



*ASX ANNOUNCEMENT – 5 JULY 2010*

**McPHILLAMYS FIRST RESOURCE ESTIMATE:  
2.96 MILLION OZ GOLD**

- **Alkane Resource has released its first resource estimate for the McPhillamys gold discovery, located within the Orange District Exploration Joint Venture with Newmont.**
  - **An independent resource assessment has defined an initial Indicated and Inferred Resource at a 0.3g/t gold cut-off of:**
    - 91.94 million tonnes grading 1.00g/t Au and 0.07% Cu**
- For a cumulative total of:**
- 2.96 million ounces of gold and 60,000 tonnes of copper**
- **The bulk of the Resource is located within an Inner Ore Zone with dimensions of 600 metres by 200 metres.**
  - **Further drilling could significantly expand the resource.**
  - **Potential development models include open pit and block caving underground mining concepts.**
  - **Drilling of four deep core holes is in progress to specifically test the potential for the block caving concept.**
  - **Regional exploration has defined several targets with McPhillamys type stratigraphy and mineralisation over a strike length of at least 6 kilometres. Aircore test drilling is in progress.**

**Corporate Profile**

Alkane Board

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D. I. Chalmers (Managing Dir)

A. D. Lethlean

I. J. Gandel

I. R. Cornelius

L. A. Colless (Joint Secretary)

K. E. Brown (Joint Secretary)

Contact

Ian Chalmers

Managing Director

96 Parry Street

PERTH WA 6000

Telephone +61 8 9328 9411

Facsimile +61 8 9227 6011

Email [ichalmers@alkane.com.au](mailto:ichalmers@alkane.com.au)

Web – [www.alkane.com.au](http://www.alkane.com.au)

12 month share price range

A\$0.48 - \$0.18

Market Cap 2 July 2010

~A\$60 million

ASX Code: ALK

249 million shares

June 2010 Cash

Cash ~ \$8.7 million

No debt

Media Relations

Westbrook Communications

Level 1, 17 Castlereagh Street

SYDNEY NSW 2000

Telephone +61 2 9231 0922

Facsimile +61 2 9231 0131

Web – [www.westbrookfin.com.au](http://www.westbrookfin.com.au)



The **Orange District Exploration Joint Venture (ODEJV)** includes Alkane's **Molong** and **Moorilda** tenements located near the city of Orange in the Central West of New South Wales, adjacent to Newcrest Mining Ltd's Cadia Valley Operations (Figure 1).

Exploration by the joint venture in the last few years has focussed on the McPhillamys gold discovery which is located within the Moorilda Project, and centred about 35 kilometres south east of Orange (Figure 2). The Project (175km<sup>2</sup> in area) covers the structural boundary between the Ordovician aged andesitic volcanic and monzonitic intrusive complexes, and Silurian felsic volcanic and sedimentary sequences.

**Newmont Australia Limited (NAL)** earned a 51% interest in the ODEJV in August 2009. In March 2010 NAL elected to proceed to 75% by completing a Bankable Feasibility Study (BFS) on the **McPhillamys Project** (ASX Announcement 2 March 2010). NAL is a subsidiary of the US based Newmont Mining Corporation (**NYSE:NEM**).

### ***McPhillamys***

Several AC, RC and core drilling programs have identified a large gold mineralised system within Silurian volcanics at McPhillamys. This mineralisation is largely hosted by a north-south striking, generally steep east-dipping, altered coarse grained felsic to intermediate volcanic, volcanoclastic 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 volcanic/volcanoclastics flanking the system to the west.

The deposit crops out, forming a moderate hill at around 950 metres above sea level. The mineralisation is variably oxidised with the base of oxidation varying from about 10 metres to about 55 metres below the ground surface.

Wide spaced drilling has defined a plus 0.1g/t gold mineralised envelope ("**Outer Ore Envelope**") extending over a north-south strike of at least 1000 metres with width up to 260 metres (Figure 3) and to depths of around 600 metres. Higher grade zones are identified within the core of this envelope.

The broad gold envelope has associated weak copper mineralisation as chalcopyrite and this increases to greater than 0.1% copper in the higher grade inner zone where gold increases to plus 2.00g/t. Other base metal mineralisation, such as zinc and lead occasionally form discrete zones peripheral to the gold mineralisation.

The mineralisation remains open at depth.

With NAL's agreement, Alkane commissioned an independent review of the resource potential as defined by the existing drilling.

### ***Resource Estimation***

The resource assessment was completed by Richard Lewis of Lewis Mineral Resource Consulting Pty Ltd (LMRC) in Sydney. 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.

For the resource assessment, an "**Inner Ore Zone**" with dimensions of approximately 600 metres by 200 metres and extending down to approximately 525 metres below the ground surface, was defined by higher density drilling and overall higher grades within the "**Outer Ore Envelope**". The higher drilling density provided a greater level of confidence in the continuity of widths and grade of the mineralisation. The resource estimate modelled mineralisation within both the zones however the majority of the resource lies within the "Inner Ore Zone"



Several different grade estimation methods were employed to generate comparative estimations and confirm the statement validity. Full details on the resource definition parameters are given in the attached Note 1.

**Table 1: Identified Mineral Resources at McPhillamys as at 5 July 2010**

DEPOSIT	INDICATED			INFERRED			TOTAL				
McPhillamys 0.3g/t Au cut-off	Tonnage (t)	Grade (g/t)	Grade % Cu	Tonnage (t)	Grade (g/t)	Grade % Cu	Tonnage (t)	Grade (g/t)	Grade % Cu	k Ounces gold	tonnes copper
Inner Ore Zone	51,650,000	1.10	0.07	23,504,000	1.19	0.07	75,154,000	1.13	0.07	2,723.6	55,091
Outer Ore Envelope	9,624,000	0.44	0.04	7,167,000	0.43	0.03	16,791,000	0.43	0.03	234.7	5,729
<b>Total</b>	<b>61,274,000</b>	<b>0.99</b>	<b>0.07</b>	<b>30,671,000</b>	<b>1.01</b>	<b>0.06</b>	<b>91,945,000</b>	<b>1.00</b>	<b>0.07</b>	<b>2,958.3</b>	<b>60,820</b>
DEPOSIT	INDICATED			INFERRED			TOTAL				
McPhillamys 0.5g/t Au cut-off	Tonnage (t)	Grade (g/t)	Grade % Cu	Tonnage (t)	Grade (g/t)	Grade % Cu	Tonnage (t)	Grade (g/t)	Grade % Cu	k Ounces gold	tonnes copper
Inner Ore Zone	41,260,000	1.27	0.08	16,097,000	1.57	0.09	57,357,000	1.36	0.08	2,499.9	46,933
Outer Ore Envelope	2,169,000	0.69	0.03	1,338,000	0.62	0.03	3,507,000	0.66	0.03	74.6	1,170
<b>Total</b>	<b>43,429,000</b>	<b>1.24</b>	<b>0.08</b>	<b>17,435,000</b>	<b>1.50</b>	<b>0.08</b>	<b>60,864,000</b>	<b>1.32</b>	<b>0.08</b>	<b>2,574.5</b>	<b>48,104</b>
DEPOSIT	INDICATED			INFERRED			TOTAL				
McPhillamys 1.0g/t Au cut-off	Tonnage (t)	Grade (g/t)	Grade % Cu	Tonnage (t)	Grade (g/t)	Grade % Cu	Tonnage (t)	Grade (g/t)	Grade % Cu	k Ounces gold	tonnes copper
Inner Ore Zone	21,416,000	1.77	0.09	9,645,000	2.13	0.10	31,061,000	1.88	0.10	1,879.8	30,139
Outer Ore Envelope	281,000	1.06	0.07	73,000	1.05	0.08	354,000	1.05	0.07	12.0	264
<b>Total</b>	<b>21,697,000</b>	<b>1.76</b>	<b>0.09</b>	<b>9,718,000</b>	<b>2.12</b>	<b>0.10</b>	<b>31,415,000</b>	<b>1.87</b>	<b>0.10</b>	<b>1,891.8</b>	<b>30,403</b>

*These Mineral Resources are based upon information compiled by Mr Richard Lewis MAUSIMM (Lewis Mineral Resource Consulting 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 are given in the attached Note 1. Totals may not tally due to rounding.*

Further drilling could significantly increase the resource potential, converting parts of the low grade envelope to Identified Mineral Resources status, and extend the mineralisation to depth (Figure 4).

### **Metallurgy**

Preliminary metallurgical testing on core samples indicated standard CIL recoveries of 86 to 91%. Further work will be programmed to expand on the CIL work and also examine the potential for gravity and flotation recovery to include the copper mineralisation.

### **Development Concepts**

As previously advised, NAL completed a series of desk top studies to review development models which include various open pit scenarios and a possible underground block cave mining concept. These studies will be expanded as part of the BFS program.

A drilling program of four deep core holes is in progress to test the depth potential of the Inner Ore Zone and extend the mineralisation to depths of 800 metres to assist with the evaluation of the block cave concept.

### **Regional Targets**

A number of regional targets where ore grade intercepts have been recorded (Figure 2) have been identified by geological mapping, soil sampling, multiple geophysical techniques and reconnaissance



aircore drilling These are currently being tested by AC drilling. Results available will be summarised for the Quarterly Report, due before the end of July.

## 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. Apart from the ODEJV, projects include:

The **Tomingley Gold Project** currently has an **840,000 ounce gold resource** within the **Wyoming and Caloma deposits**, (full details are in the 2008 Annual Report and the ASX announcements of 2 October and 16 December 2009). A feasibility study for the development of the project with potential 50,000 to 60,000 ounce per annum production is anticipated to be completed by mid 2010.

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 is scheduled for completion late 2010.

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 has a diluting 23% residual interest in a nickel sulphide joint venture with **Xstrata Nickel (Jubilee)** near **Leinster**.



*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 2004 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.*



## Note 1 to Accompany Resource Statement for the McPhillamys deposit

- **drilling technique** –the resource is based on reverse circulation, air core and diamond core drill holes completed by Alkane and Newmont between May 2006 and September 2009;
- **drilling density** - drill holes completed on EW sections ranging from 50m to 150m apart and with a variable hole spacing along each line;
- **drill locations** - All drill hole collars, except those completed in 2009, are surveyed by DGPS to obtain X Y Z position to  $\pm 0.1\text{m}$ ;
- **down hole surveys** – most holes are surveyed down hole using a single shot camera. Air core holes were surveyed at bottom of hole only however RC and diamond holes are surveyed at a nominal 50m down hole interval. AC and RC drill holes commonly show excessive azimuth and dip deviations. Gyro survey checks were undertaken on a selection of drill holes;
- **sampling technique** - RC and air core samples are collected at one metre intervals and either composited to 3m for initial assay or where geology dictated analysed as one metre samples. All composites returning grades of  $\geq 0.1\text{g/t Au}$  were subsequently resubmitted to the laboratory as one metre samples for re-analysis. Diamond drill core was generally assayed over one meter intervals as whole or half core;
- **sample recovery** - RC sample recovery is usually very good ( $>80\%$ ). Samples are usually dry. Core recovery was usually very good;
- **assay technique** – samples were submitted to commercial laboratories for preparation by drying, grinding and sub-setting, with gold analysed by industry standard Fire Assay techniques. Trace elements were analysed by ICP methods;
- **QAQC** – field duplicates were submitted at a ratio of approximately 1:30 and Standard Reference samples and blanks were submitted at a similar ratio;
- **specific gravity** – specific gravity measurements were completed by commercial laboratories at regular intervals from core samples. 139 density values were measured. Average density values based on elevation were used in the resource modelling.

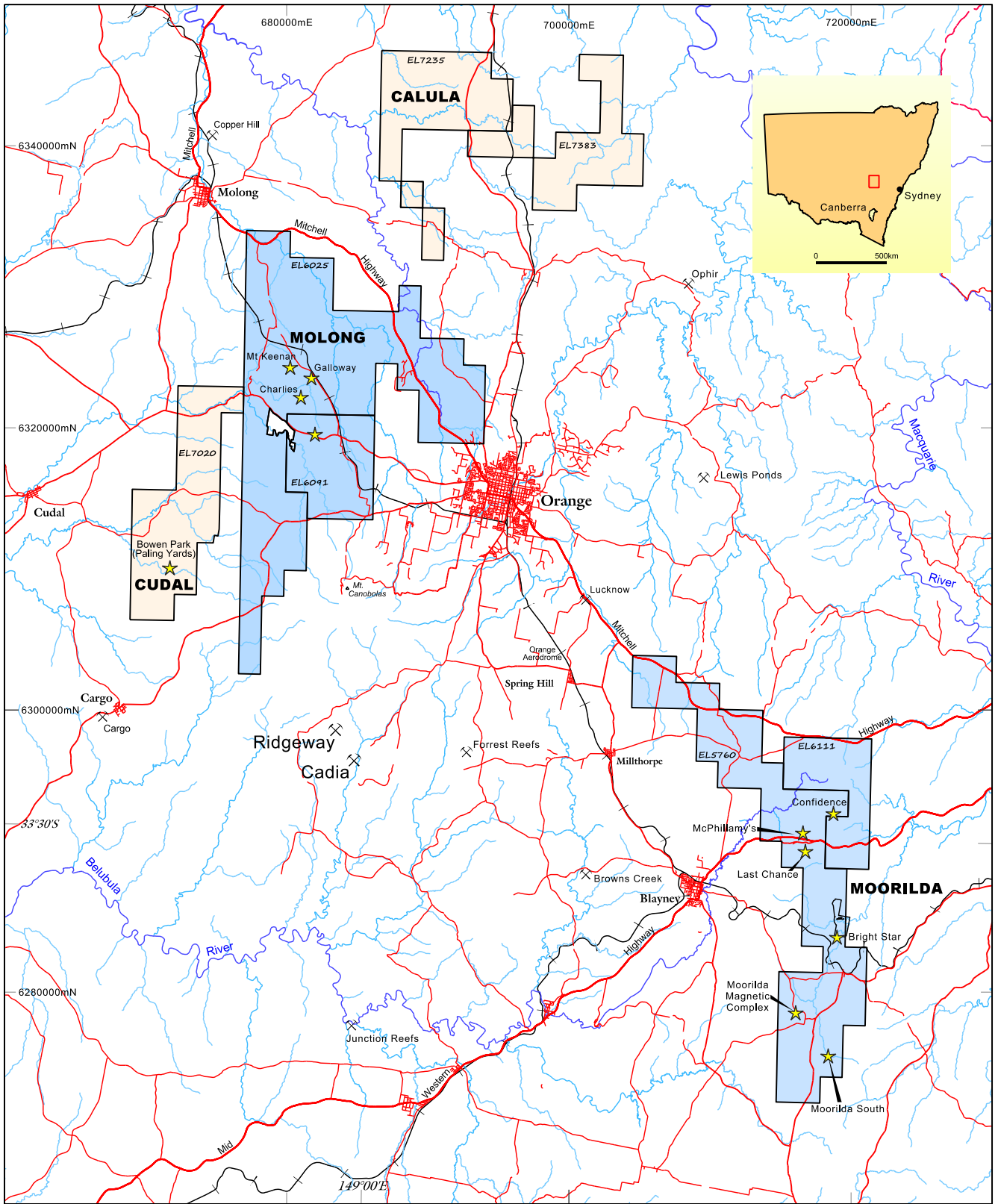
Elevation	No of Samples	SG
$\geq 900\text{m}$	11	2.51
$\geq 800\text{m} < 900\text{m}$	28	2.80
$\geq 700\text{m} < 800$	30	2.82
$< 700\text{m}$	70	2.85

- **estimation techniques** – Model block size is 10m x 10m x 10m. Wireframes/ore zones are constrained by boundaries defined by grade with the “Inner Ore Zone” defined by a general decrease in grade rather than a specific grade value whereas the “Outer Ore Envelope” is defined by approximately 0.10g/t gold.

Gold was estimated using Ordinary Kriging (OK) with comparisons completed using Inverse Distance Squared (ID2) and Nearest Neighbour (NN) methods. Copper was estimated using ID2.

Estimates were made using 5m composited drill hole data as well as 2m data for comparison purposes. Results were similar;

- **top cut** – gold estimates used top cuts based on statistical analysis. For the ‘Inner Ore Zone’ the top cut is 10.0g/t gold and for the “Outer Ore Envelope” 2.0g/t gold.



**LEGEND**

- ★ Alkane prospect
- ⊗ Current or historic mine
- ODE Newmont JV



**ALKANE RESOURCES LTD**  
**ORANGE DISTRICT JV AREA**  
 NEW SOUTH WALES

**Regional Location**

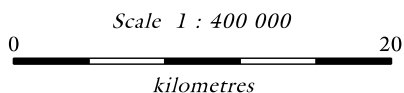
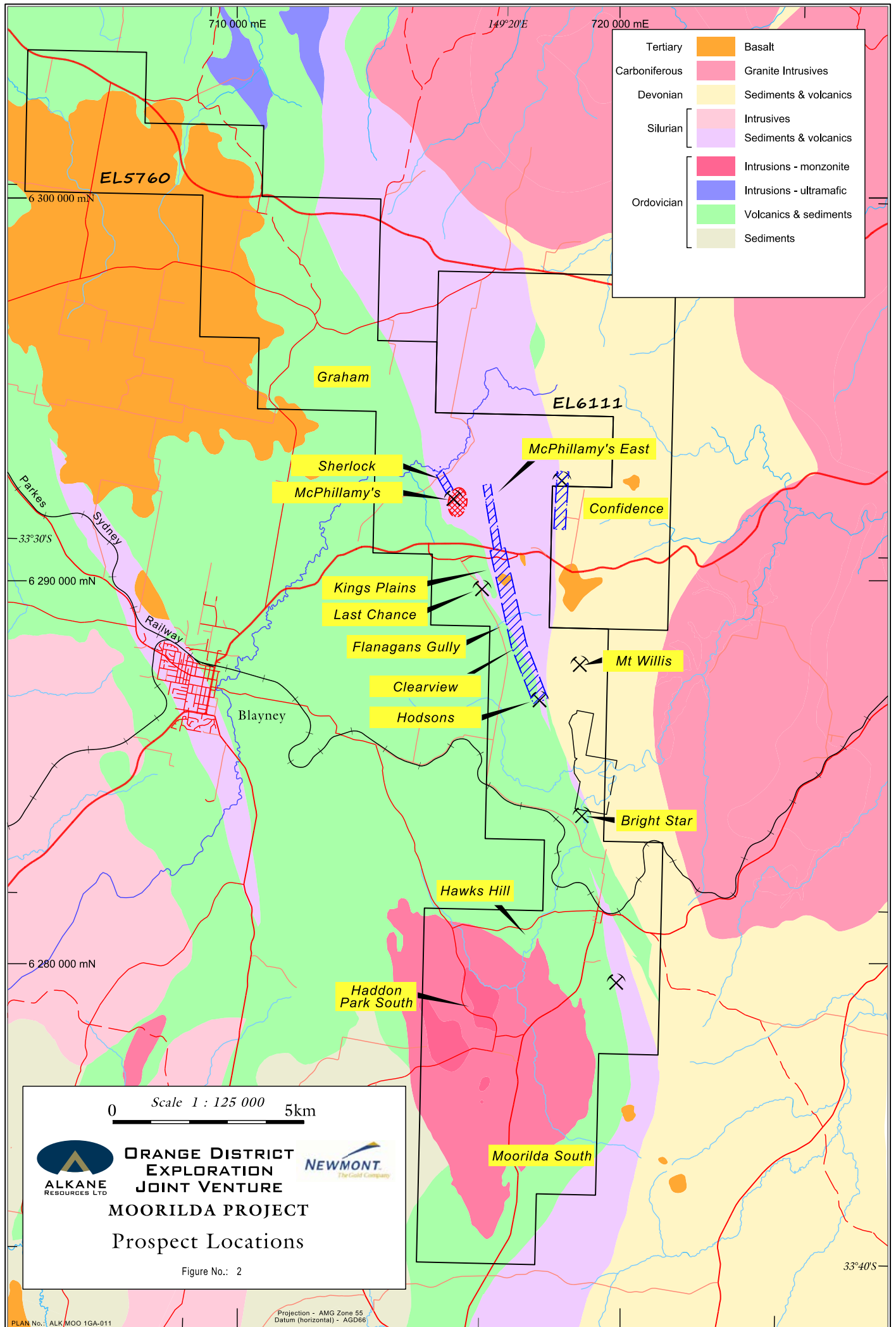
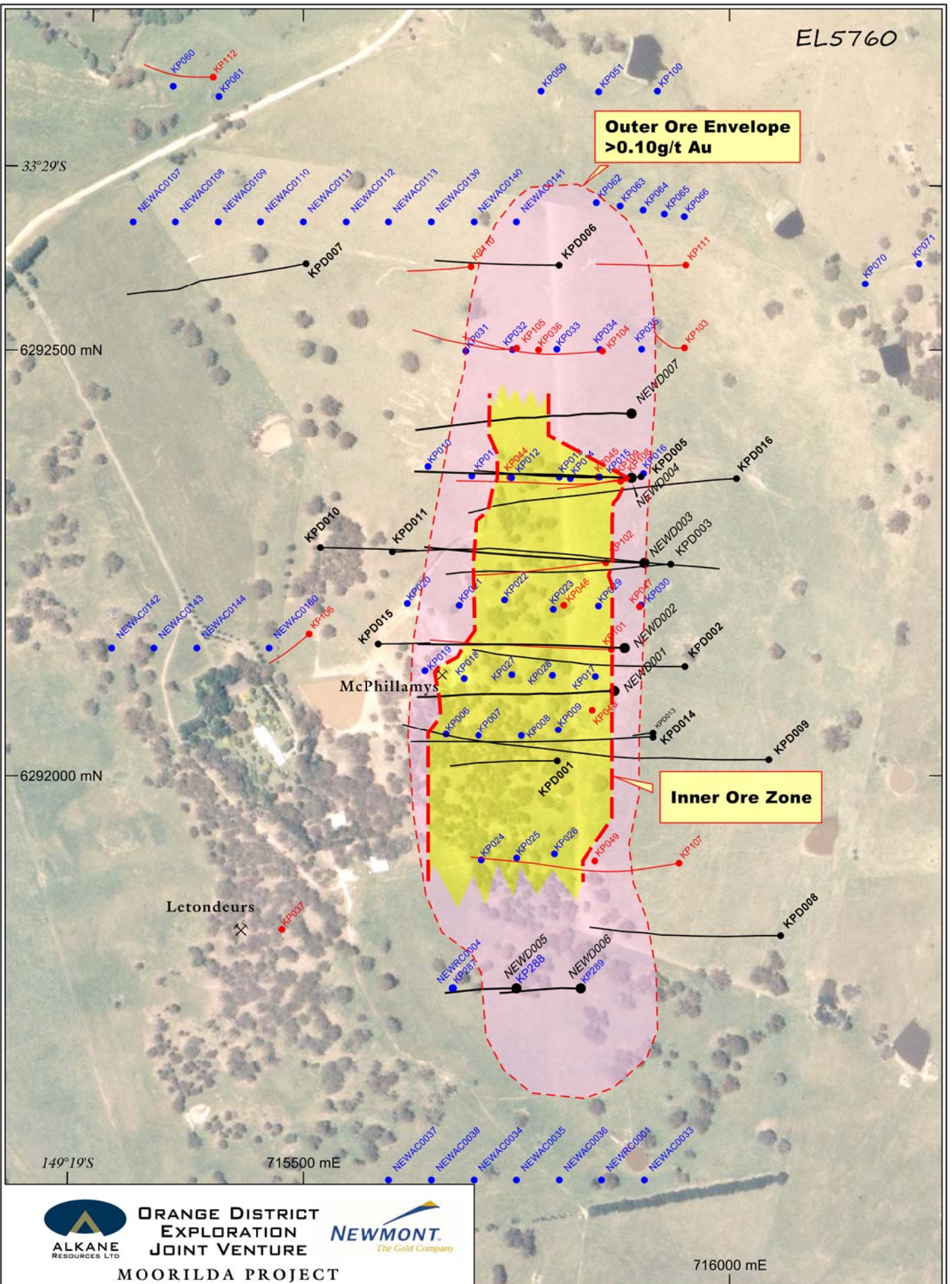


Figure No.: 1



EL5760



**ORANGE DISTRICT  
EXPLORATION  
JOINT VENTURE**

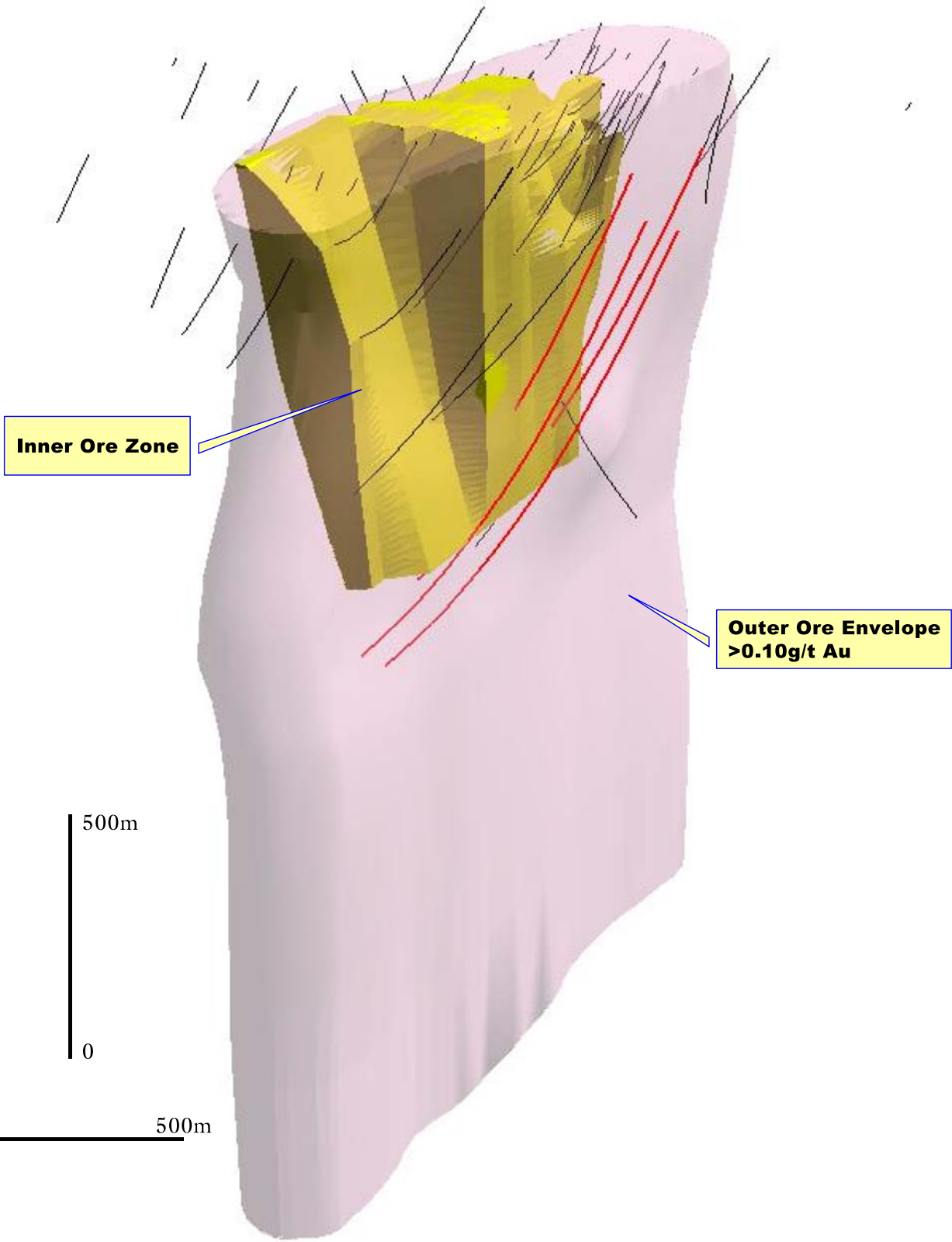


**MOORILDA PROJECT  
McPhillamys Prospect**

- RC drill hole
- Air core drill hole
- Diamond drill hole and trace
- Current diamond drill hole and trace

0 *Scale 1 : 6 000* 250  
metres

Figure No.: 3



- Existing drill holes
- Proposed drill hole trace



**ORANGE DISTRICT  
EXPLORATION  
JOINT VENTURE**  
MOORILDA PROJECT  
McPhillamys Prospect

**Ore Body Outline**