ASX and MEDIA RELEASE

23 September 2019

ALKANE RESOURCES LTD
ABN 35 000 689 216

Alkane Resource and Reserve Statements FY19

- **This report is a compilation of identified Mineral Resources and Ore Reserves for the Tomingley Gold Operations; Peak Hill Gold Project; and the Dubbo Project in the Central West of New South Wales as at 30 June 2019.**
- **Mineral Resources and Ore Reserves for the Tomingley Gold Operations have been re-estimated to account for depletion:**
  - **Total Mineral Resources 6.44Mt grading 2.0g/t Au (407,000oz)**
  - **Total Ore Reserves 1.41Mt grading 2.0g/t Au (89,000oz)**
- **Total Ore Reserves includes the Underground Reserve**
  - **Underground Ore Reserves 0.73Mt grading 3.1g/t Au (74,000oz)**
- **Regional near-mine exploration program continued between Tomingley and Peak Hill as defined a number of extensive, shallow and high grade ore zones. Conceptual Exploration Target reported.**
- **At the Peak Hill Gold Project an Inferred Mineral Resource at a 2.00g/t gold cut-off was defined for the Proprietary underground ore body in October 2018:**
  - **Inferred Resource 1.02Mt grading 3.29g/t gold & 0.15% copper (108,000oz)**
- **Dubbo Project Resources and Reserves:**
  - **Total Mineral Resources**

    75.18Mt @ 1.89% ZrO_2, 0.04% HfO_2, 0.44% Nb_2O_5, 0.03% Ta_2O_5, 0.88% TREO*
  - **Total Ore Reserves**

    18.90Mt @ 1.85% ZrO_2, 0.04% HfO_2, 0.44% Nb_2O_5, 0.03% Ta_2O_5, 0.87% TREO*

*** = total rare earth oxides plus yttrium oxide**

CONTACT : **NIC EARNER, MANAGING DIRECTOR, ALKANE RESOURCES LTD, TEL +61 8 9227 5677**
INVESTORS : NATALIE CHAPMAN, CORPORATE COMMUNICATIONS MANAGER, TEL +61 418 642 556
MEDIA : HILL KNOWLTON STRATEGIES, CONTACT: MARCHA VAN DEN HEUVAL, TEL +61 2 9286 1226 or +61 468 960 457

Ground Floor, 89 Burswood Road, Burswood WA 6100, AUSTRALIA (PO Box 4384, Victoria Park WA 6979, AUSTRALIA)
Telephone: +61 8 9227 5677 Facsimile: +61 8 9227 8178 www.alkane.com.au mail@alkane.com.au

Mineral Resource and Ore Reserve Estimates as at 30 June 2019

The Company reports Ore Reserves and Mineral Resources for the Tomingley Gold Operations (**TGO**), the Peak Hill Gold Project (**PHGP**) and Dubbo Project (**DP**) as at 30 June 2019 in accordance with the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (**JORC 2012**). All projects are located within the Central West region of New South Wales.

At TGO, open pit mining continued through until early 2019 and the operation began transitioning to underground mining. Low grade ore stockpiles will be processed until underground ore becomes available early 2020. An initial Resource estimation was compiled for the PHGP in October 2019 and is included in the statement. The DP Resource and Reserve estimates remain unchanged.

Mineral Resource and Ore Reserve Governance & Internal Controls

The Alkane Group has put governance arrangements and internal controls with respect to its estimates of Mineral Resources and Ore Reserves and the estimation process within the Tomingley Gold Operations, Dubbo Project and exploration and evaluation projects such as the Peak Hill Gold Project, including:

- oversight and approval of each annual statement by the Technical Director;
- establishment of internal procedures and controls to meet JORC Code 2012 compliance in all external reporting;
- independent review of new and materially changed estimates;
- annual reconciliation with internal planning to validate reserve estimates for operating mines; and
- Board approval of new and materially changed estimates.

Tomingley Gold Operations

The TGO has been operating since January 2014 and consequently the geology, mineralisation style, metallurgy, recovery, mining parameters and modifying factors have previously been well documented and reported. To ensure the resources have 'reasonable prospects of eventual economic extraction' the open pittable resources have been restricted by an indicative optimistic pit shell estimated at a gold price of $2,000 per ounce with the potential open pittable component assessed at ≥0.5g/t gold cut off. The underground resource is restricted to material below the current final pit design, below the highest stope level currently designed, with potential for eventual extraction by underground mining methods assessed at ≥2.5g/t gold.

These estimates take into account ore depleted by mining during the 2019 financial year and are set out in the tables below.

Mineral Resources

TOMINGLEY GOLD PROJECT MINERAL RESOURCES (as at 30 June 2019)									
DEPOSIT	MEASURED		INDICATED		INFERRED		TOTAL		Total Gold
	Tonnage (Kt)	Grade (g/t Au)	Tonnage (Kt)	Grade (g/t Au)	Tonnage (Kt)	Grade (g/t Au)	Tonnage (Kt)	Grade (g/t Au)	(Koz)
Open Pit Resources (cut off 0.50g/t Au)									
Wyoming One	184	1.5	982	1.7	137	0.7	1,303	1.6	60
Wyoming Three	86	2.0	16	1.3	33	1.4	135	1.7	8
Caloma	895	1.6	1,016	1.2	824	1.2	2,735	1.3	116
Caloma Two	64	2.3	812	2.0	26	1.4	902	2.0	58
Sub Total	**1,229**	**1.6**	**2,826**	**1.6**	**1,020**	**1.2**	**5,075**	**1.5**	**242**
Underground Resources (cut off 2.50g/t Au)									
Wyoming One	0	0.0	787	4.0	109	3.2	896	3.9	113
Wyoming Three	10	3.6	6	3.1	4	3.1	20	3.4	2
Caloma	78	3.8	32	3.4	44	3.0	154	3.5	17
Caloma Two	-	0.0	218	3.6	76	3.2	294	3.5	33
Sub Total	**88**	**3.8**	**1,043**	**3.9**	**233**	**3.2**	**1,364**	**3.8**	**165**
TOTAL	**1,317**	**1.8**	**3,869**	**2.2**	**1,253**	**1.5**	**6,439**	**2.0**	**407**

Apparent arithmetic inconsistencies are due to rounding

These Mineral Resources are wholly inclusive of Ore Reserves.

Full details are given in Appendix 1 (Table1, Sections 1-3; JORC 2012).

Ore Reserves

As with the Mineral Resource estimates, the **Open Pit Ore Reserves** take into account ore depleted by mining during the 2019 financial year and are set out in the tables below. A block cut-off grade of 0.5g/t Au has been applied to the resource block model in calculating this Ore Reserve. The cut has been selected with consideration to mine ability, and incremental cash operating margins (i.e. processing costs).

The cut-off has been calculated based upon;

- a $1,550 per ounce gold price excluding royalties;
- using process recoveries based on actual achieved for the past reporting year; and
- estimated processing and administration costs for the life of mine plan, based upon achieved costs for the past financial year.

An initial estimate of **Underground Ore Reserves** was completed in 2018 at a 2.50g/t Au and was reported in ASX Announcements of 4 and 11 June 2018. Full details and JORC 2012 tables were included in those announcements and the Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which any Competent Person's findings are presented have not been materially modified from the original market announcement

Underground development is on schedule, and recovery and delivery of ore to the plant ROM has commenced.

TOMINGLEY GOLD PROJECT MINERAL RESERVES(as at 30 June 2019)							
DEPOSIT	PROVED		PROBABLE		TOTAL		Total Gold
	Tonnage (Kt)	Grade (g/t Au)	Tonnage (Kt)	Grade (g/t Au)	Tonnage (Kt)	Grade (g/t Au)	(Koz)
Open Pit Reserves (cut off 0.50g/t Au)							
Wyoming One	0	0.0	0	0.0	0	0.0	0
Wyoming Three	0	0.0	0	0.0	0	0.0	0
Caloma	0	0.0	0	0.0	0	0.0	0
Caloma Two	0	0.0	0	0.0	0	0.0	0
Stockpiles	677	0.7	0	0	677	0.7	15
Sub Total	**677**	**0.7**	**0**	**1.7**	**677**	**0.7**	**15**
Underground Reserves (cut off 2.50g/t Au)							
TGO underground	45	2.7	688	3.2	732	3.1	74
Sub Total	**45**	**2.7**	**688**	**3.2**	**732**	**3.1**	**74**
TOTAL	**722**	**1.8**	**688**	**1.9**	**1,409**	**2.0**	**89**

Apparent arithmetic inconsistencies are due to rounding

Full details are given in Appendix 2 (Table1, Section 4; JORC 2012).

The tables below compare the Mineral Resources and Ore Reserves year on year with 2018 as per the current reporting requirements.

Comparison of 2018 / 2019 TGO Mineral Resources and Ore Reserves

TOTAL COMPARATIVE RESOURCES						
DEPOSIT	2018			2019		
	Tonnage (Kt)	Grade (g/t Au)	Gold (koz)	Tonnage (Kt)	Grade (g/t Au)	Gold (koz)
Open Pit						
Wyoming One	1,538	1.60	79	1,303	1.6	60
Wyoming Three	135	1.74	8	135	1.7	8
Caloma	2,735	1.32	116	2,735	1.3	116
Caloma Two	921	1.98	59	902	2.0	58
Sub Total	**5,329**	**1.5**	**262**	**5,075**	**1.5**	**242**
Underground						
Wyoming One	976	3.9	122	896	3.9	113
Wyoming Three	20	3.4	2	20	3.4	2
Caloma	164	3.5	18	154	3.5	17
Caloma Two	294	3.5	33	294	3.5	33
Sub Total	**1,454**	**3.8**	**175**	**1,364**	**3.8**	**165**
TOTAL	**6,783**	**2.0**	**437**	**6,439**	**2.0**	**407**

Apparent arithmetic inconsistencies are due to rounding

TOTAL COMPARATIVE OPEN PIT RESERVES						
DEPOSIT	2018			2019		
	Tonnage (Kt)	Grade (g/t Au)	Gold (koz)	Tonnage (Kt)	Grade (g/t Au)	Gold (koz)
Wyoming One	197	1.7	11	0	0.0	0
Wyoming Three	0	0.0	0	0	0.0	0
Caloma	0	0.0	0	0	0.0	0
Caloma Two	20	1.8	2	0	0.0	0
Stockpiles	1,257	1.0	39	677	0.7	15
TOTAL	**1,474**	**1.1**	**52**	**677**	**0.7**	**15**

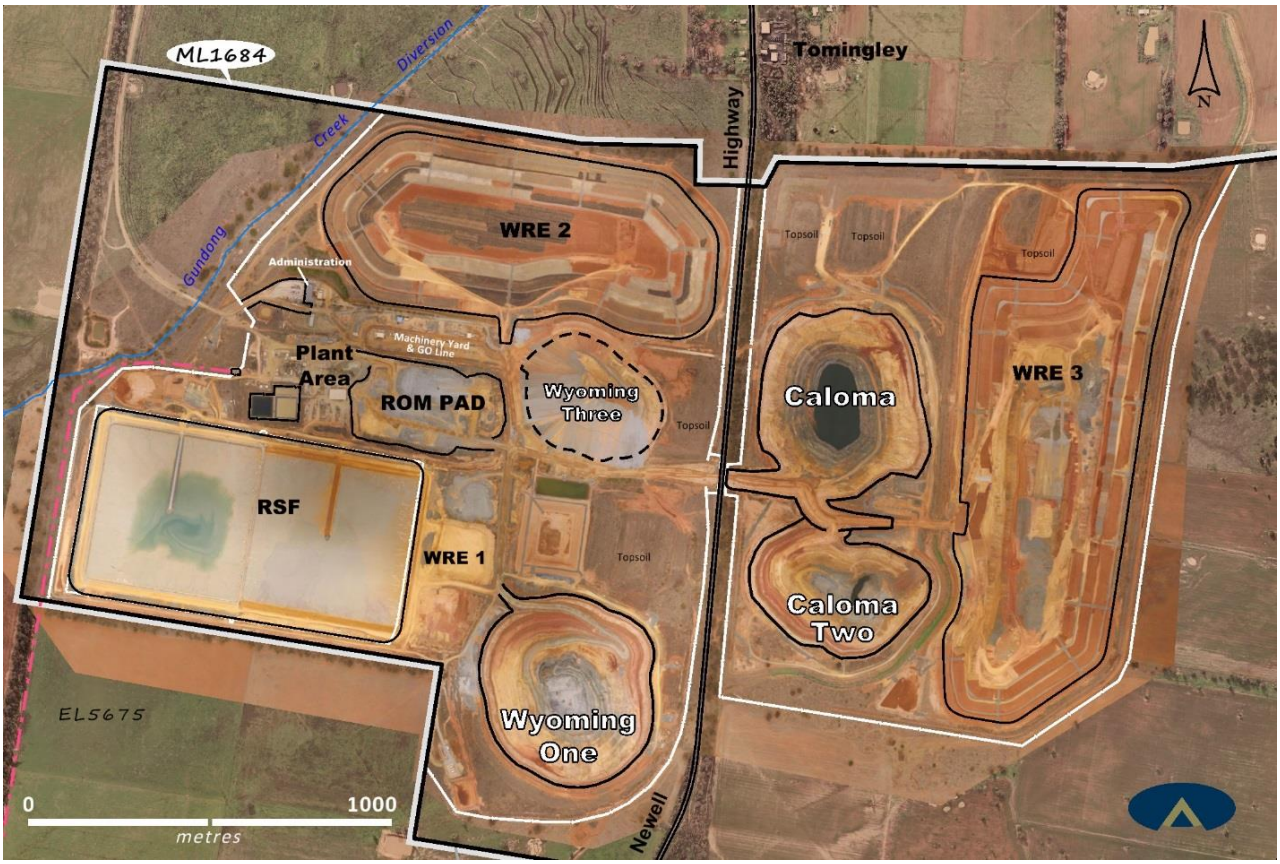
Apparent arithmetic inconsistencies are due to rounding

TOTAL COMPARATIVE UNDERGROUND RESERVES						
SOURCE	2018			2019		
	Tonnage (Kt)	Grade (g/t Au)	Gold (koz)	Tonnage (Kt)	Grade (g/t Au)	Gold (koz)
Proven	45	2.7	4	45	2.7	4
Probable	688	3.2	70	688	3.2	70
TOTAL	**732**	**3.1**	**74**	**732**	**3.1**	**74**

Apparent arithmetic inconsistencies are due to rounding

The primary differences from 2018 to 2019 are:

- Ore mined from Caloma Two and Wyoming One during the period.
- Open pit mining now complete.



Regional Exploration

Over the last year Alkane has conducted an extensive regional exploration program with the objective of defining additional resources that have the potential to be mined either via open pit or underground operations and fed to TGO. The program has yielded broad, shallow high grade intercepts that demonstrate potential for material project life extension and show that a return to open pit mining and / or underground extension is possible with appropriate resource confirmation, landholder agreement and regulatory approvals.

As a result, Alkane has been able to define an Exploration Target of approximately 15.8 to 23.8 million tonnes at a grade ranging between 1.7 to 2.2 g/t gold across its three primary prospects, Roswell, San Antonio and El Paso, which have over 2,500 metres of combined strike length. This Exploration Target lies within 8 kilometres of the existing Tomingley Gold Operations (TGO) one million tonne per annum

processing facility and underground mine. Detail relating to this Exploration Target were advised in the ASX Announcement of 11 August 2019.

The potential quantity and grade of the Exploration Target is conceptual in nature and therefore is an approximation. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource. The Exploration Target has been prepared and reported in accordance with the 2012 edition of the JORC Code.

Peak Hill Gold Project

The Peak Hill Gold Project is located 15km south of Alkane's operating Tomingley gold mine (TGO). The Peak Hill Gold Mine (**PHGM**) was a fully operational open pit gold mine that is currently under care are and maintenance with most site rehabilitation completed away from the existing open cuts. There are four pits, the main Proprietary-Parkers Pit and three satellite pits, Bobby Burns, Crown and Great Eastern.

The recent open cut mining by Alkane commenced in 1996 and was completed in 2002. The gold within the oxidised material was recovered by heap leach and dump leach methods and 154,000 ounces of gold was recovered from 4.7 million tonnes of ore through to 2005. Mining at the Proprietary-Parkers Pit extended to approximately 100m vertical depth, while the others are generally less than 50m deep. During the operation, a number of core holes were drilled to test the underlying sulphide mineralisation and provide sample for metallurgical testing. The drilling focused on the Proprietary deposit, the largest of the known deposits.

A review of the existing database in 2018 defined a resource beneath the Proprietary deposit (220mRL – -45mRL) at a 2.0g/t gold lower cu-off. The Proprietary underground deposit is approximately 250 metres long and 30 metres wide and the resource estimate was depleted for the known historical underground workings:

Mineral Resources

PEAK HILL GOLD PROJECT MINERAL RESOURCES (as at 30 June 2019)						
Deposit	Resource Category	Cut-Off	Tonnes (Mt)	Gold Grade g/t	Gold Metal (Koz)	Copper Metal (%)
Proprietary Underground	Inferred	2g/t Au	1.02	3.29	108	0.15
TOTAL			**1.02**	**3.29**	**108**	**0.15**

Details of the project and underground Mineral Resource estimation were given in the ASX Announcement of 18 October 2018. Full details and JORC tables were included in that announcement and the Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which any Competent Person's findings are presented have not been materially modified from the original market announcement.

Comparison of 2018 / 2019 Peak Hill Gold Project Mineral Resources

TOTAL COMPARATIVE MINERAL RESOURCES								
	2018				2019			
Deposit	Tonnes (Mt)	Gold Grade g/t	Gold Metal (Koz)	Copper Metal (%)	Tonnes (Mt)	Gold Grade g/t	Gold Metal (Koz)	Copper Metal (%)
Proprietary Underground – Inferred Resource	0	0	0	0	1.02	3.29	108	0.15
TOTAL	**0**	**0**	**0**	**0**	**1.02**	**3.29**	**108**	**0.15**

The Mineral Resource estimate was initially completed in October 2018.

Dubbo Project

The Dubbo Project is based upon a large deposit of the metals zirconium (Zr), hafnium (Hf), niobium (Nb), yttrium (Y) and rare earth elements (REE) located about 25km south of Dubbo. The Toongi Trachyte is an elliptical shaped subvolcanic intrusion or lava flow with approximate dimensions of 850 metres east-west by 550 metres north-south. The deposit forms a low irregular topographic rise and has a depth extent of 115 metres below surface. The rare metal – rare earth mineralisation is evenly dispersed throughout the host trachyte.

Over 15 years, the Company has developed a flowsheet, including operating a demonstration pilot plant, that uses a sulphuric acid leach, solvent extraction separation and refining process to produce a number of saleable products.

Independent consultants were engaged to provide an estimation of the Mineral Resources and Ore Reserves for the Toongi deposit which is the foundation of the Dubbo Project. The revised estimation took account of the Dubbo Ore Reserve Upgrade (ASX Announcement 16 November 2011); Definitive Feasibility Study (ASX Announcement 11 April 2013); the Front End Engineering Design - FEED (ASX Announcement 27 August 2015); and the Significant Improvements in Capital Cost and Execution Strategy for the DZP – Modular Study (ASX Announcement 28 October 2016).

Mineral Resources as at 30 June 2018 and 30 June 2019

DUBBO PROJECT MINERAL RESOURCES							
Resource Category	Tonnes (Mt)	ZrO_2 (%)	HfO_2 (%)	Nb_2O_5 (%)	Ta_2O_5 (%)	Y_2O_3 (%)	TREO* (%)
Measured	42.81	1.89	0.04	0.45	0.03	0.14	0.74
Inferred	32.37	1.90	0.04	0.44	0.03	0.14	0.74
Total	**75.18**	**1.89**	**0.04**	**0.44**	**0.03**	**0.14**	**0.74**

***TREO% is the sum of all rare earth oxides excluding ZrO_2, HfO_2, Nb_2O_3, Ta_2O_5, Y_2O_3,**

Ore Reserves as at 30 June 2018 and 30 June 2019

DUBBO PROJECT ORE RESERVES							
Reserve Category	Tonnes (Mt)	ZrO_2 (%)	HfO_2 (%)	Nb_2O_5 (%)	Ta_2O_5 (%)	Y_2O_3 (%)	TREO* (%)
Proved	18.90	1.85	0.04	0.440	0.029	0.136	0.735
Total	**18.90**	**1.85**	**0.04**	**0.440**	**0.029**	**0.136**	**0.735**

***TREO% is the sum of all rare earth oxides excluding ZrO_2, HfO_2, Nb_2O_3, Ta_2O_5, Y_2O_3,**

Full details and JORC tables were included in those announcements and the Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. The Company confirms that the form and context in which any Competent Person's findings are presented have not been materially modified from the original market announcements.

Competent Persons

*This **Mineral Resources and Ore Reserves Statement as a whole** has been approved by Mr D Ian Chalmers, FAusIMM, FAIG, (executive director of the Company) who has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Chalmers has provided his prior written consent to the inclusion in this report of the Mineral Resources and Ore Reserves Statement in the form and context in which it appears.*

*The information in this report that relates to the **TGO Mineral Resource and Ore Reserve** estimates (other than the TGO Underground Ore Reserve) is based on, and fairly represents, information which has been compiled by Mr Craig Pridmore, Geology Superintendent Tomingley Gold Operations, who is a Member of the Australasian Institute of Mining and Metallurgy and an employee of Alkane Resources Ltd. Mr Pridmore has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Pridmore consents to the inclusion in this report of the matters based on his information in the form and context in which they appear.*

*The information in this report that relates to the **TGO Underground Ore Reserve** estimate (fully reported 4 and 11 June 2018) is based on, and fairly represents, information which has been compiled by Mr Christopher Hiller (Hiller Enterprises Pty Ltd), an independent consultant, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Hiller has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.*

*The information in this report that relates to the **PHGP Mineral Resource** estimate is based on, and fairly represents, information which has been compiled by Mr Craig Pridmore, Geology Superintendent Tomingley Gold Operations, who is a Member of the Australasian Institute of Mining and Metallurgy and an employee of Alkane Resources Ltd. Mr Pridmore has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.*

*The information in this report that relates to the **Dubbo Project Mineral Resource** estimates is based on, and fairly represents, information which has been compiled by Mr Stuart Hutchin, MIAG, and an employee of Mining One Pty Ltd. Mr Hutchin has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.*

*The information in this report that relates to the **Dubbo Project Ore Reserve** estimate is based on, and fairly represents, information which has been compiled by Mr Ievan Ludjio MAusIMM(CP) and Mr Mark Van Leuven FAusIMM (CP), employees of Mining One Pty Ltd. Mr Ludjio and Mr Leuven have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that is being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'.*

*The information in this report that relates to **Exploration Targets** is extracted from the Company's ASX announcement dated 11 August 2019. The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.*

Disclaimer

This report contains certain forward looking statements and forecasts, including possible or assumed reserves and resources, production levels and rates, costs, prices, future performance or potential growth of Alkane Resources Ltd, industry growth or other trend projections. Such statements are not a guarantee of future performance and involve unknown risks and uncertainties, as well as other factors which are beyond the control of Alkane Resources Ltd. Actual results and developments may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors. Nothing in this report should be construed as either an offer to sell or a solicitation of an offer to buy or sell securities.

This document has been prepared in accordance with the requirements of Australian securities laws, which may differ from the requirements of United States and other country securities laws. Unless otherwise indicated, all ore reserve and mineral resource estimates included or incorporated by reference in this document have been, and will be, prepared in accordance with the JORC classification system of the Australasian Institute of Mining, and Metallurgy and Australian Institute of Geoscientists.

ABOUT ALKANE - www.alkane.com.au - ASX: ALK and OTCQX: ANLKY

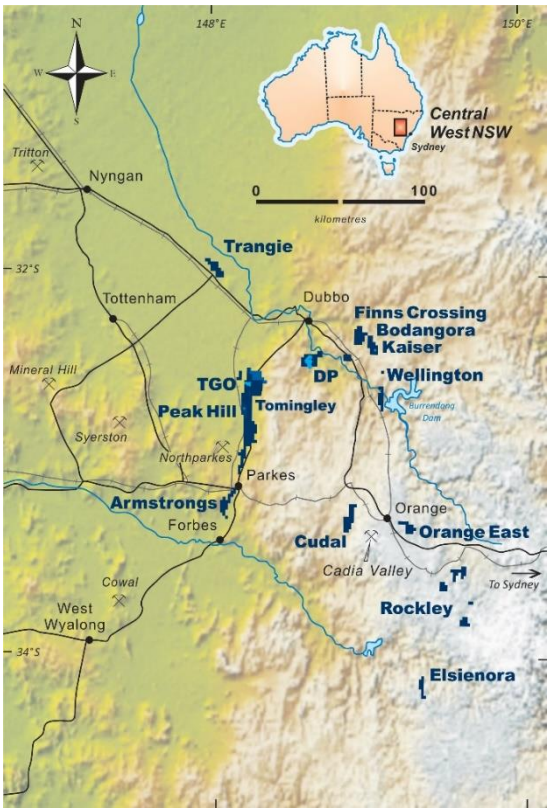
Alkane is a gold production company with a multi-commodity exploration and development portfolio. Alkane's projects are predominantly in the Central West region of NSW, but extend throughout Australia.

Alkane's gold production is from the Tomingley Gold Operations (TGO) which has been operating since early 2014. Alkane has investments in other gold exploration and development companies.

Alkane's most advanced gold exploration projects are in the 100% Alkane owned tenement area between TGO and Peak Hill and have the potential for sourcing additional ore for TGO.

Alkane has other 100% owned exploration tenements in Central Western NSW prospective for gold and copper.

Alkane's largest non-gold project is the Dubbo Project (DP), a large in-ground resource of zirconium, hafnium, niobium, yttrium and rare earth elements. As it is an advanced polymetallic project outside China, it is a potential strategic and independent supply of critical minerals for a range of sustainable technologies and future industries. It has a potential mine life of 75+ years. The DP is development ready, subject to financing, with the mineral deposit and surrounding land acquired and all major State and Federal approvals in place.



APPENDIX 1

JORC Code, 2012 Edition – Table 1 report – Wyoming One
(For Caloma 2 and Caloma 1 JORC Table report refer to ASX release 04/09/17)

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*	The Wyoming One area has been evaluated using air core (AC), reverse circulation (RC) and diamond drilling (DD) techniques between May 2001 and December 2017 although not all of this drilling lies within the current resource outline. AC - 185 holes for 14593.8m – inclusive of 3 pre-collars totalling 294.2m RC - 150 holes for 25356m – inclusive of 29 pre-collars totalling 4552.9m RC Grade Control – 863 holes for 21770m DD - 83 holes totalling 29,469m AC samples were collected in large plastic bags at one metre intervals via a cyclone RC samples were collected at one metre intervals via a cyclone. DD sample intervals were defined by geologist during logging to honour geological boundaries. The resource model includes Grade Control holes drilled within the Wyoming 1 pit. These RC Grade control holes have limited impact on the Wyoming 1 Underground estimation, but were essential to the creation of the entire geological model.
	• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*	AC and RC drilling completed to industry standards. Core was laid out in suitably labelled core trays. A core marker (core block) was placed at the end of each drilled run (nominally 3 or 6m) and labelled with the hole number, down hole depth, length of drill run. Core was aligned and measured by tape, comparing back to this down hole depth consistent with industry standards.
	• *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	AC drilling samples collected at 1m intervals via a cyclone into large plastic bags. RC Drilling – the entire RC sample was collected at 1m intervals and delivered into a large plastic bag via a cyclone. DD Drilling – sample intervals were defined by geologists during logging to honour geological boundaries and cut in half with a saw. All samples sent to the laboratory were crushed and/or pulverised to produce a ~100g pulp for assay process. All 1m RC & AC samples and core samples were fire assayed using a 50g charge and all RC and AC composite samples fire assayed using a 30g charge. Visible gold was occasionally observed in both core and AC/RC samples
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	Initial reconnaissance drilling was completed to fresh rock using 75mm or 100mm air core with follow-up and deeper drilling completed by RC (usually 126 - 140mm diameter). Detailed resource definition drilling was completed primarily by RC techniques using a 130mm or 140mm diameter face sampling hammer. DD holes were pre-collared using either RC techniques or un-oriented PQ3 (83mm diameter) core drilling. Pre-collars were completed to

Criteria	JORC Code explanation	Commentary
		competent material, with holes cased off and completed to depth using HQ3 (61mm diameter) core. The 2016/2017 Diamond drilling was collared with PQ3 and were reduced to HQ3 when the ground became competent. The HQ3 core was oriented using the 'BallMark', 'EzyMark' or 'Ace' (Reflex Act) core orientation tool depending upon the contractor and time period of when the drill program was drilled. Within the resource area drilling was comprised of: 28% RC - 150 holes totalling 25,356 m (inclusive of 29 pre-collars totalling 4552.9m) 32% DD - 83 holes totalling 29469m 24% RC Grade control – 863 holes totalling 21770m 16% AC – 185 holes totalling 14593.8m
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.*	AC and RC - sample recovery was visually estimated and was generally very good (>90%) aided by the use of oversized shrouds through oxide material. Samples were even in size. Samples were rarely damp or wet. Sample quality was assessed by the sampler by visual approximation of sample recovery and if the sample was dry, damp or wet. A riffle splitter was used to ensure a representative sample was achieved for 1 metre samples. DD - core loss was identified by drillers and calculated by geologists when logging. Generally ≥95% was recovered and any loss was usually in portions of the oxide zone. Triple tube Large diameter, triple tube core (PQ3) was used through the oxide material to ensure the greatest recovery.
	• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	*RC drilling was completed using oversized shrouds to maintain sample return in oxide zone and all samples were split using riffle or cone splitters. Use of RC rigs with high air capacity assists in keeping samples dry.* Triple tube coring was used at all times to maximise core recovery with larger diameter (PQ3) core used in the oxide and saprolite zones.
	• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	There is no known relationship between sample recovery and grade.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*	*AC & RC - each one metre interval was geologically logged for characteristics such as lithology, weathering, alteration (type, character and intensity), veining (type, character and intensity) and mineralisation (type, character and volume percentage).* *DD - all core was laid out in core trays and geologically logged for characteristics such as lithology, weathering, alteration (type, character and intensity), veining (type, character and intensity) and mineralisation (type, character and volume percentage). A brief geotechnical log was also undertaken collecting parameters such as core recovery, RQD, fracture count, and fracture type and orientation. With the 2016/2017 Diamond program, specific zones of the core has full geotechnical analysis undertaken. This included Alpha, Beta measurements for all fractures and internal structures, fracture fill type etc*
	• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*	*All logging was qualitative with visual estimates of the various characteristics. Magnetic susceptibility data is quantitative.* *AC & RC - A representative sample of each one metre interval is retained in chip trays for future reference.*

Criteria	JORC Code explanation	Commentary
		DD - Core was photographed and all un sampled core is retained for reference purposes.
	• *The total length and percentage of the relevant intersections logged.*	All DD core and AC/RC chip samples have been geologically and geotechnically logged by qualified geologists.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.*	DD - zones of visual mineralisation and/or alteration were marked up by the geologist and cut in half using an Almonté (or equivalent) core cutting saw. Samples submitted for analysis were collected from the same side in all cases to prevent bias. Sampling intervals were generally based on geology, were predominantly over 1m intervals but do not exceed 1.2 metres in length. The minimum core sample length was 0.3m. All mineralised zones were sampled, plus ≥6m of visibly barren wall rock. Laboratory Preparation – drill core was oven dried prior to crushing to <6mm using a jaw crusher, split to 3kg if required then pulverised in an LM5 (or equivalent) to ≥85% passing 75µm. Bulk rejects for all samples were discarded. A pulp packet (±100g) is stored for future reference
	• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*	*AC/RC – samples were collected at 1m intervals via a cyclone into large plastic bags. Spear samples were collected from each 1m sample and composited to 3m for initial analysis. Individual 1m samples from all composites assaying ≥0.2g/t Au were riffle split and resubmitted for analysis.* *Rare damp or wet samples were recorded by the sampler.* Laboratory Preparation – the entire RC sample (3kg) was dried and pulverised in an LM5 (or equivalent) to ≥85% passing 75µm. Bulk rejects for all samples were discarded. A pulp packet (±100g) is stored for future reference.
	• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*	Alkane (ALK) sampling techniques are of industry standard and considered adequate.
	• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*	AC – field duplicate samples were not regularly submitted for reconnaissance AC drilling RC – field duplicate samples collected at every stage of sampling to control procedures. DD – external laboratory duplicates used.
	• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*	RC - Duplicate samples were riffle split from bulk sample. Duplicates show generally excellent repeatability, indicating a negligible "nugget" effect.
	• *Whether sample sizes are appropriate to the grain size of the material being sampled.*	Sample sizes are industry standard and considered appropriate.
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*	*For all 1m samples used in the resource estimate gold was determined using a 50g charge fused at approximately 1100°C with alkaline fluxes, including lead oxide. The resultant prill was dissolved in aqua regia and gold determined by flame AAS. For 3m composite samples gold was determined using a 30g charge (more rarely 50g charge).* For other geochemical elements, samples were digested in aqua regia with each element concentration determined by ICP Atomic Emission Spectrometry or ICP Mass Spectrometry. These additional elements were generally only used for geological interpretation purposes, are not of economic significance and are not routinely reported.

Criteria	JORC Code explanation	Commentary
	• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*	Not applicable to this report or deposit.
	• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	*Commercially prepared Certified Reference Materials (CRM) and blanks were inserted at 1 in 50 samples. CRM's were not identifiable to the laboratory.* *Field duplicate samples were inserted at 1 in 50 samples (alternate to CRM's) for RC drilling programs.* *Laboratory QAQC sampling includes insertion of CRM samples, internal duplicates and screen tests. This data was reported for each sample submission.* *Failed standards result in re-assaying of portions of the affected sample batches.*
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*	Drill data was compiled and collated, and reviewed by senior staff. External consultants do not routinely verify exploration data until resource estimation procedures are deemed necessary.
	• *The use of twinned holes.*	Twinned holes have not been used at Wyoming One as twinning provides verification only for extremely limited areas of a deposit.
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*	*All drill hole logging and sampling data was hard keyed into Excel spreadsheet for transfer and storage in the Datashed database with verification protocols in place.* All primary assay data was received from the laboratory as electronic data files which were imported into sampling database with verification procedures in place. QAQC analysis was undertaken for each laboratory report. Digital copies of Certificates of Analysis (COA) are stored in a central database with regular (daily) backup. Original survey data is stored on site. Data was also verified on import into mining related software.
	• *Discuss any adjustment to assay data.*	No assay data was adjusted.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*	*Drill holes were laid out using hand held GPS (accuracy ± 2m) then surveyed accurately (± 0.1m) by licensed surveyors on completion.* *RC & AC drill holes were surveyed using a single shot electronic camera at a nominal 30m down hole intervals.* DD holes were surveyed at nominal 30m down hole during drilling to maintain drilling direction and then at 6m intervals on retrieval of rod string using a multi shot electronic camera.
	• *Specification of the grid system used.*	All drill holes were originally laid out in AMG66 grid however since mining commenced in February 2014 have been transformed to MGA94 grid system to conform to reporting requirements for mine operations.
	• *Quality and adequacy of topographic control.*	The area is very flat. A site based digital terrain model was developed from accurate (± 0.1m) survey control by licenced surveyors.
	• *Data spacing for reporting of Exploration Results.*	The majority of drilling at Wyoming One within the open pit was completed along east-west lines spaced 25m apart. However once the east-west lode orientation was confirmed for the '376' zone (this zone is the high grade mineralisation on the eastern contact of the porphyry

Criteria	JORC Code explanation	Commentary
Data spacing and distribution		intrusive contact) this portion of the deposit was assessed by south drilled holes was completed along north-south sections spaced 25m apart. The Underground infill drilling during the 2016/2017 campaign was drilled to ensure the drill hole intercept spacing within each lode was covered to a nominal 30m pattern. The drilling direction of these holes was optimised best as practical to the orientation of the mineralisation and geology to remove/reduce any potential sample bias for the estimation. The drill hole spacing is similar to that used at other Tomingley deposits and has been established to be sufficient. Grade control drilling has been undertaken during mining on a 10m x 10m grid to a nominal 20 vertical metres.
	• *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*	The drill hole spacing has been shown to be appropriate by the visible continuity of mineralisation and geology between drill holes.
	• *Whether sample compositing has been applied.*	Sample compositing was not applied until resource estimation stage. RC & AC – samples were composited to 3m with 1m resamples assayed if the composite returned a gold value of >0.2g/t gold. One metre samples override 3m composites in the database. DD – core was sampled to geology.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*	Much care was given to attempt to intersect mineralisation at an optimal angle but in complex ore bodies this can be difficult. As noted above, drilling at Wyoming One was initially completed along both east-west and north-south lines, depending upon which portion of the deposit was being assessed.
	• *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	It is not thought that drilling direction will bias assay data at Wyoming One however east-west drilling will not provide optimum intersection of the '376' lode structures. The recent 2016/2017 drilling campaign specifically targeted the High grade mineralisation associated with the previously known "376" structure (now referred to as the High Grade porphyry lode). These holes were orientated to intersect this mineralisation at an optimal angle and to confirm the mineralisation thickness.
Sample security	• *The measures taken to ensure sample security.*	All samples were bagged in tied numbered calico bags, grouped into larger tied polyweave bags and transported to the laboratory in Orange by Alkane personnel or courier. S ample submission sheets were delivered with the samples and also emailed to the laboratory. All sample submissions were documented via ALS tracking system and all assays were reported via email. Sample pulps were returned to site and were stored for an appropriate length of time (minimum 3 years). The Company has in place protocols to ensure data security.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	The Company does not routinely have external consultants verify exploration data until resource estimation procedures are deemed necessary. The Wyoming data was reviewed in 2010 and 2011 by Behre Dolbear (BDA) as part of the due diligence phase of the development of the project. BDA did not express any specific concerns with respect to the data other than to recommend the completion of some round

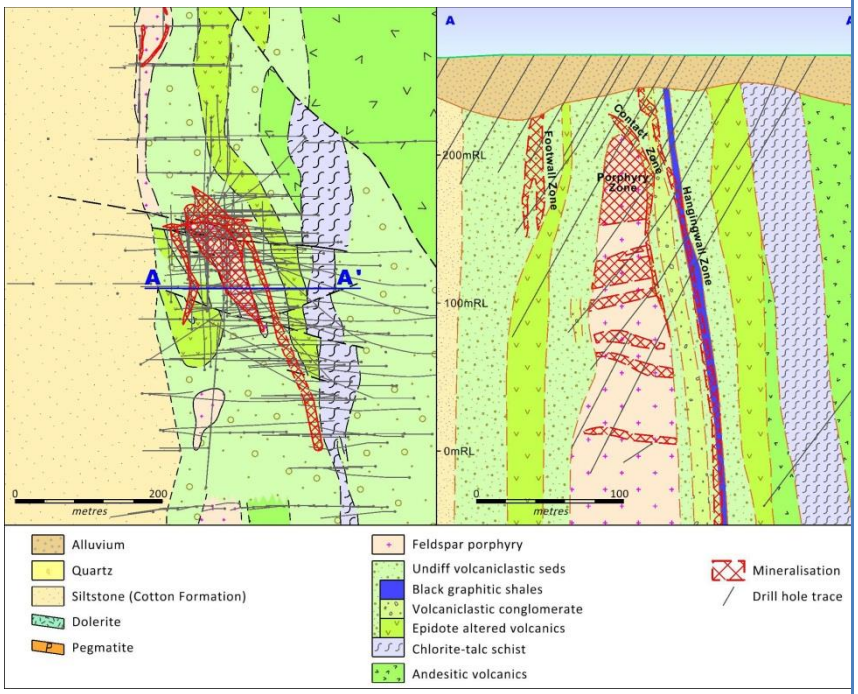
Criteria	JORC Code explanation	Commentary
		robin assaying and completion of additional density determinations, both of which were undertaken for the Caloma Two and Wyoming 1 resource drilling.

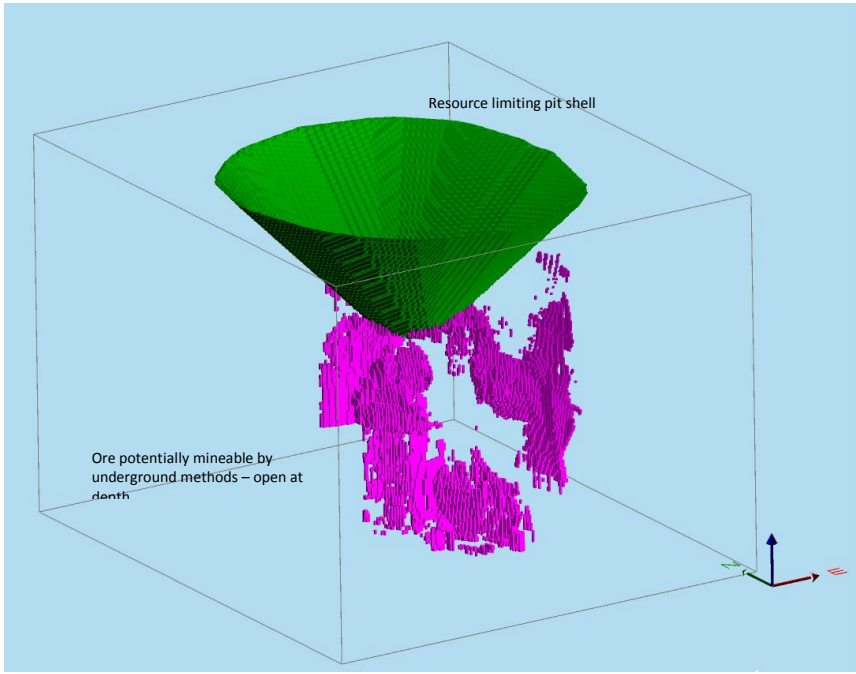
Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*	The Wyoming One deposit lies within ML 1684 which is held in the name of Tomingley Gold Operations Pty Ltd, a wholly owned subsidiary of Alkane Resources Ltd.
	• *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.*	ML1684 expires on 11 February 2034.
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	All reported drilling has been completed by ALK.
Geology	• *Deposit type, geological setting and style of mineralisation.*	Geological nature of the Tomingley Deposits is well documented elsewhere. Mineralisation is associated with quartz veining and alteration focused within sub-volcanic basaltic-andesite sills and adjacent volcaniclastic sediments. The deposits appear to have formed as the result of a rheological contrast between the porphyritic sub-volcanic sills and the surrounding volcaniclastic sediments, with the sills showing brittle fracture and the sediments ductile deformation, and have many similarities to well documented orogenic - lode-style gold deposits. Mineralisation at Wyoming One is developed within a number of different zones which have been domained based on the geology, style of mineralisation and continuity of high mineralisation that can be separated: *Porphyry* – mineralisation hosted by a quartz stockwork within the carapace of a sub-volcanic sill with dimensions roughly 60m x 150m. High grade mineralisation is developed along the eastern and northern contact of the sediment and porphyry. This High Grade mineralisation on the contact has been domained separately for the estimation and is currently referred known as the "High Grade porphyry lode" mentioned below. Within the main porphyry body there appears to be structures that dip 45° to the NE which is only evident through the location and continuity of grade in this orientation from the close spaced open pit RC Grade control drilling. *Hangingwall* – a linear zone of mineralisation situated approximately 30m to hanging wall of the 'porphyry' mineralisation and hosted within quartz veins within silicified fine grained sediments and a brecciated carbonaceous mudstone. This zone is lithologically constrained with these fine grained sediment package which folds around the northern end of the porphyry (*northern* zone); *'High Grade Porphyry Lode"'* –This zone was previously known as the '376" structure interpreted to be a bounding structure and primary fluid conduit. This High Grade zone of

Criteria	JORC Code explanation	Commentary
		mineralisation is developed at the eastern and northern contact of the porphyry and incorporates some of the contact metasediments which were impacted by the mineralisation. *Footwall* – a low grade zone located in a similar stratigraphic position to the hangingwall zone but footwall to the porphyry
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.*	Too numerous and not practical to summarise all drill hole data used. All drilling results have been reported previously
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	Exclusion of drill hole data will not detract from the understanding of this report. All drill data has been previously reported, holes are close spaced and in an operating mine area.
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*	*Previously reported results have been –* *For uncut gold grades;* *Intercepts were defined (bounded) by 0.5g/t gold outer limit and may contain some internal waste;* Only intervals grading ≥1 g/t gold were reported; Grades were calculated by length weighted average.
	• *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*	Exploration results have been previously reported as length weighted average grades with internal high grade intercepts reported separately.
	• *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	No metal equivalents are reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* ○ *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* ○ *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	Previously reported exploration results include the drilled width and an estimate of true width.

Criteria	JORC Code explanation	Commentary
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	*Cross sections and a plan showing geology with drill collars were included with previously reported exploration results. A typical plan and cross section are included below.* 
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	Data relating to all exploration drill holes has been reported in previous documentation of exploration results.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	No additional or new drilling results are being reported at this time.

Criteria	JORC Code explanation	Commentary
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*	An assessment of mining the higher grade portions of the 'hangingwall', 'High Grade Porphyry" zones by underground methods has been completed as part of the feasibility study and ore from this has been included in the long term mining schedule. Additional drilling may be completed to compliment this assessment of mining resources below the open pit.
	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	The upper portions of the Wyoming One deposit are well constrained by drilling however the high grade structures remain open at depth. 

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*	Logging data was entered into Excel via drop down menus. All raw data was loaded directly to the Access database from the assay, logging and survey derived files. (Datashed is the Companies Drill hole Database platform.
	• *Data validation procedures used.*	There are validation checks to avoid duplications of data. The data were further validated for consistency when loaded into Datashed and desurveyed. An extensive check on the consistency and adequacy of down-hole survey data was carried out in 2009. This has continued through to the completion of the 2017 Diamond Drill campaign
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* *(If no site visits have been undertaken indicate why this is the case.)*	No site visit was undertaken by an external consultant since the release of the previous 2014 Underground release. Since the last release the geological/structural model of the Wyoming 1 deposit has been updated based on the mapping of the geology exposed within the open pit. The model also reflects the evaluation and interpretation of the in RC Grade control drilling and 2016/2017 Diamond drilling campaign. All geostatistical analysis for the resource estimation was undertaken by Cube Consultancy who are based in Perth. The quoted resources were compiled by Mr Craig Pridmore, Geology Superintendent, Tomingley Gold Operations Pty Ltd, who has worked at TGO site since March 2015.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.*	The geological model was built on structural data from core lithological logging, in pit Grade control logging, and pit mapping. The domain wireframes were built by the Alkane geologists most familiar with the deposit.
	• *Nature of the data used and of any assumptions made.*	Structural measurements from oriented drill core were used to assist in the geological interpretation along with lithological, alteration and mineralisation logging of RC chips and drill core
	• *The effect, if any, of alternative interpretations on Mineral Resource estimation.*	The Wyoming One deposit was been drilled at a close-spacing in several different drilling campaigns and in several different drilling directions, reducing the likelihood that the geological interpretation will change significantly.
	• *The use of geology in guiding and controlling Mineral Resource estimation.*	Geological (lithological) logging and in pit mapping was used to develop a geological model. Alteration and mineralisation estimates along with grade guided the interpretation of the ore envelope wireframes at a nominal 0.25g/t Au lower cut-off. Gold mineralisation at Wyoming One has a close spatial relationship to feldspar porphyry which intrudes into andesitic volcaniclastic rocks and metasedimentary pelitic rock sequences. Mineralisation is associated with extensive alteration and quartz veining of the porphyry and volcanic rocks. In pit mapping has generally verified the geological interpretation on a macroscopic scale.
	• *The factors affecting continuity both of grade and geology.*	Mineralisation is directly associated with alteration and quartz veining.

Criteria	JORC Code explanation	Commentary
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	The mineralisation occurs in several zones within a NNW-striking corridor 300m long and 220m wide. Mineralisation extends from about 25m below the surface for more than 400m vertical depth.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*	Five mineralisation wireframes (domains) were interpreted by the Alkane geologists most familiar with the deposit to constrain the estimation. This includes an enclosing background domain which was modelled to capture minor mineralization outside the main domains. Four surfaces were also used to separate material types - topography, alluvium, saprolite and base of oxidation surfaces. The material type classification was used to allocate density values. The drill hole data were flagged by the domain wireframes in priority order, to prevent double use the data in the intersecting zones. The samples were composited to 1m, the most common sample length and flagged by the topography, alluvium, saprolite and base of oxidation surfaces. Top-cuts were selected for each domain based on histograms, probability plots and cutting statistic plots. The top-cuts ranged from 7g/t gold to 40.0 g/t gold. After top-cutting, the maximum coefficient of variation for the mineralized domains ranged from 1.21 to 3.64 indicating that the estimation would not be difficult. In January 2017 Cube consultancy reviewed the drill data in Wyoming 1. The composite gold grades were first transformed to Standard Gaussian space in order to elucidate the underlying spatial structure. A Gaussian Variogram was then produced before back-transformed to real space for use in in Wyoming 1 DOK process. Reasonably robust variogram models were obtained for all estimation domains. Each domain used in the estimation had its own variogram model. The Underground Resource model incorporates the entire Wyoming 1 project and includes the estimation for the open pit. The Estimation technique used was Ordinary Kriging. A check estimate was made using the Inverse Distance Squared method. The minimum samples, maximum samples and search parameters used in the ID2 check estimate are were the same as the Kriged estimation values. Surpac was used for estimation. The orientation of the search ellipse for each domain was controlled by a Dynamic Anisotropy model that provided a unique dip and dip-azimuth for each block. Grade control drilling data is incorporated with exploration data and a new block model generated using the same parameters as the resource model for that sector of the ore body subject to the grade control drilling. .
	• *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*	The estimates were compared to those of previous published resource estimate made by Alkane. The variance between the models is based on modifications to the geological domains and mineralised domains which have been updated. These modifications were based on the in-pit geological mapping, greater definition through Grade control drilling and an additional 31 extra diamond holes drilled into the Underground resource in 2016 and 2017.
	• *The assumptions made regarding recovery of by-products.*	No assumptions made - Estimates were made for gold, arsenic and copper; only gold is of economic significance.

Criteria	JORC Code explanation	Commentary
	• *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*	No deleterious elements identified for estimation
	• *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*	The primary block size was unrotated (2.5mE x 5mN x 2.5mRL) because of the narrow steeply dipping nature of the mineralized zones. Sub-blocking of 2.5mE x 2.5mN x 2.5mRl was also used were estimated. These block sizes were employed in the open pit based on the practical mining considerations and the fact he variogram nugget effects are low. These block sizes were used in the underground resource estimate below the open pit. The maximum search radius used was 60m with a search radius ratio of 4:1
	• *Any assumptions behind modelling of selective mining units.*	No assumptions were made.
	• *Any assumptions about correlation between variables.*	No assumptions made
	• *Description of how the geological interpretation was used to control the resource estimates.*	Only data from the same domain were used to make estimates. No soft boundaries were used between domains
	• *Discussion of basis for using or not using grade cutting or capping.*	The top-cut analysis was undertaken by using a combination of histograms, log-probability plots of composite gold grade and cutting statistic plots (plots of cut-off grade against Coefficient of Variation (CV) and total metal). Using the statistical information above the top cuts were picked using the following criteria 1) By visual inspection of the log-probability plots of composite gold grade, with a view towards identifying the point at the upper tail where the robustness of the distribution breaks down and where the plot goes off trend. 2) By visual 3D inspection of the spatial location of the grade outliers and the spatial relationship to neighbouring values. While the principal estimate was made using top-cuts, a check estimate was made without top-cutting.
	• *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	The estimates were verified using several different techniques and checked for local variability by comparing the estimated block grades with the average of the top-cut composites in each block.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	The tonnages were estimated on a dry tonnage basis.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	The cut-off grade (0.50 g/t Gold) for open pit able resources is relevant for the current mining operation for similar material in the adjacent deposits.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the*	Mining of ore from the Wyoming One ore body commenced in 2016 and to date reconciliations, save for poorly defined inferred mineralisation in the background domain, have been as expected. The main part of the Wyoming One deposit is currently being mined by open pit methods. No dilution factors in the resource model were applied

Criteria	JORC Code explanation	Commentary
	basis of the mining assumptions made.	
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	The metallurgy of the Tomingley deposits is well studied. The upper portion of the Wyoming 1 deposit has been completed. A total of 1.2K tonnes have been mined up to February 2019, with 2.0M tonnes of Wyoming 1 having been processed. During this time no metallurgical issues have arisen, with recoveries ranging between 92-94%.
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	Project approval for the TGP was granted in July 2012 for mining from three open pits (Wyoming One, Wyoming Three and Caloma) and underground from Wyoming One deposit. Mining from the Wyoming Three and Caloma open pits commenced in December 2013 with processing of ore in February 2014. Mining of ore from the Wyoming One open pit commenced in January 2016 and was completed in January 2019.
Bulk density	• *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.*	Specific gravity measurements were completed by commercial laboratories on DD core samples of the different material types (alluvium, saprolite, totally oxidized and fresh). Oxidation was far more important than variations in lithology or alteration. The specific gravity measurements were applied on a dry basis. In December 2015 a large in-house density analysis campaign occurred on all the deposits with over 3,182 additional measurements taken. Using wet/dry density methods. All diamond hole drilled in the 2016/2017 campaign had SG measurements undertaken using the wet/dry method (SG = Mass of object/ (Mass of object) – (Mass of object in water). All measurements in the fresh material were constrained to each geological domain. The average Specific gravity reading was applied to each domain and used in the estimation.
	• *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.*	SG measurements completed on all material types – see above.
	• *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	No assumptions made – SG determined and individual values applied to each material type based on wire-framed domain.
Classification	• *The basis for the classification of the Mineral Resources into varying confidence categories.*	The resources were classified using drill density, geological confidence and mineralisation continuity. The actual break-points for the different resource classes were chosen by inspection of the model in relation to the drilling density. Any blocks outside the main mineralized/geological domains were classified as Inferred.
	• *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).*	Wyoming One Underground resource model which includes Grade control RC was estimated using high proportion of Reverse Circulation (RC) drill hole data. The Underground portion

Criteria	JORC Code explanation	Commentary
		of the resource below the Open pit has been predominantly drilled using diamond drilling techniques
	• *Whether the result appropriately reflects the Competent Person's view of the deposit.*	The classification reflects the Competent Persons view of the deposit and its supporting data
Audits or reviews	• *The results of any audits or reviews of Mineral Resource estimates.*	No external reviews undertaken
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.*	The Wyoming One deposit consists of 8 mineralisation zones; Reasonable robust variogram models were obtained for all estimation domains (undertaken by Cube consultancy). The variograms show clear evidence of a relatively low nugget effect (between 14% and 20%), with exception of the footwall lode which does not impact on the underground. This coupled with a rapid deterioration in continuity over a distance of several meters, as indicated by the first spherical structure ranges and sills. These features are evident when the composite gold values are visually inspected, with gold values generally being similar within a distance of 2m to 3m but then changing rapidly at greater distances. As a consequence, the second spherical structure does not exercise great influence over an OK estimate, generally having low sill values, with the exception of the hanging wall lode which is more continuous that the rest. No statistical or geostatistical method (non-linear or simulation) apart from ID2 estimation checks were used to quantify the relative accuracy of the estimate within confidence limits. Accuracy of the estimate is strongly dependent on: accuracy of the interpretation and geological domaining; accuracy of the drill hole data (location and values); orientation of local anisotropy; and Estimation parameters which are reflected in the global resource classification.
	• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.*	The quoted underground resources are global, being based on drill hole data at exploration spacing. To ensure the resources have 'reasonable prospects of eventual economic extraction' the resources have been restricted by an indicative optimistic pit shell estimated at a gold price of $2000 per ounce and a gold cut off for eventual extraction by underground mining methods assessed at ≥2.5g/t gold.
	• *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	Mining of ore from the Wyoming One ore body commenced in 2016 and to date reconciliations have shown that the original resource model was performing well within expectations, Save for poorly defined inferred mineralisation in the background domain. Reconciled Tonnes, grade and total ounces mined are all within ~10% of the original resource model prediction with and overall increase in ounces. Over the period of mining the Block Estimation model has been modified and improved, with the Open pit and Underground run simultaneously and captured within the same Block model The estimation method has been changed from ID2 (original resource model estimate) to Ordinary Kriging. Close spaced Grade control drilling has been ongoing since the start of the open pit. This additional data collected with the mapping justified a change in modelling parameters and estimation techniques from ID2 to Ordinary Kriging. This change in

Criteria	JORC Code explanation	Commentary
		estimation method has been used for the underground resource model which is an extension of the current open pit grade control block model. Comparisons between the reconciled mined tonnes and grade, the Grade control model (same as the Underground Resource model) have shown that the reconciled mined tonnes are +17%, grade -1% with an overall increase of+16% ounces. This indicates the model being implemented does have a reasonable high level of accuracy.

APPENDIX 2

JORC Code, 2012 Edition – Table 1 report

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Mineral Resource estimate for conversion to Ore Reserves</td><td>• Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</td><td>The Mineral Resource estimate that this reserve is based upon has been compiled by Mr Craig Pridmore, Geological Superintendent for Alkane Resources Ltd. Mr Pridmore is employed at the Tomingley Gold Operation. The mineral resource estimates have been completed using block models developed by Mr Craig Pridmore for Caloma One, Caloma 2, Wyoming 3 and Wyoming 1, using data supplied by Alkane Resources Ltd (Alkane).

The models produced incorporated all mineralisation in the Wyoming One, Caloma One and Caloma Two deposits to permit reconciliation of production to date. The depletion of these resource models utilised surveyed data from the end of month production records in June 2019.

The following table comprises the Mineral Resources for the Tomingley Gold Project which were compiled by Mr Craig Pridmore, Geology Superintendent for Alkane, based on the resource models mentioned above.

<table>
<tr><th colspan="10">TOMINGLEY GOLD PROJECT MINERAL RESOURCES (as at 30 June 2019)</th></tr>
<tr><th rowspan="2">DEP</th><th colspan="2">MEASURED</th><th colspan="2">INDICATED</th><th colspan="2">INFERRED</th><th colspan="2">TOTAL</th><th rowspan="2">Total Gold (Koz)</th></tr>
<tr><th>Tonnag (Kt)</th><th>Grade (g/t Au)</th><th>Tonnag (Kt)</th><th>Grade (g/t Au)</th><th>Tonnag (Kt)</th><th>Grade (g/t Au)</th><th>Tonnag (Kt)</th><th>Grade (g/t Au)</th></tr>
<tr><td colspan="10">Open Pittable Resources (cut off 0.50g/t Au)</td></tr>
<tr><td>Wyoming</td><td>184</td><td>1.5</td><td>982</td><td>1.7</td><td>137</td><td>0.7</td><td>1,303</td><td>1.6</td><td>60</td></tr>
<tr><td>Wyoming</td><td>86</td><td>2.0</td><td>16</td><td>1.3</td><td>33</td><td>1.4</td><td>135</td><td>1.7</td><td>8</td></tr>
<tr><td>Caloma</td><td>895</td><td>1.6</td><td>1,016</td><td>1.2</td><td>824</td><td>1.2</td><td>2,735</td><td>1.3</td><td>116</td></tr>
<tr><td>Caloma</td><td>64</td><td>2.3</td><td>812</td><td>2.0</td><td>26</td><td>1.4</td><td>902</td><td>2.0</td><td>58</td></tr>
<tr><td>Sub</td><td>1,229</td><td>1.6</td><td>2,826</td><td>1.6</td><td>1,020</td><td>1.2</td><td>5,075</td><td>1.5</td><td>242</td></tr>
<tr><td colspan="10">Underground Resources (cut off 2.50g/t Au)</td></tr>
<tr><td>Wyoming</td><td>0</td><td>0.0</td><td>787</td><td>4.0</td><td>109</td><td>3.2</td><td>896</td><td>3.9</td><td>113</td></tr>
<tr><td>Wyoming</td><td>10</td><td>3.6</td><td>6</td><td>3.1</td><td>4</td><td>3.1</td><td>20</td><td>3.4</td><td>2</td></tr>
<tr><td>Caloma</td><td>78</td><td>3.8</td><td>32</td><td>3.4</td><td>44</td><td>3.0</td><td>154</td><td>3.5</td><td>17</td></tr>
<tr><td>Caloma</td><td>-</td><td>0.0</td><td>218</td><td>3.6</td><td>76</td><td>3.2</td><td>294</td><td>3.5</td><td>33</td></tr>
<tr><td>Sub</td><td>88</td><td>3.8</td><td>1,043</td><td>3.9</td><td>233</td><td>3.2</td><td>1,364</td><td>3.8</td><td>165</td></tr>
<tr><td>TOTAL</td><td>1,317</td><td>1.8</td><td>3,869</td><td>2.2</td><td>1,253</td><td>1.5</td><td>6,439</td><td>2.0</td><td>407</td></tr>
</table>
</td></tr>
<tr><td>Site visits</td><td>• Comment on any site visits undertaken by the Competent Person and the outcome of those visits.
(If no site visits have been undertaken indicate why this is the case.)</td><td>The Competent Person for the Ore Reserves, Mr. Craig Pridmore full time Geology Superintend at Tomingley Gold Operations Pty Ltd (TGO), a whole owned subsidiary of Alkane.</td></tr>
<tr><td>Study status</td><td>• The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.
(The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and</td><td>The Tomingley Gold Mine is an operational open pit mine and CIP processing plant. The mine is based on the extraction and treatment of ore from four operational open pits – Caloma One, Caloma Two, Wyoming 3 and Wyoming One. All four Open Pits have been completed, with the Underground Wyoming 1 component commencing January 2019.The TGO processing plant utilises two stage crushing, single stage grinding and a gravity/CIL gold</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
	will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.)	recovery circuit. The plant has a designated throughput of 1.25mtpa of oxide ore and 1.0mtpa of fresh (sulphide) ore. The plant has been operational since February 2014. The Tomingley Gold Mine was subject to a Definitive Feasibility Study including the estimation of an initial Mineral Resource and Ore Reserve for the Wyoming One, Wyoming Three and Caloma open pits (2009, 2009 and 2012 respectively). Caloma Two has been subsequently optimized and designed using Whittle and Surpac software by Proactive Mining Solutions and in-house personnel. The current Ore Reserve has been calculated by the Competent Person using the designed pits and associated depletion as at the end of 30 June 2019. The Site has been operational since January 2014 and is achieving the design objectives set out in the DFS. This Reserves Statement is based upon well understood costs and physicals from what is now a mature operation. Cost modelling has been completed to a budget level. The end of June 2019 mine survey information has been used to differentiate material mined from in-situ material.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	A lower block cut-off grade of 0.5g/t Au has been applied to the resource block model in calculating this Ore Reserve. The lower cut has been selected with consideration to mine ability, and incremental cash operating margins (i.e. processing costs). The lower cut-off has been calculated based upon, ○ a $1550 per ounce gold price excluding royalties, ○ using process recoveries based on actual achieved for the past reporting year, and ○ estimated processing and administration costs for the life of mine plan, based upon achieved costs for the past financial year. The cut-off grade has been verified by using costs and metallurgical recoveries from the past financial year, and expected Gold Price. The calculated lower block cut off of 0.5g/t is conservative when historic costs and processing recoveries are applied.
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*	Open cut truck excavator mining, with some free dig material in the upper oxide zones and drill and blast in the lower oxide and fresh materials.
	• *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.*	Equipment size and methods selected typical of moderate scale open pit gold mining. 120 tonne class excavators, 90 tonne mechanical drive haul trucks. Wyoming 1 pit has been stripped using the operator's dry hire fleet by using a staged mining design. Caloma Two Stage 1 pit has been mined, and the subsequent stages will also be stripped using the dry hire fleet according to the Life Of Mine plan. Dual lane in pit ramps at 24 m wide and 1:8.5 gradient for the majority of the pits. Single lane ramps at 15m wide have been designed to access the final stages of the mine. These have shown to be successful for the mine so far. Mining is on five metre high benches and is mined in two, two and a half metre high flitches, to reduce mining dilution. These flitch heights are typical for gold mining and match the size of mining equipment selected.

Criteria	JORC Code explanation	Commentary
	• *The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc), grade control and pre-production drilling.*	In Pit ore boundaries are defined by Reverse Circulation Grade control drilling on 10 metre by 10 metre to 10 metre by 5 metre patterns depending on the size and quality of the mineralisation being grade controlled. Geotechnical parameters as advised by specialised geotechnical consultants for Wyoming One, Caloma One, and Caloma Two. Site visits are conducted regularly by the consultants, and parameters reviewed. Any modifications to wall design are addressed in design.
	• *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).*	Pit Optimisation parameters have been confirmed to an appropriate level of accuracy through subsequent mining operations, along with reconciliation of actual performance to date. Parameters have been applied directly to designs, and these designs have then been subjected to financial analysis, to confirm profitability. This process has been applied to all the mining pits.
	• *The mining dilution factors used.*	*Wyoming One* *Open Pit reserves: Not Applicable* . *Caloma One (open pit)* *Open Pit reserves: Not Applicable* *Caloma Two* *Open Pit reserves: Not Applicable* Underground Assumptions: These assumptions have been reported in the 4th June 2018 Tomingley Underground Resource, Reserve & Development announcement.
	• *The mining recovery factors used.*	Assumed 100% recovery of the models, due to acceptable reconciliation to date.
	• *Any minimum mining widths used.*	N/A
	• *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.*	Reconciliations to date for Wyoming 1 show the models are generally under reporting tonnes, and with a similar grade. Resulting in a total increase of 13% for contained ounces against mill feed. This is based upon 85% of the original pit ore being mined so far. .
	• *The infrastructure requirements of the selected mining methods.*	All required infrastructure is currently in place.
Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.*	Ore from the Tomingley Project will be treated at the Tomingley Gold Plant which is described above.
	• *Whether the metallurgical process is well-tested technology or novel in nature.*	The technology is well tested
	• *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.*	The DFS plan uses 96% metallurgical recovery for oxide and 91% for fresh for an overall recovery of 93%. Each pit, except Caloma Two, has had specific metallurgical test work undertaken for the DFS which is made up of leach and gravity recovery. The metallurgical test work is representative of all material types and areas of the ore bodies. The range of

Criteria	JORC Code explanation	Commentary
		recoveries used are within the parameters of the individual pit recoveries. Processing of ores thus far, including those from Caloma Two, have shown process recoveries to fall within these limits.
	• *Any assumptions or allowances made for deleterious elements.*	No deleterious elements extracted
	• *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the ore body as a whole.*	Process recovery for the 2016/2017 financial year averaged 91.47 This results in process recovery being 1% less than the LOM Plan.
	• *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	N/A – no minerals defined by a specification.
Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	All environmental approvals are in place for operating within the TGO Mining area Development approvals were obtained during 2015 for the commencement of the Caloma Two open pit. The waste dump for Caloma Two will be incorporated into WRE3, Caloma's waste dump, for Stage One. Stages Two and Three will backfill the original Stage One pit. The Caloma Two operation is within the existing granted mining lease. There is sufficient volume in the RSF design to allow for all the material in the LOM, including Caloma Two.
Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	Infrastructure has already been constructed for open pit mining and processing. Works to site included access road, a water pipeline, a 66 KV power line, site drainage, topsoil stockpiling, waste dump construction, Residue Storage Dams, Process Water Dams, associated offices, workshops, fuel and laydown areas. Sufficient site infrastructure has been constructed to process ore at 1.25 MTPA. All surface drainage works for Caloma Two have been carried out. The site relies upon local employment drawing employees from Tomingley, Peak Hill, Dubbo and Parkes Region.
Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.*	The economic analysis is based on total cash costs. Projected All In Sustaining Costs have been calculated from the LOM Plan and are less than the predicted realised gold price, leaving margin.
	• *The methodology used to estimate operating costs.*	Operating costs – Mining and Process ○ Current wage rates. ○ Projected fuel price for 2017/2018 ○ Current contract rates for equipment hire, drilling contractor and explosive supplier. ○ Current explosives costs and estimates of requirements for blast hole drilling, blasting, excavation and processing based on the varying rock types. ○ Current work rates and OEM specs for excavator productivity. ○ Truck hours based on OEM specs and projected haul cycles from mine plan. ○ Contract Prices for Processing Consumables ○ Current contract prices for power and estimated usage

Criteria	JORC Code explanation	Commentary
		○ Associated onsite administration cost and a portion of head office costs. Total operating and capital costs for 2016/2017 financial year were 4% lower than the anticipated plan for the year, with 5% higher than anticipated gold ounces mined.
	• *Allowances made for the content of deleterious elements.*	N/A – No deleterious elements extracted
	• *The source of exchange rates used in the study.*	Gold price is expressed in Australian dollars and no exchange rate is required.
	• *Derivation of transportation charges.*	No transportation charges have been applied in economic analysis as these are included in the mining costs. Ore will be delivered directly from the pit to the ROM beside the existing plant within estimated mining costs. Gold transportation costs to the Mint are included in the refining component of the milling charges assumed in the study.
	• *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.*	Processing operating costs outlined above.
	• *The allowances made for royalties' payable, both Government and private.*	Royalties payable at rate of 4% ex-mine value to the NSW State Government have been considered. There are no other royalties' due.
Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.*	Assume 100% ore mining recovery of the regularised Model. Selling costs and Royalties included in costs to give a net revenue per ounce. No deleterious metals present that incur smelter penalties. A base gold price of AUD$ 1550 /Oz excluding royalties in this ore reserve assessment. Exchange rates, royalties and transport charges dealt with above.
	• *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	No assumptions made
Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.*	There is a transparent quoted derivative market for the sale of gold; The Dore Gold is sent to the Perth Mint at commercial rates for refining. The Tomingley Gold Operations Pty Ltd sell the gold into the open market. Gold sold outside of the hedge book will be sold to the spot market.
	• *A customer and competitor analysis along with the identification of likely market windows for the product.*	N/A There is a transparent quoted derivative market for the sale of gold
	• *Price and volume forecasts and the basis for these forecasts.*	N/A There is a transparent quoted derivative market for the sale of gold
	• *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	N/A – not assessing industrial minerals
Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.*	The operation is currently operating at a processing rate of 1.1 MTPA and has built up 3 months of ore grade stockpile.

Criteria	JORC Code explanation	Commentary
		The preliminary analysis carried out did not estimate the NPV but rather simple cash flow based on a variety of possible gold prices; or For all deposits, the optimal pit shell was chosen as that with the highest discounted cash flow from the Whittle Four-X pit Optimisation. The pits were designed from the chosen shell. The Whittle optimisation have low variations across the AUD1200-1600 Revenue range. Pit designs where then back calculated for undiscounted return using the whittle input costs to ensure profitability within limits.
	• *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	Sensitivity analysis was included in the Whittle optimization and simple cash flow analysis. As noted above there were very low variations in the Whittle optimisations for gold prices ranging from $1200 - 1600
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	The TGO site is located on flat farm land with the Newell Highway separating Caloma and the Wyoming (pits and processing) side of operations. Surrounding the site is the village of Tomingley (600 m to the north) and local operating farms. All key stakeholder agreements are in place, including a Voluntary Planning Agreement (VPA) with the Narromine Shire Council. The Company has close working relationships with the local communities.
Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:*	
	• *Any identified material naturally occurring risks.*	A risk analysis was undertaken as part of the Feasibility Study and Environmental Assessment and no naturally occurring risks were identified.
	• *The status of material legal agreements and marketing arrangements.*	Majority of production is sold into the spot gold market.
	• *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	The operation is situated on a granted Mining Lease which expires in 2034. All statutory and government approvals have been obtained. The required development approvals for Caloma Two and the Caloma Cutback have been granted. EPL licence is still outstanding for Caloma Two however this is anticipated to be complete prior to end of Q2 this financial year.
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.*	The classification of the Tomingley Gold Project Ore Reserve (June 2016) has been carried out in accordance with the recommendations of the JORC code 2012.
	• *Whether the result appropriately reflects the Competent Person's view of the deposit.*	Yes. The Wyoming One, Caloma One and Caloma Two deposits are robust at current gold prices and this has been proven over past three years of operations.
	• *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	No probable reserves have been derived from Measured Resources – all measured resources converted to Proved Reserves.

Criteria	JORC Code explanation	Commentary
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	The Caloma Cutback was reviewed by site personnel since publication of the 2016 Ore Reserves. The following is a summary of activities undertaken. ○ Additional infill drilling aimed at the base of the cutback. This was with the intention to raise inferred material to indicated for the in-pit resource. ○ Inclusion of the drilling in the resource model, cl1_210217.mdl. This model has subsequently been updated with the current data in the latest model cl1_200717. The model was then interpolated for grade using two methodologies. ○ The attributes were labelled au_krig (ordinary kriging of gold assays) and au_sched. The au_sched process removes all the blocks that have limited drilling data to support mining, or blocks that are smaller than the current SMU. This is done by creating ore block solids that represent a mining ore block, and an average grade for the solid is then calculated using the au_krig attribute. This method reduces the grade of the high grade material, and dilutes with the low grade material within the block. It produces block physicals that closely represent mining SMU. ○ The au_krig attribute is considered as a best case model. The au_sched attribute was considered as a worst-case model, but indicative of results seen in Caloma One mining to date. The worst case reduced contained gold by approximately 5,600 ounces. ○ Optimisation of the two attributes showed a difference of approximately 25% in cashflow, at a gold price of $1600 per ounce. ○ Mining equipment was reviewed and different options investigated, including the use of small articulated dump trucks and 120 tonne excavators. ○ Design versions were tested for viability using Life of Mine schedules and cost forecasts. Costs were applied to alternative equipment from suppliers, and production rates applied through benchmarking of similar operations. ○ Extensive iterations on pit design, equipment cost and schedules were completed. ○ At the applied gold price of $1550 per ounce the project became breakeven at best, and a return on expenditure of -5.6% at worst. ○ Major contributing factors that resulted in the project being unfinancial were gold price per ounce (excluding royalties) of $1550 versus $1650 in 2016 Ore Reserves, increase in drilling density increased confidence and reduced contained gold, and revised modelling method to smooth grades within the ore boundaries for small block sizes. Consequently, the project has been removed from the 2019 Ore Reserves and this decision has been carried forward into the 2019 Ore reserves.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.*	The resource block models from which the mining reserve has been derived was based on a geostatistical estimation completed by Craig Pridmore who were satisfied with the resource categories quoted

Criteria	JORC Code explanation	Commentary
	• *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	The material included in the LOM schedule is only material that has been estimated inside of designated ore zones. The estimated material outside of the ore zones has not been included. Reconciliation of Proved and Probable versus mined for Wyoming One and Caloma Two indicates that approximately 100% of inferred in pit resource is transferring to actual mined ore tonnes. The assumption that the high grade (plus 1 g/t) and the low grade (0.5-1.0 g/t) could be wholly separated has not been proved, although low grade material is being recovered. This has resulted in more high-grade material and less low-grade material than as predicted in the resource models. A revised technique using grade control drilling and modelling a separate attribute called au sched has shown some improvement for this. The estimation technique used essentially smooths the grade and allows for low grade within the high grade mineable ore blocks. The materials mined and processed for the year ending June 30, 2019 have included oxide and fresh materials. Approximately 85% of mill feed for the year has been fresh material. Mill performance has been within limits for the fresh material fed to date. Indications to date are that the Reserve should be conservative in both tonnes and grade.