

ASX announcement

19 APRIL 2016

Argonaut Builds Lithium Portfolio with Second Canadian Acquisition

Argonaut Resources NL (ASX: ARE) (*Argonaut* or the *Company*) is pleased to announce it has agreed to purchase the Greenbush Lake Lithium Pegmatite Project. The project features a large outcropping pegmatite with rock-chip samples of up to 2.46% Li₂O. Greenbush Lake is located 150km west-northwest of Argonaut's Crescent Lake Lithium Project.

Highlights

- Argonaut has agreed to purchase the Greenbush Lake Lithium Pegmatite Project.
- The project has confirmed high grades from existing rock chip samples. These include **2.46% Li₂O, 1.96% Li₂O and 15m (50 feet) at 1.25% Li₂O.**
- The geological setting makes the area highly prospective for the definition of further lithium-bearing pegmatites.
- This is the **second Canadian lithium project** secured by Argonaut and the **third lithium project** in the Company's portfolio.
- The lithium prices continue to surge with **strong North American demand** from the electric car sector confirmed in recent weeks.

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Greenbush Lake, Canada (Argonaut acquiring 100%)

The Greenbush Lake Lithium Pegmatite Project is in Ontario, Canada, and features a large, outcropping spodumene pegmatite with grades of up to 2.46% Li_2O 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.

There is excellent potential to define:

- strike extensions to the known mineralised pegmatite;
- related stacked pegmatites; and
- additional lithium bearing pegmatites.

The property has not been explored by modern, systematic means.

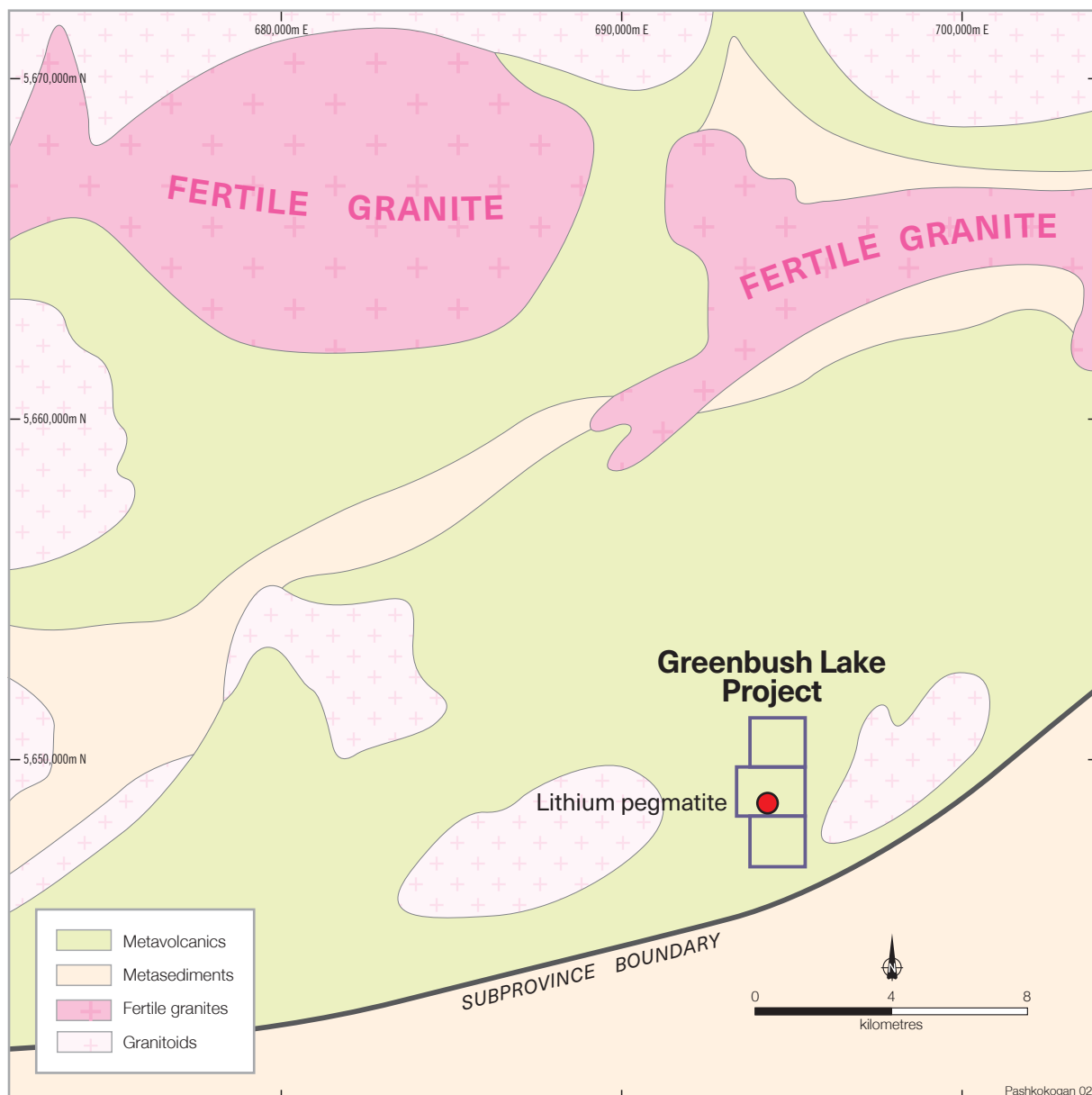


Figure 1 Greenbush Lake: Claim location and economic geology.

The exposed pegmatite is known as the *East Pashkokogan Lake occurrence* and was originally discovered by the Ontario Department of Mines during a regional mapping program in the 1960s. Further investigations were conducted by the department in the early 2000s and this work confirmed that the area has the geological elements required for emplacement of lithium pegmatites.

Previous Exploration

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% Li₂O.**
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% Li₂O.**
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 ₂ O (%)
Outcrop	1.19
Float	1.96
Float	0.85
Float	0.95
Outcrop	1.58



Photo 1 A large spodumene crystal in Greenbush Lake pegmatite.

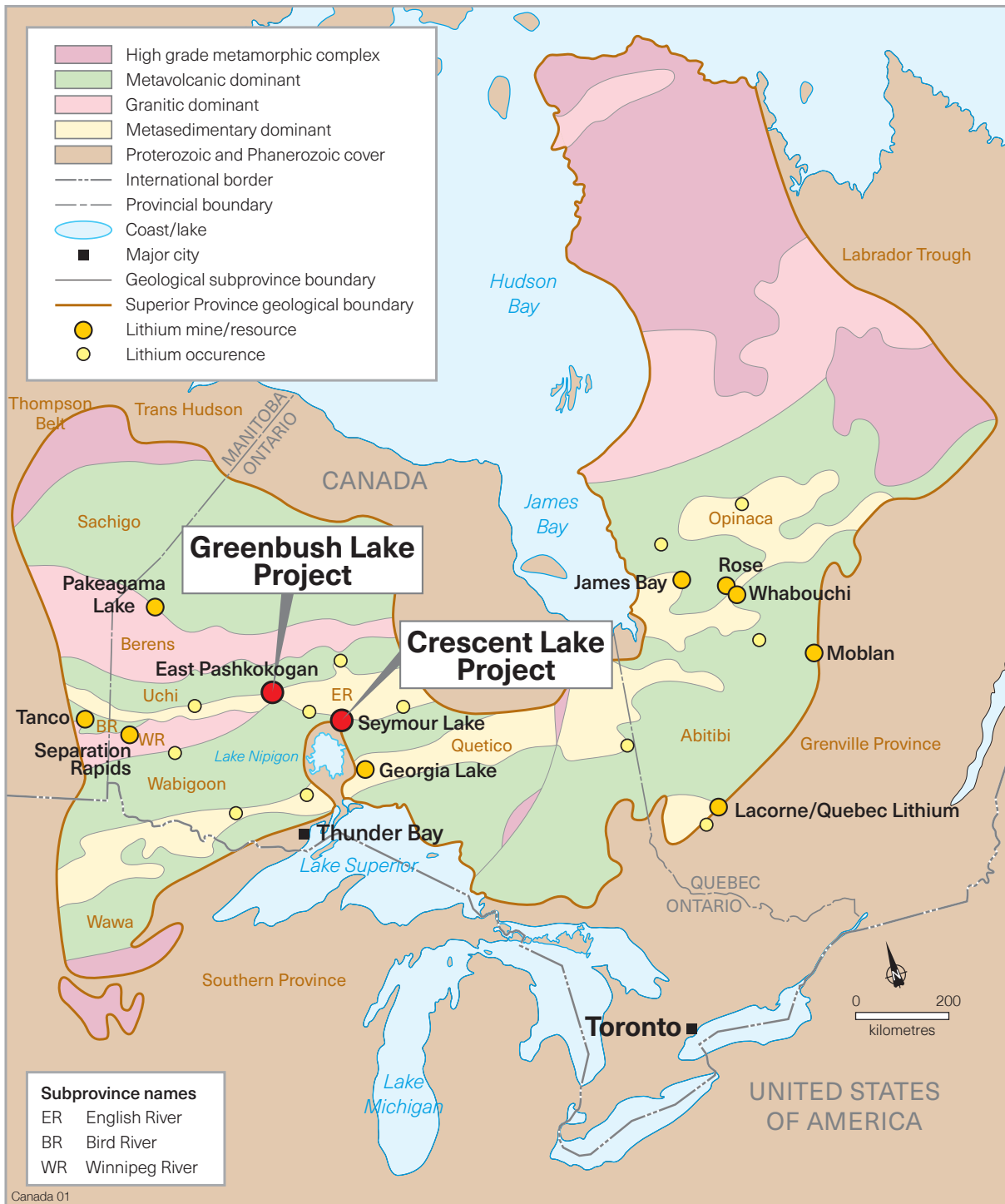


Figure 2 Geology of the Superior Province, Canada, showing Greenbush Lake, Crescent Lake and regional lithium occurrences.

Location

The Greenbush Lake Project is located approximately 150km north-west of Argonaut’s Crescent Lake Lithium Project and sits between East Pashkokogan Lake and Greenbush Lake. The project is held via three mineral claims (Figure 1). The project area is accessible via boat in summer and by snowmobile during the winter.

Regional Geology

Lithium bearing pegmatites of the Superior Province generally occur along boundaries of geological sub-provinces (Figures 1 and 2). Fertile granites near sub-provincial boundaries are the source of the lithium and rare element pegmatites (Figure 1). The Greenbush Lake Project features these necessary elements.



Figure 3 Argonaut lithium project locations.

Purchase Agreement

Argonaut has agreed to **purchase a 100%** interest in three mineral claims from Canadian Orebodies Inc (COB) for **CAD100,000**. The claims will be subject to a **2% net smelter royalty** payable to COB. Payment by Argonaut and the transfer of claims to Argonaut's Canadian registered subsidiary is subject to the claims being recorded by the Ministry of Northern Development and Mines which is expected to be completed before 30 June 2016.

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.

Argonaut expects to announcement further acquisitions in the coming weeks prior to commencement of field-based exploration of its flagship crescent Lake project in Ontario, Canada.

Crescent Lake Project, Canada (Argonaut acquiring 100%)

On 4 March 2016, Argonaut released details of the acquisition of the Crescent Lake Lithium Project in Ontario, Canada (Figure 2) to the ASX.

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% LiO₂** from 2.7m in drill hole W-3
- **10.5m at 1.15% LiO₂** from 34.5m in drill hole W-9
- **14m at 0.99% LiO₂** from 69.3m in drill hole CO-10-001
- **7m at 1.07% LiO₂** from 55.3m in drill hole CO-10-002
- **11m at 1.10% LiO₂** from 39.4m in drill hole CO-10-003

Zigzag Area

- **6.1m at 1.08% LiO₂** 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 (Figure 4).
- **3 to 4 stacked 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**.

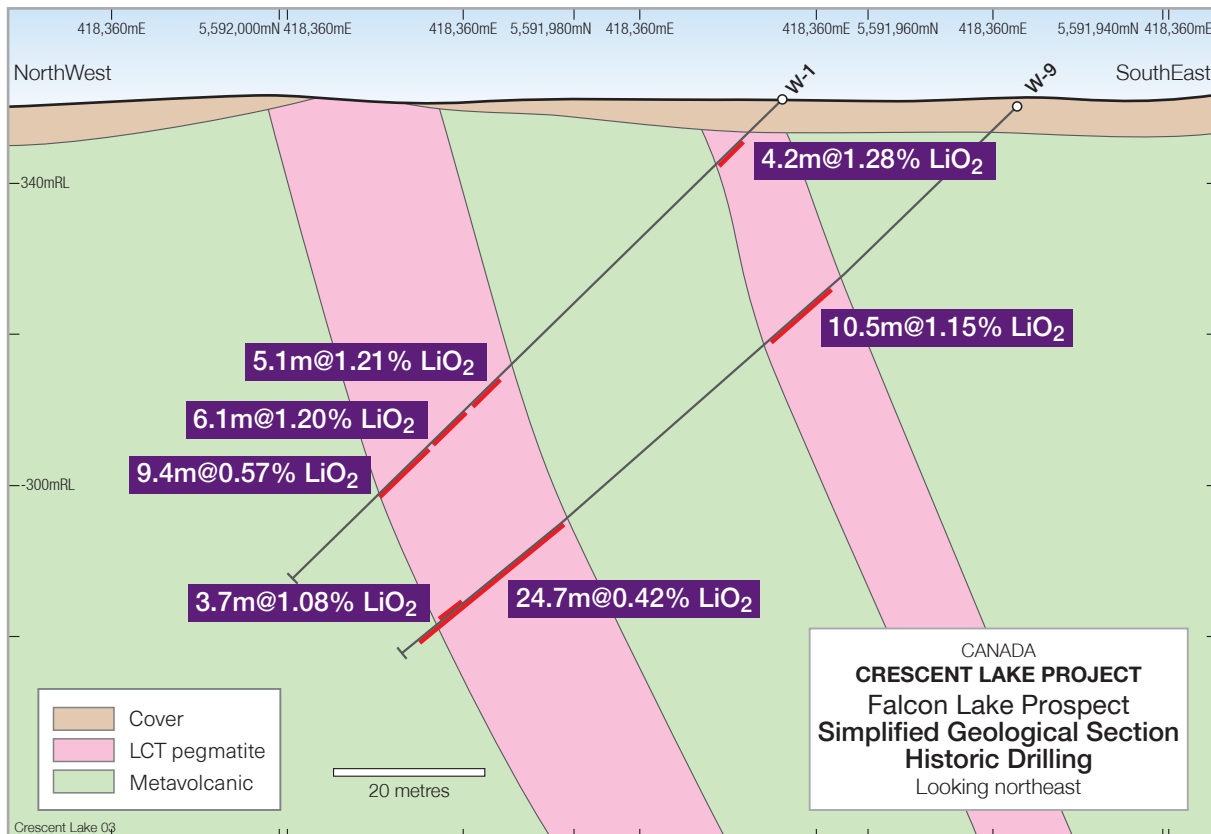


Figure 4 Falcon Lake West geological cross section, Crescent Lake Lithium Project.

Lake Blanche, South Australia (Argonaut 100%)

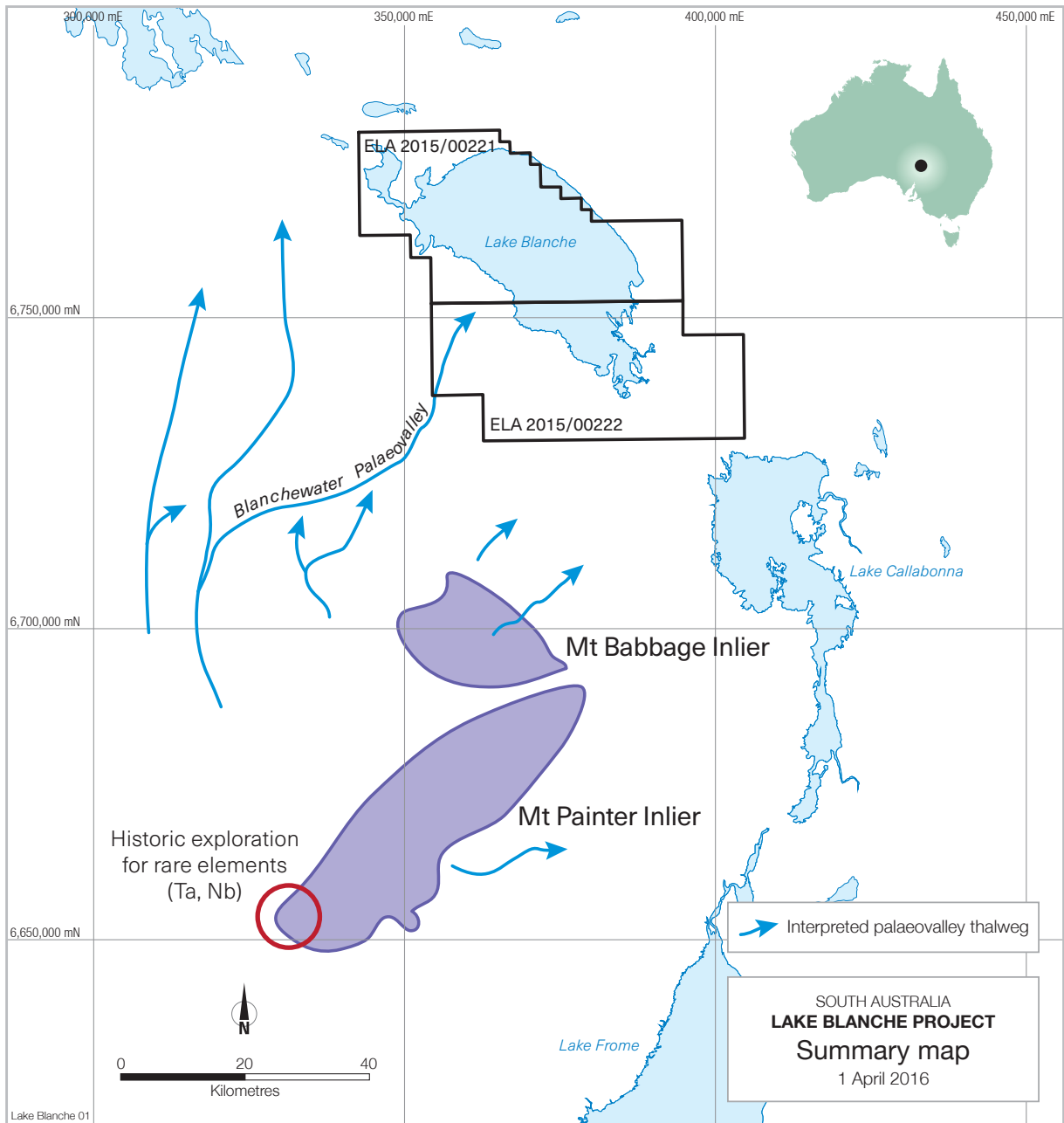
On 4 April 2016, Argonaut announced it has secured two exploration licences covering Lake Blanche, a salt lake with the potential to host lithium brines and potash in the north of South Australia.

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 5).

Figure 5 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.

Lithium brine deposits, particularly those found in Chile, Bolivia and Argentina are often referred to as 'salar' deposits.

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. 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.

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data – Greenbush Lake Project

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information. 	<ul style="list-style-type: none"> The East Pashkokogan prospect was sampled using reconnaissance rock chip sampling in a 2009 mapping campaign undertaken by Canadian Orebodies (COB). A total of 10 grab samples were collected. Two historic rock chip samples are also recorded. Chip sampling across a section of the pegmatite by the Ontario Geological Survey in the early 1960’s and a grab sample in 1980 by Placer Development Ltd. Sampling was conducted by hand from outcrops. Sampling followed contractor’s procedures. No QA/QC samples were submitted with these reconnaissance samples. Samples were weighed, dried, crushed, split, pulverised and pulp taken. The ME-MS61 method includes four acid “near-total” digestion which uses both the ICP-MS and ICP-AES techniques. The ME-MS81D method includes lithium borate fusion testing for rare earth and trace elements using ICP-MS techniques. Overlimits on specified elements were automatically rerun at higher detection limits using the ME-XRF05 procedure involving X-Ray Fluorescence Spectroscopy.
Drilling techniques	<ul style="list-style-type: none"> Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc). 	<ul style="list-style-type: none"> No drilling results reported.
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material. 	<ul style="list-style-type: none"> No drilling recoveries to report.
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	<ul style="list-style-type: none"> No drill core or drill samples reported. All rock chip samples geologically described and recorded.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> No drill core or drill samples reported. Samples were prepared at and crushed with a subsample split for pulverising. Regular sizing checks were undertaken and reported. Sample sizes are appropriate to the grain size of the material being sampled.

Criteria	JORC Code explanation	Commentary
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> • <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> • <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i> • <i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i> 	<ul style="list-style-type: none"> • Samples were submitted to a four acid digest (sulphuric, nitric, perchloric and hydrofluoric) and Inductively Coupled Plasma (ICP) finish to ALS Chemex, Thunder Bay, Ontario. • No QAQC procedures considered necessary for reconnaissance sampling.
Verification of sampling and assaying	<ul style="list-style-type: none"> • <i>The verification of significant intersections by either independent or alternative company personnel.</i> • <i>The use of twinned holes.</i> • <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> • <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> • No drilling results reported. • No drilling results reported. • Data entry and verification is undertaken by Fladgate Exploration following an established protocol, all data is stored in a digital spreadsheets. • No statistical adjustments to data have been applied.
Location of data points	<ul style="list-style-type: none"> • <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i> • <i>Specification of the grid system used.</i> • <i>Quality and adequacy of topographic control.</i> 	<ul style="list-style-type: none"> • Sample locations have been surveyed by averaged handheld GPS measurements with an accuracy of +/- 3m. • The grid system for the Crescent Lake Project is UTM NAD83, zone 15.
Data spacing and distribution	<ul style="list-style-type: none"> • <i>Data spacing for reporting of Exploration Results.</i> • <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i> • <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> • Reconnaissance rock chip sampling of outcrop. • No resources or reserves reported.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> • <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> • <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i> 	<ul style="list-style-type: none"> • Mapping undertaken in 2009 at prospect scale. Not considered necessary for reconnaissance sampling. • No drilling results reported.
Sample security	<ul style="list-style-type: none"> • <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> • The chain of custody for sample dispatch was implemented and is as follows: • Samples were taken directly to the analytical facility inside polywoven bags. Appropriate chain of custody was confirmed by Fladgate personnel, who delivered the samples to the laboratory. Sample reception confirmed sample receipt with Fladgate and the samples became the custody of the lab for preparation and analysis.
Audits or reviews	<ul style="list-style-type: none"> • <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> • No audits or reviews were conducted for this sampling program.

Section 2 Reporting of Exploration Results – Greenbush Lake Project

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. 	<ul style="list-style-type: none"> Claims pegged and applications lodged by Canadian Orebodies.
	<ul style="list-style-type: none"> The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area. 	<ul style="list-style-type: none"> Claims have been pegged and lodged, application awaiting approval.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> Ontario Geological Survey. (early 1960's) – Mapping and chip sampling across a section of the pegmatite. Analysis of samples by Laboratory Branch of the Ontario Department of Mines Placer Development Limited (1980) – ground magnetic survey. Grab sample from outcropping pegmatite with assay results from X-Ray Analysis Laboratories Ltd. Canadian Orebodies (2009) – Reconnaissance geochemical sampling and geological mapping.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> East Pashkokogan Pegmatite consists of a pegmatite dyke that intrudes meta-volcanic rocks on the south eastern shoreline of East Pashkokogan Lake. This pegmatite is a complex-subtype, spodumene-subtype. The mineralisation is dominantly spodumene (Li) with elevated rare elements
Drill hole Information	<ul style="list-style-type: none"> A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case. 	<ul style="list-style-type: none"> No drilling results reported.
Data aggregation methods	<ul style="list-style-type: none"> In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated. 	<ul style="list-style-type: none"> No data aggregation was conducted.
	<ul style="list-style-type: none"> Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. 	<ul style="list-style-type: none"> No data aggregation was conducted.
	<ul style="list-style-type: none"> The assumptions used for any reporting of metal equivalent values should be clearly stated. 	<ul style="list-style-type: none"> All metal grades reported are single element.

Criteria	JORC Code explanation	Commentary
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> • <i>These relationships are particularly important in the reporting of Exploration Results.</i> • <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> • <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i> 	<ul style="list-style-type: none"> • No drilling results reported.
Diagrams	<ul style="list-style-type: none"> • <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i> 	<ul style="list-style-type: none"> • Refer to figures within report and within assessment report by Fladgate Exploration in 2009.
Balanced reporting	<ul style="list-style-type: none"> • <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i> 	<ul style="list-style-type: none"> • Documented in assessment report by Fladgate Exploration in 2009.
Other substantive exploration data	<ul style="list-style-type: none"> • <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i> 	<ul style="list-style-type: none"> • Documented in assessment report by Fladgate Exploration in 2009
Further work	<ul style="list-style-type: none"> • <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> • <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> • Detailed geological mapping, interpretation and structural analysis to be completed on these prospects. Enzyme leach soil sampling over project area. Target testing contingent on positive results, interpretation and exploration ranking. • All future exploration work is commercially sensitive and will not be released to the market until results are available.