansion units can be used to increase the number of useable channels to 16, 24, 32 or 64 respectively.

The Zinkgruvan mine is continuously growing and has to September 2010 over 100 km of Minecom Leaky Feeder running through the mine.

Zinkgruvan has also relied on Minecom (and now PBE Australia) to solve the communications connection between the underground Leaky Feeder System and the above ground communications system. Minecom has installed a 4 channel Linked Repeater System that seamlessly connects the aboveground and underground communications.



## HISTORY

The Pyott-Boone Electronics (PBE) mission has always been to design and build reliable, high tech equipment for mine safety and productivity. Four decades later that tradition continues as we provide mine-wide monitoring and communications equipment all over the world.

PBE has installed its Minecom Leaky Feeder communications systems and proprietary personnel and vehicle tracking system in over 100 underground mines, enabling real-time reporting and tracking information improving mine safety and productivity. The PBE MineBoss™ monitoring system is currently operating in over 300 U.S. mines, and we are the leading U.S. manufacturer of conveyor monitoring and controls, wired and wireless gas monitoring, fire and dust suppression and paging telephone lines, with installations in mining operations all over the globe.

PBE is also the largest Authorized Motorola Two-Way Radio Dealer in the U.S. coal industry. Not only are the Minecom Leaky Feeder and PBE tracking systems suited for post accident applications, they serve as superior productivity tools.

As your 'one-stop-shop' for safety, monitoring and communications systems our customer oriented, global distributor network and dedicated in-house sales and service staff are here to support your mining operations today and for years to come.

## OUR SOLUTIONS

PBE was founded to supply eastern U.S. coal mines with quality electronic equipment and we continue to do so, but over the years we have expanded our sales to include many other industries all over the world.

### Solutions we provide:

- Underground Radio Communications
- Mine Wide Monitoring and Control
- Personnel and Equipment Tracking
- Gas and Atmospheric Monitoring
- Conveyor and Motion Monitors
- Transient Voltage Suppression

### Industries we serve:

- Surface and Underground Coal Mines
- Metal and Non-Metal Mines
- Natural Gas Producers
- Processing Plants
- Utility and Transit Tunnel Projects
- Construction Industries

For more information visit our website or contact your local distributor or a PBE sales representative.

