



# Quarterly Report

Period ended 31 December 2016

MINOTAUR EXPLORATION LIMITED ACN 108 483 601 ASX: MEP  
[www.minotaurexploration.com.au](http://www.minotaurexploration.com.au)

## 2016 Exploration Expenditure

Management routinely benchmarks the Company against its peers. Minotaur is one of 500 companies, in the minerals sector, having a market capitalisation less than \$100 million. That group expended, on average in 2016, \$1 on administration for each \$1 spent on exploration. By contrast, Minotaur's net administration expense was just 15c for each \$1 of exploration expense and our total exploration investment of \$5.6 million compares well with the average of just \$1.2 million. The Company is thus maximising its exposure to exploration success, counterposing its modest market capitalisation. At the end of 2016 Minotaur retained \$2.82 million in cash but expects around \$6 million to be applied to its projects through 2017, primarily due to the strength of its joint venture arrangements - which accounted for 72% of project activity in 2016.

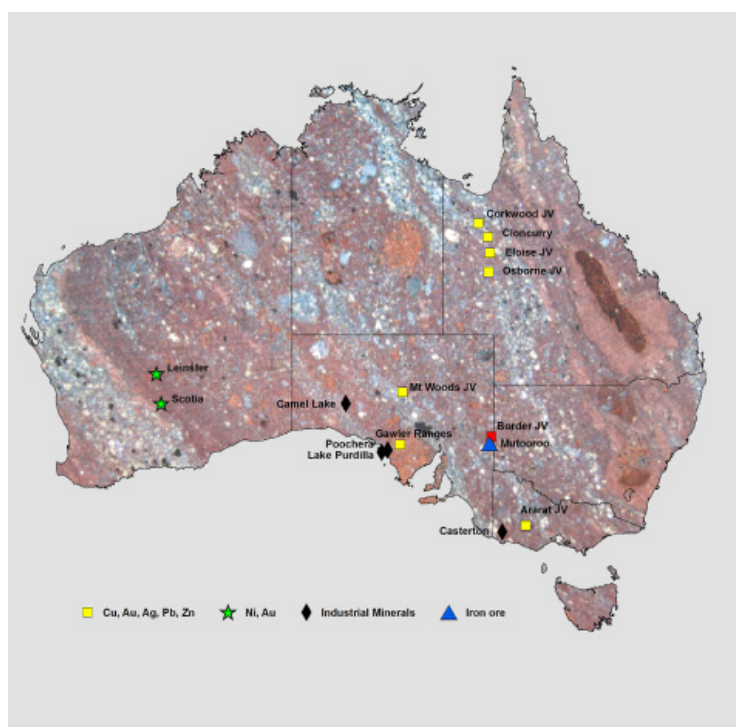


Figure 1: Minotaur Exploration's project locations

Project Location	Tenement Area km <sup>2</sup>
South Australia <sup>§</sup>	13,302
Queensland <sup>§</sup>	3,475
Victoria	415
Western Australia <sup>Ⓓ§</sup>	219
<b>Total Area</b>	<b>17,411</b>

Table 1: Minotaur Exploration Limited's tenement areas, under application and/or held 100% and/or in joint ventures<sup>§</sup> or within Minotaur Gold Solutions Ltd <sup>Ⓓ</sup> (Minotaur Exploration 99%)



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## December Quarter Activity

### QUEENSLAND

Minotaur is actively exploring along the Cloncurry mineral belt of Northwest Queensland across an extensive package of tenements prospective for iron oxide copper-gold (IOCG), iron sulphide copper-gold (ISCG) and Cannington-style lead-silver-zinc mineral systems (*Figure 2*).

Drilling and ground geophysical surveys were conducted on the Eloise and Osborne joint ventures, with significant progress made in both areas. This work has set up both projects for substantial field activity in 2017, commencing as soon as the wet season abates.

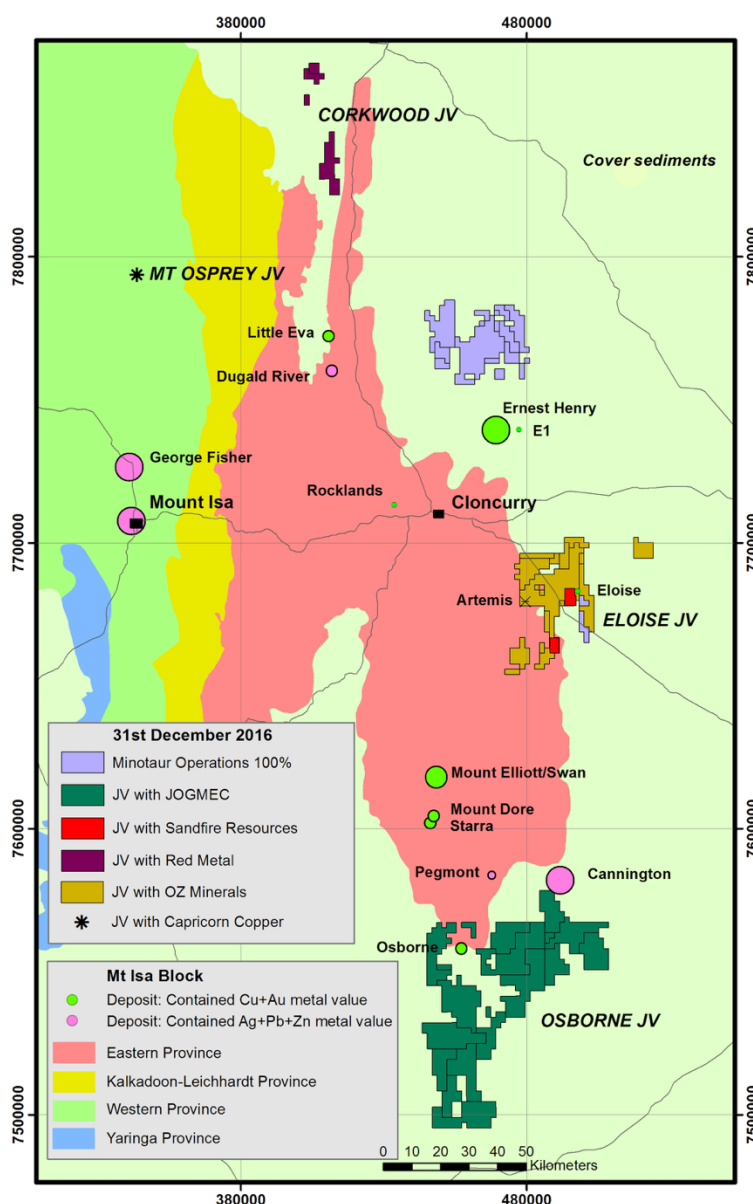


Figure 2: Location of Minotaur tenements in the Cloncurry region of Northwest Queensland





## QUEENSLAND

### Eloise Farm-In (OZ Minerals)

EPM 17838, 18442, 18624, 19500, 25237, 25238, 25389, 25801, MDL431; Minotaur 100% (except on those parts of MDL431 and EPM17838 where Sandfire Resources NL can earn 80%), Area 728km<sup>2</sup>

Four diamond drill holes, for a total of 1,425m, were completed at Iris prospect by Minotaur and OZ Minerals. This drill program followed promising results from the inaugural 2 diamond drill holes at Iris which returned anomalous copper and gold values associated with pyrrhotite over broad intercepts, confirming Iris to be an iron sulphide hosted, copper-gold (ISCG) discovery. Those results prompted the Minotaur-OZ Minerals earn-in to place a further 4 drill holes into the Iris conductors (Figures 3 and 4) to probe their spatial extents. All 4 holes successfully intersected hydrothermally altered breccia zones exhibiting various degrees of anomalous chalcopyrite (copper sulphide) mineralisation. Significant intercepts from the latest round of drilling include:

- EL16D07:
  - 20m @ 0.18% Cu and 0.03g/t Au from 228m, and
  - 5.8m @ 0.48% Cu and 0.06g/t Au from 277m
- EL16D08:
  - 26m @ 0.73% Cu and 0.61g/t Au from 168m, **Including 0.4m @ 12.35% Cu and 14.3g/t Au from 175.3m**
- EL16D09:
  - 40m @ 0.25% Cu and 0.06g/t Au from 390m,
  - including 12m @ 0.52% Cu and 0.17g/t Au from 409m
- EL16D10
  - 36m @ 0.2% Cu and 0.09g/t Au from 154m

Additional to drilling, an infill ground EM geophysical survey over the Iris and Electra prospects was completed, centred approximately 5km north-northeast of the Eloise copper-gold mine (Figure 3). Approximately 18 line km

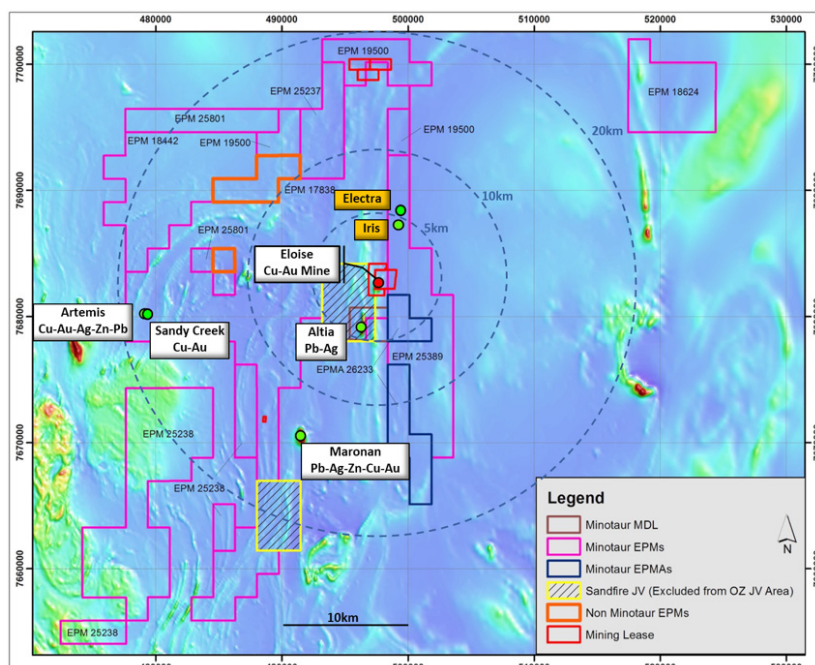


Figure 3: Eloise project magnetics with tenements and main prospects including Artemis, Sandy Creek and the new Iris Cu-Au prospect and Electra EM target. Locations of Sandfire JV and the Eloise Mine shown for reference

were surveyed on 200m line spacing with stations 50m apart. This work, plus the earlier EM survey at Iris, encompasses 4km of line of strike along an interpreted shear zone, on which Iris and Electra conductors are located.

Conductive overburden is generally about 130m thick over the survey area, providing technical challenges in receiving and processing EM signals from the basement below. As a result only a weak EM response was detected at Electra in the original survey. The new survey data over Electra were collected at double the original station density and on more closely spaced lines. Processing of the new data confirms a large, coherent and strong conductor modelled at 470m depth with up to 1.4km of strike, significant depth extent and conductance of 1100 S (Siemens).

The persistent nature of mineralisation in the drilling completed at Iris indicates a large mineral system with potential for higher grades in the vicinity of the EM conductors, as seen in hole EL16D08 where a

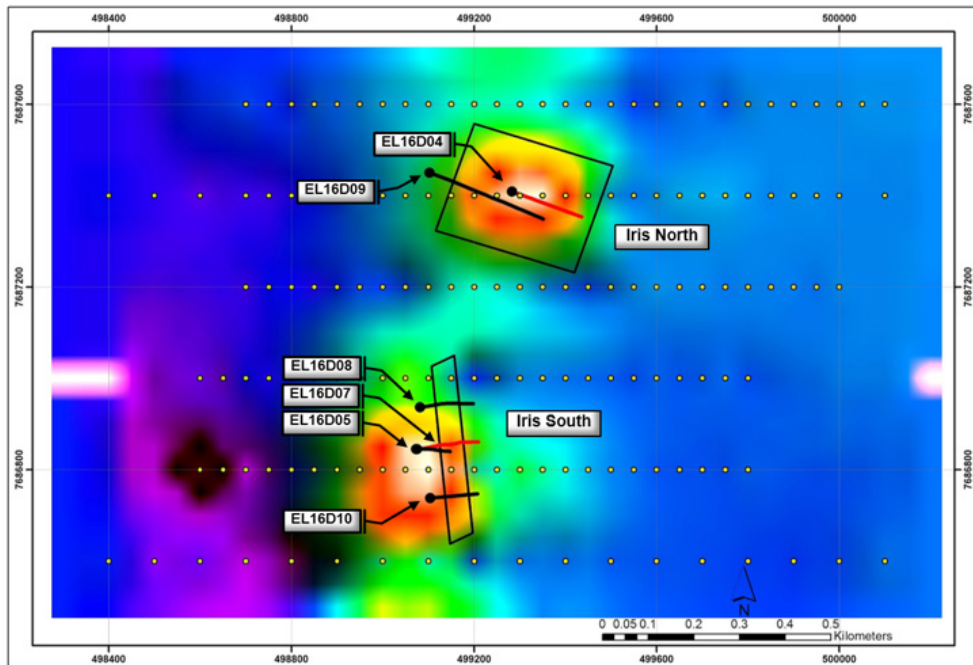


Figure 4: Late time Z-component EM image (plan view) of Iris conductors with all drill holes (drill holes EL16D07 – 10 completed this Quarter have black drill traces)

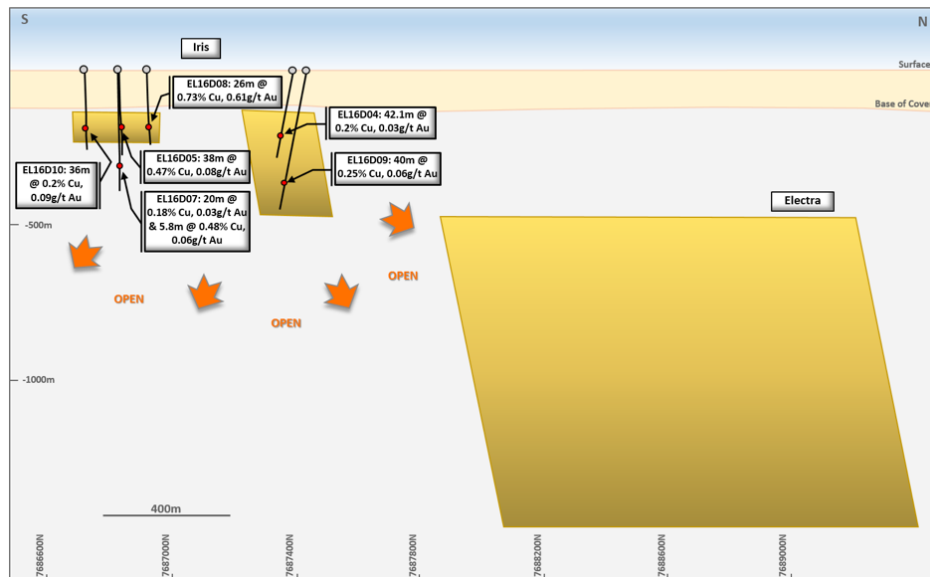


Figure 5: Long-section looking west showing Iris and Electra modelled EM conductors and drill hole traces for hole EL16D04-05 and EL16D07-10

## QUEENSLAND

chalcopyrite rich zone returned 0.4m at 12.35% Cu and 14.3g/t Au. Mineralisation is open in all directions at the Iris and Electra EM conductive bodies, with in-fill ground EM grid now modelled along 2.7km of strike (Figure 5).

Drilling will resume around the Iris and Electra conductors from the end of the wet season, typically late March to early April.





## QUEENSLAND

### JOGMEC Osborne Joint Venture

EPMs 18571, 18574, 18575, 18576, 18720, 19061, 19066, 25197, 25699, 25856, 25886, 25888, 25960 and EPMA26230; Minotaur 100%, Area 1,994km<sup>2</sup>

A drill hole, OS16D05, to test the Yeti gravity anomaly was completed at a depth of 726.8m. The drill hole targeted IOCG and Cannington Ag-Pb-Zn styles of mineralisation. Strong hydrothermally altered gneiss and psammite were intersected, adequately explaining the gravity anomaly, however the hole did not intersect any mineralisation.

Planning for the 2017 field season is complete with the work program to include drilling of one or more of EM conductors at Winter, Lark and Robin prospects and additional ground EM surveys in the eastern part of the project area (Figure 6). Field work is expected to commence in Q2 2017.

### Regional Cloncurry Project

EPMs 8608, 16975, 18068, 18861, 19412, 19530, 25889, EPMA 26233 Minotaur 100%, except in relation to EPM 8608 which has a net smelter royalty of 2% payable to South 32; Area 631km<sup>2</sup>

Minotaur seeks to introduce a new JV partner into the tenement package.

## SOUTH AUSTRALIA

### Prominent Hill Project

EL 5019, 5210, 5263, 5554, 5573; OZ Minerals 100% (Minotaur testing selected targets in collaboration with OZ Minerals), Area 3,532km<sup>2</sup>

Minotaur and OZ Minerals are collaborating under an earn-in agreement around the Prominent Hill mine.

Diamond drilling of EM targets at Orion, Bellatrix and Jupiter was completed (Figure 7) comprising 4 holes for 1,502.3m in total. The second of two drill holes targeting the Orion EM anomaly at the southern end of Taurus prospect was completed (the first hole was drilled in the previous Quarter), intersecting wide bands of graphitic schist with pyrite and pyrrhotite but showing no appreciable base metal mineralisation, as per the first

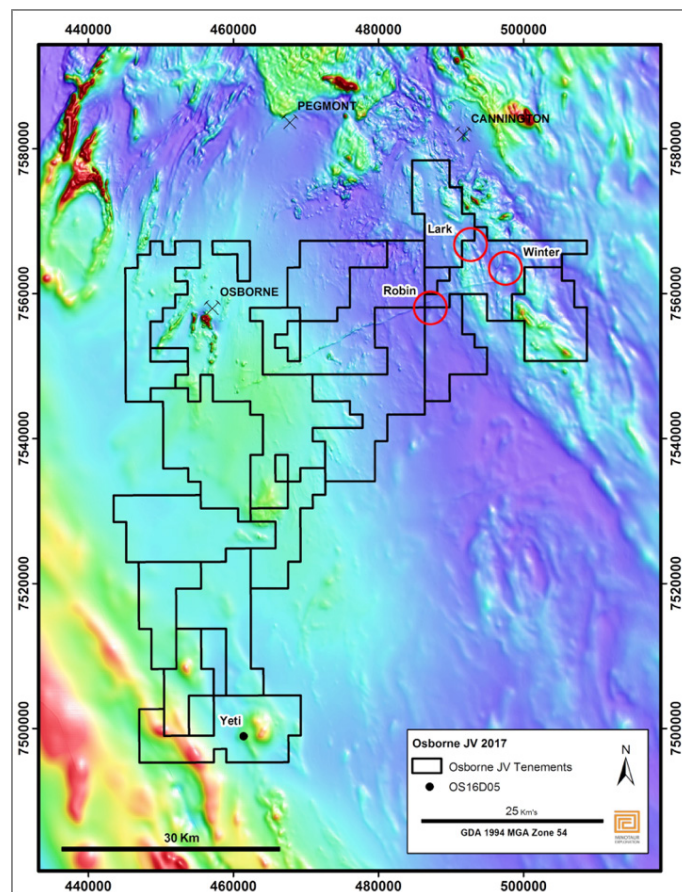


Figure 6: Osborne project tenements and main target locations over RTP magnetics image

hole.

One hole was completed testing the Bellatrix EM anomaly at the northern end of the Taurus prospect, intersecting hybrid ISCG-IOCG styles of mineralisation and zones of strong graphite. ISCG style mineralisation occurs in pyrrhotite matrix breccia and as late pyrrhotite-chalcopryrite veins synchronous with brittle faults (proof-of-concept that ISCG style of mineralisation occurs in the project area). IOCG style mineralisation occurs as magnetite-pyrite with minor chalcopryrite in a skarn-like assemblage. The best drill intercepts include:

- 9m @ 0.41% Cu from 242m,
- 3.6m @ 0.44% Cu from 266.4m,
- 1.7m @ 1.89% Cu and 0.29g/t Au from 377.5m
- 4.2m @ 0.3% Cu from 386m





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## SOUTH AUSTRALIA

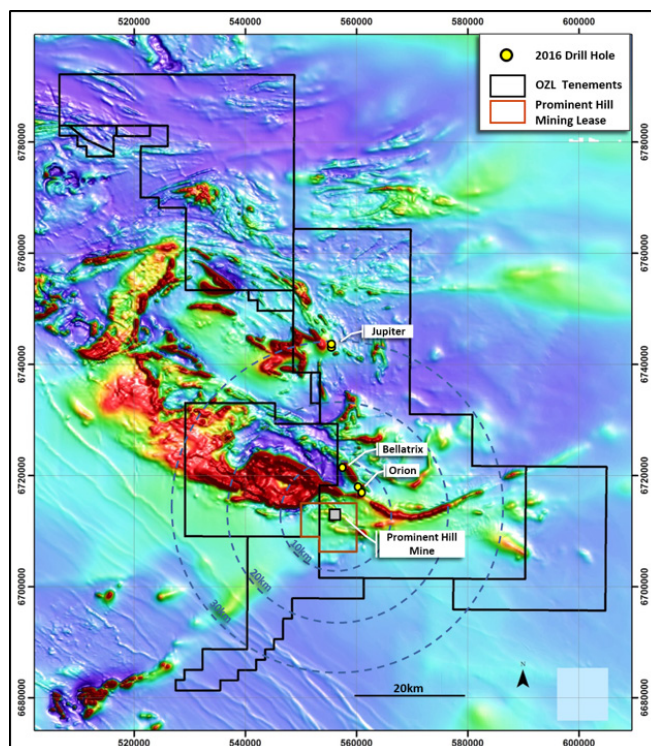


Figure 7: Location of drill holes testing Orion, Bellatrix and Jupiter EM targets; background image is RTP magnetics

Two holes were completed testing one of the Jupiter EM anomalies. One hole intersected ~20m wide zone of pyrrhotite-matrix breccia with minor chalcopyrite; assays returned 15m @ 0.21% Cu from 225m. The second hole may not have been drilled to the optimum depth as there is no obvious source of the EM conductor in the drill core.

The work confirms Minotaur's hypothesis that ISCG style mineralisation exists within the Mt Woods region. It is evident as pyrrhotite-chalcopyrite vein sets synchronous with late stage, brittle faults and can be successfully detected through cover using appropriate geophysical techniques. This 'ISCG proof of concept' encourages Minotaur and OZ Minerals to continue their activity into 2017.

## Gawler Ranges Project

EL 5232, 5708, 5709, 5710, 5743, 5887; Minotaur 100%, Area 2,700km<sup>2</sup>

Ongoing evaluation of real time assay and processed magnetic data acquired during the MSDP program.

## Border Base Metal JV

EL 5831, 4844, 5079, 5437 & 5502; Sumitomo 53.1%, Minotaur 46.9%, Area 1,126km<sup>2</sup>

Minotaur seeks to divest these tenements on behalf of the joint venture.

## Industrial Minerals Project

EL 5016, 5095, 5308, 5395, 5398, 5710, 5787, 5814, 5869, 5885 & ELA 5502, 2016/037, 2016/039, 2016/096; Minotaur 100%, Area 5,393km<sup>2</sup>

A number of research projects on potential new uses for high halloysite kaolin are being undertaken. Testwork through University of Adelaide Chemical Engineering Department on kaolin admixtures in concrete provided very encouraging initial results. High halloysite kaolin additive resulted in a significant increase in the compressive strength of concrete compared to low halloysite kaolin and to conventional strengthening filler such as silica fume.

The Company was awarded PACE drilling support for an investigation of groundwater brines in selected palaeochannels in the western Gawler Ranges and Coober Pedy areas. The study will look for evaporative concentration and pathways of key elements including potassium, magnesium and lithium sulphates.

Additional ground has been applied for in the Coober Pedy area where sulphate evaporative residues have potential for conversion to sulphate of potash.

## North Flinders Project

ELs 5542, 5723 & 5117; ML 4386; Minotaur 10%, Perilya 90%, Area 670km<sup>2</sup>

Infill XRF soil sampling was conducted at Ti-Tree Gorge prospect on EL5542. A narrow but coherent +1000ppm Pb-Zn soil anomaly is now well defined along 600m of strike. Perilya intends to follow-up with rock chip sampling.



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## WESTERN AUSTRALIA

### Scotia Project

E29/661; P29/2121; M24/336, M29/245 & M29/246; Minotaur Gold Solutions Ltd 100% (of which Minotaur 99%), Area 97km<sup>2</sup>

Documentation of the sale and purchase agreement for the Chameleon gold deposit (E29/661) is underway.

### Leinster Project

E37/909; M36/475; Minotaur 100%, Area 122km<sup>2</sup>

Minotaur seeks to divest these tenements and remain focused on copper-gold exploration in Queensland and South Australia. To that end, Minotaur invites buying interest in its package of nickel-gold prospective tenements south of Leinster.

## COMPETENT PERSON'S STATEMENT

Information in this report that relates to Exploration Results is based on information compiled by Mr G. Little, a Competent Person and a Member of Australian Institute of Geoscientists (AIG). Mr Little is a full time employee of the Company and has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity that 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 (JORC Code). Mr Little consents to inclusion in this document of the information in the form and context in which it appears.

The following significant announcements were lodged with ASX during the December Quarter:

- First assays for Iris copper prospect, Cloncurry (19 October 2016)
- 2.7km Conductive Trend, Iris-Electra, at Eloise JV (16 November 2016)
- Iris-Electra results confirm copper-gold potential (24 November 2016)
- Technical presentation by Tony Belperio, Executive Director (02 December 2016)

## INVESTMENTS

At the end of December 2016 Minotaur held listed company investments valued at market at \$1 million. Minotaur manages its position to take advantage of liquidity events.

### Andrew Woskett

*Managing Director*

Minotaur Exploration Ltd

T +61 8 8132 3400

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