# ASX and MEDIA RELEASE

**20 January 2017**

ALKANE RESOURCES LTD
ABN 35 000 689 216

## *SIGNIFICANT DRILL INTERCEPTS AT DEPTH AT TGO*

### TOMINGLEY GOLD OPERATIONS (TGO) – ALK 100%

## Summary


- **RC and core drilling programs totalling 6,837 metres tested mineralisation adjacent to and below the Wyoming One and Caloma open pits**

- **The drilling was designed to extend known mineralisation and define continuity within the ore zones previously identified**

- **Wyoming One results include:**

  - **WY944D** **8.7m @ 5.09g/t Au from 399 metres**
    **incl** **1.2m @ 19.05g/t Au from 402.8 metres**
  - **WY945D** **20.0m @ 4.19g/t Au from 311 metres**
    **incl** **8.0m @ 5.53g/t Au from 316 metres**
    **and** **2.0m @ 11.03g/t Au from 327 metres**
  - **WY950D** **11.0m @ 4.21g/t Au from 196 metres**
    **incl** **2.0m @ 8.73g/t Au from 205 metres**
    **and** **19.7m @ 5.36g/t Au from 271 metres**
    **incl** **8.1m @ 9.34g/t Au from 282.6 metres**
    **incl** **2.75m @ 19.69g/t Au from 282.6 metres**
    **and** **0.7m @ 20.5g/t Au from 290 metres**

- **Caloma results include:**

  - **TGC3986** **20.0m @ 2.71g/t Au from 97 metres**
    **incl** **2.0m @ 11.7g/t Au from 100 metres**
    **and** **5.0m @ 3.45g/t Au from 103**
  - **TGC3989** **15.0m @ 4.84g/t Au from 80 metres**
    **incl** **3.0m @ 18.7g/t Au from 89 metres**
  - **TGC3992** **15.0m @ 2.79g/t Au from 104 metres**
    **incl** **1.0m @ 5.03g/t Au from 104 metres**
    **incl** **4.0m @ 4.40g/t Au from 107 metres**
    **and** **15.0m @ 2.44g/t Au from 135 metres**
    **incl** **2.0m @ 8.04g/t Au from 148 metres**



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## Underground Mining Study

As part of the feasibility to develop an underground mining operation at the Tomingley Gold Operations (TGO), a program of 9 core holes totalling 3,659.4 metres tested targets below the Wyoming One open pit and 18 RC holes tested mineralisation at the Caloma pit. The drilling was designed to extend known mineralisation and improve continuity within the ore zones previously identified.

The TGO deposits are classified as Orogenic Style gold mineralisation that is focused on structural zones generated by a competency contrast between porphyritic andesite volcanic sills and intrusives, and the host volcanoclastic sediments. Numerous quartz-carbonate-sulphide veins with differing orientations form the core of the economic open pit mining operations. Four deposits Wyoming One, Wyoming Three, Caloma and Caloma Two have been developed, but other zones of mineralisation identified during the exploratory drilling phase, such as Wyoming Two and Wyoming One South, have not been evaluated due to thick overburden cover or perceived narrow ore widths but which may present underground opportunities to be investigated in the future.

At Wyoming One the porphyritic andesite forms the core of a narrow antiform structure with strong mineralisation developed near the nose and eastern contact of the andesite porphyry and with a separate linear lithology controlled hangingwall zone located immediately to the east. The hangingwall-porphyry contact mineralisation has a strike length of over 300 metres and is open to the south. Most of the mineralisation has a near vertical or steep east dipping orientation. The historic underground mine of Myalls United is located about 800 metres further to the south in a similar lithological position. Much of this target zone remains untested.

Mineralisation at Caloma is largely confined to near north-south trending, shallow west dipping structures within the steep west dipping host porphyry. To the south the porphyry is folded into a broad synform with a shallow west plunging axis which is the focus of the Caloma Two mineralisation. Late stage, cross cutting dolerite dykes dislocate the mineralised zones.

As a result of earlier drilling, resource blocks were assigned according to geological boundaries and grade. Within the broad mineralised envelope, high grade blocks of >2.5g/t gold were identified which could support an underground mining operation. The data from this current program will be incorporated into the resource model to form a basis for the underground mining study. Previously defined sub-pit Ore Reserves and Mineral Resources at Wyoming One were based upon a feasibility study reported ASX 9 December 2015 and 22 September 2016.

## *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. 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.***

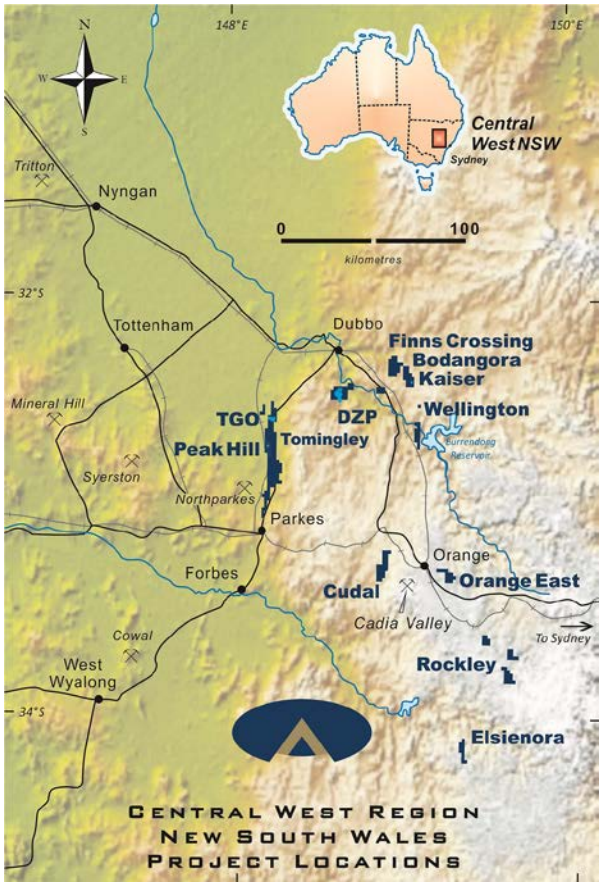
***This document has been prepared in accordance with the requirements of Australian securities laws, which may differ from the requirements of United States and other country securities laws. Unless otherwise indicated, all ore reserve and mineral resource estimates included or incorporated by reference 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 Geoscientists.***

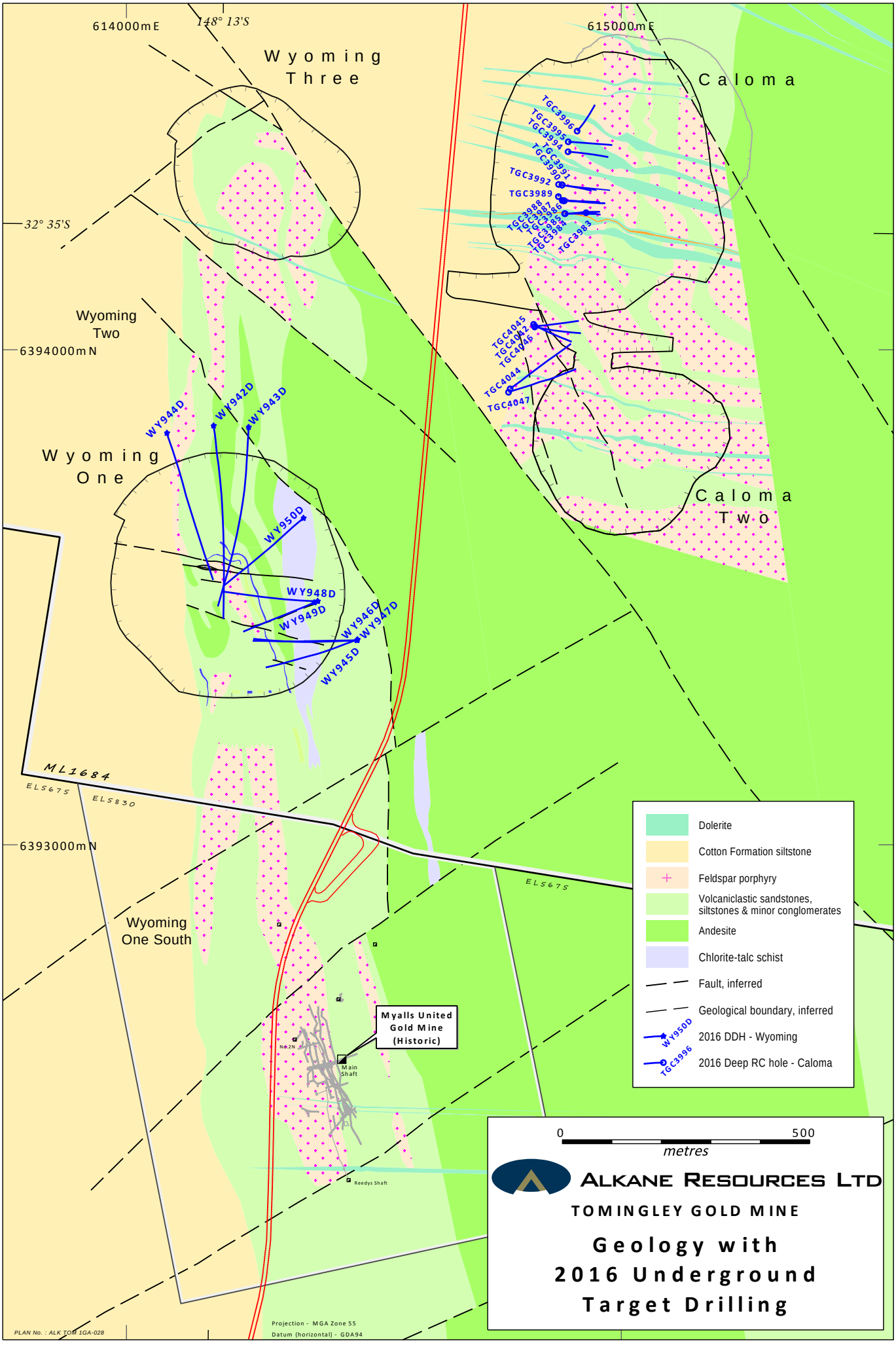
**ABOUT ALKANE - www.alkane.com.au - ASX: ALK and OTCQX: ANLKY**

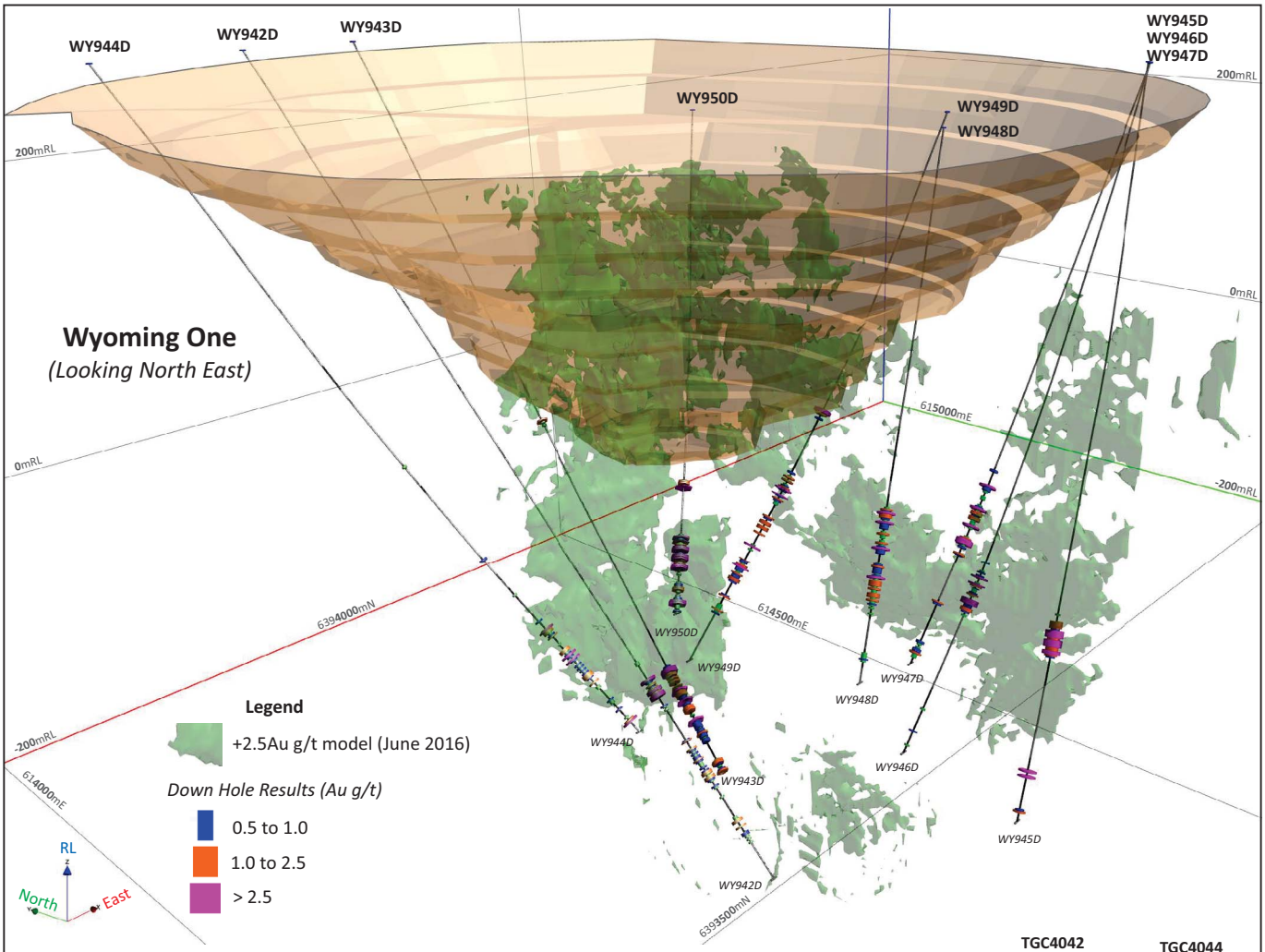
Alkane is a multi-commodity company focused in the Central West region of NSW, Australia. Currently Alkane has two advanced projects - the Tomingley Gold Operations (TGO) and the nearby Dubbo Project (DP). Tomingley commenced production early 2014. Cash flow from the TGO has provided the funding to maintain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

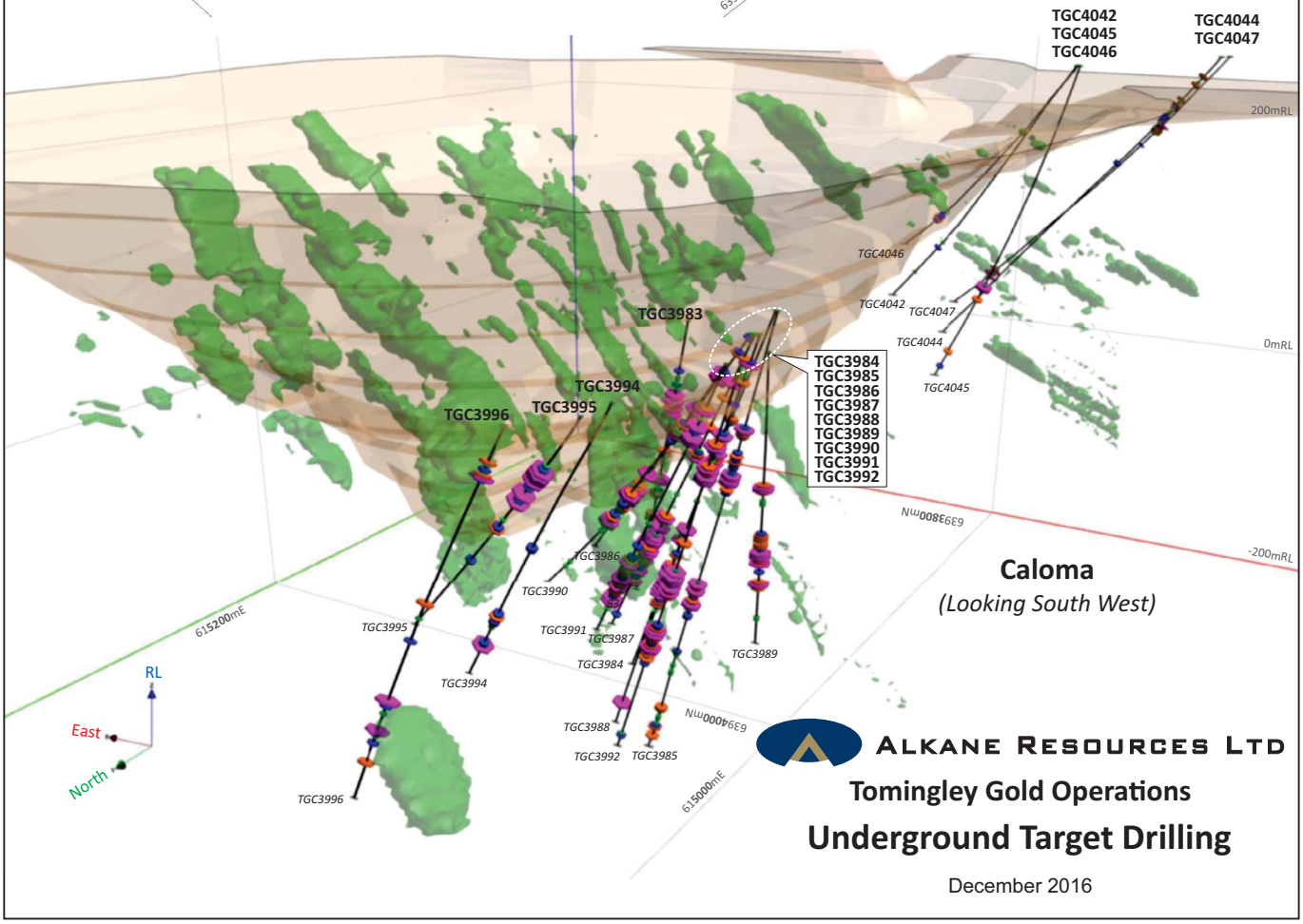
The NSW Planning Assessment Commission granted development approval for the DP on 28 May 2015 and on 24 August 2015 the Company received notification that the federal Department of the Environment gave its approval for the development. Mining Lease 1724 was granted on 18 December 2015 and the Environment Protection Licence was approved on 14 March 2016. 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 2019.

Alkane's most advanced gold copper exploration projects are at the 100% Alkane owned Wellington, Bodangora pand Elsienora prospects Wellington has a small copper-gold deposit which can be expanded, while at Bodangora a large monzonite intrusive complex has been identified with porphyry style gold copper mineralisation. Encouraging gold mineralisation was recently drilled at Elsienora.




614000mE
148° 13'S
615000mE
Wyoming Three
Caloma
32° 35'S
Wyoming Two
6394000mN
Wyoming One
Caloma Two
TGC3996
TGC3995
TGC3994
TGC3991
TGC3990
TGC3992
TGC3989
TGC3988
TGC3987
TGC3986
TGC3985
TGC3984
TGC3983
TGC4045
TGC4046
TGC4044
TGC4047
WY944D
WY942D
WY943D
WY950D
WY948D
WY949D
WY946D
WY947D
WY945D
ML1684
EL5675
EL5830
6393000mN
EL5675
Wyoming One South
Myalls United Gold Mine (Historic)
No.2N
Main Shaft
Reedys Shaft
Dolerite
Cotton Formation siltstone
Feldspar porphyry
Volcaniclastic sandstones, siltstones & minor conglomerates
Andesite
Chlorite-talc schist
Fault, inferred
Geological boundary, inferred
WY950D
2016 DDH - Wyoming
TGC3996
2016 Deep RC hole - Caloma
0
500
metres
ALKANE RESOURCES LTD
TOMINGLEY GOLD MINE
Geology with 2016 Underground Target Drilling
PLAN No. : ALK TOM 1GA-028
Projection - MGA Zone 55
Datum (horizontal) - GDA94




ALKANE RESOURCES LTD

**Tomingley Gold Operations**

# Underground Target Drilling

December 2016

| WYOMING ONE CORE DRILLING –2016 (>1.0g/t Au) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hole ID** | **Easting (MGA)** | **Northing (MGA)** | **RL** | **Dip** | **Azimuth (MGA)** | **Total Depth** | **Interval From (m)** | **Interval To (m)** | **Intercept (m)** | **Au (g/t)** | **Target** |
| **WY942D** | **614176.0** | **6393847** | **268.9** | **-50.0** | **171** | **566.5** | 437.5 | 449.6 | 12.1 | 3.45 | |
| incl | | | | | | | 437.5 | 439.0 | 1.5 | 4.83 | 376/northern contact |
| incl | | | | | | | 444.0 | 446.0 | 2.0 | 4.25 | |
| incl | | | | | | | 447.0 | 449.6 | 2.6 | 7.14 | |
| and | | | | | | | 477.3 | 478.6 | 1.3 | 1.19 | |
| and | | | | | | | 529 | 530.7 | 1.7 | 1.53 | Porphyry |
| and | | | | | | | 533 | 534 | 1 | 2.05 | |
| **WY943D** | **614246.8** | **6393844** | **269.5** | **-51** | **182** | **510.0** | 269 | 270 | 1 | 1.25 | Sed Host NthZne |
| and | | | | | | | 441.0 | 452.0 | 11.0 | 2.42 | 376/northern contact |
| incl | | | | | | | 443 | 446 | 3.0 | 6.04 | |
| and | | | | | | | 454.6 | 471.0 | 16.4 | 2.64 | |
| incl | | | | | | | 457.0 | 460.0 | 3.0 | 10.6 | |
| and | | | | | | | 476.7 | 490.8 | 14.1 | 1.02 | Porphyry |
| incl | | | | | | | 476.7 | 478.0 | 1.3 | 4.73 | |
| and | | | | | | | 503.0 | 505.5 | 2.5 | 1.73 | |
| and | | | | | | | 508.0 | 510.0 | 2.0 | 1.03 | |
| **WY944D** | **614081.7** | **6393832** | **269.3** | **-51** | **163** | **460.0** | 383.6 | 389.8 | 6.2 | 1.72 | Sed Host NthZne |
| incl | | | | | | | 384.0 | 387.0 | 3.0 | 2.47 | |
| and | | | | | | | 399.0 | 407.7 | 8.7 | 5.09 | |
| incl | | | | | | | 402.8 | 404.0 | 1.2 | 19.05 | ?'376'/Northern Zone ?=HWZ (sed hosted) |
| incl | | | | | | | 406.0 | 407.0 | 1.0 | 5.09 | |
| incl | | | | | | | 417.0 | 419.0 | 2.0 | 2.01 | |
| and | | | | | | | 423.0 | 424.0 | 1.0 | 1.15 | Porphyry |
| and | | | | | | | 451.0 | 453.0 | 2.0 | 3.29 | |
| incl | | | | | | | 452.0 | 453.0 | 1.0 | 5.54 | |
| **WY945D** | **614466.8** | **6393415** | **267.4** | **-63** | **250** | **419.9** | 311.0 | 331.0 | 20.0 | 4.19 | |
| incl | | | | | | | 316.0 | 324.0 | 8.0 | 5.53 | |
| incl | | | | | | | 316.0 | 320.0 | 4.0 | 7.40 | HWZ |
| incl | | | | | | | 327.0 | 329.0 | 2.0 | 11.03 | |
| and | | | | | | | 392.0 | 393.0 | 1.0 | 6.57 | |
| and | | | | | | | 395.0 | 396.0 | 1.0 | 8.94 | |
| and | | | | | | | 413.0 | 415.0 | 2.0 | 1.35 | Porphyry |
| **WY946D** | **614465.6** | **6393413** | **267.1** | **-62** | **267** | **400.0** | 294.0 | 298.0 | 4.0 | 1.11 | |
| and | | | | | | | 301.0 | 304.0 | 3.0 | 2.87 | |
| incl | | | | | | | 301.0 | 303.0 | 2.0 | 4.06 | HWZ |
| and | | | | | | | 310.0 | 318.0 | 8.0 | 2.23 | |
| incl | | | | | | | 310.0 | 313.2 | 3.2 | 3.82 | |
| **WY947D** | **614465.9** | **6393413** | **267.3** | **-54** | **269** | **353.5** | 251.0 | 354.0 | 3.0 | 1.47 | |
| and | | | | | | | 251.0 | 252.0 | 1.0 | 3.06 | |
| and | | | | | | | 263.0 | 271.0 | 8.0 | 1.78 | Sediment Hosted |
| incl | | | | | | | 264.0 | 265.0 | 1.0 | 5.34 | |
| and | | | | | | | 274.0 | 275.0 | 1.0 | 4.76 | |

| WYOMING ONE CORE DRILLING –2016 (>1.0g/t Au) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hole ID** | **Easting (MGA)** | **Northing (MGA)** | **RL** | **Dip** | **Azimuth (MGA)** | **Total Depth** | **Interval From (m)** | **Interval To (m)** | **Intercept (m)** | **Au (g/t)** | **Target** |
| and | | | | | | | 281.0 | 287.0 | 6.0 | 2.93 | |
| incl | | | | | | | 282.0 | 285.0 | 3.0 | 4.95 | HWZ |
| and | | | | | | | 290.0 | 291.4 | 1.4 | 1.34 | |
| and | | | | | | | 318.2 | 320.0 | 1.8 | 1.22 | Contact |
| **WY948D** | **614379.5** | **6393489** | **235.0** | **-60** | **248** | **304.0** | 211.1 | 217.0 | 5.9 | 2.96 | |
| and | | | | | | | 218.15 | 219.0 | 0.85 | 3.56 | |
| and | | | | | | | 224.0 | 225.0 | 1.0 | 1.34 | |
| and | | | | | | | 227.8 | 235.0 | 7.2 | 3.17 | HWZ |
| incl | | | | | | | 231.0 | 235.0 | 4.0 | 5.09 | |
| and | | | | | | | 247.0 | 263.0 | 16.0 | 1.99 | |
| incl | | | | | | | 247.0 | 252.75 | 3.75 | 3.48 | |
| and | | | | | | | 247.85 | 249.0 | 1.15 | 15.18 | |
| **WY949D** | **614386.3** | **6393492** | **242.3** | **-57.8** | **273** | **330.0** | 177.0 | 180.3 | 3.3 | 3.86 | HWZ |
| and | | | | | | | 223.0 | 225.6 | 3.6 | 2.44 | |
| and | | | | | | | 229.0 | 232.0 | 4.0 | 3.37 | |
| incl | | | | | | | 229.0 | 229.5 | 0.5 | 23.5 | |
| and | | | | | | | 242.0 | 253.0 | 11.0 | 1.12 | Porphyry |
| incl | | | | | | | 248.0 | 250.0 | 2.0 | 2.0 | |
| and | | | | | | | 260.0 | 261.0 | 1.0 | 21.8 | |
| and | | | | | | | 268.6 | 283.0 | 14.4 | 1.47 | |
| incl | | | | | | | 272.0 | 276.0 | 4.0 | 2.43 | |
| **WY950D** | **614357.6** | **6393366** | **232.6** | **-51** | **230** | **315.5** | 196.0 | 207.0 | 11.0 | 4.21 | HWZ |
| incl | | | | | | | 205.0 | 207.0 | 2.0 | 8.73 | |
| and | | | | | | | 271.0 | 290.7 | 19.7 | 5.36 | |
| incl | | | | | | | 276.0 | 290.7 | 11.7 | 6.27 | |
| incl | | | | | | | 282.6 | 290.7 | 8.1 | 9.34 | |
| incl | | | | | | | 282.6 | 285.35 | 2.75 | 19.69 | Porphyry |
| and | | | | | | | 287.0 | 290.7 | 3.7 | 5.61 | |
| incl | | | | | | | 290.0 | 290.7 | 0.7 | 20.5 | |
| and | | | | | | | 308.8 | 311.0 | 2.2 | 3.14 | |

| CALOMA DEEP RC DRILLING –2016 (>1.0g/t Au) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hole ID** | **Easting (MGA)** | **Northing (MGA)** | **RL** | **Dip** | **Azimuth (MGA)** | **Total Depth** | **Interval From (m)** | **Interval To (m)** | **Intercept (m)** | **Au (g/t)** | **Target** |
| **TGC3983** | **614928.9** | **6394276.8** | **170.4** | **-79** | **95** | **145** | 36 | 48 | 12 | 3.83 | Zone "A" – Lode 4 – IN PIT |
| incl | | | | | | | 36 | 37 | 1 | 13.8 | |
| and | | | | | | | 65 | 66 | 1 | 2.19 | |
| and | | | | | | | 80 | 82 | 2 | 3.69 | Zone "B" – Lode 41 |
| and | | | | | | | 86 | 90 | 4 | 1.34 | |
| and | | | | | | | 99 | 104 | 5 | 1.22 | |
| and | | | | | | | 115 | 131 | 15 | 1.43 | |
| incl | | | | | | | 115 | 117 | 2 | 2.70 | |
| **TGC3984** | **614886.5** | **6394274.9** | **179.8** | **-69** | **87** | **203** | 55 | 58 | 3 | 1.45 | Zone "A" – Lode 4 |
| and | | | | | | | 70 | 85 | 15 | 1.37 | |
| and | | | | | | | 122 | 126 | 4 | 2.04 | |
| and | | | | | | | 142 | 159 | 17 | 1.53 | |
| **TGC3985** | **614885.4** | **6394275.1** | **179.9** | **-75** | **87** | **247** | 57 | 63 | 6 | 1.59 | Zone "A" – Lode 4 |
| and | | | | | | | 70 | 93 | 23 | 1.38 | |
| incl | | | | | | | 82 | 87 | 5 | 3.43 | |
| and | | | | | | | 144 | 159 | 15 | 2.19 | Zone "B" – Lode 41 |
| incl | | | | | | | 144 | 145 | 1 | 10.6 | |
| and | | | | | | | 220 | 223 | 3 | 1.30 | |
| and | | | | | | | 239 | 240 | 1 | 1.16 | |
| **TGC3986** | **614885.0** | **6394301.0** | **175.6** | **-55** | **92** | **143** | 10 | 12 | 2 | 1.30 | |
| and | | | | | | | 22 | 28 | 6 | 2.34 | Zone "A" – Lode 4 – IN PIT |
| incl | | | | | | | 26 | 28 | 2 | 4.66 | |
| and | | | | | | | 46 | 49 | 3 | 1.74 | |
| and | | | | | | | 60 | 62 | 2 | 2.56 | |
| and | | | | | | | 90 | 91 | 1 | 4.51 | |
| and | | | | | | | 97 | 117 | 20 | 2.71 | Zone "B" – Lode 41 |
| incl | | | | | | | 100 | 102 | 2 | 11.7 | |
| incl | | | | | | | 103 | 108 | 5 | 3.45 | |
| **TGC3987** | **614883.2** | **6394301.2** | **175.8** | **-65** | **92** | **172** | 12 | 13 | 1 | 2.41 | |
| and | | | | | | | 25 | 26 | 1 | 7.16 | Zone "A" – Lode 4 |
| and | | | | | | | 33 | 34 | 1 | 1.59 | |
| and | | | | | | | 49 | 51 | 2 | 1.30 | |
| and | | | | | | | 63 | 68 | 5 | 1.86 | |
| and | | | | | | | 101 | 105 | 4 | 2.24 | Zone "B" – Lode 41 |
| and | | | | | | | 108 | 109 | 1 | 2.75 | |
| and | | | | | | | 114 | 118 | 4 | 3.36 | |
| and | | | | | | | 121 | 130 | 9 | 1.91 | |
| and | | | | | | | 133 | 144 | 11 | 1.09 | |
| **TGC3988** | **614880.9** | **6394301.3** | **175.9** | **-72** | **92** | **224** | 13 | 15 | 2 | 2.50 | |
| and | | | | | | | 49 | 58 | 9 | 1.20 | Zone "A" – Lode 4 |
| and | | | | | | | 67 | 73 | 6 | 2.01 | |
| incl | | | | | | | 69 | 71 | 2 | 3.48 | |

| CALOMA DEEP RC DRILLING –2016 (>1.0g/t Au) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hole ID** | **Easting (MGA)** | **Northing (MGA)** | **RL** | **Dip** | **Azimuth (MGA)** | **Total Depth** | **Interval From (m)** | **Interval To (m)** | **Intercept (m)** | **Au (g/t)** | **Target** |
| and | | | | | | | 102 | 103 | 1 | 3.55 | |
| and | | | | | | | 123 | 149 | 26 | 2.29 | Zone "B" – Lode 41 |
| incl | | | | | | | 124 | 126 | 2 | 8.05 | |
| and | | | | | | | 210 | 213 | 3 | 1.23 | |
| **TGC3989** | **614872.8** | **6394309.4** | **171.1** | **-90** | **360** | **133** | 58 | 62 | 4 | 2.80 | |
| and | | | | | | | 80 | 95 | 15 | 4.84 | Zone "A" – Lode 4 |
| incl | | | | | | | 89 | 92 | 3 | 18.7 | |
| and | | | | | | | 103 | 107 | 4 | 2.00 | |
| **TGC3990** | **614880.4** | **6394332.9** | **170.7** | **-57** | **97** | **157** | 41 | 45 | 4 | 2.33 | |
| incl | | | | | | | 42 | 43 | 1 | 5.00 | |
| and | | | | | | | 82 | 91 | 9 | 1.84 | Zone "B" – Lode 41 – IN PIT |
| incl | | | | | | | 83 | 85 | 2 | 5.73 | |
| and | | | | | | | 97 | 106 | 9 | 1.98 | Zone "B" – Lode 41 |
| incl | | | | | | | 102 | 104 | 2 | 6.52 | |
| **TGC3991** | **614880.4** | **6394332.9** | **170.6** | **-66** | **96** | **158** | 22 | 24 | 2 | 2.64 | |
| and | | | | | | | 32 | 41 | 9 | 1.87 | Zone "A" – Lode 4 – IN PIT |
| incl | | | | | | | 32 | 33 | 1 | 5.66 | |
| and | | | | | | | 102 | 103 | 1 | 0.66 | |
| and | | | | | | | 109 | 141 | 32 | 1.51 | Zone "B" – Lode 41 |
| **TGC3992** | **614873.4** | **6394334.0** | **170.5** | **-71** | **100** | **213** | 37 | 41 | 4 | 2.34 | Zone "A" – Lode 4 |
| incl | | | | | | | 38 | 39 | 1 | 6.19 | |
| and | | | | | | | 48 | 56 | 8 | 2.15 | |
| and | | | | | | | 88 | 89 | 1 | 1.25 | |
| and | | | | | | | 104 | 119 | 15 | 2.79 | Zone "B" – Lode 41? |
| incl | | | | | | | 104 | 105 | 1 | 5.03 | |
| incl | | | | | | | 107 | 111 | 4 | 4.40 | |
| and | | | | | | | 135 | 150 | 15 | 2.44 | Zone "B" – Lode 41 |
| incl | | | | | | | 148 | 150 | 2 | 8.04 | |
| and | | | | | | | 152 | 153 | 1 | 1.82 | |
| and | | | | | | | 155 | 156 | 1 | 1.07 | |
| **TGC3994** | **614892.4** | **6394394.0** | **170.0** | **-62** | **90** | **162** | 140 | 143 | 3 | 1.90 | |
| incl | | | | | | | 142 | 143 | 1 | 4.09 | |
| **TGC3995** | **614892.8** | **6394420.1** | **170.2** | **-57** | **90** | **140** | 29 | 41 | 12 | 8.28 | Zone "A" lode 2 – IN PIT |
| incl | | | | | | | 30 | 35 | 5 | 18.2 | |
| and | | | | | | | 44 | 46 | 2 | 16.57 | |
| incl | | | | | | | 44 | 45 | 1 | 31.8 | |
| and | | | | | | | 48 | 50 | 2 | 1.86 | |
| and | | | | | | | 66 | 68 | 2 | 1.44 | |
| **TGC3996** | **614910.7** | **6394441.8** | **170.0** | **-63** | **40** | **150** | 14 | 15 | 1 | 1.29 | |
| and | | | | | | | 17 | 22 | 5 | 1.22 | |
| and | | | | | | | 71 | 72 | 1 | 1.53 | |
| and | | | | | | | 110 | 113 | 3 | 2.11 | Zone "B" - Lode 10 |
| incl | | | | | | | 110 | 111 | 1 | 4.67 | |

| CALOMA DEEP RC DRILLING –2016 (>1.0g/t Au) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hole ID** | **Easting (MGA)** | **Northing (MGA)** | **RL** | **Dip** | **Azimuth (MGA)** | **Total Depth** | **Interval From (m)** | **Interval To (m)** | **Intercept (m)** | **Au (g/t)** | **Target** |
| and | | | | | | | 122 | 124 | 2 | 1.94 | |
| and | | | | | | | 135 | 136 | 1 | 1.93 | |
| **TGC4044** | **614775.5** | **6393921.1** | **269.8** | **-50** | **51** | **220** | 14 | 15 | 1 | 1.43 | Caloma 2 Linking Structure |
| and | | | | | | | 20 | 21 | 1 | 1.84 | |
| and | | | | | | | 31 | 32 | 1 | 1.00 | |
| and | | | | | | | 184 | 185 | 1 | 1.96 | |
| **TGC4045** | **614822.8** | **6394051.21** | **270.7** | **-71** | **119** | **204** | 135 | 138 | 3 | 3.54 | Caloma 2 Linking Structure |
| and | | | | | | | 144 | 145 | 1 | 1.59 | |
| and | | | | | | | 184 | 185 | 1 | 1.40 | |
| **TGC4047** | **614772.1** | **6393914.18** | **269.7** | **-52** | **68** | **209** | 50 | 57 | 7 | 2.17 | Caloma 2 |
| incl | | | | | | | 50 | 51 | 1 | 5.98 | |
| and | | | | | | | 176 | 183 | 7 | 1.76 | Caloma 2 Linking Structure |
| incl | | | | | | | 177 | 178 | 1 | 4.83 | |

## JORC Code, 2012 Edition – Table 1 report –

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Sampling techniques* | • *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* | RC samples were collected at one metre intervals via a cyclone and cone splitter.<br>DD sample intervals were defined by geologist during logging to honour geological boundaries. |
| | • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* | RC drilling completed to industry standards.<br>Core was laid out in suitably labelled core trays. A core marker (core block) was placed at the end of each drilled run (nominally 3 or 6m) and labelled with the hole number, down hole depth, length of drill run. Core was aligned and measured by tape, comparing back to this down hole depth consistent with industry standards. |
| | • *Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.* | RC Drilling – the entire RC sample was collected at 1m intervals and delivered into a large plastic bag via a cyclone.<br>DD Drilling – sample intervals were defined by geologists during logging to honour geological boundaries and cut in half with a saw.<br>All samples sent to the laboratory were crushed and/or pulverised to produce a ~100g pulp for assay process.<br>1m RC samples and core samples were fire assayed using a 50g charge as well as a group of pathfinder elements by ICPMS.<br>Visible gold was occasionally observed in core |
| *Drilling techniques* | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | RC techniques using a 130mm or 140mm diameter face sampling hammer.<br>DD holes were pre-collared using un-oriented PQ3 (83mm diameter) core drilling. Pre-collars were completed to competent material, with holes cased off and completed to depth using HQ3 (61mm diameter) core. HQ3 core was oriented using the Ace' (Reflex Act) core orientation tool. |
| *Drill sample recovery* | • *Method of recording and assessing core and chip sample recoveries and results assessed.* | RC - sample recovery was visually estimated and was generally very good (>90%). Samples were even in size. Samples were rarely damp or wet. Sample quality was assessed by the sampler by visual approximation of sample recovery and if the sample was dry, damp or wet. A riffle splitter were used to ensure a representative sample was achieved for 1 metre samples.<br>DD - core loss was identified by drillers and calculated by geologists when logging. Generally ≥95% was recovered and any loss was usually in portions of the oxide zone. Large diameter core, (PQ3) was used through the oxide material to ensure the greatest recovery. |
| | • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* | RC drilling was completed using oversized shrouds to maintain sample return and all samples were split using riffle or cone splitters. Use of RC rigs with high air capacity assists in keeping samples dry.<br>Triple tube coring was used at all times to maximise core recovery. |
| | • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.* | There is no known relationship between sample recovery and grade. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Logging* | • *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* | RC - each one metre interval was geologically logged for characteristics such as lithology, weathering, veining (type, character and intensity) and mineralisation (type and volume percentage).<br>DD - all core was laid out in core trays and geologically logged for characteristics such as lithology, weathering, alteration (type, character and intensity), veining (type, character and intensity) and mineralisation (type, character and volume percentage). A brief geotechnical log was also undertaken collecting parameters such as core recovery, RQD, fracture count, and fracture type and orientation. |
| | • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* | All logging was qualitative with visual estimates of the various characteristics. Magnetic susceptibility data is quantitative.<br>RC - A representative sample of each one metre interval is retained in chip trays for future reference.<br>DD - Core was photographed and all unsampled core is retained for reference purposes. |
| | • *The total length and percentage of the relevant intersections logged.* | All DD core and RC chip samples have been geologically and geotechnically logged by qualified geologists. |
| *Sub-sampling techniques and sample preparation* | • *If core, whether cut or sawn and whether quarter, half or all core taken.* | DD - zones of visual mineralisation and/or alteration were marked up by the geologist and cut in half using an Almonté (or equivalent) core cutting saw. Samples submitted for analysis were collected from the same side in all cases to prevent bias. Sampling intervals were generally based on geology, were predominantly over 1m intervals but do not exceed 1.2 metres in length. All mineralised zones were sampled, plus ≥2m of visibly barren wall rock.<br>Laboratory Preparation – drill core was oven dried prior to crushing to <6mm using a jaw crusher, split to 3kg if required then pulverised in an LM5 (or equivalent) to ≥85% passing 75µm. Bulk rejects for all samples were discarded. A pulp packet (±100g) is stored for future reference |
| | • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* | RC – samples were collected at 1m intervals via a cyclone into large plastic bags.<br>Rare damp or wet samples were recorded by the sampler.<br>Laboratory Preparation – the entire RC sample (3kg) was dried and pulverised in an LM5 (or equivalent) to ≥85% passing 75µm. Bulk rejects for all samples were discarded. A pulp packet (±100g) is stored for future reference. |
| | • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* | Alkane (ALK) sampling techniques are of industry standard and considered adequate. |
| | • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* | RC – field duplicate samples collected at every stage of sampling to control procedures.<br>DD – external laboratory duplicates used. |
| | • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* | RC - Duplicate samples were riffle split from bulk sample. Duplicates show generally excellent repeatability, indicating a negligible “nugget” effect. |
| | • *Whether sample sizes are appropriate to the grain size of the material being sampled.* | Sample sizes are industry standard and considered appropriate. |
| *Quality of assay data and laboratory tests* | • *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* | Gold was determined using a 50g charge fused at approximately 1100°C with alkaline fluxes, including lead oxide. The resultant prill was dissolved in aqua regia and gold determined by flame AAS.<br>For other geochemical elements, samples were digested in aqua regia with each element concentration determined by ICP Atomic Emission Spectrometry or ICP Mass Spectrometry. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | These additional elements were generally only used for geological interpretation purposes, are not of economic significance and are not routinely reported. |
| | • *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* | Not applicable to this report or deposit. |
| | • *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | Commercially prepared Certified Reference Materials (CRM) and blanks were inserted at 1 in 50 samples. CRM's were not identifiable to the laboratory.<br>Field duplicate samples were inserted at 1 in 50 samples (alternate to CRM's) for RC drilling programs.<br>Laboratory QAQC sampling includes insertion of CRM samples, internal duplicates and screen tests. This data was reported for each sample submission.<br>Failed standards result in re-assaying of portions of the affected sample batches. |
| *Verification of sampling and assaying* | • *The verification of significant intersections by either independent or alternative company personnel.* | Drill data was compiled and collated, and reviewed by senior staff. External consultants do not routinely verify exploration data until resource estimation procedures are deemed necessary. |
| | • *The use of twinned holes.* | Twinned holes have not been used as twinning provides verification only for extremely limited areas of a deposit. |
| | • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* | All drill hole logging and sampling data was hard keyed into Excel spreadsheet for transfer and storage in an Datashed database with verification protocols in place.<br>All primary assay data was received from the laboratory as electronic data files which were imported into Datashed database with verification procedures in place. QAQC analysis was undertaken for each laboratory report.<br>Digital copies of Certificates of Analysis (COA) are stored in a central database with regular (daily) backup. Original survey data is stored on site. |
| | • *Discuss any adjustment to assay data.* | No assay data was adjusted. |
| *Location of data points* | • *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* | Drill holes were laid out RTK-DGPS.<br>RC drill holes were surveyed using a single shot electronic camera at a nominal 30m down hole intervals.<br>DD holes were surveyed at nominal 30m down hole during drilling to maintain drilling direction and then north seeking gyro at end of hole. |
| | • *Specification of the grid system used.* | All drill holes were originally laid out in MGA94 grid system to conform with reporting requirements for mine operations. |
| | • *Quality and adequacy of topographic control.* | The site is within the mine with excellent survey control. |
| *Data spacing and distribution* | • *Data spacing for reporting of Exploration Results.* | Drilling was spaced and oriented to intersect specific sites within the known mineralised envelope. |
| | • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* | The drill hole spacing has been shown to be appropriate by the visible continuity of mineralisation between drill holes. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | • *Whether sample compositing has been applied.* | Sample compositing was not applied. |
| *Orientation of data in relation to geological structure* | • *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* | Much care was given to attempt to intersect mineralisation at an optimal angle but in complex ore bodies this can be difficult. |
| | • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.* | It is not thought that drilling direction will bias assay data however all attempt made to provide optimal intersection direction.. |
| *Sample security* | • *The measures taken to ensure sample security.* | All samples were bagged in tied numbered calico bags, grouped into larger tied polyweave bags and transported to the laboratory in Orange by Alkane personnel or courier. S ample submission sheets were delivered with the samples and also emailed to the laboratory. All sample submissions were documented via ALS tracking system and all assays were reported via email.<br>Sample pulps were returned to site and were stored for an appropriate length of time (minimum 3 years).<br>The Company has in place protocols to ensure data security. |
| *Audits or reviews* | • *The results of any audits or reviews of sampling techniques and data.* | The Company does not routinely have external consultants verify exploration data. |

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *Mineral tenement and land tenure status* | • *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* | The drilling completed within ML 1684 which is held in the name of Tomingley Gold Operations Pty Ltd, a wholly owned subsidiary of Alkane Resources Ltd. |
| | • *The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.* | ML1684 expires on 11 February 2034. |
| *Exploration done by other parties* | • *Acknowledgment and appraisal of exploration by other parties.* | All reported drilling has been completed by ALK. |
| *Geology* | • *Deposit type, geological setting and style of mineralisation.* | Geological nature of the Tomingley Deposits is well documented elsewhere. |
| *Drill hole Information* | • *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*<br>o *easting and northing of the drill hole collar*<br>o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*<br>o *dip and azimuth of the hole*<br>o *down hole length and interception depth*<br>o *hole length.* | See table in announcement |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | |
| | • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.* | No data has been excluded |
| *Data aggregation methods* | • *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.* | Reported results are –<br>For uncut gold grades;<br>Intercepts were defined (bounded) by 0.5g/t gold outer limit and may contain some internal waste;<br>Only intervals grading ≥1 g/t gold were reported;<br>Grades were calculated by length weighted average. |
| | • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* | Exploration results have been reported as length weighted average grades with internal high grade intercepts reported separately. |
| | • *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | No metal equivalents are reported. |
| *Relationship between mineralisation widths and intercept lengths* | • *These relationships are particularly important in the reporting of Exploration Results.*<br>o *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>o *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | True width are variable due to the intersection angle but range between 50% and 70% of drilled width. |
| *Diagrams* | • *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.* | Cross sections and a plan showing geology with drill collars are included with the announcement. |
| *Balanced reporting* | • *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.* | Data relating to all drill holes has been reported. |
| *Other substantive* | • *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk* | No additional data is being reported. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| *exploration data* | *density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.* | |
| *Further work* | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* | An assessment of mining the higher grade portions of the mineralisation by underground methods will be completed as part of a feasibility study.<br>Additional drilling may be completed to compliment this assessment of mining resources below the open pit. |
| | • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | The upper portions of the deposits are well constrained by drilling however the high grade structures remain open at depth. |