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Operator	TRL Frances Creek Ltd
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Titles / Tenements	EL30832
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**TRL Frances Creek Pty Ltd**  
**A.C.N. 125 984 401**

**EL30832**

*ANNUAL REPORT*  
**For The Period**  
**13<sup>th</sup> July 2018 – 12<sup>th</sup> July 2019**

**Pine Creek SD52-08 1:250,000 Geological Map Sheet**  
**McKinley River 5271 1:100,000 Geological Map Sheet**

**NORTHERN TERRITORY**

**August 2019**

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## **SUMMARY**

This report describes exploration activities conducted on Frances Creek tenement EL30832 by the operator, TRL Frances Creek Pty Ltd from 13<sup>th</sup> July 2018 to 12<sup>th</sup> July 2019. EL30832 was granted to Territory Iron Pty Ltd for a term of two years on the 13<sup>th</sup> July 2015 with the current expiry date following renewal being the 12<sup>th</sup> July 2019.

EL30832 comprises graticular blocks of partially surrendered tenements eL24040 and EL29015 (Glass, 2015a and Glass, 2015b). EL24040 and EL29015 underwent partial relinquishment whereby 16 blocks (13 from EL24040 and 3 from EL29015) were surrendered. Six graticular blocks from EL24040 were retained and amalgamated with a single graticular block from adjoining tenement EL29015 to form new tenement EL30832. The Notice of Intention to Issue Replacement Title (dated 2<sup>nd</sup> July 2015) was granted for EL30832 on the 13<sup>th</sup> July 2015. Upon grant of EL30832, the six retained blocks of EL24040 and single block from EL29015 were automatically cancelled.

TRL Frances Creek was acquired by Gold Valley Holdings Pty Ltd in December 2017, with the corporate changeover being completed end of quarter 1, 2018. EL30832 was subsequently agreed to be transferred to Trendsheer Holdings Pty Ltd in May 2019. The corporate handover is expected to take a couple months.

Exploration activities during the reporting year for EL30832 included desktop studies and evaluation of earlier acquired geological data, geochemical assay and geophysical data to further assess the economic mineral potential of the tenement. These reviews have expanded recently to reassess the potential for other commodities on EL30832.

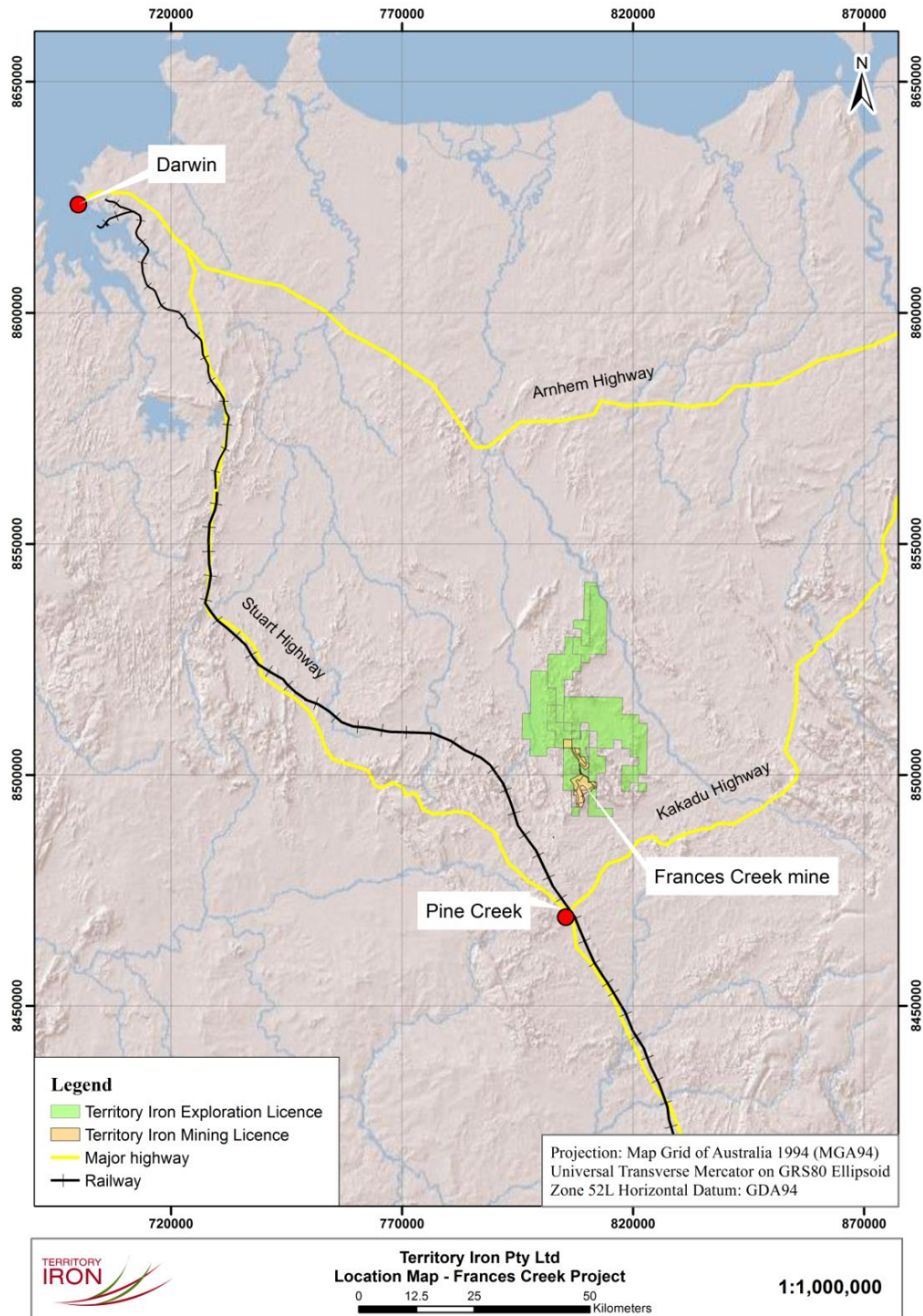
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## 1.0 INTRODUCTION, LOCATION AND ACCESS

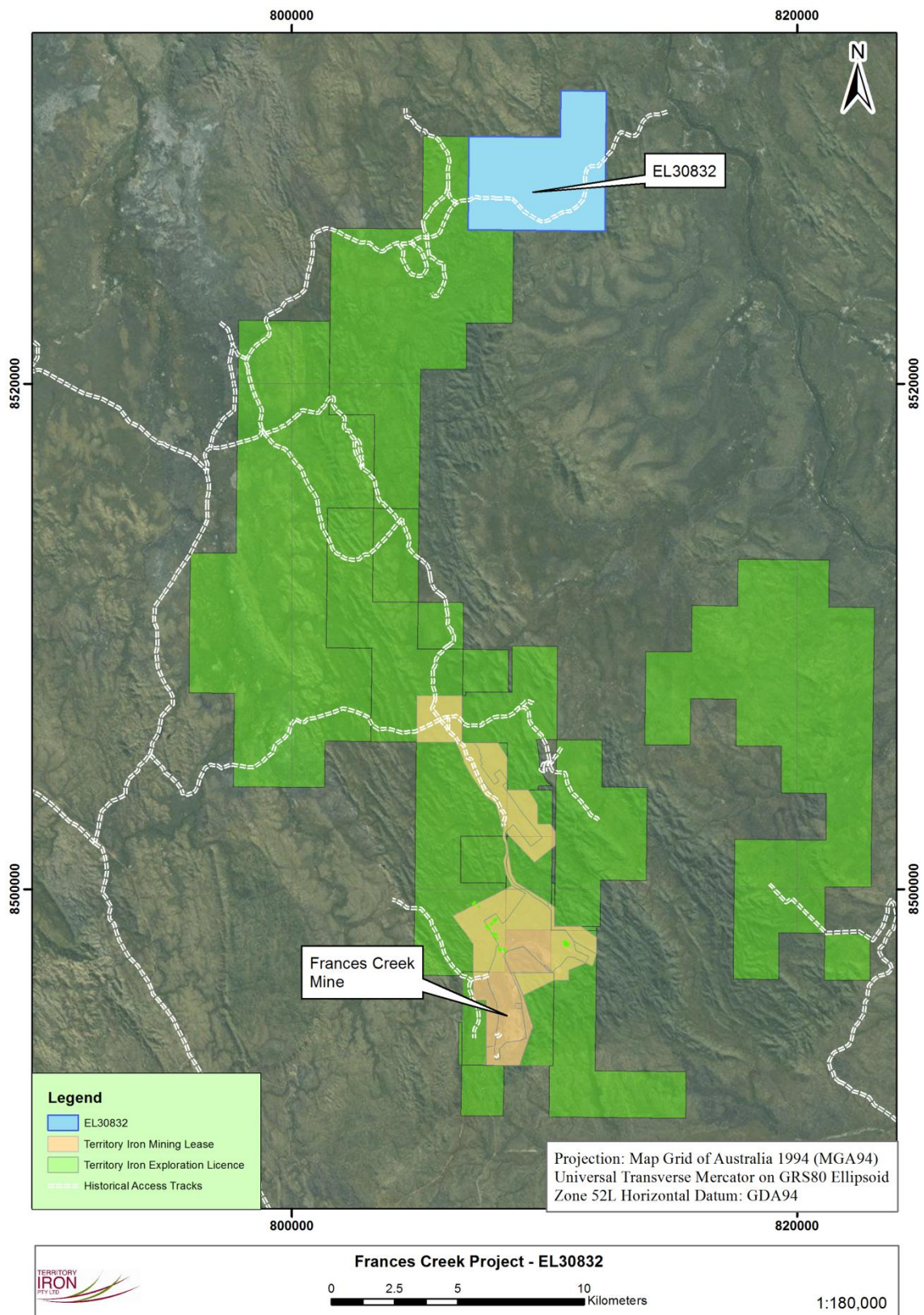
This report details exploration activity for iron mineralisation conducted by Territory Iron Pty Ltd within tenement EL30832 from the date of grant, 13<sup>th</sup> July to 2016 to 12<sup>th</sup> July 2019. EL30832 is an Exploration Licence within the Frances Creek Project Area in the Pine Creek Orogen in the Northern Territory. The Frances Creek Project Area is located about 220km south of Darwin and ~23km north of Pine Creek town ship, Figure 1.



**Figure 1:** Location Map of Frances Creek Project with ESRI world shaded relief defining background topographic elevation. Beige polygons represent Frances Creek Mining Leases and green polygons represent Exploration Licences (the remainder of the Frances Creek Project Area)



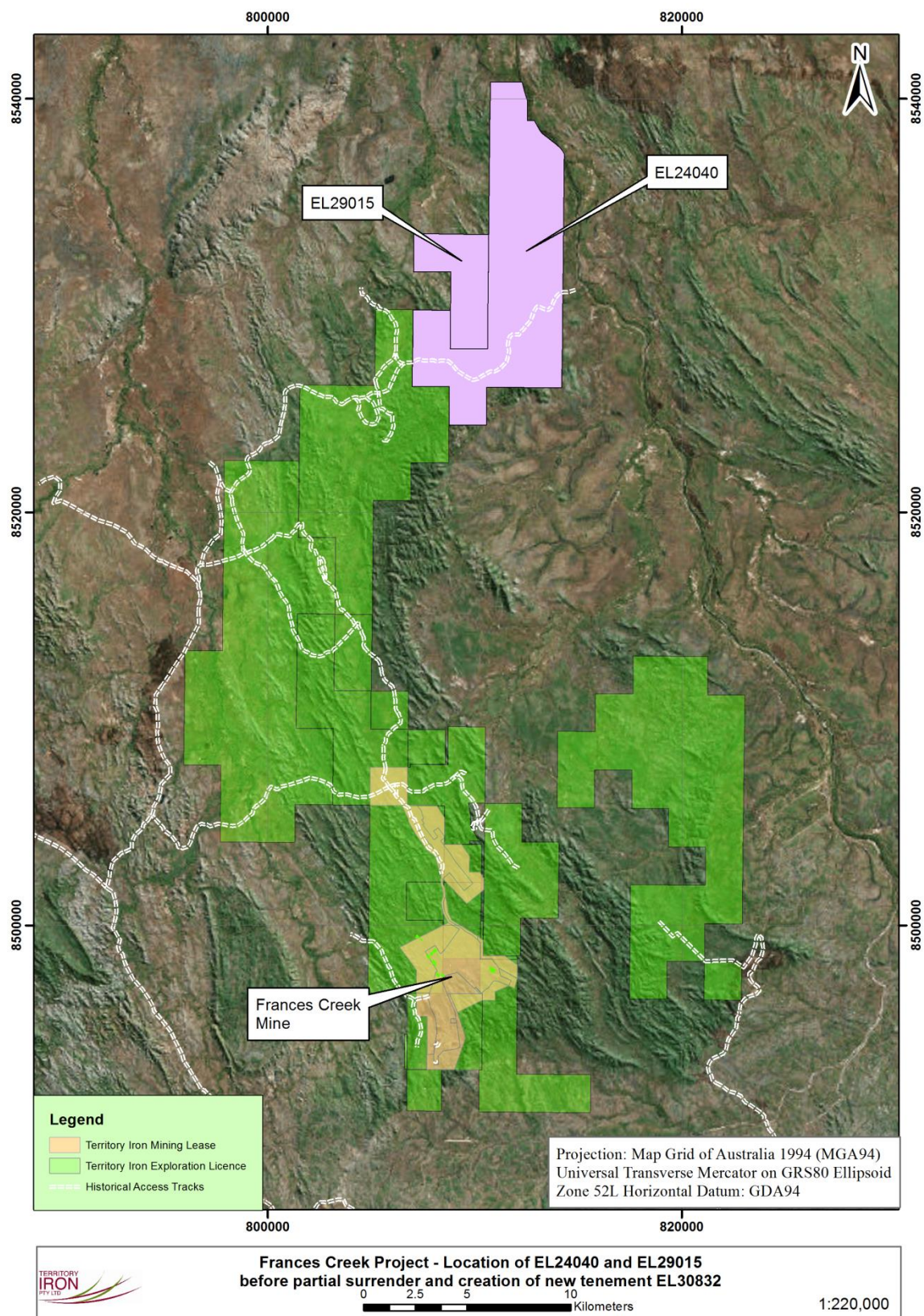
EL30832 is located about 30 km north of the current Frances Creek mining operations, Figure 2. Access to the tenement is via a graded track north of the mine.



**Figure 2:** Location map of EL30832 (blue polygon) within the Frances Creek Project Area. ESRI world satellite imagery defines background relief.



Exploration Licence EL30832 forms part of the original, partially surrendered Exploration Licences EL24040 and EL29015, the latter historical tenure shown in full before relinquishment in Figure 3.



**Figure 3:** Location of historical tenements EL24040 and EL29015 before partial relinquishment. ESRI world satellite imagery defines background relief.



Exploration Licence EL30832 forms that part of the retained graticular blocks of original Exploration Licences EL24040 and EL29015, Figure 4.

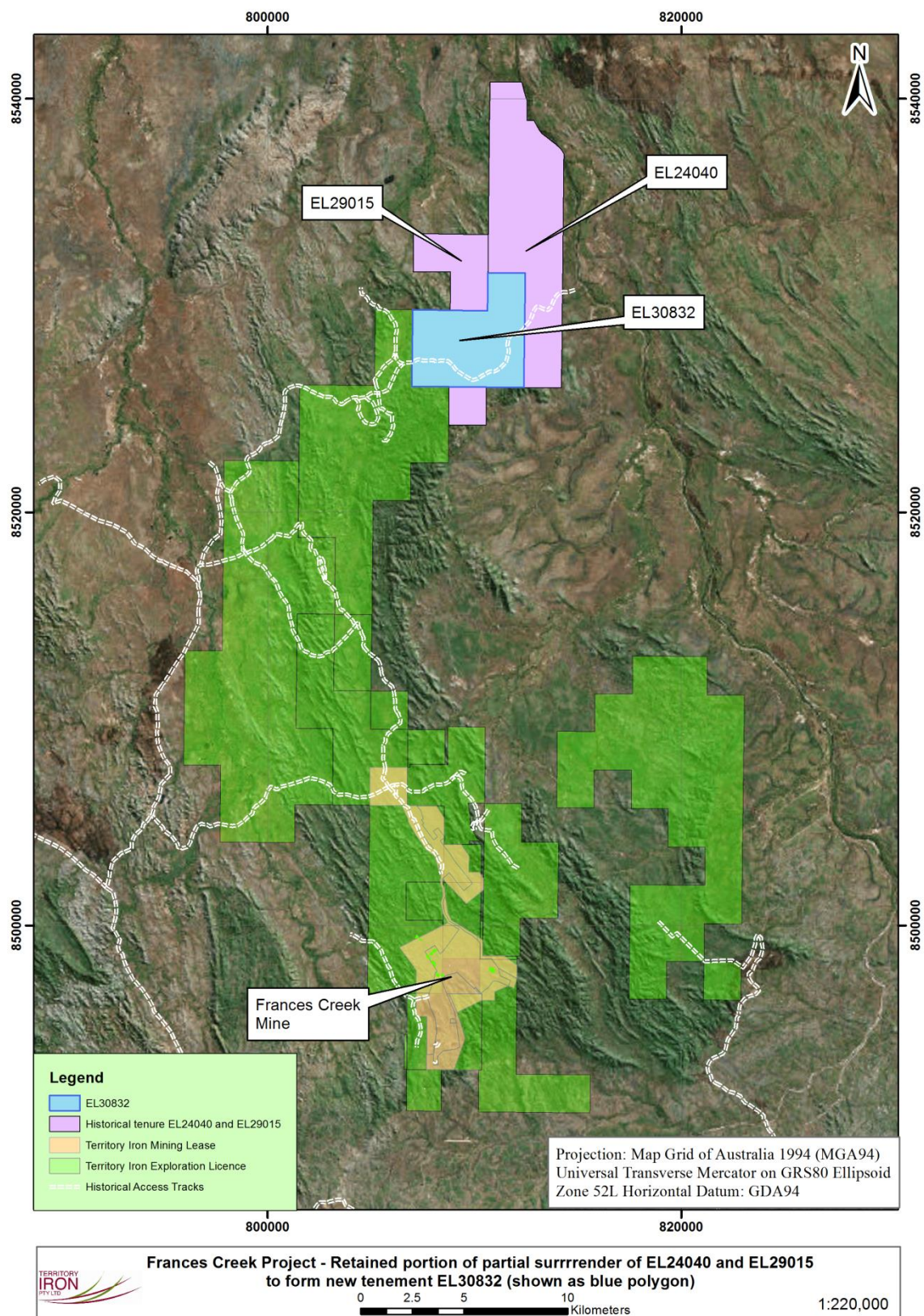


Figure 4: EL30832 relative to historical tenure EL24040 and EL29015. ESRI world satellite imagery defines background relief.



## **2.0 TENURE**

### **2.1 MINERAL RIGHTS**

EL30832 comprises graticular blocks of partially surrendered tenements eL24040 and EL29015 (Glass, 2015a and Glass, 2015b). EL24040 and EL29015 underwent partial relinquishment whereby 16 blocks (13 from EL24040 and 3 from EL29015) were surrendered. Six graticular blocks from EL24040 were retained and amalgamated with a single graticular block from adjoining tenement EL29015 to form new tenement EL30832.

### **2.2 LAND TENURE**

Land tenure under the title is within Ban Ban Springs Pastoral Lease, PPL 1111 – NT Portion 695, owned by Ban Ban Springs Station Pty Ltd, PO Box 7207, St Kilda Road, Melbourne, Vic 8004.

### **2.3 NATIVE TITLE ACT 1993**

A registered native title claim DC01/21 lodged on the 13<sup>th</sup> March 2001 (Paddy Huddleston & Ors) – PPL 1111 covers the pastoral lease.

## **3.0 CULTURAL HERITAGE MANAGEMENT**

Six archaeological sites are recorded in the retained graticular blocks of EL24040. These sites remain protected under the provisions of the *Heritage Act* 2012.

In December 2013, Territory Iron was issued a permit under Section 72 of the Act to disturb sites throughout the entire Frances Creek project area if required for mining activities or exploration. However, sites will only be disturbed if absolutely necessary. Territory Iron archaeologists supervise any heritage management activities in accordance with the requirements of the permit. An Authority Certificate under the NT Aboriginal Sacred Sites Act 1989 will only be issued should the area ever be mined.

## **4.0 GEOLOGY**

### **4.1: REGIONAL GEOLOGY**

The Frances Creek mine site and adjacent exploration area are located within the Palaeoproterozoic Pine Creek Orogen which forms part of the North Australian Craton. The Pine Creek Orogen covers an area of ~50,000 km<sup>2</sup> and represents a >4 km succession of carbonate, clastic and carbonaceous sedimentary and volcanic rocks, which unconformably overlie Neoarchaeon (~2500 Ma) basement granite and gneiss. Based on the timing of sedimentation, magmatism and metamorphism, the Pine Creek Orogen has been divided into three distinct domains, from west to east; the amphibolite to granulite facies Litchfield Domain, the greenschist facies Central Domain and the amphibolite facies Nimbawah Domain. The Frances Creek mine site and adjacent exploration area is located within the Central Domain.

The oldest rocks (the Palaeoproterozoic Woodcutters Supergroup) comprise the Namoon Group (Masson Formation) to the east of the Frances Creek project area. They are unconformably overlain by the Mount Partridge Group (Mundogie Sandstone and Wildman Siltstone) which cover the majority of the Frances Creek project. The Mundogie Sandstone (Mount Partridge Group) forms prominent continuous northwest-striking ridges of dominantly coarse, pebbly, feldspathic quartzite and arkosic sandstone (Stuart-Smith *et al.*, 1987). Massive, graded beds of pebble conglomerate are common and units often display graded bedding and lenticular cross-bedding. Subsequent to sedimentation of the Mundogie Sandstone, the Wildman Siltstone (subdivided into two members;

the Lower Wildman Siltstone and Upper Wildman Siltstone) were deposited with apparent conformity. The unit mainly comprises metapelitic assemblages with subordinate sandstone. The Lower Wildman Siltstone is host to the majority of the iron mineralisation at Frances Creek.

In the western portion of the Frances Creek project area, the Mt Partridge Group is unconformably overlain by the stratigraphic sequences of the Cosmo Supergroup, comprising the South Alligator Group (Koolpin Formation, Gerowie Tuff and Mt Bonnie Formation) stratigraphic sequence. Subsequent to deposition of these units, pre-orogenic Zamu Dolerite sills intruded these stratigraphic successions.

Syn- to post-orogenic activity is represented by intrusion of the 1835-1800 Ma Cullen Supersuite granitoids. Intrusion of the granite led to contact aureoles in the surrounding pre-orogenic Masson Formation, Mundogie Sandstone and Zamu Dolerite.

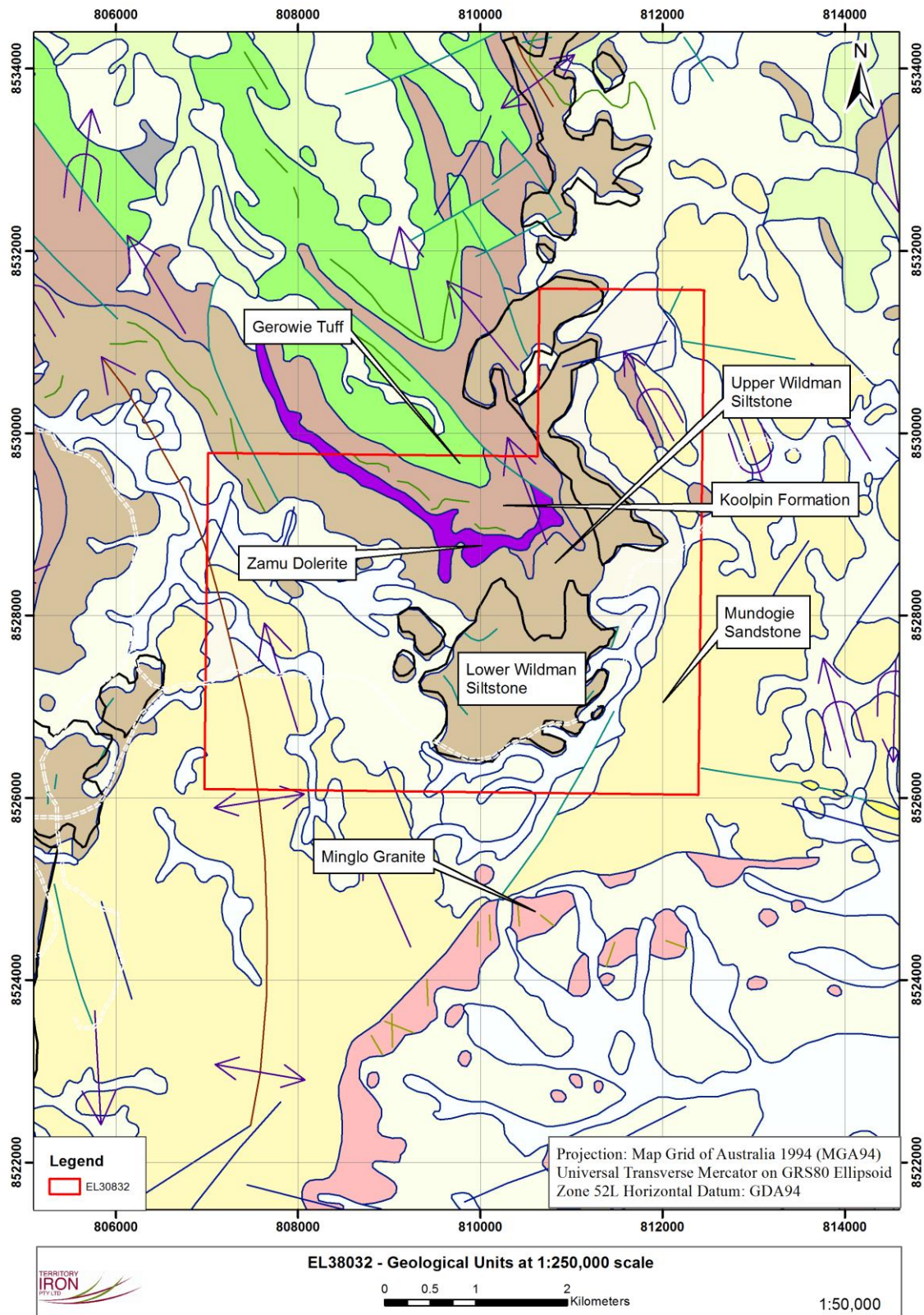
Two major episodes of folding are recognised, earlier tight to isoclinal F1 folds followed by younger open (widely spaced) folds (Stuart-Smith *et al.*, 1987). The major structural controls in the tenement area are related to D3 1-3 km scale northwest-trending non-cylindrical folds, which plunge gently to the northwest to form a series of anticlines and synclines pre-dating the intrusion of the Cullen Supersuite, and 1-3 km long northwest and northeast-trending faults.

#### **4.2: LOCAL GEOLOGY AND MINERALISATION**

The main stratigraphic units within EL30832 are the Mundogie Sandstone and Wildman Siltstone of the Mount Partridge Group, the Koolpin Formation and Gerowie Tuff of the South Alligator Group and the intrusive Zamu Dolerite, Figure 5. Unconsolidated quaternary sedimentary deposits cover part of the area.

In the Frances Creek area, economic grade iron mineralisation is concentrated primarily within basal breccias of the Lower Wildman Siltstone, within regional fold hinge zones and limbs of overturned NNW-trending, shallow plunging, non-cylindrical folds and subordinate parasitic folds and fold flexures. The lower sequence consists of carbonaceous phyllite, ironstone, siltstone and phyllite which is overlain by laminated grey, brown, red and cream banded siltstone (Stuart-Smith *et al.*, 1987). At depth, the sequence grades into pyritic carbonaceous shale. The lower member in surface outcrop consists of bleached white to grey carbonaceous shale including highly angular iron-rich breccias and massive ironstone, overlain by laminated grey, brown, red and cream shale and siltstone.

Although not recognized in the official stratigraphic definition for the Wildman Siltstone, drilling at Frances Creek has revealed extensive dolostone in the lower member. Iron enrichment is not restricted to one stratigraphic unit and occurs in strata both above and below the Wildman Siltstone, although these enrichments do not reach economic levels. A characteristic feature of the Frances Creek deposit is that high-grade zones comprise numerous, small, irregular, “pod-like” ore bodies that are of the order of 10 – 20 m in diameter and generally within 100 m of the contact to the underlying Mundogie Sandstone.



**Figure 5:** Geological Units for EL30832 at 1:250,000 scale. Digital Geological Map from Northern Territory Geological Survey, Darwin

Iron-bearing oxides include hematite ( $\text{Fe}_2\text{O}_3$ ) and goethite ( $\text{FeO}(\text{OH})$ )  $\pm$  accessory manganese minerals which are associated with goethite. High grade Fe-ore ( $>65\% \text{Fe}$ ) is characterized by hard, grey, massive hematite or friable



purple, microplaty hematite. These ores can range from extremely fine grained to coarse grained and bladed with numerous irregularly shaped vugs and skeletal-textures reminiscent of boxworks, in which vugs are often filled with late-crystallising, coarse-grained hematite. Goethite occurs as both ochreous and vitreous forms.

## **5.0: EXPLORATION ACTIVITIES – CURRENT REPORTING YEAR**

Exploration activities during the reporting year for EL30832 included desktop studies and evaluation of earlier acquired geological data, geochemical assay and geophysical data to further assess the economic mineral potential of the tenement. These reviews have expanded recently to reassess the potential for other commodities on EL30832.

## **6.0: CONCLUSIONS AND RECOMMENDATIONS**

An in depth review of all available information including geological data, geochemical assay results and geophysical data (airborne EM and ground gravity surveys) and a follow up reconnaissance is recommended for EL30832.

All the mineral rights are owned by TRL Frances Creek Pty Ltd and will be transferred to Trendsheer Holdings Pty Ltd which will assist in new management's re-assessment of the value of the tenement, specifically with respect to potential gold mineralisation. Trendsheer will need time to finalise the handover and eventual transfer of EL30832.

## **7.0: REFERENCES**

Glass LM, 2015a. Territory Iron Pty Ltd, *EL24040 Partial Relinquishment Report for the period 19<sup>th</sup> August 2004 – 7<sup>th</sup> May 2015*.

Glass LM, 2015b. Territory Iron Pty Ltd, *EL29015 Partial Relinquishment Report for the period 5<sup>th</sup> April 2012– 7<sup>th</sup> May 2015*

Stuart-Smith PG, Needham RS, Bagas L and Wallace DA, 1987. Pine Creek, Northern Territory, *BMR 1:100,000 Geological Map Commentary, Bureau of Mineral Resources, Geology and Geophysics*, Canberra, Australia.