ANNUAL REPORT

EXPLORATION LICENCE

EL22959

LITCHFIELD PROJECT

NORTHERN TERRITORY

FOR THE YEAR ENDED

16th February 2005

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SUMMARY

This report summarises work carried out on Exploration License 22959, Litchfield Project, Northern Territory for the year ended 16 February 2005.

Through compilation efforts, Falconbridge (Australia) Pty Limited identified the Litchfield/Batchlor area of the Northern Territory as being favourable to host Proterozoic, intrusive related, magmatic Ni-Cu-PGE sulphide mineralization, such as Thompson or Voiseys Bay in Canada. The area has seen little historic work and has not been the focus of dedicated nickel sulphide exploration in recent years. In December 2003, Discovery Nickel Limited acquired 100% interest in EL22959 and other Falconbridge tenements following the successful listing of Discovery Nickel on the Australian Stock Exchange.

The tenement area lies in the western parts of the Pine Creek Inlier (Litchfield Province) and is considered to have excellent potential for magmatic Cu-Ni mineralisation related to the Proterozoic Wangi Basics. The Litchfield Province is the continuation of the prospective Halls Creek Province of the Kimberley's, a known significant magmatic Cu-Ni province (e.g. Sally Malay Deposit).

Most significant nickel-copper massive sulphide deposits are extremely good conductors. Discovery Nickel's exploration approach relies heavily on airborne electromagnetic (AEM) surveying, followed up by ground EM to define targets. Falconbridge commissioned an AEM survey over the Arunta tenements in early 2003 and after analysis of the Falconbridge AEM results, Discovery Nickel Limited commissioned a ground EM (SMARTEM) survey focused on the highest priority target areas. The results did not highlight any strong anomalies/basement conductors that warranted drill testing on EL 22959.

The review and interpretation work confirmed the high prospectively of the tenement area for magmatic Cu-Ni mineralization related to the Wangi Basics, and that there are undercover extensions to the mafic/ultramafic rocks along strike from the known occurrences. In followup an airborne EM survey GEOTEM$_{TM}$ was completed during September 2004. The survey covered the known intrusions of Wangi basics and structural corridor that contains them. Interpretation of the GEOTEM$_{TM}$ data has reviled a number of conductors coincident with the Wangi basics. Follow up ground EM and drill testing is planned for the next period.

This second annual report summarises all exploration work conducted by Discovery Nickel Ltd (DNL) on EL 22959 for the annual period ended 16 February 2005.

Exploration work completed to date includes:

- review and compilation of open file reports, published literature and data;
- interpretation of the aeromagnetic, gravity and landsat data;
- designing the boundaries of a Geotem Survey
- Commission of GEOTEM$_{TM}$ survey
- Interpretation of GEOTEM$_{TM}$ data.

The exploration on EL 22959 has not advanced as fast as intended due to delays in gaining the relevant statutory permits, short field season and availability of contractors to carry out surveys/drilling.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 INTRODUCTION

Discovery Nickel is exploring the Palaeoproterozoic rocks of the Litchfield Province for mafic hosted nickel-copper sulphide deposits. The area is interpreted to be an extension of the Western Australian, Halls Creek Mobile Belt, host to the Sally Malay Ni deposit.

Exploration Licence 22959 is a part of Discovery Nickel Limited's (DNL) Litchfield Project which comprises exploration tenements EL 10140, 22959, 22960, 22961, 23619, 23623, and tenement application ELA 22960. The area is located west of the Litchfield National Park in the Northern Territory (**Figure 1**).

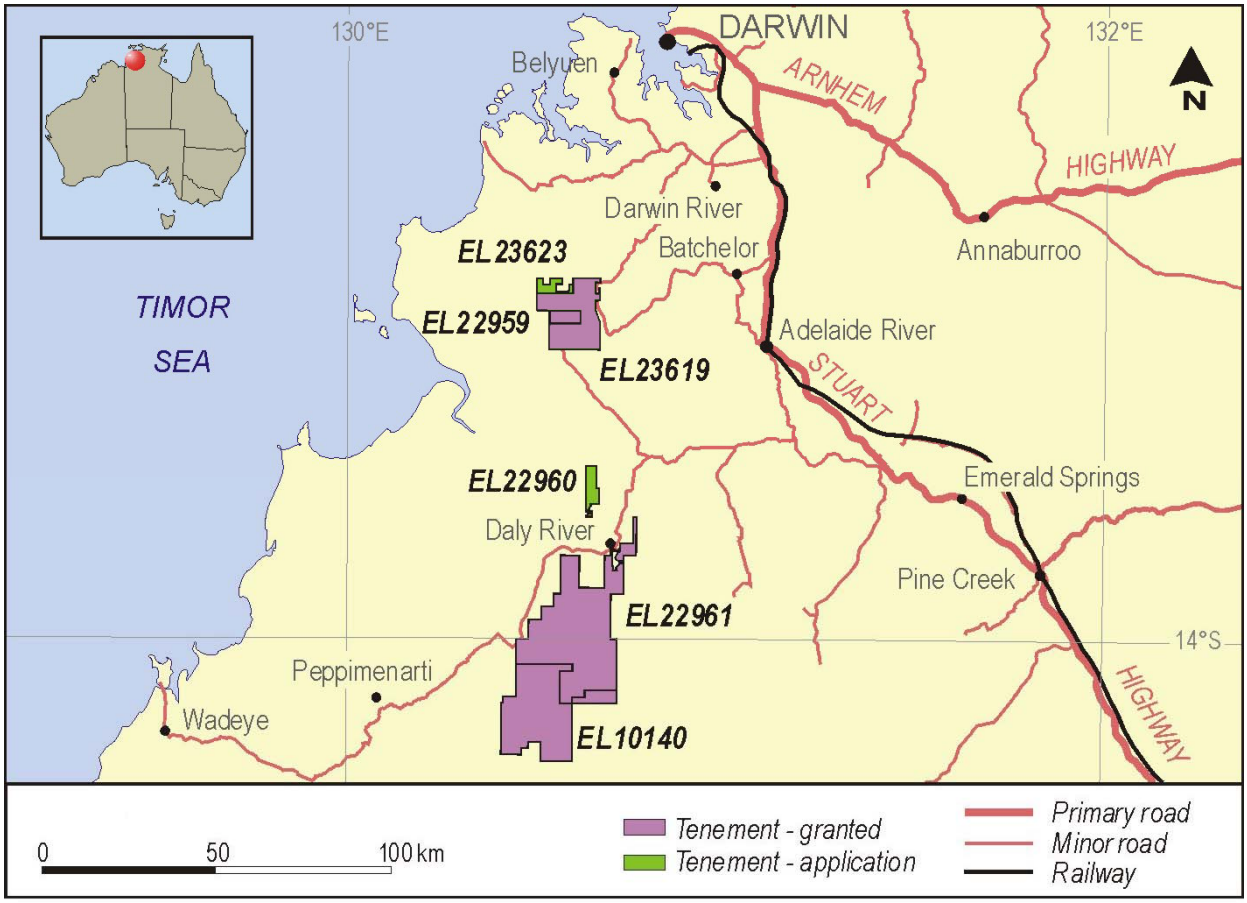

Figure 1. Discovery Nickel Limited Litchfield Project Tenements, showing EL22959 west of Batchelor.

EL 22959 was originally granted to Falconbridge (Australia) Pty Limited. On 15 October 2003, Falconbridge's 100% interest in the Litchfield project was acquired by Discovery Nickel Limited following the successful listing of DNL on the Australian Stock Exchange on 17th December 2003.

Falconbridge (Australia) Pty Limited and its consultants (e.g., White, 2001) identified the Litchfield Block in the Northern Territory as a prospective belt for magmatic Cu-Ni sulfide mineralization related to mafic/ultramafic intrusives. The Litchfield Project area is defined as the area 100-300 km SSW of Darwin, containing mapped exposures of Proterozoic Wangi Basics. These potential host

rocks occur on major NNE-SSW trending structures, (and fault splays associated with those main structures) that extend to the SSE towards the Halls Creek Block in WA.

Various magnetic/gravity images and regional geological maps indicate that the NNE-trending structures and associated (nickel-bearing) ultramafic and mafic intrusives in the Halls Creek Block continue to the NNE into the Litchfield area of the NT. The Halls Creek Block is considered to be highly prospective for Ni sulfide mineralisation and contains some defined (sub-economic) Ni-PGE resources (e.g. Sally Malay). The Argyle diamond mine also occurs along the Halls Creek Fault and therefore the Litchfield area is also prospective for diamonds..Unlike the Halls Creek area, the Litchfield Block has not been widely explored for Cu-Ni sulfide mineralisation, and no Cu-Ni-PGE resources have been discovered to date.

This report summarises the work carried out in the general tenement area for the period ended 16 February 2004.

2 PROPERTY DISCRIPTION AND TENURE

EL 22959 of 10 sub-blocks was granted to Falconbridge Australia Pty Ltd on 17 February 2003 for a period of six years. Falconbridge's interest in the tenement was transferred to Discovery Nickel Limited under a Terms Of Agreement dated 15 October 2003 that covered all of Falconbridge's tenements on the Litchfield Project. Tenement details are in **Table 1**.

Table 1. Tenement Details

EL	Sub-blocks	Grant Date	Expiry Date	Expenditure Commitment Yr 3
22959	10	17.02.03	16.02.09	$18700

3 ACCESSIBILITY AND INFRASTRUCTURE

The project area can be accessed via the all weather Stuart Highway that runs between Darwin and Alice Springs. Then the main road leading to Litchfield National Park via Batchlor, Batchlor is a township of 5 thousand people and is only 40km west of EL 22959 (**Figure 1**).

The region is considered accessible however the area is subject to the summer monsoons and quite often during this period can be cut off due to flooding. In general the area is arable supporting livestock and fruit trees.

4 GEOLOGICAL SETTING

The Litchfield Province is part of the western Pine Creek Inlier and southern extensions and is correlated with the Halls Creek Mobile Belt of the Kimberleys which contains numerous significant magmatic nickel occurrences and deposits such as Sally Malay. The Province contains Proterozoic to Quaternary geological units, including Proterozoic meta-mafic and meta-ultramafic units referred to as the Wangi Basics(**Figure 3**). These mafic and ultramafic rocks are considered to be a likely host for Cu-Ni sulfide mineralization similar to that in the Halls Creek area.

In the tenement area, there is considerable cover of Cambro-Ordovician sediments over Palaeoproterozoic basement of Myra Falls Metamorphics and Nourlangie Schist, together with Palaeoproterozoic granite (Mount Litchfield Granite). One body of northwest trending mafic-ultramafic intrusive is mapped in the Wangi area. Aeromagnetic data suggest northwest, north northeast and north-south structural controls and the possibility of other similar mafic/ultramafic bodies.

Deformation and metamorphism during the Nimbuwah Event (Needham, et al., 1988) is to upper amphibolite facies and is dated at 1870-1855 Ma. Rocks in the Litchfield Province are at least ~1885 Ma in age (Page et al., 1980).

The Proterozoic Wangi Basic rocks contain a range of largely mafic to ultramafic rocks including gabbro, felsic gabbro, dolerite, basalt, anorthosite, diorite, periodotite, pyroxenite, hatrzbergite and

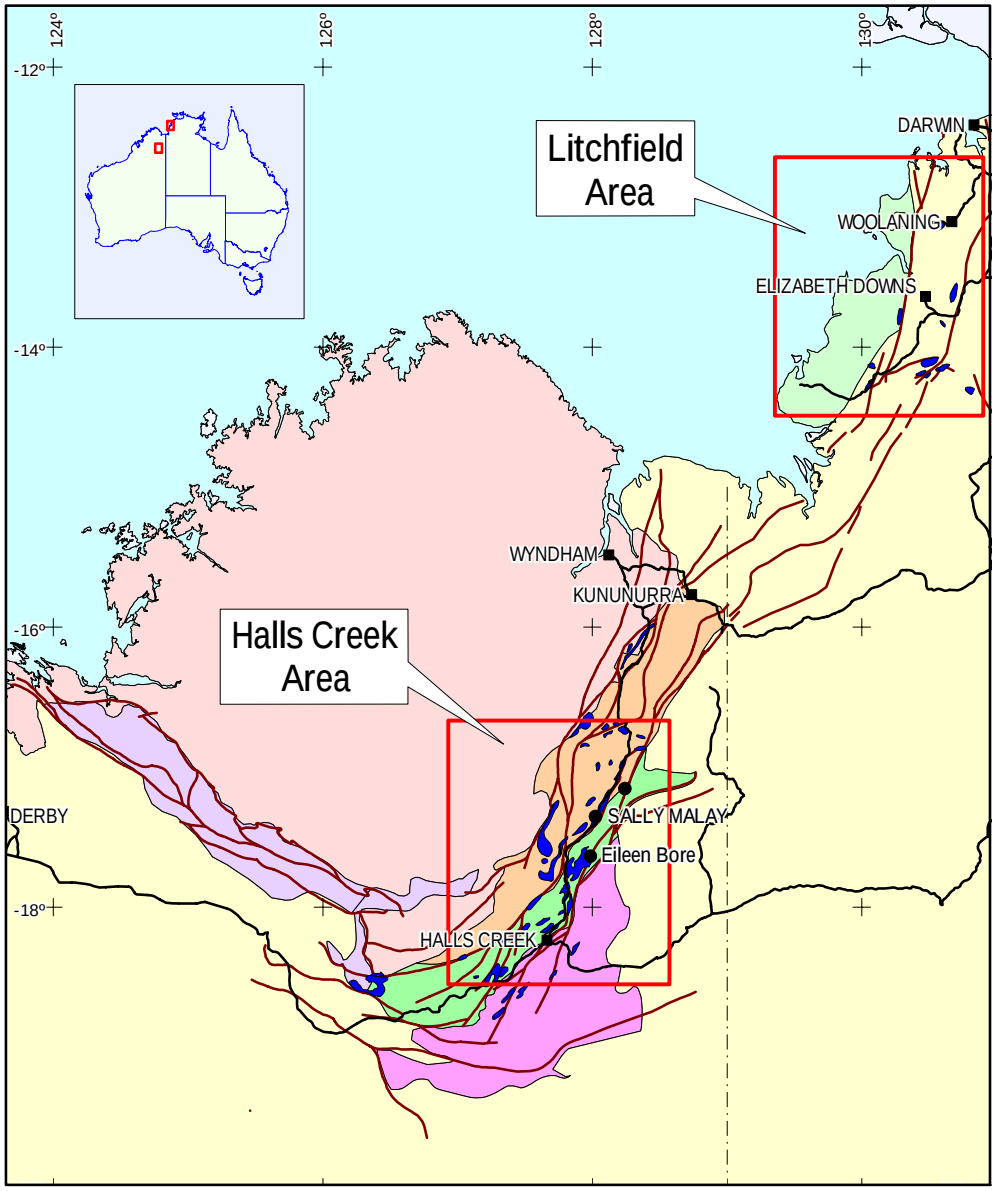

Figure 2 Regional Geology of the Halls Creek Belt, showing relationship to Lichfield Area.

troctolite. These rocks have undergone a single episode of high greenschist to low-amphibolite facies metamorphism. They are considered to be mainly intrusive however minor extrusive varieties have been noted due to presence of interpreted pillow lava structures. In the general region, the Wangi Basics have been dated as ~1850-1840 Ma (Page et al. 1984) and have intruded the older rocks of the Hermit Creek Metamorphics (~2400 Ma) and also the Finnis River Group (~1880 Ma).. The Wangi Basics are considered to be slightly older than the Mount Litchfield Granites (~1850-1840 Ma) that are widespread in the Litchfield area. The Wangi Basics have also been correlated with the Zamu Dolerite in the Pine Creek area (Needham et al., 1980) and the Golden Dyke Metadolerites (Maddocks 1985).

Baseds on a small number of analyses, Maddocks (1985) concluded that the Daly River Metadolerites (Wangi Basics) are probably oceanic tholeiitic basalts. Maddocks suggests that these “Si-rich” mafic rocks (relative to the other basalts in the Pine Creek Geosyncline) are related to the Golden Dyke Metadolerites (exposed further to the northeast), and were derived from the progressive differentiation of a single basic magma.

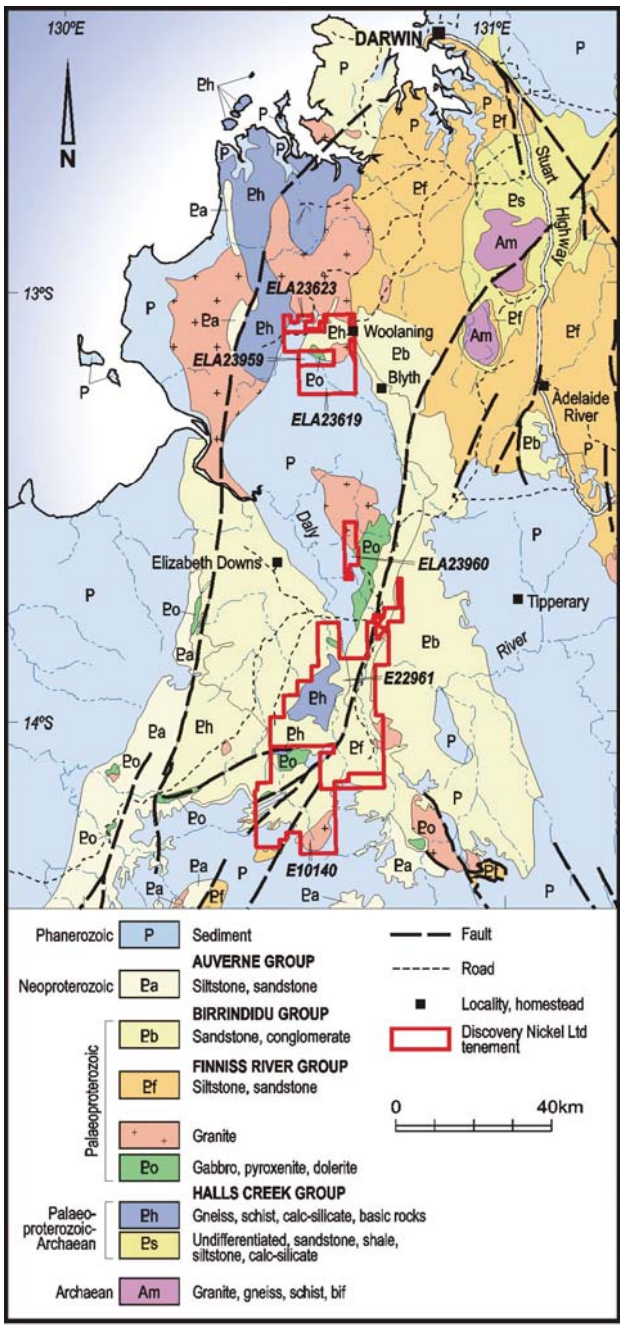

Figure 3: Regional Geology – Litchfield Project

5 PREVIOUS EXPLORATION, OPEN FILE SEARCHES

The Litchfield area has received a large amount of diversified regional-scale (greenfields) exploration work over the past forty years. A large proportion of the previous work was for uranium and diamonds, using regional stream geochemistry, aeromagnetics and radiometrics as the main exploration tools. Only a very small proportion of the previous work was dedicated towards Ni-sulfide exploration. The base metal exploration efforts have been mainly for Cu and Zn within the Proterozoic submarine volcanics, (e.g. along strike of the Daly River Copper Mine). In many cases, no Ni analyses were conducted in many of the previous geochemical surveys.

Within the tenement area on the Reynolds River sheet, specific searches were conduced to cover the Wangi Basics in what shall be called the Northwest Reynolds Area.

The Northwest Reynolds Area hosts mapped exposures of Wangi Basics, situated about 5 km west of Wangi homestead. The area falls between the two main SSW-trending Giants Reef and Tom Turners Faults. The exposures are surrounded by younger cover shallow sequences, suggesting that the extent of the Wangi is more widespread than implied on the 1:100,000 geological maps.

Early workers included BHP and Esso in the 1970s, exploring for uranium. Several radiometrics anomalies were tested with IP, auger and diamond drilling. No significant results were obtained. The most significant work carried out in the area was by Urangesellschaft (UGA) and Mobil (as joint venture partner) in the early 1980s (EL 1731 – Welltree). UGA carried out a large amount of uranium exploration work using the Olympic Dam model. The work included reviewing the previous exploration work and previous BMR geophysical data, water sampling, geological mapping, airborne EM and magnetics, gravity surveys, ground EM, ground radiometrics, trenching, drilling and downhole logging. The ground EM work was carried out mainly to the east of the Wangi exposures, along the contacts of the granite. Several diamond holes targeted on gravity trends intersected thick sections of Wangi Basics, just south of the Reynolds River exposures. The UGA reports include petrographic descriptions and whole analyses for several Wangi Basic drill core intersections. Two of these holes that occur a few km to the south of the main exposures (58W, 67A) are housed at the NTGS core library in Darwin.

In 1982, during the NTGS mapping campaign, the NTGS also drilled several shallow holes (with diamond tails) across the Reynolds River area of Wangi Basic rocks (82/43 to 83/49). Some of these holes are housed at the NTGS core library in Darwin (82/43, 82/48, 82/49)..

There has been no major exploration efforts subsequent to the UGA/Mobil campaign in the mid 1980s.

In summary, the area has received a considerable amount of previous exploration work including drilling. However, exploration work was focused towards a uranium search (Roxby Downs model) outside areas of Wangi Basics.

6 EXPLORATION RATIONALE.

Work completed has been office based and involved review and compilation of open file reports, review of published literature, regional aeromagnetic, landsat TM and gravity data, a GIS review and planning for the field season. Some of this was done prior to application and during appraisal and due diligence for the Discovery Nickel Prospectus.

This work confirms the potential of the region for Cu-Ni and the possibilities of covered mafic intrusives along major structures and associated splays.

7 EXPLORATION COMPLETED DURING THE PERIOD

Exploration completed within EL23629 included the following:

- Airbourne EM survey GEOTEM$_{TM}$ completed
- Interpretation of airborne EM data. Targets Defined
- Interpretation of the aeromagnetic data.

7.1 Land Access Issues

Extensive correspondence and meetings with the Central Land Council to facilitate access and the grant of several tenements was undertaken by Falconbridge. Currently a land access agreement is in place with the Traditional Owners that facilitates access to EL 23629.

7.2 Aeromagnetic Survey Interpretation and modeling

The aeromagnetic data over the Litchfield project area was also interpreted in conjunction with the GEOTEM$_{TM}$ data. The magnetic data clearly shows the location of the Wangi basics. Anomalies in the GEOTEM$_{TM}$ data have been prioritised according to their relationship to the interpreted locations of the Wangi Basics (see Fig. 4)

7.3 2004 Litchfield GEOTEM$_{TM}$

In early October 2004 GEOTEM$_{TM}$ was collected by Fugro Airborne Services (Fugro) over two areas of Wangi basics in Discovery Nickel Limited (DNL) Litchfield Project area south of Darwin. A total of 1194 line km of Data was collected as part of the Wangi Survey block, which covered most of EL 22959.

Preliminary assessment of the Geotem has focused on gridded X and Z channel B field Data. By combining a number of channels using ERMapper noise reduction and anomaly enhancement has been achieved. The final grids are a pseudo decay images. Only obvious late time anomalies have been picked as potential targets. A more complete assessment of targets will take place when conductivity depth sections and line data is provided by Fugro in January.

7.4 Assesment of Wangi GEOTEM survey (1194km)

Five obvious anomalies can be defined in the Wangi GEOTEM (Fig 5). There also seems to be a mid time conductive zone coincident with one of the interpreted magnetic zones of Wangi Basics (Fig 5). The two best anomalies WGEM_1 and WGEM_2 are coincident with interesting magnetic anomalies (blow outs) in the interpreted Wangi Basics and provide the best targets from both Surveys. WGEM_3 and WGEM_4 seem to be increases in conductivity along the conductive trend.

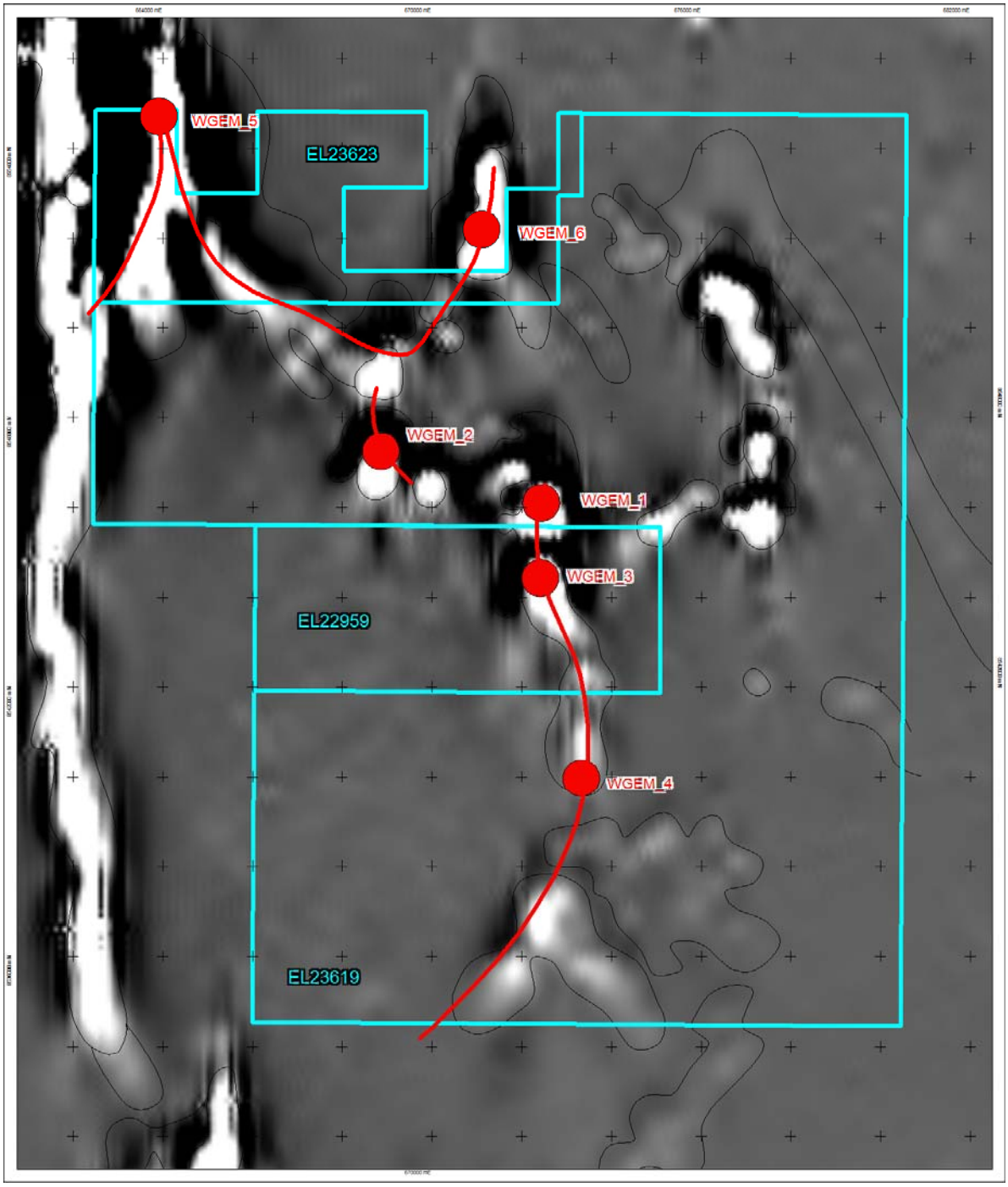

Figure 5: Wangi area, 1VD magnetics as backdrop. Six GEOTEM anomalies are shown. The red trend locates the mid time GEOTEM anomaly coincident with the magnetic trend

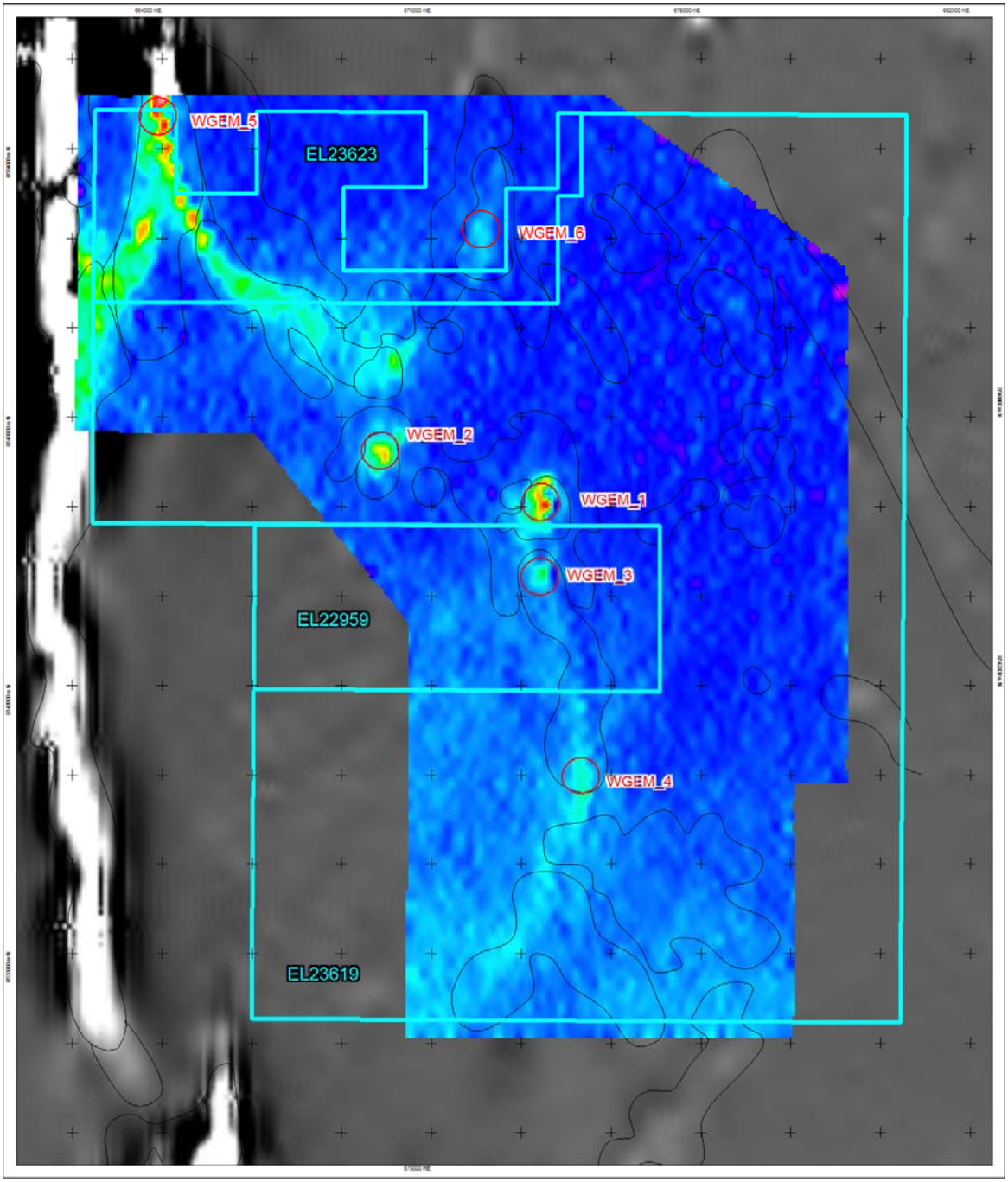

Figure 4: Wangi GEOTEM survey showing six anomalies chosen. Black polygons are areas of Wangi basics interpreted from the magnetics.

8 WORK PROGRAM 2005

During 2005 DNL plans to further process and interpret the GEOTEM data collected over EL 22959 to define targets for ground follow up. DNL plans to then cover conductors with ground EM. And acquire surface geochem data over selected areas. If ground EM confirms conductive features then either surface sampling and/or drill testing of bedrock features will be undertaken.

9 EXPENDITURE

Annual expenditure for each tenement is summarised in **Table 2**.

Table 2 - Expenditure Details.

Expenditure Details	EL 22959
GEOTEM Survey	$ 27,890
Contractors / Consultants	$ 2,795
Salary / Wages	$ 401
Annual Rent	$ 220
Administration and Overheads	$ 6,000
TOTAL	**$ 37,306**

10 CONCLUSIONS AND RECOMMENDATIONS

Tenement EL 22959 is located in an interesting structural position as a continuation of the prospective Halls Creek Province. The Cu-Ni potential is high and has not been downgraded by the diversity of previous exploration. The GEOTEM$_{TM}$ survey had successfully defined a number of targets that will be investigated with ground EM and drilling during 2005.

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