

# National Instrument 43-101 Technical Report: Review of Ionic Adsorption Clay REE Exploration Projects in Tasmania

Prepared For:

Meryllion Resources Corporation Ltd

Date Issued:

4 March 2024

Effective Date:

4 March 2024

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## Date and Signature Page

This report titled “National Instrument 43-101 Technical Report: Review of Ionic Adsorption Clay REE Exploration Projects in Tasmania” was prepared for Meryllion Resources Corporation Ltd by Dr Louis Bucci of Lapiana Advisory. This Technical Report dated 4 March 2024, the effective date of which is 4 March 2024, is compliant with the Canadian National Instrument 43-101 (NI 43-101) and Form 43-101F.

Prepared by:

A handwritten signature in black ink, appearing to read 'Louis Bucci', with a stylized flourish extending upwards and to the right.

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Louis A Bucci

PhD (Economic Geology), BAppSc (HONS), GCert. Ed., MAIG.

Dated 4 March 2024

Melbourne, Australia

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## Certificate of Qualified Person

I, Louis A Bucci, do hereby certify that:

1. I am a Principal Geologist and owner of Lapiana Advisory located at 8 McDermott Way, Wattle Bank, Victoria Australia, 3995.
2. I am the author of the report titled “National Instrument 43-101 Technical Report: Review of Ionic Adsorption Clay REE Exploration Projects in Tasmania”, prepared for Meryllion Resources Corporation Ltd, with an effective date of 4 March 2024.
3. I am a graduate of the University of Technology Sydney, with a BAppSc in Geology with First Class Honors. I also hold a PhD in Economic Geology from the University of Western.
4. I am a Member of the Australian Institute of Geoscientists (Member. ID. 8045).
5. I have practised my profession continuously since 2001 and have over 22 years’ experience in the mineral resources sector in a wide range of technical and senior management roles including Board level positions. My specialization is exploration and mineral resource development, technical due diligence and overall project audit and valuations, including provision of expert technical-economic advice in compliance with the JORC and VALMIN Codes for mining companies, financial institutions and government agencies. I have authored over 100 public and private domain strategy papers, Independent Technical Assessment Reports (ITAR) and Competent Persons Reports (CPR) for Initial Public Offerings (IPO) and other public domain documents on various global exchanges (ASX, HKEX, TSX & TSXV, and AIM), including the compilation of numerous National Instrument 43-101 (NI 43-101) Reports for various projects.
6. I have read the definition of “qualified person” set out in NI 43-101 and certify that, by reason of my education, affiliation with a professional association (as defined in NI 43-101), and relevant work experience, I fulfil the requirements to be a qualified person for the purposes of NI 43-101. Pertaining to REE deposits vspecifically, I have undertaken exploration activities and Mineral Resource modelling work since 2013, on assets located in Sichuan and Guangxi Provinces, PR China, as well as Western and South Australia, across both carbonatite-associated and ionic adsorption clay REE systems.
7. I visited the Tasmanian Project(s) Site on from November 30 to December 2, 2023.
8. I have not been involved with the property that is the subject of the Technical Report until its compilation. I am an independent consultant for the issuer for the specified purpose, and my remuneration is not contingent on the outcome of the exploration work has been received.
9. I am responsible for the preparation of All Sections of the Technical Report.
10. I am independent of Meryllion Resources Corporation Ltd as independence is described in Section 1.5 of NI 43-101. I do not have nor do I expect to receive a direct or indirect interest in the Mineral Properties of Meryllion Resources Corporation Ltd, and I do not beneficially own, directly or indirectly, any securities of Meryllion Resources Corporation Ltd or any associate or affiliate of such company.
11. I have read NI 43-101 and Form 43-101F1, and the parts of the Technical Report for which I am responsible has been prepared in compliance therewith.
12. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all the scientific and technical information that is required to be disclosed to ensure that the Technical Report is not misleading.

---

Signed at Lapiana Advisory, Melbourne, Australia, on 4 March 2024

A handwritten signature in black ink, appearing to be 'Louis A Bucci', written in a cursive style.

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Louis A Bucci

PhD (Economic Geology), BAppSc (HONS), GCert. Ed., MAIG.

Dated 4 March 2024

Melbourne, Australia

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## 1. Summary

### 1.1. Issuer and Purpose

This Technical Report has been prepared for the Issuer, Meryllion Resources Corporation Ltd (CSE: MYR, a publicly traded mineral exploration company based in Toronto, Ontario, Canada. The Company's current exploration project is the Tasmanian Rare Earth Element (REE) Project located in the northeast of Tasmania, Australia, and is the focus of this Technical Report.

This Technical Report has been prepared in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum Mineral Exploration Best Practice Guidelines (2018) and the Canadian Securities Administration's National Instrument 43-101 Standards of Disclosure for Mineral Projects. This Technical Report has an Effective Date of 4 March 2024.

### 1.2. Author and Site Inspection

This Technical Report has been prepared by Dr. Louis Bucci PhD, BAppSc. (Hons) of Lapiana Advisory in Melbourne Australia. Dr. Bucci takes responsibility for all items (Sections 1-27) of this Technical Report and is independent of MYR and the Tasmanian REE Project.

Dr Bucci performed a personal site inspection at the Tasmanian REE Project from November 30 to December 2 2023. The site inspection enabled Dr Bucci to observe the overall geological setting of Tasmanian REE Project, understand and observe the sites of historic exploration, and independently validate the prospective host rocks to potential REE mineralization that is the subject of this Technical Report.

### 1.3. Property Location, Description and Access

At the Effective Date of this Technical Report, the Tasmanian REE Project is comprised of one (1) Granted Licence (EL20/2022) and three (3) Licence Applications (EL35/2022, EL37/2022 and EL41/2022). All licences are located in the northeast of Tasmania, in an area broadly referred to as the Tamar Region.

The Granted Licence includes five (5) non-contiguous areas for a total of 250km<sup>2</sup>. Licence Applications EL35/2022 and EL37/2022 are single areas, being 186m<sup>2</sup> and 223km<sup>2</sup> in size, respectively. Licence Application EL41/2022 is defined by two (2) non-contiguous areas totalling 152km<sup>2</sup>. All Licences are accessible via the State-wide Bass Highway, and subsidiary well-maintained bitumen and all weather roads.

### 1.4. Property Ownership and Option Agreement

The Licences constituting the Tasmanian REE Project are owned by Westbury Resources Ltd (EL20/2022), with the Licence Applications pegged by Tasmanian Strategic Green Magnets P/L (TSGM), a private Australian exploration company.

Collectively, the Tasmanian REE Project Licences are subject to an Option and Earn-In Agreement with TSGM. The conditions of the Option and Earn-in Agreement are outlined in detail in Section 4.3 of this Technical Report as sourced from [www.newsfilecorp.com/release/174265](http://www.newsfilecorp.com/release/174265).



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## 1.5. Geology and Mineralization

The geology of Project area is dominated by an aerially extensive suite of Jurassic dolerites and basalts which are interpreted as prospective source / parent rocks to Ionic Adsorption Clay REE mineralization (iREE) in the region. These potentially prospective host rocks are largely masked by Quaternary detritus and Tertiary sedimentary units. In all areas, the Issuer is targeting doleritic and similarly composed rocks as potential sources to the formation of iREE mineralization as defined by Xie *et al.* (2016) and Huang *et al.* (2021) for the prolific iREE producing deposits in southern China. To date, extensive mineralization of this style has been defined in Licences held by competitors in neighbouring properties to the south of EL20/2022, with the broad trend of that mineralization continuing into the Issuers Licences.

## 1.6. Historical Exploration

All Licences have been broadly explored for petroleum (including oil and gas) and coal since the early 1960's, with limited exploration for construction materials, bauxite, base metals, gold, tin, iron, sulphur and uranium. No exploration for iREE mineralization has been undertaken. Nonetheless, some of the historic exploration data generated by previous explorers may assist in establishing geological and geochemical characteristics that the Issuer could incorporate in their exploration targeting strategy for iREE mineralization.

The development of bauxite in most Licences provides the most indicative geological conditions for iREE mineralization formation, and is of relevance to the Issuer. Specifically, REE source-rocks include dolerite and related lithologies, which accompany defined iREE Mineral Resources in neighbouring properties, and are also reportedly spatially associated with bauxite discovered by previous explorers.

## 1.7. Conclusions and Uncertainties

The Issuers Tasmanian REE Project Licences represent a ground position selected by the Company based on a iREE mineralization model for those areas. The model posits that the geological setting of the Licences are favourable for the formation of iREE mineralization similar to those that contribute to the majority of the worlds REE in southern China.

Historic exploration work and geological survey mapping throughout the Issuers Licences has identified an extensive suite of Jurassic dolerite and basalt. These lithologies, and the weathering of such, are deemed highly prospective for iREE mineralization as evidenced by the recent iREE discoveries and definition of iREE Mineral Resources in neighbouring Licences. These discoveries demonstrate the potential for this mineralization style in northeastern Tasmania over mafic volcanic and extrusive rocks. The Issuer is focussed on exploring for insitu iREE systems, as well as broader areas of depositional accumulation of such mineralization due to post-formational redistribution.

Given that the Project is at an early stage of exploration (i.e., essentially still at the acquisition / evaluation stage), it is uncertain at this time whether exploration activities will result in the identification of mineralization on any of the Licences under consideration.

## 1.8. Recommendations

Public domain geological, geophysical and geochemical data sets are at an appropriate enough scale to expediently identify local areas of the prospective Jurassic mafic sequences of interest. Compilation of this data and historic exploration results (in particular drill hole data) represent a cost effective starting point for an initial

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targeting exercise by the Issuer. The aim should be to define areas of interest for immediate ground truthing and the development of a district-scale litho-structural model and local targeting criteria for iREE mineralization. This should also include the development of a regolith model for the high priority areas if possible.

Of paramount importance will be the integration of aeromagnetic data, which appears effective at identifying apparent iREE mineralization-related structural features. Within neighbouring Licences, these structural features correlate well with the distribution of material defined in published iREE Mineral Resource estimates (JORC, 2012).

Following initial targeting, reconnaissance surface sampling over high priority areas where possible would represent an appropriate first-pass exploration program, but more effective sampling will be achieved through targeted drilling in priority areas. Outlined herein is an indicative exploration program and budget for preliminary evaluation of the potential for iREE mineralisation across the Granted and Application Licence areas. The prescribed program is over two (2) years and assumes the application of industry best practice to field tasks and the public reporting of results to Canadian Institute of Mining, Metallurgy and Petroleum standards.

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## 2. Introduction

### 2.1. Issuer and Purpose

This Technical Report has been prepared for the Issuer, Meryllion Resources Corporation Ltd (CSE: **MYR**; **Meryllion** or the **Company** or the **Issuer**) by Dr. Louis A Bucci, PhD, BAppSc (Hons) of Lapiana Advisory (**LA**). Meryllion is a publicly traded mineral exploration company based in Toronto, Ontario, Canada, with a focus on exploration for gold, base metals and Rare Earth Elements (**REEs**) deposits in Australia. The Company's current exploration projects are the Tasmanian REE Projects.

The focus of this Technical Report is on the Company's Tasmanian REE Projects (the **Project** or the **Property's**) located in Tasmania, which are subject to an Option and Earn-In Agreement (the "**Agreement**") with Tasmanian Strategic Green Magnets Pty Ltd. (**TSGM**), a private Australian company (see CSE Announcement July 20, 2023; Section 4.3) (Figure 1).

The purpose of this Technical Report is to provide the MYR Board with an independent technical opinion on the Licences constituting the Tasmanian Projects that are subject to the arm's-length Option and Earn-In Agreement with TSGM.

This Technical Report has been prepared in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Mineral Exploration Best Practice Guidelines (2018) and the Canadian Securities Administration's (CSA) National Instrument 43-101 (NI 43-101) Standards of Disclosure for Mineral Projects.

### 2.2. Author and Site Inspection

This Technical Report has been prepared by Dr. Louis Bucci PhD, BAppSc. (Hons) of Lapiana Advisory in Melbourne Australia. Dr. Bucci takes responsibility for all items (Sections 1-27) of this Technical Report.

Dr. Bucci is a Member of the Australian Institute of Geoscientists (MAIG Member N# 8045) and is a Qualified Person (QP) as defined in NI 43-101. Dr. Bucci has worked as a geologist for more than 25 years since his graduation from undergraduate university studies, with subsequent post-graduate qualifications in Economic Geology. He has been involved in all aspects of mineral exploration, project acquisition and minerals research for metallic, industrial, and specialty mineral projects and deposits globally (including in Australia, Southeast Asia, China, Central Asia and former Soviet Countries, Africa, India, Nth and South America, Europe, and the Pacific Islands).

Dr. Bucci performed a personal site inspection at the Tasmanian Projects, from November 30 to December 2, 2023. The site inspection enabled Dr. Bucci to:

1. Inspect the overall geological setting of the Tasmanian Projects and position of the Licences;
2. Validate the geological setting in the context of the proposed conceptual exploration model;
3. Observe historic sampling sites relied on by the Company as a basis for their prospectivity potential assessment; and
4. Independently validate the Rare Earth Element mineralization potential of the Projects.

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## 2.3.Sources of Information

In writing this Technical Report, the QP has used sources of information as listed in Section 27, References. Samples have been prepared and analysed at Australian Laboratory Services Pty Ltd (**ALS**), with results included herein where appropriate. The QP confirms that ALS laboratories are independent of TSGM and Meryllion.

All other technical literature and public sources are referenced, and include News Releases by Meryllion, government data and scientific papers.

Based on the QP review of these documents and data, the QP has deemed that the reports, information, and data, to the best of his knowledge, are valid contributions to this Technical Report. The QP takes responsibility of the interpretations as they pertain to the Technical Report.

The QP has reviewed the Licences status' as stated by Mineral Resources Tasmania (**MRT**; [www.mrt.tas.gov.au](http://www.mrt.tas.gov.au)) and confirm that the Licences that constitute the Tasmanian Project are active in the case of EL20/2022, and under Application for EL's 35/2022, 37/2022 and 41/2022.

## 2.4.Units of Measure

Unless otherwise stated, the following units of measure are used in this Technical Report:

- Abbreviated shorthand consistent with the International System of Units (see <https://www.bipm.org/>);
- Geographic coordinates are projected in the Geocentric Datum of Australia (GDA94), with the Map Grid of Australia (MGA) map projection Zone 55 (i.e., MGA55); and
- Currency in Australian dollars (\$AUD), unless otherwise specified.

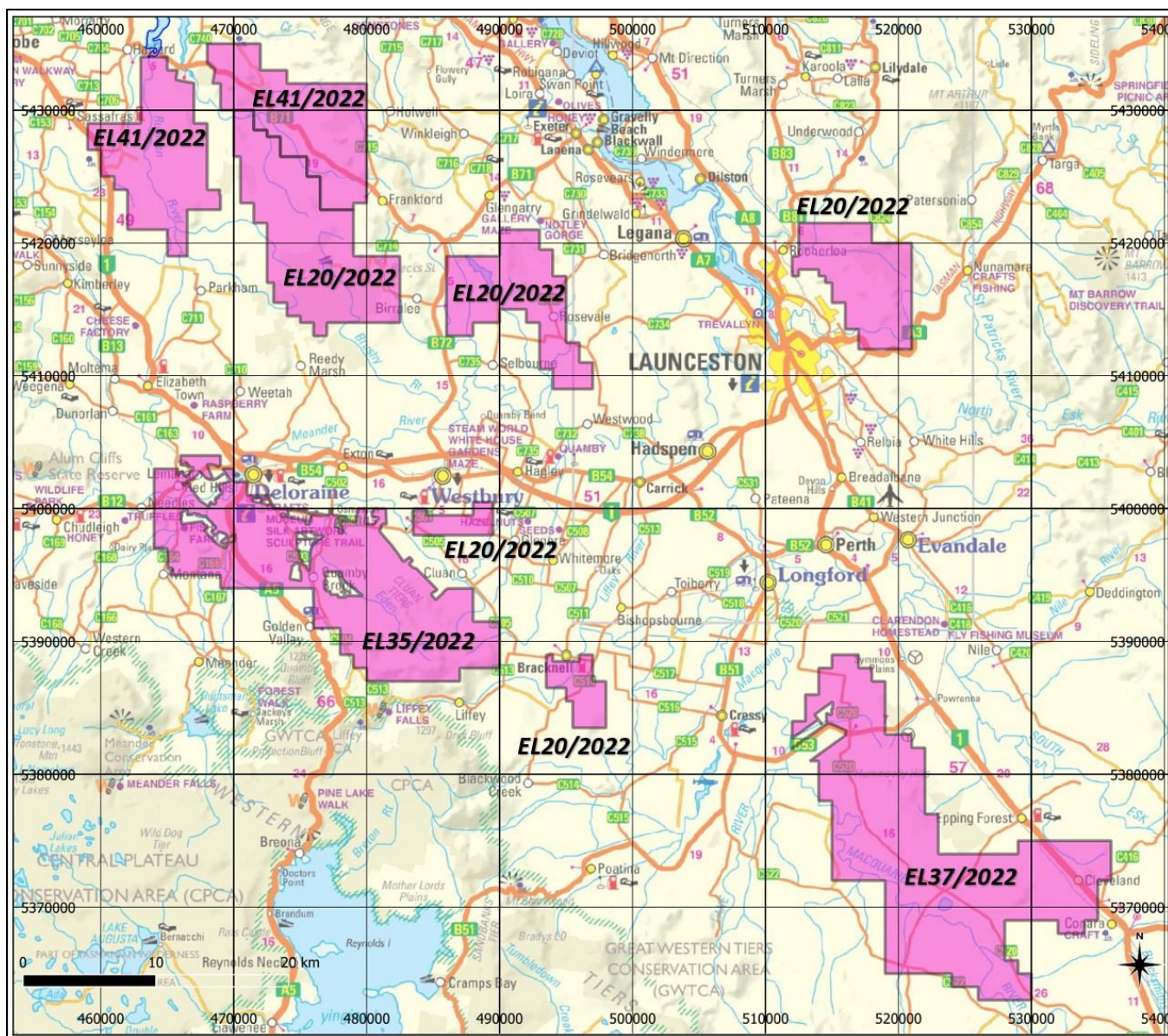


Figure 1: General location of the Projects Meryllion-TSGM Projects in Tasmania.

(Source: base map from <https://dpiwpe-au.maps.arcgis.com>).

### 3. Reliance on Other Experts

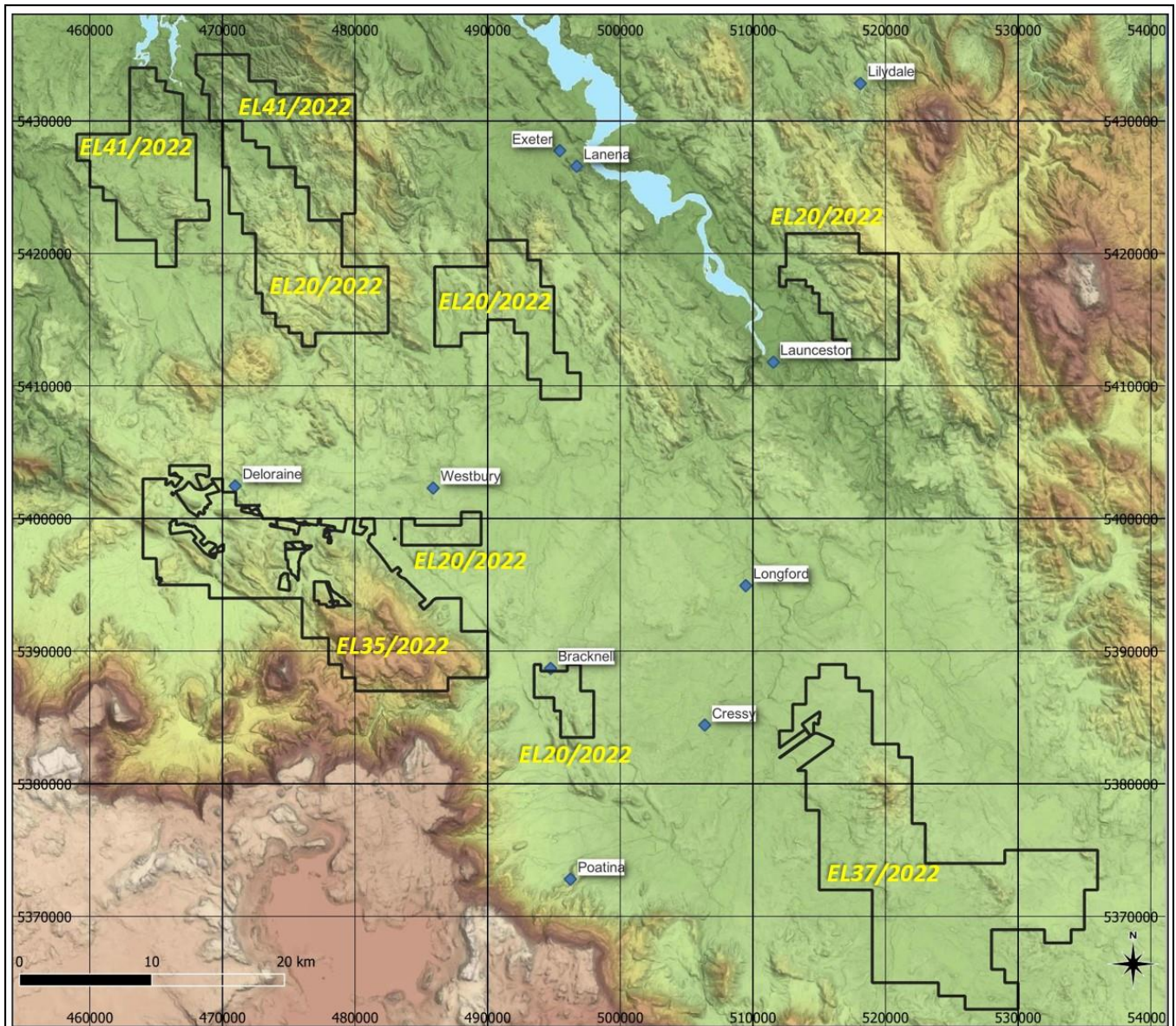
The QP does not have the legal expertise to validate or opine on the details outlined in the Option Agreement with TSGM as described in Section 4.3. At present, 100% of the Tasmanian Project Licences are owned by TSGM and are the subject of a single Option and Earn-In Agreement (see CSE Announcement July 20, 2023. [www.newsfilecorp.com/release/174265](http://www.newsfilecorp.com/release/174265)). The QP has relied on the details in its entirety as outlined in the CSE Announcement of July 20, 2023 by Meryllion Resources Corporation titled “Meryllion Enters into Option and Earn-In Agreement with Tasmanian Strategic Green Metals”.



## 4. Property Description and Location

### 4.1. Description and Location

The Licences reviewed in this Technical Report are located in the northeast of Tasmania, in an area broadly referred to as the Tamar Region, proximal to the city of Launceston (Figure 2). There are four (4) Licences which are collectively referred to as the “Tasmanian REE Projects”, and are defined by nine (9) non-contiguous areas, each delineated by discrete geographically located boundaries (see Figure 3 to Figure 6 inclusive and Appendices A – D inclusive).



**Figure 2: Distribution of Licences at TSGM’s Project Area.**

(Source: <https://dipwe-au.maps.arcgis.com>; Licences are overlain on hill shade modelled DTM).



#### 4.1.1. EL20/2022

Granted Licence EL20/2022 is defined by five (5) non-contiguous areas for a total of 250km<sup>2</sup> (Figure 3). The areas defining the Licence are distributed from the immediate east of Launceston, and up to 40km directly west of Launceston, proximal to the towns of Deloraine and Westbury. The southern most area is located to the south of the rural community of Bracknell (Figure 3).

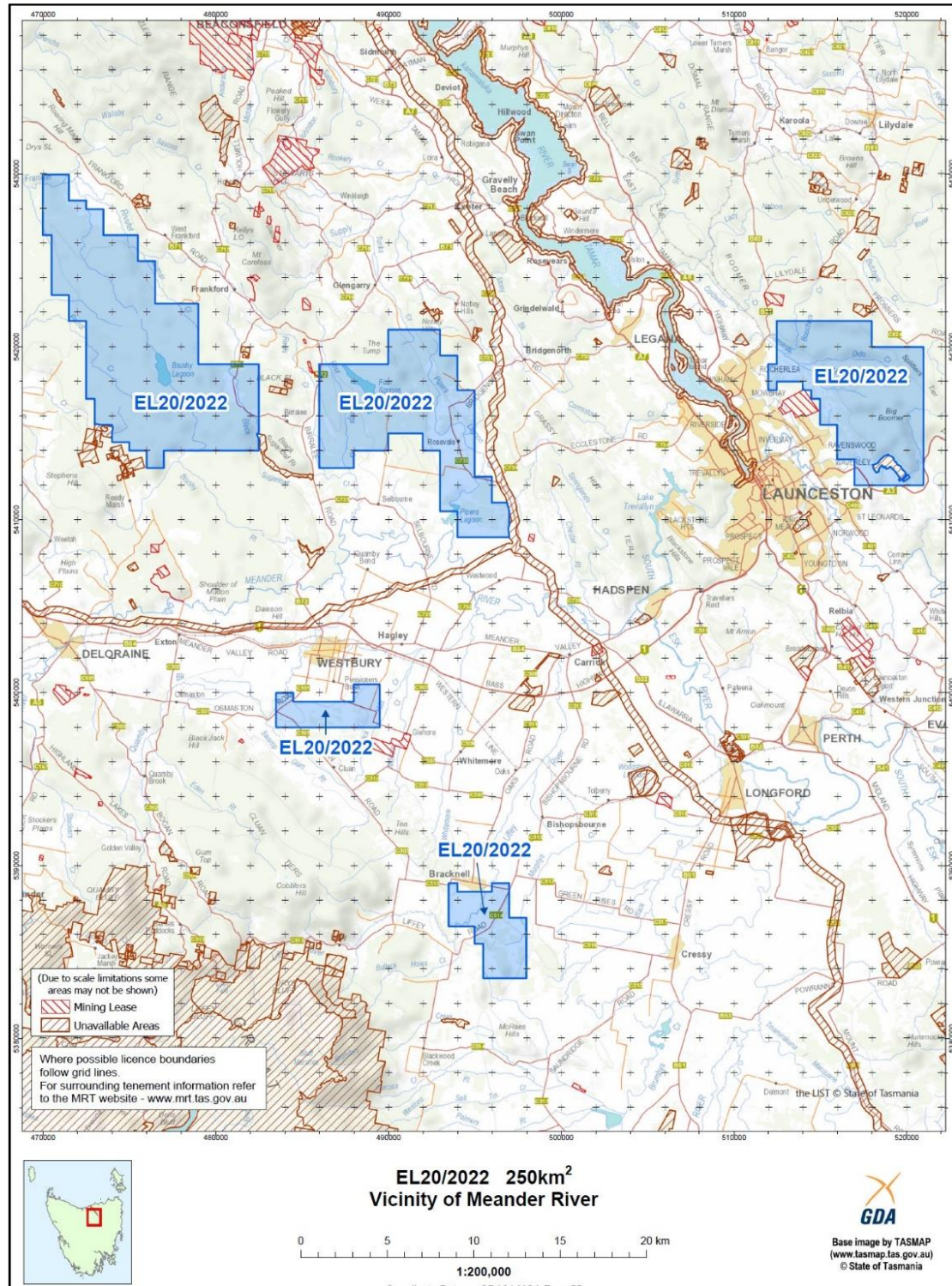


Figure 3: Location of granted Licence EL20/2022

(Source: MRT, 2023).



#### 4.1.2. EL35/2022

Licence Application EL35/2022 is defined by a single area for a total of 186km<sup>2</sup> (Figure 4). The Licence Applications' western boundary is located approximately 7km west of the town of Deloraine and extends westerly to the south of the town up to 20km towards the town of Westbury. The Application is characterised by numerous excisions as related to areas that are restricted from any exploration or mining activity (see Section 5.1.2).

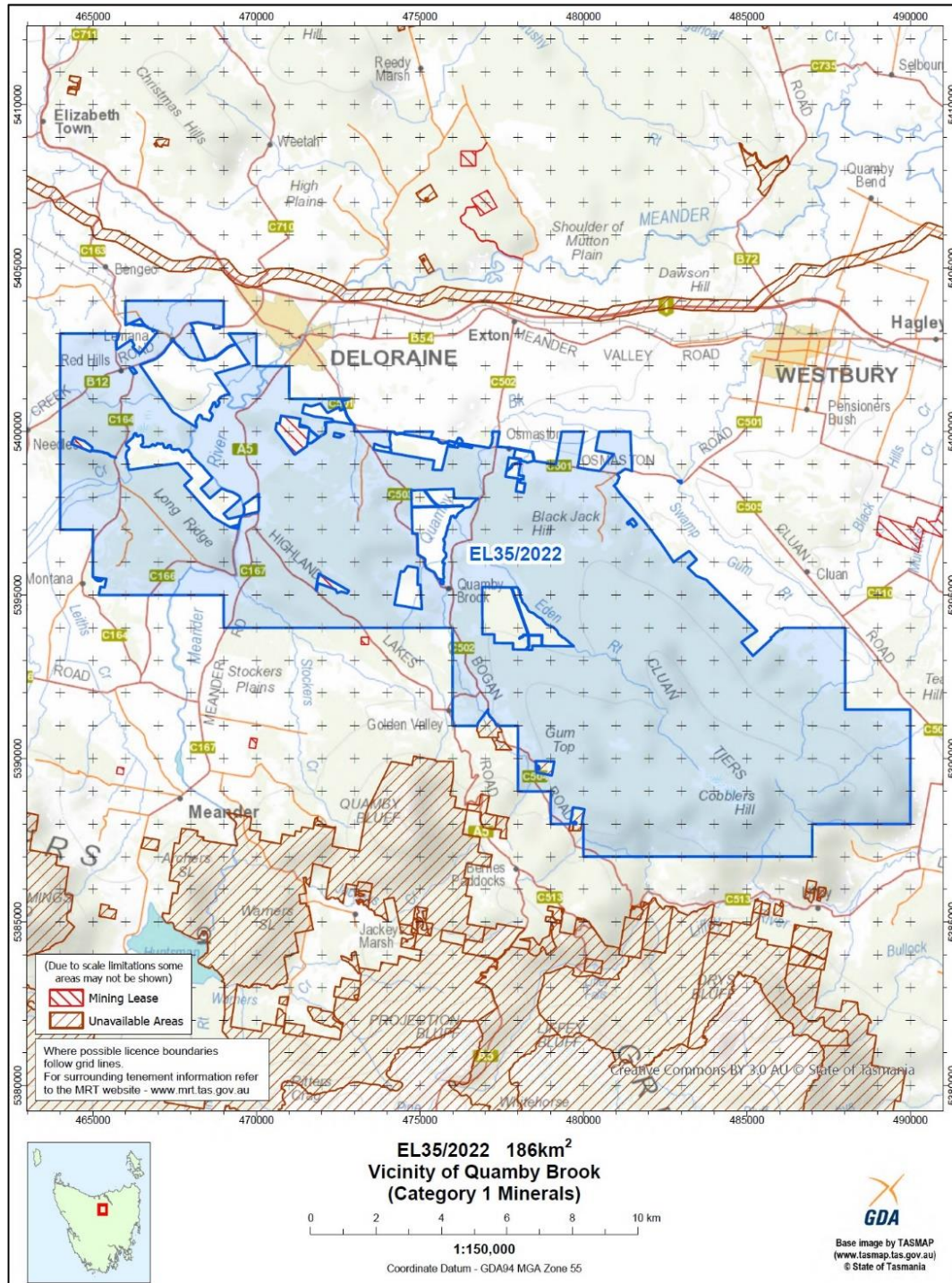


Figure 4: Location of Licence Application EL35/2022

(Source: MRT, 2023).

#### 4.1.3. EL37/2022

Licence Application EL37/2022 is defined by a single area for a total of 223km<sup>2</sup> (Figure 5). The Licence Application is the southern most of the Tasmanian Projects, located immediately south Longford, ~21 km south of Launceston and a 15-minute drive from the Launceston airport. The Licence Application extends in a southeasterly direction for approximately 20km and continues to the east covering a small section of the Midland highway. As is the case for EL35/2022, the Licence Application is characterised by numerous excisions related to areas that are restricted from any exploration or mining activity (see Section 5.1.3).

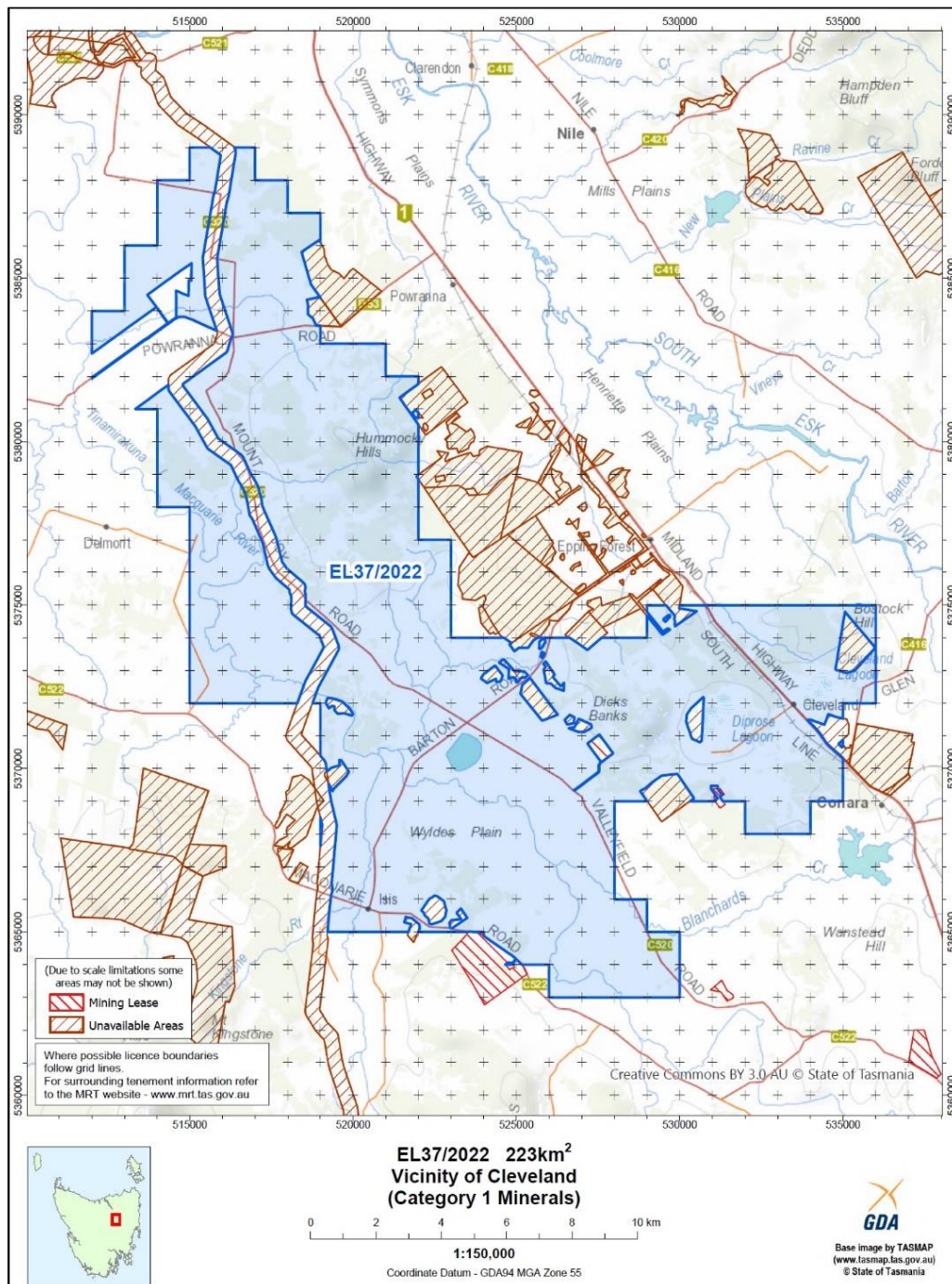


Figure 5: Location of Licence Application EL37/2022

(Source: MRT, 2023).



#### 4.1.4. EL41/2022

Licence Application EL41/2022 is delineated by two (2) non-contiguous areas for a total of 152km<sup>2</sup> (Figure 6). The Licence Application is the northern most of the Tasmanian Projects, located to the southwest of Beaconsfield, and to the south and southeast of the southernmost tributaries of Port Sorell.

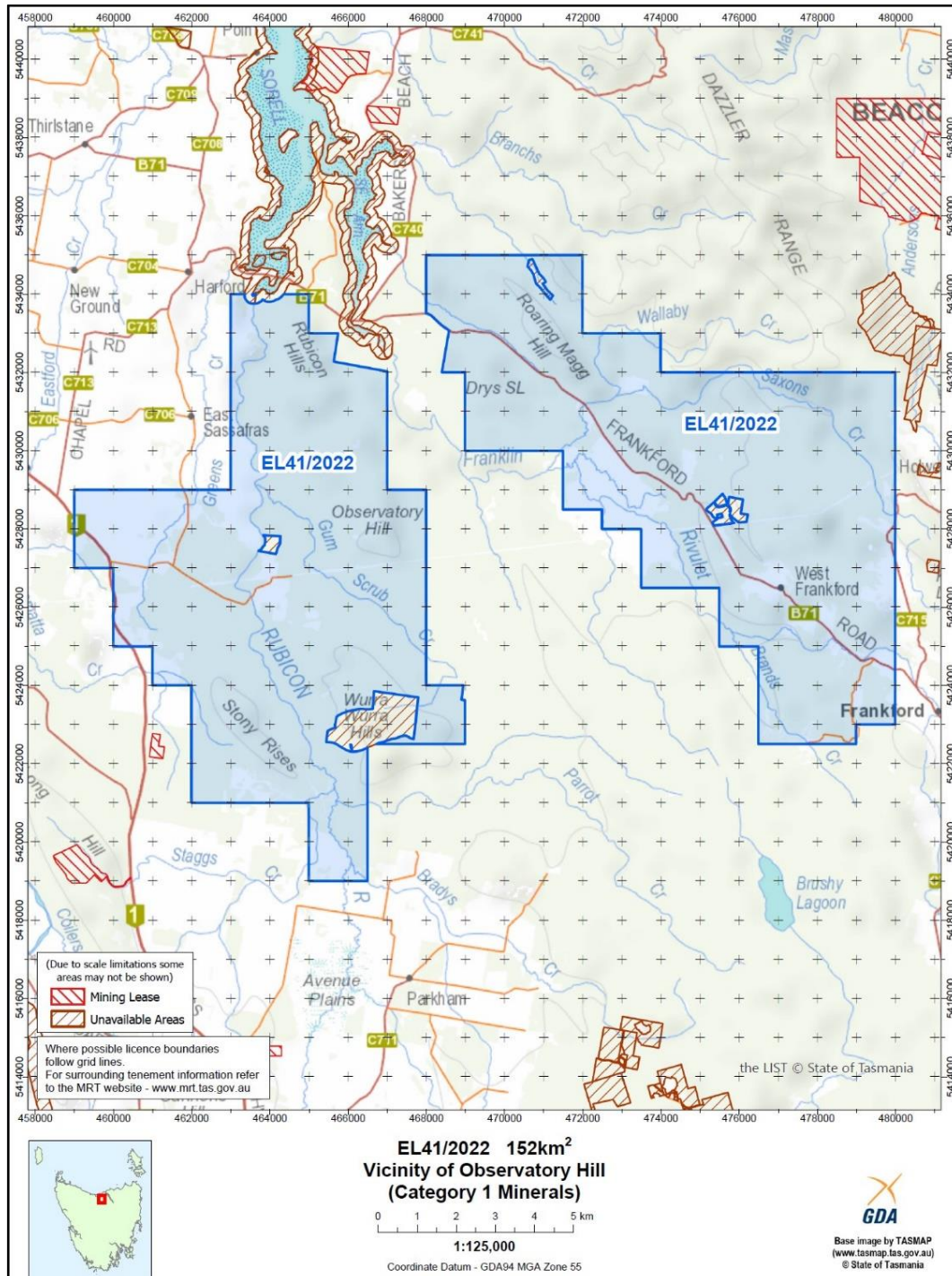


Figure 6: Location of Licence Application EL41/2022

(Source: MRT, 2023).

## 4.2. Mineral Tenure Information and Maintenance

The Licences reviewed in this Technical Report include one (1) Granted Exploration Licence (EL20/2022) and three (3) Exploration Licence Applications (EL35/2022, EL37/2022 and EL41/2022). All Licence Applications have been submitted by Tasmanian Strategic Green Magnets Pty Ltd, with Licence EL20/2022 owned by Westbury Resources Ltd (Table 1). Both the Granted Licence and the Licence Applications are classified as Category 1, which allows for the exploration of metallic minerals and atomic substances (see [www.mrt.tas.gov.au/exploration/exploration\\_licences](http://www.mrt.tas.gov.au/exploration/exploration_licences)).

**Table 1: Licences reviewed in this Technical Report**

| Licence ID       | Holder                                | Area (km <sup>2</sup> ) | Status      | Grant / Application Date | Expiry Date | Annual Rent (A\$)* |
|------------------|---------------------------------------|-------------------------|-------------|--------------------------|-------------|--------------------|
| <b>EL20/2022</b> | Westbury Resources Ltd                | 250                     | Granted     | 14/09/2023               | 13/09/2028  | 8,075.00           |
| <b>EL35/2022</b> | Tasmanian Strategic Green Magnets P/L | 186                     | Application | 27/10/2022               | TBC         | 6,007.80           |
| <b>EL37/2022</b> | Tasmanian Strategic Green Magnets P/L | 223                     | Application | 27/10/2022               | TBC         | 4,360.50           |
| <b>EL41/2022</b> | Tasmanian Strategic Green Magnets P/L | 152                     | Application | 27/10/2022               | TBC         | 1,388.90           |

(\* Rent is a calculated estimate and due upon grant of the EL)

(Source: Australian Mining and Exploration Title Services, 2023)

The Mineral Resources Development Act (1995) outlines Fees, Rents and Royalties for Licences in Tasmania, which are subject to change without notice (see [www.mrt.tas.gov.au/exploration/fees\\_rents\\_and\\_royalties](http://www.mrt.tas.gov.au/exploration/fees_rents_and_royalties)).

Fees are set by the number of 'fee units' relating to each Licence and are defined under the Mineral Resources Regulations, 2016 (see <https://www.legislation.tas.gov.au/view/html/inforce/current/sr-2016-041>). These Fees are reviewed and updated by Treasury on an annual basis. Each of the Licences under review have been subject to an application Fee of A\$1,530.80, with a future Fee of A\$1,014.60 payable, should the owners wish to extend the terms of the Licence. Alternatively, each Licence is subject to a Fee of A\$186.90 should the owner wish to surrender the Licence. Any transfer or consolidation of Exploration Licences will be subject to a Fee of \$507.30 and A\$382.70, respectively. All Fees are exempt of Goods and Services Tax (GST).

On application, a Security Deposit must be lodged before any mineral tenement can be granted, as a means to ensure that there will be sufficient funds available for the remediation of any exploration or mining activities should the licensee default on their obligations. All or part of a Security Deposit may be forfeited should the licensee fail to complete an agreed exploration program or if the licensee fails to comply with a condition of the licence. The Security Deposits related to the Licences reviewed in the Technical Report are as follows:

- a) EL20/2022: A\$18,000 paid 24/02/2023;
- b) EL35/2022: A\$18,000 paid 12/05/2023;
- c) EL37/2022: A\$19,000 paid 11/05/2023; and
- d) EL41/2022: A\$15,000 paid 13/05/2023.

Rent is set by the number of 'fee units', defined under the Mineral Resources Regulations (2016). Treasury updates the value of a fee unit on an annual basis, determining the total amount of rent for Licences. New rental structures come into effect on the 1st of July of each year. For Category 1 Exploration Licences, rent is calculated as based on each square kilometre per year follows:

- a) A\$32.30 (including GST) for each of first 2 years; and
- b) A\$64.61 (including GST) for each subsequent year.

For the Licences reviewed in this Technical Report, the estimated annual rents are presented in Table 1 and are only payable for Granted Licences.

A Royalty is payable under Section 102 of the Mineral Resources Development Act (1995) in accordance with Part 3 of the Mineral Resources Regulations (2016). Royalty is payable to the Minister in respect of any mineral recovered from Crown land, and in respect of any mineral owned by the Crown which is recovered from private land. Tasmania operates under a two-tiered system where Royalty is paid as a percentage of net sales and of profit. The formula for the payment of Royalty is specified in Regulation 8 of the Mineral Resources Regulations (2016). Royalty is payable at the rate of 1.9% of Net Sales, plus profit. A rebate of up to 20% is available for the production of a metal within the State. Maximum royalty payable is 5.35% of net sales. Royalties is GST exempt.

## 4.3.Option Agreement

### 4.3.1. Option and Earn-In Agreement - July 20, 2023

On July 20, 2023, MYR announced that it had entered into an arm's-length Option and Earn-In Agreement as of July 17, 2023 with TSGM to acquire an interest on four rare earth exploration leases located in northeast Tasmania totalling approximately 809 square kilometres (see [www.newsfilecorp.com/release/174265](http://www.newsfilecorp.com/release/174265)).

Under the terms of the Agreement, MYR will have a 90-day option period in order to carry out due diligence on the Projects and for which it will pay TSGM a fee of A\$25,000 (CAD\$22,290). In the event where the Company wishes to pursue with its right to acquire an interest in and to the Projects under the terms of the Agreement, it will pay TSGM an additional fee of A\$75,000 (CAD\$66,870).

Thereafter, MYR will have the right, but not the obligation, to earn a 50% interest in and to the Project by (i) spending a minimum of A\$300,000 (CAD\$267,480) in project expenditures forming part of an agreed initial exploration program within 120 days of the date on which MYR exercises the option; (ii) committing to spending an additional A\$200,000 (CAD\$178,320) in project expenditures within the subsequent 90 days (the "Earn-In Date"); (iii) paying to TSGM the sum of A\$100,000 (CAD\$89,160) which amount shall be refunded by TSGM to certain seed investors of TSGM; and (iv) subject to usual regulatory approvals, allotting to said seed investors an aggregate of A\$100,000 (CAD\$89,160) worth of common shares in the capital stock of the Company.

Upon having earned its 50% interest in the Projects, MYR will have the right, but not the obligation, to acquire additional interests in the Projects, by way of 10% increments over time up to a maximum 80%, through the funding of additional expenditures at a rate of A\$600,000 (CAD\$534,960) in project expenditures and payments to TSGM of A\$200,000 (CAD\$178,320) in cash and A\$130,000 (CAD\$115,906) in common shares of MYR. The Company will have a 30-month period as of the Earn-In Date, during which it may earn up to its maximum interest.

All common shares issuable pursuant to this Agreement shall be (a) issued at a deemed issue price equal to the 10-day volume weighted average price of the shares on the date of each respective share issuance or such other period as may be required by the CSE and (b) subject to a restricted hold period equal to four months and one day from the date of issuance.

Upon having earned its 80% interest in the Projects and a production decision being made in respect thereto, MYR will have the option to buy the remaining 20% of the Projects at a price based upon an independent evaluation which would be made at that time.

The transaction has the potential to result in the creation of a new Control Person or a Change of Control (as such terms are defined in the policies of the CSE) of the Company. In such case, the transaction would be subject to the approval of the Company's shareholders. The Company intends to satisfy any shareholder approval requirement by written resolution signed by shareholders of more than 50% of the Company's voting shares, as provided by Section 4.6(1)(b) of CSE Policy 4. The transaction also remains subject to the final acceptance of the CSE.

#### 4.3.2. Option and Earn-In Agreement Amendment – October 3, 2023

On October 3, 2023 MYR announced it had entered into an amended arm's-length Option and Earn-In Agreement with TSGM and Westbury Resources Pty Ltd. ("Westbury"), a private Australian company, to acquire from Westbury an interest in 250 square kilometre granted rare earth exploration lease located in northeast Tasmania, Australia (see <https://www.newsfilecorp.com/release/182664/>). The major shareholder of Westbury is also the major shareholder of TSGM.

Under the terms of the Agreement, Meryllion will now have until December 17, 2023 to complete due diligence on the Project. In the event where the Company wishes to pursue its right to acquire an interest in and to the Project under the terms of the Agreement, it will pay TSGM an option exercise fee of AUD\$125,000 (CAD\$109,038).

Thereafter, Meryllion will have the right, but not the obligation, to earn a 50% interest in and to the Project by (i) spending a minimum of AUD\$300,000 (CAD\$261,690) in project expenditures forming part of an agreed initial exploration program within 120 days of the date on which Meryllion exercises the option; (ii) committing to spending an additional AUD\$200,000 (CAD\$174,460) in project expenditures within the subsequent 90 days (the "Earn-In Date"); (iii) paying to TSGM the sum of AUD\$100,000 (CAD\$87,230) which amount shall be refunded by TSGM to certain seed investors of TSGM; and (iv) subject to usual regulatory approvals, allotting to said seed investors an aggregate of AUD\$100,000 (CAD\$87,230) worth of common shares in the capital stock of the Company.

Upon having earned its 50% interest in the Project, Meryllion will have the right, but not the obligation, to acquire additional interests in the Project, by way of 10% increments over time up to a maximum 80%, through the funding of additional expenditures at a rate of AUD\$600,000 (CAD\$522,000) in project expenditures and aggregate payments to TSGM/Westbury of AUD\$200,000 (CAD\$174,460) in cash and AUD\$160,000 (CAD\$139,568) in common shares of Meryllion. The Company will have a 30-month period as of the Earn-In Date, during which it may earn up to its maximum interest.

All common shares issuable pursuant to this Agreement shall be (a) issued at a deemed issue price equal to the 10-day volume weighted average price of the shares on the date of each respective share issuance or such other

period as may be required by the Canadian Securities Exchange (the “CSE”) and (b) subject to a restricted hold period equal to four months and one day from the date of issuance.

Upon having earned its 80% interest in the Project and a production decision being made in respect thereto, Meryllion will have the option to buy the remaining 20% of the Project at a price based upon an independent evaluation which would be made at that time.

The transaction has the potential to result in the creation of a new Control Person or a Change of Control (as such terms are defined in the policies of the CSE) of the Company. In such case, the transaction would be subject to the approval of the Company’s shareholders. The Company intends to satisfy any shareholder approval requirement by written resolution signed by shareholders of more than 50% of the Company’s voting shares, as provided by Section 4.6(1)(b) of CSE Policy 4.

### 4.3.3. Option Exercised – January 15, 2024

On January 15, 2024 MYR announced it intends to exercise its previously announced option in respect of the rare earth exploration leases held by TSGM and Westbury in Tasmania.

The option agreement originally required an initial cash payment of AUD\$125,000 (CAD\$ 112,500) to TSGM/Westbury. Pursuant to varied terms, the Company will now make an initial payment to TSGM and Westbury in the aggregate amount of AUD\$200,000 (CAD\$180,000) by way of issuance of a total of 4,186,046 common shares at a deemed issue price of \$0.043 per share (the “Initial Shares”).

Once the Initial Shares have been allotted, MYR will have the right, but not the obligation, to earn a 50% interest in and to the Project by (i) spending a minimum of AUD\$300,000 (CAD\$270,000) in project expenditures forming part of an agreed initial exploration program within 180 days of the date on which MYR exercises the option; (ii) committing to spending an additional AUD\$200,000 (CAD\$180,000) in project expenditures within the subsequent 90 days (the “Earn-In Date”); (iii) paying to TSGM the sum of AUD\$100,000 (CAD\$90,000) which amount shall be refunded by TSGM to certain seed investors of TSGM; and (iv) subject to usual regulatory approvals, allotting to said seed investors an aggregate of AUD\$100,000 (CAD\$90,000) worth of common shares in the capital stock of the Company.

Upon having earned its 50% interest in the Project, MYR will have the right, but not the obligation, to acquire additional interests in the Project, by way of 10% increments over time up to a maximum 80%, through the funding of additional Project expenditures totalling AUD\$600,000 (CAD\$540,000) and aggregate payments to TSGM/Westbury of AUD\$200,000 (CAD\$180,000) in cash and AUD\$160,000 (CAD\$144,000) in common shares of MYR. The Company will have a 30-month period as of the Earn-In Date, during which it may earn up to its maximum interest.

Other than the Initial Shares, all common shares issuable pursuant to the option shall be issued at a deemed issue price equal to the 10-day volume weighted average price of the shares on the date of each respective share issuance or such other period as may be required by the CSE.

All common shares issued shall be subject to a hold period equal to four months and one day from the date of issuance.

## 5. Accessibility, Climate, Local Resources, Infrastructure and Physiography

### 5.1. Accessibility, Local Resources, and Infrastructure

All Licences are proximally located to sources of power, water, mining personnel. Should exploration be successful, and a mining operation determined to be feasible, potential exists in each Licence to delineate areas for tailings storage and waste disposal, heap leach pads (if required) and potential processing plant sites. The development of a mining operation on any of the Licences is subject to the successful granting of a Mining Lease by the relevant Minister should the applicant satisfy certain criteria (see [www.stategrowth.tas.gov.au/mrt/mining/mining\\_leases](http://www.stategrowth.tas.gov.au/mrt/mining/mining_leases)). Licence-specific accessibility and conditions are presented herein.

#### 5.1.1. EL20/2022

Granted Licence EL20/2022 is accessible via multiple routes dependant on the area of interest, and all are proximal to established and serviceable water, gas and electricity infrastructure. Area A is positioned ~40km west of the City of Launceston, and accessible initially via the Bass Highway west of Launceston, and then variably north and east via Route C710. The majority of Area A is accessible by foot, and is overlain by a combination of varying Land Types denoted as Conservation areas (30%), Future Potential Production Forrest areas (20%), Permanent Timber Production zones (20%) and Public Land / Informal Reserves (5%)(Figure 7).

Similarly, Area B to the east of Area A is characterised by approximately 30% of the area being overlaid by Permanent Timber Production zones (25%), with minor apportion to Public and Informal Reserves (5%)(Figure 7). It is noted that a historic Mining Lease area is listed for the northern most section of Area B, although the amount of disturbed ground or production history is currently unknown.

The Tasman Highway provides access to Area C, the easternmost area which is immediately adjacent to the city of Launceston. This area is then easily traversed via foot, although approximately 40% of the area is classified as Authority Land, Regional, State or Informal Reserves, Conservation areas or areas reserved for Permanent Timber Production (Figure 7). Areas D and E are not encumbered by any overlay restrictions and are accessible via the Bass Highway and Route C501 and C514, respectively.

Prior to on-ground exploration work commencing, a Work Program must be approved by MRT. At this time, the various Departments and Land Managers that may have a jurisdictional interest in the area of work or potential impacts due to Land Type overlays, will be consulted. The Department of Infrastructure, Energy and Resources provide a Mineral Exploration Code of Practice (**CoP**, Bacon and Pemberton, 2012) where standard Licence conditions are outlined, including further information about the various Land Types. The reader is directed here for details on Land Types and their usage.

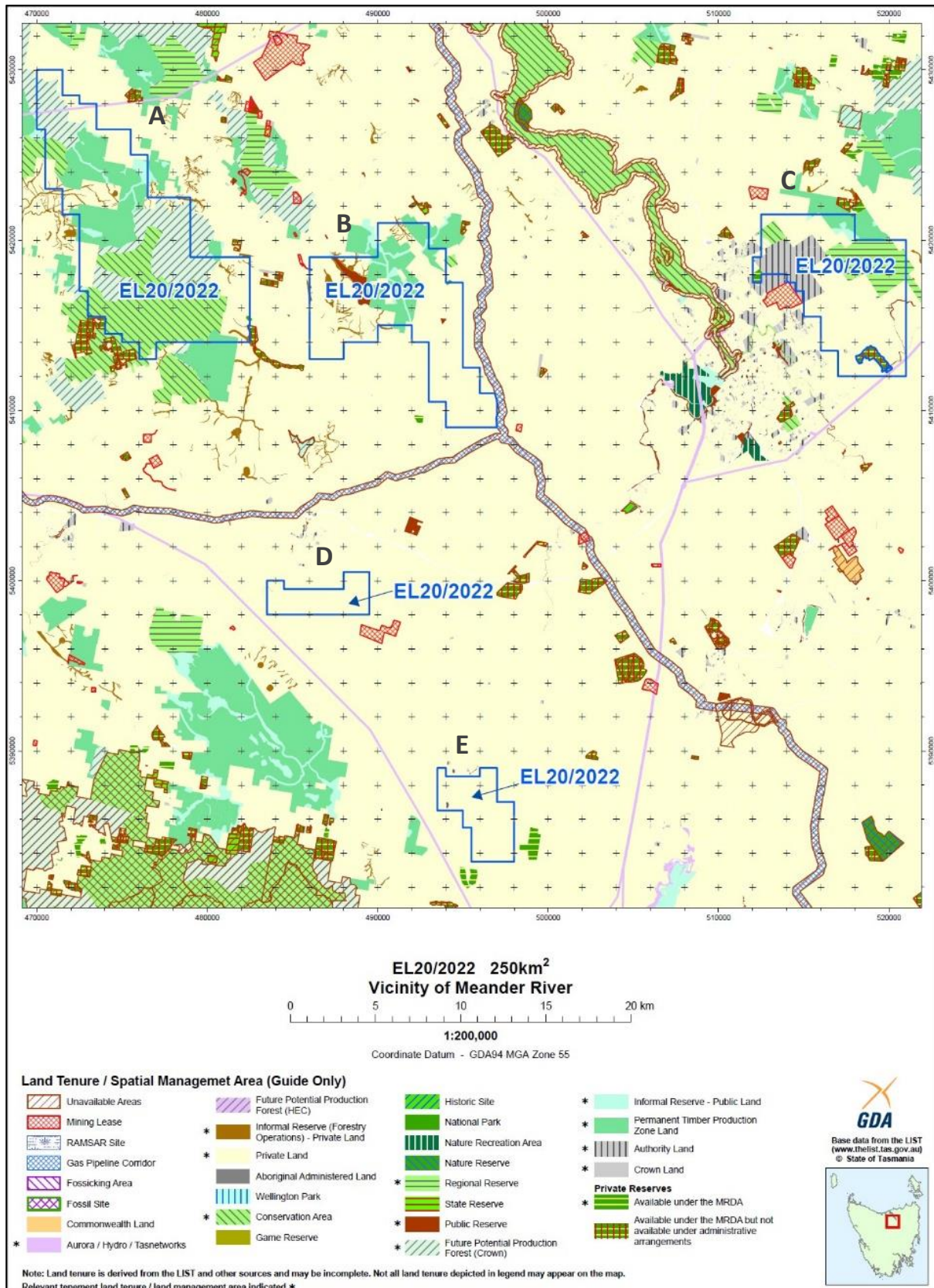
#### 5.1.2. EL35/2022

Exploration Licence Application EL35/2022 is accessible via the Bass Highway and then south via Route C502 and Route C167 on the eastern and western side of Deloraine, respectively. The broader Licence area is proximal to established and serviceable water, gas and electricity infrastructure.

Numerous formal excision areas characterise the Licence Application, most related to private land ownership, and the majority of the southeastern portion of the Application is covered by a Permanent Timber Production Zone overlay, with additional similar yet smaller overlays in the western part of the Application area, as well as small designated Regional Reserve areas (i.e., account for ~10% of the total application area; Figure 8). As outlined in Section 5.1.1, on submission of a Work Program to MRT, various Departments and Land Managers



with a jurisdictional interest in the Land Type overlays will be consulted for approval of the Work Program following the CoP.



**Figure 7: Accessibility, Local Resources, and Infrastructure EL20/2022**

(Labels "A" to "E" denote the Licence areas referred to in the text).(Source: MRT, 2023).



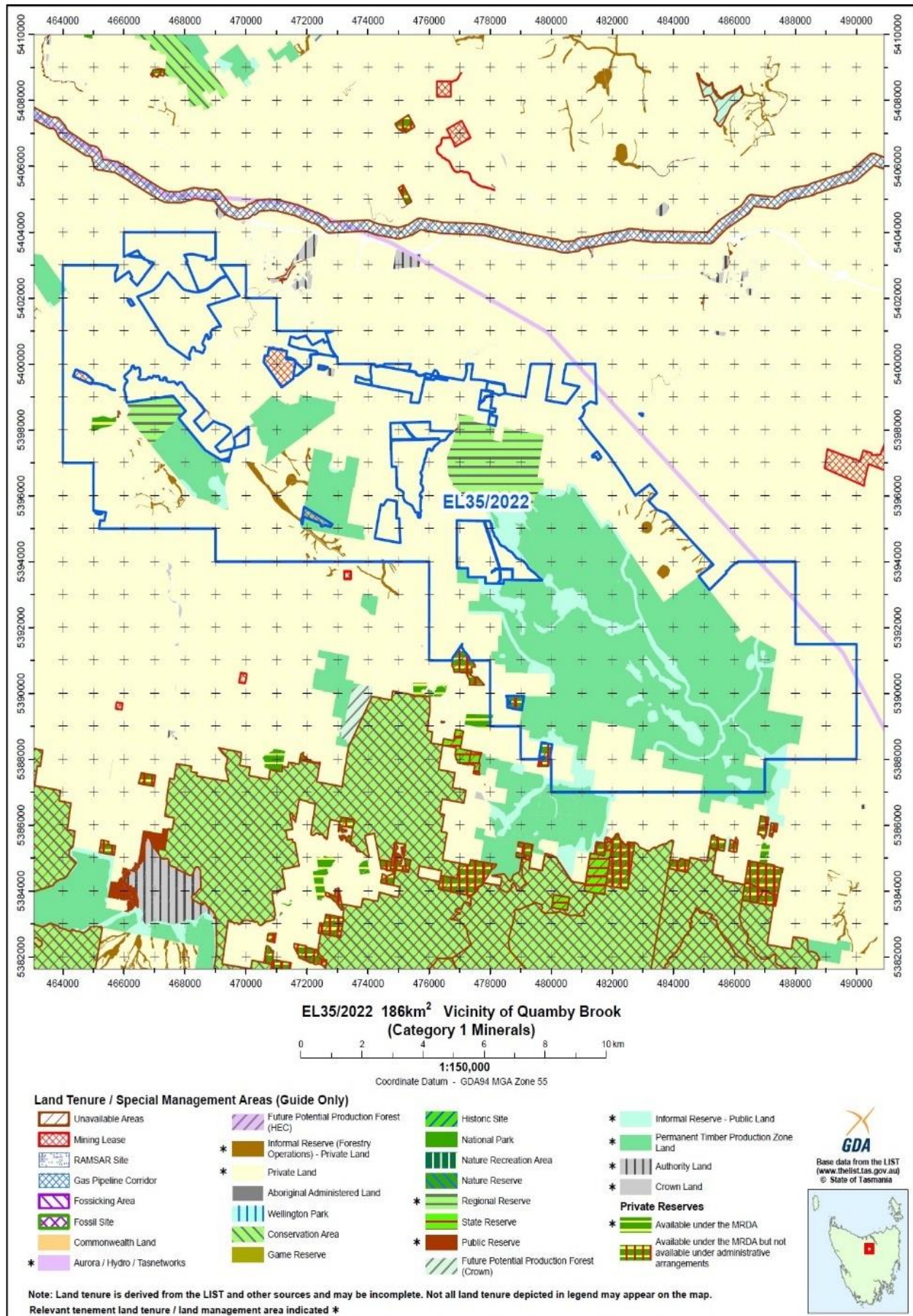


Figure 8: Accessibility, Local Resources, and Infrastructure EL35/2022

(Source: MRT, 2023).

### 5.1.3. EL37/2022

Exploration Licence Application EL37/2022 is accessible via the Bass Highway and then south via Route C502 and Route C167 on the eastern and western side of Deloraine, respectively. The broader Licence Application area is proximal to established and serviceable water, gas and electricity infrastructure. The Licence is encumbered by a small Private Reserves overlay which is available to exploration under agreement. The trans-Tasman gas pipeline transects the western side of the Licence area (Figure 9).

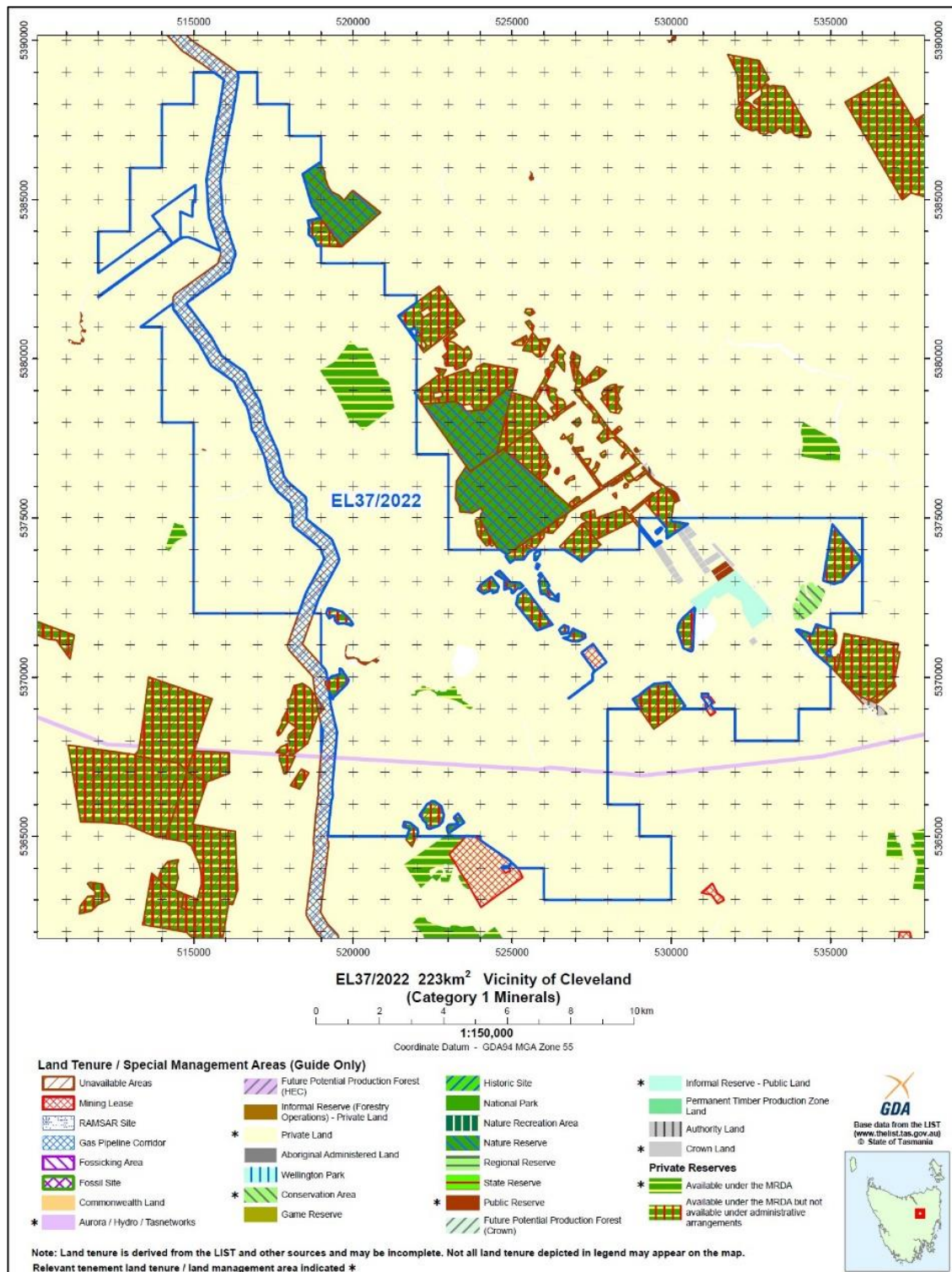


Figure 9: Accessibility, Local Resources, and Infrastructure EL37/2022

(Source: MRT, 2023).



#### 5.1.4. EL41/2022

Exploration Licence Application EL41/2022 is accessible via two (2) routes, dependant on which area is to be accessed. The western area is accessed via the Bass Highway north from Deloraine, with subsequent access east into the Licence area via various local rods. The eastern area is accessible via Route B71 from Glengarry or Port Sorell, which transects the central NW-SE axis of the Licence area. The broader Licence area is proximal to established and serviceable water, gas and electricity infrastructure, and contains areas reserved for Permanent and Future Potential Timber Production (~25%), with minor areas designated Regional or Informal Reserves (Figure 10). As outlined in Section 5.1.1 and 5.1.2, on submission of a Work Program to MRT, various Departments and Land Managers with a jurisdictional interest in the Land Type overlays will be consulted for approval of the Work Program following the CoP.

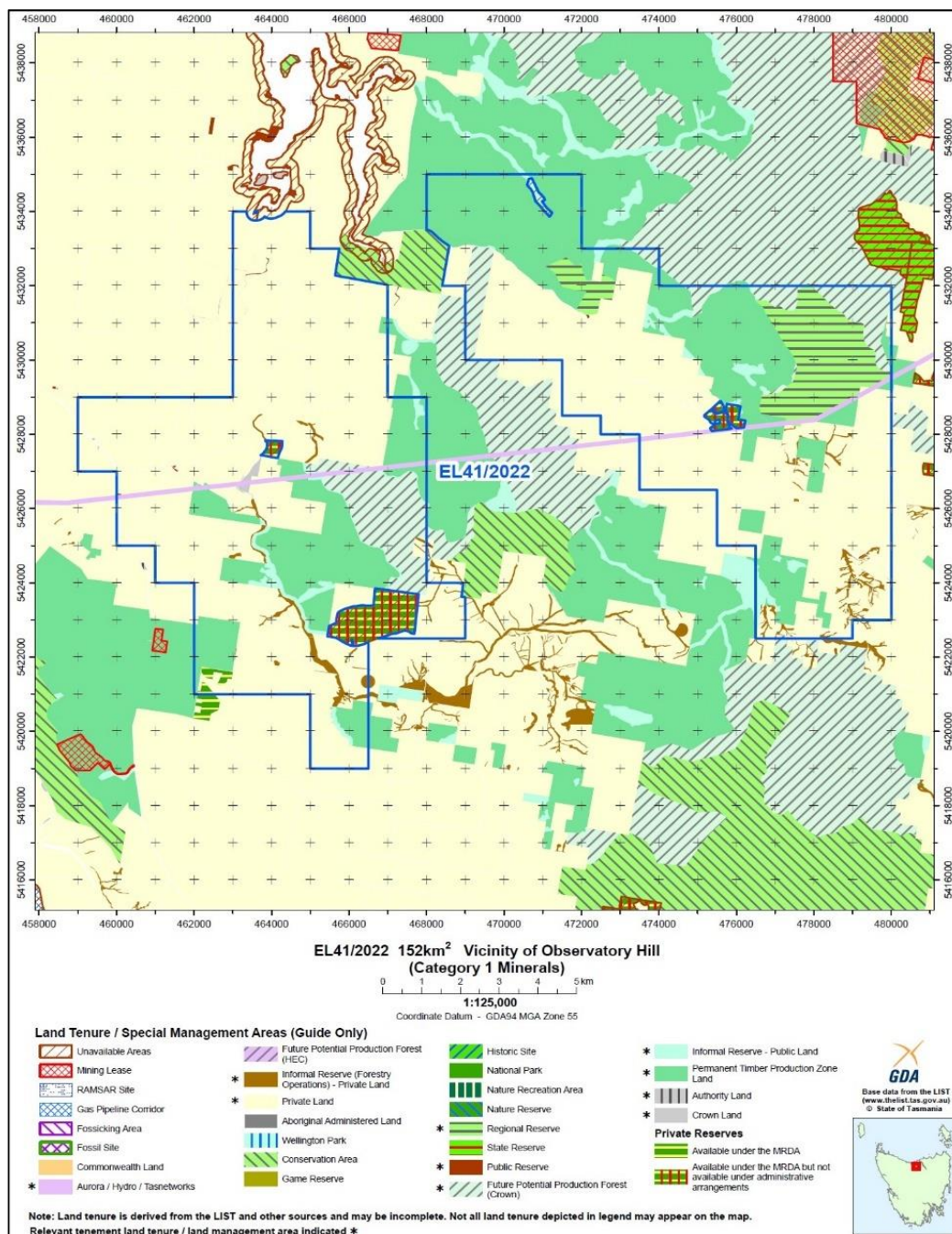


Figure 10: Accessibility, Local Resources, and Infrastructure EL41/2022

(Source: MRT, 2023).

## 5.2.Climate

All Licences exhibit similar climactic conditions, described herein using information sourced from [www.bom.gov.au](http://www.bom.gov.au).

In general, the annual temperature typically varies from 4°C to 23°C, and is rarely below -0°C or above 28°C. The warmest season lasts for approximately 3.1 months and occurs broadly between December 15 to March 19. An average daily high temperature over this time is above 21°C, with the hottest month of the year being February, with an average high of 23°C and low of 12°C. The coolest time of the year lasts for ~3.4 months from May 25 to September 7, with an average daily high temperature below 14°C. The coldest month of the year is July, with an average low of 4°C and high of 11°C.

The wettest time of the year runs for ~6.7 months in late April through to mid-November, with a greater than 25% chance of a given day experiencing >1mm of rain fall. The month with the most wet days is August, with an average of 10.7 days with at least 1 millimetre of precipitation and an average rainfall of 76 millimetres. The driest season of the year lasts 5.3 months, from mid-November to late April. The month with the fewest wet days is February, with an average of 4.2 days with at least 1 millimetre of precipitation and with an average rainfall of 34 millimetres.

In the QP's opinion, the climactic conditions should not materially inhibit on-ground exploration efforts through the year.

## 5.3.Physiography

The area is characterised by gently rolling hills with larger mountains defining the margins of the horst and graben structure of the broader Tamar Valley. The regionally extensive Jurassic dolerite results in capped plateaus, creating a trough graben, which stretches from central Bass Strait through central northern Tasmania into the Midlands, with high plateaux or horsts on either side. River systems generally drain to the northwest into the Bass Strait. Access throughout the Licence areas is generally not impeded by the physical geography and should not be of impact to exploration efforts.

## 6. History

### 6.1. Previous Explorers

#### 6.1.1. EL20/2022

Granted Licence EL20/2022 has been largely explored for petroleum (including oil and gas) and coal since 1962, with limited construction materials, bauxite, base metals, gold, tin, iron, sulphur and uranium exploration. No exploration for Ionic Adsorption Clay REE mineralization (iREE) has been undertaken, although some of the historic exploration data generated may assist in establishing geological and geochemical characteristics that the Issuer could incorporate in their exploration strategy and vectoring. Companies who have explored over portions of EL20/2022 include:

- Tasmanian and Bass Strait Oil NL (1962: iron , Limonite , Magnesium , Ochre);
- Electrolytic Zinc Company of Australasia Ltd (1967-8: iron and sulphur);
- Tenneco Australia Incorporated (1973: uranium, coal and petroleum);
- Petro Quest Pty Ltd (1979-81: oil shale);
- Victor Petroleum and Resources Ltd (1981: base metals , black coal, chromite / chromium , gold , tin and uranium);
- CRA Exploration Pty Ltd (1970 & 1982-4: bauxite and construction materials);
- Great South Land Minerals Ltd (1995-8: gas and oil);
- Overseas Energy Holdings Limited (2010-15: oil);
- Empire Energy Corporation International (2009: petroleum); and
- Abx4 Pty Ltd – specifically in Areas C & D for bauxite from 2010 - 2016.

The development of bauxite provides the most indicative geological conditions for iREE mineralization formation and is of interest to the Issuer. Work by Abx4 Pty Ltd included an exploration program to discover economically viable deposits of bauxite associated with Tertiary Volcanics, in an area with old peneplained surfaces preserved as plateaus. In 2012, Abx4 completed detailed geological mapping, including geomorphological mapping, to define areas with potential for bauxite followed by systematic sampling of natural outcrops and exposures of lateritic weathering profile. Samples were chemically analysed to determine total and available alumina, total and reactive quartz, loss on ignition and other analyses as required in bauxite systems. Some Reverse Circulation (RC) drill testing of zones with potential defined the lateritic weathering profile, followed by systematic drill testing at close spacings to obtain data for potential resource estimation. The Issuer is currently sourcing this data for review.

In 2013, ABx4 completed drilling at Rosevale and Bracknell for a total of seventy five (75) holes for 851 metres. Bauxite mineralisation occurred on the edge of the Tertiary Basin hosted in Tertiary volcanics in contact with Jurassic dolerite. They described the mineralisation as channels or sheets of bauxitised volcanics, which drape the paleo topography, with the bauxite at Rosevale predominantly composed of pink brecciated bauxite. This material is reported to often contain amorphous pink gibbsite concretions and has retained volcanic textures such as breccias and relic crystal distribution and structures. In contrast, at Bracknell, the bauxite is massive red vuggy haematitic bauxite with minor Poorly Diffracting Material PDM, which is the most common type of bauxite in Tasmania.

In 2015, Abx4 drilled limited holes (15 for 142m) which led to discoveries of only very small quantities of bauxite of low-grade. The Company subsequently relinquished the licence in 2016.

### 6.1.2. EL35/2022

Licence Application EL35/2022 has been largely explored for petroleum (including oil and gas) and coal since the 1960's, with limited bauxite, base metals, gold, tin, tungsten, iron and geothermal energy exploration. No exploration for iREE has been undertaken, although some of the historic exploration data generated may assist in establishing geological and geochemical characteristics that the Issuer could incorporate in their exploration targeting strategy. Companies who have explored over portions of EL35/2022 include:

- Rio Tinto Australian Exploration Pty Ltd (1962: iron, limonite, manganese and ochre);
- Tasmanian and Bass Strait Oil NL (1962: iron , limonite , magnesium , ochre);
- CRA Exploration Pty Ltd (1970-1: bauxite and construction materials);
- Union Oil Development Corporation (1975-6: base metals and copper);
- Comalco Aluminium (Bell Bay) Limited (1976-9: base metals, iron, magnetite, tin and tungsten);
- Petro Quest Pty Ltd (1979-81: oil shale);
- Victor Petroleum and Resources Ltd (1981: base metals , black coal, chromite / chromium , gold , tin and uranium);
- Amoco Minerals Australia Company (1981: base metals);
- Savage Resources Ltd (1986: gold);
- Outokumpu Exploration Australia Pty Ltd and Pancontinental Mining Ltd (1988-9: base metals and copper);
- Cyprus Gold Australia Corporation (1988: gold);
- Great South Land Minerals Ltd (1995-8: gas and oil);
- Greatland Pty Ltd and Unity Mining Ltd (2007-15: base metals and gold);
- Geothermal Energy Tasmania Exploration Pty Ltd , OZ Minerals Australia Ltd (2008-9: geothermal); and
- Overseas Energy Holdings Limited (2010-15: oil and gas).

The area has seen some success in the exploration of base and precious metal mineralization, the results of which will provide the Issuer with geological and geochemical indicators that may assist in their iREE exploration efforts. Of note, in 1972 Comalco Ltd identified minor disseminated copper mineralisation at Kentish Hill, with traces of tungsten and tin in the Lobster Rivulet-Punches Terror area. Additionally, cobalt-silver-copper mineralisation in quartz veins were identified at Beefeater Hill, indicating the potential of a magmatic-hydrothermal system. This was supported by Amoco Minerals Australia Company in 1981, who identified anomalous areas with assay results of up to 1.45% Pb, 0.27% Zn and 11g/t Ag in rock chips while targeting carbonate hosted mineralisation in the Gordon Limestone.

In 1988-89, Outokumpu Exploration Australia Pty Ltd and Pancontinental Mining Ltd undertook reconnaissance mapping at 1:25000 and stream sediment geochemistry identifying weak Pb-Zn and Ba anomalies. Some whole rock geochemistry and petrology was completed and has provided insight to the geological setting. Final minerals exploration in the area was by Greatland P/L in 2007, whose Grid based soil and rock chip sampling and geological mapping outlined a weakly anomalous copper-gold anomaly associated with quartz veining and some gossanous outcrops in Proterozoic schists and quartzites. Collectively, the lithogeochemical information

obtained during base and precious metals exploration will be beneficial for the Issuer to better-understand the local geological setting of the licence.

### 6.1.3. EL37/2022

Licence Application EL37/2022 has been largely explored for petroleum (including oil and gas), bauxite and iron / magnetite, with limited base metals, coal, gold, tin, uranium and geothermal energy systems. No exploration for iREE has been undertaken, although some of the historic exploration data generated may assist in establishing geological and geochemical characteristics that the Issuer could incorporate in their exploration targeting. Companies who have explored over portions of EL37/2022 include:

- Tasmanian and Bass Strait Oil NL (1962: iron , limonite , magnesium , ochre);
- Tenneco Australia Incorporated (1972: uranium);
- Victor Petroleum and Resources Ltd (1981: base metals , black coal, chromite / chromium , gold , tin and uranium);
- Great South Land Minerals Ltd (1998-2008: gas and oil);
- KUTh Exploration Pty Ltd (2005-13: geothermal energy); and
- Abx4 Pty Ltd (2010-12: bauxite).

As discussed for Granted Licence EL20/2022, the development of bauxite provides the most indicative geological conditions for iREE formation and is of interest to the Issuer. Work by Abx4 Pty Ltd included testing of the upper part of ancient lateritic/saponitic weathering profiles within Tertiary sedimentary units. The company used a digital terrain model to identify potentially preserved mesas and plateaus of eroded bauxite beneath caps of resistant basalt. Three (3) RC drill holes (total 32m) into the lateritic profile failed to intersect bauxite. The company recommended further work, but relinquished the ground to focus on other high priority tenements.

### 6.1.4. EL41/2022

Licence Application EL37/2022 has been largely explored for base metals, gold and bauxite, with limited iron / magnetite, coal, tin, and oil and gas systems. No exploration for iREE has been undertaken. Some of the historic exploration data generated may assist in establishing the geological setting that the Issuer could incorporate in their exploration targeting strategy. Companies who have explored over portions of EL41/2022 include:

- Broken Hill Proprietary Company Ltd (1970: base metals, chromium, gold, nickel);
- Kenneth McMahon and Partners Pty Ltd and Power Corporation Australia Ltd (1968: gold);
- King Island Scheelite (1947) Ltd (1967-70: nickel);
- CRA Exploration Pty Ltd (1970-1: bauxite and construction materials);
- Allstate Explorations NL (1970: base metals);
- Peko Wallsend Operations Ltd (1980-2: asbestos, barite, barium, base metals, chalcopyrite, copper, pyrite, tin, tungsten);
- Petro Quest Pty Ltd (1980: oil shale);
- Resolute Samantha Ltd (1996-7: gold);
- Beaconsfield Gold NL (1999-2003: gold);



- Great South Land Minerals Ltd (1998-2008: gas and oil);
- Geothermal Energy Tasmania Exploration Pty Ltd (2008-9: geothermal systems);
- Gujarat NRE Resources NL (2005-10: copper, gold, lead, manganese, silver, zinc);
- Proto Resources + Investments Ltd (2010-13: copper, lead, magnetite, nickel, zinc); and
- Overseas Energy Holdings Limited (2010-15: oil, gas and petroleum).

Although not iREE specifically, CRA Exploration in 1970 identified Tertiary basalt with bauxite of very limited extent, including residual manganese rich laterite type accumulations. This is indicative of geological conditions favourable for iREE formation and is of interest to the Issuer.

## 7. Geological Setting and Mineralization

### 7.1. Regional Geological Setting

The regional geological setting of the Projects is broadly constrained by a complex series of rift basin-related faults, that have developed horst and graben structures whose margins are defined by exposed basement of Jurassic dolerite sequences. It is interpreted that this complex geological setting was formed during the break-up of Gondwana, the separation of Australia from Antarctica, and the formation of Tasmania during the Cretaceous-early Cenozoic period (see Baillie *et al.*, 2014).

Relevant to the Tasmanian REE Project is the Tamar Graben, which in geographical terms is referred to as the Tamar Valley. This is a geological structure defined by a series of parallel NW-trending faults, which have resulted in the downward displacement of portions of the Jurassic dolerite basement to below sea level. The ensuing narrow trough has been partially infilled with largely unconsolidated sedimentary, with minor intercalated basalt flows of mainly Paleogene (lower Tertiary) age (Figure 11; Corbett, 2021). Collectively, and notwithstanding local variations, the geology covering the broader Licence areas is dominated by two major rock units:

1. the Jurassic dolerite, and in places its associated underlying Permian and Triassic sedimentary unit; and
2. the Cenozoic (Tertiary) sedimentary units with their intercalated basalts, which in places fill the graben.

The Jurassic dolerite is interpreted to have been originally intruded into Permo-Triassic mudstones and sandstones as a sub-horizontal sill, ~200m thick, at approximately 180Ma.

The overlying sandstone sequence was subsequently eroded away during the mid to late Jurassic, exposing the hard dolerite to form the generally plateau-like landform as presently defines the Central Plateau and Ben Lomond area (see McClenaghan *et al.*, 2011). Laterite and bauxite were developed on the dolerite surface due to deep weathering, interpreted to have occurred during several stages during the Cretaceous and Cenozoic (Corbett, 2021). The Jurassic dolerite unit is of primary interest to TSGM in the context of their Ionic Adsorption Clay REE mineralization model.

### 7.2. Local Geology

The current understanding of the local geological setting of the TSGM ground is limited to Mineral Resources of Tasmania 1:25,000, 1:50,000 and 1:63,360 scale geological mapping and the resultant litho-structural interpretations that have incorporated historic drilling, outcrop and potential field data (i.e., geophysical data). Based on this work, the MRT has defined an extensive suite of Jurassic dolerites and basalts which are deemed prospective as source / parent rocks to iREE mineralization. These are the primary units being targeted by the Issuer.

Although there is some local variation, the geology of the Licence areas comprises mainly Quaternary gravel-sand-clays and Tertiary sedimentary units, which generally overlie or mask a basement of predominantly Jurassic dolerites and basalts. These mafic rocks have been variably lateritised and eroded, resulting in the development of bauxite and the potential liberation of REEs.

The following sections briefly document the local geology of the Licence areas as described by previous explorers and the MRT mapping.

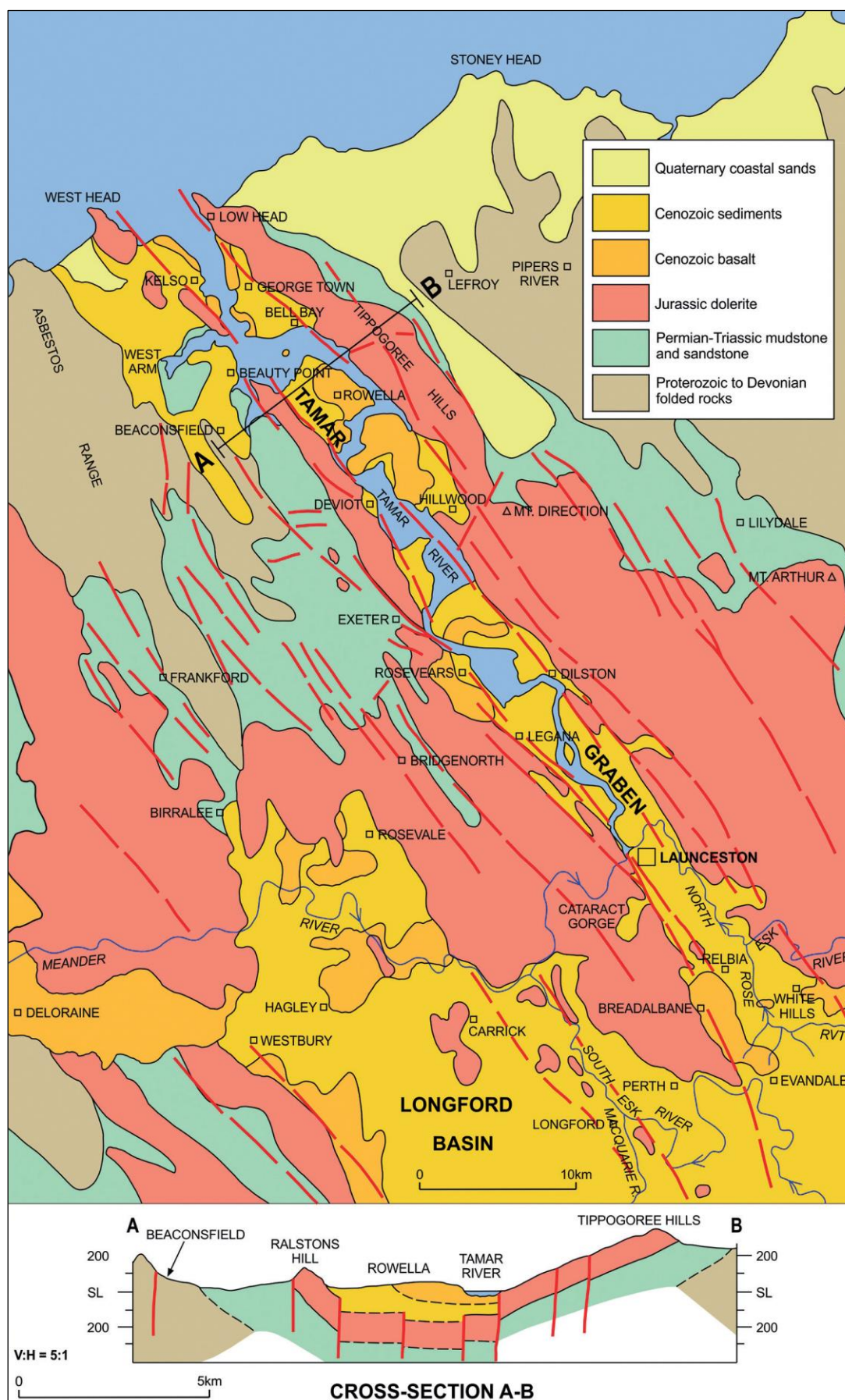


Figure 11: Regional Geological setting relevant to the TSGM Project area.

(Source: Corbett, 2021).

### 7.2.1. EL20/2022

Although broadly obscured by Quaternary alluvium and Paleogene-Neogene undifferentiated sedimentary units, the five (5) areas defining EL20/2022 (i.e., Areas A to E inclusive; Figure 12) are characterised by the following geology, as based on MRT mapping and previous explorers.

**Area A:** Jurassic dolerite and related rocks with minor occurrence of Permian glaciomarine sequences of pebbly mudstone, sandstone and limestone of the Mid- to Upper Parmeener Supergroup (see Reed and Calver 2004);

**Area B:** The central northern and west portions dominated by Jurassic dolerite and related rocks with minor Permian age carbonaceous sandstone and shale, and predominantly non-fossiliferous mudstone and sandy mudstone of the Mid- to Lower Parmeener Supergroup. The southern and central eastern portions of the Licence are dominated by Tertiary basalt with overlying poorly consolidated clay, silt and clayey sand and minor oxide-cemented layers and concretions (see Vicary, 2004);

**Area C:** The majority of the area is dominated by Jurassic dolerite of variable grainsize (0.7 up to 6mm), with some of these units denoted as “deeply weathered” in places, in the mapping work of Forsyth and Calver (2005). These represent immediate target areas for the Issuer;

**Area D:** Three large areas running through the centre of the Licence have been mapped as laterite derived from Tertiary basalt, although they occur immediately adjacent to identified Jurassic dolerite and related rocks, bringing into question their source / parent lithology (see Vicary, 2004). The remainder of the Licence is covered with talus consisting dominantly of dolerite boulders of undetermined age. This area represents an immediate opportunity for the Issuer to target interpreted prospective source / parent rocks amenable to iREE development; and

**Area E:** The western and southern part of the area is characterised by Jurassic dolerite, partially obscured by extensive sequences of undifferentiated Parmeener Supergroup rocks (see Vicary, 2004). The central and eastern portion of the area is mapped as laterite derived from Jurassic dolerite, and as for Area D, represents an immediate target area for the Issuer.

In all areas, the Issuer is targeting doleritic and similarly composed rocks, interpreted by explorers in the region to be spatially associated with, and / or potential sources to, iREE mineralization.

### 7.2.2. EL35/2022

The central and eastern part of the Licence Application is dominated by Jurassic dolerite and related rocks, mantled on their eastern side by talus and boulders of the same aged material (see Vicary, 2004; Figure 13). Less extensive sedimentary sequences of Triassic age undifferentiated Upper Parmeener Supergroup rocks overlie the dolerites in this area (dominated by cross-bedded sandstones and shales). The northern and western portion of the Licence is dominated by largely marine volcano-sedimentary sequences of sandstone, siltstone, mudstone conglomerate and breccia, with some felsic to andesitic volcanic rocks. This is interpreted to be part of the Cambrian Mount Read Volcanics, and is accompanied by pyroxene-olivine cumulate rocks and quartz-feldspar porphyritic intrusive units. Younger Jurassic dolerite and related rocks are noted, accompanied by large areas of related talus and boulders.



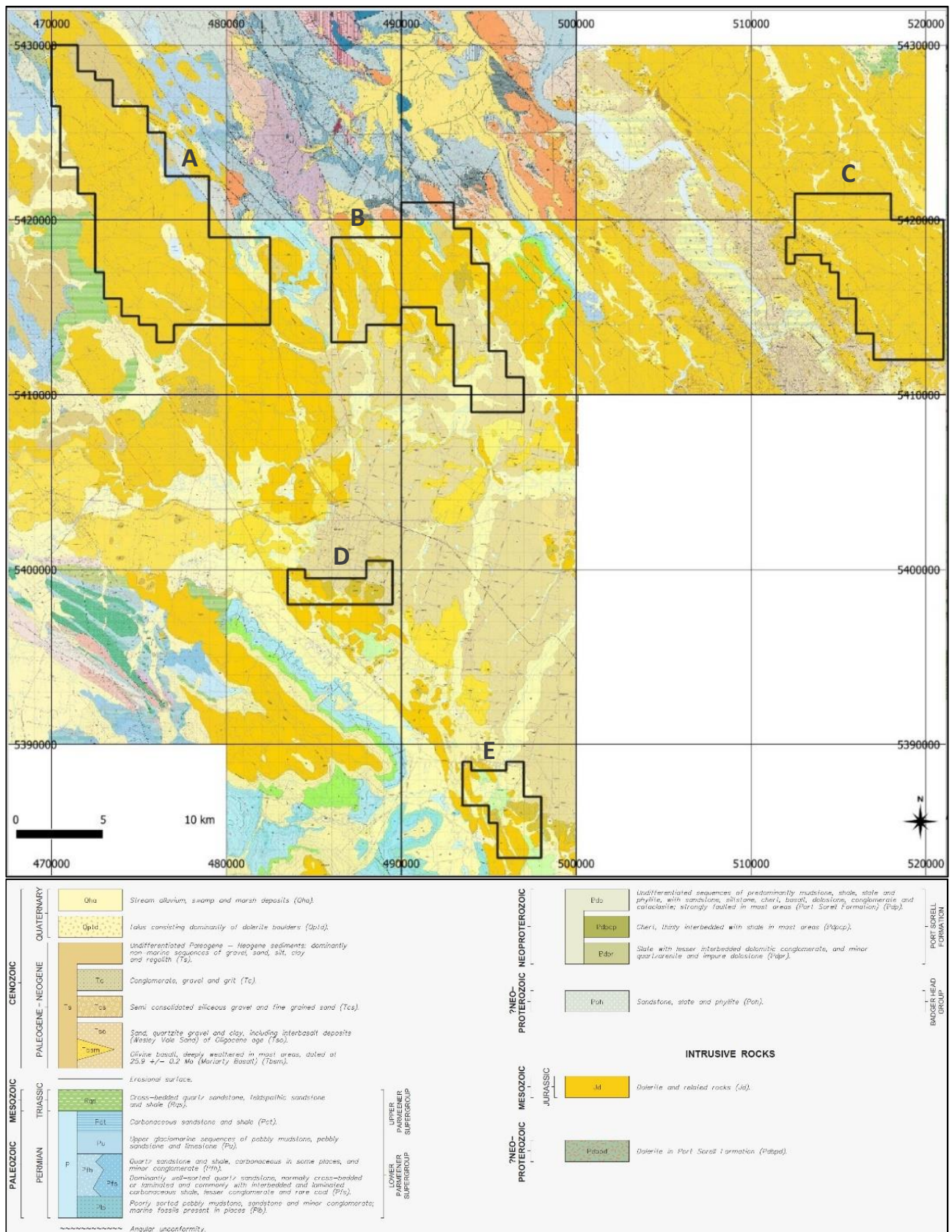


Figure 12: Local geological setting of Granted Licence EL20/2022

(Source: Reed & Calver, 2004; Vicary, 2004).



### 7.2.3. EL37/2022

The Licence is characterised by a central spine of Jurassic dolerite and related rocks which trends NW-SE through the Licence (see Blake 1959 and Blake et al., 2006; Figure 14). Numerous areas are identified as hosting sporadic laterite development, with the broader remainder of the Licence dominated by Tertiary sediment and Quaternary lag deposits.

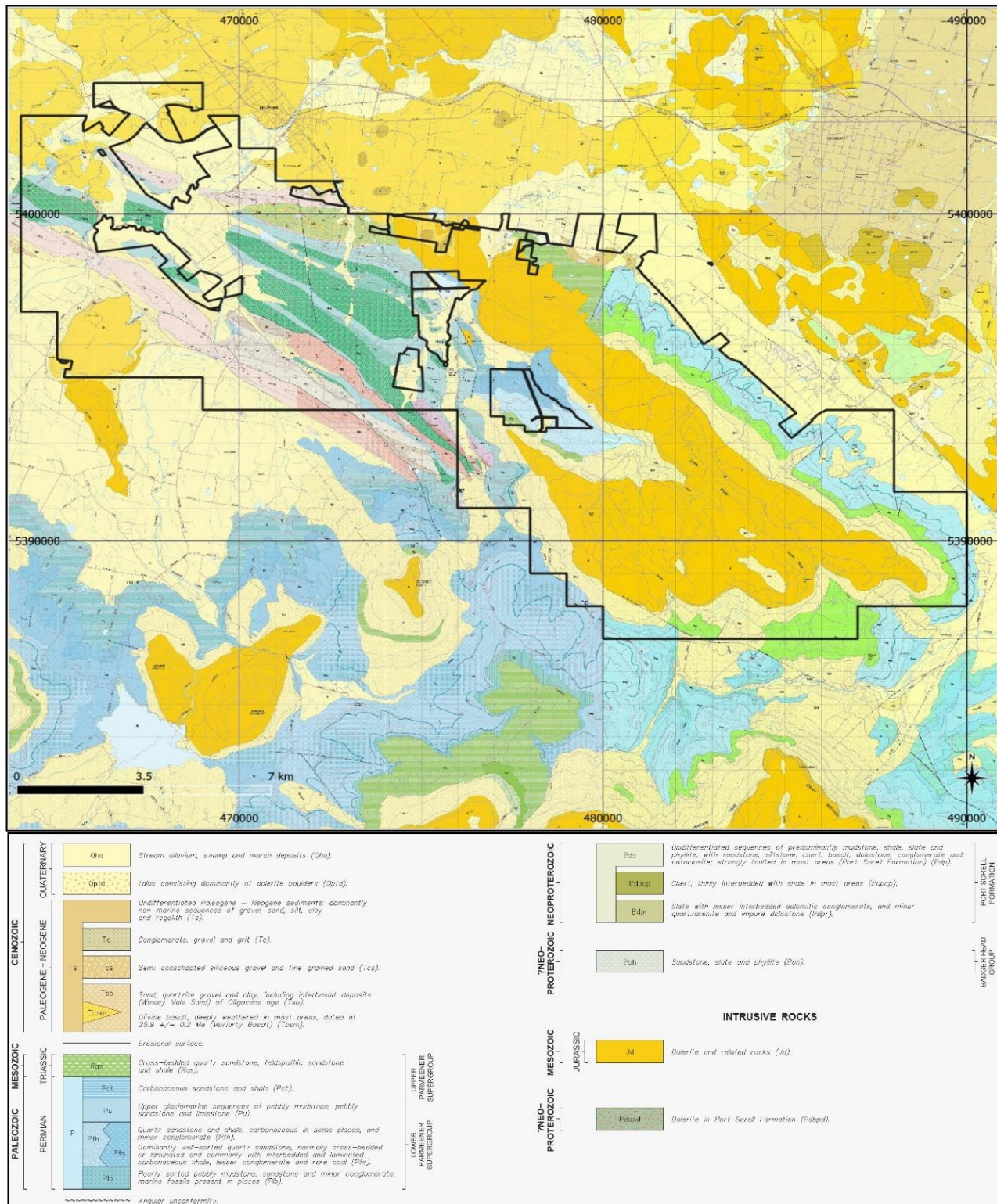


Figure 13: Local Geological setting of Licence Application EL35/2022.

(Source: Vicary, 2008 and Vicary 2004).



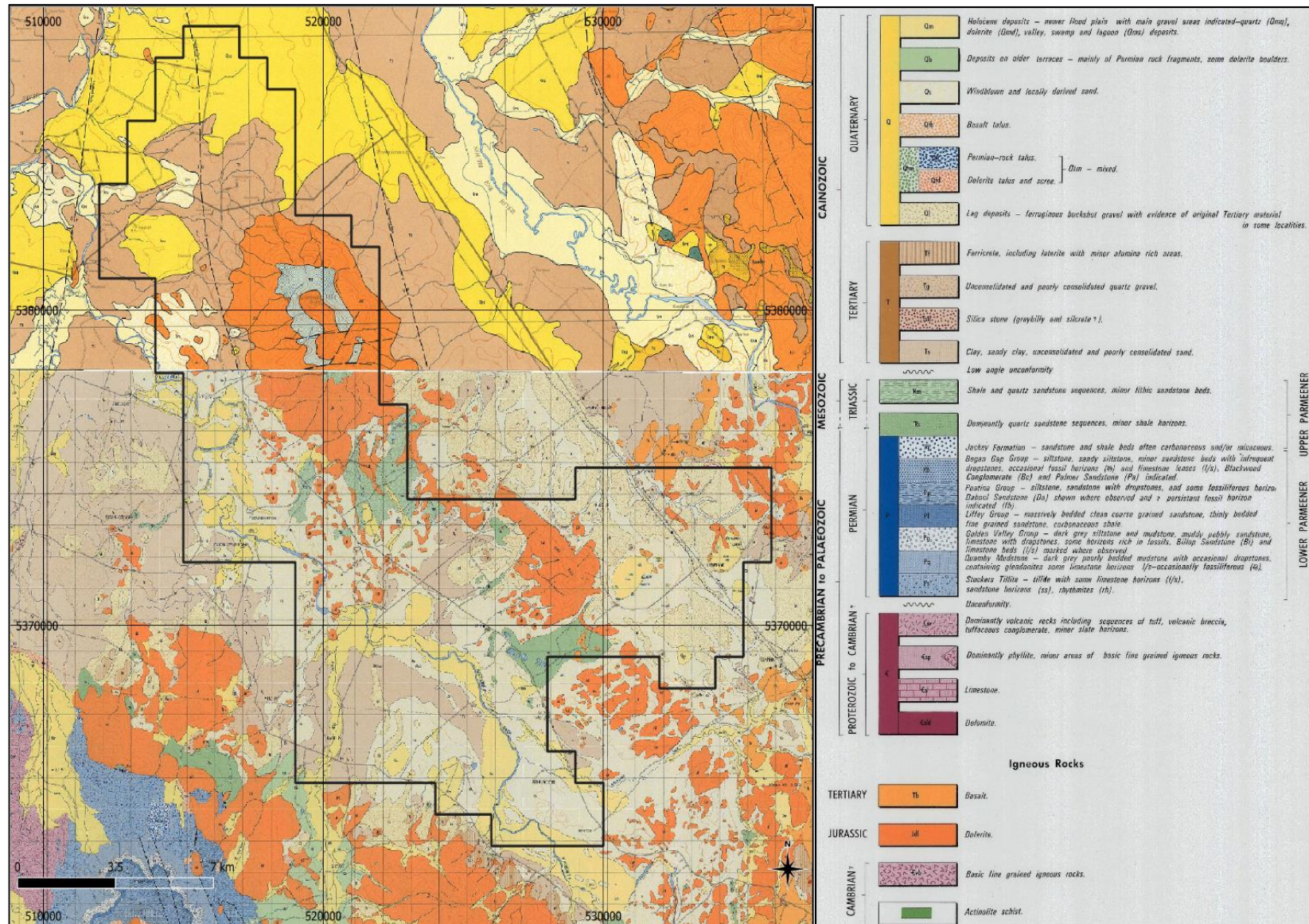


Figure 14: Local Geological setting of Licence Application EL37/2022.

(Source: Blake 1959 and Blake *et al.*, 2006).



## 7.2.4. EL41/2022

The northern most Licence Application in the Project is dominated on the western side by extensive exposure of Jurassic dolerite and related rocks, and associated younger undifferentiated Paleogene-Neogene sedimentary units (Reed and Calver, 2004; Figure 15). The eastern side of the Licence Application contains Jurassic dolerite and related rocks, as well as an extensive sequence of Lower- to Mid- Parmeener Supergroup units, dominated by Permian glaciomarine sequences of pebbly mudstone, sandstone and limestone and minor fossiliferous units.

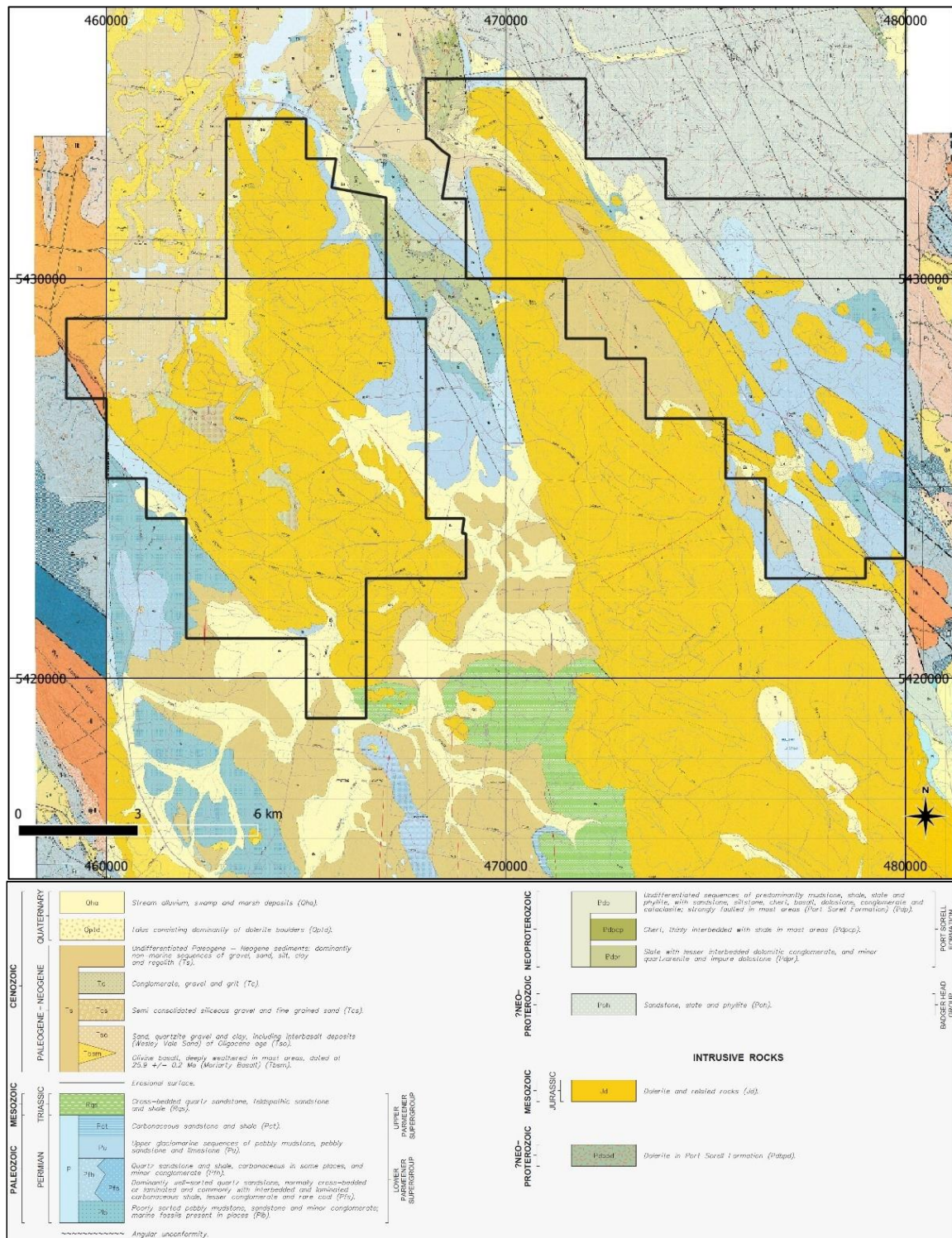


Figure 15: Local Geological setting of Licence Application EL37/2022.

(Source: Reed & Calver, 2004; Vicary, 2004).



## 7.3.Mineralization

Evidence for mineralization within the Licences is restricted to that defined by previous explorers, which has not included any exploration focussed on mineralization of an iREE style. The closest analogue for iREE mineralization is the identification of bauxite and laterite development, which is detailed in Section 5.3

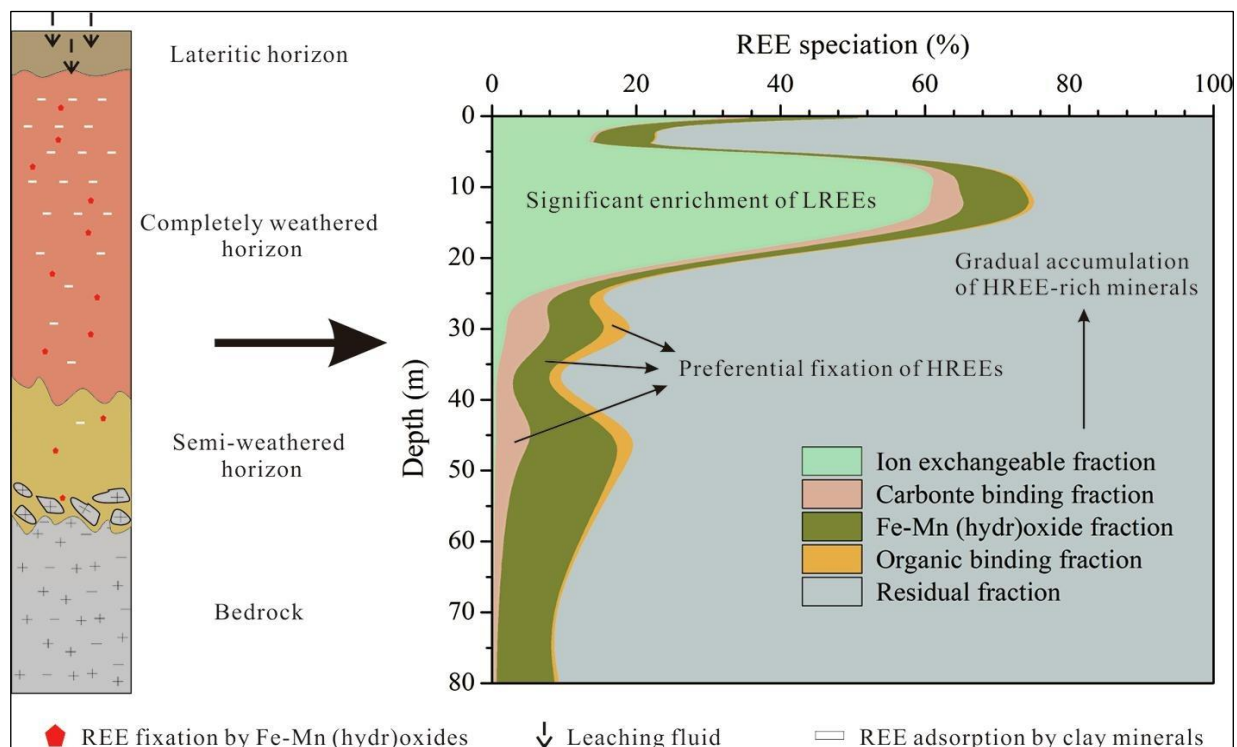
## 8. Deposit Types

### 8.1. Ion Adsorption-type Rare Earth Element Deposits

Ion Adsorption-type Rare Earth Element deposits (iREE) are a major producer of Heavy Rare Earth Elements (HREEs) worldwide and are interpreted to be genetically linked to the weathering of granite, and to a lesser extent, volcanic rocks and lamprophyres (see Xie *et al.*, 2016). One of the main regions that characterise this deposit type is Southern China, where early Mesozoic and late Mesozoic granites are considered the most important parent / source rocks for iREE deposits (see reviews by Wall *et al.*, 2017 and Wang *et al.*, 2018). Nonetheless, geological terranes globally, that are characterised by lithologies that satisfy the requisite precursor REE-rich mineralogy, remain relevant as potential iREE mineralization target areas. Currently, these REE-rich clay deposits are primarily mined from open-pit operations in Southern China (Xie *et al.*, 2016).

The mobility and differentiation of REEs within weathering profiles appears to be independent of climatic conditions, being documented across various climate ranges (i.e., from warm, semiarid and humid, to cold conditions; see Bao and Zhao, 2008). This potential for accumulation is strongly controlled by the lack of resistance to weathering of principal REE-rich minerals in the parent rocks (e.g. doverite, parisite, etc.). In addition, the weathering of common silicates such as hornblende and epidote (and plagioclase in the case of Eu), apatite, and rare but REE-rich minerals such as allanite and monazite, represent source mineralogy's for REE liberation (see Öhlander *et al.*, 1996).

After the REEs are released, they are adsorbed by clay minerals in the weathering profile (see Huang *et al.*, 2021). Figure 16 presents a schematic representation of a typical iREE mineralized lithostratigraphic sequence, with the mode of dissolution of REEs (denoted "leaching fluid" in Figure 16) in this instance being downward moving ground water (meteoric water) originating / sourced from the lateritic horizon.



**Figure 16: Schematic representation of a typical iREE mineralized lithostratigraphic sequence.**

(Source: Huang *et al.*, 2021).

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In addition to REE mobility and differentiation within weathering profiles, leaching experiments on silicate-dominated rocks (including granites) has established that REEs can be fractionated during alteration (see Möller (2002); Nesbitt and Markovics (1997) and references therein). This process mostly relates to more typical carbonatite-related REE deposits and will not be considered any further herein (see Wang *et al.*, 2020 and references therein for a detailed review of such systems).

Although the broad mode of liberation of REE is well understood, variations in REE behaviour can exist in the immediate local setting (i.e., at grain boundaries), as geochemical process at this scale can be influenced by numerous factors. These may include modal mineralogy variances of REE-bearing mineral assemblages, the porosity and permeability of the lithostratigraphic sequence, and the overall locality-specific physicochemical conditions of rock weathering (e.g. see Bao and Zhao (2008) and Price *et al.*, 1991).

The potential influence of biological factors in the local weathering profile is also considered important. For example, meteoric water (generally relatively acidic in composition) percolating through a layer of humus-rich topsoil, has the potential to become even more acidic and corrosive. Such a fluid has a greater capacity to carry a variety of cations, including REEs (see Taunton *et al.*, 2000). In this regard, organic acids, including amino acids, fulvic acids, etc., have been identified as abundant in the upper parts of the weathering profiles developed above and within granitic rocks in South China (see Chen *et al.*, 1997). As such, in specific geological environments, this could be used as an important vector and targeting tool in the exploration of iREE systems.

Figure 17 presents a schematic metallogenic model for iREE mineralization systems (after Zhu *et al.*, 2022). The model considers local- (i.e., weathering profile scale), intermediate- (i.e., alluvial basin scale) and more regional-scale factors (e.g., granite or mafic volcano-sedimentary terrains with the requisite precursor REE-rich mineralogy) in the targeting of iREE systems.

The Issuer is focussed on exploring for insitu iREE systems, and broader areas of depositional accumulation of such mineralization due to post-formational redistribution. That is, the Issuer will equally prioritise exploring for:

1. iREE systems that have limited to no post-mineralization displacement from their area of formation;
2. Secondary REE accumulation that has formed through the concentration of alluvial material eroded from insitu iREE mineralization; and
3. Similar to 2. above, the dispersion and/or redistribution of REE into paleochannel systems. The exact physicochemical conditions and mode of deposition of such paleochannel systems are currently poorly understood (i.e., the relative % contribution of mechanical vs geochemical control to deposition is currently not well-constrained); nonetheless, paleochannel-hosted REE are demonstrated to be a significant mineralization style in the region (see Section 23).

All three (3) of these mineralization styles, despite potentially differing depositional environments, inform the Issuer's broader exploration strategy.

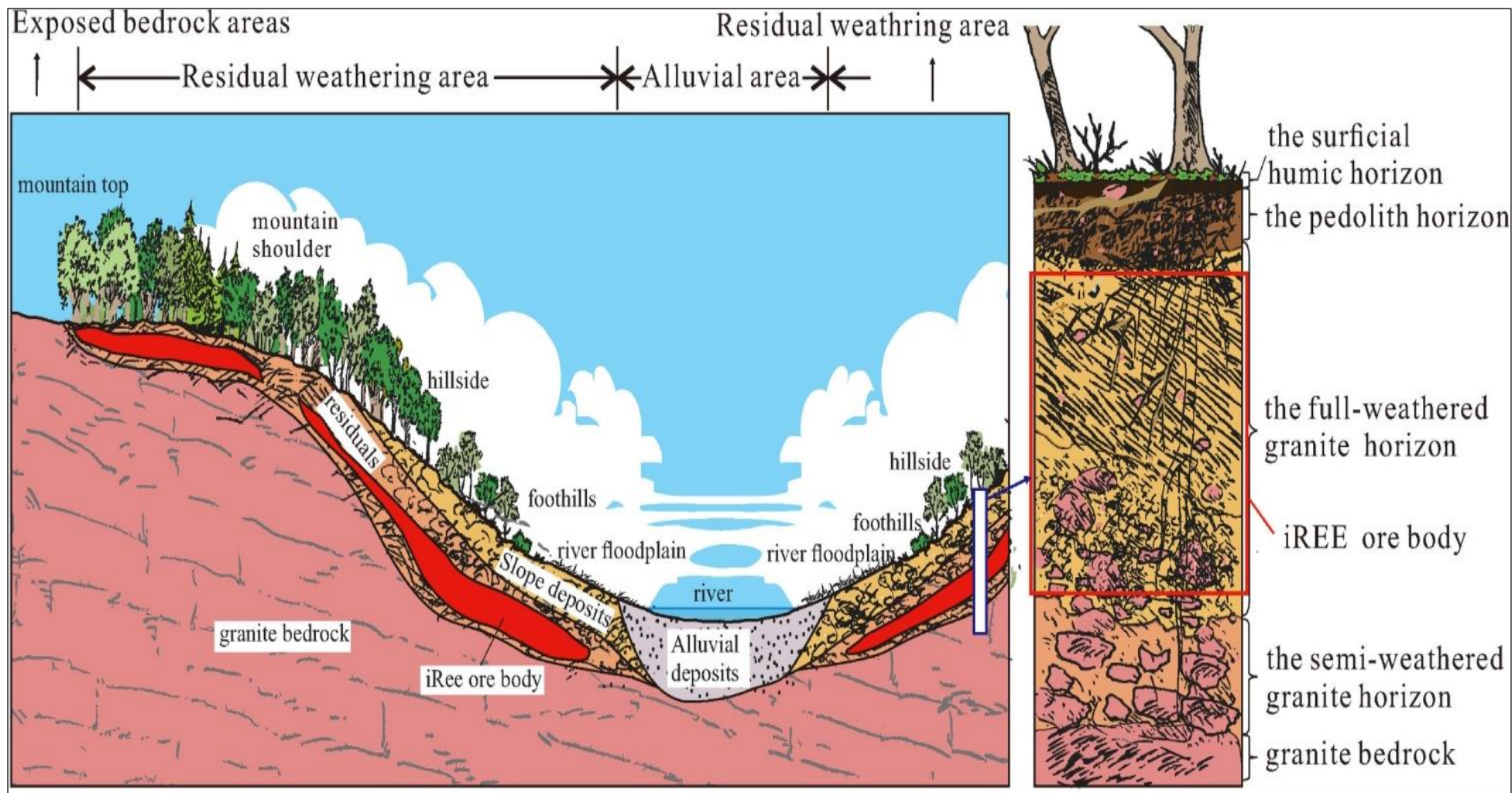


Figure 17: Metallogenic model for iREE mineralization based on regional geological studies in Yunnan Province, China.

(Source: Zhu *et al.*, 2022).

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## 9. Exploration

### 9.1. Survey Procedures and Parameters

Exploration by TSGM within the Granted Licences has been limited to reconnaissance site inspection and selective surface sampling only. In total, ten (10) samples have been collected in different locations throughout EL20/2022 (Figure 18; Table 2). Sample locations were determined as a function of the reconnaissance site inspection, where prospective laterite profiles exposed in outcrop and road cuttings were identified. To that end, no formally surveyed grid or systematic control has been applied to sampling locations.

### 9.2. Sampling Method and Sample Quality

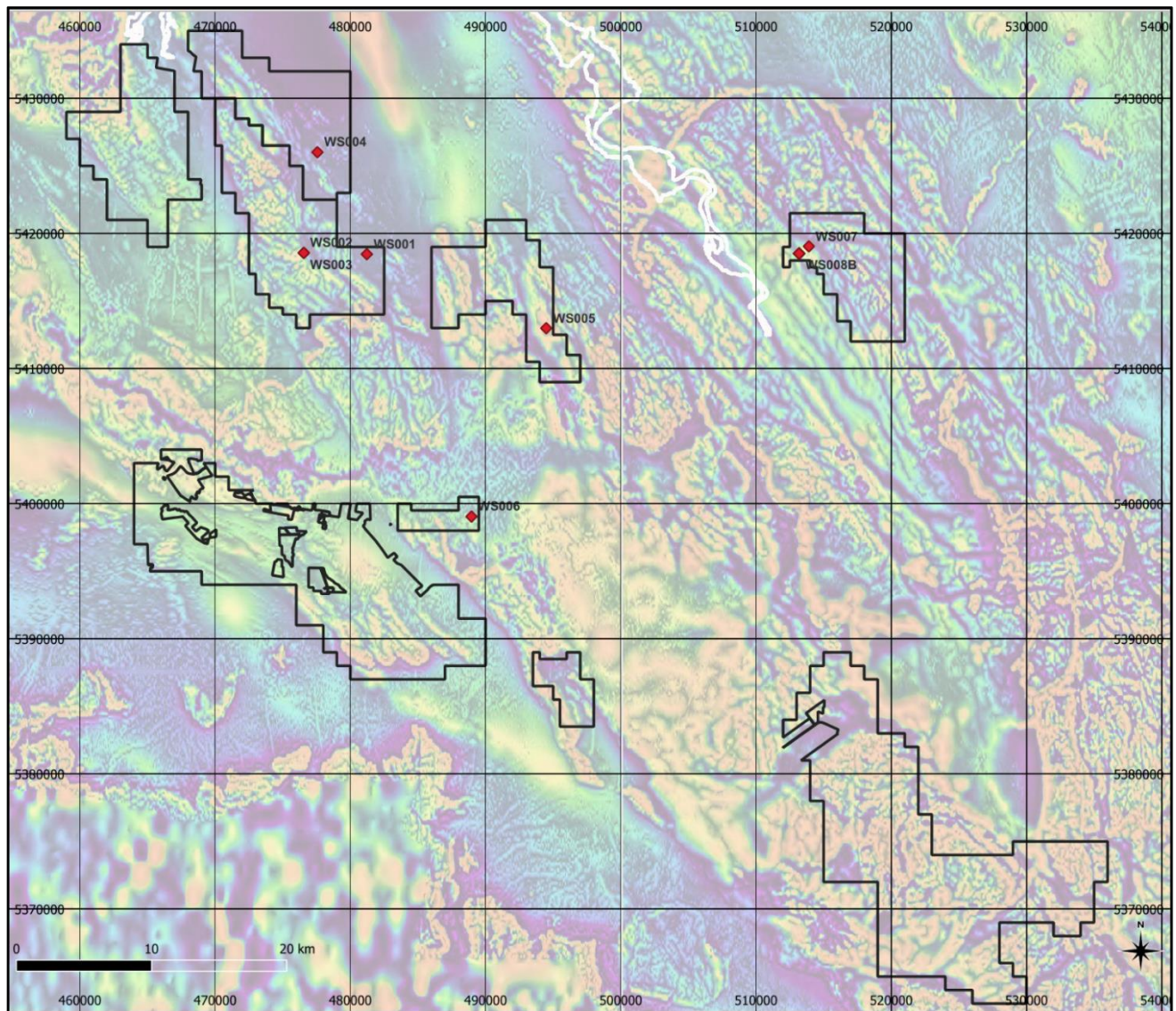
Horizons deemed potentially prospective within the exposed laterite profiles were earmarked for sampling. Samples were collected using a pick and shovel, with an approximately 2kg sample placed in calico bags and numbered using a numbering convention determined by TSGM. A GPS co-ordinate was documented to mark sample locations, and written on bags. Sample bags were then placed in secure containers for transport to the TSGM offices and subsequently dispatched to laboratory for analysis. The sampling procedures adopted are consistent with current industry best practices, particularly for the assessment of early-stage reconnaissance Projects. The methodologies are considered appropriate, and the samples collected are considered representative of laterite profiles observed for mafic volcanic photoliths in the region. Photos of the samples collected are presented in Appendix A - .

### 9.3. Significant Results

On collection, samples were analysed with a handheld X-ray fluorescence spectroscopy device (XRF; see Section 11). The field-based handheld XRF returned anomalous yttrium (Y) readings for Samples WS008a, b and c (Table 3). The Company rightly considered the XRF field analysis to be indicative only (requiring validation via laboratory analysis), and as such, TSGM submitted samples WS008a, b and c for laboratory analysis at ALS.

The results returned from ALS (Table 4) demonstrate that Y-enriched clays relative to background occur within areas of EL20/2022 and confirm REE enrichment and the potential for iREE systems in the Granted Licence.





**Figure 18: Location of samples collected by TSGM during reconnaissance field work.**

(Source: TSGM, 2023. Background 500k regional magnetics).

Table 2: Sample location and descriptions from TSGM reconnaissance field work

| Sample ID | Easting | Northing | Description   |
|-----------|---------|----------|---|
| WS001     | 481239  | 5418457  | Orange saprolite clay   |
| WS002     | 476537  | 5418561  | Red, brown clay   |
| WS003     | 476537  | 5418561  | Saprolite with mottled red brown, bleached sandstone with black lumps |
| WS004     | 477578  | 5426012  | Light grey, red clay with white carbonate(?) coating                  |
| WS005     | 494484  | 5412965  | Pale, mottled, saprolite  |
| WS006     | 488945  | 5399052  | Fe clay after basalt  |
| WS007     | 513916  | 5419020  | Black soil  |
| WS008A    | 513165  | 5418527  | Mottled red brown saprolite with black lumps                          |
| WS008B    | 513165  | 5418527  | Mottled red brown saprolite with black lumps                          |
| WS008C    | 513165  | 5418527  | Mottled red brown saprolite with black lumps                          |

Table 3: XRF Results for TSGM reconnaissance field work samples

| Sample ID | Date       | Time     | Reading # / Test Label | Units | Y Conc. | Y Error1s | La Conc. | La Error1s | Ce Conc. | Ce Error1s | Pr Conc. | Pr Error1s | Nd Conc. | Nd Error1s |
|-----------|------------|----------|------------------------|-------|---------|-----------|----------|------------|----------|------------|----------|------------|----------|------------|
| WS008A    | 18/04/2023 | 13:36:49 | 22                     | PPM   | 17      | 2         | 0        | 595        | 0        | 720        | 0        | 1109       | 0        | 1535       |
| WS008A    | 18/04/2023 | 14:03:15 | 31                     | PPM   | 12      | 2         | 0        | 618        | 0        | 748        | 0        | 1147       | 0        | 1590       |
| WS008A    | 18/04/2023 | 14:05:34 | 32                     | PPM   | 45      | 1         | 71       | 17         | 139      | 21         | 0        | 804        | 212      | 48         |
| WS008B    | 18/04/2023 | 14:07:34 | 33                     | PPM   | 65      | 1         | 52       | 17         | 63       | 20         | 0        | 796        | 150      | 46         |
| WS008B    | 18/04/2023 | 13:39:08 | 23                     | PPM   | 760     | 9         | 179      | 21         | 359      | 26         | 0        | 1666       | 516      | 55         |
| WS008B    | 18/04/2023 | 13:43:37 | 24                     | PPM   | 372     | 6         | 111      | 19         | 203      | 24         | 0        | 1686       | 177      | 52         |
| WS008B    | 18/04/2023 | 13:46:55 | 25                     | PPM   | 260     | 5         | 81       | 12         | 166      | 15         | 86       | 22         | 155      | 33         |
| WS008C    | 18/04/2023 | 13:50:21 | 26                     | PPM   | 113     | 2         | 64       | 16         | 85       | 19         | 0        | 1037       | 146      | 42         |
| WS008C    | 18/04/2023 | 13:52:07 | 27                     | PPM   | 823     | 12        | 155      | 20         | 342      | 25         | 0        | 1882       | 349      | 54         |
| WS008C    | 18/04/2023 | 13:54:58 | 28                     | PPM   | 58      | 2         | 0        | 502        | 0        | 604        | 0        | 936        | 0        | 1289       |
| WS008C    | 18/04/2023 | 13:56:41 | 29                     | PPM   | 28      | 2         | 0        | 525        | 0        | 634        | 110      | 34         | 189      | 49         |
| WS008C    | 18/04/2023 | 14:00:23 | 30                     | PPM   | 23      | 1         | 0        | 514        | 0        | 620        | 0        | 947        | 164      | 47         |

Table 4: Results of analysis from ALS Laboratories for TSGM reconnaissance field work samples

| Sample ID   | La  | Ce  | Pr    | Nd  | Sm    | Eu   | Gd  | Tb   | Dy  | Ho   | Er    | Tm    | Yb   | Lu    | Y   | Sc   |
|-------------|-----|-----|-------|-----|-------|------|-----|------|-----|------|-------|-------|------|-------|-----|------|
| WS008a      | 233 | 523 | 120   | 533 | 180   | 43.9 | 195 | 36.8 | 241 | 52.6 | 158   | 25.3  | 175  | 27.7  | 963 | 26.4 |
| WS008b      | 213 | 480 | 101   | 444 | 134   | 32.4 | 145 | 26.8 | 174 | 38.1 | 112   | 17    | 113  | 17.7  | 796 | 29.7 |
| WS008c      | 189 | 413 | 85.3  | 372 | 109   | 27   | 124 | 22.2 | 142 | 30.9 | 90.9  | 13.2  | 85.3 | 13.3  | 679 | 20.1 |
| *REP WS008b | 215 | 484 | 102.5 | 450 | 137   | 32.4 | 150 | 27.3 | 176 | 38.7 | 115.5 | 17.2  | 114  | 18.05 | 806 | 28.2 |
| *REP WS008c | 189 | 402 | 85.9  | 368 | 108.5 | 26.3 | 122 | 22.1 | 141 | 31   | 90.5  | 13.35 | 84.7 | 13.2  | 682 | 25.2 |

Notes: Elemental abundances reported in ppm with analytical procedure by lithium borate fusion ICP-MS.

\*REP WS008b and \*REP WS008c are duplicate samples of WS008b and WS008c, respectively.

Certificate of Analysis (COA) presented in Appendix B - .

## 10. Drilling

There has been no drilling within any of the Licences reviewed for the mineralization style being targeted.

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## 11. Sample Preparation, Analyses and Security

Ten (10) samples were analysed at the sampling site in the field using an Olympus Vanta XRF M series - Model VMR (Date of Manufacture OCT-20, 50kv tube rating @ 0.2mA S/N 841182). Results from the field-based XRF analysis are presented in **Error! Reference source not found.**

Samples were collected and a GPS position logged, photographed and placed in their own calico bags, labelled, secured with cable ties and transported by 4WD vehicle to the TSGM offices in locked containers. From a quality assurance / quality control perspective (QAQC), the samples were collected individually based on their position within the laterite profile, with sampling equipment cleaned between samples to ensure adequate quality control by avoiding any potential cross-contamination.

Given the small sample batch (i.e. only three samples sent for laboratory analysis) and that the samples represent reconnaissance early-stage exploration samples of unknown composition, no blanks or standards were co-submitted with the samples to the laboratory. The Issuer included duplicate samples for WS008b and WS008c

Samples WS008a, WS008b and WS008c were sent to ALS for analysis. Samples were prepared by ALS labs following in house Standard Operating Procedures, which included:

- Sample Weighing (ALS Code WEI-21);
- Sample Crush (ALS Code CRU-21);
- Sample Pulverisation and Split (ALS Code PUL-23);
- Sample Pulverisation QC Test (ALS Code PUL-QC);
- Login of Sample and allocation of bar code (ALS Code LOG-22); and
- Sample Analysis using lithium borate fusion Inductively Coupled Plasma Mass Spectrometry (ICP-MS) (ALS Code ME-MS81).

The laboratory included two (2) Standards and one (1) Blank in the sample stream as part of their QAQC protocol. Results from ALS analysis are presented in Table 4 with Certificate of Analysis (COA) presented in Appendix B - . Standards and Blanks returned values in the expected range.

The QP's notes that ALS is a globally recognised and mining industry accredited laboratory for the preparation and analysis of samples for various elements including REE's. It is the QP's opinion that the sample collection by TSGM followed adequate QAQC procedures given the context of the sampling objectives.

Further, it is the view of the QP that the QAQC procedures regarding sample preparation and analysis by ALS was appropriate and provide adequate confidence in the analysis and processing of the results data so as to rely on the results as presented in Table 4 and Appendix B is justified. The XRF analyses should be considered as indicative only, and interpreted within the context of the analytical errors of the instrument.

## 12. Data Verification

Verification of data considered as critical input for this Report was limited to confirmation, by the author, of the existence, in good order, of:

- 
- a) Samples WS001 to WS008 (including WS008a, b and c), inclusive (note that sample sites for WS008a, b and c were visited);
  - b) Photographs of samples WS001 to WS008 (including WS008a, b and c), inclusive (Presented in Appendix A - );
  - c) The associated assay results for samples WS008a, b and c in their digital form;
  - d) Documentation of the QAQC carried out by the Issuer on the WS008a, b and c samples;
  - e) Documentation of the QAQC carried out by ALS for the WS008a, b and c samples; and
  - f) Interpreted geological maps sourced largely from The Land Information System Tasmania (LIST), which is managed by Land Tasmania, a business unit of the Department of Natural Resources and Environment Tasmania, Government of Tasmania.

For the LIST maps, hosting platform provides Government managed data pertaining to Exploration Licences and Permits, geological data (including maps, geochemical and geophysical datasets), reports and spatially-enabled datasets related to historic exploration work and results, and survey and cadastral information.

The QP has discussed with Land Tasmania the currency and veracity of the geological, geochemical and geophysical datasets used in this Technical Report (i.e. Figures 1-10 inclusive, 12-15 inclusive, and 18, 19 and 21), as well as the currency of the Licence status for tenements presented in the Technical Report. The QP validated the position of the Licences during the site inspection as well as the geological setting in the context of the data sourced from LIST. The confirms the data has been generated with proper procedures, has been accurately transcribed from the original source and is suitable to be used in this Technical Report.

Although the QP visited the sample site of samples WS008a, WS008b and WS008c to verify their geological context, the QP did not re-sampled the spoils or taken new samples at the sample site for verification of the results presented herein.

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## 13. Mineral Processing and Metallurgical Testing

There has been no mineral processing or metallurgical test work completed on any of the samples collected from within any of the Licences reviewed, for the mineralization style being targeted.

## 14. Mineral Resource Estimates

There are no Mineral Resource Estimates within any of the Licences reviewed.

**\*\*\* NI 43-101 Items 15 to 22 not included \*\*\***

**\*\*\* The Ionic Adsorption Clay REE Exploration Projects in Tasmania**

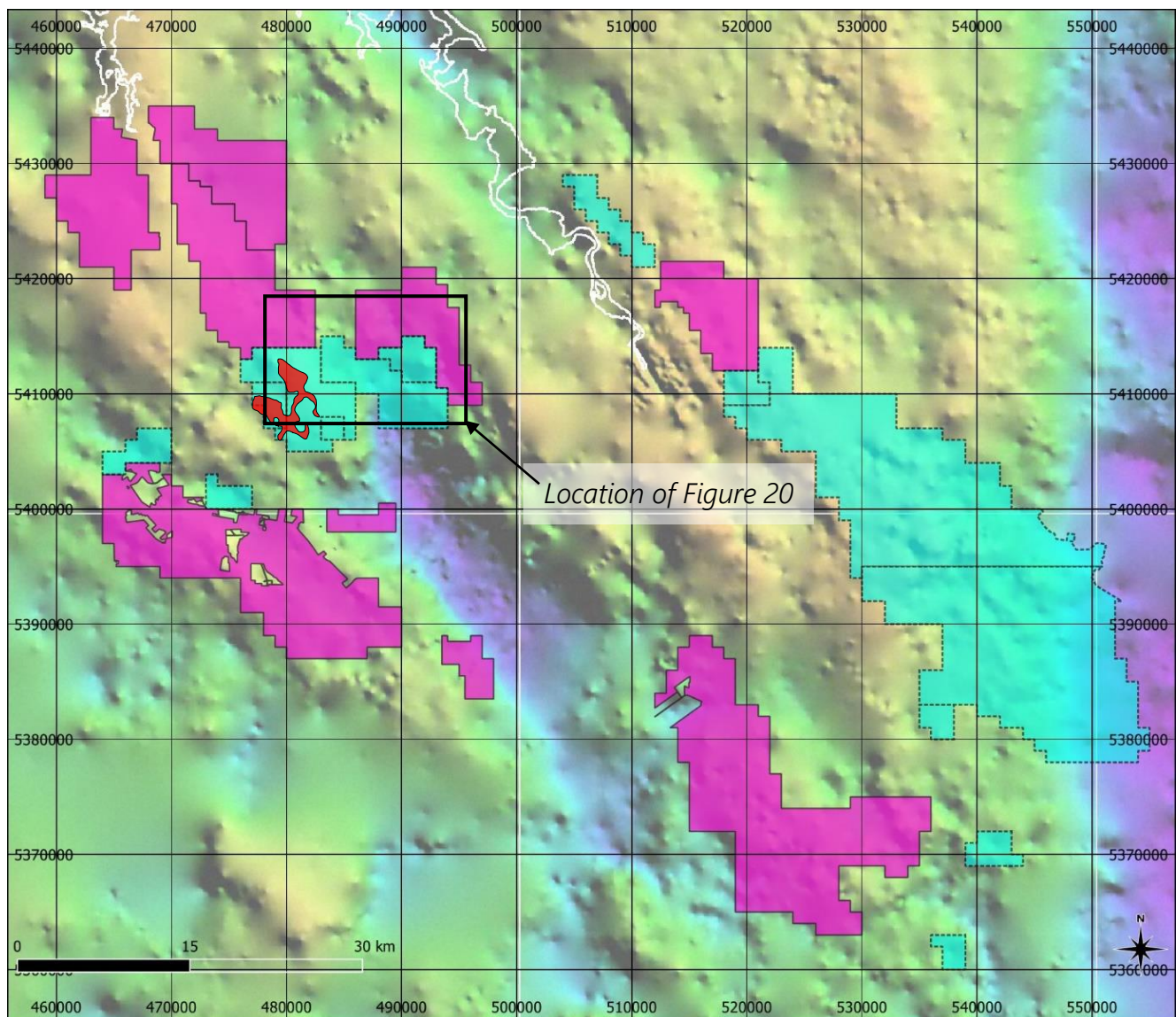
**are not advanced exploration projects \*\*\***



## 23. Adjacent Properties

Abx Group (ASX: ABX) holds numerous Licences proximal to the Issuers ground holdings and are predominantly exploring for iREEs and bauxite (Figure 19; see [www.abxgroup.com.au](http://www.abxgroup.com.au)).

In November 2022, ABx announced a quantum of iREE mineralization for its Deep Leads – Rubble Mound channel area, estimated following the guidelines of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012) (see ASX Announcement 23 November 2022 and CP statement therein). The Deep Leads – Rubble Mound channel mineralization is located to the south of Area A of EL20/2022 and is characterised by channels of thick iREE mineralisation (referred to as Ionic Adsorption Clay (IAC) by ABx).



**Figure 19: Position of ABx Groups Licences relative to TSGM.**

(NB: ABx Licences in light blue with dashed outlines. TSGM Licences in purple. Red fill denotes MRE area of ABx).

(Background 500k regional gravity from MRT).

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Of substantial significance to the Issuer is that subsequent exploration by ABx has defined extensions to the mineralization (Figure 20; see ABx ASX Announcements 18 July and 27 September 2023 and CP statement therein). In particular, drill hole RM302 (11m @ 1,700ppm TREO<sup>1</sup>; Figure 20) and RM336 (1m @ 17,333ppm TREO including 819ppm Dy<sub>2</sub>O<sub>3</sub> and 138ppm Tb<sub>4</sub>O<sub>7</sub><sup>2</sup>; Figure 20) have confirmed that the overall trend of the northern portion of the Deep Leads – Rubble Mound channel iREE mineralization continues towards the Issuers southern margin of Area A in EL20/2022 (Figure 21).

Although lower grade, similar mineralization and an overall NW- to northerly-trend for iREE mineralization at ABx's Wind Break Project indicate that mineralization may also extend into the south central portion of Area B of EL20/2022 (Figure 21). Preliminary metallurgical test work by ABx has returned excellent extraction rates of up to 71% from the iREE mineralisation under standard desorption test conditions, and potentially suggests that the mineralization may be amenable to a low-acid, low-cost processing flowsheet solution (ASX Announcement 23 November 2022 and CP statement therein).

Of specific relevance to the Issuer, ABx report that REE mineralisation occurs in clay layers that overlie a Jurassic age dolerite basement with paleochannels host to thicker clay zones. This confirms the Issuers concept of the potential for both insitu iREE mineralization and alluvial concentrations or paleochannels within their Licences, as they are documented to have extensive Jurassic dolerite and related rocks. In addition, at least Areas A and B of EL20/2022 exhibit the continuation of geophysical features that follow the trend of the Deep Leads – Rubble Mound channel and Wind Break mineralization defined in ABx's ground to the south. Although yet to be tested, these may represent potential controlling structures to the paleochannel hosted iREE mineralization of ABx (Figure 21).

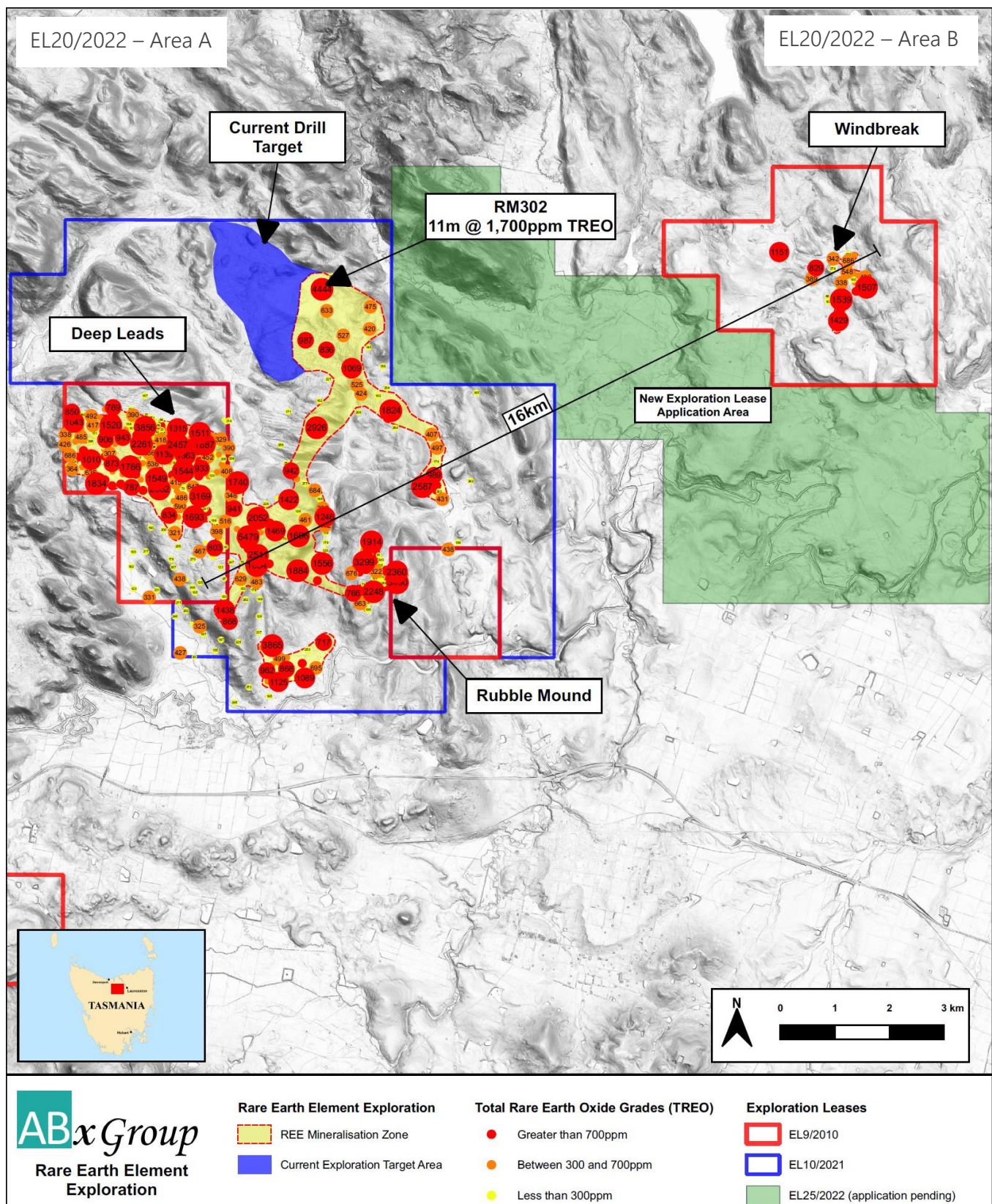
It should be noted that the QP has been unable to verify the information that is presented in the ABx ASX Announcements on 23 November 2022, 18 July 2023, 27 September 2023 or 23 November 2022. The information is not necessarily indicative of the mineralization on the property that is the subject of this Technical Report.

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<sup>1</sup> ASX Announcement 18 July 2023 and CP statement therein

<sup>2</sup> ASX Announcement 27 September 2023 and CP statement therein





**Figure 20: Inset from Figure 19 showing the location of ABx Groups iREE mineralization for the Deep Leads- Rubble Mound area.**

(Source: ABx ASX Announcement 17 August 2023 and CP statement therein. The QP has been unable to verify the information that is presented in the ABx ASX Announcement 23 November 2022 18).

(NB: The “Current Drill Target” has been drilled and results announced in ABx ASX Announcement 27 September 2023. The QP has been unable to verify the information that is presented in the ABx ASX Announcement 27 September 2023).



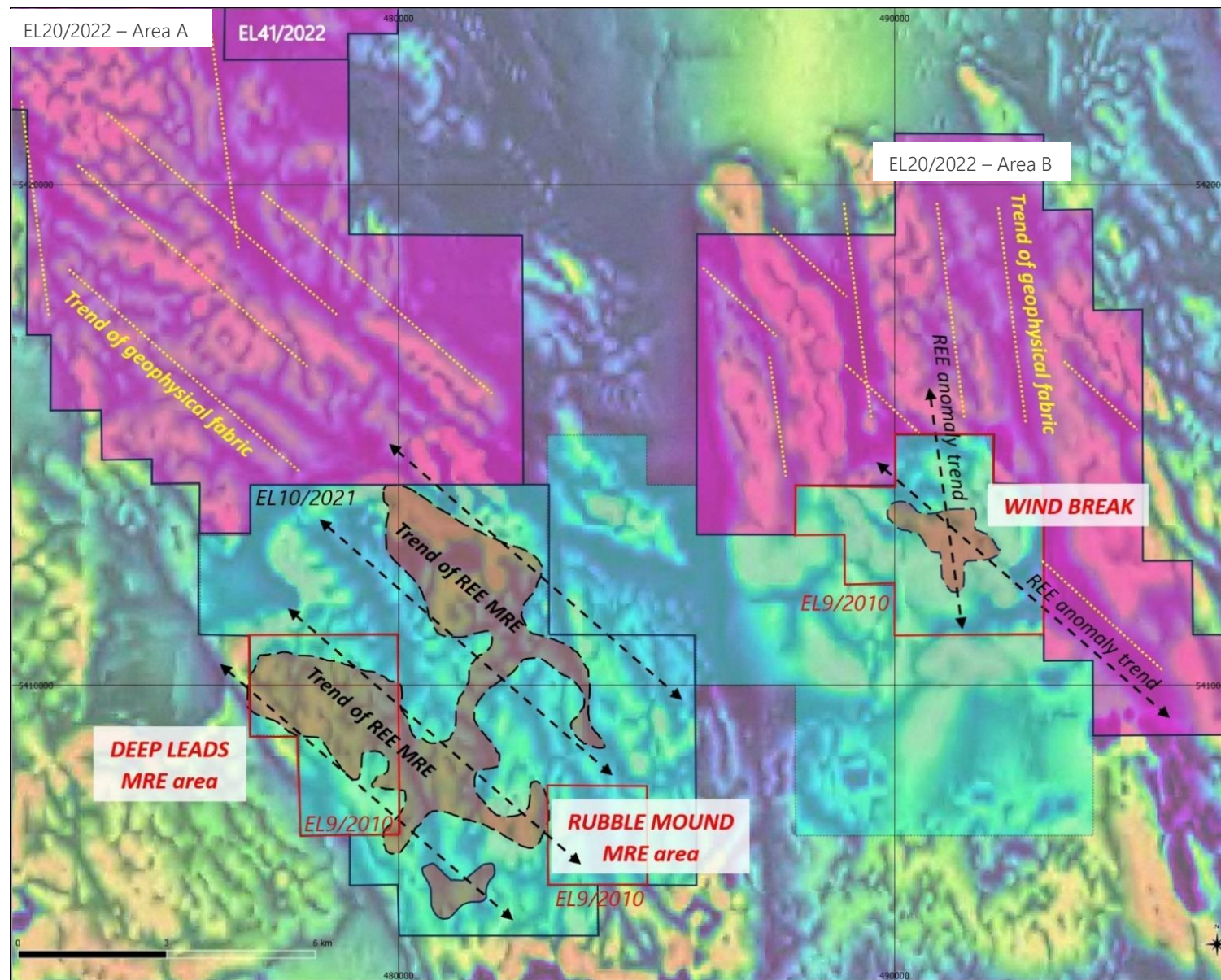


Figure 21: Overlay of regional magnetics data and interpreted geophysical feature that may control the trend of ABx's MRE and mineralization at Wind Break.

(Source: modified from ABx ASX Announcement 27 September 2023).

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## 24. Other Relevant Data and Information

The QP considers there to be no other relevant data and information at the time of reporting.

## 25. Interpretation and Conclusions

The Issuers Tasmanian Projects represent a portfolio of Licences that were acquired and applied for based on the Company's conceptual model that the geological setting is conducive to the formation of iREE mineralization similar to that which contributes the majority of the world's REE in southern China (i.e., see Xie *et al.*, 2016).

Historic exploration work and MRT mapping throughout the Issuers Licences has identified an extensive suite of Jurassic dolerite and basalt, which to date, have been explored largely for their bauxite potential with varying degrees of success (see Section 6). These lithologies and related laterites are also deemed highly prospective for iREE mineralization (e.g., see Price *et al.*, 1991), and as evidenced by the recent IAC (i.e., iREE) discoveries by ABx Group at their Deep Leads – Rubble Mound and Wind Break Projects (see Section 23; Figure 20). The QP notes that the prospective Jurassic dolerites and basalts are often obscured by subsequently deposited Quaternary and Tertiary sedimentary sequences, as well as unconsolidated talus and scree sourced from the mafic rocks of interest. It is further noted that the ABx MRE trends directly into the Issuers Granted Licence EL20/2022 (Figure 21), the extension of which is currently untested and provides a high priority and immediate drill target.

The schematic metallogenic model for iREE mineralization systems of Zhu *et al.* (2022) describing the prolific iREE deposits in southern China, is directly applicable to the geological setting of the Issuer. Although the model of Zhu *et al.* (2022) generally describes parent rocks as being more felsic in composition, the lateritisation processes described are relevant to mafic lithologies, again as demonstrated by the ABx discoveries over largely mafic bedrocks.

The QP notes that exploration work to further establish the iREE mineralization potential within the Licences is at the earliest stage of assessment. The Company has only limited surface samples (ten in total), restricted to only the Granted Licence (EL20/2022). Anomalous REE results in one (1) of the samples (WS008a – c) is encouraging as a proof of concept, with similar sampling to be deployed in the Licence Applications as a matter of priority on granting.

In the QP's opinion, exploring for *insitu* iREE systems and broader areas of REE accumulation in alluvial and paleochannel systems is warranted within the Issuers ground holding. This opinion is based on demonstrable mineralization of this style proximal to the Issuers Projects (particularly EL20/2022 and possibly EL41/2022) and the distribution of favourable source lithologies within the Company's Licence Application areas.



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## 26.Recommendations

The following recommendations are presented for the Issuers consideration.

Exploration should continue in areas identified as a priority based on the sampling to date. Initial phases of exploration (Phase 1a) should focus on data compilation, interpretation thereof, and ground truthing. Tasks should include:

- Albeit at a coarse resolution (i.e., 1:500,000 scale), publicly available MRT aeromagnetic data appears to sufficiently identify the Jurassic mafic sequences of interest. When correlated with the 1:25,000 scale geological mapping, it represents a time and cost efficient dataset to reprocess and interpret as an initial targeting exercise by the Issuer;
- Aeromagnetic data is effective at identifying apparent structural features, that at least within EL9/2010 of ABx, appear to control the distribution of material defined in their mineralized areas (see Section 23 and Figure 21). Supplementing this work with inexpensive additional remotely sensed hyperspectral and similar datasets (e.g., Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER), and/or Light Detection and Ranging (LiDAR)) will greatly assist in prioritising areas of primary interest; and
- Ground truthing of targeted areas would then be required to assist in prioritising areas for the next phase of exploration.

Either prior to or following an initial ground truthing program, it is recommended that the Issuer incorporate historic drilling data collected by previous explorers over the Company's ground, and develop a regolith model over priority areas. This will assist in the understanding of indicative depths for prospective laterite horizons, as well as potential zones of paleochannel development. Surface sampling over these areas where possible would represent a good first-pass exploration practice, but more effective sampling will be achieved through targeted drilling in priority areas. This will not only provide material for geochemical analysis and assaying, but also provide geological data through the entire laterite profile where intersected.

Table 5 presents a proposed two (2) Phase (Phases 1a and 1b) exploration program and indicative budget for preliminary evaluation of the potential for iREE mineralisation across the Granted and Application Licence areas. The proposed two (2) Phase work program is recommended with an estimated total cost of A\$355,000 over 12 months, with all costings based on typical Australian exploration and geological consulting standards, quoted in Australian dollars (A\$).

### 26.1.Phase 1a Exploration

The Phase 1a program (~A\$140k; Table 5) is focussed on data acquisition, analysis and ground truthing. Although the iREE mineralization model is justified and supported by the geological setting and definition of mineralization in adjacent properties, it is conceptual in nature and requires further testing and validation.

For Phase 1a, it is recommended that the Issuer undertake a detailed data acquisition and review process to better-align their geological interpretation to data available in the public domain. This should be followed by ground truthing and verification geological mapping at 1:10,000 scale, with rock chip and grab sampling as relevant, in order to delineate any broad-scale litho-structural elements within the Licences that may control potential iREE mineralisation.

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## 26.2.Phase 1b Exploration

For Phase 1b, it is recommended that data from Phase 1a be integrated and a preliminary district-scale litho-structural model developed to establish targeting criteria, with a view to define high-priority follow up drill target areas. At this stage a geophysical survey (magnetics) should be considered over key prospective areas to better-constrain the structural architecture of the area and target potential paleochannel features that host iREE mineralization in adjacent properties. Dependant on results, a preliminary auger drilling program should be deployed to determine the extents of potential controlling structures, as well as test areas where anomalous samples may have been identified in Phase 1a.

Any future exploration will be dependent on Phase 1a and 1b results, but it is likely that future testing would be scheduled to focus on Air Core (AC) drilling of priority areas defined during the Phase 1b program.

The QP assumes that industry best practice will be applied by the Issuer to field tasks (e.g., sampling) and any subsequent public reporting of results (i.e., following the guidelines of the Canadian Institute of Mining, Metallurgy and Petroleum standards (CIM) and/or The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code).

Table 5: Indicative exploration program and budget

| Task   | Indicative Cost   | Time Estimate |
|--|-------------------|---------------|
| <b>Phase 1a: Primary data Compilation, reprocessing and initial interpretation:</b>                  |                   |               |
| • Data acquisition and processing  | \$ 15,000         | 2 months      |
| • Modelling and interpretation software  | \$ 10,000         |               |
| • Salaries   | \$ 15,000         |               |
| • General and Administrative   | \$ 10,000         |               |
| <b>sub-total</b>   | <b>\$ 50,000</b>  |               |
| Phase 1a: Field based ground truthing and structural and geological mapping at 1:10,000 scale:       |                   | 4 months      |
| • Salaries   | \$ 30,000         |               |
| • Supplies, materials, accomodation and meals  | \$ 10,000         |               |
| • General and Administrative   | \$ 20,000         |               |
| <b>sub-total</b>   | <b>\$ 60,000</b>  |               |
| Phase 1a: Rock chip and grab sampling to delineate litho-structural controls on iREE mineralisation: |                   |               |
| • Analysis   | \$ 25,000         |               |
| • General and Administrative   | \$ 5,000          |               |
| <b>sub-total</b>   | <b>\$ 30,000</b>  |               |
| <b>Phase 1a Total</b>  | <b>\$ 140,000</b> | 6 months      |
| <b>Phase 1b: Low Impact Exploration including geophysical survey and Auger soil Sampling:</b>        |                   |               |
| • Geophysical survey and auger sampling  | \$ 75,000         | 5 months      |
| • Salaries   | \$ 40,000         |               |
| • Supplies, materials, accomodation and meals  | \$ 10,000         |               |
| • Analysis   | \$ 25,000         |               |
| • General and Administrative   | \$ 20,000         |               |
| <b>sub-total</b>   | <b>\$ 170,000</b> |               |
| Phase 1b: Integration of data and development of detailed Exploration Drilling Program               |                   | 4 months*     |
| • Salaries   | \$ 30,000         |               |
| • General reporting including Annual & Statutory Reporting   | \$ 10,000         |               |
| • General and Administrative   | \$ 5,000          |               |
| <b>sub-total</b>   | <b>\$ 45,000</b>  |               |
| <b>Phase 1b Total</b>  | <b>\$ 215,000</b> |               |
| <b>Total Phases 1a and b</b>   | <b>\$ 355,000</b> | 12 months     |

\* This period will run partly concurrently with the geophysical survey and auger program

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## Appendix A - Samples collected in Granted Licence EL20/2022 and Licence Application EL41/2022



**WS001**



**WS005**



**WS008a**



**WS002**



**WS006**



**WS008b**



**WS003**



**WS007**



**WS008c**



**WS004**



## Appendix B - ALS Analysis Results for Samples WS008a, b and c.

|                    |                |                  |                 |            |            |            |            |            | CERTIFICATE OF ANALYSIS |            |            |            |            |            |            |            | AD23139056 |  |
|--------------------|----------------|------------------|-----------------|------------|------------|------------|------------|------------|-------------------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
|                    | Method Analyte | WEI-21 Recvd Wt. | PUL-QC Pass75um | ME-MS81 Ba | ME-MS81 Ce | ME-MS81 Cr | ME-MS81 Cs | ME-MS81 Dy | ME-MS81 Er              | ME-MS81 Eu | ME-MS81 Ga | ME-MS81 Gd | ME-MS81 Hf | ME-MS81 Ho | ME-MS81 La | ME-MS81 Lu |            |  |
| Sample Description | Units LOD      | kg               | %               | ppm        | ppm        | ppm        | ppm        | ppm        | ppm                     | ppm        | ppm        | ppm        | ppm        | ppm        | ppm        | ppm        |            |  |
|                    |                | 0.02             | 0.01            | 0.5        | 0.1        | 5          | 0.01       | 0.05       | 0.03                    | 0.02       | 0.1        | 0.05       | 0.05       | 0.01       | 0.1        | 0.01       |            |  |
| WS008a             |                | 0.56             | 98.0            | 53.4       | 523        | 28         | 0.57       | 241        | 157.5                   | 43.9       | 5.3        | 194.5      | 1.11       | 52.6       | 233        | 27.7       |            |  |
| WS008b             |                | 1.98             | 87.0            | 50.4       | 480        | 32         | 0.65       | 173.5      | 111.5                   | 32.4       | 6.6        | 145.0      | 1.17       | 38.1       | 213        | 17.70      |            |  |
| WS008c             |                | 0.46             | 98.0            | 83.3       | 413        | 21         | 0.83       | 142.0      | 90.9                    | 27.0       | 6.4        | 124.0      | 1.93       | 30.9       | 189.0      | 13.25      |            |  |

|                    |                                   |         |         |         |         |         |         |         | CERTIFICATE OF ANALYSIS |         |         |         |         |         |         |         | AD23139056 |  |
|--------------------|-----------------------------------|---------|---------|---------|---------|---------|---------|---------|-------------------------|---------|---------|---------|---------|---------|---------|---------|------------|--|
| Sample Description | Method<br>Analyte<br>Units<br>LOD | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81                 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81 |            |  |
|                    |                                   | Nb      | Nd      | Pr      | Rb      | Sc      | Sm      | Sn      | Sr                      | Ta      | Tb      | Th      | Ti      | Tm      | U       | V       |            |  |
|                    |                                   | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm     | ppm                     | ppm     | ppm     | ppm     | %       | ppm     | ppm     | ppm     |            |  |
|                    |                                   | 0.05    | 0.1     | 0.02    | 0.2     | 0.5     | 0.03    | 0.5     | 0.1                     | 0.1     | 0.01    | 0.05    | 0.01    | 0.01    | 0.05    | 5       |            |  |
| WS008a             |                                   | 1.94    | 533     | 120.0   | 17.0    | 26.4    | 179.5   | 0.6     | 6.9                     | 0.1     | 36.8    | 1.98    | 0.16    | 25.3    | 0.60    | 127     |            |  |
| WS008b             |                                   | 2.24    | 444     | 101.0   | 16.2    | 29.7    | 133.5   | 0.7     | 6.2                     | 0.1     | 26.8    | 2.53    | 0.17    | 17.00   | 0.80    | 150     |            |  |
| WS008c             |                                   | 3.50    | 372     | 85.3    | 21.2    | 20.1    | 108.5   | 0.8     | 5.2                     | 0.2     | 22.2    | 2.93    | 0.24    | 13.15   | 0.99    | 126     |            |  |

|                    |         |         |         |         | CERTIFICATE OF ANALYSIS |  | AD23139056 |  |
|--------------------|---------|---------|---------|---------|-------------------------|--|------------|--|
| Sample Description | Method  | ME-MS81 | ME-MS81 | ME-MS81 | ME-MS81                 |  |            |  |
|                    | Analyte | W       | Y       | Yb      | Zr                      |  |            |  |
|                    | Units   | ppm     | ppm     | ppm     | ppm                     |  |            |  |
|                    | LOD     | 0.5     | 0.1     | 0.03    | 1                       |  |            |  |
| WS008a             |         | 0.7     | 963     | 174.5   | 41                      |  |            |  |
| WS008b             |         | <0.5    | 796     | 113.0   | 49                      |  |            |  |
| WS008c             |         | 1.0     | 679     | 85.3    | 66                      |  |            |  |