

# ASX announcement

6 May 2019

## TORRENS DRILLING Operational Difficulties Overcome

Argonaut Resources NL (ASX: ARE) (Argonaut or the *Company*) is pleased to announce that drilling contractors have overcome operational difficulties related to an artesian aquifer at the giant Torrens copper-gold anomaly at Lake Torrens in South Australia.

### Highlights

- Drilling at hole TD10 commenced on 24 April 2019.
- The artesian aquifer was intersected below 60m and the hole was cased below the aquifer to 108m.
- The casing was successfully grouted to surface by 30 April 2019.
- Drilling through cover formations below the aquifer continued from 1 May 2019.
- At the time of writing, drill hole TD10 is at 297m and the grouted casing has successfully sealed the artesian ground water.
- TD10 is targeting a coincident gravity-magnetic anomaly which has a broad surface projection area of 3 square kilometres (Figure 1).
- The modeled depth to the target zone is 1,200m.

## Background

- Drilling commenced at the Torrens anomaly on 20 January 2019.
- **Drill hole TD7** targeted a coincident gravity and magnetic anomaly with Iron Oxide Copper-Gold (IOCG) characteristics (Figure 1).
  - TD7 was successfully drilled to 859m.
  - TD7 intersected an encouraging 60m zone of hematite alteration within a broader magnetite skarn-like alteration zone, consistent with IOCG mineralisation.
  - TD7 drill core has been processed and submitted for assay.
- **Drill hole TD8** targeted a partially coincident gravity-magnetic anomaly.
  - TD8 was abandoned at 112m due to complications caused by a high-pressure, artesian aquifer.
- **Drill hole TD9** targeted a coincident gravity-magnetic anomaly (Figure 1).
  - TD9 was abandoned at 145m also due to complications caused by the same artesian aquifer.
- Drilling at **drill hole TD10** commenced on 24 April 2019.
  - Drilling recommenced after drill procedures and equipment were significantly amended.
  - TD10 is targeting the same anomaly as TD9 (Figure 1).
- The Torrens anomaly is an extensive series of gravity and magnetic targets located approximately 40km northeast of the spectacular Oak Dam West copper discovery, announced by BHP in November 2018.
- There are 28 distinct target zones within the broader Torrens anomaly. The anomaly has a footprint larger than Olympic Dam.

## Torrens Drilling

A heli-portable drilling rig capable of drilling deep, cored holes in remote locations is drilling from custom-made pontoons, designed to protect the salt crust and support the drilling rig. Holes will be drilled to depths of between 800 and 1,500m into dense, iron-rich rocks, interpreted to contain copper and gold mineralisation.

The program is targeting geophysical anomalies that have the properties of the Oak Dam West, Olympic Dam and Carrapateena copper deposits.

## The Torrens Anomaly

The Torrens anomaly is a complex series of magnetic and gravity anomalies with a footprint larger than that of Olympic Dam. The anomaly is located over the Torrens Hinge Zone, a continent-scale zone of crustal weakness that appears to have been a conduit for mineralising fluids from the Earth's mantle.

Drilling of the Torrens anomaly by Western Mining Corporation in the late 1970s and by the Torrens Joint Venture in 2007 and 2008 confirmed the existence of a major iron oxide copper-gold mineralising system beneath several hundred metres of sedimentary cover.

More drilling is required to intercept the modelled copper-gold mineralisation. In the event of a discovery, Torrens has the potential to host a world-class copper-gold deposit.

## The Torrens Joint Venture

The Torrens Joint Venture is between Argonaut Resources NL and AERIS Resources Limited (ASX: AIS) and relates to the Torrens Project, EL5614.

The Torrens Joint Venture is exploring for iron oxide-copper-gold systems in the highly prospective Stuart Shelf region of South Australia. The Torrens Project is located near the eastern margin of South Australia's Gawler Craton (Stuart Shelf), within 40 kilometres of BHP's Oak Dam West copper discovery, 50 kilometres of Oz Minerals' Carrapateena copper-gold deposit and 75 kilometres from BHP Billiton's Olympic Dam mine (Figure 2).

In its role as manager of the joint venture, Argonaut's wholly owned subsidiary, Kelaray Pty Ltd, secured access to the tenement in difficult circumstances for a drilling program targeting areas which have been geophysically modelled as having the physical properties of large iron oxide-copper-gold deposits. In September 2018, Argonaut's partner, AERIS Resources, took over as manager of the joint venture.

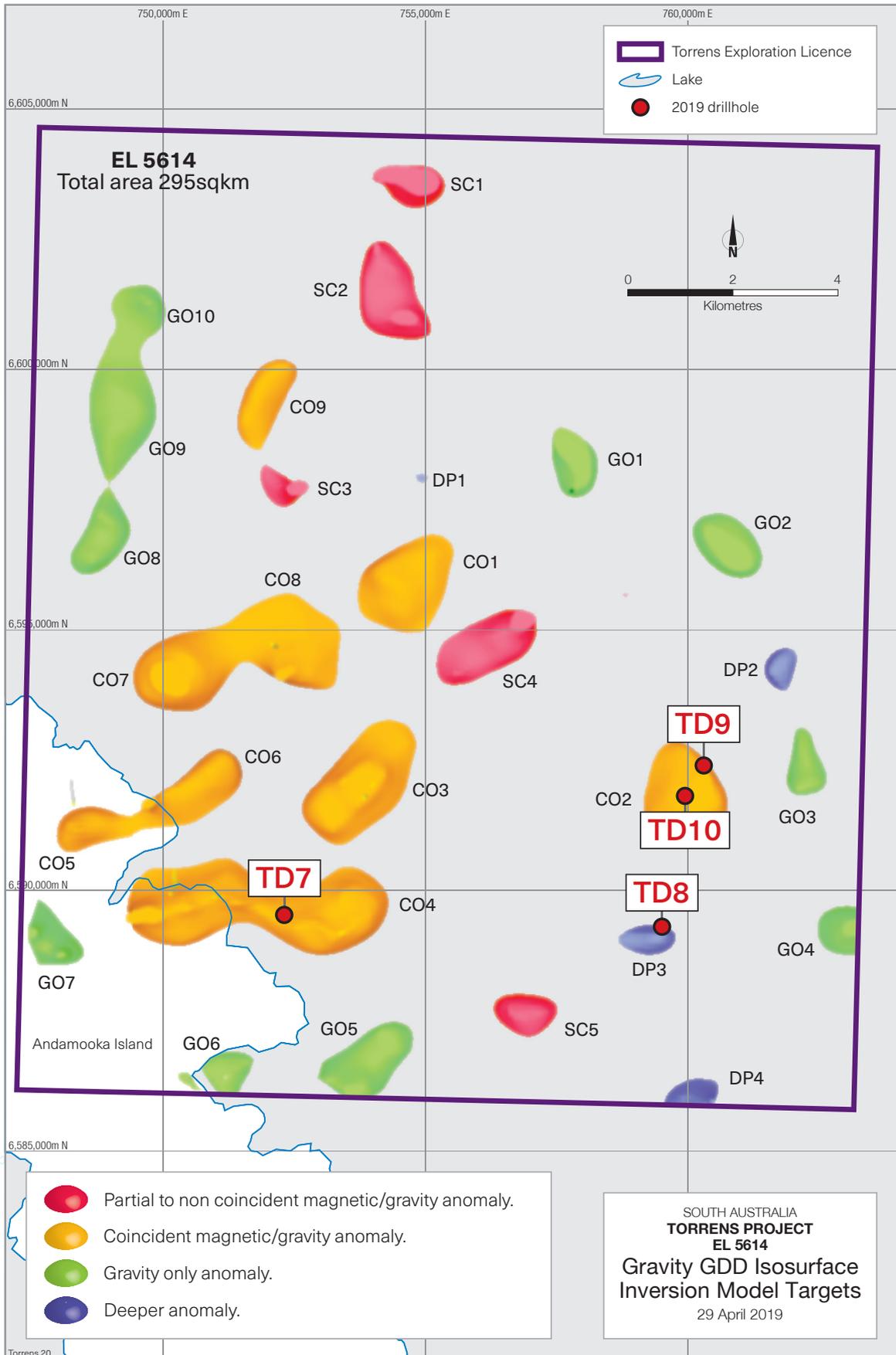


Figure 1 Gravity inversion model targets by category.

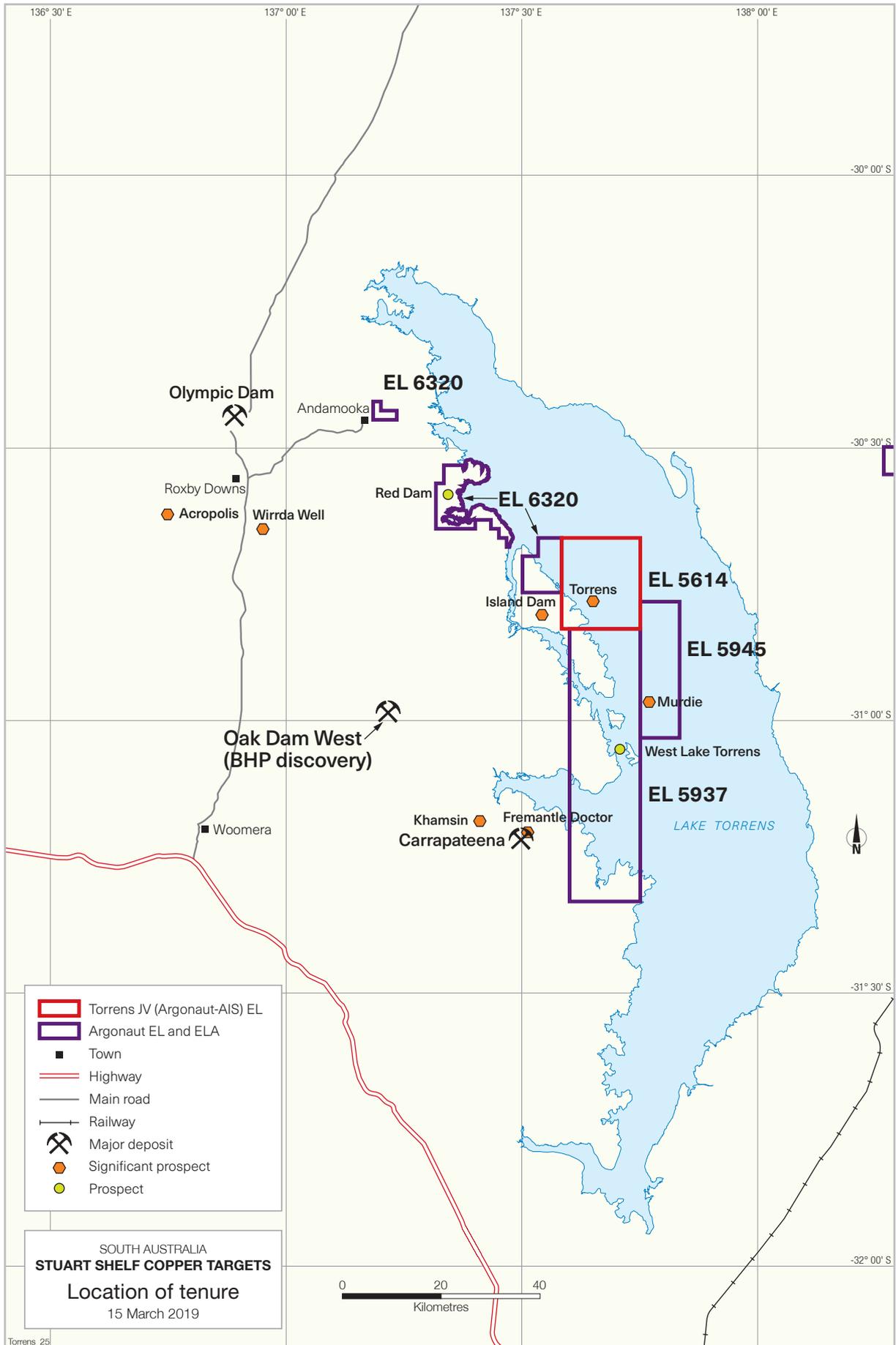


Figure 2 Torrens Project, copper mines and prospects, Stuart Shelf, South Australia.

## About Argonaut

Argonaut has a commanding land position in the area surrounding Torrens, Olympic Dam and BHP's recently discovered Oak Dam West.

## Murdie, South Australia

*(Argonaut 100%)*

Argonaut Resources holds two highly prospective exploration licences, EL5937 and EL5945 (Figure 2). The licences are contiguous with the Company's Torrens joint venture project in South Australia. The licence areas encompass a confirmed IOCG target in an area known as Murdie as well as a second anomaly at West Lake Torrens.

The licences cover an area of 1,015 square kilometres and are located immediately south and east of the Torrens project and east of the Carrapateena deposit (Figure 2).

The Murdie and West Lake Torrens targets constitute excellent exploration opportunities in their own right and provide Argonaut with a commanding land holding in the event of a discovery at Torrens.

Argonaut's subsidiary, Kelaray, has been granted native title authority to access the Murdie and West Lake Torrens targets.

Initial geophysical modelling of the Murdie and West Lake Torrens targets was completed earlier in 2019. This modelling has succeeded in defining target areas to a resolution suitable for drilling. The modelling also defined a substantial number of new gravity-only targets, along the lines of the anomalies that led to the discovery of Oak Dam West and Carrapateena.

An Exploration Program for Environment Protection and Rehabilitation (E-PEPR) for exploration activities including ground gravity surveys and diamond drilling at Murdie is nearing completion. The Murdie E-PEPR will be submitted in the June quarter.

## Red Dam, South Australia

*(Argonaut 100%)*

Argonaut was recently granted exploration licence EL6320 located adjacent to the Torrens Project in South Australia (Figure 2). The 198 square kilometre licence area is in three parts and encompasses the Red Dam IOCG target, previously identified by WMC. The licence areas were relinquished by BHP prior to the announcement of the Oak Dam West discovery.

Argonaut has assessed the relevant, historical drill core and plans to acquire additional gravity data to improve resolution for geophysical modelling and resultant target generation.

### **Lindsay Owler**

CEO and Director

ARGONAUT RESOURCES NL

*Sections of information contained in this report that relate to Exploration Results were compiled or supervised by Mr Lindsay Owler BSc, MAusIMM who is a Member of the Australasian Institute of Mining and Metallurgy and is a full-time employee of Argonaut Resources NL. Mr Owler holds shares and options in Argonaut Resources NL, details of which are disclosed in the Company's 2018 Annual Report. Mr Owler has sufficient experience which is relevant to the style of mineral deposits 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 Mineral Resources and Ore Reserves". Mr Owler consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.*