



"If I had another 30 trucks now I could sell them." - page 2

CONTENTS

- 1 Drilling points to growth
- 2 Cadia East sets development record
- 3 RUC builds fleet
- 4 Finance needn't be handicap
- 5 Different horses for high-grade course
- 6 Explorers discover CS14
- 7 New RDT manager down to business
- 8 Remote to the Maxfield

Drill results highlight growth potential

A RED-HOT exploration sector has driven demand for diamond drill rigs sky high in Australia and elsewhere, which was one positive among many in a stellar 2006 for Atlas Copco Construction and Mining Australia. But the rig sales are a likely pointer to even bigger things ahead for the equipment supplier, according to general manager Sergio Camozzi.

Reflecting on a year which saw the Australian unit of Sweden's Atlas Copco AB cement its position as the group's mining equipment and service sales leader, Camozzi said the company was not the dominant supplier of diamond drill rigs in the market.

"Exploration for us is an indicator," he says.

"When you see investment in exploration you tend to think there will be some development of new mines and hence future demand for new (underground mining equipment) equipment. We are certainly seeing a lot of investment in exploration, and our diamond drill rigs sales reflect that. Others are doing even more business of course. So it is a very good sign of what might be there (in mining) in one-to-two years time."

Certainly, current mining equipment sales couldn't be stronger.

"The mining sector really is not slowing down," Camozzi said.

The latest available financial data from Sweden

showed Atlas Copco's biggest business unit, Construction and Mining Technique (CMT) contributed \$US633 million of revenues in the September 2006 quarter as group revenues surged by 17% to pass \$US1.7 billion. CMT revenues for the first nine months of 2006 were 28% up on the previous year at \$US1.92 billion.

Camozzi said the fourth quarter showed no signs of a slowdown.

In Australia, a market in which mining-sector sales are the dominant contributor to overall turnover, revenues climbed 15% in 2006 but the order intake was up 25%.

"We (Australia) are by far the largest buyer of 50-tonne-payload trucks from the factory."

"That (latter number) is the key indicator for us of what is to come in future," Camozzi said.

"Our 2006 revenue number could have been stronger because we couldn't deliver all the orders. I see 2007 being a better year than 2006 – January has been an amazing month.

"We are seeing growth in both the surface and underground equipment markets."

An expanded 2007 allocation of underground mine trucks from the factory in Sweden had already been snapped up by Australian mine owners and contractors, Camozzi said, meaning the company was effectively taking orders for delivery in 2008.

"We (Australia) are by far the largest buyer of 50-tonne-payload trucks from the factory," he said.

"This is a market segment that has seen a significant shift here in the past two years. Despite the availability of 60t and 55t trucks, we have emerged as the preferred truck because of the speed, power-to-weight performance and reliability of the MT 5010.

"It is proving to be the best in the market and, partly because we did not expect such a big change in the market, we are fighting to keep up with the demand.



Atlas Copco Construction and Mining Australia general manager, Sergio Camozzi.

"If I had another 30 trucks now I could sell them."

Other than the surge in mine truck orders, the major highlights for Atlas Copco Construction and Mining Australia during 2006 included the signing of a record \$A80 million contract with the operator of the new Boddington gold mine in Western Australia, for surface drill rigs and long-term maintenance supply, and continued major expansion of the company's service business.

Highlighting the tremendous value of the former Ingersoll-Rand surface drill product range – now part of an extensive Atlas Copco Drilling Solutions offering – the Newmont Mining Corp/Boddington order for nine surface drills also underlined the worth of Atlas Copco's substantial investment in service and repair facilities and people in nearby Perth. The depth of the technical capability and experience close to the major new gold mine was a key factor in the contract win.

Camozzi said 30% growth in Atlas Copco Construction and Mining Australia's service business in 2006 made it a significant contributor to the company's expansion during the year.

"We now have 300 people in service (in Australia)," he said, "which is about 70% of the total workforce."

Cadia East sets development record

Competent ground, a highly competent development team and an "X" factor have come together to enable Newcrest Mining Ltd to set a hot new pace for underground mine development in Australia at the Cadia East project in New South Wales.

The "X" factor is state-of-the-art technology: a purpose-built development jumbo able to drill out 6m rounds with Atlas Copco's Automatic Boom Control system and 3038 drifters in the time it is taking other rigs around the country to drill out 3.7m rounds. With the new drifter performance adding to the Atlas Copco L2C30's capacity for high-speed advance, Newcrest's "rapid development" initiative hit its straps in December and has maintained excellent momentum in the early part of 2007.

One of several major new projects on Newcrest's horizon in the Cadia Valley district near Orange, Cadia East is currently the focus of a feasibility study aimed at assessing the viability of separate underground and openpit

Camozzi said further investment in Australia-wide support for the large Ingersoll-Rand drill fleet was a priority going forward.

"The (integration) is going very well," he said.

"Last month we appointed a new technical manager surface only to look after big and small Ingersoll-Rand machines

"The outlook for 2007 is certainly positive as this is probably one of the best accepted product lines in the market."

While rising material and other input costs for manufacturing equipment and consumables has translated into modest price adjustments for products supplied to the mining and construction industries, Camozzi says significantly higher labour costs, and costs associated with delays in delivery of services and equipment are more meaningful for mine owners and contractors.

He says availability of tyres for underground equipment is "not really an issue" as it is for operators of large surface machines. Meanwhile, underground equipment delivery timeframes have been maintained at 3-4 months despite the growing demand.

Except for trucks, that is. If your name is not on one of the units already earmarked for delivery Down Under this year, the wait might be a little longer. **h**

mines. A massive porphyry zone of gold-copper mineralisation between 700-1500m vertical depth is seen to have potential to host one of the world's largest panel caving operations.

Newcrest is developing a 7km, 6m-by-5.5m decline to a vertical depth of 1000m to provide access to the deep deposit.

Cadia East area manager Stephen Powell says nearly 3km of decline development has been completed to date. The decline has progressed





Window of opportunity ... Cadia East's Atlas Copco L2C30 development jumbo in action.

into competent volcanic rock after passing through a series of three 150m fault zones – the last one in the latter part of 2006 – and was 420m below surface in mid-February.

"The mining and maintenance team is functioning exceptionally well with respect to safety, quality and development rates," Powell says.

"We needed to achieve Australian record rates to achieve our rapid development budget targets."

"We are very proud of our safety record – zero lost time injuries in the 28 months of the project to date including 21 months underground. I don't think that has been achieved on any underground project from commencement."

The targeted daily advance rate of 8m was achieved in October and then exceeded in December 2006 when the Cadia East development crews notched up 283m for the month including 245m of straight decline advance (not including stockpile, level access and ventilation access drive development). That was backed up with 256m in January, including 225m of straight decline advance, when some planned and some unexpected delays curbed the advance rate. In February the rate tracked at 9m a day "and we expect to maintain that rate", Powell says.

Ground support includes in-cycle shotcrete plus rings of eight resin grouted rebar rockbolts every 2m.

"We needed to achieve Australian record rates to achieve our rapid development budget targets," Powell says.

"The drill is certainly performing well. I can say that the L2C30 jumbo has exceeded my expectations, and I am sure that all of the Cadia East team would agree.

"Six metre rounds have been successful from the outset due mostly to drilling accuracy provided by the laser alignment and boom control functions. The 3038 drifters are amazing in terms of penetration rate, reliability and operating cost. We can drill out a 6m round in the same time as a 'normal' jumbo can drill out a 3.7m round and the 6m round will have a much better profile.

"The jumbo has been extremely reliable to date – I can't recall any lost time other than the usual hydraulic hoses. The learning curve for operators and maintenance personnel was certainly less painful than anticipated."

Cadia East's five-person mining and maintenance crews comprise a shift supervisor, three multi-skilled miners (to operate jumbos, loader, trucks, charge-up, shotcrete unit, agitator trucks and IT) and a fitter. They work on an equal time roster, four days on and four days off, and all personnel are Newcrest employees.

In keeping with the rest of the Cadia Valley operations, Cadia East personnel are on fixed salary with no bonus system.

"I was confident that the equipment selection would offer upside (on the industry average) but couldn't be certain about the impact of the other key factor, which is motivation of personnel," Powell says.

"Contractors typically motivate their workforce with some style of bonus system. Cadia East doesn't have this option as it needs to operate within the broader Cadia Valley Operations protocols."

One motivational factor for the teams at the face seems to be the calibre of the technology at their disposal. According to Powell, the jumbo operators "are still impressed with the capability of the rig".

"They have been known to ArmourAll the cabin from time-to-time," he says.

The crews might also be spurred by the knowledge that, for the time being at least, they appear to be the number one mine development team not only in Australia but quite likely worldwide. **h**

RUC expands fleet, and service offering

RUC Mining Contractors has taken delivery of an Atlas Copco ST1520 underground loader and added a Rocket Boomer M2D to its growing mining fleet, which is about to take the leading raisedrilling contractor into the broader underground mining services market.

Part of the South African-headquartered Murray & Roberts group, RUC has worked for most of Australasia's underground mine operators as a raisedrilling contractor. Now it wants to expand the service, as Murray & Roberts has done successfully in Canada and South Africa.

RUC managing director Barry Upton, former

operations manager with major underground mining contractor ByrneCut, says despite the intense competition for underground mine development and production work in Australasia there is room for an experienced, specialised newcomer, as has been evidenced by several requests for the company to bid on contracts.

"We've bought some strategic plant assets so we have equipment available and I think that will stand us in good stead," Upton says.

"We have been looking at opportunities to expand the business where there are



RUC Mining Contractors is equipping for underground mine contracting.

opportunities and there is not much left in the raisedrilling market to expand into given that we've now got 12 rigs operating and probably 60-65% of the market.

"There is plenty of demand there (in the underground contract mining area) and I think that there might be opportunities for companies that are more regionally based to take on smaller jobs that are not as attractive to the established underground contractors.

"We've bought some strategic plant assets so we have equipment available."

"Our operations base is in Kalgoorlie," says Upton. RUC also has an administrative office in Perth.

He says an advantage enjoyed by RUC over other potential market entrants is its parent's financial strength. Johannesburg Stock Exchange-listed Murray & Roberts is one of Africa's largest mine construction contractors. "We've also got pretty good access to the industry through the raisedrilling because there would hardly be a client in the Australian mining industry that we haven't worked for."

Upton concedes another barrier to entry for new underground mining contractors is access to skilled labour and experienced lead hands.

"It's really just hard work at the moment," he says.

"You've just got to keep working at it until you fill your books, and then you've got to keep improving the quality of the list. You certainly don't mind being a good payer if you get good value for money, but you can't get into this trap of paying more just to get anybody and there's a fair bit of that around."

And the initial contract: was it within reach?

"I don't expect it to be too far away," Upton says. h

Finance needn't be handicap

ATLAS Copco has added an Australian financing arm to its business, offering customers the opportunity to fund equipment purchases at better rates than they are likely to find from banks or other finance companies.

Headed up by Sydney-based Rod Herman, Atlas Copco offers three basic financing products: commercial hire purchase, finance lease, and operating lease. Each has different tax benefits depending on customer requirements.

"We are offering a one-stop solution, where a customer can buy the equipment and we can fund it in-house," Herman said.

"What we also try and do is build in service contracts so we can offer a one invoice payment to the customer. So when they buy our equipment and assume this contract, their quarterly or monthly payment (for example) also includes the service contract – a total solution for them so they can manage their budgets better."



Atlas Copco Finance manager Rod Herman.

According to Herman, the benefit of dealing with Atlas Copco Finance compared to a bank or other finance company comes from its total knowledge of the equipment and therefore the options for the equipment once a lease is completed.

"We can take what we call an investment in the equipment. So we know how to dispose of it at the end of the lease and we use that knowledge to offer a lower monthly payment for the customer," Herman said.

"We are offering a one-stop solution, where a customer can buy the equipment and we can fund it in-house."

Customers who evidently like what is on offer have included specialist underground mining contractor Australian Contract Mining, GBS Gold International and Citigold.

On a global basis, Atlas Copco's financing initiative was formally established in 2002 in Sweden, with financings transacted in some 60 countries.

Prior to joining Atlas Copco, the Sydney-based Herman was involved in lease financing with AT&T and Hewlett Packard, including a stint of about five years for the latter based in Dublin. Outside of work, Herman's hobbies include being a member of the Bayview Golf Club where he holds a handicap of 17. h

Simulating to yield real savings

AN UNSKILLED operator behind the controls of a sophisticated multi-million dollar drill machine is at best a case study in inefficiency and at worst an expensive accident waiting to happen. Atlas Copco is addressing the problem with an emerging suite of simulators that both train and test operators before they arrive on site.

A new Personal Drill Jumbo Simulator adds to the Rex Box training aid used by mechanics and

fitters, while a surface rig simulator is currently at the development stage.

The Jumbo simulator is set up in a sea container and features six simulation modules mimicking an Atlas Copco twin-boom RCS drill jumbo in action underground.

"You stand inside an actual cab inside a container that's set up to look like a tunnel and with joysticks that are replicas of those on the jumbos," Atlas Copco's Trevor Manne said. ▶



Simulator training to produce real gains.

Manne is Atlas Copco Construction and Mining Australia's training officer/product specialist RDE/SDE.

"The operators get in there and start to move these joysticks around in a visualisation of the boom moving and of the drilling into the rock. So they can see it physically as well as actually line up the holes ... so its not just a simulation, you get feedback on how accurate the holes have been drilled, how quickly they've been drilled, and the drill pattern used (whether it has been economical), as well as information such as whether the booms have hit together."

Atlas Copco's Perth office got the simulator in 2006 from Canada, and has recently started promoting the training aide.

Personnel from Western Australia-based mining contractor Barmenco have used the simulator and BHP Billiton is also believed to be considering following suit at the massive Olympic Dam operation in South Australia.

The jumbo simulator adds to the range of training aids already used by Atlas Copco, with fitters and mechanics for example using the so-called Rex Box developed by Rex Supierz (national training and technical manager) and Steve Milentis.

The Rex Box essentially comprises a mobile modular unit incorporating the rig control system (RCS) used by Atlas Copco drills.

"We have a small unit that has a display of all the modules used in a drill, and after plugging it into the wall (240 volts) we're able to simulate an actual machine working," Mann said. "All the bits of equipment you have on a machine are in this one box – it's an exact replication of the system – and the advantages are we're able to pull it apart and put faults into it. We take (the fitters and mechanics) through a full one or two day course, looking at the individual units themselves so that they can then identify them visually and then understand what they are, what they do and how they fit into the system. As well as the software side of the system ... and then they can also get into the simulator because it's an actual working model and change the settings."

The Rex Box was built around three years ago from parts of various decommissioned drills. **h**

High-grade mine opts for 20t truck, 7t loader

BIG GEAR may be the order of the day for many Australian underground mines, but for Canadian-based GBS Gold International Inc fit for purpose means 20-tonne payload mining trucks and a matching 7t loader.

The company took delivery of its second Atlas Copco MT2010 articulated dump truck at Brocks Creek, near Pine Creek in the Northern Territory, while the Atlas Copco Scooptram ST710 loader started work at the end of February.

Atlas Copco has also delivered a Simba 1257 production drill and two Rocket Boomer M2D development jumbos to Brocks Creek, where GBS is ramping up underground production to feed its nearby Union Reefs mill.

The company is targeting gold production of 20,000-25,000oz during the first quarter of 2007 from the milling of 300,000-350,000 tonnes of ore sourced from Brocks Creek, and the Rising Tide and Fountain Head openpit mines. GBS wants to be producing at an annualised rate of 150,000oz by the middle of this year.

Exploration currently in progress is aimed at upgrading and expanding a gold resource inventory which includes 21 million tonnes of measured and indicated resources grading 3.2 grams per tonne, and 20.7Mt of inferred material grading 2.3gpt.

At the end of 2006 Brocks Creek had measured and indicated resources totalling 300,000t at 17.6gpt and an inferred resource of 100,000t at 5.1gpt.

Matt Cobham, business line manager – LHD, for Atlas Copco Construction and Mining Australia, says the Brocks Creek MT2010 trucks and ST710 loader are the first such units delivered in the country.

"The MT2010 is a bit of a flagship truck for the company in other markets around the world," he says.

"We have recently had, for example, mines in



MT2010 dump truck.

the US and South Africa buying 10 and 20 units at a time.

"The Australian units have the new Cummins QSL9 Tier 3 compliant engine which meets the latest emission requirements."

Developed for small-to-medium-scale underground operations, the MT2010 boasts a high power-to-weight ratio – with the QSL9 engine delivering 224kW of power at 2100rpm – for exceptional speed on grade. A Jacobs engine brake helps increase brake life, reducing braking heat, and provides automatic engine overspeed protection. Atlas Copco's standard SAHR brake system offers long component life and reliable braking.

"The MT2010 is a bit of a flagship truck for the company in other markets around the world."

The truck's converter lockup also delivers better power transfer, and generates less heat for longer component life.

Deutsch waterproof sealed connectors resist corrosion and simplify maintenance, while the truck's centralised lubrication system also streamlines maintenance.

The Scooptram ST710 is an excellent match for the MT2010, with high reach for excellent truck loading, an ergonomic operator compartment, automatic power shift transmission with integral converter, and charge-air-cooled, fully electronic, water-cooled Deutz Series 40 diesel engine delivering power and economy with lower emissions

The compact ST710 also has a SAHR brake system. **h**



Atlas Copco's ST710 loader.

Explorers discover the CS14

DAVE Brooker, Atlas Copco Construction and Mining Australia business line manager – exploration products, says there is no sign of a slowdown in Australia's buoyant exploration drilling sector.

At the moment he can't get hold of rigs such as the company's CS14 diamond drill – successor to the Christensen CS1000 P6L – fast enough to meet demand. Two units have already been deployed in south-east Queensland and South Australia. "I ordered two units for stock and no sooner had I done that than letters of intent came in for both of them," Brooker says.

"It's a good, versatile surface drill – a pure diamond core rig; competitively priced and with a good depth rating."



CS14 surface diamond drilling rig.

The CS14 can drill N-size diamond holes to 1200m vertical depth.

"It's a very robust model," Brooker says. "The base design has been around for years and is well proven."

Now manufactured in Sweden, the CS14 embodies the Christensen design principles of easy operation, simple technology, high capacity and reliable performance.

The trailer-mounted rig can work in ambient temperatures up to 50C and in altitudes up to 3500m above sea level. It features an environmental friendly Stage II Cummins diesel engine.

An ergonomically designed control panel has all controls within easy reach, with logical and clear symbols and readings. Set up of the rig for safe drilling is straightforward. It has a mast dump and four jacks as standard, which is time saving and gives better drill positioning.

With a modern and powerful rod holder, together with factory mounted options to improve drilling productivity (mud pump, water flow meter, large crown block etc), the CS14 stacks up well against competitor units, according to Brooker.

The second former Christensen rig out of Atlas Copco's exploration drill rig factory in Sweden, the CS10, is effectively a new smaller machine which can be transported in pieces to remote sites to overcome access problems. It was originally designed (as the CS1000P4) for the Canadian market.

Fred McMahon, co-ordinator of the survey and the institute's director of trade and globalisation studies. "The rise of Australia again reinforces how jurisdictions must be prepared to compete on an international basis to attract mining investment."

WA came in 18th in the rankings, well behind other Australian states and territories and most of those in Canada. Respondent company scoring – and feedback – condemned the state's regulatory consistency and arbitrary interference with licensing procedures by government ministers. "WA's State Government cancels licences at ministers' discretion and changes gas taxing policies after discoveries. Database and title systems (are) a disgrace," said one respondent company's exploration manager.

Manitoba and Alberta in Canada were considered by mining executives to have the best policy environments in the world for mining investment, according to the Fraser Institute 2006-2007 survey of 65 world jurisdictions. Colombia was added this year and finished 55th. "After years of turmoil and bad publicity it is hardly surprising that Colombia entered the survey at a low level," the institute said.

Manitoba topped the survey for the first time, knocking off perennial favourite, Nevada, which fell to number three after a six-year run on top. Alberta retained its number two ranking for the third year in a row. British Columbia, after years of improvement, has stalled and is the lowest ranked of the Canadian provinces.

"Manitoba has long been among the top jurisdictions and its number one ranking this year is a result of having clear, consistent policies that are applied evenly and fairly over the long term," McMahon said. "Our experience with the survey has shown that above all, mineral exploration companies value stability and certainty when it comes to government policy."

Other jurisdictions rounding out the top 10 are Utah, South Australia, New Brunswick, Quebec, Queensland, Tasmania, and Saskatchewan. Six of these jurisdictions were in the top 10 last year and only one, Queensland, was not in the top 20.

McMahon said the "big international news in the survey" was that Chile had for the first time fallen out of the top 10 policy jurisdictions, dropping all the way to 27th. "Most worryingly, of the 12 policy areas examined in the survey, Chile suffered its biggest declines in the areas of political stability and security," he said.

The overall rankings are based on the survey's Policy Potential Index, a composite index that measures the effects on mining exploration

Western Australia on the nose

By Richard Roberts, editor, www.highgrade.net

SOUTH Australia and Tasmania have maintained their positions in the top 10 most attractive mineral exploration jurisdictions in the world, according to the latest world survey by Canada's Fraser Institute, while Queensland jettied into the top 10 in the 2006-2007 survey after not being in the top 20 last year. However, Australia's boom resources state, Western Australia, is nowhere to be seen in the top 10 of the survey rankings.

Conducted annually by the Fraser Institute since 1997, the survey of mining and exploration company executives to determine the world's best policy environments this year drew 333 company responses from about 3000 companies canvassed.

"The major movement in the top 10 shows three Australian jurisdictions moving upward – South Australia, Queensland, and Tasmania, supplanting Ontario, Mexico and Chile," said



Global hot spots ... mining companies downgrade investment appeal ratings of Western Australia, Chile and other states, while elevating others, such as Queensland.

of government policies including uncertainty concerning the administration, interpretation, and enforcement of existing regulations; environmental regulations; regulatory

duplication and inconsistencies; taxation; uncertainty concerning native land claims and protected areas; infrastructure; socioeconomic agreements; political stability; labour issues; geological database; and security.

The bottom ranked jurisdiction was Zimbabwe, with the second-lowest score ever recorded in the Policy Potential Index. Other low-ranking scorers were Venezuela, Bolivia, Mongolia, the Philippines, Papua New Guinea, Kazakhstan, Russia, DRC Congo, and Indonesia.

"The many negative responses towards Mongolia highlight problems in that country as its ranking plummeted to 62nd from 33rd last year," McMahon said.

The president of one minerals producer reportedly said: "Mongolia has literally overnight changed policy from one of openness to one that heavily penalizes foreign owned mines." **h**

Hillblom aims are compatibility, penetration

ROBUST drilling consumable sales and a favourable demand outlook in Australasia provide Claes Hillblom with a solid platform on which to make his entry as Atlas Copco Construction & Mining Australia's new business line manager for Secoroc tools (RDT). However, the mechanical engineer with an extensive background in Secoroc's research and development, and marketing departments hasn't come to Australia just to oversee continuing expansion of the division's sales.

As he has seen in his most recent role as business line manager of the same arm of the



Atlas Copco Construction & Mining Australia's new Secoroc (RDT) business line manager, Claes Hillblom.

company in Sweden and Denmark, there are numerous benefits to be achieved for both customers and RDT from optimising integration of the business area within Atlas Copco CMT.

"By experience I know there is much to gain from that," he said.

"We also need to work hard on improving the administration and increasing the profitability of our large supply contracts around the country."

Hillblom expects RDT to post double-digit percentage growth in Australasia in 2007.

While recent growth had largely come from increased supply into existing large contracts, expansion of the group's manufacturing capacity in Sweden would allow RDT to increase its participation rate in new contract bidding as 2007 unfolded, he said.

"Large supply contracts come with a guarantee from our side on deliveries and supply of our products. We worked very hard last year to maintain deliveries to existing contracts," Hillblom said.

"Our manufacturing units are now producing at all-time high levels every month and soon we shall be able to work on new business opportunities as well. But we won't be jeopardising (relationships with) our existing, faithful customers to do so." **h**

After six years in product design from the late 1980s, Hillblom moved into Secoroc's marketing department as a product specialist on DTH equipment. He worked closely with supporting customer centres around the world, including in Australia, over an eight-year period from 1995.

"I guess my urge for working closer with the end-users developed in those years, and the last three years I've been enjoying the challenge of the business line manager role covering the Swedish and Danish market," he said.

"Perhaps the most important task for me here will be to further develop our rotary and DTH drilling consumables business. The new version of our COPROD system is working really well now and we're looking at a growing population of rigs in the market using this system."

The COPROD system combines the speed of topammer drilling with the accuracy and long service life of DTH. Efforts to combine the advantages of the respective methods proved fruitless until Atlas Copco's breakthrough design, which combines rigid, threaded pipe sections – each with an impact rod inside – for topammer drilling without rotation force loss or rod jamming.

"Practical experience with the COPROD has been exceptionally good," Hillblom said.

"Large supply contracts come with a guarantee from our side on deliveries and supply of our products. We worked very hard last year to maintain deliveries to existing contracts."

He said the overall market for Secoroc products had changed "a lot in recent years".

"We have through acquisitions widened our product portfolio considerably. And with that we need to cover and penetrate a larger market in total, extend our know-how into new applications and work up relations with new customer segments," he said.

"It's a big challenge to reach our target of being number one in all fields and it may force us to look at new concepts of marketing, sales and services.

"But we are up for it." **h**

Remote switch alters drilling risk

A TASMANIAN drilling contractor has been able to maintain high production rates – and safety levels – at the state's largest openpit mine by adapting blast-hole drill rigs for remote control operation while they are working under steep high walls.

Two Atlas Copco ROC L8 rigs drilling production holes beneath final pit walls up to 400m high at the Savage River iron ore mine in Tasmania's west were switched to remote control 14 and 20 months ago, respectively, by contractor Maxfield Drilling. Savage River operator Australian Bulk Minerals is also examining remote blast-hole loading while Maxfield is working on a way to remotely insert collar pipes.



Atlas Copco ROC L8 production drill rig.

ABM had problems with heavily jointed rock in parts of the high walls and asked its then contractor of six years to put two of its three Savage River blast-hole rigs on remote control.

Maxfield principal Dean Maxfield and maintenance supervisor Ross Saunders devised a plan to convert the rigs using a control system similar to those used on Atlas Copco Simba underground production drills.

The contractor's operators sit 30m off the machine in a converted backhoe tractor modified to fit a ROC L8 control panel in the rear of the cabin. Operators tram the backhoe to where it needs to be before swivelling in the control chair to face the controls and the rig before starting drilling.

Dean Maxfield said: "It's a safety precaution. We and ABM would rather have the machines underneath the highwall, not people. With this method we can still maintain our production rate with our drills."

The system has a control panel for drilling controls running via a 25mm cable from each drill rig. For functions which couldn't be transferred to the remote control station, cameras mounted inside the ROC L8 cabin monitor controls such as the WTS inclinometer to measure hole depths.

"The system is performing really well,"

says Dean Maxfield.

"We've had plenty of metres in the ground with this system – 80-90% of all pre-split, production and trim shots and cable bolt holes are drilled remotely."

He says operator acceptance of the remote control set-up has been good.

"The operators really like it. They know it's for their own safety.

"And they find the backhoe cabin really comfortable – it's set up with a CD player and heater.

"The rigs convert to normal use with the flick of a switch," Dean Maxfield says.

"We lock the controls with a key so the controls in the cabin can't be used when drilling via remote control. Then all we do is unlock the controls, reel the cable up on the back of the rig and it's back to normal."

Maxfield has three Atlas Copco ROC L8s working at Savage River, where ABM is examining a large-scale mine cutback to prolong production. The contractor also has six machines operating elsewhere in the state.

Dean Maxfield says the third rig at Savage River is used to drill production holes in the middle of the existing pit, away from the highwall.

"ABM had the (remote control) concept," he says.

"We developed it, it works really well and it's all about safety.

"Safety is paramount."

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