

28 April 2014



**ALKANE**  
RESOURCES LTD  
ABN 35 000 689 216

## Quarterly Report to 31 March 2014

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### *Tomingley Gold Operations (TGO)*

- Process plant construction and commissioning completed on schedule and within budget. First gold poured 14 February 2014.
- Processing ramp up continued through the Quarter and is anticipated to achieve design capacity during May.
- Official opening on 21 March 2014 officiated by NSW Minister for Resources and Energy, Anthony Roberts MP.
- Gold production summary for the quarter:
  - Gold production was 4,363 ounces
  - Cash operating costs from the commencement of processing activities were \$1,210 per ounce
  - Gold sales were 798 ounces
  - Gold revenues were A\$1.2 million
  - Gold hedge of 25,000 ounces at A\$1,499/ounce secured
- Gold production and costs expected to normalise during the June Quarter

### *Dubbo Zirconia Project (DZP)*

- Process optimisation and product development work continued.
- Marketing trips to Japan, US and Canada completed.
- Conversion of the toll treatment and off-take MoU to a Commercial Agreement with Shin-Etsu is progressing.
- Front End Engineering and Design (FEED) contract awarded to Hatch.

### *Exploration*

- Discovery of new porphyry style gold – copper mineralisation at Kaiser, within the Bodangora Project.
  - McGregor KSRC003 8m @ 0.34g/t Au, 1.06% Cu from 109 metres  
(New zone) including and 5m @ 0.51g/t Au, 1.42% Cu from 110 metres  
and 9m @ 0.13g/t Au, 0.32% Cu from 132 metres
  - Kaiser KSRC001 60m @ 0.81g/t Au, 0.91% Cu from 0 metres  
(existing) including and 41m @ 1.15g/t Au, 1.24% Cu from 18 metres  
(zone) and 22m @ 1.63g/t Au, 1.64% Cu from 37 metre

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

Australian Zirconia Ltd (AZL) 100%

The Dubbo Zirconia Project (DZP) is located 30 kilometres south of the large regional centre of Dubbo in the Central West Region of New South Wales. The DZP is based upon the 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.

### Environmental Impact Statement (EIS)

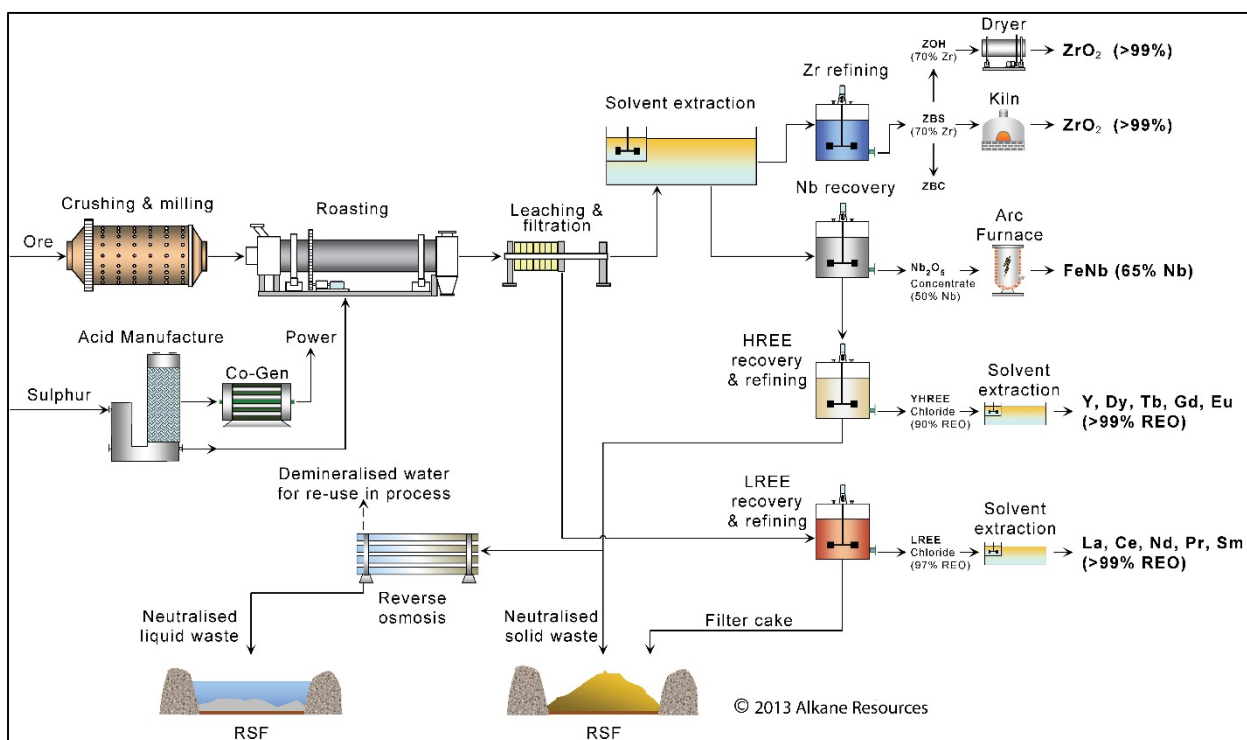
The Company and its environmental advisors have continued discussions with the NSW Department of Planning and Infrastructure (DP&I) to minimise any outstanding matters. These are largely resolved and the Project advanced towards review. DP&I had advised that the Project will proceed to Planning Assessment Commission (PAC) for determination however the timing for this has not yet been determined. Allowance for the PAC was made in the original approval schedule but it now appears that this will push out into the third quarter of the year.

As previously advised, the Company added a DZP Progress page to the website to further active engagement with the Dubbo and regional community. Content on this page, which can be viewed at: <http://www.alkane.com.au/index.php/community/dzpprogress>, provides additional information on the EIS and proactive response to community concerns and questions.

### Process and Product Development

Process optimisation and product development continued on the demonstration pilot plant (DPP) at ANSTO in Sydney and at the AML laboratory in Perth. These programs included modifications to the roaster to improve energy efficiency and recovery of metals in the leach circuit. Modifications to the primary solvent extraction circuit were also trialled with encouraging results that could lead to substantial capital and operating cost savings.

Further improvements to rare earth recoveries will be trialled during the June Quarter.



DZP Flowsheet



## **Marketing**

DZP marketing activities during the Quarter included visits to key potential customers in Japan in January, and in the United States and Canada at the end of the Quarter. The visit to Japan assisted to progress the conversion of the Shin Etsu MOU to a commercial agreement for the toll processing heavy and light rare earths concentrates and to define off-take requirements and specifications, as well as visits to several major companies interested in purchasing zirconium dioxide for a range of different applications. Visits to companies in the United States were focussed on zirconium chemicals and zirconium dioxide for volume applications where distinct benefits have been identified over other zirconium dioxide materials. A number of zirconium samples have been requested by potential customers for evaluation.

AZL presented at the Industrial Minerals International Congress and Exhibition 2014 in Vancouver early April, and has been invited to speak at the Ruidow Global Zircon Conference in Haikou, China at the end of May.

### **Zirconium**

Market conditions for zirconium material continue to remain flat, with stocks of zircon and downstream products readily available and demand limited. Reduced zircon production by major producers is expected to bring supply back into balance later in the year, while there are also signs of consolidation of the Chinese zirconium chemicals industry in response to overcapacity and unsustainably low prices.

### **Rare Earths**

Rare earths prices remained flat during the Quarter, but are showing some positive signs, particularly for praseodymium, neodymium and dysprosium, which are key elements used in magnetic materials. The apparent commitment of Chinese authorities to curtail illegal mining, processing, and export of heavy rare earths is expected to support prices for this group of products.

### **Niobium**

Although demand is moderate, the ferro-niobium market has also shown signs of weakness but recent prices are back above US\$40/kg. This market is expected to improve later in 2014.

The Treibacher ferro-niobium market study was completed and confirmed AZL's understanding that the small output proposed by the DZP would be readily absorbed by existing customers without an adverse market impact.

## **Financing**

The financing program led by Sumitomo Mitsui Banking Corporation (SMBC) and Credit Suisse (CS) is progressing. The immediate focus remains on achieving a small strategic sale at Project level and attracting the support of Export Credit Agency (ECA) funding.

## **Engineering**

As previously advised (ASX announcement 14 April 2014), AZL awarded the Front End Engineering Design (FEED) contract to Hatch Pty Ltd (Hatch). Hatch is an internationally recognised company supplying engineering, project and construction management services as well as process and business consulting and operational services to the mining, metallurgical, energy and infrastructure industries.

The FEED for DZP will deliver capital and operating cost estimates to a target  $\pm 10\%$  accuracy and a detailed schedule for the Project, building on the work of the Definitive Feasibility Study (DFS) for the DZP as previously released (ASX announcement 11 April 2013).

Completion of the FEED is expected in Q4 2014 and will also provide AZL with the core cost estimates for use in its bankable feasibility study, which will also include updated marketing and financial information and is an important step to securing the funding for the Project through international Export Credit Agency (ECA) sources and project debt.





## Costs

Unit operating costs have been high, as expected, due to the high waste stripping early in the pit life combined with initial build of the gold in circuit (GIC) and the reduced throughput of the processing plant. Costs are expected to normalise through the June Quarter.

## TGO Quarterly Production Figures

	Units	Dec Qtr 2013	Mar Qtr 2014	Year to Date FY 2014
<b>Production</b>				
Waste mined	BCM	696,788	1,906,377	2,063,165
Ore mined	Tonnes	-	165,404	165,404
Grade	g/t	-	1.30	1.30
Ore milled	Tonnes	-	120,270	120,270
Head grade	g/t	-	2.32	2.32
Recovery	%	-	89.8	89.8
Gold recovered	Ounces	-	4,363	4,363
Gold sold	Ounces	-	798	798
Gold revenue	A\$M	-	1.2	1.2
Cash operating cost <sup>1</sup>	A\$/oz	-	1,210	1,210
<b>Stockpiles</b>				
Ore for immediate milling	Tonnes	-	43,067	43,067
Bullion on hand	Ounces	-	3,565	3,565

<sup>1</sup> C3 = all site costs, sustaining capex and exploration, and corporate administration, excluding capitalised deferred waste from the commencement of processing activities.



**CIL Plant**



**Troy Grant (Member for Dubbo), Anthony Roberts (Minister for Resources and Energy), Mark Coulton (Federal Member for Parkes) and Mike Sutherland (ALK GM NSW) at TGO opening**



**Wyoming Three pit**



**TGO site**

## **BODANGORA (copper-gold)**

*Alkane Resources Ltd 100%*

**Kaiser** *Alkane right to earn 100% with 2% NSR*

The Kaiser Project lies within the greater Bodangora Project where porphyry style gold-copper mineralisation associated with the Comobella Intrusive Complex (CIC) was identified by drilling in 2012. The CIC is a 4km by 3km monzonite intrusive with associated alteration and skarn mineralisation located about 7km northwest of Kaiser. These prospects highlight the potential of the area to host economic porphyry style mineralisation.

An initial RC drilling program comprising 5 holes for a total of 1,094 metres tested the Kaiser, Kaiser East and the recently identified McGregor targets (ASX announcement 14 April 2014). The results are summarised in the table below.

### **McGregor Discovery**

Drilling at the newly defined McGregor Prospect identified chalcopyrite + bornite mineralisation within an intensely hematite ± epidote ± magnetite ± sericite-altered volcanoclastic and porphyry host rock. This host package and alteration assemblage appears very similar to that observed at the nearby mineralised Kaiser Prospect. The best intercept was **5m @ 0.51g/t Au and 1.42% Cu from 110m (KSR003)**.

### **Kaiser Prospect**

The Kaiser Prospect was subject to limited historical mining activity between 1875 and the 1930s with intermittent exploration activity conducted since the 1960s.

Recent drill hole KSR001 was drilled across the Kaiser mineralised zone to characterise its geochemical signature before testing the McGregor zone at depth. The intercept of **41m @ 1.15g/t Au, 1.24% Cu from 18m, within 60m @ 0.81g/t Au, 0.91% Cu from 0m (KSR001)** represents a positive result compared with that reported in the closest historical drill hole (ck26: 40m @ 0.57g/t Au, 0.64% Cu from 16m).



KAISER PROJECT RC DRILLING – April 2014												
Hole ID	Easting (MGA)	Northing (MGA)	Dip	Azimuth (Magnetic)	Total Depth	Interval From (m)	Interval To (m)	Intercept (m)	Au (g/t)	Cu (%)	Mo (ppm)	Comments
KSRC001	689543	6412039	-50	248	322	0	60	60	0.81	0.91	10.17	Kaiser Prospect
					<i>inc.</i>	18	59	41	1.15	1.24	9.88	
					<i>inc.</i>	37	59	22	1.63	1.64	6.64	
KSRC002	689708	6412009	-50	212	223	3	29	26	0.11	0.17	8.37	Kaiser East
					<i>and</i>	34	54	20	0.15	0.16	12.61	
					<i>and</i>	68	86	18	0.50	0.15	44.15	
					<i>inc.</i>	68	75	7	0.73	0.26	40.40	
					<i>and</i>	136	140	4	0.19	0.27	13.41	
					<i>and</i>	143	152	9	0.14	0.23	6.32	
KSRC003	689462	6412078	-50	267	241	109	141	32	0.13	0.39	1.71	McGregor Prospect
					<i>inc</i>	110	115	5	0.51	1.42	2.17	
					<i>and</i>	132	141	9	0.13	0.32	2.25	
					<i>and</i>	171	172	1	9.69	-	-	
KSRC004	689547	6412119	-50	217	121	NO SIGNIFICANT RESULTS						Kaiser Prospect
KSRC005	689745	6411899	-50	125	187	NO SIGNIFICANT RESULTS						Kaiser Extended

Full details provided in ASX release 11 April 2014

**WELLINGTON (copper-gold), CUDAL (gold-zinc), CALULA (base metals-gold), ELSIENORA (gold) and ROCKLEY (gold)** were inactive during the Quarter.

#### **LEINSTER REGION JOINT VENTURE (nickel-gold)**

*Alkane Resources Ltd 20% diluting, Xstrata Nickel Australasia 80% Two prospects - **Miranda** and **McDonough** Lookout.*

Xstrata have not advised any field activities for the Quarter to date.

#### **CORPORATE**

Alkane retains its holding in Regis Resources Limited of 3.015M shares. Alkane, on behalf of TGO, has executed a gold hedge of 25,000 ounces at A\$1,449 for delivery on 16 May 2014 with Credit Suisse International. Gold can be sold into the hedge or the contract may be rolled forward depending upon the spot price at maturity. Subsequent to the end of the Quarter, 5,000 ounces were delivered into the contract.

#### *Competent Person*

*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. Ian 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.*

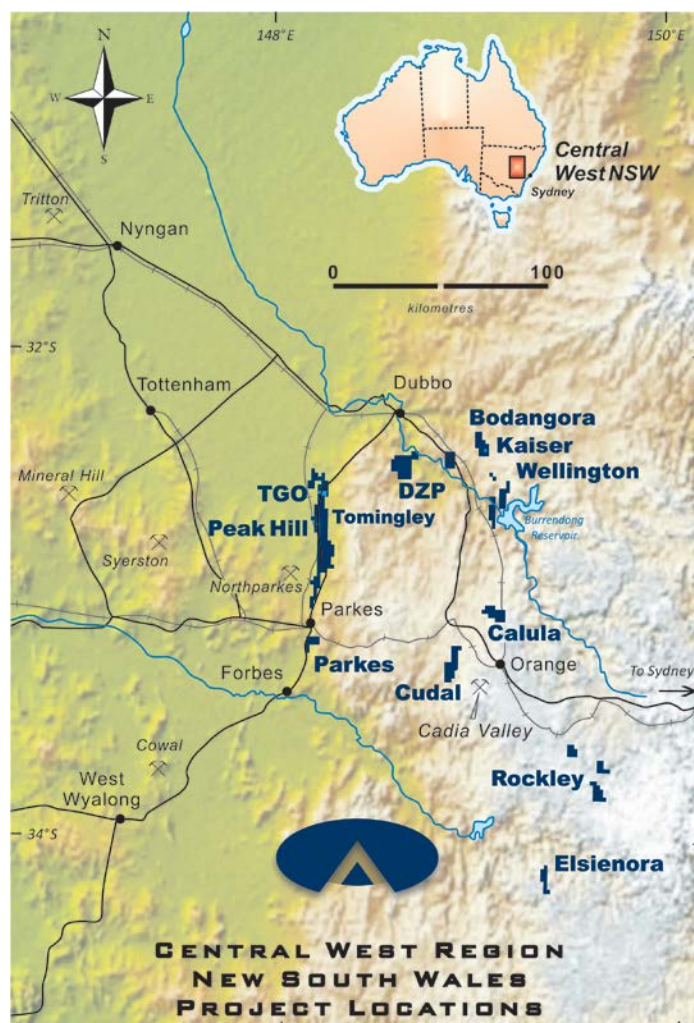
*This document has been prepared in accordance with the requirements of Australian securities laws, which may differ from the requirements of United States and other country securities laws. Unless otherwise indicated, all ore reserve and mineral resource estimates included or incorporated by reference 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](http://www.alkane.com.au) - ASX: ALK and OTCQX: ANLKY

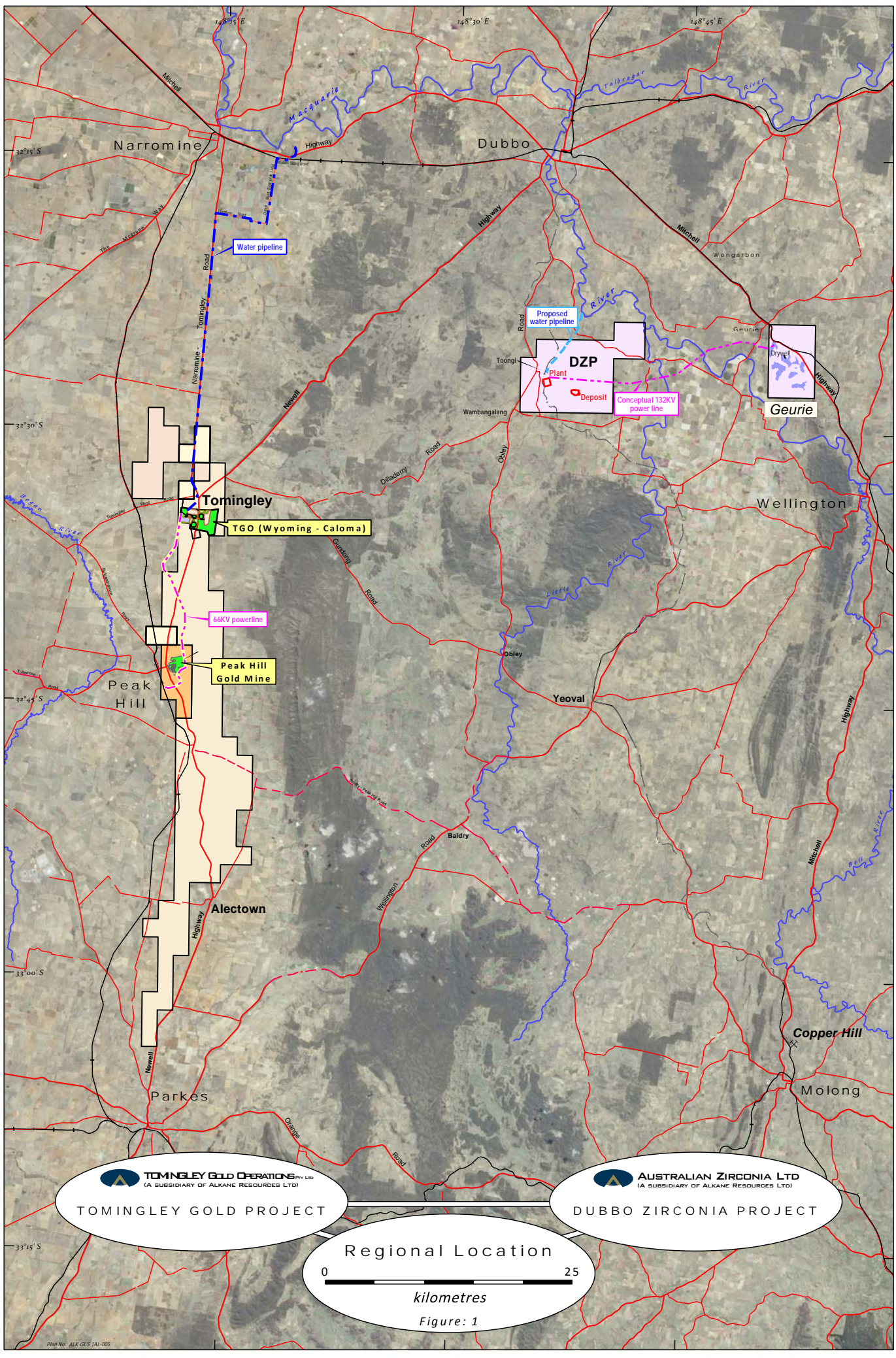
Alkane is a multi-commodity company focused in the Central West region of NSW Australia. Currently Alkane has two advanced projects - the Tomingley Gold Project (TGP) and the nearby Dubbo Zirconia Project (DZP). Tomingley commenced production early 2014. Cash flow from the TGP will provide the funding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

The DZP Environmental Impact Statement has been completed and a development decision is anticipated Q3 2014. Financing is in progress and this project will make Alkane a strategic and significant world producer of zirconium products and heavy rare earths when it commences production in 2016.

Alkane's most advanced gold copper exploration projects are at the 100% Alkane owned Wellington and Bodangora prospects. Wellington has a small copper-gold deposit which can be expanded, while at Bodangora a large 12km<sup>2</sup> monzonite intrusive complex has been identified with porphyry style copper-gold mineralisation. Encouraging gold-zinc mineralisation and alteration associated with a monzonite intrusive, has been identified at Cudal.



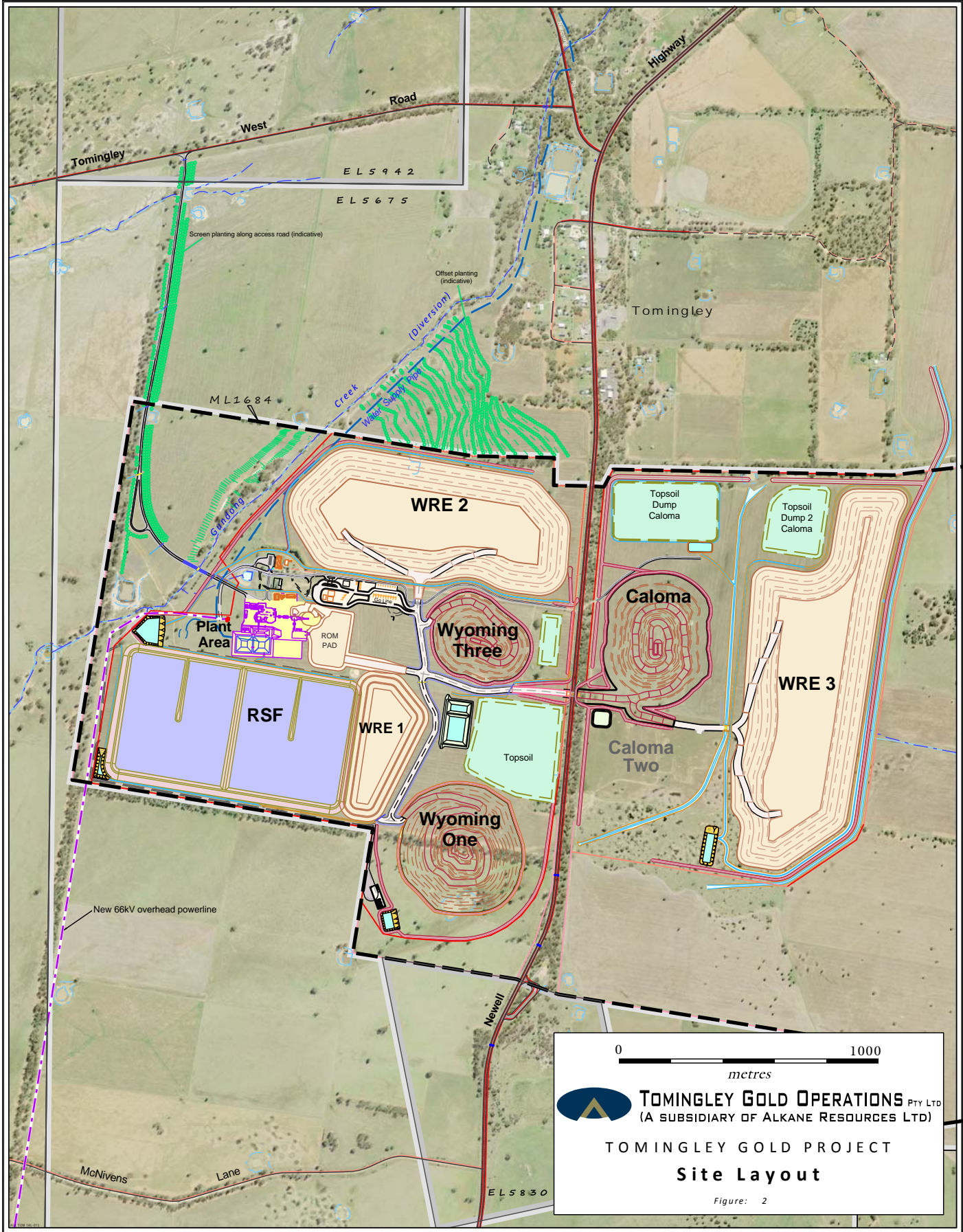





**TOMINGLEY GOLD OPERATIONS** PTY LTD  
(A SUBSIDIARY OF ALKANE RESOURCES LTD)  
**TOMINGLEY GOLD PROJECT**


**AUSTRALIAN ZIRCONIA LTD**  
(A SUBSIDIARY OF ALKANE RESOURCES LTD)  
**DUBBO ZIRCONIA PROJECT**

Regional Location  
 0 ————— 25  
 kilometres  
 Figure: 1

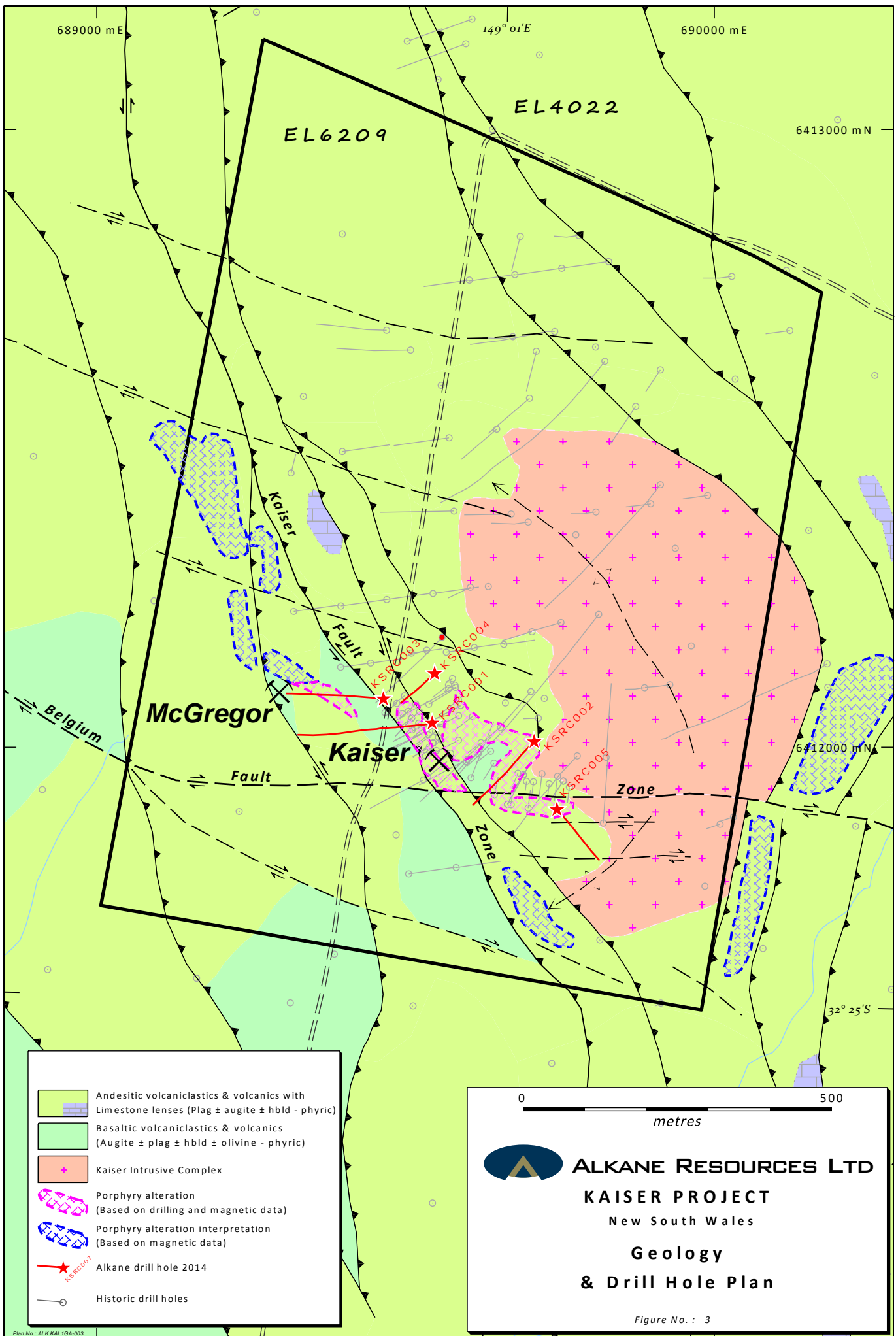


0 1000  
metres

**TOMINGLEY GOLD OPERATIONS** PTY LTD  
(A SUBSIDIARY OF ALKANE RESOURCES LTD)

TOMINGLEY GOLD PROJECT  
**Site Layout**

Figure: 2



689000 mE

149° 01'E

690000 mE

EL6209

EL4022

6413000 mN

Kaiser

Fault

McGregor

Kaiser

Fault








Belgium

Zone


Zone

6412000 mN

32° 25'S

-  Andesitic volcaniclastics & volcanics with Limestone lenses (Plag ± augite ± hbl - phytic)
-  Basaltic volcaniclastics & volcanics (Augite ± plag ± hbl ± olivine - phytic)
-  Kaiser Intrusive Complex
-  Porphyry alteration (Based on drilling and magnetic data)
-  Porphyry alteration interpretation (Based on magnetic data)
-  Alkane drill hole 2014
-  Historic drill holes

0 500  
metres

 **ALKANE RESOURCES LTD**  
**KAISER PROJECT**  
New South Wales

**Geology**  
**& Drill Hole Plan**

Figure No.: 3