# Geological consultant's review supports Vidalita interpretation 7 November 2018



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### **HIGHLIGHTS:**

- Geological consultant's review of Vidalita concluded:
  - o Geological features consistent with a dome-diatreme setting recognised
  - o High-sulphidation epithermal (HSE) mineralisation is preserved
  - Erosion is not deep much of the system is likely to be intact
  - o Remote sensing confirms alteration zones of interest, extending Vidalita prospectivity to the north and east
  - Precious metal polymetallic style of HSE identified
  - o High surface geochemistry likely to be locally derived
  - o Interpreted silicified, possibly mineralised. sub-vertical faults not yet drill tested
  - o Conductor mapped by IP strengthens to the north in areas yet to be tested by drilling
- Proposed drilling plans for 2018-19 season to address specific identified targets
- Prospectivity of areas not yet drill-tested have been enhanced by the review

# Review

A report prepared by a Chilean based geological consultant, with expertise in epithermal systems, contracted to undertake a geological review of exploration results from the 2018 season has been received. Assay data, both downhole and surface, drill core from Emu's aircore (AC) and diamond drilling campaigns, along with Aster satellite imagery, geological mapping, IP, and ground magnetic data were incorporated into the review. A summary of pertinent observations of that report follows.

# Interpreted geological setting

Vidalita Prospect lies in a favourable position at the south end of the main Maricunga segment of the Miocene age metallogenic belt of north Chile. This belt holds several styles of mineralisation, including porphyry gold-copper and high-sulphidation epithermal (HSE) gold-silver systems.

The setting is characterised by felsic domes on the flanks of strato-volcanoes, in what are shallowly eroded systems with preservation of high-level, steam heated, alteration. La Coipa, Esperanza, Salares Norte, and possibly Alturas are examples of this style. Whilst some mineralisation is structurally controlled, or even stratabound in volcaniclastic units (eg. Arqueros at Esperanza), a commonly recognised host are phreato-magmatic (ie. diatreme) breccias associated with the adjacent felsic domes.

### Local interpreted geological setting

The geological interpretation of AC core from the Vidalita drilling found three main units exist in the area, collectively representing good evidence for a felsic dome setting with possible associated diatremes:

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**Figure 1** Gold mineralised dacite porphyry with silicification overprint from the Alturas deposit (left) has direct equivalents at Vidalita (right – 1.21g/t gold in hole 5300-2 at 50m).



**Figure 2** Phreato-magmatic type breccias from hole 5700-1 (~135m), Vidalita Prospect.

- 1. **dacite flow-dome** units consisting of flow-banded and auto-brecciated feldspar-biotite-quartz dacite porphyry (Figure 1),
- 2. **phreato-magmatic type breccias:** massive, poorly sorted matrix-supported breccias with ragged juvenile clasts (Figure 2), and
- 3. **stratified felsic tuffaceous sequences** including finely laminated mudstones with pyritic bands showing abundant soft-sediment deformation textures.

### The role of structure

Vidalita lies in a complex zone of block faulting at the intersection of north-west to west-north-west and north-east striking structures (Figure 3). The role of these structures, particularly those bounding a mapped IP high conductivity zone, is not well understood and will be investigated with test drilling for discordant mineralisation, particularly in the tuffaceous sequences.

### Styles of mineralisation

Mineralisation and alteration styles observed in the core are classic HSE type with the better mineralised intercepts associated with vuggy-silica development within strong silica-alunite and alunite-dickite alteration zones.

Gold grades up to **8.4g/t** and silver up to **1,049g/t** (ASX announcement 5 October 2018) are closely associated with banded chalcedonic veining within silica-alunite zones. Petrographic work on this material highlighted possible fine electrum, a naturally occurring gold-silver alloy, as well as other silver minerals. High-grade gold bearing chalcedonic silica phases, up-grading early low-tenor gold mineralisation, are reported at Salares Norte, the chalcedony resulting from deposition of silica rich gold-bearing solutions.

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Precious metal intersections tend to be broadly accompanied by elevated lead, zinc, antimony, arsenic, and copper.

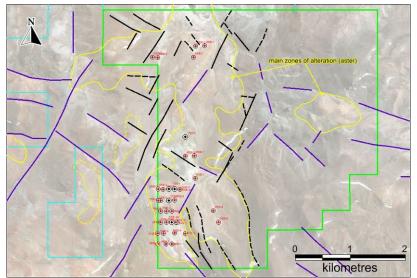
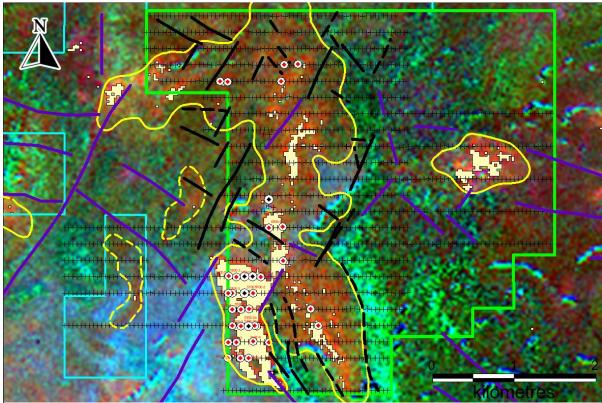


Figure 3 Interpreted structures in the Vidalita Prospect area. Existing drill hole collars shown.

### Levels of erosion and oxidation

It is interpreted that the HSE system at the Vidalita Project area is largely intact due to limited erosion. For this reason, there are reasonable grounds to conclude that any HSE mineralisation will be preserved.

Oxidation depths are variable, as is to be expected from an area with complex geology and structure. Oxidation depths in excess of 90m on faults or in vuggy silica zones would allow for sufficient thicknesses of oxidised mineralisation to be present.



**Figure 4** Aster imagery showing combination of Aster ratio 4/5, 5/6, 5/8 highlighted in yellow (R. Mitchell's advanced-argillic algorithm). This emphasises the most favourable alteration to lie in the SW corner of the Vidalita concession, with zones of interest in the north and east. Existing hole collars are indicated.

# Emu NL

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The results of the consultant's review adds support to the conclusions reached by the Company from the work completed to date.

Emu is on to a highly mineralised epithermal system that has considerable potential to host a large gold-silver-base metal deposit. Emu's plans for follow up drilling, as announced on 5 October 2018, will seek to realise that potential.

# **Investor enquiries:**

General Manager T+61 8 9226 4266 E info@emunl.com.au

# About the Vidalita and Jotahues Gold Projects, Maricunga Belt, Chile



Maricunga Belt: Host to Very Large Gold Deposits	
Salares Norte (Gold Fields)	<b>3.1 Moz Au</b> & 34 Moz Ag
La Coipa (Kinross, pre-mining)	<b>1.3 Moz Au</b> & 64 Moz Ag
Cerro Maricunga (Atacama Pacific)	<b>5.9 Moz Au</b> & 4 Moz Ag
Marte-Lobo (Kinross)	6.2 Moz Au
Maricunga Mine (Kinross)	6.3 Moz Au
Vidalita (Emu)	?? Au
Caspiche project (Exeter)	<b>19.8 Moz Au</b> & 40Moz Ag
Cerro Casale (Barrick/Kinross)	<b>25.4 Moz Au</b> & 43Moz Ag
Alturas (Barrick)	6.8 Moz Au

The Vidalita and Jotahues gold projects are located in the Maricunga gold belt in the Atacama Region in northern Chile hosting numerous world class gold and silver projects. Emu's projects cover an area of approximately 136 km² secured by mineral exploration concessions and host alteration and mineralisation that appear geologically similar to other high sulphidation gold deposits of the Maricunga gold belt. The projects are accessed using a network of roads that link Copiapó with the Refugio project (Kinross), Cerro Casale project (Barrick/Goldcorp) and the Caspiche project (Goldcorp). Refugio is located 30 km to the northwest of Vidalita.

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The Company holds an **Option** to acquire a 100% interest in certain of the Vidalita and Jotahues concession packages from two Chilean companies. Prospex SpA and BLC SpA.

The Prospex area covers six concessions at Vidalita and is subject to a 2% NSR on any production. The Option may be exercised in November 2019 on payment of US\$2M following expenditure of US\$1M, the issue of 2.5M Emu shares. If Emu defines: (i) 0.5Moz of gold in measured resources, a further 5M ordinary shares will be issued; and (ii) 1Moz of gold in measured resources, a further 5M ordinary shares will be issued.

The BLC SpA area comprises of three concessions (Jotahues and Vidalota A&B) and is subject to a 1% NSR. There is no Option payment to be made.

In addition, Emu has pegged a concession in its own right, Arroyo Ancho. Portions of this are subject to an area of influence inclusion into the Prospex Option.

Emu continues to look for new mineral exploration, development and mining opportunities within Australia and at various overseas jurisdictions.

#### Emu NL

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#### Fully paid shares (listed)

90,999,728 (inc. 4m which Emu can buy back for nil consideration)

#### **Contributing Shares (listed)**

33,668,824 paid to \$0.03, \$0.03 to pay, no call before 31/12/2018

#### **Options (unlisted)**

4,750,000 unlisted options, exercisable at \$0.10, expiring 20 December 2018 2,000,000 unlisted options exercisable at \$0.11 expiring 20 December 2018 300,000 options, exercisable at \$0.25, expiring 20 December 2018

#### **Directors:**

#### **Peter Thomas**

Non-executive Chairman

#### **Terry Streeter**

Non-Executive Director

### **Gavin Rutherford**

Non-Executive Director

### COMPETENT PERSON'S STATEMENT

Any details contained herein that pertain to exploration results, mineral resources or mineral reserves are based upon information compiled by Mr Marcus Flis, General Manager of Emu NL. Mr Flis is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM) and has sufficient experience in 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" (JORC Code). Mr Flis consents to the inclusion herein of the matters based upon his information in the form and context in which it appears.

### FORWARD LOOKING STATEMENTS

As a result of a variety of risks, uncertainties and other factors, actual events and results may differ materially from any forward looking and other statements herein not purporting to be of historical fact. Any statements concerning mining reserves, resources and exploration results are forward looking in that they involve estimates based on assumptions. Forward looking statements are based on management's beliefs, opinions and estimates as of the respective dates they are made. The Company does not assume any obligation to update forward looking statements even where beliefs, opinions and estimates change or should do so given changed circumstances and developments.