

# ASX announcement

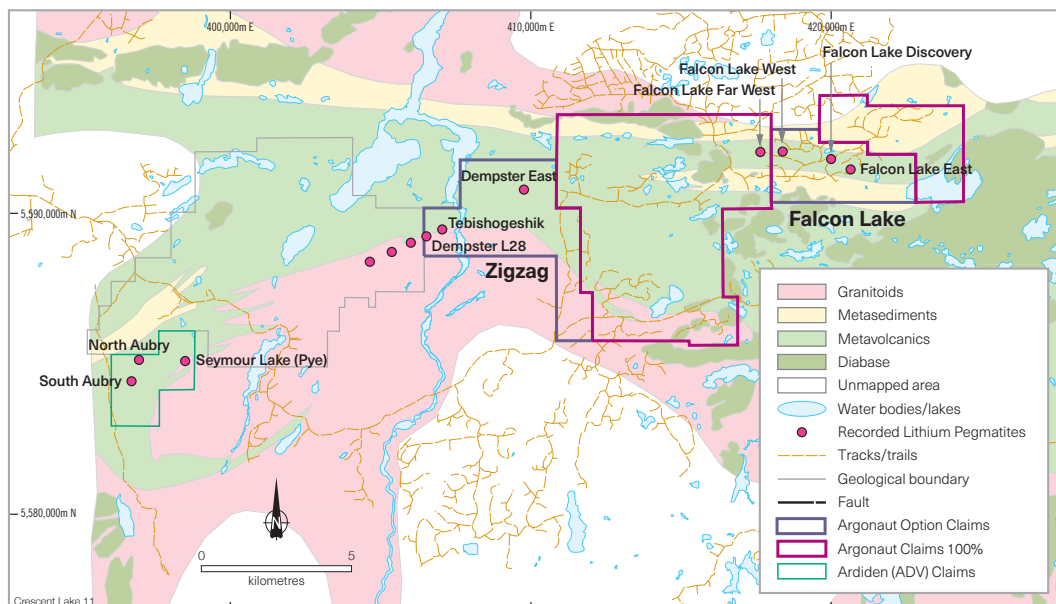
11 JULY 2016

## Crescent Lake Drilling Intercepts Thick Spodumene Pegmatites

Argonaut Resources NL (ASX: ARE) (*Argonaut* or the *Company*) is pleased to announce the completion of the initial drilling program at its Crescent Lake project in Ontario, Canada.

### Highlights

- A six-hole program of drilling at the Falcon Lake West deposit (Figure 1) has been completed.
- Drilling has succeeded in intercepting two adjacent spodumene bearing pegmatite units with thicknesses of up to 24m and 11m.
- Spodumene mineralisation is found throughout the drill core and varies in concentration from moderate to intense.
- All drill core has been cut and submitted for assay. Argonaut expects to report analytical results in three weeks.
- Visual assessment of mineralisation and thickness provides encouragement for further exploration in the Crescent Lake area.



**Figure 1** Crescent Lake claim locations, spodumene pegmatite occurrences and geology.

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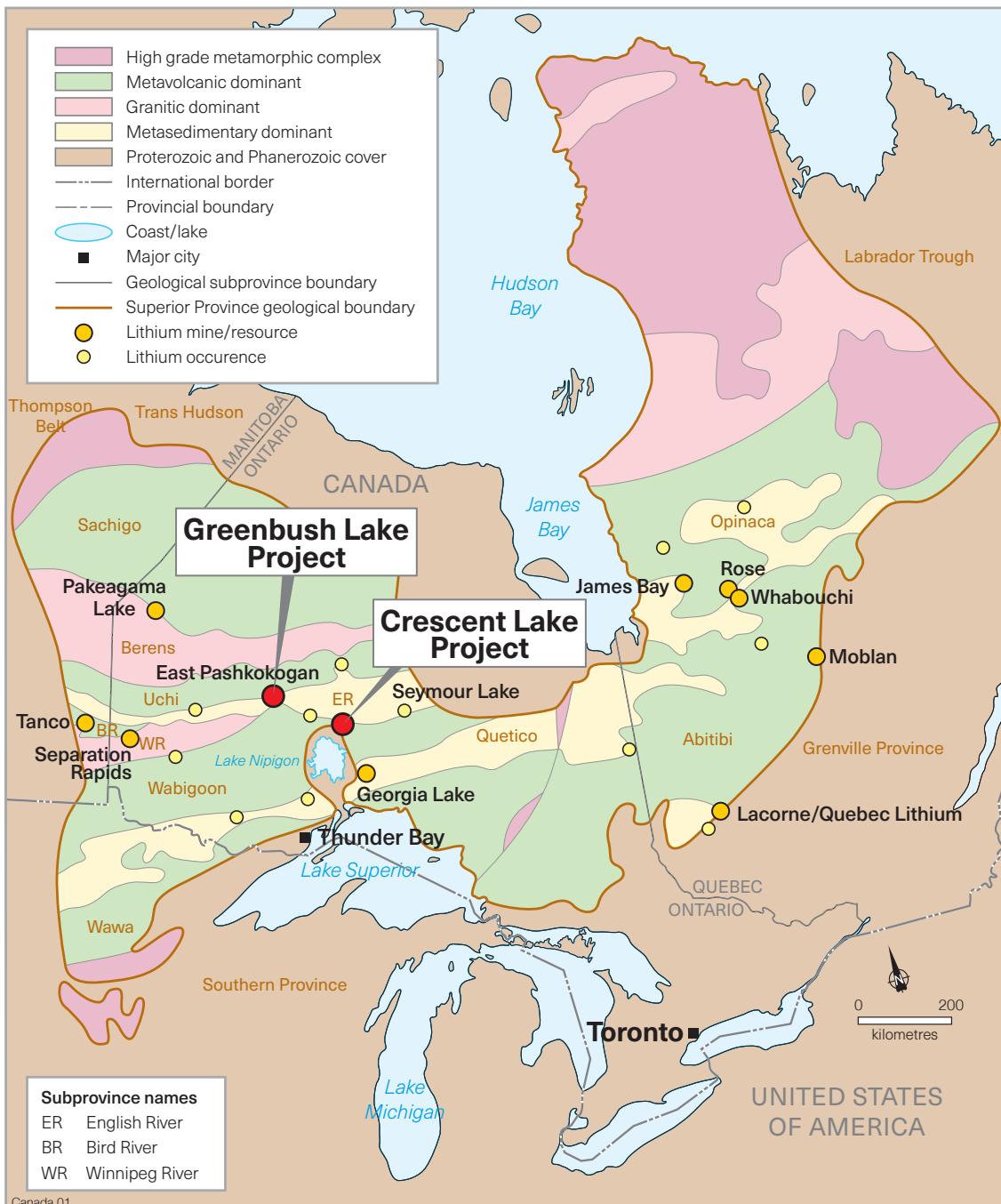
# Crescent Lake Drilling

Crescent Lake is located 250km NNE of Thunder Bay in Ontario, Canada (Figure 2).

Following the grant of a required permit for the conduct of drilling at the Crescent Lake project area, Argonaut commenced a six-hole program of diamond core drilling at the Falcon Lake West deposit. The program targeted two pegmatite units, one of which outcrops boldly (Plate 1). Spodumene mineralisation is clearly evident in outcrop (Plate 2).

The program confirmed the presence of the two targeted spodumene bearing pegmatites. The lower pegmatite unit is up to 24m thick (Plate 3) and the upper pegmatite unit is up to 11m thick. Spodumene mineralisation was logged throughout the pegmatite intervals. Spodumene concentrations vary from moderate to intense (Plate 4).

The drilling program has now been completed and all mineralised core has been cut. Samples have been submitted for analysis and Argonaut expects to report analytical results in three weeks.



**Figure 2** Geology of the Superior Province, Canada, showing Greenbush Lake, Crescent Lake and regional lithium occurrences.

## Structural Geology

Pegmatite emplacement and geometry is strongly influenced by structural geology. Argonaut engaged an international structural geology expert to consider the spodumene pegmatites at Crescent Lake. The resultant report has outlined two elongate zones that warrant detailed exploration for undiscovered pegmatites.

Argonaut is planning an exploration program to investigate these target zones with a view to adding to the inventory of lithium mineralisation already outlined at the Crescent lake project. Contingent drilling to define pegmatite thicknesses and grades is intended to follow this near-term program.



**Plate 1** *Outcropping spodumene bearing pegmatite at the Falcon Lake West deposit.*



**Plate 2** Large laths of spodumene (parallel and oblique to image) in Falcon Lake West outcrop.



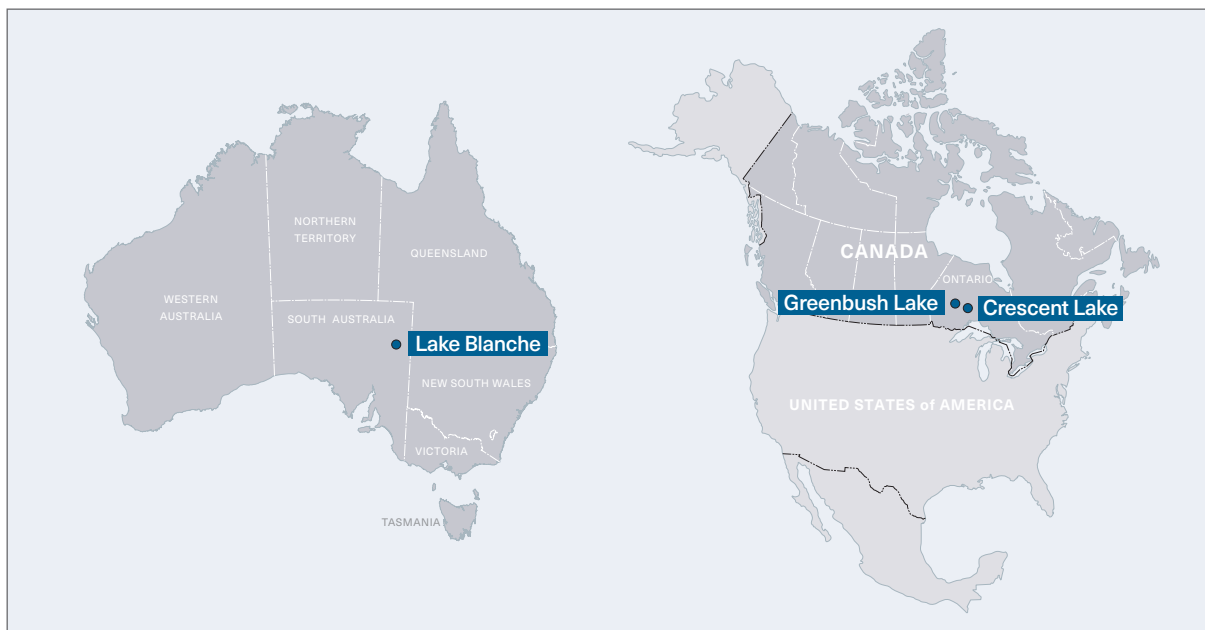
**Plate 3** Spodumene bearing pegmatite core from the Falcon Lake West deposit. Core trays 1.5m in length.



**Plate 4** Intense spodumene mineralisation (white mineral oblique to core axis) in Falcon Lake West core.

## Background

Argonaut is focused on fast-tracking development of its lithium assets. The Company now has rights to two Canadian projects and one South Australian lithium exploration target.



**Figure 3** Argonaut lithium project locations.

### Crescent Lake Project, Canada (Argonaut acquiring 100%)

On 4 March 2016, Argonaut released details of the acquisition of the Falcon Lake and Zigzag blocks within the Crescent Lake Lithium Project area in Ontario, Canada (Figure 1).

Argonaut later announced that it had pegged additional claims in the area between Falcon Lake and Zigzag (Figure 1). These 100% held claims cover prospective, underexplored areas.

Highlights of previous drilling at the Crescent Lake Lithium Project, released to the ASX on 11 March 2016, include:

#### **Falcon Lake Area**

- **8.1m at 1.48% Li<sub>2</sub>O** from 2.7m in drill hole W-3
- **10.5m at 1.15% Li<sub>2</sub>O** from 34.5m in drill hole W-9
- **14m at 0.99% Li<sub>2</sub>O** from 69.3m in drill hole CO-10-001
- **7m at 1.07% Li<sub>2</sub>O** from 55.3m in drill hole CO-10-002
- **11m at 1.10% Li<sub>2</sub>O** from 39.4m in drill hole CO-10-003

#### **Zigzag Area**

- **6.1m at 1.08% Li<sub>2</sub>O** from 12.4m in drill hole CO-10-007

Other Crescent Lake Lithium Project highlights include:

- Adjacent 23m and 10m thick pegmatites at Falcon Lake West deposit.
- Three to four stacked spodumene bearing pegmatites over 670m at the Tebish occurrence.
- The deposits are hard-rock pegmatite deposits containing spodumene mineralisation.
- The areas surrounding these known deposits are yet to be systematically explored.
- There is excellent potential to define deposit extensions and additional deposits.
- The deposits are well located, close to the North American rail network and a major port.

## Greenbush Lake, Canada (*Argonaut 100%*)

The Greenbush Lake Project is located approximately 150km north-west of Argonaut's Crescent Lake Lithium Project in Ontario, Canada (Figure 2) and features a large, outcropping spodumene pegmatite with grades of up to 2.46% Li<sub>2</sub>O within an area confirmed as having the requisite geological components for lithium pegmatite emplacement.

The known lithium pegmatite occurrence is 15m wide by 30m in exposed strike length. The actual strike length of the known pegmatite has not yet been determined as the exposure continues under thin sedimentary cover to the north and under lake waters to the south. The pegmatite has not been drilled.

Argonaut purchased a 100% interest in three mineral claims for CAD100,000. The claims are subject to a 2% net smelter royalty.

Three phases of exploration have been undertaken in the area of the lithium occurrence.

1. The Ontario Department of Mines discovered the pegmatite around 1965 and took a chip sample across the full width (50 feet) of the outcrop. Analysis of the chip sample returned 1.25% Li<sub>2</sub>O.
2. Placer Development Ltd explored the area for tantalum in 1980. A magnetic survey attempting to define the extent of the pegmatite was unsuccessful, however an assay of the outcrop returned 2.46% Li<sub>2</sub>O.
3. Canadian Orebodies Inc. undertook an exploration program in 2009. Highlights of a rock-chip sampling program are shown in Table 1.

**Table 1** 2009 Rock-chip sample highlights, Greenbush Lake Project

Description	Li <sub>2</sub> O (%)
Outcrop	1.19
Float	1.96
Float	0.85
Float	0.95
Outcrop	1.58

## Lake Blanche, South Australia (*Argonaut 100%*)

On 4 April 2016, Argonaut announced it has secured two exploration licences covering Lake Blanche, a salt lake with the potential to host lithium brines and potash in the north of South Australia.

Lake Blanche is a closed to restricted basin covering an area of 1,700 square kilometres. The licence areas cover almost 2,000 square kilometres. The lake has a broad catchment that includes the Mt Babbage and Mt Painter Inliers which are recorded as containing elevated rare elements including lithium and tantalum (Figure 4).

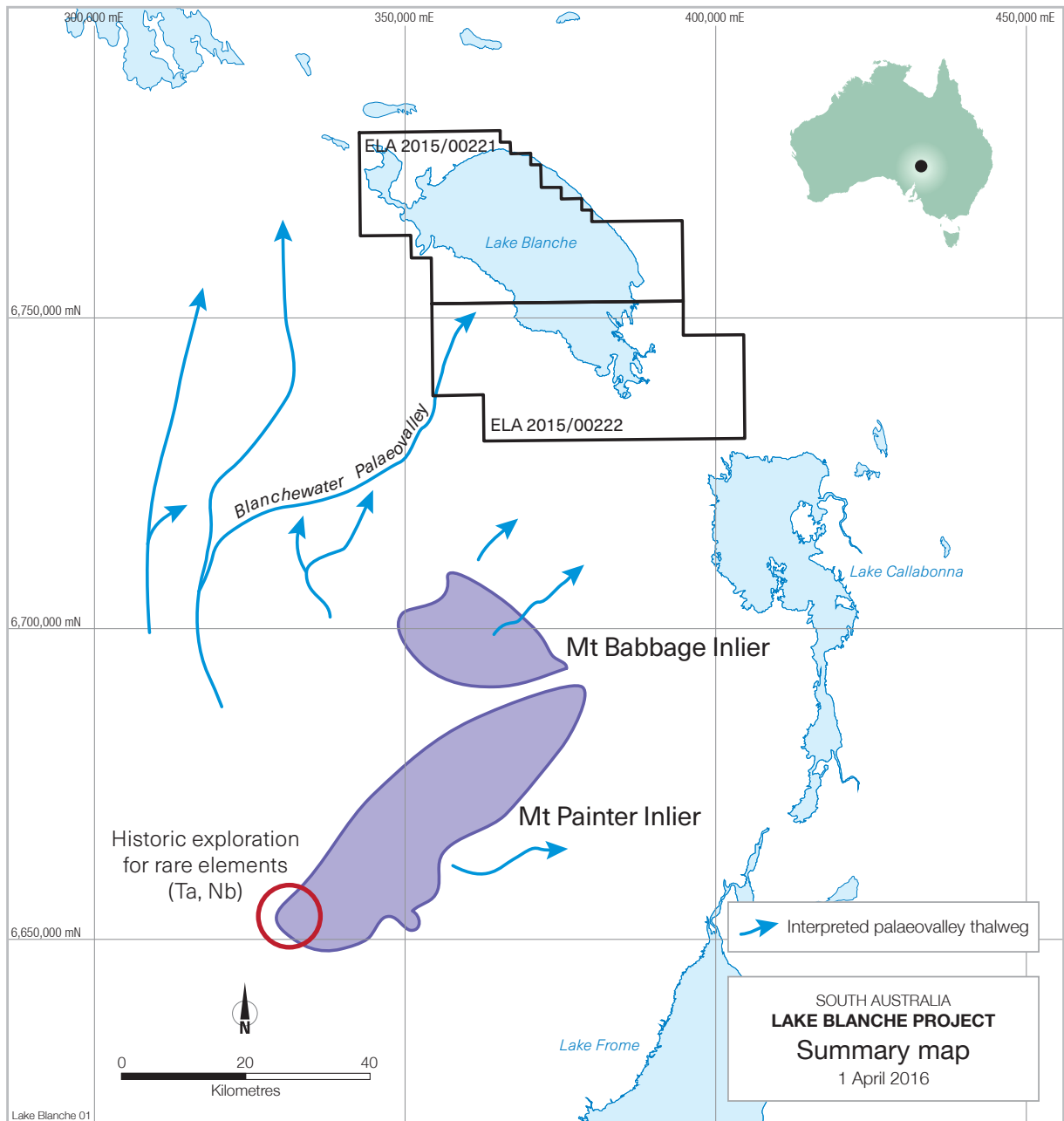
Figure 4: Lake Blanche and exploration licence locations with relevant geological/hydrological features

Economic concentrations of lithium in brine generally occur in circumstances where ground waters percolate through neighbouring lithium bearing rocks into a closed, continental basin that has not been subject to marine flooding throughout its geological history. These geological criteria appear to be met at Lake Blanche.

An arc of lakes, including Lake Blanche, to the north of the Flinders Ranges has been independently defined as prospective by Geoscience Australia in a 2013 report titled 'A Review of Australian Salt Lakes and Assessment of their Potential for Strategic Resources'. Argonaut, having assessed the potential of each lake on merit, determined that Lake Blanche has the best potential for economic lithium grades.

In the event economic concentrations of lithium are contained in Lake Blanche's brines, the lake has the potential to be an internationally significant source.

No previous lithium brine exploration has been recorded in the Lake Blanche area although historic brine exploration has been undertaken at Lake Frome, to the southeast.



**Figure 4** Lake Blanche and exploration licence locations with relevant geological/hydrological features.

**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 2015 Annual Report and an announcement to the ASX dated 23 May 2016. 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.