



Teachers hone their skills

Almost one hundred and fifty teachers have participated in a range of professional development (PD) activities this semester, including 10 teachers who participated in the BMA-sponsored QMEA Rock Tour.

Participants described the recent three day workshop as 'the best PD ever – it rocked!'

The tour included laboratory activities at Moranbah State High School with BMA Geologists Brendan Mapham and McLean Watson, and underground and open-cut site experiences at BMA's Broadmeadow and Goonyella Riverside mines.

Teachers were exposed to basic Earth Science principles and their application in planning mining operations, and engaged with a number of site geologists to learn more about the mining process, including new long wall mining techniques.



Following time onsite in the Moranbah region, teachers headed to the Gemfields near Emerald where Miners Heritage staff explained the sapphire mining process and participants were provided an opportunity to apply their knowledge to explain the depositional environment of local deposits.

Thanks must go to BMA Head Office and Site staff for enabling this opportunity. Thanks also to staff at Miners Heritage for their assistance.

In addition, 35 teachers from across the QMEA have taken the opportunity to be involved in Teacher Earth Science Education Program webinars and workshops this term to increase their understanding of geology and rock types.

Xstrata MINE Challenge

Made it now with engineering



Twenty-one QMEA students are a step closer to a career in engineering following their participation in the 2013 Xstrata MINE Challenge in Mt Isa during June.

The week-long challenge, supported by Xstrata and QMEA, provided students from 12 QMEA schools state-wide with an opportunity to apply science concepts to solve genuine site-based engineering problems.

The students also conducted site tours to provide them with an understanding of Xstrata's operations in Mt Isa and had the opportunity to network with a range of site staff including recent graduates.

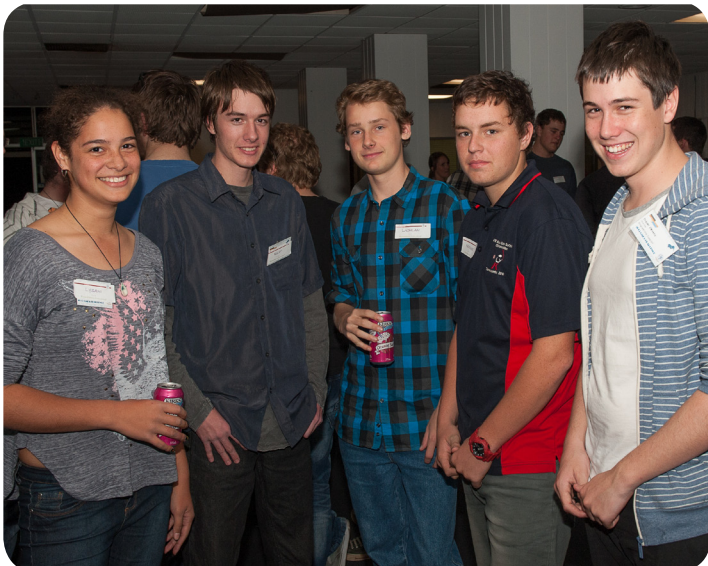
Just like any other mine employee, the students undertook generic inductions, medical assessments and confined space training before working on site.



Students worked collaboratively with site engineers to propose solutions to problems linked to reducing water usage across various aspects of the Mount Isa Mine operations, including the copper smelter, zinc processing plant and the Mica Creek and Diamantina power stations.

Other students engaged with site staff to identify the problems the mine may encounter, as they moved from an underground operation to an open-cut super pit.

The students were required to present their findings to senior mine management.



Mint opportunity for students

A new and exciting opportunity in Mount Isa during June saw 15 students from Cloncurry State School, Kirwan State High School and Spinifex College participate in the inaugural 'Make it now in trades' (MINT) Challenge with Xstrata.

The students were invited to pursue their interest in a trade career as they participated in the week-long program of challenges and activities aimed at developing a range of skills.

Supported by Xstrata and QMEA, the students worked collaboratively with trainers from the Xstrata Skills Centre to identify problems, then propose, design and construct solutions to industry standards as they completed four days of intensive trade training.

Following this, students put their knowledge in to practice as they designed and constructed (to industry standards) a motorised bicycle.

A Spinifex student said, 'This experience has proved how important it is to work together and share skills and knowledge when solving problems.'

Students used a variety of basic trade skills including welding, mechanics, electrical wiring and basic operational maintenance to ensure their designs were in good working order before being tested for performance.

The week-long program included a site induction, networking opportunities and site visits in the area.



Apprentice Aptitude Test Training Program (AATTP)

The QMEA Apprentice Aptitude Test is now available free for use by QMEA schools.

It is an industry standard resource that has been developed in partnership with Blue Dog Training. It will expose students to the types of questions they would inevitably be confronted with, when going through an apprenticeship or traineeship short listing process.

This opportunity is a valuable support to QMEA students who wish to pursue a career in the minerals and energy sector. Please contact Bob Baker (bobb@qma.org.au) for more information.

Understanding the resources sector

A range of site visits and school presentations have ensured QMEA students are learning first-hand about the vast array of career opportunities that exist for them in the resources sector through the career cafe program.

Senior Chemistry students and their teachers from Gladstone State High School gained an insight into the oil shale industry following a visit to QER's operations in Gladstone this term. A tour of the New Fuels Development Centre, discussion of the processing of oil shale and an opportunity to engage with QER Site Operations Manager Chris Anderson increased the students' understanding of advancements in the oil shale industry over the past decade. Earth Science students from Tannum Sands State High School also participated in the tour, with other local schools planning visits as part of the career cafe program.

Over 200 Tannum Sands State High School students also learned more about the industry when QGC Exploration Geologist Josh Starreburg discussed the rock cycle. He also assisted students with rock sample identification and spoke about his experiences as a geologist. Josh presented to 180 year eight students and 20 senior Earth Science students as part of the visit.

A similar day-long program of activities was offered to Toolooa State High School year eight students as part of their curriculum studies. AP LNG Geologist Mary-Mae Aschoff worked with students to identify rock samples before conducting a professional development workshop with teachers.

Other career cafes during the term saw BMA Geologist Karen Byrne teach Dysart State High School students about rock identification, Stanwell's Jessie Conway speak with Year eight Science students from North Rockhampton State High School about environmental issues, and Origin geologists speak with students at Miles about their roles. Duncan Scott from Vale also took part in a number of presentations at Wavell State High School to students interested in a career in Earth Science.



Local girls discover its all about ME

It was all about girls... and the range of possible career paths available within the resources sector when more than 50 female students from QMEA schools in the Gladstone region attended the QMEA 'It's All About M.E. (Minerals and Energy) event' in Gladstone in June.

With the evolution of the Gladstone region as a resources hub, 'It's All About M.E.' allows young women to familiarise themselves with the broad range of careers available in the resources sector via university pathways.

Year 10 girls from seven schools participated in various hands on activities, based on environmental science, geology, robotics, engineering, oil shale extraction and human resources.

They were joined by female industry professionals from companies Arrow Energy, QGC, GLNG and APLNG and Central Queensland University students, who shared career path advice and talked about their roles in the resource sector.



2010 QMEA University Pathway Scholarship recipient Chantel Selmanovic now a second year mechanical engineering student was impressed with the students eagerness to learn more about university pathways.

The event was hosted by QMEA University Pathway Scholarship winner Emily Braithwaite who said she was proud to have inspired other girls on the day, as a student ambassador for QMEA.

'It's all About M.E.' is an initiative of the QMEA and is sponsored in Gladstone by Arrow Energy, QGC, GLNG and APLNG.

LNG link to learning

Twenty-two Year 11 Biology students from Chanel College have a better understanding of applied science following a recent field experience with APLNG in Gladstone.

Working alongside ecologists across a range of sites, the students collected data related to the identification, translocation and propagation of endangered cycads within the gas pipeline right of way.

The field trip forms part of a larger senior Biology assessment task that was developed in conjunction with QMEA, Gladstone Biology Panel, local heads of department and QMEA professional development networks.

'The exposure our students are being given to the local LNG operations, thanks to QMEA, is outstanding and the positive impact it has had on students is far reaching. It makes the learning real for them,' said David Fisser, Science Head of Department at Chanel College.

Other schools within the LNG Project will work with sponsors to develop contextualised senior curriculum activities to be implemented next semester.



Toolkit for school kids

Coal belt careers in the (tool)bag!

Young women in Mackay and the Central Highlands have been given the tools to explore careers in trades. Almost 40 year-10 students attended a BMA or Rio Tinto-sponsored Toolkit 4 Schoolkids workshop offered this month.

The students from QMEA schools, including Pioneer, Moranbah and Dysart State High Schools and the Mackay Engineering College (MEC), Mackay North, Mackay, Mirani and Sarina State High Schools took part in activities, which gave hands-on experience of what it's like to be a miner, diesel fitter, boilermaker or mechanic, with a range of basic practical activities provided by the MEC Trade Training Centre, BMA, Lennon's Centre Training and Central Queensland Institute of TAFE.

The workshop had the support of Mackay and Moranbah professionals, tradespeople and apprentices who shared their knowledge and experience. It included a tour of the MyneStart Underground Training Centre in Mackay and Lennon's Gallery Underground Training Centre in Moranbah, where students were able to experience the underground mine environment.

'Programs such as these are essential in ensuring young people make informed career decisions, while also encouraging women to consider careers in these areas where they are significantly underrepresented,' said QMEA Director Roger Atkins.

This year the QMEA plans to offer the Toolkit 4 Schoolkids programs to more than 120 students across the state.

Promoting pathways into minerals and energy sector

Queensland Minerals and Energy Academy (QMEA) schools in Central Queensland are engaging with industry to deliver entry level qualifications and ensure pathways into the minerals and energy sector are available for young people.

In a partnership with the Central Queensland Institute of TAFE (CQIT) Mining Faculty, approximately 180 students from Dysart, Moranbah and Pioneer State High Schools and the Mackay Engineering College will complete either a Certificate I Resources and Infrastructure Operations (RIO) or Certificate II Resources and Infrastructure Workplace Practices (RIWP) qualification this year.

The training includes completion of modules which cover skills such as risk assessments, use of hand and power tools and basic operational maintenance tasks which are highly valued by resources sector companies.

Pioneer SHS and Mackay Engineering College Trade Training Centre are presently trialling the use of online course materials developed by the QMEA. If successful, these resources will be used to deliver Certificate I RIO and Certificate II RIWP through other schools and Trade Training Centres across the state.

For more information about these courses, please contact Bob Baker (bobb@qmea.org.au).



Students shape their science and engineering futures

Year 10 students interested in working in the resources sector were given the opportunity to learn more about science and engineering career pathways as they completed a series of tasks as part of the QMEA Science Olympiad program.

Almost 150 students from schools in Blackwater, Brisbane, Gladstone, Mackay, Mt Isa, Rockhampton and Townsville took part in the day-long workshops that saw them investigate the exploration, chemical extraction and rehabilitation phases of the mining process. Students worked collaboratively and under the guidance of industry mentors to solve science and engineering-based problems.

Working with Rio Tinto Geologist Maurizio Tonelli in Mackay, the students learnt about ore body formation and the role of an exploration geologist. They then analysed core samples and drill core data to determine where a particular ore body was located within Mount Isa mine. A decision related to the economic viability of mining was justified when students presented their findings.

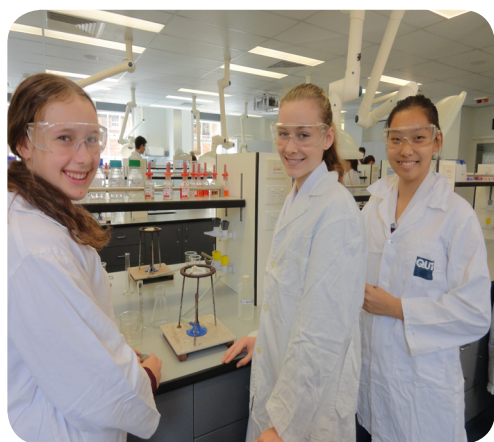
Students also modelled extraction, trialling two methods of chemical processing and determining efficiency of the procedures based on yield. Xstrata metallurgical engineer, Andrew Murray shared with the students how the methods relate to the processes which are used onsite in the copper processing plant and smelter at Mount Isa.

Finally, students completed a 'reshaping the land activity' to simulate the considerations required during rehabilitation. Anglo American Environmental Advisor, Layla Howe provided expert advice regarding how to reshape a spoil pile into a rehabilitation slope and calculate the cost of restoring this section of the land.

'The activity has broadened my knowledge of employment opportunities in the resources sector. It was great to be able to talk with experts who work in each of the areas,'
Aidan, Spinifex State College.

QMEA would like to thank staff from AngloAmerican, Gladstone Industry Group, Rio Tinto and Xstrata Mount Isa Mines, and staff and students from James Cook University and Queensland University of Technology for their support of these events.

For more information about the Science Olympiad program, or Science Week activities being organised by the QMEA, please contact Robyn Flexman (robynf@qmea.org.au).



Expand Your MINeD

Students from Moranbah State High School enjoyed some tough but friendly competition with Clermont students in the region's annual QMEA Expand your MINeD challenge day held in May.

The year 10 students tested their skills in hands on challenges relating to mining engineering and associated professions with the assistance and guidance of BMA staff.

The 24 students worked collaboratively to complete four industry-developed activities related to environmental science, geology, chemical processing, and engineering. BMA staff were also on hand to act as mentors throughout the day.

Moranbah State High School, Acting Head of Science Anita Curley believes the industry input makes Expand your MineD a popular event for any region.

'We receive such generous support from BMA and this year was no exception. By giving the students the opportunity to work alongside BMA staff is invaluable and each year the competing students set new benchmarks for the following years to beat,' said Anita.

For further information about Expand your MINeD activities being run in December in Moura, Brisbane, Wandoan and Blackwater, please contact Tammy Grady (tammyg@qmea.org.au).



What's coming up?

Energy for the Future

A full day forum that encourages Year eight students to consider the possible mix of energy solutions for future electricity needs. Students make decisions about energy sources based on a range of information provided, and justify their energy mix in a short presentation at the conclusion of the day.

For more information on this project please contact Tammy Grady (tammyg@qmea.org.au).

Make it Now Engineering (MINE) Challenge

Students work in collaboration with BMA Engineers to solve site-based problems.

Further details from Robyn Flexman (robynf@qmea.org.au).

Toolkit for Schoolkids

Offered to Year 10 students with a genuine interest in a trade career, these one day events provide an opportunity for participants to try hands-on activities and also network with industry representatives.

Further details available by contacting Bob Baker (bobb@qmea.org.au).

All other enquiries info@qmea.org.au.

JULY 2013

- 19 Toolkit for Schoolkids (Brisbane)
- 22 TESEP Webinar
- 24 Toolkit for Schoolkids (Emerald)
- 24 Career Cafe (Alexandra Hills SHS)
- 24 TESEP Webinar
- 31 Toolkit for Schoolkids (Biloela)

AUGUST 2013

- 2 AATTP Training (Gladstone)
- 5 Engineering TPD (Brisbane)
- 6 Science TPD (Cloncurry)
- 7 Energy for the Future (Moranbah)
- 7 Bridge to the Future (Cloncurry)
- 7 Engineering TPD (Mount Isa)
- 12 Chemistry Webinar TPP
- 13 Biology Webinar TPD
- 13 Spatial Technologies PD (Gladstone)
- 21 Energy for the Future (Gladstone)
- 27 Energy for the Future (Wandoan)
- 29 Energy for the Future (Brisbane)
- 30 Arduino TPD

SEPTEMBER 2013

- 14 - 20 MINT Challenge (Dysart)
- 15-20 MINE Challenge (Dysart)