

newcrest & you



“ We knew the emergency procedures and by not panicking we were able to keep safe, follow instructions and assist the recovery team to get to us safely.

Yani Mailangkay and Suleman Latif
Gosowong miners ”

◀ Suleman Latif (left), Yani Mailangkay (middle) and translator Sulkan Basori (right) share their experience with CVO miners on a recent visit to Australia.

Newcrest pulls together for successful recovery

It was all hands on deck to recover two miners at Gosowong last December.

Suleman Latif and Yani Mailangkay were isolated by a mudstone movement in a section of the underground mine at Kencana.

Underground Manager Clive Jones says work began immediately to free them: “We kept in constant contact with the men who were updating us on their condition.”

Help came from other Newcrest sites: “Offers flooded in and Chief Operating Officer Greg Jackson, Mining Superintendent Craig Day and Principal Drill & Blast Engineer David Duke flew to site, while CVO sent their bore hole camera.”

Using two Hercules Helicopters, the Indonesian Air Force airlifted in a drill rig to help.

Clive says Gosowong’s Emergency Management Training and Crisis Management Plan ensured a smooth operation: “The whole site pulled together – the teamwork between departments was unbelievable.”

Gosowong Operations Director Terry Pilch says Yani and Suleman’s attitude was remarkable: “The guys were amazing. Incredibly, the day after their recovery, they showed up at 5.45am ready to go back to work.”

Yani and Suleman continued following safety procedures throughout their confinement and kept their spirits up by joking with each other

and communicating with family and work colleagues via radio and telephone.

They say the recovery effort proved to them that Newcrest is the Miner of Choice: “We are one Newcrest – everyone worked hard to get us out of the situation – Indonesians, Australians – people from other sites.”

Their safety training gave them confidence: “We knew the emergency procedures and by not panicking we were able to keep safe, follow instructions and assist the recovery team to get to us safely.”

Ian Smith, CEO and Managing Director, says it was one of the best recoveries he has seen of this nature and that the whole team displayed a level of understanding and coolness that is unusual.

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Improvements at Lihir to reduce stockpiles and materials handling

Doing things differently has led to a change in approach for running the Lihir operation (Lihir), resulting in a longer mine life to benefit both the operation and the community.

as well, we reduce our material handling and our stockpiles.”

The result of the change in strategy is that the operation maintains the initial 10 year gold production profile at a lower ore grade says Planning Manager Cameron Clark: *“Material movement is 25% lower, stockpile rehandle is reduced by 40 million tonnes (Mt), and stockpiles, previously planned to grow by more than 130Mt during this period, will now be reduced”.*

This is achieved with only a marginal difference in gold production in the first 10 years and provides a much longer gold profile beyond this period: *“Gold production is maintained in excess of 1 million ounces per annum for 10 years longer than was previously the case,”* says Alasdair.

This is a positive for both the operation and the local community, says Cameron: *“Lihirians can now be assured that the mine will operate for as long as previously planned, if not longer.”*

The change will be brought about with the completion of the Million Ounce Plant Upgrade (MOPU) in 2012, which allows for increased mill throughput, coupled with improvement programs to increase gold recoveries.

This combination of factors means that lower grade ore can be put through the mill whilst maintaining the amount of gold produced, explains Processing Manager Alasdair Noble: *“Previously higher grade material went to the mill, with the lower grade material stockpiled for later processing – a strategy whereby you effectively mine twice the ore you process. When we can process the lower grade material*

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Gold production is maintained in excess of 1 million ounces per annum for 10 years longer than was previously the case.

Alasdair Noble
Processing Manager

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New ball mill for CVO

As part of the A\$1.9 billion dollar Cadia East project, a new ball mill at Cadia Valley Operations (CVO) will be one of the most powerful twin-pinion-drive ball mills in the world and is expected to maintain production rates and improve current recovery rates, while grinding the extra-hard Cadia East ore.

“The Cadia East ore is harder than that of the Ridgeway Deeps and Cadia Hill mines; therefore it needs more power to get to the same grind size,” explains Andy Apfel, Operational Readiness Superintendent.

The new ball mill will also help produce a finer product for the flotation circuit which in turn will allow an improved recovery of gold and copper: *“Once the Cadia East ore is mined, it will be processed on the surface in the SAG mill first, then the ball mills for secondary grinding and finally through the flotation circuit,”* explains Phil Gunn, Group Manager Engineering.

What’s more, the new ball mill will provide the additional power required for the processing of the Cadia East ore: *“The new ball mill is capable of imparting 16 megawatts of power which is a significant increase to the plant,”* says Andy.

Leigh Cox, General Manager Cadia Projects, says the ball mill design was developed especially for Cadia East with input from a team of people based across Newcrest: *“With learnings from our other sites, the team has made some changes to the design including full automation of the ball charging magnet [a system that delivers new steel balls into the mill]; checker plating [a floor type] to certain areas to mitigate dropped object hazards; and use of gear oil instead of grease to name just a few.”*

Commissioning of the new ball mill is expected in March 2011.



◀ *The new ball mill at CVO will be one of the world’s most powerful, to grind Cadia East’s extra-hard ore.*

Submarine technology for minerals exploration

As gold deposits become harder to find, Newcrest is using submarine navigation technology to find mineral deposits.

The technology – an airborne gravity gradiometer – only became commercially available to mining companies in Australia in 2010. Newcrest was one of the first to use it.

The underwater technology has been adapted for aircraft to map rock density from the air says Senior Geophysicist Cam Mackey: *“It is useful to help map rock type, faults, and other geological features – especially where they might be covered by sand and other material.”*

Cam says the technology has the advantage over other systems as it produces much lower noise at higher frequencies: *“This means significantly better resolution leading to improved identification of mineral targets. This is due to pairs of accelerometers being used, which have*

a tendency to cancel out turbulence effects in aircraft. Accelerometers measure acceleration - or in this case, changes in acceleration - due to changes in the local gravitational pull from the Earth.”

Vast areas of Cadia Valley Operations and Telfer have already been tracked with the new system: *“The survey aircraft flies up and down a grid pattern. At Telfer it flew for 8,085 kilometres – more than twice the distance from Melbourne to Perth - with each line 250 metres away from the next. It’s like a lawn mower passing in alternate directions until all the area is covered.”*

Analysis is ongoing regarding where Newcrest may deploy this technology next, and in which geological terrains and countries.

Exploration discovery remains a key driver for value-adding growth and for maximising shareholder returns over the long term, says EGM Minerals Colin Moorhead: *“This technology is another tool we can use to maintain our world-class exploration track record.”*

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This technology is another tool we can use to maintain our world-class exploration track record.

Colin Moorhead
EGM Minerals

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▼ Airborne technology previously used underwater, is helping Newcrest maintain its world-class exploration track record.



Operating Framework showing promising results

Newcrest Operating Framework (OF) training at Telfer has shown promising results, with the time it takes to service a light vehicle (LV) potentially reducing by 25%.

Ivan Wooldridge, Principal Business Excellence Advisor, says the OF encompasses the philosophies, principles and systems which underpin the way we operate: *“By examining the way we work we can make safety and efficiency improvements.”*

The training was designed to teach OF area champions how to use three key tools; Quick Change Over, 5S - Workplace Organisation and Standardised Work. *“Each tool is used to highlight where we can add value by removing waste from our processes,”* explains Ivan.

The area champions used the processes of servicing an LV and reorganising the LV store to show how improvements could be made: *“Using the OF tools identified a potential reduction of 25% in the time it takes to service an LV, and the store is cleaner and more organised, making it easier to find items.”*

The LV service was videoed, whilst a fitter explained what was happening and course participants recorded observations of potential improvements. The information was then analysed using the three tools.

Ivan says the results for the LV servicing are particularly encouraging: *“The service looked very efficient in its original form but using the tools helped to identify further improvements.”*

Ivan thanks the LV workshop team for the use of its work space: *“Due to the support of the team and the effort put in by the course participants, the activity was a success.”*

Peter Gough, Head of Business Excellence, says the pilot was a win-win: *“Not only did the team discover servicing improvements, we have also found ways to refine the OF training.”*



▲ **Operating Framework training is helping to make safety and efficiency improvements at Telfer:**

Left to right standing: Anthony Mitchell; Valerie Tombele; John Boreham; Danica Tonnochy; Ivan Wooldridge; Dominic Yandawai; Phil Schmidt; Rod McDonald; Troy Taylor. Kneeling: Peter Walker; Daniel Sauzier.

Hidden Valley steady ramp up

Hidden Valley (HV) in Papua New Guinea (PNG) is achieving its highest gold, silver and copper production levels yet, as the operation, which began production in 2010, beds down and ongoing improvements are made.

General Manager Mark Mitchell says significant changes have been made at the processing plant to improve recovery rates: *"In the first quarter of the last calendar year our recovery rates were around 71%. By the end of the year we had increased these to 85% through systematic technical improvements."*

Mark says the improvements at the processing plant were delivered by identifying all possible improvements, prioritising the six to 10 projects that were going to make a substantial difference, and allocating the right resources to the projects to make them a reality. The projects covered the full range of disciplines including training, process control, improved metallurgical understanding and changes to equipment.

Continued upskilling of the local workforce at the mine has been a high priority to help boost production and benefit our people.

Trainers have been brought in, including secondees from other sites, to temporarily triple the number at HV. *"We have a strong commitment to local employment – 90% of our employees are from PNG, with 50% from the*

local community. We aim to build on this and are now seeing people from the Wau-Bulolo district moving into supervisory roles."

Mark says numerous improvements have been made in other areas of the operation and its processes too.

HV is on track to reach design capacity during the June 2011 quarter. *"Making measured, clearly thought out, strategic improvements has allowed us to steadily improve the operation – we are getting better every quarter."*

▼ *MMJV's commitment to employing and upskilling local employees is helping HV ramp up its production. Pictured is MMJV Heavy Equipment Operator, Damarine Lape, seated at the controls of a 785 haul truck.*

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In the first quarter of...last...year our recovery rates were around 71%. By the end of the year we had increased these to 85%...

Mark Mitchell
General Manager

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Three million ounce gold milestone for Gosowong

Gosowong reached its milestone of three million ounces of gold production in November 2010 following numerous improvements, including those made by Kencana's underground teams.

Underground Manager Clive Jones says increasing the amount of ore mined was a major focus: *"Recent improvement projects included increasing truck productivity by adjusting daily service schedules, so boggers were available at longer intervals to load trucks."*

"Another ongoing improvement has been the upskilling of our mining team, and in particular our jumbo operators."

Meanwhile, mill throughput and gold recovery is continuously improving due to the efforts of the Mill team, and the installation of a new Vertimill in 2009 [read Newcrest and You Newsletter issue no. 5].

The Gosowong Minerals group also contributed significantly to the milestone by successfully converting resources to reserves with ongoing positive drilling results. The amount of reserve ounces has remained relatively constant for the last four years says Gosowong Minerals Manager Colin McMillan: *"This means*

that we are adding resource ounces at about the same rate each year as we are depleting through mining."

Newcrest Chief Operating Officer Greg Jackson congratulates everyone at site: *"The teams have embraced Newcrest's values – working together, innovation, problem solving and high performance – in order to achieve this milestone."*



◀ *Increased truck productivity is one of many recent improvements made recently at Gosowong, which helped to achieve the milestone of three million ounces of gold production.*

Lihir gets hot and steamy to produce clean, green energy

Plans are afoot to nearly double the amount of power produced at Lihir operation's (Lihir) geothermal power station, which produces environmentally friendly, renewable and cost effective energy for the site.

Geothermal energy is created inside the Earth's core where extreme temperatures (over 220 degrees Celsius), are produced, resulting in steam and boiling water.

This is the energy which Lihir harnesses, says Manager Power & Utilities John McCormick: "We drill holes up to three kilometres deep to access steam reservoirs. The steam is then directed to our power station, where steam turbines drive alternators to generate power."

The geothermal power station currently provides up to 40% of Lihir's overall energy, which saves millions of dollars in power

costs: "On average, we save US\$1.2 million per megawatt (MW) compared with heavy fuel oil power which translates into lower production costs," explains John.

John says the power station has been operating for six years and expansion plans will nearly double electricity output: "We plan to create a binary power station (in addition to our current steam turbine station) which will see us utilise hot water, as well as steam, from deep underground to produce power."

John says trials have also begun for reinjection. This is a process where hot water is injected back into the earth: "This helps to keep the geothermal resource sustainable."

Mark Thompson, Manager Environment and Business Risk, says Lihir has reduced its greenhouse emissions: "By capitalising on this natural resource we have reduced our reliance on heavy fuel oil power which lessens our impact on the environment and reduces greenhouse emissions. There is an opportunity to transfer this technology to future Newcrest sites in geothermal active regions."

▼ Thomas Sapalit (left) and Max Kamas Jr inspect steam wells that feed the geothermal power plant to provide environmentally friendly, renewable energy for Lihir operation.



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By capitalising on this natural resource we have reduced our reliance on heavy fuel oil power which lessens our impact on the environment and reduces greenhouse emissions.

Mark Thompson
Manager Environment
and Business Risk

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Customised maintenance vehicles for better mobile fleet support

A customised light vehicle (LV) tray designed by Cadia Valley Operations (CVO) employees is helping the Cadia East (CE) maintenance team fix breakdowns more quickly on mobile equipment like trucks, bidders and jumbos.

Jason Trood, Reliability and Equipment Health Superintendent says it was noted that valuable time was being lost by not having correct tooling, materials and consumables on board maintenance vehicles: "A lot of time is wasted by travelling back and forth to the respective workshops [surface and underground] to retrieve basic tooling and consumables."

Using Lean Six Sigma Methodology, the team devised several enhancements for the vehicles "Things like on-board heavy vehicle chocks, individual tool boxes, battery jump packs and a bench with a side vice were added which are making our job easier."

Jason says that customising the vehicles is going back to basics: "The maintenance vehicles are a foundational tool sometimes overlooked when we think about going about our day to day roles. We need to ensure that our vehicles are fit for purpose to achieve our business objectives."

Although still early days, it is expected the modified LVs will help fix mobile equipment more quickly: "We expect to have machinery back up and running sooner, which will have a positive impact on production," says Steven McClare, Head of Mining Operations.

▼ Customised LV trays at Cadia East supply maintenance personnel with the tools and equipment to help them fix mobile equipment breakdowns more quickly.



Jason says the upgrades have been a real team effort: "People from all over CVO have assisted with this project, notably Michael Birchall, Roger Hicks, Kirwin Rhind, Richard Tonkin and Evan Goodman with support from Graham Warner and contracting partners."

Variations of the design are starting to be used by other departments across site including CE Underground Fixed Plant, Cadia Surface Fleet and forecasts for implementation at Ridgeway.

Community partnership provides court and cover

Residents of Punmu in Western Australia can now play sport without risking sunburn and heatstroke with a new covered multi-purpose sports court, thanks to a partnership between Newcrest, the Margaret River Rotary Club and the Department of Sport and Recreation.

State Sport and Recreation Minister Terry Waldron attended the official opening of the court in December and says the project is inspiring: *"It is heartening that these organisations and individuals were able to pool their resources and energy to bring*

the project to fruition. I hope the community gets a lot of enjoyment and healthy physical activity playing on this court."

Punmu's 150-odd residents can now play basketball and a variety of other sports including tennis, volleyball, netball and badminton under the court's giant cover which gives vital protection from temperatures of up to 50 degrees Celsius in the shade.

The prior facility had no cover, no lighting and a poor surface - restricting the times children could play and causing injuries.

The new court has permanent seating and a stage area, making it popular with local school children and community members.

Telfer, 130 kilometres from Punmu, was the clearing depot for materials and equipment,

and provided a base, transportation and accommodation for the Rotarians who managed construction of the project.

Telfer Community Relations Superintendent Leon van Erp says Newcrest is proud to be involved with such a worthwhile project: *"It took many years of planning, numerous submissions and much hard work by a dedicated few, in particular James Back, the former Punmu School Principal, and Rod Pether and his band of Margaret River Rotarians, to complete this truly magnificent and much needed facility.*

"Newcrest, the community and the Martu have benefitted from the mutual cooperation and involvement of all and will continue to benefit from the positives and fun that this building will bring."



◀ Punmu residents celebrate the official opening of their new multi-purpose sports court.



I hope the community gets a lot of enjoyment and healthy physical activity playing on this court.

Terry Waldron
State Sport and Recreation Minister



Putting coffee back on the roast

Seventeen-year-old Samantha Yamu recently took a crash course in coffee gardening, care of Morobe Mining Joint Ventures (MMJV) in Papua New Guinea (PNG).

Samantha wants to learn how to rehabilitate her mother's coffee garden after it fell into disuse following a plant disease that destroyed many coffee crops in PNG during the early to mid 1980's.

MMJV worked in partnership with Mainland Holdings, an agribusiness venture in the Morobe Province, to deliver the training to the Biangai people at Biawen village, near the Hidden Valley mine: *"Plant disease, long distances from the market and low prices have discouraged many coffee farmers, but we want to help make it profitable and sustainable again,"* says David Wissink, MMJV's Sustainability GM.

Over three weeks, Samantha and fellow students learned how to run a coffee garden, including how to manage crops, set up and run a coffee nursery, prune, harvest and dry coffee to enhance bean quality, and manage income from coffee sales.

David says there was a strong turnout with more young people than expected: *"This is very positive as coffee farming has not been perceived as a worthwhile occupation given recent challenges."*

Since her training, Samantha and her coffee garden cohorts have received regular visits and advice from the trainers to kick start their businesses. Shade cloth, garden tools and machinery to process coffee beans have also been provided by MMJV.

David says work is underway to help Biangai coffee growers to regain access to overseas markets: *"We want to help farmers band together to form an incorporated coffee venture to attract buyers from around the world."*

▶ *Samantha Yamu learns how to prune a coffee tree during a training session facilitated by MMJV that aims to support sustainable coffee growing businesses for local villages.*



"We are also delighted to be holding talks with PNG's coffee industry regulator Coffee Industry Corporation (CIC) to explore partnership options to support coffee growers in this area."

Ron Brew, Manager Social Responsibility says creating sustainable businesses in the communities in which we operate is part of being the Miner of Choice: *"We are committed to the establishment of partnerships with local organisations to nourish and support sustainable business opportunities that provide employment and income, now and after mining operations have finished in the area."*

Let there be light

Home lighting and cooking is safer for hundreds of Halmahera Island locals because of an electricity installation program funded by PT. Nusa Halmahera Minerals (PT.NHM), Newcrest's joint venture in Indonesia.

"Electricity is a basic need – it increases the quality of life by providing the means for light, heat for cooking, communication and security," says Djono, External Relations Manager PT NHM.

Without electricity, Halmahera island locals rely on potentially dangerous kerosene lamps for lighting and wood for cooking. *"It is not uncommon for kerosene lamps to be knocked over and cause serious burns, or for wood stoves to cause house fires – we even have a dedicated burns unit at the local hospital built with PT.NHM's help, to cope with the number of burn injuries,"* says Djono.

PT.NHM, whose operation is based at Gosowong on Halmahera Island, began installing the infrastructure needed to connect electricity to homes in 2004 and since then 750 houses have been upgraded.

Another positive offshoot of the program has been new jobs: *"Halmahera locals do the work of installing the electrical wiring which stimulates jobs and the economy,"* Djono says.

He adds that the renewed connection has been welcomed: *"This is the first time these communities have had electricity since the conflict in 1999 which resulted in significant damage to electricity lines and infrastructure."*

Gosowong Operations Director Terry Pilch says the program is part of PT.NHM's commitment to its neighbouring communities: *"As Miner of Choice in the region, we are very happy to help provide this basic need to lift the living standards of people in our local communities."*

▶ *Electricity is being connected to homes on Halmahera Island with help from PT.NHM, Newcrest's joint venture in Indonesia.*

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As Miner of Choice in the region, we are very happy to help provide this basic need to lift the living standards of people in our local communities.

Terry Pilch
Gosowong Operations Director

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Telfer4Program expands for kids and partners

Newcrest's Telfer4Program is all about supporting the families of Telfer's fly-in fly-out (FIFO) employees while their other halves are at work.



▶ *Partners of Telfer FIFO employees attend a networking lunch in Perth as part of the Telfer4Partners program, aimed at helping families to manage the unique demands of FIFO lifestyle.*

Group Human Resources Manager Heidi Grobler says Telfer4Program has recently been expanded: *"Following feedback from EmCo [Newcrest-wide Participation and Safety Employee Committees] and Newcrest parents, we now offer one-year scholarships to children and grandchildren of Telfer employees, through Telfer4Kids."*

"Last year we awarded eight scholarships across secondary and tertiary education and sporting fields."

Adults get some perks from the new program too. Last year, Telfer launched Telfer4Partners lunches for employees' partners to get together and talk about the challenges of FIFO: *"Our guest speakers and other partners offer tips on how to manage this unique type of lifestyle,"* says Heidi.

Feedback from the lunches has been very positive: *"It was a lovely opportunity to network with others in the same situation*

as myself and to meet some of the management," said one partner.

Another said: *"You provided me and the other participants with a great opportunity to find out more about Telfer and Newcrest. I also thank you for the opportunity to meet other people whose partners work away."*

Families are a key focus for Telfer says General Manager Jason Grace: *"Giving the best support we can to our employees means supporting their most important assets – their families."*

Telfer4Program builds on the Telfer4Family theme which has operated at Telfer for several years and includes inviting family members to site for special 'family days' and at Christmas time.

For more information on the Telfer4Program and its initiatives contact Annika Johns. For information on family support at other Newcrest sites contact your local HR representative.

Who's who @ Newcrest

Nigel French



Nigel French, Laboratory Supervisor at Mount Rawdon says the mine was fortunate to be spared the flood devastation that hit much of Queensland recently: *"We [at Mt Rawdon] are about 400 metres above sea level, so apart from some of the nearby creeks flooding and preventing travel to and from some places - including raw materials to the mine - we are extremely lucky."*

Moving his family to Mount Rawdon's closest township of Mount Perry almost 20 years ago, Nigel has worked at the mine for close to 10 years and considers it special: *"Not many mine sites can boast beautiful green surrounding bushlands."*

Responsible for controlling gold analysis at Mount Rawdon, Nigel enjoys the challenges of his job and the changing nature of the gold industry. He also appreciates recent new machinery which he says will make his job easier: *"The new crusher-splitter allows us to prepare pit samples more efficiently, continue to optimise our gold grams per tonne and improve our throughput."*

The merger last year with Newcrest has gone reasonably smoothly says Nigel: *"We are a local community based mine site and will continue to grow under Newcrest...I am already in the middle of training extra lab technicians."*

Natalie Tweed



Administration Officer Natalie Tweed says working close to home is a luxury not all local young people have: *"There are limited opportunities in a town as small as Theodore and many people have to leave to find work."*

Natalie grew up in Theodore, a small town about 50 kilometres from Cracow, and says working at the mine site appealed to her for several reasons: *"It is great that I can live in the country near my family as well as have a career."*

As the newest addition to Cracow's administration team, Natalie says she has enjoyed learning about the mining industry since she began eight months ago.

Natalie has already taken on extra projects, including editing the *Cracow Nugget*, Cracow's employee newsletter: *"I had never worked on a mine site before... everyday I learn something new. The work is challenging and rewarding and editing the Cracow Nugget is great fun."*

Natalie says her role has had challenges, especially during the recent Queensland floods: *"We had to be 'choppered' out from my family's farm and couldn't return to work for two weeks."*

"But it has been rewarding to work with others from Cracow to assist with the subsequent flood clean up and fundraising initiatives."

Got any news or feedback?

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