

## **Frontier Lithium Expands Eastern Extension of the PAK Deposit Intersecting a Low-Iron Intercept of 2.47% Li<sub>2</sub>O over 119 metres**

### **HIGHLIGHTS**

- DDH PL-027-17 intersected 118.9 m of pegmatite averaging 2.47% Li<sub>2</sub>O from 237.3 to 356.0 m representing a true width of 55.7 m with a low-iron lithium enriched zone (Lower - Upper Intermediate Zone)
- DDH PL-027-17 includes 3.30% Li<sub>2</sub>O over 53 m from 287 to 340 m representing a true width of 25.0 m (Figure 1);
- DDH PL-027-17 includes a high-grade Lithium zone (Upper Intermediate Zone) of 14 m averaging 4.41% Li<sub>2</sub>O from 290.0 to 304.0 m representing a true width of 6.6 m;
- Based on this recent drill result, a Pre-Feasibility Study (PFS) originally scheduled to be completed by mid-December will now include an updated resource estimate and an underground component which will be released in early 2018, and;
- Mineralization remains open to depth and along strike to the northwest and the grade thickness is increasing to the east-south-east (down-plunge).

**Sudbury, Ontario, December 6, 2017 – Frontier Lithium Inc. (TSX.V: FL) (the “Company”)** is pleased to announce the results of an exploration hole that was drilled after the completion of the 2017 geotechnical/geomechanical drill program. Diamond drill hole PL-27-17 was designed to step back and test the width and attitude of the pegmatite zone from the footwall (metasediment side) through to the hanging wall (granite side) on the down-plunge extension of the deposit. The assay and collar data for the hole reported is presented in Table I and Table II respectively.

**Table I – Collar Location and Assay Information**

 <b>DDG PL-027-017</b>										
Designed to test the continuity, width and depth extent of the pegmatite near the vertical hole (PL-023-15) drilled in 2015. DDH PL-027-17 was projected to intersect the pegmatite 15 m above the lower extent of the pegmatite in the vertical hole. The vertical hole clipped the NNE edge of the pegmatite.										
ZONES	Width (m)	True Width (m)	Li <sub>2</sub> O (%)	Ta <sub>2</sub> O <sub>5</sub> (ppm)	SnO <sub>2</sub> (ppm)	Nb <sub>2</sub> O <sub>5</sub> (ppm)	Rb <sub>2</sub> O (%)	Cs <sub>2</sub> O (%)	Geology	
<b>Total Pegmatite</b>										
237.3 - 356.0 m	118.7	55.7	2.47	78	110	73	0.32	0.04	LIZ/aplite/ UIZ	
<b>Lithium &amp; Rubidium Enriched Zone</b>										
287.0 - 340.0 m	53	24.9	3.30	63	85	64	0.27	0.03	LIZ/UIZ	
Including 290.0 - 304.0 m	14.0	6.6	4.41	32	53	25	0.12	0.02	UIZ	

- (1) The intervals in Table I are drill intersection widths. The “true width” is based on overwhelming evidence that the orientation of the pegmatite is sub-vertical.
- (2) Li<sub>2</sub>O content in the Li enriched zones is predominantly associated with spodumene.

**Table II - Collar Locations for Diamond Drill Hole**

DDH No	NAD83 (Zone 15N)		Elevation (mASL)	Azimuth	Inclination	Total Depth (m)
	Easting	Northing				
PL-027-17	474759	5828044	317.55	200	-62	408.6

Figure 1 shows the split core in the core shack showing the white low-iron spodumene enriched zones in hole DDH PL-027-17.



Figure 1: Photo of high-grade lithium intersection from Hole PL-027-17 (255m to 355m)

“We are extremely pleased with the results from this drill hole as it lies down-plunge of the open-pit shell currently being used in the PFS study underway on the deposit and displays that the grade is persisting with depth with true widths of up to 55 metres with little in the way of contaminants or potential mining dilution”, commented Garth Drever, VP Exploration of Frontier Lithium. “These material facts have imposed an update to the resource model and also has prompted Frontier to include a low-cost, bulk underground mining component to the PFS, all of which is underway and expected to be announced now in early 2018. The predictability, along with the high-grade thicknesses intersected to date, and mineralization that remains open to depth and along strike, suggests this pegmatite could be significantly more robust than is currently known.” Frontier is currently planning for 2018 exploratory diamond drilling to further increase the resource size.

## Due Diligence

All scientific and technical information in this release has been reviewed and approved by Garth Drever, P.Geo., the qualified person (QP) under the definitions established by National Instrument 43-101. Under Frontier’s QA/QC procedures, the diamond drill contract specified NQ-sized drill core providing a 47.6 mm diameter sample. Drill hole PL-027-17 was oriented perpendicular to the strike of the pegmatite and drilled continuously across it. Sample security and chain of custody started with the removal of core from the core tube and boxing of drill core at the drill site. The boxed core remained under the custody of the drill contractor until it was transported from the drill to the secure on-site Core Shack facility by either the drill contractor or one of the Company’s designated personnel. At the on-site Core Shack, core boxes were opened and inspected to ensure correct boxing and labelling of the core by the drill contractor, photographed and then re-closed. The company geologists geologically logged and marked the core for sampling before it was photographed. Each core sample was assigned a tag with a unique identifying number. Sample lengths are typically one meter, but can be less depending on zone mineralogy and boundaries. Core marked for sampling was split using a diamond core saw on site and cut lengthwise into equal halves. Half of the core was sent to an analytical laboratory for quantitative analysis of select elements. The remaining half of the core is retained and replaced in the core box. All core remains securely in a locked sea-container on site.

All samples were assayed by **AGAT Laboratories Ltd. (“AGAT”)**, an ISO accredited laboratory in Mississauga, Ontario. Sample blanks along with tantalum, lithium, rubidium and cesium certified reference material was routinely inserted into the sample stream in accordance with industry recommended practices. Field duplicate samples were also taken in accordance with industry recommended practices.

## **About Frontier Lithium Inc.**

Frontier's goal is to become a low-cost, fully integrated lithium and tantalum producer through development of the PAK lithium deposit in Ontario, Canada. Frontier maintains a tight share structure with management ownership exceeding 30% of the Company. CAD \$7 million of work has been conducted from 2013 to 2017 on the deposit which boasts its lithium in a rare, high-purity, low-iron spodumene. The initial target market is the glass-ceramic industry which consumes roughly one-third of global lithium supply and is currently faced with monopolistic conditions, coupled with major lithium producers increasingly directing output toward supporting battery manufacture.

Ceramic/glass customers prefer to source technical-grade (low-iron) spodumene concentrate in excess of 7% lithium oxide (Li<sub>2</sub>O), if available, to avoid lower grade petalite concentrates, or paying much higher prices for battery grade lithium compounds.

The PAK lithium deposit remains open in all directions and Company Management is working towards developing a viable operation. The Company is currently conducting a pre-feasibility study to assess the economic viability and technical feasibility of producing lithium concentrates. Frontier's goal is to first establish a viable technical grade spodumene concentrate operation. A possible second stage of investment and longer term prospect is to further process some of PAK's output to produce the higher purity lithium compounds required for lithium battery technologies used in the electrification of transportation and electric grid storage applications.

## **About the PAK Lithium Project**

The PAK Lithium Project lies close to the boundary between two geological sub-provinces of the western Superior geologic province in northwestern Ontario and hosts a rare metals pegmatite deposit. The deposit is an LCT (lithium- cesium- tantalum) type pegmatite. These types of pegmatites have been the principal source of hard rock lithium, tantalum, rubidium and cesium ores mined in the world but there are comparatively few commercially-viable deposits.

Frontier is actively exploring its 100% owned project which contains the Pakeagama Lake pegmatite. The PAK deposit has a current Measured and Indicated Resource of 7.89 million tonnes of 1.73% Li<sub>2</sub>O equivalent (eq.) or 1.58% Li<sub>2</sub>O and 104 ppm Ta<sub>2</sub>O<sub>5</sub> and an Inferred Resource of 295,600 tonnes of 1.35% Li<sub>2</sub>O eq. or 1.20% Li<sub>2</sub>O and 103 ppm Ta<sub>2</sub>O<sub>5</sub> which has a technical/ceramic grade spodumene with low inherent iron (below 0.1% Fe<sub>2</sub>O<sub>3</sub>). The deposit has adjacent zones that are enriched in tantalum and rubidium.

The deposit now has a known 500m strike length with an estimated true width varying from 10m to 125m with a sub-vertical orientation. The resource remains open to depth and along strike to the northwest and southeast.



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*Additional information regarding Frontier Lithium is available on SEDAR at [www.sedar.com](http://www.sedar.com) under the Company's profile and on its website at [www.frontierlithium.com](http://www.frontierlithium.com), including various pictures of ongoing work at the project.*

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