

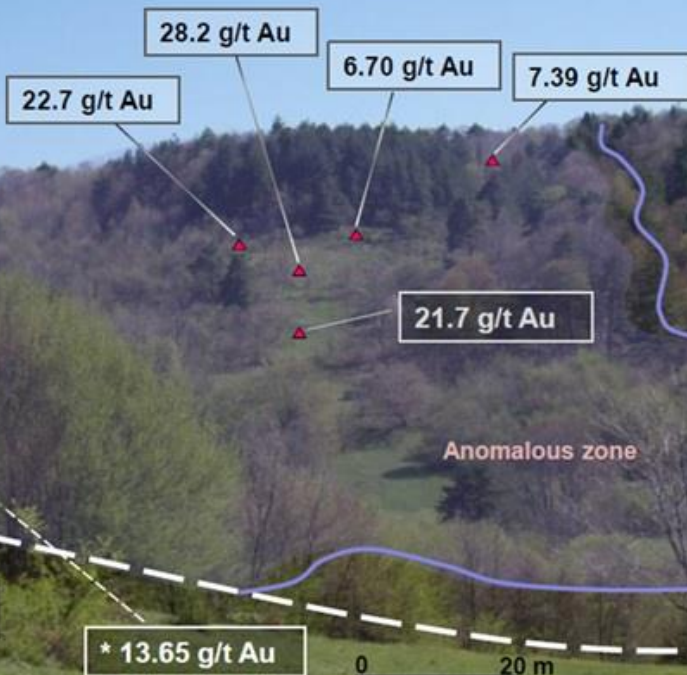


# Zenith Minerals Limited

ABN 96 119 397 938

## Investor Presentation May 2017

KT03 5.10 m  
14.4 g/t Au



KT09 90.7m  
9.14 g/t Au



KT06a 4.70m  
6.8 g/t Au



*Kavaklitepe Gold Project - View of Kuzey Zone, Gold Mineralised Drill Core  
(annotated with depth of sample & gold grade)*

*Lithium brine sampling in the USA*



# Disclaimer

## Forward looking statements

Some statements in this presentation regarding estimates or future events are forward looking statements. They involve risk and uncertainties that could cause actual results to differ from estimated results. Forward-looking statements include estimates of future production, reserve and mineralised material estimates, capital costs, and other estimates or prediction of future activities. They include statements preceded by words such as "believe", "estimate", "expect", "intend", "will" and similar expressions. Actual results could differ materially depending on such things as political events, labour relations, currency fluctuations and other general economic conditions, market prices for Zenith Minerals Limited products, timing of permits and other government approvals and requirements, change in operating conditions, lower than expected ore grades, unexpected ground and mining conditions, availability and cost of materials and equipment, and risks generally inherent in the ownership and operation of mining properties and investment in foreign countries.

## Information presented is a summary

This presentation aims to provide a high level summary of various technical aspects of the Company's projects. For more details on the underlying technical parameters the reader is referred to the ASX Reports on the Zenith Minerals Limited's website: [www.zenithminerals.com.au](http://www.zenithminerals.com.au)

## JORC competent persons statements

The information in this Report that relates to in-situ Mineral Resources at the Develin Creek project is based on information compiled by Ms Fleur Muller an employee of Geostat Services Pty Ltd. Ms Muller takes overall responsibility for the Report. She is a Member of the AusIMM and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity she is undertaking, to qualify as a Competent Person in terms of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code 2012 Edition)'. Ms Muller consents to the inclusion in the report of the matters based on her information in the form and context in which it appears.

The information in this report that relates to Zenith Exploration Results is based on information compiled by Mr Michael Clifford, who is a Member of the Australian Institute of Geoscientists and an employee of Zenith. Mr Clifford has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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'. Mr Clifford consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



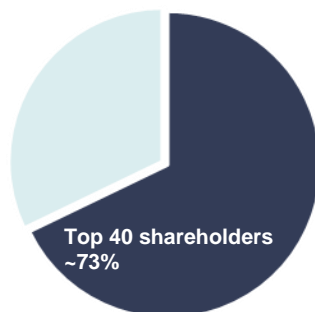
# Corporate Structure

## Capital Structure – ASX: ZNC

Share Price (at May 2017)	\$0.11
Shares on Issue ZNC fully paid ordinary	189m
Market Capitalisation	\$20m
Listed Options ZNCO (\$0.10 Exercise price)	24m
Cash (April 2017)	\$2.2m

## Major Shareholders

HSBC Custody. Nom	6.6%
City Corp. Nom.	6.2%
Granich	6.1%
Miquilini	4.1%
Abingdon	4.1%
GDR PL	3.9%



***Tight supportive register***  
***Directors ~11%***  
***Top 40 mostly ex-ASX:GIR holders***

## Strong Board - experienced, technically & commercially successful

### **Mike Joyce – Non-Executive Chairman**

Geologist, substantial prior experience at Aberfoyle Resources Ltd (1980-98) then MD at Giralia Resources NL (1998-2011 - \$828m takeover). Chairman of Gascoyne Resources Ltd.

### **Mick Clifford - Managing Director**

Geologist, >26 years experience, Billiton Australia, Acacia Resources & AngloGold Ashanti. MD of PacMag Metals Ltd (2005 – 2010 - \$50m takeover).

### **Stan Macdonald - Non-Executive Director**

Industry veteran, founded numerous ASX listed companies including Giralia Resources NL, Director of Gascoyne Resources Ltd.

### **Julian Goldsworthy - Non-Executive Director**

Geologist, currently Geology Manager at Gascoyne Resources Ltd. Substantial experience with Newcrest Mining & Newmont Australia (1986-2007) and Giralia Resources NL (2007- 2011).

**ASX:ZNC**



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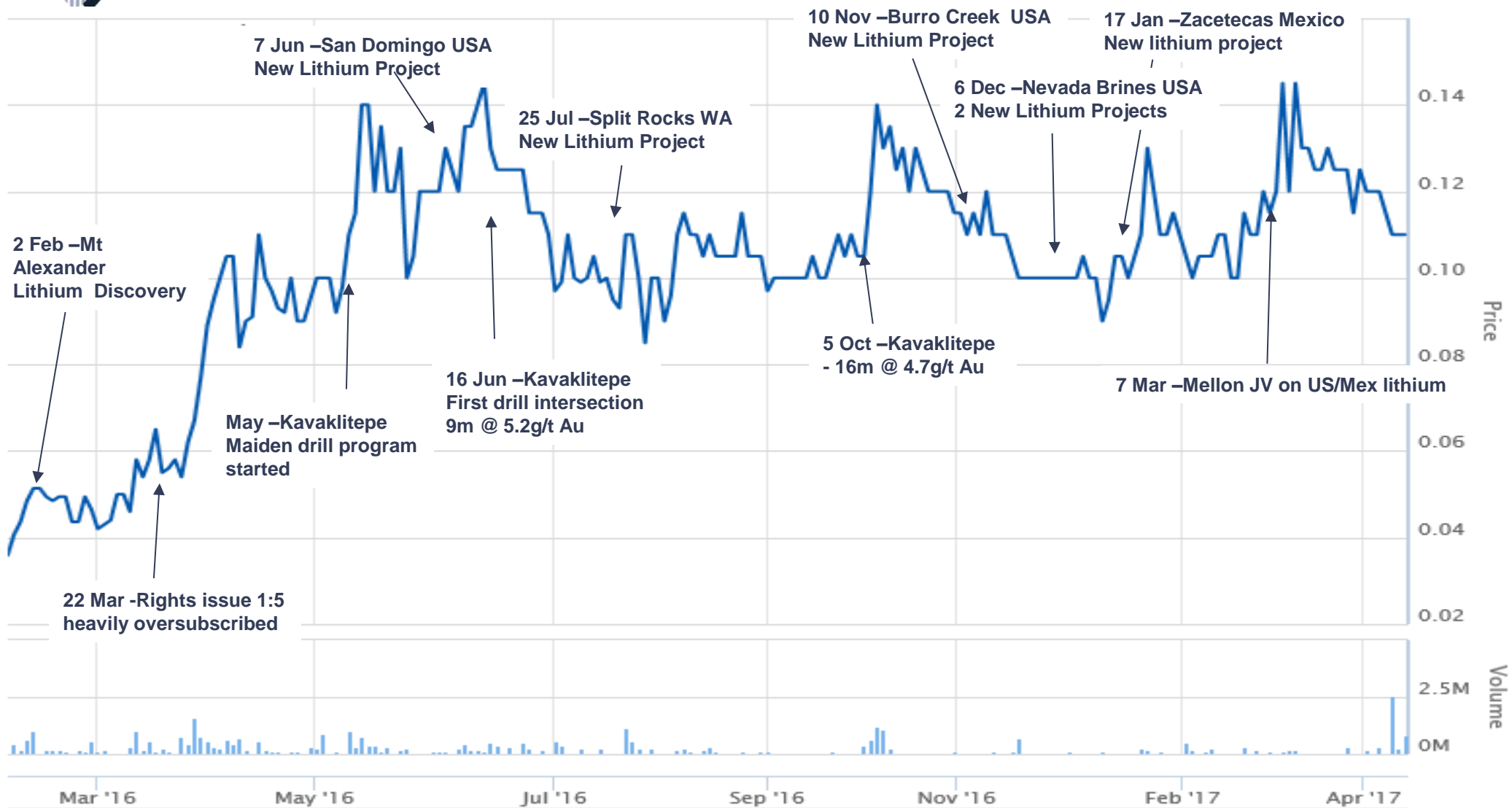
W: [www.zenithminerals.com.au](http://www.zenithminerals.com.au)





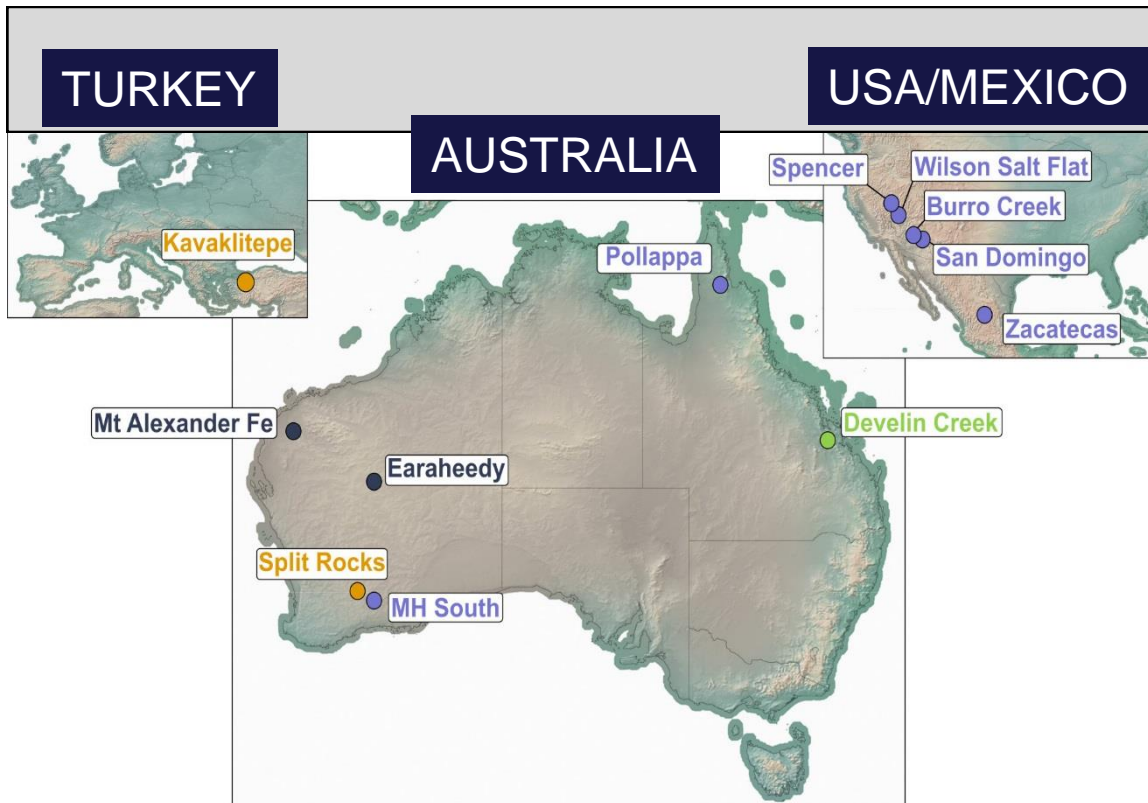
# Last 12 Months

## Growth in Portfolio & Growth in Shareholder Value





# Key Projects - rapidly evolving



## Zenith has a clear strategy for adding shareholder value

1. Use our proven generative skills, move fast to acquire projects, Au, Li focus;
2. Smart, cost-effective exploration to progress projects and add value;
3. Use experience and corporate skills to deliver value-add to shareholders through development or monetization.

### Gold

- **Kavaklitepe JV (Turkey)** – ZNC 30%.  
New discovery - Teck Drilling 2016:  
16m @ 4.7g/t Au, 9m @ 5.2g/t Au

### Lithium

- **USA/Mexico JV ( 100%)** – Five lithium projects fully funded by Jim Mellon farm-in;
  - Arizona - spodumene pegmatites, lithium clays
  - Nevada - two salt lake lithium brine targets near Clayton Valley
  - Mexico - salt lake brine targets in new province
- **Split Rocks (WA-100%)** – New 500sq km position in emerging Forrestania lithium belt (KDR recent discoveries)

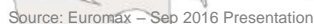
### Copper/Zinc

- **Develin Creek (QLD -100%)** - JORC massive sulphide resource 2.57Mt @ 1.76% Cu, 2.01% Zn, 0.24g/t Au & 9.6g/t Ag (Feb '15). 50km prospective strike.



Turkey  
Gold  
Drilling

## New Gold Discovery in Turkey



**~30km south west of major new  
3Moz gold discovery at Sogut (Koza)**

**Maiden 25 hole drilling program in 2016 with man-portable rigs**  
(ASX releases 16 June, 20 July, 24 August, 5 October & 20 December 2016)

## Turkey-Europe's largest gold producer; Eldorado, Koza, Alacer, First Quantum

## Highly endowed Tethyan Metallogenic Belt

**Ranked 8th by  
Frazer Institute  
as investment  
destination**



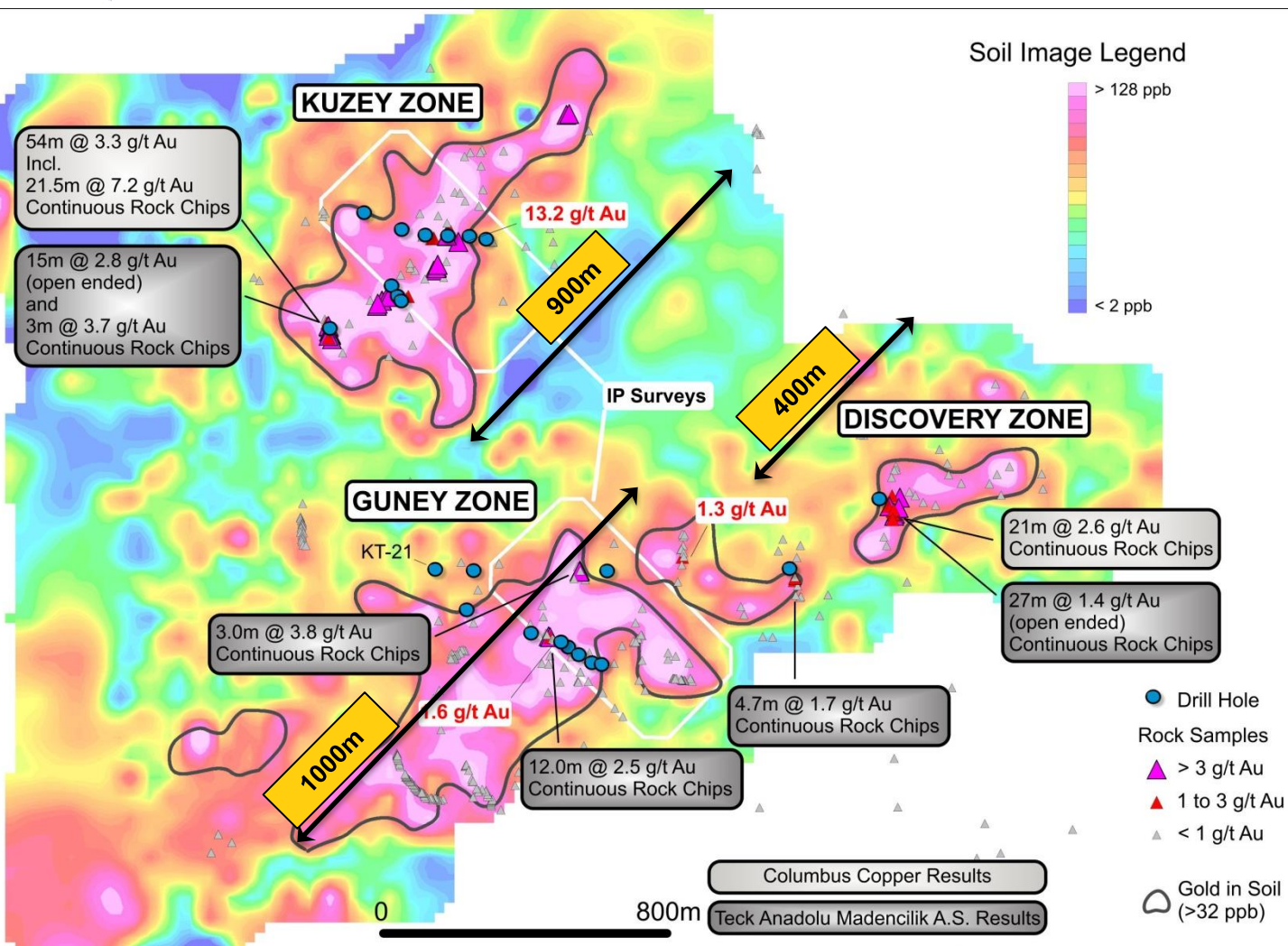




# Kavaklitepe

Location:  
Commodity:  
Stage:

Turkey  
Gold  
Drilling



## 3 strong gold soil anomalies:

### Kuzey Zone

900m strike length

Continuous rock chips;

- 54m @ 3.3g/t Au incl.
- 21.5m @ 7.2g/t Au

### Guney Zone

1000m strike length

New continuous rock chips;

- 12.0m @ 2.5g/t Au
- 3.0m @ 3.8g/t Au

### Discovery Zone

400m strike length

continuous rock chips;

- 27m @ 1.4g/t Au

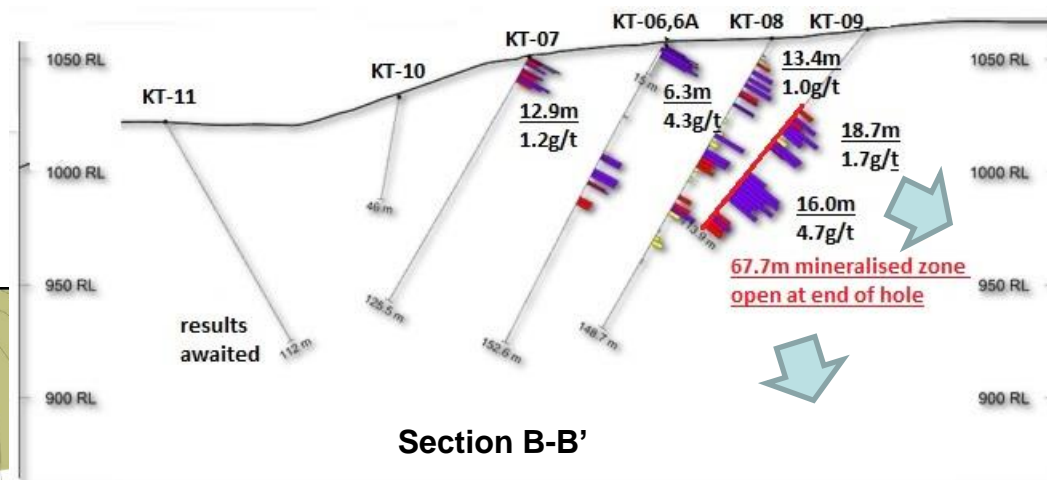
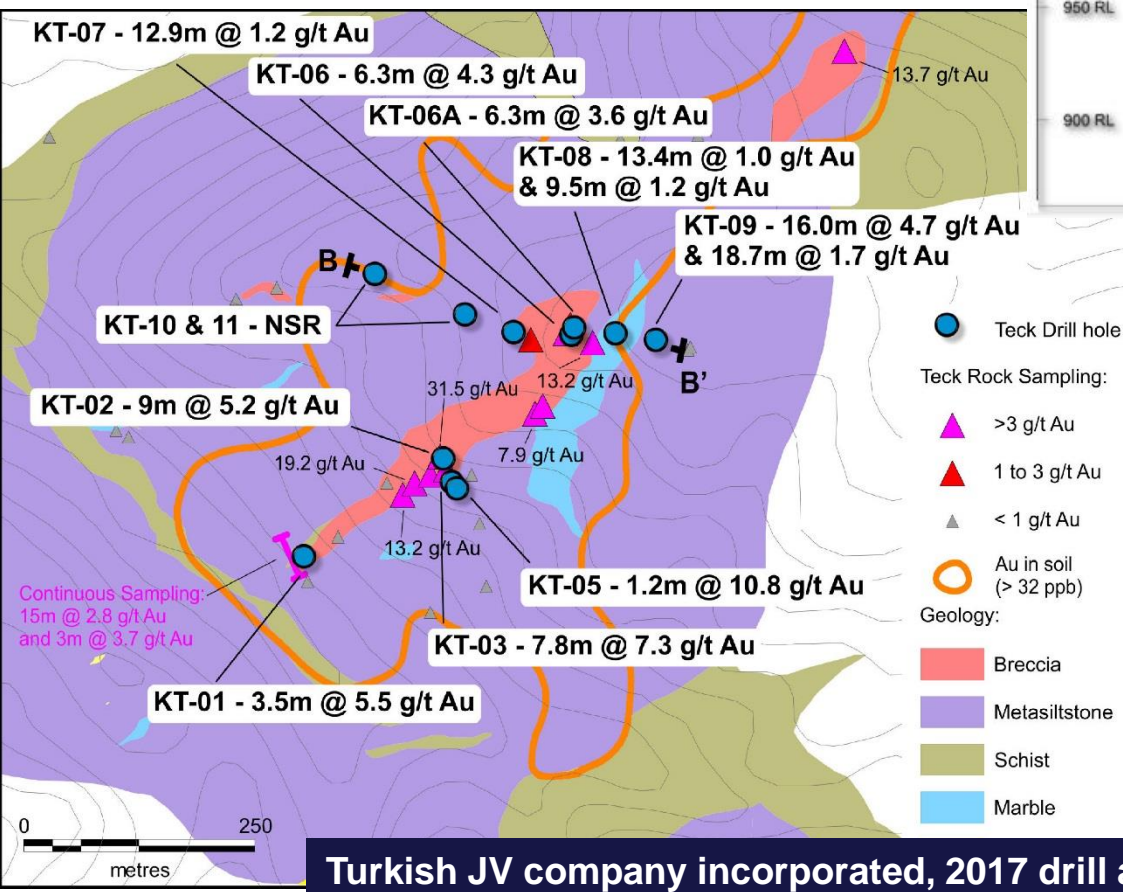
Drilling trial; 25 wide spaced shallow holes completed covering SW end of Kuzey target, Guney & Discovery Zones.



# Kavaklitepe

Location: Turkey  
Commodity: Gold  
Stage: Drilling

**Kuzey Zone – Very Positive Initial Drill Results.**  
Assays from holes KT-08 and 09 returned  
60 to 70 metres thick unoxidised mineralised zones - open



**Holes KT-01 to KT-05**  
Flat lying near surface oxide mineralisation;  
KT-02 9.0m @ 5.2 g/t Au from surface;  
KT-03 7.8m @ 7.3 g/t Au from 3.3m  
KT-05 1.2m @ 10.8g/t Au poor core recovery

**Holes KT-06 to KT-11**  
Extended the oxide zone to over 400m strike,  
plus first strong unoxidised gold intersections;  
KT-06 6.3m @ 4.3g/t Au from surface  
KT-07 12.9m @ 1.2 g/t Au from surface  
KT-08 13.4m @ 1.0g/t Au from 16.1m  
KT-09 18.7m @ 1.7g/t Au from 50.2m  
and 16.0m @ 4.7g/t Au from 82.1m

**Turkish JV company incorporated, 2017 drill and trench proposal being finalised**

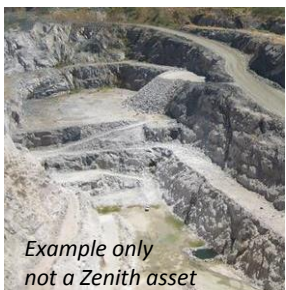




# Lithium (Li) Production

## Lithium Pegmatite Deposits (40% of LCE supply):

- Deposits >10Mt – 100Mt @ grades >1.2% Li
- Hard rock open pit mines
- Example Operations: Greenbushes (Albermarle/Tianqi), Mt Cattlin (GXY), Mt Marion (MIN-NMT), Wodgina (MIN)
- Usually produce a spodumene concentrate which grades >6%Li
- Spodumene concentrate sold to Li-carbonate producers
- Li-carbonate producers sell to battery manufacturers

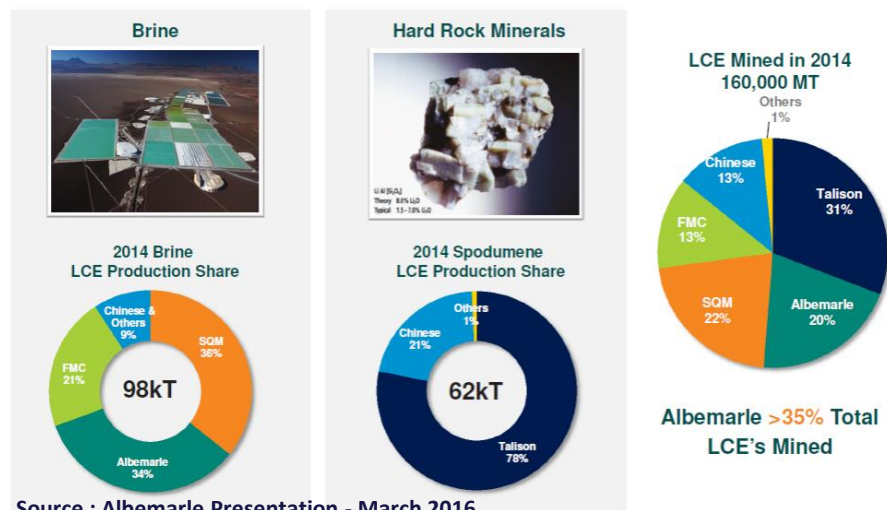


## Lithium Clay Deposits:

- Deposits >50Mt – 500Mt @ 0.1% to 0.5% Li (1000 to 5000ppm Li)
- Soft rock open pit mines (proposed)
- Examples Projects: Sonora (TSX:BCN), Rhyolite Ridge (GSC), Kings Valley (TSX:LAC).
- Planned production of lithium carbonate

## Lithium Brines Deposits (60% of LCE supply):

- Deposits grades: 245 mg/l to 1800 mg/l (~220ppm to 1000ppm Li)
- Subsurface brine deposits of lithium and potash extracted by wells, pumped to surface ponds and concentrated by solar evaporation
- Example operations :Chile: Salar de Atacama (Albermarle/SQM), Argentina Olaroz (ORE) , USA: Silver Peak (Albermarle)
- Produce lithium carbonate

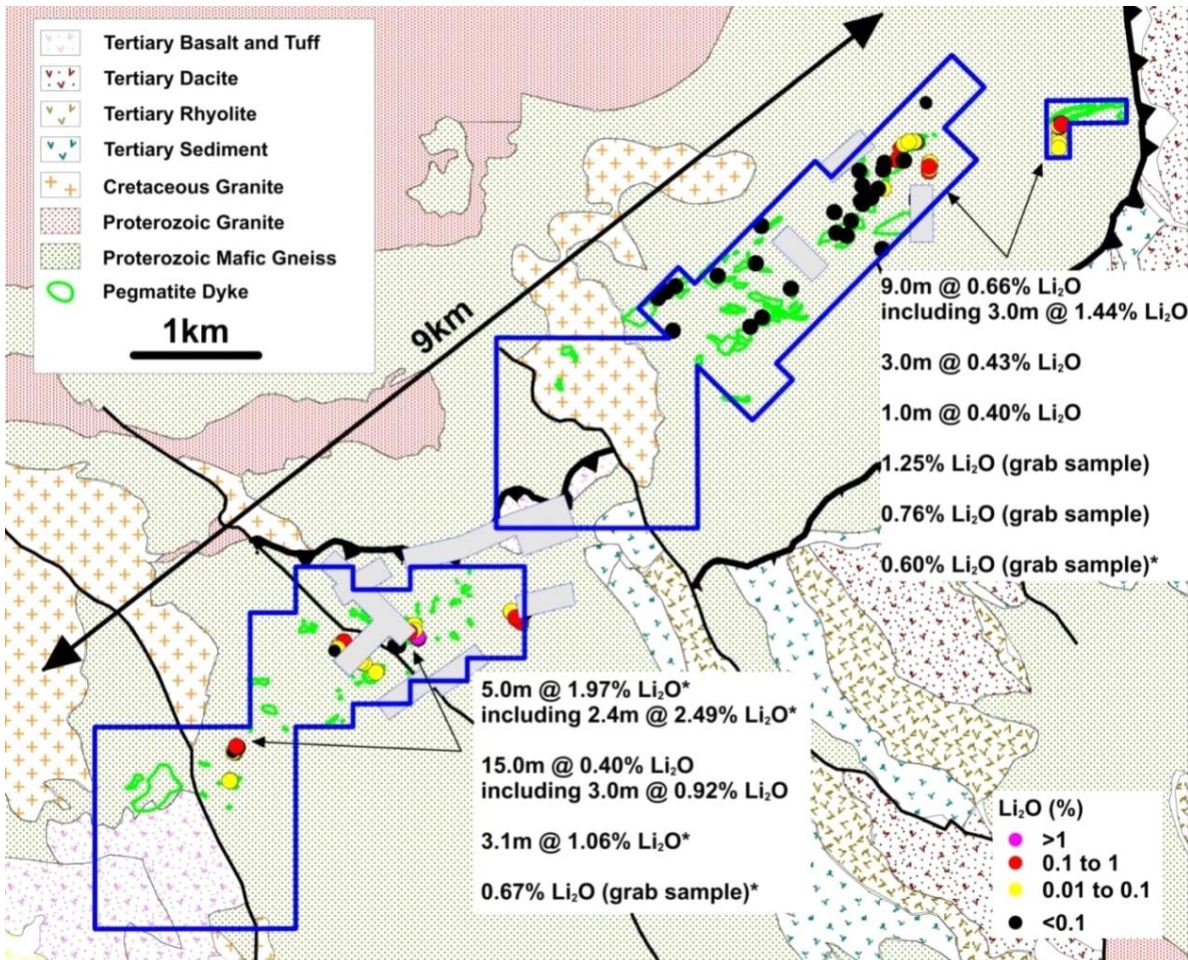


Source : Albemarle Presentation - March 2016



# San Domingo Lithium

Bradda Head Ltd (Jim Mellon)  
earning initial 55%  
Location: USA  
Commodity: Lithium  
Stage: Prospects



- 9km by 1.5km field with numerous lithium bearing pegmatites;
- Initial Zenith sampling 5m @ 1.97%  $\text{Li}_2\text{O}$  incl. 2.4m @ 2.49%  $\text{Li}_2\text{O}$  from spodumene rich pegmatites;
- Lithium as spodumene and amblygonite concentrates & tantalum produced from district (1947 – 1952);
- Very limited drilling; in 1952- anecdotal info “..considerable thicknesses of spodumene - bearing pegmatite..” & in 1980-82 mostly for Ta and Nb focussed outside Zenith’s claims;
- Follow-up mapping & sampling prior to drill testing.





# San Domingo Lithium

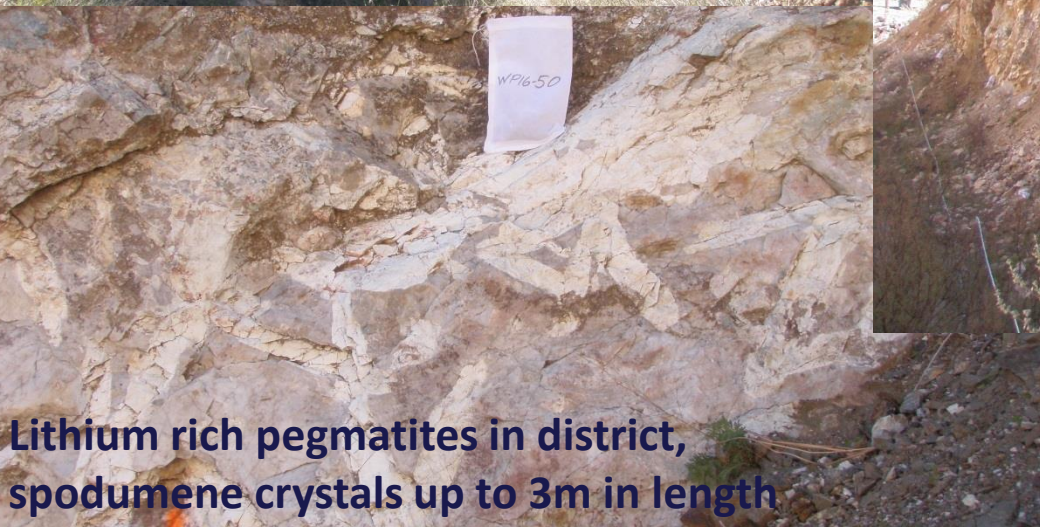
Bradda Head Ltd (Jim Mellon)  
earning initial 55%  
Location: USA  
Commodity: Lithium  
Stage: Prospects



**Additional surface mapping & sampling  
in progress prior to drilling**



**Pegmatite dykes up to 60m in width and 600m in length**



**Lithium rich pegmatites in district,  
spodumene crystals up to 3m in length**



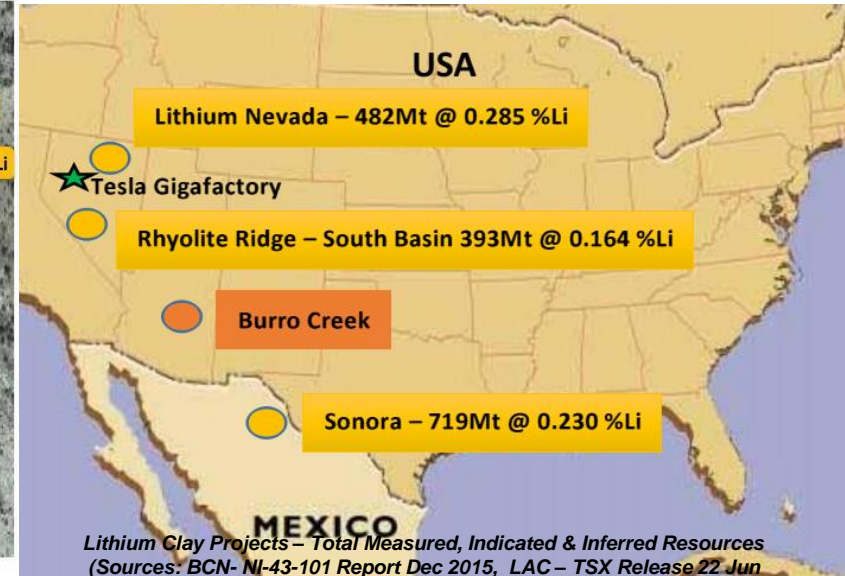
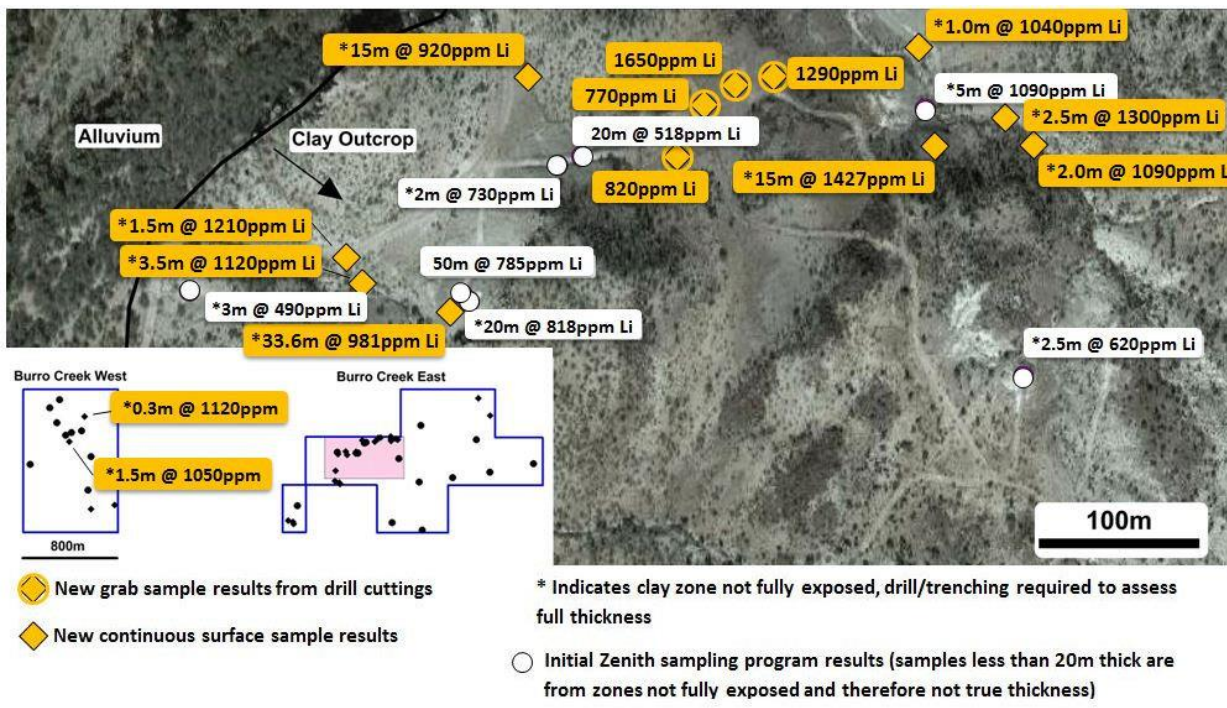
**Numerous historic workings**





# Burro Creek Lithium

Bradda Head Ltd (Jim Mellon)  
 earning initial 55%  
 Location: USA  
 Commodity: Lithium  
 Stage: Prospects



Large scale lithium clay target under exclusive option in Arizona, USA



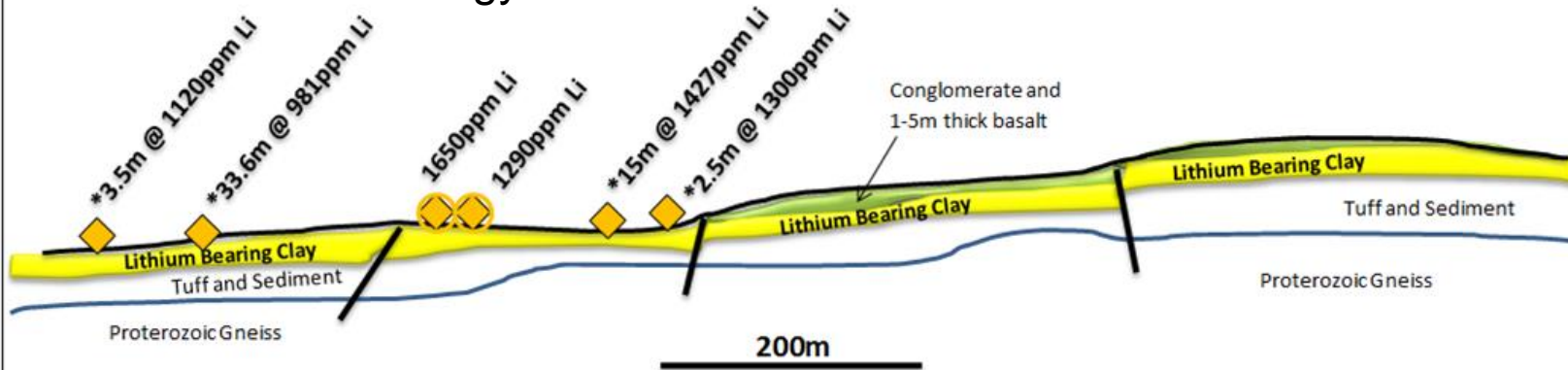
- Extensive outcrop of shallow dipping lithium bearing clay horizon with true thickness up to 50m;
- Metallurgical testwork in progress



# Burro Creek Lithium

Bradda Head Ltd (Jim Mellon)  
earning initial 55%  
Location: USA  
Commodity: Lithium  
Stage: Prospects

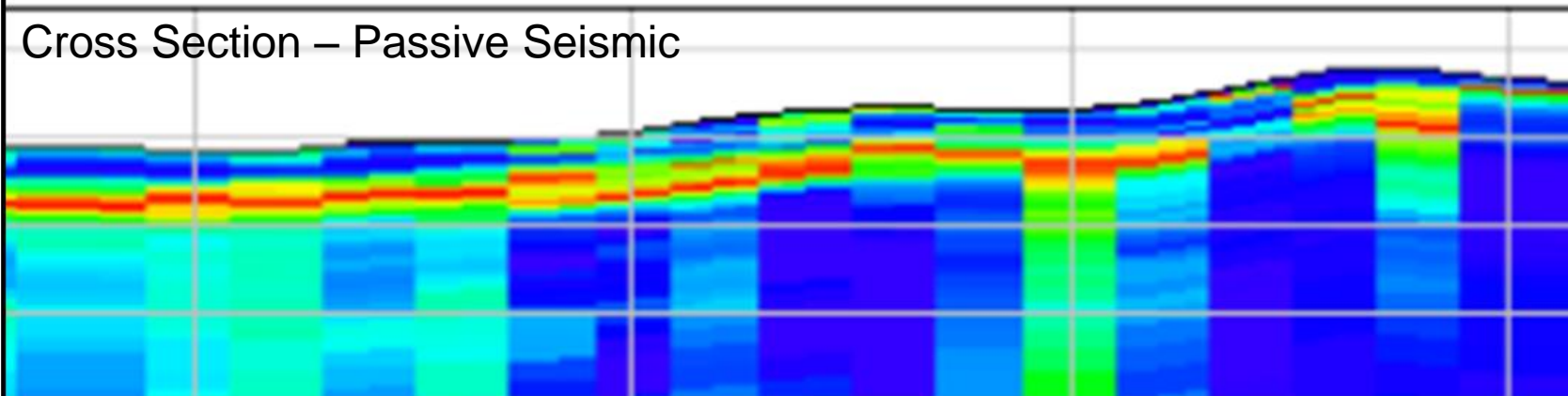
## Cross Section - Geology



**Near surface –  
flat lying clay  
beds**

**Permitting in  
progress for  
trenching and  
resource drilling**

## Cross Section – Passive Seismic







# Lithium brine projects USA & Mexico

Infill surface sampling completed - results awaited

Ground based geophysical surveys planned prior to drill testing

Bradda Head Ltd (Jim Mellon)

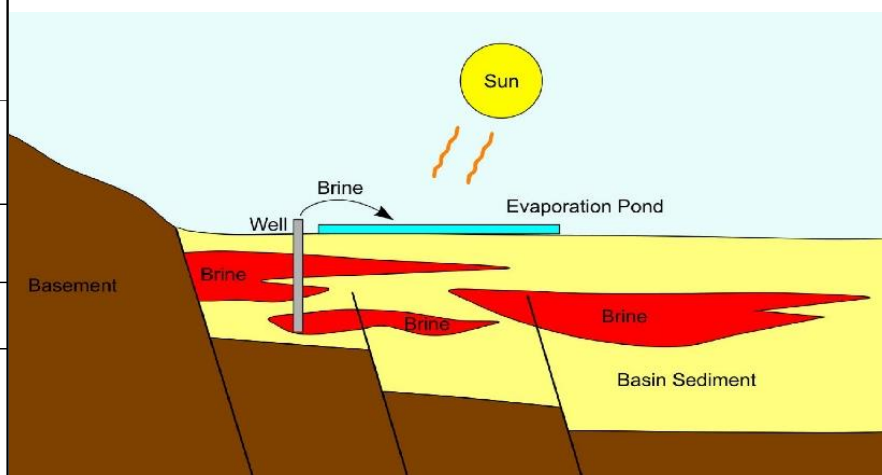
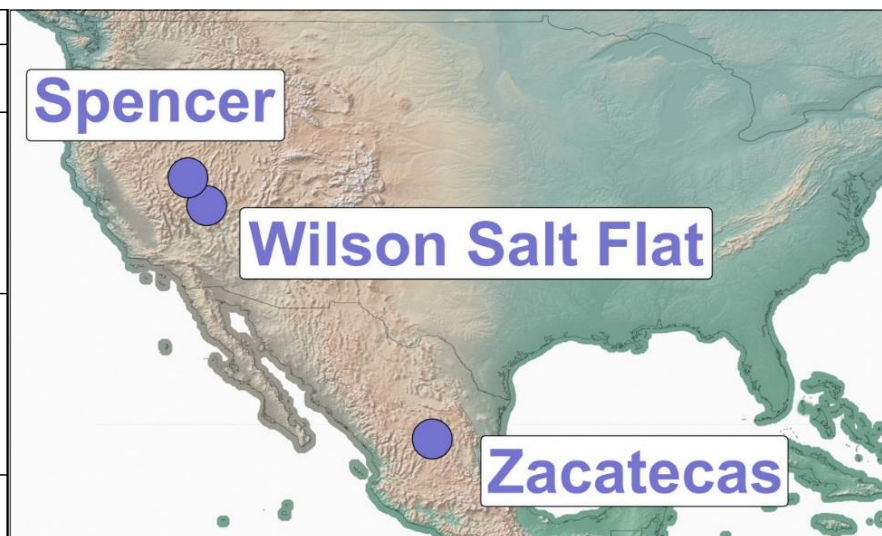
earning initial 55%

Location: USA

Commodity: Lithium

Stage: Prospects

PROJECT	Spencer	Wilson Salt Flat	Zacatecas - Mexico
Large closed sedimentary basin	✓	✓	✓
Abundant Tertiary or younger felsic volcanic and tuffaceous deposits (which are considered to be the source of the lithium)	✓	✓	✓
Presence of salars or playa lakes where brines can evaporate resulting in the concentration of mineral salts including lithium	✓	✓	✓
Gravity data supports the presence of discrete fault bounded grabens within the basement of the larger enclosed basins.	✓	✓	No gravity data available
Evidence of hot springs depositing alkali salts onto lake surfaces	✓	✓	✓
Elevated lithium levels in regional water well sampling	✓	✓	✓
Seismic Data Confirms Basin Architecture	Survey Planned	✓	✓
Presence of salt brine aquifers (which can be detected by electrical resistivity surveys - MT).	Survey Planned	Survey Planned	Survey Planned



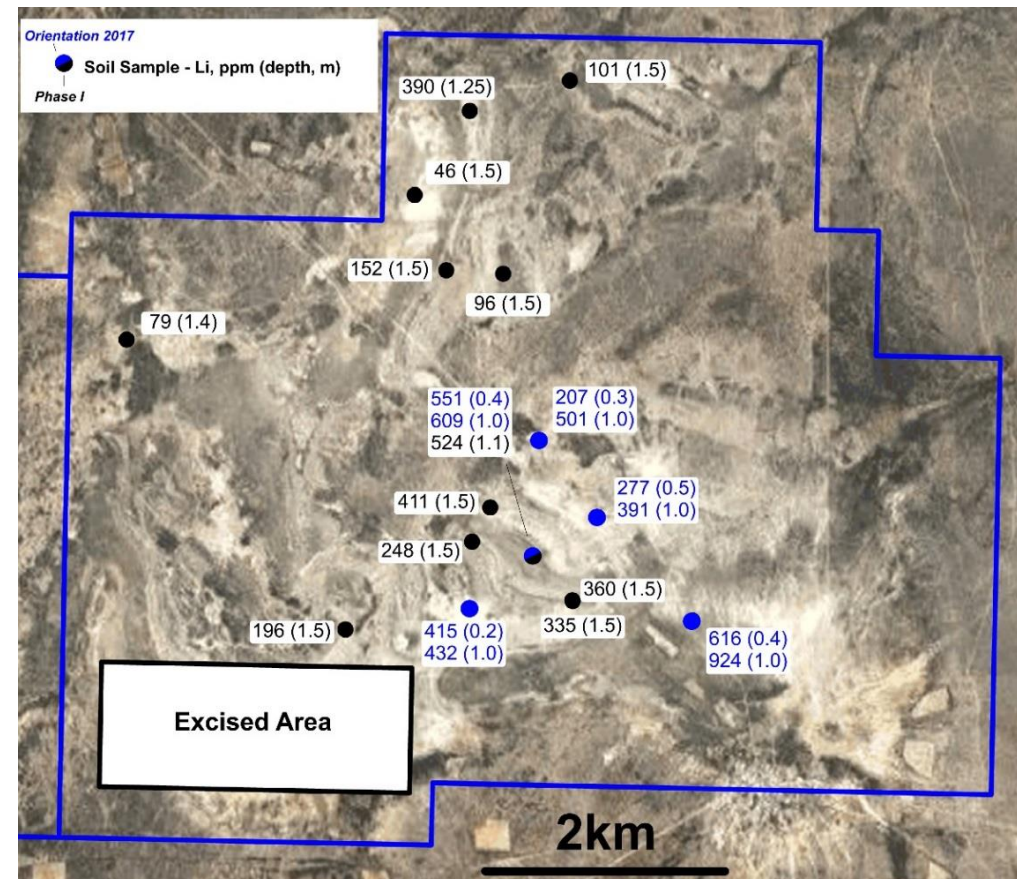
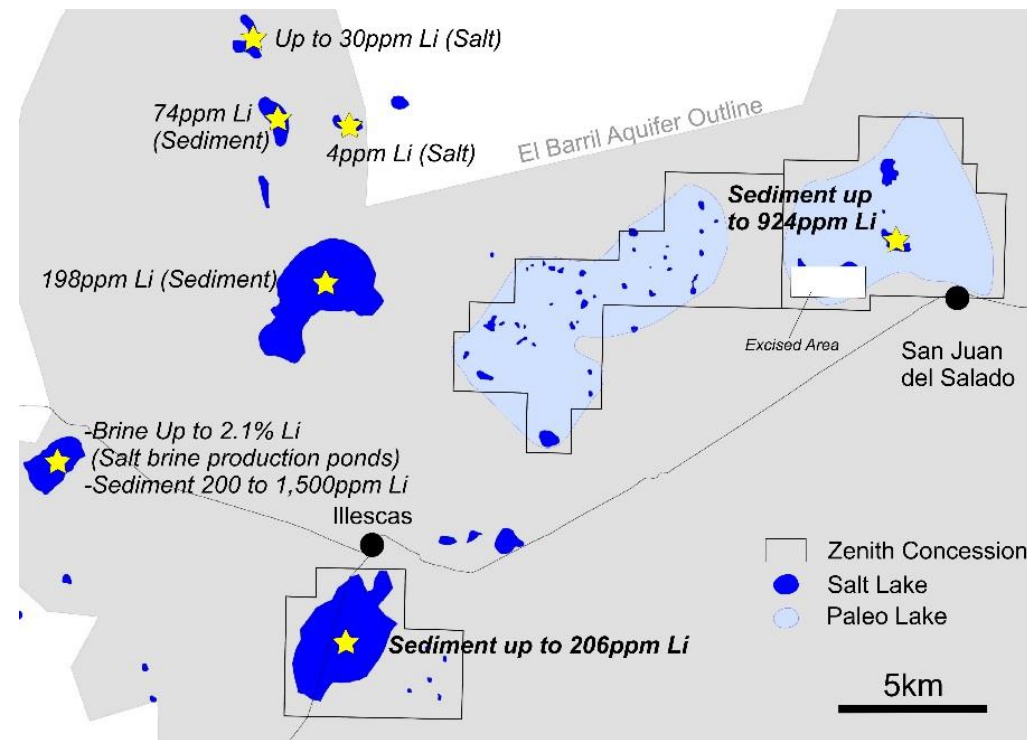




# Zacatecas project - Mexico

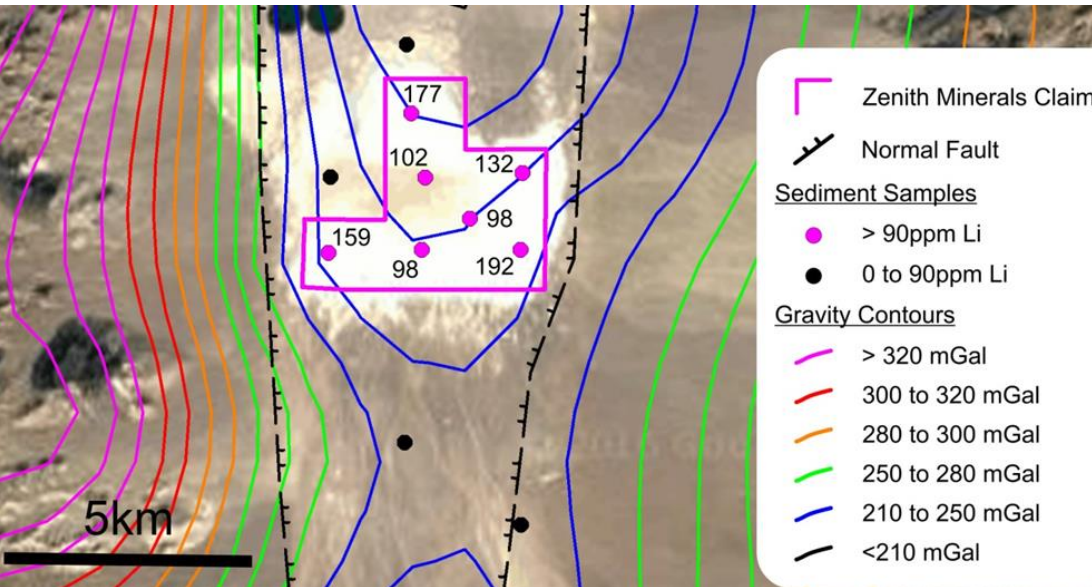
Bradda Head Ltd (Jim Mellon)  
 earning initial 55%  
 Location: Mexico  
 Commodity: Lithium  
 Stage: Prospects

- Emerging lithium brine district in central Mexico
- Zenith surface sampling by Zenith up to 924ppm lithium
- Brines to 2.1% lithium reported from solar evaporation ponds on adjacent salt lake - confirms lithium-enriched source brines present in the district
- Infill surface sampling completed results awaited
- Electrical geophysics prior to drill test





# Wilson Salt Flat project - Nevada



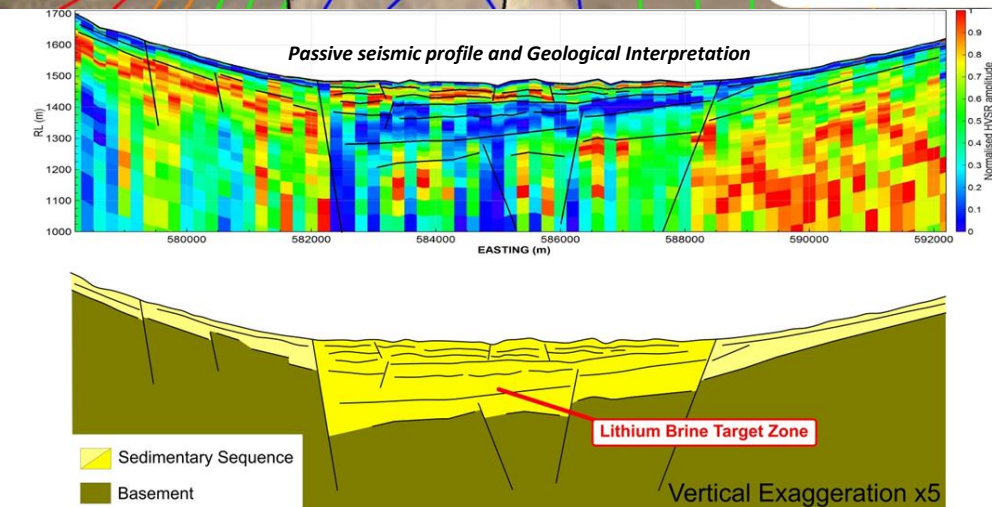
**Zenith surface sampling to 192ppm Li**

**High-grade results coincident with gravity low anomaly reflecting basin sedimentary sequences that potentially host lithium brines**

**Aeromagnetic, gravity modelling indicative of major faults capable of channelling and focusing lithium-enriched geothermal fluids**

**Zenith passive seismic survey supports prospective basin architecture.**

**Electrical geophysics planned prior to drill test**

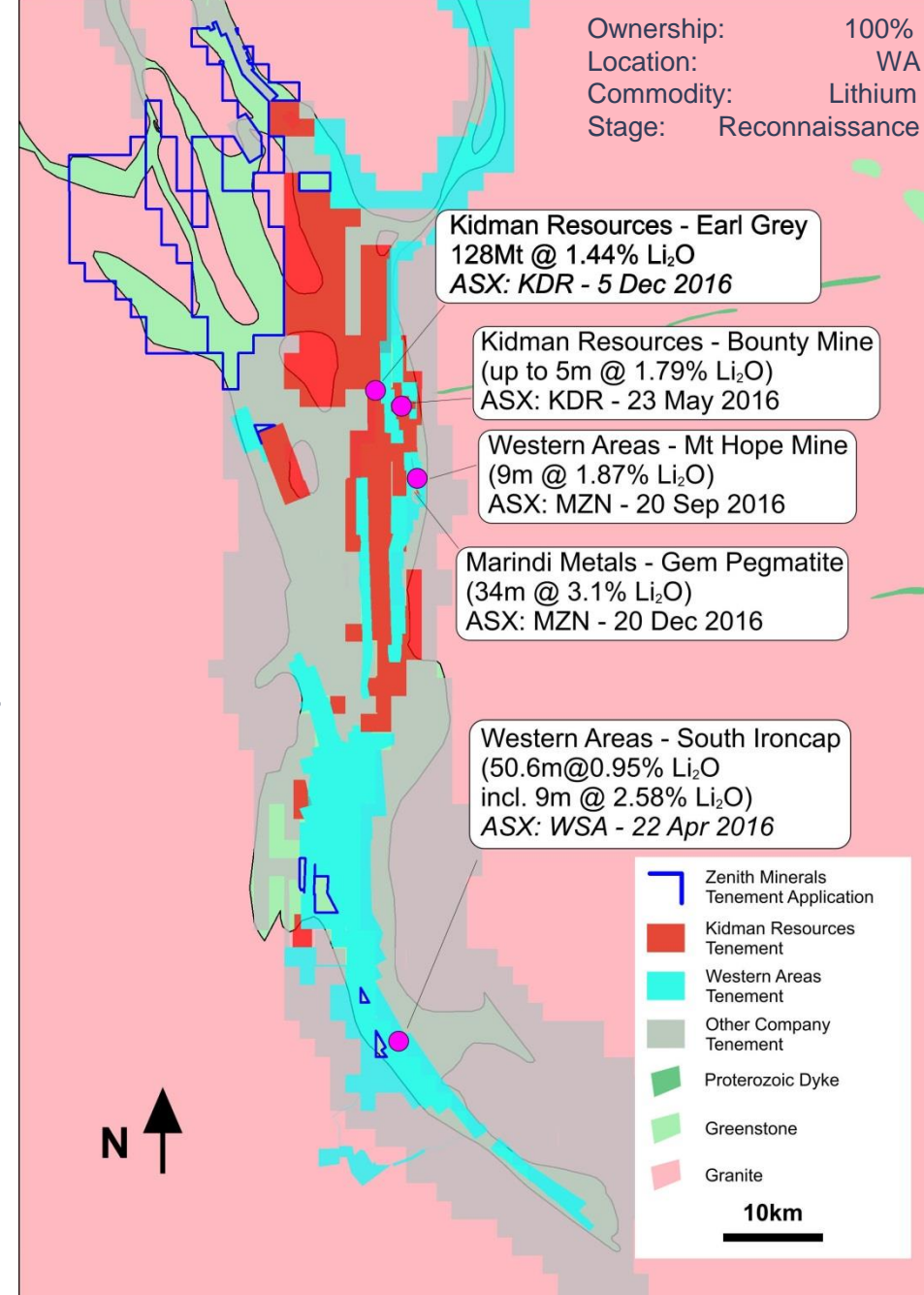






# Split Rocks

- New Exploration licences over ~500 km<sup>2</sup>;
- Zenith is now one of the major landholders in emerging new lithium province - Forrestania Greenstone Belt - KDR and WSA lithium discoveries;
- Many pegmatites noted in historic (Au, Ni) exploration reports within new Zenith applications - potential hosts to lithium mineralisation;
- Initial surface mapping and surface sampling confirm presence of numerous pegmatites;
- Gold targets also noted.



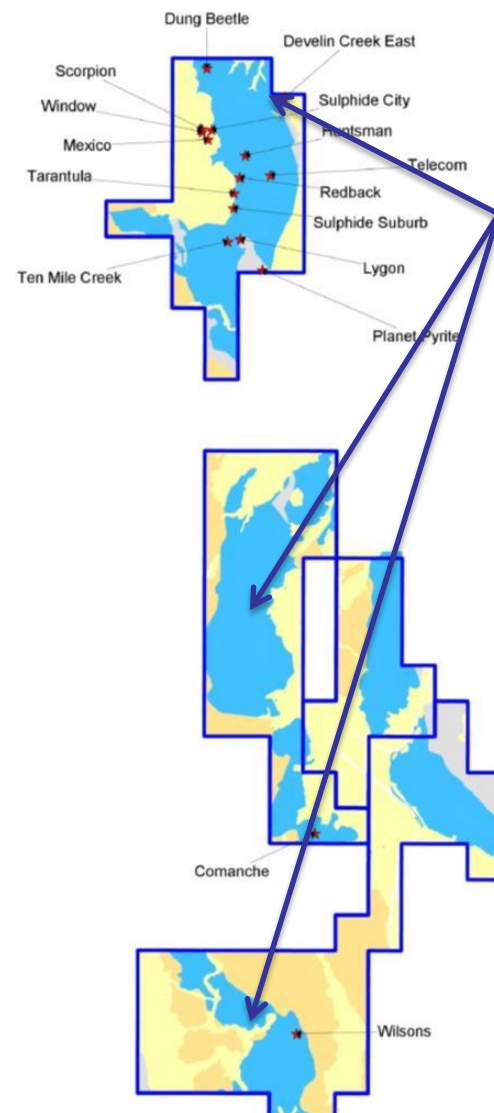
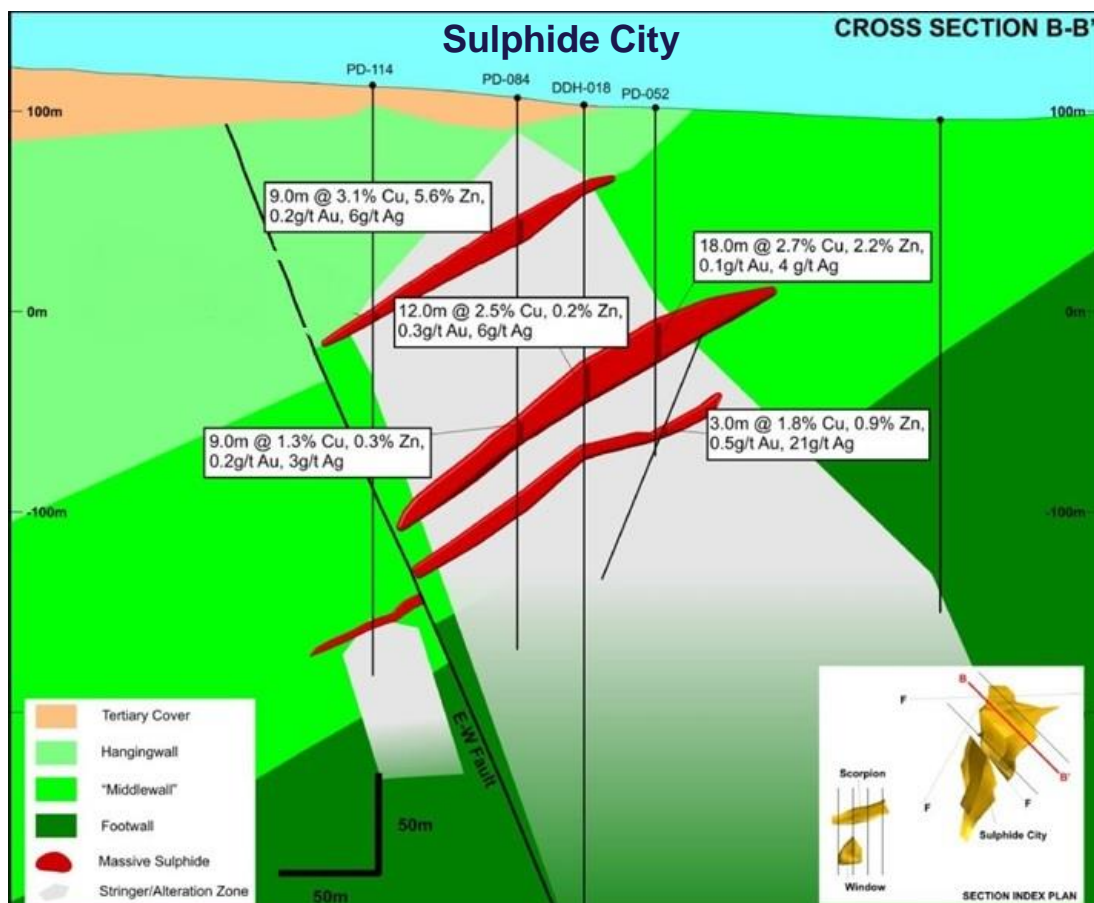




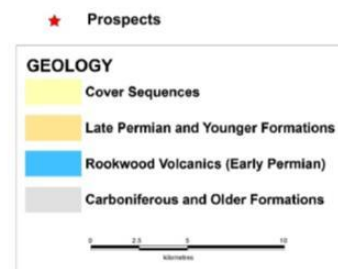
# Develin Creek

Ownership: 100%  
 Location: Queensland  
 Commodity: Cu-Zn-Ag-Au  
 Stage: Resource

- VHMS - Massive sulphides. Now 100% ZNC (ASX release 13 Sept 2016). Inferred Resource; 2.57Mt @ 1.76%Cu, 2.01% Zn, 0.24g/t Au, 9.6g/t Ag.
- Zenith RC drilling grades 3 to 7 times higher compared to nearby historic percussion holes. Twin holes planned to test potential grade undercall.

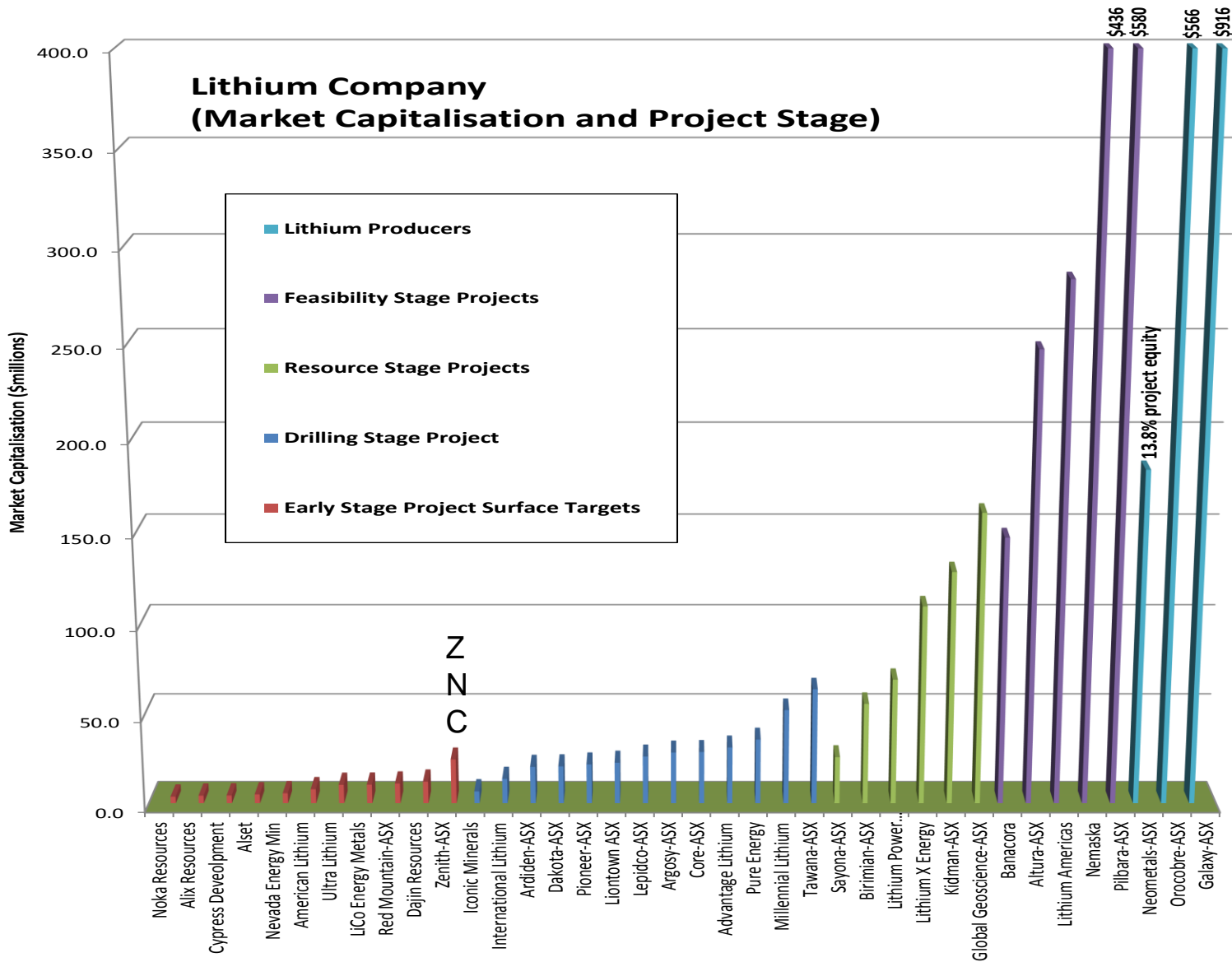


**Target sequence over 50km strike**





# Lithium projects - upside potential





# News Flow & Catalysts

## **Kavaklitepe-Teck JV**

- **2017 drill and trench proposal being finalised to follow up on exciting first pass 2016 drill intersections**

## **USA/Mexico Lithium – Jim Mellon/Bradda Head JV**

- **Nevada and Mexican brine projects - Electrical geophysics - drill targets**
- **Burro Creek - mapping, sampling & metallurgy, resource drilling**
- **San Domingo - sampling and mapping of outcropping pegmatites, drilling**

## **Split Rocks**

- **Sampling, mapping underway in exciting new Lithium district. Outcrop is poor, re-sample old drill spoil, trial soil geochemistry/shallow drilling.**

## **Develin Creek**

- **Drilling 2017 twin holes and drill test new EM/geochemical targets**





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