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TERRAIN MINERALS

# Rare Earths, Gallium Nickel & Copper

Future Facing Commodities Conference | Singapore

ASX:TMX | MARCH 2024





TERRAIN MINERALS

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The information in this presentation that relates to exploration results within Terrain Minerals' tenements has been compiled by Mr Benjamin Bell, consultant to Terrain Minerals. Mr Bell has over 20 years' experience in exploration and evaluation of mineral properties throughout Australia and overseas. Mr Bell is a Member of the Australian Institute of Geoscientists and has sufficient experience that is relevant to the style of mineralisation and types of deposits under consideration and to the activities that he is undertaking to qualify as a Competent Person as defined in the JORC Code 2012. Mr Bell has consented to the inclusion of statements made by him, in the form and context in which they appear within this presentation and has not withdrawn consent prior to the release of this presentation.



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# References

1. Terrain Minerals Ltd, ASX announced dated 11 March 2024
2. Terrain Minerals Ltd, ASX announced dated 11 March 2024
3. Terrain Minerals Ltd, ASX announced dated 11 March 2024
4. Terrain Minerals Ltd, ASX announced dated 11 March 2024
5. Terrain Minerals Ltd, ASX announced dated 11 March 2024
6. Terrain Minerals Ltd, ASX announced dated 22 February 2024
7. Terrain Minerals Ltd, ASX announced dated 22 February 2024
8. Terrain Minerals Ltd, ASX announced dated 11 March 2024
9. Terrain Minerals Ltd, ASX announced dated 11 March 2024
10. Terrain Minerals Ltd, ASX announced dated 22 February 2024
11. Terrain Minerals Ltd, ASX announced dated 22 February 2024
12. Terrain Minerals Ltd, ASX announced dated 23 October 2023
13. Terrain Minerals Ltd, ASX announced dated 23 October 2023

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# Why Terrain Minerals?

## Smokebush Project

- Rare Earth Element (REE) mineralisation extending over 9 kilometres (1).
- Total Rare Earth Oxide (TREO) grades exceed 1000ppm (2).
- Magnetic Rare Earth Oxide (MREO) averaging 23% of TREO (3).
- Neodymium (Nd) + Praseodymium (Pr) averaging 80% of MREO (4).
- Assay results from ~5000 metres of drilling to be received within the next 4 to 6 weeks (5).
- Mineral Resource drilling program scheduled to commence from June 2024.

## Lort River Project

- Potential repetition of Nova nickel “eye” feature present (6).
- Bedrock conductor already detected within Terrain’s “eye” feature (7).
- Detailed airborne electromagnetic (EM) survey commencing in April 2024 (8).

## Project Pipeline

- Lithium and Copper/Gold – See Appendix



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# Company Profile

## Capital Structure

Shares on Issue: 1.423 Million

### Unlisted Options

Various expiry dates / prices 126 Million

Market Cap (Million): 6.0

Cash at Hand (Million): (Dec Q end) \$0.937

Rights short fall (Million): (Jan 24) \$0.352

Debt Nil

Share Price \$0.005

## Major Shareholders

Top 20: 38.2%

Top 100: 71.4%

Board & Associated: 12.7%

No. of Shareholders: 1,203

## Board Members

**Justin Virgin** Executive Director

**Xavier Braud** Non-Executive Director - Geology

**Johannes Lin** Non-Executive Director



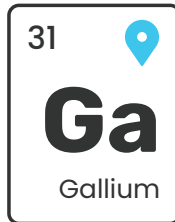
## Key

- Gold Projects
- Lithium Projects
- Gallium Projects
- Rare Earths Projects
- Copper Projects

\*Application pending

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# Smokebush Project



Located 350 kilometres north of Perth.

300km<sup>2</sup> of tenure within Western Australia's emerging Midwest REE district.

Proven host of high grade Clay REE and Gallium mineralisation.

Located in new emerging high grade REE district.

Benefits from close proximity to existing mining and related infrastructure.



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# Smokebush Project | REE

Maiden drilling totalling 6611 metres returned thick zones of high grade Clay REE mineralisation.

Only bottom of hole sample assays received to date.

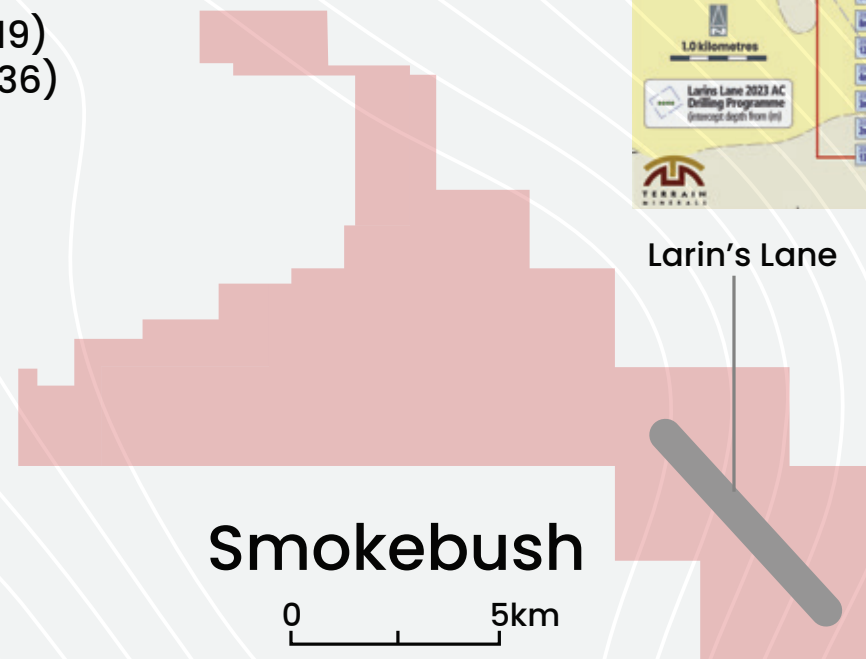
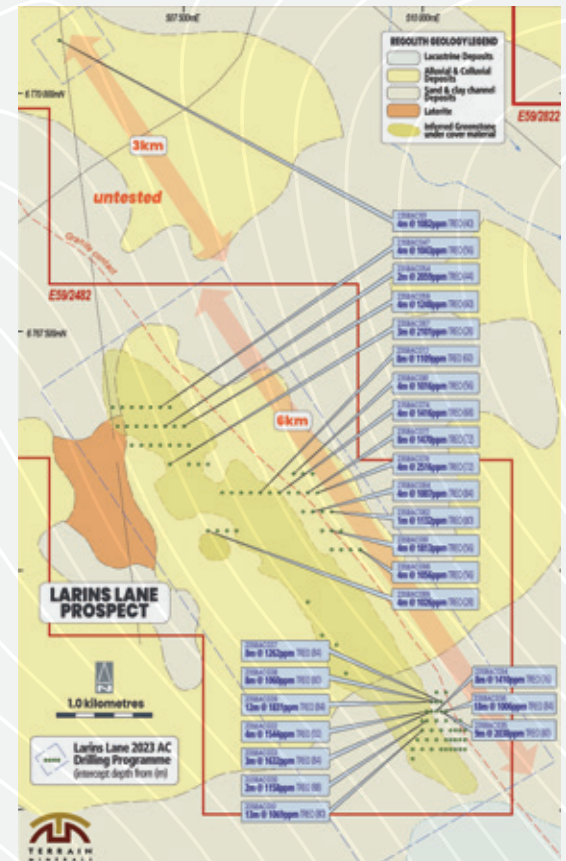
Selected holes include(8):

- 13 m @ 1,069ppm TREO from 80m (23SBAC019)
- 18 m @ 1,004ppm TREO from 84m (23SBAC036)

Assays from the near surface section of each hole due within the next 4 to 6 weeks.

Metallurgical test work underway.

Targeting maiden Mineral Resource in December quarter 2024.



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# Smokebush Project | Gallium

High grade Gallium clays potentially associated with REE mineralisation.

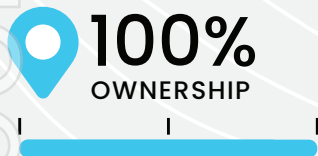
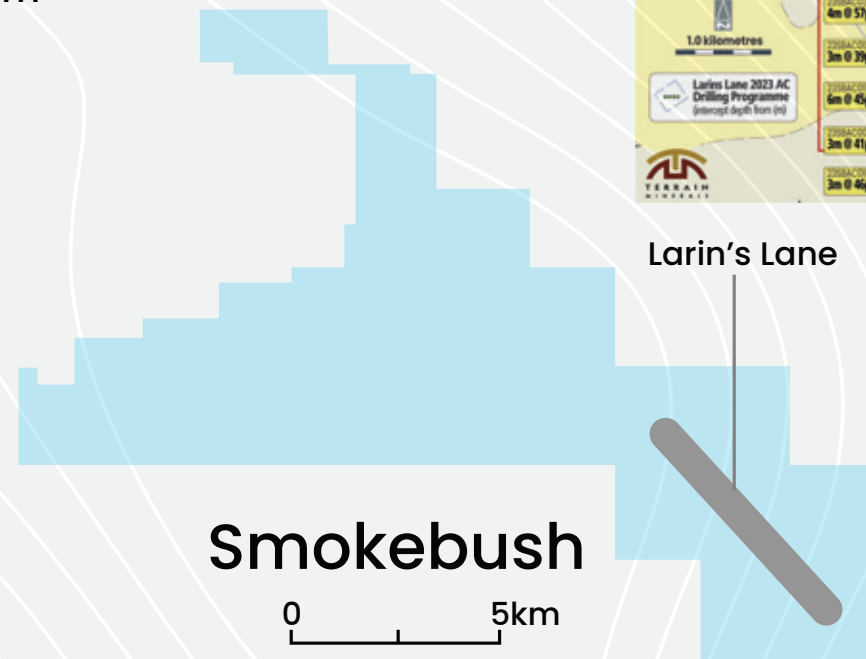
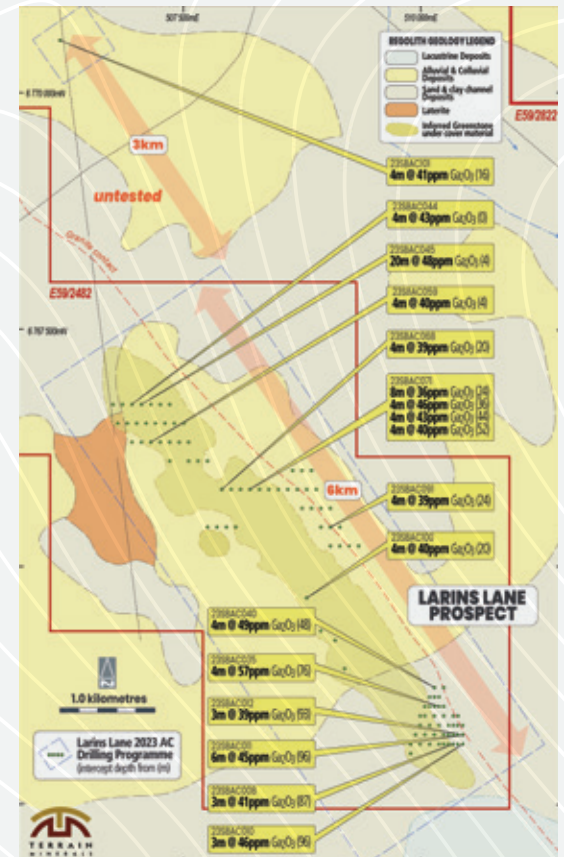
Selected holes include(9):

- 20 m @ 48.33 grams per tonne  $Ga_2O_3$  from 4m (23SBAC045)
- 8 m @ 46.77 grams per tonne  $Ga_2O_3$  from 24m (23SBAC071)

Assays from a further 5000 metres of drilling expected by mid-May.

Follow-up 3000 metre drill program scheduled to commence by June 2024.

On-going discussions with prospective industry and offtake partners.



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**Ga**  
Gallium



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# What is Gallium?

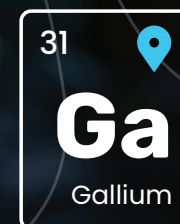
Gallium is classified as a critical metal by the USA, United Kingdom, European Union and Australia.

Main applications are in defence, semi-conductors and computer chips, electronic circuitry and photovoltaic cells.

Presently, 98% of global supply is ex-China USA and European semi-conductors manufactures actively encouraging a more geographically balanced supply chain.

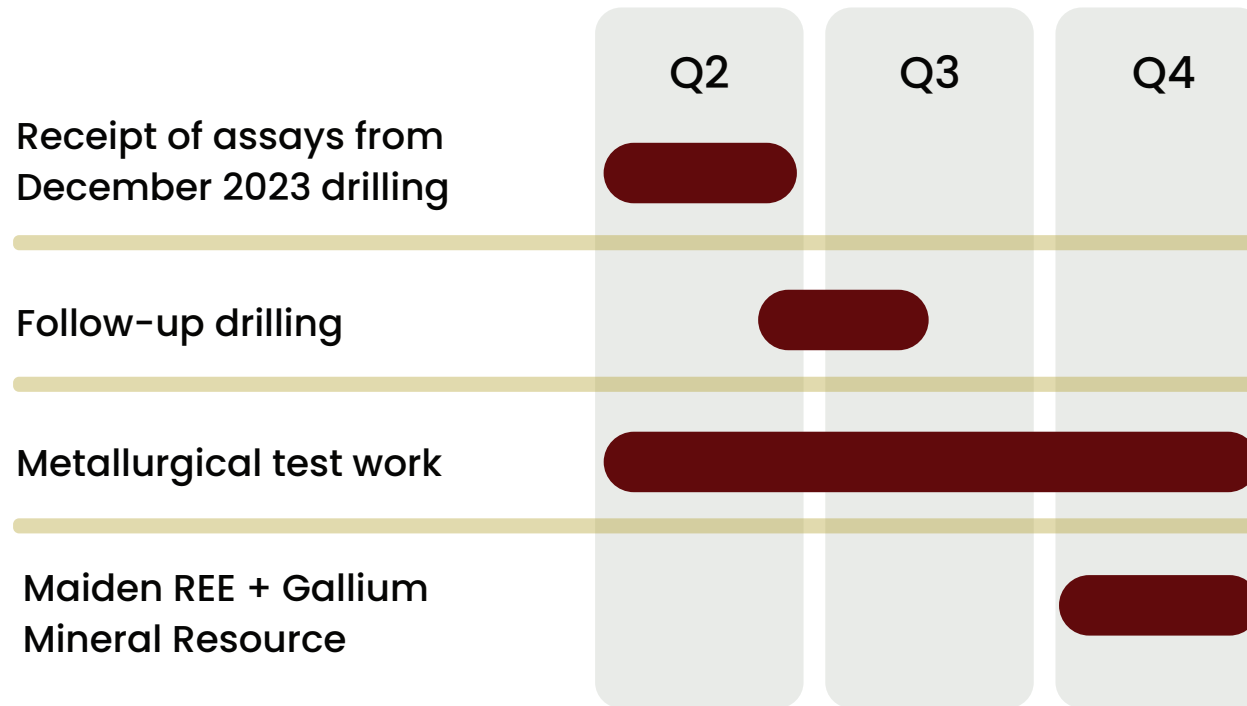
Terrain is rapidly expanding its Gallium focus to dovetail with the exponential growth of generative AI (and the associated demand for semi-conductors).

Gallium chips and other electrical components draw less power, are faster and allow for miniaturisation.



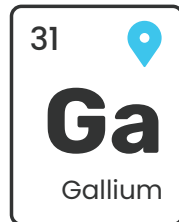
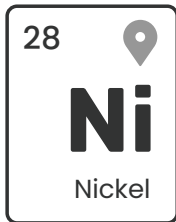
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# Smokebush Project Forward Program



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# Lort River Project




Located 650 kilometres southeast of Perth.

640km<sup>2</sup> of tenure along interpreted strike of IGO's Nova nickel-copper mine.

Nova-style "eye" feature (with conductor) identified within project <sup>(10)</sup>.

Terrain has confirmed REE and Gallium mineralisation across the tenement package which sits within an emerging REE province.



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**Ni**  
 Nickel

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# Lort River Project | Nickel

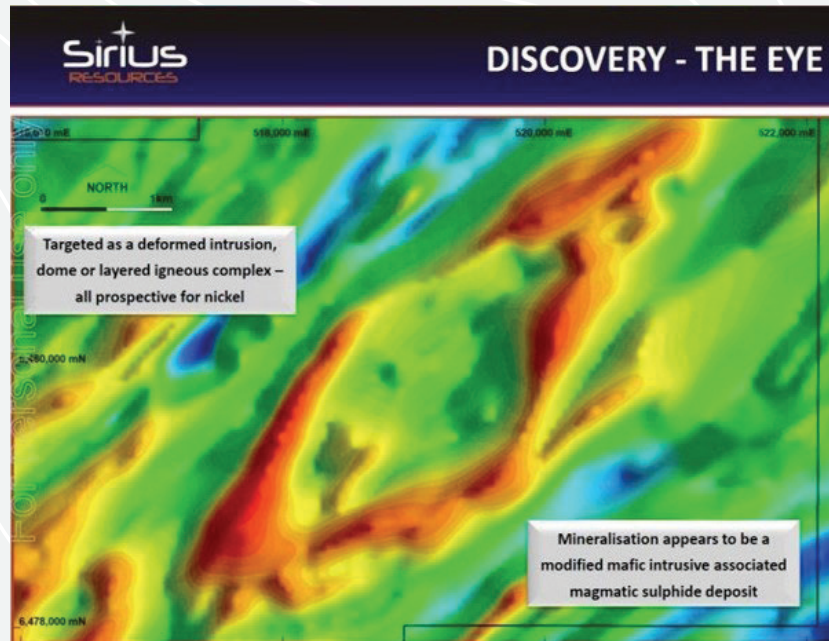
Same geological belt as Nova-Bollinger nickel-copper ore body.

Same characteristics “eye”<sup>(1)</sup> feature in our aeromagnetic data.

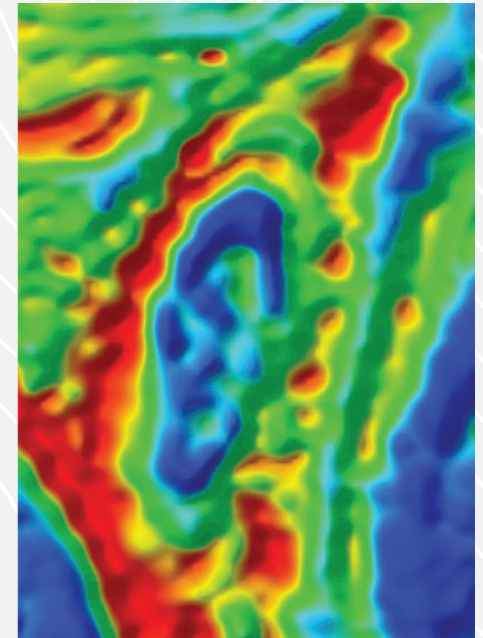
We know that Nova-style nickel-copper ore bodies occur as clusters.

And we know that IGO purchased Nova for \$1.8 billion back in 2015.

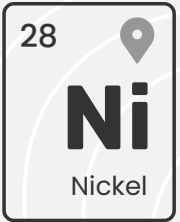
Airborne electromagnetic survey to test for sulphide bodies planned for April 2024.



Nova “eye”



Terrain Minerals’ “eye”



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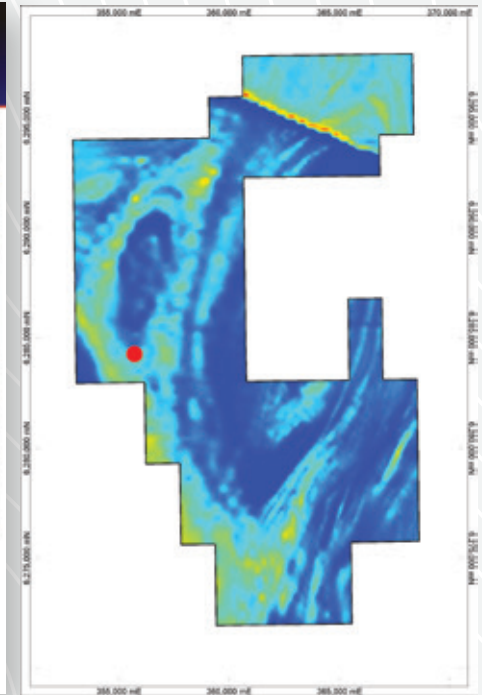
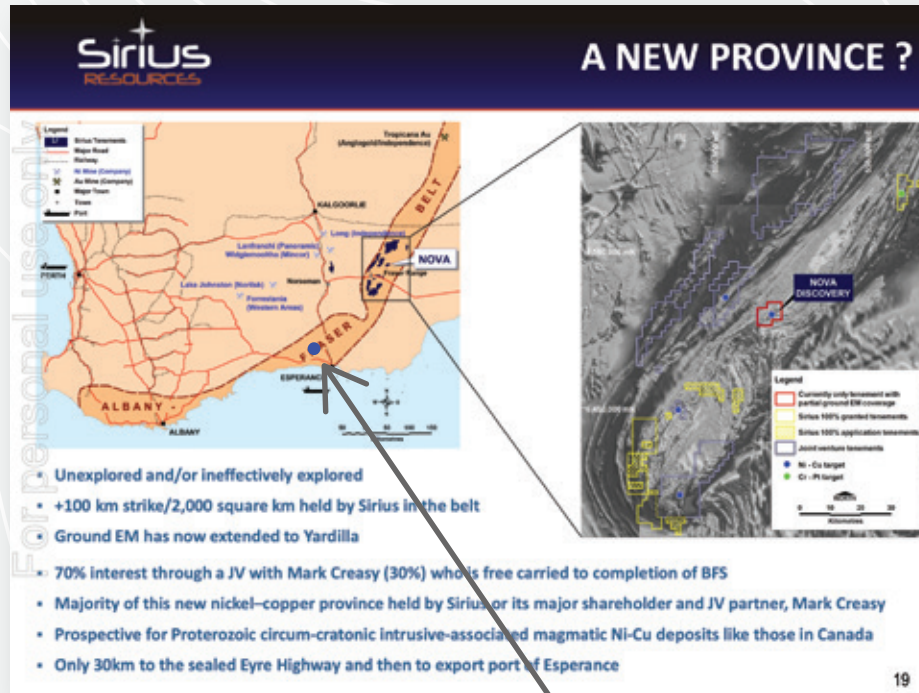
# Lort River Project | Nickel

Nova was meant to be part of a “New Province”. So where are the other nickel-copper orebodies?

Following the discovery of the Nova orebody, Sirius Resources were adamant that:

- Nova is not a standalone deposit.
- the entire Albany – Fraser Belt appears perspective for magmatic nickel-copper mineralisation.

Terrain Minerals’ Lort River Project is located squarely within the Albany Fraser Belt, approximately 300 kilometres southwest of the Nova orebody.



Location of Terrain Minerals’ Lort River Project

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# Lort River Project | REE & Gallium

31   
**Ga**  
 Gallium

  
**Ree**  
 Rare Earth Elements

- Highly successful reconnaissance drilling campaign, 16 holes for 300m, drilled with 7 returning encouraging Clay REE mineralisation.
- First pass, drilling consisted of wide-spaced (3km) completed along road verges across the three tenements with all returning significant intersections.
- Remarkably High Magnetic Rare Earth Oxide (MREO) content that includes the in-demand permanent magnetic metals of Neodymium (Nd) and Praseodymium (Pr), which were encountered during the drill program and run as high as 43% of the Total Rare Earth Oxide (TREO) grade (12).

**Selected drilling intersections included (13):**

- 12m @ 614ppm TREO from 26m down hole (hole 23LRAC001)#  
 38m @ 34.1g/t - Ga<sub>2</sub>O<sub>3</sub> from surface (hole 23LRAC001)#

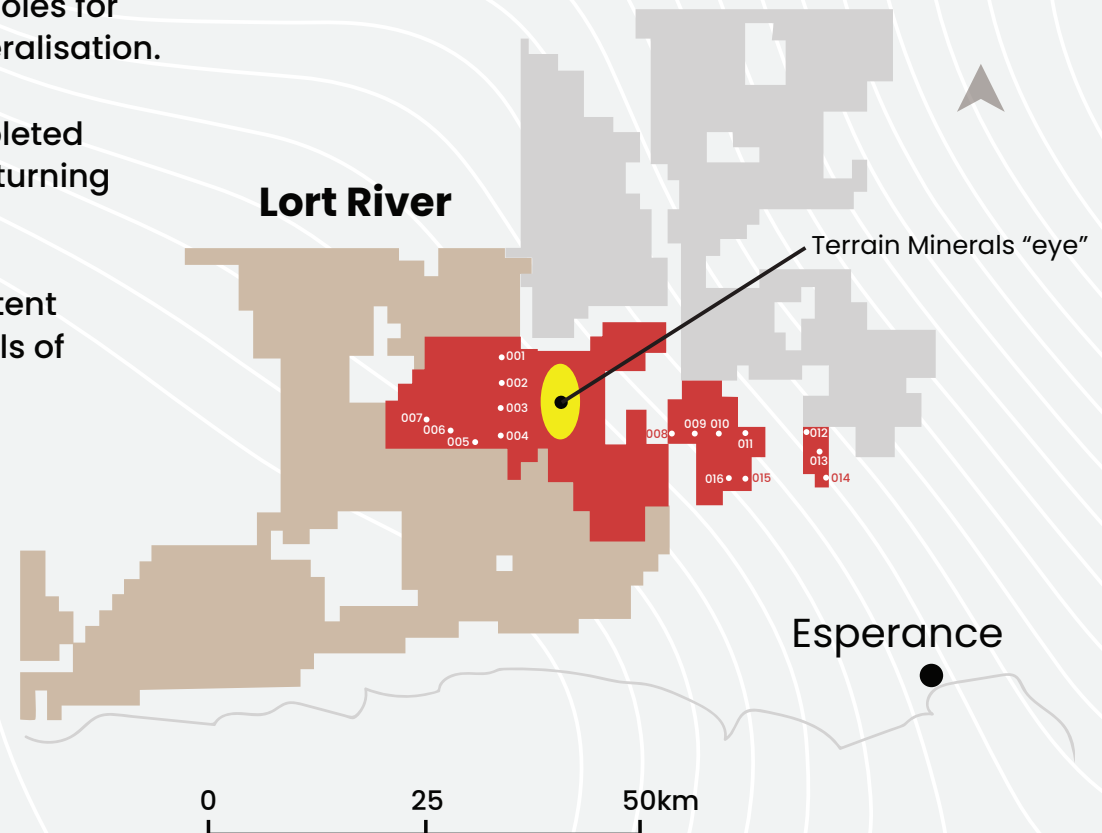
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- 6m @ 900ppm TREO from 18m down hole (hole 23LRAC005)#  
 32m @ 36.8 g/t - Ga<sub>2</sub>O<sub>3</sub> from 13m down hole (hole 23LRAC005)#

Note: Above same drilling campaign/holes with Lort River Gallium results.

# Gallium mineralization also identified in these REE intersections.

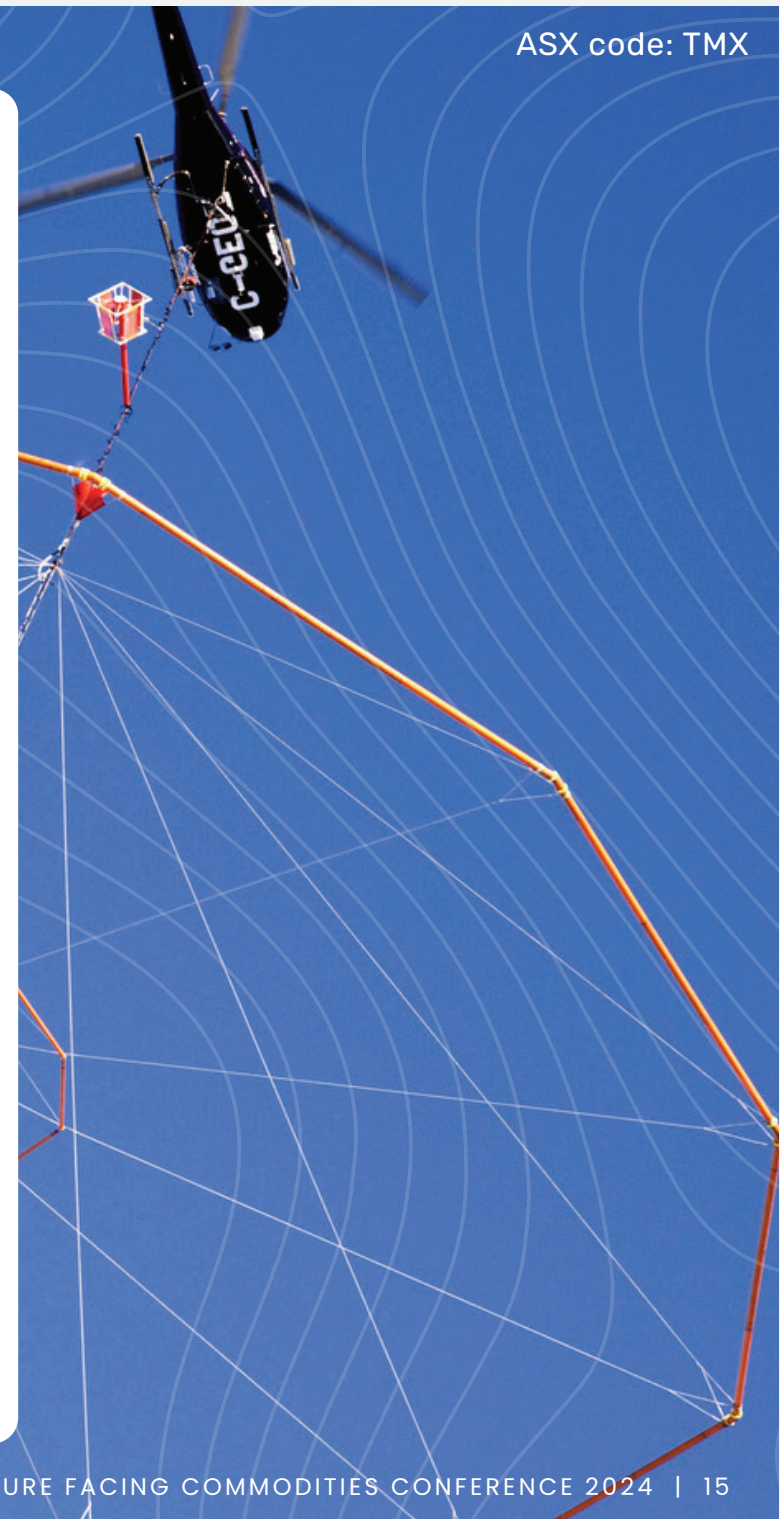
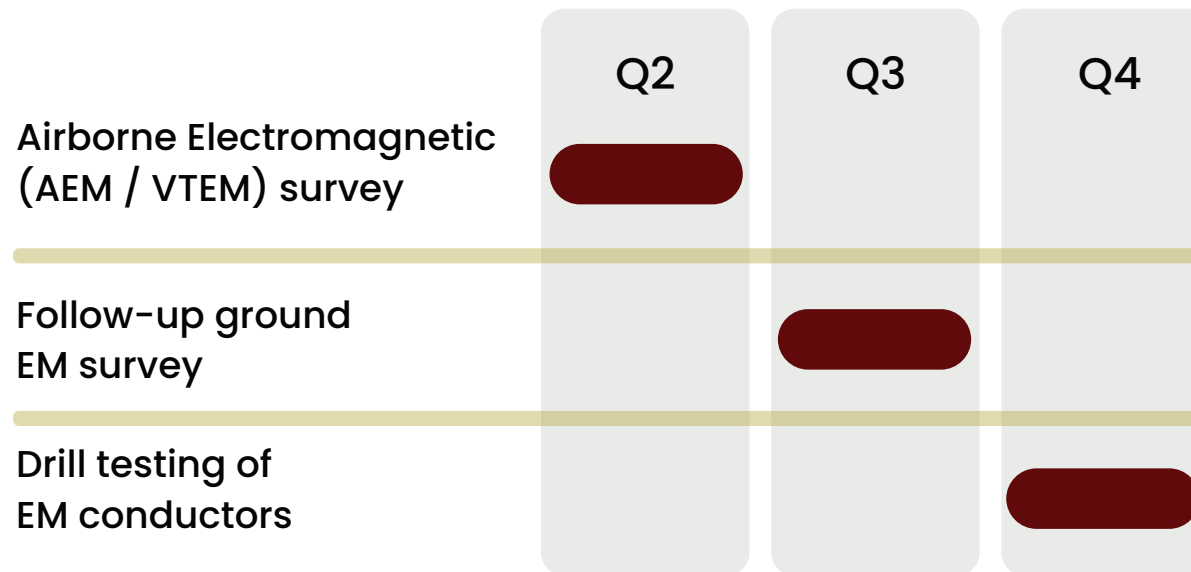
- Terrain is part of the Minerals Research Institute of Western Australia. (MRIWA) projects M10500 partly industry funded study on WA REE including metallurgical analysis.



 **100%**  
 OWNERSHIP

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# Lort River Project Forward Program



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# Summary

## Smokebush – Larins Lane (Clay REE & Gallium) Prospect

- Located in the newly emerging WA Mid-West High Grade REE district.
- Only ~25% of samples received back, with only 4 of 101 holes with a complete data set.
- ~5000 meters of drilling due back in 4-6 weeks testing for REE & Gallium mineralisation in the shallower zones.
- Resource estimate calculation & stage two drilling to establish a JORC compliant resource.

## Lort River – Nickel “EYE” and Clay REE & Gallium

- Extensive Clay REE & Gallium identified in drilling across tenement package with follow up drilling planned.
- Exciting new “EYE” feature identified (with new conductor) Sulphide Ni/Cu deposit known to existing clusters only NOVA identified to date.
- “EYE” located in under explored farming district of the Southern Albany Fraser mineralised belt.
- Maiden Airborne Electromagnetic survey to properly tested for sulphide bodies, planned for April 2024.
- Drilling to test of Conductors for Sulphide mineralisation.

## High Quality Project Pipeline

- Projects: Lithium, Copper/gold and REE – Refer to following appendixes.





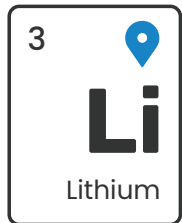
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# Appendix

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# Carlindie Project



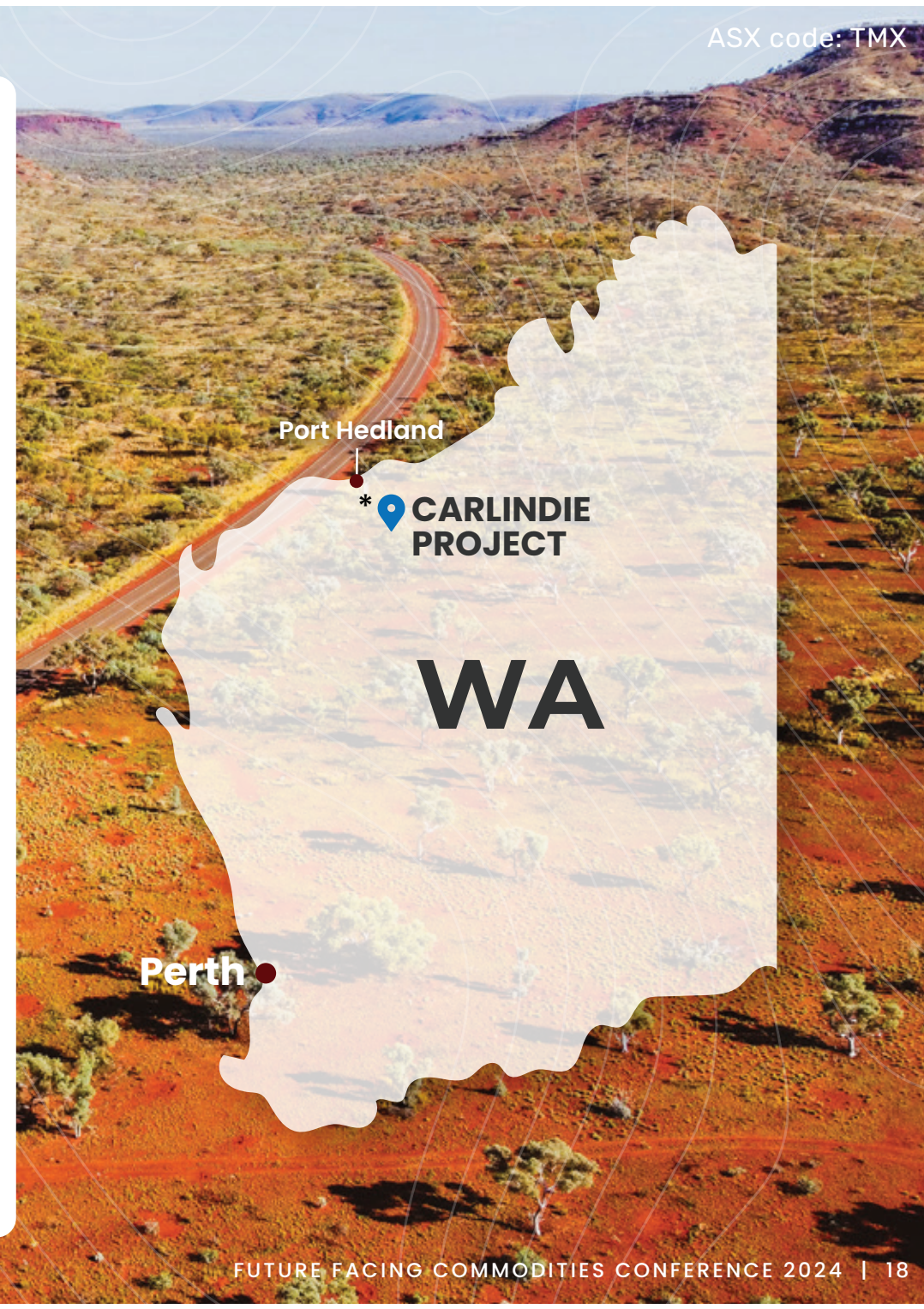
Located 90 kilometres south-east of Port Hedland Western Australia.

Tenement applications cover 839km<sup>2</sup>.

Along strike of Wildcat Resources Bolt Cutter Lithium Project.

Neighbours SQM and Kali Metals Pilbara Lithium Project.

\*Application pending.





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# Carlindie Project | Lithium

Located 90km S/E of Port Headland & covering 839 km<sup>2</sup>.  
~50km N/E of Pilbara Minerals, Pilgangoora mine.

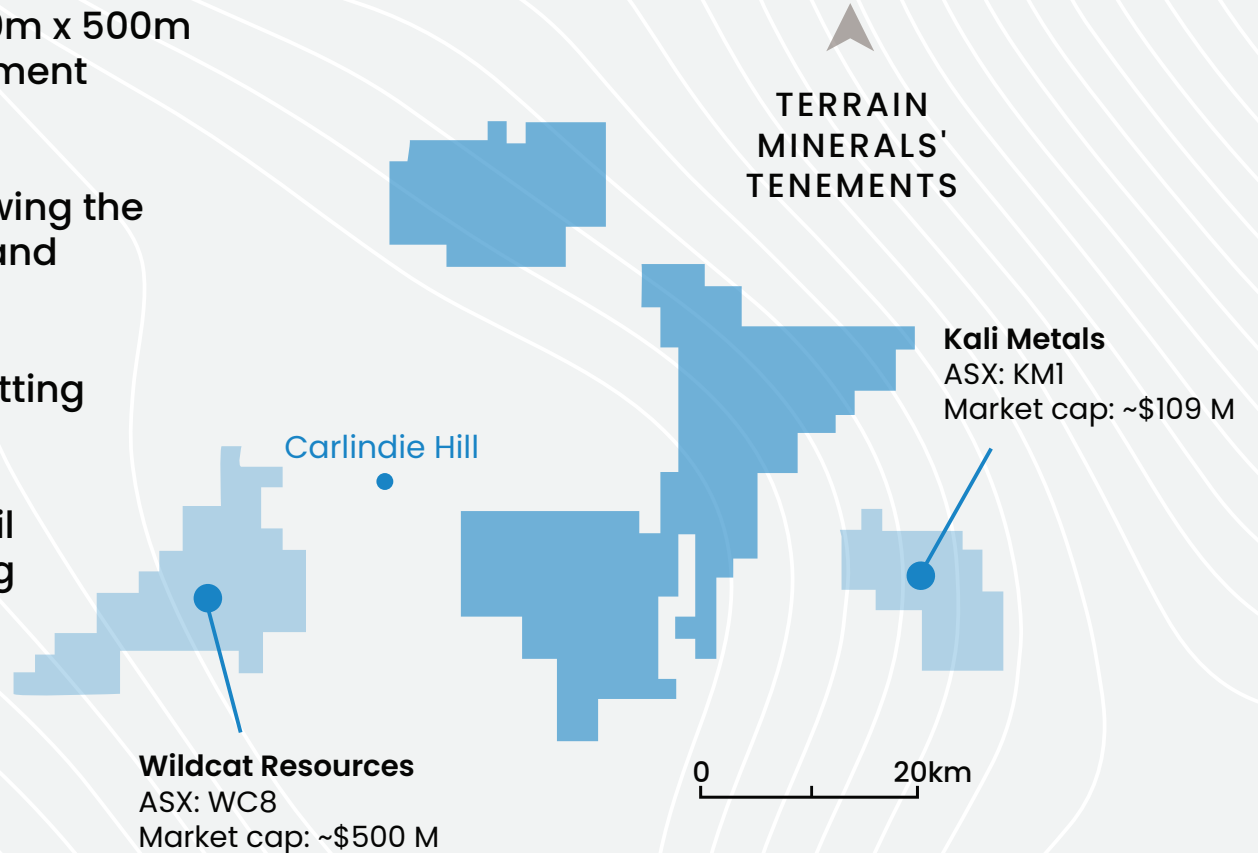
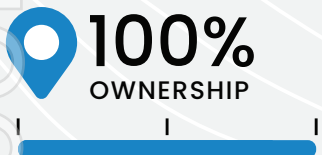
Terrain is seeking to fast track granting of this tenement. Terrain will then undertake a 500m x 500m soil sampling program over the entire tenement package area.

Field work to commence immediately following the grant of tenement including soil sampling and follow up drilling.

Desktop studies have identified key areas fitting to Terrain's internal geological modelling.

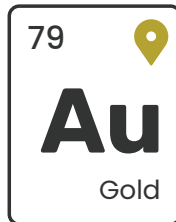
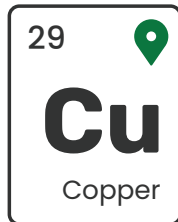
Terrain's Carlindie Project is under 3m of soil cover and in a favourable geological setting within WA's premier Lithium district.

\*Application pending



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# Biloela Project



Located 400 kilometres northwest of Brisbane.

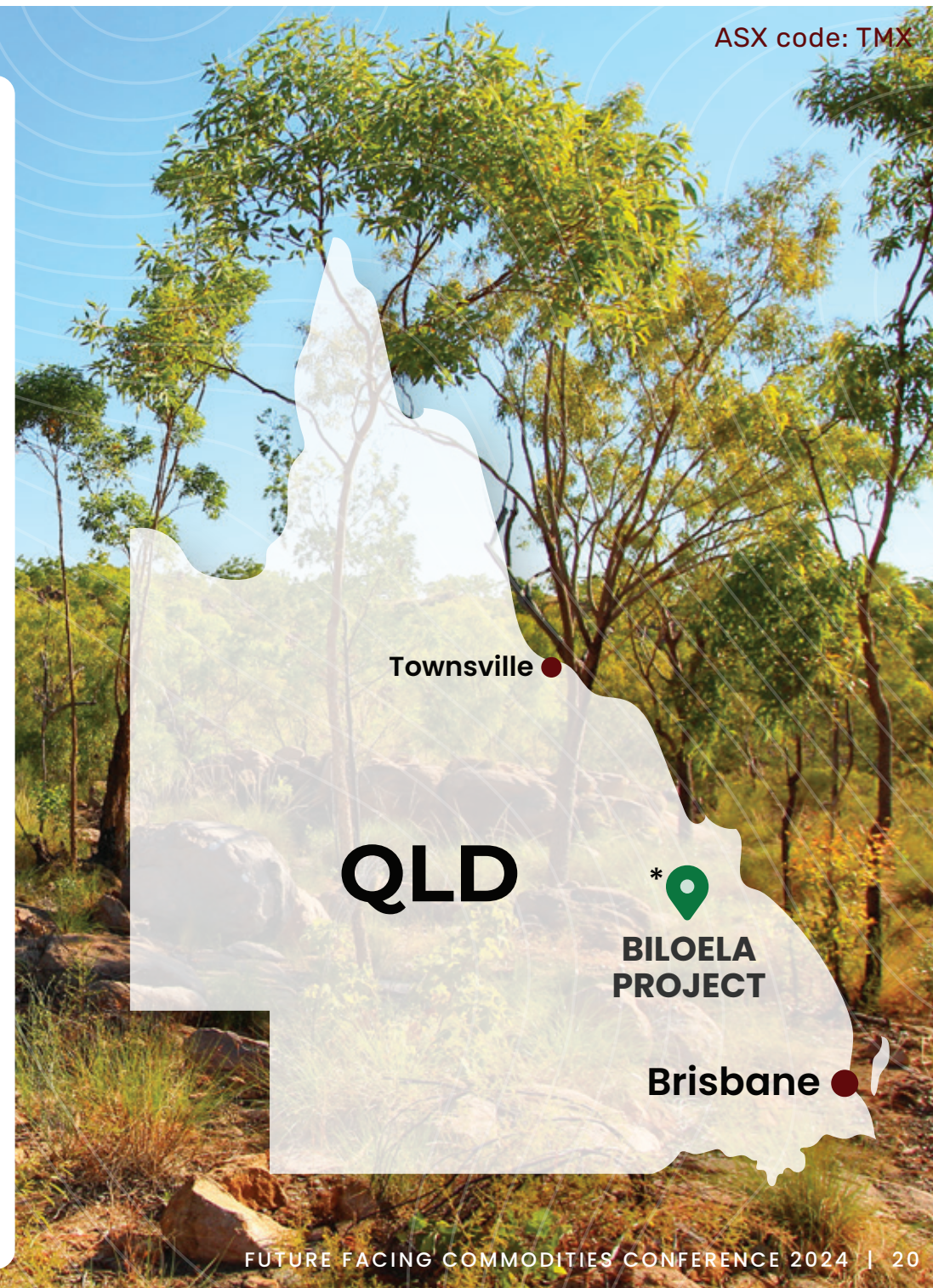
Exploration permits totalling 2,462km<sup>2</sup> of tenure.

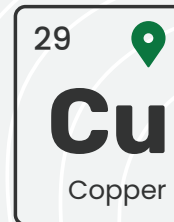
Seven historic copper-gold mines reported within Biloela Project.

Ten additional mineralisation occurrences reported across the project.

Independent review confirmed volcanogenic massive sulphide (VMS), porphyry copper-gold and epithermal gold mineral systems present within the project area.

\*Application pending.





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# Biloela Project | Copper

The Biloela Project lies 13 kilometres north of the Cracow Gold Mine in the Glandore and Theodore region of Queensland.

Extensive ~2,500km<sup>2</sup> tenement area, first identified by Rio Tinto, Gold Fields Limited and Newcrest Mining Limited.

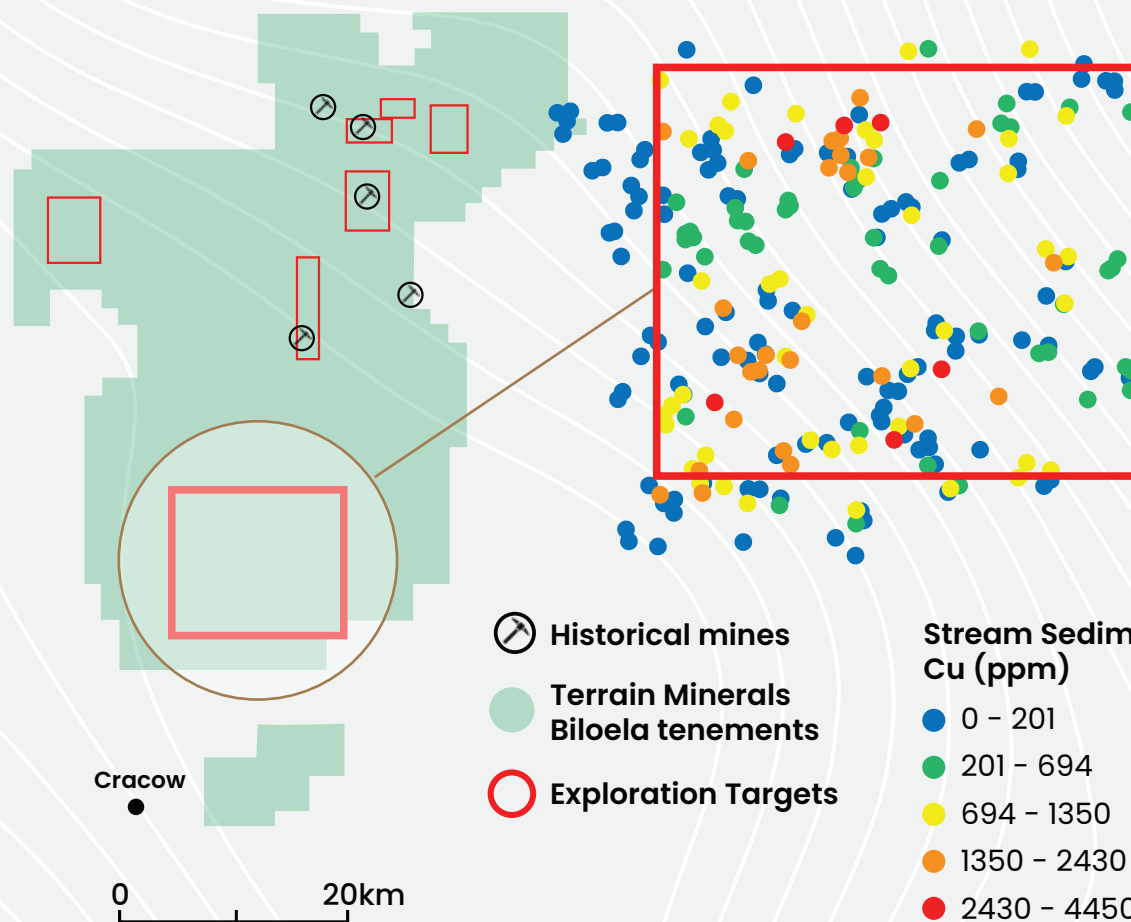
The northwest-trending faults within the north-eastern part of the Biloela Project are similar to those present at the Cracow Gold Mine and are considered the most prospective for epithermal- style gold mineralisation.

Terrain’s internal geological team has identified 7 potential copper and gold sites.

\*Application pending



TERRAIN MINERALS' TENEMENTS



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# Mukinbudin Project



Located within the Mukinbudin region of Western Australia, being approximately 300 kilometres east of Perth.

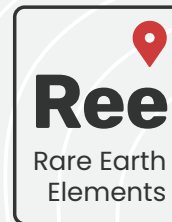
Extensive 1,408km<sup>2</sup> tenement area adjoining both Rio Tinto's and IGO's tenement holdings.

Highly prospective for primary (hard rock hosted) light and heavy rare earth mineralisation.

Mukinbudin one of the very few regions of Australia known to host NYF (Niobium-Yttrium-Fluorine) pegmatites.

\* Application pending





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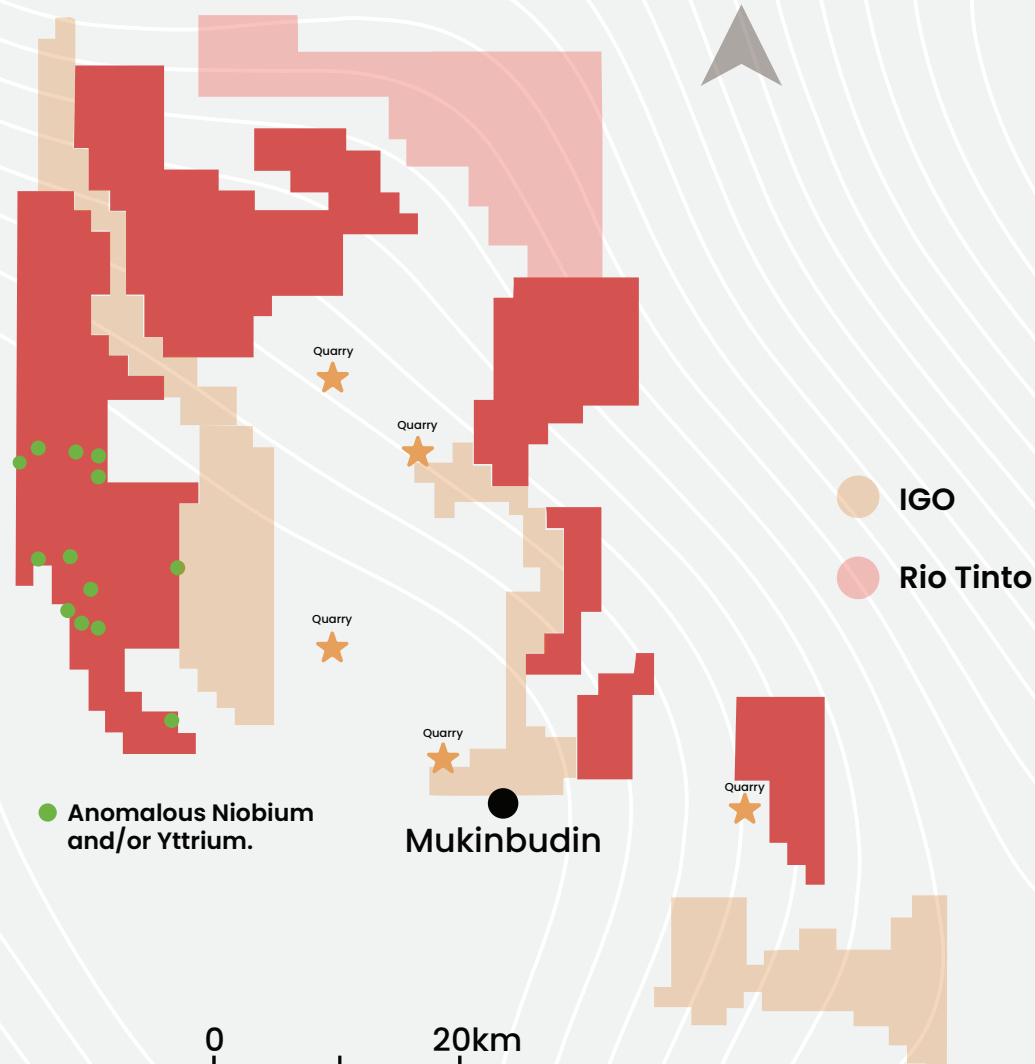
# Mukinbudin Project | REE

NYF (Niobium-Yttrium-Fluorine) pegmatites enriched in light and heavy rare earth mineralisation as well as Gallium.

More than thirteen anomalous Niobium-Yttrium zones already identified within Terrain Minerals' Mukinbudin project area.

Drill testing of known Niobium-Yttrium anomalies to commence immediately after tenement is granted.

\*Application pending



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# Want to know more? Contact Terrain Minerals

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ASX:TMX

