



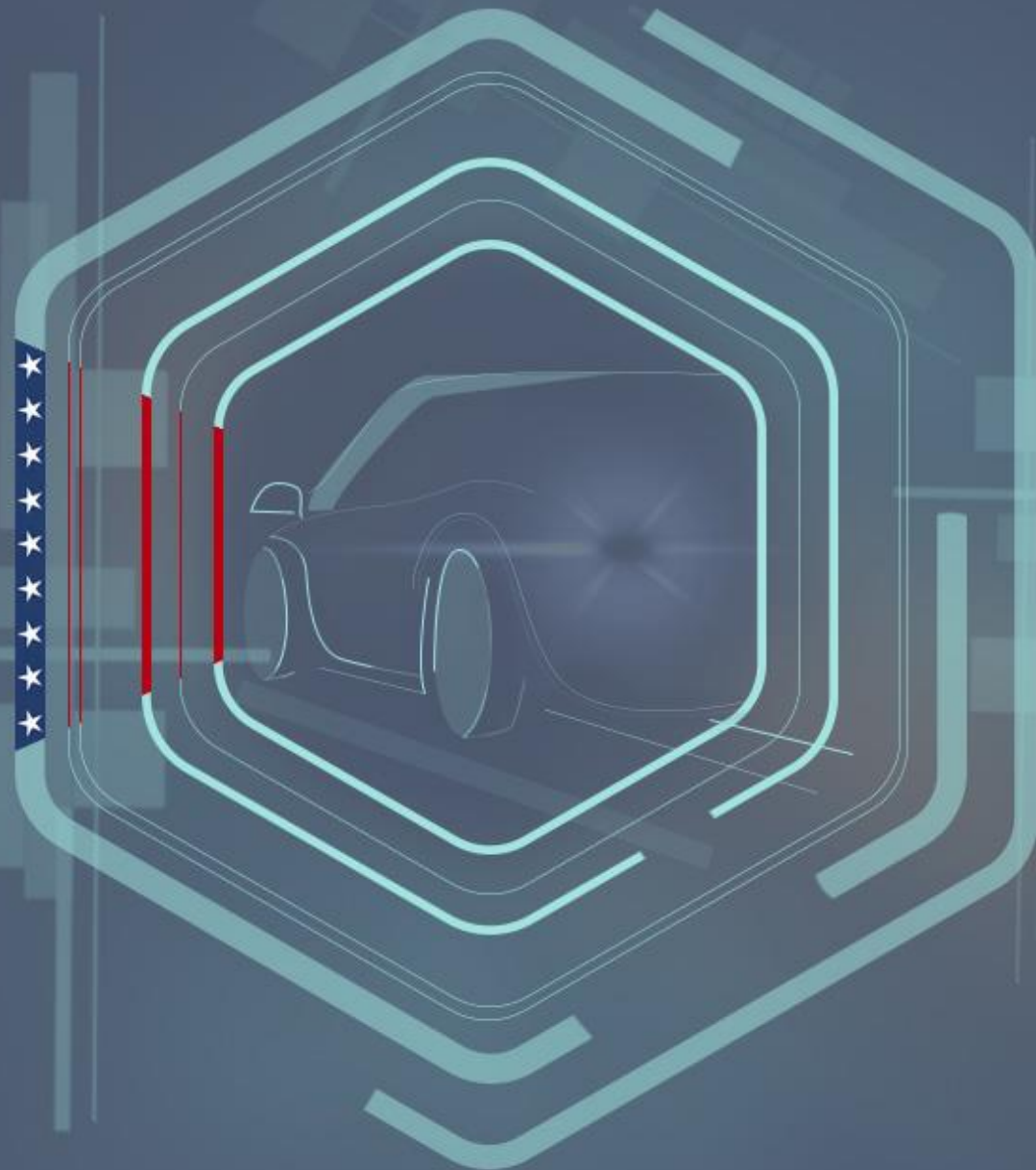
**MIDWEST  
LITHIUM**

## **USA HARD ROCK LITHIUM**

SIGNIFICANT OWNERSHIP OVER  
AMERICA'S LARGEST HISTORICAL  
SPODUMENE PRODUCING DISTRICT

**South Dakota, US**

MAY 2023





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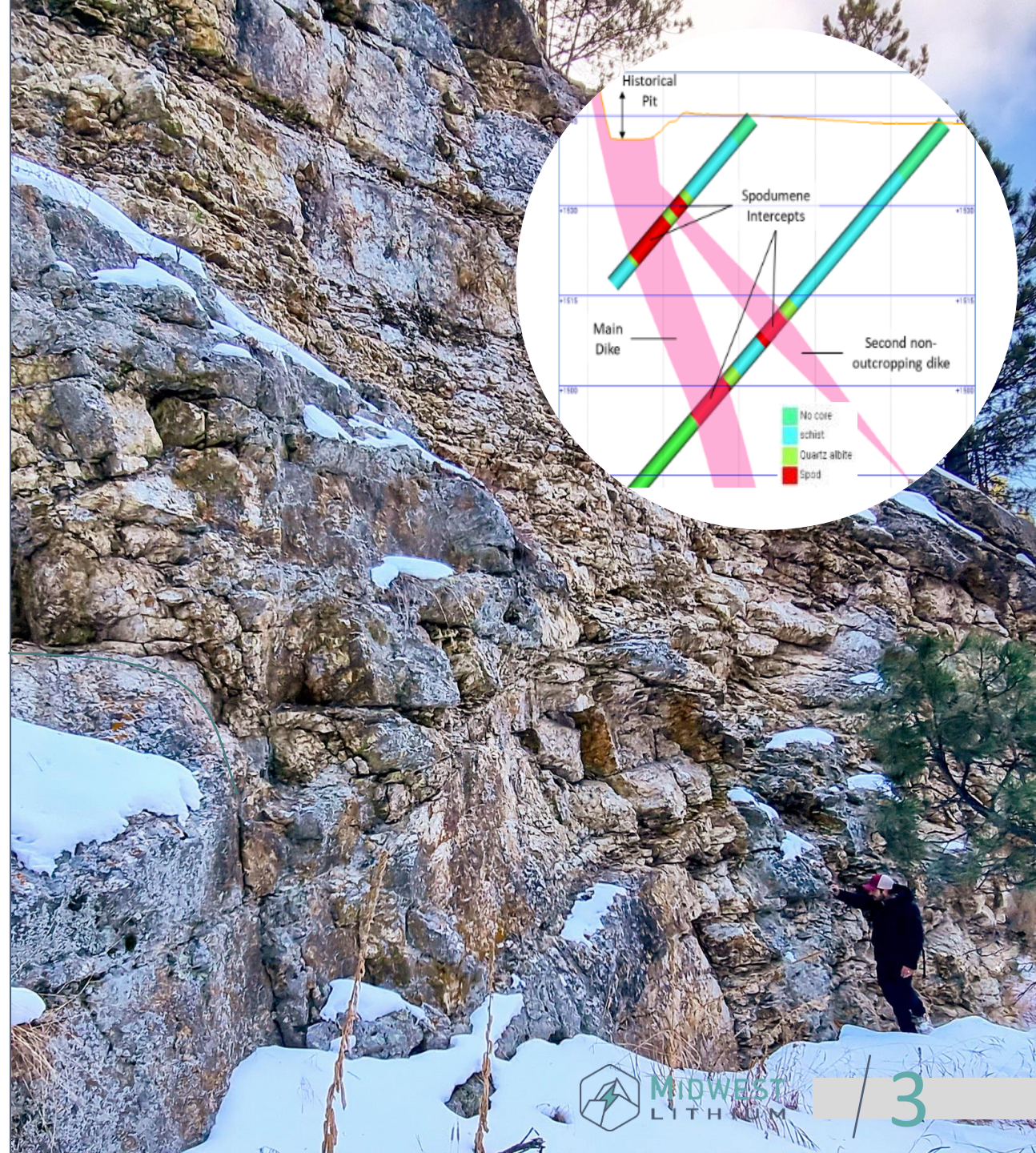
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# PROJECT SUMMARY

Location	South Dakota, US
Commodity	Lithium
Property	~23,500 acres (95km <sup>2</sup> ) on both Federal and Private Land
Royalty	<ul style="list-style-type: none"><li>• No royalty on 90% of the claims</li><li>• 1.25% on 10% of the claims</li><li>• (0.75% buy-back option for \$150k)</li></ul>
Stage	Historical Production and Historical Drilling / Exploration
Permits	<ul style="list-style-type: none"><li>• None required for initial exploration</li><li>• Drilling and <b>mining permits</b> on private land expected in Aug/23</li><li>• Permits on federal land in progress</li></ul>
Mineralization	Spodumene bearing pegmatites
Ownership	100% Midwest





## The only large hard rock lithium district in the USA with mining licenses



World's main lithium producing district for significant part of last century



Some of the largest spodumene crystals in the world up to 15m long



De-risked district with past lithium spodumene production for decades



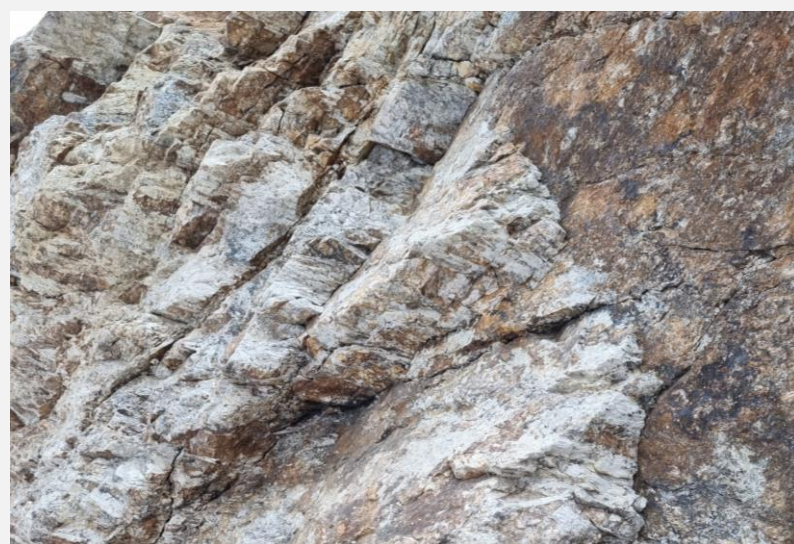
Over **24,000 pegmatite bodies** in the entire district



Existing geological mapping and historical drillholes



Proven metallurgy: conventional methods produced at least 74kt SC6





# JURISDICTION & OPPORTUNITY

## USA – A TRUE TIER 1 JURISDICTION

Midwest has a significant position in the **only remaining US Brownfield lithium district**

### Jurisdiction

US is ranked **top 3** in the **world index of investment attractiveness** together with Australia and Canada and **4<sup>th</sup> largest gold producer globally**

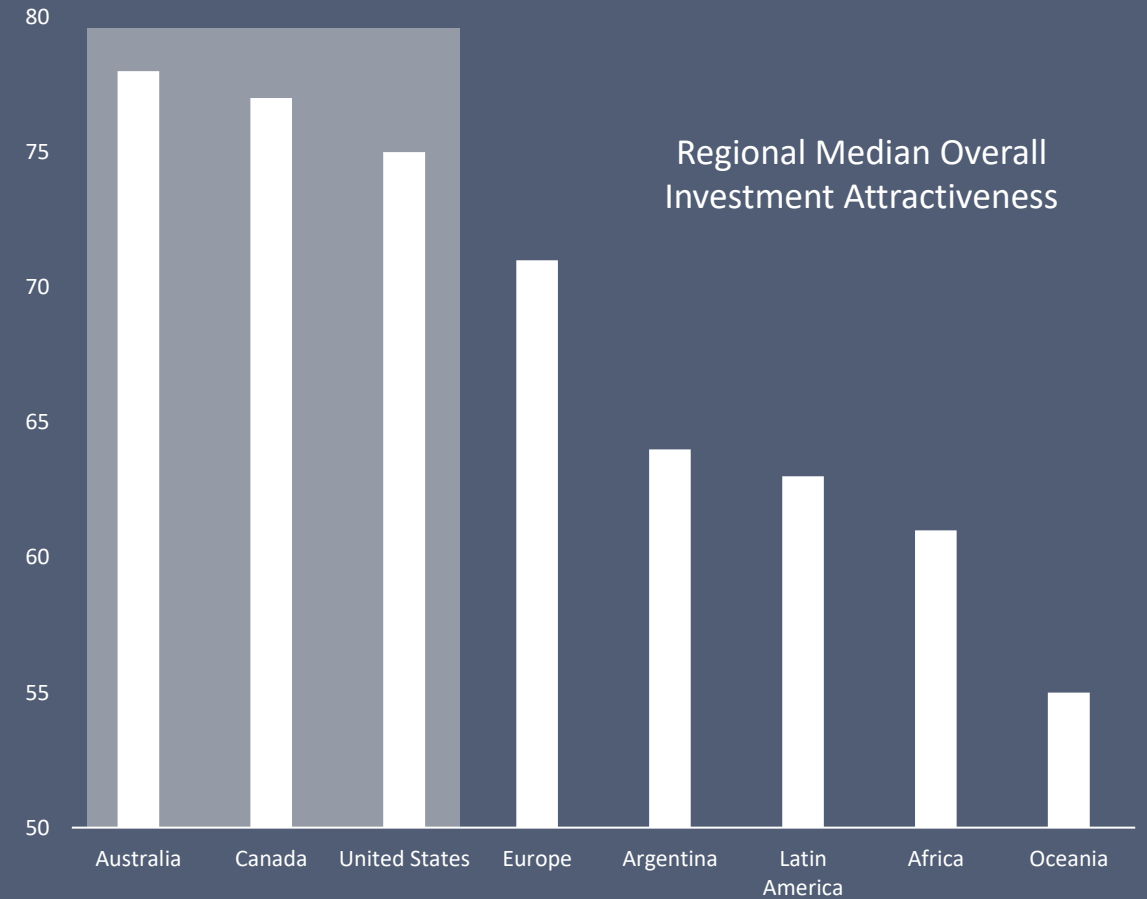
### Prospectivity

The Black Hills district hosts some of the highest grade and largest lithium bearing crystals on Earth, it was the main lithium producer worldwide until the 1950s

### Proximity to Vehicle Producer

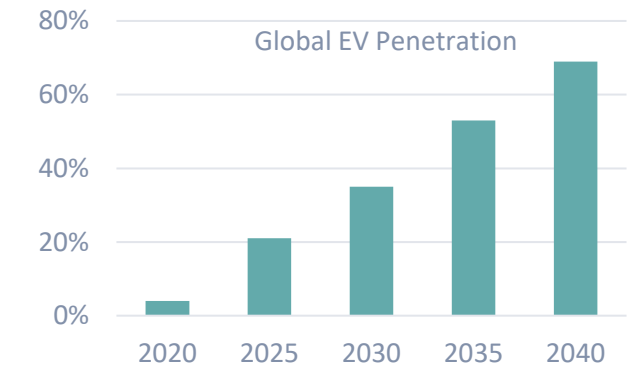
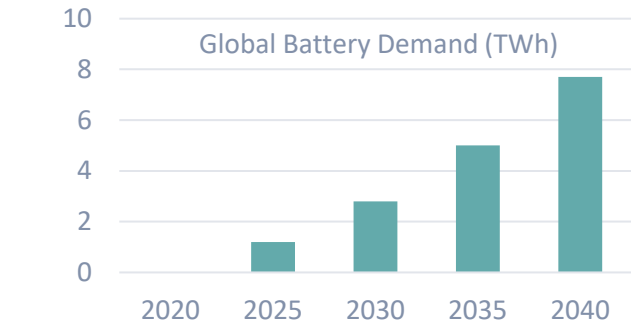
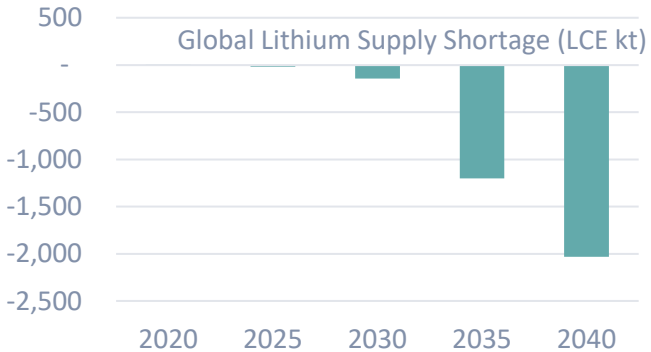
Midwest projects are one of the closest existing lithium projects to the main US vehicle manufacturing center

## Fraser Institute Survey of Mining Companies 2020





# GLOBAL SHORTAGES ARE DRIVING GOVERNMENT POLICIES ESPECIALLY IN THE USA



Source: SC Insights

## US administration priority: Energy Security

# Inflation Reduction Act

Defense Production Act

Many minerals defined as critical to national security

Pentagon investing in domestic lithium and other metals

Mining permitting / development to be prioritized

\$400 billion in federal funding to clean energy

- “It is the policy of my Administration that ensuring a robust, resilient, sustainable, and environmentally responsible **domestic industrial base to meet the requirements of the clean energy economy**, such as the production of large-capacity batteries, is essential to our national security and the development and preservation of domestic critical infrastructure.”
- Today the US is completely reliant on the Chinese supply chain for battery production

The New York Times

Daily Business Briefing >

## Biden Invokes Cold War Statute to Boost Critical Mineral Supply

The action aims to enhance American production of crucial materials for electric vehicles, defense systems and other technologies.

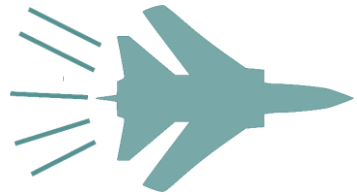


## China fires missiles near Taiwan after Pelosi visit

Taiwan and Japan say Chinese missiles land in their seas with Beijing angered by the visit.



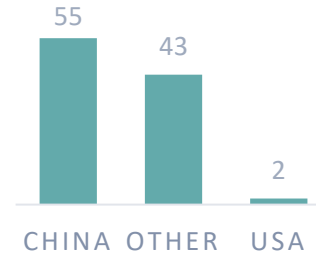
## LITHIUM IS NOW A MATTER OF SECURITY



Department of Defense is targeting to use batteries in defense applications: vehicles, aircraft, munitions, platforms, unmanned systems and satellite systems.

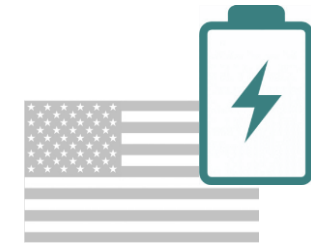


U.S. only produces 1% of the world's lithium\*



China provides 55% of the World's Lithium chemical supply. U.S. only has 2 % of supply\*

Major security and geopolitical risk to the largest global economy



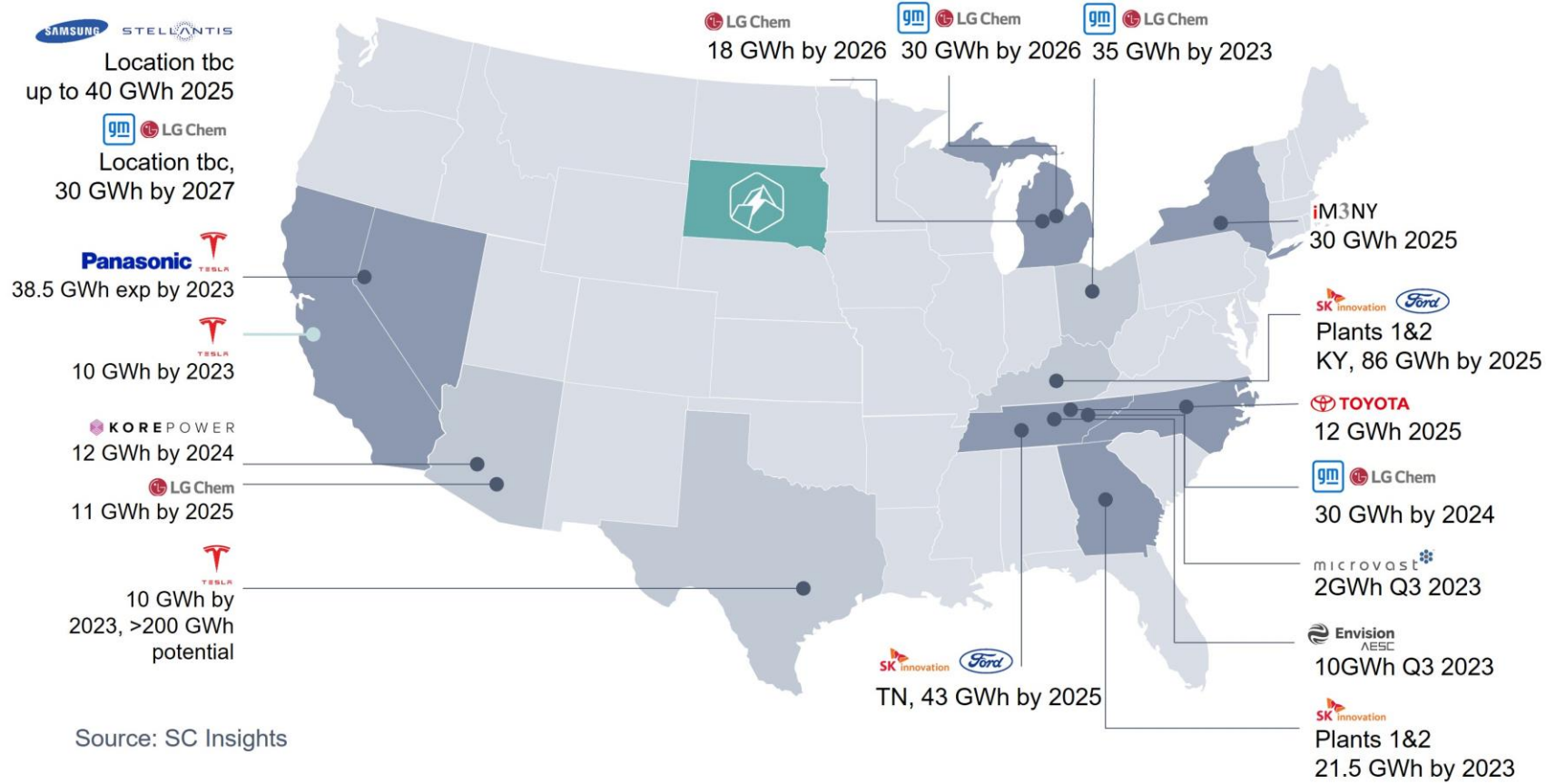
Midwest Lithium is well positioned to help secure the domestic supply chain

\*2020 numbers Benchmark



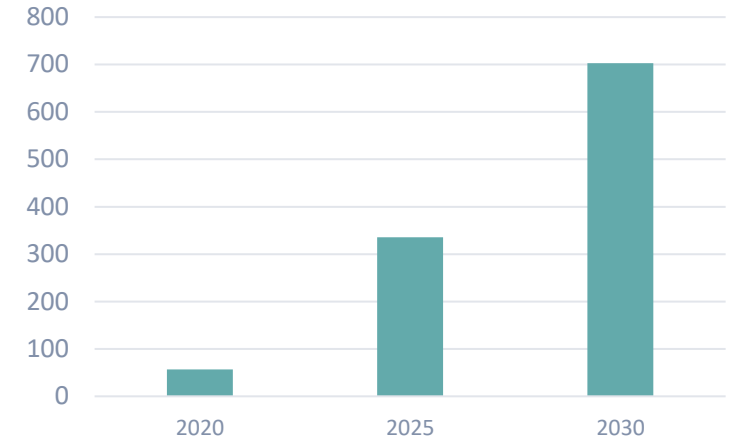
# USA DEMAND FAR EXCEEDS SUPPLY IN THE COMING YEARS

South Dakota is in the heart of the US with excellent logistics to the main consumer markets

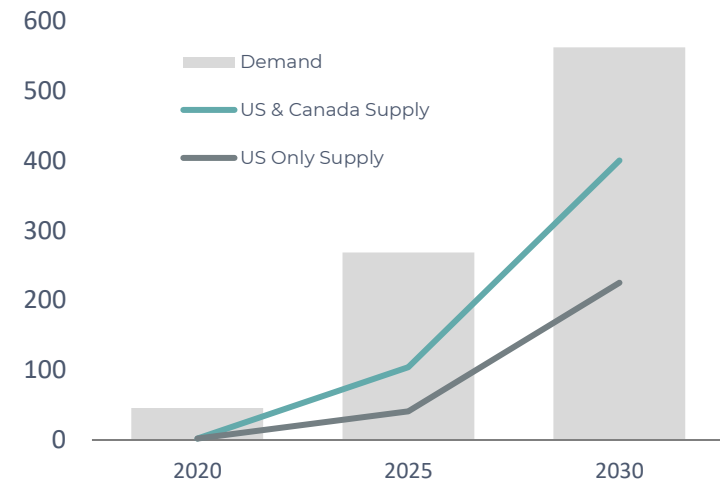


Source: SC Insights

### US Megafactory Capacity 2020-2030 (GWh)



### US & Canada Primary Lithium Supply Demand Balance 2020-2030 (000' Tonnes LCE)



All \$ Values in USD



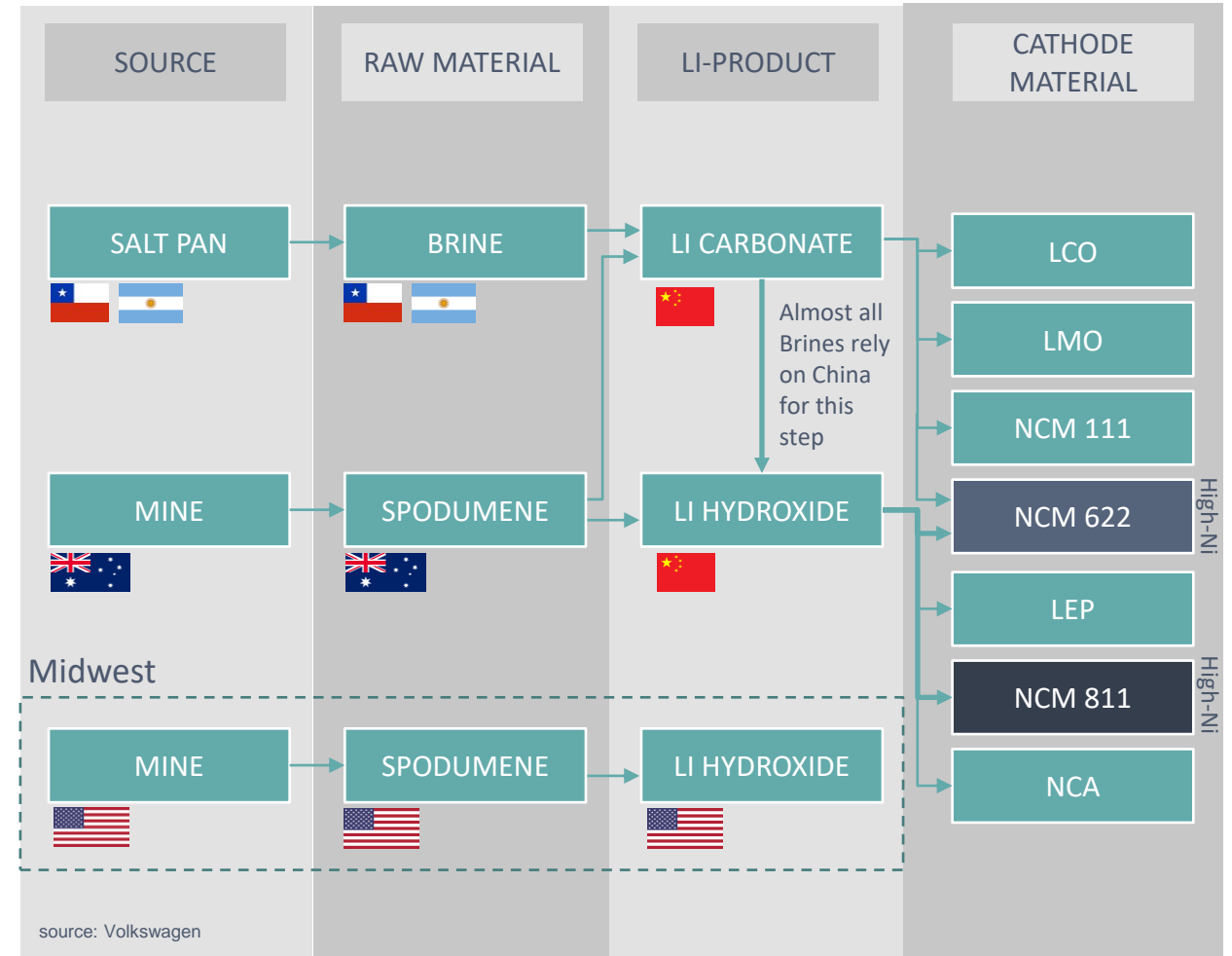


# THE USA WILL NEED HARD ROCK SPODUMENE LITHIUM, LOTS OF IT

- High nickel batteries will dominate the EV market and all USA battery producers are high nickel
- Brine sources produce carbonate. Most conversion capacity to hydroxide is in China
- Tesla, Albemarle and Piedmont have announced lithium refining for the USA, using hard rock lithium

**Midwest will produce spodumene, a commercially proven lithium feedstock, which will be utilized to produce high-grade lithium hydroxide, a crucial component in the production of high-grade cells.**

- Hydroxide is the preferred lithium source for High-Ni batteries due to its lower melting point and thermal sensitivity of nickel.
- Using spodumene is a cost-effective and reliable way to produce this hydroxide while having a minimal impact on water resources.

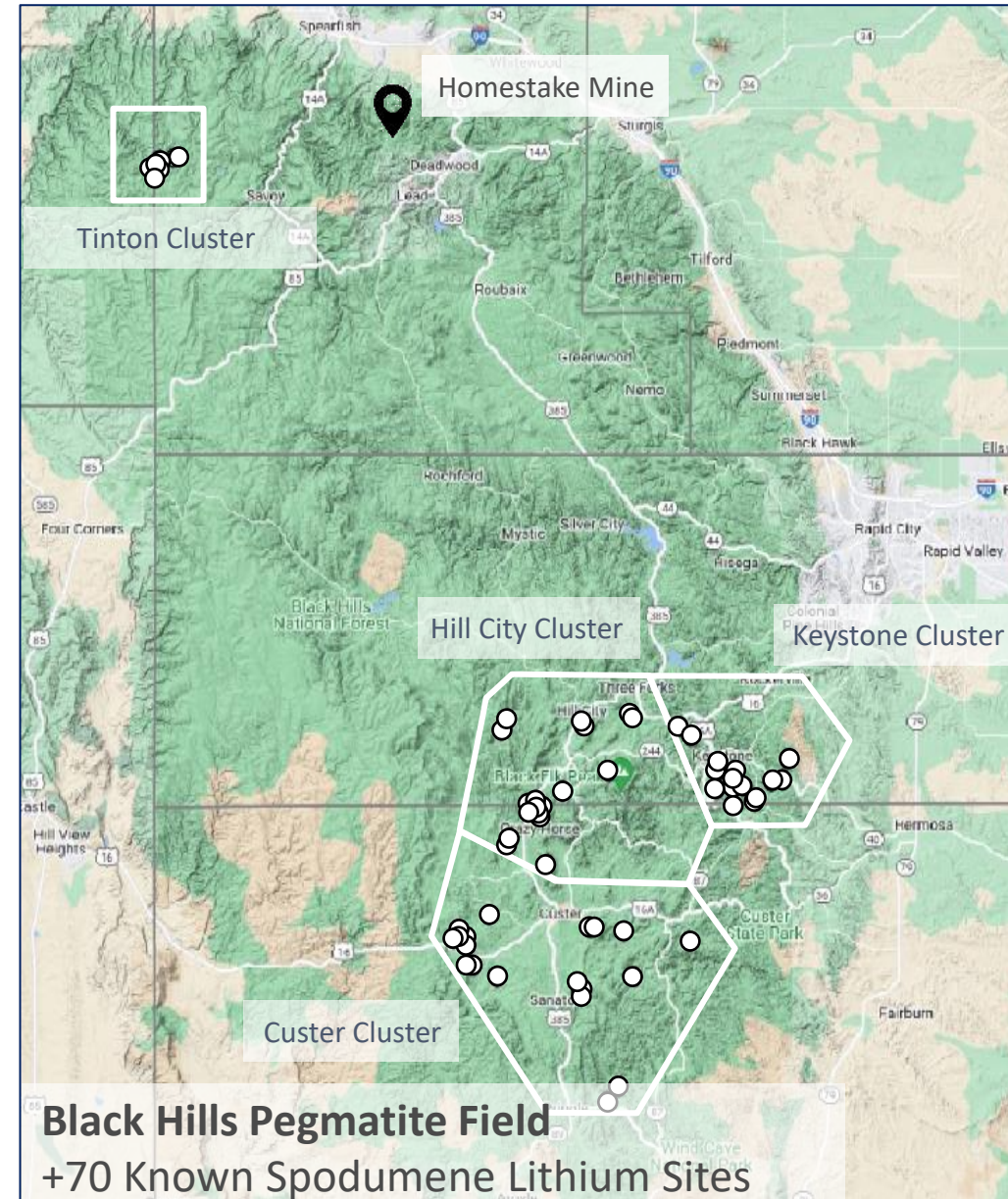




# BLACK HILLS LITHIUM POTENTIAL

## Black Hills Pegmatite Field

- **World-class hard rock lithium region**
- **Brownfield:** confirmed past production of at least 74kt SC6 including exceptionally high-grade ore
- **Largest source of lithium in North America** until the 1950's when market drivers forced mines to shut down and region went dormant
- Midwest was one of the **first movers** in the district
- Thousands of well-known spodumene pegmatites occurrences and outcropping ore bodies



The Black Hills is well known for its large spodumene 'logs' which can be found in many deposits in the area.

Over **24,000** mapped **outcropping pegmatite bodies** in the district.

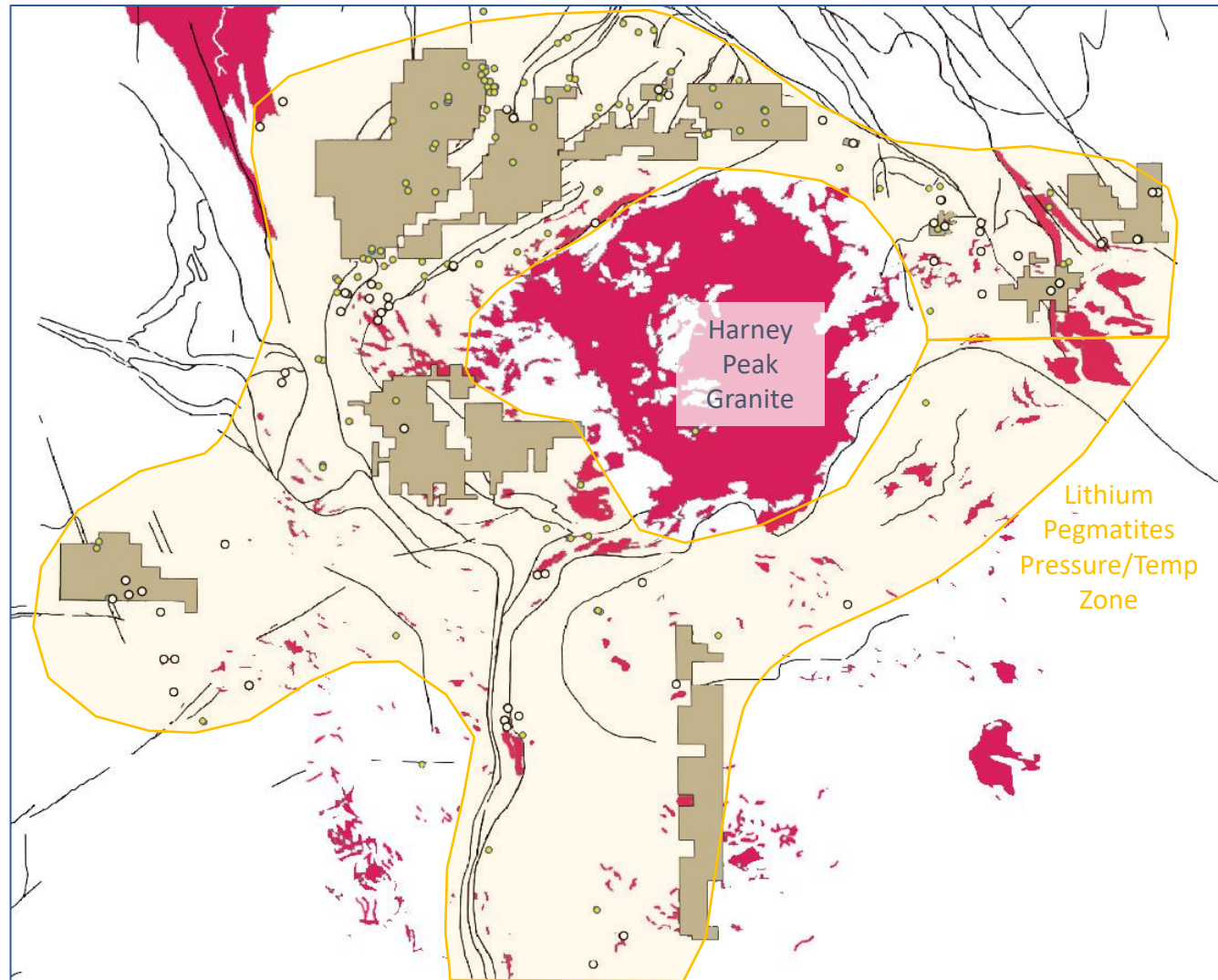


## LOCAL GEOLOGY – OVERVIEW

The fertile Harney Peak Granite melts are the source of Li bearing pegmatites in the Black Hills

Claims marked as green boxes covering ~21,000 acres sit in the correct pressure and temperature corridors for Li bearing mineral crystallization (green schist facies) numerous pegmatite dikes, visible spodumene and historical producing sites throughout the claim package.

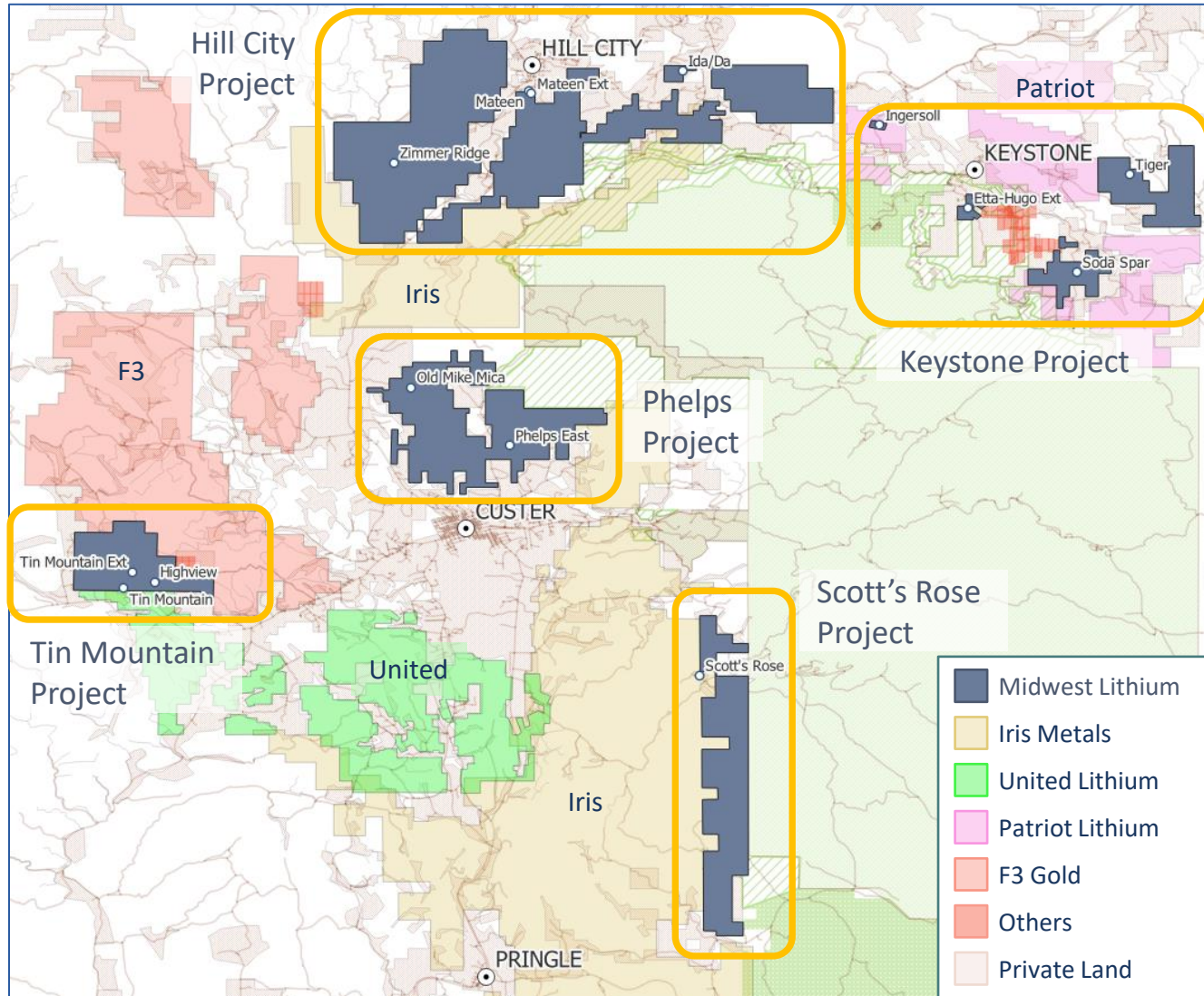
- Tin/Tantalum Prospects in Pegmatite - Lithium Proxy
- Historical Lithium Mines and Prospects



Primary faults (black lines) have been exploited by the Harney Peak Granite intrusions. Major historical workings area associated with these primary structures. These structures have been used in the desktop study along with other vectors such as crystallization of metamorphic index minerals Andalusite and Sillimanite as proxies for mineralization.



## LAND HOLDING AND STRATEGY



3x

Past producing lithium mines

+10x

Targets with positive Li samples

+30x

Spodumene bearing pegmatites

### Main Projects

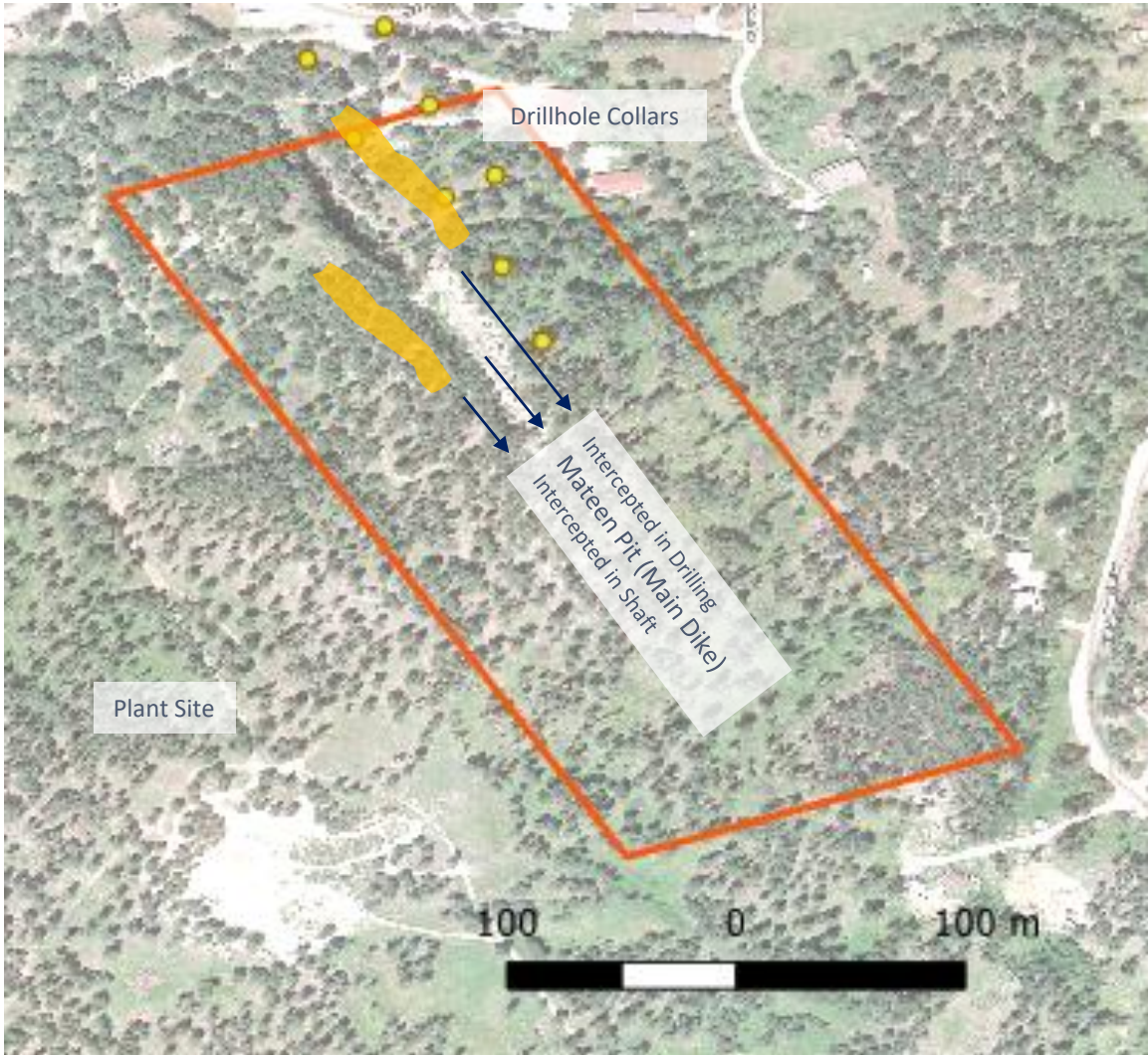
- Private Land Projects
  - Mateen: one of the main producing mines historically
  - Ingersoll : one of the main producing mines historically
  - Old Mike Mica : mica producer; spodumene sighted
- Federal Land Projects
  - Soda Spar: rock face covered with spodumene
  - Tin Mountain: land surrounding one of the main producing mines historically
  - Phelps East: new swarm of zoned pegmatites identified
  - Ida/Da: geochemical anomaly and visible lithium minerals
  - Tiger: new swarm of zoned pegmatites identified
  - Etta/Hugo Ext: adjacent to the largest historical producer

### Exploration Strategy

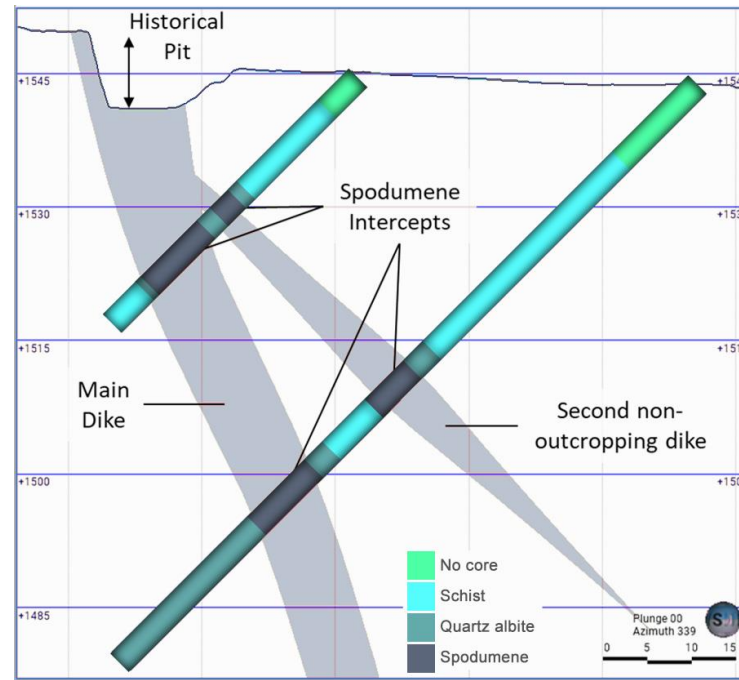
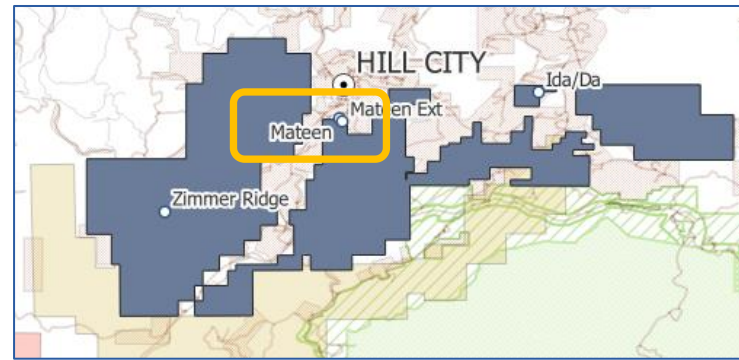
- Initiated initial **exploration geology work** including detailed mapping, geochemistry and target generation
- Preparing for first drill programs in late 2023 / early 2024



# MATEEN



Mateen Plan View



Mateen Cross Section

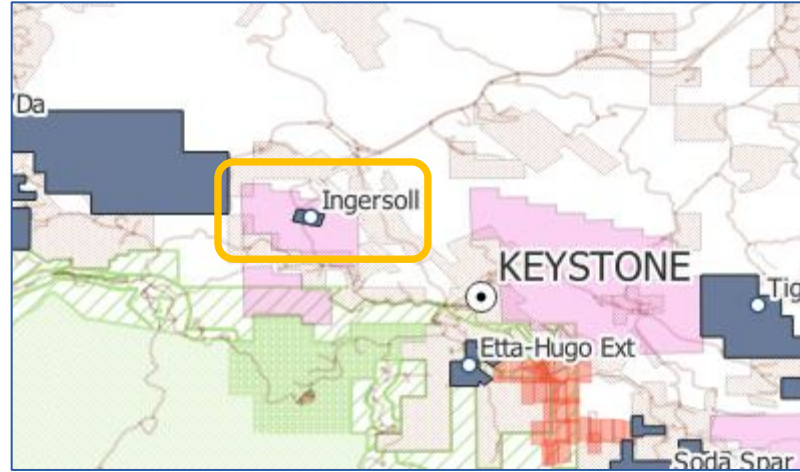
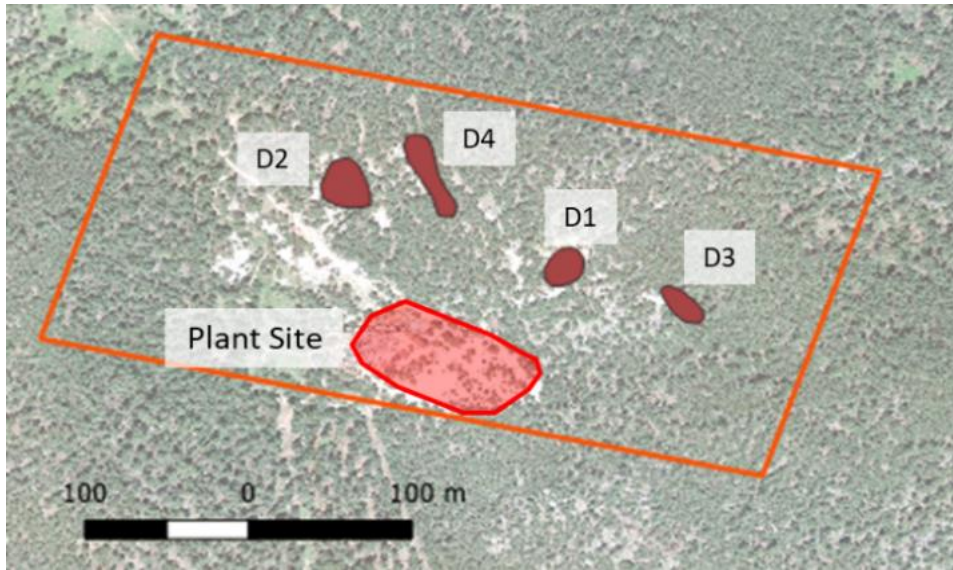
One of the main historical producers. Midwest holds the private land with historical mine and federal ground around it.

Mateen has produced 35kt at 1.2% Li<sub>2</sub>O and has 7 historical drill holes including 20m intercepts of spodumene bearing pegmatites.

The spodumene core is 10-20m wide and the main dike can be traced for at least 300m. There are at least 3 known dikes in the.



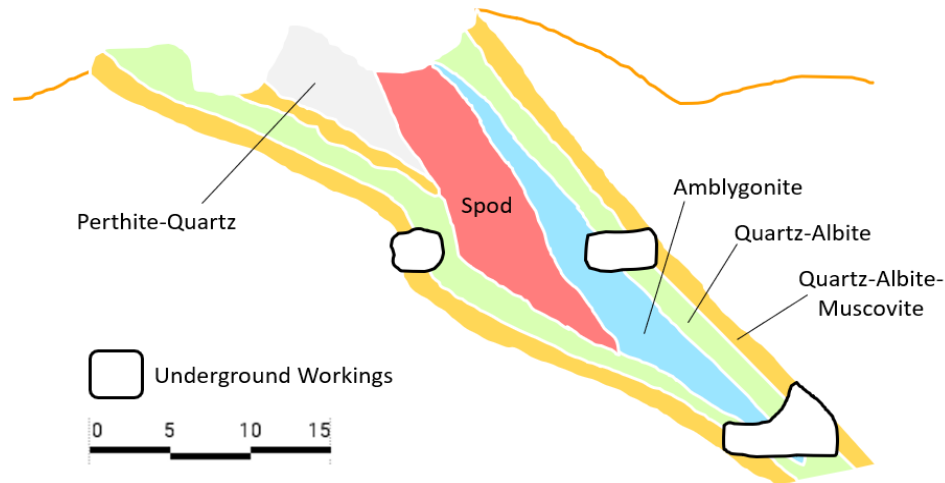
# INGERSOLL



Ingersoll plant (not on site any longer)

Important lithium past producer, Midwest holds the private land with historical mine. Produced lithium minerals include spodumene, lepidolite and amblygonite.

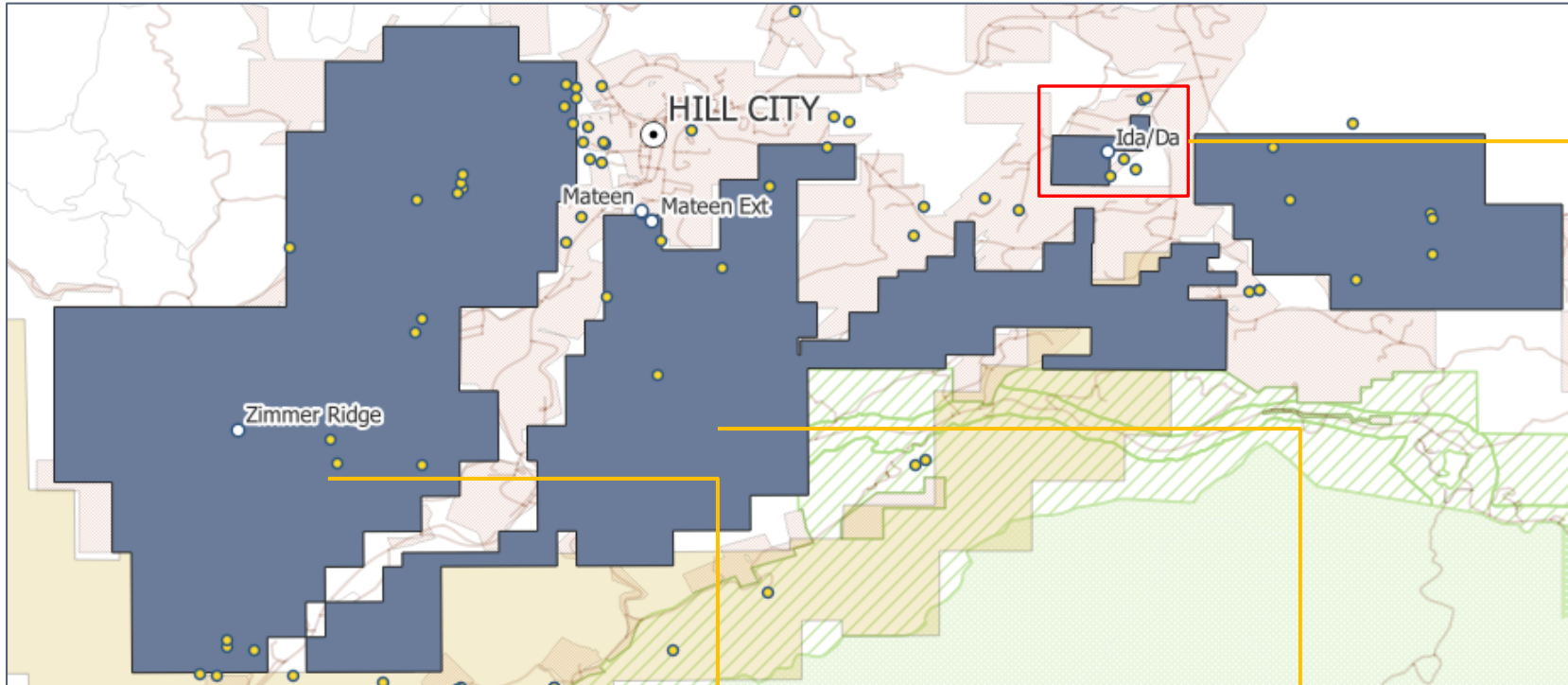
Contains five known pegmatite bodies: two have been partially mined and three have proven lithium mineralization of which two include visible spodumene. Most of the spodumene found at Ingersoll was present at Dike 2 (cross section).



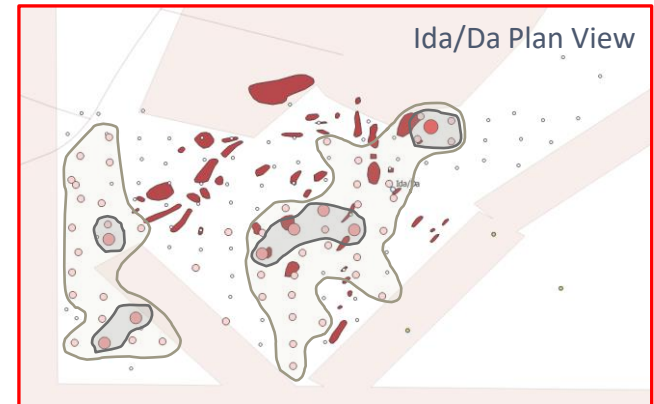


# HILL CITY PROJECT

100% of the Federal Ground Dedicated to 'Resource Production'



**Ida and Da**  
Previously mined spodumene prospects. Several pegmatites already mapped on the claims and geochemical studies show well defined Li anomalies for potential drill targets.



- Tin and Tantalum Prospects
- Main Midwest Lithium Prospects
- Midwest Claims
- Private Land

**Zimmer Ridge**  
The area contains records of pegmatite dikes with visible spodumene in addition to numerous tin prospects (lithium proxy). Midwest Lithium has not yet completed mapping and surface sampling in this area which is schedule for the 2023 field season

**Other Hill City Pegmatites**  
Between the two isograd lines, the Whitetail project is situated the desirable pressure/temperature gradient and includes several tin and spodumene prospects hosted within the pegmatites. Harney Peak Granite intrusions are also present throughout the project which are a great proxy for Li in the area

- 0 – 50 ppm
- 50 – 150 ppm
- 150 – 500 ppm
- 500 – 500 ppm
- 1500 – 4500 ppm



# KEYSTONE PROJECT

## Ingersoll

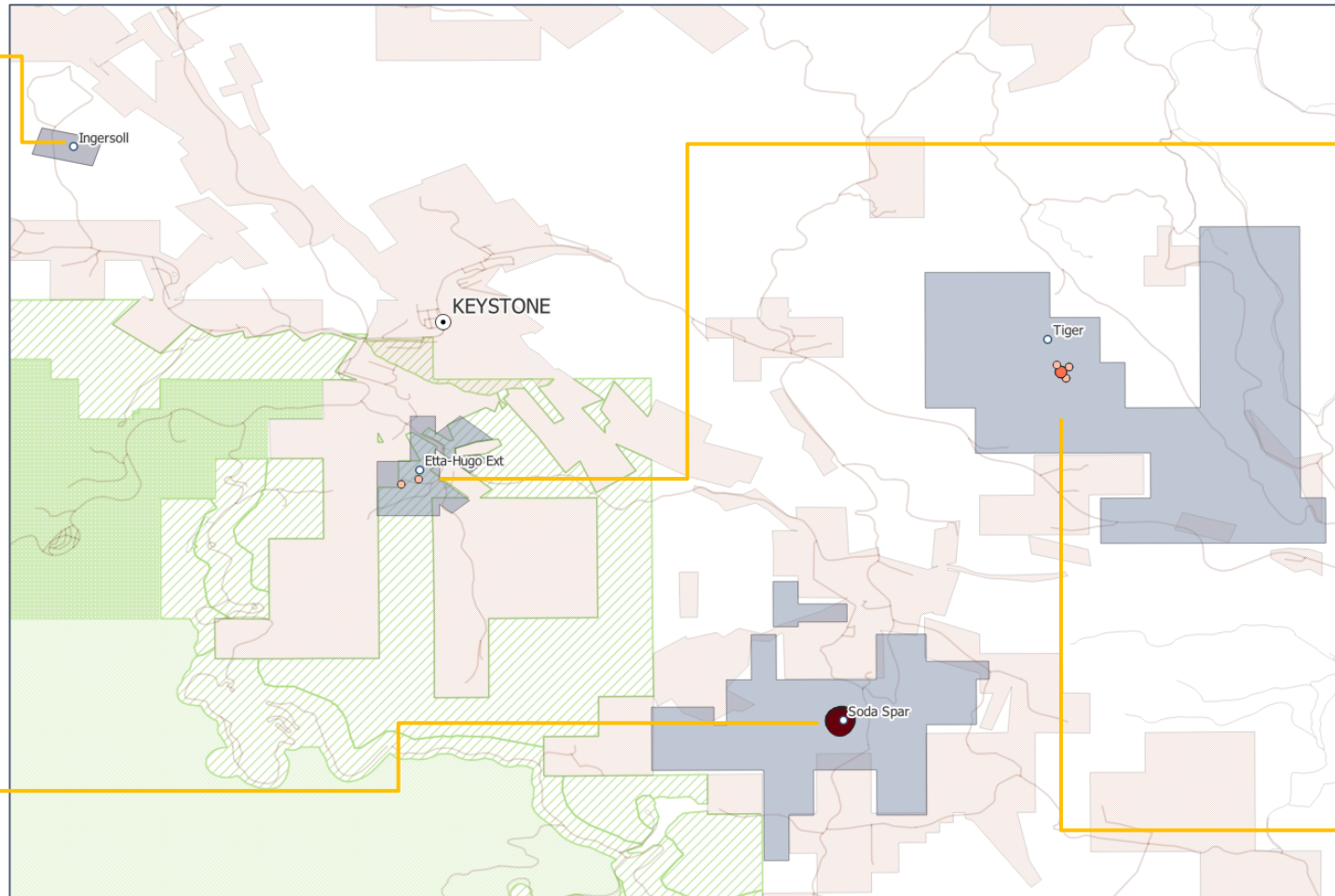
Details in previous slide



Wall covered by visible spodumene at Soda Spar

## Soda Spar

Visible spodumene found at first sight. Midwest successfully purchase third-party claim



## Hugo/Etta

Midwest holds the area between Hugo and Etta (but not the historical pits themselves). Etta was the largest source of lithium in the US for decades. Hugo is a historical producer with samples up to 5.5%  $\text{Li}_2\text{O}$ .



Spodumene mineralization at Etta

## Tiger

Smalls scale past production of spodumene and amblygonite

- Tin/Tantalum Prospects in Pegmatite - Lithium Proxy
- Historical Lithium Mines and Prospects
- Midwest Claims
- Private Land



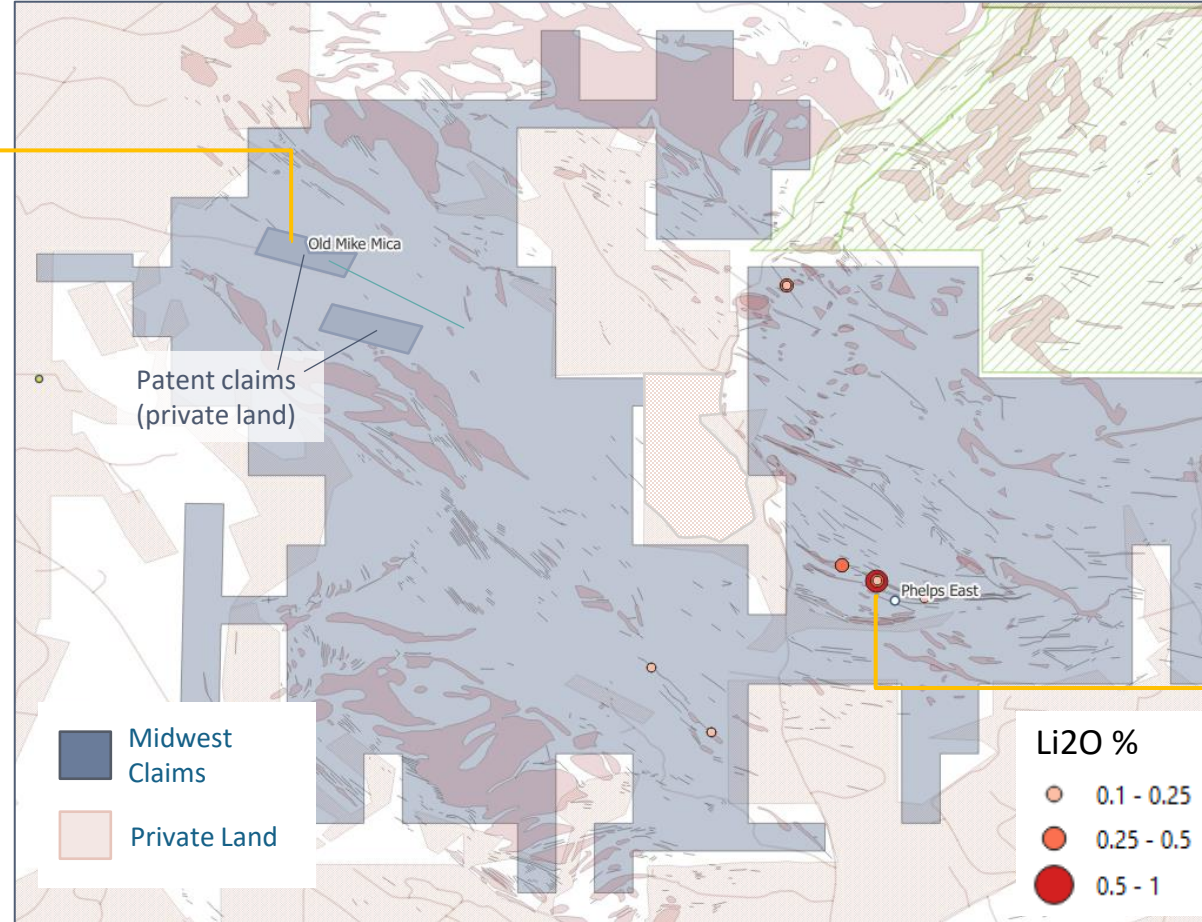


# PHELPS PROJECT

## 75% of the Federal Ground Dedicated to 'Resource Production'

### Old Mike Mica Mine

Midwest controls 2x private claims in the area. The Old Mike Mica Mine contains well defined pegmatite bodies with historical spodumene sights. LIBS samples are returning Li values in the micas indicating potential lithium mineralization.



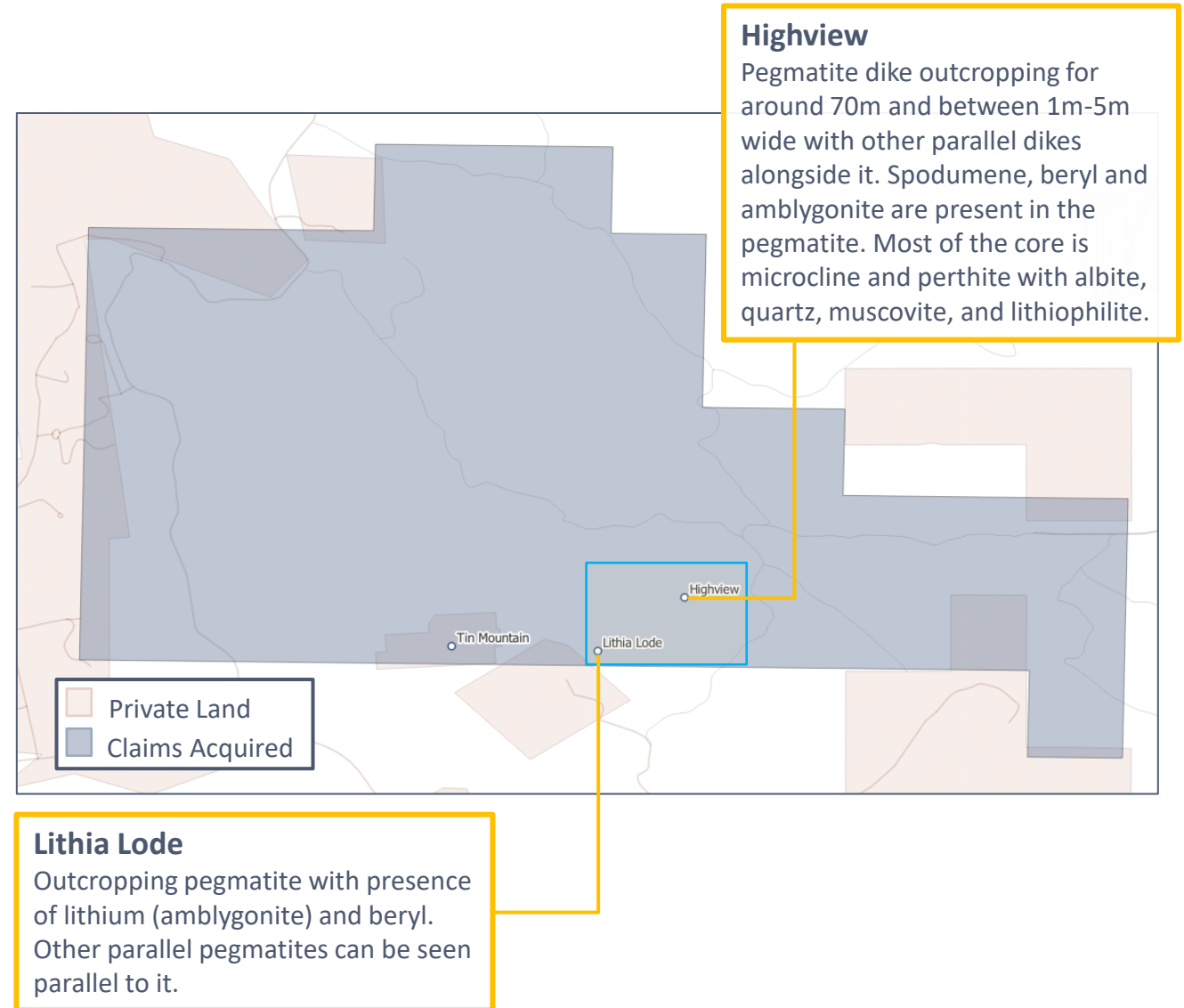
### Visible Spodumene

Visible spodumene sights during staking campaign. Up to 0.8% Li<sub>2</sub>O samples on zoned pegmatites swarm.



# TIN MOUNTAIN REGION PROJECT

- Tin Mountain Region (Unpatented Claims in Federal Land).
- The claim package acquired, west of Custer, adds unpatented 93 claims and around 1,900 acres in federal land encapsulating the past-producing Tin Mountain mine.
- Tin Mountain (not owned by Midwest) sits on private land. The deposit consists of two main outcropping bodies of around 25m and has produced in the past spodumene, amblygonite, beryl and columbite.





## PERMITTING

- The Black Hills is a well-known mining region:
  - Coeur's Wharf Mine (large gold open pit heap leach) operating
  - Dozens of operating open pit quarries (similar scale to lithium mines)
  - Homestake (one of the largest US gold mines) operated for +100 years
  - Region has been continuously mined since the 1800s
  - F3 Gold has permitted a drilling program in US Forest Service land
  - Dakota Gold executing drilling programs
  - Iris Metals executing drilling programs
- Targeting streamlined permitting process leveraging from brownfield sites, Federal policy and State law
- In SD pegmatites mines can be granted mining licenses on private land in a matter of months
- National Parks and Wilderness areas avoided completely
- US Forest Service already have 4 Critical Minerals projects approved and another 4 in the pipeline
- ~50% of the Black Hills legally allocated to 'Resource Production'. +75% of Midwest's ground in this category



Wharf Mine, Coeur Mining - Black Hills, South Dakota



Homestake Mine, Barrick - Black Hills, South Dakota

## Environment, climate risk and emissions

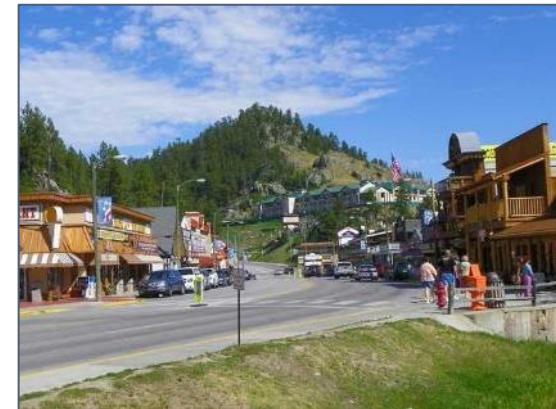
- Targeting minimal carbon emission from exploration to mining
- Leveraging from hydro-powered State grid and electrical vehicles

## Keeping our people safe

- Board and Management have operated large multi-billion-dollar companies that comply with the highest international standards
- Employees and contractors follow comprehensive safety protocols from early exploration stages

## Communities and Cultural Heritage

- Highest priority to hire local workforce and develop local institutions
- Local contractors deeply imbedded in the community engaged
- Planning collaboration with other local exploration companies to create a Community Information Centre in Custer

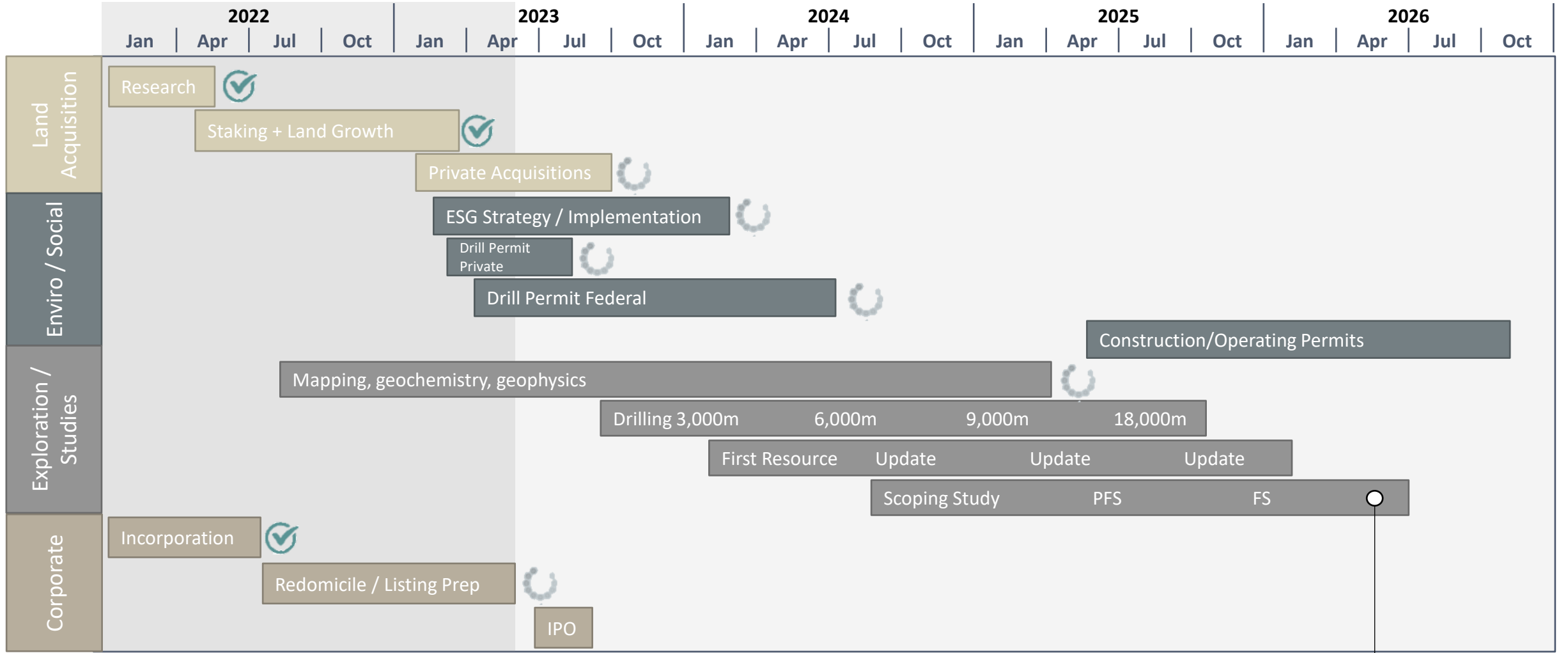


# SUMMARY OF MIDWEST PROJECTS TECHNICAL ASPECTS

Geology	Mining	Processing and Infrastructure	Permitting and Environmental	Legal and Land
<p>Lithium minerals are often found throughout the pegmatite core surrounded by concentric zones of quartz and potassium feldspar with or without spodumene and amblygonite.</p> <p>The pegmatite geometries are spatially variable; linear, elliptical, or keel shaped are some of the more common described. They reach 350m long and 120m wide.</p> <p>The zoned pegmatites normally have a more complex mineralogy that includes beryl, spodumene, amblygonite, lepidolite, pollucite, cassiterite, and a host of rare phosphate and oxide minerals.</p>	<p>The region is highly populated with multiple historical open pit and underground mines and prospects. The workings vary significantly from pit/drive prospects to small scale operational mines that ran for decades.</p> <p>The pegmatite and host rock seem stable and both conventional open pit and underground methods can be assessed once the orebodies are better defined.</p>	<p>The region produced lithium from spodumene, amblygonite and lepidolite; 90% of all concentrate shipped was spodumene.</p> <p>Four main processing plants were active in the area: Mateen, Edison, Etta and Ingersoll.</p> <p>These were some of the first DMS (Dense Media Separation) processing plants in the world and were able to efficiently recover and concentrate the ore from different mines in the Black Hills that were hauled to these processing hubs. Majority of Li ore was previously hand sorted</p>	<p>Leveraging from streamlined permitting process or pegmatite minerals in private land in South Dakota.</p> <p>Little to no disturbance during exploration phase leveraging from geochemical and field mapping methods.</p> <p>Midwest will explore legacy deposits that are in need for environmental rehabilitation, providing the required capital for a proper sustainable mine closure.</p> <p>National Parks and Wilderness areas avoided completely.</p>	<p>Land is categorized mainly in Federal and Private.</p> <p>Midwest's strategy is to expand our landholding to improve our already significant position in the Black Hills.</p> <p>Planned additional private land acquisition will streamline permitting even further. Multiple historical mines are advertised for sale for prices of common farmland.</p>
<p><b>Lithium mineralization is well understood in the region.</b></p>	<p><b>Significant evidence of conventional historical mining activity.</b></p>	<p><b>Production records show that ore was recoverable even with early DMS technology</b></p>	<p><b>Minimal impact and focus on already producing areas</b></p>	<p><b>Land strategy is to quickly control area and then expand</b></p>



# PROJECT DEVELOPMENT PLAN

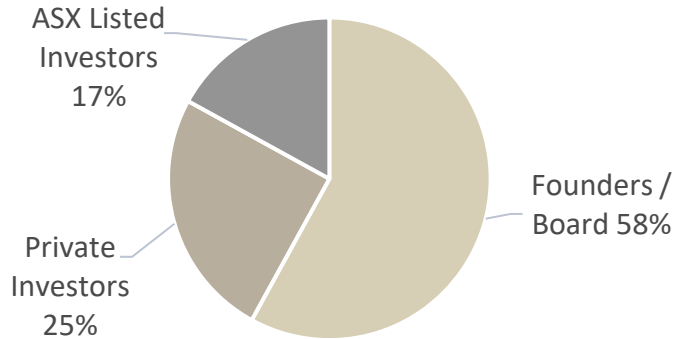


Construction/Investment Decision



# CORPORATE SUMMARY

## SHAREHOLDER SUMMARY



Arizona Lithium (AZL:ASX) is one of Midwest’s major shareholders and a partner. AZL has a 321kt LCE Resource and the Lithium Research Centre in Arizona which will be made available for Midwest’s metallurgical testing and process optimization

## CAPITAL STRUCTURE

Current Structure	Swiss AG Stock Company (Private) US LLC Subsidiary (100% ownership)
Intended Structure	Australian Limited Company (Public) US LLC Subsidiary (100% ownership) IPO on the ASX
Shares	17.2m
Cash	US\$1.8m

# BOARD AND MANAGEMENT



### Rodrigo Pasqua (Chairman)

- Corporate, operations and consulting roles in five continents
- Previously Group Head of Mining for Evolution Mining covering strategic planning, M&A and turnarounds on \$100m-\$2b assets
- Non-Executive Director of ASX companies
- Founder/MD of Harpia - mining advisory and investment firm
- BEng (Mining) Uni of Sao Paulo, WA First Class Mine Manager Cert and specializations in Leadership, Strategy and Finance (Oxford, Illinois, Harvard)



### Peter Ramsay (CFO)

- Chartered accountant with senior executive experience, particularly in fast-growing environments
- Corporate roles with Anglo American during London IPO; Finance director and controller for Xstrata during the acquisition-led trajectory from \$500m to \$50bn market cap including merger with Glencore
- Exposure to financial planning, M&A, treasury and reporting
- Fellow, Institute of Chartered Accountants in England and Wales (qualified with EY London). BSc (Chemistry) University of York



### Barry Junor (Technical Director)

- Geologist and Geotechnical Engineer with experience in operations covering exploration, mine geology, grade control, resource and geotechnical disciplines
- Oversees mine geology for the Australian lithium spodumene producer Allkem (AKE:ASX)
- Company Geologist at Harpia mining advisory
- During his time with Seequent/Leapfrog he was exposed to and helped develop some of the latest technologies in the geology and exploration fields
- BSc (Geology) University of Glasgow



### James Clark (Non-Exec Director)

- Worked for and advised large mining houses in commodity markets, investments and financing
- Developed battery raw materials strategies for GM, Tesla, Ford, Rio Tinto, US Dept of State and States of Ohio, Ontario and Quebec
- Previously in charge of corporate development and market analysis with Glencore and financing with Caterpillar
- Executive with Freyr securing raw materials for Gigafactory in Europe
- BSc (Geology) Royal School of Mines (Imperial College London)



### Matthew Blumberg (Non-Exec Director)

- Director of Arizona Lithium (AZL:ASX)
- Director and Head of M&A at NY based Private Equity firm ALI
- Previously worked in investment roles in New York and Sydney
- MBA from Yale University and a double degree in Engineering (First Class Honours) and Commerce from The University of Western Australia



### David Brocas (Non-Exec Director)

- Significant trading, marketing and structuring experience with deep network in the battery raw materials supply chain
- Formerly Head of Cobalt for Glencore, overseeing the sale of 30-40% of the world cobalt trade
- Chairman of the Cobalt Institute
- Trading/structuring experience with BP and Shell
- MEng (Geology, Mining & Drilling), Ecole Nationale Supérieure des Mines de Nancy, MSc (Economics & Corp Finance) Ecole du Petrole et des Moteurs



### Michael X. Schlumpberger (General Manager)

- Accomplished mining executive covered a number of GM, COO and CEO roles in multiple American mining companies
- Strong operational background overseen exploration, SK-1300 Resources and Reserves, permitting, surface and underground mining, milling, and reclamation
- Instructor at the South Dakota School of Mines
- BSc (Mining Engineering) Missouri University of Science and Technology and MBA East Carolina University



### Matthew Foy (Non-Exec Director And Company Secretary)

- Professional company secretary and director with over 15 years’ experience facilitating public company compliance with core strengths in the ASX Listing Rules, transactional and governance disciplines
- Previously worked with the ASX as a Compliance Officer
- BCom (Investment Finance, International Business Economics, Money & Banking) University of Western Australia, Chartered Secretary and Fellow of Governance Institute Australia (GIA)



**MIDWEST**  
**LITHIUM**