

28 January 2016



Quarterly Activities Report to 31 December 2015

Tomingley Gold Operations (TGO)

- TGO gold production was in line with forecast at 15,346 ounces despite some weather interruptions to operations
- Production summary for the quarter:
 - Gold production 15,347 ounces (14,604 ounces recovered)
 - Site operating cash costs were A\$1,166/ounce and total operating costs (AISC) of A\$1,316/ounce
 - Gold sales 14,250 ounces for revenue of A\$22.6 million at an average price of A\$1,583/ounce
 - Gold hedge at 31 December 2015 of 14,500 ounces at average forward price of A\$1,606/ounce
- Site cash flow for the quarter after site operating expenses and development expenditure was \$2.45M.
- Production for FY16 to date is 35,136 ounces, within guidance, and site cash flow totals \$12.55M
- Maiden underground ore reserve estimated at 524,400 tonnes grading 3.66g/t gold for 61,600 ounces.

Dubbo Zirconia Project (DZP or the Project)

- The Mining Lease covering the site operations was granted by the NSW Department of Industry, Division of Resources and Energy on 18 December 2015
- Early Contractor Involvement (ECI) has progressed with Outotec, with discussion on equipment supply, technology application and construction methodology occurring in order to identify opportunities to improve overall project outcomes and to enable Outotec to propose an EPC basis execution
- The Project remains robust at current spot prices for all output
- Development of the hafnium recovery circuit and production of high purity zirconium products has continued
- Financing and off-take negotiations continued

Corporate

- Following land acquisitions for the DZP of A\$4.00M, the Group's cash position was A\$14.76M, with bullion on hand valued at A\$4.4M (@ A\$1456/oz). AZL executed an A\$4.00M working capital facility which was undrawn at 31 December.

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TOMINGLEY GOLD OPERATIONS (TGO)

Tomingley Gold Operations Pty Ltd 100%

The TGO are based on four gold deposits (Wyoming One, Wyoming Three, Caloma and Caloma Two) located about 14 kilometres north of the Company's inactive Peak Hill Gold Mine, and approximately 50 kilometres southwest of Dubbo. Underground operations below the Wyoming One and Caloma orebodies are now incorporated into the life-of-mine schedule, and a maiden reserve for the underground was released on 10 December 2015. A modification to the Project Approval for TGO has been submitted incorporating these changes to the life-of-mine schedule and subsequent mine life extension.

TGO Site layout June 2015



Operations

Mining occurred in three pits Wyoming Three, Caloma and Wyoming One. During the quarter waste stripping continued at Wyoming One, with no ore production. The top of the orebody is now exposed and ore production is expected in the coming quarter. Mining of Wyoming Three was completed during the quarter.

Ore reconciliations continue to remain positive for overall gold ounces for the Wyoming Three and Caloma pits year to date. Over its pit life Wyoming Three delivered over 40% more ounces than the original resource model.

During the quarter the lift on one of the two tailings storage facilities was completed, and the first of a series of scheduled maintenance refurbishments of the leach tanks completed. The key cost driver for TGO remains the efficiency of the mining equipment, with continued improvements in fleet productivity during the quarter realised.



Gold recovery for the quarter was 14,604 ounces. 15,346 ounces of gold were poured, in line with internal forecasts, and 14,250 ounces were sold at an average sales price of A\$1,583/oz, generating revenue of A\$22.6 million and an operating cash flow of \$2.45 million.

TGO FY 2016 Quarterly Production Figures

TGO Production		FY 2015	Sept Quarter 2015	Dec Quarter 2015	FY 2016
Waste mined	BCM	5,730,661	1,676,850	1,447,753	3,124,603
Ore mined	Tonnes	1,386,291	433,744	277,061	710,805
Grade	g/t	1.66	1.87	1.84	1.86
Ore milled	Tonnes	1,140,704	271,980	257,998	529,978
Head grade	g/t	2.01	2.44	1.93	2.19
Recovery	%	93.9	92.6	91.4	92.1
Gold poured	Ounces	69,612	19,789	15,347	35,136
Revenue Summary					
Gold sold	Ounces	70,734	21,000	14,250	35,250
Average price realised	A\$/oz	1,441	1,565	1,583	1,572
Gold revenue	A\$M	101.9	32.9	22.6	55.4
Cost Summary					
Mining	A\$/oz	707	784	731	760
Processing	A\$/oz	321	242	322	277
Site Support	A\$/oz	95	78	113	94
C1 Site Cash Cost	A\$/oz	1,123	1,104	1,166	1,131
Royalties	A\$/oz	40	46	43	45
Sustaining capital	A\$/oz	25	36	44	39
Rehabilitation	A\$/oz	20	16	20	18
Corporate	A\$/oz	40	32	43	37
AISC ¹	A\$/oz	1,249	1,234	1,316	1,270
Bullion on hand	Ounces	3,169	1,951	3,040	3,040
Stockpiles					
Ore for immediate milling	Tonnes	468,032	678,681	698,744	698,744
Grade	g/t	0.84	0.95	0.94	0.94
Contained gold	Ounces	12,583	20,735	21,155	21,155

¹AISC = All In Sustaining Cost comprises all site operating costs (excluding share based payments), royalties, mine exploration, sustaining capex and mine development and an allocation of corporate costs, presented on the basis of ounces produced

The hedge book at quarter end was 14,500 ounces gold at A\$1,606/oz. FY2016 production is estimated to be 60,000 – 70,000 ounces within an AISC range of A\$1,200 -1,300/oz. Costs are higher than the anticipated long term life-of-mine AISC of A\$1,000 – 1,100/oz due to waste stripping in FY16 at the Wyoming One pit.



Underground Ore Reserves

As advised in ASX reports of 10 and 18 December 2015, an initial underground ore reserve has been estimated for the Wyoming One and Caloma deposits. The mining assessment indicated that ore production would commence nine months after the start of development of a portal in the Caloma open pit and continue for 33 months (2.75 years). During this production period it is anticipated that the higher grade underground ore would be blended with stockpiled low grade ore from the open pits and used to supplement open pit mill feed to maintain a consistent ore throughput and feed grade, thus extending the life of the Tomingley operations.

Total capital requirements for the life of the underground operation are estimated at A\$36.6M and total site operating costs are estimated at A\$725.50/oz (C1).

The underground ore reserve lies wholly within the mineral resource estimates (11.251Mt grading 1.9g/t gold for 687,000 ounces) which were subject of an announcement to the ASX on 21 September 2015 and are in addition to the open pit reserves (4.6Mt grading 1.6g/t gold for 235,000 ounces) which were subject of the same announcement.

The reserve assessment is conservative in that all inferred resource material included in stope designs was set to zero grade prior to undertaking the financial assessment. Accordingly, as part of the options study, an underground design was also completed using the entire mining inventory (measured, indicated and inferred resource categories). This design economically extracts an additional 47.7Koz of gold from similar development. Although this additional material cannot be included in a reserve, it should be noted that the current open pit operations have been converting around 100% of inferred resource ounces to mined reserves in the Caloma open pit and some 40% additional ounces were mined from the Wyoming Three open pit compared to the resource block model.

Ore Reserves

SOURCE	Tonnes (Kt)	Au (g/t)	Au (Koz)
Proven			
Development	36.9	4.1	4.9
Stoping	187.0	4.0	24.1
Sub-total Proven	223.9	4.0	29.0
Probable			
Development	52.0	3.1	5.2
Stoping	248.5	3.4	27.4
Sub-Total Probable	300.5	3.4	32.6
TOTAL ORE RESERVE	524.4	3.7	61.6

*apparent arithmetic inconsistencies are due to rounding

Full details are provided in 10 and 18 December 2015 ASX announcements

The geological controls to mineralisation at Tomingley are well understood and it is anticipated that further drilling from underground developments will continue to expand the potential resource base. The design used for this reserve estimate extracts ore from Wyoming One over a vertical extent of 180 metres between the +80m RL (15 metres below the designed open pit) and the -100m RL. The study highlights the potential of the Tomingley gold deposits to sustain a long term underground mining operation.



DUBBO ZIRCONIA PROJECT (DZP) – zirconium, hafnium, niobium, yttrium, rare earth elements

Australian Zirconia Ltd (AZL) 100%

The DZP is located 25 kilometres south of the large regional centre of Dubbo in the Central West Region of New South Wales. It is based upon large in-ground resources of the metals **zirconium, hafnium, niobium, tantalum, yttrium and rare earth elements**. Over many years the Company has developed a flow sheet consisting of sulphuric acid leach followed by solvent extraction recovery and refining to produce several products, including trialling the process at demonstration pilot plant scale.

Following the New South Wales state governmental planning approval for the development of the DZP in May 2015, the NSW Department of Industry, Division of Resources and Energy have advised that the Mining Lease for the Project has been granted. Mining Lease 1724 covers 2,390 hectares and includes the operating site, significant biodiversity offset areas and residual agricultural land. This leaves the Environment Protection Licence (EPL), which also follows on from planning approval, as the final major step in the approvals process required to enable AZL to progress with construction, subject to financing.

Process and Product Development

Further process development work on the hafnium and zirconium refining circuit was performed during the quarter improving understanding of the flow sheet. This includes the process drivers that affect product recoveries and specifications of the zirconium “strip liquor”, and therefore the hafnium concentrate and zirconium specifications of final products. Inclusion of the hafnium circuit in the DZP has added significant value to the Project and has been well recognised by key stakeholders.

The intellectual property (“IP”) developed in the hafnium and zirconium circuit is considered to be a valuable asset of the Company and appropriate measures are being taken to protect it.

Further demonstration pilot plant trials are planned to produce additional products to assist with process refinement and confirmation of test results obtained at laboratory scale. This will also involve the production of hafnium concentrate and zirconium products for customer evaluations, which will include the full suite of products during 2016.

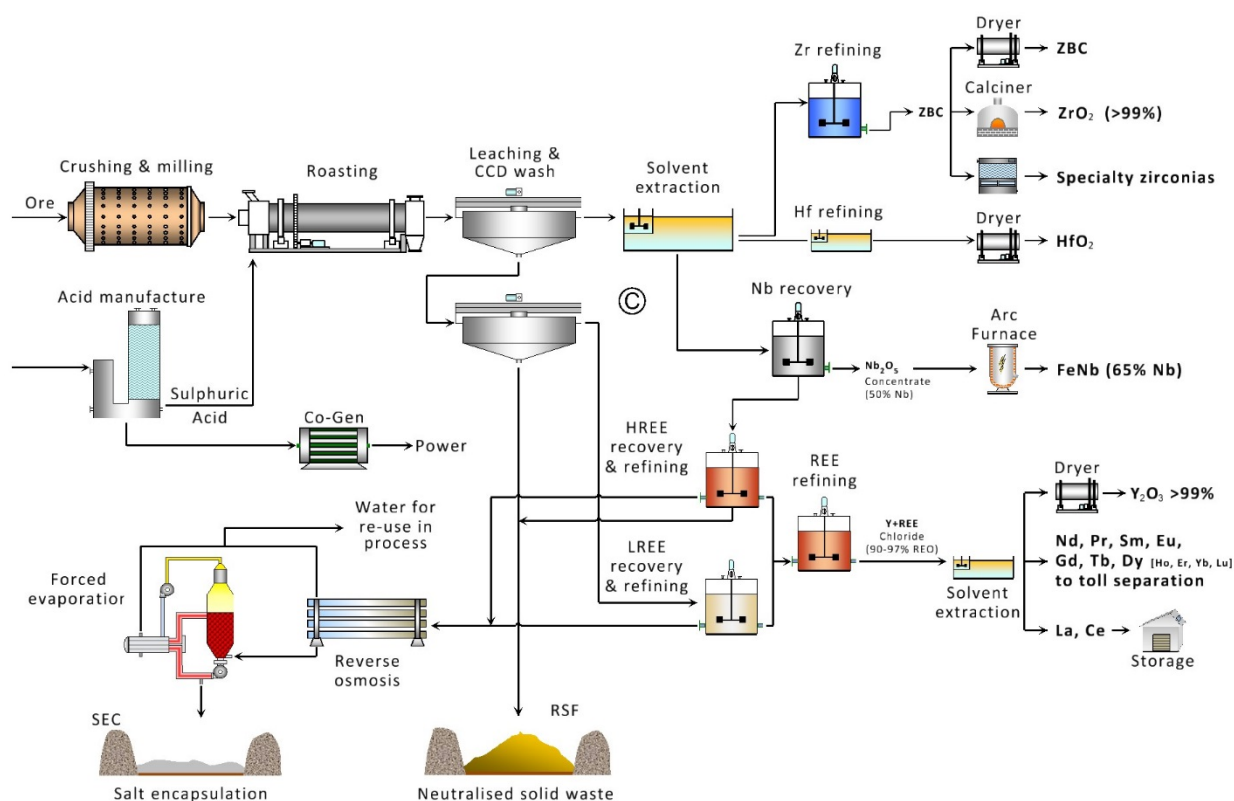
Progress on the toll processing of rare earths concentrates into separated rare earths oxides was made during the quarter with the expectation that the full range of separated products will be available when the Project commences production. A number of options to process the rare earths concentrates into separated products are available giving the DZP maximum production flexibility to accommodate customer requirements.

Engineering

The Project remains ready for detailed design and construction to commence, contingent on financing. Early Contractor Involvement (ECI) has progressed with Outotec, with discussion on equipment supply, technology application and construction methodology occurring in order to identify opportunities to improve overall project outcomes. After the initial phase of the ECI the intention remains for Outotec to execute the process plant part of the scope for AZL on an EPC basis. This has the advantages of developing a key technology and support relationship, as well as capping the execution risk for AZL.



DZP Flowsheet



Marketing

A number of meetings were held with customers and stakeholders in Australia and overseas during the quarter including participation in the Roskill rare earths conference in Singapore and the TZMI Congress 2015 in Shanghai.

Significant progress has been made on converting the existing Memorandum of Understanding (MOU) with a leading European manufacturing and trading company into an agreement to market all DZP zirconium products worldwide. This Company specialises in advanced ceramic materials and completion of this agreement is anticipated in the first quarter of 2016.

Zirconium

The zircon market was flat in 2015 due to weak demand from downstream markets, tied to generally weak economies worldwide. With total zircon consumption in 2015 estimated to be around 1.1 million tonnes, combined with excess production capacity and ample stocks, zircon prices drifted lower throughout the year. Premium 66% zircon prices are now US\$1,000-1,200/t, and typically fell 10-15% during 2015, while standard 65% zircon grades are below US\$1,000/t, and fell by a similar amount. However, the depreciation of currencies in the main producer countries, notably Australia and South Africa, actually resulted in higher zircon prices in local currencies that were comparable to those in 2013.

Within the zircon market, the zirconium chemical market segment accounted for approximately 230,000 tonnes in 2015 or ~22% of all zircon demand, and retains the best outlook for growth and development in coming years. This is due to the high growth rates for some advanced technologies, such as automotive catalysts for pollution control and other applications that are experiencing high annual growth rates of 5-10%. High growth in these segments is offsetting weak demand growth in the main traditional markets



such as steel and glass making refractories, and ceramic pigments which have witnessed flat to falling demand.

The zirconium chemicals market includes both fused zirconia, and zirconium chemicals based on zirconium oxychloride (ZOC) to produce downstream zirconium chemicals and high purity chemical zirconium dioxide. ZOC prices finished the year at US\$1,250-1,350/t for 36% ZrO₂ in China, while fused zirconia prices were US\$3,000-4,000/t within China. Export prices are typically 5-10% higher than Chinese domestic prices. Several Chinese producers also reduced production at year end to manage stocks in the lead up to Chinese New Year in February.

Hafnium

The hafnium market remained in short supply throughout 2015, with more of the same forecast in 2016 as demand exceeds supply due to the continued weak demand for hafnium free zirconium metal for the nuclear industry. This underlines the importance of having a new source of hafnium that is independent of the nuclear industry and that can support and foster growth in demand for existing and new applications that have yet to be commercialised. Hafnium from the DZP can assist to achieve this goal, and become a major supply source to meet current and future needs.

The successful production of a hafnium concentrate at the DZP that can be further processed and converted to hafnium tetrachloride, hafnium oxide, hafnium sponge and hafnium crystal bar has been a major focus during 2015 to add further value to DZP revenue streams. Spot hafnium 99.5% min (under 0.5% min zirconium) prices increased during the year to US\$1,200-1,500/kg, while long term prices also increased to US\$600-800/kg

Rare Earths

China remains the dominant source and supplier of rare earths in 2015, which IMCOA estimates to have been 140-150 ktpa with a market value of US\$2-4 billion. Weakness in demand and prices for rare earths has been widely reported in 2015, with most industry participants struggling to remain profitable at current prices. Indeed, a number of companies with rare earth development projects outside of China have scaled back or withdrawn from the market completely including Molycorp's Mountain Pass facility in the USA, which is on care and maintenance. Leading Chinese rare earths companies also lost money in 2014 and again in 2015 when prices fell further.

Despite a generally weak rare earths market, the demand for magnet rare earths remained strong in 2015 and the main driver for rare earths demand, with IMCOA estimating that this sector is responsible for over 30% of all rare earths demand. The main magnet materials include light rare earths praseodymium, neodymium, mixed praseodymium-neodymium, plus heavy rare earths dysprosium and terbium. IMCOA forecasts a strong growth rate of 6-8% to 2020 for magnets, and for rare earths overall which would result in 2020 demand of almost 230 ktpa compared to 140-150 ktpa in 2015.

Recognition of the large scale illegal production of rare earths in China became clearer during 2015 with IMCOA estimating that ~40% of rare earth mining/production in China is illegal, and has contributed to lower prices and significant environmental damage in southern China where there is no rehabilitation of land and resources.



Niobium

The niobium market remained flat during 2015 but held up better than most other minor metals markets due to the support and concentration of the three main producers. The total market for niobium is estimated to have been 80,000 tonnes in 2015, which is similar to 2014. High strength low alloy steel (HSLA) is the main application for niobium where it is consumed as ferro-niobium, which the DZP joint venture with Treibacher Industrie AG will produce. Prices for ferro-niobium were in the range of US\$35-40/kg (niobium content) across various markets.

Financing

Although many of the product prices are at four year lows, the diverse spread of output by the DZP enables a robust revenue stream to be determined at both current spot prices and those anticipated in 2020 as the Project ramps up and the speciality metal market stabilises. Price detail was provided in the ASX announcement of 27 August 2015.

The ability of the DZP to provide long term sustainable security of supply of a diverse range of over 10 critical metals and oxides is one of the strong themes which is being increasingly recognised both in Australia and overseas. The diversity of products and markets also provides stability of revenue streams over a broad base as different markets cycle through ups and downs over time.

AZL continues to work with its advisors to progress funding of the Project. With project development approval received, AZL is redoubling efforts in relation to funding. The broad strategy has not changed with strategic investment, Export Credit Agency finance and commercial debt remaining as the key components of the envisaged project funding suite.

TOMINGLEY GOLD PROJECT - Exploration (gold)

Alkane Resources Ltd 100%

Soil sampling programs were completed over areas within the Tomingley exploration licences where residual soils had been identified and no previous sampling had been conducted. The program consisting of 321 samples, was conducted in areas immediately north and south of Peak Hill within the Trewilga, Westray and Cemetery prospects and targeted structurally controlled gold mineralisation similar to the Tomingley gold deposits near the western contact of the Mingelo Volcanics.

A number of anomalous areas were identified and these targets will be tested by drilling later in the year.

BODANGORA (including KAISER) (copper-gold)

Alkane Resources Ltd 100% (includes the Kaiser tenement)

In December, Alkane exercised its right under the Sale and Purchase Agreement with Ajax Joinery Pty Ltd (Ajax) and purchased a 100% interest in the Kaiser tenement, EL6209. Ajax retain a 2% net smelter royalty over any production from within the licence area.

Exploration by Alkane during the period of the agreement concentrated on the reconstruction of the lithological and structural environment which has identified significant similarities with the stratigraphic setting of the Ridgway Deposit at Cadia. Limited drilling to test some of the areas identified has shown an increase in grade and width of mineralisation however additional work is required to fully test the interpretation.



WELLINGTON (copper-gold)

Alkane Resources Ltd 100%

A small soil sampling program totaling 210 samples was completed at the Burrendong South area following geological mapping. The program covered a small window of the Silurian Gleneski Formation which is the host to the Galwagere copper deposit located within the same tenement. No results of significance were recorded.

ELSIENORA (gold)

Alkane Resources Ltd earning 80%

A program of 209 soil samples was completed within the Elsenora Project area extending the coverage of detailed soil geochemistry to the south of the historic Elsenora workings. The program was compromised by access difficulties, is incomplete and results are being assessed.

CUDAL (gold-zinc), ROCKLEY (gold) and FINNS CROSSING (gold-copper) were inactive during the quarter

ORANGE EAST PROJECT (gold – copper)

Alkane Resources Ltd earning 60-80%

In keeping with the Company's philosophy of continually reviewing and refreshing its exploration portfolio, a number of exploration opportunities were assessed during the quarter and late in December the Company came to agreement with Clancy Exploration Limited (ASX code: CLY) to farm-in to the Orange East Project area.

Under the terms of the agreement Alkane can earn a 60% interest in the project by spending \$500,000 on exploration over three years. If Alkane does not spend \$500,000 within the 3 year period it earns no interest in the Project however Alkane must spend a minimum of \$250,000 before it can withdraw from the agreement (Stage 1). At the completion of Stage 1 Alkane can elect to sole fund a further \$500,000 on exploration over further two year period to earn an additional 20% in the project (Stage 2). If Alkane elects to proceed to Stage 2, but withdraws from sole funding of exploration prior to the expenditure of the additional \$500,000, its interest remains at 60%. Following the completion of Stage 2 the parties can elect to contribute proportionately to future exploration or dilute with either party's interest reverting to a 2% Net Smelter Return if their interest falls below 5%. Conditions precedent for the agreement are either the renewal of the existing exploration licence or the grant of a new licence covering the same area (to this end Alkane has lodged an application for an exploration licence (ELA5243)).

The Orange East Project is located approximately 15 kilometres east-south-east of Orange and consists of one exploration licence covering approximately 45km². The project area shows great similarities to the McPhillamys deposit area being about 15 kilometres along strike to the north and within an area of north-south structural complexity and on the western margin of the Hill End Trough. Stratigraphically the area is characterised by a basal sequence of Ordovician aged andesitic and mafic rocks which are in faulted or unconformable contact with Late Silurian rocks with similarity to the fine grained andesitic volcanoclastics and conglomerates observed at McPhillamys.

The project area hosts the historic Carangara copper workings at Byng which operated between 1850 and 1875, however the most compelling exploration target is at the Gunnarbee prospect where a multi-element soil geochemical anomaly, with a similar elemental suite to the surface anomaly at McPhillamys, has been outlined over an area of 1000m by 500m. The soil anomaly has not been drill tested.

Alkane's approach, once conditions precedent have been met, will be to undertake a complete geological



review and a synthesis of all data sets followed by the infill of areas currently not covered with soil geochemistry and ground geophysics. Drilling of highest priority targets will be undertaken once land access has been granted.

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 (Western Areas Ltd) has not reported any field activities.

CORPORATE

Following land acquisitions for the DZP of A\$4.00M, the Group's cash position was A\$14.76M at the end of the quarter, with bullion on hand valued at A\$4.4M (@ A\$1456/oz).

Alkane's wholly owned subsidiary, Australian Zirconia Limited, executed an A\$4.00M working capital facility late in the period. The facility, which has a three year term and is guaranteed by Alkane, was undrawn at 31 December.

Competent Person

The Information in this report relating to Ore Reserves is based on work undertaken by Mr Michael Leak and supervised by Mr Sean Buxton, both of whom are Members of the Australasian Institute of Mining and Metallurgy. This report has been compiled by Mr Michael Leak who is a casual employee of Tomingley Gold Operations Pty Ltd. Mr Sean Buxton and Mr Michael Leak both have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity 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 Sean Buxton and Mr Michael Leak consent to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Unless otherwise advised above, 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

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 Geosciences.



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

Alkane is a multi-commodity company focused in the Central West region of NSW, Australia. Currently Alkane has two advanced projects - the Tomingley Gold Operations (TGO) and the nearby Dubbo Zirconia Project (DZP). Tomingley commenced production early 2014. Cash flow from the TGO will provide the funding to maintain the project development pipeline and will assist with the pre-construction development of the DZP.

The NSW Planning Assessment Commission granted development approval for the DZP on 28 May 2015 and on 24 August 2015 the Company received notification that the federal Department of the Environment has assessed the mining project and its impacts, and has given its approval for the development. Mining Lease 1724 was granted on 18 December 2015. Financing is in progress and this project will make Alkane a strategic and significant world producer of zirconium, hafnium and rare earth products when it commences production in 2018.

Alkane's most advanced gold copper exploration projects are at the 100% Alkane owned Wellington and Bodangora prospects, and Elsenora farm-in. Wellington has a small copper-gold deposit which can be expanded, while at Bodangora a large 12km² monzonite intrusive complex has been identified with porphyry style gold copper mineralisation. Encouraging gold mineralisation was drilled at Elsenora early in 2015.



