JUL 2023 / ISSUE #31

TOMINGLEY COMMUNITY NEWSLETTER

TOMINGLEY
GOLD OPERATIONS PTY LTD
(A wholly owned subsidiary of Alkane Resources Ltd)

Tomingley gold processing plant

Tomingley Gold Extension Project

Mining Lease and EPL granted

Two key licences Alkane needed to commence development of the Tomingley Gold Extension Project (TGEP) are the Mining Lease and Environment Protection Licence (EPL).

We were granted the new Mining Lease in July. The TGEP Mining Lease covers the land needed for mining of the San Antonio and Roswell deposits immediately south of our current operation. It is separate (additional) to our current Mining Lease, which remains in place.

Our existing EPL has been varied to cover the additional land and activities associated with the TGEP Mining Lease. This was approved in June.

In parallel, work has progressed towards updating all our environmental management plans to cover construction and operation of the TGEP. These include (but are not limited to) the Environmental Management Strategy and plans for construction, water management, cultural heritage, biodiversity, air quality, blasting, noise, vibration, traffic and rehabilitation.

The environmental management plans are in various stages of completion. Several will be submitted to the NSW Department of Planning and Environment (DPE) by end-July; the remainder will be submitted September to October 2023. The approved documents will be uploaded to our website (Tomingley document hub).

Modification One (MOD1)

We have approval to build a pastefill plant in a location immediately north of (the current) Kyalite Road, a location that is also within the current Newell Highway road reserve. However, it looks like we'll need the plant sooner than we can build the new highway and make that location available.

CONTINUED ON PAGE 2

As a result, we propose to build the pastefill plant in a temporary location within the area of the future Roswell open cut. We already have approval to disturb this area (i.e. clear vegetation); however, we now want to clear vegetation earlier than originally scheduled.

To gain permission for this slight change of schedule, we have submitted an application to modify the project (Modification One, or MOD1).

The reason we need to submit a modification is primarily due to how vegetation clearance was scheduled in the project's consent conditions – and the corresponding biodiversity offset requirements we need to meet for each stage.

MOD1 is a very minor modification, resulting in negligible changes to noise, visual amenity or other environmental aspects. We have discussed the changes with our neighbours and those who use Kyalite Road, and submitted the application in late June.

When will construction start?

Although the Mining Lease and EPL are now in place, we also need approval of the construction management plan and Modification One before full construction can start. We hope to have the necessary approvals by August-September.

Alkane has acquired all the land needed for the project – including the land for the new sections of the Newell Highway and Kyalite Road (which will be gifted back to Narromine Shire when the roads open).

In the coming months, construction will begin on our land to the east of the current Newell Highway. Some of the key early stage activities are laid out in the plan on the next page. They include:

- **Construct ancillary surface infrastructure** including the haul road, pipeline corridor, water storage dam, administration area, power lines, visual amenity and clean water diversion bunds.
- **Construct a pastefill plant** The pastefill plant will create a cement-based slurry from our processing residue that we can use to backfill underground voids that are created by extraction of ore. The plant is already approved, but we intend to construct it in a temporary location south of Kyalite Road. The temporary location is the subject of MOD1.
- **Construct Kyalite Road diversion and overpass** We have approval to realign Kyalite Road, which runs through the approved open cut. We plan to construct the eastern section of the new road on our land first. The current Kyalite Road will not be affected at this stage.

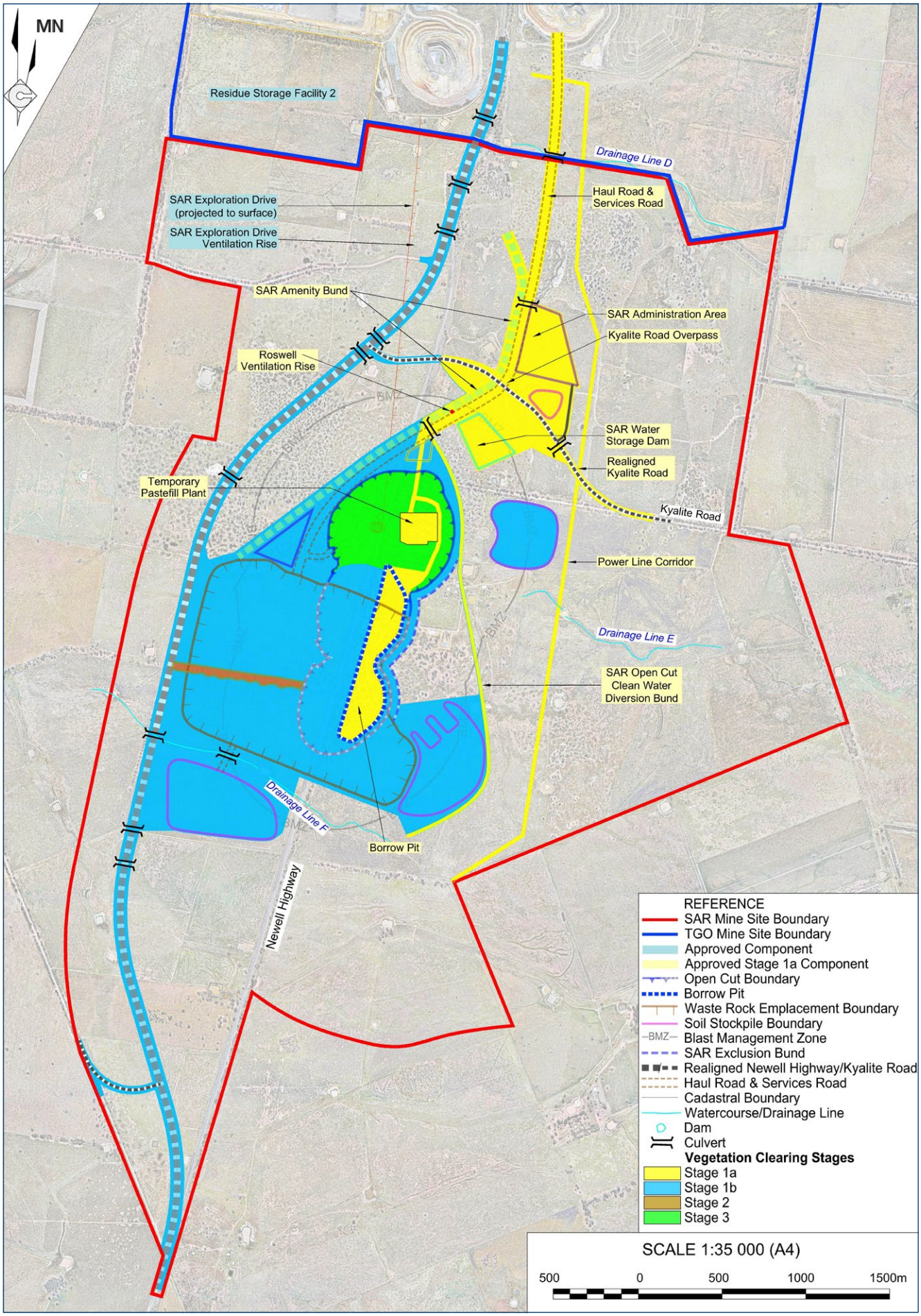
Note that construction of the new section of Newell Highway is unlikely to begin this year. We are still finalising the design details with Transport for NSW and are intending to issue tenders for the work in the coming months.

Underground mining at Roswell

We remain on track to commence underground mining at Roswell before the end of the year. With the Mining Lease and EPL in place, it also depends on approval of specific operational management plans.

The underground development will start from the exploration drive that extends from our Wyoming underground mine towards the Roswell resource.

Tomingley underground development



Plan of TGEP, including vegetation clearing stages as per MOD1. Stage 1a (yellow) corresponds to early construction activities described.

Other site news

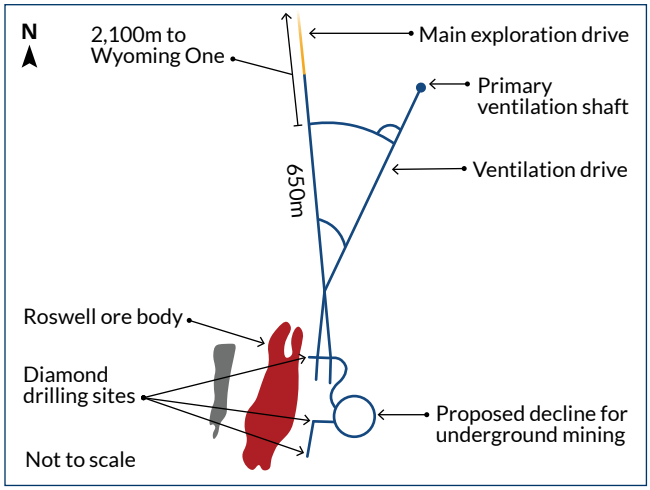
Completion of the underground exploration drive

In June we completed the underground exploration drive extending from our Wyoming underground mine to Roswell. The drive is approximately 2,750m long and has reached the Roswell ore body, almost 3km south of Tomingley.

The exploration drive has reached a level 415m below the surface, where underground exploration diamond drilling has commenced (see next article).

The development also includes a ventilation drive that joins with the primary ventilation shaft – which is under construction. The pilot hole of the shaft was drilled from the surface down 315m to the ventilation drive in June.

We are currently 'back reaming' the shaft – that is, widening the pilot hole with a 5m-diameter reamer head from the bottom up. This should be completed in September. After that, we're scheduled to install the new primary ventilation fans. These will be installed underground to minimise noise, and should be operational during September.



Plan of underground exploration drive near Roswell ore body

Underground diamond drilling

Now the exploration drive has reached the Roswell deposit, our geology team has commenced an underground diamond drilling program to infill the Roswell underground resource.

The purpose of diamond drilling is to extract rock that is analysed for gold content. To infill the resource, we will drill holes that are closer together to gain more detailed understanding of how the gold grade varies within the ore body. This is important information needed to plan underground mining operations.

HMR Drilling Services commenced underground drilling at Roswell in early June. A drill rig is operating 24/7 from 415m below the surface, alongside the deposit. Each hole is around 150m in length – much shorter than if we were to drill from the surface. We will cover the ore body with multiple fan-shaped series of holes.

Underground diamond drilling will be ongoing once we start mining the Roswell ore body. We will drill approximately 80,000m over the next two to three years.

Second residue storage facility (RSF2)

The construction of RSF2 continues following several delays. We now anticipate its completion to be October 2023. This construction project is essential, as it will serve as a secure storage facility for processing residue produced from the San Antonio and Roswell resources.

Rehabilitation of RSF1 buttresses

Over the past few months, we used some of the site's stored topsoil to rehabilitate the northern and western buttresses of the original residue storage facility (RSF1).

We engaged Ecoscape Solutions, a sustainable land rehabilitation contractor based in Orange, for this project. Following the preparation and application of topsoil, Ecoscape seeded the buttresses with 'hydromulch'. This is an advanced matrix of biotic growth media that both controls erosion and addresses the biological, chemical and physical requirements for stabilising and restoring vegetation.

The seed within the hydromulch started to germinate after 10-14 days and the coverage after 12 weeks is quite extensive. This will continue to thicken up with the onset of spring.

Rehabilitated buttress of RSF1

Exploration update

Field activities

Alkane's exploration team has completed the recent drilling program in the Tomingley area. They will analyse the results and begin planning the next drilling program – which is likely to occur during the summer.

To assist with this, the team is planning an airborne magnetic survey (via light plane) of the lands south of the Eulinda Park property down to Peak Hill. This is a non-invasive method used to map subtle changes in the earth's magnetic field. Magnetic surveys provide geologists with information about the below-ground distribution of different rock types and help identify drilling targets. (For more information, visit the Geoscience Australia website.)

The exploration team is also planning to fly a gravity survey in October or November. This survey will also be conducted by light plane and cover a larger area. A gravity survey measures the density of the bedrock and can be used to find geological features that could be associated with mineralisation.

The NSW government (Department of Regional NSW - Mining, Exploration and Geoscience) has also been flying a helicopter survey during May-July over the larger 'Forbes-Dubbo' area. The purpose of the government's Forbes - Dubbo Airborne Electromagnetic (AEM) Survey is to improve knowledge of the geology and groundwater resources of the area for the benefit of mineral explorers like Alkane, the government, and farmers.

Why is there gold near Tomingley?

Alkane's Tomingley Gold Project extends north-south along the Newell Highway between Tomingley and Parkes – a distance of approximately 60km. In addition to Tomingley Gold Mine, we have several exploration licences, plus the open Mining Lease at Peak Hill Gold Mine.

What makes this corridor highly prospective for gold? In other words, why is there gold in the bedrock near Tomingley, Peak Hill and potentially beyond?

How gold deposits form

Broadly, mineral deposits usually form near fractures and faults in the earth's crust. These provide pathways for the movement of superheated and pressurised water (still liquid at, say, 300C). This superhot water dissolves trace amounts of gold (and other elements) as it travels and is known as a 'hydrothermal fluid'.

Note the average concentration of gold in the earth's crust is approximately 0.001 parts per million, or 0.001 grams of gold per tonne of rock. (In comparison, resources at Tomingley have an average grade of about 2 grams per tonne; that's 2,000 times the crustal average!) The gold is leached out of the crust over time, increasing the concentration in the hydrothermal fluid.

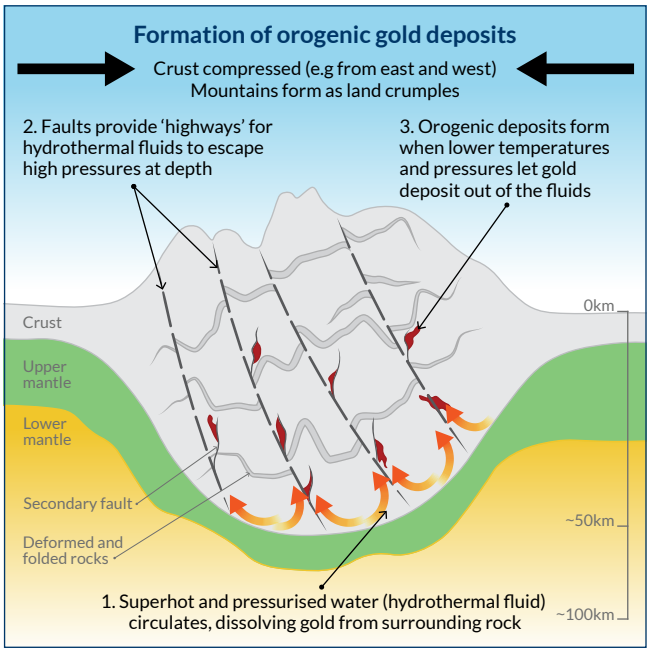
The loaded hydrothermal fluid moves up through the crust as dictated by the need to relieve pressure. It wants to escape, so rushes up any pathway until it starts to cool and the pressure decreases. This forces a lot of the dissolved elements, including gold, to precipitate out of solution, forming minerals like quartz and pyrite, along with particles of gold.

Tomingley 'orogenic' gold deposits

Some 350-400 million years ago, a mountain range was created through the Tomingley area. Mountains are built when rocks in the crust are pushed together, creating folds – part of a process known as orogenesis. During mountain building near Tomingley, rocks were compressed tens of km below the surface. Small quantities of water sitting in tiny fractures and pores in those rocks started to get squeezed and heated and started to move – until they formed deposits as described above.

The original mountains have long since eroded to be almost flat. Some of the deposits were exposed by erosion and these were initially mined by prospectors beginning 130-140 years ago (e.g. the gold mine at McPhail). The rest were covered by new sands, silts and clays and hidden until their discovery in the last 20 years.

Historic gold mining plays a large role in narrowing down exploration targets. Areas of shallow mineralisation worked by old timers usually provides useful information about nearby areas where the rocks are deeply buried.



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The Peak Hill 'epithermal' gold deposits are different

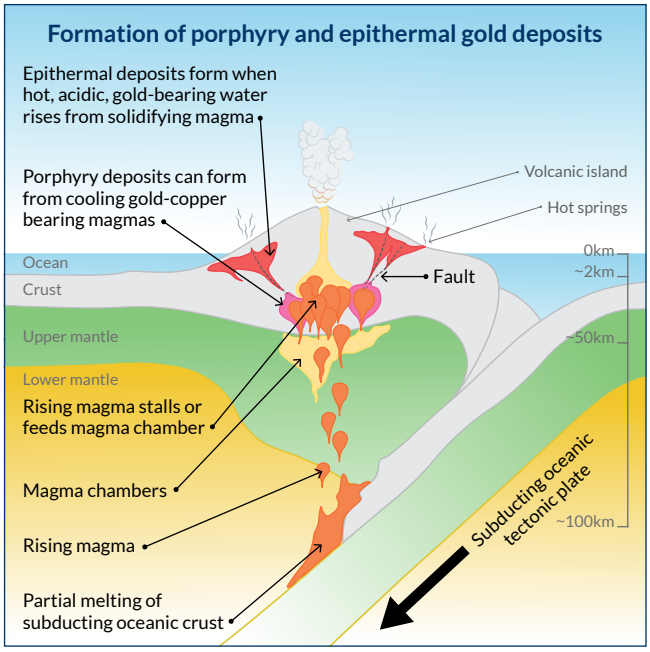
The Peak Hill gold deposits formed differently and at a different time to Tomingley.

Some 450 million years ago (long before mountain building happened), there was a chain of volcanoes in this area (like modern Japan or Indonesia). This was caused by the dipping of one tectonic plate beneath another (a process known as subduction).

At Peak Hill, a blob of magma tried to rise up and erupt, but got stuck a few km down and began to cool and solidify. The magma contained dissolved water, gold, copper, sulphur (and other elements). A plume of hot, highly acidic water started to penetrate and dissolve its way up towards the surface, converting the rocks in its path to quartz and clay (strong sulphuric acid can dissolve many minerals but struggles with quartz and clay minerals).

The gold (and a little bit of copper) was deposited within this zone of clay and quartz. Part of the original Peak Hill deposit has been eroded away. It still sticks out as a hill because the quartz in the core of the hill resists erosion.

Due to the volcanic activity, there may once have been hot springs at Peak Hill. Hydrothermal deposits formed at shallow depths below a boiling hot spring system are commonly referred to as epithermal deposits.



Agriculture and land management

Land management plan

Approval of the Tomingley Gold Extension Project means we are updating all our environmental management plans. One of these is the land management plan, which lays out the strategy for managing all the lands associated with the project – both during and post-mining.

As part of developing this plan, our agriculture partner, Toongi Pastoral Company (TPC), is evaluating the consolidated property to determine on a paddock-by-paddock basis how we can best enhance ecological value while maintaining a viable and productive farm.

In the case of category 2 'vulnerable' or 'sensitive' regulated land, where clearing of native vegetation is either limited or prohibited, TPC is exploring whether we can restore some of the landscape to approximate its original condition. This may involve maintaining and/or seeding native grasslands to enhance biodiversity where paddocks are currently dominated by annual species.

TPC takes a balanced approach to land management, looking at best use from multiple angles. While land conservation is a vital part of this, equally important is the enhancement of agricultural productivity where permitted – which is one of the project's consent conditions.

Juvenile Bearded Dragon (Pagona barbata) at Tomingley

On the farm

While water and fencing infrastructure projects continue, autumn lambing season has now finished. Over 1160 lambs are frolicking in the paddocks, with the good weather delaying the need to start supplementary feeding. The lambs will be weaned onto forage crops during July.

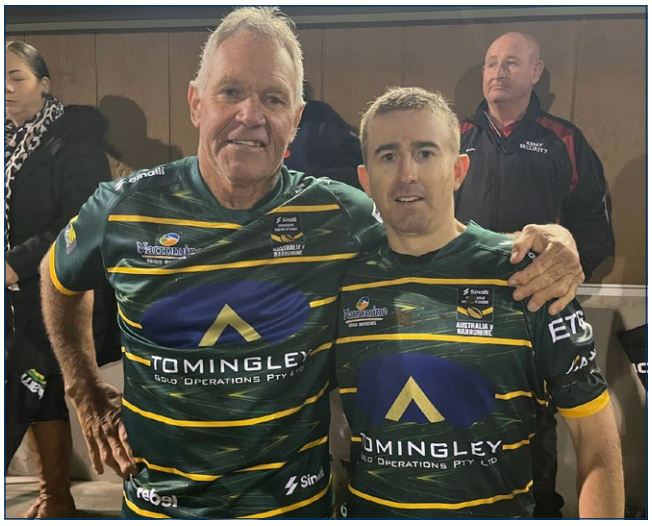
Community

International Legends of League

Alkane was delighted to support an International Legends of League (ILOL) event in Narromine on 28-29 April.

ILOL is a community organisation that raises funds for charities; since 2004, ILOL has staged around 70 events in regional NSW, Queensland and Papua New Guinea. The highlight of each event is a rugby league game between an Australian Legends team (featuring ex-State of Origin and Australian representative players) and a local Allstars Legends team.

Alkane was a major sponsor for the Narromine event, in which the 'Alkane Australian Legends' narrowly prevailed over the Narromine Allstars 32-28. The Alkane Australian Legends featured such players as Ron Gibbs (1980s NRL player with Manly), Ben Hannant (former Brisbane Bronco and Australian Rep), John Hopoate (former Manly and Australian Rep) and Tomingley Gold Mine's very own Jake Darlington (underground electrical supervisor).



Two of the 'Alkane Australian Legends': NRL legend Ron Gibbs (left) with Jake Darlington, underground electrical supervisor.

Careers events

Over the past few months, members of our team have attended several careers events aimed at informing high school and university students about the mining industry – and Tomingley Gold Mine specifically.

The Sydney and Wollongong Chapters of AusIMM (Australasian Institute of Mining and Metallurgy) both held 'Student meets Industry' nights on 4 March and 20 April respectively. Our Human Resources Manager, Belinda Hollingworth, presented an overview of graduate opportunities we offer in mining engineering, metallurgy and geology.

During May, we also attended a number of local events for high school students – the Western Plains Careers Information Day held at Dubbo Secondary College (11 May), Clontarf Employment Forum (18 May) and the NSW Mining Careers Dinner held at the Taronga Western Plains Zoo (30 May).

HR Manager Belinda Hollingworth (left) with HR Coordinator Kate Potter at the Western Plains careers day.

Clontarf students visit Tomingley Gold Mine

Tomingley Gold Mine hosted a group of year 10 and 11 students from the Clontarf Foundation's Narromine Academy on 2 June. Our team enjoyed taking the five young men around the site to gain an overview of the operation and the various activities undertaken by each department.

Students from the Clontarf Foundation taking a tour of Tomingley Gold Mine

CONTINUED ON PAGE 8

After a safety induction, the students looked out over the site from the top of one of the rehabilitated waste rock emplacements, then headed to the lookout over the Wyoming One open cut – a great vantage point from which to watch mining vehicles moving through the underground portal and around the pit.

The Clontarf Foundation supports capacity building for young Aboriginal and Torres Strait Islander men. Alkane has a long relationship with Clontarf, including a major sponsorship of the Narromine Academy for the past three years. It was great to see the students express interest in mining jobs and potential work experience during their visit.

Congratulations to trainer Connie Greig and winning horse Gossip in the Alkane Cup at the Tomingley Picnic Races on 1 April. Pictured: Jon Lamont (TGO), Jason Hartin (Tomingley Picnic Race Club President), winning horse Gossip and trainer Connie Greig, Sally Bourchier (TGO) and Anthony (AJ) Clark (TGO).

Tomingley Community Fund

Successful recipients from the February 2023 round of the Tomingley Community Fund are named below.

The next round of funding will open for submissions in August 2023. Funding is awarded on a submission basis, with final approval by the Narromine Shire Council. See Alkane's website for more information on how to apply.

Country Women's Association Far Western Group
$300 awarded for a public speaking competition

Macquarie Picnic Race Club
$10,000 awarded for the Macquarie Picnic Races

Narromine Dolly Parton Festival
$10,000 awarded for the Saturday Street party

Narromine Agricultural Show Society
$4,000 awarded for prize money for a range of agricultural competitions at the annual show

Narromine Turf Club
$5,000 awarded for the Dandy Cup Race meeting

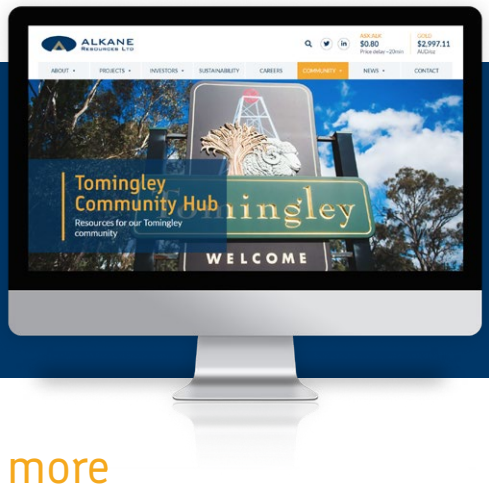
Tomingley Picnic Race Club
$11,000 awarded for Alkane Cup prize money and a new structure

Macquarie Sire Evaluation Association
$1,500 awarded to assist with running a field day

Narromine Netball Club
$1,250 award towards the pre-season gala day and umpire training

New Alkane website

We recently revamped our website, making all Alkane and Tomingley project information and news easier to find. Visit the Tomingley Community Hub for the latest information, contact details and newsletter sign-up forms.



How to find out more

Alkane website

alkane.com.au

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Community Information Line
tomingleygold@alkane.com.au
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