



ALKANE
RESOURCES LTD
ABN 35 000 689 216

ANNUAL ENVIRONMENTAL MANAGEMENT REPORT

for the

PEAK HILL GOLD MINE 2017



11 January 2018



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2017

Prepared by:

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11 January 2018

Peak Hill Gold Mine

Annual Environmental Management Report 1 January to 31 December 2017

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 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

PO Box910

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): Ian Chalmers

Title of Representative(s) of the Authorisation Holder(s): Director

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



Due Date 1 March 2018

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 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**).

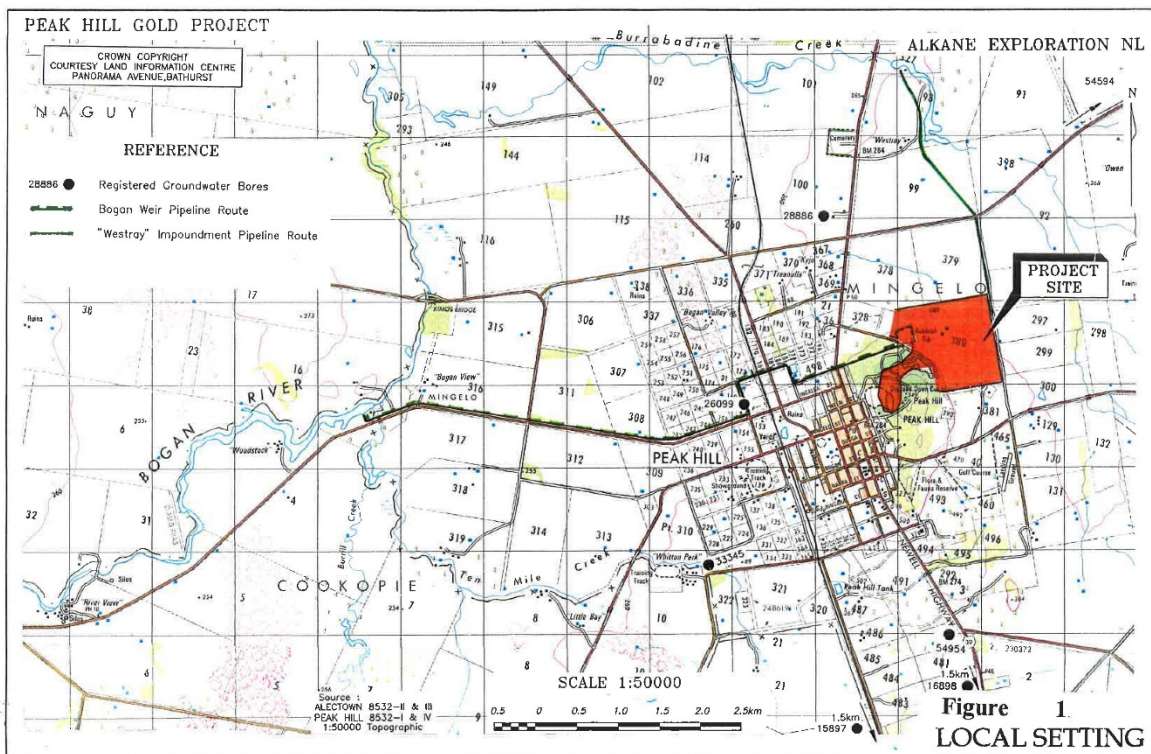
When gold production ceased from the heap leach in November 2005 that landform was reshaped and rehabilitated by McCutcheons Earthmoving and the Soil Conservation Service designed and built the downslope structures.

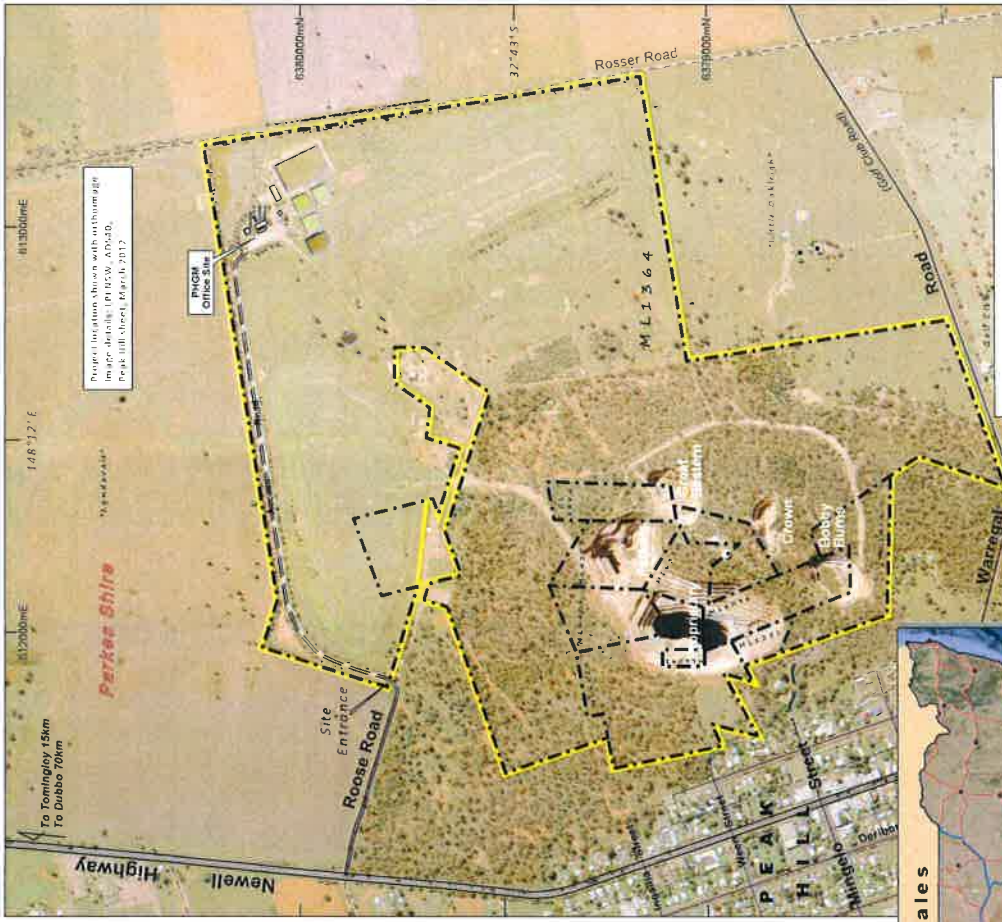
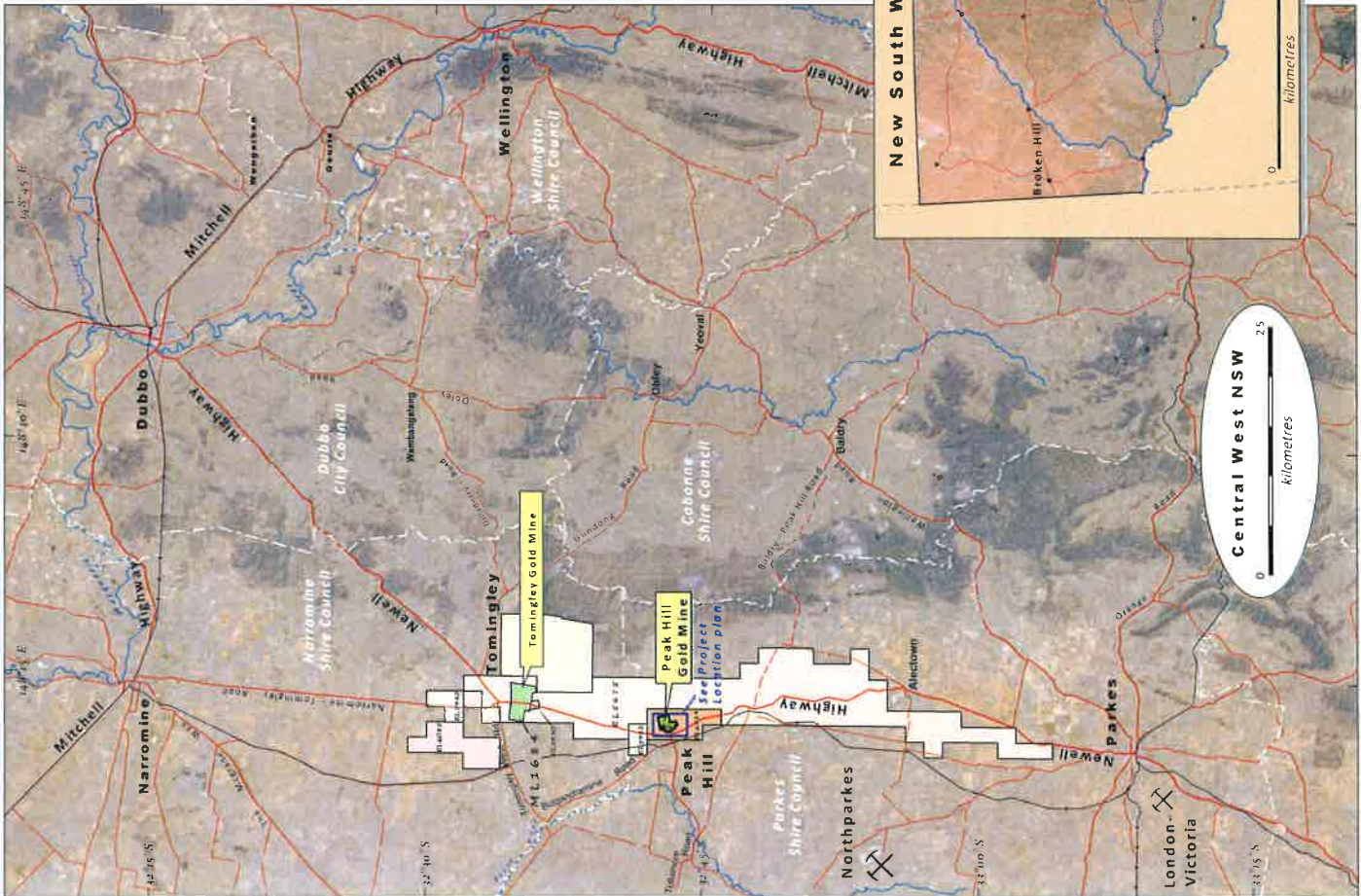
All but 8.5Ha of the mine site was rehabilitated by 2005 and the site has essentially been under care and maintenance since then. A site Supervisor, based in Peak Hill, maintains the mine site.

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.





Signed: 
 Michael Sutcliffe - General Manager NSW
 Date: 10/01/2018

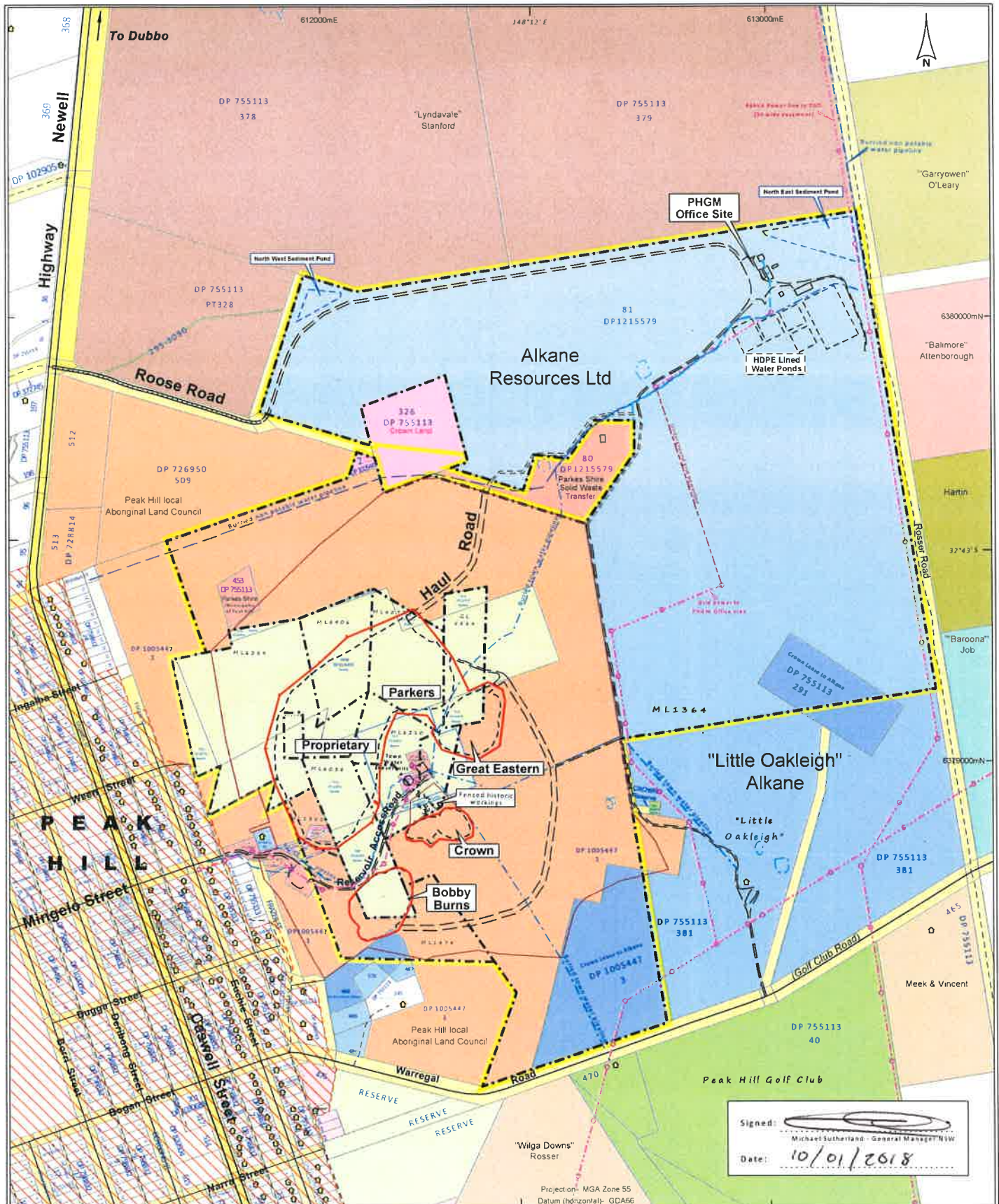
Scale 1 : 12 500 metres

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 PEAK HILL GOLD MINE

Project Location
 (AMER 2018 - Plan 1A)

Compiled by: PHGM Res. & Exp. Plan 15/01/2018
 Drawn by: D. Brown Date: 0 Jan 2018 Figure No.: PHGM 1A

Project location shown with outline on image details PHGM 1A, 15/01/2018. Peak Hill Street, March 2017.



- Built-up area (township not indicated)
- Built environment**
- Gazaliti lot with lot and DP number (private ownership unless noted in neighbouring)
- Land owned by Alkane Resources (including leased land)
- Road reserve (former, paved road)
- Crown land with various activities and uses
- Crown land - without Reserve setting
- Drive Shire Council

- Infrastructure**
- Building (Plot/lot area)
- Neighbouring leasehold - primary building plot parcel (East of Highway)
- Access Road, Track or Haul Road (intended for the lighting and convenience of access)
- Bottled, potable town water / non-potable water
- Power line and poles
- Bottled potable water (to be removed or replaced as appropriate)
- Fenced - to be removed or replaced as appropriate (unsurveyed)

- Safety features (public, stock and fauna)**
- Fence - Man-proof. To be removed or replaced as appropriate
- Fence - To be removed or replaced as appropriate (unsurveyed)
- Farm dam
- Lot boundary (unsurveyed)
- Historic workings and waste mark dumps (1973 orthorectification)
- Roads - New or Highway
- Roads - sealed and unsealed
- Mining lease boundary
- Exploration lease boundary (ELEG10 covers all ground external of Mining Leases within zone)
- Peak Hill Gold Mine - Project site boundary
- Alkane - Land ownership boundary

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PEAK HILL GOLD MINE

Mining Environment - December 2017

Built Environment

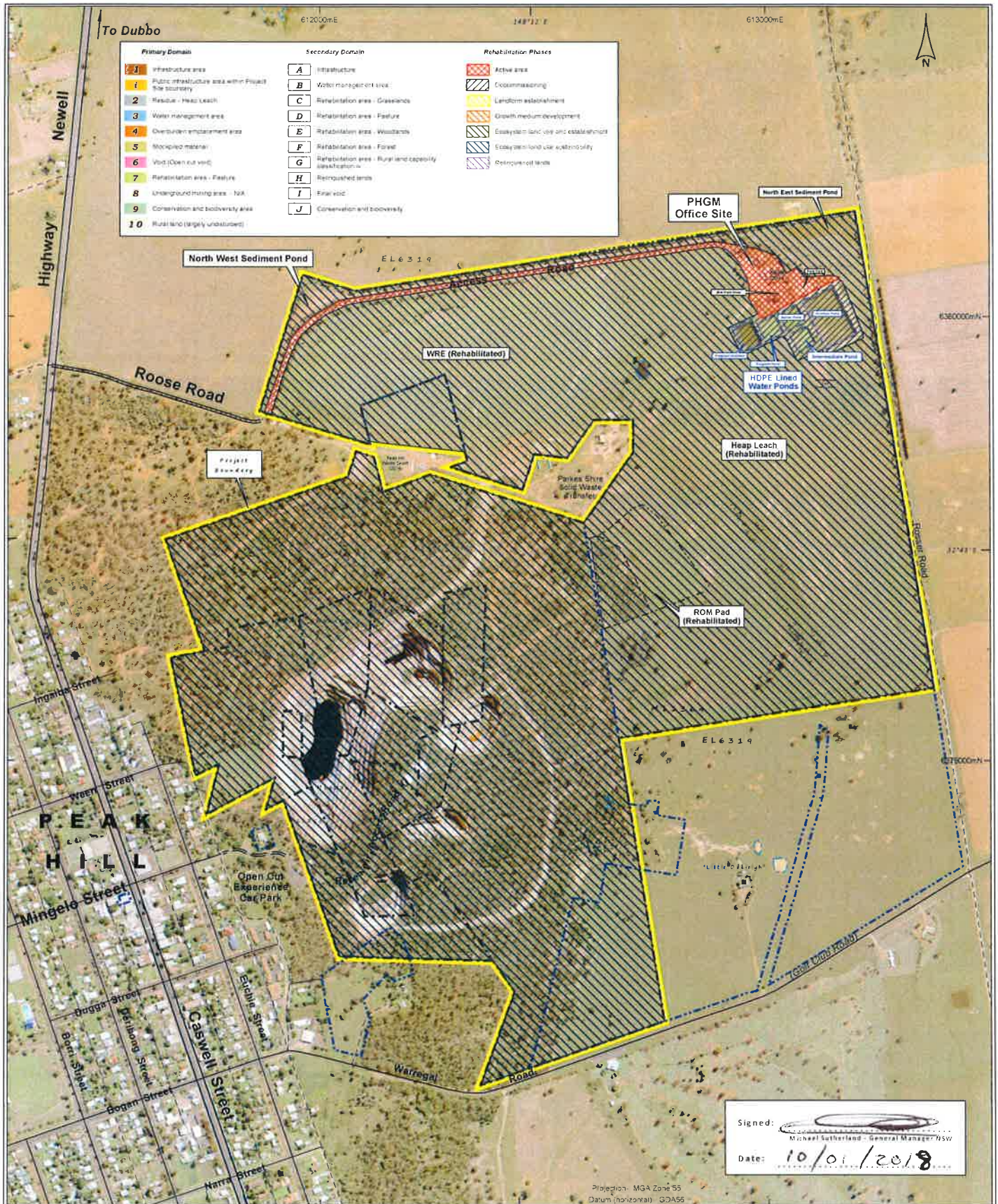
(AMER 2018 - Plan 1C)

Compiled: ALK Drafted: D Moyses Plan No.: ALK PKH 1E1V-002b
Date: 9 Jan 2018 Figure No.: Plan 1C

Signed: Michael Sutherland - General Manager NW
Date: 8/10/2018

Scale 1 : 8 000
metres

Projection: MGA Zone 55
Datum (horizontal): GDA66



- Farmers
- Roads - Newell Highway
- Roads - sealed and unsealed
- Mining lease boundary
- Expiration lease boundary (ES-018 covers all ground external of Mining Leases within Peak)
- Peak Hill Gold Mine - Project site boundary
- Alkane - Land ownership boundary (including leased land) June 2014

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Mine Domains at
31 December 2017
(AMER 2018 - 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 Licences

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	
Mineral Authorities					
ML1684	Minister for Mineral Resources	11 Feb 2013	11 Feb 2034	Mining activities at the Tomingley Gold Mine	
EL5675		17 Jan 2000	16 Jan 2017 (renewal pending)	Exploration Activities	
EL5830		05 Apr 2001	04 Apr 2022		
EL5942		03 May 2002	20 May 2018		
EL6085		20 May 2003	19 May 2018		
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	
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
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.

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.

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. 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
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
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

No exploration was carried out on the MLs during 2017.

Regional exploration activity will continue during the 2018 MOP period. 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 exploration program will be to further define the known resource, as well as identify additional resources within the Mine Site.

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

No construction is planned for the reporting period. The decommissioning of the HDPE lined process ponds is scheduled for 2021. This will allow ample time for rehabilitation of those landforms to achieve long term stable landforms.

2.2.3. Mining Operations during the Reporting period

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

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

There has be no land clearing, construction activity, ore extraction nor mineral processing during 2017 (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 and due to this reporting period as most of the site was rehabilitated by 2005.

The (transportable) laboratory building was removed from site to Tomingley Gold Operations where it is in current use as the mine rescue hut.

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.

Significantly, there was no noticeable erosion of the rehabilitated landform in 2016 through one of the wettest winter-spring seasons since records have been kept and then one of the driest autumn-winter periods in 2017.

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) is expected to open 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.

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	Void with some regeneration of trees	14.6	14.6	14.6

F1

F2

* 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	
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.

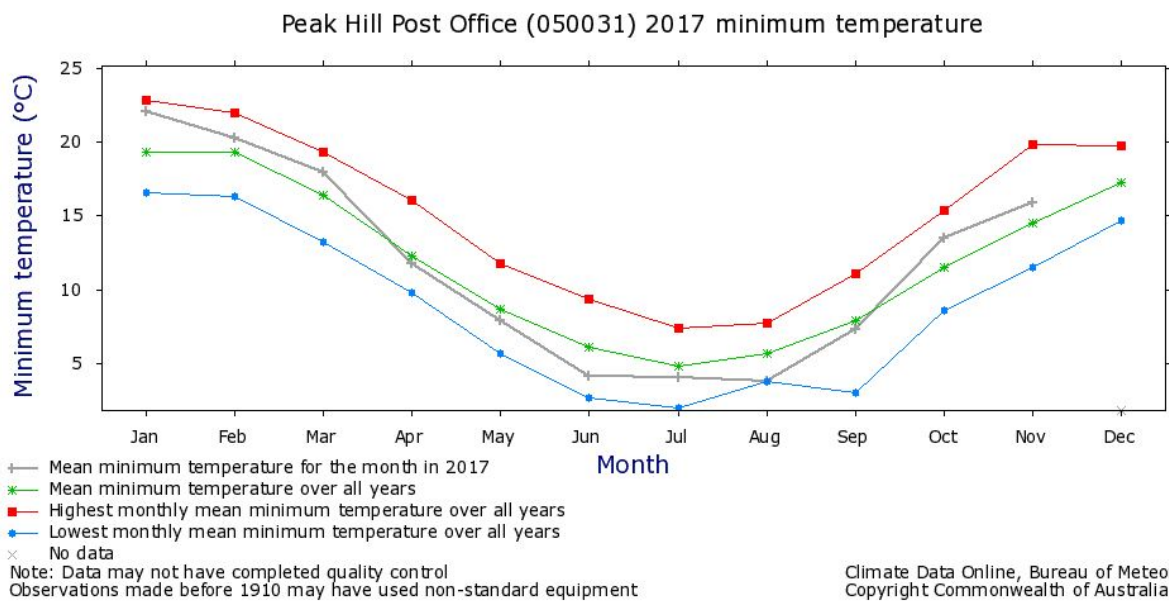
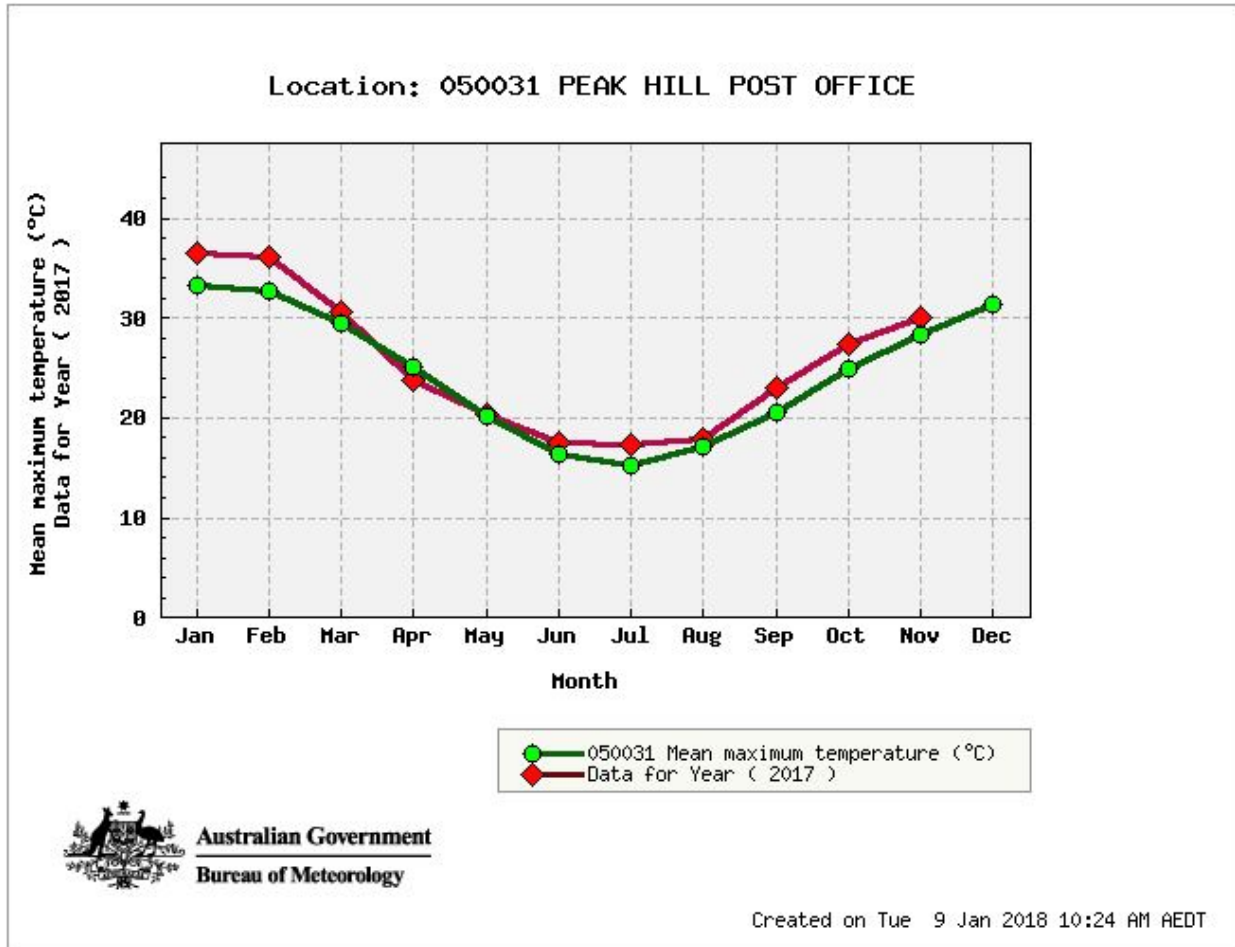
3. METEOROLOGICAL DATA

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).

2017 saw one of the driest autumn-winter periods in living memory (>95th percentile) with 63.8mm of rain falling compared to mean (since 1890) of 256mm.

The mine site rehabilitation performed as designed and no damage has been observed on any of the final landforms. The northeast sediment pond overflowed and water quality leaving the site was monitored and reported.

The charts below contain maximum and minimum temperatures for 2017 versus the long term mean and daily rainfall data for 2017.



Daily Rainfall (millimetres)

PEAK HILL POST OFFICE

Station Number: 050031 · State: NSW · Opened: 1890 · Status: Open · Latitude: 32.72°S · Longitude: 148.19°E · Elevation: 285 m

2017	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1st	0	0	0	0	0	0.1	0	7.2	0	0	0	0
2nd	1.8	0	0.8	0	0	0	0	0	0	0	0	48.0
3rd	0	0	0	0	0	0	0.4	0	0	0	0	43.6
4th	0	0	↓	0	0	0	1.0	16.6	0	0	0	0
5th	0	0	↓	0	0	0	0	0	0	0	0	0
6th	0	0	9.4	0.4	0	0	0	0	0	0	0	0
7th	0	0	0	0.6	0	0	0	0	0	0	0.6	1.4
8th	0	0.4	0	0	0	0.2	0	0	0	0.8	0	0
9th	0	0	0	0	0	0	0	0	0	8.5	0	0
10th	0	0	0	2.6	0	0.6	0	0	0	13.4	0	0
11th	0.2	0	0	0	0	0	0	0	0	0	0	0
12th	0	0	0	0	0	0.2	0	0	0	12.4	0	0
13th	0	0	0	0	↓	0	0	0	0	0	0	0
14th	0	0	44.8	0	↓	0	0	0	7.4	0	0	0
15th	0	0	3.0	0	1.6	0	0.4	0	0	0	0	0.4
16th	0	0	0	0	0.2	0	0	0	0	0	0.8	0
17th	0	0	0	0	0	0	0	0	0	0	1.4	0
18th	0	0	0.4	0	0	0.2	0	0	0	0	3.4	0
19th	0	0	0	0	2.0	0	0	0	0	0	6.6	5.4
20th	0	0	0	0	28.4	0	2.0	0	0	36.4	0	2.0
21st	5.8	0	27.0	0	0	0	0	0	0	↓	0	0.6
22nd	0	0	15.6	0	0.4	0	0	0	0	↓	0	0
23rd	0	0	15.0	0	0	0	0	0	0	0.8	0	0
24th	9.6	0	10.2	0	0	0	0	0	0	0	0	0
25th	1.2	0	0	0	0.1	0	0	0	0	0	3.8	0
26th	0	0	0	8.4	0	0	0	0	0	0	0	0
27th	0	0	0	4.6	0	0	0	0	0	1.0	15.4	0
28th	0	0	0.8	0	0	0	0	0.4		0	2.2	0
29th	0		0	0	0	1.0	0	0		0.6	0	0
30th	0.4		1.0	0	0	0	0	0		0	0	6.0
31st	0		0		0.2		0	0		0		0
Highest daily	9.6	0.4	44.8	8.4	28.4	1.0	2.0	16.6	7.4	36.4	15.4	48.0
Monthly Total	19.0	0.4	128.0	16.6	32.9	2.3	3.8	24.2		73.9	34.2	107.4

Statistics for this station calculated over all years of data

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean	58.9	50.6	50.8	42.0	44.5	43.4	44.7	42.4	39.4	48.1	47.2	51.6
Median	44.5	33.2	37.1	27.7	40.4	35.0	39.8	37.5	33.8	41.1	32.5	42.8
Highest daily	120.7	133.9	116.8	105.4	89.2	123.2	55.6	60.5	48.8	71.4	60.2	88.0
Date of highest daily	20th 1956	24th 1955	21st 1900	10th 1916	28th 1977	22nd 1925	9th 1904	1st 1960	2nd 1993	25th 1938	1st 1947	17th 1992

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 2017 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.

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

5. COMPLAINTS AND LIAISON

Summarise environmental complaints, and community and land occupier liaison.

There were no complaints received by Alkane relating to the Peak Hill Gold Mine during the reporting period.

Liaison with neighbours was restricted to notification of the engagement of a professional roo shooter prior to actions.

Alkane was in regular consultation with Parkes Shire Council regarding the subdivision of four hectares and design of a new waste transfer station.

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

Alkane received AEMR due date confirmation by letter from NSW Planning & Environment on 8 May 2017. The reporting date going forward is 1 March.

APPENDIX 1- PHOTOGRAPHS



Parkes Shire Council Waste Transfer Station (not yet open for operations). This development is situated on 4 Hectares of land excised from the Mining Lease and gifted to Parkes Council by Alkane Resources Ltd in fulfilment of a consent condition Ltd. Photo taken 17 December 2017.



Rear of PHGM office and crib hut. Photo taken 17 December 2017.



House and site office at the Peak Hill Gold Mine with fire fighter in carport. Photo taken 17 December 2017.



View looking east from Roose Road towards PHGM screen planting and WRE. Photo taken 17 December 2017.



WRE cap perennial grass cover on PHGM Waste Rock Emplacement. Eastern Grey Kangaroos in mid-ground. Photo taken 17 December 2017.



Premier digit grass and natural regeneration of Cassinia on upper batter of the WRE. Photo taken 17 December 2017.



Heavy seed set on naturally regenerating Deane's Wattle on the edge of the mine site entrance road.



Minesite entrance road near northwest sediment pond. River Red Gums, Belah and Myall trees are naturally regenerating around this pond which catches water from the northwestern edge of the minesite. Photo taken 17 December 2017.



The northeast sediment pond did not discharge during 2017 despite significant rain on 1 December 2017. Photo taken 17 December 2017.



Suckering Rosewoods on the northeast sediment pond flood-out area.



Northwest corner of the heap leach final landform. Photo taken 17 December 2017.



PHGM core yard was in active use during 2017 focussed on local exploration between Peak Hill and Tomingley. Photo taken 17 December 2017



Official Opening of the upgraded gateway to the tourist mine by the Hon Adam Marshall on 11 September 2017.



PHGM site inspection by EPA officers 19 April 2017. Ken Robinson (Site Supervisor) in front.