

Northparkes Mines
A century of mining together

The Northparkes Report 2015



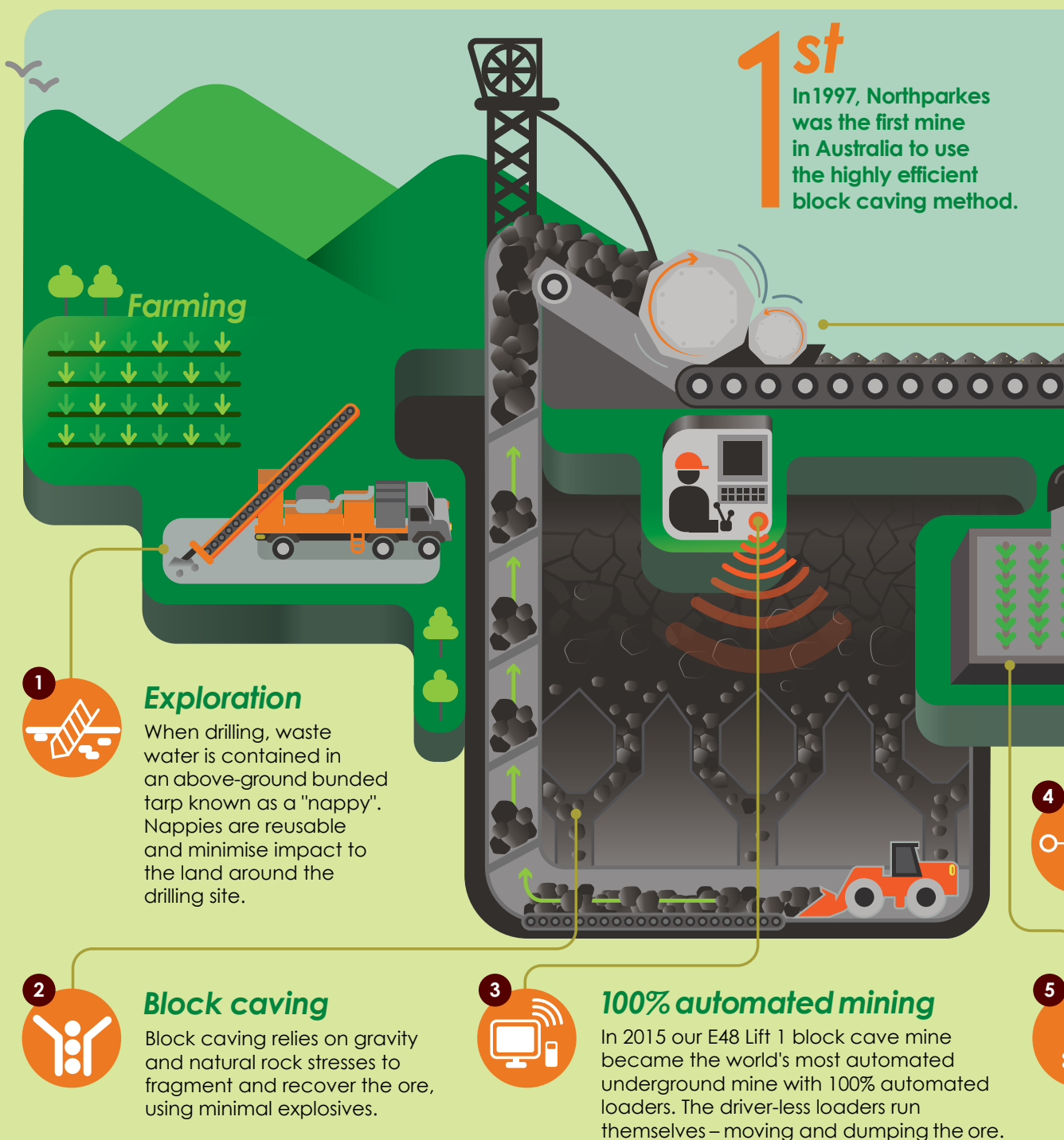
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Aboutus

Northparkes is owned and operated by China Molybdenum Co., Ltd (CMOC) in a Joint Venture comprising CMOC (80%), Sumitomo Metal Mining Oceania Pty. Ltd (13%) and Sumitomo Corporation (6.7%).

Value Northparkes



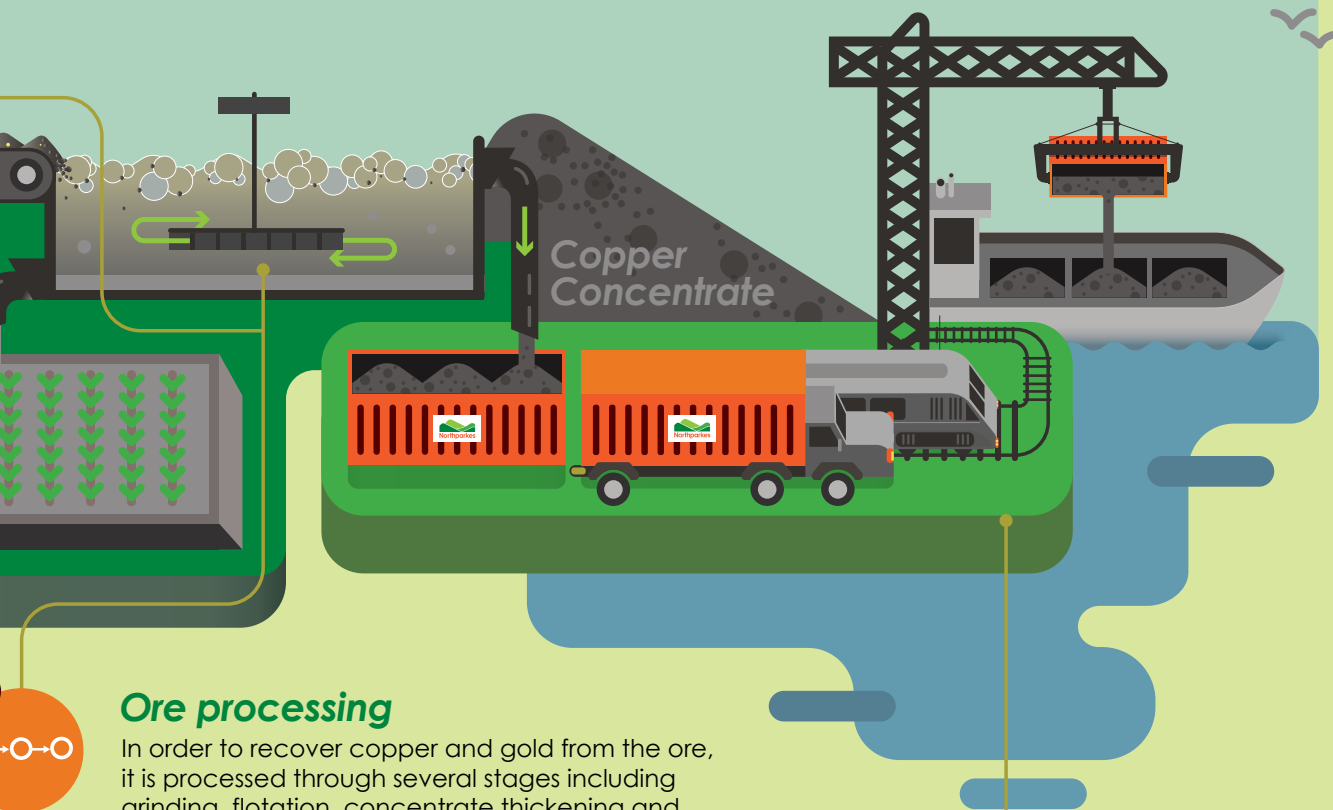
arkes chain

6 million tonnes of ore

During 2015 we processed six million tonnes of ore through the mill. This is the second highest volume ever processed at Northparkes.



Our 2015 metal recovery results were 88 per cent copper and 75 per cent gold.



Ore processing

In order to recover copper and gold from the ore, it is processed through several stages including grinding, flotation, concentrate thickening and finally filtration.

Tailings management

Moisture from waste materials is extracted and recycled in our ore processing plant. Tailings are then transferred to our Tailings Storage Facilities, creating a dry surface. To reduce dust, we are growing crops on the surface of the facilities.



Transport and logistics

The concentrate is transported to port by road and rail in shipping containers. These containers are then tipped directly into the ship using a specially designed crane attachment called a rotainer. The concentrate is not removed from the containers until it is loaded into the ship ready for its final journey to our customers.

Our purpose

We produce the vital components of our modern quality of life: the miracle of copper, gold and grains. They are the metal building blocks of electronics and infection-fighting surfaces, and the foundation of our food chain.



Ourstory

Since 1993 Northparkes has been celebrated for our high-quality copper deposits, low cost operations and loyal, committed people.

Working at Northparkes is enjoyable: inspirational leadership matters and diversity is celebrated. We are proud to be a miner and a farmer, a good Parkes neighbour and valued contributor to NSW's Central West.

Zero Harm Operations describes our approach. We are innovative and resilient, we embrace technology and new ways of working. We have decades of excellent mineral deposits and an entire mineral field to continue to explore.

We will discover the copper and gold deposits to take us even further into the future. We are setting up future generations of Northparkes miners for a century of mining together.

Our values

Zeroharm

Zero Harm is our approach to every aspect of our operations. We care for our people, our environment and the community in which we live and work.

Oneteam

We proudly work together towards our shared purpose.

Lifebalance

We realise the potential in everyone, support their wellbeing and enjoy what we do.

Improvement

We will be better tomorrow than we are today.

From our International CEO

Kalidas Madhavpeddi
China Molybdenum Co., Ltd (CMOC)
International CEO



CMOC acquired Northparkes in December 2013 as its first international mining operation, in addition to our Chinese molybdenum and tungsten operations.

For CMOC, there is no greater achievement than Zero Harm to our people. In 2015 Northparkes operated for six months without injuring anyone, making it a standout year.

This achievement was complemented by steady and increasingly stable operations, delivering a welcome profit to CMOC and our shareholders. During the year, CMOC and our Joint Venture partners invested in Northparkes via important capital projects essential to the longevity of this excellent business. This included construction of the Rosedale Tailings Storage Facility and work to support the establishment of a Sub Level Cave in the E26 underground mine. I am also pleased to note that new mining studies have extended our potential mine life beyond 2040.

In terms of the broader market, it is well known we are experiencing a severe 'winter' in the commodity market cycle, with lower commodity prices and changes being made across the sector. Northparkes is sensibly structured and well-positioned to weather this winter and, while we certainly look forward to an uptick in prices, CMOC remains confident in Northparkes' future.

The work Northparkes does with its community – internally with its employees and externally with its neighbours and other stakeholders – is a source of great pride for me.

CMOC believes in the importance of a strong reputation and places enormous value on open and honest communication. Every time I visit Northparkes, and the broader Parkes and Forbes communities, I see examples of this. The Northparkes farms

shared learnings to take back to our Chinese operations. This was a highly successful program, for both the secondees and the Northparkes team, with learnings both ways – we hope to be able to do this again.

The work Northparkes does with its community – internally with its employees and externally with its neighbours and other stakeholders – is a source of great pride for me.

also provide opportunities to share best practice and ideas with our neighbours – co-existence at its best.

During 2015 I was fortunate to spend a lot of time on the ground at Northparkes. It is always a pleasure to visit the site and talk to the team. A group of four CMOC employees from our Chinese operations worked at Northparkes during 2015 to gather

CMOC is optimistic about the year ahead for Northparkes, as it heads into its 23rd year of operation. With a bold vision of *A century of mining together*, I look forward to the team's achievements in 2016.



From our Managing Director

Stefanie Loader
 Northparkes Mines Managing Director



Welcome to the 2015 Northparkes Report. Every year we are proud to celebrate our achievements and milestones reached.

Our work towards Zero Harm Operations came together in 2015 with six consecutive injury-free months. This is the longest period in the history of Northparkes without a recordable injury and evidences a sustained shift in our safety culture. For me, this is our greatest achievement of 2015 and a result we hope to build upon in the future.

This achievement is closely followed by the fact we are now leading the global mining industry in underground automation: in 2015 we laid claim as the world's most automated underground mine. We are the

and the future of our business. Two large projects began in 2015 – construction of our new Tailings Storage Facility "Rosedale" and work to support our new Sub Level Cave mining operations at E26.

We proudly provided industry training to eight undergraduate students from the University of NSW (UNSW). We also celebrated the university graduation of our first indigenous scholarship holder. Our apprentice program remains industry-leading and we looked for opportunities to develop our people across our business.

Externally, we were named Prospect Mining Hard Rock Mine of the Year and our Emergency Response Team took out the Victorian Mines Rescue Competition for the second year in a row. The latter was recognised by both our local federal and state members

since we started holding these events as a way to connect with our community. We were delighted to welcome our local member, Mr Andrew Gee MP, to this event as well as the Parkes and Forbes Shire Councils.

As the year wrapped up, we put the finishing touches on our vision: *A century of mining together*. Since 1993 Northparkes has been celebrated for our high-quality, low-cost copper deposits and loyal, committed people. We will discover the copper and gold deposits to take us even further into the future and look forward to working together with you as we chip away at this exciting and challenging vision for our shared future.

To find out more about what our vision means to us, our progress and achievements please keep reading. As you do, you will notice our report is structured differently this year as we share news about the year through the lens of each of our four values, which collectively guide our daily actions.

Thank you for your interest; I hope you enjoy reading our story as much as we enjoyed making it.

Our work towards Zero Harm Operations came together in 2015 with six consecutive injury-free months.

first mine to achieve 100 per cent automation of loaders in our E48 block cave mine, making mining at Northparkes safer and more productive. For more information about automation, I refer you to the Improvement section of this report.

In 2015 we reached six million tonnes of ore mined and milled. This is our second highest result, but slightly below target due to maintenance demands of key equipment.

Despite challenging market conditions, we continued to invest in our people

in parliament, a great source of pride for the winning team.

We also continued to build on our community relationships, held dear by the entire team. This is demonstrated by the 1,097 hours we spent volunteering; from building a disability ramp at Forbes North public school to putting the finishing touches on Memorial Hill in Parkes in time for the ANZAC centenary.

In 2015 we held our first ever Open Day offsite, taking the event into Parkes. The 2015 Open Day was our biggest and undoubtedly best yet in the 20 years



Onetec



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Production

In 2015 our Underground Mining, Ore Processing and Asset Management departments handled six million tonnes of ore. This is the second highest volume ever delivered and processed at Northparkes.

The process starts underground where we achieved a world-first in 2015; our loaders in our E48 block cave mine became 100 per cent automated. Rob Cunningham, Manager – Mining Operations, said "Since achieving complete automation, we are now also seeing consistently higher production rates from the underground mine. Automation means we have removed people from loaders underground to an air-conditioned

control room where they can operate three loaders simultaneously." (For more information about automation see p 26).

Once the ore is removed from underground it is transported by conveyor to Ore Processing where we aim to recover as much copper and gold as possible from the ore. Our metal recovery results have been consistent despite a declining grade due to the age of the mine: we processed ore from the E48 block cave mine with copper recovery at 88 per cent and gold at 75 per cent.

Throughout the year significant changes were made to the processing circuit allowing us to capture and recover more copper and gold, including our Post Flotation Project, see p 30.

In early 2015 we became the first mine in Australia to use a Scanning Electron Microscope (SEM) in our onsite laboratory. Roslyn Dalton, Manager – Ore Processing, said the SEM "provided us with a wealth of information about our ore mineralogy allowing us to optimise the value we extract from the ore at every stage of the mining process."

"We will continue to use this information to understand past performance, optimise operations and prepare ourselves for the future."

Our Asset Management department is another crucial element of the value chain, colloquially known as the screw holding it all together. This team maintains and manages the plant and equipment used to support each step of the mining process. Throughout the year the team monitored, stabilised



Northparkes Mines
A century of mining together



and repaired mobile and fixed equipment.

Our workshop was extended and equipped to allow tasks previously been sent offsite – such as light and heavy fabrication machining and mechanical assembly – to be completed onsite. The workshop has already seen extensive use as it delivers tangible productivity and efficiency gains. Hubert Lehman, Manager – Asset Management said, “The tasks now completed onsite have provided new training opportunities for our tradespeople and apprentices. This exposure to new technologies is helping us build highly skilled teams.”



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Hubert Lehman, Manager - Asset Management



Open Day

We have been opening our doors to the community for over 20 years. For the first time, our 2015 Open Day was held in Parkes and included not only mining machinery and mining displays by Northparkes and our suppliers, but also community markets, food stalls and rides for children. This approach proved to be very successful with over 3,000 people attending.

The event was awarded the Parkes Shire 2015 Community Event of the Year. Feedback from state and local government, other mines and community members was extremely positive. This success can be attributed to our 160 employees who volunteered to show our community what we do at Northparkes every day.

"It would have to be one of the most successful community events in Parkes for many years ... Thank you for keeping the community spirit going that Northparkes has been known for, for over 20 years."

David Hughes, Rotary Club of Parkes



Our next Open Day will be held in 2017.

We look forward to seeing you there.



"The staff involved should be very proud of what was a very successful event."

Annette Orr, Assistant Principal at Middleton Public School

Future generations

We pride ourselves on employee development and having a leading team in place to run our business. Our employee pipeline is where this starts and, in 2015, included our 16 apprentices, eight scholarship holders, two trainees, graduates and industry work placement students. Each of these roles is critical to our future and achieving our vision of A century of mining together.



Four apprentices completed their courses in 2015. Jade Walker and Jake Cutler completed their Mechanical Maintenance Apprenticeships, Tim Somers completed a Light Vehicle Mechanical Apprenticeship and Branden Plunkett completed his Electrical Fitter Mechanic Apprenticeship. Jade, Jake and Branden are all staying at Northparkes. Tim now works with a close supplier of Northparkes.

Sophie L'Estrange became the first Northparkes Indigenous Scholarship graduate, completing her degree in Dental Health. She has already secured a job through a work placement arranged by Northparkes.

During the year we hosted eight UNSW undergraduate students. Undergraduates were finding it difficult to complete their mandatory industry training; we were proud to offer one of the few programs in 2015.

Northparkes and UNSW worked together, delivering a program whereby the students completed 80 hours industry training. The School of Mining Engineering and Chemical Engineering students spent eight weeks with Northparkes' technical and operations teams.

Stacey Kelly, Manager – People, Safety and Environment, said taking a shared approach towards vocational programs is sensible, given the current industry climate. "The program has delivered benefits to everyone involved. Having bright young minds asking questions and contributing to our business, while they're learning, is a real plus. It's also given us diversity of ideas and experience, which makes good business sense."

The students also had the opportunity to get involved in Parkes community events. They helped build the Northparkes float for the Elvis Festival's Northparkes-sponsored street parade. The parade attracted record-breaking crowds of 14,000, with 22,000 attending the festival.

The students returned to UNSW, equipped with a good understanding of the practical realities of the industry they hope to join.



2015 graduates: Stuart Taylor (Mechanical Engineer), Alex Nicholls (Mining Engineer) and Dale Cameron (Geologist).



2015 apprentices: Brandon Keep (Mechanical), Oliver Dagger (Electrical), Steven Butler (Electrical) and Luke Wallace (Mechanical).



Sophie L'Estrange (centre, with Stefanie Loader and Kalidas Madhavpeddi) celebrated becoming the first Northparkes Indigenous Scholarship graduate.

Scholarship programs

The Sumitomo Metal Mining Oceania (SMMO) Scholarships

In 2014, SMMO established this scholarship program as a way of supporting our local community and encouraging education.

SMMO is a joint venture partner of Northparkes.

The scholarship aims to encourage careers in mining, and is an investment above and beyond Northparkes' existing programs.

Ben Bevan, a 2014 SMMO scholarship holder, recently joined the Northparkes team as Apprentice Electrical Fitter.

Scholarship holders receive \$500 for successful completion of Year 11 and \$1,000 for successful completion of Year 12. \$2,000 is also granted to those scholarship students who enter and successfully complete their first year at university in a mining related course.

Since its inception in 2014, four local high school students have received the Scholarship. The 2015 recipients were Mackenzie Baker of Kinross Wolaroi School, who is considering a career in geology, and Jasper Arnold of Parkes High School, who is interested in a career in mining engineering.

"These scholarships are part of our ongoing commitment to the local community."

Mr Hitoshi Ito, Managing Director
SMMO

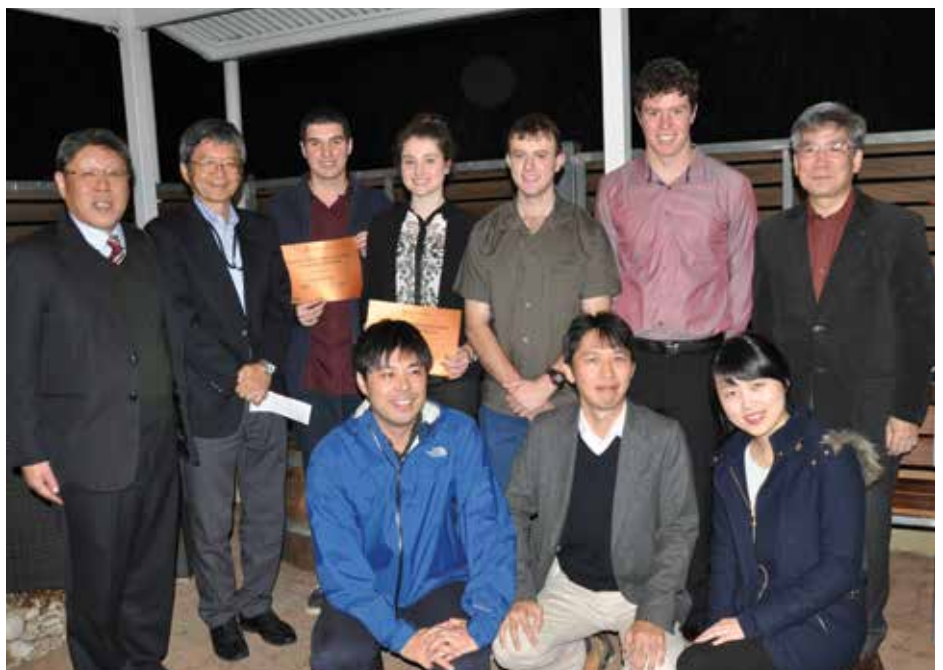


Left

Former SMMO Scholarship holder Ben Bevan (right) has recently started an Electrical Fitter apprenticeship.

Below

Back row: Hitoshi Ito, Hiroshi Asahi, Jasper Arnold, Mackenzie Baker, Ben Bevan, Alistar Kopp, Isao Okada. **Front Row:** Mitsuhiro Yokota, Takayuki Seto, Alice Zhao.



Northparkes Mines

A century of mining together

The Northparkes Indigenous Scholarships

Michael Thomas is in his third year of an Environmental Science degree at the University of New England. Michael said the Indigenous Scholarship Program has significantly relieved the financial burden of university and tuition fees. "Northparkes offers support to scholarship holders in more ways than just financial means. I have access to tutoring when I am struggling, which reassures me I will complete my degree no matter what," he said.

"The onsite experience and work placement opportunities also mean I am able to develop and progress within my chosen field. I have completed work placements at Northparkes and with the Department of Primary Industries in various aspects of land and water management."

"I can confidently say I am the only person in my class who has access to the resources offered by the scholarship. Most of my classmates have to find retail work during their end of year break and don't receive the advantage of gaining work experience within our industry. I am able to use the

content I have learnt throughout my studies and apply it to actual working practices and scenarios."

"At the end of the day, I will be a mile in front of my peers as a result of the experience I have gained from my scholarship."





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Zero harm

Our approach

We have a Zero Harm approach to every aspect of our operations. We care for our people, our environment and the community in which we live and work.

Our Zero Harm performance

For six months of the year nobody was injured. This is the longest period in our history without a recordable injury and we are extremely proud of this result. Zero Harm Operations is a critical part of our culture, and it is achievable as we look out for each other on every task, every day.

Outside this six month period there were five injuries, a 45 per cent reduction from 2014. The injuries were medically treated and each person has returned to normal duties at work. We understand we must achieve Zero Harm Operations together. Our results confirm we are well on our way.

We believe innovation and leadership in Zero Harm should be rewarded. Each quarter our workforce comes together to learn about the last quarter's results and plans for the future. At these meetings we recognise people who have been nominated by their peers for their Zero Harm achievements.

Zero Harm leadership winners included:

Mike Wood, the Warehouse team, Wayne Tucker and Andrew Neems

Zero Harm innovation winners included:

Mars Rivera, Shane Cox, Joe Cronin and Scott Robinson

2015 injuries:

Finger	1
Ankle	2
Back	1
Hand	1



Working towards Zero Harm

Each year employees from across the business volunteer to become part of our Zero Harm Committee. Committee members champion Zero Harm within their teams, and work on special projects throughout the year.

One such project was White Ribbon, Australia's campaign to prevent violence against women.

Our support for the campaign exceeded all expectations. Approximately 90 employees attended the inaugural Parkes and Forbes White Ribbon marches, and 115 male employees and contractors had their photo taken and added to a "swear the oath" graphic shared on social media. Employees also ran fundraisers for local domestic violence services.

Northparkes is working towards White Ribbon workplace accreditation in 2016.

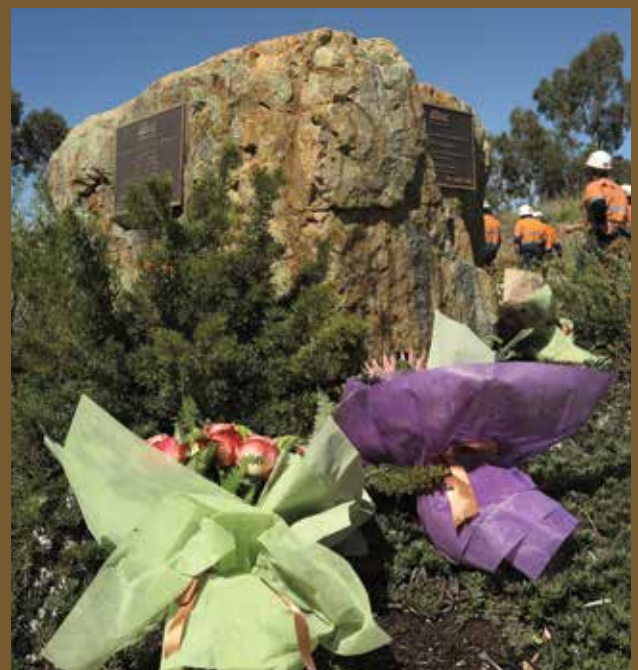


Remembering our colleagues

In 2015 we stopped, as we do every year, to remember our colleagues who lost their lives in the tragic air blast on 24 November, 1999. Our colleagues were Ross Bodkin 41, Michael House 33, Colin Lloyd Jones 41, and Stuart Osman 47.

Each year we gather at a memorial at the entrance to our underground mine to remember these men. We also honour Steve Shorrock who died after a rock fall in August 1996 while working on the E26 Lift 1 Development.

At the 2015 memorial, two of our team who were at work on the day of the airblast in 1999 shared their memories of their friends and the events. Natalie Simpson was underground at the time and Tony Melhuish was working in Ore Processing. We will continue to remember these men every year, and share what we learnt from that day to help prevent it from ever happening again.



Our environment and our community

Zero Harm doesn't stop with our people, it extends to our equipment, our environment and our community.

We have increased our efforts to achieve Zero Harm to our environment and prevent dust lift-off from our Tailings Storage Facilities (TSF). Prior to 2015 we conducted several trials to reduce dust lift-off, including using polymer, which formed a crust on the TSF surface. We have also trialled placing thousands of straw bales harvested from our farm on the TSF surface to act as wind breaks.

In 2015 we developed a long-term strategy to plant a crop on a TSF. Trials were developed by our Environment and Farming team, working closely with our Ore Processing team, and were considered an industry first in TSF management.

The trials were completed in a staged approach, beginning with ploughing both TSFs with a chisel plough, leaving a rough surface. The rough surface served as a wind break, considerably reducing dust lift-off.

Various crops were sown to determine which would suit the soil. The most successful crops were barley and tall wheatgrass. Both provided adequate ground cover, significantly reducing dust lift-off. Consequently, barley and tall wheatgrass will be planted on the majority of one TSF in autumn 2016. The other inactive TSF is covered with bales of hay.

We recognised dust was a community concern, particularly for our near neighbours. To ensure our neighbours were informed about our dust management efforts, our Community and External Relations team implemented a new way to update our neighbours using text messages.

A weekly weather report compiled by the Environment team indicates if windy weather is expected, and the highest risk days. The Community and External Relations team sends a text message to potentially affected neighbours informing them when high wind is expected and describing mitigation measures in place to reduce the chance of dust lift-off, such as using irrigators on the dam's surface. Feedback regarding this communication method has been positive.



Farming operations

Another dimension of our commitment to Zero Harm is our farming operations surrounding the mine, as well as our farms in the Forbes Shire. We are proud to have been active farmers in the region for 20 years. During this time we have been working on techniques to improve farming which are sustainable and appropriate to both our operations and those of our neighbours.

In 2015 we welcomed a new Farm Specialist to the team, Matt Burkitt. Matt has been working on herbicide resistance strategies including using

an EMAR chaff deck to help manage ryegrass weed seed populations at harvest.

The header operator harvests at a lower than normal speed in an effort to capture as much weed seed as possible. The weed seed is subsequently processed through the header with the crop.

The chaff deck then separates the material and splits it equally onto the tramlines behind the harvester, while the straw portion (coming off the straw walkers through the harvester) is spread as per normal configuration.

The weed seeds are left on the tramlines. The soil on these lines is typically more compact and hostile for weed seed and seedling survival. This, together with the heightened weed seed concentration in these narrow strips, increases competition making it harder for weeds to survive and reduces the seed set potential in the following year.

We are evaluating the effectiveness of this method and hope it will be a suitable tool to complement the use of narrow windrow burning and brown manure crops in managing weeds across our farm program.



Matt Burkitt, Farm Specialist



Our environment and our community

Environmental monitoring plays a critical role in determining any potential impact Northparkes has on the surrounding environment. Real time monitoring allows us to identify and understand our environmental impacts to air, land and water resources.

Air Quality

We regularly sample air quality at key locations on and adjacent to our mine site. The program is designed to determine the effectiveness of control measures and ensure we are compliant with consent and licence conditions. The program comprises a combination of high volume air samplers (PM10) and depositional dust gauges.

There were two dust exceedances during the year;

- In March on the neighbouring property 'Hubberstone' the PM10 (particulate matter size 10) result exceeded the 24-hour period limit.

An investigation revealed wind direction on the gauge was coming from a nearby paddock of sheep. Activity by the sheep was considered the likely cause of the exceedance.

- In November on the neighbouring property 'Milpose' the TSP (total suspended particles) exceeded the monthly limit. An investigation determined harvesting activities caused the exceedance.

Noise

Noise monitoring is conducted quarterly by an external specialist who monitors and analyses noise data at four of our closest neighbouring properties. Noise levels must comply with the requirements set out in our Project Approval, and associated standards and policies. Noise monitoring comprises a combination of real-time (unattended) monitoring and attended noise surveys. There were no noise exceedances in 2015.

Water

55 per cent of the water used onsite is recycled. Its main use is to process crushed ore into copper concentrate. We manage our water use through an internal infrastructure system aiming to:

- Ensure a reliable and sustainable long-term supply of water to site
- Minimise fresh water use by recycling water from mining and processing activities
- Monitor surface and groundwater resources to assess the impact of our operations.

Environmental Incidents

During the year there were five high risk environmental incidents, all of which we advised government agencies of. Three of the incidents were related to dust lift-off from TSFs, one incident was related to a tailings spill and the final incident related to unauthorised clearing outside an approved area.

13 May 2015

The Environmental Protection Authority (EPA) informed Northparkes they had received a dust complaint from a Northparkes neighbour. The EPA conducted a site inspection on the same day, Northparkes personnel took EPA representatives through our dust management strategies.

Northparkes submitted a report to the EPA on 22 May 2015 detailing our short and long-term dust strategies.

21 May 2015

Northparkes reported an unauthorised clearing of vegetation outside an approved area to the EPA and NSW Department of Planning and Environment. A contractor disturbed an area outside an approved Site Disturbance Permit (SDP), which is an internal environmental requirement, grading an area to stockpile trees and vegetation removed for the construction of the Rosedale TSF.

5 June 2015

Northparkes reported a tailings spill incident to the EPA through the EPA Pollution Hotline. The tails line spilt resulted in 4000m³ of tailings slurry being deposited outside the tailings pipe.

17 September 2015

Northparkes self-reported a dust incident to the EPA via the EPA Pollution Hotline. The dust incident was due to high wind speeds, carrying the dust offsite.

24 September 2015

The EPA informed Northparkes of a dust complaint from a neighbour regarding tailings dust blowing offsite. Northparkes implemented all short-term strategies to minimise the dust lift-off including immediate irrigation of the surface of the TSF. A final report was submitted to the EPA on 30 September 2015.

Consultation

In addition to supporting community initiatives, we have several approaches to formally engage, monitor, and report to our community stakeholders:

Community Consultative Committee (CCC)

The committee meets twice a year to update members on business operations and receive community feedback. The committee is made up of mine management and community representatives from Parkes and Forbes.

Wiradjuri Executive Committee (WEC)

The WEC meets quarterly to identify opportunities and develop projects which support Wiradjuri people in the community. The WEC is made up of two members from the Wiradjuri Council of Elders, two from Peak Hill Local Aboriginal Land Council and two senior Northparkes employees.

Neighbours meetings

Northparkes hosts formal onsite meetings open to all neighbours twice a year, and meets with many neighbours individually throughout the year.

Source community newsletter

Published twice a year and distributed to homes or via local newspapers.

Open Days

See p 10 for more information.

Facebook

www.facebook.com/northparkes



National rescue competition win

In October our Emergency Response Team (ERT) won the 2015 Victorian Mines Rescue Competition for the second year in a row.

As two-time consecutive winners, our ERT is an industry leader in mines rescue. We are enormously proud of these wins, which reflect our absolute commitment to Zero Harm Operations, which sits at the heart of who we are and how we operate.

The competition is a well-respected, highly competitive national event held at Energy Australia's Yallourn Mine in the LaTrobe Valley, Victoria. Eleven teams from across New South Wales, Victoria and Queensland competed in five areas: first aid, fire skills, breathing apparatus, practical

and theory. Northparkes placed first in theory, second in breathing apparatus and third in the remaining areas.

A highlight was Mat Allen, a rookie team member, winning the 'Grunt award' for teamwork and attitude. Other team-members included Captain; Matt Greenaway, Vice-Captain; Matt Flynn, Medic; Jeneta Owens, second Medic; Travis Beaton, and Gas Man; Brad Seaman.

Team Manager Robbie Owens said the six-person team included three people who had not attended a mines rescue competition before. "Our team performed tirelessly and consistently across all areas of the competition, with teamwork a clear differentiator.

"The entire ERT works hard

throughout the year to ensure we are always at the top of our game. We take our responsibilities seriously and pride ourselves on the Northparkes value of Improvement; being better tomorrow than we are today," he said.

"The entire ERT works hard throughout the year to ensure we are always at the top of our game."

Robbie Owens, Specialist Operational Training and Emergency Management



Welcoming our guests

By opening our gates we have the opportunity to showcase our business to external stakeholders. During 2015 we welcomed government officials, community groups and school students to site.

In November we had the pleasure of hosting the Hon. Adam Searle MLC, Leader of the Opposition in the Legislative Council, Shadow Minister for Industry, Resources and Energy, Shadow Minister for Industrial Relations and The Hon. Mick Veitch MLC, Shadow Minister for Primary Industries, Shadow Minister for Lands and Shadow Minister for Western NSW. We took them on a comprehensive tour of our surface and underground operations.

We also welcomed Ms Carolyn McNally, Secretary, Department of Planning and Environment in August. In September, we welcomed Ms Kylie Hargreaves, Deputy-Secretary, Division of Resources and Energy and Ms Claudia Huertas Director Operations and Programs, Division of Resources and Energy to site.

Michael Daley MP, NSW Deputy Leader of the Opposition, Shadow

Minister for Planning and Infrastructure and Shadow Minister for Gaming and Racing, visited Northparkes in December and toured our surface and underground operations.

The Mayor of Parkes Shire Council, Cr Ken Keith OAM, and other councillors also participated in these visits, either at Northparkes or in Parkes showcasing the Northparkes volunteering work at Memorial Hill. The community volunteer leave program is typically of great interest to our stakeholders as it leads the way in industry community engagement.

We also hosted organisations such as the Clontarf Foundation, Headspace, local schools and community groups.





Improve



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A new way of doing things

We are always working towards new ways to achieve our vision of A century of mining together. This means implementing improvements and new technologies so we can work smarter, and remain a cost competitive operation for many years to come. Northparkes made history in 2015, reaching 100 percent automation in our E48 block cave mine.

In a world-first, our driver-less loaders, controlled from the surface, load ore from the drawpoint and transport it to the underground primary crusher where it is crushed, conveyed and hoisted to the surface.

This achievement has been five years in the making and takes people out from underground allowing them to control the loaders from an air-conditioned room on the surface. We're also now seeing production records from our underground mine as one operator can control three loaders at the same time.

Stefanie Loader, Managing Director, said this breakthrough allows us to operate continuously, 24/7, without pause. "We have higher daily production at a significantly reduced cost. Importantly, complete automation reduces our risk profile: operators are located on the surface, rather than in the cab, thereby eliminating exposure to hazards such as dust, noise and vibration," she said.

Improving our business

	2013	2014	2015
Recordable injuries	11	9	5
Reportable environmental incidents	9	9	5
Total tonnes milled (Mt)	6.0	6.1	6.0
Copper Head Grade (%)	1.05	1.05	0.97
Copper Recovery (%)	88	88	88
Gold Head Grade (ppm)	0.46	0.40	0.32
Gold Recovery (%)	74.8	75.8	75

"We are committed to continuous improvement. We are innovative in our approach, we embrace technology, adapt quickly and find new and smart ways of doing things."

CMOC Overseas CEO Kalidas Madhavpeddi said complete

automation positions Northparkes as an outright industry leader, not only in Australia but globally. "Northparkes is a benchmark for others in the industry. Since acquiring the operation, CMOC has given the automation project our full support and it is wonderful to see it come to fruition."



The Rosedale tailings project

To enable operations until our current approval date of 2032, we started construction of a new tailings facility; the Rosedale TSF.

In 2015 two major project milestones were reached; the construction of our new site access road along McClintocks Lane and the stripping of 770,000m³ of soil from the TSF footprint.

Our new access road via McClintocks Lane and Northparkes Way opened in September. Hubert Lehman, Manager – Asset Management said “Work on the road involved continuous consultation with our neighbours who also use McClintocks Lane. Northparkes representatives met with these neighbours often to update them on the plans, progress and results

of previous meetings. The result was an upgraded road that suited the needs of all parties.”

Soil stripping was also completed, despite nearly half of the construction time being lost to wet weather. Additional equipment and personnel were mobilised to ensure these delays didn't impact the overall project timeline. Construction of the TSF embankments and drains has commenced with completion forecast in 2016.



Biodiversity

Before construction began on the Rosedale TSF our Environment team worked closely with the Project team to complete necessary surveys, as required by the conditions under the Environment Protection and Biodiversity Conservation Act 1999. These included preclearance and clearing supervision surveys.

A preclearance survey involved assessing each tree within the project area for significant habitat features such as hollows or nests. Trees with these features were numbered and recorded using a GPS so they could be easily located during clearing supervision surveys. In addition to marking habitat features, flora and fauna surveys were conducted across the project area.

On the day of clearing activities, clearing supervision surveys were carried out. This involved our ecologist supervising the felling of trees previously marked. Before any heavy machinery approached one of these trees, they were inspected to identify any fauna which may have been perching or easily visible in the tree. Once the visual inspection was complete and no immediate ecological issues were identified, an excavator approached the marked tree and tapped it for a minimum of 30 seconds.

The excavator operator waited for another of 30 seconds to allow fauna to leave the tree. If it was evident fauna had not left the tree, this process (shake and wait) was repeated until all

evident fauna had left the area. Once the tree was ready to be felled, the excavator operator lowered the tree as gently as possible to the ground.

This process resulted in several fauna leaving the trees uninjured prior to felling. Some of the species seen leaving trees included barn owls, galahs, brush tailed possums as well as a pair of sugar gliders which were relocated outside the impacted area.

In a partnership with the NSW Department of Primary Industries – Fisheries, some of the felled trees were donated to create habitat for Murray Cod, a nationally threatened species.



Below

A Sugar Glider safely relocated with its mate to a new habitat.

Above

Felled trees were repurposed as habitat for the nationally threatened Murray Cod.



Our Sub Level Cave

The E26 Sub Level Cave (SLC) Project is another innovative project assisting Northparkes to reach our vision of A century of mining together. Construction began in April with the aim of mining 2.9 million tonnes of ore with a 1.01 per cent copper grade.

The E26 SLC will consist of three levels and will operate alongside the E26 block cave mine. The way the SLC will work is by first developing and mining the first, upper level. While it is mined the second level is developed and then mined. To extract the ore, a drill and blast method is used, with the ore trucked to our underground crusher for blending with our E48 ore.

During the year the team completed 1.2km of underground development and the first level access drive (where employees enter the area) which has enabled ore drive development (where we extract the ore) to begin. We also took delivery of a new Atlas Copco ST18 diesel loader to assist with the project.

This mining method will allow us to extract a remnant wedge of high grade ore that was unobtainable when we mined the E26 block cave mine. This means our copper grade profile will increase over the next few years as the SLC Project is completed. Production is due to begin in the second half of 2016.



The Post Flotation project

This project is the first stage of a larger project, the Ore Processing Department (OPD) Debottlenecking Project. The OPD Debottlenecking Project aims to maintain our copper concentrate quality and copper recovery throughout our mine life.

The Post Flotation Project began in April and has provided an additional flotation stage in the mill to help recover slow floating copper minerals. Without the post flotation cells, this copper would have gone to the tailings and ultimately to waste.

During the project two 200m³ flotation cells were installed, to increase flotation time by 10-15 minutes. These cells scavenge the slow-floating copper composite particles which are transferred to the tertiary mills, where the copper is liberated from the gangue (waste minerals). This increases the amount of copper in the concentrate, ultimately delivering better grades.

"The project was complex as it required the cells to be built alongside the existing flotation building in the mill," said Roslyn Dalton, Manager – Ore Processing. "This required careful coordination of construction with operational tasks, with an unwavering focus on Zero Harm." The post flotation cells were commissioned in November and, by the end of December, the predicted benefits were evident with increased copper recovery through the mill.



Extending our mine life



Above The nappy contains drilling fluids.

The Life of Mine Studies and Exploration department was formed in 2015 to realise the value of Northparkes' mineral potential. By identifying growth opportunities and securing future resources, we can ensure we are here for a century of mining together.

We drilled 13,966 metres over 36 drill holes in seven different prospect areas in 2015. This work included pre-feasibility drilling close to our current operations to support our current mining studies.

Eric Strom, Manager - Life of Mine Studies and Exploration, said "We work hard to ensure our drilling doesn't negatively impact our neighbours or the environment. For example, we often halt drilling operations after rain events to minimise vehicle impacts to farmer's tracks and paddocks."

We have also significantly improved the way we manage water and spills while drilling, to minimise the impact of exploration on the land.

A re-usable bunded tarp, known in the drilling industry as a drill rig "nappy", now contains fluid from drilling. The nappy can contain up to 2,200Lts of fluid, and captures rain water which can then be pumped into the drill sump. Any spills can be cleaned up or pumped out of the bund for suitable storage or disposal.

The nappy is also very sturdy and is designed to be driven over. It replaces a plastic and gaffa tape solution which required constant attention and regular repairs.





Life



balance

We enjoy what we do

During 2015 we reinforced our commitment to Life Balance through flexible workplace arrangements. We provided opportunities for several employees to take career breaks pursuing various other activities and later returning to work.

The Northparkes team includes people who work part and full-time, on shift and Monday to Friday. As a business operating 365 days a year, 24-hours a day, we recognise the need for flexibility and diversity in building the best team. In 2015 six per cent of Northparkes employees were indigenous and 17 per cent were female.

One employee took a five-month career break to volunteer in Uganda. At the time Brooke Lees was our Advisor Community and External Relations and approached the business about her wish to complete the volunteer work, and her desire to continue working at Northparkes.

"Volunteering was always something I wanted to do, but finding the right time was hard. There was always a concern I wouldn't have a job to return to, which made making the decision to go even harder. When I spoke to Northparkes and explained what I wanted to do, and that I hoped to return to work, they worked with me to help make my dreams a reality. I am so grateful Northparkes supported me on the journey and now I am able to continue to work and develop within the business," Brooke said.

During her absence the business was able to offer a secondment role to another employee as a development opportunity.

This case is not standalone. Several other employees have taken career breaks for a variety of reasons, including to play high level sports in other countries or to travel etc., with the guarantee of a job when they return.



Department	2015 Gender Diversity %	
	Male	Female
Site Management	57	43
Financial Management	68	32
People, Safety & Environment	50	50
Ore Processing	87	13
Mining Operations	94	6
Asset Management	93	7
Life of Mine Studies & Exploration	73	27
TOTAL	83	17



Our flexibility also extends to working hours. Members of our Accounting team work a standard number of hours during the month, and receive a flex day every four weeks. This arrangement includes working slightly longer on pre-determined days when a higher workload is predicted.

This flexible working arrangement means employees can use their flex day to attend appointments and family commitments, or simply relax. Northparkes benefits from knowing deadlines will be met during busy periods, without infringing on employee personal time.

Christian Martin, who participates in the flexible working arrangement, said he feels trusted to complete tasks professionally. "I feel appreciated when I am recognised for my efforts through the flexible working arrangements. On many occasions I have logged on at home on a flex day or annual leave to send an email or complete a task. This is not an issue for me as I feel I am contributing to an effective, reliable and dependable team and my efforts are recognised and rewarded," he said.



We enjoy what we do

Heart at Work

Our employees' health and wellbeing is crucial. By promoting good health, we encourage a happier and more productive worker who typically enjoys a happy, healthy home life. Our health and wellness programs have been successful and employee feedback confirms their value.

In 2015 we developed a program called Heart at Work. The program focused on a chronic health condition affecting people throughout Australia every day – cardiovascular disease.

Heart at Work encouraged and assisted our employees to improve their health by changing their lifestyles and, consequently reducing the risk factors for developing cardiovascular disease. We ran several education sessions and challenges to engage our employees including;

- Cook Your Heart Out (a cooking challenge held in lunch rooms across site, even underground)
- Dietician sessions
- Losing Tonnes (a weight loss challenge)
- Ocober
- Dry July
- R U Ok? Day
- Movie by Moonlight (a fundraising event for Headspace; National Youth Mental Health Foundation)
- Education sessions about mental health, smoking and alcohol

A total of 23 employees signed up for the Losing Tonnes weight loss challenge, and the group collectively lost 77.4kgs.



Northparkes Mines

A century of mining together



One employee, Dan Rawsthorne, managed to lose 17.7kg. Dan started by changing a few small things in his life. He exercised more and watched how much and what he ate each day. These small changes made a difference and over time he saw the kilos melt away.

Another success story is from one of our Underground Technicians, Jamie Szczerbanik. During one of his health checks with our Health Specialist Jamie discovered he had higher than normal cholesterol levels. He was given a referral to a doctor, where he was told he needed to lose weight or go on medication.



“There’s no time like the present, if you want to do it, do it now.”

Jamie Szczerbanik

Jamie decided he needed to make a change in his life, and signed up for national weight loss challenge, called Max’s Challenge. This encouraged him to improve his fitness, change his diet and lose weight. Over a three-month period, Jamie managed to lose 16.7kgs and went on to win the title of “Grand Champion” in the challenge.

“I didn’t want to be the dad that sat on the couch and watched my kids from a distance; I wanted to ride a push bike with them, and be involved in their sports and watch them grow. I had to change, I learnt that from my health check at work, so I did,” he said.



Workers who love to give

Our nationally recognised Volunteer Leave Program has continued to play an important role in our community engagement model. The program focuses on the contribution our employees can make to the community to complement our financial contributions. Our results have shown volunteering has many lasting benefits for both Northparkes and the Central West.

In 2015 we focused on creating more connections between our Community Investment Program (CIP) and our Volunteer Leave Program. Via our CIP we can identify community groups in need and work with them to provide financial support or volunteers. Increasingly, community groups request volunteering support for their events or projects.

In 2015 our employees volunteered on 31 projects throughout the Central West, donating a total of 1,097 hours. Projects completed throughout the year included:

- Sorting clothes at Vinnies
- Construction of a sandpit at Parkes Early Childhood Centre
- Vehicle safety education sessions at Parkes High School
- IT technical work for computers at Orange and District Early Childhood Centre
- Trundle Rejuvenation Project whereby volunteers helped restore buildings on the main street
- Removal of steps and construction of a mobility ramp at Forbes North Public School
- Landscaping at Middleton Public School
- Volunteering at the Parkes Athletic Carnival
- Preparing showgrounds at the Parkes Agricultural Show
- First aid training at Parkes High School
- Cleaning and painting at Parkes School of Dance
- Baking for Legacy's 100 Year Anniversary
- Operating the tasting site at Trundle Bush Tucker Day
- Preparing showgrounds at the Forbes Agricultural Show
- Re-filling the sandpit at Parkes Early Childhood Centre
- Volunteering at the Parkes Hospital Grand Opening
- Volunteering at Parkes High School's Love Bites Program for White Ribbon Day
- Setting up the NSW Show Jumping Championships in Parkes
- Packing hampers with the Salvation Army



Community partnerships plus the CIP totalled \$330,150 in 2015:

- \$115,000 – Strong Young Mums Program with CentaCare
- \$80,000 – Parkes Grants Officer and Aboriginal Project Officer
- \$30,000 – Parkes Sports Grants
- \$11,150 – Parkes Life Education
- \$9,000 – Elvis Festival
- \$5,000 – Forbes Vanfest Music Festival



Community Investment Program (CIP)

Northparkes holds two CIP rounds per year with \$40,000 awarded to successful applicants in each round. Applicants submit a formal request for funding, which is assessed by a small committee of community representatives.

The following organisations were successful in 2015:

- The Ultimate Wingman
- Forbes Town and District Band Incorporated
- Tottenham Late Notes
- Trundle PA&H Association
- Forbes Preschool
- Dymocks Children's Charities
- Tullamore PA&H Association Inc.
- Parkes PA&H Association
- Ronald McDonald House Orange
- Paint Parkes REaD
- United Hospital Auxiliary of New South Wales
- Parkes School of Dance Inc
- Peak Hill Leisure Arts and Crafts Council Inc
- CWA Trundle Branch

Continued ...



Workers who love to give

- Forbes Running and Triathlon Club
- Quota International of Parkes Inc
- Parkes Prostate Awareness and Support Group
- Trundle ABBA Festival Inc
- Parkes High School
- Bogan Gate Community Memorial Hall
- St Joseph's Primary School
- Bedgerabong Showground and Racecourse Public Recreation Ground Committee
- Trundle Rugby League Football Club
- Trundle Central School
- Peak Hill Central School
- Peak Hill Swimming Club
- Forbes Barefoot Waterski Championships
- Oxley Group CWA
- St George's Toy Library
- Forbes PA&H Association
- Bogan Gate County Women's Association
- Parkes State Emergency Service
- Forbes District Junior Cricket Association
- Mitchell Conservatorium Lachlan
- Forbes Junior Rugby League
- Forbes North Public School
- Adavale Lane Community Hall Committee

In-kind

- 1,097 hours of volunteer service to the Central West
- Donation of in-kind materials such as conveyor belts, computers and first aid boxes at an estimated value of \$46,555
- Equipment pool – Northparkes has a range of equipment available for public use, including 3x3 marquees, a blow up big screen TV and eskies used by schools, community and sporting groups



For more information or to request assistance, please contact the Community and External Relations team on (02) 6861 3621

Zeroharm

Our journey towards Zero Harm Operations is a relentless focus across our entire sphere of operation: our people, our community, our environment and our equipment. We believe this approach is why we have been successful for over two decades, and sets us up for further decades to come. Our vision for our business is for *A century of mining together*. Thank you for your interest in Northparkes Mines.

Our contribution

In 2015 Northparkes contributed \$72.2 million to the Central West through wages, sponsorships, government dues and payments to local businesses. We employed 323 full time equivalent employees with wages paid to Parkes residents of \$32.3 million and \$3.7 million to employees in Forbes.

Employees by town of residence	2015
Parkes	259
Forbes	33
Trundle	5
Orange	5
Dubbo	5
Tichbourne	4
Peak Hill	3
Bogan Gate	3
Other	6
TOTAL	323

For a breakdown of our economic contribution to the region please see the table below:

Our contribution to Central West NSW	\$M
Salaries and wages paid per town of residence	
Forbes	3.7
Orange	0.7
Parkes	32.3
Peak Hill	0.7
Other	2.7
Suppliers of goods and services	
Central West	29.8
Sponsorship and donations	0.5
Local government payments	
Parkes and Forbes	1.8
TOTAL	72.2

Northparkes Mines
A century of mining together

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