

**Submission  
No 73**

**INQUIRY INTO CURRENT AND POTENTIAL IMPACTS OF  
GOLD, SILVER, LEAD AND ZINC MINING ON HUMAN  
HEALTH, LAND, AIR AND WATER QUALITY IN NEW  
SOUTH WALES**

**Organisation:** Alkane Resources Ltd

**Date Received:** 4 September 2023

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To: **Legislative Council Portfolio Committee 2- Health**

Re: **Inquiry into current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in NSW**

5 September 2023

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## Submission by Alkane Resources

### Introduction

Alkane Resources welcomes the opportunity to contribute to the *Inquiry into current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in NSW*.

Alkane is an ASX-listed company exploring and operating in regional NSW for over 50 years. The company operates the Tomingley gold mine near the village of Tomingley, located between Dubbo and Parkes in the Narromine Shire. The Tomingley mine was approved in 2013, and first gold poured in 2014. An extension to Tomingley's operating area and mine life was granted in early 2023, and Alkane is preparing to undertake capital works as per the approval.

Alkane's submission will chiefly address the Inquiry's Terms of Reference relating to the effectiveness of the current regulatory framework in NSW, the effectiveness of NSW Government agencies in regulating and improving outcomes, and whether the regulatory framework is "fit for purpose". The effectiveness of rehabilitation practices will also be covered.

In addressing these matters, the submission will look at:

- The approval processes that must be followed to develop and operate a mining project in NSW and how these have become more rigorous over the years.
- The comprehensive reporting, monitoring and compliance activities undertaken by Alkane and NSW mining regulators.
- Alkane's deep community engagement, thorough consultation processes and our willingness to listen and respond to any community and stakeholder concerns.
- Alkane's leading-practice mine rehabilitation activities.
- The strong economic contribution the Tomingley mine to regional communities.



## Tomingley approvals and processes

Most mining projects in NSW are assessed as a State Significant Development (SSD) under the *Environmental Planning & Assessment Act 1979*. A wide range of issues are investigated as part of the assessment and decision-making process.

After obtaining the multiple approvals required to commence, a mining operation is subject to ongoing monitoring, reporting and compliance requirements over its life. This typically involves regulatory oversight by the Environment Protection Authority; the Department of Planning and Environment (DPE); the Resources Regulator; and the Natural Resources Access Regulator.

The Tomingley Gold Mine has been through two comprehensive, detailed and thorough approvals processes.

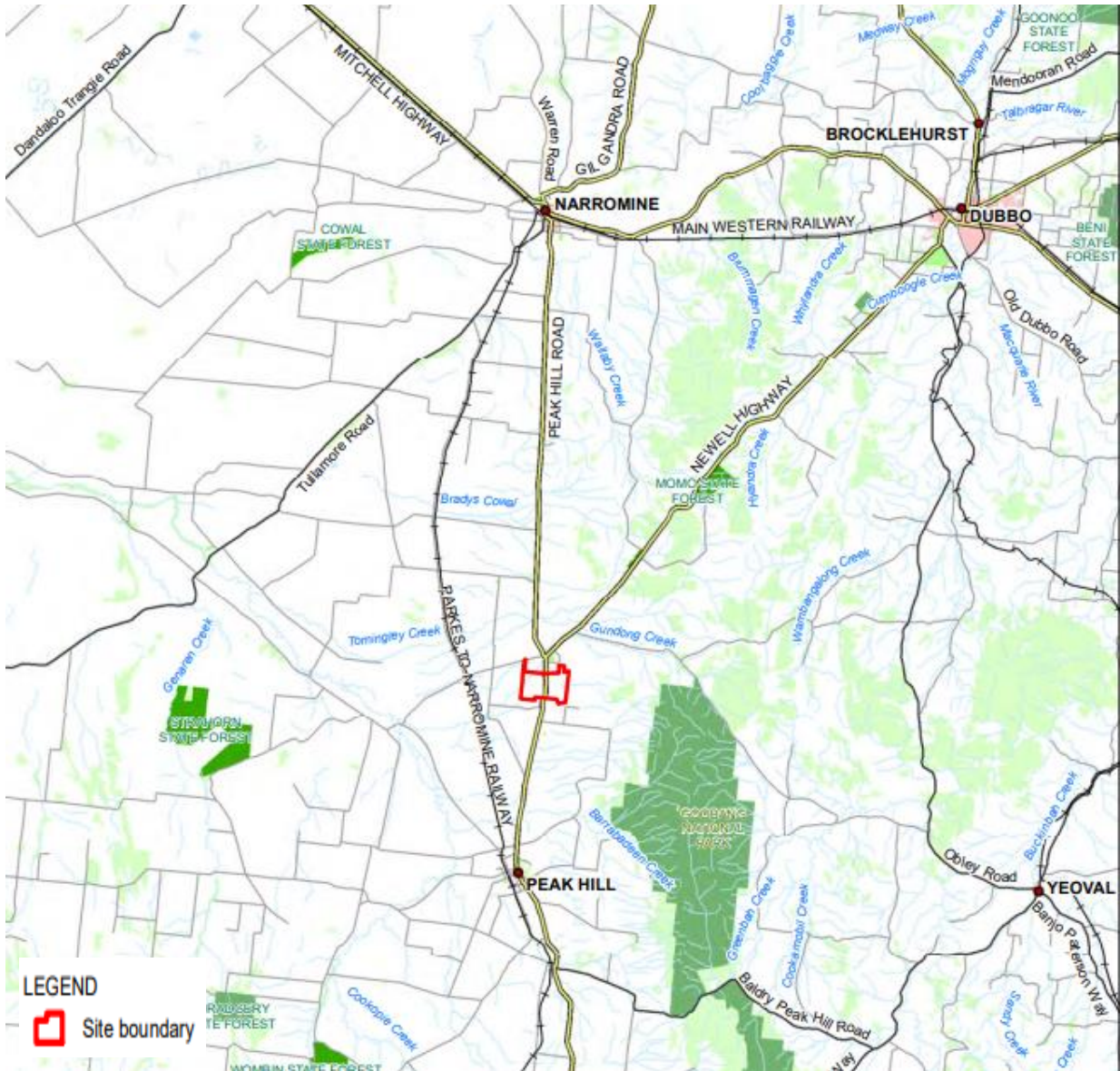
- 2009 to 2012 – Original application for development consent.
- 2019 to 2023 – Application for the Tomingley Extension Project.

Additionally, the Mine has been through seven modification applications, with a further modification application in progress. During each of these processes, Alkane has engaged recognised industry experts to prepare specialist assessments in accordance with the requirements of relevant guidelines, standards and requirements applicable at the time.

In all cases, each application and specialist assessment has been subject to detailed review by experts within or engaged by the NSW Government. In addition, detailed independent peer reviews have been undertaken for the following environmental aspects.

- Air quality.
- Groundwater
- Soils and land capability
- Geotechnical
- Erosion
- Noise

*Tomingley Gold Operations:*



The Tomingley Mine originally operated under Project Approval (PA) 09\_0155, approved on 24 July 2012. The original approval was based on four gold deposits: Caloma One, Caloma Two, Wyoming One and Wyoming Three. Alkane began with open-cut mining and our first gold pour in early 2014, then commenced underground mining in 2019. The operations approved under PA09\_0155 included:

- Mining of four open cuts, with underground mining, placement of waste rock emplacements; construction and use of a processing plant; two integrated Residue (Tailings) Storage Facilities (RSF); mine infrastructure, including ponds, pipelines, roads, etc.; and establishment of an on-site biodiversity offset area.



The original approval has been modified seven times as follows.

Date	Modification Reason
November 2013	Adjust three commitments in the original application no longer considered appropriate; floating balls on the RSF, total cyanide sampling frequency and timing of entrance road works.
April 2015	Permit enhancement of the approved and constructed amenity bund and a cut back of the approved Caloma 1 Open Cut.
July 2019	Permit establishment of Caloma 2 Open Cut, underground extraction from Caloma 1 and 2 deposits and amendments to waste rock, surface water and soil management.
May 2020	Permit construction and use of RSF1 Stage 7 to Stage 9 Cell 1 and commensurate increase in the height and aerial extent of the facility.
May 2021	Permit the construction and use of RSF2 Stages 1 and 2, an extension of the Tomingley Mine Site boundary to incorporate RSF2, use of Caloma 2 Open Cut for backfilling operations and the extension of Mine Life from 31 Dec 2022 to 31 Dec 2025.
June 2022	Permit construction and use of RSF1 Stage 9 Cell 2 and a commensurate increase in the capacity of RSF1.
December 2022	Permit construction of the Northern Ramp for the Wyoming 1 Open Cut.

In February 2023 Alkane received further development consent (SSD-9176045) for a southern extension to Tomingley comprising:

- Mining of an additional open cut and underground mine.
- Placement of waste rock, primarily into existing and approved open cuts, as well as into an out-of-pit waste rock emplacement.
- The realignment of the Newell Highway and a range of local roads.
- Increased production from 1.5Mtpa to 1.75Mtpa.
- Extension of the life of the mine until 31 December 2032.

**Comment**

Tomingley was discovered in 2001, and the initial development consent application commenced in 2009. Since then, there have been significant changes in requirements, standards and expectations for environmental assessments. Over all this time, Alkane has responded by providing timely, detailed and enhanced information and assessments of its existing and proposed operations.



Each development application and subsequent modification application has been publicly exhibited over the life of the mine. The various application documents, responses to submissions and requests for information, amendment reports and related documentation run to tens of thousands of pages.

For the original development application and the seven modification applications, no submissions from members of the public were received. For the Tomingley Extension Project, there were six submissions from the public, with only one objection.

Tomingley also operates under a wide range of management plans, including for air quality, noise and water, all of which must be prepared in consultation with relevant government agencies and approved by the NSW Government before works commence.

Given the proximity of the Mine to the village of Tomingley and the transformative nature of the operation on the community, this low level of concern about our operations is evidence the community is comfortable with our presence. We are aware that an ongoing social licence to operate relies upon sustained positive relationships with Alkane's employees, neighbours, local Aboriginal and host communities, and government agencies.

Alkane attributes its acceptance to our record at the Peak Hill Gold Mine; our engagement with the Tomingley and broader community; and our willingness to listen to concerns and respond to address issues as they arise. (Alkane operated the Peak Hill mine from 1996 to 2005. The site now hosts the Open Cut Experience, a free tourist attraction).



*Peak Hill Gold Mine looking northeast over the town circa 2003*



## Reporting and compliance

Alkane reports the environmental performance of the Tomingley Gold Mine on its website. Routine reports include:

- Environmental Monitoring Report (includes dust, water and blast monitoring) – Monthly
- Noise Monitoring – Monthly
- Annual Return – Environment Protection Licence – submitted to EPA
- Annual Review – Submitted to DPE, Resources Regulator and Narromine Shire Council
- Forward Program and Annual Rehabilitation Report (Annually to Resources Regulator, DPE)
- Noise Compliance Assessment – Annually
- Six Monthly (was Monthly) Report – Dams Safety NSW
- Independent Environmental Audit – Minimum three yearly, submitted to EPA.

Non-compliances must be reported directly to the EPA, NSW Resources Regulator, the Department of Planning and Environment and Narromine Shire Council. These agencies also conduct site visits to carry out routine inspections and compliance audits. From January 2021 to July 2023, the following activities occurred:

- EPA – 2 inspections
- Department of Planning & Environment – Compliance – 2 inspections
- Dams Safety NSW – Audit of Residue Storage Facility Management

There are also numerous routine inspections and compliance audits by the Resources Regulator. From January 2021 to July 2023, the site has had 21 different inspections.

### **Comment**

Alkane believes the ongoing assessment of the environmental and safety aspects of mining operations at Tomingley, and within NSW more broadly, is comprehensive, technically rigorous and independently conducted by regulatory bodies. Alkane can attest from our long experience interacting with the relevant regulatory bodies that actions to address non-compliance are both expected and monitored for improvement.

## Community engagement and consultation

Over more than 20 years, Alkane has earned its social licence to operate at Tomingley. We have established positive, cooperative relationships with the communities around Tomingley village, Dubbo and the broader Narromine Shire. Our regular engagement activities include participation on the Community Consultative Committee (CCC), publication of community newsletters, sponsorship programs and participation in community events. The extent of our engagement is captured below.



### **Community And Stakeholder Engagement Activities**

<b>Stakeholder groups</b>	<b>How we engage</b>	<b>Key topics</b>
Host communities	Community Consultative Committee (Tomingley) Community newsletters Direct engagement and briefings Investment in community infrastructure Supporting community projects and events	Environmental performance and management Project development Social and economic impact Economic contributions Career opportunities
Aboriginal and Torres Strait Islander Peoples	Meetings, site visits, briefings Investment and partnerships Sponsorship of Clontarf Foundation	Aboriginal Cultural Heritage Management Plan Project development Management of cultural artefacts/items of significance (e.g. keeping place)
NGOs and special interest groups	Presentations and talks	Project development Social and economic impact
Landholders	Meetings, contractual agreements Direct engagement and briefings	Land access and compensation agreements Infrastructure improvements Project development Social and economic impact
Suppliers	Meetings, contractual agreements Local procurement, where feasible	Health and safety requirements Modern slavery requirements Contract conditions
Government and regulators (federal, state and local)	Meetings, site visits, briefings Water NSW Macquarie-Cudgegong Customer Advisory Group (participation)	Regulatory and legal compliance Environmental performance and management Community investment Project approvals and licences





Employees and contractors	Induction and training Meetings/briefings/toolboxes Volunteer efforts Focus on residential employment	Health and safety training, systems and performance COVID-19 management Employee and contractor recognition Employee share scheme
Shareholders and investors	ASX announcements and quarterly reports Annual Report and Annual General Meeting Website	Operating performance Sustainability performance Corporate governance

With our regular engagement, understanding of local concerns and consultative approach, it is rare for the Tomingley Gold Mine to receive complaints. Any that are received are logged and taken to the relevant operations manager for consideration. Any explanation or actions taken are communicated to the complainant and the CCC. If the matter needs further communication, it will be included in the newsletter.

**Comment**

This engagement process was particularly useful at the beginning of Alkane’s mining operations as the noise controls were insufficient to mitigate noise impact on some 20 local residents under certain conditions. As well as adjusting some operating parameters such as equipment placement and times of operation, Alkane made modifications to some residents’ houses, such as double-glazing installation to improve their acoustic barrier. Relevant government departments were kept updated to ensure the actions also met their requirement.

These processes demonstrate that even when the modelled scenarios don’t match the actual situation, Alkane has acted proactively to meet the original intent and maintain amenities for the local community.

Regular and proactive engagement also allows Alkane to manage issues such as dust effectively and responsibly. The Tomingley mine has strict protocols, including real-time dust monitoring, around dust generation from mining operations. These have resulted in a range of actions being taken - whether they were additional dust suppression, equipment reallocation or the temporary suspension of operations.



Our dust monitoring data, combined with real-time data from the site weather station, also enables Alkane to understand when the dust is coming from offsite (from local or regional farming operations) and therefore doesn't require a response by the company.



*Dust storm approaching TGO on 31 December 2018*

## Rehabilitation

Mining is a business that impacts the natural environment. The purpose of rehabilitation is to complete a mine's life with safe, stable, secure and non-polluting landforms. Mine site rehabilitation also needs to be progressive, i.e. not left until the end of mining. Regulators monitor the progress of mine rehabilitation annually against agreed objectives, standards and timelines. Ideally, sites will also be repurposed for agriculture, biodiversity and/or another sustainable enterprise.

Alkane has a successful history of rehabilitation at Peak Hill and Tomingley. The heap leach mine at Peak Hill moved 10 million tonnes of material to produce around 153,000 ounces of gold. The waste rock emplacement was rehabilitated at the completion of mining in 2002, and the heap leach landform was shaped and rehabilitated in 2005.

A small portion of the mine site is still used as an exploration base/core yard facility. The rehabilitation at Peak Hill has attracted regulators, mining industry peers and international visitors as a best-practice rehabilitation site.

Tree plantings from 1996 have been established as a naturally regenerating community, and biodiversity across the site is significantly higher today than it was prior to mining. Woodland bird species not found before mining now nest in mature rehabilitation plantings. Two macropod species occupy a habitat on site that was previously empty.



The rehabilitated Peak Hill Gold Mine open-cut landscape is open to the public, providing a unique opportunity for visitors to learn about modern mining and land rehabilitation. Alkane also supports the local community post-mining by providing a tourism asset.

Alkane also excised 4 hectares from the Peak Hill mining lease and gifted the land to Parkes Shire Council for the establishment of a Waste Transfer Station. This asset was recycled and took advantage of the infrastructure that supported the mine (large steel shed, power and water supply).

At the Tomingley mine, the four open-cut mines put waste rock into three Waste Rock Emplacements (WREs). WRE2 is to the north of the mine site on the western side of the Newell Highway between the mine site and Tomingley village. WRE3 is to the east of the mine site. Both of these WREs have been rehabilitated with the ground cover and drainage structures required under the rehabilitation plans.

The Resources Regulator's compliance and enforcement focuses on the Mining Act 1992, with a focus on mine rehabilitation and mine safety legislation. The Resources Regulator's inspectors undertake compliance audits to ensure rehabilitation is being undertaken in accordance with proposed rehabilitation plans and objectives. These audits are publicly available.

#### **Case study: Farming and biodiversity offsets**

*Biodiversity surveys for the Tomingley Gold Extension Project (TGEP) began in September 2019, and were completed in early 2022. Most of the area is cleared agricultural land. However, the surveys identified four types of native vegetation. One of these is Fuzzy Box (*Eucalyptus Conica*) woodland, a locally uncommon species classified as a Threatened Ecological Community. Alkane has already started planting Fuzzy Box outside the projected disturbance footprint. In August 2021, members of Alkane's exploration and Tomingley teams and Toongi Pastoral Company planted 850 Fuzzy Box seedlings grown by the local nursery, Narromine Transplants. The seedlings have mostly survived in defiance of soggy ground due to excessive rainfall and have grown to double their planted height.*

*TGEP plans to enter a Biodiversity Stewardship Agreement with the Biodiversity Conservation Trust over most of the revegetation projects. Paddocks will be re-fenced and re-watered to enable livestock to be moved around, and paddocks rested to build soil carbon (and livestock productivity). This strategy will ensure no net loss in productivity across the 3,000Ha of farmland at TGEP and existing Tomingley operations.*



## Economic Contribution

While the Inquiry's terms of reference are focused on the physical impacts of mining, the economic impacts are also an important part of the overall picture.

Tomingley has over 230 employees (over 270 with contractors and subcontractors) across geology, mining, processing, finance and administration, maintenance, work health and safety (WHS), and environment. Since Tomingley is a residential operation and does not support a 'fly-in/fly-out' scheme, most of our workforce live in the local area.

In the 2023 financial year, Tomingley paid:

- \$30.7 million in wages and salaries, 90% of whom live in the surrounding LGAs;
- \$153 million to suppliers and contractors, most of whom are regionally based (approx. 52% are NSW-based suppliers);
- \$8.8 million in royalties and taxes to the NSW government (includes \$6.5 million in royalties); and
- \$1 million in rates and other payments to the local Council and community (including community sponsorships).

Approval of the Extension Project in February 2023 will see the Tomingley operation continue until at least 2032. This will benefit the broader community in terms of continued employment, workforce and supplier expenditure, and community investment.

Later potential development of Alkane's Boda-Kaiser gold resources (part of the Northern Molong Porphyry Project) near the village of Bodangora, 5 kilometres northeast of Wellington, would also bring a long-term viable industry to Wellington.

Alkane is also investigating the potential to host renewable energy projects at the Tomingley site to reduce the greenhouse gas impacts of the project and leave a legacy of renewable energy generation post mine-closure (sometime beyond 2032).

### **Concluding comments**

Alkane believes mining approval processes in NSW are very rigorous, with in-depth consideration given by the regulators - and by project proponents - to a wide range of impacts. Through the consultation process, conceptualised projects are regularly re-designed to minimise impacts and risks on the community and the environment.

Compliance requirements have continued to grow over time. Where actual outcomes or impacts differ from those intended in approvals, the regulators act promptly, demanding a return to the approval conditions or proper mitigation of unintended and unacceptable outcomes.



Alkane can attest from our long experience that the assessment process for mining operations has continually evolved over the years, as scientific knowledge advances and as community expectations change. We expect this to continue and to be the case in the future.

Alkane believes NSW's regulatory framework is fit for purpose and that it seeks to ensure that the positive and negative impacts of mining on local communities, economies and the environment remain appropriately balanced.

Alkane looks forward to working further with the Parliamentary Inquiry on this important matter and would be pleased to give evidence at a hearing. If you have any queries regarding this submission, please do not hesitate to contact:

**Nic Earner**

Managing Director, Alkane Resources

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