

11 July 2019

Quarterly Activities Report to 30 June 2019

Tomingley Gold Operations

- Development of the underground operation continues on budget and on schedule.
- **Quarter Results**
 - Gold production was above forecast and within latest guidance at 11,555 ounces.
 - Site operating cash costs were A\$588/ounce with AISC of A\$807/ounce, also within latest guidance.
 - Gold sales were 10,780 ounces for revenue of A\$20.3M at an average price of A\$1,882/ounce.
- A total of 48,969 ounces of gold were poured for the financial year with an AISC of A\$947/ounce. Production was in line with the upper end of guidance and costs at the lower end of guidance.
- Guidance for FY20 is production of 27,000 to 32,000 ounces of gold at an AISC of A\$1,300 to A\$1,450 per ounce, in line with the existing underground business case.

Corporate

- Cash, bullion and listed investments position totalled A\$80.8M
 - A\$69.6M in cash, bullion on hand at fair value of A\$3.4M, and A\$7.8M of listed investments at market value.
- Continues to hold ~15.3% of ASX listed gold developer Calidus Resources Ltd (ASX:CAI).
- Continuing to seek further investment opportunities.

Exploration

- Exploration Target for the combined Roswell, San Antonio and El Paso prospects has been released.
- A resource drill out program of approximately 60,000 metres of reverse circulation (RC) and diamond drilling has commenced.

Dubbo Project

- Investment of US\$1.2M in Clean Metal Processing Technology with Ziron Tech of South Korea to fund a commercial scale pilot plant facility to complete final stage research, piloting and feasibility to convert metals, including key Dubbo Project metals, of high marketable purity.
- Offtake discussions continue to be held with third parties, with commitment dependent on customers, particularly their view of supply risk from within China.

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TOMINGLEY GOLD OPERATIONS

Tomingley Gold Operations Pty Ltd 100%

Tomingley Gold Operations (TGO) is a wholly owned subsidiary of Alkane, located near the village of Tomingley, approximately 50km southwest of Dubbo in Central Western New South Wales. The gold processing plant was commissioned in January 2014 and has been operating at the design capacity of 1Mtpa since late May 2014. Mining is based on four gold deposits (Wyoming One, Wyoming Three, Caloma One and Caloma Two).

Operations

TGO continues to perform very well. Underground development from the base of the Wyoming One pit continues and is both on schedule and on budget. TGO processed both medium and low grade stockpiles through the quarter, and will process the low grade stockpile for the remainder of the year before processing the underground ore.

A total of 11,555 ounces of gold were poured for the quarter. The site cash costs for the quarter were A\$588/oz with an all-in sustaining cost (AISC) of A\$807/oz. A total of 48,969 ounces of gold were poured for the financial year with an AISC of A\$947/oz.

Guidance for FY20 is production of 27,000 to 32,000 ounces of gold at an AISC of A\$1,300 to A\$1,450 per ounce. This is driven by a change from full rate processing of stockpiled material to lower throughput processing of underground ore, as planned. Processing of underground ore will commence in the March quarter of 2020 and is expected to feed the mill at a 50% capacity rate, effectively week on / week off milling.

Gold sold for the quarter was 10,780 ounces at an average sales price of A\$1,882/oz, generating revenue of A\$20.3M. Bullion stocks were 1,727 ounces (fair value of A\$3.4M at quarter end).

Site operating cash flow¹ was A\$10.7M for the quarter and A\$41.6M for the full year.

Underground Mining Development

Underground development has continued on schedule with both the main decline and vent portals progressing. Main decline development has gone past the first ore level, and grade control drilling has been taking place through the quarter. All required personnel and equipment are on site, further equipment is arriving on schedule. The development remains on budget.

Regional Exploration

An extensive exploration program focused on the immediate area to the south of the TGO mine has continued as part of the plan to source additional ore feed, either at surface or underground, in the future for TGO. During the Quarter, RC and core drilling was completed at the El Paso and Roswell-San Antonio targets. At El Paso 10 RC holes (1,973 metres) tested the southern continuation of the previously defined mineralisation (ASX Announcement 17 May 2019).



Significant mineralisation in parallel lode structures was intersected on the most southerly line, including:

EPP012	12 metres grading 4.99g/t Au from 108 metres;
incl	3 metres grading 11.15g/t Au from 108 metres;
and	21 metres grading 2.38g/t Au from 141 metres;
incl	6 metres grading 6.18g/t Au from 144 metres;
and	6 metres grading 10.65g/t Au from 168 metres;
incl	3 metres grading 17.80g/t Au from 171 metres;

At Roswell-San Antonio 10 RC holes (2,286 metres) tested the continuity between the two zones and further significant mineralisation was intersected (ASX Announcement 12 June 2019), including:

RWRC051	24 metres grading 3.84g/t Au from 174 metres (ended in mineralisation);
incl	9 metres grading 8.09g/t Au from 177 metres;

Compilation of the recent exploration drill program of 76 holes for 16,376 metres of reverse circulation (RC) drilling and 3 holes for 1,143 metres of core drilling completed since mid-2018 provided a substantial data base which enabled Alkane 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 (ASX Announcement 8 July 2019, diagram below). 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.

The Company intends to test the Exploration Target with drilling and this is expected to extend over approximately 12 months. Resource definition drilling at the San Antonio and Roswell prospects has commenced. This is expected to comprise of over 60,000m of predominantly RC drilling.

Peak Hill Gold Mine (PHGM)

The results from the 10 hole large diameter core drill program to provide samples for metallurgical work, are currently being compiled and assessed and will be released when they are available, expected in this coming quarter.

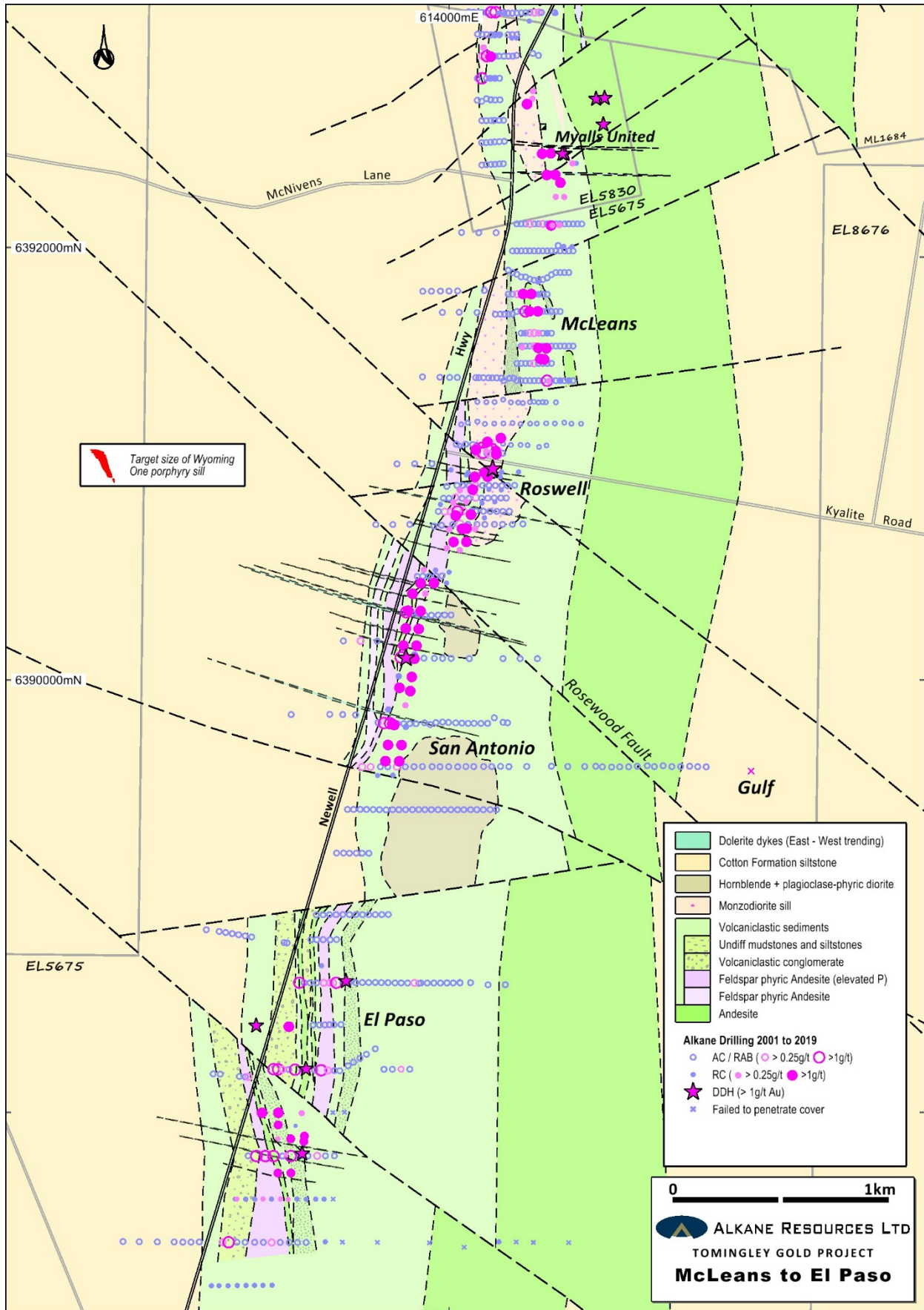
¹Operating cashflow = As prescribed by AASB 107 Statement of Cashflows where exploration outflows and development outflows are grouped under investing cashflows. Note that the Quarterly Cashflow (Appendix 5B) includes those outflows under operating cashflows. Tomingley underground development expenditure was included under investing cashflows in Appendix 5B as production from underground has not commenced.



TGO FY 2019 Quarterly and Annual Production Figures

TGO Production		FY 2018	Sep Quarter 2018	Dec Quarter 2018	Mar Quarter 2019	Jun Quarter 2019	FY 2019
Waste mined	BCM	3,165,414	234,281	336,812	86,555	-	657,647
Ore mined	Tonnes	1,589,811	258,108	103,488	29,745	8,846	400,187
Strip Ratio	Ratio	5.4	2.5	8.8	5.6	-	4.5
Grade	g/t	1.99	1.79	1.67	0.99	1.12	1.68
Ore milled	Tonnes	1,092,602	240,797	239,687	245,216	273,002	998,703
Head grade	g/t	2.42	2.29	1.62	1.57	1.22	1.68
Recovery	%	91.9	92.4	93.1	91.7	89.1	91.7
Gold poured	Ounces	78,533	15,634	11,111	10,669	11,555	48,969
Revenue Summary							
Gold sold	Ounces	75,507	6,656	23,841	10,791	10,780	52,068
Average price realised	A\$/oz	1,706	1,720	1,716	1,841	1,882	1,777
Gold revenue	A\$M	128.8	11.4	40.9	19.9	20.3	92.5
Cost Summary							
Mining	A\$/oz	475	384	338	176	71	254
Processing	A\$/oz	236	309	410	464	461	401
Site Support	A\$/oz	56	70	98	160	57	93
C1 Site Cash Cost	A\$/oz	767	763	846	800	588	749
Royalties	A\$/oz	52	50	47	50	52	49
Sustaining capital	A\$/oz	32	23	72	11	69	42
Rehabilitation	A\$/oz	117	101	24	35	30	52
Corporate	A\$/oz	34	36	61	60	68	55
AISC²	A\$/oz	1,002	972	1,051	956	807	947
Bullion on hand	Ounces	4,836	13,811	1,077	952	1,727	1,727
Stockpiles							
Ore for immediate milling	Tonnes	1,256,823	1,266,911	1,132,562	915,085	677,029	677,029
Grade	g/t	0.97	0.89	0.83	0.75	0.71	0.71
Contained gold	Ounces	39,338	36,355	29,992	22,077	15,368	15,368

²AISC = All in Sustaining Cost comprises all site operating costs, royalties, mine exploration, sustaining capex, mine development and an allocation of corporate costs, calculated on the basis of ounces produced. AISC does not include share based payments or net realisable value provision for ore inventory.



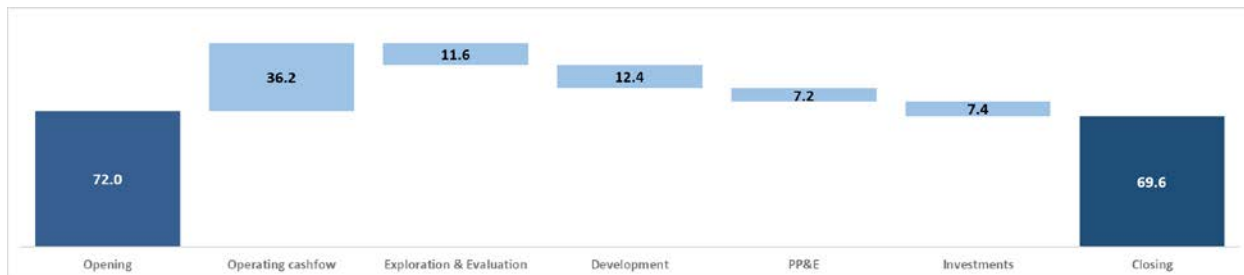


CORPORATE

Cash, Bullion and Listed Investments

Description	Jun-19 Quarter A\$M	Mar-19 Quarter A\$M	Dec-18 Quarter A\$M	Sep-18 Quarter A\$M
Cash	69.6	72.4	73.7	59.6
Bullion	3.4	1.8	2.0	22.8
Cash and bullion sub-total	73.0	74.2	75.7	82.4
Listed investments	7.8	4.6	4.8	-
Total cash, bullion and listed investments	80.8	78.8	80.5	82.4

The below waterfall chart highlights the full year movement in cash held (excludes bullion and investments held at the beginning and end of the financial year):



In accordance with its strategy of investing part of its cash balance in junior gold mining companies and projects that meet its investment criteria, namely potential investments that have high exploration potential and/or require near term development funding, the Company continues to hold its investment into gold exploration company Calidus Resources Ltd (ASX:CAI). During the quarter the Company took up shares in a placement with Calidus and as a result at the end of the quarter the Company now holds ~242M CAI shares which is equivalent to ~15.3% of the currently issued capital.

The Company continues to evaluate other opportunities for investment.

Gold Forward Sale Contracts & Puts

During the quarter the Company entered into forward contracts over 5,750 ounces at an average forward price of A\$2,028/oz. Put options were also purchased over 18,000ozs at a strike price of A\$1,800/oz covering a portion of production for delivery in 2021.

At the end of the quarter the Company holds the following forward sale contracts;

Quarter	Average Forward Price A\$/oz	Delivery Ounces
December 2019	1,878	2,990
March 2020	1,867	4,900
June 2020	1,827	5,090
September 2020	1,818	4,130
December 2020	1,847	5,640
March 2021	1,890	5,000
Total	1,854	27,750

The Company also holds 10,400 oz of put options priced at A\$1,800/oz to manage expected revenue from processing the low-grade stockpiles.



DUBBO PROJECT – zirconium, hafnium, niobium, yttrium, rare earth elements

Australian Strategic Materials Ltd (ASM) 100%

The Dubbo Project (DP) remains construction ready, with the mineral deposit and surrounding land wholly owned, all material State and Federal approvals in place, an established flowsheet and a solid business case.

Financing

ASM's key focus is on securing offtake contracts for its products and a resultant strategic investor in the project. These contracts are dependent on the risk and investment appetite of third parties.

Engineering

The projects engineering is substantially complete such that execution options (staged versus full build) can be matched to the level of offtake contacts obtained. There is minimal spend occurring in this area.

Product Development

A binding agreement was executed with Ziron Tech (a South Korean company) (**Ziron Tech**) on 5 June (ASX Announcement 6 June 2019) to fund the final stage research and feasibility in relation to a clean metal process to convert metal oxide, including key Dubbo Project metals, to metals of high marketable purity. The signing ceremony was attended by around 30 stakeholders associated with Chungnam National University, and South Korean industry.

The agreement involves an investment by Alkane of US\$1.2M in Clean Metal Processing Technology with Ziron Tech. The final stage research and feasibility includes the construction of a commercial scale equipment unit for testing. The research is potentially applicable for all 18 technology elements produced by the Dubbo Project, with up to 75% of Dubbo Project revenues from metals. The announcement has facilitated harnessing interest in South Korea from leading industrial companies for discussions regarding potential offtake agreements.





Ziron Tech and its founders have developed a patented carbon free process to convert metal oxides into metals through an electrolytic process. Solid oxide membranes made from yttria stabilised zirconia are central to the processing technology. This revolutionary carbon free metals process produces oxygen as a by-product and could provide a cost-effective and environmentally superior alternative to the traditional Kroll process used to make high purity zirconium, hafnium, and titanium metals. The Technology is applicable to magnet rare earth metals and other key technology and aerospace metals (titanium, magnesium, niobium, tantalum, scandium). This has the potential to replace low cost, energy intensive and dirty carbon reduction processes used since the industrial revolution.

This technology is also potentially applicable for all of the 18 technology elements produced by the Dubbo Project, with potentially 75+% of Dubbo Project revenues from metals. This is an enabling technology to support emerging Clean Metals, Clean Manufacturing Megatrends and convergence with current Clean Energy and Clean Transport Megatrends. This also provides an opportunity to be co-developed for 3D printing/additive manufacturing for multiple specialty alloys, with potentially lower cost processes and reduced manufacturing time, containing low entrained gas levels, particularly oxygen and nitrogen.

Alkane's first priority is the commercialization of the technology for Dubbo products, through exclusive rights to commercialise zirconium and hafnium metals worldwide. A secondary priority is to assist Ziron Tech to commercialise the technology for other elements, including further exclusive rights for Alkane, creating potential for passive income streams from technology licensing and royalties.

Consumption of proprietary yttria stabilized zirconia electrolyte could create unprecedented demand for highly value added yttria stabilized zirconia in producing zirconium and hafnium metals, but particularly if applied to rare earth metals, titanium and magnesium, and potentially for other electrolysis processes such as aluminium.

This innovative new technology is potentially disruptive to existing technology metals supply chains as it would enable the Dubbo Project to sell products directly to end consumers, bypassing the traditional chemicals and oxides supply chains. This could also create an opportunity to transfer supply chain power to end users, remove multiple layers in the supply chain, and reduces logistics times and costs. An example is for Electric Vehicle or electric motor manufacturers to purchase Dubbo Project magnet rare earth metals for toll processing in either China or Japan to secure critical rare earth permanent magnets for traction motors. This strategy enables companies to eliminate supply chain risks from magnet producers.

Product Marketing

Offtake discussions have advanced on all Dubbo Project products to reduce dependence on China, which dominates 95% of zirconium and 90% of rare earths supply. Resurgent tensions between Japan and South Korea look set to continue as Japan imposed restrictions on exports to Korea of critical materials for the semi-conductor industry.

Japan has imposed restrictions on three classes of materials which are essential to semi-conductor manufacturing and latest generations screens, which continues long simmering tensions over a number of issues. This has highlighted South Korea's vulnerability on relying on other countries for crucial materials need for its advanced manufacturing industries. South Korea's two leading semi-conductor companies account for 60% of the world's memory chip-making capacity.

Many of the products from the Dubbo Project are essential for the semiconductor industry with hafnium standing out as the key element needed for current generation chip processors and memory devices.



Approximately 2 to 3 tonnes of hafnium metal are currently consumed in semiconductors out of a world market of just 70 metric tonnes. However, current computer chips have a single nanon layer of hafnium oxide, but the industry is moving to memory devices using multiple hafnium oxide layers, which could create a significant increase in demand. As all hafnium is sourced as a by-product from the nuclear industry, hafnium supply has remained flat since the 2011 Fukushima incident in Japan. The Dubbo Project remains one of the few sources of hafnium supply which could meet the increase in demand.

One of the supply chain issue for the semiconductor industry is that it largely purchases devices, components, and functional materials (rare earth permanent magnets) based on performance specifications and price, without knowing which critical compounds, metals, oxides, and chemicals are used for manufacture. Supply chain risks are generally passed further down to device and component suppliers to ensure stable supply. With Japan's unexpected embargo, interest in supply chain risk for crucial elements is expected to garner further interest in products from the Dubbo Project.

Market Prices

Prices for magnet rare earths, praseodymium and neodymium, jumped 20% within a week of Chinese Premier Xi Jinping visiting JL Mag on 20 May 2019. Supply of critical rare earths materials have become caught up in the lens of United States-China trade tensions. This comes on top of increasing prices for heavy rare earths, dysprosium and terbium, which are also essential additives for high performance permanent magnets for electric vehicles, wind turbines and industrial robots.

Prices for zirconium, hafnium were mostly flat during the quarter, with niobium prices slipping slightly following the large fall in vanadium prices.

NORTHERN MOLONG PORPHYRY PROJECT (NMPP) (gold-copper)

Alkane Resources Ltd 100%

RC and core drilling has taken place at the Kaiser and Boda porphyry gold-copper prospects and the results are being collated.

GLEN ISLA (gold); ELSIENORA (gold); ORANGE EAST PROJECT (gold-copper); WELLINGTON (copper-gold); CUDAL (gold-zinc); ROCKLEY PROJECT (gold); TRANGIE (nickel-copper +); ARMSTRONGS (gold); *Alkane Resources Ltd 100%.*

Prospect activities were limited to data compilation and review, or preparation for field activities.

LEINSTER REGION JOINT VENTURE (nickel-gold)

*Alkane Resources Ltd 19.4% diluting, Australian Nickel Investments Pty Ltd (ANI) 79.6%. Two prospects - **Miranda and McDonough Lookout.***

ANI advised that no ground exploration was completed during the quarter.



Competent Person

Unless otherwise advised above or in the Announcements referenced, the information in this report that relates to exploration results, mineral resources and ore reserves is based on information compiled by Mr D I Chalmers, FAusIMM, FAIG, (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 consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Previously Reported Information

The information in this report that references previously reported exploration results and exploration targets is extracted from the Company's ASX market announcements released on the date noted in the body of the text where that reference appears. The previous market announcements are available to view on the Company's website or on the ASX website (www.asx.com.au). 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. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

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.

