



July 2023

# Investor Presentation

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## Competent Persons Statement

The technical information in this announcement complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and has been compiled and assessed under the supervision of Mr James Allchurch, Managing Director of Mandrake Resources. Mr Allchurch is a Member of the Australian Institute of Geoscientists. He 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 JORC Code. Mr Allchurch consents to the inclusion in this presentation of the matters based on his information in the form and context in which it appears. To the best of the Competent Person's knowledge, the information in the announcement is an accurate representation of the available data and studies.

The information in this announcement that relates to 3D seismic is based on information compiled or reviewed by Mr Keith Martens, consulting geologist/geophysicist to Mandrake Resources Limited. Mr Martens is a qualified petroleum geologist/geophysicist with over 45 years of Australian, North American and other international executive petroleum experience in both onshore and offshore environments. He has extensive experience of petroleum exploration, appraisal, strategy development and reserve/resource estimation. Mr Martens has a BSc. (Dual Major) in geology and geophysics from The University of British Columbia, Vancouver, Canada.

## Forward Looking Statements

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# Supporting the Energy Revolution in the US

## Decarbonization

Entering the era of the Electric Vehicle

Availability of Energy storage is fundamental

Batteries need Lithium

Albermale forecasting 5x Lithium demand growth from 2022 to 2030<sup>1</sup>

## Ensuring Self-Sufficiency

US government focused on building domestic EV chain

Battery Gigafactories growth

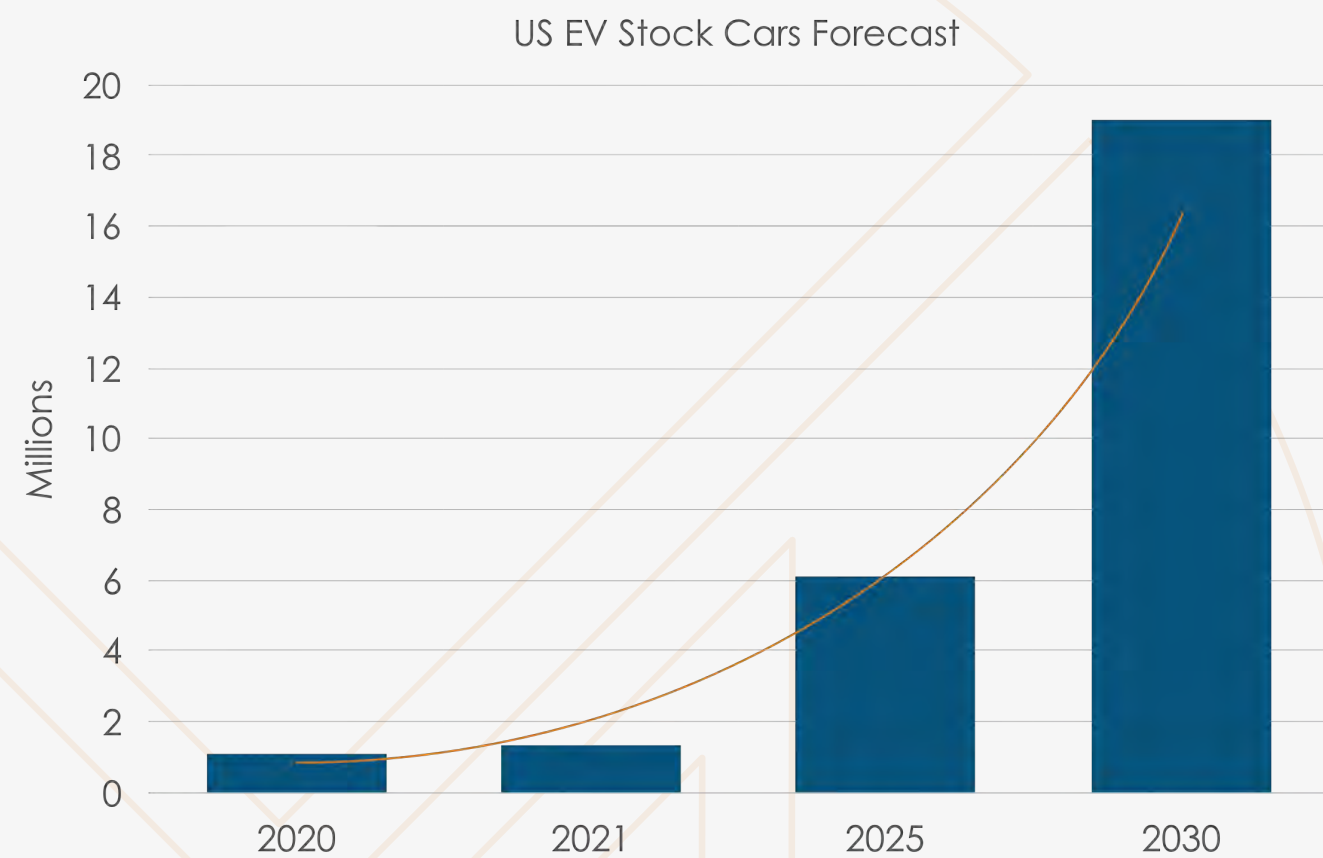
Late 2020's US Lithium demand outstrips current capacity

Different US government initiatives support local (partners) Lithium supply

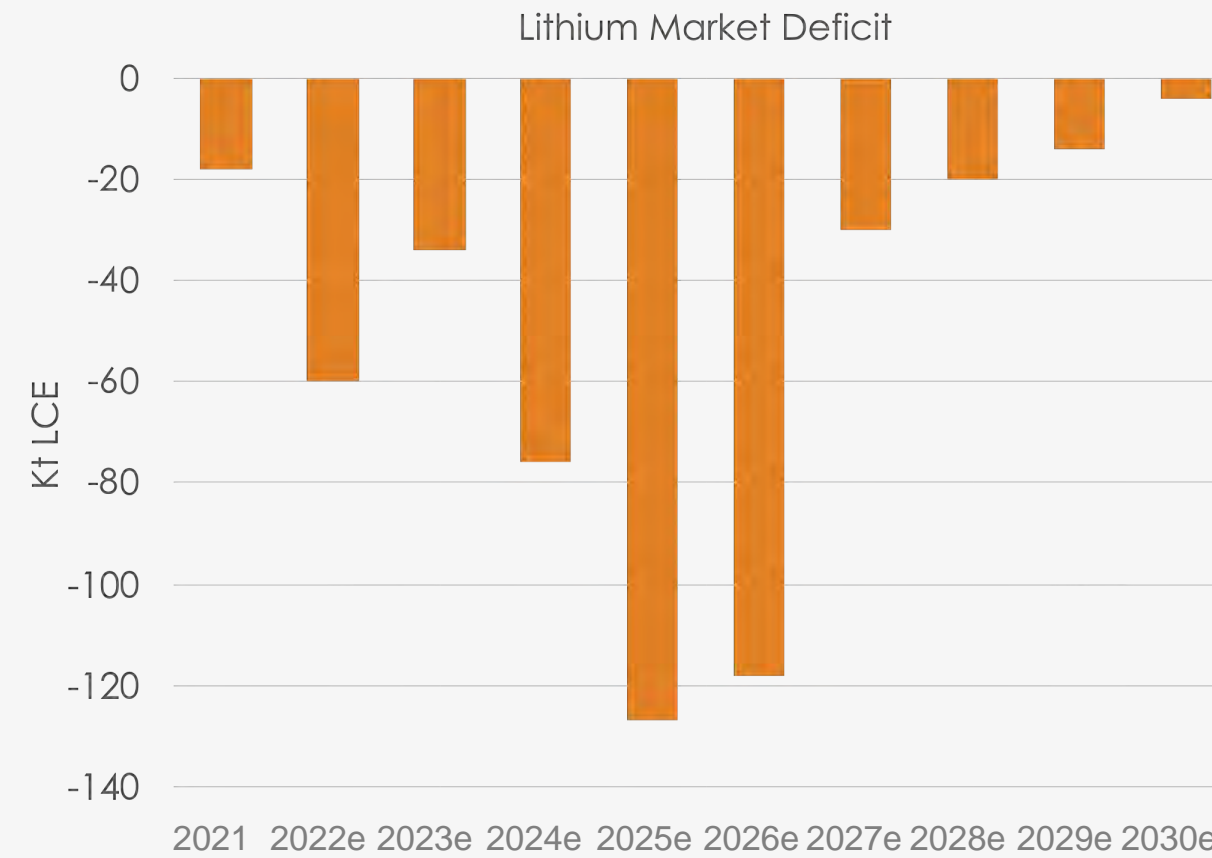


# Lithium Market - Strong Market Fundamentals

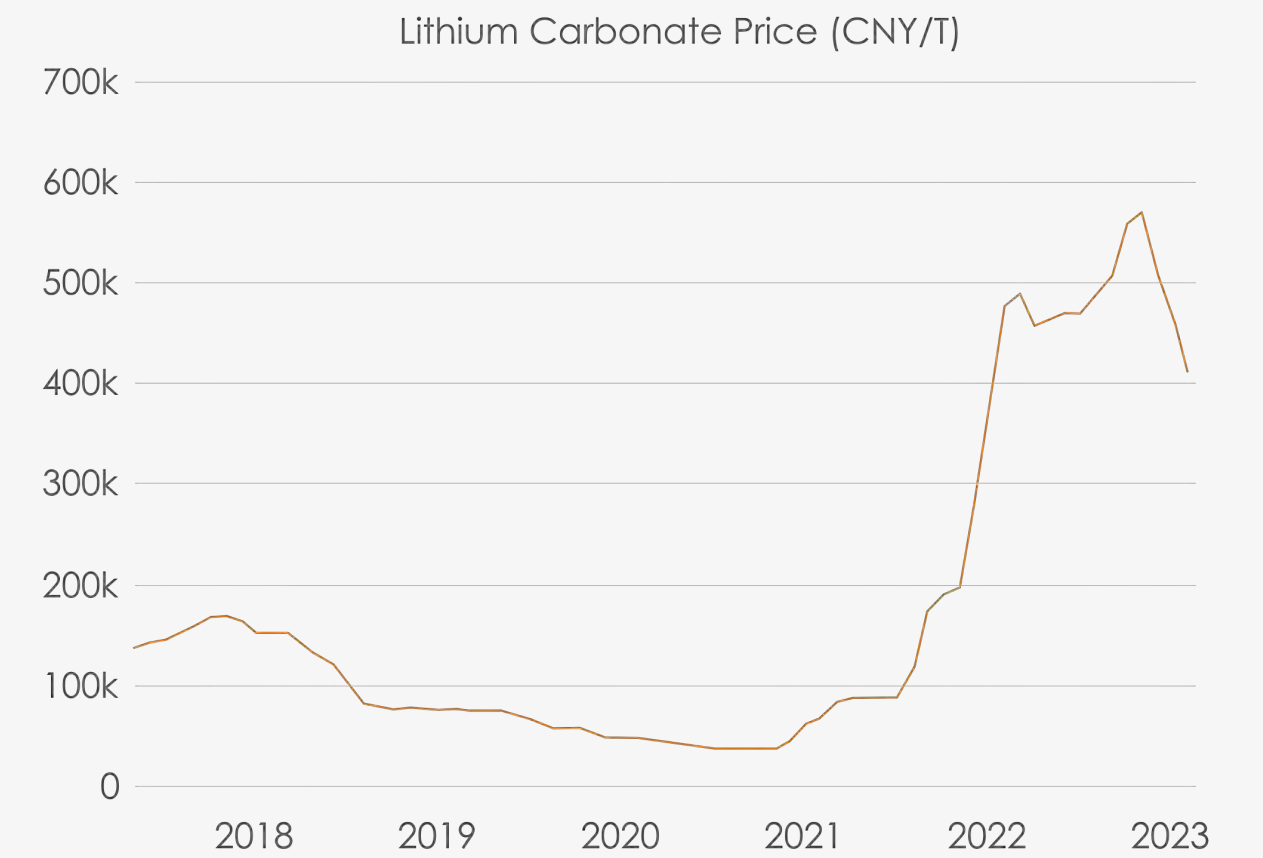
## Exponential EV Growth



## Higher Lithium Demand



## Higher Lithium Prices





# Corporate Snapshot

ASX Code	Shares on Issue	Share price	Market Cap	Cash	Debt
<b>MAN</b>	<b>598m</b>	<b>\$0.042</b>	<b>\$25m</b>	<b>\$18.3m</b>	<b>NIL</b>

## Overview

Tight capital structure  
\$18.3m in cash (Mar 23)  
100%-owned Large-scale US lithium asset with access to historic wells  
Sampling and Resource imminent  
Strong news-flow

## Shareholders

Galan Lithium Limited	6.4%
BNP Paribas Nominees Pty	5.5%
James Allchurch	2.4%
Sandhurst Trustees Ltd	2.3%
Martini 29 Pty Ltd	2.3%
Top 20 Shareholders	35%





# Board of Directors & Management



**James Allchurch**  
Managing Director

Over 20 years' experience in mineral exploration, geotechnical assessment and mining operations. Mr Allchurch has held various Board positions over the previous 15 years and has considerable expertise in the identification and assessment of resource projects over a broad range of commodities.



**Lloyd Flint**  
Non-Executive Chairman

Chartered Accountant with over 25 years' experience in the corporate and financial services arena. He has held a number of management and senior administrative positions as well as providing corporate advisory services as a consultant to corporate clients.



**Roger Fitzhardinge**  
Non-Executive Director

More than 20 years' experience in the exploration and mining industry. Mr Fitzhardinge was instrumental in identifying, acquiring and developing the Jaguar Nickel Sulphide Project for Centaurus Metals (ASX:CTM) propelling the company's market capitalisation more than 20 times to over \$500M.



**Ricardo Garzon**  
Chief Operations Officer

MSc in Energy Economics and Management  
+ 15 years' experience in mineral and oil and gas exploration.  
Has held various Board positions including with ASX-listed Baraka Petroleum Ltd.



**Jake Cammack**  
Exploration Manager USA

MSc in Geochemistry  
Developed a Lithium brine geochemistry database from public and private sources.  
Specialist in using GIS databases to identify and evaluate new prospects.



**Sabina Kraushaar**  
Geologist USA

MSc in Geology  
Expertise in mapping subsurface geology utilizing Petra software.  
Has consulted on numerous oil and gas projects in the Four Corners region.



**Roy Eccles**  
Lithium Brine Expert

MSc in Petroleum Geology  
+35 years' experience as a Geological Consultant.  
Specialist in critical metals, including Lithium confined aquifer brine deposits.  
Internationally recognized for his research on mineral resources related to the evolving green energy technology sector.

# Large-scale US Lithium Brine Project

Mandrake has staked over 53,426 acres of Federal BLM claims in the preceding 8 months

Other Business Agreement (OBA) with Utah State Govt for a further 34,670 acres

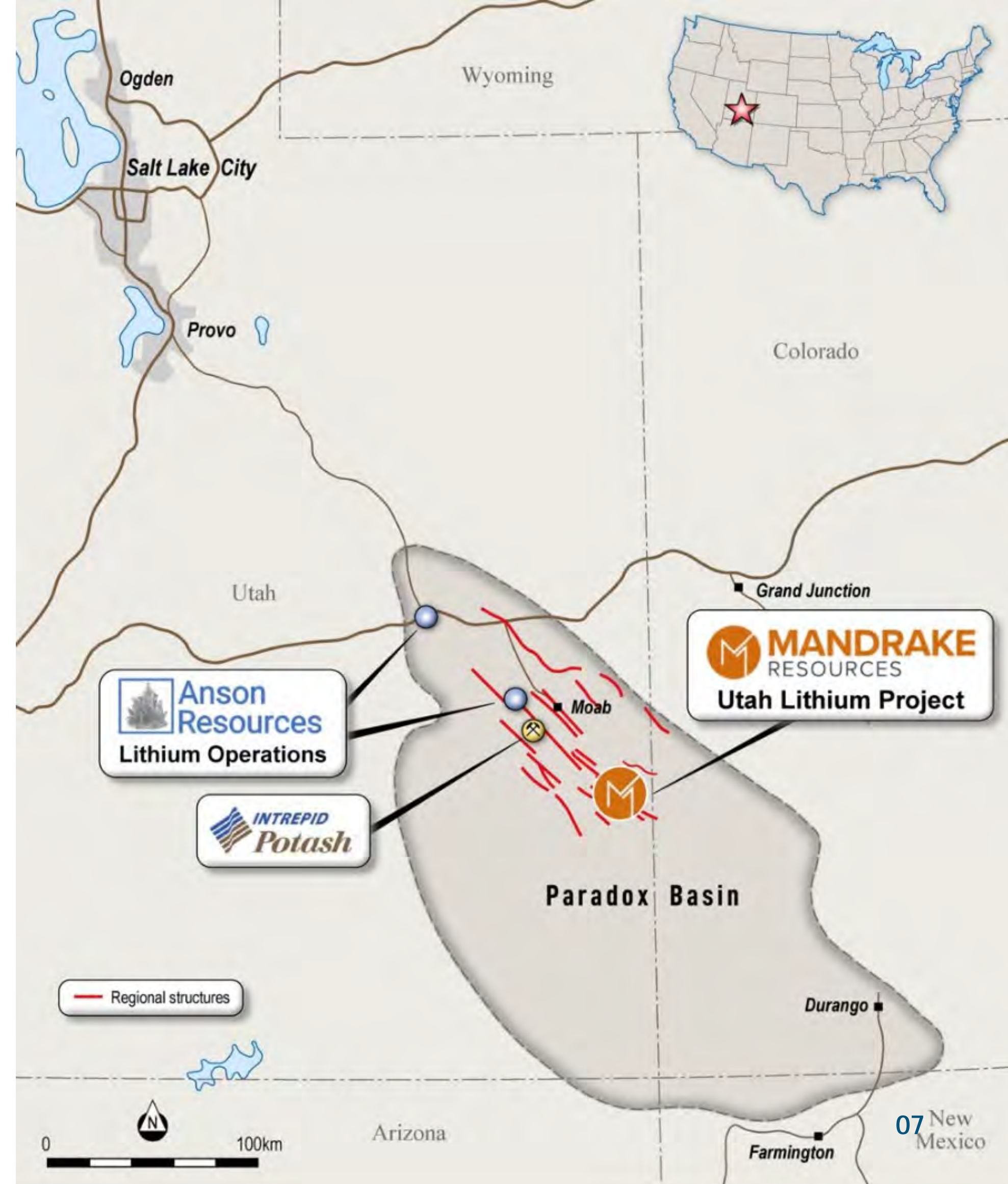
Commanding total acreage position of 88,096 acres (356km<sup>2</sup>) – and growing

Prolific oil and gas producing area with hundreds of active, suspended and abandoned wells with potential to access lithium brines – petrolithium

Sampling lithium brines from existing wells is a significant cost saving to drilling

Outstanding infrastructure with nearby rail, road power and water infrastructure in the heart of the US

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# Utah Lithium Project - Premier Position

Large-scale acreage position in the 'lithium four corners' Paradox basin in Utah

Oversaturated brines (40% minerals, 60% water) discovered during oil exploration 80 years ago

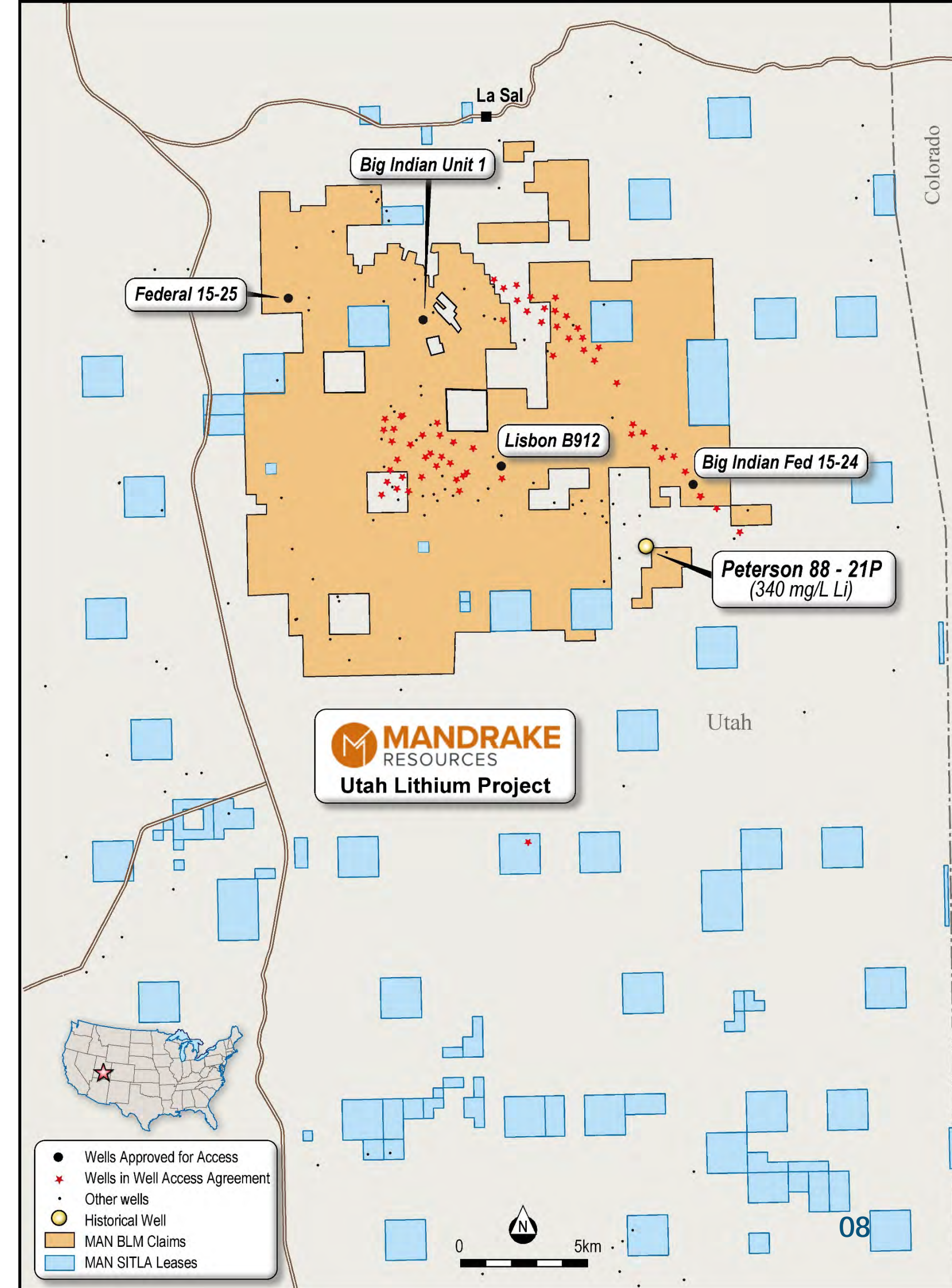
Brines hosted by the Paradox formation (>4,000 ft thick interbedded salt/clastic) and the 400ft thick Leadville Formation – enormous brine reservoirs

US's largest potash producer, Intrepid Potash, (NYSE: IPI) operate the Cane Creek potash mine 50km north

60km to the northwest, Anson Resources (ASX: ASN; market cap: \$200M) have a Mineral Resource of over 1Mt of LCE at 124mg/L with an additional aggregate Exploration Target range of 2.1Mt – 4.7Mt LCE

A Tier-1 mining jurisdiction, Utah is 11<sup>th</sup> in Fraser Institutes Global Investment Attractiveness Index

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# Access to Legacy Oilfield

Well Access Agreement (WAA) executed in May 2023 with large local helium/oil and gas producer Paradox Resources

Paradox operates over 150 wells and 570 miles of operated gas gathering lines (220 miles of which is wholly owned) across the Utah Lithium Project.

WAA allows Mandrake to re-enter multiple existing oil and gas wells to sample lithium brines, significantly accelerating the exploration program and pathway to a maiden Lithium Resource

The WAA circumvents the requirement for drilling - saving millions of dollars in exploration - wells can now be accessed and sampled for significantly less cost than drilling a new well

Majority of wells covered by the WAA are cased down to the deepest target allowing sampling of several different lithium-brine bearing zones per well



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# Sampling and Resource Imminent

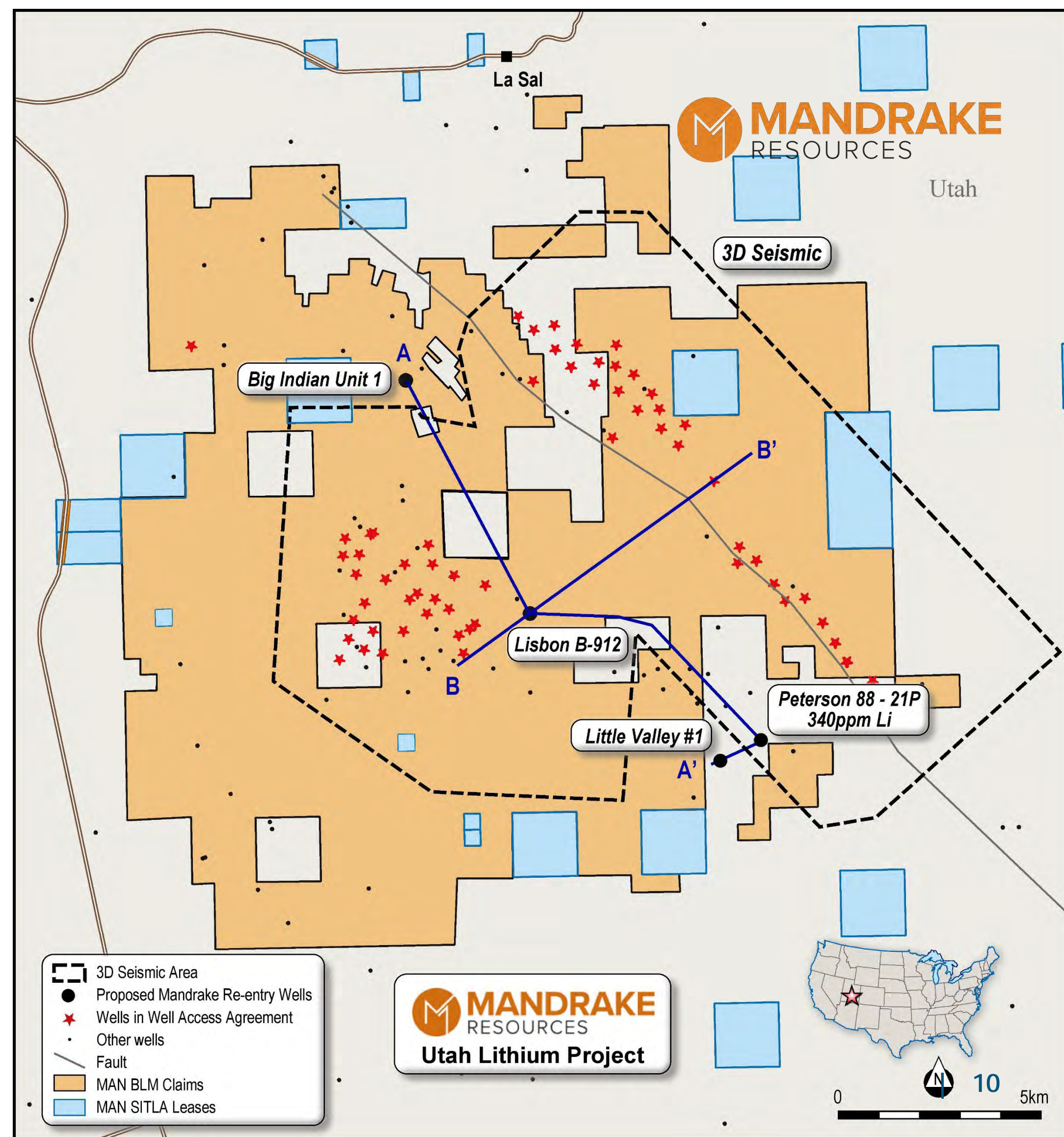
Previous sampling extremely limited - wells exclusively drilled for oil, no targeted sampling for lithium brines

Compilation of 3D seismic, geological and petrophysical data is complete - target wells identified

Well workplans and sampling regimen complete with permitting well advanced

Sampling at two initial wells, Big Indian Unit 1 and Lisbon B-912, will target multiple zones in each well with aggregate thicknesses in excess of 500ft

Strong precedent - Resource Geologists allocating a 3km radius (areal extent of Resource) around sample points (wells), equating to over 28km<sup>2</sup> - immense scale from one single sample point giving outstanding resource bang for exploration buck





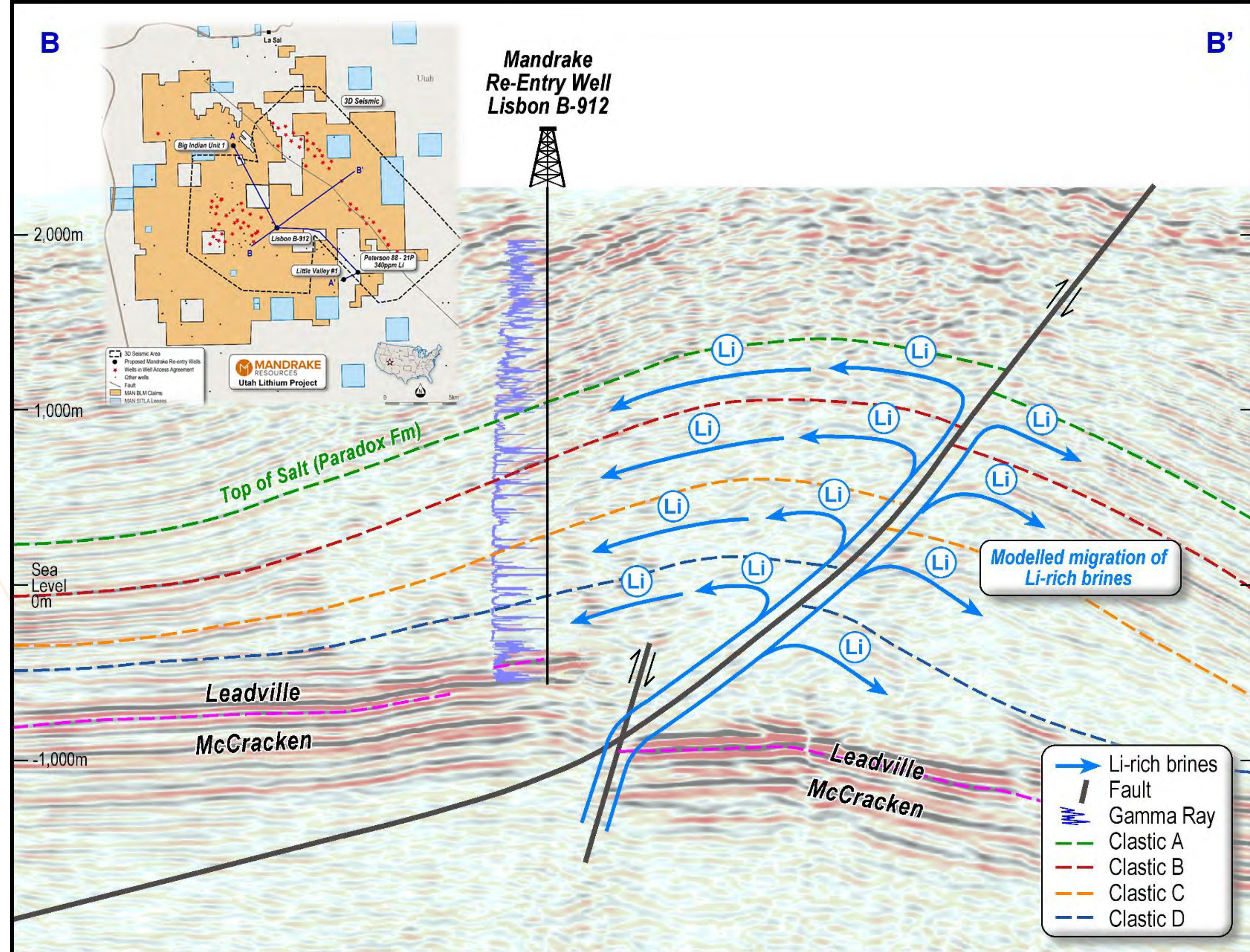
# Scale and Structure

181km<sup>2</sup> of seismic has been acquired for nil consideration

Lithium sourced from the breakdown of plutonic igneous basement rocks

Deep-rooted fault systems provide potential pathways for the migration of lithium-rich brines from the basement source to overlying brine reservoirs

New deep-rooted thrust fault identified by Mandrake's review of the 3D seismic





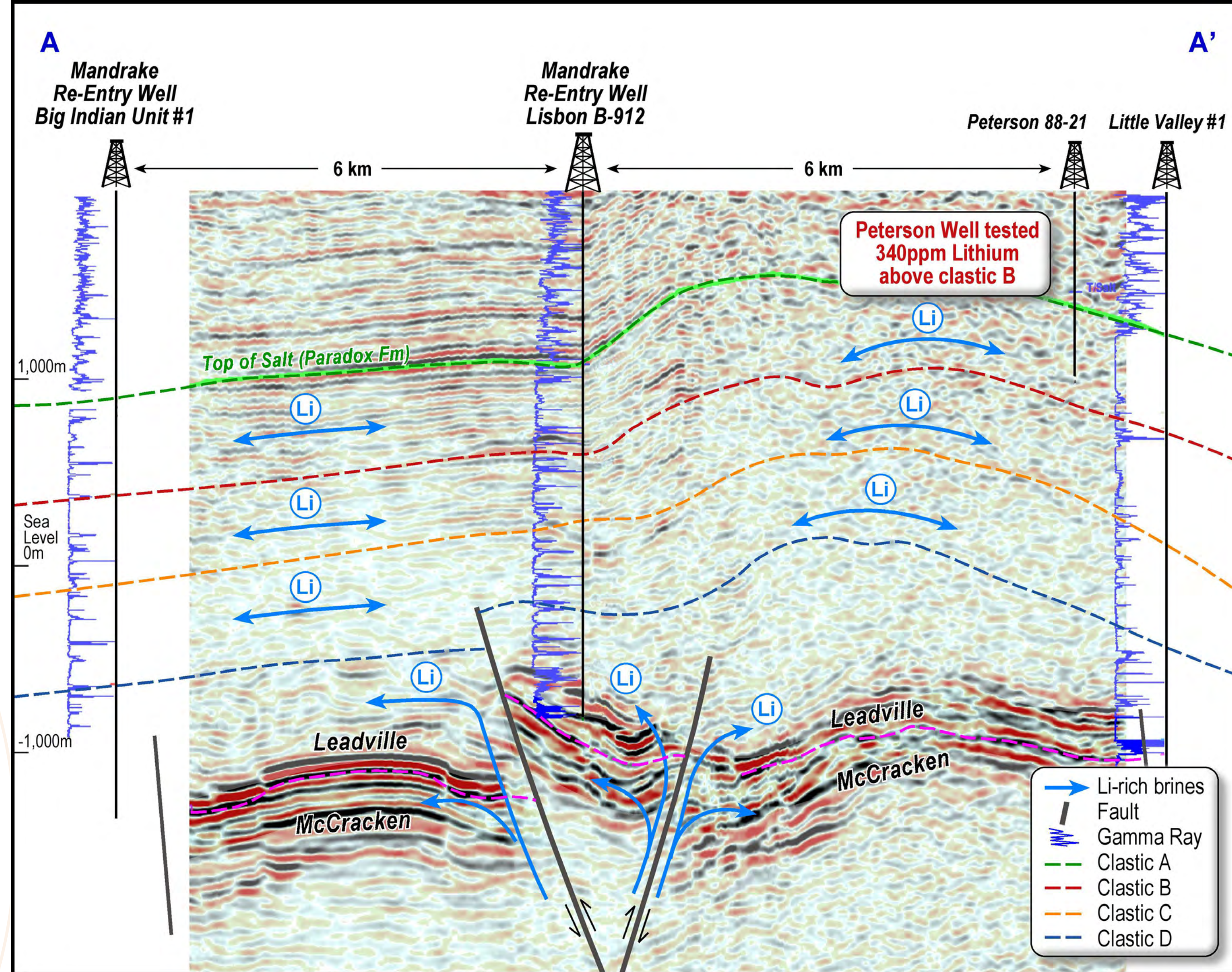
# Lithium Enrichment Model

Vast lateral continuity and prodigious thickness of potential lithium brine-bearing units

Selected re-entry sampling wells target fault systems

Lithium is readily dissolved and potentially transported in sub-surface fluids with highest concentrations of lithium typically proximal to feeder structures

Historic Peterson 88-21 well was drilled in 1959 with Li concentrations of 340mg/L from a clastic zone overlying Clastic Zone B in the Paradox





# US – The Place to be for Critical Minerals

ExxonMobil recently paid more than \$US100 million (\$149.5 million) in cash to acquire oilfield brines containing lithium in the Smackover area of Arkansas.



Equinor took a stake in developer Lithium de France in 2021, while US shale producer Occidental jointly owns TerraLithium.

## Extraordinary support for non-adversarial (domestic) sources of critical minerals by way of grants & loans from US Govt & Industry

Inflation Reduction Act 2022 (IRA) - US\$391 billion for energy security and climate change

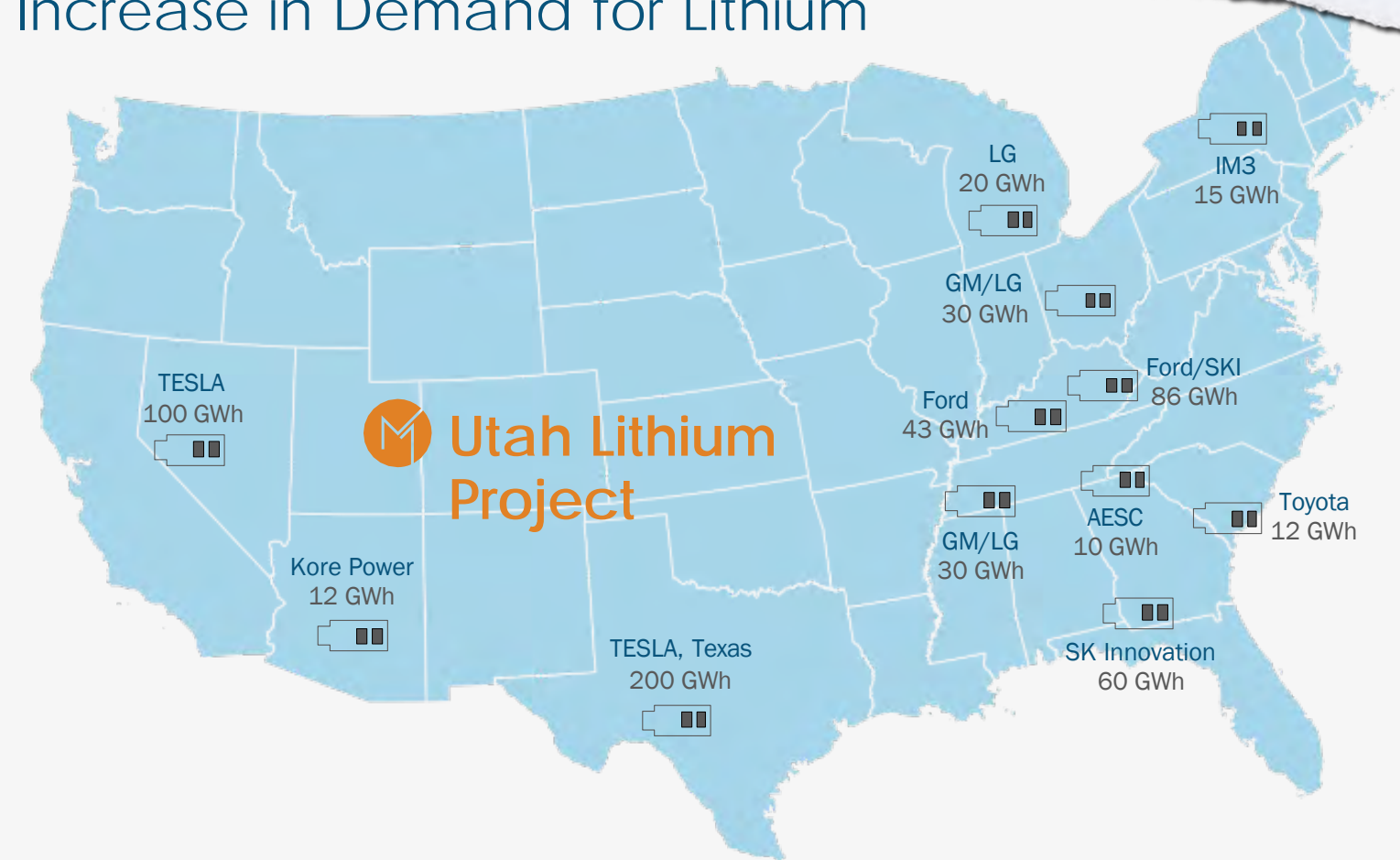
American Battery Materials Initiative (ABM)

Department of Defence to invest in raw materials for batteries (Defence Production Act)

Recent support for lithium players in the US includes:

- US\$700M loan to Ioneer (ASX:INR)
- US\$141.7M grant to Piedmont (ASX:PLL)
- US\$650M investment by General Motors in the Thacker Pass demonstrates the availability of Private Industry Investment

## Growing Battery Gigafactories Increase in Demand for Lithium



The Bipartisan Infrastructure Law, CHIPS & Science Act, and IRA combined will invest more than \$135 billion to build America's electric vehicle future, including critical minerals sourcing, processing and battery manufacturing.  
White House Statement October 19, 2022



# Strategic Alignment with Lithium Developer



ASX Code	Market Cap	Mineral Resources
<b>GLN</b>	<b>\$278M</b>	<b>6.5Mt</b> Lithium Carbonate Equivalent (LCE)

Currently developing the Hombre Muerto West lithium brine project in Argentina

Extensive commercial and technical experience in the lithium brine sector

“The large-scale potential of Mandrake’s Utah Lithium Project situated in an extremely attractive jurisdiction boasting power and water infrastructure in the lithium-hungry United States presented a compelling opportunity for Galan to gain early-stage exposure.”

**JP Vargas de la Vega (Galan Lithium MD)**

30M shares at 5c (\$1.5M) for a ~5% stake in Mandrake (one year escrow)

Immediately purchased another 5M MAN on-market

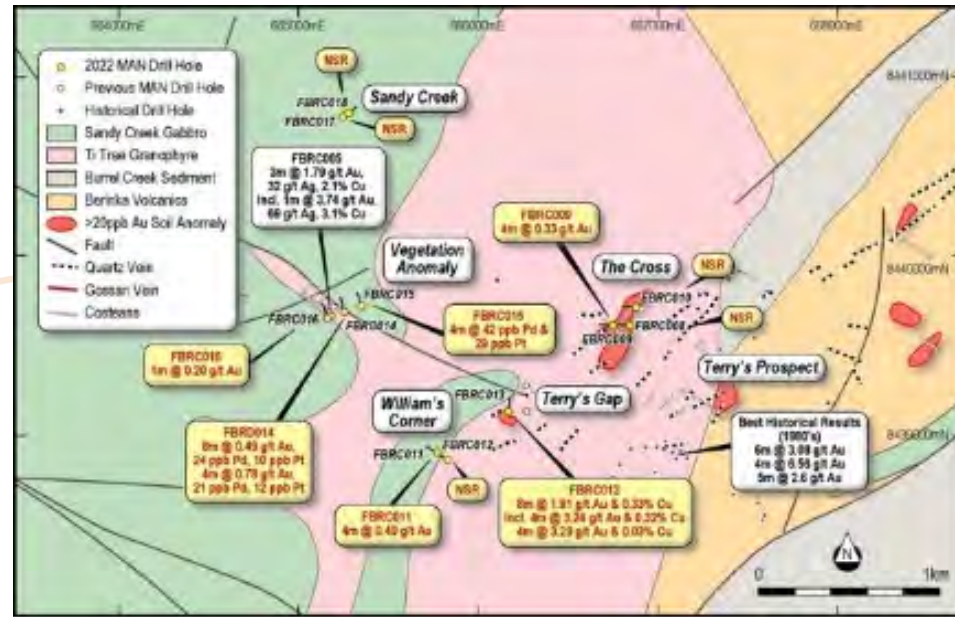
Attracted to the scale and location of the Utah Lithium Project

Provide crucial technical and commercial expertise in the lithium space

Advanced knowledge of direct lithium extraction (DLE) and hybrid DLE/evaporative pond technology



# Other Projects

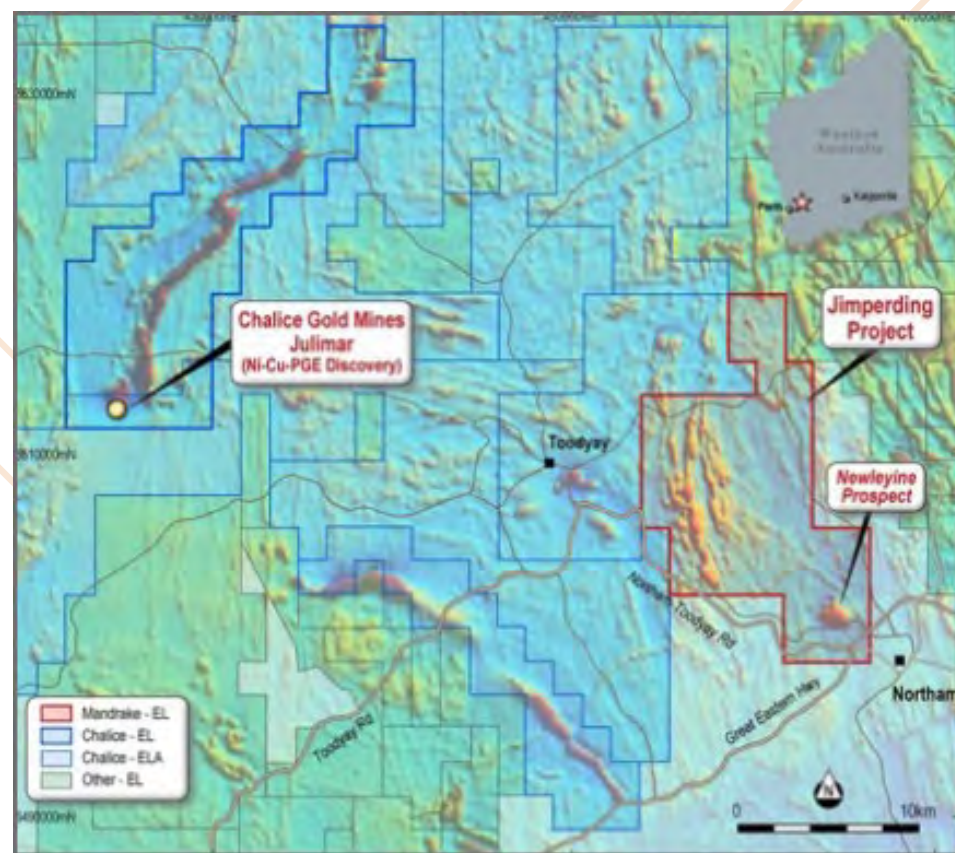


## Berinka Au-Ag-Cu Project Northern Territory

100%-owned Berinka Pine Creek Project is a highly prospective frontier high grade Au-Ag-Cu prospect that has received little modern exploration

Mandrake's drilling has returned high grade gold and unexpected high grade copper and silver results

Drilling has defined gold mineralisation over a strike length of greater than 2km and also identified platinum and palladium anomalism for the first time in the Sandy Creek Complex gabbro host rock.



## Jimperding PGE-Ni-Cu Project Western Australia

142km<sup>2</sup> EL - 100% owned by Mandrake

Located 30km east of Chalice's exciting Julimar PGE-Ni-Cu discovery

Identified and pegged on its compelling PGE-Ni-Cu potential prior to the Julimar discovery in March 2020

Newleyine Prospect has received all the work to date

Strong EM conductor (8,750 siemens) remains undrilled at Newleyine with multiple identified ultramafic intrusives remaining untested across the tenure



# Near-Term Newsflow

Strategic expansion  
of land position

Lithium Sampling  
Results

JORC 2012  
Exploration Target

Assessment of funding  
options (US govt grant/  
loan and private industry)

JORC 2012  
Mineral Resource  
Estimate

Investigation of suitable direct  
lithium extraction (DLE) technologies  
& potential development partners





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