

Normandy NFM Limited

NORTH FLINDERS EXPLORATION



FOURTH ANNUAL REPORT FOR EL8771 (BAXTERS WELL) FOR THE PERIOD 20/10/97 TO 19/10/98

BARROW CREEK DISTRICT, NORTHERN TERRITORY

1:250,000 SHEET REFERENCE:

BARROW CREEK

SF53-6

BONNEY WELL

SF53-2

LANDER RIVER

SF53-1



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NT DEPARTMENT OF MINES AND ENERGY

NORMANDY NFM LIMITED

YUENDUMU MINING COMPANY NL



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SUMMARY

The area covered by the Barrow Creek Joint Venture (BCJV), located approximately 200km south of Tennant Creek, is being explored for economic gold mineralisation.

This report describes the exploration activity and results obtained from EL8771 during the fourth year of tenure to 20/10/98. In this time, a joint venture agreement between Normandy Gold Pty Ltd and Normandy NFM Ltd was formed consolidating all exploration tenements in the Tanami-Arunta region, including the existing BCJV Project area. As a result of this agreement, exploration of the JV properties is now managed by Normandy NFM Ltd.

Hand over of tenement management caused disruption to planned field programmes, and as a result, fieldwork was restricted to a detailed aeromagnetic and radiometric survey. An examination and review of previous exploration data was also undertaken.

Airborne geophysical survey (aeromagnetics and radiometrics)
 2554 line km at 100m line spacings

Work proposed for EL8771 for the fifth year of tenure includes a vacuum and RAB drilling programme aimed at further revealing the tenements covered pre-Quaternary geology as well as finding and defining areas of geochemical anomalism.

A detailed evaluation of this periods aeromagnetic and radiometric survey will also be conducted in order to better target proposed drilling programmes.

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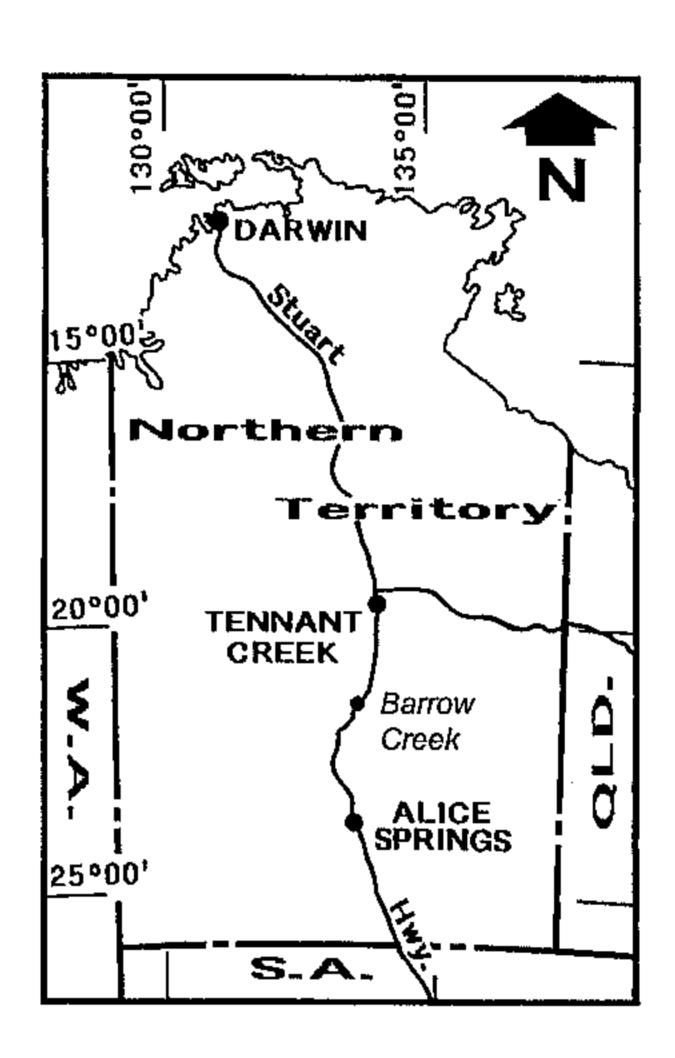
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1. INTRODUCTION

Exploration Licence 8771, which forms part of the Barrow Creek Joint Venture Group of tenements (BCJV), is located approximately 200 km south of Tennant Creek. It is being explored chiefly for economic gold mineralisation.



2. TENEMENT DETAILS

EL8771 comprises 61 graticular blocks and was applied for on the 3rd of April 1992 and subsequently granted to Normandy on the 20th of October 1994. As part of the licence falls within the BCJV Area of Interest, the licence has been included under the Joint Venture Agreement. Normandy NFM entered into, and became the operators of, the BCJV on the 1st of July 1998. The present breakdown between the JV partners is as follows:

Normandy Gold Pty Limited	42.5%
Normandy NFM Limited	42.5%
Yuendumu Mining Company	15%

EL8771 was due for reduction on the 19th of September 1998. Due to the time taken to facilitate the change in operators of the BCJV and the need for a thorough re-evaluation of exploration data, a waiver application for the third annual relinquishment has been made.

TABLE 1: Tenement Summary, EL8771 (Baxters Well)

	Date	Blocks	Km²	Expiry
Grant:	20/10/94	134	431	19/10/00
First Relinquishment:	19/10/96	67	216	
Second relinquishment:	19/12/97	6	19	

3. LOCATION AND ACCESS

Exploration Licence 8771 is located approximately 200km south of Tennant Creek and 60km north-west of the Barrow Creek Hotel (refer Figure 1). Access from Barrow Creek is via the Stuart Highway to the north and then using station tracks in a westerly direction.

4. PREVIOUS EXPLORATION

4.1 Previous Exploration by Other Companies

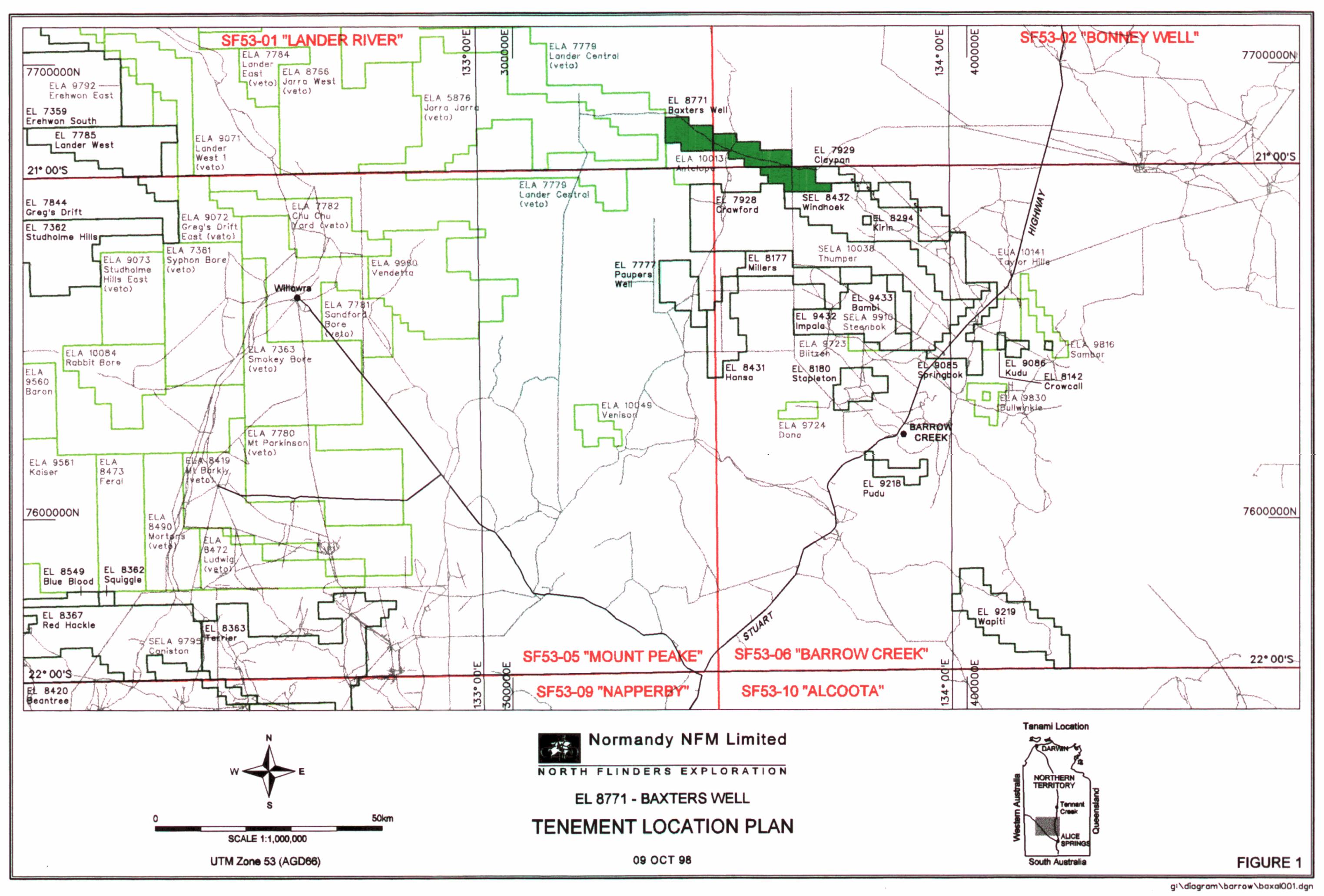
There is little evidence of past exploration with the area of interest.

Kewanee Australia Pty Ltd undertook a broad exploration programme between 1970-1974 within the Crawford-Osborne Range area. Several targets were delineated by a combination of airborne magnetics, radiometrics and EM survey techniques. Targets generated by this method were followed up with geological mapping, sampling and a combination of percussion, reverse circulation and diamond drilling. This work delineated a sub-economic Cu-Ni resource (Prospect D), but grade was considered too low to warrant further investigation, and the ground was relinquished in 1973.

Limited exploration was conducted by Australus Mining Co Pty Ltd during 1969, for base metal potential in the Crawford Range area. Pegmatites, granites and metadolerites were targeted with disappointing results.

4.2 Previous Exploration by Normandy Gold Limited

Reconnaissance work over EL8771 was carried out by Normandy Gold Pty Limited from 1995. During the first year of tenure, work carried out included a regional gravity survey, a soil geochemistry survey and an aeromagnetic survey. A total of 606 soil geochemistry samples were taken over the eastern half of the licence, but there were no anomalous results present (Mujdrica, 1995). In 1996 a regional RAB orientation drill hole programme was carried out along existing tracks to establish regolith thickness and origin, bedrock lithology's and background geochemistry levels (Morris, 1996). This programme identified schists and gneiss's in the east of the licence and granite along the western side of the Hanson River, as well as deep alluvial cover to the east of the Hanson River. Exploration during the third year of tenure included regolith mapping and vacuum bedrock geochemistry drilling (387 holes for 2889 metres). The reader is referred to Morris 1997 for year three details.



5. GEOLOGY

5.1 Regional Geology

The oldest exposed basement in central Australia comprises metamorphic and igneous rocks of the Arunta Inlier (Haines et al., 1991). Rocks of the Arunta Inlier are interpreted as being at least partly correlative with sedimentary and volcanic sequences of the adjacent Tennant Creek and Granites-Tanami Inliers.

The Arunta Inlier (Early-Middle Proterozoic) is characterised by metamorphosed sedimentary and igneous rocks of low to medium pressure facies. Deformation and regional metamorphism to upper greenschist facies took place between 1810-1750 Ma (Black, 1981). Shaw and Stewart (1975) established three broad stratigraphic subdivisions based on facies assemblages and lithological correlations. From oldest to youngest, these subdivisions are named Division 1, 2 and 3. Using this model defined by Shaw and Stewart (1975), the orthogneiss east of Osborne Range, the calc-silicate rocks west of Crawford Range and the Bullion Schist would be included in Division 2, and the Ledan Schist in Division 3 of the Arunta Inlier.

Unconformably overlying these rocks are the Hatches Creek Group sediments and volcanics. Blake et al. (1987) formally subdivided the Group into the Ooradidgee, Wauchope and Hanlon Subgroups, comprising a total of 20 Formations and two Members. The Hatches Creek Group is a folded sequence of shallow-water sediments with interbedded volcanic units which reach thicknesses of at least 10,000 metres.

The sediments include ridge-forming quartzites, felspathic, lithic and minor conglomeratic arenites and friable arenite, siltstone, shale and carbonate. The Ooradidgee Subgroup consists mainly of fluvial sediments and sub-aerial volcanics which partly interfinger. The Wauchope Subgroup is characterised by large volumes of volcanics and sediments probably both marine and fluvial in origin. The Hanlon Subgroup may be entirely marine and lacks volcanics (Blake et al., 1987).

Deformation and regional metamorphism took place between 1810-1750 Ma (Black, 1981). Folding was about NW trending axes while metamorphism to upper greenschist facies took place. Later intrusion of both the Arunta basement and the Hatches Creek Group by granitoids of the Barrow Creek Granitic Complex took place around 1660 Ma (Blake et al., 1987). Contact metamorphism and metasomatism are often observed.

Sedimentation associated with the Georgina Basin commenced during the Late Proterozoic with the Amesbury Quartzite and was terminated during the Early Devonian after deposition of the Dulcie Sandstone. The Georgina Basin sequence was mildly affected by the Carboniferous Alice Springs Orogeny.

A long erosional period followed with subsequent deep weathering during the Tertiary produced silcrete and ferricrete horizons. A veneer of Quaternary sands and soils overlays much of the area, except where recent and active alluvial sedimentation is present.

5.2 Local Geology

A mix of aeolian sands and alluvial sediments cover the majority of the licence area. The alluvial sediments are derived from the associated floodplains and palaeo channels of the northward flowing Hanson River that flows through the western portion of the licence.

Results from a regional RAB drilling programme (Morris, 1996) have shown that Bullion Schist and gneiss are present in the east of the licence. The regional aeromagnetic data suggests that these units from the Arunta Inlier continue to trend WNW, parallel to the Wiso Basin margin that lies further to the north. The regional RAB drilling also identified a large granite body, immediately to the west of the Hanson River.

6. WORK UNDERTAKEN

6.1 Airborne Geophysical Survey

A detailed airborne magnetics and radiometrics survey was completed during October 1998 based on north-south flight lines. The survey was flown and data processed by Kevron Geophysics Pty Ltd with a mean terrain clearance of 50m. A total of 2,554 line kilometres were flown. This survey was designed to complement existing Normandy 100m-line spaced surveys completed previously to the southeast.

As the data is yet to be processed, no interpretation of the information gathered has been completed at this stage. A contour plot of the magnetic and radiometric data will be provided in the next annual report. The survey area is indicated on Figure 2.

TABLE 2: Airborne Geophysical Survey Specifications

Flight Lines:

2350 line km orientated north-south

Tie Lines:

204 line km of 1km-spaced east-west lines

Survey Height:

average of 50m

Total Line km:

2554km

Line Spacing:

100m

Contractor:

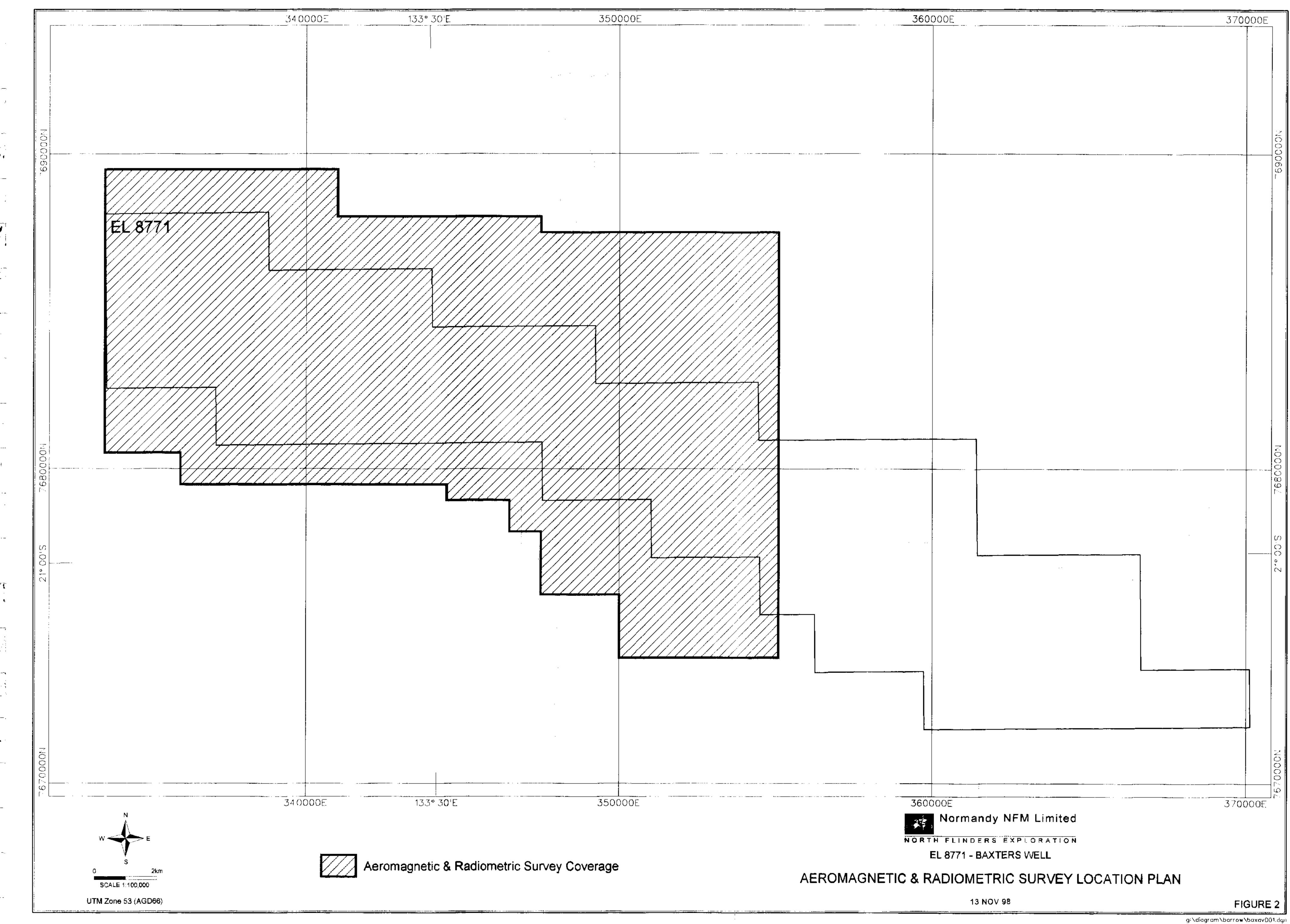
Kevron Geophysics Pty Ltd

Aircraft:

Twin engined Shrike Aero Commander

6.2 Tenement Review

Due to the mid-year change in management and operators, a period of familiarisation and project review was undertaken in order to better assess tenement prospectivity and status of past exploration efforts. This process highlighted the excellent potential of the Baxters Well exploration licence for gold mineralisation.



7. EXPENDITURE INCURRED FOR THE REPORTING PERIOD

A summary of exploration expenditure for the fourth year of tenure is tabled below.

TABLE 3: Details of Exploration Expenditure for the Year to 19/10/98

COST CENTRE				Expe	diture (\$)
Employee Costs					12 058
Overheads				· ·.	108
Airborne Geophysical Survey) . · 	20 432
Operating Costs					612
Specialist Services					203
Tenement Costs					2 680
Field Indirects					5 929
TOTAL					\$42 022
COVENANT	· ·	· · · · · · · · · · · · · · · · · · ·			\$20 250

8. FORWARD PROGRAMME

8.1 Proposed Work

It is anticipated that exploration within EL8771 for the coming twelve months will include extensive vacuum and/or RAB drilling programmes in order to reveal the tenements covered pre-Quaternary geology, as well as aiming to define areas of geochemical anomalism. Wide-spaced reconnaissance drilling will initially be completed in order to gain an understanding of the local regolith, with subsequent drilling traverses in areas considered to exhibit enhanced structural and stratigraphic potential. This will be aided by a detailed evaluation of this periods aeromagnetic and radiometric survey. Follow-up infill drilling may also be completed in areas that have received geochemical testing from drilling in the past. The proposed programme is thus anticipated to include:

- Reconnaissance RAB drilling in order to better define the regolith with the exploration licence
- Detailed evaluation and interpretation of the aeromagnetic and radiometric survey conducted during this period
- Vacuum and/or RAB drilling traverses over areas highlighted as having particular structural and stratigraphic merit
- Infill drilling in areas which have indicated geochemical anomalism in past drilling campaigns

8.2 Proposed Expenditure

Exploration expenditure on EL8771 is anticipated to exceed \$35 000 for the twelve month period to 19/10/99.

TABLE 4: Details of Proposed Exploration Expenditure for the Year to 19/10/99

COST CENTRE	Expenditure (\$)
Employee Costs	5 185
Drilling	10 500
Assays	7 500
Specialist Services	2 000
Operating Costs	5 000
Field Indirects	5 500
TOTAL	\$35 685

9. REFERENCE LIST / ANNUAL REPORT BIBLIOGRAPHY

References

- Blake, T.U.; Stewart, A.J.; Sweet, I.P. and Hone, I.E., 1987. Geology of the Proterozoic Davenport Province, Central Australia. Bureau of Mineral Resources, Australia, Bulletin, 226.
- Black, L.P.; 1981: Age of the Warramunga Group, Tennant Creek Block, Northern Territory, BMR Journal of Australian Geology and Geophysics, 6, 253-257.

Reports to NT DME

- Mujdrica, S.; 1995. First Annual Report for EL8771 (Baxters Well) for the period 20/10/94 to 19/10/95. PosGold, Tennant Creek.
- Morris, T; 1996. Second Annual Report for EL8771 (Baxters Well) for the period 20/10/95 to 19/10/96, Normandy Gold, Tennant Creek.
- Morris, T; 1997. First Relinquishment Report for EL8771 (Baxters Well) for the period 20/10/94 to 19/10/96, Normandy Gold, Tennant Creek.
- Morris, T; 1997. Third Annual Report for EL8771 (Baxters Well) for the period 20/10/96 to 19/10/97, Normandy Gold, Tennant Creek.
- Libby, J; 1997. Second Relinquishment Report for EL8771 (Baxters Well) for the period 20/10/94 to 19/10/97, Normandy Gold, Tennant Creek.