

### ASX Announcement 25 November 2020

The majority of 2020 has proved to be a particularly challenging period for project developers and explorers needing to access remote parts of Australia and/or undertake cross border studies.

King River Resources Limited ("KRR" "Company") has still made material progress this year by remaining open and adaptive to making the necessary changes with our engineering studies towards a goal of producing a High Purity Alumina (HPA) product while also progressing gold exploration in two States.

#### **HPA Pre-Feasibility Studies**

The majority of 2020 has been directed towards trying to complete a Pre-Feasibility Study (PFS) on Sulphuric acid leaching and refinement of the non-magnetic fractions of the Speewah mineralisation, to recover >4N HPA (99.99+% Al<sub>2</sub>O<sub>3</sub> purity).

In recent weeks, the direction of PFS studies has shifted towards a new and much lower risk and faster path towards HPA production by investigating the processing of a readily available local industrial Aluminium chemical feedstock (refer KRR ASX release 19 November 2020).

This new circuit will not require the development of the associated mining, processing and logistical infrastructure at Speewah.

The simpler HPA flowsheet may offer advantages and economic benefits in CAPEX and OPEX savings with fewer process and development risks.

Speewah Project studies will still be continued in parallel, but with a future focus moving more towards potential development of a broader range of battery metals and master alloy compounds (Vanadium, Titanium, Iron and Magnesium).

### **Gold Exploration**

The ability to explore for gold in the East Kimberley and the Northern Territory, in 2020 was greatly restricted by the various Covid-19 protocols aimed at protecting our most vulnerable indigenous communities.

In the later months of 2020, these constraints were lifted, and King River embarked on drill programs at Tennant Creek (NT) and Mt Remarkable (WA Kimberley).

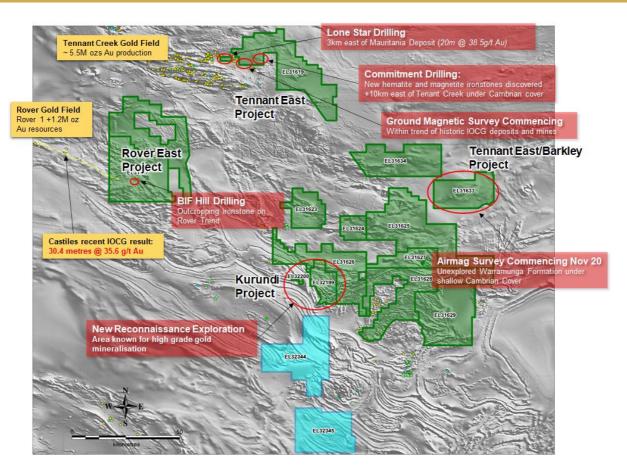
#### **Northern Territory**

#### **Tennant Creek Region**

KRR commenced exploration in August at its Treasure Creek Project in the Tennant Creek Region around the historically high-grade Tennant Creek, Rover and Kurundi goldfields.

The Treasure Creek Project comprises 16 tenements (including 2 applications) covering 7,900km2, covering 4 main project areas: Tennant Creek East, Tennant East/Barkley, Rover East and Kurundi.





KRR's Tennant Creek Tenements and Project Areas. Green polygons KRR granted and Blue polygons KRR newly granted

Exploration around Tennant Creek will be targeting iron oxide copper gold style mineralization (IOCG) characterized by gold and copper mineralization associated with ironstone bodies.

These ironstone bodies have varying degrees of hematite and magnetite often forming discrete geophysical targets and are stereotyped by the bonanza gold intersections previously witnessed around Tennant Creek.

KRR believes that, with the application of systematic exploration and new/advanced geophysical techniques, significant gold discoveries will in future be made in the region.

#### Western Australia

#### Whitewater Volcanics (including Mt Remarkable Project)

The Whitewater Volcanics is a distinct rock unit that fringes the East Kimberley of northern Western Australia.

High grade gold mineralisation has previously been reported at our Mt Remarkable project and we strongly believe further high-grade discoveries are yet to be made along this highly prospective, sparsely explored trend. The total area of our granted exploration licences exceeds 2,300 square kilometres and to date we would not have investigated more than 5% of our total package with first pass exploration.



On October 28<sup>th</sup>, KRR commenced of a 2,500m RC drill programme to test 10 different locations.

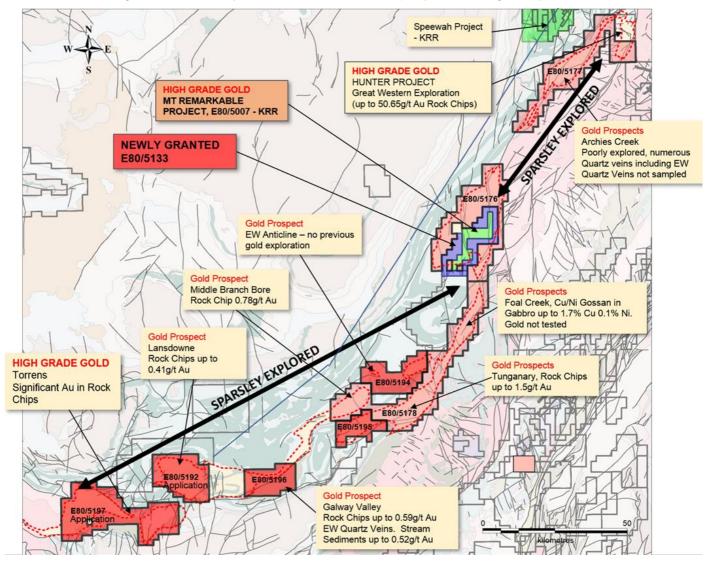
Previous drilling at the Mt Remarkable Trudi Vein has yielded some excellent high-grade epithermal gold values.

Geologists have also been on site for a couple of months undertaking first pass reconnaissance over other nearby lease locations.

Previous gold results at Mt Remarkable have returned;

- 4m @ 113.29g/t Au including 1m @ 346g/t Au in KMRC78 (refer KRR ASX 4 June 2018)
- 6m @ 60g/t Au including 2.8m @ 108g/t Au in KMDD01(refer KRR ASX 10 September 2018)
- 4m @ 39.78g/t Au including 1m @ 82.7g/t Au in KMRC75 (refer KRR ASX 20 June 2018)
- 4m @ 36.77g/t Au from 7m including 1m @ 70.9g/t Au in KMRC127 (refer KRR ASX 7 August 2018)
- 3m @ 34.8g/t Au including 1m @ 50.5g/t Au in KMRC0077 (refer KRR ASX 4 June 2018)

The 2020 drill program has recently concluded and the Company is awaiting assays.



Map showing location of King River Resources exploration holdings at Mt Remarkable and relevant gold prospects



### Corporate

The Company's cash position as at 24 November 2020 was \$7,825,681.

This announcement was authorised for release by the Chairman of the Company.

#### **Anthony Barton**

Executive Chairman King River Resources Limited Level 1, 254 Adelaide Tce, Perth WA 6000 PO Box Z5152, Perth WA 6831 Email: info@kingriverresources.com.au Phone: +61 8 9221 8055

#### **Statement by Competent Person**

The information in this report that relates to Exploration Results, Mineral Resources, Metallurgy and Previous Studies is based on information compiled by Ken Rogers (BSc Hons) and fairly represents this information. Mr. Rogers is the Chief Geologist and an employee of King River Resources Ltd, and a Member of both the Australian Institute of Geoscientists (AIG) and The Institute of Materials Minerals and Mining (IMMM), and a Chartered Engineer of the IMMM. Mr. Rogers has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Rogers consents to the inclusion in this report of the matters based on information in the form and context in which it appears.



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# KING RIVER RESOURCES LIMITED

## ANNUAL GENERAL MEETING

## CHAIRMAN'S UPDATE

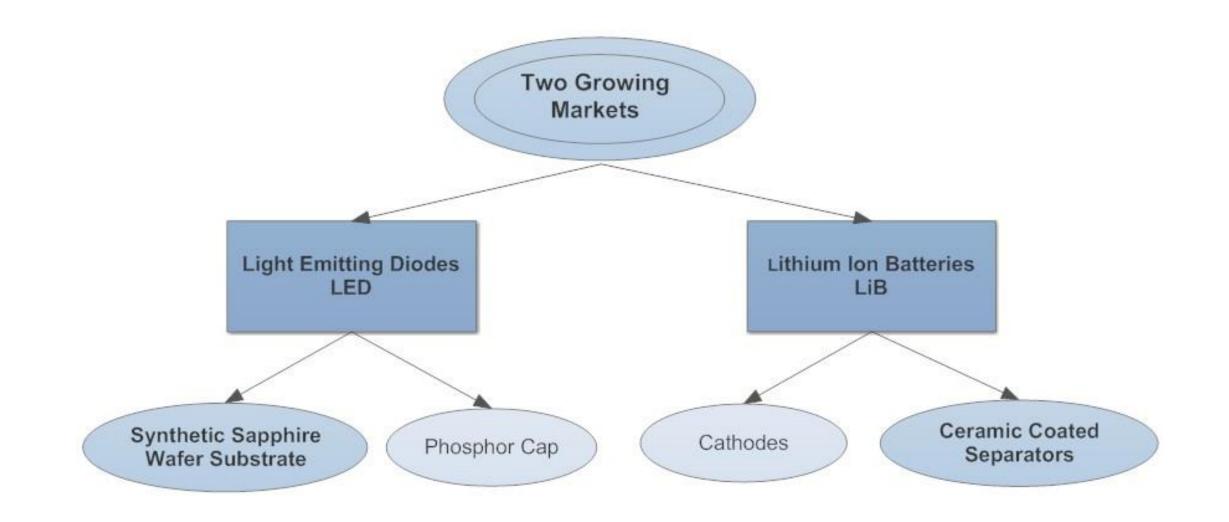
10.00 AM Thursday 26 NOVEMBER 2020



# SPEEWAH MINING HIGH PURITY ALUMINA (HPA)



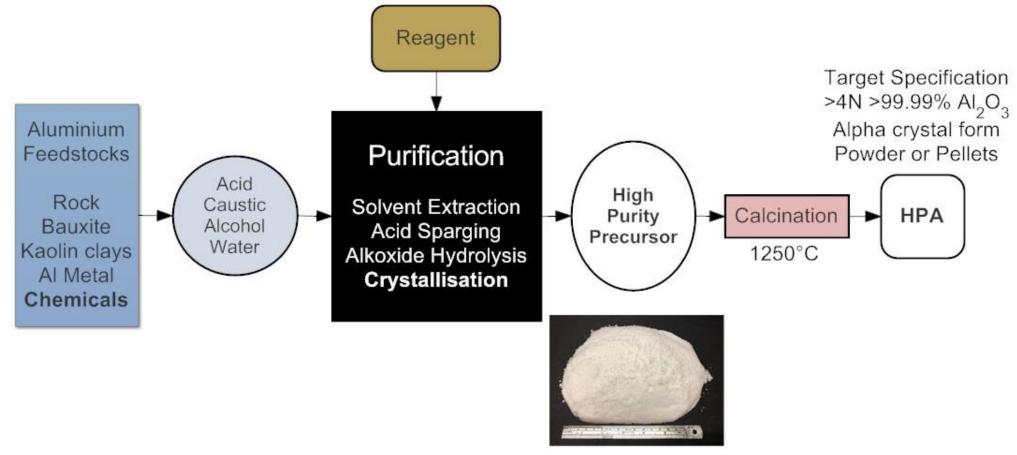
## **HPA Markets**



## **HPA Process Options**

**KING RIVER** 

**RESOURCES LIMITED** 



KRR ASX release 11/11/20

KRR HPA Process is commercial in confidence

## KING RIVER RESOURCES LIMITED

## Speewah V-Ti-Fe-HPA Development History

- 2012 Scoping study on a 6.3Mtpa mining operation producing 12,400tpa vanadium pentoxide (V<sub>2</sub>O<sub>5</sub>), 75,000tpa titanium dioxide (TiO2) and iron oxide (Fe<sub>2</sub>O<sub>3</sub>) by a HCI-SX process estimated Capex US\$896M (KRR ASX release 23 April 2012).
- V prices fell and KRR explored for Cu-Au at Speewah.
- 2018 Scoping study by CSA Global on a large scale mining operation producing high purity vanadium pentoxide (99.5-99.9% V<sub>2</sub>O<sub>5</sub>), titanium dioxide (>99% TiO<sub>2</sub>) and iron oxide (>68% Fe<sub>2</sub>O<sub>3</sub>) by HCI-Chemical Precipitation process estimated Capex AU\$2,000-2,500M (KRR ASX release 1 November 2018).
- In 2019 metallurgical testwork and engineering studies by Como Engineers began investigating ways to reduce Capex, including heap-vat-tank leaching using sulphuric acid (H<sub>2</sub>SO<sub>4</sub>).
- Early 2019 Scoping study by Como Engineers using an on-site sulphuric acid plant found agitated tank leaching of a coarse magnetic concentrate reduced Capex to US696M (KRR ASX release 22 March 2019).
- High Al tenor in H<sub>2</sub>SO<sub>4</sub> leach solutions prompted investigation into producing high purity alumina (HPA) as a by-product (KRR ASX release 9 May 2019).
- Later in 2019 Scoping study by Como Engineers estimated Capex of a beneficiation, agitation leaching and metal recovery plant would be reduced to ~US\$524 million by reducing start up mining rates to match a standard sized acid plant (KRR ASX release 20 August 2019).
- In September 2019 Como Engineers appointed to complete a PFS producing  $V_2O_5$ , TiO<sub>2</sub>, Fe<sub>2</sub>O<sub>3</sub> and HPA.
- Late in 2019 metallurgical testwork discovered Al could be removed from the sulphuric acid leachate to make HPA with V<sub>2</sub>O<sub>5</sub>, TiO<sub>2</sub> and Fe<sub>2</sub>O<sub>3</sub> as co-products (KRR ASX release 26 November 2019).
- 99.98%  $Al_2O_3$  HPA produced by a new process (KRR ASX release 6 December 2019).
- >4N (99.99% Al<sub>2</sub>O<sub>3</sub>) High Purity Alumina (HPA) produced by adding an IX stage to the refining process but requiring further work to improve recovery. Decision to focus on HPA only for the PFS (KRR ASX release 23 April 2020).
- Metallurgical testwork refined the purification circuit so the problematic IX stage could be removed (KRR ASX release 7 September 2020).
- In May and November 2020 Como Engineers provided CAPEX and OPEX estimates in line with expectations for a HPA only production scenario based on Speewah acid leachate.

# **KING RIVER** HPA Prefeasibility (PFS) Plan

## **Current PFS Plan (KRR ASX release 19 November 2020)**

- The Speewah PFS testwork and studies have now identified a more direct route to complete a process design that outlines a lower risk and faster path towards High Purity Alumina (HPA) production.
- The new KRR leaching and refining route can be used directly on a readily available industrial Aluminium chemical feedstock.
- Laboratory test results have already confirmed the production of a high purity precursor compound suitable for calcining into HPA (KRR ASX release 11 November 2020).
- This alternative production circuit is a simpler process than the original process flow sheet and will not require the development of associated mining, processing and logistical infrastructure at Speewah.
- The simpler flowsheet also offers possible advantages and economic benefits in CAPEX and OPEX savings and fewer process and development risks.
- Some additional metallurgical testwork and engineering will be required to finalise the PFS, which is now expected in Q1 2021.
- A recent HPA market report by CRU International supports strong future demand and pricing of HPA.
- The Speewah mine development testwork and studies will continue, but the focus will shift towards a broader range of battery metals and master alloy compounds.



# KING RIVER RESOURCES GOLD PROJECTS

## **KING RIVER RESOURCES**

### **Exploration Target Summary**

### **WA Tenements**

Kimberlies:

- Speewah: Vanadium, Fluorite, Copper, Gold
- Mt Remarkable: Gold

## **NT Tenements**

Tennant Creek:

- Tennant Creek East
- Rover East
- Barkley
- Kurundi

\_\_\_ Iron Oxide Copper Gold



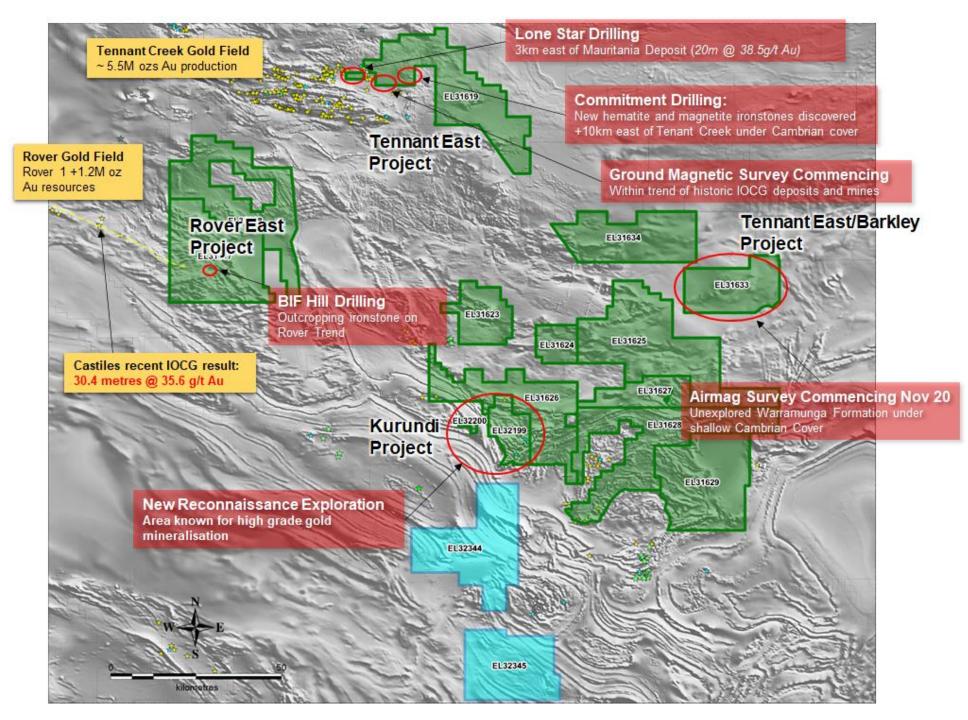


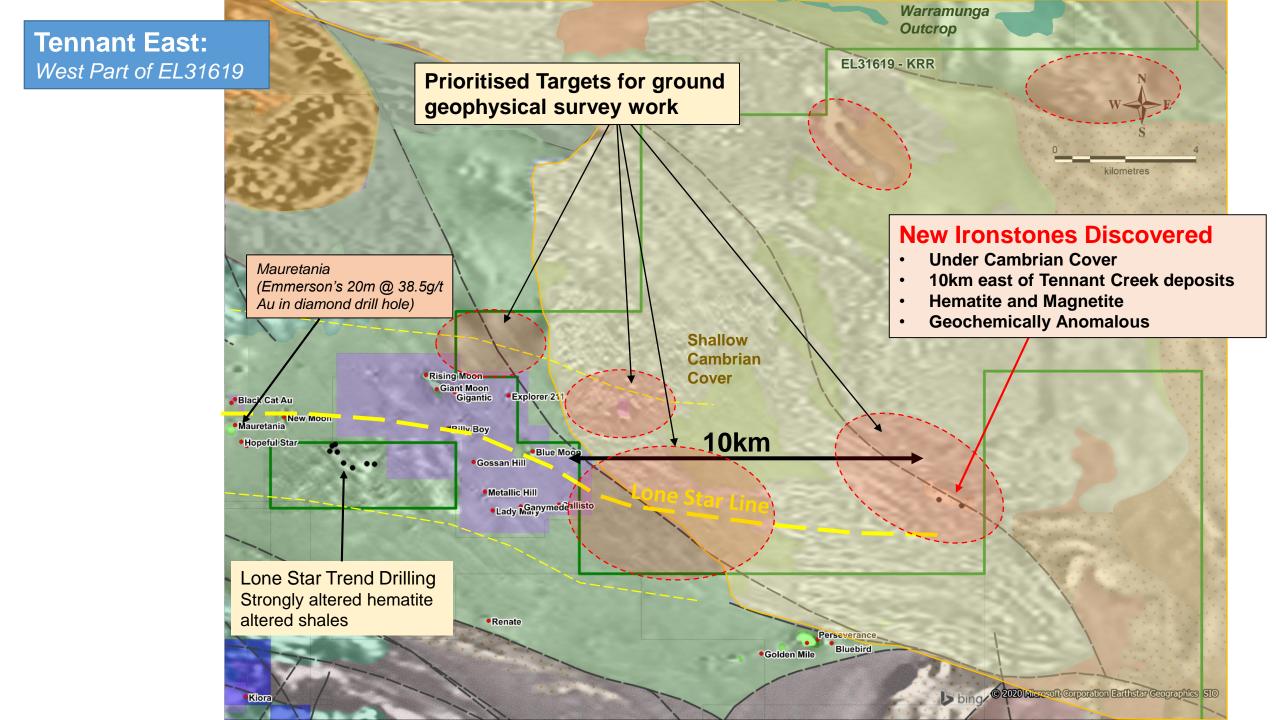
# TREASURE CREEK PROJECTS

### **NT Tenements**

2020 Exploration (on going):

- Tennant Creek East
- Rover East
- Barkley
- Kurundi

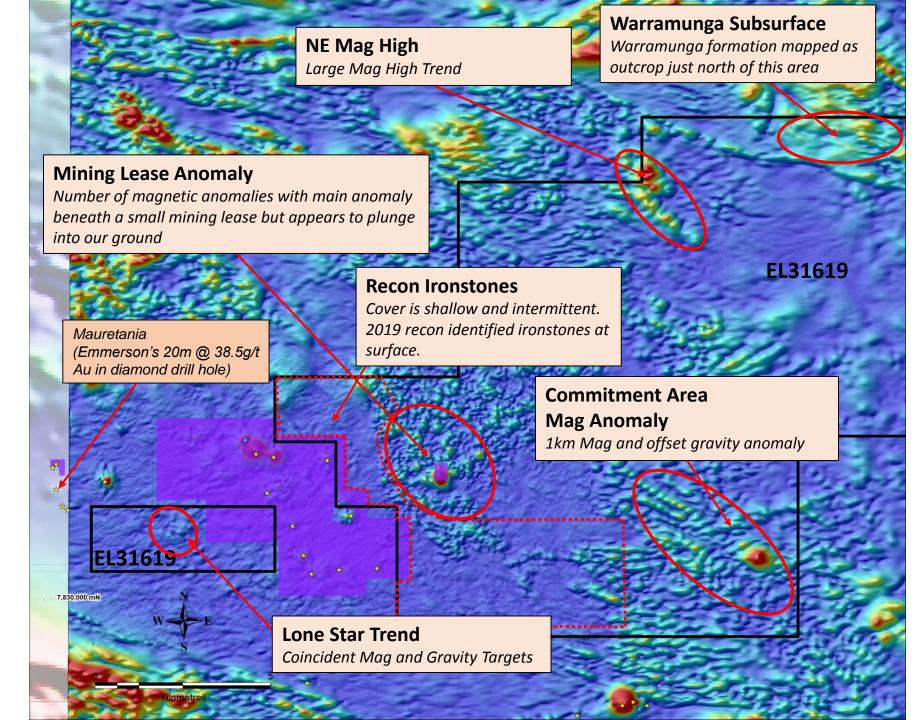




### **Tennant East:** *West Part of EL31619*

**Main Targets** 

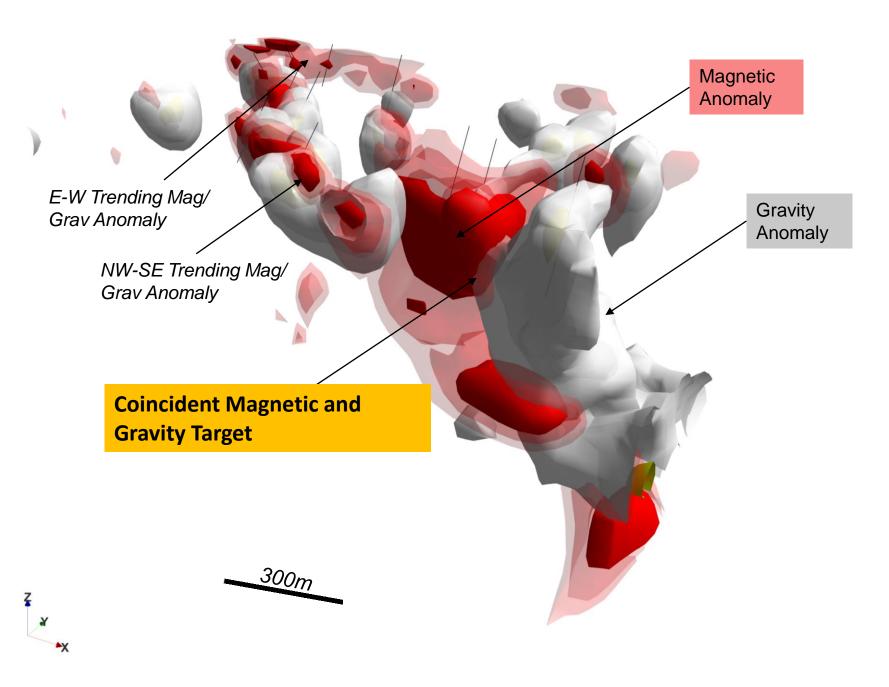
- Lone Star Trend
- Commitment
- Mining Lease Anomaly
- NE Mag High
- Recon Ironstones



**Tennant East:** Lone Star Trend – Main Coincident Gravity and Magnetic Anomaly

Drilling of Main gravity intersected:

- Broad structure and intense iron alteration intersected
- Geochemically anomalous



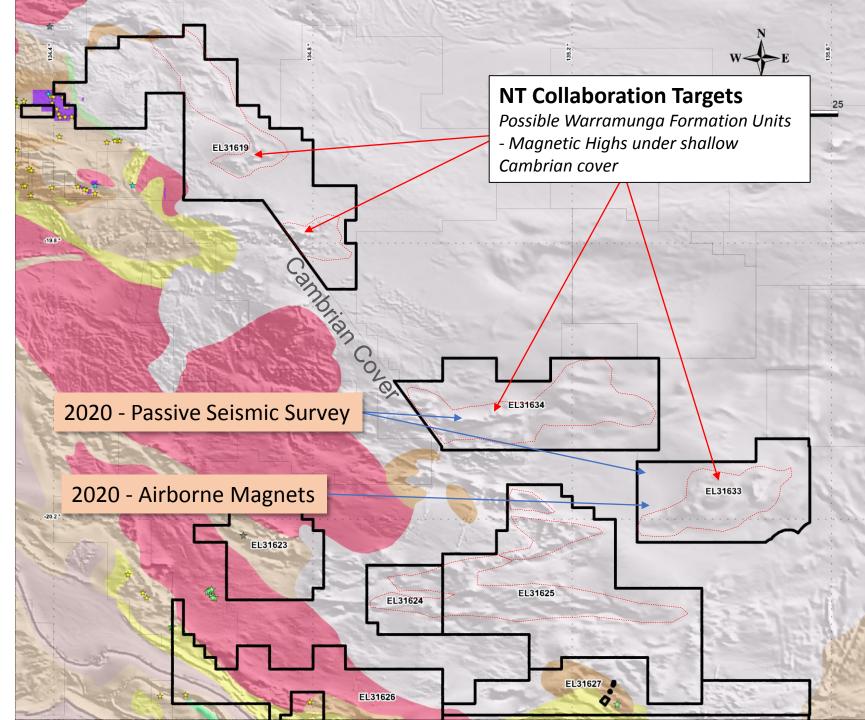
### Barkley:

Tenements:

- EL31619 east
- EL31633
- EL31634
- EL31625
- Tennant/East Barkley Area is a newly realised IOCG potential area recently pegged by numerous exploration companies including Newcrest
- Under sedimentary cover rocks of the Cambrian Georgina Basin

### 2020 – Exploration EL31633 and EL31634

- Collaboration Application Granted
- 50% of exploration costs covered
- Airborne Magnetic Survey Underway
- Passive Seismic Survey Underway (assesses Depth of cover)



### EL31634

Part of the 'Barkley' package of tenements

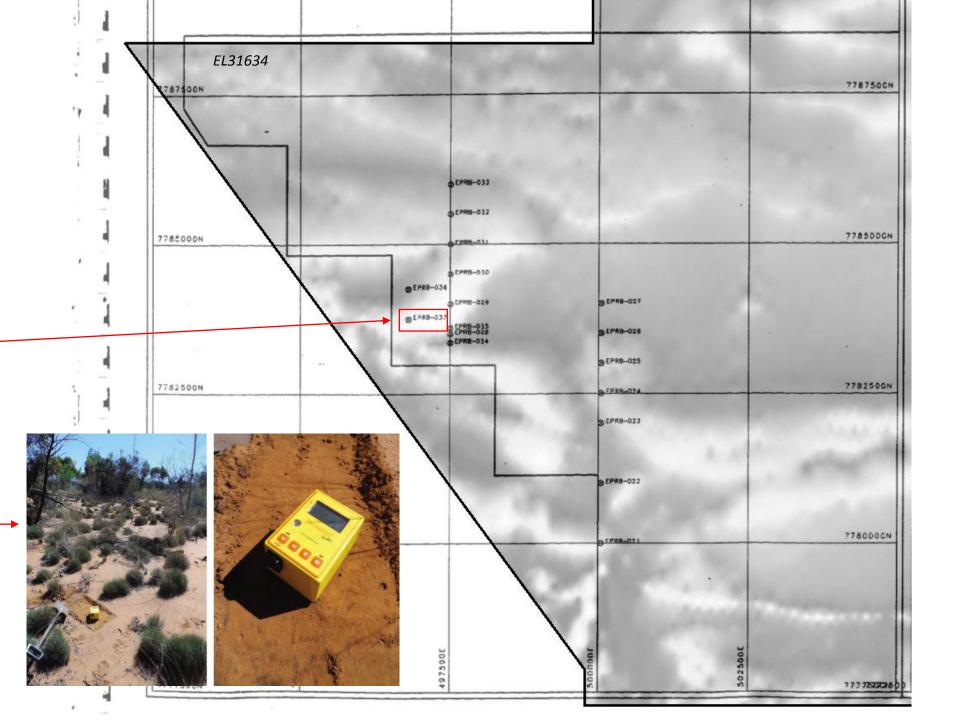
Magnetic high indicates possible Warramunga formation under shallow Cambrian cover

Strike of magnetic anomaly is almost size of main Tennant Creek Gold Field

Drilling in 1988, 1 hole penetrated the cover and intersected Warramunga formation 78m depth

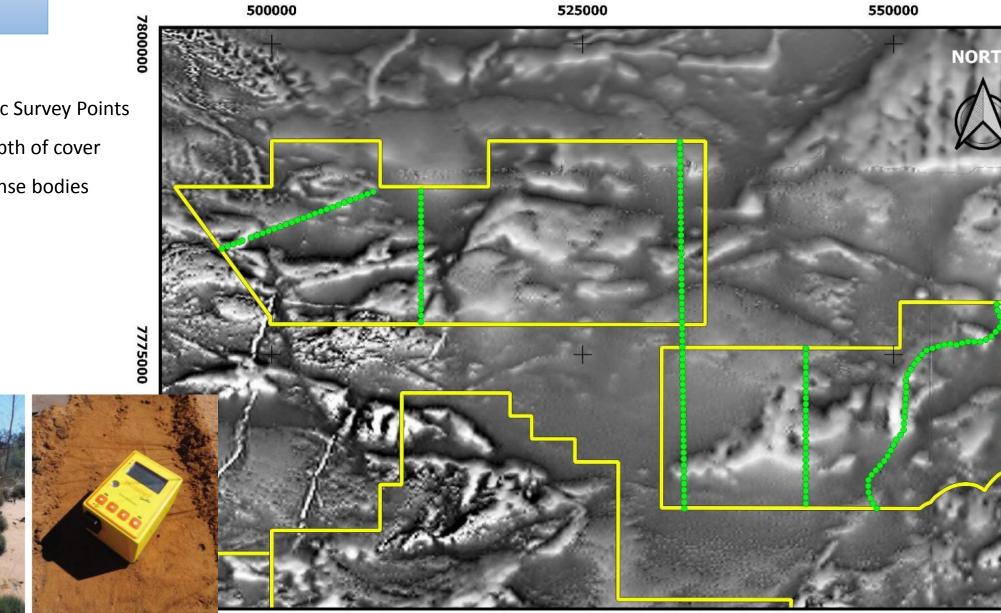
Passive Seismic Survey proposed to assess the depth of cover across the tenement.

NT Collaboration Application to test best magnetic positions



## EL31633/34

- Passive Seismic Survey Points
- Can detect depth of cover
- Can detect dense bodies (ironstones)



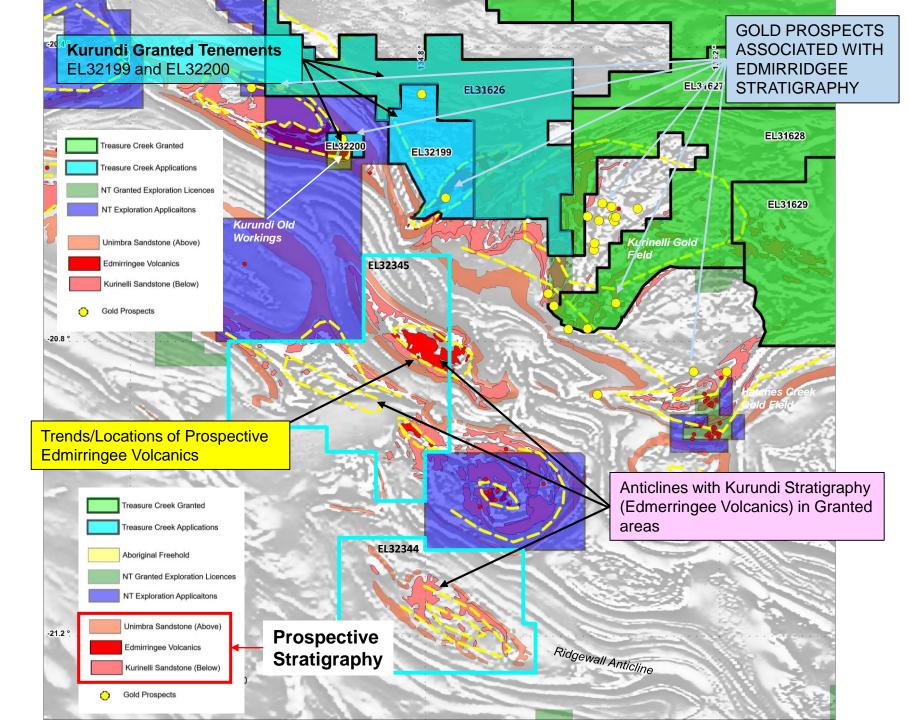
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### Kurundi:

- High Grade mineralisation associated with the Edmerringee Volcanics
- 5 granted tenements over Edmirringee Volcanics.
- Prospects include: Kurundi Old Workings (+5g/t Au), Edmirringee, Whistle Duck (13g/t Au and 5% Cu), Priesters old workings.
- Reconnaissance exploration: numerous mineralised rock chips taken and historic workings located
- Likely generate targets for drilling 2021



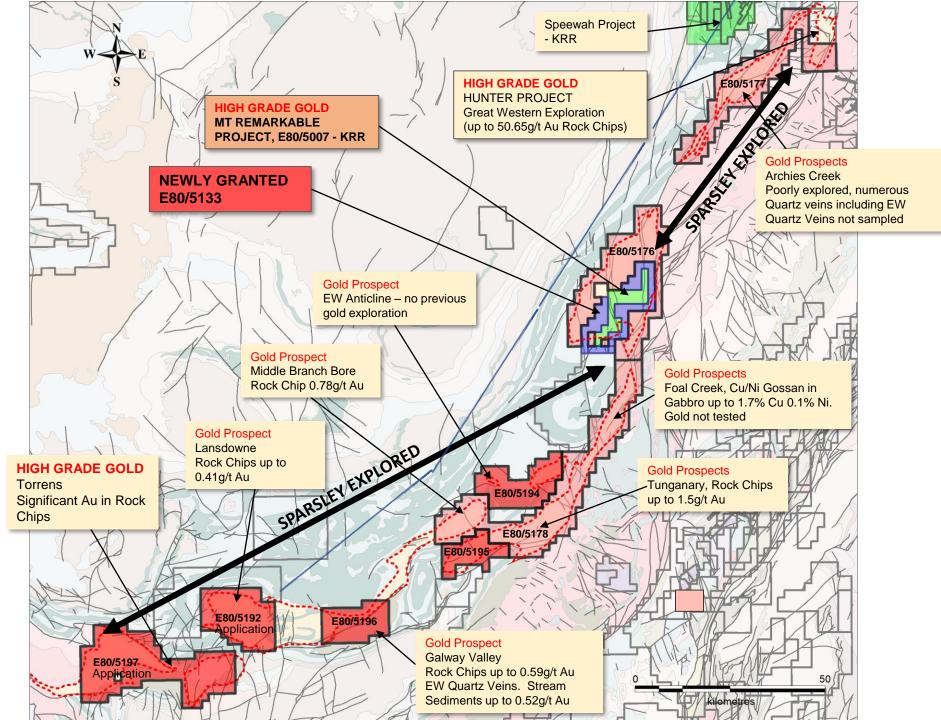


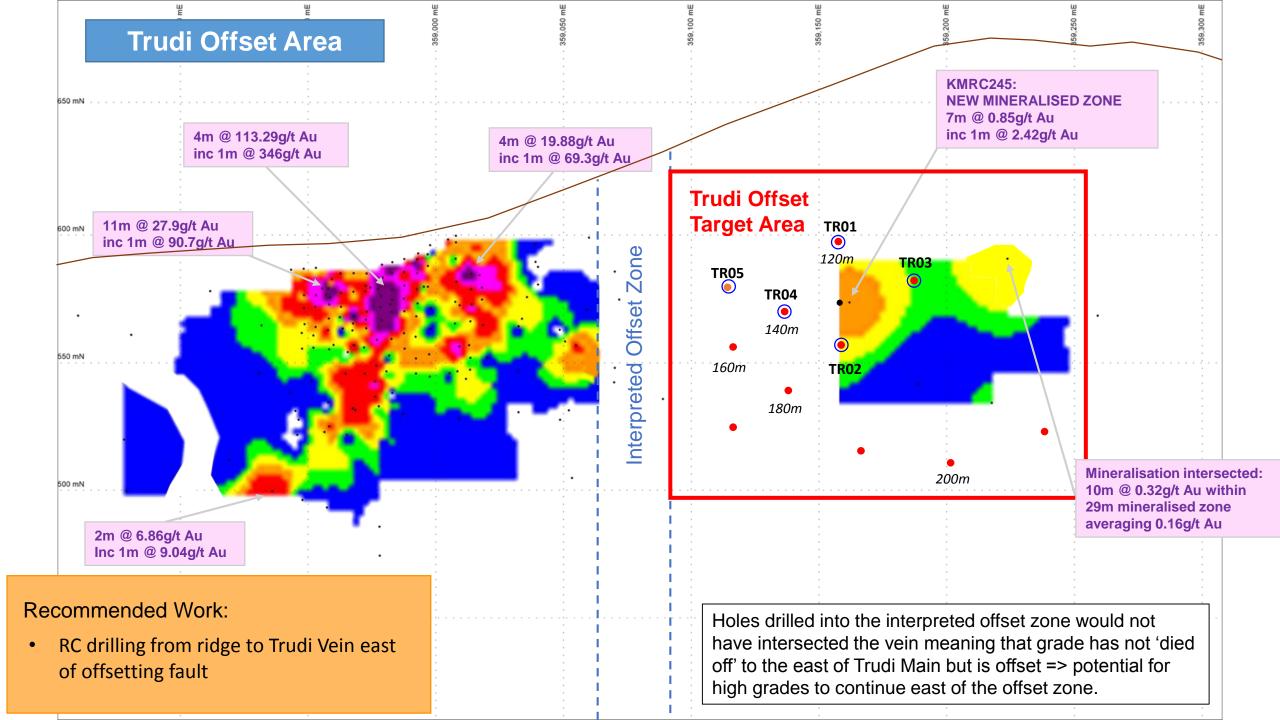
# MT REMARKABLE PROJECTS

## Mt Remarkable Project

Targets

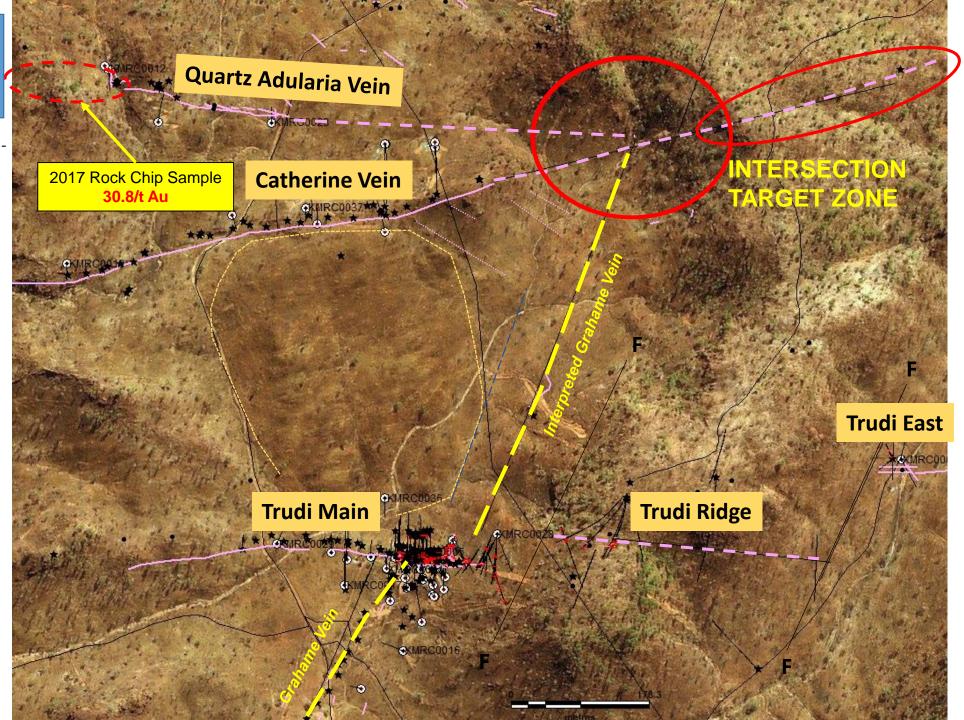
- Mt Remarkable
- Hunter West
- Archies Creek
- EW Anticline
- Tunganary/Middle Branch
- Galway/Lansdowne





## New Target Catherine – Grahame 40g/t Intersection

- Target intersection of the Catherine Vein Grahame Vein And 40g/t Au Vein.
- Where strikes under cover unit.
- Also In area with NW tension structures.



# THANK YOU