



Peak Hill Gold Mine Community Update

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Update on drilling and underground mining prospects

Last year Alkane advised the community of Peak Hill that we are exploring the potential for a small underground mining operation at the Peak Hill Gold Mine. This activity aims to extract ore from below the original Proprietary open cut, with processing most likely to occur offsite at Alkane's wholly owned gold production company, Tomingley Gold Operations (TGO).

The decision to proceed will depend on many factors. In the first instance, this includes the assay results of the core samples extracted since January 2019 (we hope to announce these soon) and subsequent metallurgical testing.

When Peak Hill Gold Mine operated from 1996-2005, Alkane was mining the oxide cap of a large sulphide (pyrite) body. Now we are looking at the sulphide body itself – which is of different geological composition, requiring different processing techniques. In 2005, it was not economical to produce gold from the sulphide ore, but technological advances and price increases in the last two decades have made it worth re-evaluating.

From our core samples extracted 20 years ago, we have a good idea of the size and shape of the ore body. Those original core samples have degraded too much for further testing, which led to the acquisition of the new core samples earlier this year. These new



Drilling at Peak Hill Gold Mine in January. Mitchell Services diamond drill rig behind a sound bund of wheaten hay. (Photo courtesy Mitchell Services)

samples will now be investigated using the latest metallurgical techniques to establish whether the ore can be pre-treated to allow processing at TGO, which has been designed for a different type of ore. This is likely to take several months.

If the metallurgical tests look good and the project is deemed commercially viable, the preferred mining option is to go underground. This would be a small operation, with little evidence at the surface. The mine portal would likely be located at the base of one of the open cuts, and any accompanying site works (waste rock, pre-treatment of ore etc) would occupy a small footprint.

There should be minimal impact in the area, but the local community may be concerned about:

- **Dust** – Underground mining would not produce any dust at the surface.
- **Vibrations** – The town would have minimal impact from blasting. Vibrations would be minor and centred below the existing open cuts, underground.
- **Trucks** – Alkane trucks would not pass through the town centre, as both Peak Hill Gold Mine egress haul roads and TGO are located to the north of the town.
- **Peak Hill Open Cut Experience** – The Open Cut Experience tourist attraction should be able to remain intact and open in the event of underground mining activity. The rehabilitated site overall would have very few changes.

Alkane retains its Mining Lease and Environment Protection Licence for Peak Hill Gold Mine, but any further mine development will require government approval – along with a comprehensive environmental assessment and consultation with the community and Parkes Shire Council. This would be expected to take more than a year, and will not commence unless the mine development is deemed feasible.

Watering the inland rail project

Alkane is helping the Cannon family from the Westray stud to supply dam water to the federal government's \$10B Inland Rail Project. The project involves upgrading the train line between Melbourne and Brisbane, including a section between Narromine and Peak Hill.

When Alkane was previously mining at Peak Hill, we had a business arrangement with Westray for use of dam water. Under the agreement, Alkane enlarged the Westray dam and installed infrastructure to pipe water into a plastic-lined storage pond on the Peak Hill Gold Mine site. This infrastructure was bequeathed to Westray once it was no longer needed by Alkane.

In recent months, Westray struck a business deal with Inland Rail to supply water for the railway upgrade project. Since the Westray dam is difficult for water tankers to access via the Newell Highway (in the 110km zone), the previously installed infrastructure is pumping water to Alkane's more accessible storage pond. The alternative would have been for Inland Rail to truck water a much longer distance from Parkes or Narromine.



Temporary pumping infrastructure used to fill water tankers at Peak Hill Gold Mine.

Lights, camera, action

The rehabilitated landforms of Peak Hill Gold Mine are proving a desirable setting for commercial photo and video shoots. In the last 12-18 months, we have hosted a fashion shoot for a NSW designer, an IT product launch shoot, and a scene for a Mad Max documentary. More recently in March, a well-known Australian film production designer checked out the Great Eastern pit as a prospective location for a scene in an upcoming movie.



*Fashion shoot for the Lenni Winter 2019 collection.
(Photo courtesy Lenni)*



Documentary film-makers interviewed one of the original cast members of Mad Max at Peak Hill Gold Mine.

Case study: Rehabilitation of Peak Hill Gold Mine

Any further underground mining at Peak Hill Gold Mine would have very little effect on the extensive rehabilitation undertaken at the site over the past two decades. We are very proud of what we've achieved, which has improved biodiversity across the site as a whole.

The previous mining operations (1996-2005) were designed from day one with progressive rehabilitation in mind. The final landform created by waste rock was regularly shaped and contoured to ensure stability and direct rainwater run-off to

two sediment ponds. In addition, a mix of self-sustaining pasture species (mainly grasses and legumes) were seeded to further stabilise the landform.

The open cuts themselves are now enjoying the natural regeneration of trees and shrubs. Peregrine falcons and bats also sometimes nest in the sheer faces of the pits.

New woodland areas

Prior to Alkane's operations, the hill was littered with car bodies and industrial waste (from decades past). Alkane cleared the whole area of rubbish



A juvenile lace monitor spotted at Peak Hill Gold Mine.

and immediately began rehabilitating the land surrounding the mining operations. Thousands of native tree and shrub species were planted around the perimeter – 20 years later these have evolved into a maturing woodland, home to many different species of birds and animals.

Results of Landscape Function Analysis (LFA) indicate that the site condition (ecosystem function) is better than when mining commenced as the direct result of Alkane's activities.

Open Cut Experience

The Peak Hill Gold Mine site continues to host the Open Cut Experience – a free tourist attraction (managed by Parkes Shire Council) that provides the public with insights into the history and practice of gold mining from 1889-1917 and 1996-2005. It is one of only a few modern gold mines with an active mining lease open to the public, providing a unique opportunity for visitors to learn about modern mining and land rehabilitation. The Open Cut Experience was a finalist in the 2003 NSW Tourism Awards.



Newly transplanted native Currajong trees, which had to make way for drill rigs.

Action in the core yard

Although Alkane originally ceased mining at Peak Hill Gold Mine in 2005, the site has continued to play a key role in all our exploration in the area. Peak Hill hosts Alkane's centralised core yard, which is where we've been storing all the core samples acquired through regional drilling programs for the past 23 years. This includes all the core samples for the original Tomingley deposits (Wyoming and Caloma).

In the past year or so, Alkane's exploration activity has ramped up due to our Tomingley Gold Extension Project, which aims to identify additional resources to extend the life of Alkane's processing plant at TGO. In addition to the drilling at Peak Hill, a substantial drilling program is underway a short distance to the north in the gold corridor between Peak Hill and Tomingley.

This all means the core yard at Peak Hill Gold Mine is currently seeing a great deal of activity. We have five geologists and several field technicians coming and going on a regular basis – residents of Peak Hill may be seeing them in town!



David Beckett (geologist) logging core at Peak Hill Gold Mine.

Contacting Us

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More information:

http://investors.alkane.com.au/site/PDF/2195_0/PeakHillGoldOneResourceUpdate

http://www.alkane.com.au/wp-content/uploads/2018/10/Peak-Hill-Diamond-drilling-as-discussed-24-October-2018_Web-version.pdf