



**ANNUAL REPORT
EXPLORATION LICENCE
EL24357
ARUNTA PROJECT
NORTHERN TERRITORY**

**FOR THE YEAR ENDED
30th March 2006**

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SUMMARY

This report summarises work carried out on Exploration License 24357, which makes up part of Discovery Nickel Limited's Arunta Project, for the year ended 30th March 2006.

Through compilation efforts, Falconbridge (Australia) Pty Limited identified the north-central Arunta as being favourable to host Proterozoic, intrusive related, magmatic Ni-Cu-PGE sulphide mineralisation, analogous to the giant Voiseys Bay nickel-copper deposit in Canada. In October 2003, Discovery Nickel Limited acquired a 100% interest in Falconbridge (Australia) Pty Ltd's Arunta tenements through a Heads of Agreement document. Tenement EL 24357 however was not applied for by DNL until 2005. This tenement was applied for after drilling at prospect B1 on EL 23392, west of EL 24357 intersected a significant new sulphide system. DNL interpreted from the regional aeromagnetic data that there was a high probability that this new sulphide system extended to the west of DNL's then current tenements. Therefore, DNL applied for EL24357 in order to completely cover the sulphide system with a view of targeting areas where the sulphide system comes into contact with mafic intrusions.

Work completed by DNL in the Arunta Project area to date includes negotiating a land access agreement with the Traditional Owners, compilation of historic and regional datasets, ground EM survey, interpretation of ground EM results, magnetic data interpretation and drilling of two exploration holes.

In 2005 DNL exploration efforts were restricted due to problems securing contractors to collect additional GEOTEM, ground EM and drilling.

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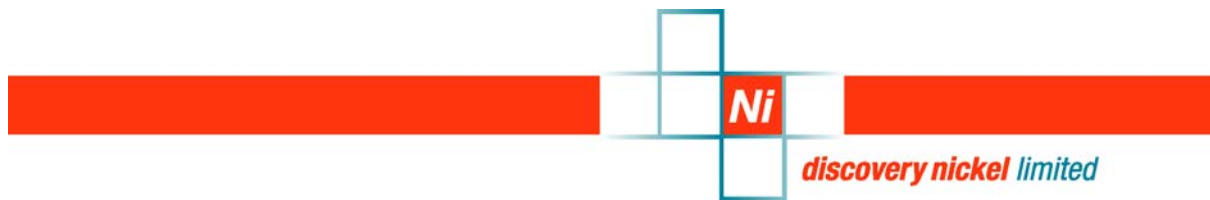
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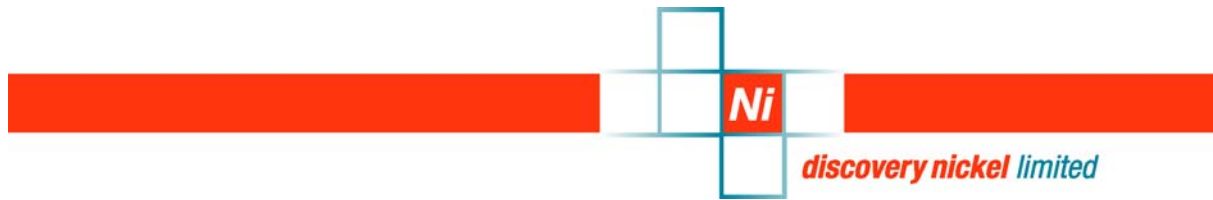
1 INTRODUCTION

This report summarises work carried out on Exploration License 24357, which is part of Discovery Nickel Limited's Arunta Project, for the year ended 30th March 2006.

The Arunta Project is located approximately 250km N-NW of Alice Springs in the Northern Territory. The North Arunta Province is dominated by a series of sulphidic Proterozoic sedimentary sequences on an Archean/Proterozoic boundary zone that have been intruded by late mafic sills. Quaternary and Tertiary cover of variable thickness, conceal large areas of bedrock in the area and although the region has seen some exploration for a variety of commodities (including gold, copper, iron ore, and diamonds) the evaluation of the nickel potential of the area has been very limited to date.

During regional compilations by Falconbridge the area was recognised to have potential when the Barrow Creek nickel sulphide occurrence 75-100km east of the project area was noted in regional assessment files. Also, rumours of success in the Andrew Young belt to the south prompted further assessment of the NTGS geophysical and geological datasets. These compilations flagged major regional structures coincident with interpreted mafic bodies in the project area that had potential for nickel sulphides and hence tenement applications were made (**Fig. 2, 3, 4, 5 and 6**). Tenement EL 24357 however was not applied for by DNL until 2005. This tenement was applied for after drilling at prospect B1 on EL 23392, west of EL 24357 intersected a significant new sulphide system. DNL interpreted from the regional aeromagnetic data that there was a high probability that this new sulphide system extended to the west of DNL's then current tenements. Therefore, DNL applied for EL24357 in order to completely cover the sulphide system with a view of targeting areas where the sulphide system comes into contact with mafic intrusions.

Work completed in the area to date includes negotiating a land access agreement with the Traditional Owners, compilation of historic and regional datasets, ground EM survey, interpretation of ground EM results, magnetic data interpretation and drilling of two exploration holes.



In 2005 DNL exploration efforts were restricted due to problems securing contractors to collect additional GEOTEM, ground EM and drilling.

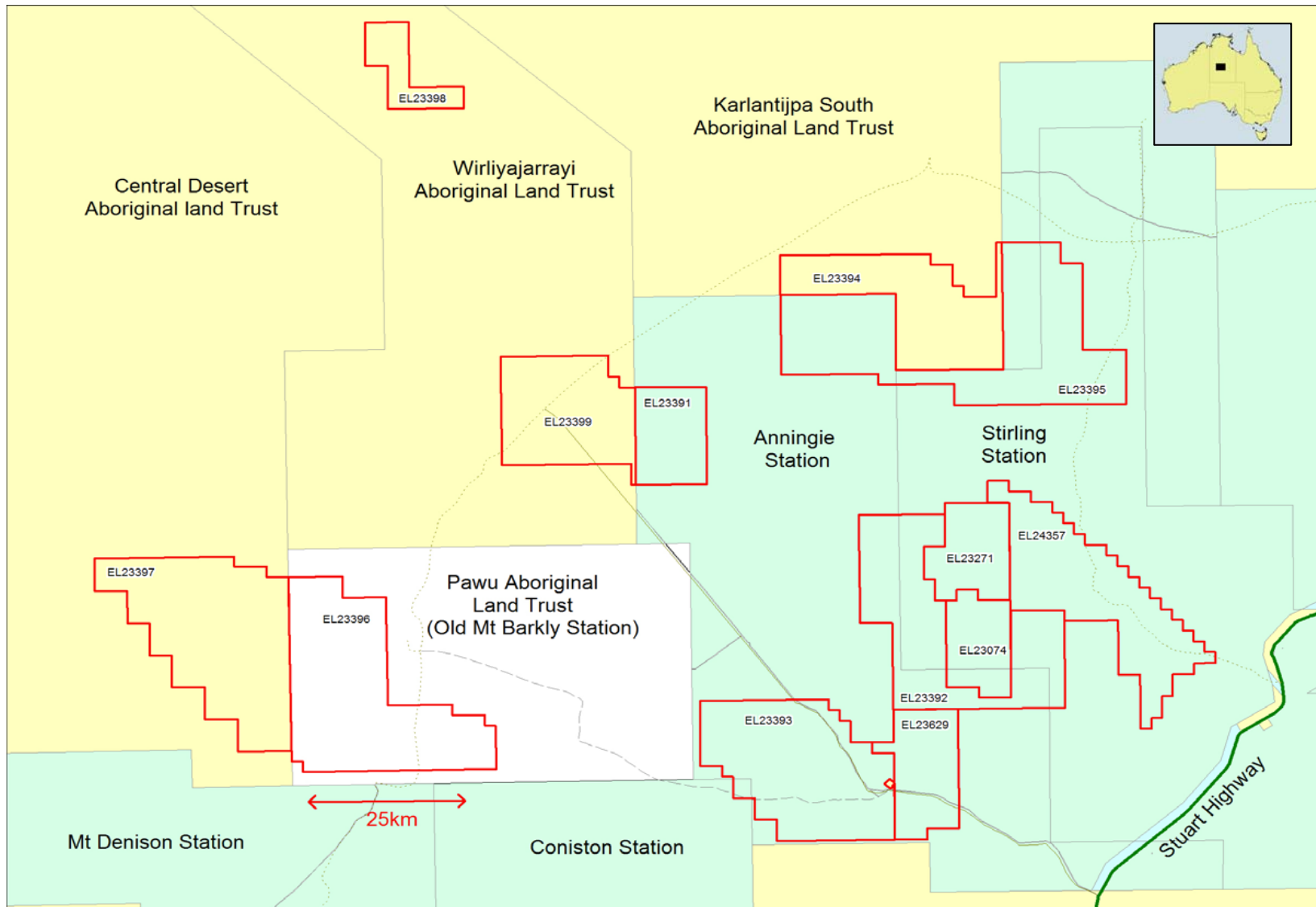


Figure 1: DNL's Arunta Project location map showing tenement holding.

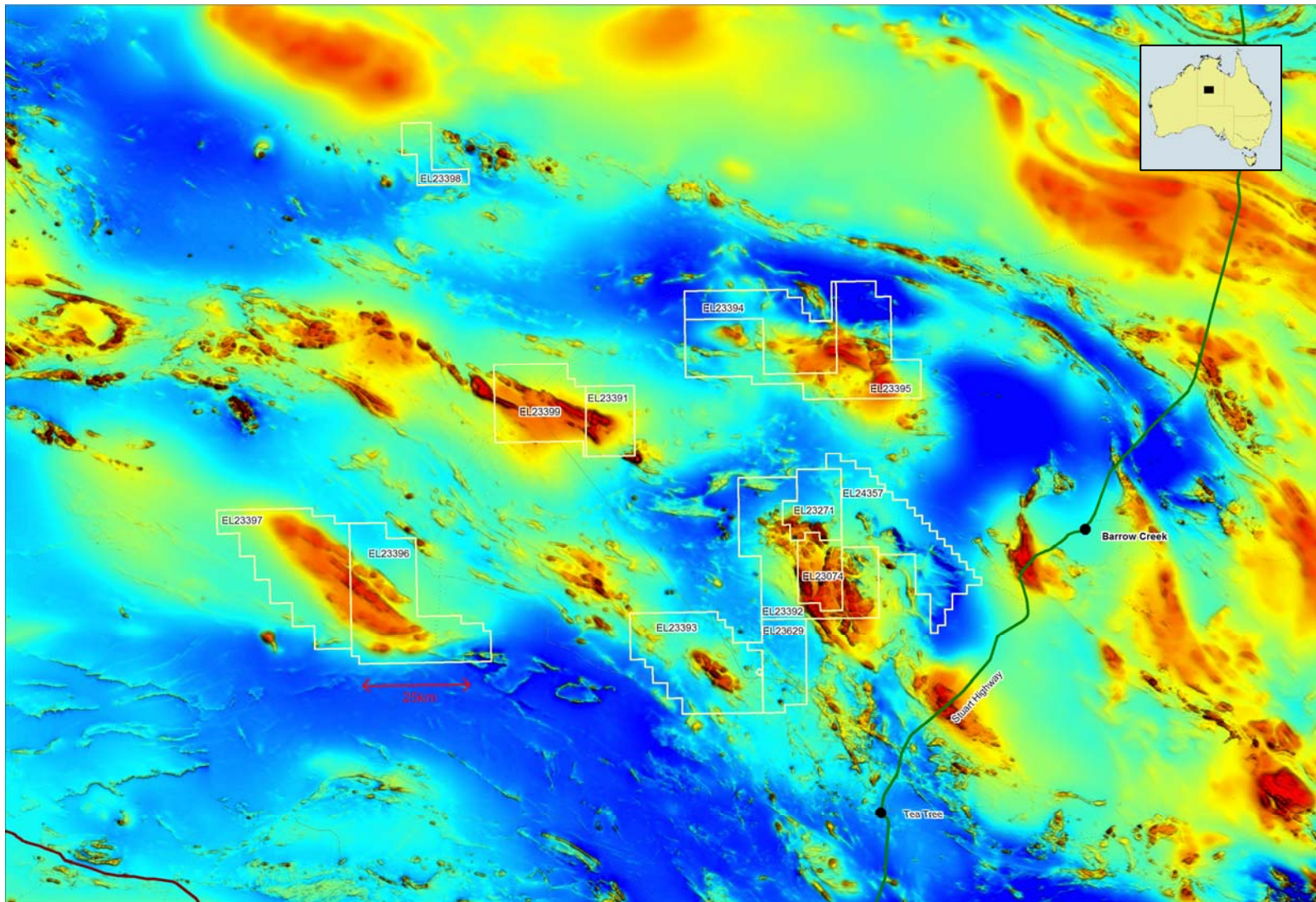


Figure 2: Total Magnetic Intensity (TMI) - DNL's Arunta Project.

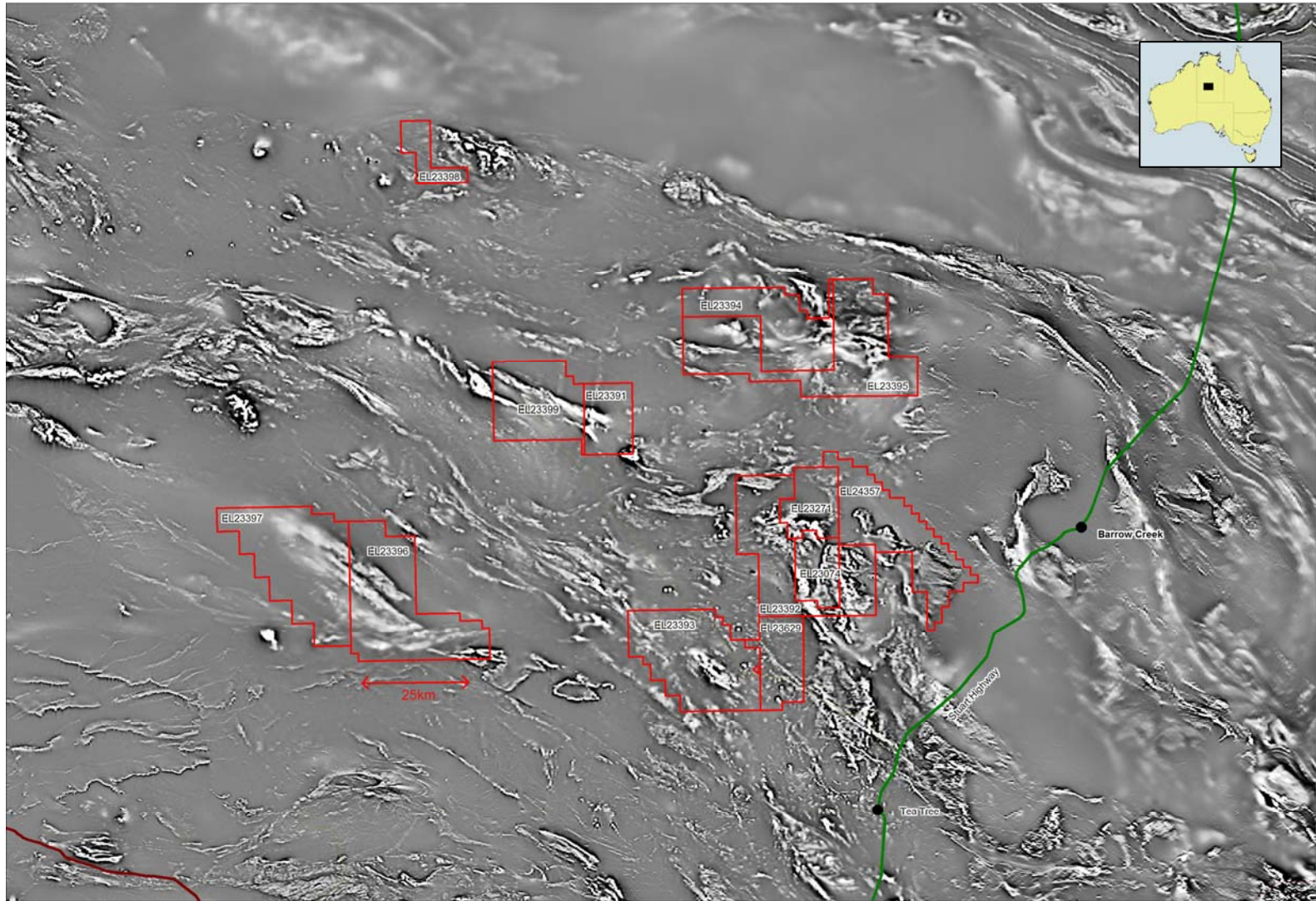


Figure 3: 1VD of the reduced to the pole (RTP), Total Magnetic Intensity (TMI) - DNL's Arunta Project.

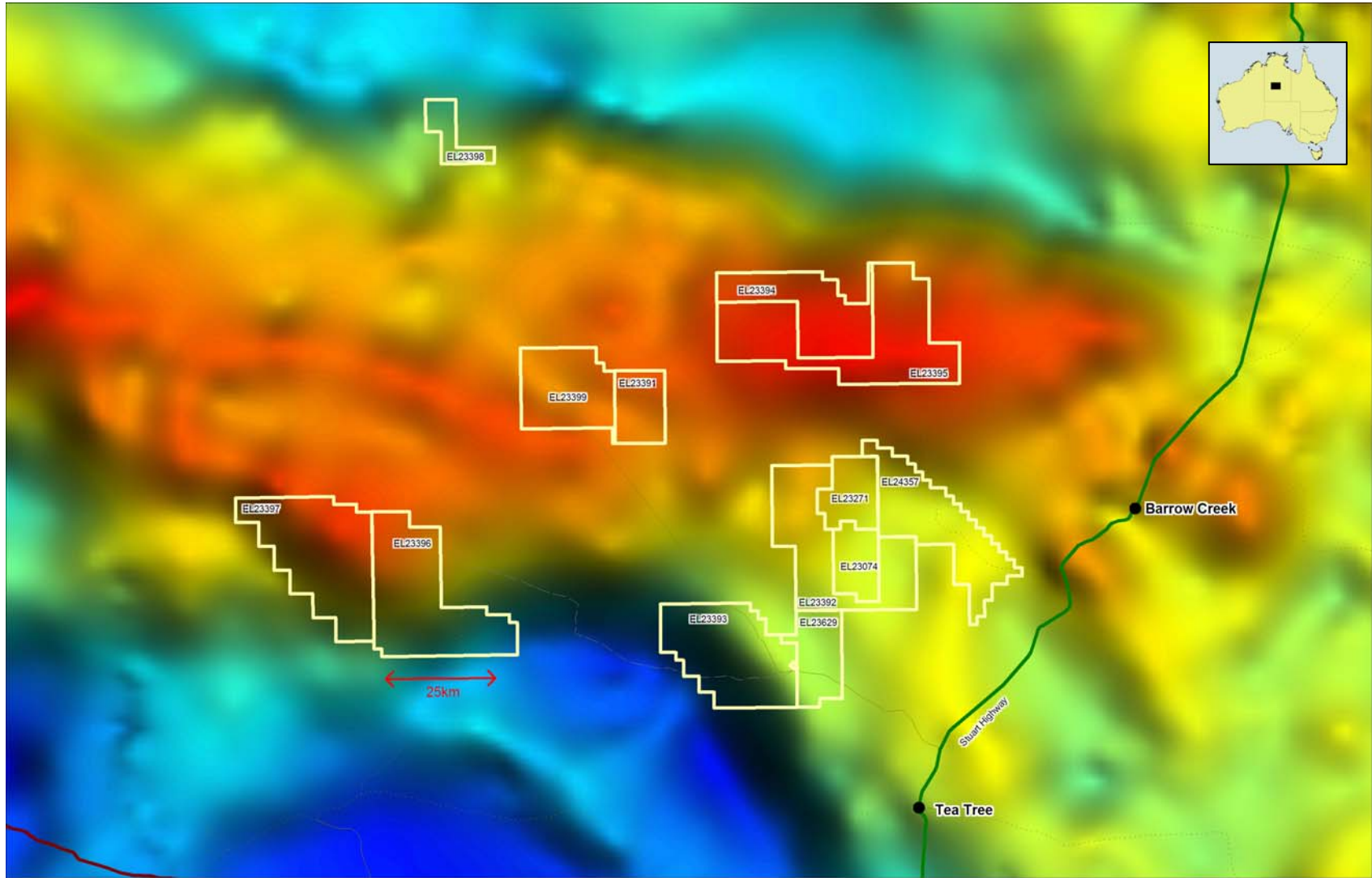


Figure 4: Regional Gravity - DNL's Arunta Project.

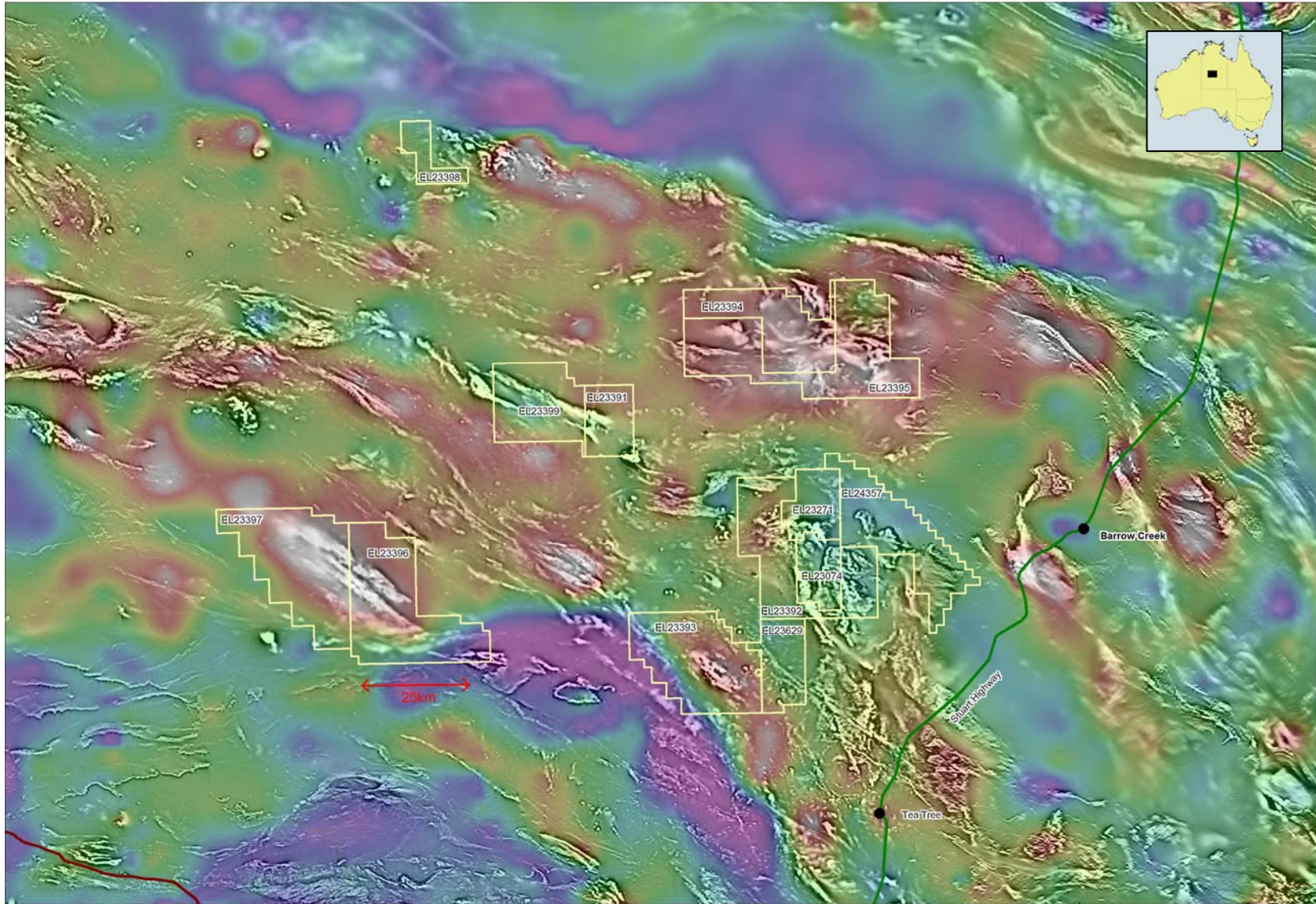


Figure 5: 1VD TMI (greyscale) over the 1VD gravity – DNL's Arunta Project.

2 PROPERTY DESCRIPTION AND TENURE

EL 24357 forms part of Discovery Nickel's Arunta Project, which includes other granted tenements 23391, 23392, 23393, 23394, 23395, 23396, 23397, 23398, 23399, 23271, 23629 and 23074. Details for tenement EL24357 are shown in **Table 1**.

Table 1 - Tenement Details.

EL	Sub-blocks	Grant Date	Expiry Date	Expenditure Commitment Yr 1
24357	155 (495 sq km)	31.03.05	30.03.12	\$48,000

The tenement is located approximately 235km N-NW of Alice Springs in the Northern Territory and covers portions of the Mt Peake (SF53-05), 1:250,000 map sheet (**Figure 1**). It lies within the Stirling Perpetual Pastoral Lease and is subject to Native Title. Access to the area is facilitated by the Central Land Council (CLC) through an Exploration Deed.

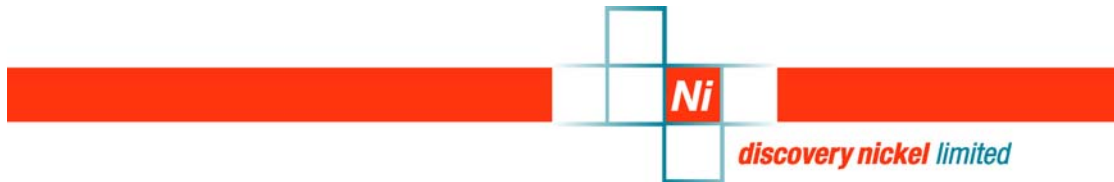
3 ACCESSIBILITY AND INFRASTRUCTURE

The project area can be accessed via the all weather Alice Springs - Darwin highway. Additional roads extend up to 100km west of the highway through the project area and are accessible by the use of four wheel drive vehicles. A new railway line to Darwin and a major gas pipeline both parallel the Stuart Highway (**Figure 1**).

The region is considered remote however the area is quite arable with numerous bores supporting livestock on the stations. 50km to the south is the Ti-Tree table grape region producing over \$15 million dollars worth of grapes annually.

4 GEOLOGICAL SETTING

The project area lies within the north-central portion of the Paleoproterozoic Arunta Province. The stratigraphy of the Arunta province comprises relics of 2500 Ma



Archaean basement overlain by >1800 Ma Palaeoproterozoic, turbiditic sequences of greywacke, quartz, sandstone, siltstone and shale along with mafic rocks and their high-grade metamorphic equivalents. The Arunta also has minor calc-silicates and meta-felsic volcanic units. During the Barramundi Orogeny, the sedimentary units were intruded by mafic rocks which have been deformed and in places metamorphosed to amphibolite facies. During the closing stages of the Barramundi Orogeny (~1830 Ma) granite plutons intruded rocks of the Arunta Province.

In the tenement areas, rocks of the Palaeoproterozoic Lower Hatches Group, Reynolds Range Group, undifferentiated granite/granite gneiss and gabbro-dolerite occur (**Fig. 6**). Neoproterozoic to Palaeozoic rocks of the Georgina Basin cover the Palaeoproterozoic rocks in the south to southeast. Cainozoic sediments also cover parts of the tenements.

Locally, Quaternary and Tertiary cover sequences of variable depth (range from a few metres to in excess of 100m) conceal the basement rocks. As outlined below the area has been subject to a number of drilling campaigns (predominately shallow RAB holes) and of specific interest to this project; mafic/ ultramafic units were encountered within and adjacent to these tenements.

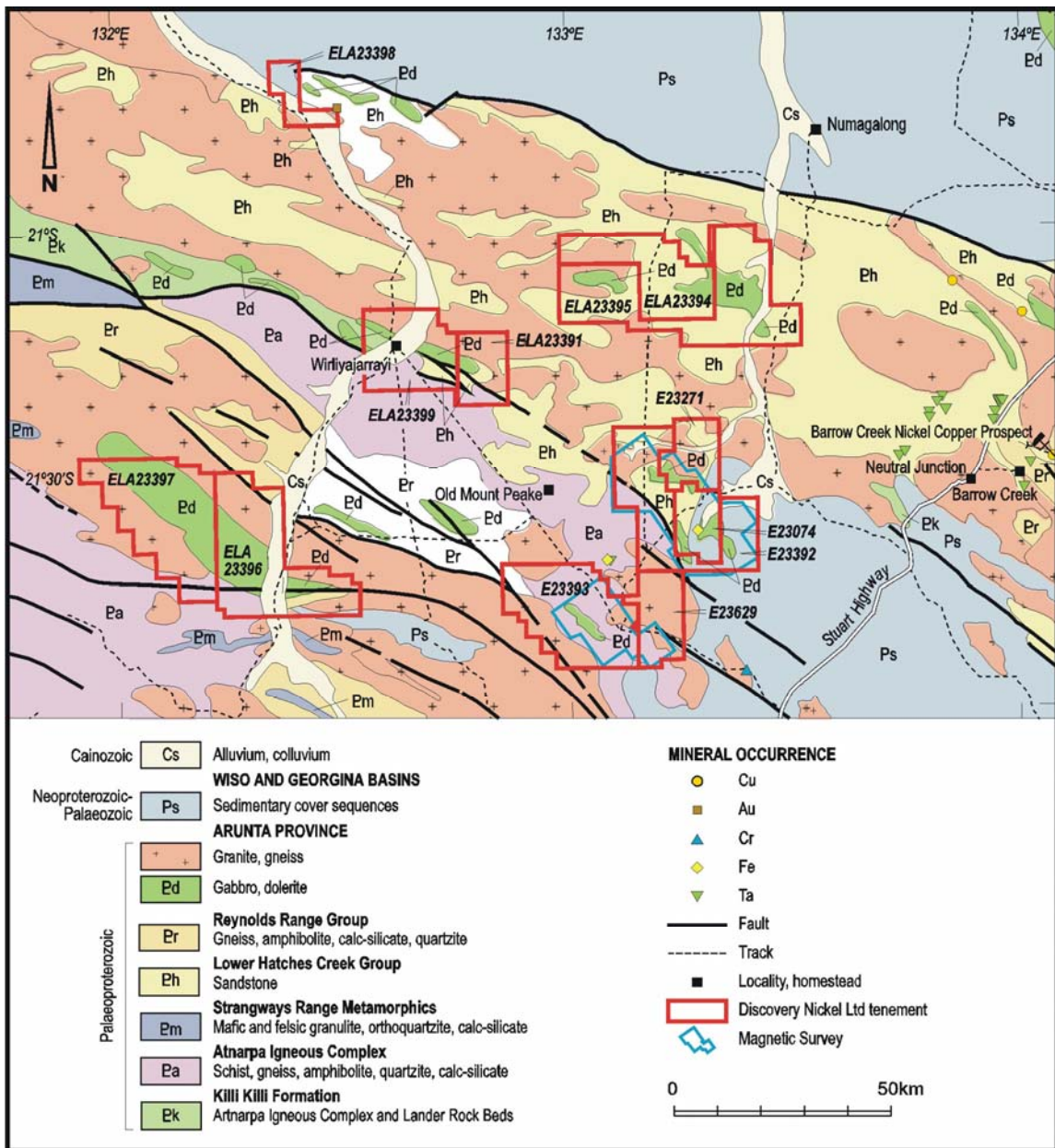
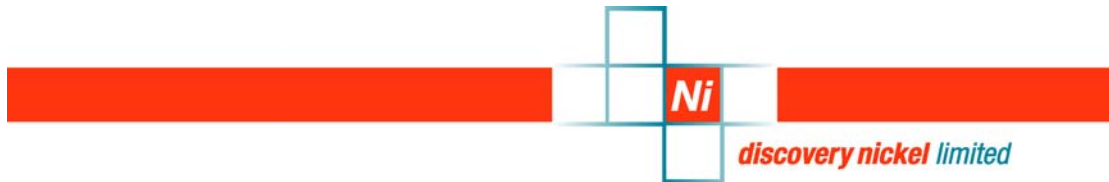


Figure 6: Regional Geology – DNL’s Arunta Project

5 NICKEL RELATED MINERAL OCCURRENCES

Approximately 100 km to the east of the project area lies the “Barrow Creek” or “Prospect D” occurrence discovered by Kewanee Exploration in the early 1970’s



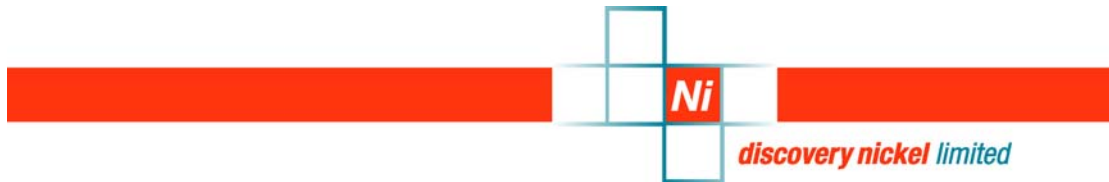
during a diamond drillhole program (total of 11 holes). The best intersection is 0.9m averaging 4.65% Ni and 1.36% Cu. An inferred resource of 3,163,800 tonnes bearing 0.56% Cu and 0.19% Ni with a cut-off grade of 0.2% Cu was calculated in 1974 (not to JORC specifications).

The zone is described as a small massive nickeliferous sulphide intersection situated on the south-western limit of a thin mafic/ultramafic sill or dyke (1.4km by 20m) which intruded Proterozoic basin sediments (greywackes and pelites). The sill/dyke is a pyroxenite-rich unit that bears sulphide nickel up to 0.6% and significant copper levels of up to 2% in the matrix. The 'massive sulphide' intersection was observed in the NT core library in Alice Springs by a former Falconbridge Geologist (Neil Provins) and was described as highly oxidized, indicating that the nickel grades might be enhanced due to supergene weathering effects.

6 EXPLORATION RATIONALE

Falconbridge targeted the Arunta area for Proterozoic, intrusive hosted, magmatic Ni-Cu-PGE sulphide mineralization. During 1997-98, the Arunta Project area was recognised to bear some potential when the Barrow Creek nickel sulphide occurrence was noted in a regional assessment of the area. A review of the available NTGS geological and geophysical datasets identified major regional structures coincident with interpreted mafic bodies (rarely exposed) visible on aeromagnetics (**Fig. 2**). Based on these criteria in conjunction with the favourable re-assessment of the area by the NTGS, it was concluded that the Arunta was favourable for magmatic Ni-Cu-PGE deposits. The location of the Barrow Creek sulphide occurrence on the inferred structural trend to the east and the interpreted thickening of mafic bodies from Barrow Creek in the direction of the Arunta project were other criteria used in area selection.

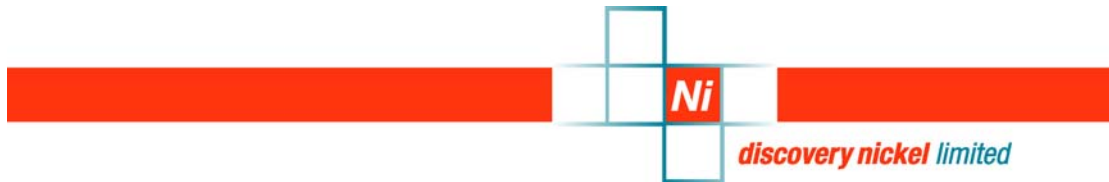
Also, preliminary reviews of historic exploration work revealed that mafic/ultramafic units were drilled by WMC in the mid 1990's adjacent these tenements. Anomalous nickel and copper results were noted in several holes with the best intervals being 5m @ 0.63% Ni, 3m @ 0.42% Ni & 0.52% Cu. In addition, regional soil geochemistry programs have identified several high Ni soil anomalies.



7 PREVIOUS EXPLORATION

The region has been partially explored for a variety of commodities including nickel, gold, copper, iron ore, bauxite and diamonds, with some areas experiencing limited or no work. There is no record of a focused Ni exploration program in the tenement areas. The following is a brief summary of historic work reviewed to date.

- In the early 1970's CRA conducted Uranium exploration in the area. Work including geological mapping, photo interpretation, air and ground magnetics followed by rotary drilling and borehole logging. CRA resumed exploration in 1979 and over a four year period completed airborne magnetics/radiometrics, drainage geochemistry, soil and rock chip geochemistry and limited diamond drilling.
- Between 1991 and 1997 WMC completed work focussed on gold exploration that included data compilation, surface geochemical sampling, XRD analyses, geological/regolith mapping, gravity surveys, airborne magnetics/radiometrics, IP/TEM surveys and ground magnetics. Anomalies were then followed up with an Auger/RC drill program (Lulofs, 1998).
- In 1997 WMC optioned the ground to Aberfoyle who completed further rock chip sampling, soil sampling and vacuum drilling on the properties (Ashby and Schusterbauer, 1998). Aberfoyle withdrew from the JV and WMC surrendered their properties in 1998.
- Between December 2001 and October 2003, Falconbridge (Australia) negotiated an access agreement, compiled historic and regional datasets and flew priority areas with airborne electromagnetic/magnetic (GEOTEM) surveys.



8 EXPLORATION COMPLETED DURING THE PERIOD

In 2005 DNL exploration efforts were restricted due to problems securing contractors to collect additional GEOTEM, ground EM and drilling.

9 WORK PROGRAM 2006

DNL would like to cover EL24357 with Airbourne EM (GEOTEM), in order to define the extent of the newly discovered sulphide system in EL24357. However if a ground EM crew is available, then instead we may simply cover important magnetic features (interpreting that they probably represent mafic intrusives) from existing NTGS regional datasets with ground EM (Smartem). If basement conductors are located then drill testing of these targets would be anticipated during 2006.

10 EXPENDITURE

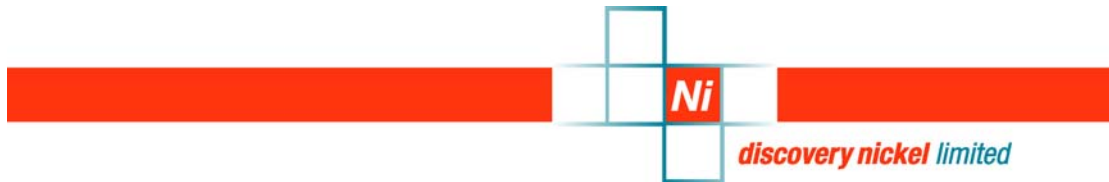
Annual expenditure for EL 24357 is summarised in **Table 2**.

Table 2 - Expenditure Details.

EXPENDITURE:	AMOUNT:
Tenement Management	\$256.00
Rents	\$1,705.00
TOTAL	\$1,961.00

11 REFERENCES

Ascough, G., 2003: Northern Arunta Project Northern Territory. Exploration Licences 23391, 13392, 23393, 23394, 23395, 23396, 23397, 23398, 23399, 23629, 23074 and 23271, Project Progress Report for the Period ending June 1st 2003. Unpublished Falconbridge Ltd Internal Report.



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