



ALKANE
RESOURCES LTD
ABN 35 000 689 216

ANNUAL ENVIRONMENTAL MANAGEMENT REPORT

for the

PEAK HILL GOLD MINE 2019



Diamond drilling below Proprietary pit 2 February 2019.



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PEAK HILL GOLD MINE

2019

Prepared by:

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7 February 2020

Peak Hill Gold Mine

Annual Environmental Management Report 1 January to 31 December 2019

Name of Mine: Peak Hill Gold Mine

MOP Commencement Date: 1 July 2014

MOP Completion Date: 17 January 2022

Mining Authorisations (Lease / License No.): MLs1351, 1364, 6036, 6042, 6277, 6310, 6389, 6406, 1479, GL5884

Land Owner/Occupier: Alkane Resources Ltd

Tenure: Freehold (Lot 81) and leasehold

Pre-mining Landuse; Lot 81 – Agriculture with remainder mining 1889-1917 and easements in favour of Parkes Shire Council

Name of Authorisation / Authorisation holder(s): Alkane Resources Ltd

Name of Mine Operator (if different): N/A

Name and Contact Details of the Mine Manager (or equivalent):

Michael Sutherland

General Manager NSW

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Dubbo, NSW, 2830

Phone: (02) 6882 2866 Mob: 0427 691733

Name and Contact Details of Environmental Representative:

As above

Name of Representative(s) of the Authorisation Holder(s): Michael Sutherland

Title of Representative(s) of the Authorisation Holder(s): General Manager NSW

Signature of Representative(s) of the Authorisation Holder(s):



Due Date 1 March 2020

Final

Version: 1

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1. INTRODUCTION

1.1. SCOPE AND FORMAT

1.1.1. Scope

This Annual Environmental Management Report (AEMR) for the Peak Hill Gold Mine (“the Mine”) has been prepared by Alkane Resources Ltd (“the Company”) following the EDG12 Small Mine AEMR Guide (2012).

The reporting period for the Peak Hill Gold Mine AEMR is 1 January to 31 December.

A letter from NSW Planning & Environment (dated 8 May 2017) established a due date for reporting as 1st March.

The mine has an approved (30 March 2016) Mining Operations Plan 2014-2022 for the Peak Hill Gold Mine (MOP) to take the site through to relinquishment or renewal by 17 January 2022.

The Mine is located immediately east and northeast of the township of Peak Hill, in the Central West of NSW (**Figure 1** and **Plan 1A**).

The Mining Leases (MLs) were issued in 1993, 1994, 1995 and 2001. The key MLs for the Peak Hill Gold Mine were issued to Alkane by the Minister for Mineral Resources in 1993 (see **Plan 1C**). As additional resources were identified through exploration drilling, additional MLs were granted to form a contiguous area for mining and gold processing for the purpose of this document the area covered by MLs is referred to as the “Mine Site”. Freehold agricultural land (now Lot 81 in DP 12155789) was purchased to accommodate the mine infrastructure

Consent Conditions Development Application 648/93, issued by the Parkes Shire Council on 2 September 1993 are contained in Appendix II of the MOP.

The MOP incorporates the Rehabilitation Management Plan as required under Condition 3(53) of new Project Approvals.

1.1.2. History of Operations

The Peak Hill Gold Mine operated as a drill and blast open cut gold mine between 1996 and 2002. Gold was extracted using heap leach cyanide technology until 2005 - when the last gold was poured on 20 December 2005.

The Waste Rock Emplacement, ROM Pad and haul roads were rehabilitated in December 2002 before the MacMahon Contractors mining fleet demobilised from site (**Plan 2**).

When gold production ceased from the heap leach in November 2005, that landform was reshaped and rehabilitated by McCutcheons Earthmoving and the Soil Conservation Service designed and built the downslope structures.

All but 8.5Ha of the mine site was rehabilitated by 2005 and the site has essentially been under care and maintenance since then. A site Supervisor, based in Peak Hill, maintains the mine site.

The final steps in rehabilitation of the site will be taken between 2021 and 2022 as outlined in the approved MOP (2015).

Gold Production from the Peak Hill gold mine from October 1996 to December 2005 was 153,657 fine ounces.

The Open Cut voids are a feature of a tourist mine, operated by Parkes Shire Council offering free access to the public during opening hours. A Tourist Mine Permit was issued by the Minister in 2003.

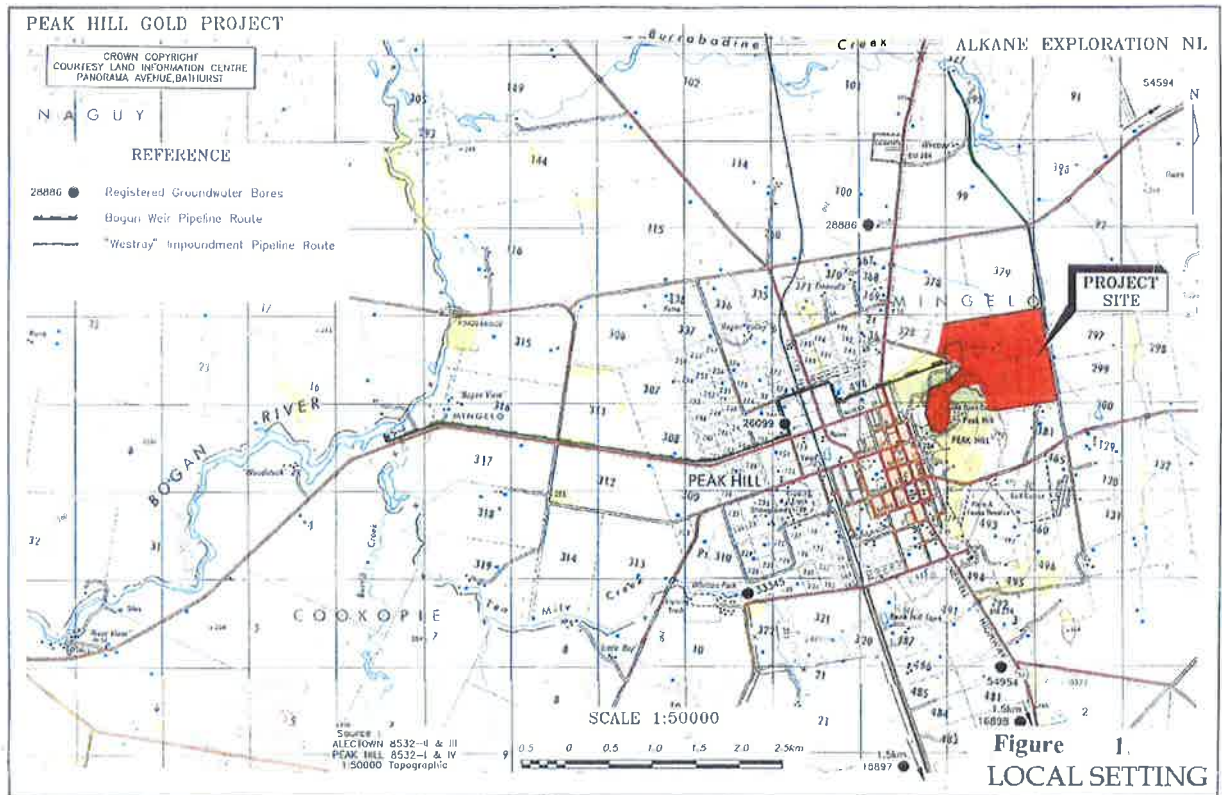
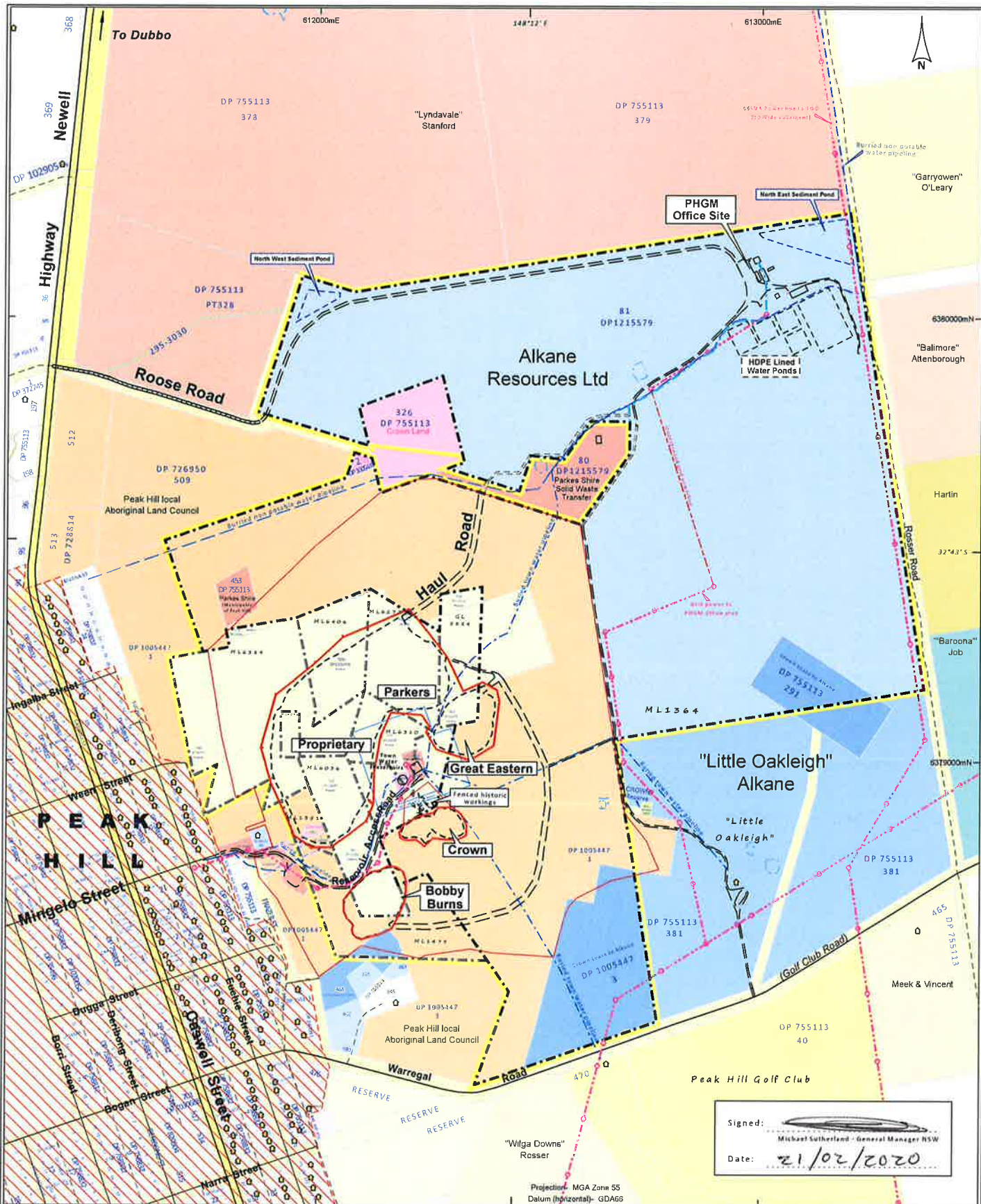




Figure 1: Peak Hill Gold Mine Local Setting (source: EIS 1993)



Signed: 
 Michael Sutherland - General Manager NSW
 Date: 21/02/2020

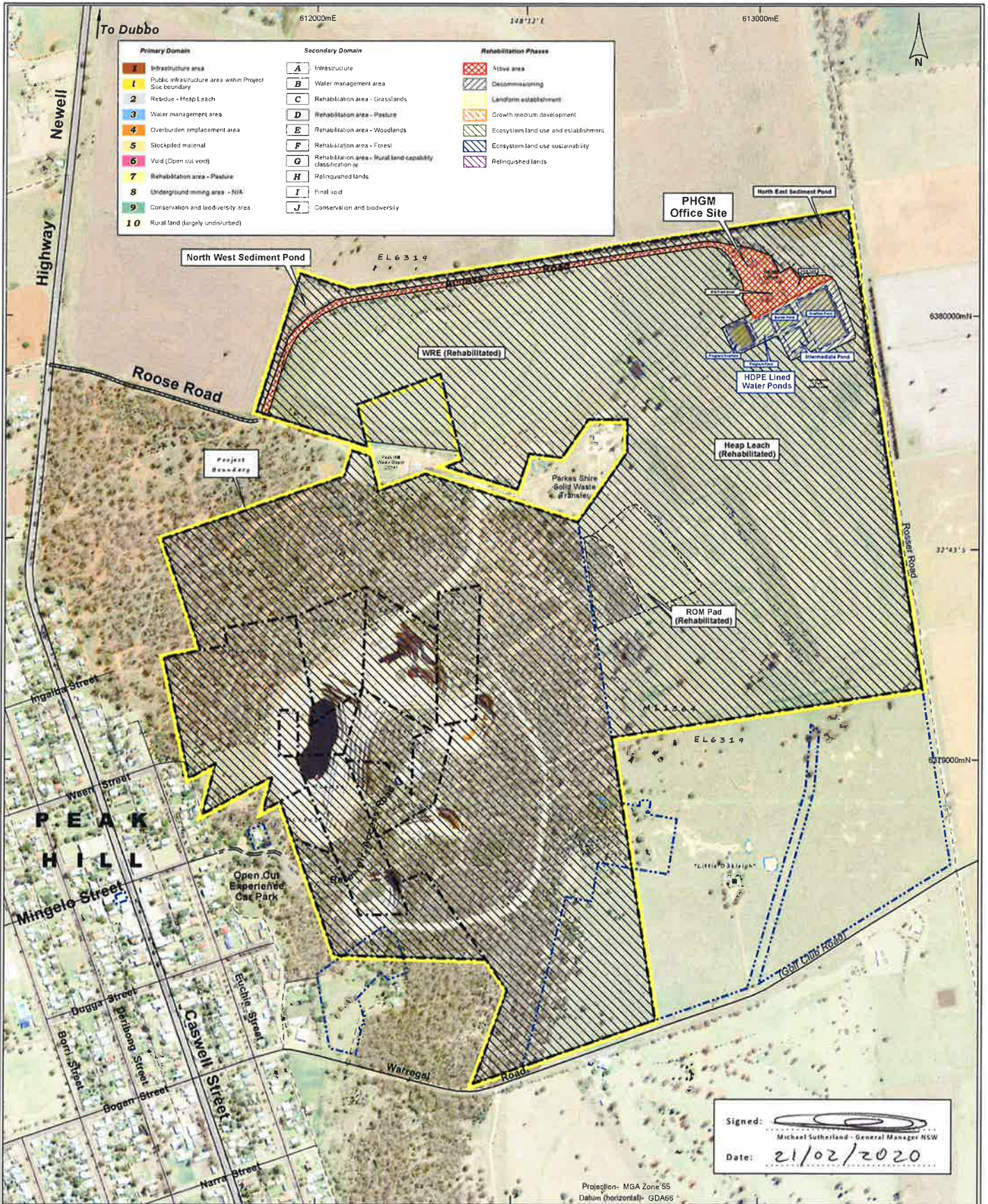
- Infrastructure**
- Built up area (ownership not indicated)
 - Built environment:**
 - Cadastral lot - with lot and DP number (private ownership uncoloured unless near neighbour)
 - Land owned by Alkane Resources (including leased land)
 - Road reserve (Formed, Paper road)
 - Crown land various authorities and vesting
 - Crown land - various Reserve vesting
 - Parkes Shire Council
 - Building (Project area)
 - Neighbouring residences - primary building per parcel (East of Highway)
 - Access Road, Track or Haul Road (retained for fire fighting and convenience of access)
 - Buried, potable town water / non potable water
 - Power line and poles
 - Buried services, water (telecom power to Macmahon's Shed from Office)
 - Safety features (public, stock and fauna)**
 - Fence - Main proof, to be removed or utilised as appropriate
 - Fence - to be removed or utilised as appropriate (unsurveyed)
 - Farm dam
 - Lot boundary (unsurveyed)
 - Historic workings and waste rock dumps (1980 photogrammetry)
 - Roads, Newell Highway
 - Roads, sealed, and unsealed
 - Mining lease boundary
 - Exploration lease boundary (EL6319 covers all ground external to Mining Lease within plan)
 - Peak Hill Gold Mine - Project site boundary
 - Alkane - Land ownership boundary

Scale 1 : 8 000
 metres

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PEAK HILL GOLD MINE
Mining & Built Environment
31 December 2019
(AEMR 2019 - Plan 1C)

Compiled: ALK Drafted: D Moyses Plan No.: ALK PKH LEV-002c
 Date: 7 January 2019 Figure No.: Plan 1C



- Farm dam
- Roads: Newell Highway
- Roads: sealed and unsealed
- Mining lease boundary
- Exploration lease boundary (EL5319 covers all ground external of Mining Leases within plan)
- Peak Hill Gold Mine - Project site boundary
- Alkane - Land ownership boundary (including leased land) June 2014

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PEAK HILL GOLD MINE

Mine Domains at

31 December 2019

(AEMR 2019 - Plan 2)

Compiled: ALK Plan No: ALK PKH 1EV-003c
 Drafted: D Moyses Date: 7 January 2019 Figure No: Plan 2

1.2. CURRENT CONSENTS, AUTHORISATIONS AND LICENSES

Table 1 presents the consents, authorisations and licences held in relation to the Mine.

Table 1 - Current Consents, Authorisations and Licenses

Number	Granted by	Grant Date	Expiry Date	Purpose
Development Consent				
DA 648/93	Parkes Shire Council	3 September 1993	NA	Development Consent – Open Cut Gold Mine and heap leach gold extraction plant
DA 648/93	Parkes Shire Council	16 August 1994		Modification of Development Consent (Parkers Extension)
DA 1033/97	Parkes Shire Council	15 July 1997	NA	Extension of Processing Operations
DA 1049/97	Parkes Shire Council	5 August 1997		Garth Bore Pipeline
DA 1080/97	Parkes Shire Council	6 February 1998		Main Tailings
DA 99253	Parkes Shire Council	20 April 2000		Great Eastern
DA 00174	Parkes Shire Council	8 December 2000		Bobby Burns Pit
DA 01072	Parkes Shire Council	20 June 2001		Parkers Cutback
DA 01162	Parkes Shire Council	20 November 2001		Crown Pit
DA 15039	Parkes Shire Council	25 June 2015		Retention of Mine Buildings at PHGM
Subdivision Certificate 15008	Parkes Shire Council	30 July 2015		Waste Transfer Station
Special Purpose Conditions	Mineral Resources	27 February 2003		Permit to Conduct Tourist Activities
Section 138 Approval	Parkes Shire Council	19 November 2018	30 January 2019	Permit to occupy Footpath & Public Street
Mineral Authorities				
ML1684	Minister for Mineral Resources	11 Feb 2013	11 Feb 2034	Mining activities at the Tomingley Gold Mine
EL5675		17 Jan 2000	17 Jan 2023	Exploration Activities
EL5830		05 Apr 2001	04 Apr 2022	
EL5942		03 May 2002	03 May 2024	
EL6085		20 May 2003	20 May 2024	
EL6319		12 Oct 2004	11 Oct 2020	
GL5884		12 Dec 1969	17 Jan 2022	
ML1351		15 Jun 1994	17 Jan 2022	Mining activities at the Peak Hill Gold Mine
ML1364		14 Mar 1995	17 Jan 2022	
ML1479		18 Jan 2001	17 Jan 2022	
ML6036		07 Mar 1968	17 Jan 2022	
ML6042		21 Feb 1968	17 Jan 2022	
ML6277		12 Mar 1971	17 Jan 2022	
ML6310		27 Aug 1971	17 Jan 2022	

Number	Granted by	Grant Date	Expiry Date	Purpose
ML6389		06 Apr 1973	17 Jan 2022	

1.3.

Current Consents, Authorisations and Licenses

Cont.

Number	Granted by	Grant Date	Expiry Date	Purpose
ML6406		25 Jan 1974	17 Jan 2022	
Licences – Environmental				
EPL5473	Environment Protection Authority	5 September 1999	Renewed annually	Regulation of noise, dust and water emissions from the Mine Site (provided as Appendix 4).
EPL5473	Environment Protection Authority	7 November 2003	NA	Notice of Variation of Licence
EPL 5473	Environment Protection Authority	28 January 2011	NA	Licence varied by correction to DECCW region record
EPL 5473	Environment Protection Authority	17 June 2014	NA	Licence variation 1505946
EPL 5473	Environment Protection Authority	3 December 2018	NA	Licence Variation (reflecting excision of 4Ha of ML 1364)
Licence 451536	Trade & Investment – Crown Lands	23 Feb 2010	NA	Licence for pipeline and pump site
WAL 28643	NSW Office of Water	1993	NA	300ML Water Access Licence – Bogan Weir
Source: Alkane Resources Ltd				

Table 2 (Cont'd)

1.3. **LAND OWNERSHIP AND LAND USE**

Plan 1A provides an aerial photo of the Mine Site and its surrounds. Land uses within and surrounding the Mine Site include the following:

- Urban residential and rural residential;
- Agriculture;
- Transportation (Newell Highway);
- Water Supply Infrastructure on Peak Hill, Reservoir access road, communications towers, rising and gravity water mains;
- Peak Hill Solid Waste Transfer Station off Roose Road (Lot 80 DP1215579);
- Commercial main street of Peak Hill;
- Recreation (Open Cut Experience - Tourist Mine);
- Former mining operations - namely Crown workings and alluvial mine shafts; and
- Bushland owned by Peak Hill Local Aboriginal Lands Council.

1.3.1. Community Consultation

Consultation was undertaken with the local community, indigenous representatives and relevant government agencies throughout the operating life of the Peak Hill Gold Mine and during mine closure planning.

Establishing a tourist mine, post mine closure, was a voluntary commitment made by Alkane Resources as a demonstration of its commitment to sustainable development. The community has been keen to have continued access to the mining leases on the hill post mine closure.

The Tourist Mine, formerly operated as the *Open Cut Experience*, attracted 11,000 visitors in 2003.

A community information session was hosted by Alkane at the Peak Hill Ex-Services and Citizens Club on 24 October 2018 to explain Alkane's proposed diamond drilling program from December 2018 to February 2019.

1.3.2. Government Agency Consultation

The following government agencies were consulted during the preparation of the 2014-2022 MOP.

- Department of Resources & Energy
- Environment Protection Authority.
- Parkes Shire Council.

In addition, a final draft version (September 2014) of the MOP document was provided to the Department of Industry Resources & Energy and comments received were taken into account when finalising the document.

The EPA issued a licence variation for the Peak Hill Gold Mine (EPL5473) on 3 December 2018. The variation was simply a slight change to the premise identification.

Alkane notified the Resources Regulator on 12 February 2018 of a small grass fire that was started by lightning on the northern edge of the ROM Pad on the evening of 9 February 2018. Alkane staff managed to extinguish the fire before the Peak Hill Fire Brigade could find access to the site.

During 2019, Alkane has consulted with the Resources Regulator regarding clean up of minor patches of sulphides and exploration sample bag temporary storage at the mine site.

The Resources Regulator conducted a safety audit/inspection of the Tourist Mine in November 2019 which resulted in follow up actions by Alkane regarding safety signage and Safety Management Plans.

Alkane has also consulted during 2019 with Parkes Shire Council and contractors constructing the Inland Rail Project regarding the water supply pipeline from the Bogan River to the mine site which crosses under the rail corridor.

2. MINING ACTIVITIES

2.1. PROJECT DESCRIPTION

The Peak Hill Gold Mine includes the following components (**Plan 2**).

- Mine site access road (off Roose Road).
- Three-bedroom transportable house with carport (ultimately to be removed).
- Mine site office, crib room, and steel shed (slab floor).
- Core shed, sea container (exploration access and continuing use).
- Five HDPE lined ponds (awaiting re-use or final rehabilitation).
- Rehabilitated Final Landforms (waste rock emplacement, heap leach and ROM Pad).
- Open cut voids (fenced):
 - Proprietary and Parkers Open Cut (including Parkers Cut Back);
 - Great Eastern Open Cut;
 - Crown Open Cut;
 - Bobby Burns Open Cut (partially back filled); and
 - Historic (1890-1915) Crown Workings and alluvial workings (fenced).
- Bobby Burns to Proprietary Haul Road (fire break).
- Buried water pipelines from “Westray”, the Bogan Weir and Peak Hill Sewage Treatment Works.
- A transformer and electrical distribution network within the Mine Site.
- Grassed waterways and sediment ponds in the northeast and northwest corners of the mine site.
- Three groundwater monitoring bores around the northeastern perimeter of the mine site.
- Viewing platform and 22 interpretive signs around the Open Cut Experience.

Parkes Shire Council has provided additional built infrastructure to the Tourist Mine during 2016 to enhance the visitor experience. Additional improvements – a large fabricated gateway/shelter/interpretive signs and two bronze sculptures and a sound post were installed by PSC in 2017. These improvements were officially opened by the Minister for Tourism, the Hon Adam Marshall on 11 August 2017.

Table 2 below details the domains within the Mine Site, their size and major assets contained. Note that the areas detailed are based on maximum disturbance within the term of the MOP. A detailed description of each domain is provided in Section 5.1 of the MOP.

Table 2 - Major Assets per Domain

Domain	Size (approx. ha)	Assets	Use & Details
1 - Infrastructure Area	4.5	Roads: site access. Buildings: Including site office, house, crib room and amenities. Processing: Including shed, wet plant slab and man-proof fencing 5 HDPE-lined ponds (processing and overflow). A subdivision of 4 hectares of land from Lot 380 with former contractor infrastructure on it was approved by PSC and subsequently gifted by Alkane to PSC for use as a waste transfer station. A part cancellation (4Ha) of the Mining Lease 1364 took effect from 26 June 2017.	Roads provide access to open cuts, site entry and inspection to site areas. Buildings still in use and maintained. Wet plant structures removed from site in 2010 and only slab remains. Processing ponds contain rain water and pumped Bogan river water which evaporates during the year.
2 – Residue	24.2	5Mt of heap and dump leach (spent ore) contoured to direct runoff to a downslope rock-lined flume. Includes 0.6Ha dump leach trial area The crushed ore in the heap leach does have some commercial value as construction material. RMS used spent heap leach material for shoulder widening on Newell Highway in 1999.	Rehabilitated as a final landform. Well grassed with mixed pasture sward. Some natural regeneration of trees and shrubs.
3 - Water Management Area	1.5	Includes two sedimentation ponds, dam near former contractor's area and grassed table drains and waterways.	Table drains and grassed waterways are designed to manage rainfall run-off.
4 - Overburden Emplacement Area (Waste Rock Emplacement and ROM pad)	27.0	5 Mt of waste rock including 815,000 tonnes of sulphidic material (>1 g Au/t) which is encapsulated in oxide waste rock (<0.5g Au/t). Includes 4.5Ha Rom pad constructed from oxidised waste rock.	Shaped and rehabilitated WRE has maximum height of 25m and heap leach has a maximum height of 20m.
5 - Stockpiled Material	0.7	Top soil stockpile south of overflow pond.	Temporarily rehabilitated with pasture. Natural regeneration and mine openings provide habitat for bats, birds and possums.
6 - Void (Open Cut)	14.6	Includes four voids at the end of the MOP period.	Part of tourist mine attractions.
7 - Rehabilitation Area – Pasture	1.3	During the MOP period no areas will be rehabilitated to pasture.	Biodiversity asset.
8 - Underground Mining Area (SMP)	0	Underground mining was not part of this development.	N/A

9 - Conservation & Biodiversity Area	76	There was no biodiversity offset required for this mine site. However, it should be noted that biodiversity has increased as result of the PHGM.	Tourist Mine.
10 - Rural Land	47	Areas largely undisturbed by mining (49Ha) Grazing licence as part of "Little Oakleigh" Lease (8 Ha).	Biodiversity and Agriculture (grazing)
<p>Note: The WRE extends across 2.65Ha of Lot 326 which was used as a solid waste Depot by Parkes Shire Council up until 2017. This facility has been replaced by 4Ha of land subdivided off Lot 380. Source: Alkane Resources Ltd</p>			

2.2. ACTIVITIES OVER THE MOP TERM

2.2.1. Exploration

A ten-hole diamond drilling exploration program was commenced immediately west of the Proprietary Pit in December 2018. The aim of the program was to establish whether sulphide resources below the current open cuts would be economically viable to mine from underground. The initial concept would be to truck ore to Tomingley Gold Mine for processing.

This three-month long program was conducted 24/7 outside of the Christmas period. A sound barrier constructed of large hay bales was effective in mitigating noise. Some of the drill holes were within 200m of houses but were within the mining lease.

Regional exploration activity (between Tomingley and Peak Hill) will continue during the 2020. Exploration personnel will continue to access the core yard and site offices as part of their normal activities.

The Peak Hill Gold Mine MLs contain a known sulphide resource totalling 4.91Mt grading at 2.05g/t Au and 0.17%Cu (1.0g/t Au cut off).

Exploration activities may include the following:

- Geochemical sampling;
- Geological mapping;
- Geophysics; and
- Diamond and Reverse Circulation drilling.

The objective of the PHGM exploration program was to further define the known resource, as well as identify additional resources within the Mine Site. Metallurgical test work continues on the core. Results will be released the ASX in 2020.

Environmental management of exploration activities will continue to be implemented to ensure the final rehabilitation of the exploration areas is consistent with the rehabilitation objectives identified in Section 5.2 of this document.

2.2.2. Construction

During the period an extension (slab and roof) was added to the core yard.

The entrance road into the mine was sheeted with blue metal and graded by contractors working on the Inland Rail Project.

No construction is planned for the reporting period. The decommissioning of the HDPE lined process ponds is scheduled for 2021. However, Alkane is currently evaluating the results for the PHGM diamond drilling program 2018-2019. Metallurgical testwork and pre-feasibility work is being undertaken to establish whether the Peak Hill Gold Mine has the potential to be re-opened as an underground mine. Removing the HDPE ponds prior to a final decision on underground operations would be premature.

Decommissioning the ponds is a minor task when compared with the work that has preceded.

2.2.3. Mining Operations during the Reporting period

No mining was undertaken on the PHGM MLs during the 2017 reporting period (1 January 2019 - 31 December 2020).

There are no plans to disturb previously rehabilitated areas during the MOP period.

There has been no land clearing (other than minor tree clearing for three diamond drill pads west of the Proprietary Open Cut), construction activity, ore extraction nor mineral processing during 2019 (none since 2005).

2.3. REHABILITATION DURING THE AEMR PERIOD

There have been few active interventions on the mine site since the commencement of the MOP as most of the site was rehabilitated by 2005.

During this reporting period, approximately 70 tonnes of waste rock containing sulphides was removed from the southern edge of the ROM Pad and placed in Parkers Pit (toe of Gilligan's Island). That area was re-topsoiled in July 2019.

A windrow containing sulphides on the haul road to the Proprietary pit was removed to Parkers pit (toe of Gilligan's Island).

Boxthorn and other noxious weeds were controlled through spraying by the Site Supervisor.

Excessive macropod numbers were controlled under licence from OEH by a licenced professional shooter.

The site continues to develop more ecological complexity each year as trees planted in 1996 are producing habitat for birds and other vertebrates and seed for new generations of trees.

The 2018-2019 calendar years have been two of the consecutive driest on record. However, groundcover on the mine site than surrounding farm land has been maintained.

Trees self-sown and growing on the haul east of the hill were removed to maintain a firebreak.

Trees and shrubs (self-sown) on the batters of the WRE were cut to maintain ground cover and protect buried sulphides.

2.3.1. Further Development of Final Rehabilitation Plan

A DA was approved by Parkes Council in 2016 to allow for the retention of the mine buildings (except the house) on site. This reduces the area requiring further rehabilitation on site by 5.2Ha.

A DA was approved by Parkes Council for the subdivision of four hectares of land from Lot 380 for use as a new solid waste transfer station. This land was transferred at no cost to council to satisfy consent condition 1.25 of Consent 648/93

The new Peak Hill Waste Transfer Station which has recycled the contractor's area (workshop shed, slab and washdown bay) opened for operations in 2018.

Alkane submitted a part relinquishment application to DRE on 6 November 2015 to excise the 4 hectares from the mining lease. Alkane received confirmation of the part cancellation of the part cancellation on 26 June 2017.

Alkane will consult with DPIE during 2019 regarding the potential to re-open the Peak Hill Gold Mine as an underground mine. Those discussions will determine whether the mine proceeds to final closure or works towards the approval of a new development.

Some of the remaining infrastructure on site would be utilised in the new development.

TABLE 3: Rehabilitation Summary

		Cumulative Area Affected (hectares)		
		To date	Last report	Next Report (estimated)
A: MINE LEASE AREA				
A1	Mine Lease(s) Area	194.8*		
B: DISTURBED AREAS				
B1	Infrastructure area other disturbed areas to be rehabilitated at closure including house and processing ponds	3.1	8.5	3.1
B2:	Active Mining Area excluding items B3 - B5 below	0	0	0
B3	Waste emplacements, active/unshaped/in or out-of-pit	0	0	0
B4	Tailings emplacements, active/unshaped/uncapped	0	0	0
B5	Shaped waste emplacement (top soil stockpile will be used during final rehab)	0.5	0.5	0.5
ALL DISTURBED AREAS		3.6	9.0	3.6
C REHABILITATION PROGRESS				
C1	Total Rehabilitated area (except for maintenance)	191.7	191.7	191.7
DC: REHABILITATION ON SLOPES				
D1	10 to 18 degrees	NA	NA	NA
D2	Greater than 18 degrees	NA	NA	NA
E: SURFACE OF REHABILITATED LAND				
E1	Pasture and grasses (native and introduced)	97.2	101.2*	97.2*
E2	Native forest/ecosystems	92.4	76.0	92.4
E3	Plantations and crops	0	0	0
E4	Voids with some regeneration of trees	14.6	14.6	14.6

* Decrease in area from AEMR 2016 due to excision of 4Ha of ML for Waste Transfer Station

TABLE 4: Maintenance Activities On Rehabilitated Land
(This period's activities and activities proposed in the next reporting period)

NATURE OF TREATMENT	Area Treated (ha)		Comment/control strategies/ treatment detail
	Report period	Next period	
Additional erosion control works (drains re-contouring, rock protection)	0	0	
Re-covering (detail - further topsoil, subsoil sealing etc)	0	0	
Soil treatment (detail - fertiliser, lime, gypsum etc)	0	0	
Treatment/Management (detail - grazing, cropping, slashing etc)	0	0	
Re-seeding/Replanting (detail - species density, season etc)	0	0	Five Currajong trees were transplanted during establishment of diamond drill pads on the west edge of the Proprietary Pit.
Adversely Affected by Weeds (detail - type and treatment)	194.8	194.8	Boxthorn, Bathurst burr, Devils Claw, Fierce thornapple. Spot spraying with glyphosate and wetter
Feral animal control (detail - additional fencing, trapping, baiting etc)	100	100	Macropod reduction under licence on Lot 380 only.

3. METEOROLOGICAL DATA

The Peak Hill Gold Mine no longer maintains a weather station at the mine site but rather relies on the registered BOM site at Peak Hill Post Office (within 500m of the site). The Peak Hill PO mean annual rainfall is 561.3mm. Total rainfall at Peak Hill Post Office in 2019 was 333.9mm.

Total rainfall for New South Wales was the lowest on record, at 55% below average; well below the previous driest year of 1944

The northeast quarter and the far west of the State were especially dry, with numerous locations having their driest year on record and many of those more than 40% below the previous driest year; some locations had less than a quarter of their average annual rainfall.

Dust storms and bushfires from November 2019 made the year one noted for poor air quality

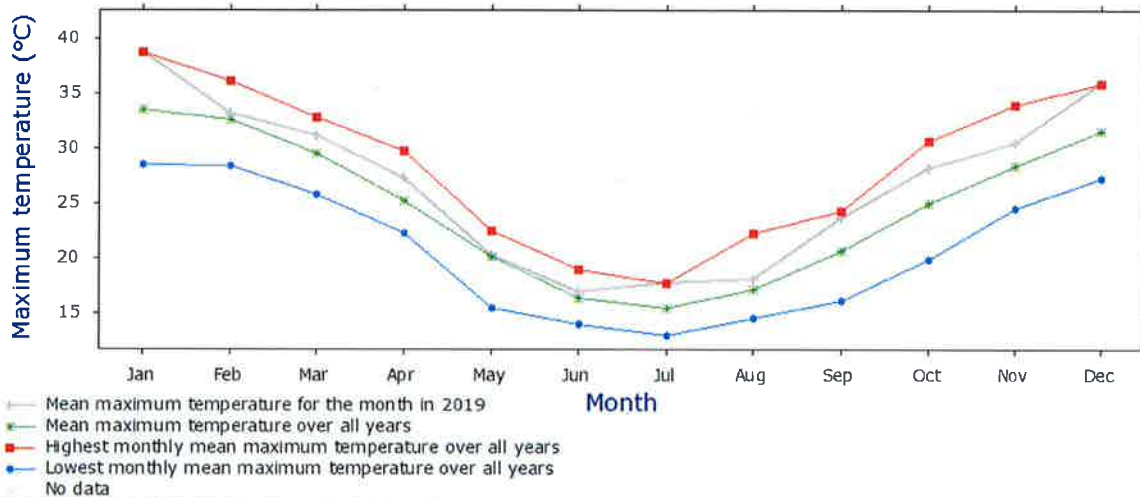
It was the warmest year on record for New South Wales as a whole, with the mean temperature 1.95 °C above average and 0.27 °C warmer than the previous warmest, 2018

The five warmest years on record for New South Wales are now 2019, 2018, 2014, 2017 and 2009

The mine site rehabilitation performed as designed and no damage has been observed on any of the final landforms. The northeast sediment pond did not overflow during 2019 and thus there was no surface water monitoring conducted.

The charts below contain maximum and minimum temperatures for 2019 versus the long term mean and daily rainfall data for 2019.

Peak Hill Post Office (050031) 2019 maximum temperature

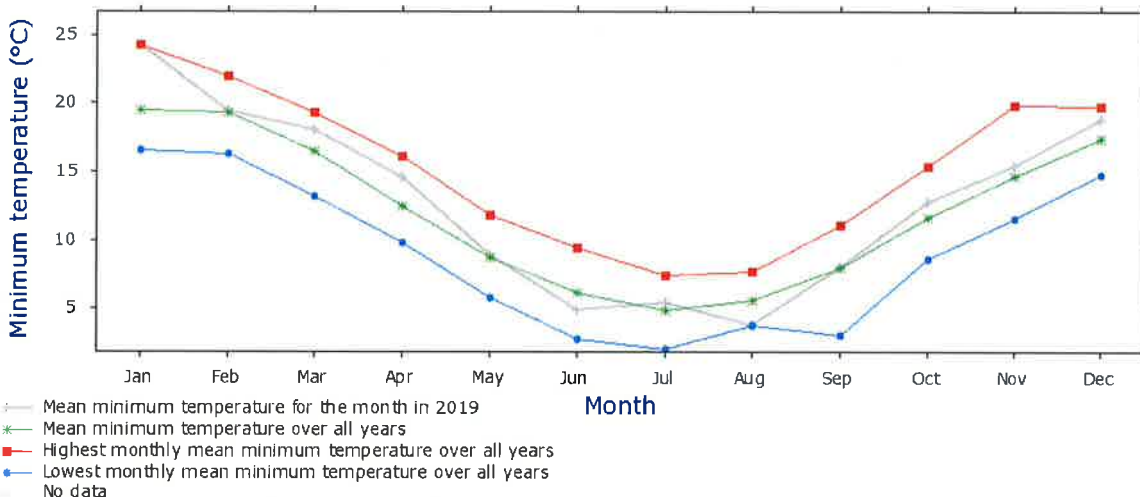


Note: Data may not have completed quality control
Observations made before 1910 may have used non-standard equipment

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Product Code: IDCJAC0010

Peak Hill Post Office (050031) 2019 minimum temperature

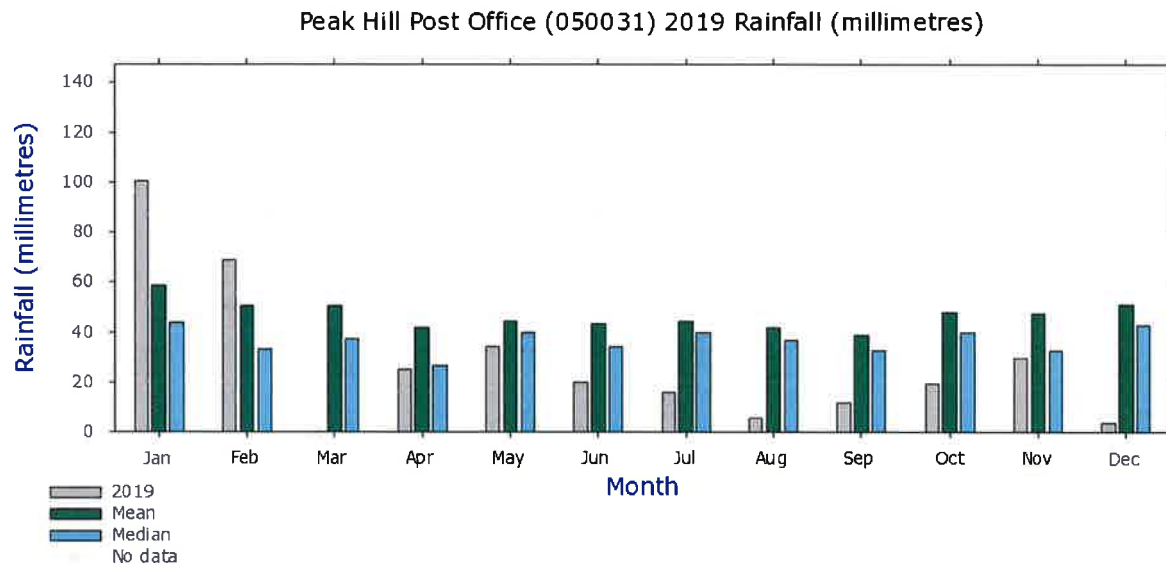


Note: Data may not have completed quality control
Observations made before 1910 may have used non-standard equipment

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Monthly rainfall, measured at the Peak Hill Post Office is shown in the table on the following page.



Note: Data may not have completed quality control
 Product Code: IDCJAG0009

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January and February were the only two months in 2019 where the mean rainfall was exceeded.

4. ENVIRONMENTAL PERFORMANCE

Environmental control strategies (rehabilitation) have been undertaken as described in the MOP 2014-2022.

Three Landscape Function Analysis studies (14 transects across final landforms and two analogue site) have been undertaken to date by Graminus Consulting on August 2013, February 2014 and May 2014.

The analogue sites have not been disturbed by mining. Significantly “neither analogue site is any better or worse than any other transect”. The metric scores (May 2014) for stability, infiltration and nutrient cycling endorse a positive outcome for the rehabilitation techniques employed on the minesite.

There has been no soil amelioration work done during this reporting period. Small areas remain to be treated with lime on the ROM pad and the WRE and heap leach final landforms.

Surface water discharges (results reported on www.alkane.com.au) from the licenced discharge point (NE sediment pond) comply with EPA limits. There were no surface water discharges during 2019 from the PHGM.

Box thorn spraying is getting on top of the infestation with a decline in recruitment evident.

Macropod management is ongoing to ensure landforms are not overgrazed.

Establishment of the new waste transfer station on an excised portion of the mining lease is a very positive environmental outcome for Parkes Council and Alkane. This project has enabled recycling of mining assets for an ongoing use. The one negative aspect of the waste transfer station is that plastic and paper rubbish blows out of the council facility and contaminates the minesite which has in turn increased the workload (collecting litter) of the Site Supervisor.

Photographs of the mine site exploration and rehabilitation progress are contained in Appendix I.

The Resources Regulator visited the mine site on 17 May 2019 and inspected the rehabilitation of exploration drill sites west of the Proprietary pit and the exploration/core shed area. A temporary stockpile south of the core yard of RC sample bags from San Antonio-Roswell (SAR) prospect was considered a breach of Section 378D of the Mining Act (1992). Those will be removed from site back to the SAR prospect and dealt with alongside the remainder of the resource drill out samples.

On 7 November the Resources Regulator (Mine Safety) did an inspection of the Tourist Mine. Two Improvement Notices and one Notifying Mine Operator of Concerns were issued. In response additional safety signage has been installed on the pit perimeter fences, and emergency information signage has been installed. A Risk Assessment has been prepared for commercial activities (such as photographic shoots). The Tourist Mine Safety Management plan has been updated and provided to Parkes Shire Council.

The Emergency plan will be tested in 2020 when Eastern Australian bushfire crises abates enough to involve local emergency response teams.

5. COMPLAINTS AND LIAISON

There was one complaint received by Alkane relating to the Peak Hill Gold Mine during the reporting period.

The complaint related to dust generated by exploration staff and contractors on the mine site entrance road.

Liaison with neighbours was otherwise restricted to notification of the engagement of a professional kangaroo shooter prior to actions on the Mining Leases. Kangaroo numbers on the Mining Leases require control.

Alkane completes an annual return for the EPA and that is posted on the Company website.

APPENDIX 1- PHOTOGRAPHS



Diamond drilling program 2018-2019 testing gold resources below the Proprietary pit. Photo courtesy of Mitchell taken 13 Feb 2019.



Diamond drilling behind a sound wall of hay bales. Photo taken 8 February 2019.



Diamond drill pad rehabilitation. Currajongs were transplanted. *E. dealbata* suckering on left of photo taken 10 July 2019.

RC samples from San Antonio Roswell prospect temporarily stockpiled on the minesite. Photo taken 4 July 2019.



Alkane geologists and contractors in the core yard at PHGM preparing core, logging and cutting for assay. Photo taken 10 July 2019.



Commercial fashion shoot at the Peak Hill Gold Mine



The Great Eastern pit is being scouted for potential as a location for a feature film scene. Photo taken 8 March 2019.



Peak Hill Gold Mine final landform as seen from Newell Highway travelling south. Photo taken 14 January 2019



ROM pad re-topsoiling of an area that once held a stockpile of sulphidic material. The sulphides were removed to Parkers Pit (toe of Gilligan's island). Photo taken 29 July 2019.



Haul Road to Proprietary pit with sulphide contaminated windrow removed to the toe of Gilligan's Island in July 2019.



Sulphides from ROM Pad at the toe of Gilligan's Island. Photo taken 5 March 2019.