

# BARFUSS CORPORATION PTY LTD

## HARTS RANGE PROJECT

### NORTHERN TERRITORY OF AUSTRALIA

#### ANNUAL TECHNICAL REPORT FOR EXPLORATION LICENCE EL29920

#### FOR THE YEAR ENDING 22<sup>ND</sup> OF APRIL 2016

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Date: 16/07/16  
Licensee: Barfuss Corporation Pty Ltd  
A.C.N. 006 917 666

Target Commodities: thorium, uranium, rare-earth elements, gemstones, muscovite  
1:250,000 MAP SHEETS: Alcoota SF53-10, Huckitta SF53-11, Alice Springs SF53-14, Illogwa Creek SF53-15  
1:100,000 MAP SHEETS: Riddoch 5851, Delny 5852, Quartz 5951, Dneiper 5952  
Datum/Zone: GDA94 / MGA zone 53  
KEYWORDS: Harts Range, Arunta Block, Harts Range Group, Riddock Amphibolite, uranium, thorium, rare-earth elements, niobium, tantalum, yttrium, samarskite, muscovite

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## LICENCE DETAILS:

Licence Number: EL 29920  
Project Name: Harts Range  
Licensee: Barfuss Corporation Pty Ltd  
Licensee CAN: 006 917 666  
Licence Details:

Area: 10.03 square kilometres  
4 square graticular units  
(1 minute x 1 minute longitude/latitude)

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## ***EXECUTIVE SUMMARY***

Exploration Licence 29920 is part of Barfuss Corporations Harts Range Project. The bulk of the project comprises of EL's 29690, 25063, 25764 and 25430, plus more recent licence EL29950. Existing Mineral Claims are also considered part of the project. The Harts Range Project Licences cover an area of about 600 square kilometres.

Underlying geology throughout most of the project area consists of high-grade metamorphic rocks of the Arunta Block, including the Harts Range Group (Part of the Late Proterozoic to Cambrian Irindina Province), with older Aileron Province rocks in the east (Entia Dome) and west (Strangways Metamorphic Complex, including younger deformation in the Gough dam Schist Zone).

Field activity to date has included geological mapping, extensive rock-chip sampling and detailed ground spectrometer surveying in a number of areas. Detailed air-borne geophysical surveying is considered an optimal assessment tool and is being considered for use in the project area as well as selective diamond core drilling with the company's own track-mounted drilling rig. More recent work has focused to some extent on specialised prospecting for muscovite mica deposits, bases on interest expressed by the Merck Group in Germany.

A large number of prospects have been identified. In and around EL29690 these include pegmatite dykes with a very strong uranium-niobium-yttrium-tantalum (-REE) mineral enrichment with assays of over 10% Uranium ("Bobs", "Cusp" and "Malex" prospects). Merck Group (Germany) is still showing a significant interest in the muscovite deposits in the licence areas. Merck Group representatives have visited the project site and taken several samples for analysis from several areas, with a number of follow-up bulk samples sent to them on request. This was also done for a nearby vermiculite prospect (Surrounded by EL 25764 and 25063). An extensive exploration by Mithril Resources Limited has also been conducted on this area with the discovery of copper-cobalt and nickel-copper mineralisation as well.

Barfuss Corp. has been in on-going negotiations with a number of companies regarding possible investment in the project. Including Merck Group, Mithril Resources Ltd, as well as private investors from Germany who have travelled to the project site. A Chinese group has also considered investing in parts of the project (via DDM Capital, a Melbourne based corporate advisory firm) and Barfuss has visited China for discussions. A Confidentiality Agreement has been signed with MMG Limited, which is interested in the projects Nickel prospects.

Activities during the reporting period include on-going prospecting of pegmatite dykes for specific types of muscovite, which is of interest to Merck Group. Plus further prospecting for vermiculite deposits and regional prospecting for various gem deposits. Many indications have been found however none of an economical quality at this stage.

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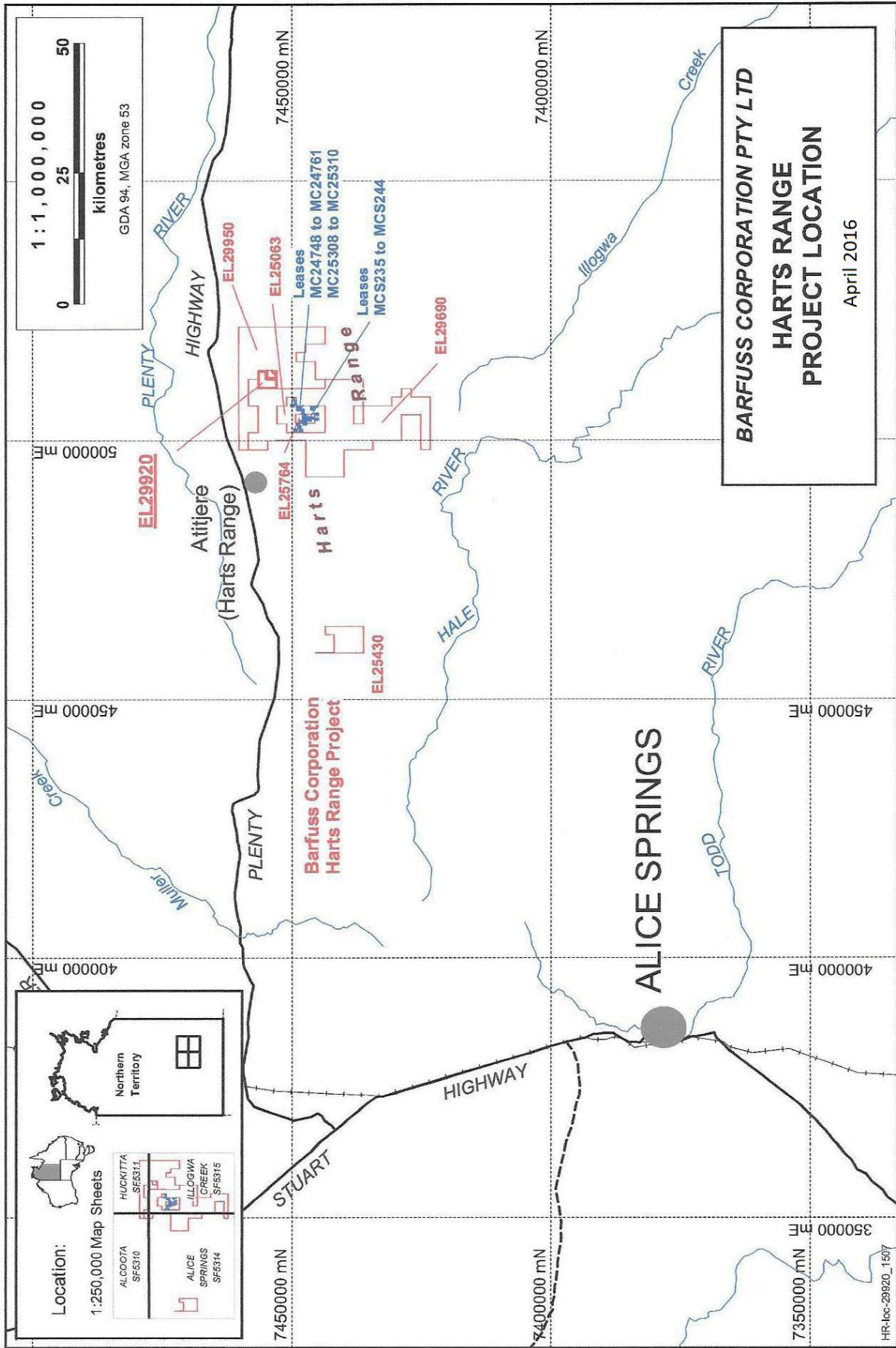


Figure 1

# 1. INTRODUCTION & SUMMARY

Barfuss Corporation's Harts Range Project comprises EL's 29920, 25063, 25430, 29690, 25764 and 29950, plus a number of Mineral Claims within the area of EL's 25063 and 25764.

- EL 29690 334.06 km<sup>2</sup>
- EL 25063 40.77 km<sup>2</sup>
- EL 25430 32.37 km<sup>2</sup>
- EL 25764 6 km<sup>2</sup>
- EL 29920 10.03 km<sup>2</sup>
- EL 29950 192.7 km<sup>2</sup>
- Mineral Claims MC 24748-24761 & 25308-25310 6.21 km<sup>2</sup>

The exploration licences are contiguous, with the exception of EL25430, which lies to the west. The MC's are within the area of EL's 25063 and 25764. The company also has Mineral Claim coverage of the Harts Range Ruby Mine (MCS 235-244, 1.72 km<sup>2</sup>) which is also surrounded by EL 25764.

## **This report covers only EL 29920**

The Harts Range Project lies in South-Western Northern Territory, roughly 130km northeast of Alice Springs. (260km by road via the Plenty Highway)(Figure 1).

Topography and terrain in the Harts Range area is mostly rugged, with relief of up to 400m in some areas. Access is mainly from the north via station access tracks running south from the Plenty Highway. The rugged terrain generally restricts vehicles to established tracks.

The Harts Range area is dominated by gneisses and amphibolites of the Riddock Amphibolite Member, part of the Harts Range Group in the Irindina Province (Recognised as Late Proterozoic to Cambrian period), in Division 2 of the eastern Arunta Block. The project also covers adjacent rocks. Predominantly these consist of schist, gneiss and some calsilicates which also belong to the Harts Range Group. The far eastern part of the project also overlies the older Bruna and Entia Gneisses on the western flank of the Entia Dome (Aileron Province, Arunta Division 1).

EL 25430 to the southwest is also above the older Aileron Province Rocks (Strangways Metamorphic Complex), though these are dominated by younger deformation forming the Gough Dam Schist Zone. Geology is generally made up of high-grade quartzofeldspathic gneisses and schist, with subordinate amphibolite and calcilicates.

The Harts Range area was a major producer of Mica from pegmatite-related outcrops in the early-mid 20<sup>th</sup> century. Other mining in the project area has been mostly small scale, targeting semi-precious minerals. Small-scale base metals have also been mined in several areas, with some larger deposits having been identified. Base metal mineralisation in the region includes the Jervois Copper deposits, the Molyhil Mine in the northeast (scheelite-molybdenite {tungsten}) and the Oonagalabi copper-lead-zinc deposit.

During 2001-2005, a copper-gold mineralisation was investigated by Tanami Gold NL at its Copper Queen group of deposits, following earlier work by Kinex at its White Hill Dam prospect in 1984-1987. Power Nuclear Corporation of Japan (PNC) explored the area for uranium in the 1990's (please see company reports in the References section of this document). The Copper Queen prospects are now mostly east and northeast of Barfuss Corps. EL25430, with some overlapping areas. Areas which were explored by PNC are also covered by the project. Recent work has been done by Mithril Resources Ltd at its Huckitta Project southeast of the Barfuss Project, where significant copper-cobalt and nickel-copper sulphide mineralisation is being investigated.

The Harts Range Ruby deposit, which was found in the 1970's and mined into the early 1980's by Hillrise Properties and Mistral Mines is now under Mineral Claim coverage by Barfuss Corporation. This area is surrounded by EL 25764 and Barfuss has a site office and mining camp located there.

In addition to gemstones, base and precious metal; the Harts Range Project is also being explored for a variety of industrial minerals. Potential Garnet Sand resources have been identified in the area, along with a number of historic mica deposits. There have also been vermiculite-rich deposits discovered within the Barfuss Corp. Ruby Mine mineral claims within the Riddoch Amphibolite unit, and considers that there is potential for more such mineralisation in the project area.



Barfuss Corp. has conducted mostly non-invasive exploratory work on the Harts Range Project leases. Several prospect areas have been identified in various areas of the licences. Investigations have included detailed analysis of available geophysical data, geological mapping, ground spectrometer surveys and rock-chip sampling. Several areas are recognised as highly prospective and requiring further investigation. Rock-chip assays have included some highly anomalous results. Many areas have been subject to reconnaissance and more detailed investigations, including further rock-chip sampling, ground spectrometer surveys and geological mapping. Identified mineralisation and anomalies includes copper-gold, uranium, thorium, nickel and rare earth elements (REE). This work is documented in detail in previous Annual Reports for the various licences.

Discussions with Merck Group and the Chinese group are on-going, as well as prospective private German investors. Barfuss has received a written commitment to invest \$5 million in the Project. A Swiss investment group, who has previously provided capital for Diamond mining in Sierra Leone and Gold mining in Mexico, has also approached Barfuss with an interest in investing in the project. Barfuss has also signed a Confidentiality Agreement with MMG Limited, which is interested in the projects Nickel prospects.

Field work on the licence during the reporting period included careful examination and prospecting of pegmatite dykes in the area for muscovite mica of a specific type, of potential interest to the Merck Group in Germany. On-going prospecting for vermiculite occurrences and general detailed prospecting for gems and gem minerals has also occurred.

Work being considered for the upcoming annual report period includes diamond core drilling and/or detailed airborne surveys over much of the Harts Range Project. This being subject to the potential involvement of investors and/or joint venture partners. Different companies with which Barfuss is in discussions with are interested in resources or commodities, so there is potential for more than one additional company to be involved in the Project.

Expenditure figures are provided in the separate Exploration Expenditure Report.

## 2. WORK CONDUCTED DURING THE REPORT PERIOD

Activities were similar to those conducted on the adjoining licences (reported separately)

### Muscovite Exploration

Muscovite samples collected from the project area in 2011, and sent to Germany for analysis, prompted a reconnaissance visit to the project by representatives of the Merck Group, a major global pharmaceutical and chemical company.

Merck is investigating the Harts Range area as one of a number of areas in Australia deemed to be a potential source for muscovite mica with chemical and physical properties suitable for its needs. Historically, the Harts Range mica deposits produced large (decimetre-plus) book mica, for uses requiring large mica sheets. Merck's requirements are different however, being based on the chemistry of the mineral rather than its crystal size.

Merck reported that it considers the potential of the Harts Range Region to be huge, and *"the Northern Territory has a large potential as a mica supplier for Merck"*. Merck declared that it regards the Barfuss Corporation as its *"most important potential partner in the Harts Range"* and hoped to make use of the Barfuss Camp Site and infrastructure, if any mining eventuates. Personal communications from the Merck report's author to Barfuss Corporation state that *"the best quality Australian mica comes from your leases"* (email, December 2011).

Barfuss is conducting further examination and prospecting of pegmatite dykes for muscovite of the specific type of interest to Merck.

### Other Activities

The area was also closely examined for more indications of vermiculite occurrences, as it is known to be on some of the Mineral Claims which the licence surrounds. The geological stratigraphy of the Riddoch Amphibolite hosting the vermiculite was prospected. Other work included general regional ground prospecting for gems and gem materials. Many indications were found but to this time none of any commercial quality.

Due to the nature of the work conducted no numerical results have been generated.

Other activities focussed largely on discussions with prospective investors and joint ventures. Discussions are on-going with the Merck Group and the Chinese, as well as the private Germany Investors (who have visited the project). Barfuss has signed a Confidentiality Agreement with MMG Limited which has an interest in the projects Nickel prospects.

### **3. WORK PROGRAM FOR THE NEXT 12 MONTHS**

The next phases of work on the project will partly be subject to the involvement of investors and/or joint venture partners. Different companies with which Barfuss is in discussions with are interested in different resources, so there is potential for more than one additional company to become involved in the project. Work to be conducted may largely be dependant on the interests of such companies.

The company is considering preliminary core drilling on selected prospects. Subject to funding and joint venture arrangements, a detailed geophysical survey (magnetic and radiometric) over most if not all of the project area may also be conducted. This would help identify areas warranting more detailed investigation, and would aid in geological interpretation of areas already of interest.

Prospect areas discussed in prior reports, and shown in Figure 2, warrant further field investigation. These include the areas between the Bobs and Cusp prospects. These 2 prospects contain high-grade uranium-niobium-tantalum-yttrium REE (Rare Earth Element) mineralisation. Selective sampling of masses of Samarskite minerals have consistently returned assays in the order of 7% Uranium, over 4.75% Yttrium, mostly over 7.5% Niobium, over 4% Tantalum and mostly over 4% REE (rich in the more valuable REE). These two prospects comprise of similar pegmatite dykes, along strike from one another. The intervening strike length has not yet been investigated. Cusp and Bobs (Malex further south on EL 29690) all require further investigation also.

**Ricardo Barfuss**

**Barfuss Corporation Pty Ltd**

**16/07/2016**

## References

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Northern Territory licences, including
  - EL 24552
  - EL 25063
  - EL 25430
  - EL 25764
  - EL 29690
  - Group GR-131/09 (Mineral Claims MCS 235-244; MC 24748-24761; MC 25308-25310)
  - Group GR-132/09 (ELs 24552, 25063, 25430)
  - Mineral Claims MCS 235-244
  - Mineral Claims MC 24748-24761 and MC 25308-25310

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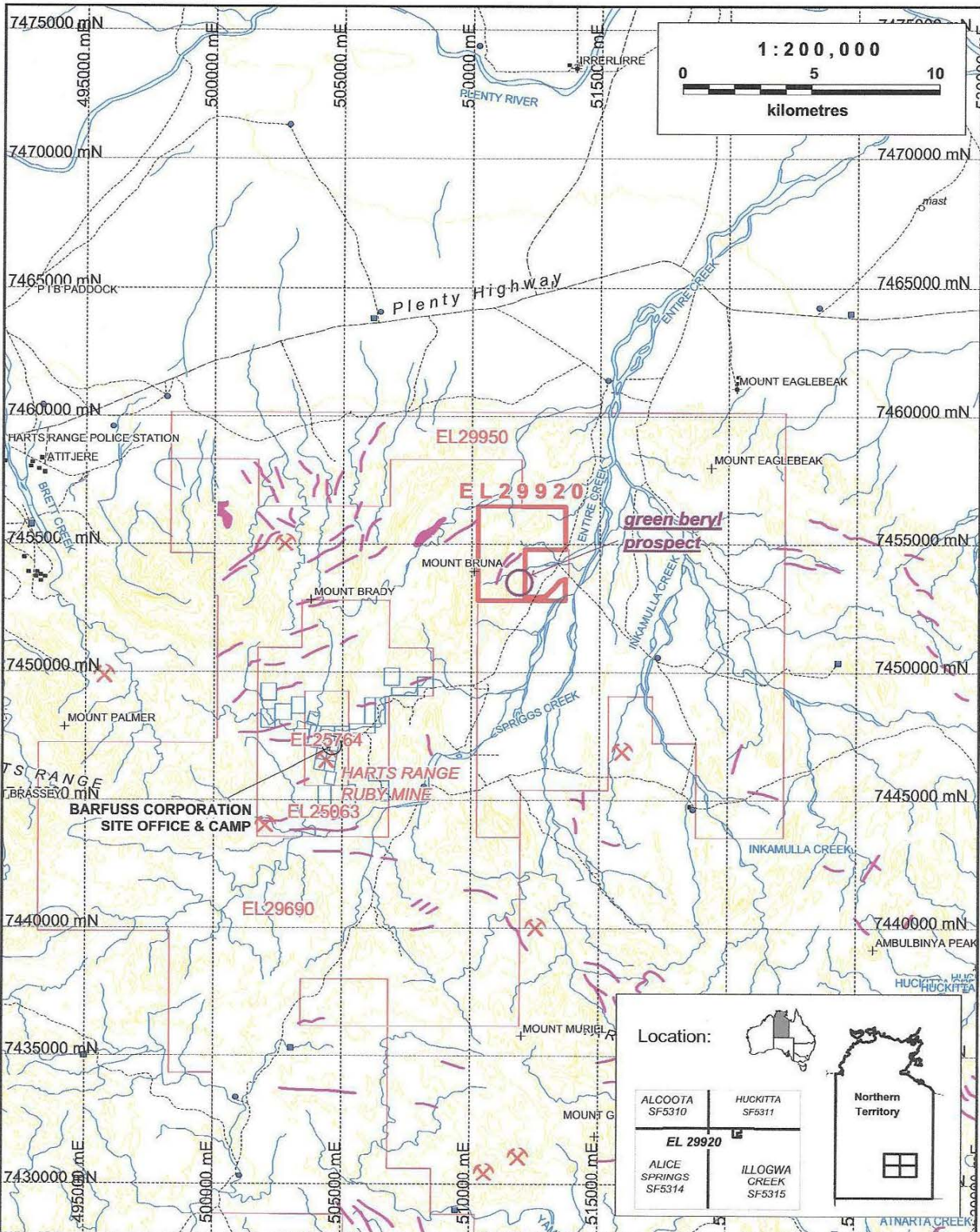
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Tanami Exploration NL: various open-file tenement annual, final and partial relinquishment reports, 2002 to 2005; Report Numbers CR2002-0290, CR2004-0015, CR2004-0649, CR2005-0445



 Pegmatite dykes (major) - these and others selectively examined and prospected for specific muscovite types & gem mineralisation  
 Barfuss Corporation Mineral Claims

Topographic Data from the 1:250,000 Geological Map Sheet digital datasets for Alice Springs, Alcoota, Huckitta, Illogwa Creek.  
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**BARFUSS CORPORATION PTY LTD**

**Harts Range Project - EL 29920 - Northern Territory**

**Field Activities**

**Year Ending 22 April 2016**

Workspace: EL29920-activities-1507	Date: August 2015
Plot file:	Scale: 1:200,000
Author: ARC	Projection: GDA94, MGA Zone 53
Drawn: ARC	Plotter:
Exploration & Discovery Services Pty Ltd	Figure 2