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22 November 2021

New Rare Earth and Lithium Pegmatite Exploration Project

Highlights:

- **Frontier has applied for a significant new area prospective for rare earths and lithium pegmatites in the eastern Gascoyne Province**
- **Total landholding of Durlacher Supersuite, host to the world-class Yangibana Deposit 27.42Mt @ 0.97% TREO[1] increased by approximately 350km²**
- **Mt Clere Project comprises of one exploration licence application E52/4012, located on the major Ti Tree Shear Zone, which may be analogous to the relationship between the Lyons River Fault and the Gifford Creek Carbonatite Complex**
- **Initial desktop review has highlighted numerous sites of interest including some pegmatite occurrences**
- **Ongoing desktop review and compilation of historical datasets to identify further targets to assist in future exploration programs**

Frontier Resources Ltd (ASX: FNT) (**Frontier** or the **Company**) is pleased to announce the strategic pegging of the Mt Clere Project consisting of one exploration licence application E52/4012 in the Gascoyne Region of Western Australia, considered to be prospective for REE's and lithium pegmatites (**Mt Clere Project**).

Mr Brian Thomas, Non-Executive Director commented "The strategic pegging of the Mt Clere Project is a great opportunity to expand our exploration focus for rare earths and lithium to complement our existing Gascoyne Project in Western Australia. It's an exciting time for our Company and we expect to undertake the on ground reconnaissance exploration work as soon as possible. I look forward to progressing the Company's existing projects and our growing REE portfolio, exploring for critical metals that can help the world reach targets of being net zero carbon by 2050."

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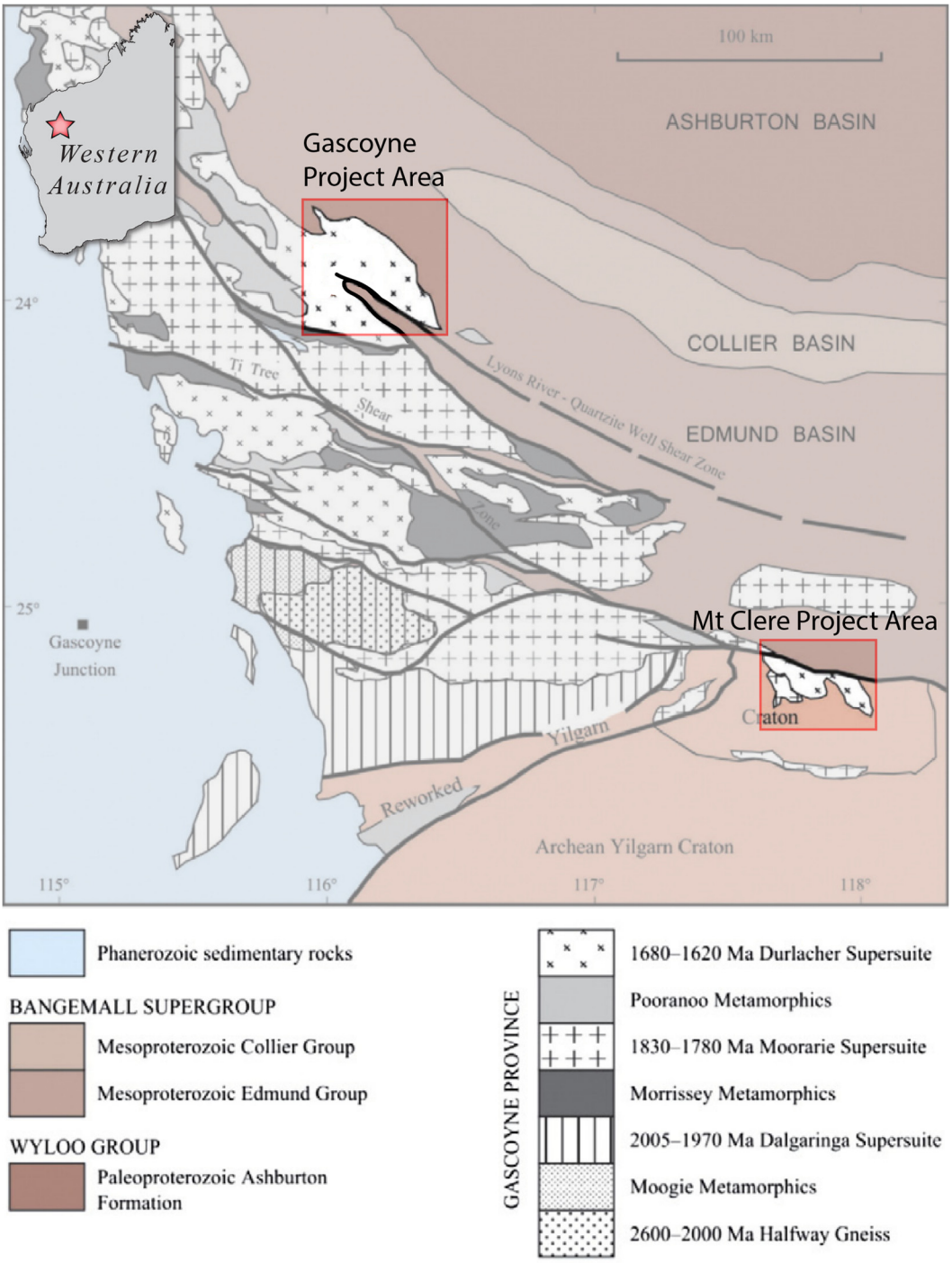


Figure 1. Regional geological setting of the Gascoyne Province, showing the two project areas Frontier Resources is exploring.

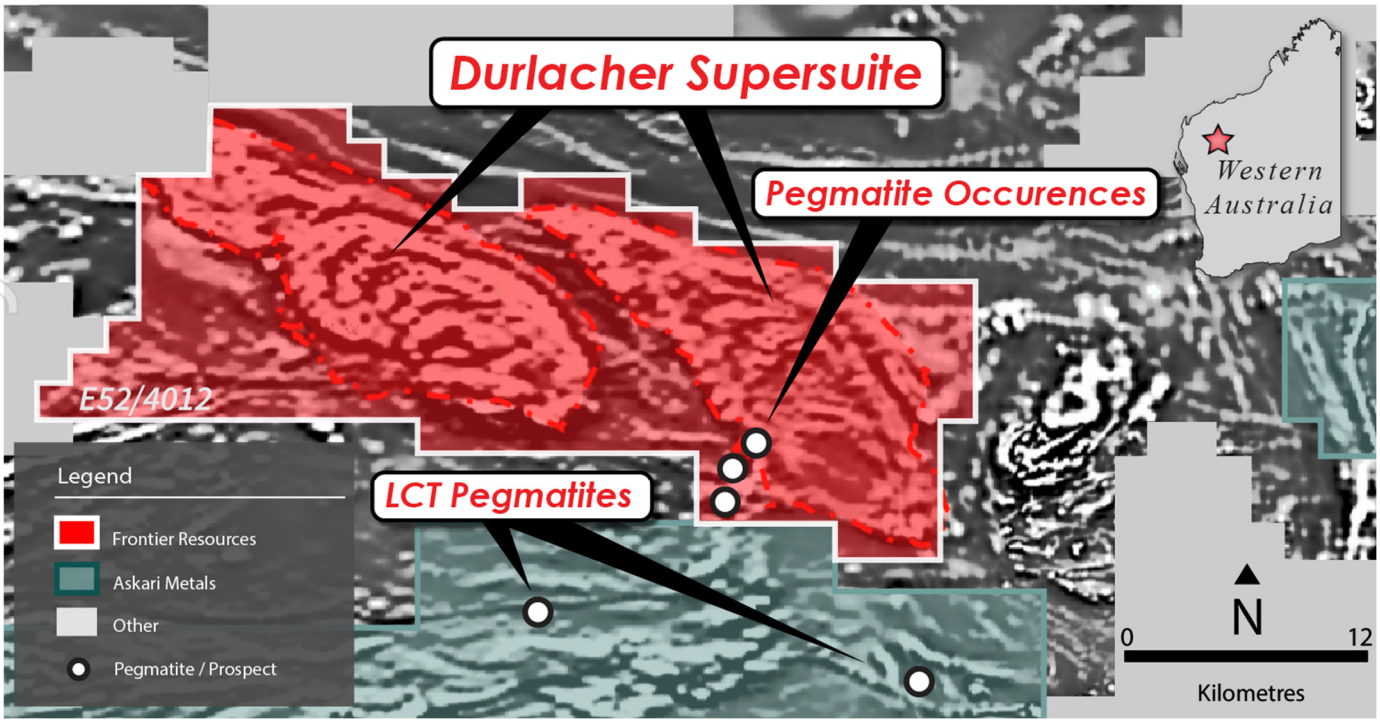


Figure 2. Mt Clere Project covering ~350km² of Durlacher Supersuite prospective for rare earths and lithium bearing pegmatites.

Gascoyne Rare Earth Element Geology – Background

The Yangibana rare earth element (REE) district consists of multiple mineral deposits/prospects hosted within the Mesoproterozoic Gifford Creek Carbonatite Complex (**GCCC**), which comprises a range of rock types including calcite carbonatite, dolomite carbonatite, ankerite–siderite carbonatite, magnetite–biotite dykes, silica-rich alkaline veins, fenite, glimmerites and what have historically been called "ironstones". The dykes/sills were emplaced during a period of extension and/or transtension, likely utilising existing structures.

The GCCC sits adjacent to the Lyons River Fault, which has been determined via seismic reflection surveys to extend down to, and offset, the Mohorovičić Discontinuity (Johnson et al. 2013). The Lyons River Fault is a major shear zone that sutured the Neoarchean Glenburgh Terrane with the Archean Pilbara Craton during the 2215 to 2145 Ma Ophthalmia Orogeny (Sheppard et al. 2005; Johnson et al. 2011, 2013) [2], Figure 3. The Lyons River fault system was activated during tectonic events in the Gascoyne Province (Cutten et al., in press; Johnson et al., 2012) and is suggested by F. Pirajno et al. (2014), that in one of these events, at about 1050 Ma, a small pull-apart structure, possibly defined by the Lyons River Fault and the Bald Hill Lineament, was formed on the sites, where the ferrocarbonatites had been previously intruded at ~1075 Ma. This stimulated the re-activation of the carbonatite system, widening the fenitic halo in the country rocks and producing a sinuous carbonatite veins system which eventually was locally altered to the ironstone veins, Figure 4.

The ironstone dykes or "ironstones", as they have historically been called, specifically refer to large (up to several metres wide) dyke-like structures that protrude from the landscape. They are mainly located subparallel to the Bald Hill Lineament and along the eastern and western flanks of the GCCC[2].

The primary ore mineral at Yangibana is monazite, which is contained within ankerite–siderite carbonatite, magnetite–biotite dykes and ironstone units. The ironstones comprise boxwork-textured Fe oxides/hydroxides, quartz, chalcedony and minor monazite and

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subordinate rhabdophane. The ironstones do not exhibit any primary igneous textures. Most features relate to low-temperature mineral precipitation and include botryoidal banding of Mn oxides and hydrous Fe oxides, such as goethite[2].

Based on petrology, geochemistry and isotopic systematics, the GCCC is considered to have formed via emplacement of evolving, mantle-derived, alkaline magma at mid to upper crustal levels (Slezak and Spandler, 2020). The variation in rock types across the complex is interpreted to reflect magma evolution via fractionation (with or without liquid immiscibility), melt wall–rock reaction and hydrothermal alteration (Slezak and Spandler, 2020). The REE-rich ironstones of the Yangibana District have spatial associations and similar Nd isotopic compositions to these alkaline igneous rocks[2].

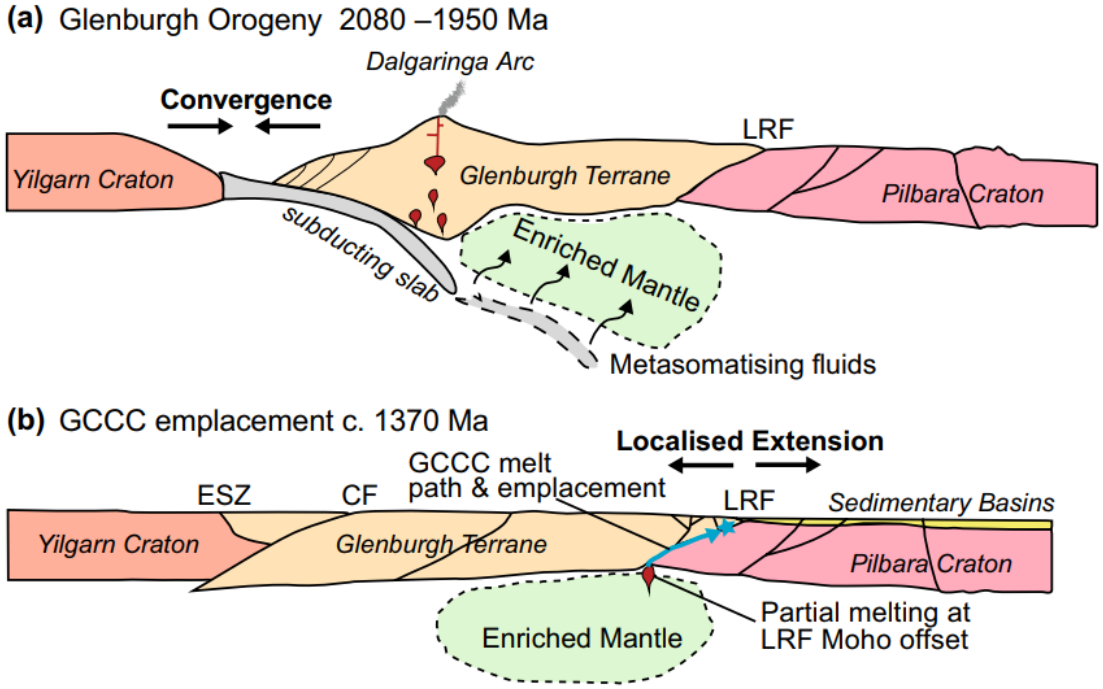
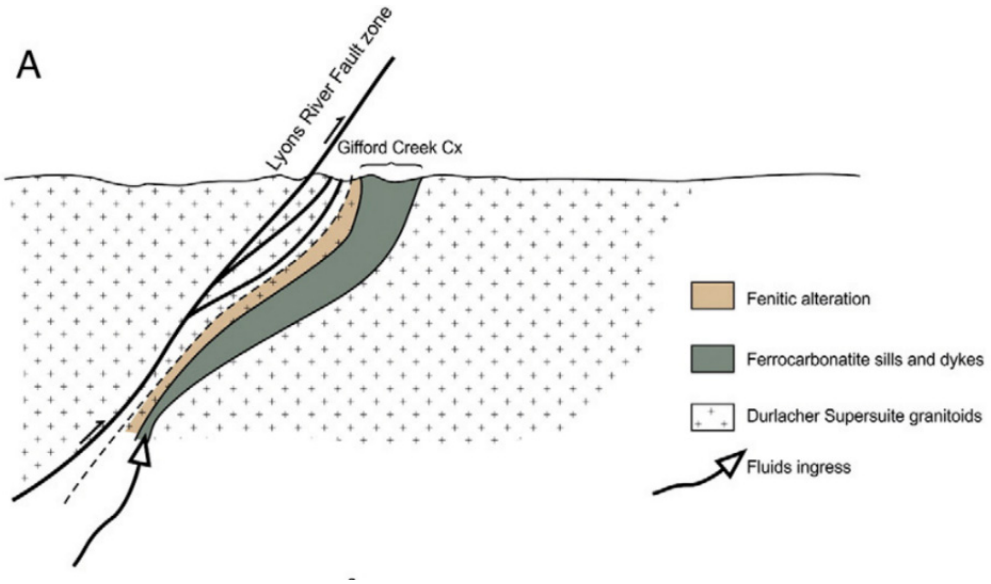


Figure 3. a) Mantle metasomatism under the Glenburgh Terrane resulting from plate subduction during the Glenburgh Orogeny (2018–1950 Ma). b) Localised extension caused minor decompression melting at the Lyons River Fault Moho offset, creating the alkaline melts that travel along the fault and are emplaced as the GCCC. CF Cardilya Fault, ESZ Errabiddy Shear Zone, LRF Lyons River Fault. Modifed from Johnson et al. (2011, 2013).



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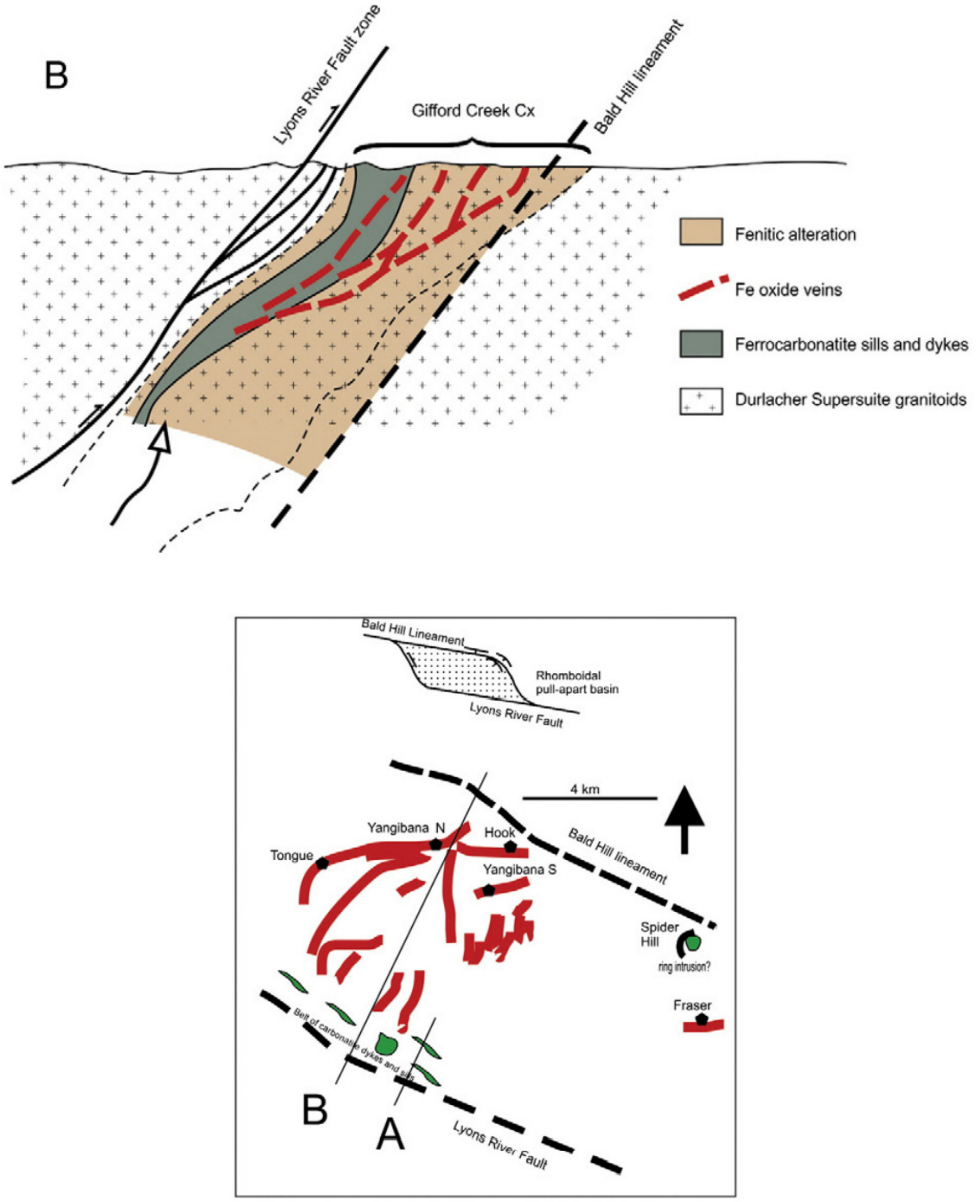


Figure 4. Two-stage model for the emplacement of ferrocarbonatite sills and dykes at ~1075 Ma along Lyons River Fault (A), followed by strike–slip movements, formation of a pull-apart structure and emplacement of carbonatite-ironstone veins swarm at ~1050 Ma (B); bottom panel shows a schematic spatial distribution of the 1075 Ma ferrocarbonatites dykes and sill and the adjacent 1050 Ma Fe oxide veins swarm emplaced in a pull-apart structure formed during re-activation of the Lyons River Fault; lines A and B in this panel schematically represent the two cross-sections above.

Future Work

Frontier will commence a field reconnaissance program as soon as possible designed to identify and validate the potential of rare earth elements and lithium mineralisation within the Mt Clere project area. Follow on exploration will depend on the results of this initial work program but are expected to include a detailed and systematic exploration program comprising of a combination of soil geochemical sampling, rock sampling and geophysical surveys across the high priority target areas, prior to drilling programs being undertaken.

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

Alec Pismiris
Non-Executive Chairman

For additional information please visit our website at www.frontierresources.net.au

FRONTIER RESOURCES LTD

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

[1] ASX.HAS: 5 May 2021 "Yangibana Project updated Measured and Indicated Resource tonnes up by 54%" b07ebf9d-03c.pdf (investi.com.au)

[2] Geology and ore genesis of the carbonatite-associated Yangibana REE district, Gascoyne Province, Western Australia, P. Slezak et al. (2020)

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