

### **Company Overview**



### **Developing two large North American lithium projects**







#### **Prairie Lithium Project**

Saskatchewan, Canada

- Brine resource
- 350,000+ acres of sub surface mineral rights
- Located in Saskatchewan, Canada, one of the top ranked mining friendly jurisdictions in the world
- Large Indicated resource of 4.0MT LCE<sup>(3)</sup> at 106mg/L Li<sup>(2)</sup>
- Large Inferred resource of 1.7MT of LCE<sup>(3)</sup> at 102mg/L Li<sup>(2)</sup>

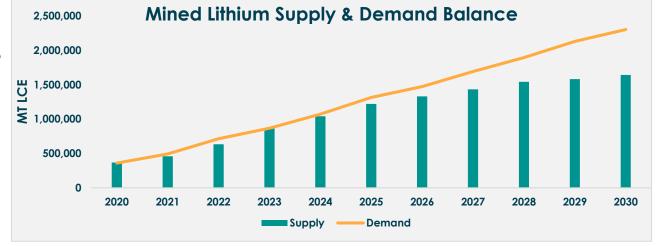
### **Big Sandy Project**

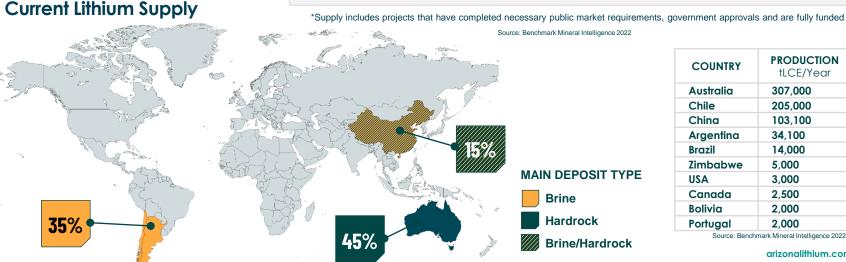
Arizona, USA

- Sedimentary resource
- Located just two hours north of Phoenix, Arizona, and our Lithium Research Centre (LRC)
- Expandable resource with 320,800 tons<sup>(1)</sup> of LCE<sup>(3)</sup> from 4% of the landholding

# **Lithium Supply & Demand Dynamics Support Price Appreciation**

Lithium supply has struggled to keep pace with demand.





Source: Benchmark Mineral Intelligence 2022

COUNTRY	PRODUCTION tLCE/Year	SHARE		
Australia	307,000	45%		
Chile	205,000	30%		
China	103,100	15%		
Argentina	34,100	5%		
Brazil	14,000	2%		
Zimbabwe	5,000	<1%		
USA	3,000	<1%		
Canada	2,500	<1%		
Bolivia	2,000	<1%		
Portugal	2,000	<1%		

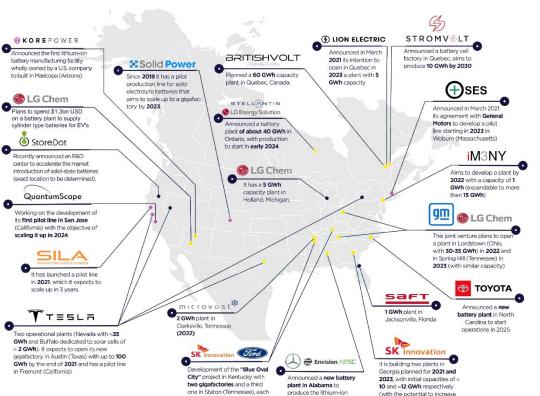
Source: Benchmark Mineral Intelligence 2022

## **North America Lithium Industry**



### A growing future customer base

Analysis by CIC energiGUNE



packs for electric SUV's

beyond 25 GWh)

one with a capacity of 43 GWh

- OPERATIONAL PLANT
   PROJECT IN PROGRESS
   OPERATIONAL PILOT
   LINE OR IN PROGRESS
   GN
  - GM, Ford and Stellantis have committed >\$50 billion to electrify their fleets
  - A significant battery materials supply chain needs to be built in North America to support these commitments

#### References

- . Stellantis announcement (May 24, 2022)
- Ford announcement (May 19, 2021)
- GM electrification commitment (November 17, 2022)
- STELLANTIS

Announced that they will form a **Joint Venture** to operate, starting in **2025**, a **gigafactory** of about 40 GWh.

SAMSUNG



They have announced a **joint** venture (50% each) to start building a **gigafactory in the**USA (the final location has not yet been determined)

### **Prairie Lithium Project Overview**



350,000+ acres of subsurface mineral permits

#### **Key Points:**

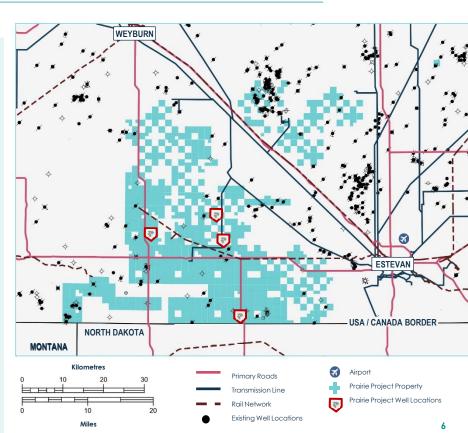
- Mining friendly jurisdiction
   Saskatchewan, Canada is an existing oil and gas producing region with efficient permitting processes
- Large Total Resource of 5.7MT of LCE including 4.0MT Indicated at 106mg/L Li and 1.7MT Inferred at 102mg/L Li<sup>(1)</sup>
- 350,000+ acres of nearly contiguous subsurface mineral permits in Saskatchewan
- Modular process that will shorten time to production, keep capital expenditure low and operate as a proof of concept for the DLE technology



### **Prairie Project Resource**



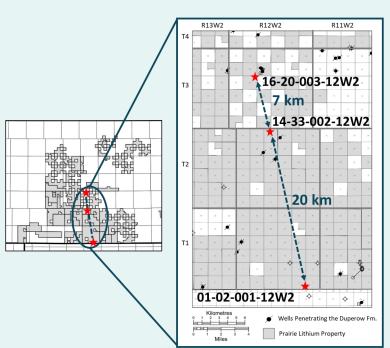
- The Prairie project is targeting the Duperow Formation in Saskatchewan, Canada which is consistently ranked at the top of global mining friendly jurisdictions
- To date, 800 wells have been drilled through the Duperow Formation
  - Well mapped and well understood geology
  - Well established drilling and production procedures
- The Duperow Formation characteristics are:
  - 2,400m depth
  - 140m thick
  - Laterally continuous across the basin
- Total resource of 5.7 million tonnes of Lithium Carbonate Equivalent<sup>(2)</sup>
- · Excellent access to utilities and services including:
  - Drill rigs, service rigs, skilled labour, fresh water, electricity, natural gas, railroads, grid roads, highways

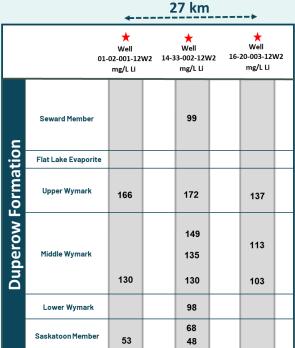


### **Contiguous Resource over 27km**



- Three wells tested
- Large Indicated Resource (4.0mm tonnes of LCE)<sup>(2)</sup>
- Total Resource of 5.7mm tonnes of LCE<sup>(2)</sup>
- Consistent grade over 27km
- 350,000+ acres of sub surface mineral rights
- Resource upgraded in Q3, 2023





Lithium Concentration (mg/L)

## **DLE Facility #1**





## **How Does The Brine Resource Compare?**



- ✓ Highest quality indicated lithium resource discovered in Canada to date
- ✓ Prairie has a competitive North American grade with the bulk of the indicated resource at 127 mg/L<sup>(4)</sup>

### TARGET FIRST COMMERCIAL PRODUCTION DATES



Construction Commenced At Prairie Project – ASX Announcement (November 6, 2023

Standard Lithium Files Definitive Feasibility Study for its First Commercial Lithium Extraction Plant – Phase 1A – NYSE Announcement (October 18, 2023)

<sup>&</sup>lt;sup>3</sup> ExxonMobill drilling first lithium well in Arkansas, aims to be a leading supplier for electric vehicles by 2030 - NYSE Announcement (November 13, 2023)

<sup>&</sup>lt;sup>4</sup> Prairie Project Resource Upgraded 39% – ASX Announcement (August 17, 2023)

<sup>5</sup> E3 Lithium Investor Presentation — TSY V Announcement (November 2023)

### **Big Sandy Project Overview**



#### **Key Points:**

- First drilling program completed in 2019
- Total Inferred and Indicated Resource 320,800 tons<sup>(1)</sup> of LCE from 4% of the landholding
- Production of high-quality battery grade Lithium Carbonate of 99.8%<sup>(2)</sup> purity (Battery Grade >99.5% purity) from Big Sandy Ore
- The Big Sandy Lithium Project is located in northwest Arizona, approximately 225 kilometres north of Phoenix, and approximately 90 kilometres southeast of the regional center of Kingman







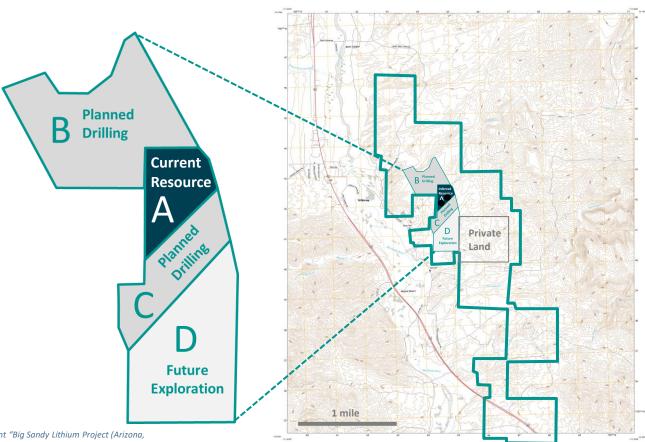
### Exploration upside

### **Expandable Resource**

Inferred and Indicated Resource of **320,800 tons**<sup>(1)</sup> of LCE from 4% of the landholding at Big Sandy

Two hours north of Phoenix with direct access from highway 93

Future development plans include drilling to the north and south of the current Indicated and Inferred Resource

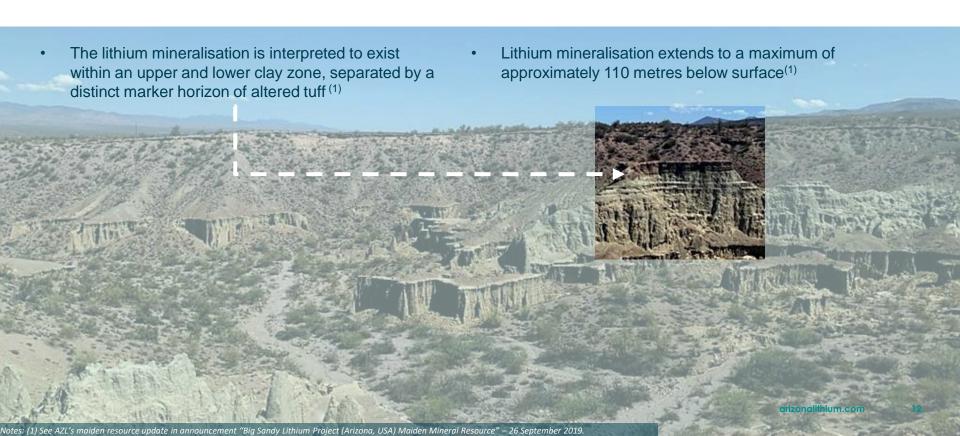


Notes: (1) See AZL's maiden resource update in announcement "Big Sandy Lithium Project (Arizona, USA) Maiden Mineral Resource" – 26 September 2019.

### Advantage



Why Big Sandy's sedimentary lithium works



### Research and Development



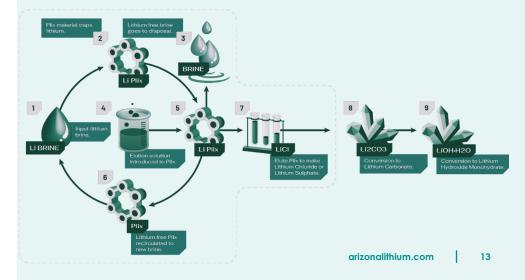
#### Lithium Research Centre (LRC)

- AZL has developed a world class LRC on a 9,700m2 property approximately 15km from Phoenix airport
- The facility includes a 1,900m<sup>2</sup> building for R&D and a 3,000m<sup>2</sup> secure lot for the fabrication and storage of processing equipment
- The LRC will function as a technology incubator focused on the extraction of lithium and produce battery grade lithium chemicals for current and future battery chemicals



#### **Direct Lithium Extraction (DLE) Technology**

- Lithium extraction technology that selectively removes lithium from brine
- Opportunity to produce battery grade lithium out of the lithium chloride or sulphate solution produced
- Has been tested successfully on the Big Sandy ore

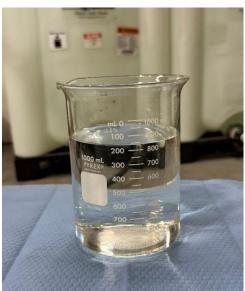


### Research and Development



#### Pilot Plant at Prairie Project

- Lithium concentrate being produced at Pilot Facility in Emerald Park, Saskatchewan
- Pilot will allow the company to finalize engineering and design of the first commercial facility



#### Lithium Research Centre (LRC)

- Lithium concentrate being sent to the LRC to be further refined into high purity lithium end products, such as lithium carbonate
- Lithium samples to be sent to potential offtakers



### **Board of Directors**





**Paul Lloyd** Managing Director

Paul Lloyd is a Chartered Accountant with over thirty-five years' commercial experience. Mr. Lloyd was one of the vendors of the Big Sandy Lithium project and has been the Managing Director since September 2018. Mr. Lloyd has been responsible for a significant number of IPOs, RTOs, project acquisitions and capital raisings for ASX listed public companies.



**Zach Maurer** Executive Director

Zach has over 10 years of experience in North America's energy sector. His experience spans production, environmental and hydrogeologic projects in Canada and the United States. In 2019, he founded and incorporated Prairie Lithium. In 2023, he led Prairie Lithium through the acquisition by Arizona Lithium. In recognition of his contributions to business in Saskatchewan, he was awarded the Queen Elizabeth II Platinum Jubilee Medal. He holds a B.Sc. in Geology from the University of Regina and a Diploma in Exploration Information Technology from the South Alberta Institute of Technology (SAIT).



**Barnaby Egerton-Warburton** Non-Executive Chairman

Barnaby has over 25 years of trading, investment banking, international investment and market experience with positions at JP Morgan, BNP Equities (New York) and Prudential Securities (New York). He is an experienced Investment Banker and corporate advisor, having held managing director and non-executive director positions in the investment banking, oil & gas and resource sectors. He holds a degree in economics, is a graduate of the Australian Institute of Company Directors, and a member of the American Association of Petroleum Geologists.



Matthew Blumberg
Executive Director

Matthew is currently based in New York and is a Director at Private Equity firm ALJ, focusing on Strategy, Mergers & Acquisitions. Matthew has previously worked in investment roles in New York and Sydney. He holds a Master of Business Administration (MBA) from Yale University and a double degree in Engineering (First Class Honours) and Commerce from The University of Western Australia.





#### With a proven track record



Wendy Alaniz
Chief Financial Officer (USA)

Wendy is a Certified Public Accountant with over 20 years' experience leading accounting and finance teams at public companies, predominantly Nestlé, with extensive experience in manufacturing, cost accounting, internal controls and audit. She holds a Master of Business Administration (MBA) and a Bachelor of Science (BSc) from California State University San Bernardino, where she also spent 3 years as Adjunct Faculty, Department of Accounting and Finance, College of Business & Public Administration. In addition, she is a Certified Internal Auditor (CIA) and Certified Fraud Examiner (CFE).



**Chelsey Hillier** Senior Vice President of Exploration

Chelsey holds a Bachelor of Science Geology Honours from the University of Regina. Before joining the Prairie Project in 2021 Chelsey worked in technical and management roles with Nexen and CNOOC Intl for 14 years. Chelsey manages the Technical Reporting, Subsurface Development and Reservoir Characterization Teams; and she plays and integral part in the researching, planning and execution of projects.



**Brett Rabe**Chief Technical Officer

Brett worked for Lithium Americas Corp as VP of Engineering and Project Manager for the Thacker Pass Project in Nevada. Brett has been involved in the design, development, and management of lithium projects for 10 years dating back to the geothermal brine project developed by Simbol Materials, Inc where he was Sr. Process Engineer and Plant Manager. Brett also has EPC/CM experience (3 years) with Jacobs Engineering where he held process engineering and project management roles for mineral processing, infrastructure, and US Government projects. Brett's other roles include various plant manager and process engineering roles with Elementis Global, Potash Corp, Chemical Products Corp, and Barrick Gold Corp. Brett completed a Master's Degree in Metallurgical Engineering (Hydrometallurgy) from the University of Nevada-Reno in 2000 and a Bachelor's Degree in Metallurgical Engineering in 1994.

# The path forward



**Exciting upcoming milestones for the company** 

	, positing time exercise are company
Timeline	News Flow
Q4 2023	Commence construction of commercial plant at Prairie project via building well pad
Q4 2023	DLE Pilot Plant operations at Prairie Project to confirm exceptional third party DLE results
Q4 2023	Completion of Preliminary Feasibility Study (PFS) on the Prairie Project
H1 2024	Distribution of Lithium produced from pilot to potential offtakers and/or strategic investors
H1 2024	Commence drilling production and disposal wells at Prairie project
H1 2024	Commence facility construction at Prairie project
H2 2024	Secure funding for Prairie Project expansion from customers or strategic investors
H1 2025	Commercial production from first well pad at Prairie project arizonalithium.com 17



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#### **COMPETENT PERSON STATEMENT**

The information in this report regarding exploration results, exploration targets and the mineral resources is based on and fairly represents information compiled by Mr Gregory Smith, a Competent Person who is a Member of

the Australasian Institute of Mining and Metallurgy. Mr Smith has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from

The original market announcements and that the material assumptions and technical parameters underpinning the Resource estimate continue to apply.

### COMPETENT PERSONS STATEMENT FOR PRAIRIE AND REGISTERED OVERSEAS PROFESSIONAL ORGANISATION (ROPO) AND JORC TABLES

Gordon MacMillan P.Geo., Principal Hydrogeologist of Fluid Domains, who is an independent consulting geologist of a number of brine mineral exploration companies and oil and gas development companies, reviewed and approves the technical information provided in the AZL Prairie acquisition release (21/12/2022) and JORC Code. Mr. MacMillan is a member of the Association of Professional Engineers and Geoscientists of Alberta (APEGA), which is ROPO accepted for the purpose of reporting in accordance with the ASX listing rules. Mr. MacMillan has been practising as a professional in hydrogeology since 2000 and has 22 years of experience in mining, water supply, water injection, and the construction and calibration of numerical models of subsurface flow and solute migration. Mr. MacMillan is also a Qualified Person as defined by NI 43-101 rules for mineral deposit disclosure.







# **Mineral Resource Summary**

#### **BIG SANDY PROJECT**

Resource Classification	Tonnes (Mt)	Li Grade (ppm)	Contained Li Metal (t)	Contained LCE (kt)
Indicated Resource	14.6	1,940	28,400	151
Inferred Resource	17.9	1,780	31,900	170
Total Resource	32.5	1,850	60,300	320.8

BIG SANDY LITHIUM PROJECT (ARIZONA, USA) MAIDEN MINERAL RESOURCE - ASX Announcement (September 26, 2019)

#### PRAIRIE LITHIUM PROJECT

	Indicated & Measured		Inferred		Total	
	Resource (tonnes LCE)	Li Concentration (mg/L)	Resource (tonnes LCE)	Li Concentration (mg/L)	Resource (tonnes LCE)	Li Concentration (mg/L)
Prairie Project	4,000,000	106	1,700,000	102	5,700,000	105

PRAIRIE PROJECT RESORUCE UPGRADED 39% - ASX Announcement (August 17, 2023)