

# Critical Elements and Lomiko Metals identify Bourier project lithium targets and report discoveries using GoldSpot Discoveries' Artificial Intelligence methods

written by Raj Shah | September 15, 2021  
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- *GoldSpot Discoveries Corp.'s proprietary approach of Artificial Intelligence (AI) and geological interpretation highlight lithium potential at Bourier claims within the Nemiscau greenstone belt;*
- *A total of 15 high to moderate prospectivity lithium targets have been identified;*
- *Preliminary Summer 2021 field exploration results have revealed the discovery of five (5) new sectors of spodumene-rich (Li) pegmatites, highlighting the potential of the Bourier project;*
- *Critical Elements and Lomiko Metals (Option Agreement, [see press release dated April 27, 2021](#)) boast a unique and favorable land position for lithium exploration within the Nemiscau Belt.*

Critical Elements Lithium Corporation (the “Company” or “Critical Elements”) (TSX-V:CRE) (OTCQX:CRECF) (FSE:F12) and Lomiko Metals (TSX-V:LMR) mandated GoldSpot Discoveries Corp.

(TSX-V:SPOT) (OTCQX:SPOFF) (“GoldSpot”) to conduct a remote targeting process for lithium, on the Bourier claims within the Nemiscau belt (Figure 1). GoldSpot uses cutting edge technology and geoscientific expertise to mitigate exploration risks and make mineral discoveries.

## **Methodology**

The study hinged on digital extraction from an exhaustive collection of compiled data, including assessment files, government data and academic studies. This dataset provided outcrop/sample description, bedrock geology, geochemical analyses, and geophysical surveys. Original data was cleaned and combined to create a comprehensive data set for geological interpretation and machine learning processes.

## **Geological Interpretation**

- The compilation of discrete outcrop observations allowed a reliable update to existing geologic maps, resulting in a refined, lithium exploration-oriented pegmatite map. A total of 99 pegmatite bodies were added to the current geological map, highlighting previously unknown potential for economic lithium mineralization.
- An up-to-date structural interpretation was created based on a high-resolution aeromagnetic survey commissioned by Critical Elements. This survey revealed structurally complex patterns, including large-scale folds and major ENE-trending ductile fault zones.

## **Lithium Target Generation**

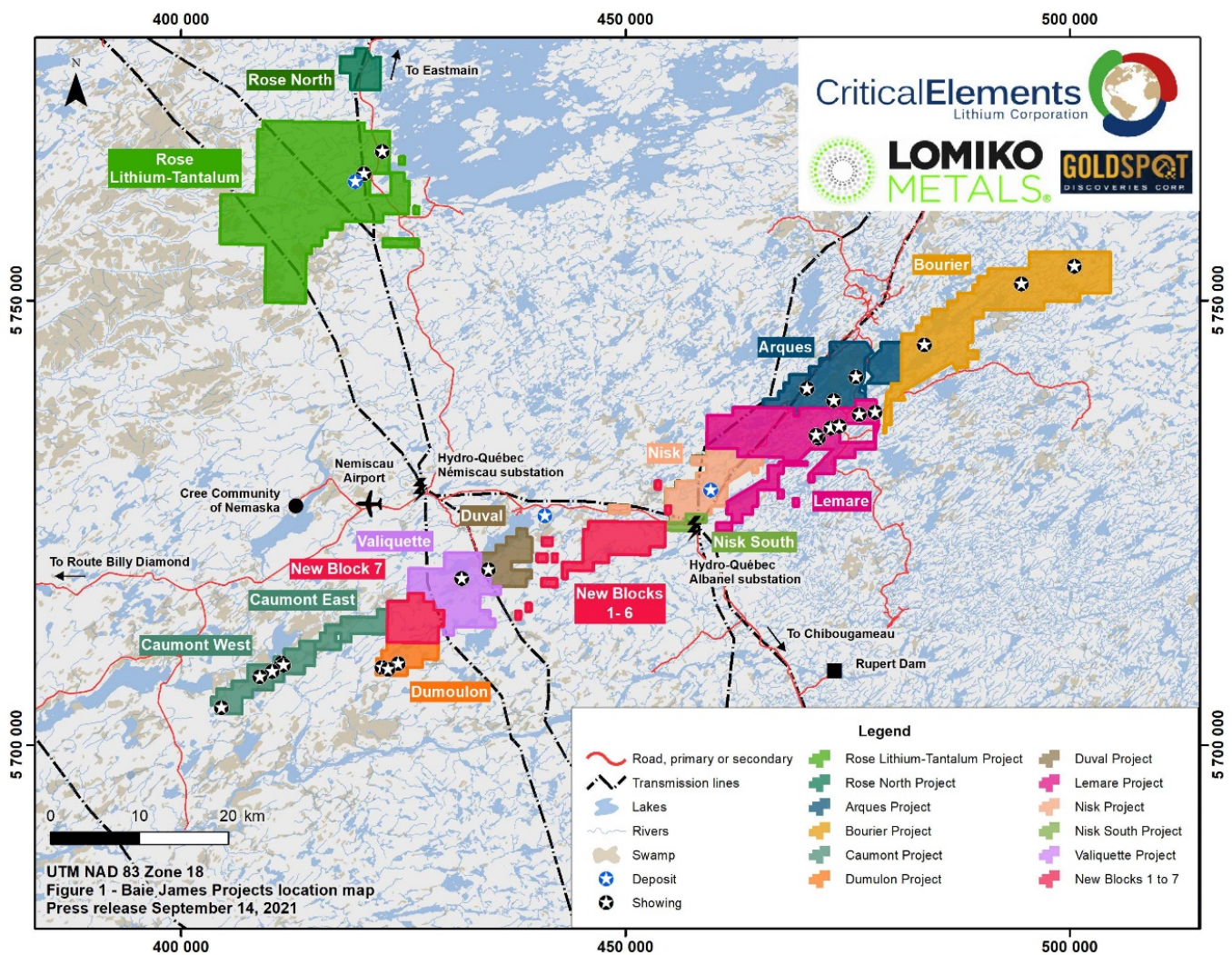
GoldSpot generated lithium targets using a knowledge-based approach with Artificial Intelligence (AI) data-driven methods.

- Process: The AI data analysis trains machine learning algorithms to predict the presence of lithium using all

variables (features), both numeric and interpreted on a 10 x 10 m grid cell datacube. Once the model performs to a satisfactory level, results produced include:

- 1) a series of zones with relatively high probability of containing lithium;
- 2) a ranking of feature importance for each input feature.

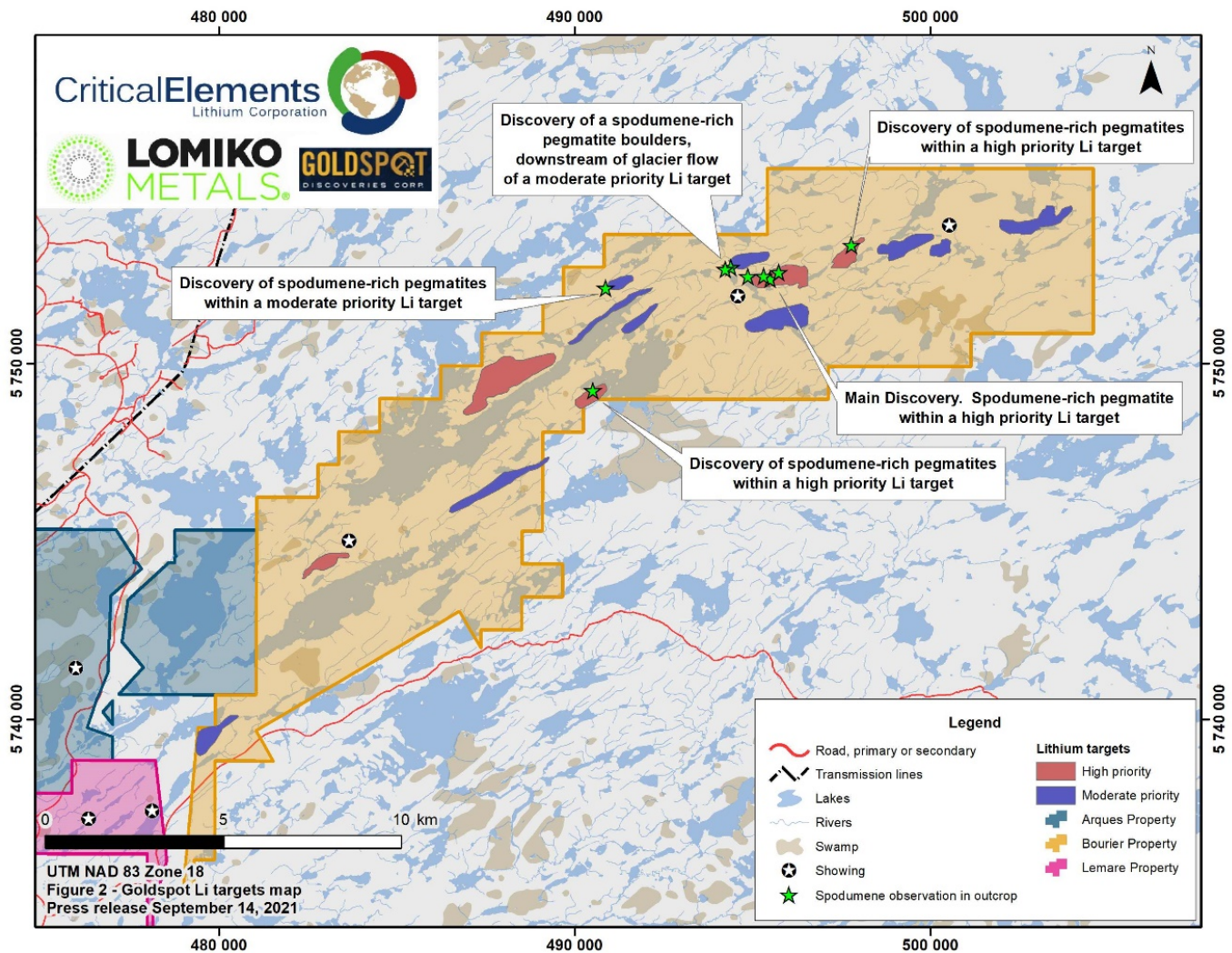
- Performance: The best prediction model for lithium at Bourier was obtained using the Extended Euclidean Algorithm for which performance metric was at 75% precision. The updated lithology and structural interpretation were the dominant contributors to the targeting model.





*Figure 1: Location of Critical Elements' projects, Eeyou Istchee, James Bay, Québec. Critical Elements and Lomiko Metals' Bourrier project on the Northeastern part of the Nemiscau belt.*

- Results: A total of 15 lithium exploration targets were identified (Figure 2), reducing the area of investigation to approximately 9.5% of the total claim holding. The newly interpreted pegmatite outcrops largely controlled the distribution of the lithium targets.



*Figure 2: Lithium targets and location of new spodumene-rich pegmatites within Critical Elements and Lomiko Metals' Bourrier claims.*

## Field Work and Preliminary Results

In preparation of field work, GoldSpot provided a map of probable outcrop zones, resulting from the AI analysis on high-resolution satellite imagery. The machine learning-assisted outcrop detection allows for time- and cost-efficient field exploration.

An exploration crew composed of Critical Elements' and GoldSpot's geoscientists conducted a 20-day prospecting program at the Bourier project, with focus on the high- to moderate-confidence lithium targets generated by GoldSpot. The highlights of this program include the discovery of five (5) new sectors of spodumene-rich (Li) pegmatite (laboratory analysis results are pending; Figure 2). These discoveries were made within, or the extension, of GoldSpot's targets.

The main discovery, located about 11 km NE of the Bourier Lake, consists of muscovite and garnet pegmatites showing 1-5% of centimetric-size spodumene crystals (Figure 3), over an outcropping area of 40 x 30 m. Additional spodumene-rich pegmatites were sporadically found within a 1 km trend from the main discovery, highlighting the potential for wider mineralization system. Four other spodumene-rich pegmatites zones were found elsewhere on the property.





*Figure 3: Main discovery. Spodumene-rich pegmatite, with aureole of Li-mica.*

Jean-Sébastien Lavallée, Chief Executive Officer of the Company, noted, “We are confident that continued exploration, benefitting from the deployment of GoldSpot’s AI analysis and our joint geoscientific expertise, will continue to reveal the considerable potential of the Bourier property. We anticipate that this approach may yield similar results on the rest of the Company’s exploration project portfolio, working towards our aspiration to be a large, responsible supplier of lithium. Our primary focus remains on the advancement of the Rose lithium-tantalum project, our first.”

### **Qualified Person**

The technical information in this press release has been prepared in accordance with the Canadian regulatory requirements set out in NI 43-101 – Standards of Disclosure for Mineral Projects, and reviewed and approved by Ludovic Bigot, professional geologist (OGQ – P.GEO No. 01655), a qualified

person as defined by NI 43-101 guidelines.

### **About Critical Elements Lithium Corporation**

Critical Elements Lithium Corporation aspires to become a large, responsible supplier of lithium to the flourishing electric vehicle and energy storage system industries. To this end, Critical Elements Lithium is advancing the wholly owned, high purity Rose lithium project in Quebec. Rose is the Company's first lithium project to be advanced within a highly prospective land portfolio of over 700 square kilometers. In 2017, the Company completed a robust feasibility study on Rose Phase 1 for the production of high quality spodumene concentrate. The internal rate of return for the Project is estimated at 34.9% after tax, with a net present value estimated at C\$726 million at an 8% discount rate. Capital cost parameters were confirmed in 2019 by Primero Group in the context of a Guaranteed Maximum Price under an Early Contractor Involvement agreement, as a prelude to an Engineering, Procurement and Construction process. Detailed engineering for Phase I is expected to conclude this year as the Company plans to deliver technical studies for Phase II; the conversion of spodumene concentrate to high quality lithium hydroxide. In the Company's view, Quebec is strategically well-positioned for US and EU markets and boasts exceptional infrastructure including a low-cost, low-carbon power grid featuring 93% hydroelectricity. The project has received approval from the Federal Minister of Environment and Climate Change on the recommendation of the Joint Assessment Committee, comprised of representatives from the Impact Assessment Agency of Canada and the Cree Nation Government; we await similar approval under the Quebec environmental assessment process near-term. The Company also has a strong, formalized relationship with the Cree Nation.

### **About GoldSpot Discoveries Corp.**

GoldSpot Discoveries Corp. (TSXV:SPOT) (OTCQX:SPOFF) is a technology services company in mineral exploration. GoldSpot is a leading team of expert scientists who merge geoscience and data science to deliver bespoke solutions that transform the mineral discovery process. In the race to make discoveries, GoldSpot produces Smart Targets and advanced geological modelling that saves times, reduces costs and provides accurate results.

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**Cautionary statement concerning forward-looking statements**

This news release contains “forward-looking information” within the meaning of Canadian Securities legislation. Generally, forward-looking information can be identified by the use of forward-looking terminology such as “scheduled”, “anticipates”, “expects” or “does not expect”, “is expected”, “scheduled”, “targeted”, or “believes”, or variations of such words and phrases or statements that certain actions, events or results “may”, “could”, “would”, “might” or “will be taken”, “occur” or “be achieved”. Forward-looking information contained herein include, without limitation, statements relating to the completion of the Project’s approval, the completion of the provincial permitting process, mineral reserve estimates, mineral resource estimates, realization of mineral reserve and resource estimates, capital and operating costs estimates, the timing and amount of future production, costs of production, success of mining operations, the ranking of the project in



terms of cash cost and production, permitting, economic return estimates, power and storage facilities, life of mine, social, community and environmental impacts, lithium and tantalum markets and sales prices, off-take agreements and purchasers for the Company's products, environmental assessment and permitting, securing sufficient financing on acceptable terms, opportunities for short and long term optimization of the Project, and continued positive discussions and relationships with local communities and stakeholders. Forward-looking information is based on assumptions management believes to be reasonable at the time such statements are made. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking information.

Although Critical Elements has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. Factors that may cause actual results to differ materially from expected results described in forward-looking information include, but are not limited to: the completion of the Project's approval, the completion of the provincial permitting process, Critical Elements' ability to secure sufficient financing to advance and complete the Project, uncertainties associated with the Company's resource and reserve estimates, uncertainties regarding global supply and demand for lithium and tantalum and market and sales prices, uncertainties associated with securing off-take agreements and customer contracts, uncertainties with respect to social, community and environmental impacts, uncertainties with respect to optimization opportunities for the Project, as well as those risk factors set out in the Company's year-end Management

Discussion and Analysis dated August 31, 2020, the Company's Annual Information Form dated August 3, 2021, and other disclosure documents available under the Company's SEDAR profile. Forward-looking information contained herein is made as of the date of this news release and Critical Elements disclaims any obligation to update any forward-looking information, whether as a result of new information, future events or results or otherwise, except as required by applicable securities laws.

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**SOURCE:** Critical Elements Lithium Corporation