Argonaut RESOURCES NL

ASX announcement

27 JULY 2016

Strong Lithium Intercepts From Crescent Lake

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

Highlights

- Initial results from a six-hole program of drilling at the Falcon Lake West deposit (Figure 3) confirm thick spodumene-bearing pegmatites.
- The first batch of samples received featured an intercept of:
  - ¬ **21.7m at 1.09% Li_2O from 48.0m**; including
  - ¬ **7.9m at 1.31% Li_2O from 49.8m** in drill hole FLDD001.
- Further drill results are imminent.
- Preparations are underway for follow-up exploration in the Crescent Lake area.

Crescent Lake Drilling

Crescent Lake is located 250km NNE of Thunder Bay in Ontario, Canada (Figure 3).

Earlier in the month, Argonaut completed 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.

Highlights from the first batch of analytical results include:

- **21.7m at 1.09% Li_2O from 48.0m**; including
- **7.9m at 1.31% Li_2O from 49.8m** in drill hole FLDD001.

Further details are shown in Appendix 1.

Visually, core generated during the program confirmed the presence of the two targeted spodumene-bearing pegmatites. The lower pegmatite unit is up to 24m thick and the upper pegmatite unit is up to 15m thick. Spodumene mineralisation was logged throughout the pegmatite intervals. Spodumene concentrations vary from moderate to intense.

Initial laboratory results confirm the deposit's lithium grades. Further results will be reported within two weeks.

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Next Steps

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 preparing to investigate these target zones with the aim of adding to the inventory of known lithium mineralisation at Crescent Lake. Contingent drilling to define pegmatite thicknesses and grades is intended to follow this near-term program.

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.

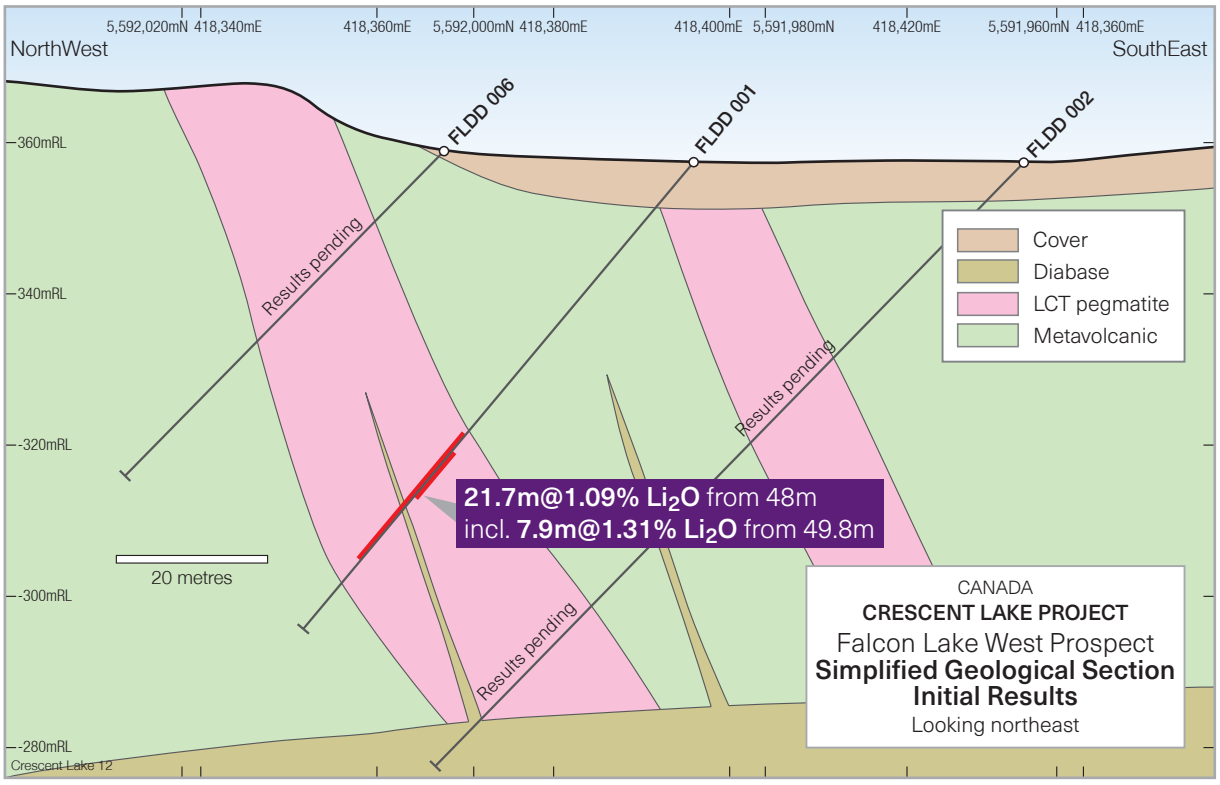

Figure 1 *Falcon Lake West – Interpretive geological cross section showing initial drill intercepts.*

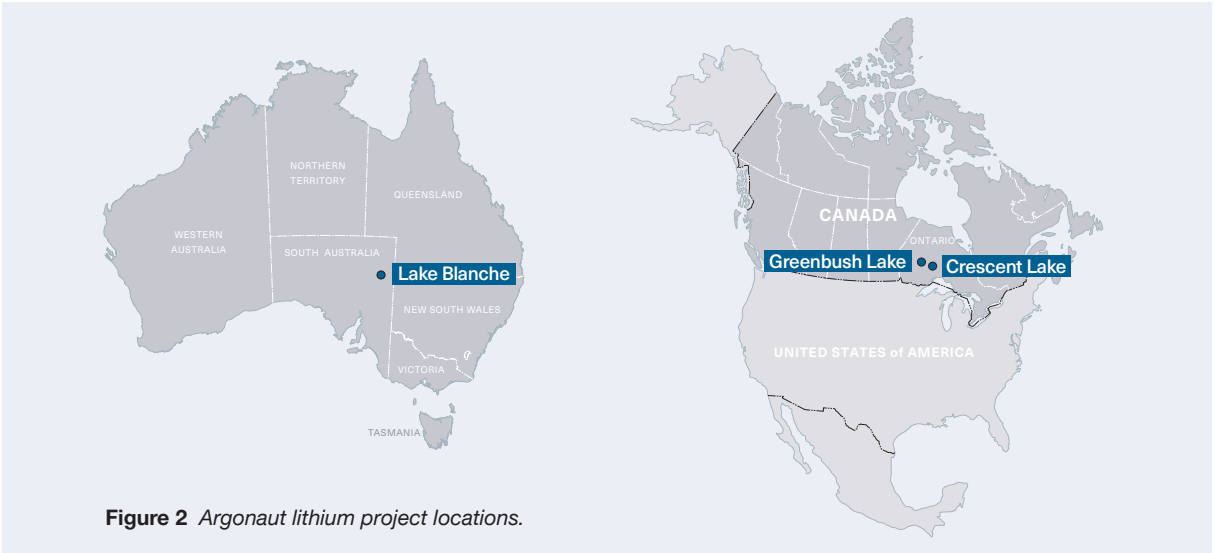

Figure 2 *Argonaut lithium project locations.*

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 3).

Argonaut later announced that it had pegged additional claims in the area between Falcon Lake and Zigzag (Figure 4). These 100% held claims cover prospective, underexplored areas.

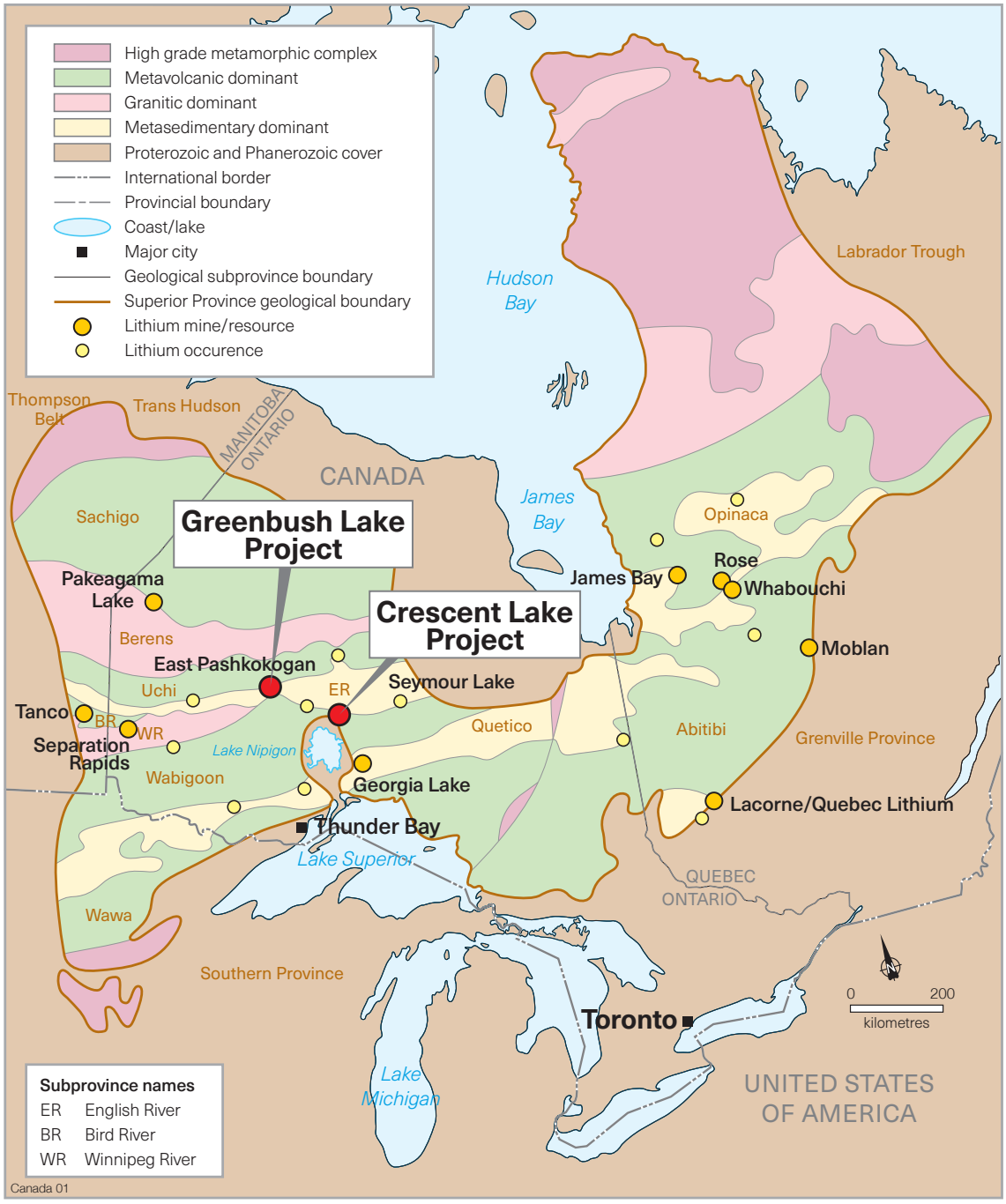

Figure 3 *Geology of the Superior Province, Canada, showing Greenbush Lake, Crescent Lake and regional lithium occurrences.*

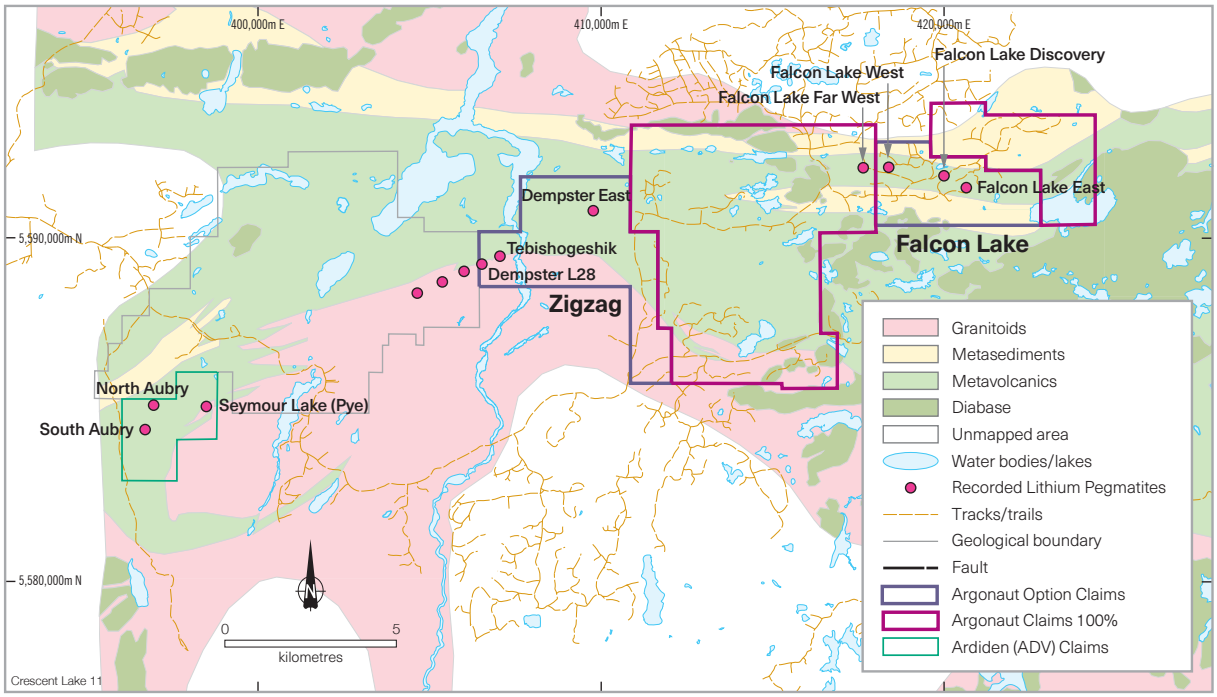

Figure 4 *Crescent Lake claim locations, spodumene pegmatite occurrences and geology.*

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_2O** from 2.7m in drill hole W-3
- **10.5m at 1.15% Li_2O** from 34.5m in drill hole W-9
- **14m at 0.99% Li_2O** from 69.3m in drill hole CO-10-001
- **7m at 1.07% Li_2O** from 55.3m in drill hole CO-10-002
- **11m at 1.10% Li_2O** from 39.4m in drill hole CO-10-003

Zigzag Area

- **6.1m at 1.08% Li_2O** 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).
- 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 3) 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.

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_2O.
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_2O.
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_2O (%)
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 5).

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.

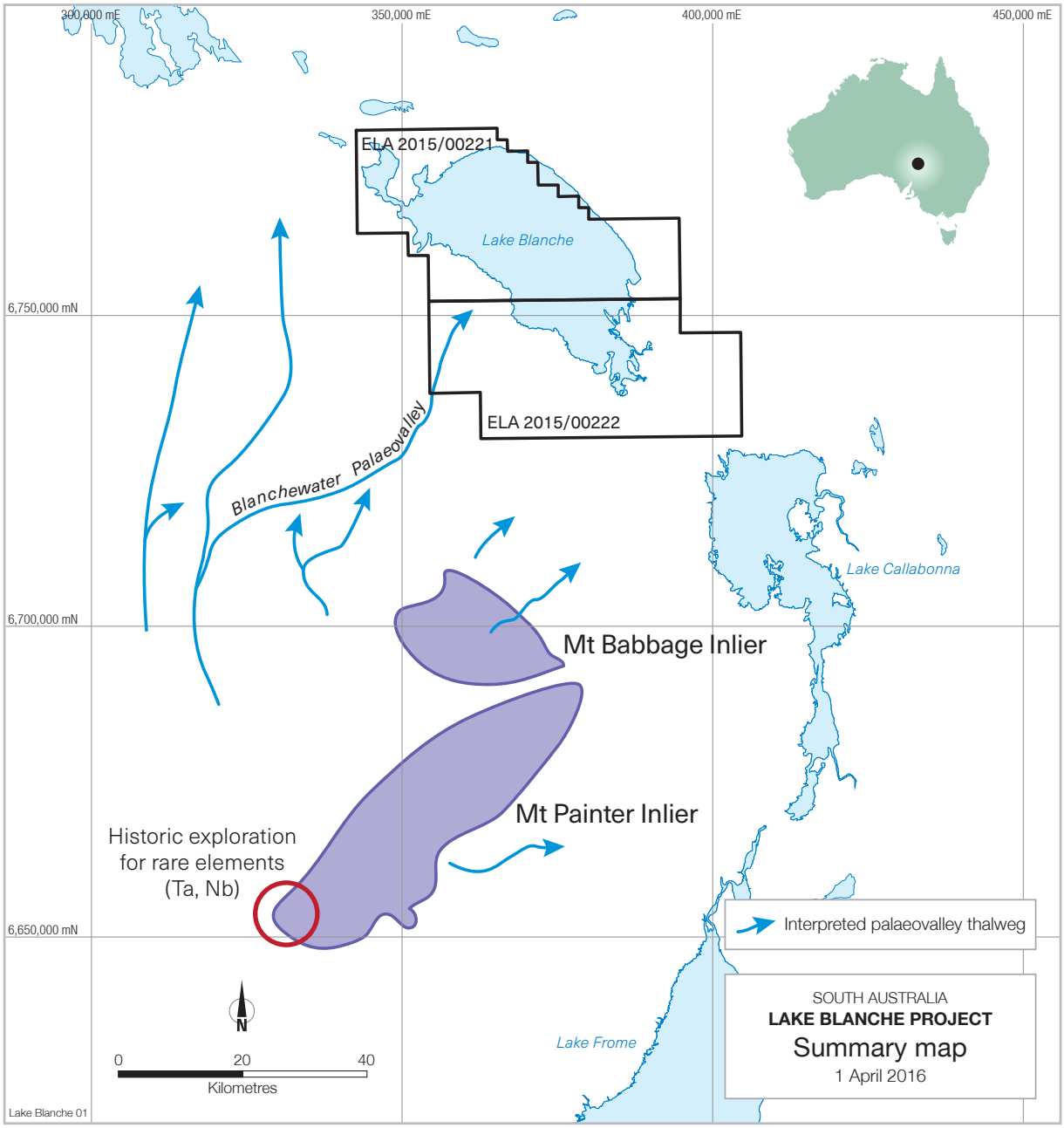

Figure 4 *Lake Blanche and exploration licence locations with relevant geological/hydrological features.*

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.

Appendix 1 – Crescent Lakes initial intercepts

Hole	East	North	RL	Dip	Azimuth	Total Depth	From	To	Interval	Li_2O (%)	Ta (ppm)	Prospect Area	Comment
FLDD001	418396	5591985	357	-50	300	81.00	48.0	69.7	21.7	1.09	69	Falcon Lake West	
including							49.8	57.7	7.9	1.31	70	Falcon Lake West	
FLDD002	418433	5591963	356	-45	300	111.00						Falcon Lake West	Results Pending
FLDD003	418394	5591944	358	-50	300	96.00						Falcon Lake West	Results Pending
FLDD004	418413	5591931	359	-45	300	111.00						Falcon Lake West	Results Pending
FLDD005	418447	5592055	364	-50	300	75.00						Falcon Lake West	Results Pending
FLDD006	418367	5592002	358	-45	300	60.00						Falcon Lake West	Results Pending

Notes

1 *Calculated using 0.2% Li_2O lower cut threshold, no upper cut threshold, maximum 4 metres internal dilution*

2 *Analysis by ALS Chemex - Methods ME-MS61 48 element suite, Li-OG63 for Li >1%*

3 *Coordinate System: NAD83, Zone 16*

4 *Li_2O% calculated as (Li ppm/1,000,000) x 2.153 x 100%*

JORC Code, 2012 Edition – Table 1

Section 1 Sampling Techniques and Data – Crescent Lake Project

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• 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.	• The Falcon Lake West prospect was sampled using diamond drill holes in a June 2016 drilling campaign. A total of 6 drill holes (FLDD001-006) were drilled for a total of 534 metres. • Drillcore was logged for lithology, weathering, alteration, mineralisation and structure. Sampling was conducted as half core (NQ). Sampling followed ARE procedures and industry best practice QA/QC procedures. • Drillcore was sampled on nominal 1 metre intervals except at lithological contacts. All pegmatite was sampled, generally at 1 m intervals, as well as shoulder samples into metavolcanic lithologies. • Samples were dried, crushed, split, pulverised and pulp taken for four acid digest followed by ICP-MS and ICP-AES techniques. Samples with sulphide mineralization present were analysed using the ME-MS61 method and additionally analysed for precious metals. Samples reporting values over the method detection limit (>10000 ppm Li) were automatically analysed using the Li-OG63 method, which uses four acid digestion and ICP-AES finish.
Drilling techniques	• 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).	• Diamond core only, NQ core size for 2016 program
Drill sample recovery	• 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.	• Drillcore recoveries were logged per drilling run. • Drillcore logged and measured to check run length measurement against driller's records. • Diamond drillcore has high recoveries with negligible core loss recorded.
Logging	• 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.	• Drillcore has been logged for geological (lithology, mineralisation, alteration) and geotechnical (RQD, recovery) information. All core logging was digitally documented using spreadsheets. • All holes are logged and photographed.
Sub-sampling techniques and sample preparation	• 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.	• Selected drillcore was cut in half using core saws at field camp, and half core (NQ size) collected for sampling, ensuring the same side of the drillcore was consistently sampled. • 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	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • 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. • 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.	• Samples were submitted to ALS Chemex, Thunder Bay, Ontario for preparation. Analysis undertaken included a four acid digest (sulphuric, nitric, perchloric and hydrofluoric) and Inductively Coupled Plasma (ICP) finish at ALS Chemex hub laboratory, Vancouver, BC. • QAQC procedures include a chain of custody protocol, systematic submittal of 10 to 20% QA/QC samples including externally sourced blanks and certified reference samples into the flow of samples submitted to the laboratory.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. • Discuss any adjustment to assay data.	• Significant intersections are reported by ARE. • Interpreted positions of historic drillholes have been have been used to test and verify historic intercepts. Actual collar positions of pre 2010 drilling could not be determined. • Data entry and verification is undertaken by Fladgate Exploration following an established protocol into spreadsheets, all data is stored in a digital format. • No statistical adjustments to data have been applied.
Location of data points	• 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. • Specification of the grid system used. • Quality and adequacy of topographic control.	• Drillhole locations have been surveyed by averaged handheld GPS measurements with an accuracy of +/- 3m. Down hole surveys were collected every 20 to 30 metres using Reflex survey instrument. • The grid system for the Crescent Lake Project is UTM NAD83, zone 16. • SRTM elevation data was used to provide topographic control where appropriate.
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • 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. • Whether sample compositing has been applied.	• Wide spaced exploration drilling. • No resources or reserves reported.
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • 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.	• Mapping undertaken in 2009 and 2016 at prospect scale to refine local structural fabric and thus to drill perpendicular to the interpreted structural orientation. • No orientation based bias had been identified in the data to this point.
Sample security	• The measures taken to ensure sample security.	• The chain of custody for sample dispatch was implemented and is as follows: After splitting, samples were taken directly to the analytical facility inside polywoven bags. Appropriate chain of custody was confirmed by ARE and 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	• The results of any audits or reviews of sampling techniques and data.	• Sampling and analytical techniques reviewed prior to program and deemed appropriate for type of mineralisation. ARE staff reviewed and supervised sampling techniques on site.

Section 2 Reporting of Exploration Results – Crescent Lake Project

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• 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. • 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.	• All claims are in good standing and are 100% owned by Canadian Orebodies • No known impediments.
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	• Dempster Explorations Ltd. (late 1950's – 1960) – Line cutting, trenching and shallow diamond drillholes. Drilling in Zigzag (Drillholes 2-10 and 23-29). • British Canadian Lithium Mines Ltd (1956 – 1958) – Line cutting and Drill Program totalling 22 diamond drillholes. Drill in Falcon Lake (Drillholes D1-3, E1-6, W1-9) • Panther International (1959) – Diamond drilling in vicinity of Zigzag and Falcon Lake. • Bird River Mines Co. Ltd. (1975 –1982) – Grid cutting, geochemistry and geophysics in Zigzag area. • Mattagami Lake Mines Ltd. (1977) – Geophysical surveys in Falcon Lake area. • E&B Explorations Inc. and Cominco Ltd. (1978 – 1980) – Line cutting, geochemical sampling, geological mapping, channel sampling in Zig Zag and Falcon Lake areas. • Complex Minerals Corp. (1997) – Geophysics and mechanical trenching in Zigzag area. • Platinova Resource Ltd. (2002) – Historic result confirmation and exploration targeting program. • Canadian Orebodies (2009 – present) – Line cutting, geochemical sampling, geological mapping, channel sampling in Zig Zag and Falcon Lake areas. Drill Program totalling 11 diamond drillholes (drillholes COB-10-001-011).
Geology	• Deposit type, geological setting and style of mineralisation.	• Crescent Lake Pegmatite Group consists of a series of pegmatite dykes that intrude mafic meta-volcanic and meta-tonalitic rocks within a 1.2 km x 6 km area south of Crescent and Zig-Zag Lakes including the Tebishogeshik Pegmatite and the Dempster East Pegmatite. These pegmatites are complex-subtype, spodumene-subtype and have relatively high tantalum associated with oxide phases (columbite-tantalite group, ferrotapiolite and microlite), evolved garnet compositions and pervasive albitisation. • The Falcon Lake Pegmatite Group consists of a series of pegmatite dykes that intrude amphibolitized mafic meta-volcanic rocks within a 0.25 km x 4.5 km area between Funnel and Falcon Lakes including the Falcon Lake Discovery Pegmatite, Falcon Lake East Pegmatite and Falcon Lake West Pegmatite. These pegmatites are spodumene-subtype and have some of the highest reported tantalum-rich oxide values in Ontario, associated with manganotantalite and ferrotapiolite. • The mineralisation is dominantly spodemene (Li) with elevated Ta, Rb, Be and Cs.

Criteria	JORC Code explanation	Commentary
Drill hole Information	• 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: ¬ 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.	• See Appendix 1
Data aggregation methods	• 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. • 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. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	• Length-weighted average grades reported. No upper limit has been applied to lithium grades in these exploration results. • A cut-off grade of 0.2% Li_2O and a maximum internal dilution of 4m (downhole width) are used as a guideline when delineating the drilled thickness intervals of mineralisation. • All metal grades reported are single element.
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • 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').	• Down hole length, true width not known.
Diagrams	• 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.	• Refer to figures within report and within a 43-101 compliant report by Fladgate Exploration in 2011.
Balanced reporting	• 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.	• Results for this drilling have been comprehensively reported.
Other substantive exploration data	• 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.	• There is no other exploration data which is considered material to the results reported.
Further work	• The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	• Detailed geological mapping, interpretation and prospecting to be completed on these prospects. 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.