

CTC sees increase
in surface explosives
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EXPLOSIVES IN MINING

Compiled by ERIN STEENHOFF-SNETHLAGE

Growing explosives sales in a declining market

ERIN STEENHOFF-SNETHLAGE | CREAMER MEDIA REPORTER



EXPLOSIVES SOLUTIONS

MAXAM helps customers optimise their drilling and blasting operations, bringing transparency, cost control and improved rock output

Although rising mineral production costs have led to declining competitiveness for the South African mining industry, which has negatively affected the sale of explosives materials manufacturer MAXAM regional director Brett Wheatcroft says this has created opportunities for the introduction of comprehensive smart blasting solutions.

For example, MAXAM's rock-on-the-

ground service can improve rock fragmentation and leads to significant savings in energy consumption downstream in the mine.

Through this service, MAXAM helps customers optimise their drilling and blasting operations, bringing transparency, cost control and improved rock output. Mines and quarries delegate blast planning, blast design, drilling, loading and blasting to MAXAM, which, in turn, delivers the rock blasted to the

required size. This control over the size of the fragmented rock generates important savings downstream in the operations, he explains.

"This is appealing in an industry that is struggling with rising costs . . . we found that clients who are receptive to newer technologies are affecting significant revenue, owing to the drive for improved efficiency, safety and social responsibility."

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Mpumalanga-based training college Colliery Training College (CTC) has noted an increase in enrolments for surface explosives courses, while the number of enrolments for courses pertaining to underground explosives remains constant, says CTC MD Johan Venter.

“This is likely as a result of coal mining shifting more towards surface – away from underground – as establishing a surface operation yields a quicker return on investment.

“The capital required to establish an underground operation is vast and can

take from five to ten years to develop, and will yield a return for the investor only 10 to 15 years later.”

Despite the increased enrolment for surface explosives courses, Venter states that one major challenge with regard to training is the Department of Mineral Resources’ (DMR’s) decision to revert back to the blasting ticket – away from the rock breaking qualification – that has removed the certainty that students and clients had with the rock-breaking qualification of Mining Qualifications Authority.

The qualification was obtained after a verifiable assessment in terms of industry standard assessment practices by qualified assessors to a scenario where candidates are currently required to complete a verbal examination conducted by people who are not necessarily qualified in assessment techniques.

However, Venter maintains that the CTC has various advantages over other training colleges, as it has partnered with a number of mining operations to deliver up-to-date and tailor-made training solutions for students.

These partnerships enable the CTC to provide off- and on-the-job training for the qualification.

Insight into the requirements of the DMR Blasting Certificate gives the students an advantage when they have to sit for DMR blasting board examinations.

“Employers considering a training partner in explosives training should consider one that is owned by the mining industry, as our training product offering comes from our 50 years of addressing the needs of our owners,” Venter concludes. ■



MINE TRAINING IN PROGRESS

The Colliery Training College partners with a number of mines to deliver up-to-date and tailor-made training solutions for students

Source: Bloomberg

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Another technological advancement solution is using drones in combination with software-based predictive modelling, with MAXAM’s X-Copter enabling mines to conduct high-precision profiling of a blasting area.

“This information, together with data accumulated from hundreds of thousands of blasts performed by MAXAM globally, can be used to create three-dimensional models used in our blasting design software, called Rioblast. With more accurate data, we can improve our models, blast design and predictions, and ultimately obtain better results,” Wheatcroft explains.

If you are all wrapped up in yourself, you are overdressed.

In addition, an important trend in explosives is the polymerisation of explosives, such as bulk water-gel technology, which prevents explosives migration in boreholes.

MAXAM’s Rioflex bulk water gel is a high-energy, robust and flexible-density explosive.

Wheatcroft mentions that, by flexible density, it means that Rioflex can be applied in a flexible range of densities, from 0.6 g/cm³ to 1.38 g/cm³. When applied at higher densities, the additional available energy offers the opportunity for expanded drill patterns or improved fragmentation, leading to lower the total cost of ownership, including drill and blast, loading, hauling, crushing and milling.

“Where a lower energy profile is required, Rioflex can be applied at densities below 0.8g/cc to reduce over break and wall

damage.” Moreover, the renewed focus on energy efficiency is pushing suppliers to adopt ecofriendly methods of manufacturing such as product suspensions that do not require the melting of raw materials.

“Mines often have inefficiencies to be unlocked, and markets struggling with increasing costs are usually the first to discover it,” highlights Wheatcroft.

Blasting offers huge opportunities for improving efficiency and safety of mines, he adds. “Therefore, the company believes that this is where the potential for growth lies: miners partnering with companies, such as MAXAM, have the right set of technologies and the proper technical application expertise to develop tailor-made solutions that save money and improve safety,” he concludes. ■

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