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MINERAL DEFICIENCY
Jobless rate doubles P6

FOOD FOR THOUGHT
FIFO waistlines widening P9

Uranium door now open

BY LAURA GALIC

Australia is poised for action in one of the world's fastest growing energy markets following the signing of a nuclear cooperation agreement with India and the announcement of exploration invitations in New South Wales this month.

The bilateral cooperation agreement allows the sale of Australian uranium to India, which is set to be a significant developer of nuclear energy over the next decade and a half.

While it is already one of the largest energy consumers in the world, it remains home to about 400 million people without access to electricity, according to Minerals Council of Australia Executive Director - Uranium Daniel Zavattiero.

He said Australian uranium would be critical in helping India develop its economy and bring electricity to more of its citizens.

"India is one of the two largest populated countries to our north and

with our bilateral agreement already in place with China, that's a third of the world's population in those two countries alone," Mr Zavattiero said.

"Both of these countries are rolling out extensive electricity investment programs and nuclear is an important part of these programs.

"Australia, which accounts for more than a third of the world's uranium reserves, is ideally placed to supply those markets.

"The bilateral agreements

commit those countries to only use our uranium for peaceful purposes so it's a great opportunity."

Mr Zavattiero said the council now had the responsibility to ensure Australia's uranium industry and projects were up and ready to go when the market turned.

"It's good news for Western Australia, because the next projects coming through Australia are likely to come from there," he said.

"At the moment there are 70

reactors under construction in the world and it's expected each year China will probably approve another six to eight reactors to be built.

"That bodes really well for the market going forward."

Australia is forecast to export more than 6000 tonnes of uranium oxide this financial year, generating export income in excess of \$620 million and that income is expected to top \$1 billion by 2018-19.

Continued on page 4

Plaudit for Old team's top talents

Top tier: A team from Rio Tinto's Kestrel mine, near Emerald in Central Queensland, took out third place in the most prestigious event at the International Mines Rescue Competition in Poland last month. Read the story on page 5.



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MCagenda

BY JENNIFER PETERSON-WARD

"We collect the mud in the gutter and look for the gold"



SHOOTING FOR GOLD

They are used to shooting for gold on the court and now some of the Goldfields' highest profile athletes have thrown their support behind the region's beleaguered gold sector.

Players from the Silver Lake Resources Goldfields Giants basketball club have joined with the WA Gold Royalties Response Group (GRRG) to take part in the lobbying group's 'Heart of Gold' public awareness campaign.

The campaign, which was launched in early August, aims to educate everyday Western Australians of the social and economic contribution made by the state's gold mining industry.

As the second largest employer in the resources sector, the gold industry provides jobs for more than 25,000 Western Australians and contributes \$8 billion to the state's economy.

The Goldfields Giants' willingness to take part in the campaign may stem from its ties with its naming rights sponsor ASX-listed gold producer and explorer Silver Lake Resources, whose Managing Director Les Davis has been one of GRRG's most vocal spokespeople.

Goldfields Giants Chairman Daniel Bowler said the survival of the region's premier basketball team was dependent on the financial support it received from the gold mining sector.

"Without the support of gold mining companies we wouldn't be able to exist," he said. "We rely on them 100 per cent."

CONVERSATIONS AND COMMODITIES

In a world where a poke qualifies as a first move, a text message as charming and a photo as chemistry, the developers of a new smartphone application believe they have found the solution to getting single fly-in, fly-out (FIFO) workers to start interacting the old-fashioned way – through chemistry and conversation.

According to the developers of Pozee, which launched in Australia last month, mobile dating apps have become the technology of choice for single miners over the past 18 months, however several vital elements of natural social interaction are either absent or compromised by looking for love in digital spaces.

The developers of Pozee say their app overcomes these problems by encouraging singles – from the mining community or otherwise – to "keep it real" when looking for love.

Using your phone's location services, Pozee shows you who is single and open to being approached within 50m of where you are standing. Once the singles around you have been found, users can do one of two things on Pozee: approach the person or send them an 'I missed my chance' profile card.

According to a statement on the Pozee website: "By introducing a simple technology singles can use every day to meet people in real time, our aim is to inspire real human connection and restore the sense of privilege and excitement that being single once represented".

Users can grab a glimpse of the new app via www.pozeeapp.com.

COALFACE COUTURE

It's the uniform of miners across the country, but the high-vis vest took on a new life at last month's Telstra Perth Fashion Festival.

Trailblazing fluorescent fashions illuminated the runway during the festival's Future Runway – an annual event showcasing threads designed by the newest crop of Western Australian fashion design students.

In a first for Future Runway, this year's event featured a new high-vis category, in which fashion students were challenged to create garments using safety vests.

CHILLY RECEPTION

Three BHP Billiton workers were sacked from their jobs last month over the ice bucket challenge internet craze.

According to reports in *The West Australian*, the workers were dismissed from Mt Whaleback mine near Newman for breaching safety regulations and for misusing company equipment after using two

onsite hiab cranes to lift a wheelie bin containing about 100 litres of water and ice over a worker's head.

The bucket was then tipped over the man, in line with the charity fundraiser that is sweeping the globe. BHP Billiton confirmed the dismissals.

FINDERS KEEPERS

Hundreds of prospective prospectors have descended on the British town of Kent in the hope of digging up buried gold.

The gold rush was sparked after word spread that a German artist had buried 30 gold bullions – worth a total of £10,000 (about \$17,000) – along the sandy shorelines of the Folkestone beach.

Devised by Berlin-based sculptor Michael Sailstorfer, the gold bar hunt was part of the Folkestone Triennial, a popular art festival on the southern coast of England.

Each of the 24-carat bars was said to weigh about 12g – around the weight of a large coin – and measured about an inch long.

The treasure hunt was intended to raise questions about what people would do with any gold they found: keep it as art or trade it for cash?

Only a handful of people have laid claim to finding one of Sailstorfer's gold bars so far, with local media reporting that a number of the bars are still awaiting discovery.

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Work to start on site possibilities



Search mission: Companies have been invited to apply for licences to explore one of three NSW locations.

Continued from front page

Meanwhile, the New South Wales Government has begun to look at the uranium sector as a potential source of growth in the next decade by inviting six companies to apply for exploration licences – the first invitations since the NSW Parliament removed the ban on uranium exploration two years ago.

Minister for Resources and Energy Anthony Roberts said the government currently had very little knowledge about the extent and distribution of the uranium reserves in NSW.

“Exploration will allow the NSW Government to better understand the extent of the state’s resources and any potential economic benefits,” he said.

“The six companies will be invited to apply for exploration licences in one of three NSW locations with possible uranium deposits – around Broken Hill, near Cobar and south of Dubbo.”

Even though the prohibition on uranium mining remains in NSW, Mr Zavattiero said industry looked forward to demonstrating its capacity to safely explore, mine and

transport uranium as it had been doing elsewhere in Australia for more than three decades.

“Uranium is a high-value, low-volume commodity and we have been safely transporting material from South Australia and the Northern Territory and exporting it very efficiently and safely,” he said.

“If they find uranium deposits in NSW which have commercial value and positive prospects for the economy, it’s hard to see why the government wouldn’t look seriously at taking the next step.”

Speedy rubber stamp will boost confidence

A record mining lease approval time has boosted confidence in Western Australian resources companies and sent a positive message to Australian and international investors.

The WA Department of Mines and Petroleum’s (DMP) reformed mining and petroleum assessment processes approved the mining lease for the Sirius Resources Nova nickel project in just 25 days in August.

Mines and Petroleum Minister Bill Marmion said this was 40 days less than the target of 65 days under the state’s revamped approvals system.

“This is reform in action and means this exciting new resource in the Fraser Range near Norseman will likely go from discovery to production in three years, creating more employment in our mining sector,” Mr Marmion said.

The initial significant nickel, copper and cobalt mineralisation was found in July 2012, with mining due to start as early as 2015.

DMP’s Geological Survey of WA provided the geophysical and geochemical data that assisted in the discovery.

The first diamond drill hole at Nova received co-funding under the Liberal National Government’s Exploration Incentive Scheme.

“This support and the company’s tenacity proved a game changer and marked the emergence of a new WA mineral province,” Mr Marmion said.

Since the discovery, DMP’s Mineral Titles division has worked

closely with the company to expedite the mining lease, while ensuring compliance with Native Title negotiation processes.

“Certainty is one of our most precious commodities,” Mr Marmion said.

“With the mining tax now well and truly buried by Federal Parliament, the message we are promoting across the world is that companies can have confidence doing business in WA.”

Sirius Resources Managing Director Mark Bennett said the mining lease approval was another important milestone on the miner’s path to creating the best nickel mine in Australia.

He acknowledged the efforts and professionalism of DMP staff at who made the process so efficient.

“This shows that despite the various fashionably negative views often expressed, WA is a good place to explore, invest and do business,” Mr Bennett said.

The mining lease was granted just nine business days after the company signed the mining access agreement with the traditional owners of the land.

The granted mining lease enabled the company to start the process of obtaining those approvals and permits which were contingent on the approved mining lease.

If no issues hinder the permitting process, the company expects to start development early next year.



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Australian coal mines are among the safest in the world, due to the industry’s ongoing commitment to research and development.

NLT Australia will be assisting in up-holding Australia’s position at the forefront of world safety for underground coal mining. NLT Australia Pty Ltd was formed in Jan 2005 by Managing Director, Tim Haight. The company has grown from a sales and support operation based in Queensland to its current engineering, manufacturing and service operation. NLT Australia now consists of a manufacturing facility in Brisbane with staff of approximately 20 people.

NLT Australia is a subsidiary of the Northern Light Technologies (NLT) of Toronto, Canada. NLT also has an office in Santiago, Chile and have been in business for over 25 years.

NLT is a global leader in cap lamps, tracking and communications with a particular niche in underground coal mines. Wi-Fi communication system deployment in remote and difficult locations is a speciality of NLT Australia.

Matching it with the best crews

The mines rescue team from Rio Tinto's Kestrel underground coal operation took home a coveted third-place title at the International Mines Rescue competition in Poland last month.

The result, announced in Katowice, placed the Kestrel mine's rescue team among the world's best in the Simulated Rescue event at the Ninth International Mines Rescue Competition.

The team faced off against 21 other mines rescue teams from 13 countries in a series of tests over two days.

Teams were required to demonstrate practical application of skills such as emergency medical aid, as well as convey knowledge of the theory behind rescue services in mining.

Kestrel Mines Rescue Team Captain Derrin Powell said his team faced a number of challenges throughout the competition.

"We hadn't used most of the equipment before and needed the help of a translator to assist with the language barrier," he said.

The first and second place titles were won by full-time rescue teams from Poland and Slovakia.

A rescue team from Glencore's Oaky Creek operation in Central Queensland also took part in the competition.

Joint venture on track for a sizeable gold find

BY KAITLIN SHAWCROSS

Diamond drilling at the Horse Well JV Project in Western Australia's Northern Goldfields returned evidence of a significant gold mineralised structure last month that has led experts to believe they are on track for a large gold discovery.

The project is a joint venture of Doray Minerals which signed a farm-in agreement with Alloy Resources earlier this year.

The first drill at the Dusk til Dawn prospect intersected 120m of gold at 0.60g per tonne from a 105m downhole and has Alloy Resources Executive Chairman Andrew Viner confident in the project's future.

"The diamond hole was only the very first part of the program and I think that has absolutely proved that our models were right and now the next program is some very extensive aircore drilling," he said.

"It's highly likely that we'll find a lot more signs of gold mineralisation."

Doray Minerals Managing Director Allan Kelly stressed that while the results were promising, it was still "early days" for the project.

"Conceptually, the project looks really good and, so far, it has all the ingredients, but we have a bit of

work ahead of us yet and will need a bit of luck too," Mr Kelly said.

Horse Well has been touted as the next Granny Smith - a gold deposit south of Laverton which has produced more than 3.5 million ounces of gold - a statement which Mr Kelly said was "premature".

At the time of print Doray had commenced a regional scale aircore drilling program of 6500m to 7000m over an area of around 25sq m.

"The key is now to find a trap where the gold has been upgraded to the point where it is economic," Mr Kelly said.

"We are currently drilling our first phase of aircore drilling, testing a number of the most obvious structural targets, including analogues for Granny Smith and Jundee-style targets."

Over the past two years Alloy has explored the northern half of the Horse Well project following up from a previously forgotten discovery of mineralisation in the area in 1995.

Mr Viney said the company looked to Doray to provide more money for exploration and expertise to advance the project more quickly.

Doray will hold a 60 per cent stake in the project if it gives \$2 million within two years.



Struck gold: Doray Minerals' joint venture with Alloy Resources has found a significant mineralised structure in WA's Northern Goldfields.

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Job forecast dire in minerals area



Revealing survey: Research has found the minerals sector is experiencing double the nation's jobless rate.

BY LAURA GALIC

Australia's minerals industry professionals are experiencing double the average unemployment rate, according to research by the Australasian Institute of Mining and Metallurgy (AusIMM).

The annual AusIMM Professional Unemployment Survey, conducted across the institute's 14,000 members, revealed unemployment among Australian minerals professionals was 12.2 per cent, up from 10.9 per cent last year and a steep increase from 1.7 per cent in 2012.

In addition, one in 10 minerals professionals was made redundant in 2013-14.

According to the Australian Bureau of Statistics, Australia's trend unemployment rate was 6.1 per cent in July 2014, which meant minerals professionals now faced double the national unemployment rate.

AusIMM President Geoff Sharrock said the research showed the depth of the downturn in the minerals sector and the high levels of disruption and uncertainty faced

by mining industry professionals.

"The impacts of cost cutting in the minerals sector have been particularly broad, deep and sustained," he said.

"It is distressing to see these highly trained professionals out of work."

AusIMM CEO Michael Catchpole said the reasons for structural adjustments in the minerals sector were clear.

"Companies have faced strong pressures to return value to shareholders, focus on productivity and respond to changing demand and reduced prices for commodities," he said.

"There are external factors beyond the control of national government and the major companies including commodity prices and investment patterns globally in mining.

"But from our point of view, we want to see changes by state and federal government in regulations governing exploration, to make it more consistent in all jurisdictions, and to encourage additional exploration and find those mines of the future."

Research revealed just under

half (49.1 per cent) of AusIMM's student members were confident they would find work as a minerals professional when they graduated.

In addition, half of AusIMM's members (50.8 per cent) believed there would be fewer job opportunities in the minerals sector in the coming year.

Mr Catchpole said the minerals sector risked losing the skills of these many unemployed professionals.

"There's no doubt that in the medium and longer term we will continue to face skilled shortages in the minerals sector and if we lose people in the short term, it obviously does negatively affect our opportunities to maintain a skilled workforce," he said.

"No-one is predicting quite when the industry would start to accelerate again but you would expect in two to three years' time we will feel that skills shortage again."

Mr Catchpole said he hoped the survey results would give industry and government a clear picture of the serious impacts facing the sector and be used to inform policy decisions.



Dumping ground: The strategy aims to protect the Great Barrier Reef.

Onshore disposal the new Abbot Point plan

BY KAITLIN SHAWCROSS

The Queensland Government has announced plans to dispose of dredge material produced from the Abbot Point coal port expansion project onshore, despite an already approved plan to dump the material in the Great Barrier Reef.

Last month Premier Campbell Newman said the government had been working on the Abbot Point Beneficial Reuse Strategy since 2012 and had requested Federal Environment Minister Greg Hunt fast-track the approval.

"The strategy approved by State Cabinet will create a win-win situation - it will protect the unique values of the Great Barrier Reef and allow for the staged development of the important port of Abbot Point," Mr Newman said.

North Queensland Bulk Ports (NOBP) already has federal approval to dump three million cubic metres of dredged seabed in the reef and under the new plan would be looking to reuse the material as landfill.

Environmental groups hold fears onshore disposal will cause damage to wetlands in the Bowen area. At the time of print a new disposal site had not yet been determined.

Save the Reef said while the new plan was an improvement, it would still destroy seagrass meadows, a vital part of the marine food chain.

"The three million tonnes at Abbot Point has to be added to ongoing

plans in Gladstone Harbour which will involve close to 30 million tonnes of seabed," spokesperson Libby Connors said. "So you've got these cumulative impacts on different parts of the reef."

The Greenpeace group said it feared damaging shortcuts would be made in an effort to fast-track environmental approval.

"We're really worried that there is not going to be appropriate environmental oversight because of the political pressure coming from the deputy premier," Ms Connors said.

Queensland Resources Council Chief Executive Michael Roche said green groups were ultimately aiming to shutdown Australia's coal industry.

"The activists and the Greens are intent on blocking the development of the Galilee Basin and essential associated infrastructure such as the Abbot Point port expansion, thereby denying desperately needed jobs and other project benefits to communities like Bowen," he said.

It was hoped the dredging of Abbot Point would begin in June but NOBP was forced to investigate alternative disposal options following a legal challenge over dumping in the marine park.

The expansion of Abbot Point is expected to create up to 25,000 jobs and is a vital step in the development of coal reserves in the Galilee Basin.

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Long-term vision, not price, is the key focus

BY JENNIFER PETERSON-WARD

The chief executive of Gina Rinehart's Roy Hill mine has remained optimistic the \$10 billion mine will weather the ongoing iron ore price storm.

Speaking at an event in Perth focused on technology and innovation in the resources sector, Roy Hill Holdings Chief Executive Barry Fitzgerald remained bullish about the outlook for iron ore, despite prices of the steel-making commodity tumbling to five-year lows in recent months.

The iron ore price slumped to a fresh low in mid-September of about US\$82 (\$91) per tonne. The commodity last traded at less than US\$80 (\$89) per tonne in September 2009.

The recent fall has seen most analysts revise their iron ore price estimates for the year, including US-based investment broker Morgan Stanley which released a report in mid-September predicting a further drop to the US\$70 (\$77) per tonne range in the near term.

In spite of these concerning figures, Mr Fitzgerald said he was focused on getting Roy Hill into production, rather than fluctuations in the iron ore price.

"I am not worried about it - I don't stay awake at night worrying about the price of iron ore," he said.

"The key issue for us is to get to the point where we worry about producing or selling iron ore; having iron ore to sell is an enabler to worry about the price of iron ore."

Specifically, Mr Fitzgerald said his company had worked hard to establish a business which incorporated the technology and the thinking of 2017.

"There was no point in us designing a business which was going to be cost effective and using 2010 or 2012 technology," he said.

Mr Fitzgerald's comments followed a statement posted on the Roy Hill website in early September in which Ms Rinehart said the mining operation's September 2015 target for first ore on ship could be beaten.

"Roy Hill's staff morale is high and the hard-working team hope to be able to bring the first shipment due September 2015, ahead of time," she said.

The Roy Hill mine, in Western Australia's Pilbara region, reached its construction halfway point in July this year and is expected to commence selling ore next year.



Potential: Only time will tell whether the Roy Hill iron ore mine will buck the current trend of dipping prices affecting the steel-making commodity.

my resources
POLL

Our September online poll posed the following question:

Should inefficient minesite equipment and poorly managed machinery be blamed for lower productivity in the mining sector?

The September edition of *The Mining Chronicle* revealed the findings of a recent report by accounting firm PricewaterhouseCoopers, which claimed the open-cut mining industry could be losing billions of dollars in potential earnings due to inefficient machinery operational use.

The *Mining for Efficiency* report, released in August, showed Australian miners were among the least efficient machinery operators in the world, second only to Africa.

Results: 60 per cent "yes" and 40 per cent "no" (accurate at the time of going to print).

In our October poll we ask:

Should Australia's present and future iron ore miners feel threatened by recent price volatility surrounding the steel-making commodity?

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FIFO habits a weighty issue

BY JENNIFER PETERSON-WARD

Fly-in, fly-out (FIFO) workers may be at greater risk of chronic disease than the general population as a result of poor eating habits developed onsite, a new university study has revealed.

Edith Cowan University Exercise and Health Sciences Lecturer Gemma Quayle took 35 FIFO workers' measurements and charted their eating habits over a three-day period at an unnamed remote minesite in Western Australia's North West.

Ms Quayle's research revealed more than 80 per cent of the men who took part in the study were overweight or obese, compared to 70 per cent of men in the general population.

Ms Quayle said healthy food choices were offered to workers on the site she surveyed, however the average number of servings of fruit, vegetables and grains they consumed were below standard Australian dietary recommendations.

In addition, Ms Quayle said many workers were consuming excessive amounts of "discretionary" foods, specifically pastries, cakes, biscuits, fried foods and desserts.

As well as the availability and ease of accessibility to these unhealthy foods, Ms Quayle said certain aspects of the FIFO lifestyle might also contribute to workers making poor food choices onsite.

"FIFO workers can make individual choices as to what they eat and how much they eat, but these choices - like



Research: Gemma Quayle (inset) scrutinised the availability of fatty, salty and sugary foods on minesites.

with any individual - are not made in isolation. They are framed within the broader environment in which they live and work and the social and cultural norms and practices within these environments," she said.

"The workers are perhaps isolated from family members and there is an abundance of food provided, coupled with long work hours and shift work.

"It is evident it is quite a unique context where they are living and working."

Based on her research, Ms Quayle said there were small changes FIFO

workers could make to improve their diets.

"Most sites, to my knowledge, offer a buffet-type food service and the temptation to overeat can sometimes be difficult to resist, so I would encourage workers to implement some small changes," she said.

"For example trying to have just one plate of food at meal times... or, even though those discretionary foods might be on offer, make them 'sometimes' foods."

Ms Quayle said it was important to note her results were preliminary

and broader research - surveying a greater number of workers over longer periods of time - was necessary to develop long-term strategies for tackling lifestyle-related health risks facing FIFO workers.

"The next step from here is more comprehensive research," she said.

"We need to look at if there is a balance between individual responsibility for health but also employer provision - perhaps workplace interventions or support for workers - to make healthy choices.

"Then, at a broader level, perhaps

FIFO workers can make individual choices as to what they eat and how much they eat, but these choices are not made in isolation

Gemma Quayle
Edith Cowan University

even looking at government responsibility for trying to create an environment which is also more supportive for healthy choices.

"I think we probably need more research to work out what is going to be most effective at that organisational level, and hopefully more research to the better of more health promotion strategies which really capture the unique environment in which FIFO workers work and live."

Ms Quayle is one of a handful of Edith Cowan University researchers working on projects examining the impact of the FIFO lifestyle.

PhD candidates Philippa Vojnovic and Jacinth Watson are currently researching the mental health of FIFO workers and how a parent's FIFO roster affects the resilience of their adolescent children, respectively.

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Research deal surges ahead



Data: The Yilgarn region. Inset: Mineral Resources' Sean Gregory (left) and Curtin University Associate Professor Grant Wardell-Johnson.

BY ANIKA STAFFA

A new research project linking industry with academia is underway in a bid to further an understanding of the environment in the Yilgarn region in south-western Australia.

The partnership is between Curtin University's Environmental Biology Group - led by Curtin Department of Environment and Agriculture Associate Professor Grant Wardell-Johnson - and Mineral Resources subsidiary Polaris Metals, with the data relating to its J5 and Bungalbin East mine proposals located in the Helena and Aurora Range Conservation Park.

"It's a postdoctoral research scholarship that we're sponsoring with a \$100,000 grant," Mineral Resources Technical Services General Manager Sean Gregory said.

"It's designed to study the relationship between the extensive data that we've collected in the Helena and Aurora Range and to see how that relates to the regional environmental data - things like topography, aspect, altitude, soil and rock types and climate.

"What we're hoping to be able to show is that if we can find some linkages between those more commonly available environmental data, that may enable us to extrapolate the floristic data further afield."

The project is utilising existing biodiversity data gathered from the region over several years by supervised consultants. Professor Wardell-Johnson said quadrat-based and species presence/absence records were being used in conjunction with light detection and ranging (LiDAR) data and environmental data.

"This partnership allows us to make best use of hard-won biodiversity data gathered over a long period from a significant region of Australia and to further build capacity at Curtin University in the biodiversity modelling space towards linking further with the mining industry in pre-mining to mine closure plans," he said.

The partnership received a significant boost on the back of the grant with the addition of Research Fellow Giovanni Di Virgilio's expertise on the project. Mr Virgilio has been appointed to undertake the research, with results expected by February 2015 before publication in peer-reviewed journals.

Mr Gregory said previous research had already identified two declared rare flora in the area and the current project would enable a better picture of plant species distribution.

"Based on that data we'll be able to more accurately assess the impact of our mining operation and indeed, at the conclusion of the mining operation and progressively throughout the mining operation as we do our rehabilitation, we'll be able to target the best place where those priority species are going to have the best chance of regenerating."

Professor Wardell-Johnson said there were many benefits of the project to Polaris Metals and to the wider industry.

"The most efficient use of biodiversity data allows more rapid appraisal of mining proposals, more efficient pre-mining planning and opportunities to better target rehabilitation procedures," Professor Wardell-Johnson said.

"This type of project should be replicated elsewhere and is likely to make the whole pre-mining to mine close process a lot more efficient as well as providing greater value to the state of hard-won biodiversity data."

Mr Gregory said it was a real privilege to be able to present the grant to Curtin University.

"Curtin is highly regarded particularly in the applied sciences so I think it's a real win both for Curtin and ourselves," he said.

"I think universities really do like to be relevant to industry and that's the benefit for Curtin, and the benefit for us is that it really does enhance our scientific credentials."

Polaris Metals mines 5 million tonnes per annum out of its Carina mine, 100km from Southern Cross. Independent analysis revealed increasing the lifetime of its mining in the Yilgarn would result in \$545 million in direct outputs each year during the operations phase.

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Tin volatility fuels concern

An Australian tin developer has predicted a shortfall in the global tin market as early as 2016.

Speaking at the 2014 Africa Down Under Conference, Kasbah Resources Chief Operating Officer Mike Kitney said the dynamics in the international tin market were shifting away from smelters to the owners of tin resources.

"As a result, there is some increasing supply side fragility," he said.

"This is fuelling corporate activity in the sector as opportunities exist for more western-listed tin producers that can deliver tin assets of scale - a rare commodity."

Predictions earlier in the year by the German Federal Institute for Geosciences and Natural Reserves (BGR) suggested that only seven of 157 known tin projects had any realistic chance of getting into operation by 2020.

The BGR review found that the Bofedal 11 project in Peru and Kasbah's Achmmach project in Morocco, were the only two economic projects based on current tin prices.

"The market has now entered a phase where upstream tin users are demanding new, reliable tin supply - but with supply projections suggesting production of refined tin by 2016 of 338,444 tonnes against a demand curve topping out at 360,990 tonnes," Mr Kitney said.

"This is a supply shortfall of more than 22,000 tonnes, a not insignificant figure in the global tin market."

Mr Kitney said financing talks were underway for the Achmmach project and first production was scheduled for 2016.

Kasbah will become the eighth largest tin producer in the world if its Moroccan project meets production start-up targets of 5300 tonnes of tin concentrate.

457 visa report does little to stem dissent

A four-month independent review into the integrity of the 457 visa scheme has suggested the program is suffocated by too many unnecessary restrictions.

The review was conducted by a four-person panel as an investigation into Labor's claims of widespread rorting of the scheme.

While the former Federal Government's fears were not confirmed, the panel made a number of recommendations including abolishing labour market testing and relaxing the English language standards.

Addressing the National Press Club in Canberra, Immigration Minister Scott Morrison highlighted the review and his support for some of its recommendations.

The Australian Mines and Metals Association (AMMA) flagged its support for the panel's recommendations and Mr Morrison's address.

"It is encouraging to have our Immigration Minister publicly acknowledge how skilled migration supports both economic growth and employment opportunities for the Australian workforce, after an unfortunate politicisation of the skilled migration debate under



Skilled migration: The review panel's recommendations included abolishing labour market testing.

the previous government," AMMA Chief Executive Steve Knott said.

"The minister also reaffirmed what employer groups like AMMA have long maintained, which is that misuse of the 457 visa system is isolated and there has certainly been no widespread rorting."

Mr Morrison indicated that the government did not support the complete removal of labour market testing and suggested there were other less controversial options that could be considered first.

The Australian Council of Trade

Unions said the recommendation to scrap labour market testing was ridiculous.

"Unemployment is at a 12-year high yet instead of creating a plan for jobs and investing in skills and training, the answer from the government and big business is to make it easier for employers to bring in foreign workers," ACTU President Ged Kearney said.

It also believed the recommendation to lower the English language standard would increase the risk of injuries and deaths in the workplace.

"If workers can't read safety standards and procedures then their lives and their colleagues' lives are being put at risk," Ms Kearney said.

The AMMA did not hold any concerns about overseas workers replacing Australian jobs and said foreign workers had always complemented local skills.

"Skilled migrants support short to medium-term skills shortages when Australians are unable to fill such roles. They pay tax from day one and create local jobs," Mr Knott said.

Doco explores the highs and lows for Aussie FIFO miners



High flyer: FIFO Shana Mooyman is featured in a new TV series. Picture: Tony McDonough.

BY JENNIFER PETERSON-WARD

A new three-part documentary series is set to put a human face to the people working at the coalface of Australia's mining industry.

Shot on location at some of Australia's biggest minesites, *Flying Miners* examines the highs and lows of the fly-in, fly-out (FIFO) lifestyle and profiles a number of FIFO workers including Perth's Shana Mooyman, a former model who has spent the past five years driving a dump truck in the heart of the Pilbara.

Ms Mooyman is missing out on a social life, but it is a sacrifice she is prepared to make, having built up an enviable property portfolio at the age of 24.

Initially planning to work as a FIFO for just 12 months, Ms Mooyman said she had been "sucked in" by the lifestyle, as well as the accompanying financial rewards.

"You do give up a lot to be able to live comfortably," she said.

"Missing out on major events - even just friends' parties or dinner dates - is not great, but overall [the FIFO lifestyle] definitely has benefited me."

Since filming on *Flying Miners* finished, Ms Mooyman said she had made efforts to diversify her skills by moving into an administrative onsite role and studying to obtain a diploma in safety.

However, Ms Mooyman said it was difficult to imagine a near-term future working in a non-FIFO role.


"My friends are always telling me to come home and asking me how much longer it is going to last for, but I'm used to the lifestyle now," she said.

"I was in mining at 19 - this is all I have done in terms of a working career, so it would be difficult to go to a Monday to Friday or even a Monday to Saturday job."

The first episode of *Flying Miners* will air on ABC on Tuesday October 14 at 8.30pm.

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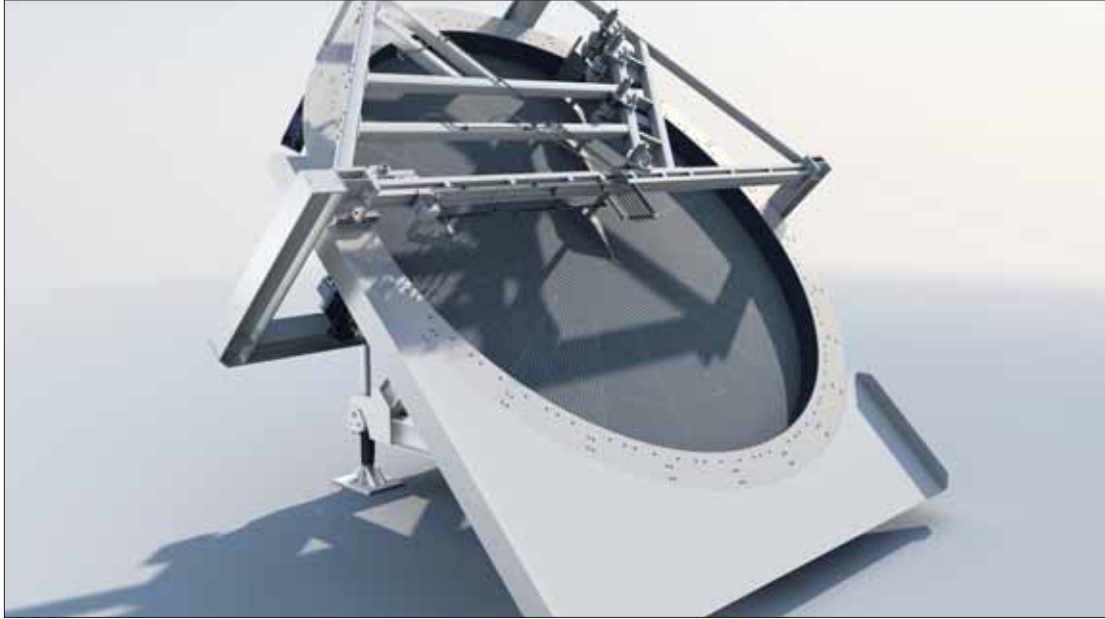
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Fines converted into useful asset



New life: The Scarabaeus pelletising disc creates value from leftover low-grade, low-value material fines.

By tailoring pelletising technology to a mine's specific needs Haver Australia's new Scarabaeus disc saves on energy, reduces maintenance costs and is environmentally friendly.

Haver Business Development Manager Steffen Silge said there were many economic advantages to using a pelletising disc instead of a drum.

"There are different ways to produce pellets from fines but the most efficient way is to use a pelletising disc as the return loads and recycling rates are significantly less in comparison to a drum due to the segregation effect a disc has," he said.

The Scarabaeus pelletising disc consists of a rotating, inclined flat cylindrical pan mounted in a heavy-duty frame and accelerated by a drive train.

There are several drive trains available either as standard

drive trains with asynchronous motors and a planetary gearbox or direct drive technology with synchronous motors.

The material fed into the rotation pan is pulled along and forms balls while adding liquid binding agents such as water.

The Scarabaeus offers flexibility via the opportunity to adjust a number of variables and set the best parameter combination for continuous high-quality production.

"Customers are able to specify their individual needs and create a specific pellet size by adjusting variables of speed and inclination during operation as well as sidewall height," Mr Silge said.

The disc is equipped with adjustable water spray points to find the best spray spot and adjustable scrapers to build up the appropriate bottom layer and material flow direction.

"Ultimately, this product works to create value from a previously worthless substance to create revenue for a business while minimising waste and its impact on the environment," Mr Silge said.

"In addition to the large iron ore concentrate pelletisers, we have discs running in recycling processes and are working on several development projects in coal, aluminium, hard rock fines, cement and gold to use residuals as a product again."

Additional peripheral equipment - such as pan hoods to minimise dust emission, closed, forced oil lubrication circuits and open grease lubrication systems - can be included in the delivery of the Scarabaeus pelletising discs.

Haver Australia can carry out feasibility studies and pilot tests to help clients develop an individual pelletising process route.



Anti-leakage: ADE'S range of modular spray heads were specifically designed to provide a solution for widespread water outflow problems.

New water spray head design to save dollars

A new range of water spray heads could save operators thousands of dollars by providing a solution to the age-old problem of water leakage.

The modular spray heads, designed by custom solutions provider Australian Diversified Engineering (ADE), use no diaphragm, which prevents water leakage and requires less energy to close the valve.

Early estimates show the annual maintenance costs could be as low as two per cent of regular spray heads.

ADE Director and Commercial Manager Danny Irvine said the problem of spray head water leakage was widespread throughout road construction projects and mine haul road maintenance, and before now there had not been an effective solution.

"It's a constant problem for the project managers - managing the amount of water wasted and maintaining an expensive maintenance regime for the water trucks," he said.

"Every hour the trucks are offline due to maintenance and every litre of water wasted adds up, so we are very pleased with this simple new design which has the ability to increase productivity and profit margin in such a significant way."

The spray heads use a rubber valve seal which cost around \$5, making it cheap to replace every year.

It costs about \$300 per year on maintenance for a fleet of five trucks with three spray heads each, compared with up to \$18,000 each year for regular spray kits which require a complete rebuild kit every three months.

Mackellar Mining Business Development Manager Dave White said he had seen a great improvement in productivity since installing ADE's modular spray heads on his company's water truck and machine rental fleet.

"In the past, leaking spray heads were a common and frustrating cause of machine downtime," he said.

"However since installing the spray heads designed by ADE we have seen an improvement in machine uptime and highly-reduced spray head servicing costs. This single part has been a revelation to our water trucks."

The spray head features a double-acting hydraulic actuator with a built-in back-up spring, which is directly attached to the piston to positively open and close the spray head valve.

With a body of stainless steel and aluminium, the spray heads are available in small or large hydraulic or pneumatic with an adjustable spray pattern.

Powered device live streams site road conditions to increase safety

Queensland-based engineering company Proof Engineers has released the Proof Road Condition Monitor (PRCM) for the measurement and monitoring of haul road performance across minesite roads.

The PRCM determines hotspots for grading through collated live-stream data allowing for immediate site action.

The 12 volt-powered device is compact in size making it suitable to be fitted to haul trucks, water carts and other light vehicles.

Proof Engineers General Manager Fiorella Ignacio said the PRCM ensured minesites maintained optimum road conditions on an ongoing basis and, as a result, increased operational efficiency and site safety.

"The Proof Road Condition Monitor is a cost-effective solution for all minesites and provides quantitative data that accurately reflects the site's conditions, without human subjectivity," she said.

"Haulage roads are a major production element in mining and have direct influence on the site's operating performance - if a road is poorly maintained it will not only impede production but can result in a range of issues including higher rolling resistance, damage to machinery, unnecessary tyre wear, driver discomfort, dust generation and, most importantly, creates an unsafe operating environment.

"The PRCM allows operators to essentially bypass these issues, by providing an objective assessment of the sites' road and pit conditions."

The device monitors a site by way of a mapping calibrated system which can be viewed by minesite managers using an integrated 3G network. The PRCM then highlights when and where roads need to be repaired.

As vehicles travel across the site with the device attached, vibration data is recorded and processed based on the

international roughness index.

Results are generated and displayed on a colour scale, accessible via an online platform, with different colours indicating the severity of road deterioration.

Mrs Ignacio said the PRCM system was simple to use and mine operators could monitor onsite with minimal training.

"The online platform where the data is calculated and displayed is also easy to navigate and can be customised to meet sites' individual needs," she said.

"For example, the site can choose to focus on particular roads of interest, alter weighing systems to meet different road condition standards or select results based on a particular vehicle."

Additionally, the system can identify the effectiveness of soil stabilisation additives by monitoring improvement to the roads' running surface pre and post treatment.

Competitive edge is garnered from all-inclusive experience

Ahrens delivers cost-effective construction and maintenance solutions to companies in the mining and oil and gas sectors throughout Australia. These solutions include full turnkey design and construction, asset management, maintenance management, fabrication, refurbishment and surface treatment.

The company's competitive advantage is leveraged from its in-house design, value-added engineering capabilities and multi-disciplined site crews, combined with an extensive fleet of mobile plant and equipment.

In addition, Ahrens has extensive remote site experience and national resources, including an extensive network of fabrication workshops, warehouses and laydown facilities.

These key workshops support its range of services by providing state-of-the-art fabrication of structural steel, plate and pipe work, refurbishment,

machining and industrial abrasive blasting and painting. The offices and workshop facilities are strategically located near Adelaide and at Olympic Dam, South Australia; Perth and Newman, Western Australia; Darwin; and Brisbane and Toowoomba, Queensland.

Ahrens' delivery capabilities are supported by an experienced team of engineers, draftspersons, project managers, site supervisors, safety officers, trades people and specialist subcontractors.

All of the Ahrens' experience and service offering is underpinned by its robust accredited management systems, including AS4801, ISO9001 and ISO14001. These systems support the delivery of complex requirements which exceed its customers' expectations.

For more information visit www.ahrens.com.au.

ADVERTISING

Reputation for ideal solutions

SMS Rental specialises in the supply and rental of mining and civil earthmoving equipment and onsite support services for the mining and civil industries.

Over the years, the company has built up an increasingly strong reputation for its ability to provide effective solutions for all equipment requirements. SMS Rental is focused on facilitating growth and achievement for its clients in Australia's mining industry and strives to nurture solid and dependable relationships with both its customers and suppliers.

These longstanding relationships are a major attribute to the company as it consistently maintains the highest level of professionalism and value for its clients through honesty, integrity and innovation.

SMS Rental supplies a wide range of services from the provision of a variety of machines for dry hire, to supplying a complete mining fleet with onsite maintenance services for large mining and civil operations. SMS Rental currently supplies equipment throughout Western Australia, the Northern Territory and Queensland.

If you would like to talk with SMS Rental regarding future or current equipment requirements for your operations and the significant benefits it can bring to your project, contact: Shaun Clark on (08) 9277 5177; mobile 0416 174 207; shaun@smsrental.com.au; or Danny Sweeney on (08) 9277 5177; mobile 0416 174 724; danny@smsrental.com.au; www.smsrental.com.au.

ADVERTISING

Proof roller promises reduced tyre damage

Crushing and compaction specialist Broons' Impact Roller is ideal for proof rolling most sites, as well as being especially effective in reducing tyre damage and consumption.

The 'Square' impact roller can be used for compacting capping layers on waste dumps and deep compaction to reduce differential settlement before building infrastructure.

Additionally, the impact roller has been proven to improve haul truck tyre life as it minimises tyre damage on minesites.

Broons Director Stuart Bowes said the impact roller had applications for proof rolling sites for workshops, camps, processing plants, stockpiles and dragline erection pads.

"We've been proof rolling things like playing fields, as well as compacting landfill and capping layers for close to 30 years," he said.

"It seems everyone has an area somewhere which is suffering from differential settlement problems and no-one has an easy solution except us."

When it comes to capping layers, trials have shown the most benefit is gained by placing

around 1m of inert material over the waste and then compacting it with the impact roller.

The Broons impact roller is easily identified by its single solid square compactor module and weighs in at either eight or 12 tonnes with an operating speed of 10-12km per hour.

"The combined effect of a non-circular module towed at high speed and thumping the ground twice per second with substantial impact force delivers two major advantages over alternative methods," Mr Bowes said.

"Simultaneously, it gives deep penetration and a high production rate."

With just six to 10 passes of the impact roller applied on the surface, improvement in density can occur to at least 1m and significant improvement can occur down to 2m with 30 to 40 passes.

"It is not uncommon for us to achieve in excess of 200mm to 300mm of settlement and the differential characteristics of the settlement are obvious due to the variability of the buried waste or fill material," Mr Bowes said.

Machines are available for rent Australia-wide.



Compaction: With just six to 10 passes of the Broons' impact roller applied of surface, improvement in density can occur to at least 1m.

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SMS Rental (WA) Pty Ltd specialises in the rental of mining and civil earthmoving equipment and onsite support services to the mining and civil industry, it has built a reputation for its ability to provide effective solutions to all equipment requirements. This ranges from providing a variety of machines for dry hire to supplying a fleet for large mining or civil operations.



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Small pump can handle big loads



Triplex: The new Bertolini CAX pump series boasts over-sized tapered roller bearings and AISI 316 grade stainless steel so it can endure even the heaviest loads on extended industrial applications.

A new series of Bertolini triplex pumps designed for pressures up to 750bar (10,875psi) has been launched by Australian Pump Industries (Aussie Pumps).

The new pump range provides hydroblaster users with a quality triplex pump for a much lower price than conventional equipment in the same 750bar range.

“Expensive cast iron pumps can be replaced by a Bertolini CAX at a fraction of the price, reducing maintenance and replacement costs,” Aussie Pumps Product Manager Hamish Lorenz said.

Manufactured in Bertolini’s factory in Northern Italy, the new CAX series is based on the company’s original heavy-duty CX series.

The pump uses targeted technology to assist with reverse osmosis, desalination, dust suppression, mineral process and petrochemical and chemical industrial processes.

Several specialised features, such as the use of over-sized tapered roller bearings and AISI 316 grade

stainless steel, ensure the series can endure even the heaviest loads on extended industrial applications.

The high-pressure seals are made of polytetrafluoroethylene (PTFE) to minimise friction and provide exceptional chemical resistance.

Patented by Bertolini, the Du-dry plunger rods are coated in PTFE to reduce friction and provide smoother operation and longer wear.

The double-diameter stainless steel piston guides prevent the radial ring contacting the moving rod, eliminating wear and allowing superior lubrication.

Interlocking, self-aligning two-part connecting rods, designed for high loads, facilitate installation and removal while reducing additional friction and wear caused by overheating.

Of all the features Aussie Pumps said it was the pump’s size which was the standout.

“The breakthrough in the pump’s design is its compact dimensions,” Mr Lorenz said

The double-diameter stainless steel piston guides prevent the radial ring contacting the moving rod, eliminating wear

“Even a 750bar version of the new CAX is a compact 572 by 465 by 288mm.”

The CAX series pumps offer flows to 31 litres per minute and are designed to run at 1000rpm.

Among its other applications, the series assists with hydro-blasting, laser cutting and industrial wash-down duties.

Further information and free technical advice on the triplex pumps is available from Australian Pump Industries.



Revised: Komatsu’s modernised AC drive 730E-8 has been configured to overcome numerous productivity challenges facing resources users.

Updated truck offers a dependable drive time

Komatsu Australia has introduced a new AC-drive version of its 730E-8 mine truck, which provides higher haul speeds and simpler maintenance requirements.

With a payload of 191 tonnes, the 730E-8 is powered by a Tier 4 compliant, 1492-kilowatt engine and has been designed to the same engineering principles as Komatsu’s large Ultra-Class mining trucks.

Komatsu Australia National Product Manager, Mining Michael Hall said the light AC drive system provided faster acceleration and higher top speeds while delivering a more reliable performance.

The top speed of the 730E-8 is 64km per hour and the AC control system allows for independent control of the rear wheel motors, giving outstanding traction in slippery conditions and reducing tyre wear.

Mr Hall said the increased reliability of the AC powertrain, together with its easier maintenance, had led the 730E-8 to industry-leading availability.

“Our 730E DC truck has delivered 90 to 94 per cent availability to mines around the world, over hundreds of thousands of operating hours,” he said.

The GE35B AC-drive wheel motors were designed collaboratively between Komatsu and GE Mining and have no brushes, to eliminate flashover, and a higher thermal capacity.

The truck can handle steep continuous descents and sharp switchbacks due to a 2760kW retarding system, which provides advanced braking capacity and eliminates the need for excessive mechanical braking effort.

“Our new AC drive 730E-8 has been configured for the challenges of the future, with miners frequently moving to smaller ore bodies in more remote locations,” Mr Hall said.

“It is designed to be quickly deployed into difficult projects and then moved to the next opportunity as necessary.”

Mr Hall said the “bolt together” design of the 730E-8 made field assembly and disassembly less complicated, with an easily-removable powertrain module that reduced onsite maintenance time.

“The simplicity of its design makes it easier to train service technicians and complete regular maintenance tasks with fewer hoses, bearings, pumps and wear components than most other mining trucks,” he said.

The 730E-8 can be fully integrated with management systems such as Modular Mining’s Dispatch and MineCare products.

With the same comfort and operator features as Komatsu’s Ultra-Class trucks, the 730E-8 cab includes air-ride seats, an easy-to-use instrument panel with automatic speed control and fully-adjustable climate controls.

Mining supplier strives to deliver optimum value and greater efficiency for customers

Recognising the critical role lubricants play in mining companies’ day-to-day operations, Castrol has evolved a comprehensive service offering designed to optimise the use and application of lubricants.

According to Castrol Commercial Marketing Manager Kym Grainger, the service offering, called Castrol Optival, has been designed, developed and facilitated by the company to deliver optimum value beyond lubricants supply.

At the heart of Castrol Optival lies a patented and ISO-certified process which allows the company to identify, agree and deliver greater efficiencies, while establishing new opportunities for customers.

“Our aim is to be far more than a just a supplier,” Ms Grainger said.

“Castrol Optival underpins

our business offer to the mining industry and enables us to become a strategic business partner that can implement significant savings and critical improvements in efficiencies.

“It’s more than just oil; it’s about people, processes and expertise beyond our core function. We go to great lengths to understand the operational and economic demands of our customers.”

To do this Castrol has evolved the Castrol LubeNet team, boasting 20 technical specialists with more than 475 years of combined mining lubricants experience, specialising in finding opportunities to optimise minesite operations in lubricant supply, best practice and application.

“LubeNet’s capabilities in delivering optimum value go well beyond supplying industry

leading lubricant technology,” Ms Grainger said.

“A variety of engineering support services ensure value and cost-saving opportunities are identified in each mining operation, without compromising safety.”

By providing expertise and product application advice, the LubeNet team has a strong record of implementing projects that deliver optimum value.

“The result is a holistic approach to customers that recognises the importance of increased productivity, reliable technical support, new technologies, greater efficiencies, reduced downtimes and risk mitigation,” Ms Grainger said.

“Castrol Optival is a truly innovative and transformational value offer to our mining customers.”

ADVERTISING

World-first technologies the key to company’s successes

NLT Australia was launched in January 2005 by Managing Director Tim Haight as an extension of the global Northern Light Technologies (NLT) brand, which began in Toronto, Canada.

Based in Brisbane, the Australian subsidiary is a full-service engineering, manufacturing and service operation that employs about 20 people.

NLT specialises in providing cap lamps, tracking and communication systems, with a special focus on deploying communication systems in remote and challenging locations.

The company prides itself on being the first company to introduce wi-fi systems to underground coal mines.

“We provide a world-first two-way messaging and tracking system

via the cap lamp for underground mines and tunnelling deployed over a combination of fibre optics and wireless Ethernet,” Mr Haight said.

Since the company’s inception in Toronto in 1984, NLT’s mission has always been to enhance mine safety and efficiency via the implementation of the most advanced technologies available.

“Our products provide to the individual mines true two-way messaging and tracking of personnel and equipment in an underground environment,” Mr Haight said.

For more information on the NLT products available or to speak with a consultant call (07) 5495 2944, email sales@nltinc.com.au or visit www.nltinc.com.au.

ADVERTISING

MCresources



IN THE NEWS

P16

Southern Cross Goldfields is set to acquire the Wonawinta silver project in New South Wales, which will include the process plant and infrastructure built at a cost of more than \$60 million.



COMMODITY WATCH – NICKEL

Ramp-up of activity a sign of positivity

P18

featuring... St George Mining, whose recent drilling program has delivered a surprise bonus – a new volcanic massive sulphide (VMS) prospect at its East Laverton project.

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Green light for coal project



Consent: Shenhua Watermark Environmental Manager Mark Howes (left) and Project Manager Paul Jackson on the land which may soon be transformed into a huge open-cut mine.

NEW SOUTH WALES

The Shenhua Watermark coal project has been given the go ahead in a review released by the New South Wales Planning Assessment Commission (PAC).

The new open-cut mine is proposed for the slopes adjoining the Liverpool Plains near Gunnedah, on the edge of some of the most productive farmland in NSW.

The mine will consist of three pits to be mined sequentially over 30 years, extracting up to 10 million tonnes per annum of run-of-mine coal.

The Watermark coal project is expected to include a workforce of up to 600 full-time equivalent employees during construction and an average of 434 full-time equivalent employees

during the project's operation.

The PAC said it was "generally satisfied that the site of the proposal on the less-fertile, higher ground above the Liverpool Plains, should be able to be mined without significant impacts on the agricultural productivity of the Liverpool Plains".

Farmers have been stridently opposed to the mine plan and raised fears about the impact the mine would have on water availability in the Liverpool Plains area – a key food production area renowned for its highly fertile black soil.

However, the PAC said water impact management would be critically important to ensure groundwater aquifers which supported the agricultural sector were sustained into the long term.

"The commission considers that the mine is approvable, subject to some further water modelling to corroborate the predicted level of impact on water," PAC stated in the report.

"The commission has made some recommendations relating to conditions that must be applied to any consent for this mine but the suitability of the department's draft conditions will need to be further considered in finalising the assessment of the project."

NSW Farmers' President Fiona Simpson expressed deep disappointment in the review report and said it gave its members and the community no certainty about their future or the future of the Liverpool Plains land and water resources.

"This project is inappropriate and

the whole area should be off limits to this type of development," she said.

"The NSW Government has comprehensively failed to put in place the right checks and balances to protect precious agricultural areas.

"The commission has rightly identified that the mine would be located in the middle of some of the most significant and valuable agricultural land in the country, but has underestimated the actions needed to ensure the long-term viability of farming in the area.

"The commission has also clearly identified massive flaws in the water data presented by the proponent and more water modelling will not fix the irreversible damage to aquifers the project will cause."

Speakers in support of the

mine included a number of local business people, as well as other organisations who had received support from the mining industry and the applicant in particular.

The employment and growth opportunities the mine will create and the importance of supporting a diversity of employment opportunities for the region have been emphasised by supporters.

Lastly, the PAC found there were parts of the applicant's exploration licence area that were not suitable for mining and said the boundary of the exploration licence should be amended to remove those areas which extended on to the black soil plains.

The NSW Department of Planning and Environment will now consider the PAC recommendations.

Silver mine set for takeover

NEW SOUTH WALES

Southern Cross Goldfields is set to acquire the Wonawinta silver project in central New South Wales from the liquidators of Cobar Consolidated Resources (CCR).

The acquisition includes the Wonawinta process plant and infrastructure built at a cost of more than \$60 million with a production capacity in excess of two million ounces per year.

It includes the 60 million ounce silver JORC resource and around 840sq km of exploration ground in the highly prospective Cobar Basin.

Southern Cross Goldfields will pay \$375,000 cash for the project.

The company will assume rehabilitation liabilities by replacing \$5.8 million in environmental rehabilitation bonds with the NSW Government and plans to invest in a \$2 million plant upgrade to deliver profitable production of silver by December this year.

This involves installing a larger 1500 kilowatt ball mill from Kalgoorlie to resolve grinding and recovery issues which hampered CCR's production.

Immediate improvements in effective capacity and reduced operating costs are expected.

Southern Cross Goldfields said it would initially focus on easily winnable, low-cost ounces currently available for processing, including about 350,000 tonnes of stockpiled ore, to be followed by resumption of mining from two existing pits.

The project has a 60 million ounce silver mineral resource and a nine million ounce silver ore reserve.

Southern Cross Goldfields said it intended to use the Wonawinta plant to process ore from its Mt Boppy gold mine, about 100km to the north-east.



Production: The Wonawinta project plant may be used to process ore from the nearby Mt Boppy gold mine.

The company had previously planned to redevelop the mine and upgrade the Mt Boppy plant to start gold production in 2015.

Instead, the company now plans to truck the ore 150km by road to the Wonawinta plant for processing, eliminating the need to upgrade the Mt Boppy plant and reducing up-front capital expenditure by about \$9 million.

Additionally, processing through the modern Wonawinta plant is expected to lead to improved process efficiencies and higher gold recovery rates for Mt Boppy ore.

Based on current reserves, the Mt Boppy ore is forecast to produce about 67,000 ounces of gold over a two-year period from mid-2015.

Haulage costs to Wonawinta are expected to be offset by lower capital requirements, higher production efficiency and better recovery.

On this basis, the project's average all-in production cost is expected to be comparable to that for the existing stand-alone Mt Boppy production cost of about \$1000 per ounce.

Southern Cross Goldfields CEO Frank Terranova said the Wonawinta transaction offered outstanding financial and operational benefits and drew on the company's experience as a silver mine developer and producer.

"Acquisition of Wonawinta adds a substantial silver project to our gold portfolio and enables us to start generating cash very quickly," he said.

"It also provides an innovative and creative path for processing Mt Boppy ore at minimal capital cost and with reduced development risk.

"It results in a substantially lower up-front capex requirement, a significantly enhanced production profile and a major uplift in the

company's net present value.

Mr Terranova said there would be potential upside from exploiting the full existing Wonawinta Reserve - which would involve upgrading some of the 60 million ounce resource to reserve - as well as from exploration success.

"This gives Southern Cross a much stronger platform for further growth," he said.

"It builds on the extensive success we previously had with silver projects at Canbelego in central NSW and at Nimbus in Western Australia."

Southern Cross Goldfields Chairman Jon Parker said the Wonawinta acquisition, together with the recently announced TrailStone funding transaction, would see the company advance rapidly to the ranks of producer with an impressive and fully-funded project pipeline.

Acquisition of Wonawinta adds a substantial silver project to our gold portfolio and enables us to start generating cash

Frank Terranova
Southern Cross Goldfields

"Southern Cross Goldfields is now very well positioned to enter an important new technical phase in its development, with a strong financial base and the funding available to move forward and generate strong returns for shareholders," he said.

In consideration of the reduced capital requirements flowing from the Wonawinta transaction, Southern Cross Goldfields renegotiated its recently-announced funding arrangements with TrailStone.

Under the terms of the arrangement, TrailStone will continue to provide a total \$60 million debt package - including an initial \$25 million gold loan and a \$35 million credit facility - to be drawn down in stages from the first half of 2015.

In addition, the previous requirement for Southern Cross Goldfields to raise a minimum of \$5 million in new equity has been reduced and is no longer a precondition to funding availability.

Southern Cross Goldfields said it had already secured commitments of new equity from directors, senior management and other professional investors and was in the process of finalising these commitments.

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Precious metals experts team up to assess viability of gold target

QUEENSLAND

Orion Gold has outlined a substantial and highly prospective intermediate sulphidation, epithermal gold-silver target at its 100 per cent-owned Connors Arc project in Central Queensland.

Located 180km from Rockhampton, the target known as the Aurora Flats prospect, represents an outstanding opportunity for the discovery of a large epithermal gold-silver system.

This style of deposit is globally significant and accounts for a substantial proportion of world gold production. Examples include Acupan, Baguio in the Philippines and Pachuca in Mexico.

Orion Gold appointed a team of highly experienced epithermal mineralisation experts to undertake an initial data review, scout fieldwork and mapping to assist in initial exploration planning.

The company secured the services of highly regarded Professor Noel White from the Ore Deposits and Exploration Centre at Hefei University of Technology and Bruce Wilson, who has 25

years' experience with a focus on exploration for precious metals in sub-volcanic (porphyry) and epithermal environments.

"I was very fortunate to have spent some time in the field with Professor White and Mr Wilson and was really encouraged by their enthusiasm for the prospect as they predicted and then proceeded to identify one indicator after another in the outcrop," Orion Gold CEO and Managing Director Errol Smart said.

"We have continued to work with them over the past few weeks, analysing the historical drilling geochemistry and correlating it with field observations and modern SWIR [Short Wave Infrared Red] analysis.

"The results of this work have been extremely encouraging. All of the indications are that we have identified a large intermediate sulphidation epithermal gold-silver target at Aurora Flats.

"The mapped surface expression of the system is indicative of a potential large-scale system and the geochemistry implies a deposit style known to host giant deposits

around the world with high grades of combined gold and silver."

Professor White and Mr Wilson have advised Orion Gold to carry out a localised high-power resistivity and chargeability geophysical survey over the Aurora Flats vein swarm area.

This will identify the zones with highest resistivity, together with highest chargeability in the critical depth horizon.

Strongly encouraged by the recent findings and expert reports, Orion Gold said it had commenced planning for this survey and aimed to complete it and the first scout drilling of the highest rated targets on Aurora Flats before Christmas this year.

The company now holds extensive, contiguous tenements covering over 2000sq km of granted and application tenements on the highly prospective Connors Arc, which forms part of the Palaeozoic, New England Fold Belt of Eastern Australia.

This belt has hosted several large, successful epithermal gold projects, including the Pajingo and Cracow mines and the Mt Carlton deposit.



Planned: A follow-up drilling program to test for more high-grade metal is being considered at Mutiny Gold's Deflector prospect tenements.

Mineralisation points to promising resource

WESTERN AUSTRALIA

Mutiny Gold's diamond drilling program has identified a new shallow high-grade vein 300m from the existing resource at its Deflector gold-copper-silver project in the Murchison region of Western Australia.

The company completed three diamond drill holes in a large step-out sequence to the south of the Deflector deposit designed to specifically test the southern plunge of the Deflector deposit's West Lode.

The drilling returned 3.08m at 9.9 grams per tonne gold, 7.5 per cent copper and 56.4g/t silver from 96.51m down hole, located 300m south and 200m west of the existing Deflector resource. Drilling has also identified mineralisation 30m below the Deflector resource, with a hit of 5.76m at 4.6g/t gold, including 0.23m at 92.9g/t gold.

"The step-out holes, which are the first significant exploration holes at Deflector for five years, highlight the potential to increase the existing reserve of 322,000 gold ounces and 16,000 tonnes of copper," Mutiny Gold Managing Director Tony James said.

"The discovery of a shallow

high-grade gold-copper-silver vein confirms our belief in the exploration strategy focused on the under-explored 7km-long Deflector Corridor.

"Our geological and technical understanding of the mineralisation improves on a daily basis and we will continue to explore in parallel with the development of the Deflector project."

This newly-identified high-grade vein remains untested along strike with the nearest bedrock drilling (reverse circulation or diamond) over 300m to the north.

Follow-up drilling is currently being considered to determine the dip and strike extent of the new high-grade gold-copper vein.

Mutiny Gold's recently completed review of the Deflector feasibility study found the project would have all-in sustaining costs of about \$723 per ounce and a preproduction capital cost of \$67.6 million. Average annual production is 60,000 ounces of gold and 2800 tonnes of copper per annum.

In light of the project's strong economics, Mutiny Gold said it was considering funding options for Deflector while continuing exploration.

Explorer keen to tap area's riches



World-class: Uranium Equities' tenements cover more than 500sq km in the heart of the Alligator Rivers uranium field in the Northern Territory, which also hosts Rio Tinto subsidiary ERA's Ranger uranium mine.

NORTHERN TERRITORY

Uranium Equities has received a number of significant high-grade uranium results from a reverse circulation (RC) drilling program recently completed at its Nabarlek uranium project in the Northern Territory.

The company said assay results, together with information gained from drilling at other prospects within its West Arnhem Joint Venture with Cameco Australia, had provided it with valuable geological insights into the potential of the broader region to host high-grade uranium deposits.

This paves the way for the next phase of exploration within Uranium Equities' recently expanded 5000sq km tenement holding in the Alligator Rivers uranium field.

The new high-grade intercepts included 7m at 2680 parts per million uranium from 46m, including 3m at 5216ppm uranium

from 49m and 6m at 1336ppm uranium from 19m including 1m at 6073ppm uranium from 19m.

These results confirmed the potential for the Nabarlek area, and the Alligator Rivers uranium field in general, to host high-grade uranium mineralisation.

Consultant Dr Jon Hronsky, who has extensive experience in mineral systems-based targeting, was engaged to assist in the identification of new exploration targets within Uranium Equities' expanded 5000sq km land position in the Alligator Rivers uranium field.

Dr Hronsky is well-known for his targeting work, which led to the discovery of the West Musgrave nickel sulphide province in Western Australia in 2000.

Uranium Equities Executive Chairman Tim Goyder said his company was excited to have an explorer of Dr Hronsky's calibre working with its technical team to unlock the potential of its high-

quality ground package in the Alligator Rivers uranium field.

"The July drilling program has achieved some important outcomes," he said.

"Firstly, it has confirmed the potential of the area to host very high-grade uranium mineralisation.

"Secondly, it has provided invaluable information and geological insights to assist us with the next phase of targeting, which will now be provided with enormous impetus with the assistance of Dr Hronsky.

"With green shoots finally appearing in the uranium sector in recent weeks, as evidenced by recent increases in the spot uranium price, Uranium Equities high-quality ground position in one of the world's premier uranium provinces positions the company as a highly leveraged exploration opportunity with the potential to unlock substantial value for our shareholders through new high-grade discoveries."

Drilling results reinforce miner's exploration endeavours

WESTERN AUSTRALIA

Tychean Resources has reported high-grade gold results above 47 grams per tonne at its Spargoville project in Western Australia's Eastern Goldfields.

The high grades, many over significant intersection lengths, were among two mineralised zones identified by a recent reverse circulation (RC) drilling program on the Spargoville project's Redback prospect.

The discoveries are about 700m to the south-east of the high-grade Wattle Dam mine.

The highest results included 4m at 47.7 grams per tonne gold from 112m, 8m at 6.47g/t gold from 92m, 4m at 10.5g/t gold from 68m, 4m at 5.80g/t gold from 124m and 4m at 5.21g/t gold from 136m.

Tychean Resources Managing Director Joe Houldsworth said the results were so robust that Redback had now been classified as a priority target for follow-up drilling.

"It is still early days in respect of determining the potential of the Redback discovery but we have reason to be quite excited by them,

as these gold mineralised zones exhibit some similarities to the early drilling at the nearby but now exhausted high-grade Wattle Dam open-cut and underground gold mine," Mr Houldsworth said.

"The results also reinforce the calibre of our exploration modelling for this regional target, as the footprint of these mineralised zones is relatively small.

"They can be very easily missed, as has been the previous results history of this tenement from wider spaced exploration drilling by earlier generations of explorers."

The latest assays are from Tychean's initial 4m composite results from recent RC drilling at Redback and comprise about two-thirds of the total samples submitted for analysis.

As such, they represent the first 22 RC drill holes (SPRC029 - SPRC050) of the drill program over Redback and the Huntsman prospect to its south.

The Redback drilling was designed to further evaluate highly anomalous results returned from previous air core drilling including 10m at 2.39g/t gold from 48m, including 1m

at 11.3g/t gold from 55m and 2m at 25.8g/t gold from 34m including 1m at 46.9g/t gold from 35m.

The results highlighted two gold mineralised zones, trending in a south to south-east direction, which dip steeply to the west.

The high-grade gold within the two zones remains open along strike to the north, down dip and along any potential plunge direction to the north.

The highest results were from Redback's 'eastern zone' mineralisation with its 'western zone', about 20m to the west.

The Huntsman RC drilling was designed to test for dip and strike extensions to anomalous results returned from previous aircore drilling, which included 5m at 6.78g/t gold from 45m including 1m at 27.0g/t gold from 47m.

However, no significant results were received from the RC drilling at Huntsman.

Further RC drilling is currently being planned to test the high-grade mineralisation and associated mineralised trends identified at Redback.



Prosperous: Tychean Resources is excited about the prospect of its Spargoville project sharing characteristics with the Wattle Dam mine.

Future bright for WA player

Mincor Resources has cemented mine life to at least 2017 with an addition of 12,000 tonnes of nickel in ore reserves as a result of exploration success during the year.

The company has continued its outstanding 14-year record of exploration success in the Kambalda district and has foreshadowed a strong ongoing commitment to this aspect of its business, with a minimum \$10 million exploration budget for this financial year.

Mincor Resources Managing Director David Moore said the company's decision to ramp up its exploration expenditure seven months ago, notwithstanding the challenging nickel price environment, had proven to be a good one.

"This has already delivered a substantial increase in both reserves and resources and led to the discovery of high-grade nickel at the exciting Voyce prospect," Mr Moore said.

"This is a great return for our shareholders in a relatively short space of time.

"But we are only just getting started and we expect to be drilling non-stop throughout the year.

"We are convinced there are more high-grade ore bodies out there waiting to be discovered and with our dominant position in the Kambalda district, we are uniquely well placed to deliver results from this world-class nickel province."

The company has replaced 117 per cent of all the nickel it mined during



Emerging discovery: Drilling for nickel at the Voyce Prospect, just south of Mincor's Mariners operation.

the past financial year, cementing its production profile out to the year 2017 - with every indication this will be further extended as more of its large mineral resource base is converted to ore reserves and additional discoveries are made through its aggressive exploration program.

As at June 30, Mincor's total ore reserve was 838,000 tonnes at 2.7 per cent nickel for 23,000 tonnes nickel in ore and its total mineral resource was 3,458,000 tonnes at 3.6 per cent nickel for 123,000 tonnes nickel in ore.

Additions were made to ore reserves at both the Miitel and Mariners mines, building on

substantial increases in the mineral resources at both operations.

Miitel replaced 123 per cent of the nickel metal it mined during the 2014 financial year, while Mariners replaced 128 per cent of its FY14 production.

While both the McMahon and Otter Juan mines were depleted and placed on care and maintenance during the year, both mines actually produced more than their 2013 ore reserves, generating 1298 tonnes of nickel against a combined 2013 ore reserve of 700 tonnes of metal.

Both mines still retain small remaining reserves, which may be extracted during

the course of the year.

Mr Moore said both Miitel and Mariners had outstanding untapped exploration potential and Mincor would continue the aggressive exploration program it commenced during FY14, which had already generated these excellent results.

At Mariners, the N11B ore body, which has now been added to ore reserves, remains open in both up and down-plunge directions.

Highly promising targets have emerged immediately to the north of the N10B in an area previously thought to lie outside the mineralised channel structure.

At Miitel, most of the new ore

We are only just getting started and we expect to be drilling non-stop throughout the year

David Moore
Mincor Resources

reserves are from the main channel structure which extends towards the south.

This structure remains entirely open to the south, with high-grade intersections and mineral resources likely to be converted into ore reserves with further drilling.

In addition, a major exploration target - the southward extension of the upper channel, which hosts the high-grade N29C ore body - has not yet been drill tested.

Mincor has identified an additional number of high-quality brownfields targets at North Kambalda, historically recognised as the most prolific part of the Kambalda nickel district, which are slated for drill testing during the year.

Additionally, Mincor Resources has identified a number of highly prospective regional targets, capitalising on its dominant landholding position in the Kambalda nickel district.

In the November edition, catch up on **all the news that matters to the resources industry.**



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- Mining Contractors of Australia
- Water in Mining
- Concrete Producers and Suppliers
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Strong ground position will drive development

Rox Resources says it has doubled the resource at its Fisher East project following the completion of a maiden resource estimate for its Musket nickel sulphide deposit.

The overall project – which includes the Musket and Camelwood deposits, 500km north of Kalgoorlie – has jumped to 72,100 tonnes of nickel and has 3.6 million tonnes at a grading of two per cent.

Rox Resources Managing Director Ian Mulholland said the maiden resource estimate for Musket demonstrated the continued prospectivity of the Fisher East nickel sulphide belt.

“Musket contains a very high-grade core of approximately 100,000 tonnes grading 10.1 per cent nickel which lies close to surface and would be an obvious economic driver for any planned development,” he said.

“We previously stated that deposits of the style of Camelwood do not typically occur in isolation and we proved that by discovering Musket.

“We have a strong ground position with the potential to discover a lot more nickel and continue to significantly grow the project resource base.

“Our discovery cost so far has been around 4.2 cents per pound of nickel, which is one of the lowest in the world.”

The Musket mineral resource estimate comprises 2.1 million tonnes at 1.8 per cent nickel containing 37,500 tonnes of contained nickel.

Encouragingly, 64 per cent of the Musket resource estimate sits in the higher confidence ‘indicated mineral resource’ category, using a one per cent nickel lower cut-off.

At a higher cut-off grade of 2.5 per cent nickel, the mineral resource contains 10,100 tonnes of nickel with about 75 per cent in the indicated mineral resource category.

The resource at this higher cut-off grade is 100,000 tonnes at 10.1 per cent nickel.

Rox Resources Chairman Jeff Gresham said this was now the second Rox Resources deposit discovered, intensively drilled and brought to the resource estimate stage within nine months of the first drill hole.

“Exploration and evaluation of the Fisher East nickel project is still at an early stage and I am confident that with further exploration and drilling the overall project nickel resources will continue to be significantly increased,” he said.

“Both the Musket and Camelwood deposits remain open at depth and along strike and, in addition, recent drilling at the Cannonball prospect produced a very encouraging intersection of 3m at 4.7 per cent nickel.

“I believe that further drilling is all that is required to significantly expand these resources.”

The Musket discovery was announced in October last year. Since then the deposit has been sampled by reverse circulation and diamond drilling on an east-west grid pattern ranging from 40x40m to 80x80m.

The deposit is situated beneath a veneer of transported clays and deeply-weathered gossan.

Shares in the company spiked after the announcement from 0.5 cents to 5.4 cents (correct at the time of print).

Deal ups chance of mine kick-off



Partnership: Under the terms of a new agreement, Avebury Nickel Mines will ship concentrates to Chinese company Jinchuan Group, which is one of the world's largest nickel and metals producers.

Avebury Nickel Mines has established a framework for continued cooperation with leading Chinese metals body Jinchuan Group for the continuation of the life of mine off-take agreement for the Avebury nickel mine in Tasmania.

The off-take agreement provides for the sale of nickel concentrate product produced from the Avebury nickel mine to Jinchuan.

This agreement was established by the previous owners of the mine while completing the development of the mine's infrastructure and covered all nickel concentrate produced when the mine was operating.

The commitment to the life of

mine off-take agreement between the parties will provide for the sale and shipment of nickel concentrates via the Port of Burnie on the north-west coast of Tasmania to Jinchuan's process infrastructure in China.

“Our company is delighted to have such a significant partnership with Jinchuan, one of the world's largest nickel manufacturing companies, for the sale of what should be a very high-quality nickel concentrate produced from the Avebury mine,” Avebury Nickel Mines CEO Chris Daws said.

“Jinchuan has been a highly valued partner for many nickel mine developments across Australia and we see

Avebury being no different.”

Following the economic impact from the Global Financial Crisis, the Avebury nickel project was closed in February 2009 and placed under care and maintenance.

Since this time, mine owner MMG has embarked upon extensive technical investigations and studies into the economic viability of running a sustainable operation in the future.

In addition to committing to the life of mine off-take agreement, Avebury Nickel Mines and Jinchuan Group said they were discussing additional ways to expand and strengthen their partnership.

Province becomes the next big nickel exploration area in WA

St George Mining has the first mover advantage in an area of Western Australia, which it believes will be the state's next big nickel field.

The company's East Laverton property, at over 2000sq km, is the dominant landholding in the region with more than 130 strike kilometres of prospective ultramafic belts.

The initial discovery of nickel sulphides at East Laverton was made by BHP Billiton Nickel West, as part of a now concluded farm-in deal.

Drilling showed the ultramafic rocks at East Laverton to be compositionally similar to those of the Agnew-Willuna belt, which hosts several world-class nickel deposits.

“We believe our project could become a new nickel province, so we are not surprised that we have received interest from major mining companies,” St George Mining Executive Chairman John Prineas said.

“We have created value with a strong pipeline of nickel sulphide prospects, so we have a tremendous exploration upside.”

In May 2013, BHP Billiton Nickel West exercised an option to earn a 70 per cent interest in the project with St George free carried for 30 per cent up to the completion of a bankable feasibility study.

By October 2013, the major had a change in corporate strategy and withdrew.

St George took over the dataset created by Nickel West's exploration expenditure of \$3 million and assumed 100 per cent control and ownership of the project.

St George is continuing systematic exploration at the East Laverton project with a key part of the exploration strategy being a regional moving loop electromagnetic survey, which is managed by Newexco.

“The MLEM survey has identified a number of EM conductors that could be massive nickel sulphides,” Mr Prineas said.

“Only a handful of these have been drilled and we will continue to test them as part of our ongoing drilling campaign.”

In addition to testing conductors, the next drilling program will include follow-up drilling at known areas of nickel sulphide mineralisation.

A highly targeted drilling program of over 4000m is planned.

“We have first-rate drill-ready targets for the drilling program starting in early October,” Mr Prineas said.

“We also have a number of other prospects in the pipeline that we are developing and we expect to be ready to drill those by early next year.

“The company's advanced exploration project is now entering a very exciting phase where a major discovery could be made.”

ADVERTISING

Significant VMS prospect points to exciting zinc and copper mineralisation potential

St George Mining's recent drilling program has delivered a surprise bonus – a new volcanic massive sulphide (VMS) prospect at its East Laverton project.

Previous drilling at the project had intersected thick sulphidic exhalative sediments with elevated zinc and copper mineralisation, confirming this was the right environment for a VMS deposit.

Now a thick mineralised interval in drill hole DDD011 gives strong validation to the potential for a VMS discovery at East Laverton.

The drill hole intersected 19.25m at 0.35 per cent zinc and 0.1 per cent copper while testing a strong EM conductor named Dragon 2.

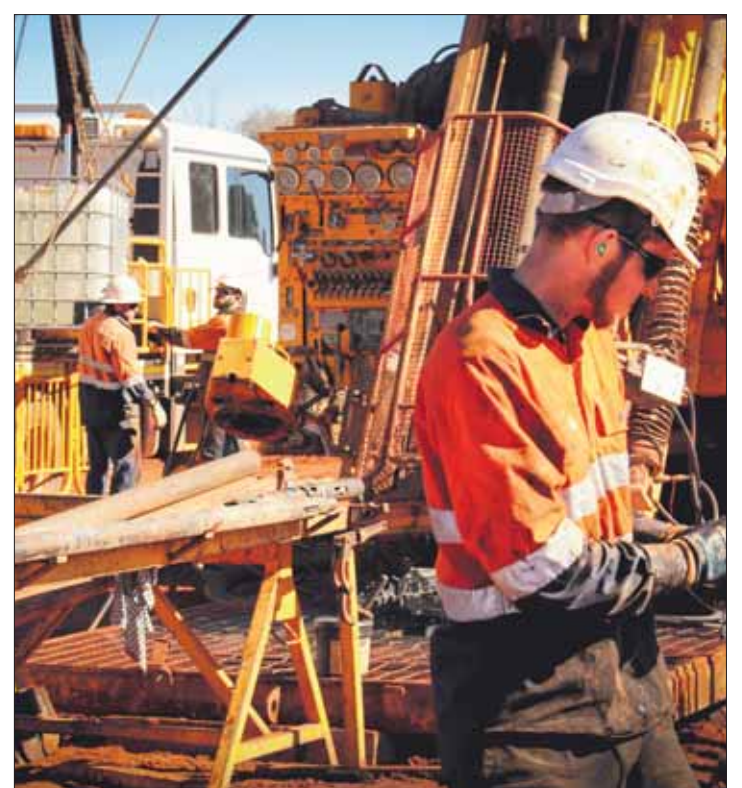
The company believes this is the marginal section of a VMS system.

St George Mining Executive Chairman John Prineas said the continuity of the grades in this thick interval made it a significant base metal intersection at the project.

“What makes this find very exciting is that the mineralised intersection is next to the Dragon 3 conductor, which has yet to be drilled,” he said.

“Dragon 3 could represent a more central part of a VMS system where you could expect more massive sulphides and higher grades of zinc and copper.”

VMS deposits and komatiite nickel deposits are seen as ‘proxies’



Essential: The efforts of St George Mining's drillers have been crucial in helping the resources company focus its exploration endeavours.

for each other because they both form in similar tectonic settings.

“We know we are in the right place for nickel and now this increases the probability of finding a VMS deposit at East Laverton,” Mr Prineas said.

“VMS deposits usually form

in clusters, and our dominant landholding in the area would give us huge exploration upside following a discovery.

“We are pretty excited about our October drilling program, which will be drilling at the VMS prospect, including the testing of Dragon 3.”

ADVERTISING

Passion for land instilled early on

I grew up on the northern beaches of metropolitan Sydney with little knowledge of the resources industry.

However in some of my youngest memories and throughout my childhood my dad was constantly dragging the family off to camp in the outback where he impressed upon us the importance of the environment, including the geological setting and how this shaped the landscape.

This has stayed with me throughout my life and career and now I find I am the one convincing my children to go camping and learn about the value of geology, science and the environment in remote and regional locations.

With a keen interest in study and learning I have had a roundabout time moving into the resources industry, having completed a Bachelor of Arts and Bachelor of Science, in addition to a Master of Letters and further study in environmental planning.

This has taught me to approach the resources industry from a number of perspectives, including environmental science and the socio-economic opportunities and constraints resources sector projects can bring.

My first involvement within the resources industry was as an employee with the New South

Wales Department of Planning as an environmental planning officer within the mining and extractive industries team.

In this role I assessed environmental impact statements for proposed projects, which really opened my eyes to the complexity involved in the management of mining and resources operations.

I learnt a great deal about mining during this time including how exploration, construction and operation activities potentially impacted upon the environment and what mines and regulatory authorities were doing to ensure potential impacts were avoided, mitigated and/or offset.

The role was certainly challenging and fast moving and this is a key attribute that I think has served me well as I have moved through the employment ranks into management and into the world of consulting.

Currently I work as the Principal Environmental Planner for Golder Associates in NSW, providing project director, project manager and technical lead environmental assessment roles across a range of projects.

This role provides a great deal of variety, which is definitely one of the key attractions and what I probably enjoy most about the job.

No two environmental impact assessments are the same, with each project throwing up various challenges and opportunities to learn from technical staff in highly specialised areas and from resource management practices across sites.

I would not pin my career highlights down to a particular project or role, but instead I find being involved in projects that are at the forefront of technical knowledge, which provide new and innovative approaches to regulatory and technical assessment, is what drives me to success.

On the flipside, convincing others that innovative activities and new approaches to regulatory assessment are acceptable can be particularly challenging.

In some cases, an approach based upon scientific methods and outcomes may not be enough, which may bring frustration to all parties when it comes to project approval with feasible conditions.

One of the biggest lessons I have learnt in my career is that trust, certainty and transparency in the regulatory assessment process is paramount to all stakeholders and for all projects.

Where these are not forthcoming, proposed projects may grind to a halt, a social licence to operate may



Learning: Todd Robinson believes in the importance of improvement.

not be achieved and all stakeholders may find themselves worse off.

Whether proponent or otherwise, all project stakeholders want clear and consistently enforced rules to regulate projects and protect the environment.

Understanding and acknowledging this common ground is often the first step to mutually agreeable outcomes for all.

I have always believed in the importance of continuous learning and improvement and not being afraid to challenge assumptions and 'accepted wisdom'.

Todd's track record

- 2010-present: Principal Environmental Planner, Golder Associates
- 2009: Principal Environmental Planner, Building the Education Revolution: New South Wales Department of Education and Training
- 2006-2009: Urban Perspectives
- 2002-2006: Environmental Planner, NSW Department of Planning

BOARD MOVES



Former Galaxy Resources and Kogi Iron boss **Iggy Tan** has emerged as Australia Minerals and Mining Group's (AMMG) new Managing Director.

Mr Tan will be responsible for managing and implementing AMMG's South West high-purity alumina project.

Mr Tan has more than 30 years' experience as an executive director of a number of ASX-listed companies and has been involved in the commissioning and start-up of seven resources projects in Australia and overseas.

Ian Gordon has resigned as Non-Executive Director of Western Australian-focused gold producer Ramelius Resources.

Mr Gordon joined Ramelius in 2007 as the company's Chief Operating Officer. He was appointed CEO in 2009 and subsequently became its Managing Director in 2010.

In June this year he ceased acting as Managing Director and continued on the board as a Non-Executive Director. Mr Gordon was succeeded by Ramelius' then Chief Operating Officer Mark Zeptner.

Mr Gordon said his decision to resign was based on a need to focus his efforts on a new external role.



Nickel and gold explorer Segue Resources has appointed experienced resources identity **Frazer Tabart** to a senior position on

its executive board.

Dr Tabart will take on the role of Non-Executive Director following the recent resignation of Company Secretary Matthew Foy.

A mining geology graduate from the Royal School of Mines in London, Dr Tabart has 25 years' global resources development experience.

Dr Tabart is currently the Managing Director of African Energy Resources and serves as the Director of Mitchell River Group and Principal of minerals consultancy Geogen Consulting.

The Tasmanian Minerals and Energy Council Board has appointed a new President and CEO.

Bell Bay Aluminium General Manager **Ray Mostogl** has been elected as the industry group's President. Former Grange Resources CEO **Wayne Bould** will take up the position of CEO, replacing acting CEO Jeremy Kouw who stepped into the role following the resignation of Terry Long earlier this year. Mr Long served as the council's CEO for 18 years.



Experienced mining executive **Peter Lester** is set to add another feather to his cap thanks to his recent appointment as Non-Executive

Director of Doray Minerals.

A mining engineer, Mr Lester has more than 35 years' experience in the mining industry and has held senior positions with a number of high-profile resources companies including Newcrest Mining, Citadel Resource Group and Oxiana (now OZ Minerals).

Mr Lester currently serves as a Non-Executive Director for Toro Energy, Chesser Resources, White Rock Minerals and Nord Gold.

Millennium Minerals Managing Director and CEO **Brian Rear** will step down from his executive role following a highly successful six-year period leading the Pilbara-focused company from gold explorer to producer.

In a statement, Mr Rear said his decision to resign at this juncture was to allow him to take on another, as yet unidentified, full-time role developing a new resources project.

Millennium Minerals said it was currently looking to identify a candidate to take over the role of CEO.

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MINERAL PROCESSING

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featuring... Metso Minerals Australia, Oreflow Australia, Thermal Electric Elements.



MINE EQUIPMENT MAINTENANCE

P26

featuring... Australian Production Line Maintenance Services.



MINESITE COMMUNICATIONS

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featuring... Radlink Communications.

Alliance a strategic win-win



Joint venture: Tiger Asset Group CEO Damian McCarthy (inset) said he was excited to be working alongside Australian automotive and equipment auctioneer Pickles Auctions.

Mining assets are being deployed to Pickles Auctions premises around the country, after US-backed plant, equipment and inventory disposal firm Tiger Asset Group, which recently launched in Australia, announced it had formed a strategic partnership with the auction group.

Under the deal announced last month, Pickles Auctions has made a strategic investment in Tiger Asset Group.

Former Graysonline Executive Director Damian McCarthy is now leading Tiger Asset Group and Pickles Auctions CEO Bruce MacLennan has taken a seat on the Tiger Asset Group board.

The partnership signifies Tiger Asset Group's broader intention to grow a strong corporate footprint across Australia.

"We are excited to have Pickles Auctions on board as an investor and partner in our business," Tiger Asset Group CEO Damian McCarthy said.

"Pickles has an unrivalled dominance in the sale of civil construction, mobile mining plant, transport and agricultural assets, selling over \$300 million of assets in these categories per annum," he said.

Tiger Asset Group specialises in the valuation and sale of industrial plant and equipment, retail closeouts, capital solutions and the management of complex insolvency asset sale programs.

The company said in a statement the combination of Pickles' expertise in the sale of transport, civil construction, mining and agriculture categories (via auction and other channels) would enable

the two businesses to strongly complement each other.

"Pickles specialises in selling cars, trucks, mobile plant, mining services assets and construction assets," Mr McCarthy said.

"They have a large physical footprint, but they don't really cross over into our area.

"What it does for us is it gives us a great physical presence across Australia which is important [because] if we're doing a large mining services evaluation or sales project it allows us to easily cover the entire country."

"We have some of these at the moment where we have to attend numerous locations and sometimes those assignments require us to secure assets very quickly. The

Pickles physical presence allows us to that very quickly."

The partnership allows Tiger Asset Group to provide clients with an additional increased range of asset sale channels, which will enable clients to swiftly shed surplus mining services equipment.

Mr McCarthy said the deal was an obvious one for both parties.

"Tiger Asset Group offers a global brand, deep retail expertise, capital solutions and strong connections in the banking, finance and insolvency markets.

"Pickles has deep asset category expertise, a 22-site national footprint and significant manpower."

Pickles Auctions CEO Bruce MacLennan said his company was excited about the partnership.

"We recognise a further opportunity to grow and develop our auction and valuation business through this strategic partnership," he said.

"We have known Damian and some of the other Tiger Asset Group founders for many years and have taken the opportunity to invest in this exciting new venture, which complements the already successful Pickles offering."

Pickles is Australia's largest auctioneer and valuer of motor vehicles, trucks, machinery, civil construction, mining, agricultural equipment, salvage vehicles, recreational and general goods.

The company sells more than \$2 billion in assets each year for financiers, corporate businesses and government departments.

Contract win follows previous work order

Power and automation technologies company ABB has won a \$103 million contract from Brazilian mining company Vale.

The contract, at a modern iron ore mine in the Carajás mountains in northern Brazil, was awarded as part of a major capacity expansion.

The order follows a previous \$140 million contract won by ABB to complete the first phase of the S11D project by supplying and installing automation and electrical equipment for the process plant that separates ore from spoil material.

The new project scope requires ABB to supply a 230 kilovolt in-feed substation to connect the mine to the electricity grid as well as 42 secondary substations.

These secondary substations will be contained in ABB's e-houses – prefabricated, walk-in, modular, outdoor enclosures designed to house a range of electrical and automation equipment.

Additionally, ABB will supply the motors driving the mine's conveyor belts.

"I'm proud that ABB and Vale's close relationship over more than 10 years has culminated in this pioneering project that sets



Expansion: Under the terms of a multi-million dollar agreement, Swiss-based technology giant ABB will supply electrical and automation systems at Vale's S11D iron ore project in northern Brazil.

a new standard in productivity, sustainability and safety," ABB Process Automation Division Head Veli-Matti Reinikkala said.

"Cross-divisional collaboration on this project is enabling tight power and automation integration, a key differentiator for ABB."

ABB's first contract for S11D, announced in September 2012, involved the installation and commissioning of the primary transmission substation, the first of its kind in Brazil.

With this next phase, ABB will extend the electrification system to the excavators, stackers, reclaimers and conveyor-belt system at the mine.

Truckless transportation will use conveyor belts to move rock and ore around the site with lower carbon emissions, reduced operating costs and greater safety than the truck-based system it is replacing.

This is the first time such a solution will have been used on

a large scale at an iron ore mine.

The company said in a statement about 100 off-highway trucks would be needed if the mine was to be operated via conventional means, which would consume 77 per cent more diesel per year.

The S11D Carajás ore deposit is expected to reach a peak production capacity of 90 million tonnes annually. Vale is the largest producer of iron ore in the world and Brazil ranks third in global iron ore production.

Specialist cannon sprays away dust

Summer is nearly here and Magnum Environmental is delivering its most innovative products to combat major dust problems and help manage water use.

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Chile to host innovation hub

Metso, together with The University of Queensland's JKTech division, is seeking to develop next-generation technologies and services for energy-efficient minerals concentration.

Both parties recently signed a five-year strategic research agreement which will see them cooperate with leading Chilean mining companies to develop Chile as a regional innovation hub for minerals processing.

All research work will be conducted at existing mines in Chile with a clear focus on customer strategic needs and main operational targets of productivity, energy and water efficiency.

The program has four principal research themes - primary grinding, ball mill grinding, classification and coarse particle floatation.

Metso Mining and Construction President João Ney Colagrossi said the program was a great opportunity to strengthen the company's relationship with leading Chilean mining companies, as well as to increase the profile of Metso as an industry leader in supplying energy-efficient minerals processing.

"The goal of this unique research program is to take some serious steps forward in the development of equipment and methods that will enable the construction of the next-generation mineral concentrator," he said.

"A very attractive feature of the program is that each technology offers a retrofit possibility to improve existing plant performance



Deal: Mining services giant Metso has joined forces with the University of Queensland's JKTech division.

and can be utilised at other mines around the world as well."

The University of Queensland Professor Ben Adair will lead the initiative.

Dr Adair said the program was exciting because it would build upon a longstanding relationship with Metso.

"Our alliance with Metso will place us on the forefront of genuine sustainability in minerals processing for the mining sector," he said.

"Our time frames for

implementation are aggressive and we look forward to a suite of innovation outcomes for our co-creation industry partners."

JKTech is the technology transfer company for the Sustainable Minerals Institute (SMI) of The University of Queensland.

Dr Adair said the initiative had the potential to change processing efficiency on a global scale.

"The next-generation concentrator will provide a step change in the energy, capital efficiency and

production signatures of process plants for the global minerals industry," he said.

Metso Minerals Processing Solutions President Kenneth Brame said most industry activity seemed to be around incremental developments and fell well short of what was needed to efficiently exploit "the ore bodies of the future".

He said, by working with The University of Queensland, they had developed a compelling vision and a map for the future.

The potential of this research program to impact these areas in real-life cases is very exciting

Aldo Cermenati
Metso Pacific Rim

"The current program embodies a number of these concepts and simultaneously aims at reducing the cash cost of production and improving capital effectiveness," he said.

In addition to the resources in Metso, JKTech and the participating mining companies, several experts in various fields will participate in the program on a consultancy basis.

It is hoped the initiative will be able to contribute to the operation of Chilean mines.

"The rising energy costs, falling ore grades, use of water and productivity are particularly important operational issues for Chilean mines," Metso Pacific Rim Market Area Senior Vice President Aldo Cermenati said.

"The potential of this research program to impact these areas in real-life cases is very exciting."

JKTech and Metso are currently in discussion with Chilean mining companies who have expressed an interest in the program.



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Academic strikes gold with soluble solution

BY KAITLIN SHAWCROSS

A carbon meter which maximises gold extraction has taken first prize in the 2014 Curtin Commercial Innovation Awards.

Curtin University Adjunct Professor Bill Staunton and his team's winning creation can increase the efficiency of gold recovery, reduces costs and, ultimately, grow industry revenue.

The carbon meter works by automatically measuring tanks of carbon several times a day, as frequently as every 30 minutes, so extractors know how much carbon is in each tank and how it varies with time in order to move the carbon around more precisely.

The innovation came after Professor Staunton identified a problem with an increasing amount of soluble gold joining the tailings.

"When we dissolve the gold from the ore we have quite a low concentration of golden solution, perhaps only one part per million," he said.

"We try and get all of that soluble gold out on to the carbon; obviously we'd like to get it all out but inevitably we lose a little bit of soluble gold to the back end of the circuit."

With the world average gold loss



Winner: Curtin University's Professor Bill Staunton is the brains behind the carbon meter innovation.

around 0.02 and 0.03 parts per million, Professor Staunton said his innovation aimed to bring the soluble gold concentration of a site below 0.01.

"Those numbers don't sound very big but for a moderately sized plant a 0.01 solution gold loss is equivalent to about \$6 to \$7 million of gold a year going out the back end," he said.

"That's gold that's already been dissolved. It's not like we haven't been able to get it out of the ore; we got it out of the ore we just didn't capture it before it went out in the tailings."

Professor Staunton said by bringing gold loss down below 0.01, the average plant could see a revenue boost as high as \$11 million worth of gold within a year.

The carbon meter is expected to hit the market with a new name and modest installation cost, making it an extremely cost-effective way to optimise production.

"In the next few months we're hoping to identify at least one company that would be willing to put this in and demonstrate its value," Professor Staunton said.

"We believe that, if it gives the optimised results we're expecting, the payback period for this equipment will be a matter of months."

Professor Staunton said winning the Curtin Award was a great honour and gave his project a resource boost to help with the commercialisation and final development.

"We were immensely proud to win it and I think it does reflect that, at Curtin, the research that goes on here is developed and is delivered to industry," he said.

Unplanned halt needed at WA mine

St Barbara took a major unscheduled two-week shutdown last month of its Leonora processing plant in Western Australia to undertake pressing maintenance.

While the shutdown was required to replace the mill motor plinth, the company brought forward other planned maintenance scheduled for later in the year in an effort to minimise overall plant downtime. During the shutdown period mining operations continued with ore being stockpiled.

While the change in the maintenance schedule was expected to impact the company's September 2014 quarter production, the mine schedule for the first half of the 2015 financial year remains on track.

St Barbara said it anticipated higher production levels at Leonora for the second half of the 2015 financial year.

St Barbara's Leonora operations, which comprises the Gwalia and King of the Hills mines, are expected to produce between 240,000 and 270,000 ounces of gold in 2014/2015.

The company's flagship Gwalia mine increased gold production from 183,116 ounces in 2013 to 214,319 ounces in 2014 as a result of improved blending strategies, higher mill availability and higher grades. Ore production increased in the same year.

St Barbara reported a net loss after tax of \$501 million for the year ended June 30, 2014.

Much-protested rare earths plant gets government nod



Ongoing protest: The Lynas Advanced Materials Plant has caused controversy in Malaysia.

The Malaysian Atomic Energy Licensing Board (AELB) issued Lynas with a Full Operating Stage Licence (FOSL) for its Lynas Advanced Materials Plant (LAMP) last month.

The rare earth plant's development has been controversial for Malaysia with ongoing protests since its construction began, including the formation of the high-profile Save Malaysia Stop Lynas (SMSL) activist group.

The Malaysian group, along with Australian counterparts, is concerned the plant is dumping tonnes of toxic and radioactive waste into the surrounding area and will impact the health of the area's people and environment.

Lynas was granted approval for its processing plant in Kuantan early in 2012 by the AELB.

Since that time court battles have continued against the miner, including a challenge by SMSL in December 2012 following the granting of a temporary operating permit for its LAMP operations.

Lynas was successful in dismissing the challenge and the LAMP has continued to progress, with an increase in production levels in the final 2013 quarter.

After a review by the AELB and other independent regulatory bodies in Malaysia found the LAMP in compliance with regulations, Lynas was granted the full

operating licence.

Lynas Chairman Nicholas Curtis said the plant could now look forward to a more secure future with the passing of another milestone.

"Receiving this licence is another significant milestone for Lynas and validates the safe and secure operation of the LAMP during the two-year tenure of the temporary operating licence," he said.

"Lynas looks forward to continuing the ramp-up of the LAMP production and sales and to securing its future as a sustainable supply chain partner in this strategic global market."

The FOSL will be renewable in two years' time.

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Permit key to facility's expansion

MacPhersons Resources has received much-needed approval from the Western Australian Department of Minerals which will allow mining and processing operations to commence at its Nimbus mine, 10km east of Kalgoorlie.

The miner's flagship silver-zinc-gold project processed 319,000 tonnes at an average head grade of 352 grams per tonne silver between 2003 and 2007.

The new key permit allows for the commencement of construction of an expanded processing facility, which will be 400 per cent larger than the original Nimbus treatment plant and will be able to accommodate a larger resource base defined. The new treatment facility will produce 480,000 tonnes per annum and construction is scheduled to commence after completion of the bankable feasibility study (BFS) and project funding.

MacPhersons is fully funded through to the completion of the BFS in the December quarter of this year.

MacPhersons Managing Director Morrie Goodz said the permit was a key approval requirement of the BFS to allow the project to move forward.

"We have demonstrated a well-planned and detailed process to recommence the Nimbus operations and we are pleased that the permitting process now allows us to proceed on schedule with our BFS," he said.

Capital raising efforts to fund bulk sampling

After raising \$1.1 million through a share placement, MRL is preparing to start a pivotal bulk-sampling program at its high-grade Warakapola graphite project in Sri Lanka.

The program is planned to commence in the December quarter of this year and is aimed at accelerating the start of commercial production of extremely high-grade graphite.

MRL raised funds for the project by placing 16.4 million shares at seven cents each to sophisticated investors in Asia.

Warakapola has a history of high-grade commercial graphite production, with MRL identifying about 40 historical workings, including two previously used mine shafts that extend between 10m and 25m deep.

MRL plans to use some of the funds raised to rehabilitate two of the shafts at Warakapola, which will enable the bulk sampling to begin.

At the time of print, MRL was mid-way through a drilling program aimed at establishing the presence of deep vein graphite mineralisation.

The program had already returned high-grade results of up to 99.2 per cent total carbon and each vein has



Enterprise: MRL workers examining core from the DH2 drill hole at the Bopitiya project site in Sri Lanka.

the potential to support a mine life of between 10 and 20 years and generate substantial revenue.

Some of the ore extracted in the program will be used to conduct metallurgical tests and provide samples to potential off-take parties.

The tests will determine whether the material is suitable for producing spherical graphite, a graphite product used in lithium batteries.

With a surging global demand for lithium ion batteries, there is an increased need for spherical

graphite and a growing interest by investors into graphite projects.

MRL will use part of the raising proceeds towards reopening the nearby Aluketiya graphite project after recently signing a heads of agreement to acquire the rights to the mine.

With an extensive portfolio of high-grade vein graphite licences in Sri Lanka, MRL said it aimed to develop multiple small-scale hubs.

The company said its drilling results, combined with the historical production, showed an

abundance of high-grade graphite across its projects.

"Our activity is now focused on establishing the most economical locations for mining this mineralisation," the company said.

"This will be determined by the extent of the veins and the metallurgical qualities of the mineralisation.

"But rather than amassing vast quantities of JORC resources, our strategy is aimed at initiating production and generating cashflow as quickly as possible."




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System works to cut upkeep costs



Monitoring: Komatsu Australia is currently rolling out its Komtrax Plus service for its range of mining equipment including dozers, haul trucks and excavators, which helps to reduce asset maintenance costs.

Komatsu Australia has released a new system which works to reduce maintenance costs and improve operational safety.

The company has been providing its remote monitoring offering for its construction and utility equipment for several years and is currently rolling out the Komtrax Plus service for its mining equipment range.

The service combines Komatsu's longstanding Vehicle Health Monitoring System (VHMS) with remote monitoring capabilities.

Komatsu Australia Komtrax Plus Telemetry Specialist Rick Augur said the system allowed mine management, asset managers and maintenance crews to view specific machine performance data remotely via any computer with internet.

"Komatsu has long been renowned for developing and using technologies that help its customers

maximise their productivity and lower their operating costs - and Komtrax Plus is the latest example of this," Mr Augur said.

"Komtrax Plus provides a means to remotely monitor the health of major components using Komatsu's satellite technology on selected mining and production class machines, enabling constant evaluation of a machine's condition and operations.

"This system has been designed to reduce repair costs and maintain optimal machine availability by helping prevent unscheduled downtime, through the combination of Komatsu's proven VHMS and Komtrax offerings."

The system works to reduce maintenance costs by continually monitoring machine condition and performance, which ensures any abnormal readings can be addressed before they result in

unscheduled downtime. This constant monitoring in turn helps to lower operating costs by enabling fine-tuning of operator procedures.

Another factor for maintenance is the system's ability to accurately log machine hours.

Access to Komtrax Plus is via the company's online Equipment Care portal and is free of charge for any piece of Komatsu equipment fitted with the system.

"This portal provides users access to critical information about each machine, including machine performance, machine health, fault analysis, fuel data, payload data and idle time summaries."

Komatsu equipment fitted with Komtrax Plus includes a number of models of haul trucks, excavators and shovels, wheel loaders and dozers.



Great minds: (L-R) Nigel Spork, Attila Brungs, Zoran Angelkovski, Nicholas White and Professor Sam Bucolo from the new META hub.

Research hub focuses on design innovations

Some of Australia's most innovative manufacturers are teaming up to help other companies become globally competitive through improved design-led innovation (DLI).

META, a nationwide network of manufacturers and researchers, has partnered with the University of Technology, Sydney to launch the META Design Thinking for Export Competitiveness Hub which builds on research conducted by UTS into 14 globally competitive Australian manufacturing companies.

Among those analysed in the UTS study was Russell Mineral Equipment (RME), the world's leading manufacturer and supplier of specialised hard-rock mining equipment. Through DLI, RME has made the maintenance of grinding mills faster and safer, thus boosting productivity of mine operations in more than 50 countries.

The hub aims to accelerate the development of DLI across the Australian manufacturing sector and will act as a meeting point for members to access best-practice information.

It will bring together leaders from organisations who have already applied DLI to their business who will act as mentors to other Australian companies and share their experiences and knowledge.

"Our future success depends on creating the high-value exports the world wants, and we believe the META Design Thinking for Export and Competitiveness Hub is the way forward for companies that want to compete in the global economy," META Managing Director Zoran Angelkovski said.

DLI is a framework which helps companies develop significantly improved products and services through deep customer understanding. Through improved DLI, mining equipment manufacturers can better tailor their products to meet customer demand and thus become more competitive on the global stage.

Compared to those who do not collaborate, Australian businesses who innovate and collaborate are 23 per cent more likely to report increased productivity, 24 per cent more likely to report increased profitability and three times more likely to increase the number of export markets targeted.

The figures, compiled according to 2011 ABS data analysis commissioned by the Department of Industry, Innovation, Science, Research and Tertiary Education (DIISRTE), revealed businesses were 48 per cent more likely to increase the range of goods or services offered.

Smart card-based control technology for risky situations

An innovative Australian access control system is winning the support of companies around the world.

AccessPack, designed by Western Australian company CASWA, uses smart card technology to prevent unauthorised operators from using high-risk or critical equipment.

This improves occupational safety and health outcomes by requiring users to have current and appropriate 'tickets' including qualifications, accreditation, training and/or inductions in order to operate the equipment.

Current users include Schlumberger, BHP Billiton, Rio Tinto, Fortescue Metals Group, Weatherford, UGL, Komatsu, Hitachi, Rolls Royce and the US' Whiting.

CASWA said AccessPack recorded who used equipment, which created and maintained a culture of operator accountability and typically improved availability as authorised users instinctively took greater care.

It also provides health, safety and environment staff with

access to information required for effective incident investigation and proactive training needs analysis.

CASWA Managing Director Paul Kelly said the product was fitted to the device operators wanted to manage.

"It will only operate for individual persons who have been authorised to do so, and only for the period that this authority is valid. Machines will simply not start for anyone else," Mr Kelly said.

AccessPack has the additional ability to track when maintenance or servicing is due, thus keeping equipment in good working condition and further ensuring operators' safety.

Equipment can be tagged out if this is required for any reason, or if mandatory maintenance intervals are not done in the required period. In this mode, no operator, certified or otherwise, can physically use the equipment until it is safe to do so.

Administration is just as simple. A secure web interface enables access rights to be granted or changed

using a few 'drag and drop' actions.

Recently, CASWA signed a license agreement with Whiting, a major manufacturer of overhead cranes, foundry equipment and rail maintenance lifting equipment distributed in North America.

"We love it here because it pays for itself by easing compliance with safety regimes," Whiting Product Director Joel Phelps said.

"AccessPack also helps to eliminate downtime by empowering workers to take responsibility for the assets they use.

"Quite apart from saving compliance headaches and avoiding downtime - which are major issues here - it prevents accidents from misuse of fixed and mobile plant that can kill people."

The range of equipment commonly fitted with AccessPack includes cranes, production critical machines, hydraulic power packs, lathes, presses, computer numerical control plant and breakout machines, as well as forklifts, diggers and elevated lifting platforms.



Control: AccessPack will track when equipment pieces are due for service.

Quality service on all products

Established in 2004, Australian Production Line Maintenance Services (APMS) is a 100 per cent South Australian, family-owned business, operating out of its state-of-the-art premises at Burton.

The company offers a range of products including industrial gearboxes and gear-motors, roller chain, sprockets, brakes, clutches, couplings, electric motors, belts and pulleys and provides servicing on all of its products.

APMS builds complete Sumitomo drive systems which can be installed onsite. In addition, APMS will remove old equipment and install replacements, or make repairs either onsite or externally.

The company is committed to supplying clients with quality products and servicing at an affordable price, to guarantee customer satisfaction.

It is small but active, with a network of quality subcontractors who assist it in undertaking small to medium projects, within its control and level of expertise.

Over the last 10 years, APMS has built solid relationships with key suppliers including Sumitomo Hansen Drives Australia, Hitachi Chains Japan, GB Power Transmission Australia, TECO Electric Motors Australia, Transfluid Couplings Italy and Polychem Corporation USA, and has worked with major resources players including BHP Billiton Onesteel/Arrium, ERA, Terramin and Hillgrove.

APMS' personnel are actively involved in the company's day-to-day operations and welcome new market challenges.

ADVERTISING

Protection for ground engaging mining tools

Hard Metals Industries (HMI) will be on show at the upcoming Mining and Engineering New South Wales exhibition, displaying its mining picks, drilling tools and Betek product range, designed to aid in equipment maintenance onsite.

The company's focus is on maintaining materials handling equipment and ground engaging tools by combating abrasive wear and extending product life.

Hard Metals Industries was established in Australia in 1999 and the company is a distributing partner of Betek, which designs tools specifically for mining applications.

Betek's TungStuds provide effective protection for ground engaging tools from the abrasions caused by metal surfaces.

Fitted with a tungsten carbide core, the TungStud protect solution creates a buffer between the metal surfaces of equipment and the extreme abrasion caused by the excavated material, with the material between the TungStuds protecting against direct wear (known as the Rockbox effect).

This ensures the TungStuds are worn down instead of metal surfaces, which reduces

the costs associated with replacing expensive parts, with only the TungStuds requiring replacement.

Critically, expenditure on maintenance is minimalised due to the resistant tungsten carbide core of the TungStuds.

HMI also offers a diverse range of polycrystalline diamond compact (PDC) drilling tools, which are available in steel and matrix (powder metallurgical sintered head) and range from 1 to 17.5 inches.

These drilling tools vary in design and formation to meet a variety of ground conditions and include diamond coring, bits, barrels and rods; tricones, drag and PDC bits; recovery tools, mills and hole openers; and custom-designed and manufacture drilling tools.

HMI has offices across Australia, New Zealand and South Africa, with in-house design, engineering and manufacturing taking place in its Brisbane head office.

HMI's engineering prototypes are devised and the manufacture of new tools and one-off tools takes place at the head office facility.



Proactive: Hard Metals Industries works to actively maintain mining equipment by combating abrasive wear and extending product life.



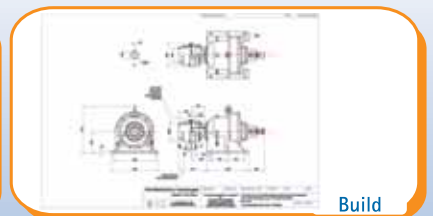
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Black spots hindering trade competitiveness



ROB STUMMER
MANAGING DIRECTOR
IFS AUSTRALIA AND
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Since the federal election the National Broadband Network has rarely been out of the news. The related issue of filling in mobile broadband black spots, however, has received relatively little attention, despite its huge potential to add to national productivity, particularly in the mining industry operating in remote parts of Australia.

This may be partly due to ignorance of the role technology plays in making Australia's resources industry more efficient.

Workers in remote locations regularly use ruggedised computing devices like tablets to access centralised information stores and to feed updated information back to their head offices so decisions can be made in real time.

Even without mobile broadband coverage, this is possible with the satellite-linked communications infrastructure companies have installed at larger minesites.

The bigger reason may be that the issue affects relatively few people.

Both Telstra and Optus now claim to reach around 99 per cent of the Australian population with 3G or 4G mobile network coverage, delivering relatively high-speed data to smartphones or tablets.

However, coverage maps reveal at least 75 per cent of the Australian landmass is not covered by any mobile network.

Even in the 25 per cent of areas with some coverage, chances are

you will need an external antenna or only get service via a single mobile operator.

The bottom line is that if you are working in mining, mobile broadband coverage is likely to be the exception rather than the rule.

The lack of this basic communications infrastructure is a drag on productivity and competitiveness.

Meanwhile there are billions of dollars worth of projects sitting on the shelf that could become viable again, given the right conditions.

Commodity prices are just one side of this equation; development and production costs are the other.

And while the cost of labour in Australia is high, we can compete with projects in other countries if we use our labour more productively.

But to keep people employed in the resources industry, we need the infrastructure to provide instantaneous communications across all facets of operations, wherever they may be.

Amongst IFS's own customer base there are several companies looking to deploy mobile solutions to give them the productivity they need to secure investment in new projects.

Mobile devices with inbuilt GPS can now run business apps for work orders, fault reports, route planning, workforce scheduling and optimisation, among other things.

Real-time communications improve decision making regarding



Network: At least 75 per cent of Australia's landmass is not covered.

when assets need to be repaired or replaced, for example, or whether there are too many people onsite.

Mobile broadband connectivity empowers people to make decisions on the spot, rather than lose days or even weeks before returning to head office.

To its credit, the government is aware of the problem. Under its Mobile Coverage Program it has pledged \$100 million - potentially to be matched dollar-for-dollar by the mobile network providers - to improve mobile phone coverage.

Plus, \$20 million of this funding has been set aside under the Mobile Black Spots Project to address unique mobile coverage problems.

While this additional investment is welcome, we are unlikely to see anything built until 2015 at the earliest.

More can and needs to be done to speed up the delivery of productive mobile broadband capacity and eradicate the mobile black spots hampering the competitiveness of Australia's mining industry.

Fleet units updated for big miners

One of Queensland's leading transport service providers says the use of GPS-based communications technology has helped it better service four of the top resources companies in its region: Santos, QGC, Origin Energy and Arrow Energy.

Roma Transport deployed 70 Navman Wireless tracking units across its vehicle fleet. Each unit consisted of a GPS fleet management tracking device, sensors, driver identity option and a satellite modem.

Roma Transport Services HSC Compliance Manager Peter Garrels said the fact Navman Wireless' units offered a live system in-vehicle monitoring system (IVMS) set them apart from other IVMS options.

"Using Navman Wireless technology we're able to ensure Roma Transport has all of the legislative processes in place, and we're also able to deliver greater commitments to the client around journey management," he said.

"We know how a fleet is moved, where fleet vehicles are and that drivers are safe and well.

"Having real-time fleet visibility means we've got an accurate view of when trucks are due onsite.

"If there's another job, we're able to add trucks and drivers to the schedule and move fleets around, which wasn't previously possible."

All Roma Transport operations managers - including fleet owners - have Navman Wireless software installed on their computers and smartphones so they can access fleet information and look at any truck at any time of day in real time, as well as revisit data and replay a day.

This enables them to ensure truck operators are taking legislative rest breaks and managing fatigue, as well as meeting contractual obligations, which require reporting on any exceptions to driver behaviour.

New technologies and products aid minesite connections

A range of new communication solutions for the resources industry will be showcased at the Mining and Engineering New South Wales (M&E NSW) exhibition this month.

Gencom Two Way Radio, the largest supplier of two-way radio communications solutions to the NSW mining and energy sector, will display its digital radio platforms for both open-cut coal mining and hard-rock underground mining.

This will include several solutions from the company's 4RF, Motorola, Damm, Sepura and Cambium Networks product ranges, including the Aprisa product range and Motorola's MotoTRBO digital two-way radio system.

The Aprisa product range was developed by market leaders 4RF who specialise in data communications solutions for remote monitoring applications.

Products in the range have been specifically designed for use in harsh mining conditions and offer narrow and wide-band solutions for well-head monitoring, pump/process control

and environmental monitoring.

Motorola's MotoTRBO system is widely regarded as the digital radio platform of choice for the mining and energy sectors when a soft-upgrade path from analogue is required.

Joining Gencom at M&E NSW will be first-time exhibitor JCS Technologies, which will use the opportunity to display its cable and cable manufacturing products.

A leader within the Australian cable manufacturing industry since the early 1990s, JCS specialises in offering a wide range of optical fibre products, copper data cabling and cable manufacturing services.

JCS has a range of cables and connectors suitable for mining applications due to their crush resistance, easy connectivity, hazard-resistant features and rugged construct.

The company's mining cable range includes fibre and messenger cables manufactured by Optical Cable Corporation, subgrouping armoured cables, MSHA-rated subgrouping cables

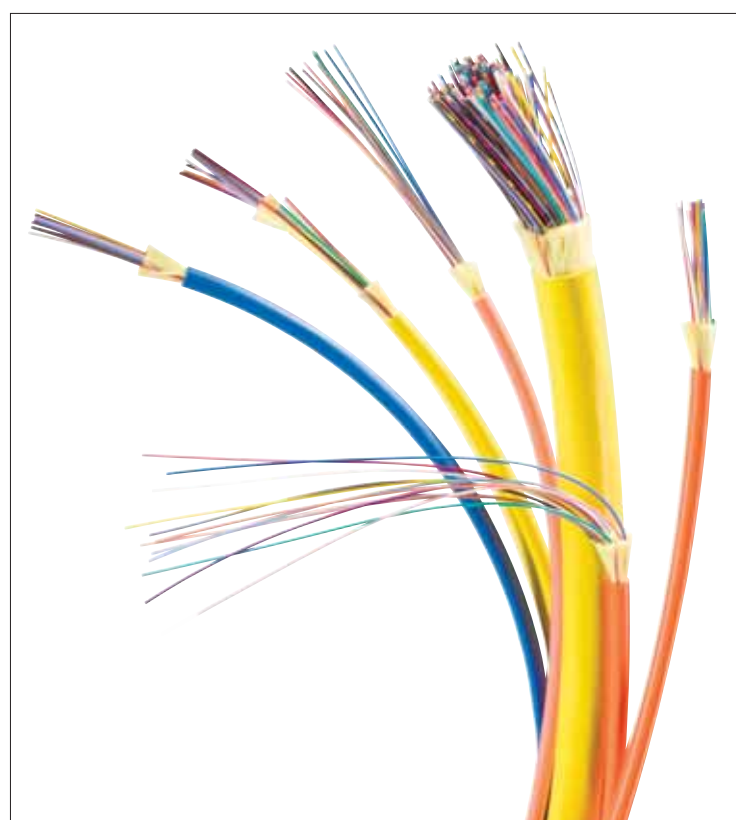
and MSHA-rated breakout cables.

Additionally, JCS stocks a wide range of connectors including F-Link Inter-Connect, EZ-Mate, R-Jack and MHC II connectors.

Pyott-Boone Electronics will showcase various products from its range at the M&E NSW event, including its Proximity Alert System (PAS) which is managed by the company's MineBoss technology.

MineBoss can display the location of miners and equipment throughout any underground mine, tunnelling operation or industrial facility, thereby offering the integration and visibility for site-wide activity and allowing control from a centralised location.

MineBoss' monitoring and reporting system utilises multiple detection technologies, object recognition technologies and customisable user interface options, while the PAS incorporates a number of technological features including electromagnetic proximity sensors, radar, GPS tracking modules and real-time video surveillance.



On show: JCS Technologies will display its cable and fibre optic solutions alongside other minesite communication product suppliers at M&E NSW.

Able to endure hard knocks

Panasonic Australia has released a new fully-rugged tablet device specifically designed to withstand the harsh environments encountered by workers in the resources industry.

Designed for use by mobile field workers, Panasonic's FZ-G1 Toughpad is an ultra-thin (19mm) and lightweight (1.1kg), fully-rugged tablet with a 10.1-inch, 10-point multi-touch and digitiser screen display.

The device runs Windows 8 software and has been certified as suitable for use in hazardous Zone 2 industrial environments.

"The mining sector in Australia is increasingly using mobile devices for capturing and delivering field data and for integrating people, processes and technology," Panasonic Australia Toughbook Group Manager Marc Amelung said.

"Given the difficult and hazardous working environment of the sector, mobile devices are exposed to some of the toughest operational conditions, such as extreme temperatures, heat, dust, vibration and rough handling."

The Toughpad FZ-G1 shares its DNA with the Toughbook family of products from Panasonic, which is known for its ergonomic and durable product designs.

Mr Amelung said Panasonic's Toughbook computers and Toughpad tablets were designed to endure the rigours of tough workplaces, regularly withstanding drops, knocks and blows that would likely destroy other consumer products.

"A lot of businesses think the replacement cost of a damaged device is the biggest financial headache they face. Panasonic has found that purchase price accounts for only roughly a quarter of that cost when using a consumer-grade device," he said.

"Much more significant are other costs such as employee downtime, delivery of service suffering when the device is down and IT support."

Mr Amelung said the Toughpad's high degree of reliability and durability - compared to consumer-grade tablets - reduced the risk of failure and made for a much smarter financial decision over the lifetime of the device.

"Higher productivity and a better return on investment reduce the total cost of ownership," he said.

Radio expert offers unique solutions for minesite operations

With a long history of supplying radio networks and equipment to the mining and oil and gas industries, Radlink's expertise and experience means the company is uniquely positioned to tackle the special challenges faced by these sectors.

Radlink specialises in designing and building advanced radio networks and applications which can increase communication, safety and operational efficiencies.

These new radio technologies go far beyond voice communication to include using smartphone capabilities to deliver data and commands which can streamline many aspects of existing operations.

Additionally, Radlink offers its clients the ability to go further with their current radio infrastructure by implementing specific applications and technologies. For example, processes can be automated with the use of sensor monitors, staff safety can be enhanced using GPS location services and emergency warning messages can be both written and voiced.

As an independent operator, Radlink is able to provide the right solution for its clients every time.

Radlink's managers evaluate and supply a variety of competing brands, thereby allowing its engineers to custom design networks which are best suited to an individual client's needs without being limited by choice of equipment, radio standards, software or technology.

For more information call 1300 73 55 83 or visit www.radlink.com.au.

ADVERTISING



Tough as nails: Panasonic's fully-rugged FZ-G1 Toughpad tablet has been engineered to withstand rough worksite environments.

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Local fleet at work in Chile

Australian earthmoving equipment supplier and solutions provider Emeco has revealed work is now underway after the company secured a five-year agreement with Chilean mining contractor Fe Grande in mid-August.

"We now have Emeco equipment mobilised and at work onsite at two projects for a Chilean-based copper miner through our contract with Fe Grande," Emeco CEO Ken Lewsey said.

Mr Lewsey said Emeco currently had a fleet comprising haul trucks, excavators, loaders and dozers at work in Chile.

In its initial announcement, Emeco said it estimated it would generate revenue of between \$27 and \$32 million annually from the project.

This significant project win is set to utilise up to \$64 million of the company's Chilean fleet and represents more than 50 per cent utilisation for this business unit.

Emeco has been in operation since it was founded in Australia in 1972 and provides equipment to industry around the world, with its major operations in Australia, Canada and Chile.

It currently concentrates its business in Santiago and Antofagasta in Chile, Fort McMurray and Edmonton in Canada and within Australia across Western Australia, New South Wales and Queensland.

"This is a significant win for Emeco in Chile and provides an excellent platform over the next five years to further grow the



Ambitious: Emeco CEO Ken Lewsey (inset) said his company now had haul trucks, excavators, loaders and dozers deployed in Chile and was planning longer-term expansions in the greater Latin America area.

Chilean business and look for future expansion in Latin America," Mr Lewsey said.

"It supports our longer-term ambitions in creating additional value in diversifying our business across geographies, commodities and services."

In February 2012, Emeco announced its intention to establish a mining equipment rental business in Chile in July of the same year. This decision was backed by

the company's view of the strong fundamentals of the Chilean copper industry.

"The prospects for long-term growth in the region and that the mines in the region operate toward the lower end of the global cost curve are attractive for our business model," the company said in a statement.

By the end of the 2012 financial year, the first Emeco trucks were deployed in Chile and by

February 2013 about \$53 million of equipment was at work in the country. By March the same year, the total was brought up to \$76 million due to a contract win.

A strong performance led to the company announcing that in FY13 it had pulled in revenue of \$17.4 million for its Chilean operations with earnings before interest and taxes amounting to \$6.4 million.

"We have been successful in

It supports our longer-term ambitions in creating additional value in diversifying our business

Ken Lewsey
Emeco

establishing a strong foothold for our Chilean business, deploying over \$100 million of fleet and averaging 80 per cent utilisation," the statement said.

The company said about 40 per cent of the fleet had been relocated from other Emeco business units as it continued to deploy its assets to match market demand.

It said this demonstrated its strength in geographic diversification.

The new project replaces a Chilean fleet which is expected to be off-hired during the first half of 2015, however potential project extensions and a strong pipeline of smaller projects currently tendered supports an expected high level of utilisation over FY15 and beyond.

Emeco said securing more than 50 per cent of its current Chilean fleet for up to five years further supported the move into Chile and it provided a platform for future expansion of its business model across the broader region.

Mining slowdown hits supplier's bottom line

Diversified mining services company Ausdrill has announced its 2014 full-year financial results.

The company, which began in Kalgoorlie, Western Australia in 1987, works across exploration, mine development and surface and underground mining and hires out mining equipment for a range of requirements.

The financial report revealed Ausdrill delivered an operating profit of \$29.1 million on revenue of \$826.3 million.

The statutory loss after tax of \$43.9 million was due to impairment charges totalling \$77.9 million which were announced to the market early last month.

"There is no hiding from the fact this has been a tough year for the company, and indeed for the entire industry," Ausdrill Managing Director Ron Sayers said.

"The slowdown in mining industry activity in both Australia and Africa that we have witnessed for the past two years has continued."

However, Mr Sayers said there were some positive signs trading conditions were improving.

"We believe the investment we have made in developing our people, acquiring equipment and growing the business places us in the best possible position to benefit from the turnaround when it arrives," he said.

In its report the company stated many mining companies had responded to volatile commodity prices by deferring non-essential expenditure including capital works, exploration programs and non-critical maintenance.

Ausdrill's after tax profit decreased from \$90.4 million to \$29.1 for the year ended June 30, 2014 (excluding the impact of impairment charges).

The report attributed the lower profits to lower revenues and margins.

However, the company said the Ausdrill Group continued to pursue its strategy of providing a complete mining services solution to the resources industry.

"The industry remains uncertain in relation to future levels of demand for commodities and the level of prices for those commodities," the company said in the report.

Ausdrill announced in the report it expected an improved result in the coming financial year (FY15).

"The outlook for the resources industry is expected to improve over the medium term in both Australia and Africa where Ausdrill has a long-established presence and local know-how and, as a consequence, Ausdrill remains very well placed for a recovery," the company said.

Extensive equipment range helps company take home two awards



Accolades: Plantman Equipment was recognised for its success within the Swan business community.

Plantman Equipment has taken out two accolades at the recent 2014 Hanson Swan Business Awards, held in Perth's Swan Valley.

The company, which hires out and sells a broad fleet of heavy mobile plant and support equipment, was announced as winner of the Mining Services category in the awards, as well as Business of the Year during a gala presentation dinner.

Drawing from the large business community within Perth's north-eastern metropolitan region, the Hanson Swan Business Awards

provide recognition to businesses consistently delivering outstanding value and service.

Plantman Equipment Managing Director Michael Elliot said it was very pleasing to have been considered and chosen for the Mining Services award.

"We started Plantman in the belief we could provide an extensive range of mining equipment and an innovative range of service trucks designed to handle the unique requirements of the mining industry," Mr Elliot said.

"We look forward to working with our clients to continually refine and improve this range to meet their changing needs."

Mr Elliot said receiving the Business of the Year award amongst such strong contenders within the Swan business community was very rewarding.

"While I am very biased, it does not come as a surprise to me. We have a great team of dedicated professionals who consistently deliver on our promise of outstanding service and I am very proud they have received this award," he said.



Kudos: (L-R) Andy Kennard, Zac Kennard, Angus Kennard, Prue Kennard and Cameron Kennard with their Business of the Year award.

Business honoured for family-focused culture

Kennards Hire has received national recognition for its achievements at an awards ceremony in South Australia.

The company was named as the winner of the Family Business Association 2014 Distinguished Business of the Year at the FBA National Conference in Adelaide last month.

The Family Business Association celebrates family businesses with a particular emphasis on those which are able to contribute to the culture and the future of the Australian economy.

Kennards Hire began in 1948 in Bathurst, Victoria as a small family business.

More than 60 years later it has grown to have more than 120 hire centres around Australia and it is still family-owned.

The company was announced as the 2014 winner of the award after demonstrating an outstanding commitment to the amalgamation of both family and business interests.

Kennards Hire CEO Allen Besseling said he was excited and proud of his team.

"I feel privileged to be a part of a family business like Kennards Hire," Mr Besseling said.

"It's incredibly exciting to be recognised by our peers, and the entire Kennards Hire team will continue to strive to deliver a service with a distinct family feel."

Kennards Hire supplies a variety of brands of hire equipment which are utilised in a number of resources applications including earthmoving, materials handling, welding, site equipment, pumps and lighting.

Products suited to great heights



Exhibit: Elevated platform and travel tower access equipment for hire will be on show to NSW's miners.

Force Corp is set to exhibit its access equipment hire solutions for the first time at the biennial Mining and Engineering New South Wales (M&E NSW) exhibition this month.

The company services the mining sector by hiring out elevated platform and travel tower solutions for applications at heights, with a large product range suited to both smooth indoor conditions and rugged outdoor terrain.

Specialising in access equipment, Force Corp has a range of boom

lifts, cherry pickers, knuckle booms, material lifts, scissor lifts and telescopic handles, which are designed to meet a multitude of industry requirements.

The company will display a small scissor lift and large knuckle boom at the M&E NSW trade event, both of which are designed to provide greater access and manoeuvrability for difficult jobs at significant heights.

The supplier carries a large range of scissor lifts, man lifts and

travel towers, which are available in various fuel types, including diesel and electric, and range in heights of 5m to 45m (scissor lifts and man lifts) and 53m to 62m (travel towers); which can be hired wet or dry.

In addition, Force Corp supplies knuckle booms in electric or diesel-fuelled models, which are applicable for smooth and hard surfaces or rugged terrain respectively, with the diesel knuckle booms featuring the added benefit of a 4x4 drive train.

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Vast range on show at NSW expo

Australian-owned Rhino Water Tanks will showcase its range of liquid storage solutions suitable for a range of mining applications at this month's Mining and Engineering NSW (M&E NSW) exhibition.

As a world-leading manufacturer of polyethylene-lined corrugated steel tanks, with holding capacities of 26,000 to 2.3 million litres, Rhino Water Tanks is a one-stop shop for the resources sector due to its tanks' suitability to providing water storage for temporary new minesites and accommodation, fire services, truck washes and onsite operations during mining processes.

Rhino's Zinacalume – also known as Colourbond – tanks are modular solutions that provide cost-effective water storage compliant with relevant Australian Standards.

These tanks are commonly utilised in desalination plant infrastructure, water treatment projects and reverse osmosis plants.

Exporting to over 25 countries globally, the company has many of Australia's largest mining companies within its customer base.

Made from Bluescope Steel, Rhinos Water Tanks' roof trusses and fasteners are dipped galvanised for added strength and corrosion resistance.

Rhino Water Tanks has been fabricating internal tank liners in its manufacturing factory for more than 20 years, drawing on the latest welding techniques and state-of-the-art machinery to produce liners of the highest quality.

The new Infinity Liner, exclusive to Rhino Water Tanks, is a world-leading liner fabric technology which offers extra layers of strength and durability to storage tanks, as a result of its food-grade, UV-treated, multi-layered metallocene film, which is laminated on to pre-existing reinforced polyethylene liner.

The company provides a high-grade commercial liner, called XR-3, which is suitable for harsh liquids with high chemical components or industrial waste.

In addition, Rhino Water Tanks specialises in the manufacture of commercial corrugated tanks.



Liquid storage: Rhino Water Tanks provide and install tanks for industrial and rural areas across Australia.

Engineered and manufactured to meet all Australian tank standards, the range is ideal for minesites and any project requiring large water storage capacity.

It is also a distributor for world-renowned Permastore-manufactured water tanks, which are suitable for projects up to 50 million litres.

Permastore has more than 50 years' experience offering water storage products.

Its tanks are commonly utilised for large-scale desalination plants, town water supply projects and minesites requiring multi-functional tank options.

Permastore tanks' glass-fused-to-steel construct makes them ideal for housing large masses of water, effluent storage, anaerobic digestion, leachate storage and

general water treatment in harsh environments due to its optimum corrosion resistance.

Rhino Water Tanks has a network of specially-trained tank installers across Australia.

Its installers focus on quality and excellent service to ensure the job is manufactured, supplied and installed to every individual customer's specific requirements.

All Rhino Water Tanks are transported to site in flat pack form and then assembled onsite.

This allows the team to position the fittings to the customer's individual requirements and gives them the ability to install tanks on minesites with reduced accessibility.

Reed Mining Events Director

Tanks are commonly utilised for large-scale desalination plants, town water supply projects and minesites requiring multi-functional tank options

Paul Baker described M&E NSW as being crucial for mining personnel in the Hunter Region and mining regions throughout the state, due to the wide range of technological solutions on display.

In-house capabilities and expert services benefit resources clients



Guarantee: Chemstore International Group covers all aspects of a project from design to commissioning.

Established in 1972, Chemstore Group has been servicing the Australian mining industry by offering specialised tank solutions for over 40 years.

Chemstore Business Development Manager Sam Pridham said the company had the in-house capabilities and expertise to provide full project solutions to the mining sector.

From complex front-end engineering design, construction, installation and commissioning to long-term maintenance scheduling and asset support, Chemstore covers all client requirements.

Over time, the company has developed its design and construct capability to world-class standards.

Its solutions and services start at the design phase of a

project and include every step until commissioning.

"Our service starts with the specification, basically from the drawing board at the very initial stage of the project, and we go right through to the installation and commissioning of the tanks," Mr Pridham said.

"We can also support clients with our asset management packages, and set up a 12-month to 10-year maintenance scheduling program to service and inspect the tanks within the warranty period and beyond.

"It is a full turnkey solution backed up with asset management support."

This ensures clients have a single interface throughout the entire project, which significantly reduces their risk, costs and time involved when dealing with multiple projects.

"For our clients this means a one-point of contact, so contractually it is a huge advantage for them," Mr Pridham said.

The company has a proven track record of delivering onsite installations at minesites and the experienced personnel to deliver efficiently carried out installations and site erections.

"All our tanks are erected in rings and lifted by an electric jacking system, so the install is completed at ground level and there is no working at heights. This is a huge safety advantage," Mr Pridham said.

This assures clients the highest levels of workplace health and safety are maintained onsite throughout tank installations.

ADVERTISING

New supplier offering tough storage solution

Chemstore Group has come on board as the new Australia-wide distributor for the Permastore range of tanks.

Permastore, an internationally renowned company, is the market leader in the manufacture and supply of glass-fused-to-steel tanks and silos.

It exports to more than 110 countries and has installed more than 300,000 structures to date.

This glass-fused-to-steel technology sees the strength and flexibility of steel combined with the corrosion resistance of glass.

The factory-applied silica glass coating is fused into high-strength steel at a temperature of 850C and creates a hard, inert barrier which protects the steel core against any corrosion.

An enamel coating is the perfect system to combine the benefits of steel and glass in one single material.

The major difference to other coating methods is that the enamel does not just adhere to the steel, but bonds with it.

Applied to both interior and exterior surfaces, glass-fused-to-steel is a unique tank finish which is able to provide many years of trouble-free service in harsh environments.

The tanks are manufactured according to client's diameter measurements and configurations and are available in a complete range of diameter and height options with storage capacity solutions up to 5,000,000 litres.

Permastore's glass-fused-to-steel tanks are ideal for the mining industry, because of their ability to withstand tough environmental extremes and resist highly abrasive contents.

In addition, the modular design principle of the tank kits offers ease of transport and assembly at minesites.

The bolted nature of the tanks allows them to be built very quickly when compared to welded structures, and allows existing tanks to be unbolted and moved on to new minesites when required, significantly increasing asset value.

Both process and effluent treatment can be carried out in Permastore tanks in most applications, which can include mines for gold, silver, coal, copper, diamonds, iron ore, cobalt, nickel, platinum, potash, rare earth metals, uranium, zinc and many other minerals.

Glass-fused-to-steel has become the premium water and liquid storage technology in the mining industry due to its dependable performance and minimal maintenance costs.

Chemstore Business Development Manager Sam Pridham said as a family-owned company, Chemstore had built up a very strong name in the industry through its dedication to quality and client service.

Combined with Permastore's expertise, both companies have joined together to become a real force in the market.

ADVERTISING

Spotlight on Asian industry

Austrade and Reed Mining Events have confirmed a strategic partnership for Ozmine and Mining and Engineering (M&E) Indonesia, which will see the Ozmine exhibition feature as the Australian Pavilion at M&E Indonesia, to be held at the Jakarta International Expo from October 29 to 31.

This partnership will provide Australian mining equipment, technology and services (METS) suppliers with an enhanced opportunity to showcase their innovative mining technology and services to the Indonesian resources sector.

Senior Trade Commissioner Jakarta Kym Hewett said the strategic partnership would enable Australian METS and mining companies to engage with targeted buyers from the Indonesian mining industry.

“Austrade is committed to providing Australian suppliers, who are world leaders in mining innovation, with platforms to showcase their expertise,” he said.

“This partnership will enable participating Australian companies to gain greater access to decision makers and procurement personnel from within the Indonesian market.”

Organised by Austrade, with the support of Austmine and the Melbourne Mining Club, the Ozmine2014 conference will run as a value-add in conjunction



Targetted buyers: The M&E Indonesia exhibition has been embraced by local and international companies in past years because it gives METS suppliers an enhanced opportunity to showcase their business to that sector.

with the M&E Indonesia and Ozmine exhibition managed by Reed Mining Events.

Ozmine2014 will comprise an exhibition, featuring a number of Australian mining and METS companies, a conference and networking events which will enable delegates to mingle with industry and government leaders and key players from around the region.

The conference will complement the exhibition by providing insights into conducting business with the Indonesian mining industry, information about the opportunities available for Australian businesses, managing the regulation and policy challenges unique to Indonesia and showcasing the capabilities of Australian METS suppliers.

Reed Mining Events Director Paul

Baker said the strategic partnership and co-location of Ozmine and M&E Indonesia stemmed from the mutual objective of both events to provide the Indonesian mining industry with access to global leading innovations, expertise and operational solutions.

“Providing a co-location creates increased opportunities for Australian businesses to connect with the Indonesian mining

Opportunities exist for Australian suppliers who have the experience, technology and operational processes for mining-related applications

sector,” Mr Baker said.

“This is important because Australian mining sector suppliers are experienced in providing solutions to improve operational efficiency through technology and innovation, which can be adapted to overcome the challenges the industry is facing in Indonesia.”

Mr Baker said there was big potential for Australian suppliers to service the Indonesian mining industry, particularly due to the vast coal and mineral reserves Indonesia possesses.

“Therefore, substantial opportunities exist for Australian suppliers who have the experience, technology and operational processes for mining-related applications.”

Full details of the exhibition and conference can be found at www.miningandengineeringindo.com.

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CONFERENCE NAME	CATEGORY	LOCATION	DATE	CONTACT DETAILS
Australian Nickel Conference	General	Perth	2 October	www.paydirt.com.au
Mining and Engineering New South Wales (M&E NSW) 2014	General	Newcastle	8-10 October	www.miningandengineeringnsw.com.au
2014 SPE Asia Pacific Oil and Gas Conference and Exhibition	Oil and gas	Adelaide	14-16 October	www.spe.org/events/apogce
Exploring and Mining the Isa	General	Mt Isa	15-16 October	www.informa.com.au
2014 APIA annual convention	Oil and gas	Melbourne	18-21 October	www.apia.net.au
The Safety Summit 2014	General	Perth	23-24 October	www.sentis.net
2014 Resources Industry Skills Association Conference	General	Brisbane	22-24 October	www.risaconference.org
2014 Longwall Conference	General	Hunter Valley	27-28 October	www.longwallconference.com.au
National Mine Rescue and Emergency Management Forum	General	Brisbane	28-29 October	www.minerescue.com.au
Mining and Engineering Indonesia	General	Jakarta	29-31 October	www.miningandengineeringindo.com
AusRock 2014: Australasian Ground Control in Mining Conference	Cutting edge	Sydney	5-6 November	www.groundcontrol2014.ausimm.com.au
Annual Slurry Pipelines Conference	General	Perth	11-12 November	www.informa.com.au
Fleet and Haulage Optimisation in Mining 2014	General	Brisbane	18-19 November	www.fleetmanagementinmining.com.au
Big Data Analytics in Mining Summit	Cutting edge	Brisbane	24-26 November	www.bigdatainmining.com
Orebody Modelling and Strategic Mine Planning 2014	Cutting edge	Perth	24-26 November	www.events.ausimm.com.au
Queensland Gas Conference and Exhibition	Oil and gas	Brisbane	25-26 November	www.queenslandgasconference.com.au
Mining South Australia	General	Whyalla	25-26 November	www.informa.com.au
Bauma China 2014	General	China	25-28 November	www.bauma-china.com
FeTech Conference 2014	General	Perth	27-28 November	www.informa.com.au
Mines and Money London	General	London	1-5 December	www.minesandmoney.com
Coal Operators Conference 2015	General	Wollongong	11-13 February 2015	www.coalconference.net.au
RIU Explorers Conference 2015	General	Fremantle	25-26 February 2015	www.riuconferences.com.au
Global Iron Ore and Steel Forecast Conference	General	Perth	10-11 March 2015	www.globalironore.com.au
Australasian Oil and Gas Exhibition and Conference (AOG)	Oil and gas	Perth	11-13 March 2015	www.aogexpo.com.au
Mines and Money Hong Kong	General	Hong Kong	23-27 March 2015	www.minesandmoney.com
Austmine 2015	General	Brisbane	19-20 May 2015	www.austmine2015.com
Asia Mining Congress 2015	General	Singapore	25-26 May 2015	www.terrapinn.com
Mines and Money Beijing	General	Beijing	26-28 May 2015	www.minesandmoney.com

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Striving to be an innovative force

How do you like to start your working day?

I usually start by going through my emails received overnight, looking for the urgent ones or those that will impact my day's schedule. I usually do this with a cup of coffee at my deck overlooking the Brisbane River. The stillness and morning light on the water really set my frame of mind for the day.

What would you be doing if you weren't doing this job?

I would probably be more involved with looking at how to bring innovation and technology to remote areas in need. I really believe as a society we are moving towards more microgrid technologies and energy storage, maximising the use of renewable energy.

What piece of technology couldn't you do without?

My smartphone and PDA (personal digital assistant). Given the global nature of ABB/Ventyx, it is essential to be 'connected' at all times. I have also gone pretty much paperless

meaning I rely heavily on my PDA to take notes, access documents and communicate with my team.

Who would you most like to share a working lunch with and why?

If he was still alive, it would be great to have a chat over lunch with Sir Ernest Shackleton. Having visited the Antarctic and experienced the harshness of that continent, I am amazed by how visionary these early explorers were. Not to mention their leadership abilities. If you consider what Shackleton and his men endured, it must have taken incredible leadership and strength of character. Decisions taken meant the difference between life and death.

What is your greatest professional achievement to date?

A number of years ago, I was instrumental in establishing a relationship agreement with a major customer of ABB/Ventyx to develop the electrical infrastructure required to achieve their aggressive growth plans at the time. This was a real win-win solution to achieving the strategic obligations for both

companies. It was extremely rewarding to work with like-minded people striving for a common goal.

What is the best piece of advice you have received?

Don't sit back and ask "what's in it for me?". Roll your sleeves up and see what difference you can make. I have found that, with this outlook in life, the benefits follow through once the hard work has been done.

Where would you most like to visit on an overseas working trip?

Over the years, I have travelled to 47 countries around the world. Travelling and experiencing different cultures is one of my passions. Travelling to remote locations or island communities has always appealed to me as it not only gives opportunities to assist in improving the standard of living to these locations - through microgrid energy solutions utilising available renewable energy - but it also provides me an opportunity to sneak in a quick scuba dive, my passion outside of work.

What do you think about on the way home from work?

I try to clear my thoughts of work before getting into the car, so I can focus on getting home safely. I find the trip home is a good transition between the challenges and pace of work and home. Invariably, however, typical of working with any multinational organisation across time zones, usually work phones are still kept on at night so I can't switch off completely.

What's your favourite aspect of your job?

There are many parts of my job I enjoy. The integration of Ventyx, a company strong in enterprise

ROLAND VITELLI
VICE PRESIDENT POWER SYSTEMS ABB AUSTRALIA AND GENERAL MANAGER VENTYX AUSTRALIA



Wisdom: Roland Vitelli at a recent CEDA energy and resources event.

software solutions, with ABB - global leader in power and automation - presents endless opportunities of bringing in complete asset life cycle solutions for our clients. Having been on both sides of the fence makes it easy to see value propositions. The other part I enjoy is the development of the depth of talent we have in both ABB and Ventyx.

Where do you see yourself in 10 years' time?

Doing what I am doing - but hopefully more successfully. I really enjoy the challenges of the industry.

What is the best part of your daily working routine?

The dynamic nature of the job means that there is no routine - which is the way I like it. There is the usual governance issues but every day brings its unique challenges and opportunities.

How would your colleagues describe you?

Tenacious and results driven. I am passionate about what I do but I try and temper that with communication and empathy towards my team.

Where do you see the mining industry at in terms of embracing enterprise software and services to aid operations?

Some of the proactive organisations we work with are well into it already. They have certainly made the transition from IT (information technology) to OT (operational technology). In tough times it is crucial to "do more with less" and maximise asset life and utilisation. Ventyx's Asset Health Solutions is a prime example of how this can be done. It is essential for organisations to make this transition if they hope to achieve profitable growth during trying times.

Roland Vitelli has a dual role within ABB Australia and Ventyx, an ABB company. Mr Vitelli is responsible for the local Power Systems Division in ABB, which delivers power generation, transmission and distribution infrastructure solutions to power utility, mining and industrial customers around Australia. He is also responsible for the general management of the Ventyx Australia operation which manages the delivery of integrated software solutions for the utilities, mining, defence, chemical, oil and gas industries. Mr Vitelli joined ABB in 2014 after four years as an executive at a leading Australian transmission utility where he was responsible for the delivery of the network infrastructure and provision of technical services. Prior to this role he worked with ABB for 20 years, in various positions both locally and overseas. Mr Vitelli holds a Bachelor of Electrical Engineering degree and is based in Brisbane.

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by Alan Whitticker

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