



TERRAIN MINERALS

# Rare Earths, Gallium Nickel & Copper

Future Facing Commodities Conference | Singapore

ASX:TMX | MARCH 2024





TERRAIN MINERALS

# Cautionary Statements & Disclaimer

This presentation has been prepared by Terrain Minerals. It should not be considered as an offer or invitation to subscribe for, or purchase, any securities in Terrain Minerals, or as an inducement to make an offer or invitation with respect to those securities in any jurisdiction.

This presentation contains general summary information about Terrain Minerals. The information, opinions or conclusions expressed in the course of this presentation should be read in conjunction with Terrain Minerals' other periodic and continuous disclosure announcements lodged with the ASX, which are available on Terrain Minerals' website. No representation or warranty, expressed or implied, is made in relation to the fairness, accuracy or completeness of the information, opinions and conclusions expressed in this presentation.

This presentation includes forward looking information regarding future events, conditions, circumstances and the future financial performance of Terrain Minerals. Often, but not always, forward looking statements can be identified by the use of forward looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue", and "guidance", or other similar words and may include statements regarding plans, strategies, objectives of management, anticipated production or construction commencement dates, expected costs or production outputs. Such forecasts, projections and information are not a guarantee of future performance and involve unknown risks and uncertainties, many of which are beyond Terrain Minerals' control, which may cause actual results and developments to differ materially from those expressed or implied. Further details of these risks are set out below.

All references to future production or production guidance made in relation to Terrain Minerals are subject to the completion of all necessary feasibility studies, permit applications and approvals, construction, financing arrangements and access to the necessary infrastructure. Where such a reference is made, it should be read subject to this paragraph and in conjunction with further information about the Mineral Resources and Ore Reserves, as well as any Competent Persons' Statement included in the periodic and continuous disclosure announcements lodged with the ASX. Forward looking statements in this presentation only apply at the date of issue. Subject to any continuing obligations under applicable law or relevant stock exchange listing rules, in providing this information Terrain Minerals Limited does not undertake any obligation to publicly update or revise any of the forward looking statement or to advise of any change in events, conditions or circumstances on which any such statement is based.

There are a number of risks specific to Terrain Minerals and of a general nature which may affect the future operating and financial performance of Terrain Minerals and the value of an investment in Terrain Minerals including, but not limited to, economic conditions, stock market fluctuations, commodity demand and price movements, access to infrastructure, timing of environmental approvals, regulatory risks, operational risks, reliance on key personnel, reserve and resource estimations, native title and title risks, foreign currency fluctuations and mining development, construction and commissioning risks.

All currency amounts are in Australian dollars unless otherwise stated.

## No new information

This presentation does not contain any new data, results or information, with all references clearly notated within the relevant page or section of the presentation and documented within the list that follows on this page.

Terrain Minerals is not aware of any new information or data that materially affects the information included in the original market announcements referred to in this presentation, and that all material assumptions and technical parameters have not materially changed.

## Photographs

Photographs used in this presentation which do not have descriptions are for illustration purposes only and should not be interpreted to mean that any person shown endorses the presentation or its contents, or that the assets shown in them are owned by Terrain Minerals.

## Competent Person's Statement

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.



TERRAIN MINERALS

## 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



## TERRAIN MINERALS

# 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





## TERRAIN MINERALS

# 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

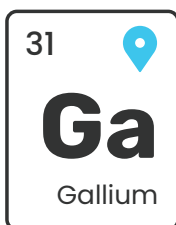
**Xavier Braud** Non-Executive Director – Geology

**Johannes Lin** Non-Executive Director



TERRAIN MINERALS

# 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.





TERRAIN MINERALS

# 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<sup>(8)</sup>:

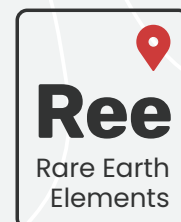
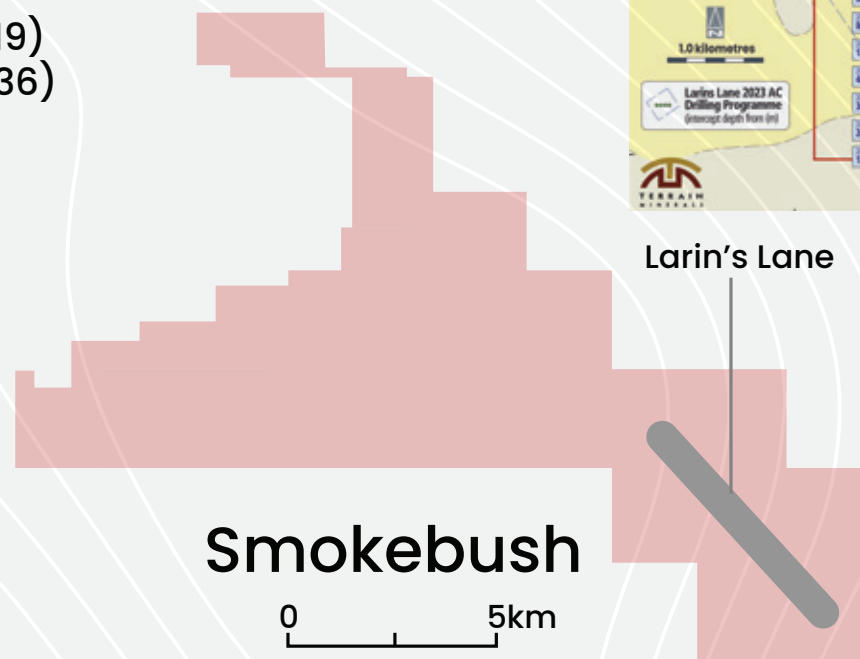
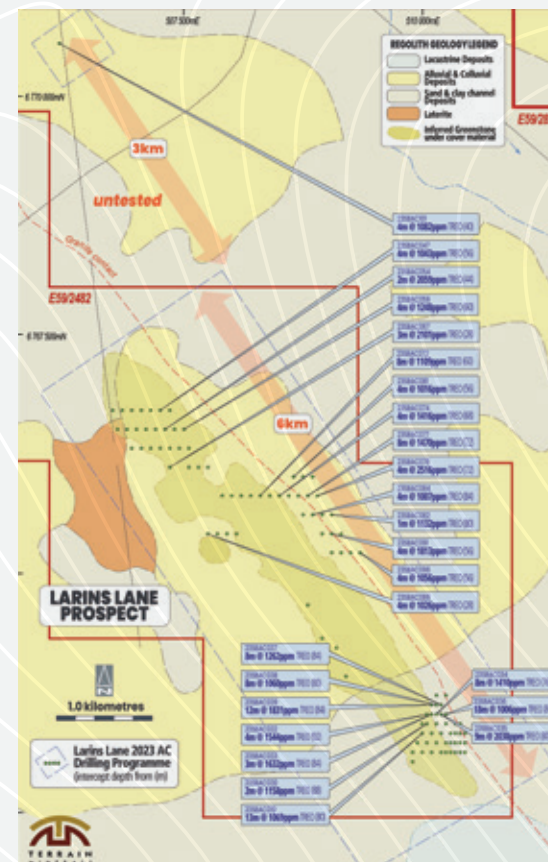
- 13 m @ 1,069ppm TREO from 80m (23SBAC019)
- 18 m @ 1,004ppm TREO from 84m (23SBAC036)

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.

**100%**  
OWNERSHIP





TERRAIN MINERALS

# Smokebush Project | Gallium

High grade Gallium clays potentially associated with REE mineralisation.

Selected holes include(9):

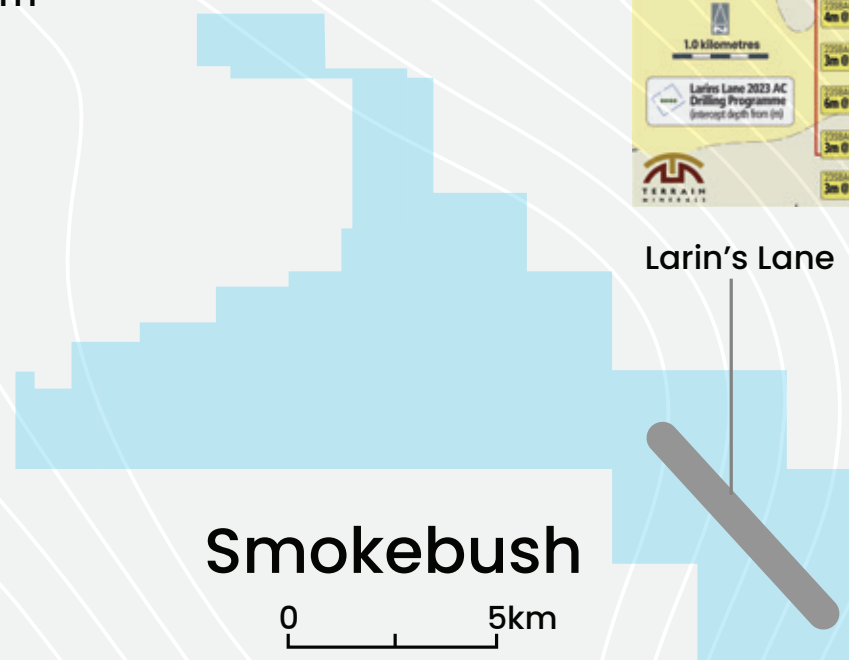
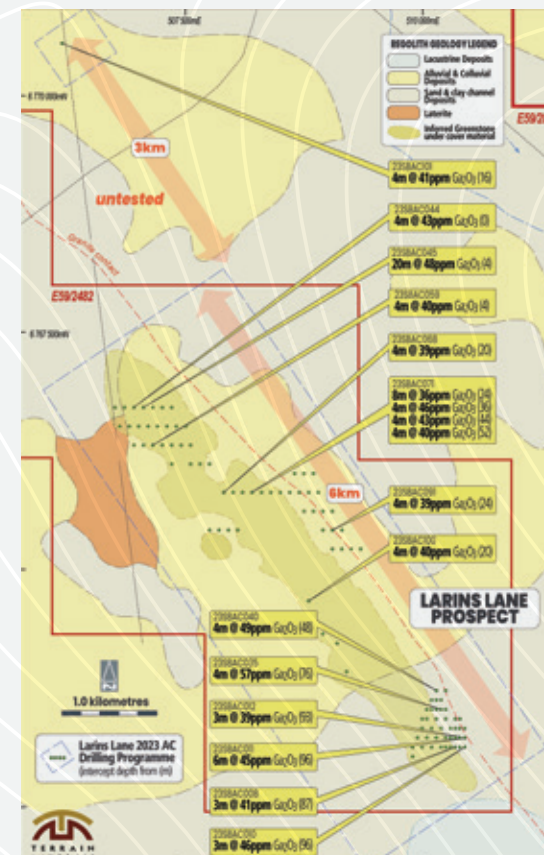
- 20 m @ 48.33 grams per tonne  $Ga_2O_3$  from 4m (23SBAC045)
- 8 m @ 46.77 grams per tonne  $Ga_2O_3$  from 24m (23SBAC071)

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.

**100%**  
OWNERSHIP



## TERRAIN MINERALS

# What is Gallium?

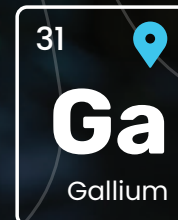
Gallium is classified as a critical metal by the USA, United Kingdom, European Union and Australia.

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).

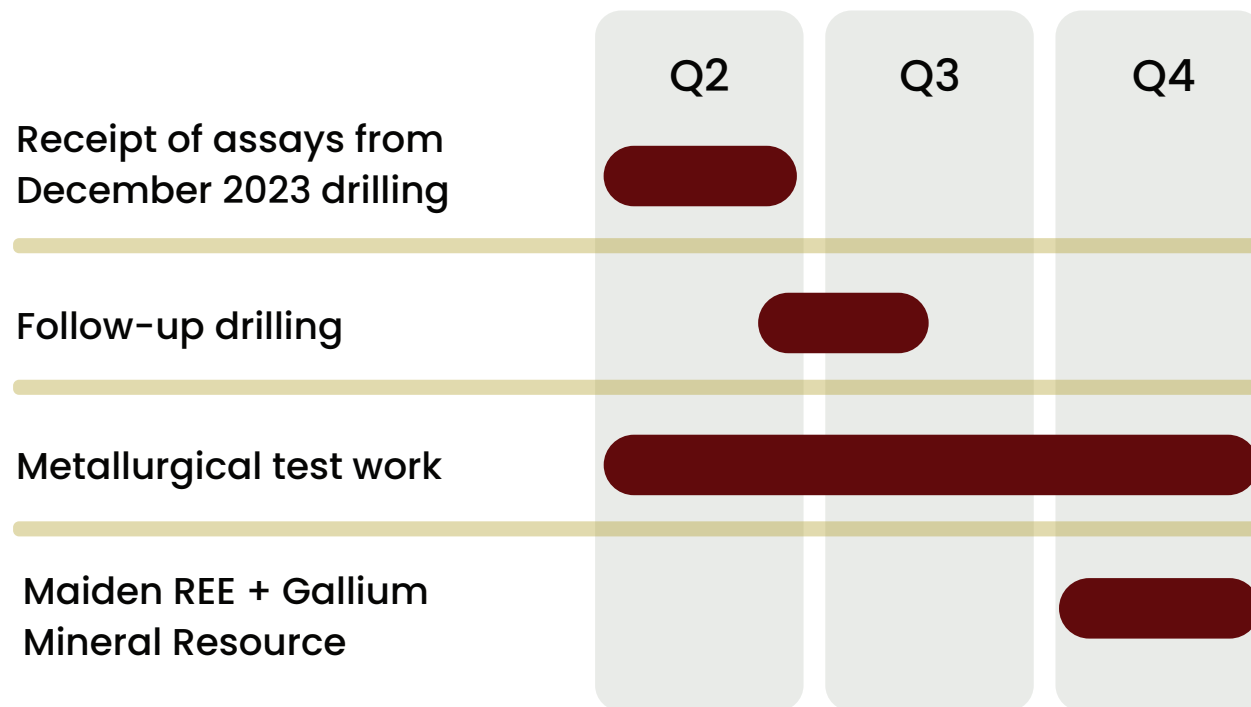
Gallium chips and other electrical components draw less power, are faster and allow for miniaturisation.





TERRAIN MINERALS

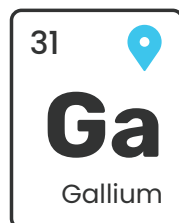
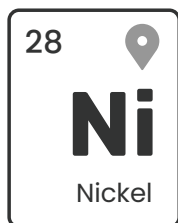
# Smokebush Project Forward Program





TERRAIN MINERALS

# Lort River Project



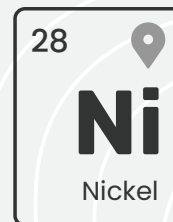
Located 650 kilometres southeast of Perth.

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.





TERRAIN MINERALS

# Lort River Project | Nickel

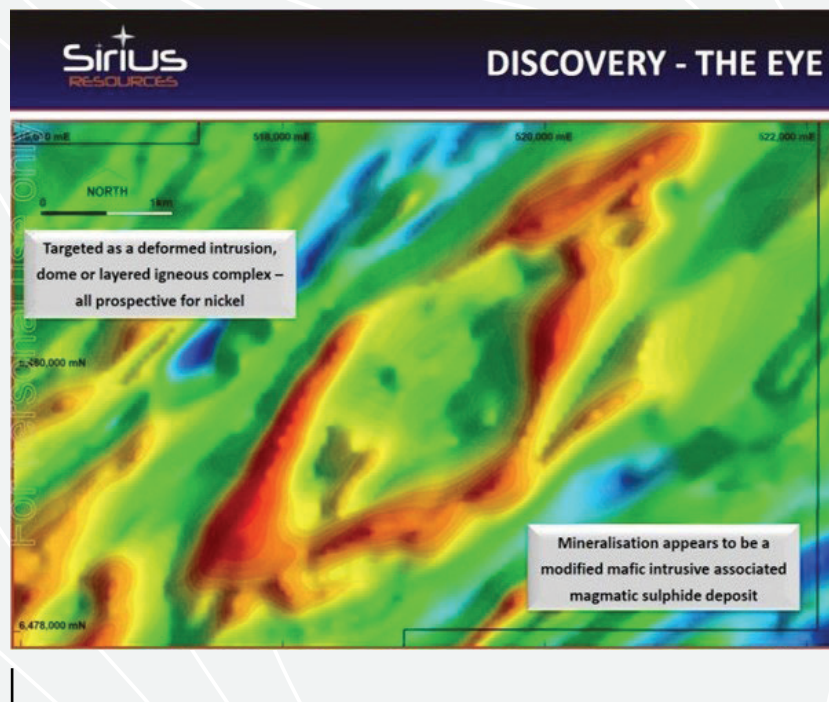
Same geological belt as Nova-Bollinger nickel-copper ore body.

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

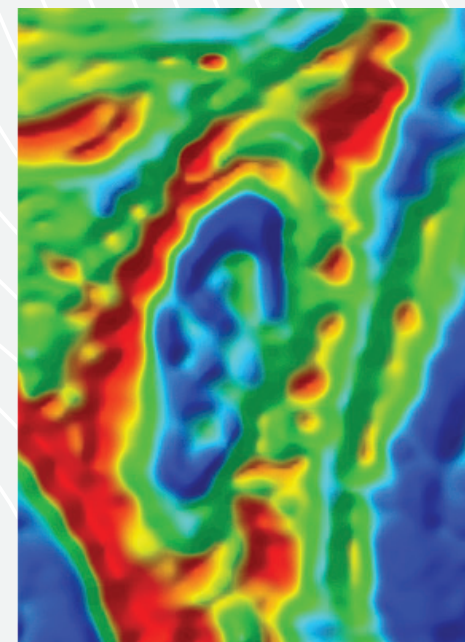
We know that Nova-style nickel-copper ore bodies occur as clusters.

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.

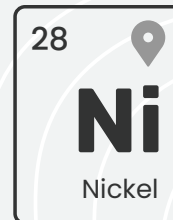


Nova “eye”



Terrain Minerals’ “eye”





## TERRAIN MINERALS

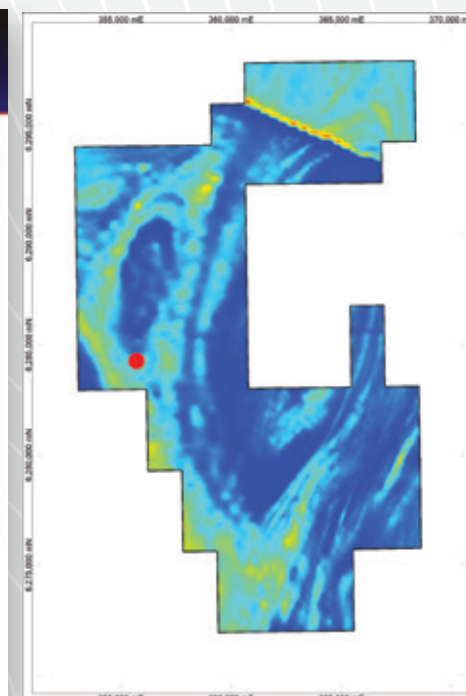
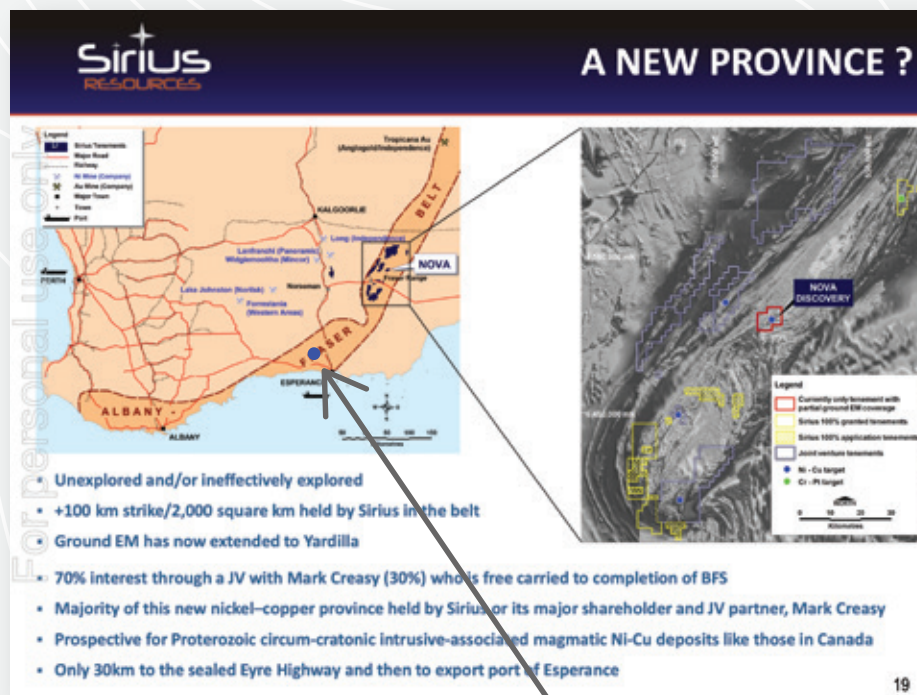
# Lort River Project | Nickel

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.

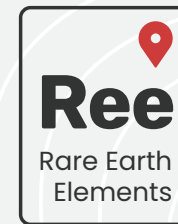


**Location of Terrain Minerals’ Lort River Project**



## TERRAIN MINERALS

# Lort River Project | REE & Gallium



- 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).

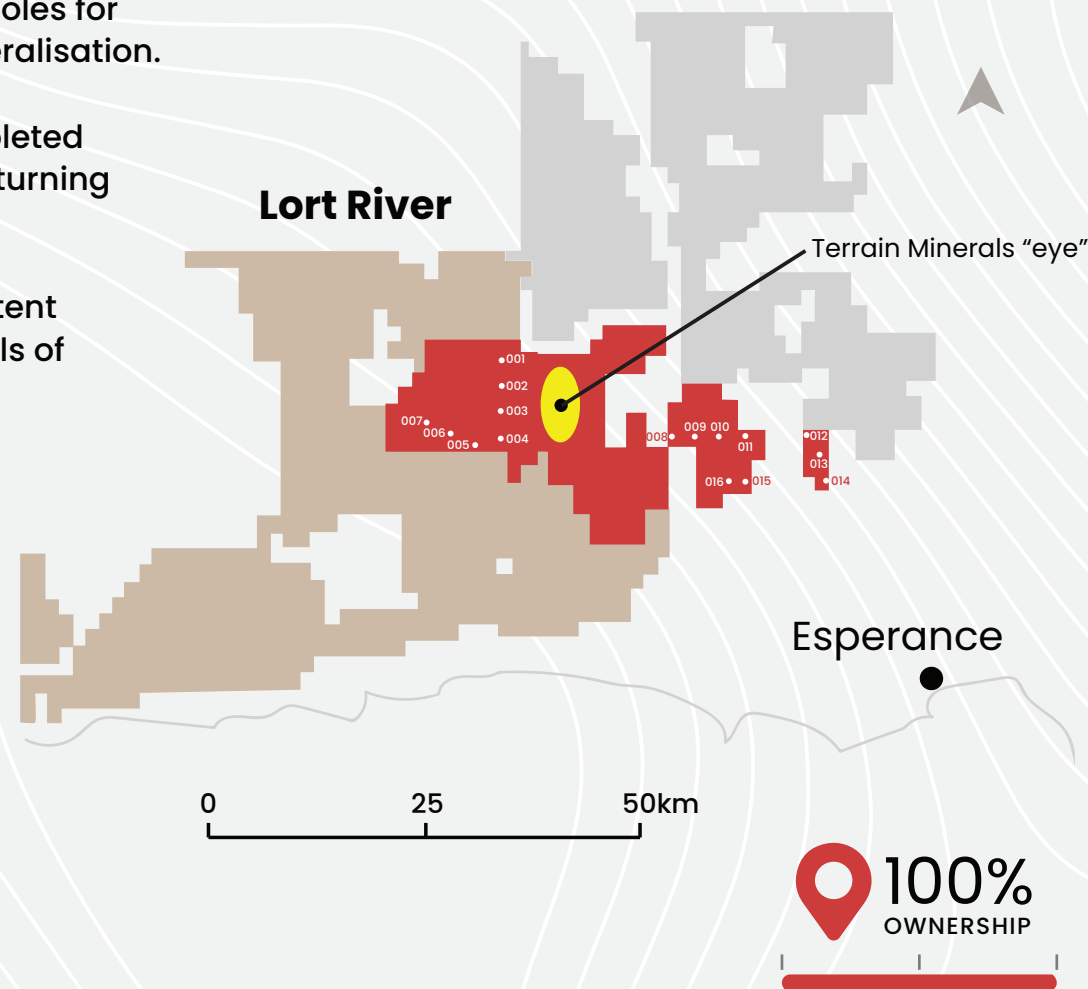
## Selected drilling intersections included (13):

- 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)#
- 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.



TERRAIN MINERALS

# Lort River Project Forward Program

	Q2	Q3	Q4
Airborne Electromagnetic (AEM / VTEM) survey			
Follow-up ground EM survey			
Drill testing of EM conductors			

## TERRAIN MINERALS

# 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.





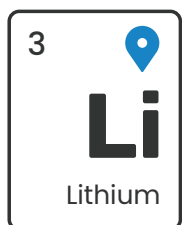
TERRAIN MINERALS

# Appendix



TERRAIN MINERALS

# 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.





TERRAIN MINERALS

# Carlindie Project | Lithium



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

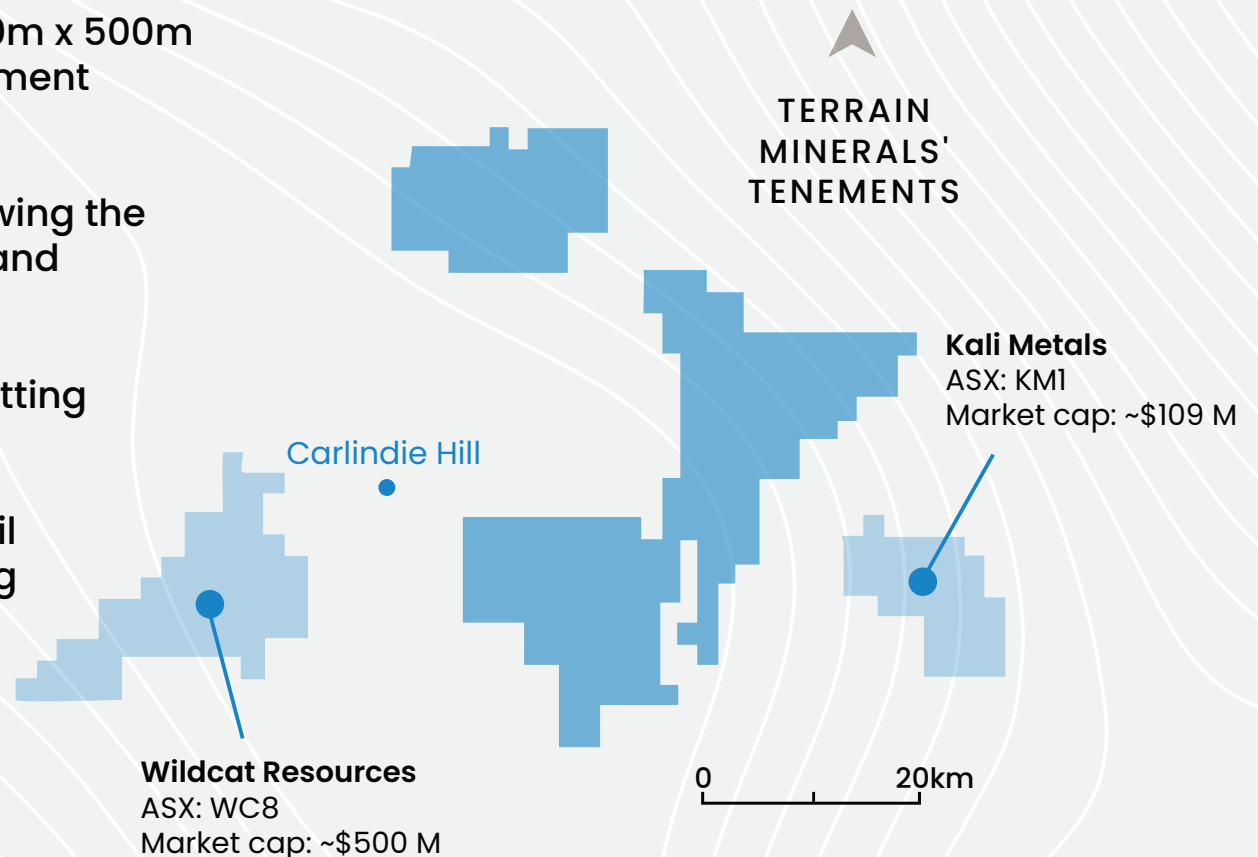
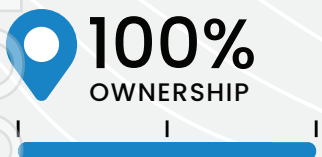
Terrain is seeking to fast track granting of this tenement. Terrain will then undertake a 500m x 500m soil sampling program over the entire tenement package area.

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.

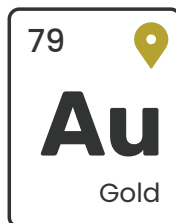
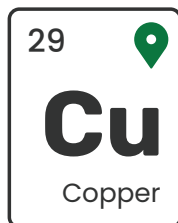
Terrain's Carlindie Project is under 3m of soil cover and in a favourable geological setting within WA's premier Lithium district.

\*Application pending



TERRAIN MINERALS

# 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.





TERRAIN MINERALS

# Biloela Project | Copper

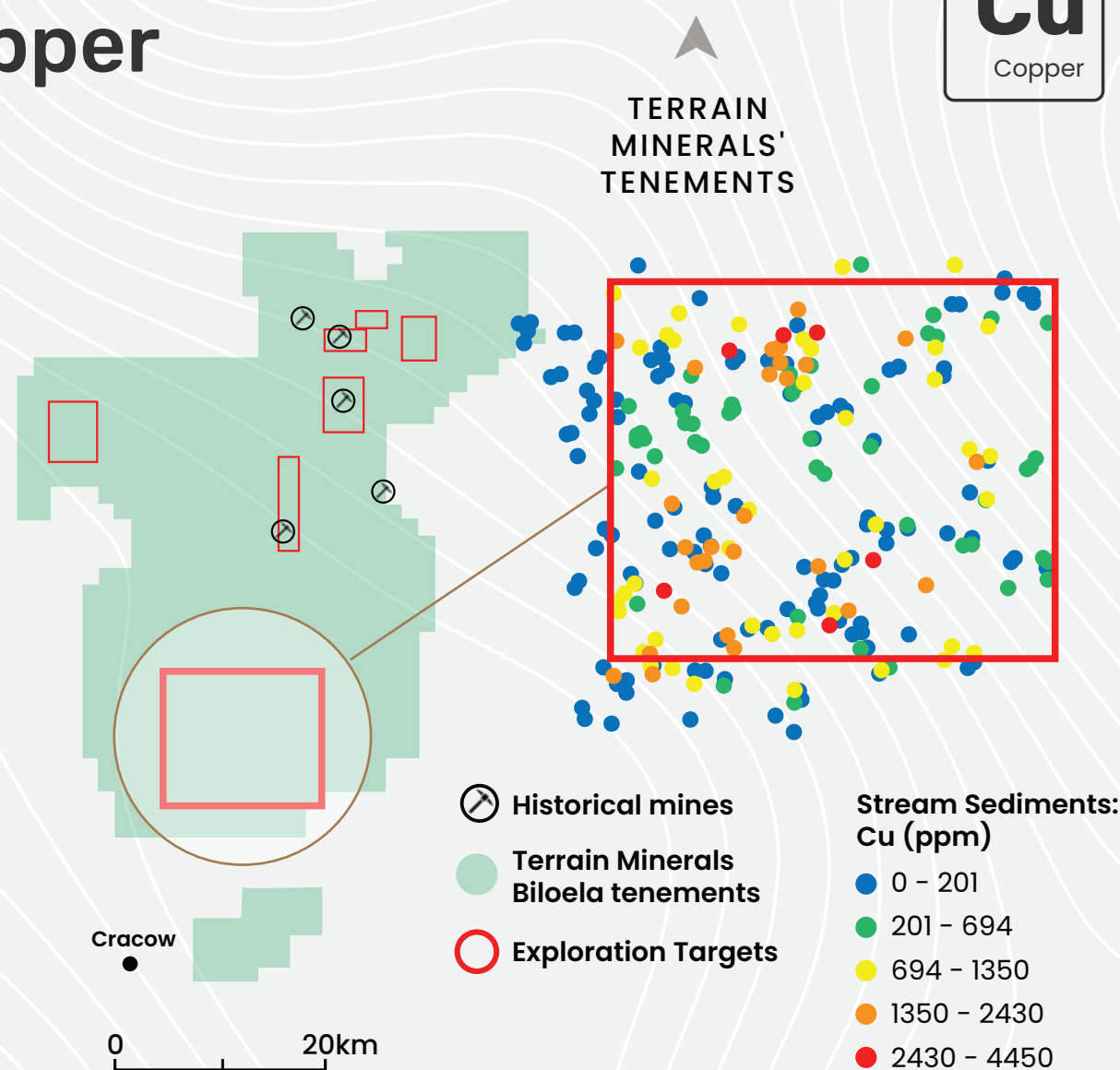
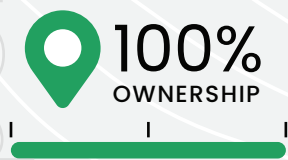
The Biloela Project lies 13 kilometres north of the Cracow Gold Mine in the Glandore and Theodore region of Queensland.

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

# 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





TERRAIN MINERALS

# Mukinbudin Project | REE

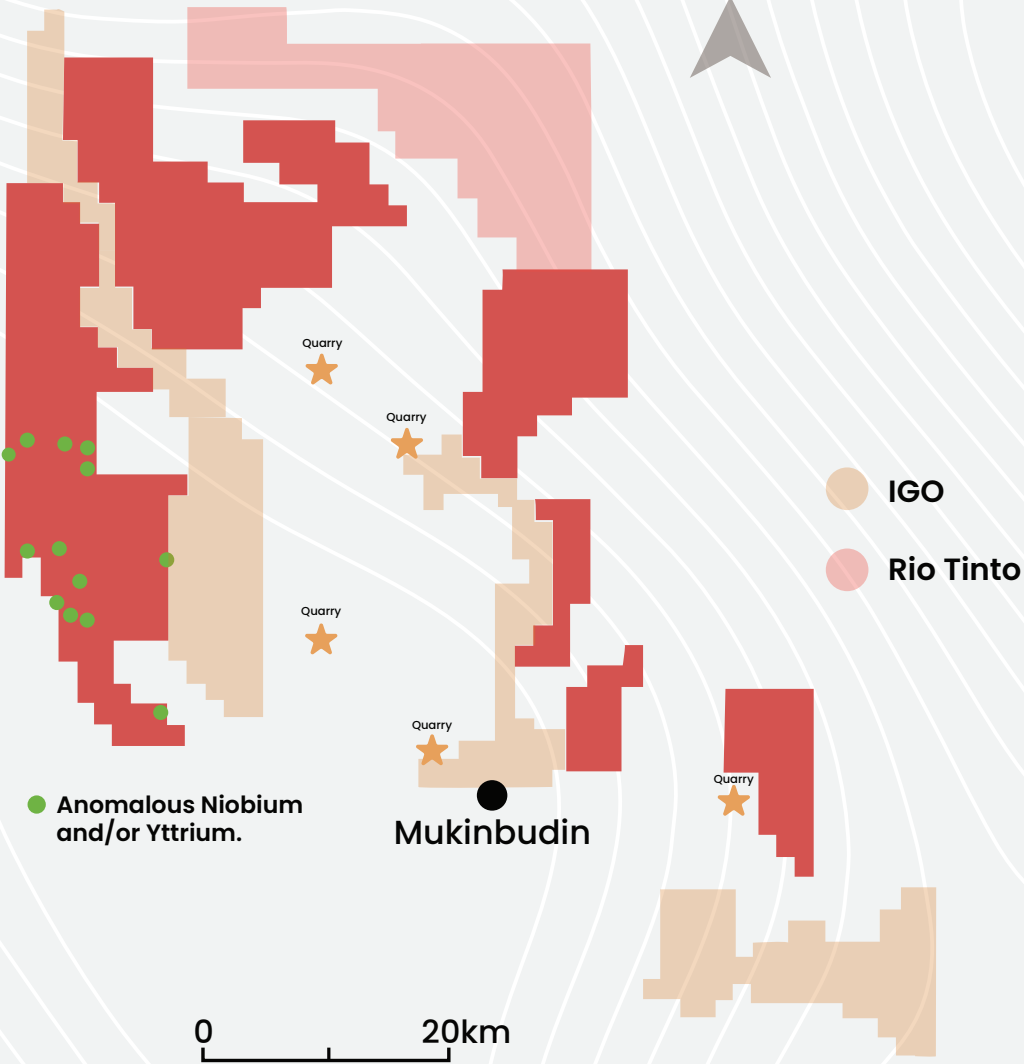


NYF (Niobium-Yttrium-Fluorine) pegmatites enriched in light and heavy rare earth mineralisation as well as Gallium.

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



# Want to know more? Contact Terrain Minerals

## Principal Registered Office

Suite 2, 28 Outram Street,  
West Perth, Western Australia, 6005  
Australia

PO Box 79, West Perth WA 6872

Telephone: +61 8 9381 5558

[terrain@terrainminerals.com.au](mailto:terrain@terrainminerals.com.au)

[terrainminerals.com.au](http://terrainminerals.com.au)

## Share Register

Computershare Investor Services Pty Ltd

Level 11, 172 St Georges Terrace,  
Perth, Western Australia, 6000

Australia

Telephone: +61 8 9323 2000



TERRAIN MINERALS



personal use only



TERRAIN MINERALS

# Exploration to support new & emerging technologies

ASX:TMX

