



# CORPORATE PRESENTATION

DECEMBER 2017

# CAUTIONARY STATEMENT



Certain statements contained in this presentation, including all statements that are not historical facts, contain forward-looking statements and forward-looking information within the meaning of applicable securities laws (“forward-looking information”). Such forward-looking information includes, but is not limited to, statements or information with the respect to the overall objectives and strategic plans, work programs, exploration budgets and targets and mineral resource estimates of Pure Energy Minerals Limited (“Pure Energy” or the “Company”). Readers should review all of the Company’s public disclosure including its most recent Annual Information Form and the risk factors contained therein, the technical reports on its properties, and its audited financial statements and Management's Discussion and Analysis (MD&A), all as filed on [www.sedar.com](http://www.sedar.com) from time to time.

Forward-looking information includes, but is not limited to, statements related to activities, events or developments that the Company expects or anticipates will or may occur in the future, including, without limitation; statements related to the Company's release of the PEA Technical Report (“PEA”) for the Clayton Valley Lithium Project (“Project”); the economic analysis of the Project; the mineral resource estimate for the Project; the estimated annual production of LiOH-H<sub>2</sub>O and LCE; the availability and development of more sustainable technologies for use at the Project; the expected mine life; the estimated NPV of the Project; the estimated IRR of the Project; estimated average operating costs; estimated capital costs; estimated EBITDA; the estimated payback period for the Project; the estimated timeline for construction of the Project; the estimated production schedule at the Project; anticipated chemistry of brines at the Project; expected growth in the market for lithium hydroxide; anticipated changes in battery formulation technologies; estimated market prices for lithium hydroxide; anticipated lithium recovery levels at the Project; expected pilot plant testing at the Project; design work at the Project; and the development of a timeline for completion of a feasibility study for the Project. Forward-looking information is often identified by the use of words such as "plans", "planning", "planned", "expects" or "looking forward", "does not expect", "continues", "scheduled", "estimates", "forecasts", "intends", "potential", "anticipates", "does not anticipate", or "belief", or describes a "goal", or variation of such words and phrases or states that certain actions, events or results "may", "could", "would", "might" or "will" be taken, occur or be achieved. Forward-looking information is based on a number of factors and assumptions made by management and considered reasonable at the time such information is provided. Forward-looking information involves known and unknown risks, uncertainties and other factors that may cause the actual results, performance, or achievements to be materially different from those expressed or implied by the forward-looking information.

A number of other factors may adversely impact Pure Energy and the Project, including: the Company’s inability to complete further mineral resource and mineral reserve estimates; the inability to complete a subsequent feasibility study; the inability to anticipate changes in brine volume or grade due a number of factors; changes to the economic analysis; the failure to obtain necessary permits to explore and develop the Project; environmental issues or delays; inability to successfully complete additional drilling at the Project; and inability to obtain financing for future exploration and development work and construction of a plant at the Project. Although Pure Energy has attempted to identify important factors that could cause actual actions, events, or results to differ materially from those described in the forward-looking information, there may be other factors that cause actions, events, or results not to be as anticipated, estimated, or intended. There can be no assurance that forward-looking information will prove to be accurate. The forward-looking information contained herein is presented for the purpose of assisting investors in understanding the Company's plan, objectives, and goals and may not be appropriate for other purposes. Accordingly, readers should not place undue reliance on forward-looking information. Pure Energy does not undertake to update any forward-looking information, except in accordance with applicable securities laws.



**Mineral resources which are not mineral reserves do not have demonstrated economic viability.** The category of inferred resource is the least reliable resource category and is subject to the most variability. Until mineral reserves and resources are actually mined and processed, the quantity of mineral reserve and resource grades must be considered as estimates only. Patrick Highsmith MSC., CPG., is a qualified person as defined by NI 43-101, and has supervised the preparation of the scientific and technical information that forms the basis for this presentation. Mr. Highsmith is not independent of the Company as he is a director.

The PEA is based upon a process flow sheet that may change, which would impact all costs and estimates. Operating costs for the Project were based upon assumptions including future energy costs, water costs, labor, regulatory costs and other variables that are likely to change. Capital costs were based upon plant equipment and other items thought to be necessary for production. Lithium hydroxide monohydrate price forecasts were based upon third-party estimates and management assumptions that may change due to market dynamics. Changes in estimated costs to acquire, construct, install, or operate the equipment, or changes in projected pricing, may adversely impact Project economics.

**The economic analysis included in the PEA is based upon inferred mineral resources only. Mineral resources that are not mineral reserves do not have demonstrated economic viability.** The PEA is preliminary in nature and includes inferred mineral resources that are considered too speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves. There is no certainty that the Project envisioned by this PEA will be realized. The mineral resource estimates, upon which the PEA is based, rely upon assumptions outlined in the “Resource Estimate” section of the technical report relating to the PEA. Some figures in the resource estimate may have been calculated using a factor to convert short tons to metric tonnes.



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# WHAT'S NEXT?

ACQUIRED  
TARGET  
ASSET



FIRST  
LITHIUM  
BRINE  
RESOURCE  
IN NORTH  
AMERICA



SUPPLY  
AGREEMENT  
WITH  
TESLA



RECRUITED  
NEW CEO



ENGINEERED  
PROCESS  
FLOWSHEET  
FOR FASTER,  
GREENER,  
LITHIUM  
RECOVERY



ADDED  
SECOND  
MAJOR  
LITHIUM  
PROJECT



TRANSITIONED  
MANAGEMENT  
AND BOARD



CONSOLIDATED  
THE DISTRICT



DELIVERED  
POSITIVE PEA



BUILD  
PILOT  
PLANT





## **PAUL ZINK**

*Chief Financial Officer*

Paul has more than 35 years experience in project finance, financial analysis, strategic planning, royalties, mergers and acquisitions, and business development. Beginning his career in investment banking with J.P. Morgan & Company, he has held senior management positions at International Royalty Corporation, Rare Element Resources Ltd., Eurasian Minerals Inc., Pegasus Gold Inc., and Koch Industries Inc.

Paul holds a B.A. in Economics and International Relations from Lehigh University.

## **PATRICK HIGHSMITH**

*MSc, CPG; CEO, Director*

Senior mining professional with over 25 years multi-commodity experience, including exploration, operations, and business development with BHP Billiton, Rio Tinto, and Newmont. Founding CEO of Lithium One Inc. and co-engineer of friendly 2012 merger with Galaxy Resources.

## **WALTER WEINIG**

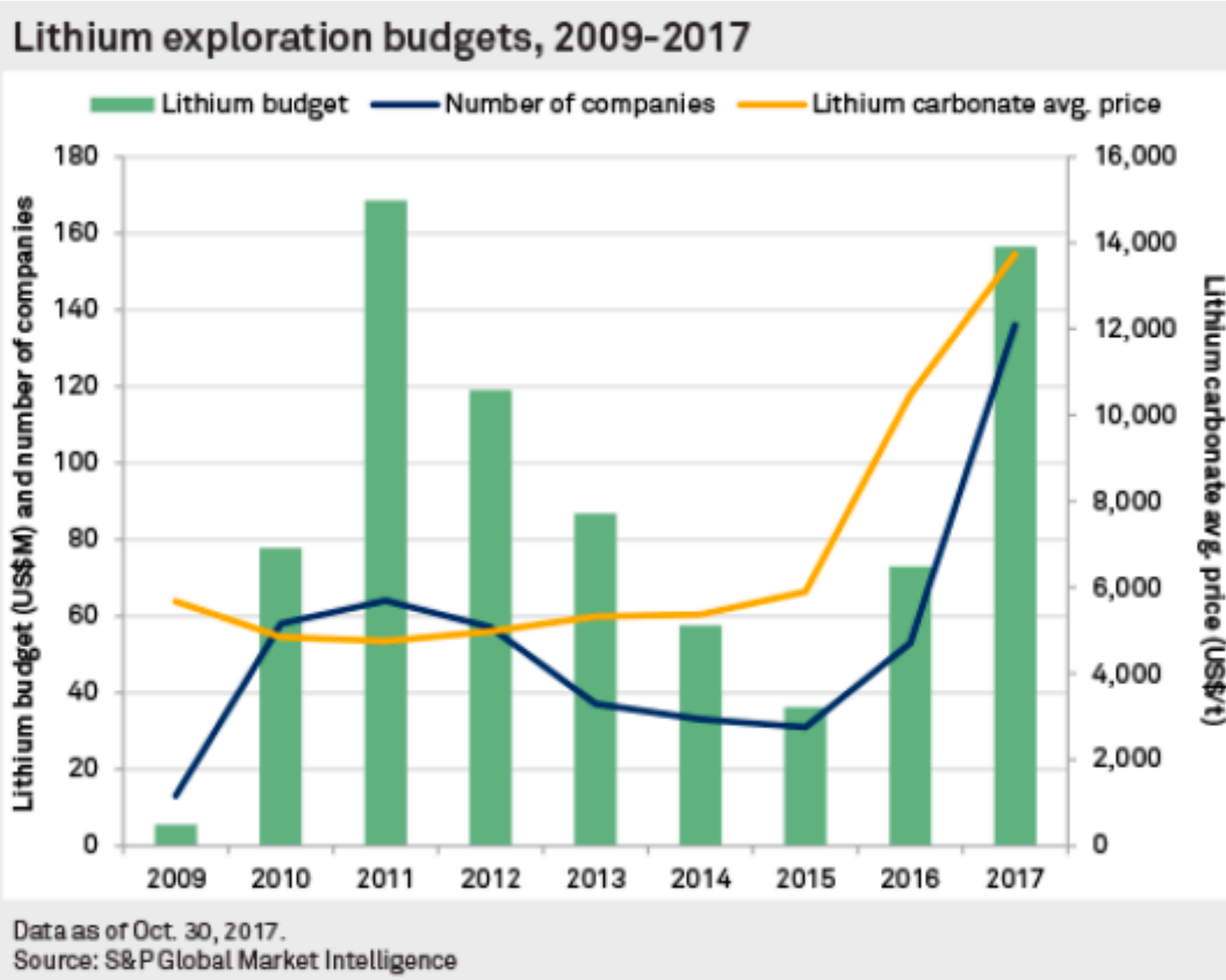
*MSc, CPG, PPM*

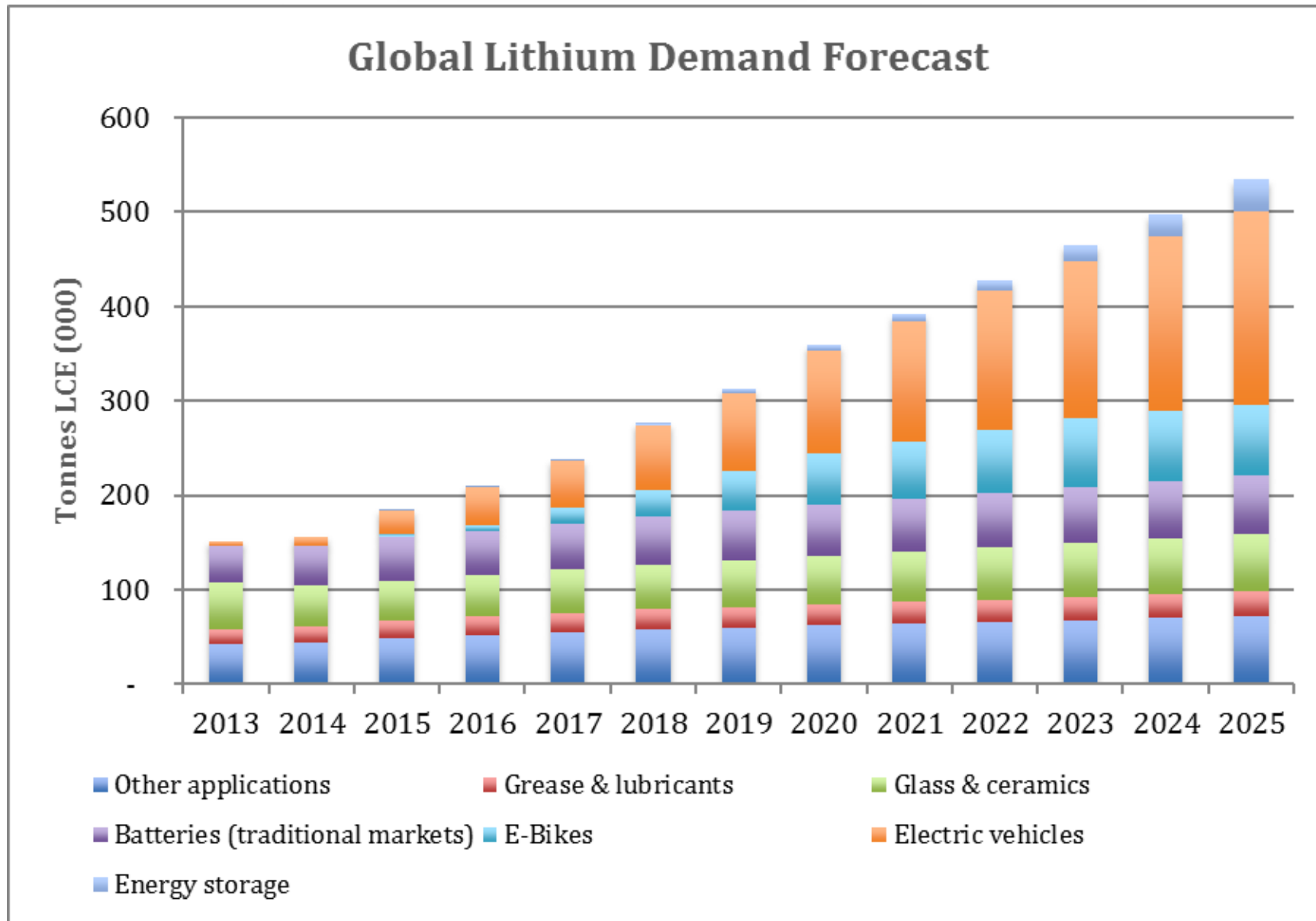
*VP Projects & Permitting*

Walter has nearly 30 years of experience in mining hydrogeology, permitting, and project management at sites around the globe. He has managed multi-disciplinary engineering and scientific teams to accomplish complex design and permitting projects in surface and underground mining and environmental arenas.

Walter has a BSc in geology from the University of Wisconsin and an MSc in hydrology and water resources from the University of Arizona.

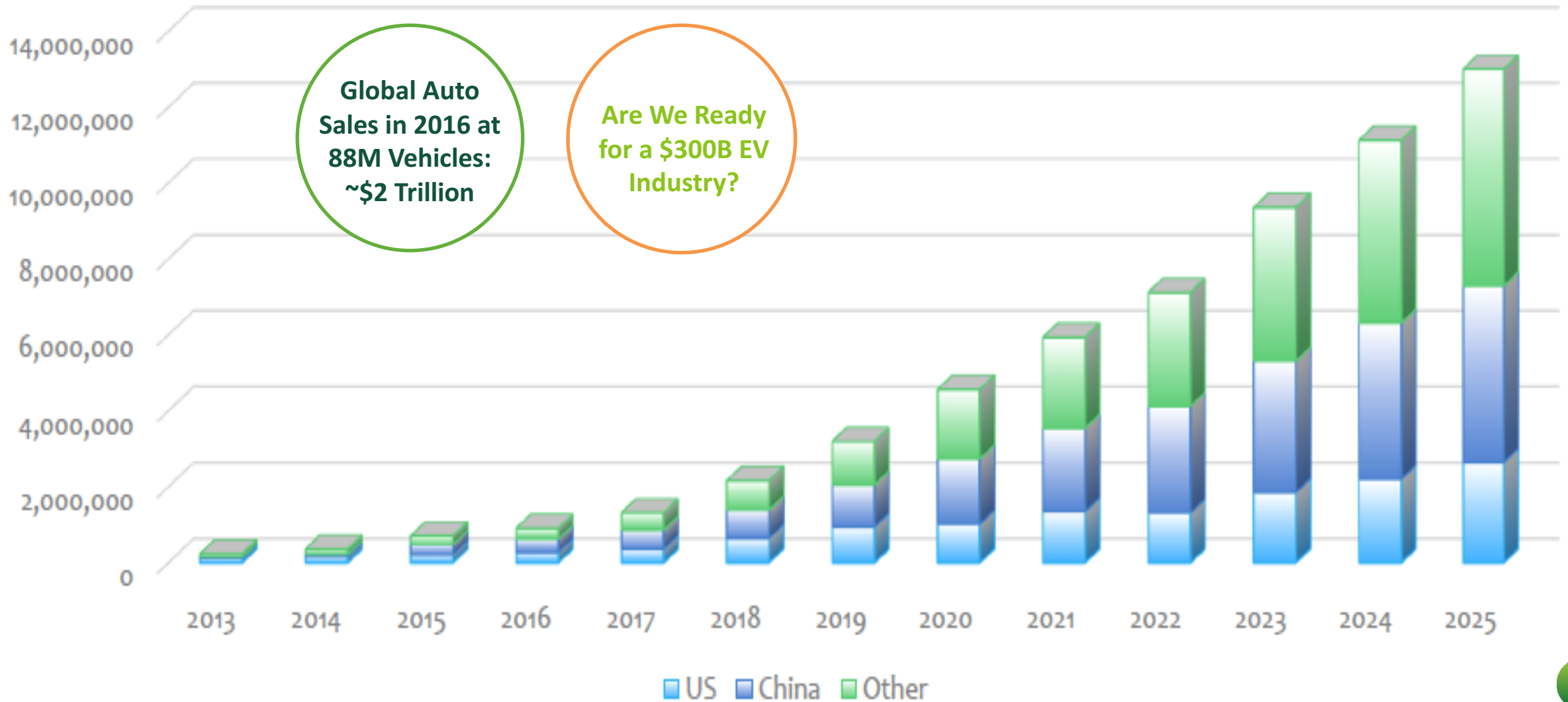
# LITHIUM DEMAND IS DRIVING EXPLORATION...AND AN EXPLOSION OF COMPANIES!





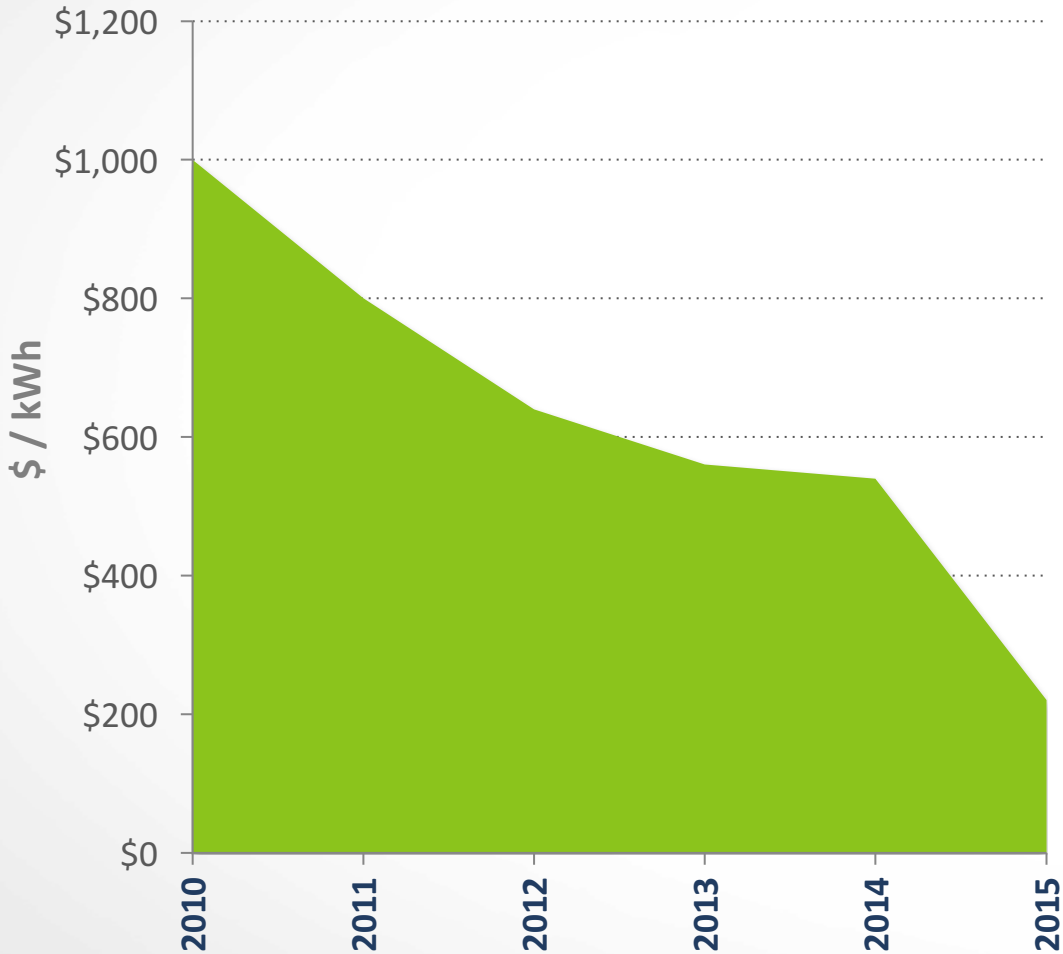


# Global PEV Sales in U.S, China and Rest of World, 2013-2025



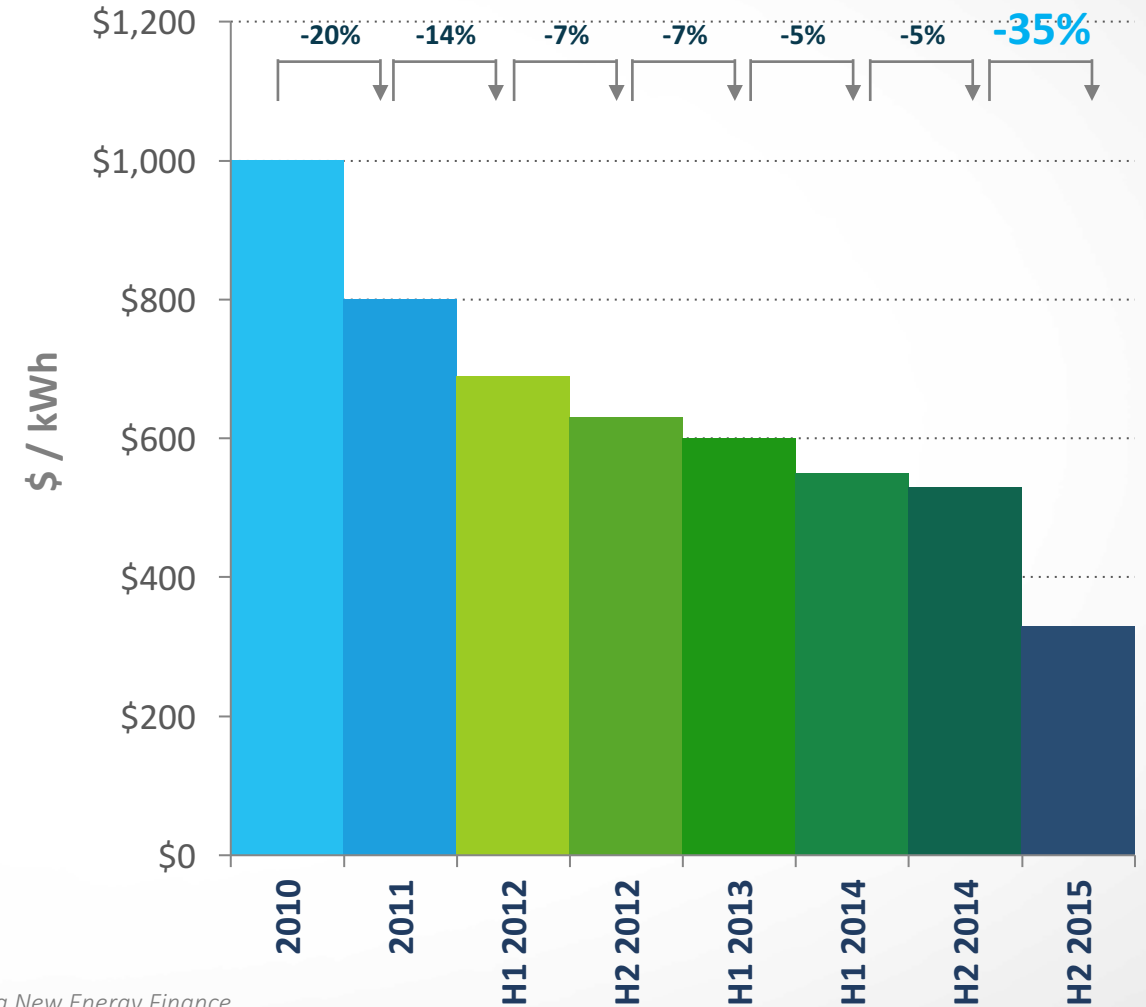


## Average Battery Pack Price (BEV & PHEV Battery Packs)



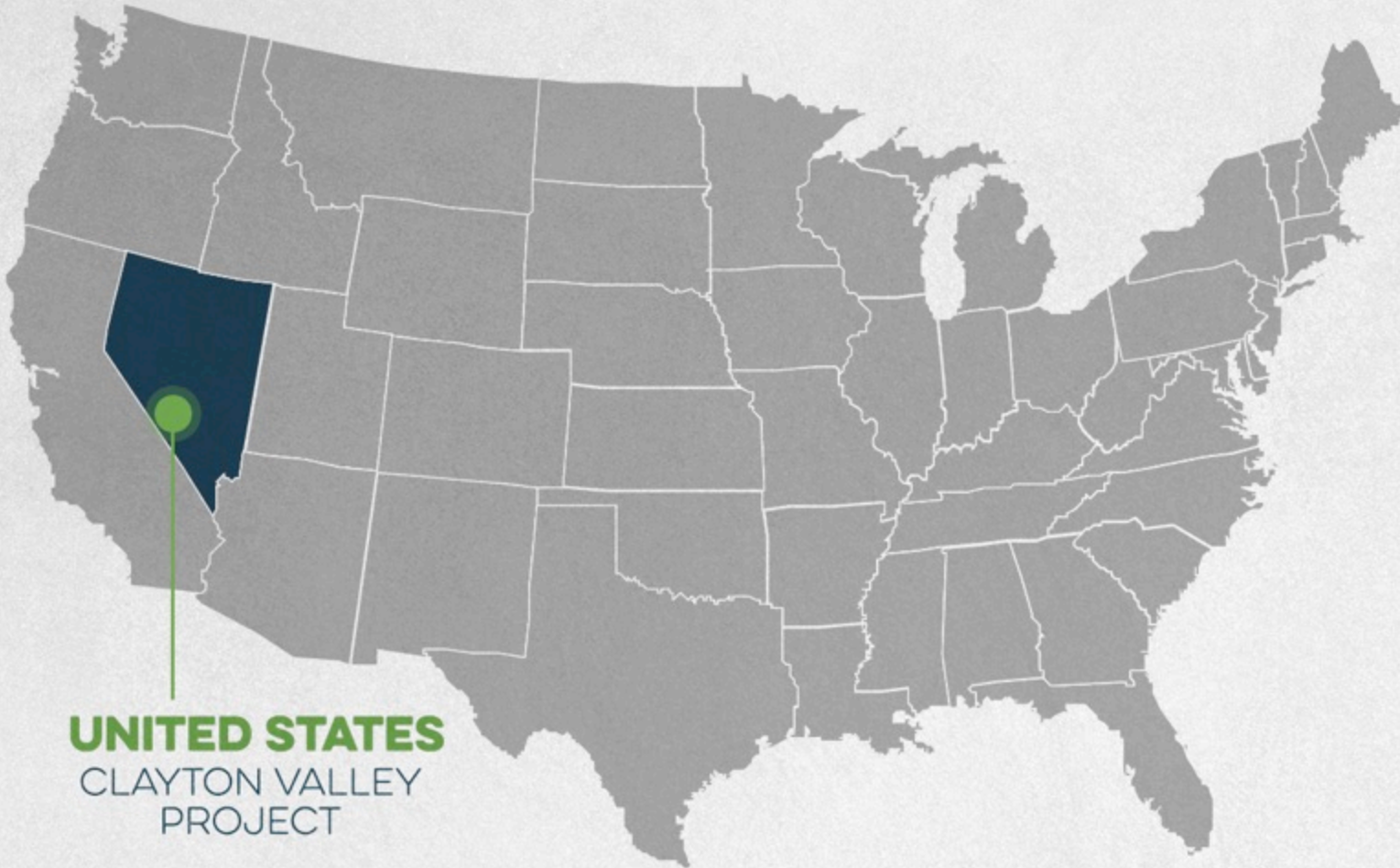
## Average EV Battery Price

Percentage Change Between Periods (2010 – H2 2015)



Source: Bloomberg New Energy Finance

# ADVANCING **2** LITHIUM PROJECTS



**UNITED STATES**  
CLAYTON VALLEY  
PROJECT

**ARGENTINA**  
TERRA COTTA  
PROJECT





## World-Class Infrastructure

Power Lines, Roads, and North America's Only Lithium Producer...

## EXPANDED PURE ENERGY CLAIMS:

**Existing Claims:** 24,600 ACRES

**Clayton NE:** 1,060 ACRES

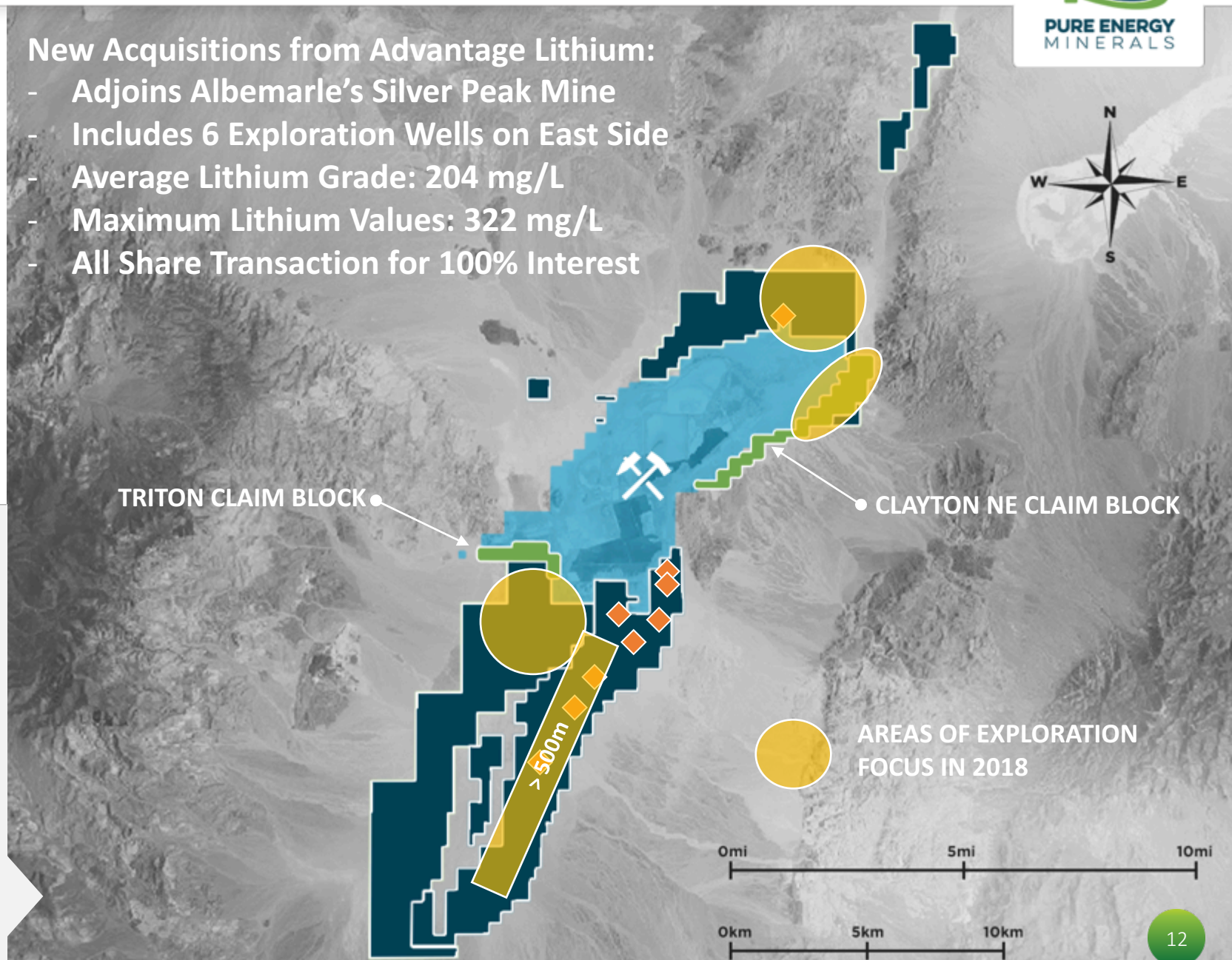
**Triton:** 390 ACRES

**TOTAL: 26,050 ACRES**

### New Acquisitions from Advantage Lithium:

- Adjoins Albemarle's Silver Peak Mine
- Includes 6 Exploration Wells on East Side
- Average Lithium Grade: 204 mg/L
- Maximum Lithium Values: 322 mg/L
- All Share Transaction for 100% Interest

- Existing Claims
- Albemarle Silver Peak Mine
- Advantage Claim Areas
- Wells



<b>Key Economic Indicators (Currency in US \$)</b>	
After Tax - Net Present Value (8% Discount)	<b>\$264 million</b>
After Tax - Internal Rate of Return (IRR)	<b>21%</b>
Average Annual Production (Lithium Hydroxide)	<b>10,300 tonnes</b>
Average Annual Production (Lithium Carbonate Equivalent)	<b>9,100 tonnes</b>
Mine Life	<b>20 year</b>
Production Royalties	<b>3%</b>
Steady-State Annual EBITDA* (name plate production)	<b>\$100 million</b>
Payback Period (from commencement of production)	<b>4.4 years</b>

\* - EBITDA is a non-IFRS earnings measure which does not have any standardized meaning prescribed by IFRS and therefore may not be comparable to EBITDA presented by other companies. EBITDA represents earnings before interest expense, income taxes, depreciation and amortization. Investors are cautioned that this non-IFRS financial measure should not be construed as an alternative to other measures of financial performance calculated in accordance with IFRS.

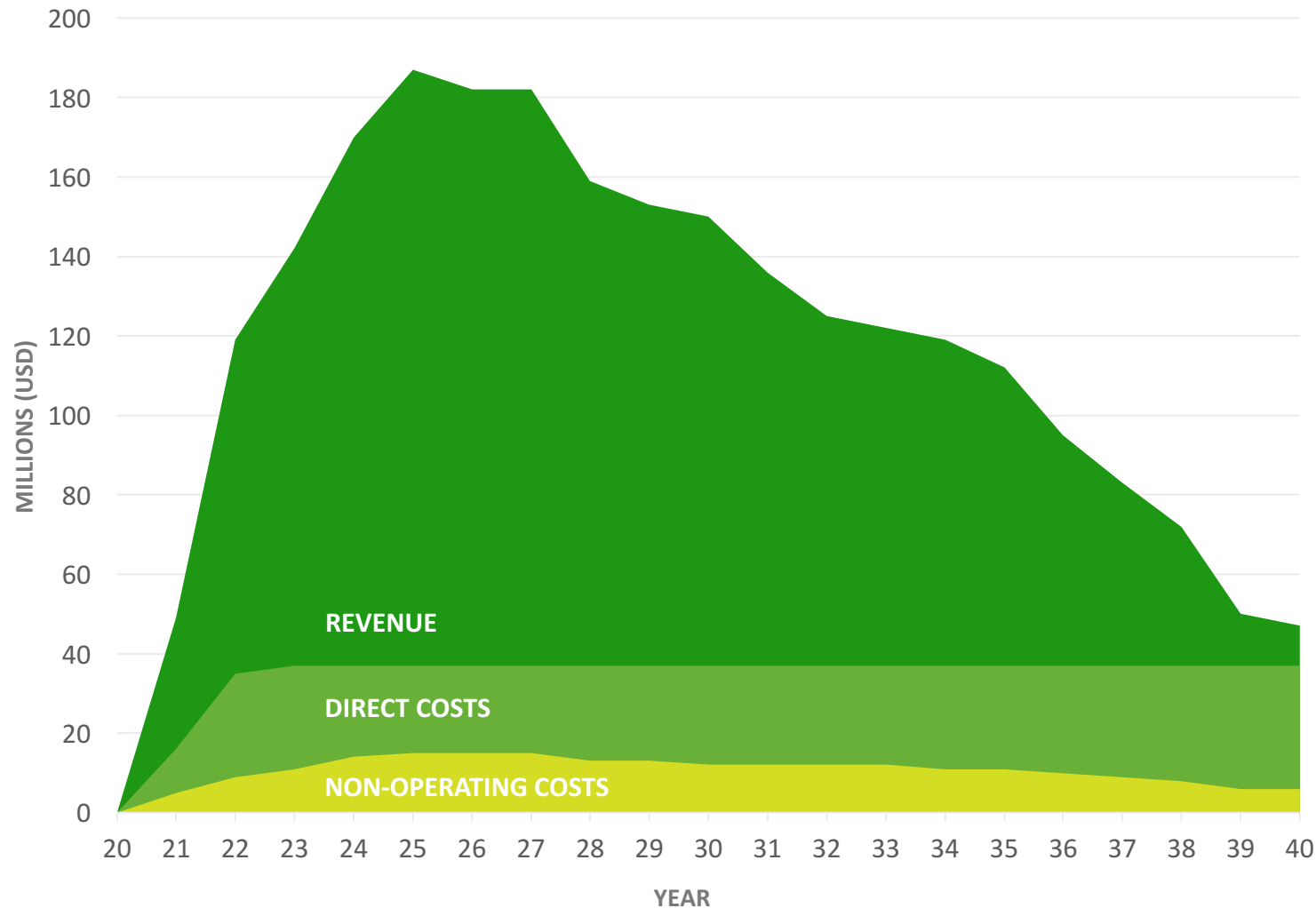
Description of Capital Costs	US \$
Basin Activities	\$ 29 M
Plant Facilities & Equipment	\$ 100 M
Infrastructure & Utilities	\$ 30 M
<b>Direct Costs</b>	<b>\$ 159 M</b>
Indirect Costs*	\$ 34 M
Contingency	\$ 56 M
Owner's and Other Costs**	\$ 48 M
<b>Total Initial Capital Costs</b>	<b>\$ 297 M</b>
Sustaining Capital Costs (LoM)	\$ 62 M

\* - Indirect Costs are those costs that cannot be directly attributed to the construction of the physical facilities but are required to support the construction effort. Items included in this category include, but are not limited to: spare parts, freight, EPCM services and start-up services.

\*\* Owner's Costs encompass all those costs specifically attributable to the Owner that are not included elsewhere in the estimate. Typical items included in this category include, but are not limited to: land ownership costs, feasibility study costs, legal fees, permitting costs and fees, Owner project support staff, specialist consultants, and operations organization establishment (including training, etc). Other Costs include initial purchase and charging of the plant with the proprietary solvent.

Description of Steady State Operating Costs (US \$)	Unit Cost LiOH·H <sub>2</sub> O	Unit Cost LCE	% of Total
Labor	\$ 427 /t	\$ 485 /t	14
Power	\$ 394 /t	\$ 447 /t	12
Operating Supplies & Services	\$ 2,227 /t	\$ 2,528 /t	69
Maintenance Supplies	\$ 169 /t	\$ 192 /t	5
<b>Total</b>	<b>\$ 3,217 /t</b>	<b>\$ 3,652 /t</b>	<b>100%</b>

# NEW TECH = HIGH MARGINS



## KEY ASSUMPTIONS:

100% Equity Financing

Production Ramp-up over ~15 months:

4,100 tonnes  $\text{LiOH}\cdot\text{H}_2\text{O}$  in 2021

10,800 tonnes  $\text{LiOH}\cdot\text{H}_2\text{O}$  in 2022

11,400 tonnes  $\text{LiOH}\cdot\text{H}_2\text{O}$  in 2023

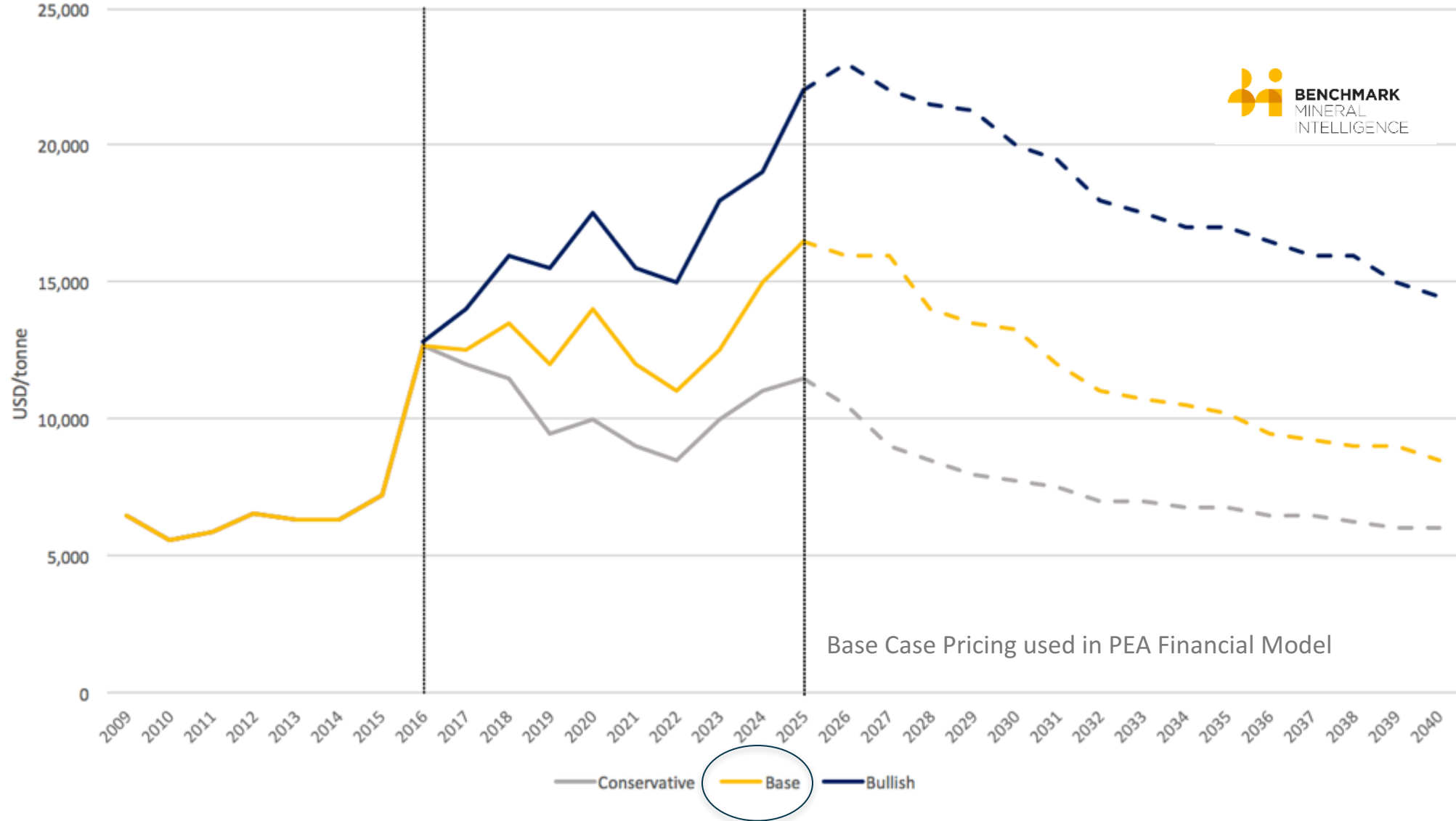
Construction Commencing in 2019

Effective Tax Rate of 20%

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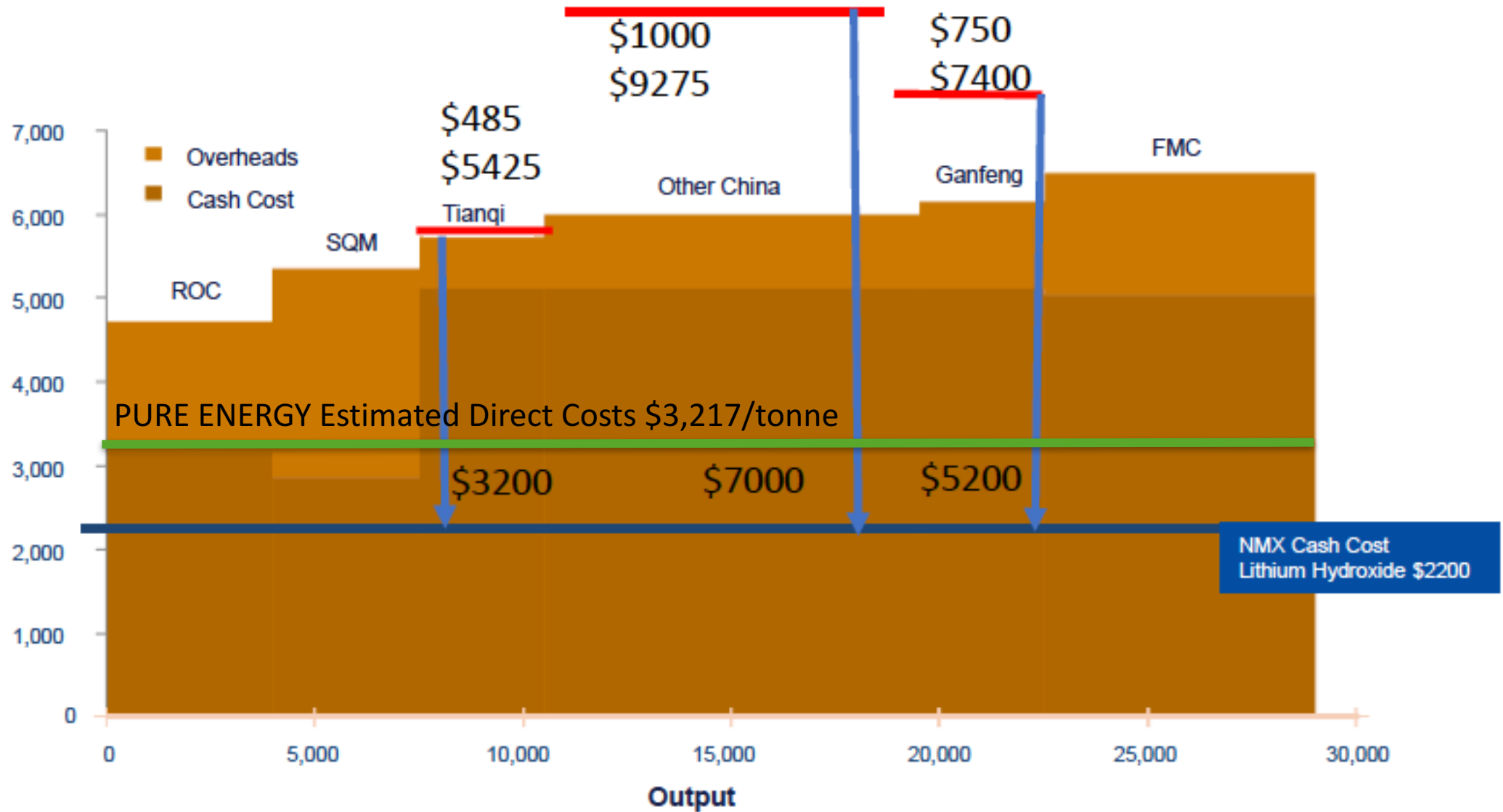


## A Dynamic Pricing Model Based on Real Market Analysis



Base Case Pricing used in PEA Financial Model

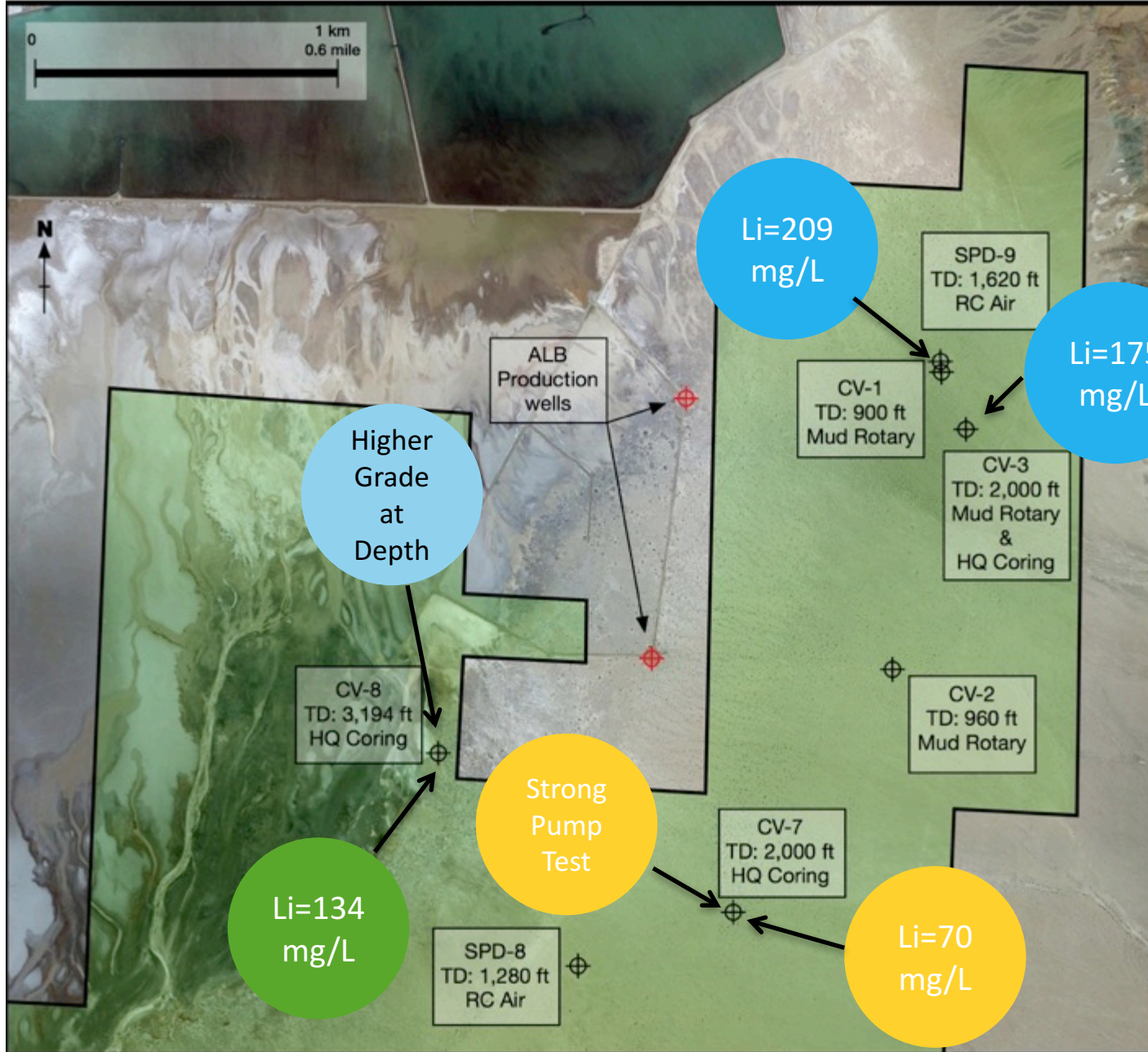
# VERY COMPETITIVE DIRECT PRODUCTION COSTS



CLAYTON VALLEY PROJECT



# PHASE 3 DRILL PROGRAM – IMPORTANT INPUTS TO NEW RESOURCE



Variable drainable porosity with geology and depth; assigned a conservative 6% to the model



## RESOURCES & KEY TECHNICAL PARAMETERS

**Lithium Resource LCE**  
*(metric tonnes)*

218,000

**Average Lithium Grade**  
*(mg/L)*

123

**TOTAL INFERRED RESOURCES**

## WORLD-CLASS CHEMISTRY

*Magnesium\**  
to Lithium  
Ratio:  
**2.9**

*Avg Calcium  
Content  
(mg/L)\*:*  
**1,536**

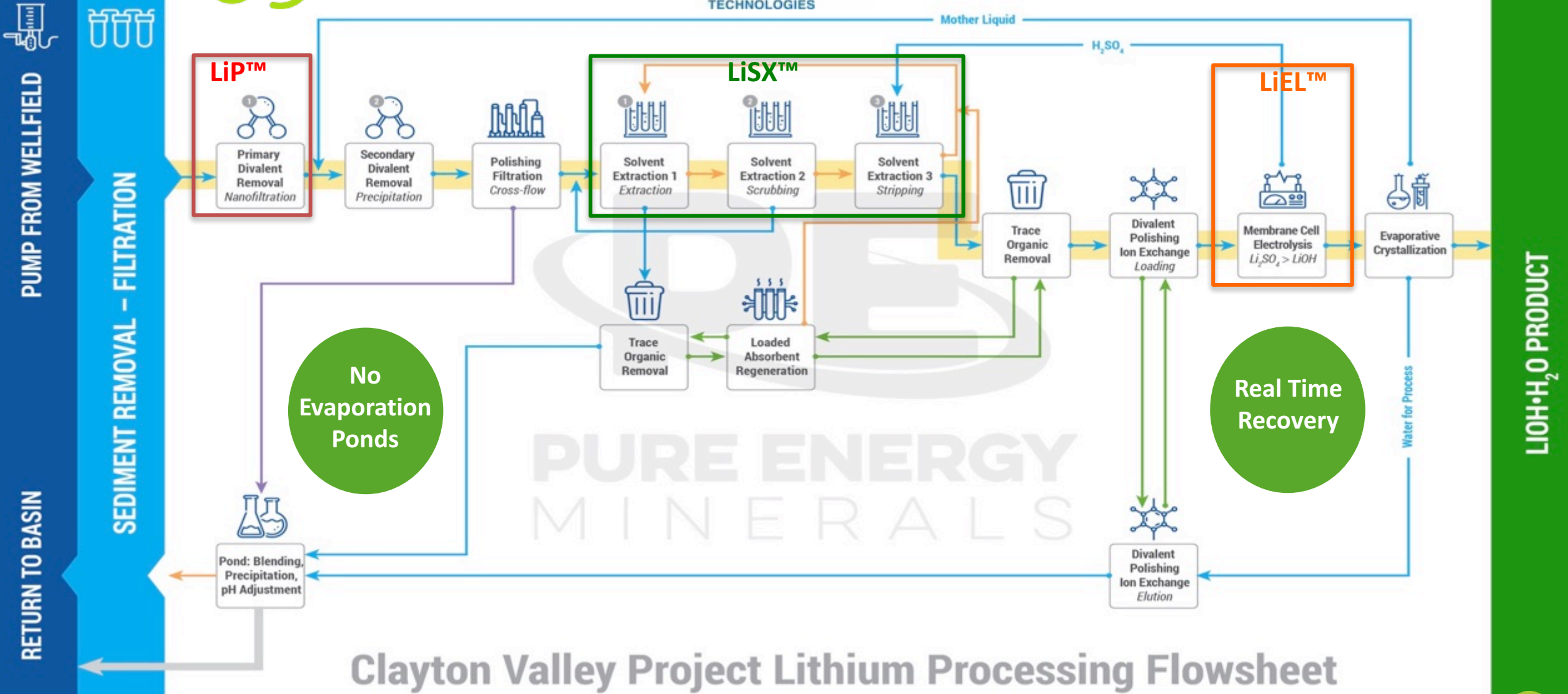
*Sulfate\**  
to Lithium  
Ratio:  
**18.2**

\* Chemistry derived from global average calculations from database, June 2017

**NOTE:** Mineral resources that are not mineral reserves do not have any demonstrated economic viability. Inferred resources are the least reliable resource category and are subject to the most variability. Please see the Company's full technical report at [www.sedar.com](http://www.sedar.com) or [www.pureenergyminerals.com](http://www.pureenergyminerals.com) for details on how the resource was derived and for the reporting details in terms of lithium metal (Li) and lithium hydroxide monohydrate (LiOH•H<sub>2</sub>O).



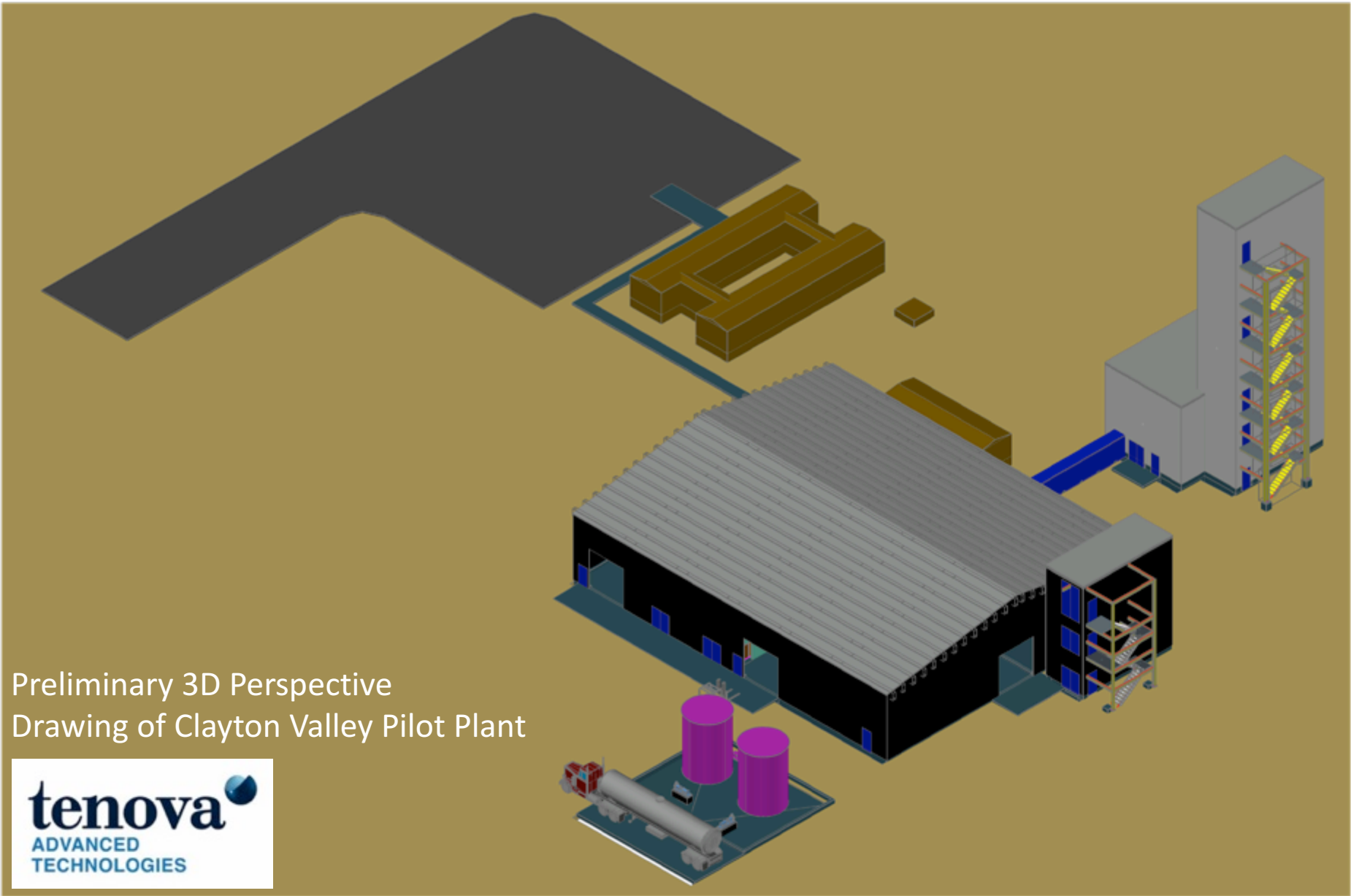
# THERE IS A BETTER WAY: PRELIMINARY FLOWSHEET FOR NEW LITHIUM PROCESS



## Clayton Valley Project Lithium Processing Flowsheet

→ Aqueous Streams (liquid and gas)    
 → Organic Streams    
 → Slurry Streams (can be dilute slurries)    
 → Solid Streams    
 Li flow path

# THERE IS A BETTER WAY: MAKING IT A REALITY WITH A PILOT PLANT



Preliminary 3D Perspective Drawing of Clayton Valley Pilot Plant

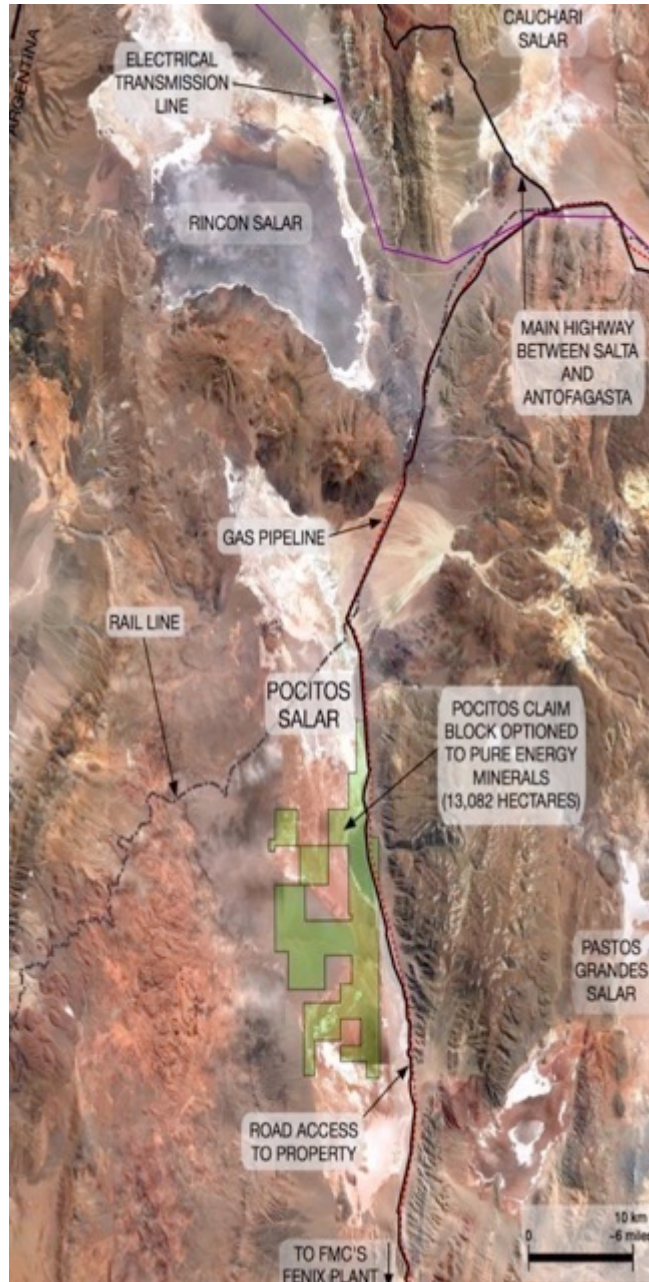


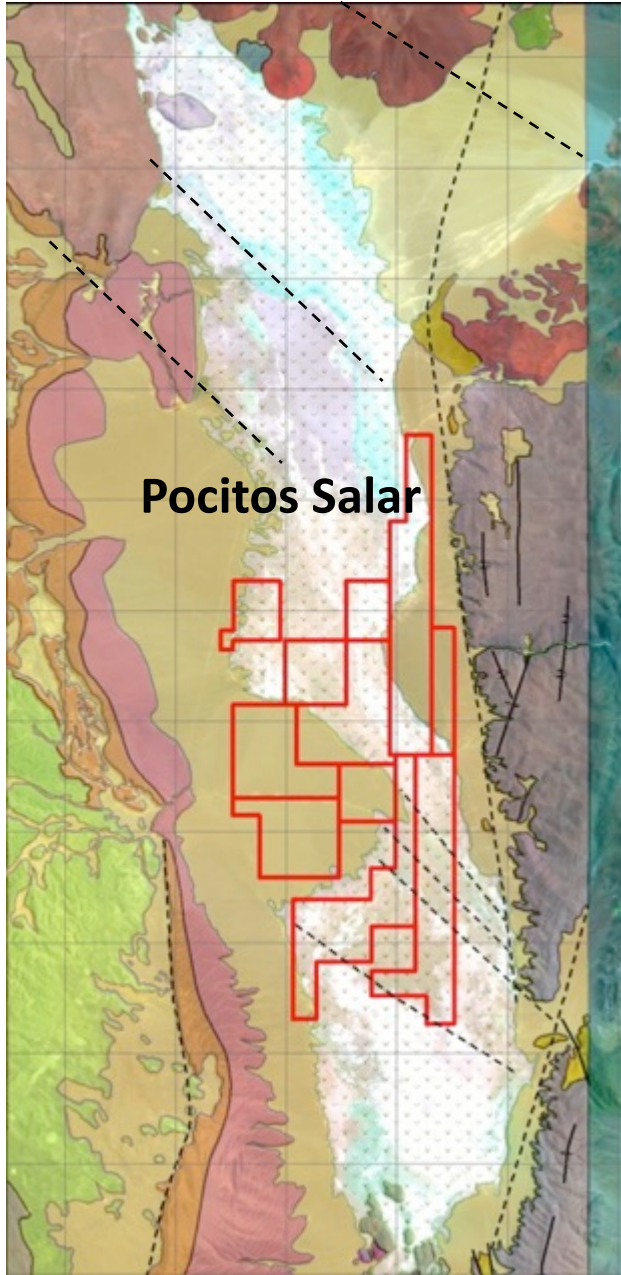


## Realistic and Aggressive - It's all about the Pilot Plant

Clayton Valley South Execution Schedule		2017		2018		2019		2020		2021		2022											
Project Activity	Duration	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Environmental Baseline Studies	12 months	█	█	█	█																		
<b>Permitting for Pilot Plant</b>	12 months	█	█	█	█																		
<b>Design of Pilot Plant</b>	9 months	█	█	█																			
<b>Procurement of Pilot Plant</b>	9 months		█	█	█																		
<b>Construction of Pilot Plant</b>	6 months				█	█																	
<b>Operation of Pilot Plant</b>	6 months						█	█															
Environmental Impact Assessment or Study	12 months			█	█	█	█																
Permitting for Project Execution	12 months				█	█	█	█	█														
Feasibility Study - Basin Activities	15 months			█	█	█	█	█	█														
Feasibility Study - Plant Activities & Feasibility Report	9 months						█	█	█														
Project Financing	3 months									█													
Design & Engineering- Project Execution	9 months										█	█	█										
Procurement & Delivery - Project Execution	12 months											█	█	█	█								
Construction	15 months												█	█	█	█	█						
Commissioning	6 months															█	█						
Ramp-Up	9 months																	█	█	█			

# TERRA COTTA PROJECT, ARGENTINA – WORLD CLASS DISCOVERY POTENTIAL





Large and deep closed structural basin with multiple aquifers



Major structures – faults and folds



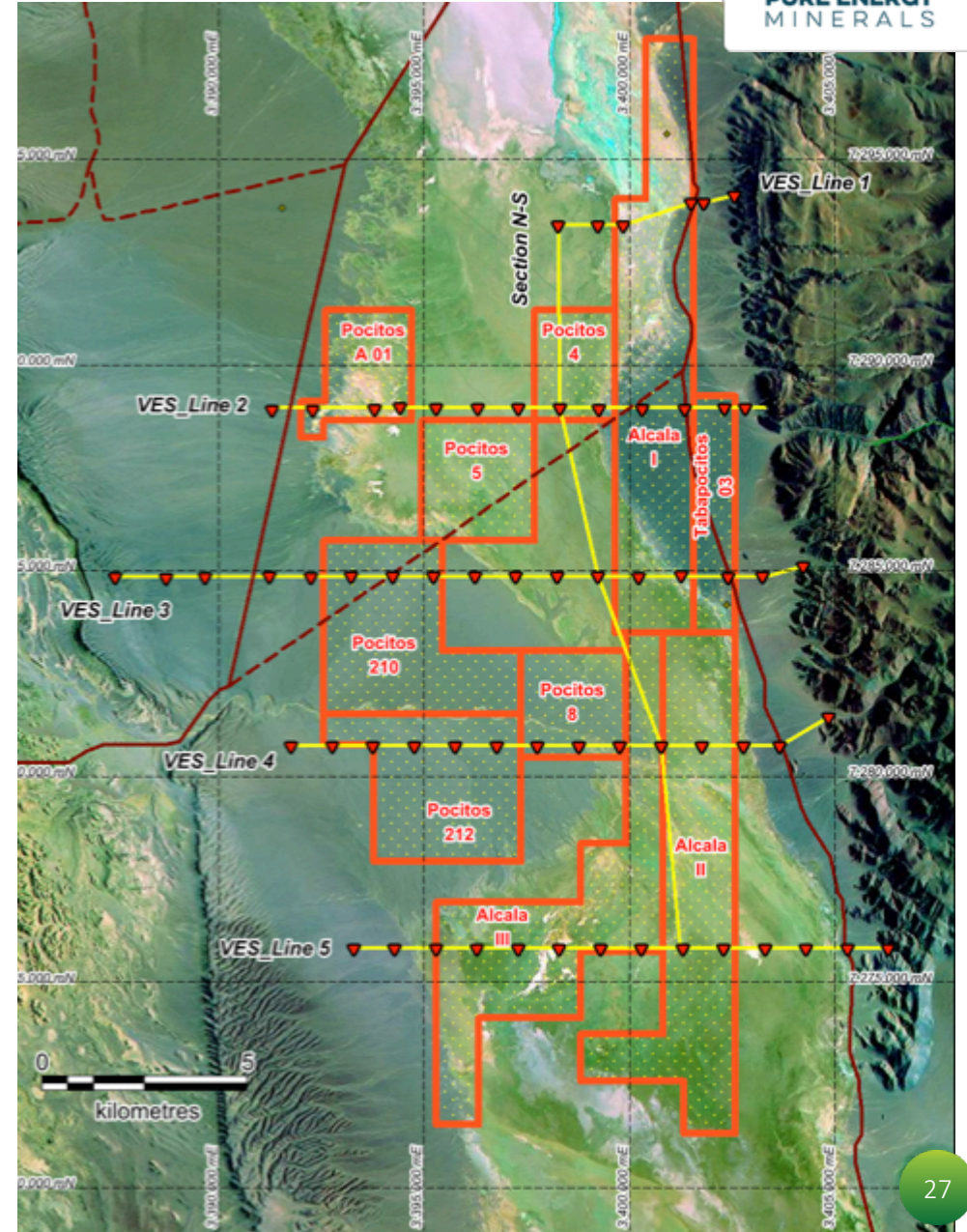
Recent volcanism and active hydrothermal systems



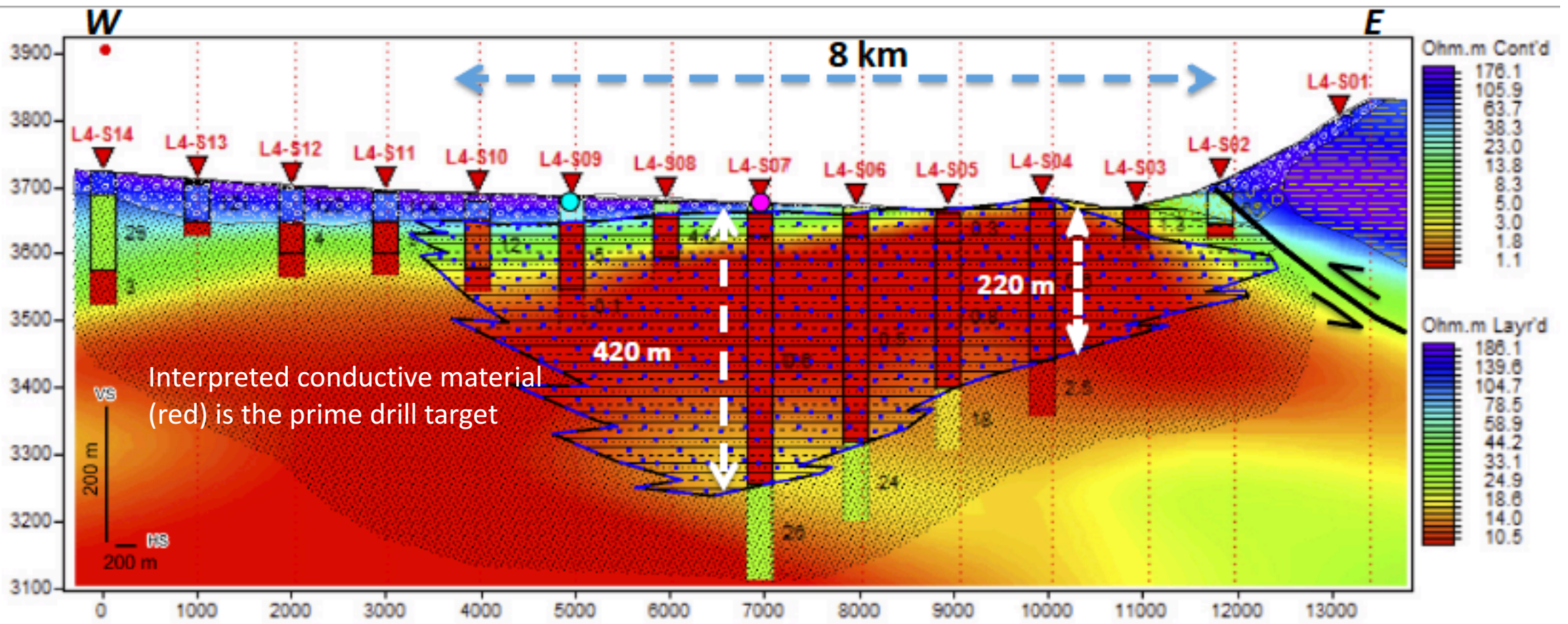
Complex metasedimentary and volcanic rocks in basin

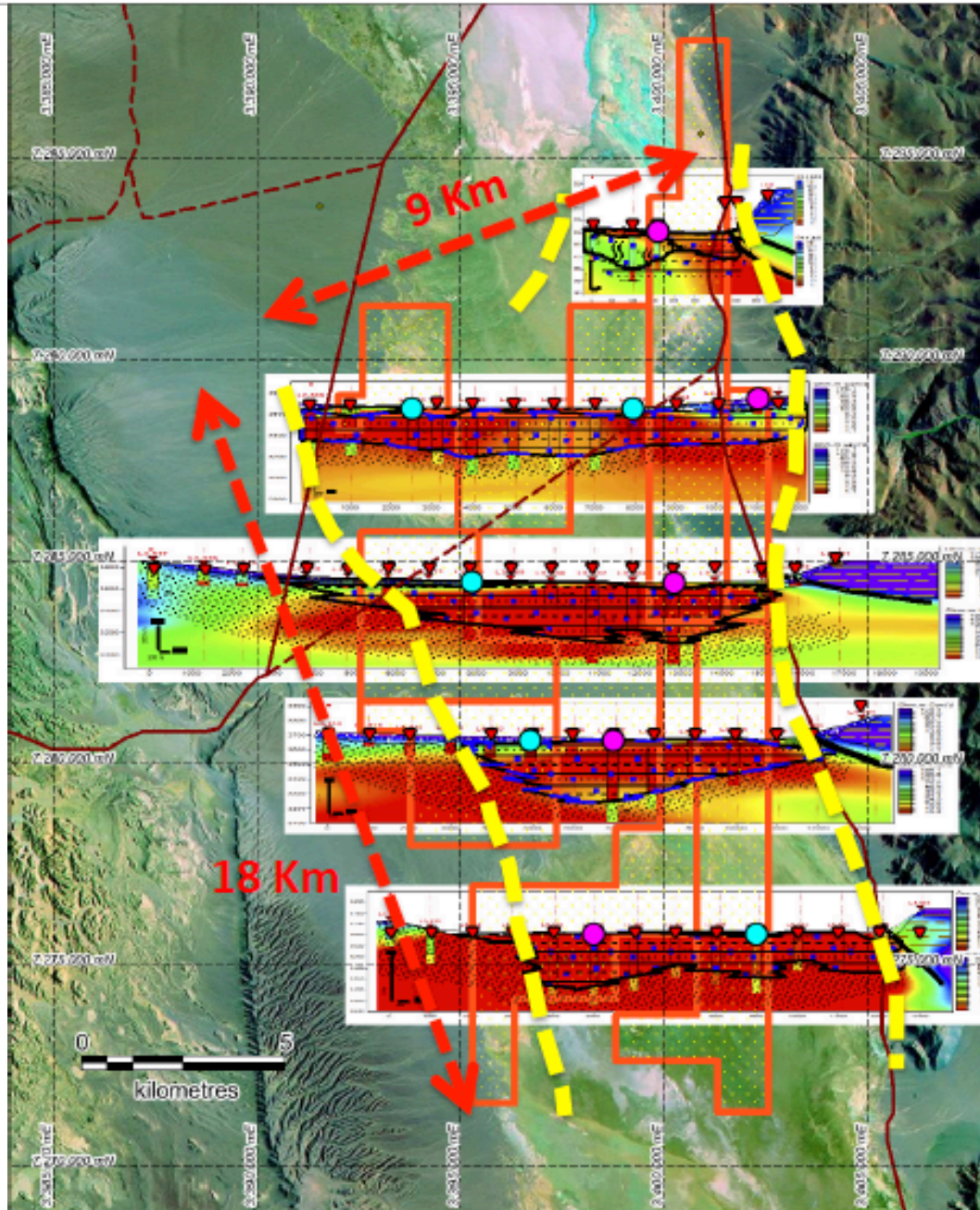


Lithium indicated in near-surface brines and deeper geophysical targets



# TERRA COTTA PROJECT – VES RESULTS: “THERE’S SALT WATER DOWN THERE”





## NEXT STEPS

Surface Sampling Underway:  
Lithium anomalies  
Zonation of brine chemistry  
Geological mapping

Environmental Impact Report Underway

Planning for 5 to 10 drill holes:  
Mixture of core and rotary  
Scheduling with Drilling Companies

Drilling Expected to Commence in Q1 2018



TSXV:PE



OTCQB:PEMIF

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