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Sustainable

DEVELOPMENT REPORT

Northparkes Mines 2013

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Northparkes Ore Processing department



Northparkes Mines

Northparkes Mines is managed and operated by China Molybdenum Co., Ltd (CMOC) on behalf of Northparkes Mines Joint Venture comprising CMOC (80%), Sumitomo Metal Mining Oceania Pty. Ltd (13.3%) and Sumitomo Corporation (6.7%). The mine site is located 27 kilometres north of the township of Parkes in Central West, New South Wales, Australia. The operations consist of underground block cave mines and an ore processing plant which produces high grade copper and gold concentrate that is railed to Port Kembla. The concentrate is then shipped to customers in Japan and China for treatment. Northparkes is considered an industry leader in its approach to sustainable development. This report profiles projects and activities undertaken by Northparkes throughout 2013 dedicated to achieving a sustainable approach towards our mining operations.





Northparkes

Managing Director Stefanie Loader

During 2013 Northparkes experienced a significant change and welcomed our new owner, CMOC, commencing its 80 per cent ownership and operation of our business on 1 December. The change has been refreshing for our workforce – we are now part of a business that makes up at least one third of our owner's profit. This also means our employees are charged with making more decisions and taking on more responsibility – all of which helps make us a better business. We are all working together to ensure the future of Northparkes which is looking very bright to 2032, and hopefully beyond.

In 2013, our focus on Zero Harm stepped up a level and we are now well on our way on the important journey to achieve Zero Harm Operations. Zero Harm means exactly that: when our people come to work each day they can do their jobs and go home in the same way, or perhaps better, than when they arrived at work. It also means Zero Harm to our environment and equipment. As with any journey there are ups and downs and twists and turns. What matters is that we stay focused on our goal of Zero Harm Operations and face whatever challenges occur as a team.

Northparkes achieved 120 days without a recordable injury during 2013, which was an amazing achievement that should be celebrated. That said, as I've mentioned, we are on a journey which means we also sustained injuries. A total of 11 recordable injuries occurred in our business during the year in review. We will continue to focus on Zero Harm Operations

every day to keep ourselves and our colleagues safe, and also to minimise our impact on the environment and our community.

We set record production rates throughout the year with our operation reaching over six million tonnes of mined and milled ore. This is the most ore we have ever put through our mill and we're extremely proud of the hard work of the entire team to achieve such a fantastic result.

Of equal importance, we also continued to contribute to our local economy. According to the NSW Minerals Council, in 2013 the mining industry contributed \$90 million to the Parkes economy and \$14 million to the Forbes economy, with \$1 billion to the Central West. Employees and contractors filling full-time roles at Northparkes accounted for \$38 million.

In 2013 we introduced a new Volunteer Leave Program that is being well supported by our employees and that we're very proud of. This program encourages our employees to volunteer their time to community groups, community projects or events and offer the assistance of our skills and experience. In 2013, nearly 60 Northparkes employees helped out across the Central West on everything from baking cakes, working bees and heavy labour. Our employees made a big difference on every project they were involved in and we hope that the impact of their efforts will be lasting. The benefits go both ways – by volunteering their time our employees obtain a much better understanding of their local communities while

also developing as a team. I can't wait to see where this program takes us in the future.

In 2013 a project to profile our farming operations throughout NSW got underway. While the farm has been in operation for about 15 years, it was time to showcase Northparkes as an example of how farming and mining can successfully coexist. The NSW Minerals Council travelled to Northparkes in late 2013 to shoot footage for television, radio and print advertisements that ran in the Sydney metropolitan press for five weeks in early 2014. It's very important to us that people all over NSW and Australia can access our story first-hand and hear from our Farm manager about the opportunities for farming and mining to exist side by side into the future.

I hope you enjoy reading about what's been happening at Northparkes as much I enjoy the opportunity to share our news with you. 2014 is an exciting year for Northparkes as in August we will celebrate our 20 year anniversary. We feel fortunate to enjoy a positive and lasting relationship with the community in which we operate and thank you for your ongoing support. I encourage you to share your feedback with us, either via our website or our Facebook page which we will be launching shortly. Alternatively you can give us a call or pop along to one of our community events.



Stefanie Loader
Managing Director



Northparkes farm land



The Northparkes Leadership team



Rill towers



CMOC handover ceremony



CMOC

Overseas CEO Kalidas Madhavpeddi

In 2013 CMOC made its first investment in Australia, and we're extremely proud that this investment came in the form of such a promising asset as Northparkes Mines. I would personally like to express a warm welcome to all of the employees at Northparkes who, in December 2013, became a part of the CMOC team. On behalf of CMOC, it brings me great pleasure to welcome you all to the company where I am sure we will learn and grow together.

We're also very proud to become members of NSW and the local communities of Parkes and Forbes Local Government Areas that surround the mine. We are committed to continuing to grow and foster the relationships that have been built by Northparkes over many years so we can reach the best outcome for everyone involved.

As CMOC Chairman Steele Li said, our first priority in our business is the safety of all the employees at Northparkes and maintaining the excellent standards and reputation we have in regard to the community and environment. As shown throughout the 2013 Sustainable Development Report, Northparkes is constantly striving for sustainability and improvement, both of which are very important to CMOC. Our Company values are to implement the highest industrial standards in safety, environment and occupational health and to create good returns for our shareholders, employees and the communities in which we operate.

CMOC is a joint stock Company established in the People's Republic of China in 2006. The Company was successfully listed on the Hong Kong Limited Stock Exchange in 2007 and subsequently on the Shanghai Stock Exchange in 2012.

CMOC is primarily engaged in the mining, processing, smelting, trade, research and development of molybdenum, tungsten, gold and now copper metals. We have a complete industry chain which integrates upstream and downstream processes including molybdenum mining, processing and roasting, molybdenum chemical products and molybdenum metal processing. The Company's Sandaozhuang Mine is one of the largest defined reserves of molybdenum and the second-largest defined reserves of tungsten in the world.

2013 was one of the biggest years yet for CMOC and we're very excited about what is to come, along with all our employees in both Australia and China. Together we will continue to place a strong focus on creating and maintaining sustainable mining practices that Northparkes is so well known for.

Kalidas Madhavpeddi
Overseas CEO

Northparkes Mines *values*

Safety

We live Safety:

- We actively care and watch out for each other
- No task is so important that we cannot take the time to do it safely

One team

We are one team with a shared purpose:

- We treat each other with dignity and respect
- We cooperate and collaborate within and across teams

Leadership

We demonstrate consistent and responsible leadership:

- We create a participative, encouraging and supportive workplace
- We have the courage to challenge and to act
- We acknowledge everyone's contributions and achievements

Improvement

We will be better tomorrow than we are today:

- We strive to be the best we can be in all we do
- We encourage innovation and initiative to drive improvement

Life-balance

We lead balanced and fulfilling lives:

- We respect the individual needs of our people
- We encourage personal growth and development
- We actively participate in our local community
- We support healthy lifestyles

Communication

We communicate openly, honestly and with integrity:

- We actively listen and value the opinions of others
- We give and receive regular and timely feedback





Operational performance

Mining has been taking place at Northparkes for nearly 20 years, beginning in 1994. Underground mining commenced in 1997 with Northparkes being one of the first mines in Australia to use the highly efficient block caving method which relies on gravity and natural rock stresses to fragment and recover the ore.

This method offers a number of advantages over conventional mining methods including;

- Greatly reduced surface footprint by minimising waste mining
- Minimal use of explosives to fragment the ore
- Reduced greenhouse emissions through minimising ore rehandling
- Reducing mobile equipment.

In 2006 Northparkes began construction of a new block cave mine on the E48 copper/gold deposit with production officially commencing in September 2010. In 2012, our joint venture partners approved a \$35.6 million extension of the E48 block cave mine, extending the life of mine by approximately two years.

In 2013 Northparkes set a new production record for our annual mined and milled tonnes, reaching over six million tonnes(t). We produced a total of 168,282t of copper concentrate with a total copper metal production of 55,368t and a total gold production of 67,150 ounces(oz).

To achieve this milestone both the Underground and Ore Processing departments placed a huge emphasis on providing stable, in-control and reliable operations - always keeping Zero Harm Operations at the forefront of their minds. Longer periods between shutdowns meant there was also a record of the availability of equipment during the year – this is due to the work of the Asset Maintenance team who continues to improve our fixed and mobile equipment onsite.

At Northparkes we focus on looking for better ways of doing things all the time. Some of the improvement projects that were implemented throughout the year included the hoist upgrade and control system improvements.

The last year saw the continued roll-out and optimisation of the Underground Loader Automation System. 80 per cent of the production level and 100 per cent of the electric fleet has now been automated. This makes the E48 production level the most automated mining environment in the world.

Automation in the Underground mine achieved a record of 80 per cent of the tonnes produced from the mine; meaning most of the tonnes we mined were done so by automation.

Another achievement for the Mining team occurred when they broke through in the redevelopment of Extraction Drive 4 in the block cave underground. Redevelopment of three collapsed drives started in December 2011 and, after almost two years, the team re-opened all three collapsed drives. This meant automation could occur in all drives and helped to increase production.

To secure ongoing resources and the future of Northparkes, the Exploration team conducted a number of drilling programs throughout 2013. Three different drilling methods are used at Northparkes including Diamond, Aircore and RC drilling; the type of drilling used is dependent on the progress of an exploration prospect. In 2013 four diamond holes were completed at the Hopetoun prospect, located two kms south of E26 mine. An Aircore drilling program located to the south of the mine site was completed in December. Aircore drilling is designed to reach the bedrock surface and generally takes place over a large area of land. Programs are only completed in the short window between harvest and sowing in consultation with our neighbours.

TOTAL METRES DRILLED IN 2013	PLAN	
	ACTUAL	
Reverse circulation	7238	6361
Diamond drilling	4511	6619.9
Air core	4250	5375.5
Total	15999	18356.4

The Tunnel Boring System (TBS) owned by Rio Tinto finished its year-long trial at Northparkes in August 2013. The 64 metre long machine - affectionately known as Annie - was the first of its kind technology for underground drilling.

The trial provided invaluable data collected over the year that will now be used in helping to create safer and faster mining methods in the future. Annie underwent several phases of the project including mobilisation, commissioning and finally production.

TBS Project manager Rob Cunningham said that at the busiest time, 81 fulltime employees from all over the world were working onsite at Northparkes. "This enormous team included specialist tunnelling personnel from Strabag and Aker Solutions to international, interstate and local operators who supported the project through to its completion," he said.

Interesting facts:

- Annie weighed 460t and was christened by a Catholic priest at the launch celebration 600m underground
- A statue to Saint Barbara was placed at the TBS tunnel entrance for good luck
- The large components of the TBS had a top speed of 0.5kmph
- It took 22 hours for Annie to tram the 6.4kms out of the mine and over to the Step Change area for decontamination
- The decommissioned TBS was placed into containers and filled 32 semitrailer loads.

Drilling improvements

The Northparkes Exploration team is constantly interacting with our neighbours, whether through drilling on their property, consultation about drill programs in the area or just for a chat. They recognise that their daily work impacts our neighbours so minimising those impacts as much as possible – both for our neighbours and their properties – is critical. In 2013 the team made several improvements to the drill rigs to help reduce our impact and work with our neighbours.

The first improvement was to create above ground sumps and pumps to hold the drilling waste water. Previously all of the water that was used during drilling would be stored in in-ground sumps that were about three metres by three metres in size and one and a half metres deep. The sumps were lined with plastic to prevent water seeping into the ground. The area was then barricaded to avoid people, livestock and wildlife getting in the sump. When drilling was completed the sumps were back-filled and rehabilitated. This process was quite costly, from earthworks to digging the sumps, barricading and rehabilitation as well as the time involved. More importantly, there had been cases of the sumps subsiding or sinking slightly which impacted our neighbour's properties.

To eliminate this, the Exploration team designed custom-made barges to hold the waste water. The barges are cleaned out through the use of a sucker truck and are completely reusable for the next drill hole, plus they're suitable for both styles of drilling that Northparkes does – RC and Diamond drilling. The improvement is an achievement that the team should be proud of – they have been able to create an improvement that focuses on four of Northparkes' key areas of focus: safety, environment, community and commercially sound outcomes.

Another important impact of the drilling process to mitigate is noise. The team also made significant improvements to reduce noise impacts when the drill rig is in operation. Noise was raised as a concern through consultation with a landholder at a drill site. With the buy-in of the landholder, a decision was made to erect a noise barrier with the use of large hay bales. The landholder offered to help with the solution by supplying the hay bales, which were then erected to create a barrier. The drilling company, Boart Longyear, then further contributed to the reduction by wrapping rubber matting around many of the metal components on the rig that generated noise when it was in operation. A member of the Health team took sound measurements before and after the improvements and noted a reduction of about 10 decibels(dB).

Input from the landholder was very important throughout this improvement process and allowed the team to develop a solution that satisfied everyone's needs. In the future, our own hay bales from harvest will be used to reduce noise impacts on other drill sites and drilling programs undertaken by Northparkes.

MAXIMUM DB	CONTINUOUS NOISE LEVEL DB	TIME OF MEASUREMENT	COMMENT
58	55	30 seconds	10m out from bales - behind sound bund
67	65	30 seconds	10m out from bales - not behind sound bund





Participants in the 2013 Northparkes GP Cup

Working with our *community*

At Northparkes we are guided by our vision of investment, developing and partnering to build sustainable communities – mining and beyond. The three objectives that support our vision are:

- To invest in the future of our community through meaningful partnerships
- To build sustainable communities independent of mining
- To identify and build stakeholder relationships to address key community priorities.

There is a clear connection between the Northparkes business priorities and our activities in, and support for our community. For example, we look for ways to extend Zero Harm to our community to encourage a healthy community and the wellbeing of its members.

It is a priority for us to build enduring relationships with our communities, neighbours and traditional owners that demonstrate a mutual respect, active partnership and long-term commitment. We are fortunate to enjoy a strong relationship with the community in which we operate. This relationship has developed over the life of the operation and we remain firmly committed to achieving ongoing positive interaction with the community.

We strive to achieve this through regular, inclusive and transparent communication with all of our stakeholders. Throughout 2013 we regularly met with all our external stakeholders to continue to build and develop these important relationships.

We meet with members of the community, Shire Councils and Traditional Owners through a range of consultation processes. These include formal meetings at the mine site with our neighbours, formal and informal meetings in Parkes and Forbes with both Councils as well as all of the committee groups detailed in the Stakeholder relationship section.

Communication through all of our relationships is focused on being transparent, open and honest, across the Northparkes operation.

Key areas of *focus*

Northparkes has identified three key areas of focus for our community and external relations activities. In 2013 our community investment totalled \$480,000 across the three focus areas of community investment, community development and stakeholder relationships.

Community investment

At Northparkes we are committed to investing in our communities through meaningful partnership funding, strategic funding and sponsorships and donations. Sponsorships and donations are made through the Northparkes Community Investment Program, which is run twice a year with \$40,000 awarded in each round. Applications are assessed by an external sponsorship and donations committee comprised of community members from Parkes, Forbes and Peak Hill.

Partnerships are assessed on a case-by-case basis by the Community and External Relations team and are aligned with the Northparkes Strategy Map. Investment opportunities in 2013 included:

- The employment of a Parkes Grants Officer Program, in conjunction with Parkes Shire Council, continued in 2013 with the aim of helping to build the capacity of the community to apply for grants – both with and without Northparkes' assistance.
- The same program continued in the Forbes Shire to help fund a Grants Officer in conjunction with the Forbes Shire Council.
- A community equipment pool which provides community groups with access to Northparkes equipment such as marquees, a blow-up TV screen, a PA system and coolers. The equipment can be used at community events free of charge. Over 20 groups took advantage of the equipment throughout the year.

Community development

Northparkes is dedicated to continuing to contribute to community development programs that add value to the local and regional community in a sustainable manner. During 2013 a number of community development activities took place:

- We held our Open Day in March to showcase Northparkes and allow the community to view our operations. See page 27 for more information.
- We continued our involvement in the annual Parkes Elvis Festival through our sponsorship and float in the Street Parade.
- Our employees visited schools to encourage students to complete further education and raise awareness of jobs in the mining industry, particularly Northparkes.
- Our Indigenous Scholarship Program entered its third year with another three scholarship recipients starting their studies, which brought the total number of recipients to four.
- Each year Northparkes is a strong supporter and participant in the Northparkes GP Cup, which has raised over \$130,000 through sporting activities to bring general practitioners to the area.
- Support for an Aboriginal Project Officer Program in conjunction with Parkes Shire Council.
- In order to manage sports grant requests separate to the twice-yearly sponsorship round, a Sports Grant Program was developed with the Parkes Shire Council to support an active and healthy community.

- Support of Lachlan Health Services via a palliative care partnership.
- Advancement of education through the Peer Tutoring Program at Parkes High School and Parkes Life Education program.
- The Northparkes Volunteer Program which aims to help build the capability of local businesses commenced in 2013. More in-depth information on the program can be found on page 21.
- Strong Young Mums Program – a five-year program run by CentaCare in conjunction with Northparkes aimed at helping indigenous mothers in our local community, through training and support.

Stakeholder *relationships*

Northparkes recognises the importance of building and maintaining strong and robust relationships with all of our stakeholders. We believe these relationships should be based on mutual respect, active partnership and long-term commitment.

During 2013 we worked closely with the following stakeholders:

- The Northparkes Mines Community Consultative committee (NPMCCC) was established in 2006 and meets every six months. Membership includes mine management and twelve local community members. It is intended to be a general forum for people from the region to communicate directly with Northparkes about matters of community significance.



- The Northparkes Wiradjuri Executive committee (NWECE) includes two members from the Wiradjuri Council of Elders, two from Peak Hill Local Aboriginal Land Council and two from Northparkes. The committee meets quarterly to provide Northparkes with a formal channel of engagement with the Wiradjuri. The committee also looks for opportunities to work together, facilitates relationships between the mine and our traditional owners and identifies ways of providing support to the Wiradjuri people in the community.
- The Southern Cross Landholders Group is an informal forum that allows Forbes landholders whose properties are near the Lachlan Valley borefield to talk directly with Northparkes and Parkes Shire Council (the operator of the bore field) regarding issues relating to Northparkes' water use.
- Every six months Northparkes holds a Neighbours meeting onsite for our surrounding landholders (neighbours). Nearly 150 people are invited to attend the meeting where they are updated on the Northparkes business and our activities both onsite and in the community.
- We continued our strong relationship with both Parkes Shire Council and Forbes Shire Council through regular formal and informal consultation and meetings.



The Northparkes Wiradjuri Executive Committee with CMOC Chairman Steele Li and Overseas Kalidas Madhavpeddi



2013 Elvis Street Parade



Participants cheer on teams at the Northparkes GP Cup



Northparkes employees help out volunteers at the St Vincent de Paul Centre in Parkes

Volunteer Leave Program

In 2013 Northparkes contributed thousands of dollars in-kind through our new Volunteer Leave Program, which was a strong focus for our business throughout the year. The program encourages employees to volunteer their time with community groups and organisations to help them as much as possible. Nearly 60 of our employees volunteered their time on different projects throughout the Central West in the first year of the program alone – with that number set to at least double in 2014, and grow from there.

Some of the projects included:

- Northparkes electricians and apprentices installed energy efficient lights in the Parkes PCYC
- Senior employees travelled to Wellington for a working bee on the Barnardos Centre
- Our Emergency Response team to members of the Tottenham community
- The Northparkes Leadership Team baked a range of cakes, slices, biscuits and cupcakes for Legacy
- Administration employees shared our Zero Harm message with children at Peak Hill Central School
- Over 30 employees volunteered their time over several days on the Memorial Hill Rejuvenation Project, in conjunction with Parkes Shire Council, Rotary and the SES.

This program is not only having a significant impact on the community, it is also helping our employees on a number of levels. At every volunteering event team building occurs, allowing our employees to develop bonds and friendships outside of their normal work, critical for the continued improvement of our business.





People

Northparkes has a diverse and inclusive workforce. We employ on the basis of job requirements and treat genders equally, which is why Northparkes is leading the way in respect to the diversity of our workforce.

Our 'Code of Conduct' outlines our zero tolerance approach towards workplace bullying and harassment and we have a selection of trained personnel who are Fair Treatment officers who provide support, advocacy and advice to their peers. We also provide an Employee Assistance Program through a local organisation who provides on and offsite support to our employees.

Northparkes is committed to providing a consistent, fair and equitable remuneration and benefits system for all our employees. When CMOC assumed ownership on 1 December 2013, 100 per cent of employee contracts were signed and returned.

In addition, employees of Northparkes enjoy other benefits including:

- Annual Short Term Incentive Program (STIP) bonus
- Long Term Bonus Plan (LTBP) commencing January 2014 maturing in 2017
- Local Benefits Program which provides discounts/benefits from local businesses
- Subsidised health insurance and medical assistance programs

- Salary packaging of interest on home loans or 50 per cent of rent, vehicles, electricity and gas, superannuation and death and disability insurance premiums
- Fully subsidised gym memberships
- Flexible work arrangements
- Professional memberships
- Study Assistance for training and development.

Ensuring that our people are trained in safe, healthy and environmentally responsible ways is our first priority. We believe in proactively developing employees to the full extent of their abilities; to improve their knowledge, skills and attitudes by regular performance reviews for all staff. We recognise potential by offering education, training, coaching and professional development opportunities.

A focus for the Training team in 2013 was the development of a training program for our underground loader operators. The program was modelled on best practice examples from several industries including the way Qantas train their pilots. To achieve this we are using our state-of-the-art Block Caving Knowledge Centre – the facilities available in this building allow us to train operators while keeping them above ground in a completely safe environment.

The program combines theory to ensure operators have the most up-to-date information to do their jobs, with a refresher of practical learning in the loader simulator. Each operator will complete half a days' worth of refresher training every six months and every new starter will undertake a 20 day program.

This training alone has reduced damage costs to the loaders from \$2.5 million a year to about \$240,000. More importantly, it has provided our operators with a safer learning environment, aligned with our focus on keeping our people safe.

Northparkes also has a long-standing commitment to helping people achieve their potential, be it our employees or members of our local area or broader industry. Our Apprenticeship Program, Graduate Program and Scholarship Programs are key strategic drivers and ensure our future growth. In 2013 we had a total of 14 apprentices who were supported and coached in line with industry best practice.

In 2013 Northparkes employed 18 graduates across a range of technical and non-technical areas. We provided scholarships to six individuals at the University of NSW and one rural scholarship awarded for IT. In addition, our Indigenous Scholarship Program, which was established in 2012, continued with the addition of three recipients in the fields of electrical engineering, teaching and law. At the end of 2013 we had four Indigenous Scholarship holders, of which three were female. These student's are provided with financial support at university and earn valuable work experience at Northparkes during their vacation breaks.



Northparkes employees dressed as Elvis on site



NSW Mining's Voice for Mining Family Day



Ray Taylor recognised for contributing to Zero Harm



Participants in the Northparkes GP Cup



2013 Northparkes Indigenous Scholarship holders Amelia Sharah, Adelaide-Rose Wakefield, Sophie L'Estrange and Jason O'Neil

PEOPLE STAFF TURNOVER

	2013	2012
Turnover	17.5%	17%
Female employees	16.7%	17%
Indigenous employee	2%	7%

GENDER DIVERSITY ACROSS POSITIONS (%)

	2013		2012		2011	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Manager bands (C-H)	75	25	81	19	88	12
Superintendent	77.8	22.2	76	24	88	12
Team Leader	71.4	28.6	97	3	93	7
Professional	64	36	80	20	73	27
Graduate	85.7	14.3	68	32	65	35
Apprentice/Trainee	92.3	7.7	92	8	80	20
Technician	88	12	93	7	96	4
Administration	0	100	11	89	17	83
Trade	97.3	2.7	96	4	97	3
Student	0	100	60	40	70	30
Total	83.3	16.7	83%	17%	82%	18%

GENDER DIVERSITY
ACROSS DEPARTMENT (%)

	2013		2012		2011	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
Site Management	75	25	75	25	50	50
Commercial, Financial	72.7	27.3	75		25	75
People and Capability Development	42.1	57.9	53	47	42	58
Ore Processing Department	87.5	12.5	86	14	87	13
Health, Safety, Environment and Farms	59.1	40.9	45	55	46	54
Underground and Exploration	87.4	12.6	93	7	86	9
Projects	0	0	64	36	72	28
Asset Management	93.9	6.1	94	6	92	8
Total	83.3	16.7	83	17	82	18

**EMPLOYEES PER TOWN OF
RESIDENCE – EMPLOYEE ONLY**

	2013	2012	2011	2010	2009
Alectown	1	0	0	1	1
Bedgerabong	0	0	0	1	0
Bogan Gate	4	5	4	5	4
Dubbo	4	4	3	2	0
Forbes	29	32	23	18	22
Goonumbla	1	1	1	1	3
Orange	3	1	2	4	2
Parkes	230	302	282	195	198
Peak Hill	8	8	6	8	6
Tichbourne	3	2	2	3	4
Trundle	5	6	7	8	6
Other	23	8	11	13	4
Total	311	369	341	259	250



Community members enjoy the 2013 Northparkes Open Day

Opening our gates

We open our gates to the public every two years and are proud of being a very popular event on the community calendar. This year almost 2000 people visited Northparkes to see for themselves how things work and find out more about who we are and what we do.

We selected technology as the theme for 2013 and showcased our own technology, which allowed us to show our visitors how we are leading the way on this front. We had our Robotic Idler Changer on display, as well as the global trial of the Tunnel Boring System. Our visitors could also attend guided tours of the Ore Processing department, by train or on foot, and bus tours of the entire site.

Our state-of-the-art Block Caving Knowledge Centre was open for everyone to see how much technology plays a part in keeping our people safe through training.

Children were able to see and touch the underground machinery that helps get the ore to surface everyday – loaders, drill rigs, truck and development jumbos were all on display.

We were proud that a third of our workforce volunteered at the event – they took time out of their weekends to show the public where they come to work every day. The pride in Northparkes was and is very clear.

Continued feedback from our Open Days reinforces why they are so important to our community and our people.

The next Open Day will be held in 2015 so be ready to enjoy another day with our workforce and find out more about what we've been up to.



Ore Processing and Exploration displays at the 2013 Northparkes Open Day



The Northparkes GP Cup

Economic management

The stability of our production during 2013 meant Northparkes recorded strong copper metal production for the year. Due to the large amount of copper metal produced we were in a position to favourably offset the impact of decreasing metal prices in the market.

We continued our focus on reducing costs across the business with positive results and significant reductions achieved. Through Business Improvement projects and other costs saving ideas implemented by employees we managed to save \$21 million throughout the year. This result is testament to our employees, constantly striving for improvements, as well as the support and dedication of our suppliers.

The NSW Government received a one-off stamp duty payment From CMOC, related to the purchase of Rio Tinto's share of Northparkes Mines in 2013 of \$44 million.

We do not anticipate the business environment will significantly improve in the short-term, which reinforces the importance of continuing to achieve sustainable improvements in our business. Our challenge in 2014 is to sustain and optimise the improvements we've already made with the support of our employees and suppliers.

**PERFORMANCE
INDICATOR**

	2013	2012	2011	2010	2009
Revenue * (\$M)	394.91	437.9	388.9	336.0	218.0
Capital expenditure * (\$M)	27.4	59.1	53.8	63.0	33.2
Ore mined (Mt)	6.0	5.4	5.4	8.0	11.1
Total tonnes milled (Mt)	6.0	5.7	5.5	5.3	5.6
Copper concentrate produced (Kt)	168.2	155.8	146.6	116.1	98.5
Copper metal produced (Kt)	55.4	53.8	50.4	39.0	34.3
Gold metal produced (Koz)	67.2	72.2	76.0	65.3	34.4

* These numbers represent CMOC's 80% share of total revenue and capital expenditure in AUD.

**SALARIES AND WAGES PAID PER
TOWN OF RESIDENCE - FULL TIME
EMPLOYEES ONLY (\$M)**

	2013	2012	2011	2010	2009
Forbes	3.5	3.2	2.0	1.2	1.4
Orange	0.4	-	-	0.4	0.5
Parkes	28.1	36.0	24.9	15.1	16.6
Peak Hill	1.0	0.9	0.7	0.6	0.6
Other	5.0	2.8	6.5	3.8	3.9
Total salaries and wages paid	38.0	43.0	34.1	21.1	23.3

EXPENDITURE ITEM (\$M)

	2013	2012	2011	2010	2009
All payments to all suppliers of goods and services:	167.6	223.7	221.2	201.7	187.7
- State	54.6	137.9	156.6	127.7	141.5
- Region	37.9	30.9	24.2	30.2	41.2
- Other	75.1	54.9	40.4	43.8	5.0
Salaries and wages (Direct employees and contractors filling full-time Northparkes positions only)	38.0	43.0	34.0	21.1	23.3
All sponsorship and donations	0.5	0.7	0.6	0.5	0.5
All payments to government:	80.8	80.8	70.1	37.5	7.8
- Local - Parkes	1.3	2.7	1.5	2.8	1.9
- Local - Forbes					
- State - royalties	12.6	14.4	12.9	10.6	5.5
- State - payroll and land tax	3.2	4.4	2.3	1.5	-
- Federal - company tax	63.7	59.3	53.4	22.6	0.4
Total direct economic value distributed	286.90	348.22	325.98	260.82	219.73



Health and Safety

At Northparkes every employee and contractor aims to achieve Zero Harm Operations, above all else.


Zero Harm is how we work, it is doing every task the right way – continuous improvement is one of our values at Northparkes.

In late 2012, Northparkes introduced a Zero Harm approach to operations. Zero Harm is aimed at creating a sustainable safety culture with an underlying philosophy of creating an incident and injury free workplace with Zero Harm to people, environment and equipment. Each individual has a role to play in achieving safe production.

During 2013, Northparkes achieved 120 days without a recordable injury. However, towards the latter part of the year there were three significant potential incidents, which could have significantly injured members of our workforce. These incidents reinforced that Zero Harm is a continuous journey. As with any other journey we recognise that there is no end point, every day we need to remain vigilant on achieving a Zero Harm workplace.

From the significant potential incidents we took action in order to understand the issues and identify strategies to improve the factors that caused them.

Zero Harm drawing by a student at Peak Hill Central School



There were two key safety projects identified in 2013:

- Hazard rectification – A hazard is anything that has the potential to cause harm. During 2012, there was a focus on improving the risk assessment process prior to undertaking a task with the view to better identify hazards. While this was achieved, it was found that the hazards were not being rectified in a timely fashion. In 2013 the focus moved to empowering individuals to fix the hazard there and then, if they could. If the individual or a member of their team could not fix the problem, then the hazard reporter would consult with the Maintenance team and a notification would be raised, clearly outlining the time frames.
- Incident investigation – An incident is something that happens which causes harm to a person. During the year there was a strong focus on simplifying our Incident Management Process to again empower employees to better manage Health and Safety. The revised process can be broken down into four key steps;
 - 1) Notify – Anybody who sees an incident needs to notify their supervisor immediately. The severity of the incident will depend on who else needs to be notified.
 - 2) Investigate – Incidents need to be investigated to determine what happened and what were the consequences, the relevant factors and causes and the required

actions to correct the situation to stop another incident occurring.

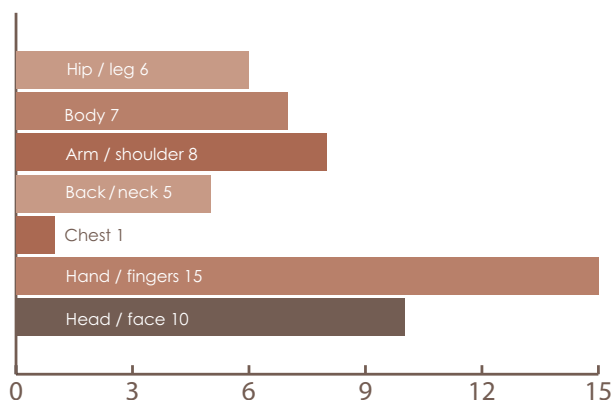
3) Record – Incident details are recorded on the same day the incident occurred and further information is recorded as the incident investigation is complete. Recording all required information helps when communicating information to others and when analysing incidents to determine trends.

4) Communicate – Lessons learned from incidents need to be shared. It is important that we learn from an incident, we communicate the learnings and improvements to others to prevent them from happening again.

Incident investigations can lead to positive changes for the future. Preventing incidents has a significant impact on the lives of our people, the state of the environment and the losses associated with equipment or production.

Safety is personal; it is more than a statistic set of rules and procedures. We believe that safety depends on the commitment, attitude and behaviour of each person. We encourage everyone to work together with a safe mind-set and support the idea of creating an incident and injury free workplace.

2013 Body Parts Injured



Northparkes Mines Health and Wellness Program

In 2013 Northparkes ran an internal weight loss program called the Lose to Win Challenge. This challenge was held between June to November and saw participants engaged in health related activities and initiatives in an effort to help shed unwanted kilograms. The program consisted of fitness activities, nutritional information sessions, health risk assessments and monthly check-ups.

The challenge was available to all employees with a total of 56 participants overall - 22 females and 34 males. During the months of May and June voluntary health assessments were conducted with the main objective to focus on individual risk factors for lifestyle related diseases, such as heart disease.

Participants set goals each month so they could track their progress and had a monthly health check or weigh-in to determine their weight loss percentage for the month. Fit classes were held three times a week during lunch time, together with planned walks and rill tower hikes. Nutrition sessions were also offered on site with a dietician.

At the end of the five-month challenge the overall highest weight loss percentage winner was a male participant with nearly 14 per cent weight loss. Second and third place went to female participants with a 12 per cent and 11 per cent weight loss. Overall we saw an improvement in the participant's health however results show that our employees face some common lifestyle issues:

- **High cholesterol:**

56 per cent of participants had a cholesterol ratio above the acceptable limit of 4.5mmol/L

- **Body composition:**

38 per cent of females were in the overweight range and another 38 per cent were in the obese range (based on body fat percentage)

13 per cent of males were in the overweight range and 78 per cent were in the obese range (based on body fat percentage)

In many instances companies that have implemented a structured wellbeing program, regardless of the scale, have shown significant returns on dollars invested in addition to the personal benefits for participants. Northparkes is taking positive steps in encouraging our workforce to adopt a healthier and more balanced lifestyle and we will continue to do this in 2014, and the years to come.



Matt Greenaway received the Emergency Responder of the Year award from Northparkes Managing Director Stefanie Loader and Emergency Response Coordinator Robbie Owens

Emergency *Response team*

In 2013 The Northparkes Emergency Response team (ERT) held its biggest mock scenario onsite to ensure members of the ERT are ready for any emergency situation that may occur.

The mock scenario involved a staged offsite incident with a vehicle and train and involved the Parkes Police, NSW Ambulance Service, State Emergency Service, Department of Trade and Investment and representatives from other mines in the Central West. These scenarios are critical to ensure improvement within our ERT as well as other employees who deal with emergency situations.

Each year the ERT recognise how much effort each of its volunteers puts into the team through training, coaching others and maintaining their physical fitness. Annual awards are given to members who achieved great results. In 2013 three awards were given including:

- Emergency Responder of the Year
– Matt Greenaway
- Rookie of the Year – Wade McConnell
- Physical Fitness Award – Brendon Sense



Environmental *stewardship*

Northparkes seeks to reduce the environmental impacts and risks associated with our operations through mine planning processes that minimise risks to air, land and water resources. Our employees and contractors respect the environment and work collaboratively with our neighbours and stakeholders to address any concerns. Implementing environmental improvement practices and long-term legacy initiatives that go beyond our regulatory requirements is one of our key areas of focus.

Northparkes operates under an integrated health, safety and environmental management system certified against the International Standard ISO 14001. This system means environmental risks are assessed and controlled, with continuous improvement always at the forefront of our minds.

Air quality

Air quality continues to be an important element to manage due to its potential impact on the health and safety of our employees and neighbours, as well as the natural environment. Our air quality monitoring program assesses the effectiveness of implemented dust control measures, identifies potential onsite sources of dust areas and ensures we meet all of our legal requirements.

Northparkes monitors air emissions according to Australian Standards which requires the inclusion of 11 passive dust sites, including both directional and depositional gauges, in addition to two high-volume samplers located at neighbouring properties.

Throughout 2013:

- Six Particulate Matter <10µm (PM10) results exceeded the 24-hour average limit and were subsequently found to result from localised farming activities and vehicle movement
- Five complaints relating to dust from the Tailings Storage Facility (TSF) were recorded, three of which were made directly to the NSW Environment Protection Authority (EPA)
- The placement of hay bales across the surface of the TSF was undertaken to minimise dust generated from Northparkes' major source of dust. This has been observed to be very successful in curtailing dust lift-off from the TSF.

Noise

At Northparkes we continually monitor noise levels surrounding the mine site. This is undertaken by an external specialist who monitors and analyses recorded noise data from our neighbouring properties.

The three occupied residences nearest to the mine are monitored for noise on a quarterly basis and must comply with the requirements as set out in our Development Consent, and associated standards and policies.

In 2013 the quarterly noise surveys found that there were no exceedances of noise limits and no external noise complaints were received.

Dust mitigation at Northparkes

Over the last few years the major cause of community complaints and environmental incidents was dust lift-off from site, specifically from the TSF. The TSF is where mineral waste is stored after ore processing. This has been an ongoing issue since February 2010 when TSF1 was filled with tailings to the final 25 metre wall height as per design. Tailings are deposited in the facilities as a wet slurry and water is removed through the central decant system after the tailings settle. The product then dries out and can become airborne in windy conditions due to the fine nature of the material. Windy conditions on the dam surface can produce dust which is picked up and carried offsite.

To address the issue, in 2012 the Environment Team implemented a polymer capping trial on TSF1. The polymer created was applied to the tailing dam's surface, forming a layer that held the dust particles together and prevented them from becoming airborne. The trial was completed in October 2012 and for nearly 12 months there were no reports of dust lift-off from the dam.

In September 2013 however, the windy conditions picked up and the Environmental Protection Authority (EPA) received three complaints from the public about dust from

Northparkes Mines. After investigations it was evident the dust was once again coming from TSF1. The Northparkes Leadership team in conjunction with the Farm manager, Environmental and Ore Processing teams decided immediate and thorough action was needed to find a quick, but long-term solution to the dust.

After harvest the farm straw was windrowed and baled. A total of 5,000 bales were made that were 2.5 metres long by 1.5 metres wide and 1 metre high, and weighed about 400 kilograms each.

A pattern was designed to act as a buffer from the winds and reduce wind speed on the dam surface in late winter and spring to help stop dust generation. The bales were then arranged in this pattern in lines 50 metres apart. Since the project was completed in early December there have been no reports of dust lift-off from TSF1.

The straw bales will last several years depending on how wet the seasons are and will then break down and become mulch. This is one of the first projects to trial large square bales for this purpose and its success will be closely monitored by Northparkes and others in the industry.



Hay bales strategically placed on the TSF surface



Farm manager Geoff McCallum inspects the results of harvest

Northparkes farming operations

Northparkes owns approximately 10,314 ha of land in the Central West district. Mining operations occupy 1,630 ha and the remaining area operates as a commercial agricultural and logistics operation.

Northparkes is an industry example of how mining and farming can coexist and has successfully done so for over 15 years. We employ a Farm manager to maintain and improve the 3,000 ha of prime farmland both surrounding the mine and 1,300 ha the Forbes region. Since conservation farming began in 1998, our farm has evolved to two centimetre accurate GPS guided tramlines and a no-till winter crop farming with full stubble retention.

The Northparkes farms grow a rotation of wheat, barley, canola and peas for green/brown manure. In 2013 this land produced 4,195 tonnes of wheat, 1,884 tonnes of barley and 929 tonnes of canola – all of which is delivered to the silos at Parkes, Forbes, Red Bend and Wirrinya.

Soil tests are taken annually over our farms to determine the soil fertility, with plant available phosphorous one of the most important nutrients we have to manage.

The next step towards a sustainable farming system is the incorporation of 25 per cent legumes, also known as green or brown manure, into our crop. This will help to improve soil health and build up soil nitrogen. By growing our own organic nitrogen we lower our dependence on the more expensive, inorganic purchased products. The next few seasons will involve trials of different legumes to find the best species suited to our system. These trials will include field peas, lupins, faba beans and vetch.



Canola crop in full flower at Northparkes Mines

Waste *material*

In 2013 Northparkes reduced waste generation onsite by 24 per cent. This result can be attributed to the reduction in the production of scrap steel and the completion of the TBS. We recycled 40 per cent of our total waste.

Appropriate waste management is an important means of alleviating the potential for negative health, safety and environmental impacts. Ongoing community interest in the sustainable use of natural resources has also increased the emphasis placed on reuse and recycling.

Northparkes aims to minimise waste generation and ensure the safe handling, treatment, storage and disposal of all waste. We work to achieve our objectives of avoiding and reducing waste generation by appropriately segregating waste and looking for opportunities to reuse and recycle materials. To help us achieve this we engage the services of a waste contractor who assists with the implementation of the waste management system. We also track site waste and provide regular training to staff and contractors.

Landscape and *biodiversity*

In addition to our farming operations we also actively undertake rehabilitation and conservation to maximise the native habitat within the area. These activities follow the Northparkes

Biodiversity Strategy which recognises that impacts on biodiversity can make mining projects a sensitive issue for stakeholders. At Northparkes, we plant around 10,000 native trees every year to create wildlife corridors. Our goal is to have a Net Positive Impact (NPI) on biodiversity by planning our business carefully and undertaking conservation actions during our operating mine life for future benefit. As such, we manage two offset areas for conservation purposes:

- Estcourt Offset Conservation Area
- Limestone State Forest

We also undertake soil resource conservation for our progressive rehabilitation activities.

Success of our actions is assessed using established landform criteria through an annual rehabilitation monitoring program. In 2013 there were no new areas made available for rehabilitation, continued monitoring of previously rehabilitated areas took place.

Greenhouse gas emission and *energy*

Northparkes has completed the First Cycle Energy Efficiency Opportunities (EEO) Program from which we have implemented six energy saving projects. These projects have had a significant positive impact on our energy use and emissions. The Second Cycle EEO Program was completed in June with eight potential energy saving projects identified for implementation by 2016, which will further reduce energy consumption.

INDICATOR	ACTUAL 2013	TARGET 2013	ACTUAL 2012	TARGET MET
Emissions per tonne of concentrate (t CO ₂ -e/t)	1.14	1.67	1.47	✓
Electricity per tonne of ore milled (GJ/t milled)	0.1313	0.1477	0.1434	✓

Water

In 2013, Northparkes did not exceed its licenced water allocations and, as a zero discharge site for process water, has no effect on surrounding surface water bodies.

Responsible water management is important to our operations for a number of reasons – water is a valuable and scarce resource in Australia and it is essential for both current and future operations. The way we manage water plays a critical role in maintaining our Social Licence to Operate. The majority of our water usage is to process crushed ore into concentrate. The amount we use from offsite sources each year depends on how much ore is mined and processed and the availability of water from different sources.

We operate in the Bogan River catchment and the tributary catchments for Cookapie, Goonumbla and Tenandra creeks. Water is managed through an internal infrastructure system designed 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.

Fresh water is drawn from four sources:

- 1) External groundwater bores
- 2) River allocations
- 3) Site surface catchments
- 4) Recycled site water

We source as much water as possible from water that is stored onsite through site catchment or recycled water. When we do use water from offsite it is derived from the Lachlan Valley Bore Fields. The majority of the water is used to process crushed ore into concentrate. The amount we use from offsite sources annually depends on how much ore is mined and processed and the availability of water from different sources.

Northparkes is also licenced to extract groundwater onsite for the purposes of dewatering and monitoring.

WATER SOURCE QUANTITY USED (ML)	2013	2012	2011	2010
Freshwater piped from the Lachlan Valley Bore Field [A]	1,999	2,069	2,379	3,141
Harvested from site surface water catchments [B]	655	1,762	1,054	1,627
Total water used [A+B]	2,654	3,831	3,433	4,768
Water recycled onsite	3,109	2,188	1,898	1,375



Farm manager Geoff McCallum

Mineral *waste*

Mineral waste is the waste generated by mining and processing of ore, such as waste rock and tailings. A total of 5.79 million tonnes of tailings and waste rock was deposited onsite into our TSF in 2013.

Incident *management*

All environmental aspects at Northparkes need to comply with State and Commonwealth environmental legislation, in addition to a mine operating licence and development consent. These include:

- Environmental Planning and Assessment Act 1979 (NSW)
- Protection of the Environment Operations Act 1997 (NSW)
- Environmental Protection Licence (No. 4784)
- Development Consent (DC 06-0026)

All breaches of legislation and incidents that result in environmental harm or damage must be reported to the appropriate government body. In 2013, Northparkes reported 10 incidents to relevant government bodies with no resulting financial penalty.

DATE	ISSUE	RESOLUTION
9 February	Exceedance of the dust PM10 24 hour limit at 'Milpose'	Investigation concluded the result was localised to 'Milpose' farm and caused by sheep-work undertaken on landholder's property
17 March	Exceedance of the dust PM10 24 hour limit at 'Milpose'	Investigation concluded the result was localised to 'Milpose' farm and caused by sheep-work undertaken on landholder's property
4 May	Exceedance of the dust PM10 24 hour limit at 'Milpose'	Investigation concluded the result was localised to 'Milpose' farm and caused by sheep-work undertaken on landholder's property
9 September	External dust complaint received by NSW Environmental Protection Authority (EPA)	It was assumed this was in relation to dust lift off from the TSF. An investigation was undertaken immediately to determine the likely cause of the non-compliance. Several management strategies were agreed upon including covering the TSF, which lead to the straw-bale project and purchasing an irrigator for the TSF surfaces
1 October	External dust complaint received by NSW EPA	The investigation revealed that the prevailing wind direction was from a north-north westerly direction with wind speeds ranging between seven m/s and 12 m/s
10 October	External dust complaint received by NSW EPA	The investigation concluded that due to the prevailing wind direction the primary receiver of any emissions would be Northparkes landholdings associated with ML1367
13 October	Exceedance of the dust PM10 24 hour limit at 'Milpose'	Investigation concluded the result was localised to 'Milpose' farm and caused by sheep-work undertaken on landholder's property
13 October	Exceedance of the dust PM10 24 hour limit at 'Hubberstone'	Investigation concluded the result may have been indicative of contribution from Northparkes operations
6 November	Exceedance of the dust PM10 24 hour limit at 'Milpose'	Investigation concluded the result was localised to 'Milpose' farm and caused by sheep-work undertaken on landholder's property

ENVIRONMENTAL PERFORMANCE

	2013 ACTUAL	2013 TARGET	2012 ACTUAL	GOVERNMENT FINDS
2012 target	0	0	0	0
Reportable high-risk environmental incidents	0	0	0	0
ISO 14001 certification	Recertified	Maintain certification	Recertified	Maintain certification
Freshwater used in megalitres (ML)	1,998	1,812	2,069	2,050
Greenhouse gas emissions per tonne of concentrate (tCO ₂ -e/t)	1.14	1.52	1.28	1.67
Total energy used per tonne of ore milled gigajoule (GJ)	0.1313	0.17	0.143	0.25
Total land clearance (ha)	2.09	NA	7.44	25
Total land rehabilitated (ha)	0.87	NA	4.2	15

Closure

Northparkes' mine life currently extends to 2032. While this is some time away, it is imperative that the right planning occurs well in advance of mine closure to ensure mine activities are left in such a way that minimise any adverse impacts on the human and natural environment, and that the remaining legacy contributes to sustainable development.

The Northparkes Mine Closure Plan is closely aligned with land use management and is regularly reviewed and updated. At Northparkes land use includes areas such as rehabilitation, void management, Aboriginal Heritage and flora and fauna. The objective is to develop an integrated and strategic approach to land management.

During 2013 we:

- Completed the annual Mine Closure Estimate Review
- Undertook the major closure management review, which included consultation with employees and the community on final land use
- Updated the Northparkes closure cost estimate
- Renewed and updated of the Northparkes closure risk assessment

- Conducted an external review of Northparkes closure management process by Rio Tinto.

As part of the Northparkes Closure Strategy, an understanding of all aspects and implications of closure and post closure must be developed and maintained. The Closure Management Plan integrates the full range of social, community, environment, safety, health and economic implications.

In summary

Under the guidance of CMOC, Northparkes is constantly striving to achieve a sustainable approach towards everything we do. We have enjoyed sharing the challenges and achievements of 2013 and look forward to providing regular updates throughout the year via our website and other communication channels we have in place.

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