



**Zenith  
MINERALS**

LIMITED

ASX:ZNC

**Drilling high-grade gold targets in Western Australia**

**Advancing QLD gold target to drill status**

**Rapidly evolving new REE play in Wyoming USA**

**Partners drilling zinc project & iron project in Nov-Dec**



New Zealand Roadshow Presentation

12 November 2019

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



# Summary

**Outstanding gold & lithium portfolio in Australia & USA**

**New Rare Earths (REE) Project – Wyoming USA**

**Significant current & upcoming exploration activity focussed on;**

- High-grade gold at Split Rocks – returned up to 10m @ 2.20g/t Au (incl 6m @ 3.32 g/t Au) and 5m @ 3.23 g/t Au<sup>1</sup> over 4km strike, plus lithium target definition
- First pass grab sampling up to 0.60% TREO over very large area and composite sampling to 80m @ 0.40% TREO at Laramie REE Project Wyoming<sup>2</sup>
- Advancing QLD gold target to drill status, awaiting infill sampling results
- External funding for several projects spreads risk and increases exposure to success, drilling of two partnered projects before end of year



<sup>1</sup>ZNC ASX Release 28 Oct 19

<sup>2</sup>ZNC ASX Release 6 Nov 19

# Rights Issue - Use of Funds

Non-renounceable 1:6 entitlement offer at 5.5c to raise ~\$1.95 million<sup>1</sup>. Funds from the raising are intended to be applied towards accelerating activity at the following projects, in addition to general working capital requirements:

## **Split Rocks Project Gold & Lithium Project – WA (100% owned)**

Further work to include;

- extensional drilling to follow-up gold mineralisation over 4 km strike at the Dulcie Heap Leach Operation (DHLGO) target\*.
- defining lithium targets adjacent to WES / SQM's Earl Grey Deposit.

## **Laramie REE Project – Wyoming USA (100% owned)**

Finalising leasing, further metallurgical test work and advance project toward initial first pass drill testing.

## **Red Mountain Gold Project – QLD (100% owned)**

Advancing project to define drill targets

**Advancing other 100% owned projects towards drill testing including the Develin Creek Copper-Zinc Project (QLD) and the Waratah Well Lithium Project (WA)**



<sup>1</sup>ZNC ASX Release 28 Oct 19

\*Note Zenith holds gold rights below 6 metres depth beneath the operating 3<sup>rd</sup> party gold heap leach mine at Dulcie see ASX release 21 Mar 19

# Corporate Structure

## ZNC Share Price

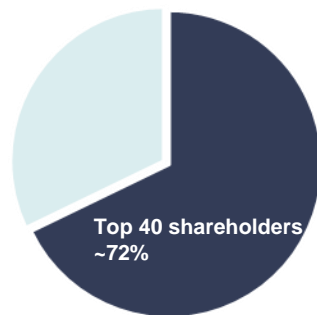


## Capital Structure – ASX: ZNC

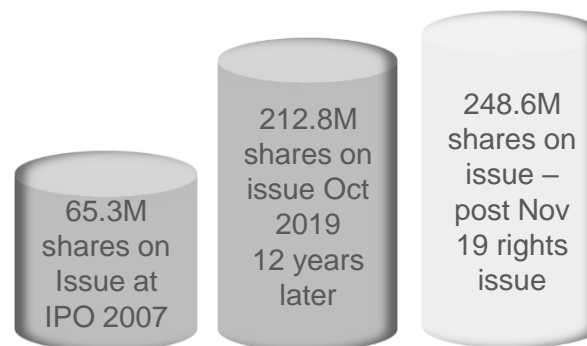
Share Price (8 Nov 19)	\$0.054
Shares on Issue - ZNC fully paid ordinary	213m
Shares on Issue –post Entitlement Offer (fully subscribed)	248m
Market Capitalisation	\$11.5m
Cash (30 Sept 19)	\$0.64m
Listed Equities 4.67m RTR Shares (25 Oct 19)	\$0.36m

## Major Shareholders

HSBC Custody. Nom	13.4%
J P Morgan Nom.	6.8%
Granich	5.4%
Miquilini	4.3%
Abingdon	4.1%



**Tight supportive register**  
**Directors ~14%**  
**Top 40 ex-ASX:GIR holders & UK sophisticated**



**Limiting shareholder dilution**  
**Lean**  
**Tightly held**  
**Experienced Board & Management**



## Contact Details

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**ASX:ZNC**



# Split Rocks: Gold

Ownership: 100%  
Location: WA  
Commodity: Gold & Lithium  
Stage: Drilling



**Major gold district**

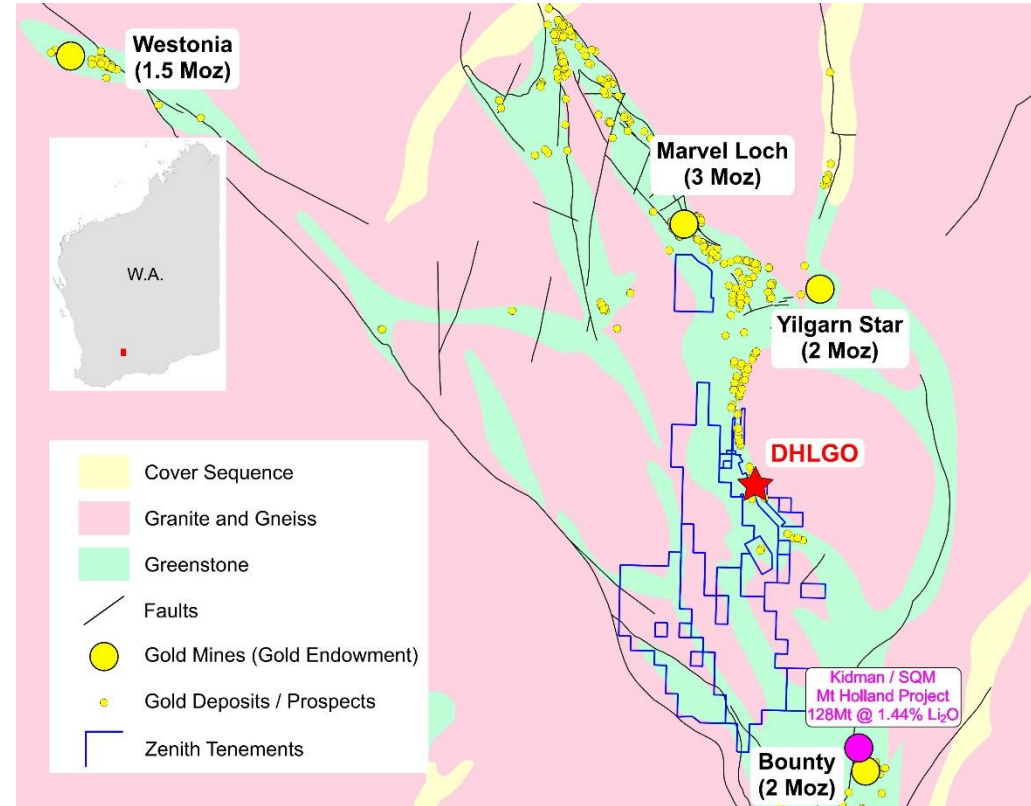
**Initial Phase 1 Drilling  
Completed – Oct 19**

**High-grade gold  
intersected in very wide  
spaced RC drilling  
beneath operating 3<sup>rd</sup>  
party gold heap leach  
mine**

**ZNC Results include<sup>2</sup>:**

- 10m @ 2.20 g/t Au (incl 6m @ 3.32 g/t Au)
- 5m @ 3.23 g/t Au
- 5m @ 2.04 g/t Au

**Follow-up drilling planned**



650 sq km of tenure - surrounded by major gold deposits

<sup>1</sup> ZNC ASX Release 12 Sep 19

<sup>2</sup> ZNC ASX Release 21 Oct 19 & 28 Oct 19

DHLGO = Dulcie Heap Leach Gold Operation, Zenith has subsurface rights (gold below 6m)<sup>1</sup>

# Split Rocks: Gold

Ownership: 100%  
Location: WA  
Commodity: Gold & Lithium  
Stage: Drilling

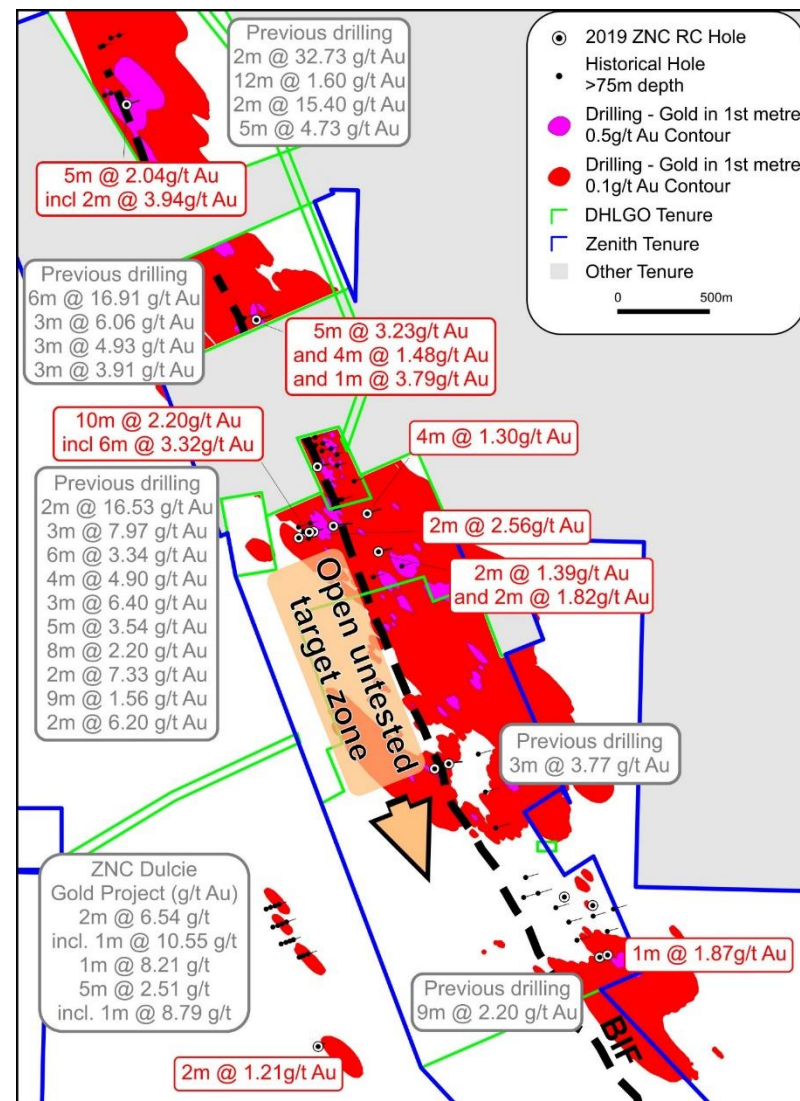
## Initial Phase 1 Drill Program

### Completed (16 RC holes):

- Testing high-grade gold targets over 4km of strike
- Limited previous deeper (>75m depth) drill holes, results include<sup>1</sup>:
  - 6.0m @ 16.91 g/t Au
  - 2.0m @ 32.73 g/t Au
  - 2.0m @ 16.53 g/t Au
  - 2.0m @ 15.40 g/t Au
- ZNC results include<sup>2</sup>:
  - 10m @ 2.02 g/t Au (incl 6m @ 3.32 g/t Au)
  - 5m @ 3.23 g/t Au
  - 5m @ 2.04 g/t Au
- Follow-up drilling planned



Drilling beneath operating 3<sup>rd</sup> party heap leach gold mine



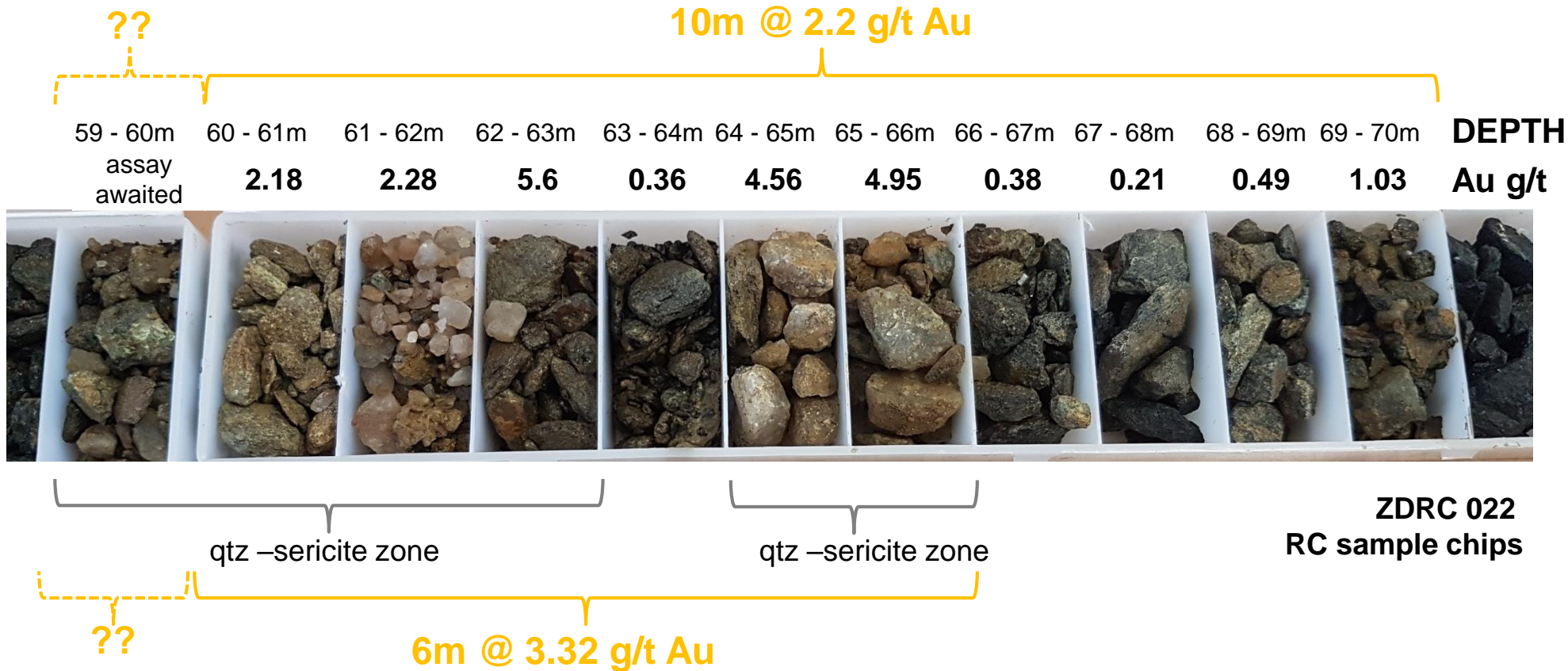
<sup>1</sup> ZNC ASX Release 12 Sep 19

<sup>2</sup> ZNC ASX Release 21 Oct 19 & 28 Oct 2019



# Split Rocks: Gold

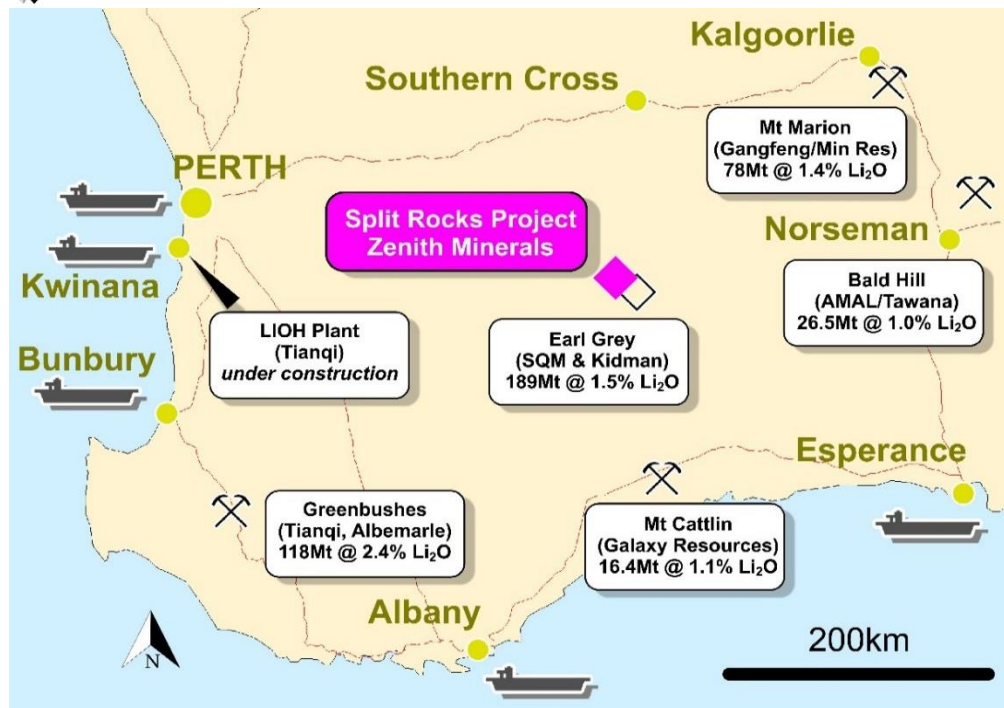
Typical Goldfields style Archaean lode-gold mineralisation



Open and untested along strike  
Potential for stacked lodes

# Split Rocks: Lithium

Ownership: 100%  
Location: WA  
Commodity: Gold & Lithium  
Stage: Prospects



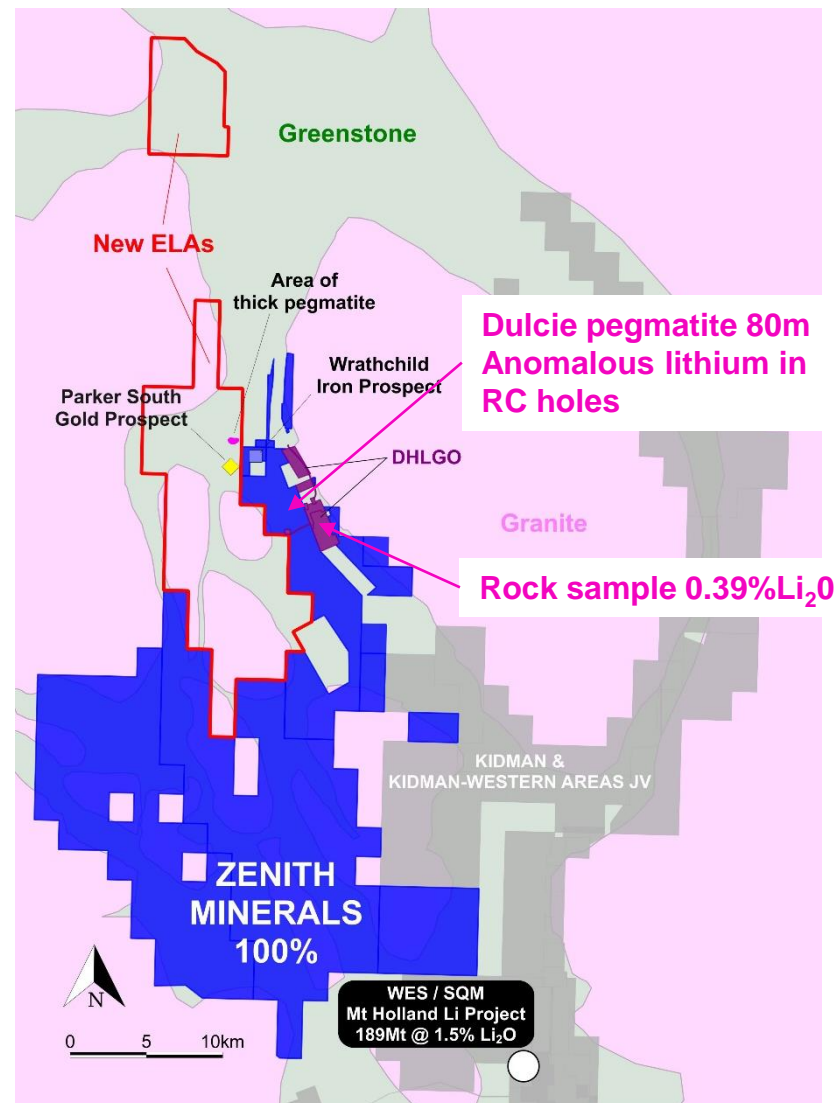
Major strategic ground holding adjacent to WES / SQM's Earl Grey Lithium Deposit. Recent WES takeover of KDR values 100% of project at ~\$A1.55 billion<sup>1</sup>

Very large area (~650km<sup>2</sup>) with abundant pegmatites, Dulcie Lithium Prospect 80m thick pegmatite - anomalous Li in first pass RC drilling

Using surface geochemistry to screen land holding. Only 25% soil coverage to date.

Soil anomalies of similar tenor to those defined by KDR - Ongoing drilling of soil targets

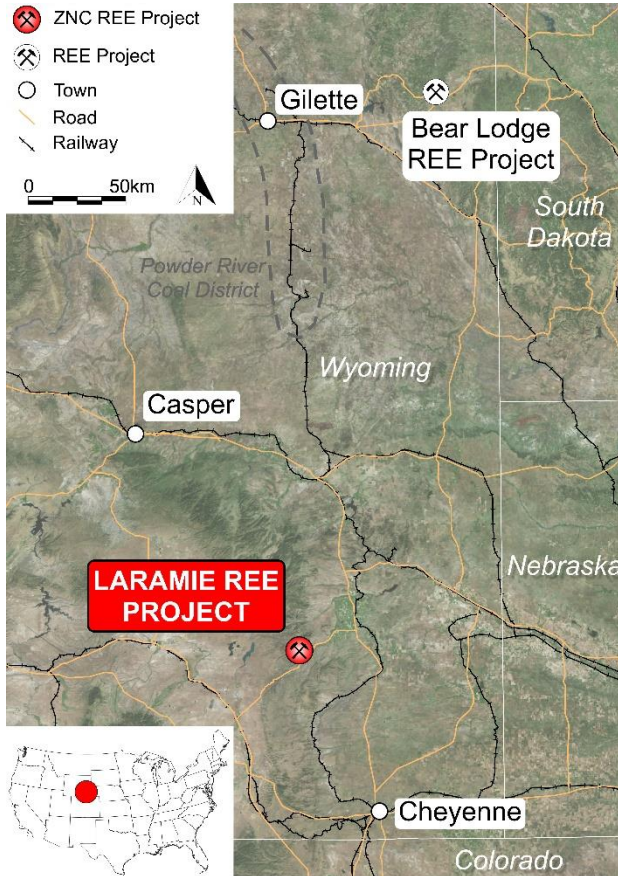
<sup>1</sup>KDR ASX Release 11<sup>th</sup> July 2019





# Laramie: REE - Wyoming USA

Ownership: 100%  
Location: WY-USA  
Commodity: Rare Earths  
Stage: Prospects



**Excellent Location**

**30km to Interstate**

**35km to Rail**

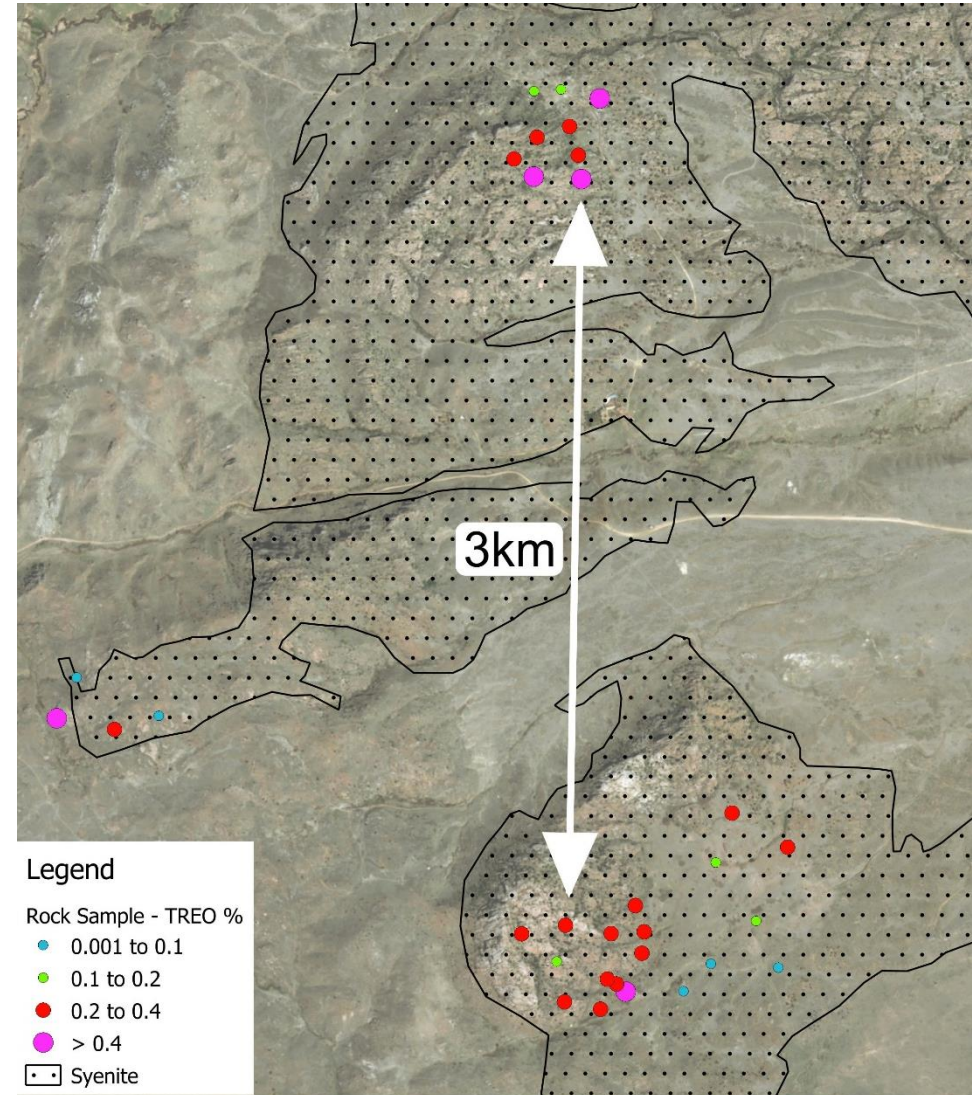
**Abundant low-cost commercial electricity**

**Multiple existing major mining operations**

**Local engineering and construction companies**

Zenith surface rock sampling returned widespread TREO (Total Rare Earth Oxide) grades up to 0.60% in three initial sampling areas 2 - 3km apart with strong values of high-value neodymium, praseodymium and dysprosium<sup>1</sup>.

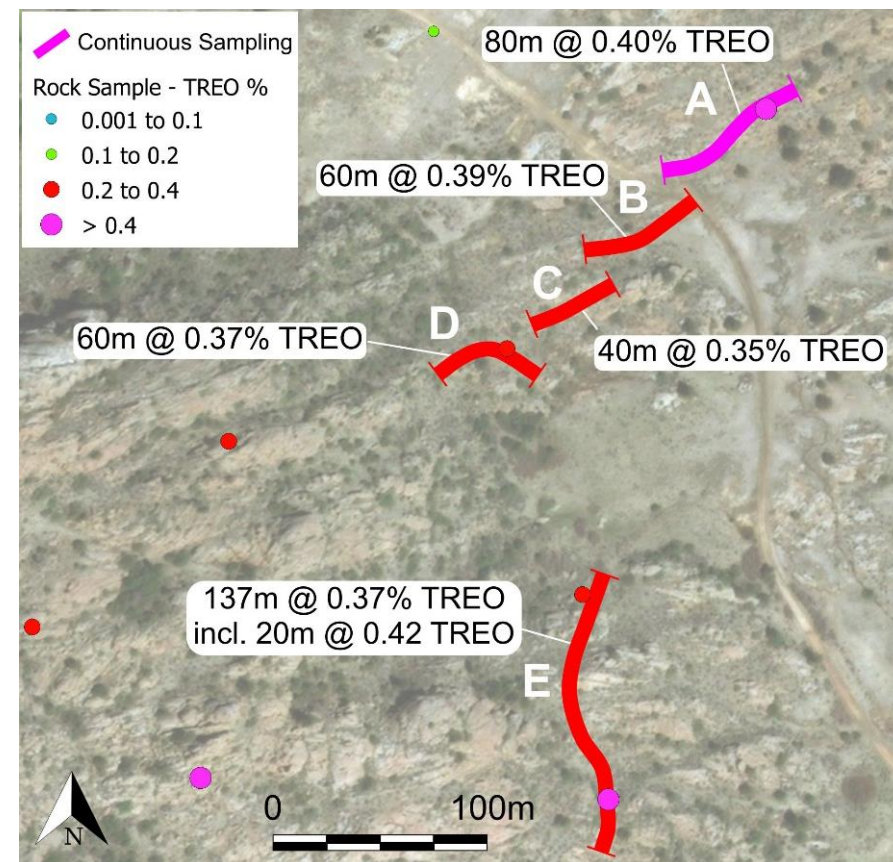
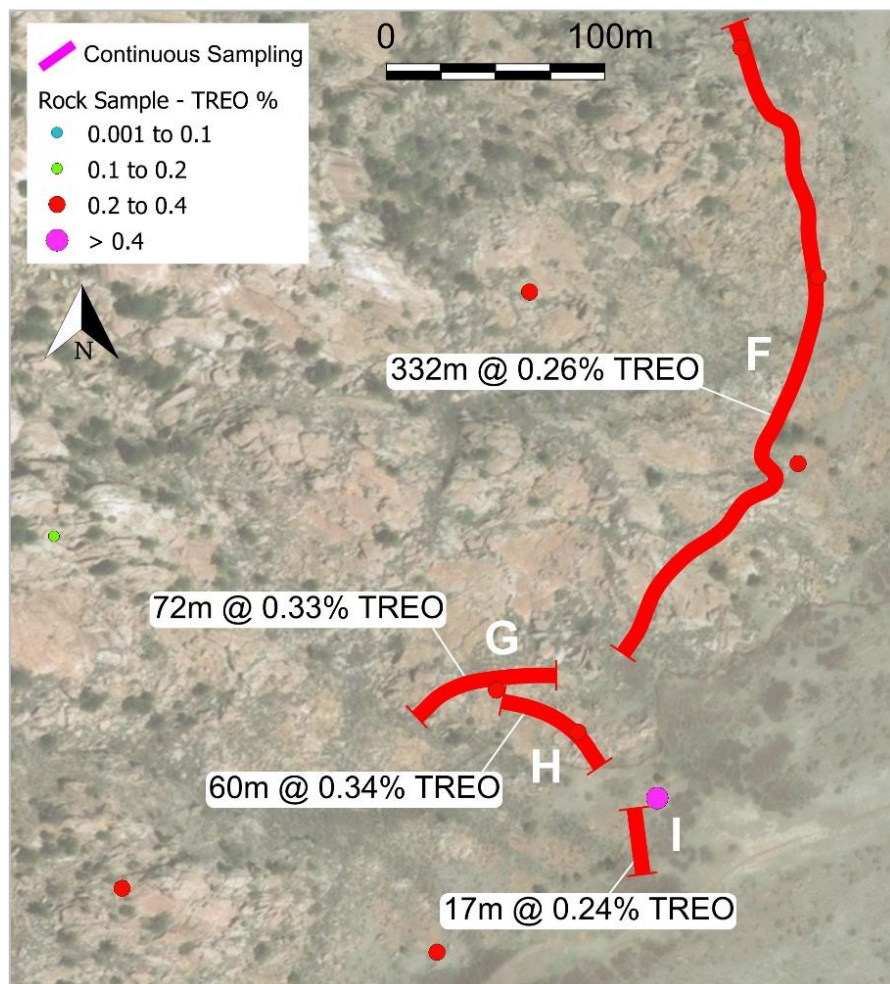
<sup>1</sup> ZNC ASX Release 6 Nov 19





# Laramie: REE - Wyoming USA

Ownership: 100%  
Location: WY-USA  
Commodity: Rare Earths  
Stage: Prospects



**Widespread REE mineralisation over hundreds of metres identified in all nine recent systematic chip sample traverses<sup>1</sup>**

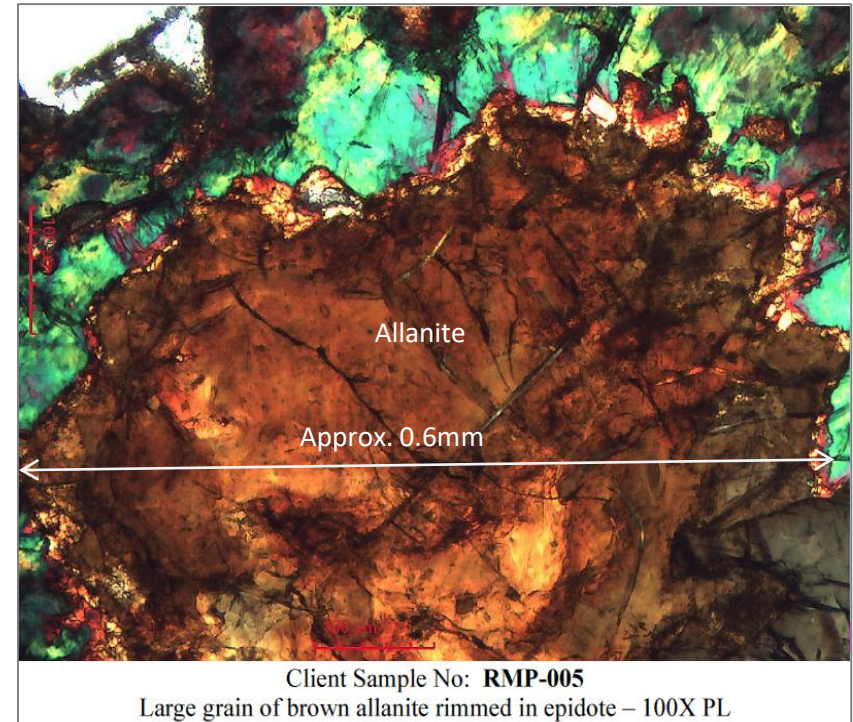
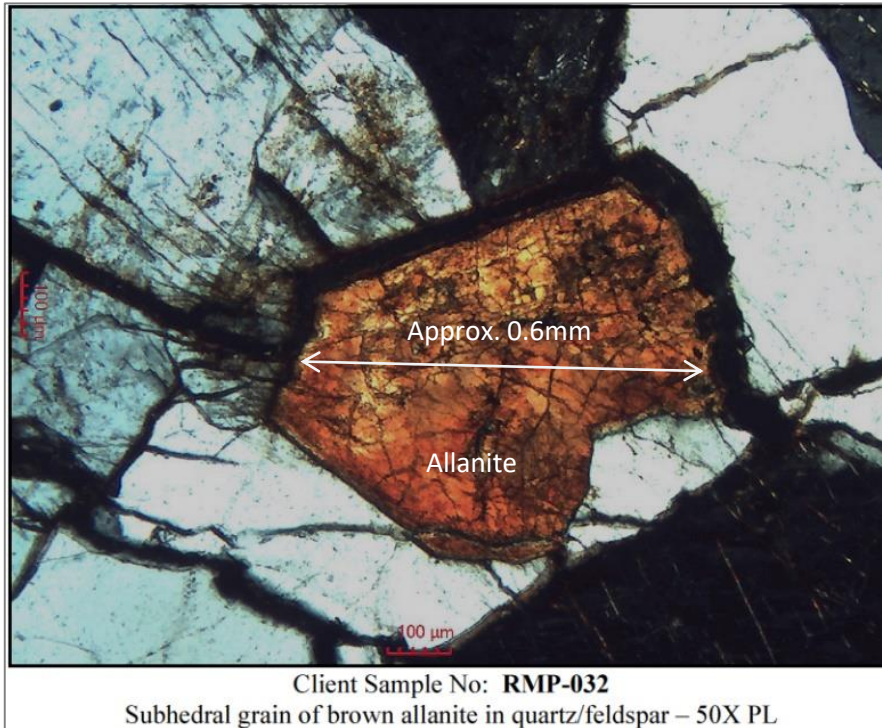
<sup>1</sup> ZNC ASX Release 6 Nov 19



# Laramie: REE - Wyoming USA

Ownership: 100%  
Location: WY-USA  
Commodity: Rare Earths  
Stage: Prospects

Large scale at surface REE target  
Metallurgy likely a key to projects potential – further test work planned

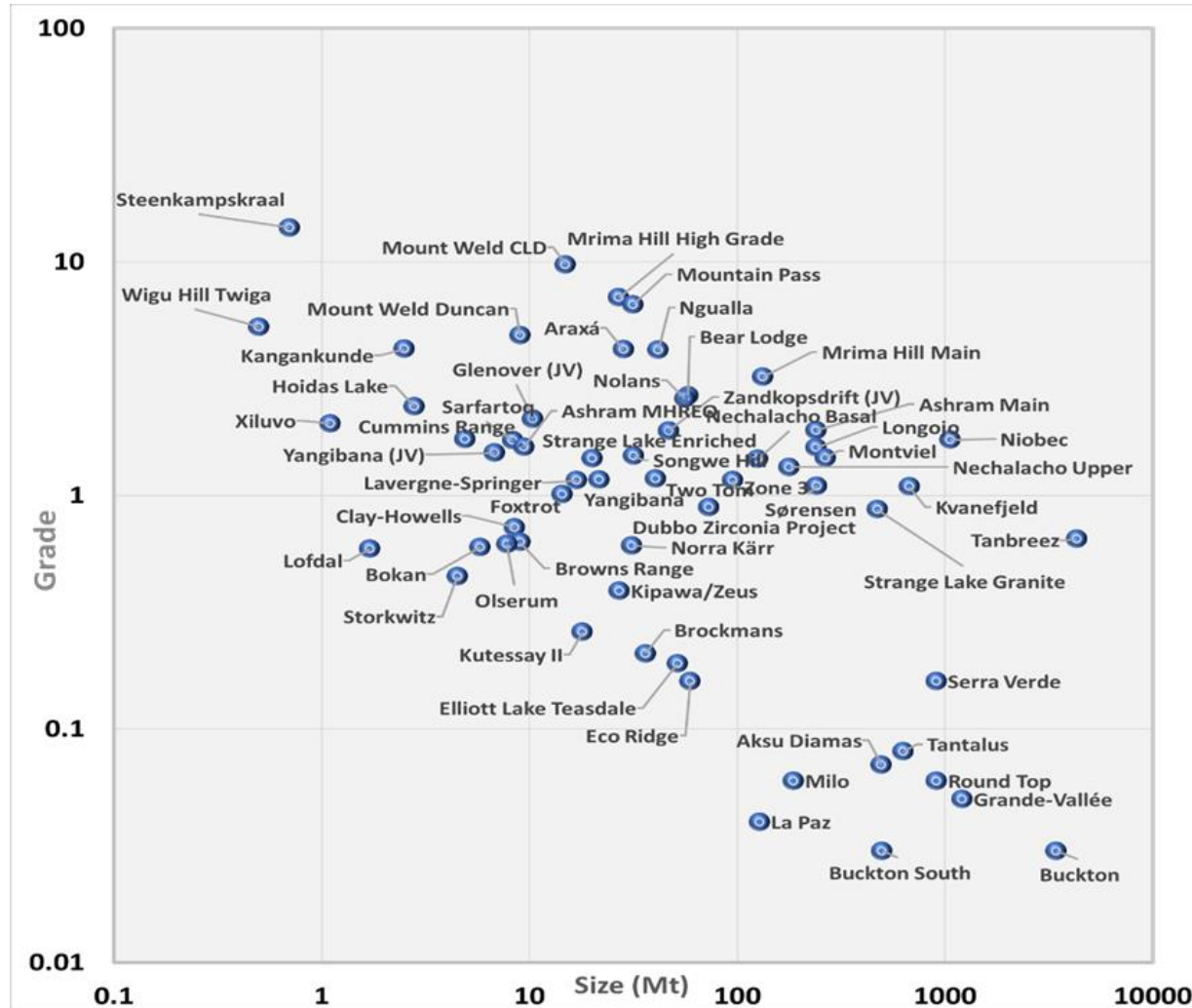


The REE mineral allanite occurs as relatively coarse grained (0.4mm to 2.5mm) generally distinct mineral grains. DCM reported that ....*"the large size of the allanite crystals should facilitate liberation upon grinding"*.....from the syenite host rock<sup>1</sup>.

<sup>1</sup> ZNC ASX Release 11 Nov 19

# Laramie: REE - Wyoming USA

Ownership: 100%  
Location: WY-USA  
Commodity: Rare Earths  
Stage: Prospects



## World REE Projects Size and Grade

Source:  
<http://www.techmetalsresearch.com/metrics-indices/tmr-advanced-rare-earth-projects-index/> updated where new information available by Zenith 29-05-2019 from Company ASX reports and from SEDAR for TSX listed entities .



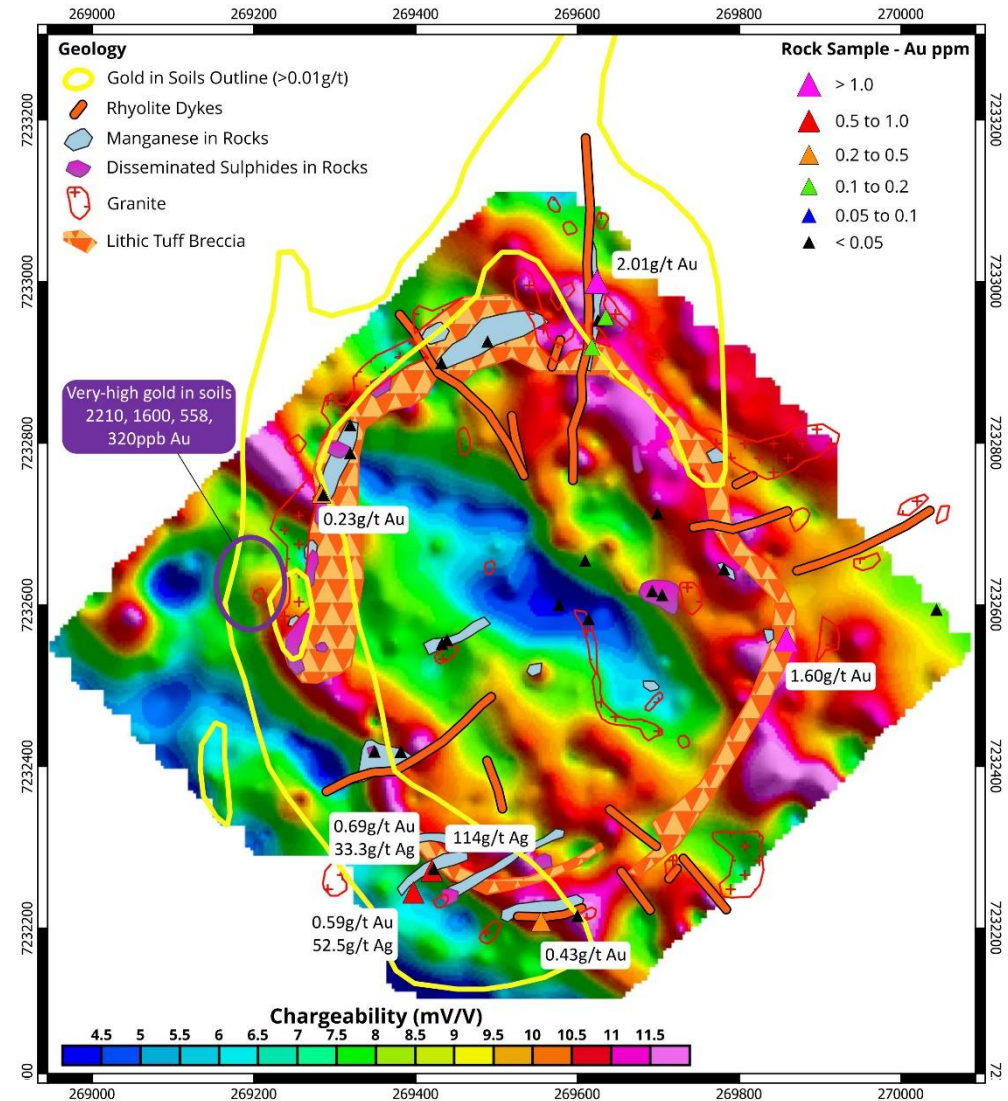
# Red Mountain: Gold

Ownership: 100%  
Location: QLD  
Commodity: Gold & Silver  
Stage: Prospect

## Recent field work returned further encouraging results, including<sup>1</sup>;

- High-grade gold in soils up to 2210 ppb Au (2.2g/t Au), 1600 ppb Au (1.6 g/t Au), 550ppb Au and 320ppb Au;
- Gold in rock sample results up to 2.0 g/t Au and 114 g/t Ag (silver);
- Detailed geological mapping by Zenith outlined a previously unknown felsic volcanic breccia complex;
- IP chargeability anomaly coincident with breccia margin
- Gold mineralisation appears to be focused on the margins of the breccia system.

**Infill soil sampling completed - results expected Nov 19**



Red Mountain Soil and Rock Results with Geological Outlines over IP

<sup>1</sup> ZNC ASX Releases 24 Sep 19 & 25 Oct 19

# USA Lithium JV

Zenith 45%  
Bradda Head Ltd initial 55%  
Location: USA  
Commodity: Lithium  
Stage: Resource

## Bradda Head

- JV manager
- Spending US\$5M on 5 lithium projects in JV with Zenith before Feb 2021

Bradda  
Head  
Spending  
US\$5M for  
55%

Zenith  
45%

## Zenith

- US\$5M free carry on BH JV
- 5 USA lithium projects in JV with Bradda Head
- Does NOT include Zenith's Australian lithium projects



- Burro Creek – maiden JORC Mineral Resource, extension drilling planned
- Wilson Salt Flat – lithium brine target ready for drill testing
- San Domingo – lithium pegmatite target ready for drill testing
- Pennsylvania – large lithium oil brine play

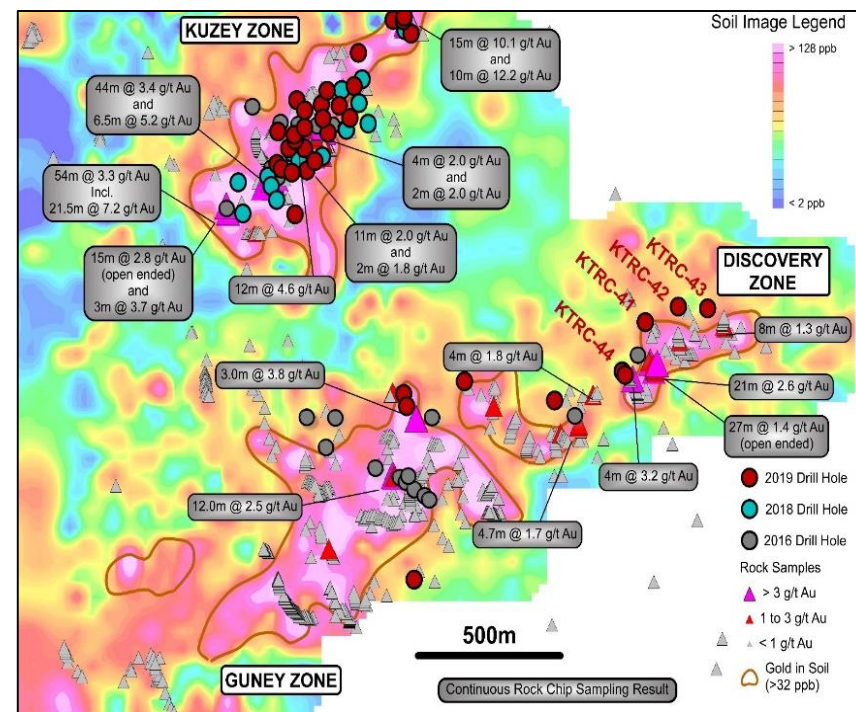
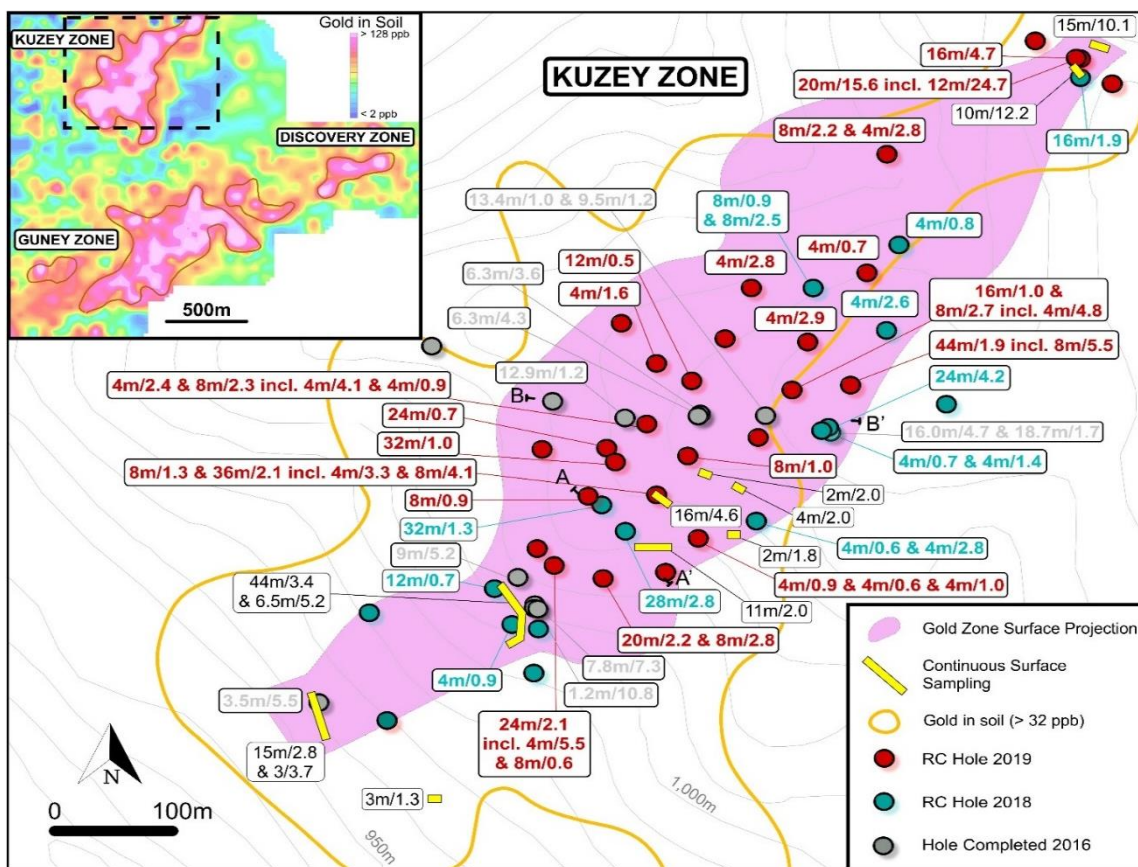




# Kavaklitepe: Gold

Ownership: ~25%  
Location: Turkey  
Commodity: Gold  
Stage: Drilling

- Joint Venture with Turkish affiliate of Teck ~75% / 25%, ZNC can contribute at ~25% or option to dilute to a 5% NPI
- ~30km south west of major new 3Moz gold discovery at Sogut (Koza)
- 2019 drill results include<sup>1</sup>: **20m @ 15.6 g/t Au, 16m @ 4.7 g/t Au, 36m @ 2.1 g/t Au, 44m @ 1.9 g/t Au** (4m composite)

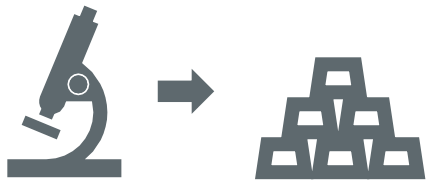


Zenith to dilute or divest/monetise?

# Focus on Discovery

## 100% Owned ZNC Projects

Our Aim is Discovery



Split Rocks Lithium & Gold - WA

Red Mountain Gold – QLD

Laramie REE – Wyoming USA

Develin Creek –  
JORC Copper-Zinc Resource QLD



Partnering? →

Waratah Well –  
Lithium – Fertile LCT Field

## Partners Spending \$\$ on ZNC Projects

Increased Spending  
Increasing Chance of Success  
Sharing Risk



\$1.5M received in cash & shares from deals on ZNC projects since Feb 17

American Li – Bradda Head JV  
Major drill campaign planned

Kavaklitepe Gold – Teck JV  
Turkey

Earaheedy Zinc **JV** – Optioned to  
ASX:RTR – Drill plan Dec 2019

Vivash Iron - Optioned to Rio Tinto  
Expl Pty Ltd - Drilling Nov 2019



## Split Rocks Gold & Lithium Project – WA (100% owned)

- ZNC initial wide spaced drill program returned up to 10m @ 2.20g/t Au (incl 6m @ 3.32 g/t Au) and 5m @ 3.23 g/t Au<sup>1</sup> beneath operating 3rd party heap leach gold mine
- Previous results: **6.0m @ 16.91 g/t Au, 2.0m @ 32.73 g/t Au, 2.0m @ 16.53 g/t Au**<sup>2</sup>
- **Awaiting further gold resample results & follow-up drill planning in progress**
- Major ground holding (650sq km) adjacent to WES / SQM Earl Grey Lithium Deposit
- Recent KDR takeover by WES (values Earl Grey project at ~\$A1.55 billion<sup>3</sup>)
- 80m thick pegmatite drilled with anomalous lithium, surface sampling to 0.39%Li<sub>2</sub>O<sup>4</sup>

## Red Mountain Gold – QLD (100% owned)

- Regional location between two large scale operating gold mines
- Felsic volcanic breccia complex with high-grade gold in soils to 2.2g/t Au<sup>5</sup> & Coincident IP Geophysical chargeability anomaly<sup>6</sup>
- **Follow-up soil program completed - results expected Nov 19**

## Laramie REE – USA (100% owned)

- Initial sampling returned widespread TREO (Total Rare Earth Oxide) grades up to 0.60% over very large area & composite sampling to 80m @ 0.40% TREO with strong values of high-value neodymium, praseodymium and dysprosium<sup>7</sup>.
- **Finalise leasing, further metallurgical assessment & advance towards drill testing**

## Partners drilling ZNC projects in 2nd half 2019

- Vivash Iron - Rio Tinto Exploration Pty Ltd – **drilling in progress**
- Earaheedy Zinc (identified new Zn mineralisation<sup>8</sup>) – ASX:RTR **Drilling planned Dec 2019**
- Kavaklitepe Gold – High-grade gold near surface i.e. 20m @ 15.6 g/t Au<sup>9</sup>
- Bradda Head US\$5M spend before Feb 2021 on 5 USA lithium projects

<sup>1</sup>ZNC ASX Release 28 Oct 19

<sup>2</sup> ZNC ASX Release 12 Sep 19

<sup>3</sup> KDR ASX Release 11 Jul 19

<sup>4</sup>ZNC ASX Release 13 May 19

<sup>5</sup>ZNC ASX Release 24 Sep 19

<sup>6</sup>ZNC ASX Release 25 Oct 19

<sup>7</sup>ZNC ASX Release 17 Oct 19

<sup>8</sup> RTR ASX Release 22 Aug 19

<sup>9</sup>ZNC ASX Release 1 Oct 19

# Disclaimer & JORC Statements

## **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 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.

## **Material ASX releases previously released**

The Company has released all material information that relates to Exploration Results, Mineral Resources and Reserves, Economic Studies and Production for the Company's Projects on a continuous basis to the ASX and in compliance with JORC 2012. The Company confirms that it is not aware of any new information that materially affects the content of this ASX release. Material ASX releases related to the results reported in this report are listed on the respective project pages.