

ASX announcement

17 May 2021

Murdie Project: Iron Oxide Copper-Gold Alteration System Intersected

Argonaut Resources NL (ASX: ARE) (*Argonaut or the Company*) is pleased to announce that drill hole WLTD001 has intersected a highly prospective iron oxide copper-gold (IOCG) alteration system.

Highlights

- The first hole of the current program, WLTD001, intercepted an IOCG alteration system which confirms the prospectivity of the West Lake Torrens gravity anomaly.
- The intensity of alteration indicates that WLTD001 is 300 to 1,000m from possible copper mineralisation.
- Critical prerequisites to the discovery of an IOCG deposit were confirmed:
 - the same brecciated, hematite alteration system as Olympic Dam, Carrapateena and Oak Dam;
 - preservation, rather than erosion, of the IOCG system; and
 - intersection at approximately the correct level within the system.
- WLTD001 intercepted basement at 730m and was drilled to a depth of 924m.
- Mobilisation to the second drill target, Smith Dam 2 (Figure 3), is in progress.
- Drilling is targeting IOCG mineralisation defined by large gravity anomalies.



WLTD001, 897-899m, Murdie Project: IOCG-style hematite alteration and brecciation.

Confirmation of IOCG Geology

Argonaut pleased by the presence of an IOCG alteration system in the basement rocks of the West Lake Torrens gravity anomaly.

Basement rocks feature pervasive hematite, sericite(?) and chlorite alteration minerals, i.e. the same alteration assemblage as seen at Olympic Dam, Carrapateena and Oak Dam.

The system is intermittently brecciated (Photo 1). Brecciation is the breaking of rock into fragments that are then re-cemented by a matrix, in this case an iron-rich matrix (Photo 1). This process is generally considered to be a prerequisite to IOCG mineralisation.

“This was the first ever drill hole into the West Lake Torrens gravity anomaly, and we have now established that the basement rocks host a prospective, hematite-rich IOCG system. This is very encouraging to the team. It is the perfect time in the commodities cycle to be drilling for large, high-grade copper deposits.”
Lindsay Owler, Argonaut CEO

The system appears not to have been subject to destructive, ancient erosion. The upper, prospective portion of the IOCG system appears to have been preserved.

Drill hole WLTD001 intercepted the IOCG alteration at approximately the level within a system that possible economic IOCG mineralisation would be expected to occur.

The intensity of alteration indicates that WLTD001 was 300 to 1,000m from possible copper mineralisation. The host rock of the system is an interpreted mafic volcano-sedimentary unit, possibly of the Wallaroo Group. No significant copper mineralisation is visible in the drill core. The density of this hematite-altered rock accounts for the Smith Dam 1 residual gravity anomaly (Figure 3).

Gravity

Gravity surveying and progressive modelling and re-modelling of high-density drilling targets is proceeding. The gravity acquisition crew is currently working south of the West Lake Torrens anomaly and directly east of the Carrapateena mine (Figure 1) within EL 5937.

Drilling

WLTD001 was first hole of an initial 4-5 hole program and it targeted a residual gravity anomaly called Smith Dam 1 (Figure 3). This drill hole was drilled to a total depth of 924m. The drill hole has been logged and basement core will soon be transported off-site for cutting and analysis.

The drilling rig is currently being moved to a protective platform that is positioned over a residual gravity target called Smith Dam 2 (Figure 3). This is the site of the second drill hole, WLTD002.

Drilling is being conducted 24/7 in two daily shifts.

Drill Hole	Easting*	Northing*	Dip	Azimuth	Total Depth
WLTD001	757,090mE	6,554,800mN	-90 degrees	N/A	924m

* GDA94, MGA Zone 53

Drilling Targets

The Murdie exploration licences covers two largescale, regional gravity anomalies – West Lake Torrens and Murdie (Figure 1). These anomalies represent locations with significant volumes of high-density rock that could contain economic IOCG deposits. Efforts are being focused on the West Lake Torrens anomaly.

Argonaut has identified seven excellent drilling targets at the West Lake Torrens anomaly. Drilling targets located near the shoreline of Lake Torrens are shown on Figure 3 as Smith Dam 1 to 4. Offshore targets are labelled Crystal Dam 1 to 3.

Argonaut is drilling Smith Dam 1 and Smith Dam 2 first. Other targets will be prioritised on the basis of results.



The protective accessway from the shore of Lake Torrens to drill hole WLTD002, Murdie project.

Gravity Anomalies

A volume of high-density rock causes a measurably higher gravitational pull at surface and this manifests as a gravity anomaly. Therefore, mineral explorers can use gravity surveys as a means to define gravity anomalies and potentially discover dense orebodies.

IOCG orebodies contain high concentrations of iron and copper minerals making them particularly dense.

West Lake Torrens Bouguer Anomaly

The West Lake Torrens anomaly is a regional gravity anomaly (Figure 2). This type of anomaly is typically displayed as a “bouguer” gravity anomaly. The peak of the West Lake Torrens bouguer anomaly is 7 milligals above background levels.

Residual Gravity Targets

Initial 2021 drilling by Argonaut at the Murdie project is targeting “residual” gravity anomalies within the wider West Lake Torrens anomaly (Figures 2 and 3).

The residual gravity targets shown in Figure 3 are 0.85 to 1.15 milligals above the regional gravity anomaly¹.

Judicial Review Application

On 16 March 2021, the Barngarla Determination Aboriginal Corporation RNTBC (BDAC) filed an application in the South Australian Supreme Court for a review of the authorisation announced to the ASX by Argonaut on 4 January 2021.

On 29 April 2021, lawyers for the Barngarla applied for an adjournment which was subsequently granted. This adjournment caused the court to vacate the planned hearing date of 5-6 May 2021. The hearing is now scheduled to proceed during July 2021.

The Company notes that there are no registered Barngarla heritage sites at Lake Torrens.

Exploration works being undertaken at the Murdie project have been duly authorised. The Company is confident that the State’s authorisation process was robust.

¹ Measured via the subtraction of the 0.5km upwards continuation of the West Lake Torrens bouguer anomaly.

Murdie, South Australia

Argonaut Resources holds two highly prospective South Australian exploration licences, EL5937 and EL5945 (Figure 1). The licences are contiguous with the Company's Torrens project in South Australia. The licence areas cover a confirmed IOCG target in an area known as Murdie as well as a second anomaly at West Lake Torrens. There are 54 known residual gravity targets within the area.

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 mine (Figure 1).

This report is authorised for release by:

Lindsay Owler

Director and CEO

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 2020 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.

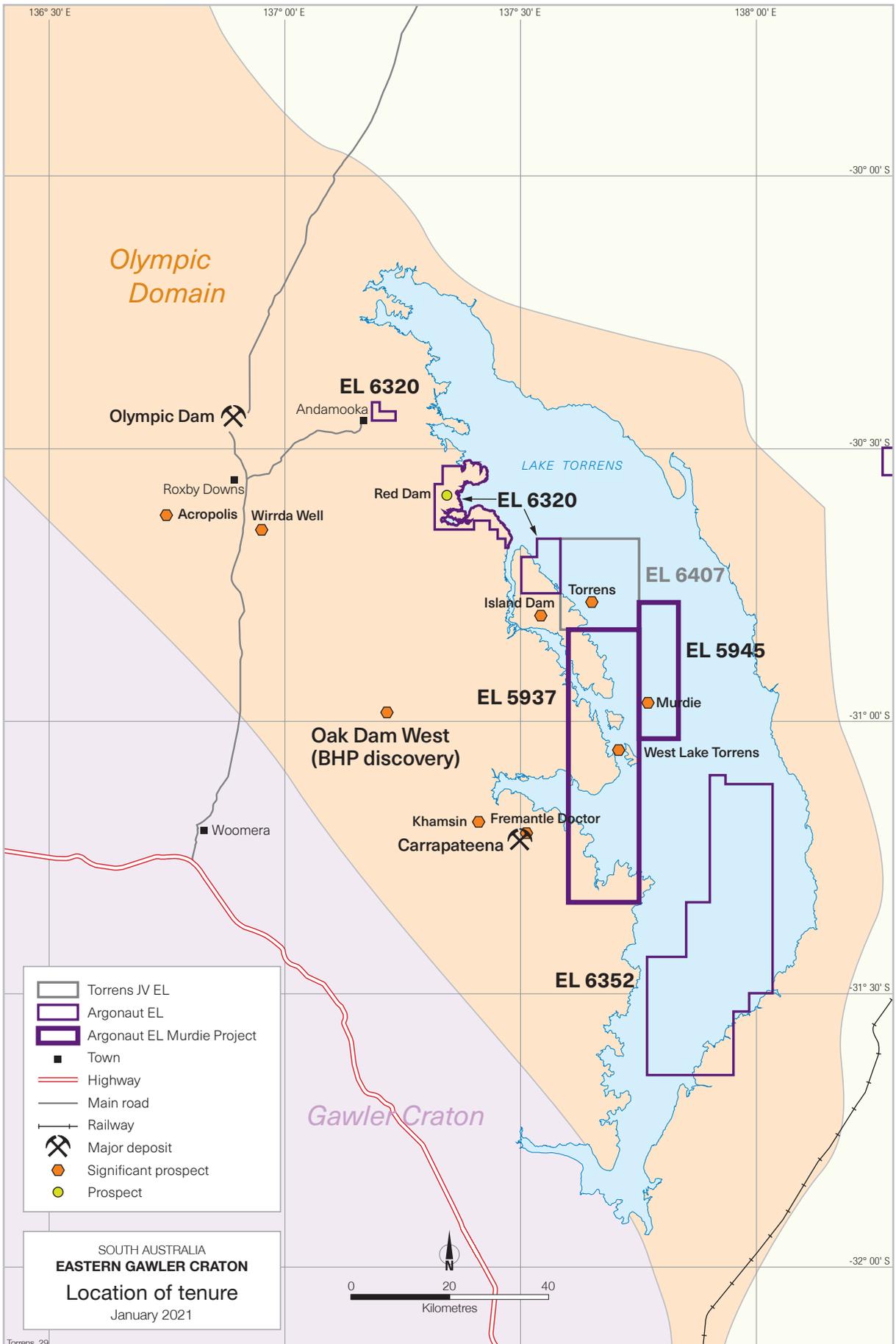
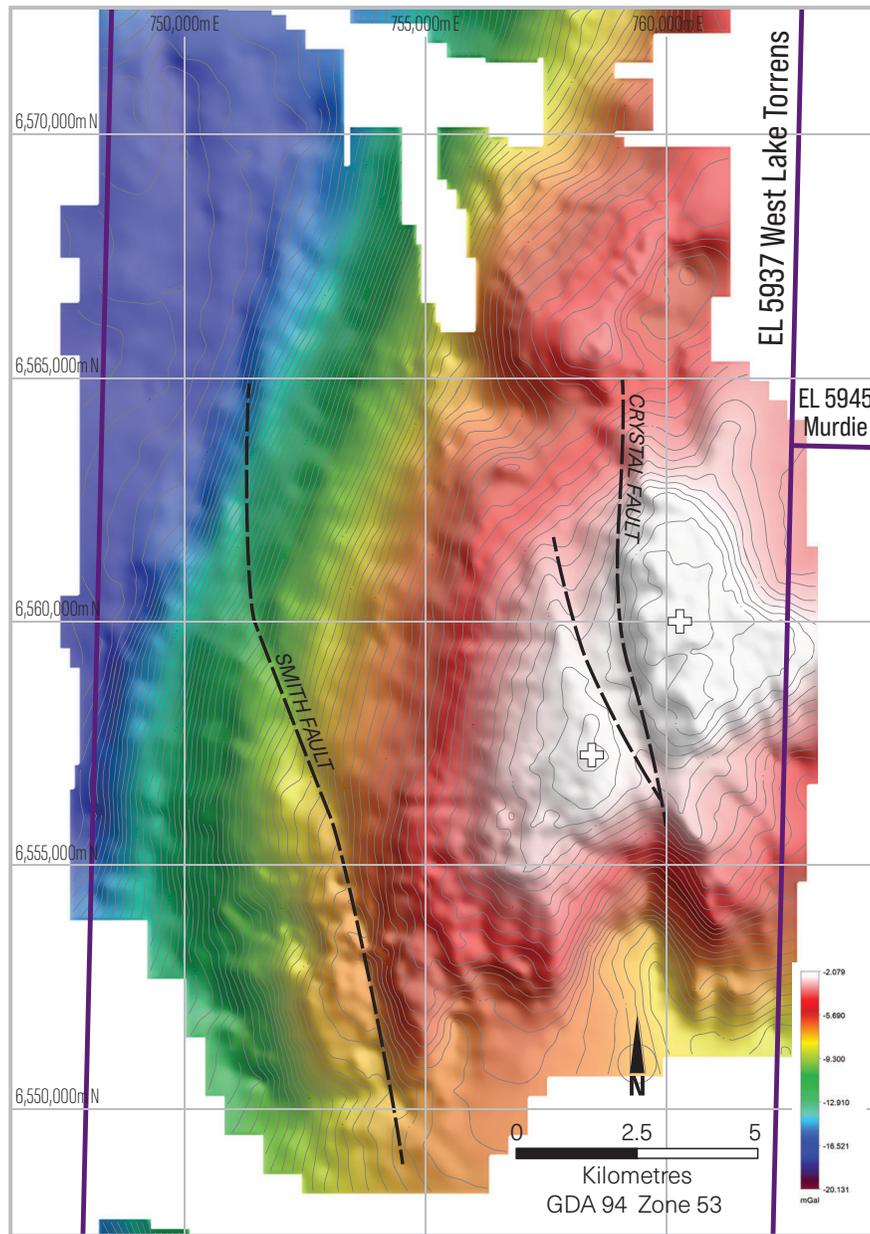
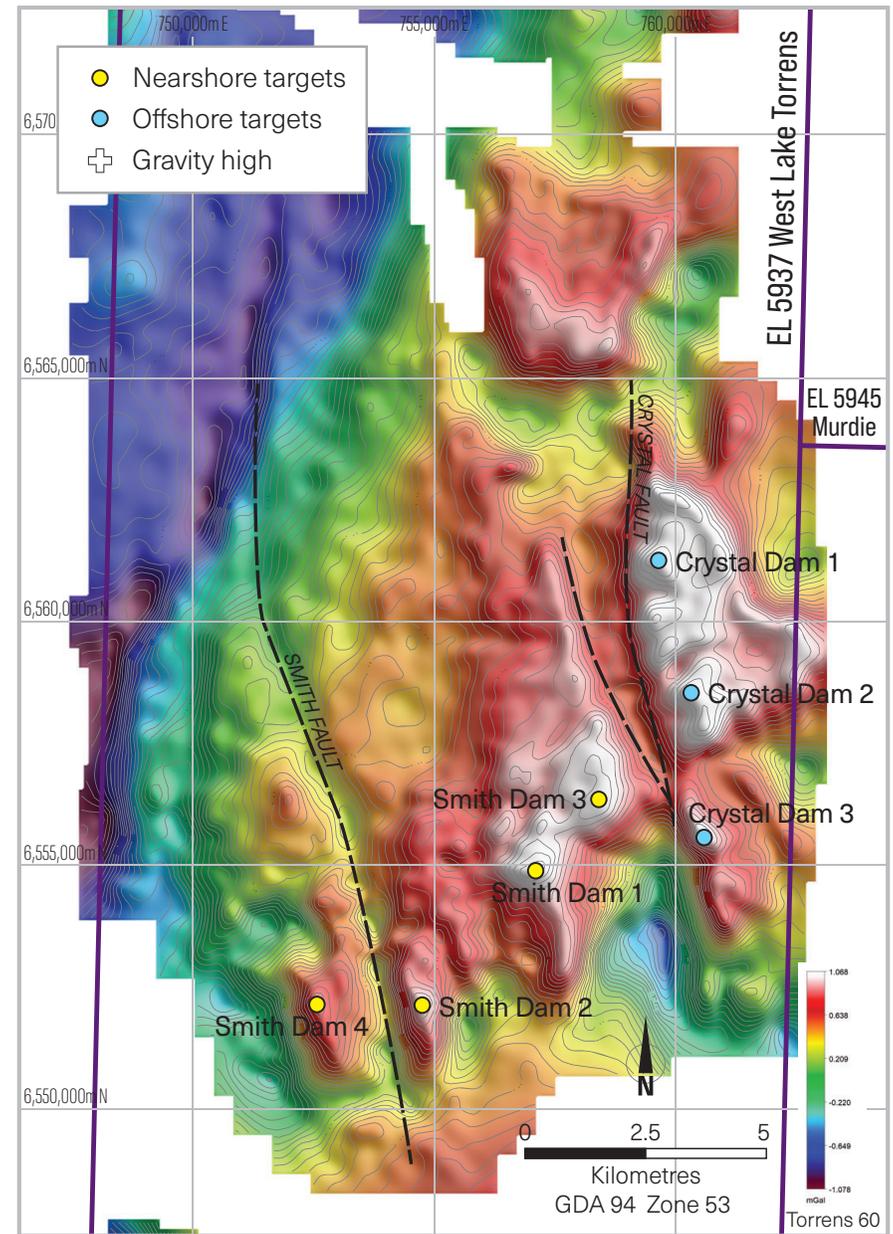


Figure 1 Lake Torrens exploration licences.



WEST LAKE TORRENS
Bouguer gravity anomaly

Figure 2 West Lake Torrens bouguer (regional) gravity anomaly.



WEST LAKE TORRENS
Residual gravity anomalies and drilling targets

Figure 3 West Lake Torrens residual gravity anomalies and drilling targets.