



QUARTERLY REPORT TO 31 MARCH 2009

KEY SUMMARY

➤ TOMINGLEY GOLD PROJECT

- The Caloma resource was completed and with revised Wyoming One and Three resources, raised the total by 35% to 840,000 ounces.
- Metallurgical results from all three deposits gave recoveries of 90% to 96% with very high gravity recoveries.
- The Definitive Feasibility Study is continuing with plant flowsheet and site layout nearing completion.
- The Conceptual Project Development Plan lodged with the NSW Dept of Primary Industries.

➤ DUBBO ZIRCONIA PROJECT

- The Demonstration Pilot Plant (DPP) at ANSTO was operated for a 33 day period and 467kg of zirconium and 98kg of niobium products recovered.
- The product marketing and sample distribution will commence in May with contact trips planned for Japan in May and Europe and North America in July.
- The yttrium-rare earth recovery test work is continuing.

➤ MOORILDA PROJECT – McPHILLAMYS

- The results from the final 2008 diamond core drilling at McPhillamys were received. Results include:

KPD016 164.8 metres grading 0.55g/t gold from 616 metres

including 9.0 metres grading 1.03g/t gold from 662 metres

and 13.0 metres grading 4.02g/t gold from 742 metres

- These constitute the deepest intersections in the project to date and extend the mineralisation to a vertical depth of 650 metres

Corporate Profile

Alkane Board

J. S. F. Dunlop (Chairman)
D. I. Chalmers (Managing Dir)
A. D. Lethlean (Director)
I. J. Gandel (Director)
I. R. Cornelius (Director)
L A Colless (Joint Secretary)
K E Brown (Joint Secretary)

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12 month share price range

AS\$0.50 - \$0.10

Market Cap 28 April 09

~A\$60 million

ASX Code: ALK

244.6 million shares

31 March 2009 Cash

~ \$6.0 million

No debt

Media Relations

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NEW SOUTH WALES

TOMINGLEY GOLD PROJECT (TGP)

Alkane 100% subject to separate royalty agreements with Compass Resources NL, Golden Cross Operations Pty Ltd and Climax Mining Ltd.

The **TGP** extends for over 100 kilometres from near Parkes in the south, to the west of Narromine in the north, within the Central West of New South Wales (figure 1) and covers a narrow sequence of Ordovician volcanic rocks. Recent exploration has focussed on the **Caloma** discovery, which is about 500 metres east of the defined resources at the **Wyoming One** and **Wyoming Three** deposits (figure 2). These deposits are 12 kilometres north of the Company's Peak Hill Gold Mine.

A major reverse circulation (RC) and diamond core resource definition drilling program was completed at Caloma in 2008 with a total of 186 RC holes (22,034 metres) drilled. The program focussed on a 400 metre long central section of the 1,000 metre north-south trending Wyoming style feldspar porphyry host which is located at the contact of pelitic sediments in the west and an andesitic volcanic and volcanoclastic sequence to the east.

The RC program was completed on a generally 20 metre by 20 metre pattern to ensure the definition of Measured and Indicated Resources to a depth of about 150 metres. Gold mineralisation is known to extend further to the north and south within the porphyry host but focus was on the central section to enable definition of resources and an open pit mining model to complete a feasibility assessment of the Project.

Multiple mineralised structures have been defined within the main feldspar porphyry host at Caloma, which is 80 to 150 metres in width. As a result of the drilling, a robust geological model has been developed and it is apparent that most of the mineralised structures within the porphyry have an approximate northerly orientation, with a shallow westerly dip. These structures range in width from a few metres to in excess of 20 metres and appear to extend across the full width of the porphyry host. Intersecting structures, or structures intersecting lithological contacts, occasionally generate substantial intercepts.

The drilling has also demonstrated that the mineralised structures project through the eastern contact of the porphyry into the volcanoclastic sediments and have expanded the resource potential into that area. East-west, vertical cross cutting dolerite dykes that postdate the mineralisation occur at irregular intervals.

The currently defined Caloma mineralisation remains open at depth, and along strike to the north and south.

Ten core holes totalling 2,571 metres were drilled at Caloma and nine core holes totalling 3,720 metres were also completed at the Wyoming One and Wyoming Three deposits during 2008. The core drilling was designed to provide confirmatory geological information, and samples for metallurgical testing and geotechnical data.

Much of the area is covered by transported and unmineralised clay sediments and this has impacted on both the exploration techniques used to locate and define orebodies, and also on development options and costs. This cover ranges from about 5 to 10 metres at Wyoming Three and Caloma, to more than 60 metres over the Wyoming Two target zone. The major orebody at Wyoming One averages 25 metres of cover.

Resource Review and Caloma Compilation

The Wyoming One and Wyoming Three deposits were subject to an independent review and subsequently independent estimates were made along with a new estimate for the Caloma deposit.



The resource work was completed by Richard Lewis of Lewis Mineral Resource Consultants Pty Ltd (LMRC). Mr Lewis (MAusIMM) has over 40 years experience in exploration and project development, including 25 years in resource estimation of gold and base metal projects and mines. Mr Lewis was the Manager of Resource Evaluation for Placer Dome Asia Pacific Limited from 1987 to 2006 and has more than 5 years experience in resource estimation of similar deposits.

Several different resource modelling techniques were employed to generate a number of models and the two extreme cases are summarised in the table below. The “No top cut – mgeol model” was the closest to that used by Alkane in 2005 to produce results for the Wyoming One and Three deposits. Differences in identified resources were caused by deeper drilling of the deposit at Wyoming One changing the shape and extent of mineralisation in the main Porphyry and the nearby Hangingwall ore zones, and differing classification parameters used for this compilation.

A more conservative model “Top cut 2.5 x 2.5 x 5.0m model” was estimated to provide the basis for open pit mine planning and ultimately Reserve definition for economic review of the project. This model used statistical evaluation to remove high gold grade spikes in the mineralisation and also a smaller internal block size to approximate to that required for optimisation of the deposits for mining.

Table 1: Identified Mineral Resources at the TGP as at 24 March 2009, above a cut off of 0.75g/t gold.

DEPOSIT	MEASURED		INDICATED		INFERRED		TOTAL		
No top cut mgeol model	Tonnage (t)	Grade (g/t)	Tonnage (t)	Grade (g/t)	Tonnage (t)	Grade (g/t)	Tonnage (t)	Grade (g/t)	k Ounces
Wyoming One	2,379,000	2.52	878,000	3.07	3,227,000	2.35	6,484,000	2.51	523.2
Wyoming Three	670,000	2.05	44,000	2.02	123,000	1.64	837,000	1.99	53.5
Caloma	1,842,000	2.28	497,000	2.12	1,731,000	1.85	4,070,000	2.08	271.9
Total	4,891,000	2.37	1,419,000	2.70	5,081,000	2.16	11,391,000	2.32	848.6

DEPOSIT	MEASURED		INDICATED		INFERRED		TOTAL		
Top cut 2.5x2.5x5.0m model	Tonnage (t)	Grade (g/t)	Tonnage (t)	Grade (g/t)	Tonnage (t)	Grade (g/t)	Tonnage (t)	Grade (g/t)	k Ounces
Wyoming One	2,227,000	2.07	882,000	2.25	3,478,000	1.62	6,587,000	1.86	393.2
Wyoming Three	630,000	1.87	58,000	1.73	154,000	1.25	842,000	1.75	47.3
Caloma	1,825,000	2.06	488,000	1.88	1,559,000	1.52	3,872,000	1.82	226.6
Total	4,682,000	2.04	1,428,000	2.10	5,191,000	1.58	11,301,000	1.84	667.0

These Mineral Resources are based upon information compiled by Mr Richard Lewis MAusIMM (Lewis Mineral Resource Consultants Pty Ltd) who is a competent person as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Richard Lewis consents to the inclusion in the report of the matters based on his information in the form and context in which it appears. The full details of methodology were given in the ASX release of 25 March 2009.

Definitive Feasibility Study (DFS)

The DFS was initiated late 2007 and is managed by Mintrex Pty Ltd, the consulting division of Perth engineering group, Holtfreters Pty Ltd with input from Alkane personnel and external consultants.

The conceptual development options currently comprises three open pit mines, Wyoming One, Wyoming Three and Caloma, followed by possible future underground operations. Gold production would be through a conventional Gravity-CIL gold recovery circuit at an open pit mining rate of around 0.75 to 1.0 million tonnes per annum. These treatment rates would recover an average of 50,000 to 70,000 ounces of gold a year for a minimum of five years.

Metallurgy

A detailed metallurgical assessment of the various deposits is nearing completion under the supervision of Metallurgical Project Consultants Pty Ltd and used water for testing taken from a bore



site near Narromine (NSW), similar to that planned for the project. The metallurgical work was carried out on recent composited core samples which were divided according to specific deposit and oxidation state. A summary of the work was included in the 25 March ASX release.

In general, all samples from the deposits, including oxide and fresh ore, returned plus 90% gold recovery, with average cyanide and lime consumption. Work indices (for crushing and grinding) are near average for the oxide samples but above average for fresh ore. Abrasion Indices are all near average. Gravity gold recoveries were exceptionally high, particularly from the fresh ore samples, with all giving plus 50% recovery. This has the potential to deliver positive cost benefits in an operating treatment plant

In several samples, the calculated head grades were higher than that returned from the original composite core samples, which combined with the high gravity recoveries, could indicate that the drilling samples may have under-called the gold content of the deposits.

Flow sheet and plant design based upon the metallurgical data is well advanced.

Mine Planning

Mine planning and scheduling has recently commenced and is designed to provide the optimum operating size for the project.

Preliminary pit shells have identified several zones of mineralisation that have been classified as Inferred Resources, and a 5,000 metre RC drilling program has commenced to raise these to Indicated status for inclusion in the initial Reserve statement and financial models. RC drilling has also been scheduled to test the shallow extension of mineralised zones identified at depth on the eastern side of the Caloma deposit which could be included into the initial open pit.

Geotechnical studies for all three planned open pits have commenced under the supervision of consultants Mining One Pty Ltd and core drilling to provide detailed data to assist mine planning will be completed as soon as practical.

Infrastructure

The TGP is located in an area of substantial existing infrastructure with the major Newell Highway transecting the project, linking a number of towns with a regional population base exceeding 150,000. No camp facilities are required and the workforce can be sourced locally. A natural gas pipeline and railway are located five kilometres west of Tomingley, and power is available from the New South Wales state grid at Peak Hill, 16km to the south of the site. Water supply will be achieved via a pipeline to be laid from established sources near Narromine, 40 kilometres to the north of the site.

Site geotechnical evaluation has commenced, and site sterilisation drilling is scheduled to begin late May.

The current site layout plan is included as figure 3.

Environmental Assessment and Development Application

RW Corkery & Co has been appointed as the EA consultants and acquisition of base line data has commenced. The Conceptual Project Development Plan (CPDP) has been presented to the Department of Primary Industries (Mineral Resources) in Sydney as the first stage of the DA process.

A number of sub-consultants have been commissioned to provide input into the EA study. This work includes fauna and flora studies, noise and dust monitoring, analysis of surface and underground water, traffic, soils and archaeology studies.



The project concept has been presented at a Community Consultative Meeting to the local community at Tomingley.

DUBBO ZIRCONIA PROJECT (DZP)

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 one of the world's largest in-ground resources of the metals **zirconium, hafnium, niobium, tantalum and yttrium, and rare earth elements**. Over several years the Company has developed a flow sheet consisting of sulphuric acid leach followed by solvent extraction recovery and refining to produce several products (figure 3).

Following receipt of a \$3.3 million Commercial Ready Grant from AusIndustry (Australian Federal Government), process optimisation and development work commenced in July 2006 at the laboratory facilities of **ANSTO Minerals** at Lucas Heights south of Sydney. ANSTO Minerals is a business unit of the Australian Nuclear Science and Technology Organisation and is one of Australia's premier research facilities. Construction of the **Demonstration Pilot Plant (DPP)** commenced late in 2007. The associated Definitive Feasibility Study (DFS) is under the management of Perth based consultants, **TZ Minerals International Pty Ltd (TZMI)** in Perth.

After two trial runs in 2008, the DPP recommenced operation in late February and ran for 33 days through to early April. The plant operated efficiently during this period with no significant issues and in the latter half of the run produced high quality zirconium and niobium products. A total of 467kg of zirconium basic sulphate (ZBS) and 98kg of the niobium concentrate were recovered to the end of March. Small quantities of zirconium hydroxide (ZOH) were produced from the ZBS and trials to produce zirconium carbonate (ZCO) are scheduled to commence this coming quarter.

DPP operating statistics

	March Q 09	December Q 08	TOTAL	
Ore Processed	25 tonnes	20 tonnes	67 tonnes	Ground ore
PLS produced	44,000 litres	26,000 litres	95,000 litres	Leach solution
Zirconium	467kg	571kg	1150kg	Wet filter cake ZBS*
Niobium	98kg	25kg	165kg	Wet filter cake Nb conc*

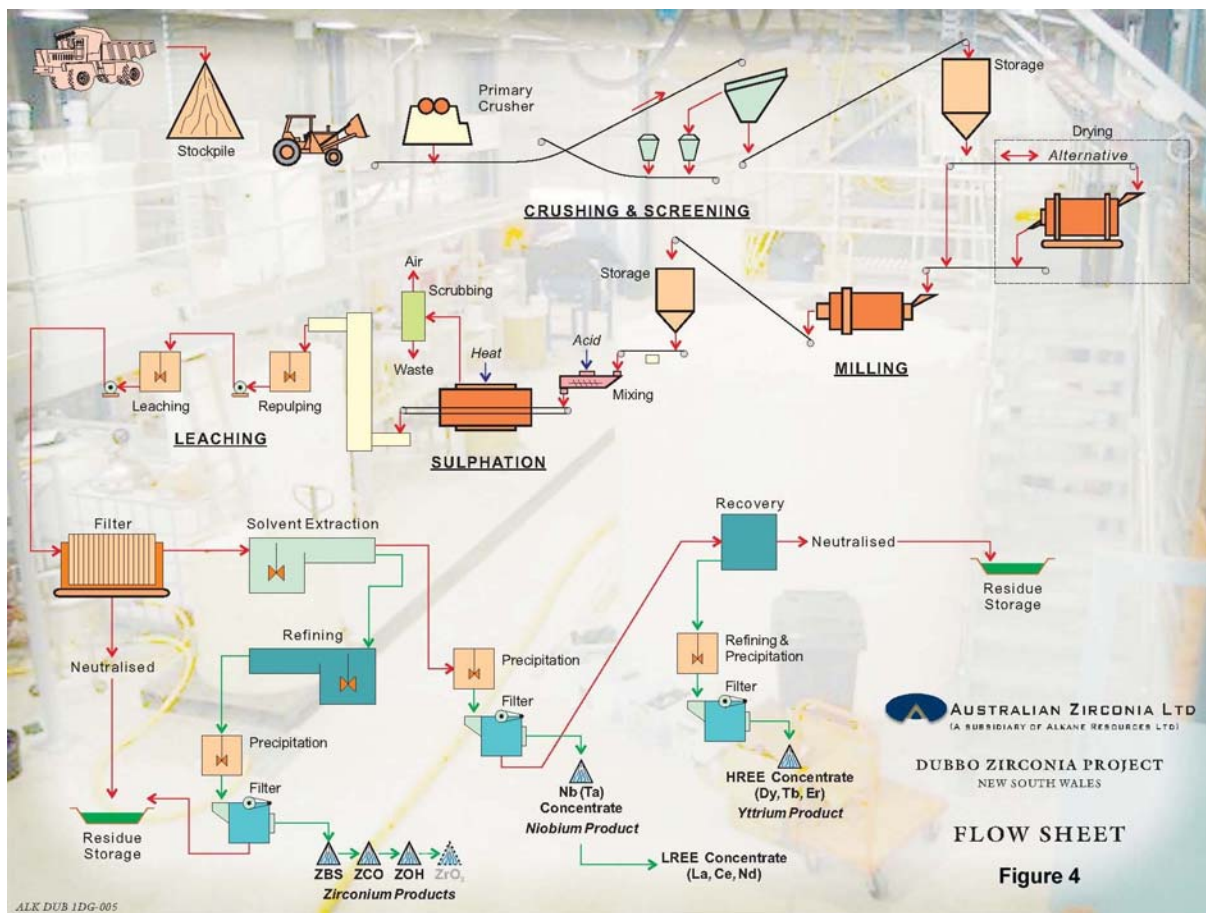
* ZBS = zirconium basic sulphate; Nb conc = niobium concentrate

The DPP is designed to test the complete flowsheet, providing process and engineering data, but most importantly, several tonnes of the various products for distribution to potential end users. No major runs are currently planned for the June Quarter but operations could be extended into the second half of the year depending feed back from potential consumers.

Test work to prove the recovery of yttrium and rare earths from the current flow sheet has continued in the laboratory at ANSTO. Work to date has focussed on the recovery of a light rare earth concentrate (La, Ce, Nd, Pr, Sm) from the niobium product precipitate but a review of all data indicated that a large part of this product was held in the primary filter (see figure 4) and test work will need to consider recovery from this source. The yttrium and heavy rare earth (Eu, Gd, Tb, Dy) program for the separation of these valuable metals from the waste stream has commenced. Due to the delay in achieving a demonstrable flow sheet for the YREE recovery, the planned addition of this circuit to the DPP has been rescheduled to the second half of the year.

Marketing

The DPP is planned to recover a suite of zirconium chemicals, zirconia, a niobium-tantalum concentrate, a light rare earth concentrate and a yttrium- heavy rare earth concentrate which are used in the expanding ceramic, catalyst, electronics, special rechargeable batteries and permanent magnets, engineering ceramic, and specialty glasses and alloys industries, as well as the nuclear power industry.





hole are summarised in Table 1 (figure 6). The core contained broad intervals of low grade gold mineralisation with rare higher grades and is not a conclusive test of the north plunging concept.

The core was still in mineralisation when halted at 780.8 metres and is the deepest intersection completed to date at about 650 metres vertical depth. The hole failed to intersect the western contact of the mineralised zone which could indicate that the dip on this section is vertical or steep west and the hole may need to be extended to confirm that the complete mineralised zone has been tested.

The results of the 2008 drilling program confirmed that a plus 0.5g/t gold mineralised envelope extends over a north south strike of at least 600 metres with widths up to 200 metres. This mineralisation is largely hosted by a generally steep east-dipping, altered coarse grained intermediate volcanic and intrusive sequence, with variable sulphide content up to 10%. Quartz veining is rare. Structurally overlying the mineralised system to the east are unaltered fine-grained sediments with a package of intensely deformed intermediate volcanics flanking the system to the west.

While the drilling results have been very positive, the understanding of the exact controls on gold mineralisation, along strike, down dip and down plunge is still not clear. The drilling data also suggests that there may either be surface depletion of the gold with many shallow holes showing irregular and generally lower grades than the deeper core and RC holes. Additional drilling will be required to evaluate these concepts.

The ODEJV is currently reviewing all the exploration results for the project and the 2009 program is being planned.

Table 1: Summary drill core results for McPhillamys Prospect March 2009 Quarter.

Hole No	East	North	RL (m)	Azimuth	Inclin	Intcpt (m)	Grade (g/t Au)	Interval (m)	EOH (m)	Comments
KPD 016	716008	6292349	951	265°	70°	164.8	0.55	616 – 780.8	780.8	
incl						9	1.03	662 - 671		
and						13	4.02	742 - 755		
Hole No	East	North	RL (m)	Azimuth	Inclin	Interpt (m)	Grade (%Zn)	Interval (m)	EOH (m)	Comments
KPD 016	716008	6292349	951	265°	70°	43	0.45	240 - 283	780.8	
incl						17	0.77	265 - 283		

Gold analysis by 50g fire assay and base metals by ICP at generally 1 metre half core intervals. True widths are about 65% of intersection.

WELLINGTON (copper-gold) and BODANGORA (gold-copper)

Alkane Resources Ltd 100%

Data assessment continued on these very prospective tenements.

CUDAL (gold-copper)

Alkane Resources Ltd 100%

As part of the regional re-assessment of all projects, a review of all historic data has been initiated.

CALULA (gold-copper)

Alkane Resources Ltd 100%

As advised in the December Quarter Report, an Exploration Licence of 63 km² has been approved at Calula, located 30 kilometres north of Orange. The tenement covers a sequence of felsic volcanics thought prospective for gold and base metal mineralisation and a full data review is continuing.



WESTERN AUSTRALIA

LEINSTER REGION JOINT VENTURE (nickel-gold)

Alkane Resources Ltd 25% diluting, Xstrata Nickel (Jubilee)

*The three prospects - **Leinster Downs**, **Miranda** and **McDonough Lookout** - are subject to a farm-in agreement with Xstrata Nickel (Jubilee).*

Xstrata Nickel has advised that no field work was carried out in the quarter.

BACKGROUND

Alkane is a multi commodity explorer and miner with its operations focussed in the **Central West** of **New South Wales**, centred about 400km northwest of Sydney. Over several years, including experience in developing the Peak Hill Gold Mine, Alkane has built a substantial resource base and is proceeding towards several developments:

The **Tomingley Gold Project** currently has a **840,000 ounce gold resource** within the **Wyoming and Caloma deposits**, (full details 2008 Annual Report). A feasibility study for the development of the project with potential 50,000 to 70,000 ounce per annum production is anticipated to be completed before the end of 2009.

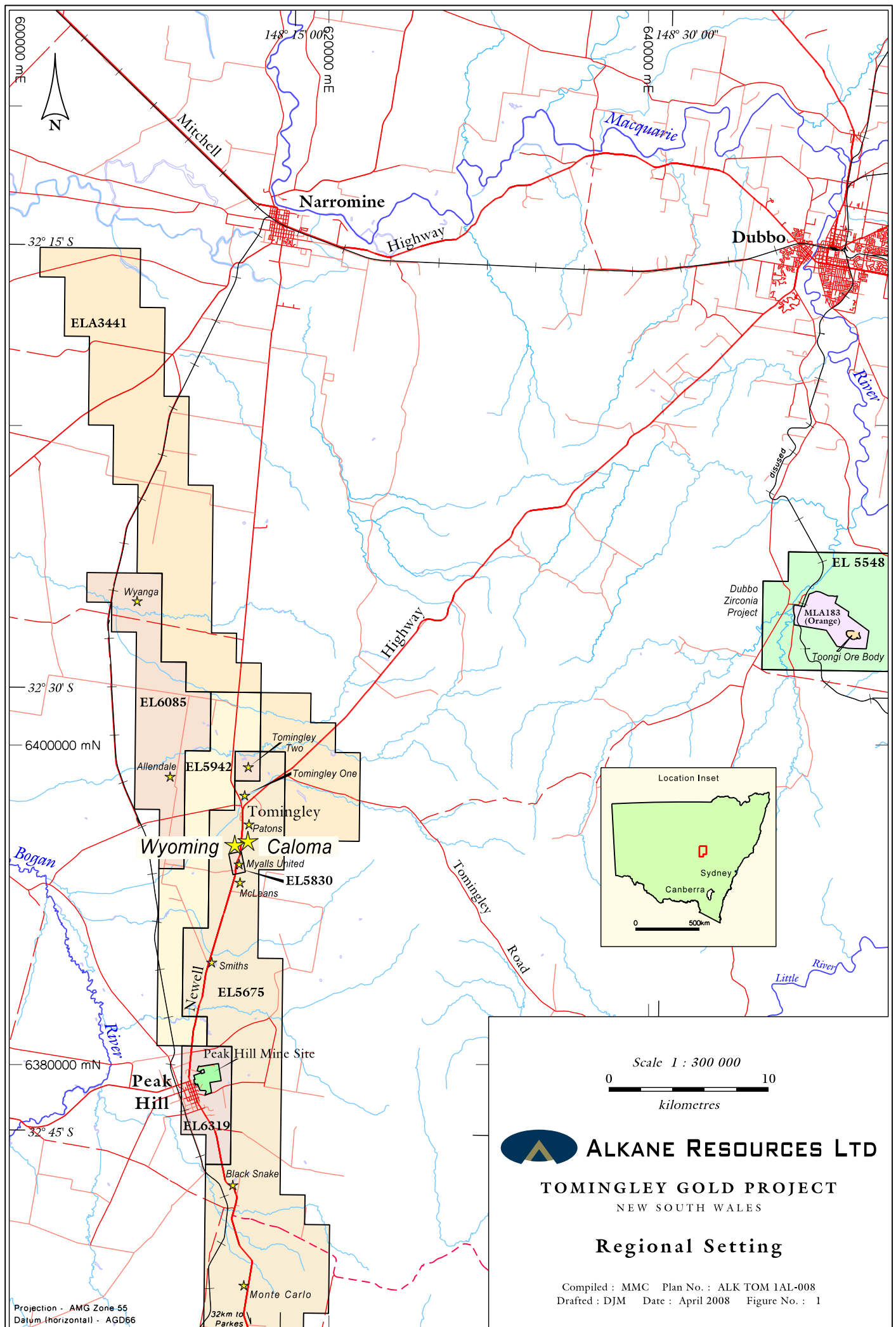
The **Dubbo Zirconia Project** is based upon a world class resource of the metals zirconium, hafnium, niobium, tantalum, yttrium and rare earth elements. The deposit also contains significant uranium. Over several years Alkane has developed a flow sheet which can recover a variety of products which have expanding applications in electronics, ceramics, catalysts, special alloys and glasses, fuel cells, special batteries and permanent magnets, nuclear power and as environmental drying agents. Following a \$3.3 million Commercial Ready Grant from AusIndustry in 2006, the feasibility study was reactivated. The study includes the construction and operation of a Demonstration Pilot Plant, and a development commitment is anticipated early 2010.

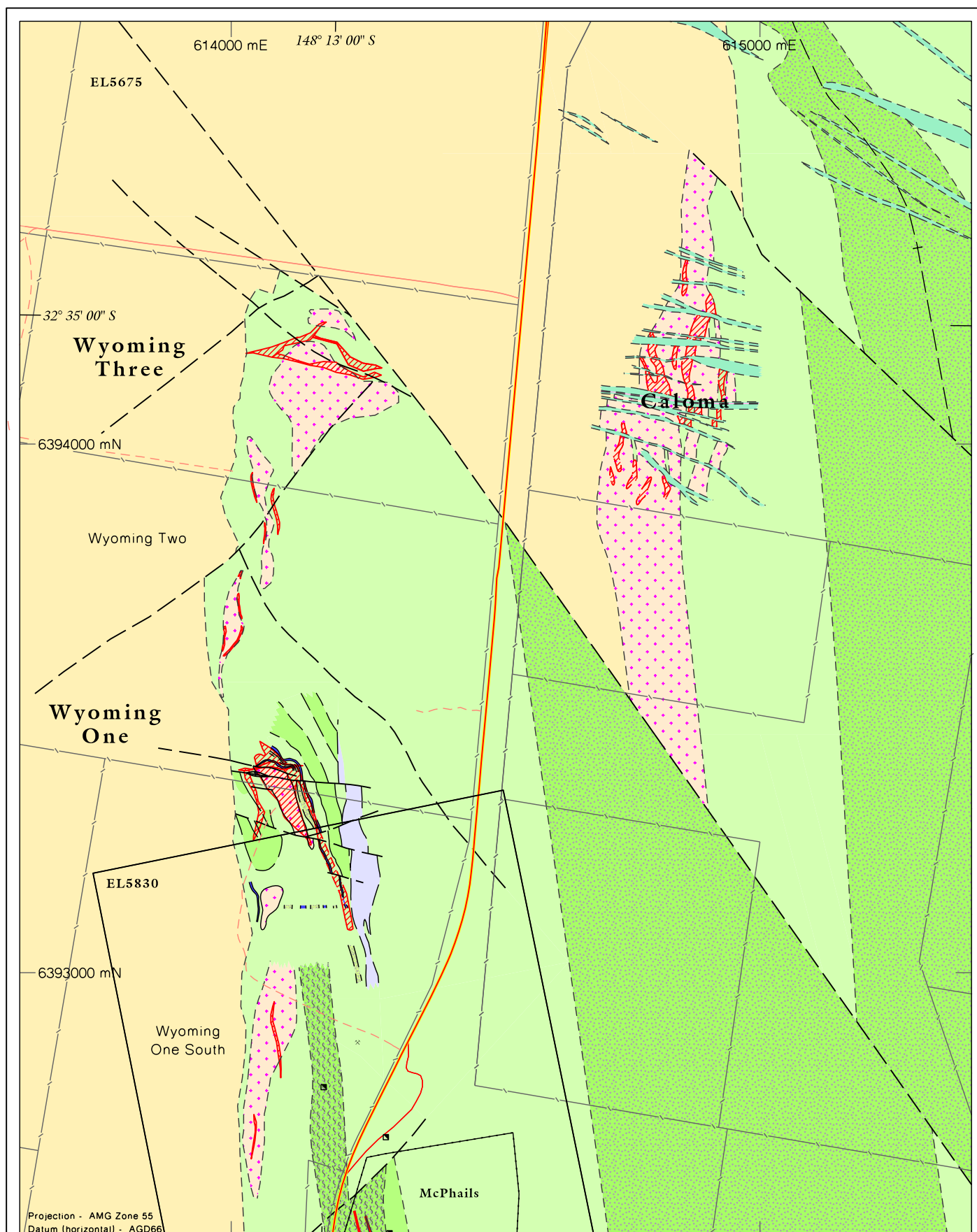
Near **Orange**, the Company has a joint venture (**ODEJV**) with Newmont, one of the world's largest gold miners, which resulted in the discovery in 2006 of a potentially significant gold deposit at **McPhillamys** within the **Moorilda Project**. This discovery includes intersections of **123 metres grading 1.96g/t gold** and **77 metres at 1.65g/t gold** within a 600 metre by 200 metre mineralised zone. Recent diamond drilling has confirmed the potential of the project to host a major gold system with an intersection in **KPD003 of 366 metres grading 1.85g/t gold**.

Elsewhere within the region, Alkane has defined a 2 million tonne 1.00% copper Indicated Resource (details 2005 Annual Report) which is being reviewed for its development potential at **Galwadgere** within the **Wellington Project**, and several other advanced exploration projects with encouraging drill intercepts. New exploration targets have been identified at several other locations.

In **Western Australia** the Company holds 9 million shares (15.15%) of listed iron ore explorer **BC Iron Limited** and a diluting 25% residual interest in a nickel sulphide joint venture with **Xstrata Nickel (Jubilee)** near **Leinster**.

Mr D I Chalmers, FAusIMM, FAIG, (director of the Company) 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 Competent Person as defined in the 2004 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Ian Chalmers consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.





Legend

Geology

- Massive, well foliated pelitic siltstone (Cotton Formation)
- Feldspar porphyry
- Undifferentiated volcaniclastic sediments
- Undifferentiated black graphitic shales and grey foliated siltstones
- Black graphitic shales
- Quartz and volcaniclastic sandstone pebble conglomerate
- Feldspar ± hornblende phyric andesitic lava
- Strongly sheared, chlorite-talc schist



Mineralisation

Geological Symbols and Ornamentation

- Fault, inferred
- Shear zone
- Geological boundary, inferred
- Quartz zone

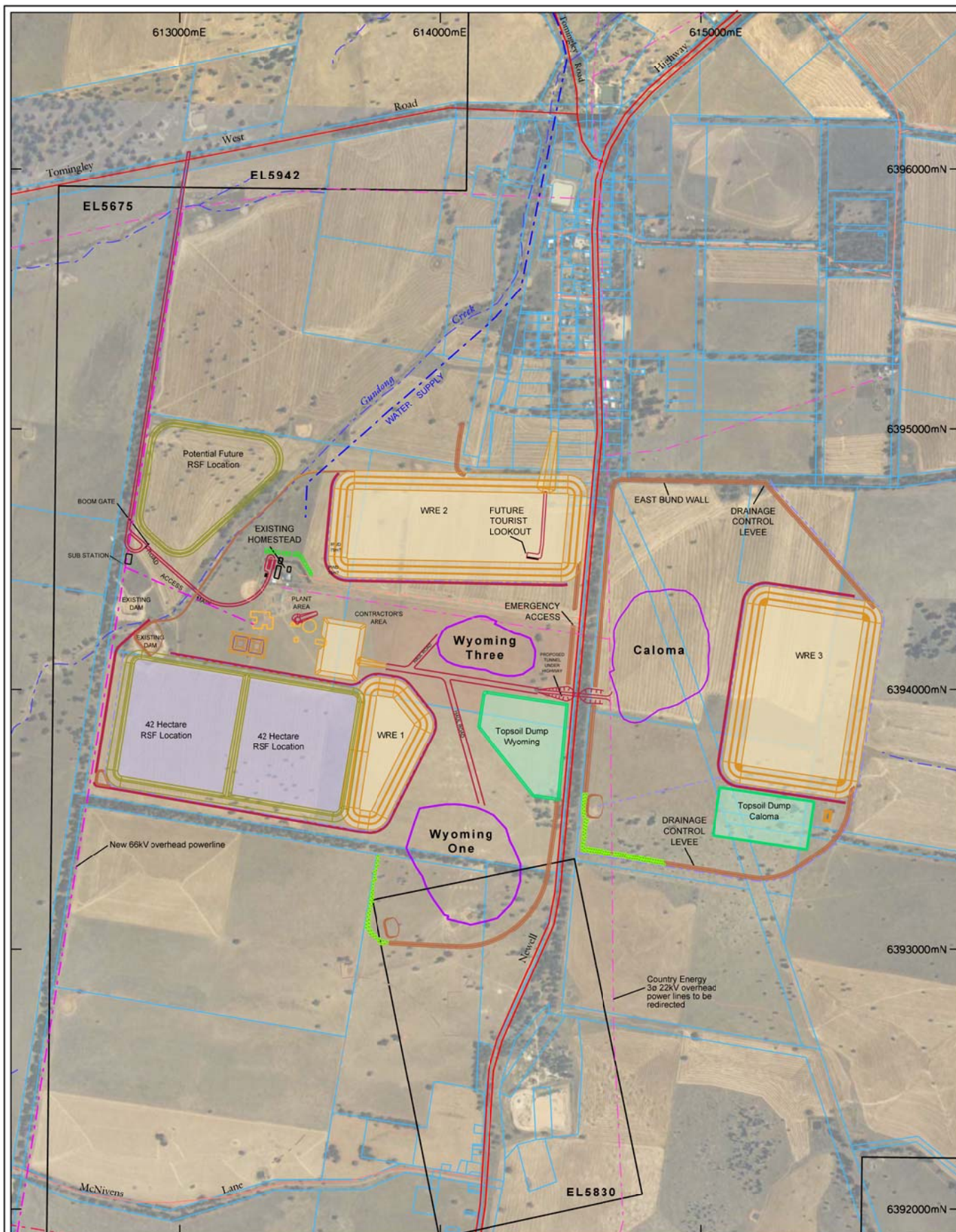


ALKANE RESOURCES LTD

**TOMINGLEY GOLD PROJECT
WYOMING and CALOMA PROSPECTS**

Geology

Figure No.: 2



Legend

- Lot boundary
- Potential pit outline
- Contour interval 0.25m (1m index contours)

Scale 1 : 20 000

0 1000

metres

Projection - AMG Zone 55
Datum (horizontal) - AGD66

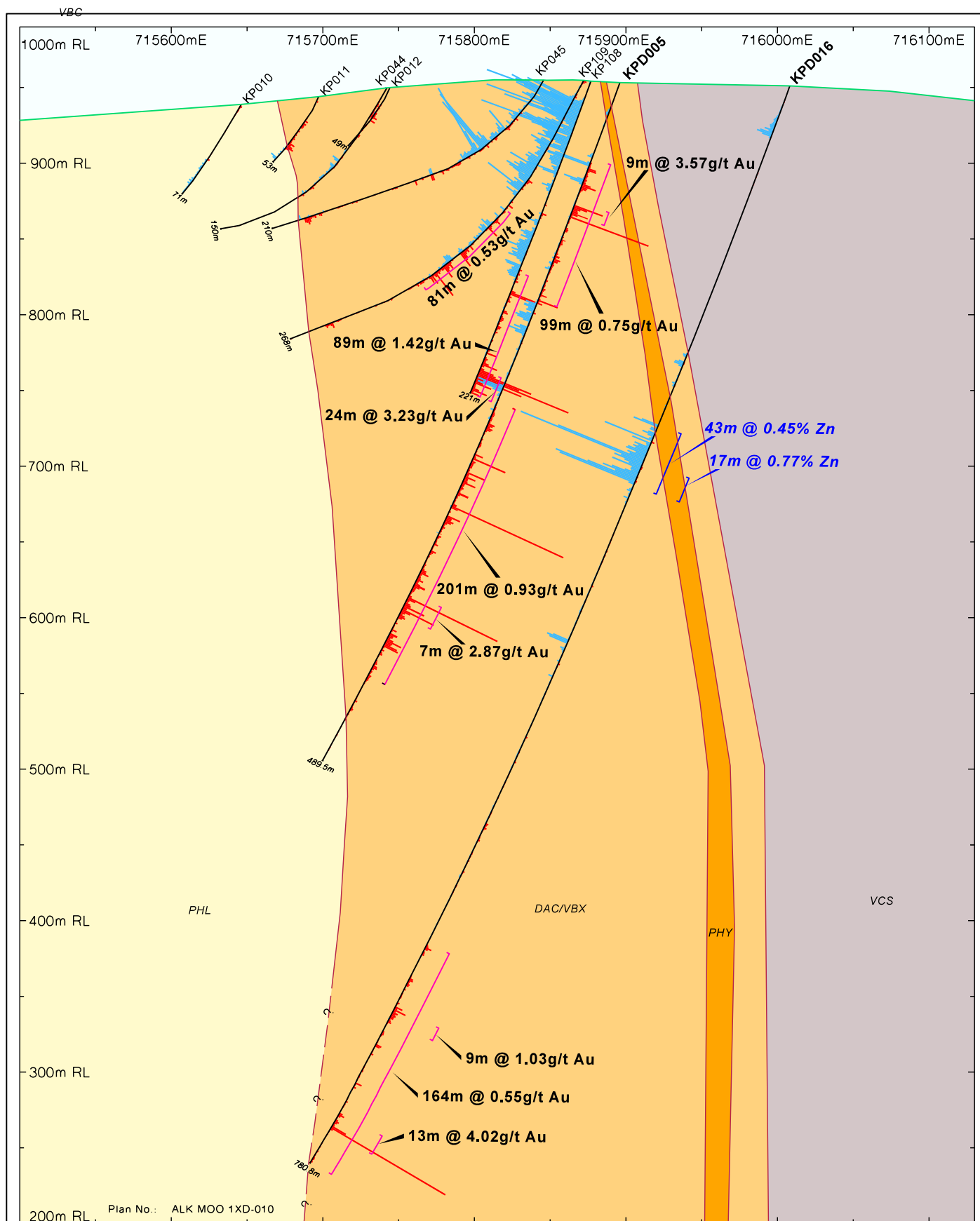


ALKANE RESOURCES LTD

TOMINGLEY GOLD PROJECT
NEW SOUTH WALES

Proposed Site Infrastructure

Compiled : MMC Plan No. : ALK TOM 1AL-013 (Mintrix G-003-R)
Drafted : DJM Date : April 2009 Figure No. : 3



- VBC Magnetite altered, intensely foliated, breccia
- PHL Sericitised, strongly foliated dacitic volcanics (phyllite)
- DAC/VBX Sericitised, strongly foliated dacitic breccia
- VCS Unaltered, strongly foliated dacitic volcanoclastics
- PHY Weakly foliated, coarse grained dacitic porphyry
- VSI/VMS Intensely foliated, dacitic volcanoclastics with common stratiform sulphides
- Gold histogram, 1mm = 1g/t Au
- Zinc histogram, 1mm = 0.1% Zn

0 Scale 1 : 3500 100
metres



ORANGE DISTRICT
EXPLORATION
JOINT VENTURE



MOORILDA PROJECT

McPhillamys Prospect

Cross Section
6292350mN

Figure No. : 6