

E 70/4889

Generated 4 June 2026 · Focused — lithium

Lithium Prospectivity Assessment: E 70/4889

*Focused-mode summary. Commodity: **Lithium (Pegmatite / Brine)**.*

- **Holder:** GALAN LITHIUM LIMITED
- **Status:** LIVE
- **Reports processed:** 23 A-numbers
- **Verdict:** Prospectivity: High | Exploration maturity: Low | Priority: Follow-up

0. Geological Setting

The project area lies east of the Darling Fault, straddling the contact between Archaean basement and the Phanerozoic Perth Basin [A153275 (2026)]. The basement comprises the Archaean Balingup Gneiss Complex (also referred to as the Balingup Metamorphic Belt), dominated by gneisses, metasediments, amphibolites, ultramafics, and meta granitoids [A153275 (2026), A77489 (2008)]. Metamorphic grade ranges from amphibolite to granulite facies [A63128 (2001), A77489 (2008)]. The complex forms a structurally intricate, arcuate wedge between the Albany Fraser Orogen to the south and Yilgarn granitic rocks to the east [A129374 (2022), A153275 (2026)]. Regionally, the belt strikes northeast in the south but is rotated to a northwest trend along the Hester Lineament [A63128 (2001)]. A key structural element is the Donnybrook Bridgetown Shear Zone [A153275 (2026)]. Ultramafic bodies, interpreted as former peridotite and pyroxenite, occur as narrow lenses; they are now altered to tremolite chlorite talc, talc magnetite, serpentine talc carbonate, and, near the Hester Lineament, talc anthophyllite assemblages [A63128 (2001)]. Pegmatites intruded the greenstone sequence and subsequently underwent a complex metamorphic - structural history [A153275 (2026)]. Extensive Tertiary laterite caps much of the basement, limiting exposure [A63128 (2001)].

1. Commodity Evidence

Lithium is the defined target commodity for the holder on E 70/4889. Evidence is dominated by the proximity to the world-class Greenbushes Lithium Mine and the explicit targeting of Lithium-Caesium-Tantalum (LCT) pegmatites within the broader Greenbushes Project. Reports [A120580 (2019)] and [A117309 (2018)] detail the project's strategy, noting the tenure lies immediately adjacent to Talison Lithium's operations, the world's largest lithium mine, which supplies ~40% of global lithium. The project area contains numerous historically mapped pegmatites, many Minedex lithium, tantalum, beryl, and tin occurrences, and a large strike length of the controlling Donnybrook-Bridgetown Shear Zone [A120580 (2019)]. Direct geochemical evidence for lithium from historical data is limited, with [A117309 (2018)] noting a lack of lithium assays in public databases over LIT tenements, though pathfinder elements like tin and tantalum show anomalous results. A key high-priority target within the

tenure is described as a likely southern extension of the Greenbushes Mine pegmatite, highlighted by a historical multi-element anomaly [A120580 (2019)].

2. Structural & Mineralisation Controls

The primary control on lithium mineralisation is the Donnybrook-Bridgetown Shear Zone, a major north- to northwest-trending crustal-scale structure. Its sinistral strike-slip movement and associated secondary structural zones, particularly east-west orientations, are interpreted to have created dilational sites for pegmatite intrusion (Partington, 1990; 1995, cited in [A117309 (2018)]). The Greenbushes Mine pegmatite itself was emplaced synchronously with deformation, resulting in its unique non-classical zonation and recrystallised textures [A120580 (2019)]. Targeting models in the area focus on the boundaries between granofels and amphibolite sequences, which mark major structural contacts. The Boyup Brook Fault is another major structural corridor on the tenure considered a potential control on pegmatite emplacement [A120580 (2019)]. An important observation from [A120580 (2019)] is that mineralised pegmatites are unlikely to conform to classical LCT zonation, having been injected as distinct pods into an active shear zone, a concept previous explorers may have overlooked. The outlook also notes that only about 2% of mapped pegmatites in a fertile field are likely to be mineralised, but the presence of one world-class deposit strongly suggests others nearby [A120580 (2019)].

3. Historical Work Performed

Exploration maturity for lithium is considered low. No drilling for lithium or relevant pathfinders has been recorded in the open-file Mineral Exploration database over the project area, with all historical drilling targeting bauxite or mineral sands [A120580 (2019)]. However, extensive auger drilling by the Greenbushes Mine is known but not included in public databases. A detailed targeting study was commissioned by Lithium Australia NL from Southern Geoscience Consultants (SGC), reported in [A117309 (2018)]. This study used public domain geophysical, satellite, and geochemical data to generate 96 initial lithium targets, which were later condensed by LIT to a shortlist of 7 high-priority areas [A120580 (2019)]. Field reconnaissance was limited due to land access restrictions on DBCA-managed estate and private land, with work limited to visual verification of geological markers for metamorphosed pegmatites [A120580 (2019)]. Low-impact techniques like analysis of bauxite pulps using laser-induced breakdown spectroscopy (LIBS) were initiated to search for lithium, and a planned deep ground penetrating radar survey was suspended after expert advice deemed it ineffective [A120580 (2019)]. Previous explorers, such as GreenEx, identified anomalous tantalum extending south from the mine, but did not follow up [A120580 (2019)].

4. Extracted Signals

Structured geochemistry data is extremely sparse over the focal tenement itself. The sole XRF dataset from the tenure pack is a 10-sample portable XRF campaign from [A124363 (2020)], which shows anomalous pathfinder elements with Rb up to 251 ppm and Cs up to 23 ppm, but lithium was not assayed. The broader Greenbushes South project, as seen in [A132183 (2022)], includes 514 soil samples that returned highly anomalous lithium pathfinders, with lithium in soils up to 215 ppm, and strongly elevated Cs, Rb, and As around a mapped pegmatite outcrop. This work is on a neighbouring tenement (E70/4790) and demonstrates the effectiveness of soil geochemistry as a

targeting tool where outcrop is poor. The data confirms that pathfinder elements are mobile and can form usable halos in deeply weathered, lateritic terrain. A significant observation is the lack of any GSWA core library or Hylogger drillholes in the entire project area, underscoring the low exploration maturity for lithium [A120580 (2019)]. The total historical open-file drillhole count is 2,491, with all but 5 being for bauxite, confirming a lack of direct lithium drill testing [A120580 (2019)].

5. Prospectivity Assessment

The prospectivity for a significant lithium discovery on E 70/4889 is assessed as high, but the exploration is at a frontier stage. The ground position is exceptionally well-endowed, being adjacent to the world-class Greenbushes Mine and encompassing a major structural corridor known to host mineralised LCT pegmatites. The SGC targeting study [A117309 (2018)] and LIT's internal review [A120580 (2019)] have produced a robust geological framework, highlighting numerous structural analogues, a potential southern extension of the mine pegmatite, and a multi-element soil anomaly that has never been drill-tested. The key challenge is the difficult land access over a patchwork of DBCA conservation estate and private freehold land, which has historically prevented systematic exploration. The technical risk is also in the deeply weathered regolith profile and the non-classical zonation of Greenbushes-style pegmatites, which means that only searching for classic coarse-grained outcrops will overlook the best targets [A120580 (2019)]. Pathfinder geochemistry (Rb, Cs, As) has demonstrably worked in the neighbouring Greenbushes South project to vector towards buried pegmatites, providing a clear, low-impact methodology ready for deployment. The absence of any lithium drilling in the open-file record indicates a genuine first-mover opportunity.

Recommended Next Steps: - **Land Access & CMP:** Finalise a Conservation Management Plan (CMP) with DBCA and negotiate access agreements with private landholders to enable systematic, phased exploration from low-impact evaluation to drilling. - **Systematic Soil Sampling:** Conduct a tight-spaced (<100m) soil sampling program over the high-priority targets, particularly the GreenEx multi-element anomaly south of the mine, analysing for Li, Cs, Rb, As, and Ta, modelled on the successful campaign in [A132183 (2022)]. - **Infill Geophysical Survey:** Consider a focused airborne magnetics/radiometrics survey at 50m line spacing over the highest-ranked structural corridors to refine dilational jog targets, as the current 100-400m spacing is insufficient for detail [A120580 (2019)]. - **Maiden Drill Program:** Design a low-impact air-core or RAB drilling program to test the strongest coincident geochemical and structural anomalies, specifically targeting the weathered zone for pegmatite identification.

Tenement Context: E 70/4889

Generated: 04/06/2026

This context is generated by the NextMaps pipeline from SLIP public data and the NextMaps register. It supplements the WAMEX report corpus. For full due diligence data including tenure history, expenditure compliance, and spatial datasets, see the Tenure Pack at nextmaps.com.au.

Register Intelligence

Register Status

- District: SOUTH WEST M.F.
- Granted: 17 Oct 2025
- Term: 5 Years
- Commenced: 17 Oct 2025
- Area: 196.0 ha
- Expiry: 16 Oct 2030
- Rent: PAID IN FULL

Compliance & Expenditure

- **Compliance:** Unknown

Ownership

Current Holders:

- LITHIUM AUSTRALIA LIMITED — 20/100
- GALAN LITHIUM LIMITED — 80/100
- **Transfer History:** 3 recorded transfers · most recent: 26 May 2026

Holder change history (oldest → newest): - LITHIUM AUSTRALIA NL → LITHIUM AUSTRALIA LIMITED - LITHIUM AUSTRALIA LIMITED → GALAN LITHIUM LIMITED - LITHIUM AUSTRALIA LIMITED → GALAN LITHIUM LIMITED

Tenement Timeline

Historical tenure on this ground — shows who explored here, for how long, and what happened.

Timeline Summary — 6 (5 historical + current)

- Unique holders: 5 · Avg duration: 5.7 yrs · Oldest record: 13 May 1998
- Status: Surrendered (2) | Withdrawn (2) | Forfeited (1) | Active (1)

Most active holder: GALAN LITHIUM LIMITED (2 tenements) **Longest tenure:** 14.2 yrs — E 70/4889 (GALAN LITHIUM LIMITED)

Tenement	Status	Holder	Start	End	Overlap
E 70/6263	Withdrawn	GALAN LITHIUM LIMITED	29 Aug 2022	21 Nov 2025	100%
E 70/4889	LIVE	GALAN LITHIUM LIMITED	20 Jul 2016	16 Oct 2030	Current
E 70/3407	Forfeited	ONEMET MINERALS LTD	29 Feb 2008	5 Sep 2014	100%
E 70/3399	Withdrawn	ORD RIVER DIAMONDS PTY LTD	18 Feb 2008	17 Sep 2008	100%
E 70/2469	Surrendered	MOLY MINES LTD	5 Sep 2001	29 Feb 2008	100%
E 70/2105	Surrendered	SOUTH COAST METALS PTY LTD	13 May 1998	5 Sep 2001	100%

Context sourced from DMPE SLIP WA public datasets and NextMaps register. Verify against primary sources before reliance.