



## **LITHIUM CHILE PROVIDES POSITIVE INITIAL METALLURGICAL TEST WORK RESULTS RECEIVED FOR THE ARIZARO LITHIUM PROJECT**

**TSX Venture Exchange: LITH  
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**For Immediate Release**

**CALGARY, ALBERTA, December 8, 2022** – Lithium Chile Inc. (“**Lithium Chile**” or the “**Company**”) is pleased to announce excellent results from preliminary metallurgical test work carried out to determine the best production processes for lithium extraction.

Lithium Chile is assessing potential commercial development pathways for its Salta lithium brine project in Argentina, Arizaro. All metallurgical test work referenced in this report were completed using brine collected (2000 liters) in August 2022 from the first production well ARGENTO-01, finished under the first phase program which has a reported average grade of 300 mg/l of lithium.

Most of the metallurgical testing completed to date has focused on selectively recovering lithium from brines using Direct Lithium Extraction Technologies (“**DLE**”), an alternative to the conventional evaporation process. DLE has the potential to shorten lithium extraction time and provide higher recovery of lithium, addressing the critical supply constraints and sustainability requirements to meet the surge in lithium demand due to the increased pace of adoption of electric vehicles and renewable energy.

- A baseline evaporation investigation is currently underway at Norlab’s facility in Salinas Grandes, Jujuy under the direction of Dr. Daniel Galli. The work aims to study small-volume samples for 2 paths: concentration to the point of loss of lithium in precipitated salts (as a constituent element of the crystals); and methodology for obtaining concentrated brine with low impurity content.
- Test work is underway for Direct Lithium Extraction (DLE) – a technology that can reduce production time, increase recovery rates, eliminate large evaporation ponds, and reduce the environmental footprint. Brine was delivered to Chengxin’s DLE facility in China for production tests as well as Summit Nanotech in Calgary, Alberta and Minería Positiva SRL in Salta, Argentina for analysis.

The following are key outcomes of the DLE testing:

### **MINERÍA POSITIVA SRL (MP+):**

MP+ conducted bench test on Selective Adsorption of Lithium using alumina-based adsorbent from a local producer. These tests include advanced chemical studies in the laboratory recently established in the province of Jujuy.

The results show that the resin recovery factor averaged 5.6 mg Li/g of resin at a flow rate of 3 BV/h at 20°C. A maximum lithium recovery of 95% was achieved during adsorption, followed by a 76.4% elution

of the recovered lithium in the elution output stream. The operational product according to the analyses has an average lithium concentration in the eluate (937 mg/L) greater than three times the concentration of the lithium concentration from that of the feed brine and a lower concentration of impurities.

MP+ has made great progress on processing raw brine with Aluminum resin, currently testing pre-concentrated brine and performing additional tests to confirm results. Optimization of the DLE process and lithium conversion processes are being reviewed focusing the efforts on important operational variables such as water and energy consumption.

#### **SUMMIT NANOTECH:**

The Company delivered brine to Summit Nanotech (“**Summit**”) to assess the suitability of Summit’s denaLi™ technology for extracting lithium from a sample of Arizaro field brine and converting it to a high-purity lithium carbonate product. Summit’s process, which is currently being piloted in Chile, consists of lithium adsorption using Summit’s unique high-hardness, high-performance sorbent (patent pending) followed by desorption using water to generate a lithium eluate. The lithium eluate is then concentrated using Summit’s proprietary low energy water-recovery technology and polished to remove magnesium and calcium ions. The lithium is recovered as  $\text{Li}_2\text{CO}_3$  through the addition of  $\text{Na}_2\text{CO}_3$ , and then is filtered, washed, and dried. The testing and characterization were conducted at Summit’s facilities in Calgary, Alberta, Canada.

This preliminary testing of Lithium Chile’s brine asset consistently averaged 98% adsorption yield and 98% reduction in impurities, resulting in a total recovery of 83.8% lithium. A final lithium carbonate product with a purity of 97.9% was generated without bicarbonation.

#### **SUNRESIN NEW MATERIALS CO., LTD.:**

200 Liters of bulk sample from the Arizaro project has been successfully processed through Sunresin’s proprietary DLE technology. Using Sunresin lithium adsorbent, in combination with the corresponding continuous bed technology, the adsorption performance and adsorption amount of sorbent are stable. The average value of lithium-ion content in the stable and qualified liquid is 613.28 mg/L and the lithium-ion adsorption yield of the brine is over 90%.

Single column tests and continuous system tests were performed. It aimed to verify the adsorption and desorption effect of lithium ions used in Arizaro’s brine, as well as the stability of multi-cycle tests, investigate the feasibility of industrialization and provide data support for industrialization design.

Michelle DeCecco, Vice President & COO comments, *“The significant effort put into metallurgical testing reinforces that while we continue to expand the lithium resource in Arizaro through additional drilling, we are concurrently focused on developing advanced processes for lithium extraction in preparation of a future production facility. Results of the metallurgical test-work are another important step in de-risking the project while providing a key deliverable in support of the Pre-Feasibility Study, targeted to begin in Q2 2023.”*

#### **ABOUT THE DLE COMPANIES:**

*Minería Positiva SRL Mining technology* and solutions provider focused on sustainable mining practices in South America. MP+ provides a range of mining-related services covering engineering, design,

management, and critical aspects of sustainable mining. Up to date offers a wide range of DLE technologies.

*Summit Nanotech Corporation* is a cleantech organization transforming how the world accesses lithium for the global energy transition. Through their proprietary and sustainable direct lithium extraction (DLE) technology, Summit Nanotech is conserving natural resources and optimizing operations for lithium producers in Chile and Argentina. Established in 2018 and headquartered in Calgary, Alberta, Summit Nanotech is a Foresight 50 honoree as one of Canada's most investable cleantech ventures, included in the Future 50 list for fastest growing sustainability companies in Canada, and has received the 2021 MaRS Women in Cleantech Challenge and Solar Impulse Foundation's Efficient Solutions Label awards. Learn more at [summitnanotech.com](http://summitnanotech.com).

*Sunresin New Materials Co., Ltd.* has over 10 years of commercialization experience in lithium extraction, supplying to global jurisdictions including China and South America. Sunresin has to date been involved in nine full-scale commercialized DLE projects. These projects collectively contribute towards a current total capacity of over 73,000tpa of lithium carbonate and lithium hydroxide, of which four projects are currently producing 19,000tpa, another four projects are near completion, and two are emerging new projects.

The Company also announces that it has granted an aggregate of 700,000 restricted share units (each, an "RSU") to two executive officers of the Company in conjunction with its Equity Incentive Compensation Plan. The RSUs vest one year from the date of the grant, and each RSU will entitle the holder to receive one common share of the Company for a period of five years.

#### **ABOUT LITHIUM CHILE:**

Lithium Chile is advancing a lithium property portfolio consisting of 84,478 hectares covering sections of 11 salars and 2 laguna complexes in Chile and 23,300 hectares in Argentina.

The Company has a NI 43-101 report with an indicated and inferred resource of 2,587,000 tonnes of lithium carbonate equivalent (LCE) from its Salar de Arizaro, Argentina. The Phase 2 development program on the Salar de Arizaro is currently underway with its results to be included in an updated NI 43-101 report which is expected to be completed during the first quarter of 2023.

Lithium Chile also owns 5 properties, totaling 21,329 hectares that are prospective for gold, silver and copper. Exploration efforts are continuing on Lithium Chile's Carmona gold/silver/copper property which lies in the heart of the Chilean mega porphyry gold/ silver/copper belt.

Lithium Chile's common shares are listed on the TSX-V under the symbol "LITH" and on the OTC-QB under the symbol "LTMCF".

To find out more about Lithium Chile Inc., please contact Steven Cochrane, President and CEO via email: [steve@lithiumchile.ca](mailto:steve@lithiumchile.ca) or Michelle DeCecco, Vice President and COO, via email [michelle@lithiumchile.ca](mailto:michelle@lithiumchile.ca) or at 403-390-9095.

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