NORTH FLINDERS MINES LTD - ROEBUCK RESOURCES N.L.

JOINT VENTURE

ANNUAL REPORT ON WHITE HILL

EL 8175

FOR THE PERIOD

22nd JULY 1993 TO 21st JULY 1994

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

SUMMARY

This report details the exploration programme undertaken by North Flinders Exploration during the first year of tenure on the White Hill EL8175.

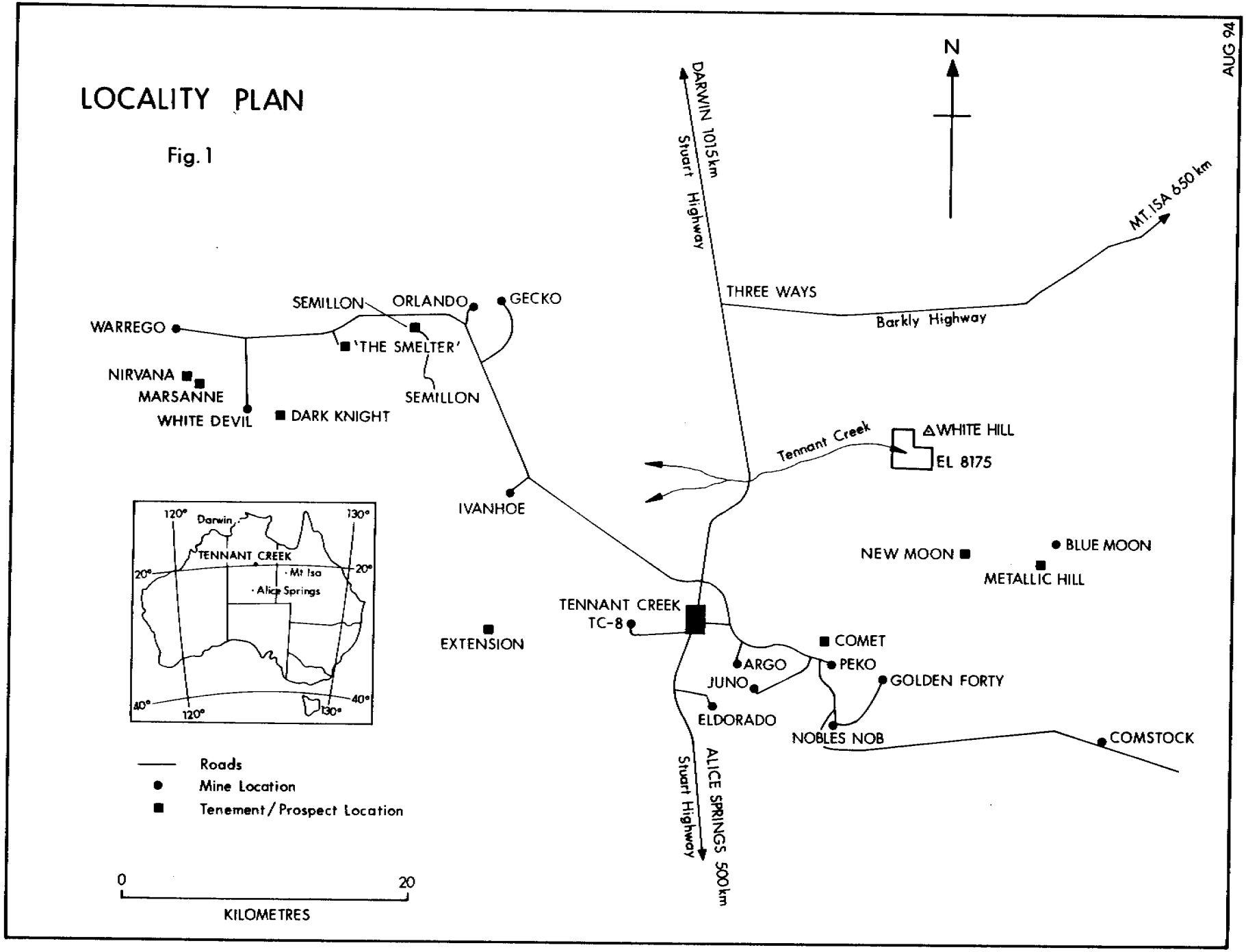
A review of open file reports from the NTDME indicated that the White Hill area had formed part of a large exploration licence investigated by ADL, Newmont and later Posgold. BLEG sampling was completed over the area by Newmont but no anomalous results were returned within the area corresponding to EL8175.

Geological mapping of the tenemnet area was undertaken by NFE during the period. Outcrop was found to be obscured by granite derived sand covering the north-eastern portion of the tenement and the Tennant Creek drainage system covering the southern quarter. Rare hornfelsed sandstone and finer grained bedded sediments crop out south of the granite, dipping at moderate angles to the south.

The proposed exploration programme for the next 12 month period incorporates reconnaissance bedrock geochemical sampling to gain a better understanding of the bedrock geology and geochemistry.

LOCALITY PLAN

Fig. 1



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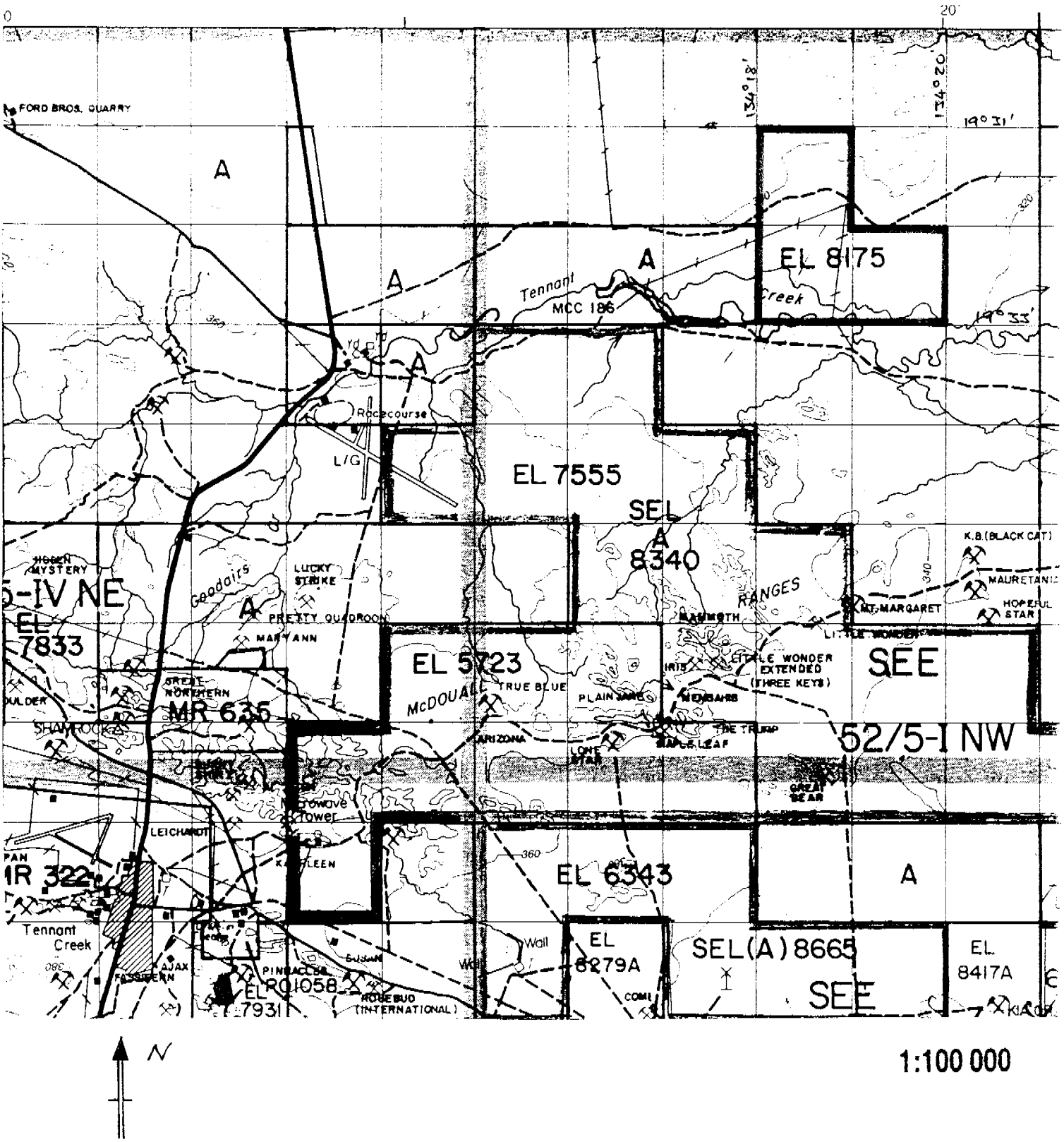


FIGURE 2 EL 8175 TENEMENT MAP

1 INTRODUCTION

This report is a summary of work undertaken by North Flinders Exploration (NFE) on EL8715 White Hill in the 12 month period to 21st July 1994, the first year of tenure.

The tenement is subject to the terms of a joint venture agreement signed between Roebuck Resources N.L. and North Flinders Mines Ltd (NFM) in April 1991. As part of the agreement NFM solely contributed $1.2M towards exploration on a large number of regional Exploration Licences (EL's) in the Tennant Creek Goldfield to gain a 60% interest in the joint venture. The farm-in stage was reached in September 1992 and in January 1993 NFM exercised their right to manage ongoing exploration within the joint venture.

The report is a compilation of work undertaken by NFE geologists Rohan Halfpenny, Mike Hatcher and Andrew Cooper.

2 LOCATION AND ACCESS

The tenement is located 15km north-east of the Tennant Creek township within the Phillip Creek Station (Figure 1). Access is gained via the Stuart Highway, then 8km east along a number of tracks that generally follow fencelines leading from the old Tennant Creek Telegraph Station. The major Tennant Creek drainage system runs due east, south of the Telegraph Station, continuing through the southern half of the tenement. The White Hill Trig station is located within 1km of the tenement.

3 TENEMENT DETAILS

The tenement comprises 3 graticular blocks. The irregular shaped area is bounded to the south by latitude 19°33' and to the west by longitude 134°18' (Figure 2). The tenement was granted on 22nd July 1993 for a period of three (3) years under the terms of the NFM/ROR joint venture. The annual exploration covenant is $10 000.

4 GEOLOGY

EL8175 is located in the centre-east of the Tennant Creek Inlier as defined by Le Messurier & others (1990). The regional geology consists of early Proterozoic Warramunga Group turbidite sediments (siltstone to greywacke) folded about east-west trending open to tight macroscopic folds with a pervasive axial plane slaty cleavage. Intruding the sediments are large, generally elongate east-west early Proterozoic granitic rocks which have been generally dated at 1850Ma, although the Warrego Granite in the west of the field is considerably younger (1690Ma). Granite does outcrop in the Tennant Creek area, but is generally overlain by a varying thickness of Warramunga Group sediments. The thickest part of the sediment pile is interpreted to occur north of the Warrego Mine, in an area characterised by a high aeromagnetic response.

In the general area of EL8175 outcrop is poor. Recent sediments associated with the major Tennant Creek drainage system cover the southern quarter of the tenement block and the majority of the remaining ground is obscured by recent soil and sands. Orange-brown sand is particularly evident to the north where the Tennant Creek Granite Complex has been found to crop out. Rare outcrop south of the granite indicates Warramunga Group sediments have been extensively hornfelsed.

5 EXPLORATION PROGRAMME

5.1 Previous Exploration

Initially a review of all Northern Territory Department of Mines and Energy (NTDME) reports on open file pertaining to the White Hill area was completed to ascertain the extent of previous exploration in the area.

The three blocks comprising EL8175 previously formed a very small portion of a large exploration licence (EL5133) granted to Adelaide Development Limited (ADL) in March 1987. Within the first year of tenure, ADL entered into an joint venture agreement with Newmont Australia Ltd. who progressed with a non-model specific exploration programme designed to test structural settings generally not associated with typical Tennant Creek magnetic ironstone bodies (Pearson,1988). Structural interpretation from regional aeromagnetics, radiometrics and aerial photography was coupled with a systematic BLEG soil sampling programme that covered the tenement area at a minimum spacing of 1km x 500m. A number of targets were generated and a selection tested with shallow RAB drilling.

Structural interpretations from this work provide no insight to the geology of EL8175, however the radiometric survey confirmed the location of a granitic body in the northern section of the tenement.

Results from BLEG soil sampling over the area covering EL8175 have not been included in the reports obtained (CR88/041,CR90/463) however maps showing the location of BLEG and magnetic anomalies indicate that none were defined within the present tenement.

Limited rockchip sampling outside EL 8175 was generally disappointing. However, an anomalous arsenic (1150ppm max.) value associated with quartz veining within granite was described.

During 1990, Poseidon Gold Limited (Posgold) took over ADL's interests and subsequently the joint venture with Newmont was dissolved. As operators, Posgold completed no exploration within the area of EL8175.

5.2 Aeromagnetic Survey

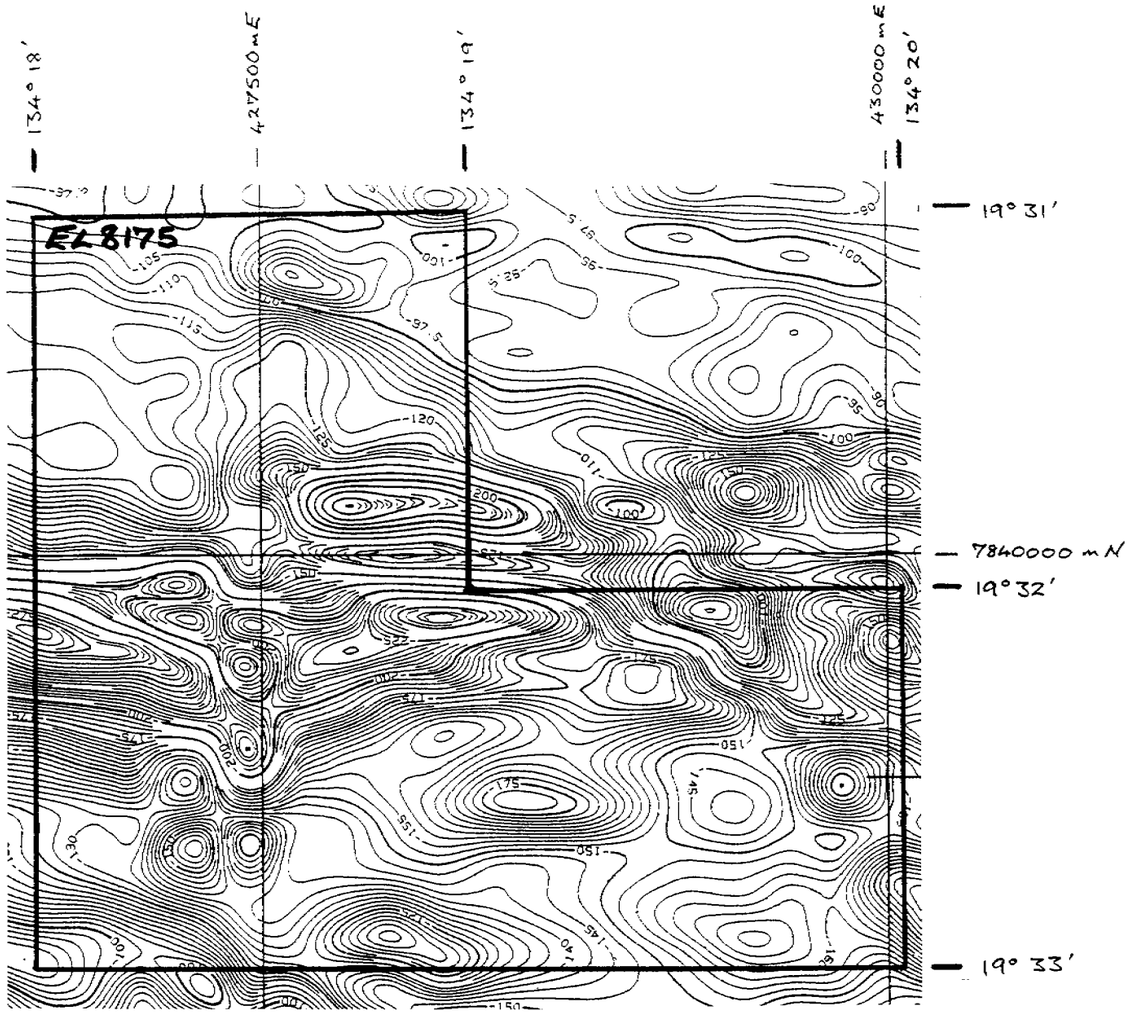
NFE acquired the Aerodata multiclient aeromagnetic and radiometric package during 1992. Using Geophysical Exploration Consultants Pty. Ltd. , a variety of linear and non-linear greyscale and pseudocolour magnetic images including shaddowgrams and K, Th and U colour composite images were produced.

The digital datafiles were reformatted, gridded and produced as contoured plots at 1:100,000 and 1:25000 scale. As this data was purchased with conditions imposed on the rights of reproduction, only limited extracts of this data have been reproduced in this report.

The magnetic survey outlined a number of interesting magnetic features within the White Hill tenement (Figure 3). A major east-west trending zone of low magnetic intensity is evident south of latitude 19°32' which terminates in an elongate dipole anomaly against a south-east trending lineament, probably relating to a fault.

The intense "cluster" of monopolar anomalies to the ENE of the tenement are indicative of igneous rocks.

MAGNETIC CONTOUR MAP



Scale 1:25000

DATA PROCESSING

GRID CELL SIZE	50 metres
CONTOUR INTERVAL	2.5 nanoTeslas
PARALLAX CORRECTION	70 metres
BASE VALUE ADDED	51031 nanoTeslas
REGIONAL FIELD	IGRF MODEL 1980 REMOVED

AIRCRAFT

VH-CPX NOMAD 228

MAGNETOMETER

PROTON PRECESSION GEOMETRICS G813

RESOLUTION	0.1 nanoTesla
CYCLE RATE	0.5 seconds
SAMPLE INTERVAL	30 metres

SPECTROMETER

5 channel GEOMETRICS GR800D

DOWNWARD VOLUME	50340 cc NaI(Tl)
UPWARD VOLUME	8390 cc NaI(Tl)
CYCLE RATE	0.5 seconds
SAMPLE INTERVAL	30 metres

DATA ACQUISITION

8 CHANNEL WATANABE MC 6700 CHART RECORDER
SONOTEK IGSS1 COMPUTER
dustirax DIGITAL ACQUISITION SYSTEM

FLIGHT LINE SPACING

TRAVERSE LINES	200 metres
TIE LINES	4000 metres

FLIGHT LINE DIRECTION

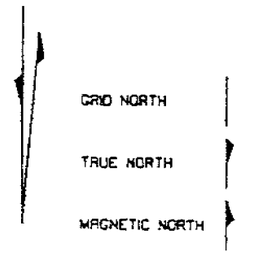
TRAVERSE LINES	000 - 180 degrees
TIE LINES	090 - 270 degrees

SURVEY HEIGHT

MEAN TERRAIN CLEARANCE - 80 metres

NAVIGATION

Real-time range range
Doppler assisted



North point relationships are shown for the centre of the map. Magnetic north is true for 1980.

GRID/MAGNETIC ANGLE	4°51'1"
GRID CONVERGENCE	-0°13'46.21"
SECULAR VARIATION	0°0'9" east per year

WHITE HILL AREA :

AEROMAGNETIC CONTOUR MAP

FIGURE 3

5.3 Geological Mapping

NFE geologist R.Halfpenny carried out a geological mapping exercise over the White Hill tenement. A Magellan Nav1000 GPS unit was used to locate positions in the field and no griding was undertaken during the course of the exploration programme.

The resultant 1:10000 geological map is shown in Figure 4.

Outcrop was found to be severely lacking with the well developed Tennant Creek drainage system covering at least 25% of the southern portion of the tenement. Soil and sand cover was also common over the majority of the remaining tenement ground.

A series of drainage channels from the Quartz Hill Ridge have incised areas to the north, where a number of small outcrops of granite occur. The granite is typically equigranular and fine-medium grained with minor hematite, chlorite and sericite in places. Separate ?porphyry phases were occasionally noted in association with the main granite but mafic phases are rare. A distinctive orange-brown sand has developed over the majority of the northern area which roughly defines the extent of the granite, believed to be the Tennant Creek Granite.

South of the granite, rare outcrops of well hornfelsed sediments were noted. One large area (AMG:7839700mN, 428200mE) of subcropping medium grained quartzose sandstone with less than 1% disseminated hematite is not typical of the Warramunga Group and may represent an earlier sedimentary unit.

Bedding measurements at a number of outcrops around 7840000mN suggest the area has been openly folded, as is typical for the eastern Tennant Creek Field, and that a antiformal closure occurs to the north.

No rockchip samples were taken.

6 EXPLORATION EXPENDITURE

Expenditure on EL 8175 for the twelve months to 21st July 1994 is described in Table 1 below.

TABLE 1: EL 8175 - Expenditure to July 1994

ITEM	Estimated Expenditure
Geologist (12 days @ $450/day)	5,400.00
Field Assistant (2 days @ $250/day)	500.00
Geophysical Data Purchase and Reprocessing	900.00
Accommodation	700.00
Airfares	545.00
Vehicles	560.00
Base Support Costs	860.00
Administration	1,420.00
TOTAL	**$10,885.00.**

Covenanted expenditure for the year to July 1994 was $10,000.

7 PROPOSED PROGRAMME

A series of lines of reconnaissance vacuum drilling are proposed to obtain more information on the bedrock geology and geochemistry of this predominantly alluvial covered tenement. At least one line should be centred over the elongate dipole magnetic anomaly centred at 7840000mN, 428000mE.

TABLE 2: Expenditure Proposed Programme-EL 8175

Item	Costs
Geologist	3,150.00
Field Hand	700.00
Survey	900.00
Bedrock Vacuum Drilling	2,000.00
Assay	1,200.00
Vehicle	400.00
Accommodation	550.00
Base Support Costs	890.00
Administration	1,470.00
TOTAL	**$11,260.00**

8 REFERENCES

PEARSON, D.F., 1988: White Hill Project : First Annual Report incorporating EL's 5067, 5072 and 5133. Adelaide Development Limited - NTDME report # CR88/041.

PENNY, S.R., 1990: White Hill Project : Combined Second and Third Year Relinquishment Report incorporating EL's 5072 and 5133. Newmont Australia Ltd - NTDME report # CR90/463

LE MESSURIER, P., WILLIAMS, B.T., & BLAKE, D.T. 1990: Tennant Creek Inlier - Regional Geology and Mineralisation, in Geology of Mineral Deposits of Australia and Papua New Guinea, Ed. F.E. Hughes, The Australian Institute of Mining and Metallurgy, Monograph No.14.

LOWE, G.M. 1992: Annual Report for EL5133 : White Hill. Poseidon Gold Limited - NTDME report # CR92/299.