



ALKANE EXPLORATION LTD

A.B.N 35 000 689 216

QUARTERLY REPORT TO 31 DECEMBER 2004

KEY SUMMARY

➤ TOMINGLEY GOLD PROJECT

- *Wyoming resource upgraded 20% to a total of 606,000 ounces of gold*
- **Diamond core intercepts recorded in Wyoming One deposit supports models for higher grade structures within bulk resource and substantially increases the Hangingwall Zone resource potential**

WY 811D **10 metres grading 5.39g/t gold from 521 metres**
including **4.6 metres grading 9.85g/t gold from 522 metres**

WY 821D **18.40 metres grading 5.74g/t gold from 292.8 metres**
including **7.20 metres grading 11.06g/t gold from 292.8 metres**
and **1.35 metres grading 13.66g/t gold from 305.35 metres**
Also **4.59 metres grading 4.59g/t gold from 336.9 metres**

- **Screen fire assay to check high grades within diamond core holes WY 811D and WY 821D**
- **Wyoming pre-feasibility studies continue with remodelling of ore bodies**

➤ EXPLORATION

- **An 18 hole RC drill program completed at the Galwadgere copper-gold prospect in the Wellington Project. Results include:**

GAL 022 **39m @ 0.94% Cu and 0.45g/t Au from 57metres**
including **13m @ 1.54% Cu and 0.65g/t Au from 59 metres**
and **9m @ 1.32% Cu and 0.54g/t Au from 79 metres**

GAL 029 **29m @ 1.02% Cu and 0.35g/t Au from 108 metres**
including **11m @ 1.82% Cu and 0.19g/t Au from 108 metres**
and **6m @ 2.28% Cu and 0.28g/t Au from 108 metres**
plus **1m @ 0.71% Cu, 1.40g/t Au, 4.27% Zn, 1.24% Pb, 63g/t Ag from 136m**

Enquiries: *Technical:* *Ian Chalmers*
 96 Parry Street
 PERTH WA 6000
Telephone: *(61 8) 9328 9411*
Facsimile: *(61 8) 9227 6011*
Email: *ichalmers@alkane.com.au*
Website: *www.alkane.com.au*

Corporate: *Lindsay Colless*
 129 Edward Street
 PERTH WA 6000
Telephone: *(61 8) 9227 5677*
Facsimile: *(61 8) 9227 8178*
Email: *lcolless@edward129.com*
Website: *www.alkane.com.au*

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 hosts the **Wyoming** gold deposits and is located 12km north of the Company's Peak Hill gold mine. A pre-feasibility study is in progress to determine the optimum development scenario for the project and this study includes remodelling of the known resources with the aim of improving open pitable grades and to determine the continuity of higher grade structures for possible underground mining. A program of RC drilling was completed in September (reported in 30 September Quarterly) and two deep diamond core holes (WY 811D and WY 821D – figure 1) were drilled in December. Specific targets have been the higher grades with the **Porphyry** and **'376'** structure, and the **Hangingwall Zone (HWZ)**.

Wyoming Resource Development Drilling

WY 811D targeted the apparent north plunging high grade shoot within the linear north north-west striking **HWZ**. The hole terminated at 591 metres and intersected a substantial zone of alteration and mineralisation, with quartz veining and sulphides prominent in the section between 520 metres and 540 metres. Deviation of the hole to the north-west however, has indicated that it may be running at a low to moderate angle to the target structure and true widths are probably in the range of 30-50% of the drilled interval.

The intersection is 200 metres below the previous deepest intersection in the HWZ (**WY 812 17m @ 4.72g/t Au, including 9m @ 6.70g/t Au**) and is approximately 450 metres below ground surface (figure 2). This new intercept adds significant potential to the total resources at Wyoming One and demonstrates that Hangingwall ore shoot has the tonnage/grade potential to support an underground development.

WY 821D was completed at 366.7 metres targeting mineralisation within the **Porphyry** host and the cross cutting **'376'** structure, 50 metres below the previous deepest intercept (figure 3) at -010mRL. Alteration, veining and mineralisation were intersected in several zones within the porphyry and the distinctive east-west mineralised and near vertical **'376'** structure was intercepted between 336 and 341 metres (300m below ground surface). The porphyry exhibits a complex vein array with several orientations measured which makes estimates of true widths difficult and variable throughout. Resource modelling is also difficult in this environment.

Wyoming drilling summary:

Hole No	East	North	Azimuth	Intercept (m)	Grade (g/t Au)	Interval (m)	EOH (m)	Target Zone
WY 811D	614422	6393215	267°	17.0	3.42	521 – 538	591	Hangingwall
incl				10.0	5.39	521 – 531		
and				4.6	9.85	522 – 526.6		
WY 821D	614082	6393195	360°	22.0	1.34	247.0 – 269.0	336.7	Porphyry
incl				5.0	3.04	260.0 – 265.0		
and				1.0	7.39	260.0 -261.0		
Also				18.4	5.74	292.8 - 311.2		Porphyry
including				7.2	11.06	292.8 - 300.0		
and				1.35	13.66	305.35 - 306.7		
Also				4.1	4.59	336.9 - 341.0		'376'

All holes drilled at a nominal inclination of -60°. Gold analysis by 50g fire assay of half core samples.

As a result of visible gold observed in several sections and the spread of repeat assays in core hole **WY 821D**, for example: **296.0 metres to 296.4 metres 0.4 metres 84g/t Au to 184g/t Au;**

several samples have been selected for screen fire assay checking. Depending upon results of this verification program, other previous visible gold zones will be re-assayed.

Wyoming Resource Development

Following completion of the recent resource development drilling programs, a significant upgrade to the Inferred Resources has been contributed by the southern shoot within the **HWZ**. Based upon the gram-metre contour plots of the previous drilling, a north plunging shoot had been identified down to a depth of 225 metres (000mRL) in the south of the **HWZ**. This formed part of the December 2003 resource statement.

Holes WY 408D, WY 812 and WY 811D have enabled a wire frame model of the continuation of the shoot to be extended to a vertical depth of 475 metres (-250mRL) and an **Inferred Resource** to be assigned to this extension:

HWZ (South Shoot - 000mRL to -250ML) 750,000 tonnes grading 4.5g/t gold 108,000 ounces

Total Identified Mineral Resources at Wyoming as at 31 December 2004 are now:

WYOMING RESOURCES (>0.75g/t Au cut off)									
DEPOSIT	Measured		Indicated		Inferred		Total		Ounces
	Tonnage (t)	Grade (g/t)	Tonnage (t)	Grade (g/t)	Tonnage (t)	Grade (g/t)	Tonnage (t)	Grade (g/t)	
Wyoming One	4,020,000	2.25	1,010,000	2.77	1,270,000	4.09	6,300,000	2.70	547,700
Wyoming Three	815,000	2.20	15,000	2.32			830,000	2.20	58,700
TOTAL	4,835,000	2.24	1,025,000	2.76	1,270,000	4.09	7,130,000	2.70	606,400

The information in this report that relates to Mineral Resources or Ore Reserves is based upon information compiled by Mr Terry Ransted MAusIMM (Principal, Multi Metal 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. Terry Ransted 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 previously documented (see 2003 Annual Report).

Modelling of the resource is continuing in conjunction with the pre-feasibility study. Further drilling has been programmed to assist with the resource development and assessment, and is currently scheduled to commence later in February.

DUBBO ZIRCONIA PROJECT (DZP)

Australian Zirconia Ltd (AZL) 100%, subject to Astron Limited earning 50%

Recent discussions with Astron have focussed on the status of the Joint Venture and a proposed work program. The slow progress of the DZP in the last year has meant that other strategies to accelerate the Project are being explored. One of the options is to float AZL as a public company with its own dedicated management and funding. Astron may continue their involvement under this regime.

PEAK HILL GOLD MINE

Alkane Exploration Ltd 100%

425 ounces of gold were produced for the December Quarter, with 152 ounces in process and yet to be recovered at the end of the period (total 577ozs). Decommissioning of the heaps is continuing and gold will be produced from these operations through to the middle of 2005, generating a small cash surplus.

WELLINGTON (copper-gold)

LFB Resources NL 100%

The Wellington Project is centred 15 kilometres to the south east of the town of Wellington. The project hosts several targets, including the Federal gold and **Galwadgere** copper-gold prospects. Recently Alkane has focussed on assessment of the potential of Galwadgere.

An eighteen hole RC drilling program (2,444 metres, including precollar for a core hole) has been completed. The drilling was designed to test the known copper-gold mineralisation over a strike length of 400 metres on 50 metre sections down to depths ranging from 25 metres to 175 metres (figure 4). This should enable a preliminary

resource to be calculated and to determine the scope for an economic development of the deposit.

The results have confirmed that the mineralisation has an open strike length of at least 400 metres and appears to be comprised of a number of disseminated and stringer pyrite-chalcopyrite lenses which can reach widths of 40 metres within altered felsic volcanic rocks. The system is structurally overturned and dips to the east at about 60°. There is an apparent plunge to the north at 45-50° although this may be a function of lack of drilling on the southern end of the deposit where topography limits drill access, and the depth of the younger Permian cover rocks to the north (figures 4 & 5). The stringer mineralisation appears to be capped by a lead-zinc-silver-gold rich bedded massive sulphide, but to date this has rarely exceeded 2 to 3 metres in width. There is potential for this horizon to increase in thickness to the north and down plunge. Available results are tabulated in Table 1.

Diamond core hole, GAL 030D, is in progress and once all results have been received an initial resource will be compiled and a scoping study initiated to determine a possible development scenario. Further drilling, particularly diamond core drilling will have to be scheduled to check the RC results and provide samples for metallurgical testing.

MOORILDA (copper-gold), BODANGORA (gold-copper) and CUDAL (gold-copper) were inactive. **ORANGE-MOLONG (copper-gold)** see announcement to ASX dated 22 December 2004, regarding issue of 2 million Alkane shares to Rio Tinto Exploration Pty Ltd's nominee for deferred acquisition payment.

WESTERN AUSTRALIA

LEINSTER REGION JOINT VENTURE (nickel-gold)

Alkane Exploration Ltd 49%, Jubilee Mines NL 51%

The four prospects - Leinster Downs, Miranda, McDonough Lookout and Mt Keith - are subject to a farm-in agreement with Jubilee Mines NL where Jubilee can earn a 75% interest in the properties by spending \$4.5M before March 2005. In March 2002 Jubilee reported expenditures to earn a 51% interest and have elected to continue to earn a further 24%.

Jubilee have advised that soil sampling took place at McDonough Lookout and Leinster Downs during the quarter along with processing aeromagnetic data at Miranda. They have also advised that they are relinquishing their interest in the Mt Keith tenements. Alkane will review all technical data to determine the best course of action for this prospect.

NULLAGINE DIAMOND PROJECT (diamonds)

Alkane Exploration Ltd 60%, Randolph Resources Syndicate 40%

On 1 December 2004, Alkane signed a Heads of Agreement with a private company, Vaalbara Resources Pty Ltd (Vaalbara) to enable Vaalbara a six month option to execute a joint venture document. Under the terms of that joint venture Vaalbara will have the right to 80% of gold, silver and uranium (Witwatersrand type mineralisation) by:

- reimbursement of \$100,000 cash to Alkane for exploration data;
- will issue \$300,000 worth of vendor Vaalbara shares to the Alkane/Randolph JV at initial listing;
- and will fund all exploration expenditures to the completion of a Bankable Feasibility Study on any gold-silver-uranium deposits discovered of the Witwatersrand type.

Alkane and Randolph will retain rights to all other metals and minerals.

DI Chalmers

Technical Director

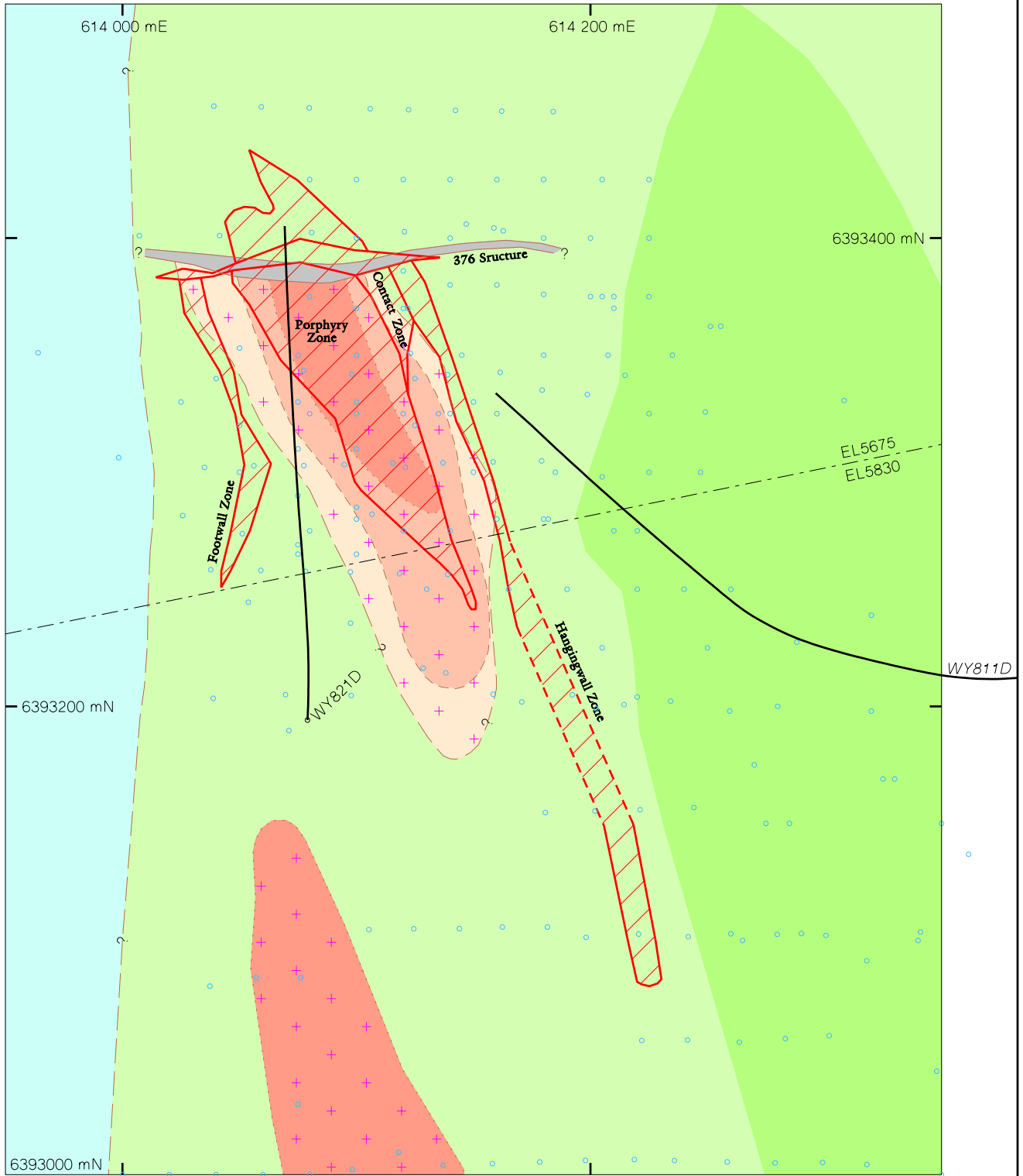
ALKANE EXPLORATION LTD

Mr DI 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.











TABLE 1 – Galwadgere RC Results

Hole No	East	North	Azimuth	Intercept (m)	Grade (% Cu)	Grade (g/t Au)	Interval (m)	EOH (m)	Remarks
GAL 012	692230	6383650	270°	21	0.55	Tr	33 - 54	70	
GAL 013	692260	6383650	270°	21	0.26	trace	61 - 82	90	
GAL 014	692222	6383701	270°	3	0.77	0.07	13 - 16	90	
also				27	0.62	0.14	27 - 54		
GAL 015	692266	6383707	270°	14	0.56	0.06	46 - 60	120	
GAL 016	692230	6383751	270°	4	1.05	0.70	86 - 90	96	
GAL 017	692265	6383750	270°	8	0.57	0.20	55 - 63	108	
GAL 018	692231	6383790	270°	32	0.18	0.06	53 - 85	90	
GAL 019	692249	6383801	270°	7	1.05	0.05	28 - 35	108	
also				15	0.70	0.75	70 - 85		
incl				1	0.02	7.91	71 - 72		
GAL 020	692188	6383844	270°	11	0.37	0.51	9 - 20	78	
incl				2	1.70	0.46	18 - 20		
also				9	0.80	0.10	31 - 40		
incl				4	1.42	0.21	36 - 40		
GAL 021	692311	6383856	260°	4	1.13	trace	84 - 88	168	
also				17	0.63	0.15	115 - 132		
incl				4	1.73	0.24	126 - 130		
GAL 022	692240	6383900	270°	39	0.94	0.45	57 - 96	120	
incl				13	1.54	0.65	59 - 72		
also				9	1.32	0.54	79 - 88		
GAL 023	692370	6383900	270°	20	0.51	Tr	181 - 201	222	
incl				6	1.04	Tr	181 - 187		
GAL 024	692350	6383900	270°	2	0.23	2.27	147 - 149	210	
and				24	0.81	0.14	160 - 184		
incl				9	1.49	0.33	173 - 182		
GAL 025	692290	6383900	270°	36	0.89	0.23	96 - 132	156	
incl				6	1.23	0.38	96 - 102		
and				7	1.49	0.26	110 - 117		
and				5	1.92	0.37	127 - 132		
GAL 026	692220	6383950	270°	6	1.32	0.20	71 - 77	102	
GAL 027	692320	6383950	270°	14	0.96	0.59	134 - 148	202	Wet samples
incl				6	1.22	0.50	135 - 141		
also				23	0.42	0.10	161 - 184		
incl				4	0.68	0.47	164 - 168		
GAL 028	692200	6384000	270°	24	0.88	0.37	55 - 79	96	
incl				15	1.22	0.44	64 - 79		
and				3	2.90	0.93	66 - 69		
GAL 029	692243	6384000	270°	29	1.02	0.35	108 - 137	150	
incl				11	1.82	0.19	108 - 119		
and				6	2.28	0.28	108 - 114		
and				12	0.57	0.59	125 - 137		
incl				1	0.71	1.40	136 - 137		4.27% Zn 1.24% Pb 63g/t Ag
GAL 030	692365	6384000	270°	Results	not	yet	available	168	Precollar for core hole

All holes drilled at a nominal inclination of -60°. Gold analysis by 50g fire assay, other metals by ICP-AES of 1 metre riffle split intervals. Copper checked by aqua regia AAS. True widths approximately 95% of drill intercepts.



Legend

-  Mineralized zone
-  376 Structure
-  Massive, well foliated pelitic siltstone (Cotton Formation)
-  Crowded feldspar +/- pyroxene phyric volcanics and high-level intrusives 200m RL (-70m)
-  Crowded feldspar +/- pyroxene phyric volcanics and high-level intrusives 100m RL (-170m)
-  Crowded feldspar +/- pyroxene phyric volcanics and high-level intrusives 0m RL (-270m)
-  Andesitic volcanoclastic sandstones, siltstones and minor conglomerates
-  Strongly sheared, chlorite-talc schist (Ultramafic?)
-  Alkane drillhole December Quarter 2004
-  Previous Alkane drillhole collar

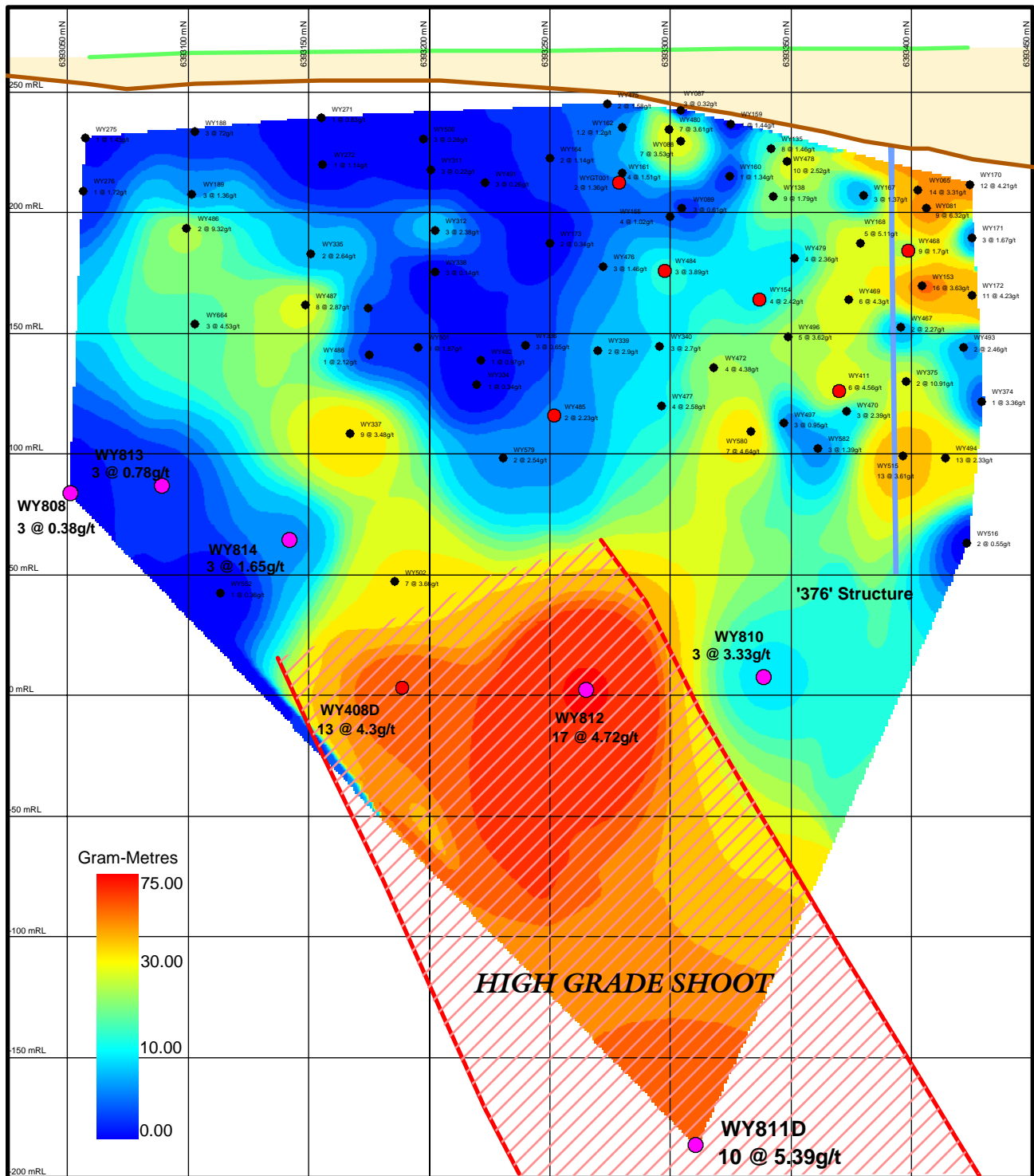


 **ALKANE EXPLORATION LTD**

**TOMINGLEY GOLD PROJECT
WYOMING PROSPECT**

**Wyoming One
Simplified
Geological Interpretation
and Drillhole Locations**

December Quarter 2004 Figure: 1



GEOLOGICAL LEGEND

Alluvials

DRILL HOLE LEGEND

- WY170 ● RC/AC drill hole showing intercept & grade
12 @ 4.21g/t
- WY411D ● Diamond drill hole showing intercept & grade
6 @ 4.56g/t
- WY811D ● Recently completed drill hole showing intercept & grade
10 @ 5.39g/t



ALKANE EXPLORATION LTD
ABN 35 000 689 216

TOMINGLEY GOLD PROJECT
NEW SOUTH WALES

Wyoming One Prospect
Hangingwall Zone
Long Section

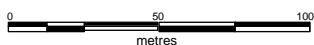
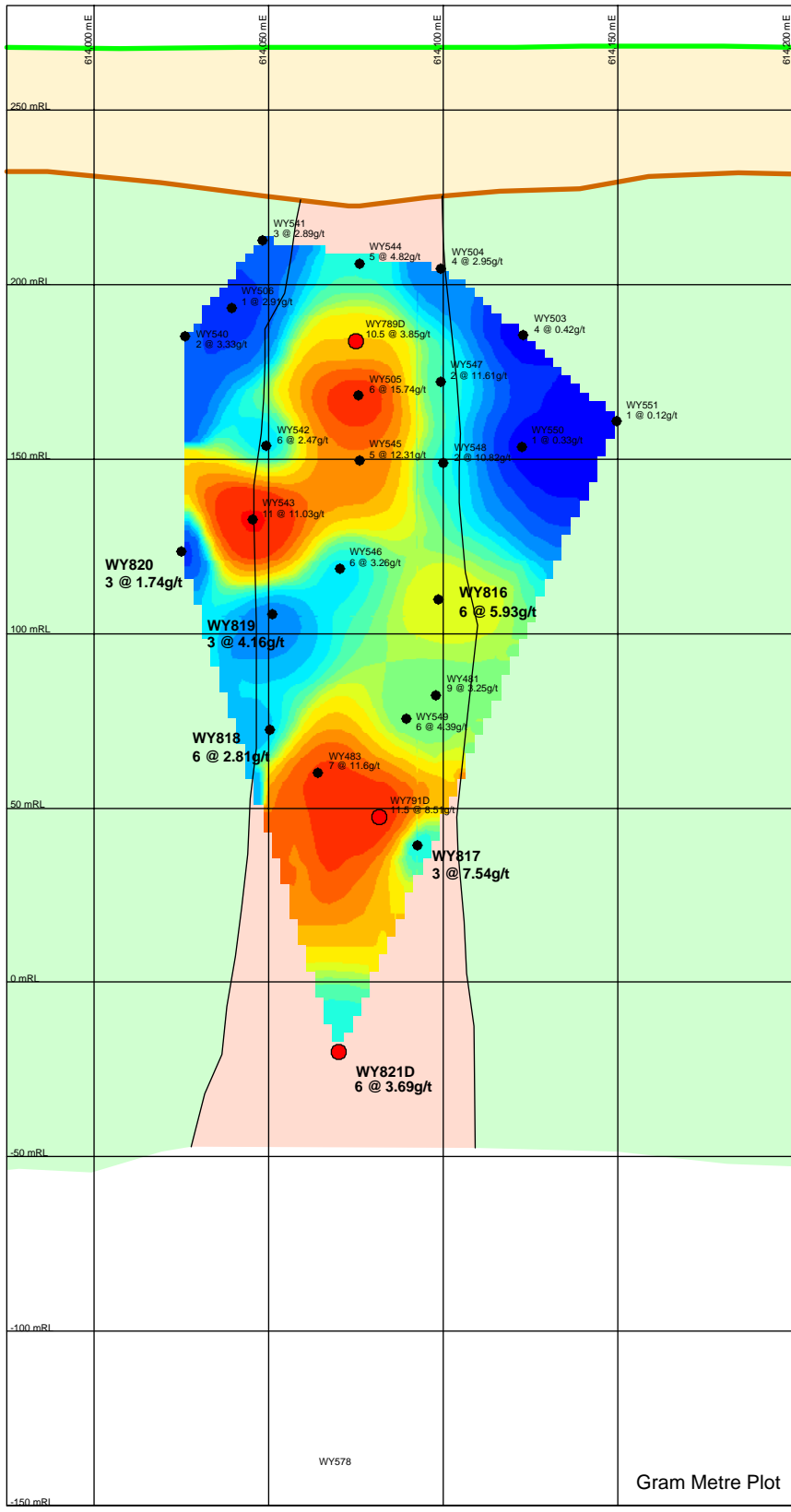


Figure 2



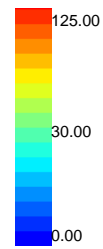
GEOLOGICAL LEGEND

- Alluvials
- Feldspar porphyry
- Andesitic volcanoclastic sediments

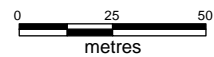
DRILL HOLE LEGEND

- WY544 5 @ 4.82g/t RC/AC drill hole showing intercept & grade
- WY821D 6 @ 3.69g/t Diamond drill hole showing intercept & grade

Gram-Metres



Scale 1:2,000

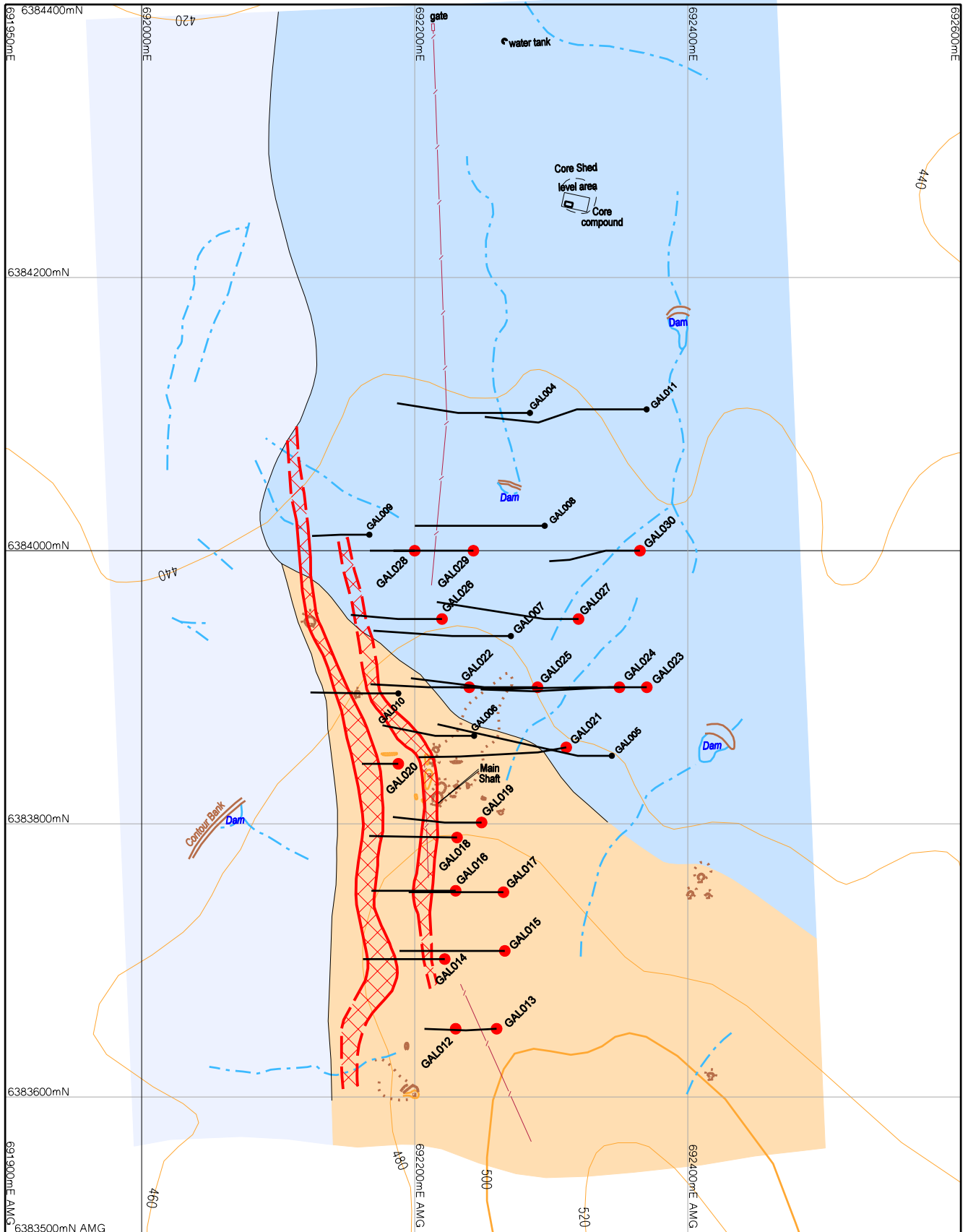


ALKANE EXPLORATION LTD
ABN 35 000 689 216

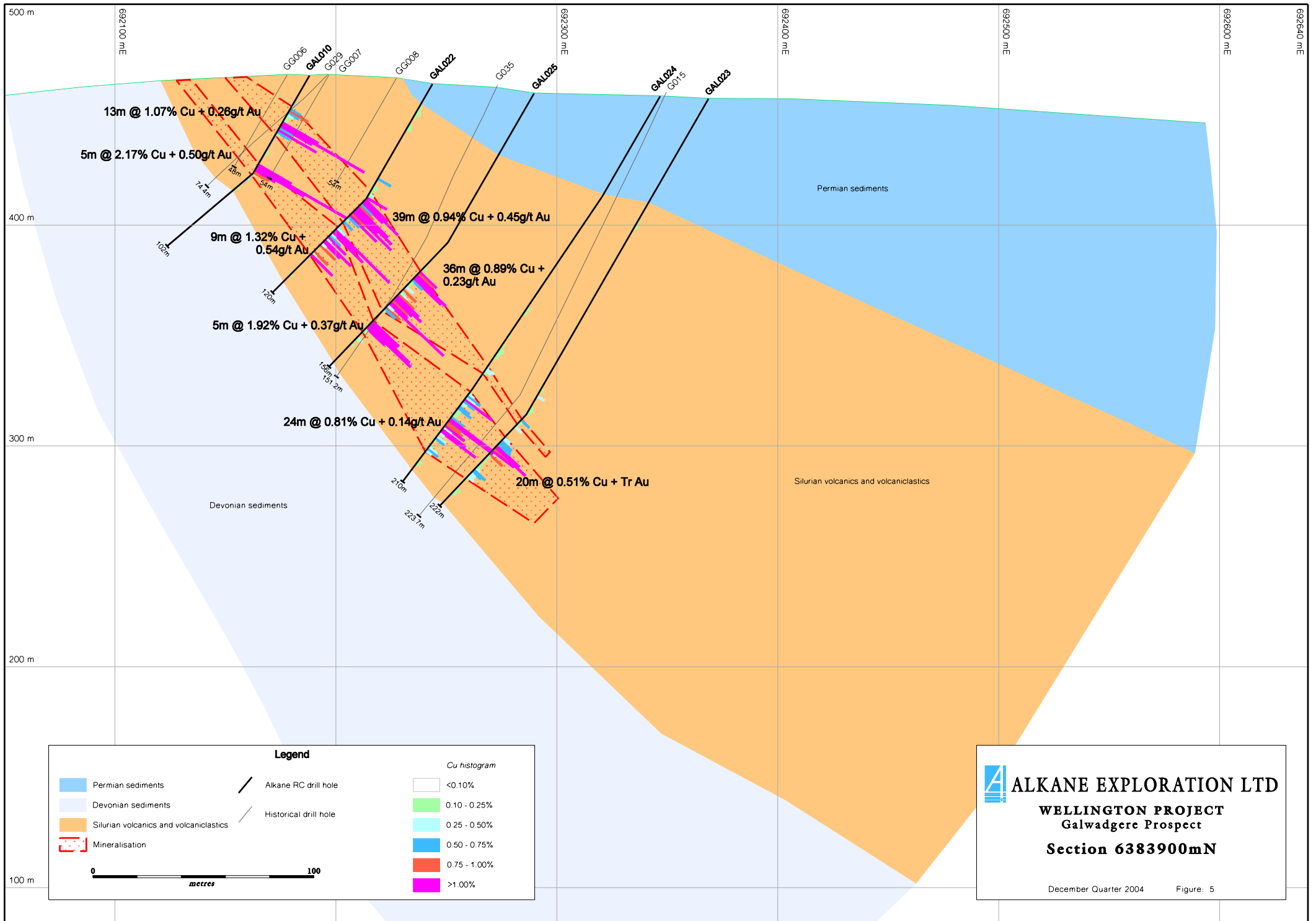
TOMINGLEY GOLD PROJECT
NEW SOUTH WALES

Wyoming One Prospect
'376' Zone
Long Section

Figure 3



ALKANE EXPLORATION LTD
WELLINGTON PROJECT
 NEW SOUTH WALES
Galwadgere Prospect
Drill Hole Locations



ALKANE EXPLORATION LTD
WELLINGTON PROJECT
Galwagere Prospect
Section 6383900mN

December Quarter 2004 Figure: 5