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11 February 2022

## Multiple Priority 1 Targets Identified at Gascoyne Rare Earths Project

### Highlights:

- **Southern Geoscience Consultants (SGC) report highlights 12 priority 1 targets for immediate follow up**
- **Field crew on site this week conducting extensive ground truthing and sampling, and will investigate prospective ironstones outcropping or under shallow cover and high priority targets now identified by SGC**
- **The Gascoyne region is proving to be the next major rare earth mineral district in Australia, with multiple new discoveries being made by Dreadnought Resources<sup>1</sup> and the progress of Hastings world class Yangibana mine towards construction and development**
- **Federal Government's first project financing package for the construction of a rare earth mine and production plant in Australia awarded to Hastings, supports the rapid development worldwide of decarbonisation technologies in e-mobility and energy and the importance of rare earths to the Australian economy<sup>2</sup>**
- **Heritage surveys in planning and a Program of Works (PoW) to be submitted for maiden drill program Q2, 2022**

Mr David Frances, Non-Executive Chairman commented "The targets generated from the highly detailed review by Southern Geoscience are a great start for the Company's Gascoyne REE project. Having multiple high-priority anomalies to follow up is an exciting prospect given the underexplored nature of the region. This is highlighted by recent successes of our neighbouring tenement holder Dreadnought Resources (ASX:DRE) in discovering high grade ironstones and REE bearing carbonatites. The Gascoyne region has immense potential for further REE discoveries and I'm hopeful with our prospective tenure we will also have success."

"With our exploration programs now in full swing at the Gascoyne rare earths projects it's going to be a busy time leading up to drilling in Q2 this year. I look forward to progressing the Company's exciting rare earth projects in the Gascoyne and South Australia, exploring for critical metals integral to the green revolution that can help the world reach targets of being net zero carbon by 2050."

**Frontier Resources Ltd** (ASX: FNT) (**Frontier** or the **Company**) is pleased to announce that multiple high priority targets prospective for rare earths have been identified by Southern Geoscience Consultants (SGC) from the significant airborne magnetic-radiometric survey recently flown at the Gascoyne Rare Earths Project in Western Australia (**Gascoyne Project**). The review identified multiple high priority targets within the Durlacher Supersuite lithology which hosts Hastings Technology Metals' (ASX:HAS) world-class Mineral Resource<sup>3</sup> of 27.42Mt @ 0.97% TREO with 0.33% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>. HAS Resource estimate comprises 4.9Mt @1.01% TREO in the Measured category, 16.24Mt @0.95% TREO Indicated and 6.27Mt @0.99% TREO Inferred.

The detailed survey was flown with 50m line spacing at a low altitude with sensor height of 30m, a significant improvement on the existing public data flown at 500m line spacing in the 1990's. The survey data highlighted 30 prospective REE anomalies across the 230km<sup>2</sup> project area, Figures 1 & 2.

The targets were identified by SGC using a multi-faceted approach utilising radiometrics, magnetics, structural and lithological data and satellite imagery, to infer their prospectivity and potential association with REE ironstones or carbonatites. The targets generated from the SGC report will now be the focus for immediate sampling programs and will assist in designing drill programs to commence in Q2 2022.

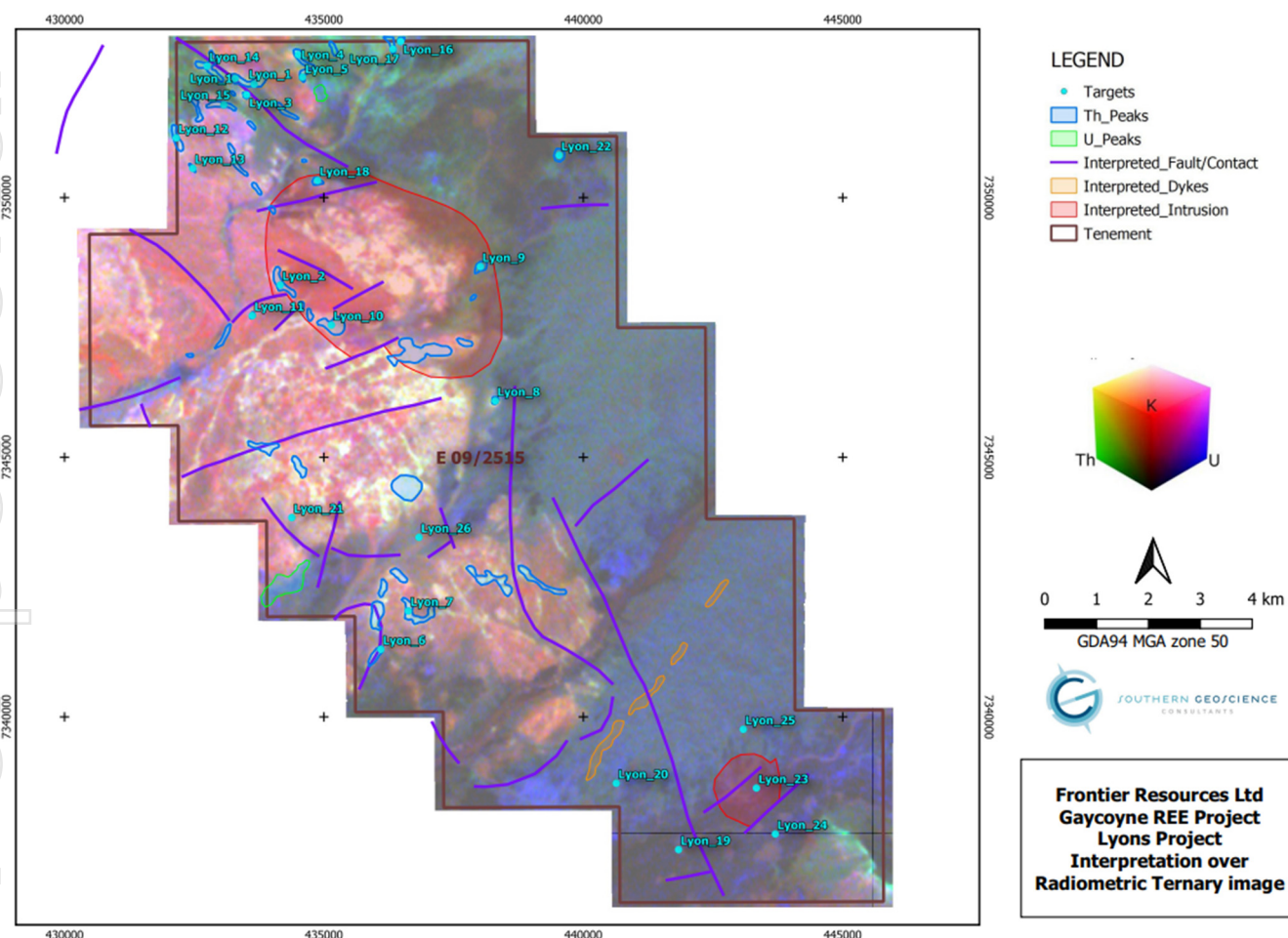


Figure 1. Frontier Resources Gascoyne REE Lyons Project Interpretation over Radiometric Ternary image.

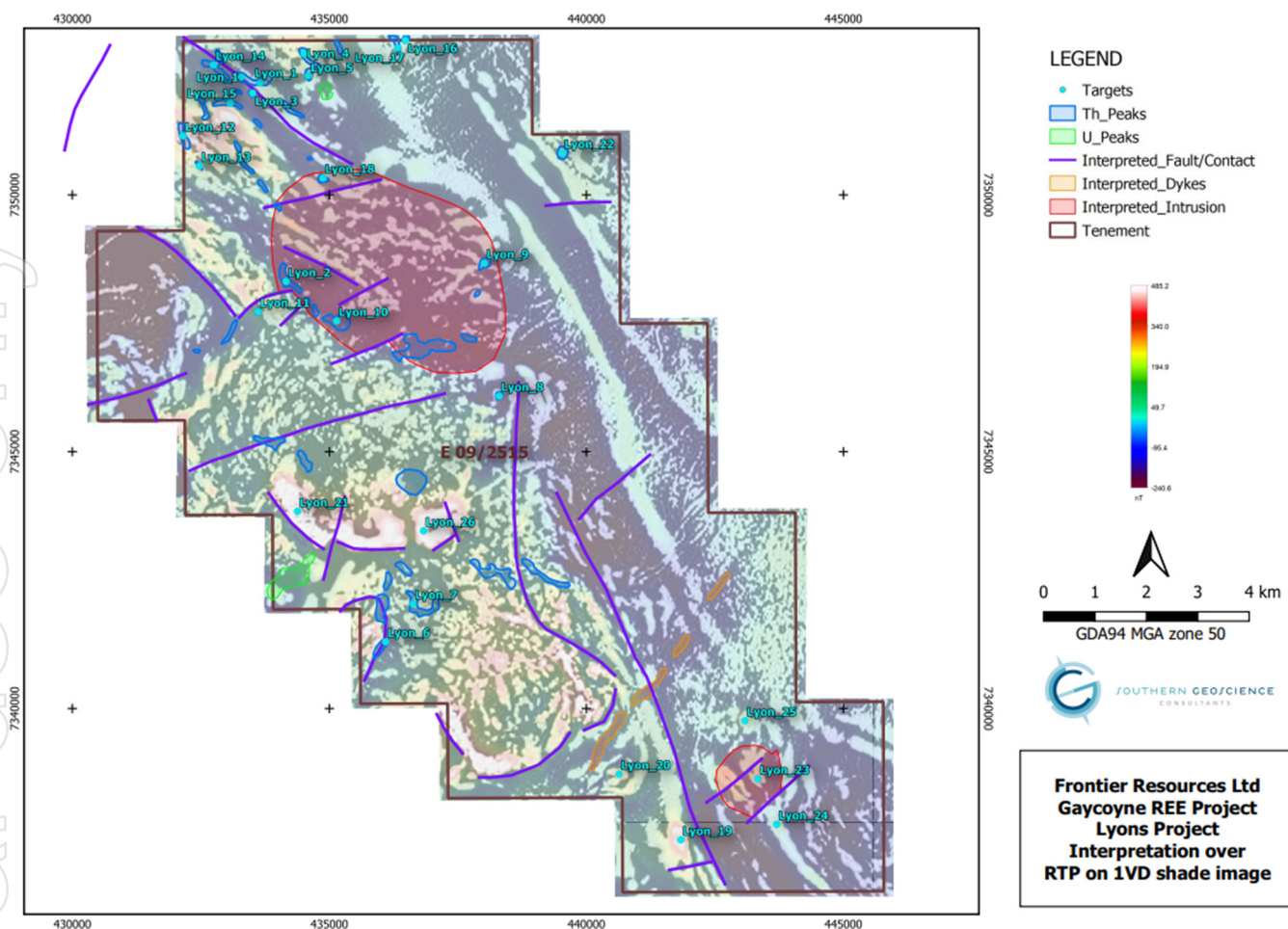


Figure 2. Frontier Resources Gascoyne REE Lyons Project Interpretation over Magnetics RTP on 1VD shade image.

## Technical Discussion - Southern Geoscience Target Generation Report

A total of 30 targets, 26 from Lyons and 4 from Edmunds, have been identified and ranked according to the following selection criteria;

- Thorium radiometric anomalism
- Association with a lineament/fault
- Magnetic anomalism
- Potential ironstone outcrop

Due to the high level of outcrop and subcrop (particularly at Lyons), analysis of radiometric data, focusing primarily on Thorium anomalism, was used as a major selection criterion for targeting REE. Competitor success was initially based on analysis of these data and thus trends extending onto FNT tenements were closely examined.

The magnetic data were used as a direct anomaly detector, to project features identified from radiometric data below cover and for assessing magnetic signatures for areas completely covered by surficial sediments, particularly at Edmunds.

At Lyons, targets classified as priority 1 and located in the interpreted prospective NW section of the tenement include **Lyons\_1, Lyons\_3, Lyons\_4, Lyons\_5, Lyons\_14, Lyons\_16** and **Lyons\_17**. All these targets are recommended for follow up with field checking and assessment with a handheld scintillometer. The location of these anomalies to the SE of known REE prospects represents the highest priority to be checked in-field for similar characteristics.



Other targets within Lyons include **Lyon\_09** and **Lyon\_11**, identified as minor radiometric anomalies around the edge of an area of low magnetism and near an interpreted inflection in the Bald Hill Lineament. **Lyon\_22** is an odd isolated discrete Thorium and magnetic anomaly to the NE of the tenement area and worthy of additional interest in the area.

Targets classified as priority 2 within Lyons tenement should be followed up initially with field checking (where outcropping) and with further exploration recommended based on any re-ranking after field checks.

Due to the extensive cover over the Edmund project, only two priority 1 (**Edmund\_1** and **Edmund\_2**) targets were identified that satisfied the exploration criteria for potential REE ironstones. The area may be suited to other mineral occurrences with magnetic anomalism and structural complexity recommended to drive any further exploration in this respect.

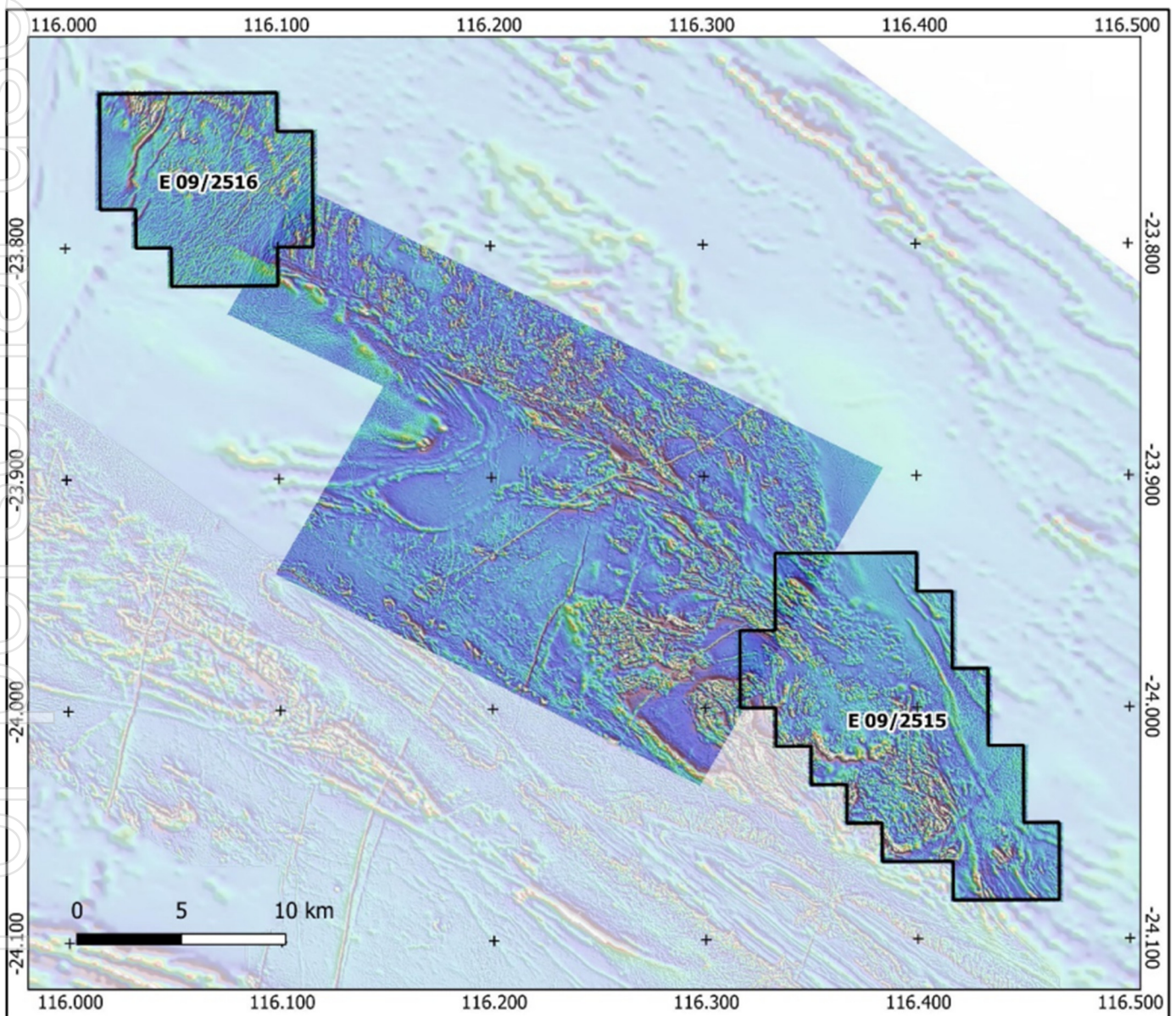


Figure 3. Location of Lyon and Edmund project area showing RTP 1VD magnetic data

## Gascoyne Rare Earth Element Project – Background

The Gascoyne REE Project adjoins Hastings' world-class Yangibana Deposit in the Gascoyne Region of Western Australia, set to be the next REE producer outside of China by 2023, Figures 5, 6 & 7. The project area is also proximal to recent discoveries made by Dreadnought Resources at their Mangaroon Project located ~15kms southwest of the Yangibana REE Resource<sup>1</sup>).

The REE-bearing Yangibana ironstones within the Durlacher Supersuite lithology were first targeted by prospectors in 1972 as base metal bearing gossans, however, the REE potential of the ironstones wasn't assessed until 1985 and remained underexplored until Hastings acquired the project in 2011. Hastings has since delineated a world-class JORC 2012 Mineral Resource<sup>3</sup> of 27.42Mt @ 0.97% TREO with 0.33% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub> and a ratio of 52% Nd Pr:TREO making it one of the highest value REE projects for ore value per kg.

Despite the region's prospectivity for REE's, very limited exploration has been undertaken at the Gascoyne Project, in part due to shallow alluvial cover which has led to the area being overlooked. The south-eastern Lyons tenement E09/2515 does have some areas of outcrop at the historic Tabletop Well<sup>6</sup> copper prospect and where the recent ironstone outcrop was discovered.

With the use of modern exploration techniques and a renewed focus on REE's there is an exciting opportunity for the discovery of economic REE mineralisation.

Access into the project area is good with a combination of well-maintained gazetted and station roads located on Edmund, Gifford Creek and Wanna Pastoral Leases which will greatly assist exploration work programs.

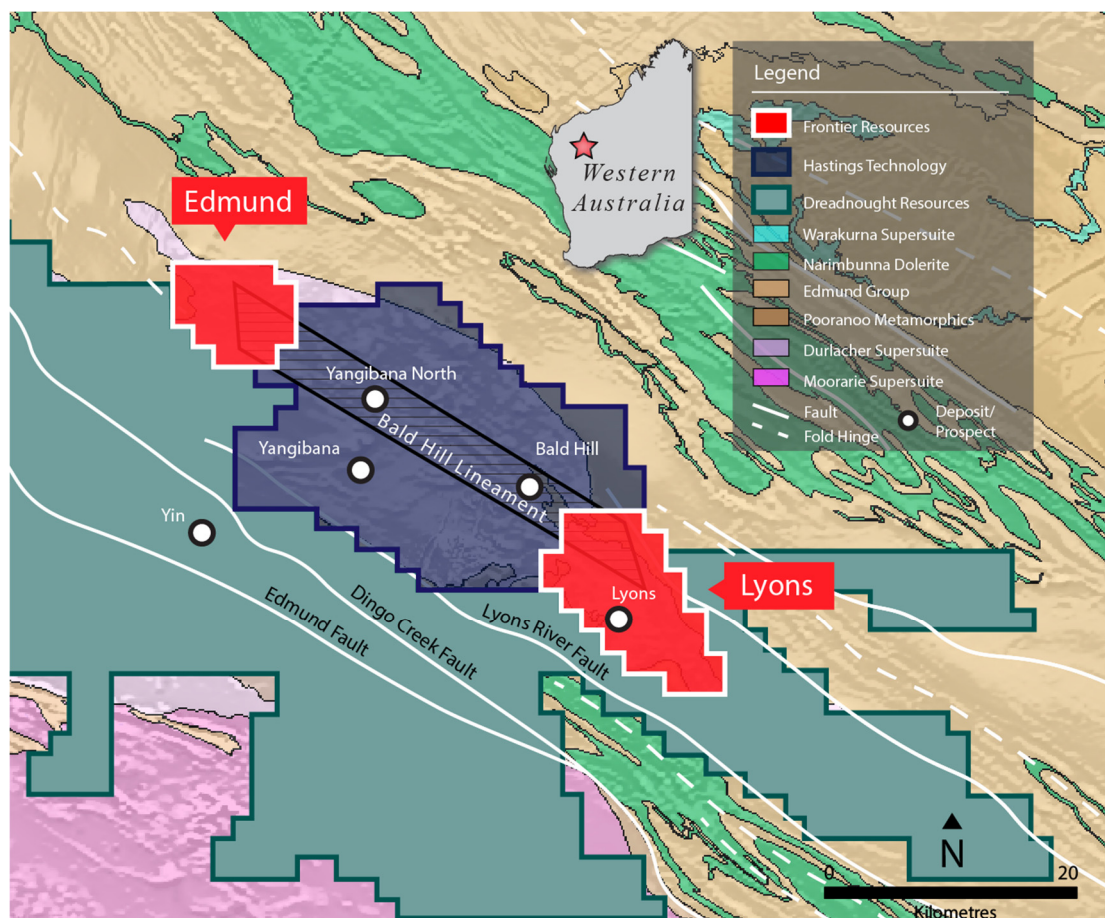


Figure 4. Geology and Tenement Map of the Gascoyne and Koolya Projects in Western Australia.



This announcement has been authorised for release by the Directors of the Company.

**Brian Thomas**  
**Non-Executive Director**

For additional information please visit our website at [www.frontierresources.net.au](http://www.frontierresources.net.au)

## **FRONTIER RESOURCES LTD**

The information referred to in this announcement relates to the following sources:

- <sup>1</sup> ASX.DRE: 1 Feb 2022 "Rare Earths, Phosphate, Niobium & Zircon Results From Mangaroon (DRE 100%)"  
[a531f354-fd1.pdf \(investi.com.au\)](https://www.investi.com.au/a531f354-fd1.pdf)
- <sup>2</sup> [Rare earth project a gem for regional WA | Ministers for the Department of Infrastructure](#)
- <sup>3</sup> ASX.HAS: 5 May 2021 "Yangibana Project updated Measured and Indicated Resource tonnes up by 54%"  
[b07ebf9d-03c.pdf \(investi.com.au\)](https://www.investi.com.au/b07ebf9d-03c.pdf)
- <sup>4</sup> [Executive summary – The Role of Critical Minerals in Clean Energy Transitions – Analysis - IEA](#)
- <sup>5</sup> [Chinese rare earth minerals are 'a national security risk' : Sen. Mark Kelly \(yahoo.com\)](#)
- <sup>6</sup> ASX.ARU: 31 Dec 2021 "Quarterly Activities Report and Appendix 5B"  
[Quarterly Activities Report and Appendix 5b \(weblink.com.au\)](https://www.weblink.com.au/Quarterly%20Activities%20Report%20and%20Appendix%205b)
- <sup>7</sup> Minedex Site; Tabletop Well (S0023828), 16km ENE of Gifford Creek Hmsd

## **Competent Person's Statement**

*The information in this announcement that relates to Exploration Results and other geological information has been compiled under the supervision of Mr Thomas Langley. Mr Langley is a member of the Australian Institute of Geoscientists and the Australasian Institute of Mining and Metallurgy and is a consultant to the Company. Mr Langley has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and the activity he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves ('the JORC Code')". Mr Langley consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*The Company confirms that it is not aware of any new information or data that materially affects the information in the original reports, and that the form and context in which the Competent Person's findings are presented have not been materially modified from the original reports.*

## JORC Code, 2012 Edition – Table 1 report template

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling was completed in this phase of works.</li> <li>MagSpec Airborne Surveys was contracted to complete the radiometric and magnetic survey.</li> <li>Survey data was collected with 50m line spacing at a low altitude with sensor height of 30m</li> <li>Sample rates up to 20 Hz</li> <li>Integrated Novatel OEM DGPS receiver providing positional information, to tag incoming data streams in addition to providing pilot navigation guidance</li> <li>High precision caesium vapour magnetometer</li> <li>Visual real time on-screen system monitoring / error messages to limit re-fights due to equipment failure</li> <li>The following steps were performed during the magnetics processing: <ul style="list-style-type: none"> <li>Review or application of compensation</li> <li>Parallax correction</li> <li>Diurnal filtering and subtraction</li> <li>IGRF correction using the updated current IGRF model</li> <li>Tie line levelling</li> <li>Micro levelling</li> </ul> </li> <li>Radiometric processing consisted of the following steps: <ul style="list-style-type: none"> <li>256-channel spectral noise reduction using the NASVD method</li> <li>Dead time, cosmic and background radiation corrections</li> <li>Energy recalibration</li> <li>Channel interaction correction (stripping) and extraction of ROIs</li> <li>Height corrections using STP altitude to the nominal survey height</li> <li>Radon removal using the Spectral Ratio method</li> <li>Levelling where required</li> </ul> </li> <li>Modelling and interpretation of the radiometric and magnetic data was undertaken by Southern Geoscience Consultants Pty Ltd</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details</li> </ul>	No drilling undertaken.

Criteria	JORC Code explanation	Commentary
	<i>(eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i>	
Drill sample recovery	<ul style="list-style-type: none"> <li>• Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>• Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>• Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	No drilling undertaken.
Logging	<ul style="list-style-type: none"> <li>• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>• Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>• The total length and percentage of the relevant intersections logged.</li> </ul>	No drilling undertaken.
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>• If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>• If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>• For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>• Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>• Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>• Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	No drilling undertaken.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li>• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>• For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the</li> </ul>	No drilling undertaken.



Criteria	JORC Code explanation	Commentary
	<p>analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</p> <ul style="list-style-type: none"> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	No drilling undertaken.
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>No drilling undertaken.</li> <li>GDA94 MGA Z50.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	The radiometric and magnetic survey was targeting the Durlacher Supersuite lithology which hosts Hastings Technology Metals Yangibana rare earth resource, with the aim to identify potential REE ironstones or carbonatites at the Gascoyne Project
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	No drilling undertaken.
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	Chain of Custody is managed by the Company's geophysical field contractor and geophysical consultants. The data is transferred daily and is QA/QC checked by a qualified geophysicist.
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	No audits have been completed.

## Section 2 Reporting of Exploration Results

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<p>Frontier Resources Ltd entered into a conditional agreement to acquire all of the shares in Dalkeith Capital Pty Ltd (Dalkeith) which holds two exploration licence applications in the Gascoyne Region of Western Australia. The acquisition was completed on 4 January 2022.</p> <ul style="list-style-type: none"> <li>The Gascoyne Project consists of 2 granted Exploration Licenses (E09/2515 and E09/2516).</li> <li>All tenements are 100% owned by Dalkeith Capital.</li> <li>The Gascoyne Project covers 2 Native Title Determinations including the Thudgari (WAD6212/1998) and the Combined Thiin-Mah, Warriyangka, Tharrkari and Jiwarli (WAD464/2016).</li> <li>The Gascoyne Project is located over the following pastoral leases; Edmund, Gifford Creek, and Wanna.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Historical exploration of a sufficiently high standard was carried out in the region by a few parties including:</li> </ul> <p>Hurlston Pty Ltd 1986-1987: WAMEX Report A23584  Newmont 1990: WAMEX Report A32886  Newcrest 1990: WAMEX Report A36887  Desert Energy 2006-2007: WAMEX Reports A78056, A80879</p>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Gascoyne Project is located within the Gascoyne Province, within the Gascoyne Province of the greater Capricorn Orogen – the region that records the collision of the Pilbara-Glenburgh Terrane at 2215–2145 Ma (Ophthalmian Orogeny) and eventual collision of Pilbara/Glenburgh and Yilgarn at 2005–1950 Ma (Glenburgh Orogeny), the Gifford Creek Carbonatite Complex (GCCC) intrudes the Dulurcher Supersuite (including Yangibana and Pimbyana Granites) and the Pooranoo Metamorphics.</li> </ul> <p>The c.1360 Ma GCCC is composed of;</p> <ul style="list-style-type: none"> <li>~NW striking Lyons River Sills (calcio-, magnesio- and ferrocarnatites)</li> <li>~NE striking fenite (alteration) veins</li> <li>Yangibana Ironstones (REE ore bodies)</li> <li>Magnetite-biotite dykes</li> </ul> <ul style="list-style-type: none"> <li>Carbonatites in region are thought to have been generated from melting of the Glenburgh Orogen-fertilized mantle during reactivation of structures</li> </ul>

Criteria	JORC Code explanation	Commentary
		(e.g., Lyons River Fault) at c. 1370 Ma followed by magma ascent along the same structures. <ul style="list-style-type: none"> <li>The Gascoyne Project is prospective for Ferrocarnatite hosted REEs.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	No drilling undertaken.
Data aggregation methods	<ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	No drilling undertaken.
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	No drilling undertaken.
Diagrams	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant</li> </ul>	<ul style="list-style-type: none"> <li>Refer to figures within this report.</li> </ul>

Criteria	JORC Code explanation	Commentary
	discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	
Balanced reporting	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>The accompanying document is a balanced report with a suitable cautionary note.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>Suitable commentary of the geology encountered are given within the text of this document.</li> </ul>
Further work	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Detailed airborne magnetic – radiometric surveys, surface geochemistry and mapping prior to drilling</li> </ul>