

# ASX Announcement



## ASX RELEASE

14 August 2023

ABN: 45 116 153 514

ASX: TMX

## Heritage approval received for maiden REE drilling at Lort River & Smokebush Exploration Update

**Terrain Minerals Limited (ASX: TMX) (Terrain)** is pleased to announce that it has received heritage approval to drill at its 100% owned, Lort River rare earth elements (**REE**) project. Lort River covers an area of 320km<sup>2</sup> and is located within the heart of the Esperance REE province of Western Australia (refer to diagrams 1 to 7).

Terrain is excited to have secured all of the required clearances to commence its maiden proof of concept air core drilling campaign. The program will be conducted along the roadside and has been designed to test REE grades and thickness of the clay zones and is following up from the positive historic REE soil sampling results (F/note 1) over the Lort River exploration project (refer to diagram 4 & 5).

### Highlights:

- **Drill Rig secured** from Kalgoorlie based drillers - Raglan Drilling.
- Heritage clearance approvals now in place.
- Program of Works (POW) applications approved along roadway.
- Internal exploration program design refinement underway.
- **Targeting start of drilling during August 2023.**

**Commodities focused study:** Terrain is proud to be part of a study by **The Minerals Research Institute of WA (MRIWA) project M10500: Characterisation of clay-hosted rare-earth element (REE) deposits in Western Australia (WA)**. The study is a part WA government and industry funded study which has nine WA exploration companies participating. The study is aimed at advancing the WA REE sector forward. Other Esperance based companies also participating include Mt Ridley Mines Ltd and OD6 Metals Ltd.

### Smokebush Exploration Update

- Larin's Lane - MMI extension program completed, assays awaiting.
- Larin's Lane - **Targeting maiden air core drilling in Sep/Oct 2023.**
- **"Results Pending"** Multiple IP Gold & Lithium pegmatite targets tested by 12 RC drill holes for 1,383m.

Larins Lane Extension Program – 9km<sup>2</sup> MMI extension soils program, now completed with assays pending. The extension program was designed to define the southern boundaries of the emerging 600m by 350m open Copper/Nickel anomaly. An excitingly gold anomaly 700m by 250m was also identified during the initial program.

Larins Lane, is located in the southeast of the Smokebush Project and interpreted as an Archean greenstone unit, potentially part of the Yalgoo-Singleton greenstone belt, host of 29Metals (ASX: 29M) Golden Grove Copper + Gold + Silver + Zinc + Lead Mine (refer to diagram 8 to 10).

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## Next stage of exploration at Larin's Lane:

- Define boundaries of "open" Copper/nickel anomaly from pending MMI soil results.
- Program of works (POW) applications already approved.
- Planning for a maiden Air-core drill program at both anomalies in Sep/Oct 2023.

Terrain is very excited to have uncovered these two very exciting and emerging targets during the first MMI soil program over Larin's Lane, which until now has seen no systematic exploration over the transported soils covering the interpreted Archean greenstone unit that is 4km long and 300-400m wide, wedged between two Monzo granites (refer to diagram 12). Larin's Lane sits in the same geological setting as Golden Grove located to the north (refer to diagram 11).

## Smokebush - Pending Drill Results

### Drilling Highlights (Gold & Lithium):

- **Twelve (12) RC holes** completed for **1,383 meters** in total.
- **Six (6) holes** targeting IP generated anomalies for Gold;
  - All six (6) holes successfully intercepted sulphides (pyrite) spatially related to the modelled geophysics.
  - One (1) pegmatite hole unexpectedly intersected sulphide (pyrite) in mafic volcanics.
- **Six (6) holes** targeting mapped pegmatite units for Lithium;
  - Five (5) holes intercepted zones between 10m to 20m wide (F/note 2).
  - No visual spodumene was seen in pulverised spoils, (assay's now pending results).
  - Unexpected pyrite zones will be assayed for gold and base metals.

**JORC information can be located in ASX release: 26 July 2023** - Smokebush "Phase 2" Drilling Completed & Project Update.

Additional POW approvals are already in place to ensure Terrain can immediately go back and continue drilling. The exploration team is excited by the field observations from the IP drilling.

The northern lithium targets around Monza and Hurley were considered the most prospective lithium targets by Terrain's consultants however were initially discounted due to being narrow. As access tracks were made to access IP targets, additional clearing activities exposed large parts of the pegmatites hidden undercover, and therefore better targets. The southern pegmatite area which was tested during the phase one campaign has not returned any economic lithium assay results.

**News Highlights:** *Given the large number of promising exploration targets across its current flagship projects 'Smokebush' and Lort River, and with Terrain's commitment of fully testing all targets in a rapid, methodically, and systemically manner, the Board anticipates exciting and regular news flow throughout the rest of 2023 and beyond.*

### Foot Notes (F/note):

- 1 - Refer to JORC table in the back of ASX release: 30 May 2022.
- 2 - Refer to JORC tables in the back of ASX releases: 06 June 2023 and 26 July 2023.

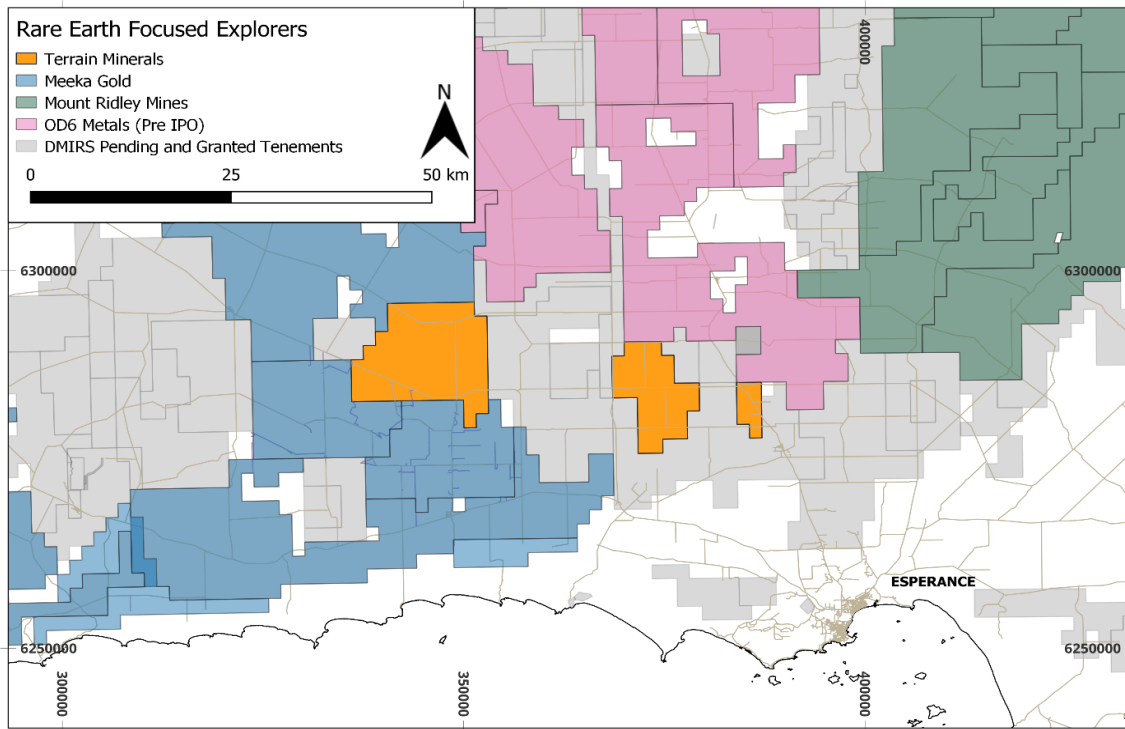
### Relevant references for previously released ASX information listed above:

**Note:** For additional information refer to ASX announcement on **Lort River:**

- 5 May 2022 - Lort River (320km<sup>2</sup>) Rare Earth Project Highly Prospective Tenements Granted.
- 30 May 2022 - High-Grade Clay Type Rare Earths (REE) Soil Anomaly Identified at Lort River Project.
- 21 Nov 2022 - Rare Earths (REE) Exploration Planning for 2023 has Commenced at Lort River.

**Note:** For additional information refer to ASX announcement on **Smokebush:**

- 16th May 2023 - Smokebush, New Gold & Copper/Ni Anomalies.
- 26 July 2023 - Smokebush "Phase 2" Drilling Completed & Project Update.
- Comprehensive list of Smokebush ASX announcements on page 10.



**Diagram 1:** Terrain granted Lort River (100% owned), REE exploration tenements in orange.



**Diagram 2:** Location of Lort River Project where surface REE type anomaly has been identified.

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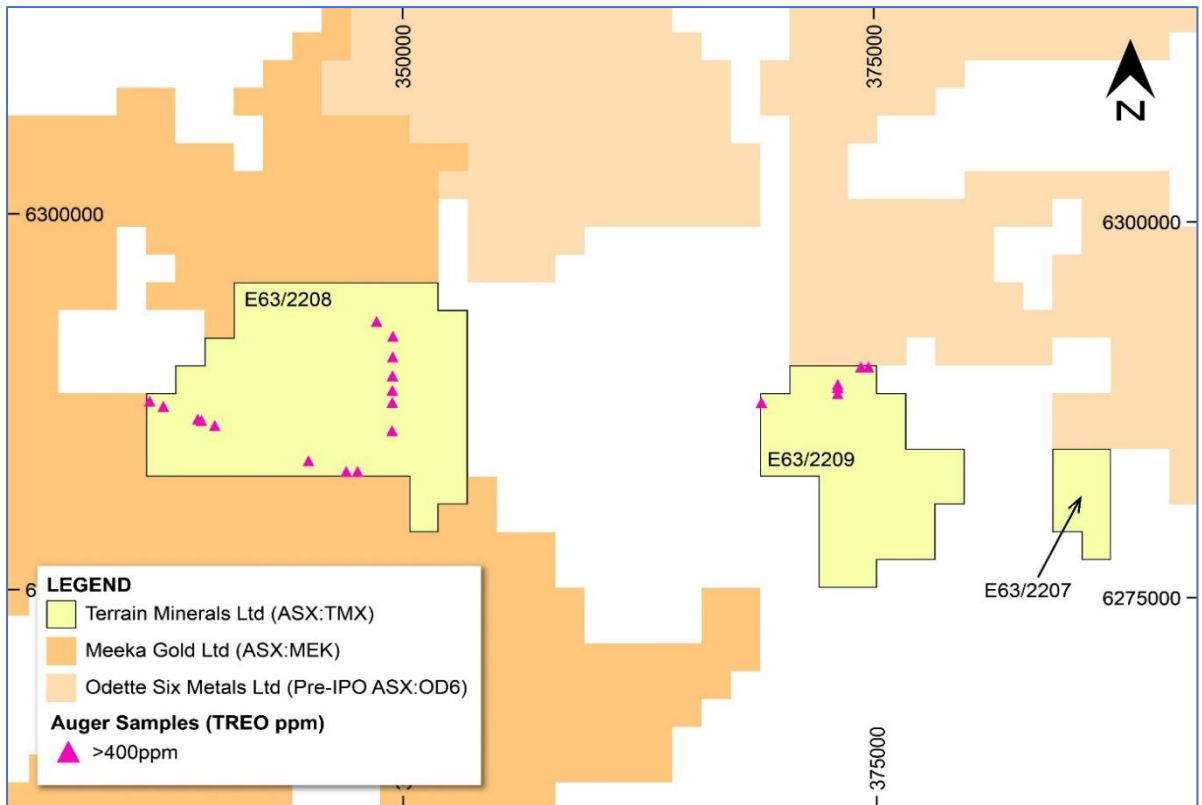


Diagram 3: Higher-grade rare earth surface sample locations.

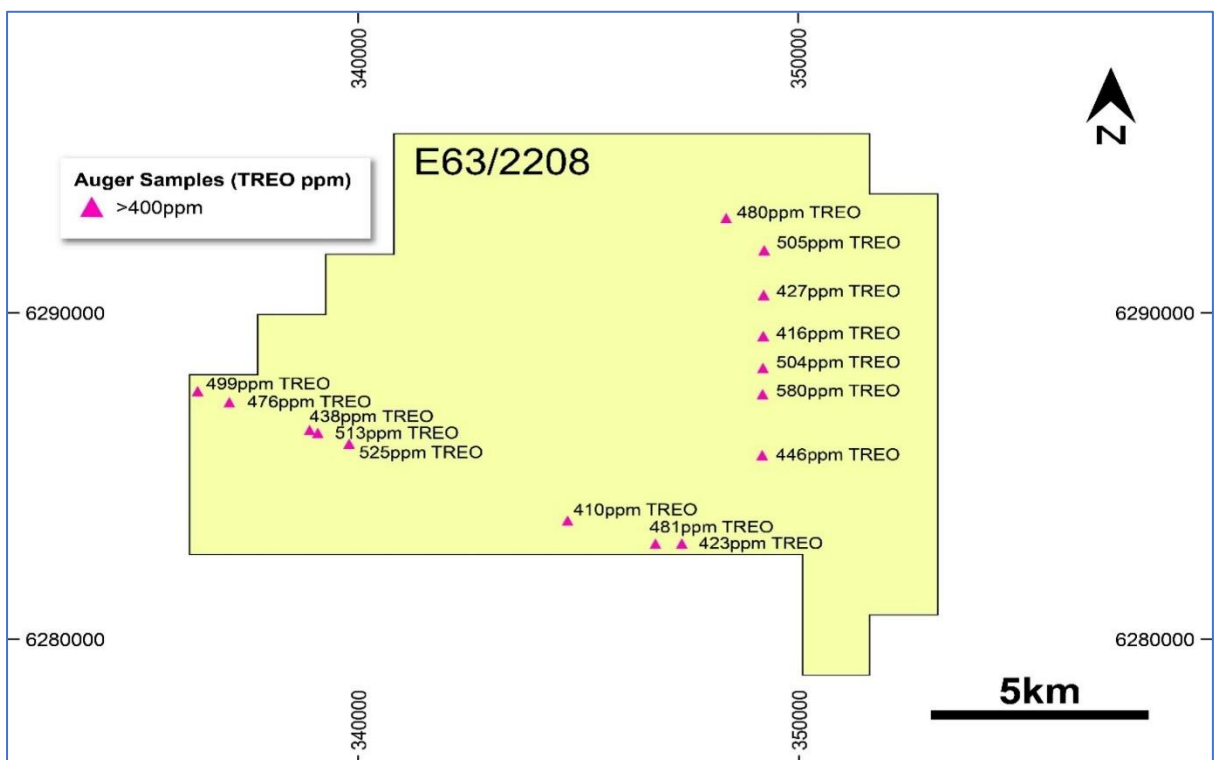
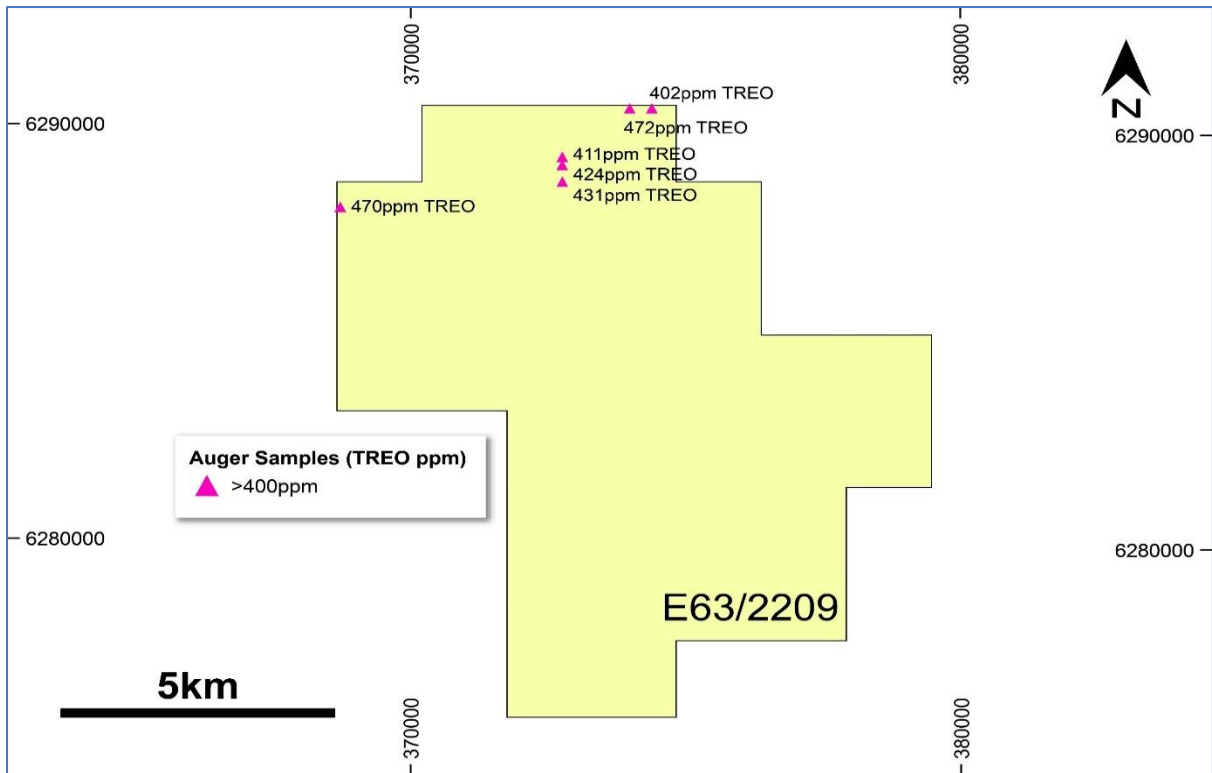
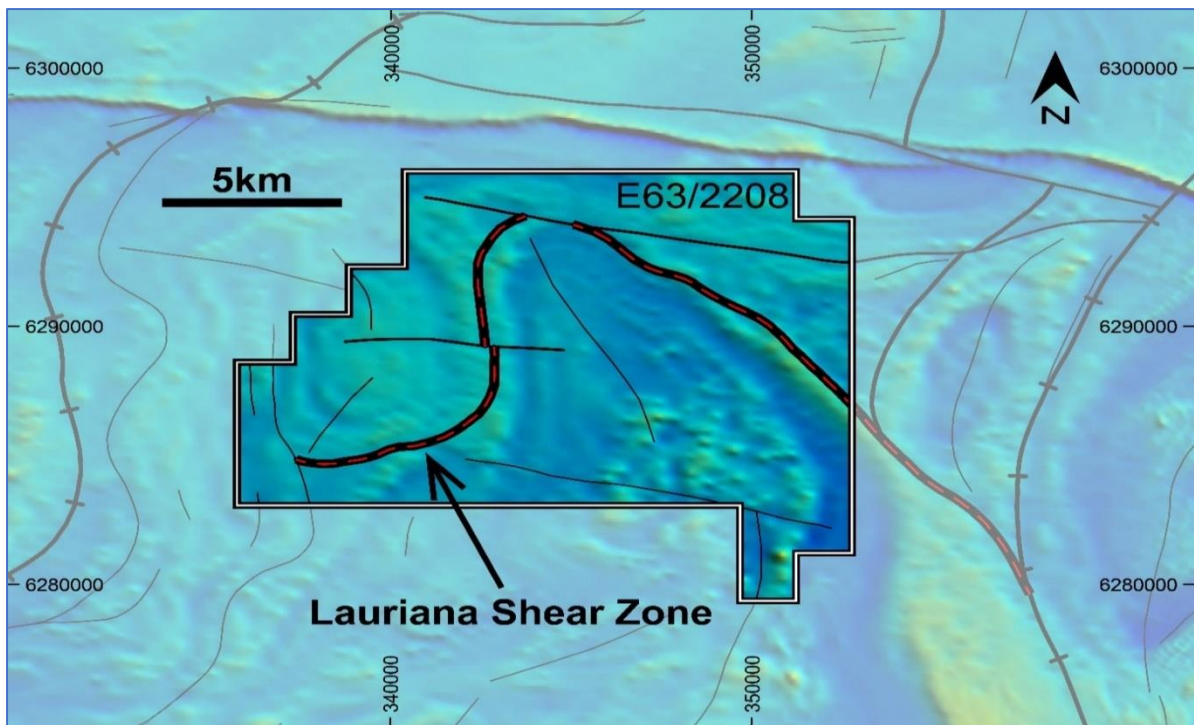


Diagram 4: Some of the Higher-grade rare earth surface assays within this large tenement E63/2208 (refer to F/note 1, to locate JORC related information and tables).

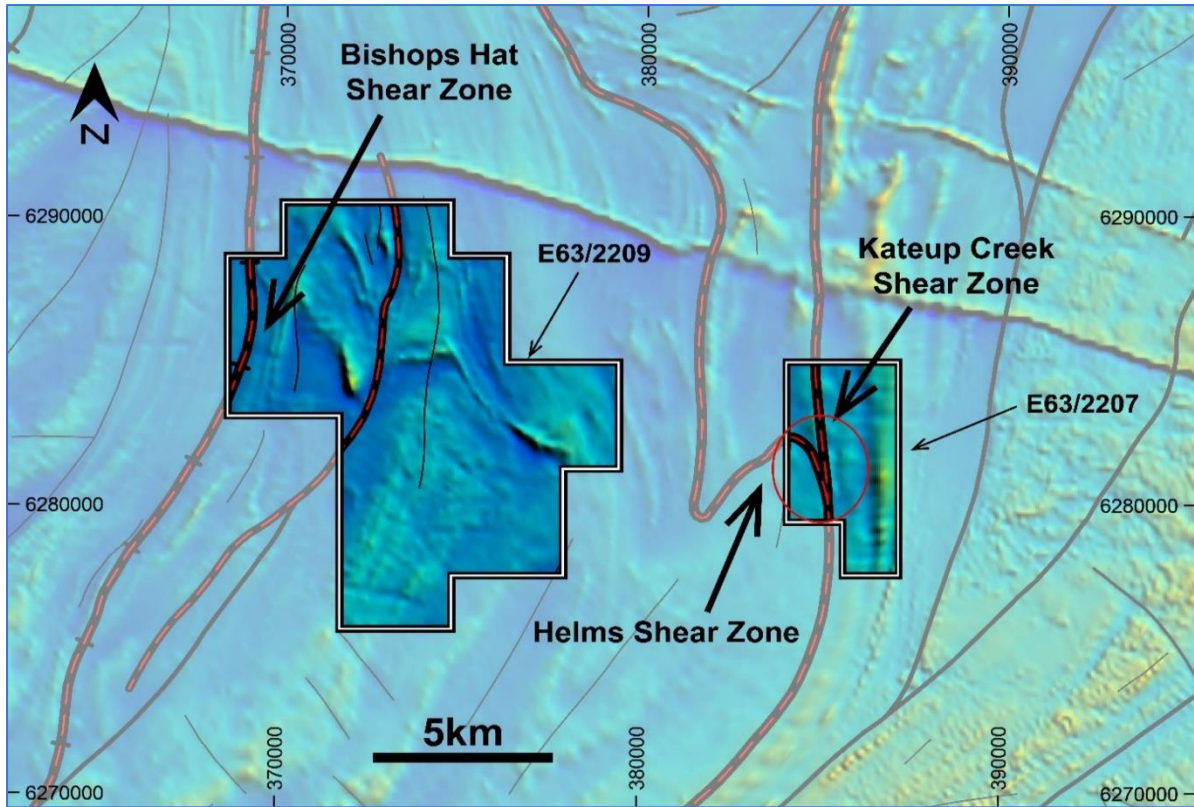
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**Diagram 5:** Higher-grade rare earth surface assays within E63/2209 (refer to F/note 1, to locate JORC related information and tables).



**Diagram 6:** E63/2208 tenement boundary (TMX 100%) overlaid on regional magnetics showing highly prospective, Lauriana Shear Zone and second order structures, that are considered highly protective for gold and base metals.



**Diagram 7:** E63/2207 and E63/2209 tenement boundaries (TMX 100%) overlaid on regional magnetics showing highly prospective regional shear zones and second order structures that are considered highly protective for gold and base metals.

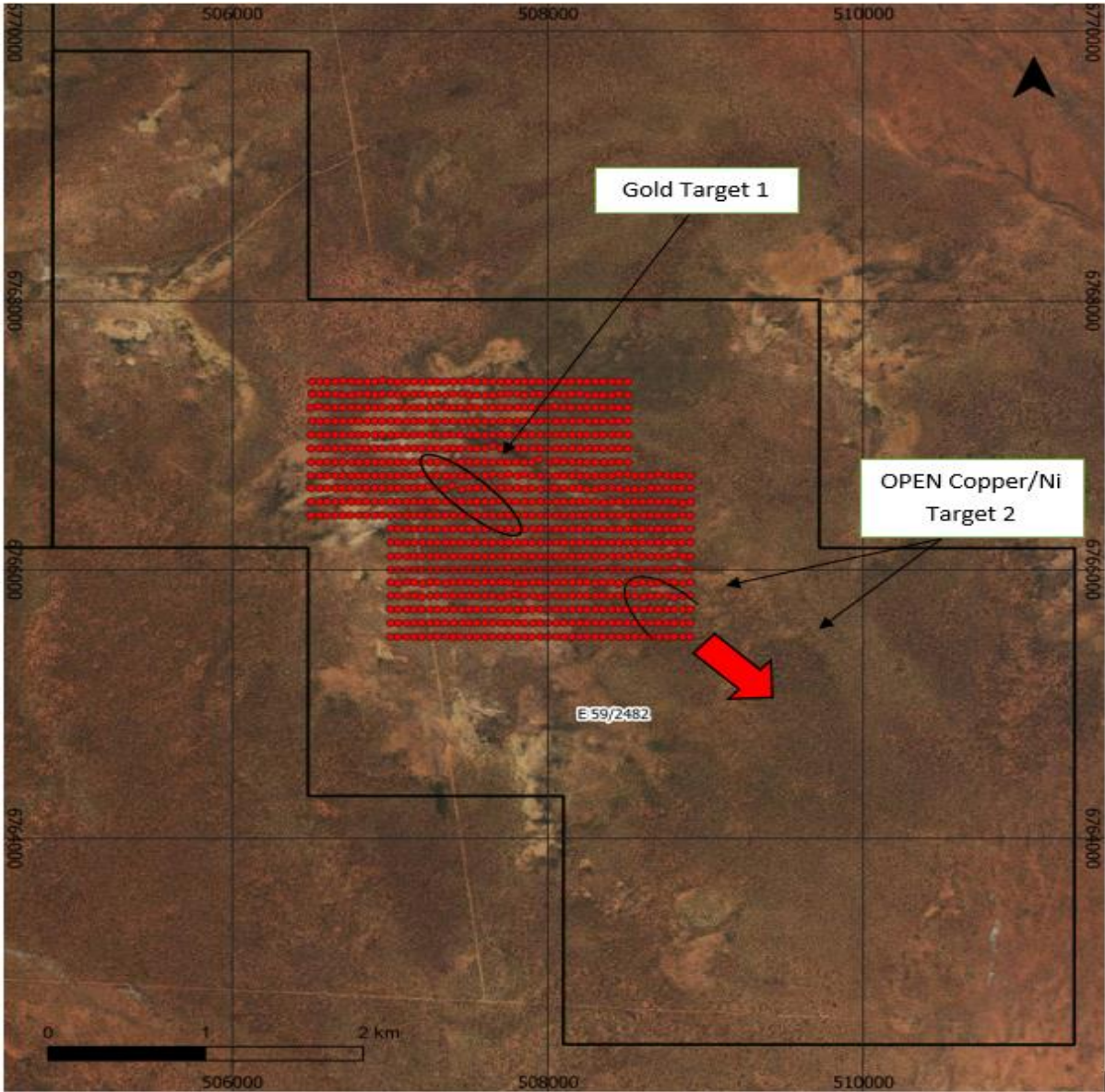
### Lort River - Location & Access

The new tenements cover a total area of 320km<sup>2</sup> of highly prospective exploration acreage for REE within the now tightly held and emerging southern Esperance clay hosted REE province of Western Australia. The new tenements are all situated between other ASX explorers who have already demonstrated the existence of clay hosted REE within the region (refer to Diagram 1).

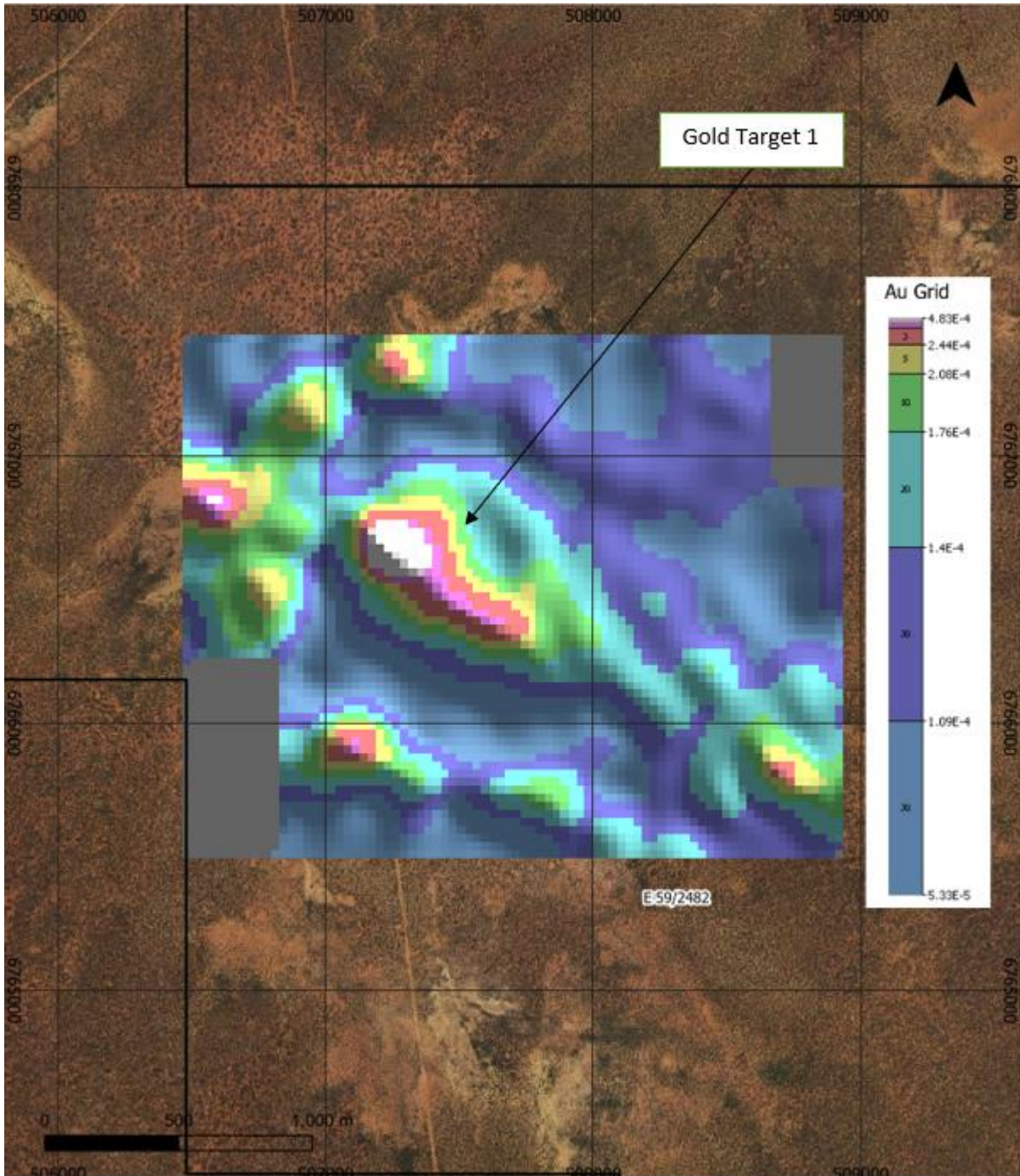
The project areas are predominately situated over free hold agricultural land and located within 50km (northwest) radius of the town and port of Esperance and easily accessed by an extensive network of gazetted agricultural service roads.

### Tenement Details - Lort River Project

Exploration Licence	Status	Area	Registered Holder	Grant Date	Renewal Date
E63/2207	Granted	20km <sup>2</sup>	Terrain Minerals Ltd	29 April 2022	29 April 2027
E63/2208	Granted	100km <sup>2</sup>	Terrain Minerals Ltd	29 April 2022	29 April 2027
E63/2209	Granted	200km <sup>2</sup>	Terrain Minerals Ltd	29 April 2022	29 April 2027



**Diagram 8.** Approximate locations of Target one (1) Gold Anomaly (refer to diagram 9) and Target two (2) an open Copper with associated Nickel "OPEN" anomaly and red arrow indicating interpreted extension of the anomaly and approximate location of the now completed extension MMI sampling program (results pending) tested a nine square kilometre area aimed at defining the boundaries of target two (2) (refer to diagram 10).

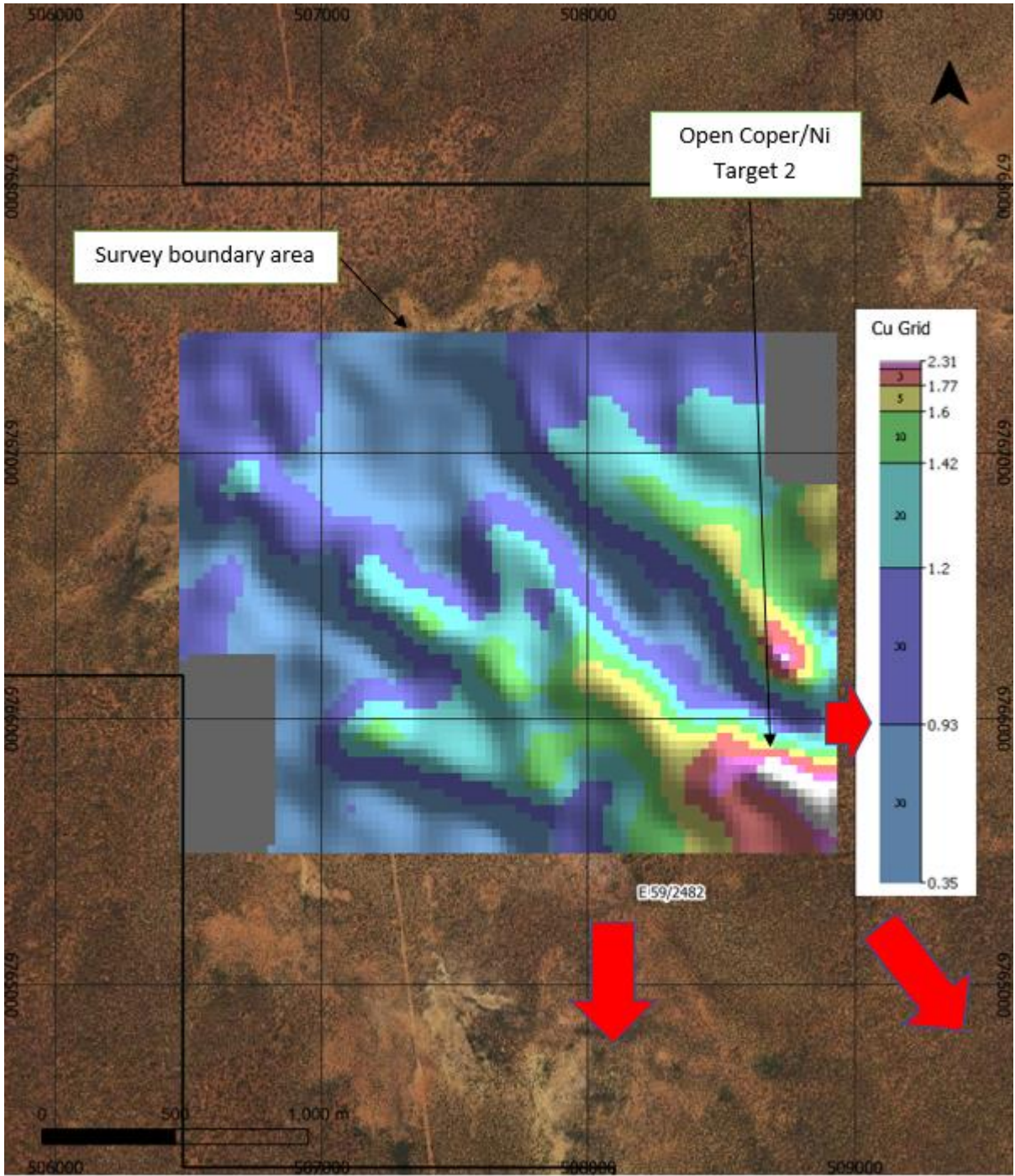


**Diagram 9.** MMI Gold anomaly/target circular 700m by 250m, (target 1) which is now ready for air core drill testing.

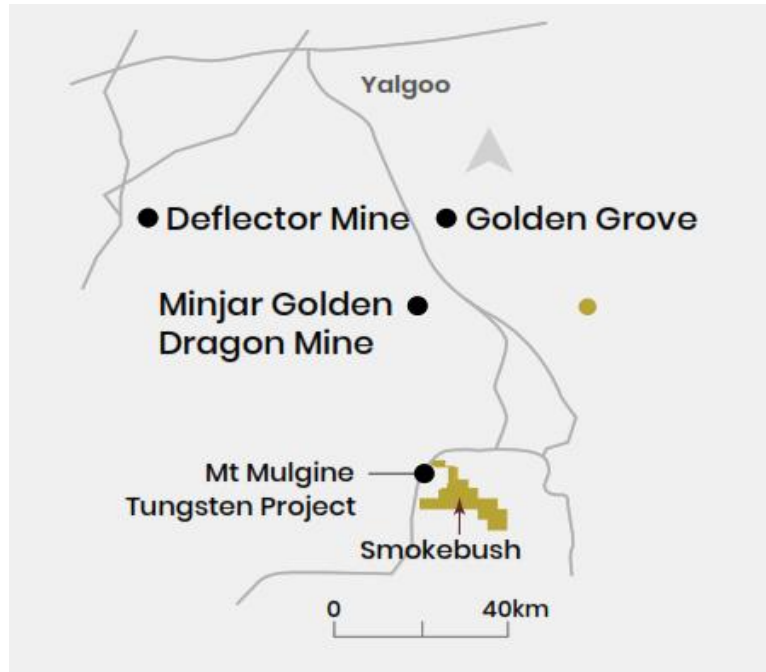
**Target 1** (Diagram 8 and 9). Anomalous gold values were detected in the central-northern portion of Minor, isolated anomalies can also be observed along the southwestern flank within the monzogranite domain. The north-eastern flank, which has been classified as a genetically different monzogranite compared to its southern counterpart, exhibits uniformly low Au values.



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**Diagram 10.** Copper with associated nickel anomaly/target 2 (also refer to diagram 8). Red arrows are indicative for the MMI extension survey covers a 9km<sup>2</sup> area, which aims to define the current open boundaries of target 2.



**Diagram 11:** Smokebush project location in relation to discoveries in the area.

## Smokebush - Location & Access

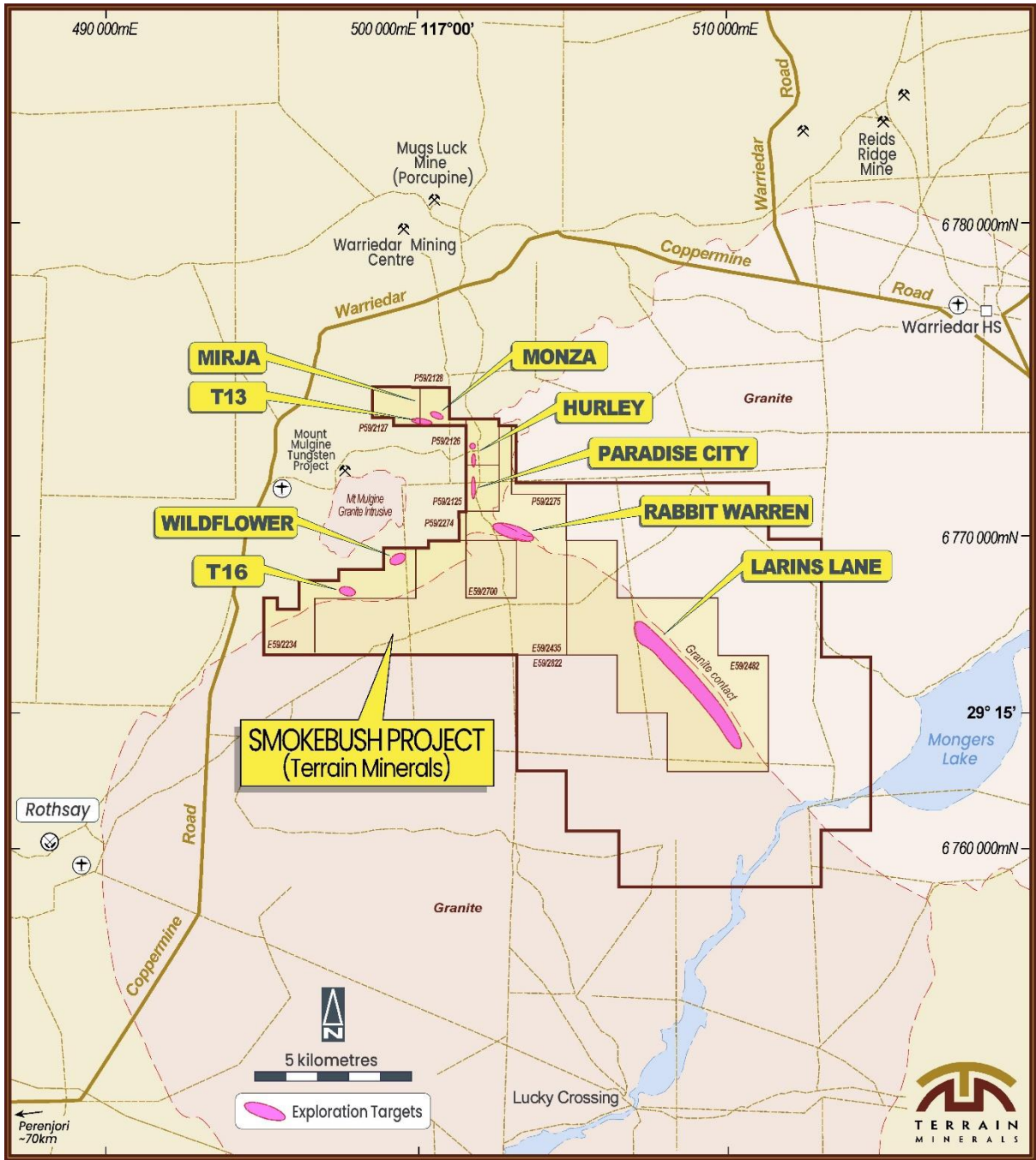
The Smokebush Project area is located approximately ~350km from Perth Western Australia and 85 kilometres east northeast of the Perenjori township and 65 kilometres west of Payne's Find. Located within the Yalgoo Mineral Field. The tenements can be accessed via the unsealed Perenjori - Warriedar Road, and via extensive historical exploration grid lines, station tracks and fences lines.

The now 100% owned project consist of Prospecting Licenses (P59/2125, 2126, 2127, 2128 & 2774) and Exploration Licence E59/2234, 2435, 2482, 2700 & 2822 (refer to diagram 2).

The geology of the area consists predominantly of a complexly folded, regionally metamorphosed Archaean greenstone sequence at the southern end of the Yalgoo Singleton Greenstone Belt that has been subjected to multi-phase granitoid intrusion. Located adjacent to a large tungsten resource at Mt Mulgine (Tungsten Mining NL) and a number of historic gold open pit mines (Minjar Gold Pty Ltd).

**Note:** For additional information refer to ASX announcement:

- **02 December 2019** - Farm-in Agreement for the Smokebush Gold Project at Mt Mulgine, 65km West of Paynes Find WA.
- **18 December 2019** - Smokebush Exceptional Historic Drilling Results Identified During Project Due Diligence.
- **03 March 2020** - Exciting Results from Smokebush Gold Project.
- **08 October 2020** - High Grade Rock Chips at Smokebush Gold Project.
- **12 October 2020** - Exciting Drilling Results at Smokebush Gold Project.
- **03 December 2020** - New Application Granted with Exciting Historic Results at the Paradise City Gold Prospect - Smokebush Gold Project.
- **12 February 2021** - Ground Geophysics & Mapping Refines Targeting Matrix at Smokebush Gold Project.
- **17 March 2021** - Drilling & Project Update - Smokebush Gold Project.
- **22 April 2021** - 2,100m RC Drilling Program Commenced at the Smokebush Gold Project.
- **27 May 2021** - New Rock Chip Samples & Drilling Update Smokebush Gold Project.
- **19 July 2021** - Positive First Pass Drilling Results Smokebush Gold Project.
- **13 September 2021** - New Geological Interpretation (Monza) & Exploration Update, Smokebush Gold Project.
- **23 August 2022** - New Project Calytrix & Smokebush & Wild-viper Gold Project Updates.
- **02 December 2022** - Acquisition Smokebush JV Tenement Now 100% owned.
- **06 December 2022** - Smokebush - Pegmatite Swarms Identified, Sampling for Lithium Mineralisation Underway.
- **07 February 2023** - Smokebush - 2023 Field Season Now Underway, IP Survey & MMI Soils Programs.
- **17 March 2023** - Smokebush - IP Survey & Lithium Update Priority Gold Drill Targets Emerging.
- **02 May 2023** - Smokebush IP Survey Expanded & Update.
- **16 May 2023** - Smokebush - New Gold & Copper/Ni Anomalies.
- **22 May 2023** - 600-metre-long chargeability anomaly identified parallel to Monza Gold prospect, Smokebush Project.
- **06 June 2023** - Commencement of Pegmatite Drilling at Smokebush.
- **19 June 2023** - First phase of RC drilling successfully intersects pegmatites at Smokebush.
- **05 July 2023** - Smokebush "Phase 2" Gold & Pegmatite RC Drilling has Commenced.



**Diagram 12:** Indicative location of the gold and lithium prospects within Terrain Mineral’s 100% owned Smokebush tenement area.

Justin Virgin  
Executive Director

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**News Highlights:** Given the large number of promising exploration targets across its current flagship projects ‘Smokebush’ and Lort River, and with Terrains commitment of fully testing all targets in a rapid, methodically, and systemically manner, the Board anticipates exciting and regular news flow throughout the rest of 2023 and beyond.

## ABOUT TERRAIN MINERALS LIMITED:

Terrain Minerals Limited (ASX: TMX) is a mineral exploration company with a Western Australian based asset portfolio consisting of:

**Trade Opportunities:** Terrain is always open to commercial discussions of full/partial sales and or JV of assets.

**Lort River** – WA Rare Earth Elements Exploration Project 100% owned. Covering 320km<sup>2</sup> of highly prospective exploration acreage for REE within the now tightly held and emerging southern Esperance clay hosted REE province of Western Australia. Terrain is currently planning to execute a smaller proof of concept roadside (air core) drilling campaign before embarking on a larger wide spaced ~8,500m 1600m by 1600m, 60m deep air core program over tenement package. Heritage clearance for roadside drilling now approved. Secondly: Bottom of hole samples will also be separately testing for Tropical style gold and Nova style base metal targets. The Company's Lort River Project immediately adjoins Meeka Metals Limited's (ASX: MEK) Cascade REE Project and OD6 Metals Limited's (ASX: OD6) Grass Patch REE Project.

**Smokebush (SB):** 100% owned gold, copper and lithium exploration project located within the prospective Yalgoo Mineral Field of Western Australia. The Company's Smokebush Project neighbours Warriedar Resources Limited's (ASX: WA8) (formally Minjar, Golden Dragon Project), The Company's exploration campaigns are targeting both gold, lithium, and new Copper/Ni targets across the tenement package:

- **SB - Gold IP Survey** – IP survey program identified multiple drill targets, now drill tested with results pending.
- **SB - Lithium** – 20+ pegmatites identified, ranging up to 20m wide and up to 200m long before appearing to go under cover. The pegmatite swarms run along a 4 km long zone with the most prospective targets around the Monza and Hurly areas.
- **SB - Larin's Lane** – Exceptional MMI soil sampling results identifying a hidden gold anomaly as well as an exciting 'open' Copper with associated Nickel anomaly, which remains open to the SE, the MMI soils extension program has been completed and results are now pending. Terrain intends to drill test these targets once the MMI results have defined the boundaries of target 2 (refer to diagram 8 and 10).

**Calytrix Project:** relinquished.

**Wild Viper Project:** 100% owned gold exploration project, located 70 kilometres north of Leonora, Western Australia, and incorporates the strategic land holding known as Wilsons Patch. The Company's Wild Viper Project is strategically located and surrounds Red5 Limited's (ASX: RED) Great Western Mine as well as being adjacent to Northern Star Resources Limited's (ASX: NST) Bundarra gold deposits.

**Project Review:** Terrain Minerals Limited continues to investigate potential projects across various commodities including gold, copper, nickel, rare earth elements, and other industrial minerals. Western Australian based projects are the Company's current focus, but other parts of Australia are being seriously examined and considered as are other jurisdictions like Africa, Europe, and the Americas. Several Canadian Lithium opportunities are currently being reviewed.

**Pending Applications:** Terrain has several pending tenement (packages) applications across Western Australian and now Queensland. These applications include:

- **Biloela Copper & Gold Project** located along strike of the Cracow Gold Mine in Qld (ASX release 21 June 2023);
- **Carlindie Lithium Project** located near Lithium Power International's Tabba Tabba Lithium Project in the Pilbara WA;
- **Mukinbudin (WA) Rare Earths and Lithium Project** which neighbours Rio Tinto's landholding in the region.

The Company does not incur any holding or ongoing costs in relation to pending applications. It should be noted that there is no guarantee that pending application will be granted.

## Authority

This announcement has been authorised for release by the Justin Virgin Director of Terrain Minerals Limited.

## Competent Person's Statement

The information in this report that relates to Exploration Results are based on information compiled by Mr. Xavier Braud, who is a Member of the Australian Institute of Geoscientists and is a member of the board of Terrain Minerals Ltd. Mr Braud is a shareholder and options holder of Terrain Minerals Ltd. Mr Braud 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. Braud consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

## ASX Listing Rule 14.3

In accordance with ASX Listing Rule 14.3 and its Constitution, the Company advises that valid nominations for the position of director remain open throughout the year.

## Compliance Statement

The Company notes that within the announcement, all the information is referenced directly to the relevant original ASX market releases of that technical data.

Terrain Minerals would like to confirm to readers that it is not aware of any new information or data that materially affects the information included in the relevant market announcement and, in the case of the estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

## Disclaimer

Information included in this release constitutes forward looking statements. Often, but not always, forward looking statements can generally 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, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company's actual results, performance, and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the company operates or may in the future operate environmental conditions including extreme weather conditions, staffing and litigation.

Forward looking statements are based on the company and its management's assumptions made in good faith relating to the financial, market, regulatory and other relevant environments that exist and effect the company's business operations in the future. Readers are cautioned not to place undue reliance on forward looking statements.

Forward looking statements are only current and relevant for the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the company does not undertake any obligation to publicly update or revise any of the forward-looking statements or advise of any change in events, conditions or circumstances on which such statement is based.