



**FIRST AND FINAL REPORT
FROM 19/8/96 TO 25/7/97
ON EL 8920, FAVENC, EPENARRA PROJECT,
NORTHERN TERRITORY**



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Date: December 1997
Report No: AR.EP.97.12.02
Distribution: NTDME (1 copy)
Adelaide Resources (1 copy)**

OPEN FILE

CR 98 / 2 1

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1 SUMMARY

Exploration Licence 8920 is located 90 kilometres SE of the township of Tennant Creek. The tenement was granted to Adelaide Resources NL on 19/8/96, having become subject to a Joint Venture Agreement between Adelaide Resources and Normandy Gold Pty Limited (formerly PosGold Ltd), whereby Normandy were managers and solely contributed to the exploration expenditure. The Joint Venture Agreement was signed in August 1995 and was terminated in May 1996.

The area of the tenements is dominated by Cenozoic cover and mostly underlain by Cambrian sedimentary rocks (Gum Ridge Formation). The interpreted basement is dominantly Palaeoproterozoic Warramunga Formation. This hosts economic mineralisation in the Tennant Creek district.

Exploration conducted during the term of the Joint Venture emphasised the identification of ironstone hosted Au-Cu-Bi mineralisation of the Tennant Creek style, but included consideration of the possible occurrence of other styles of mineralisation. The exploration program included:

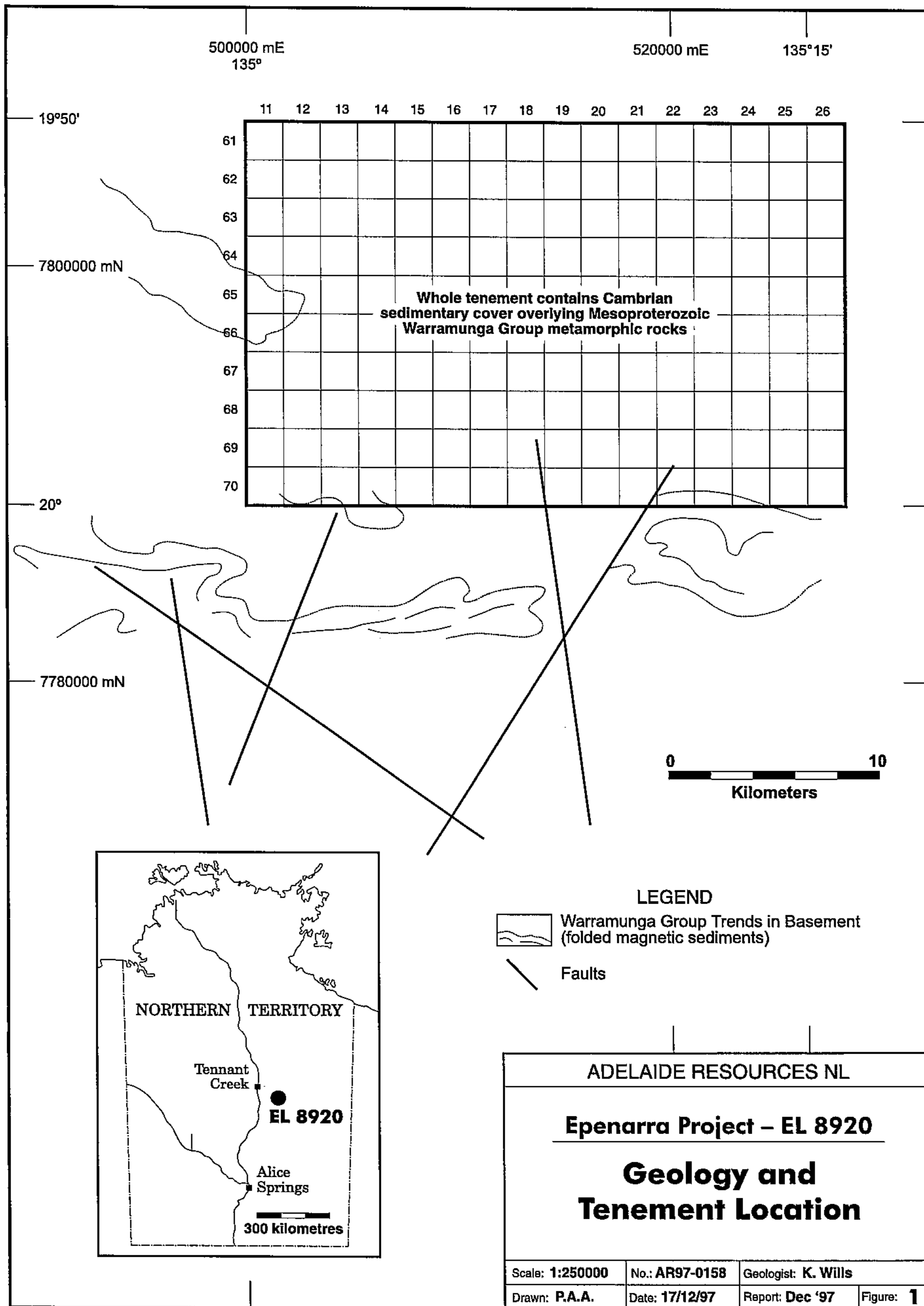
- (i) Semi-regional interpretation of available open file aeromagnetic and gravity data to assess the distribution of granitoids, favourable structural settings for mineralisation in the Warramunga Formation and the potential for magnetic anomalies to represent mineralised ironstones.
- (ii) Helicopter supported assessment of regolith and surficial anomalies (considered potential subcrop) identified from satellite imagery.

The conclusion from this work was that the project area does not have features justifying priority in the context of either Adelaide Resources' or Normandy's exploration strategy. While the areas of the tenements are largely underlain by the prospective Warramunga Formation, the thickness of Cenozoic and Cambrian cover and the absence of prospective discrete magnetic anomalies reduced the priority of the project area. Accordingly EL 8920 was relinquished on 25 July 1997.

2 INTRODUCTION

2.1 Location and Access

Exploration Licence 8920 is located 90 kilometres SE of the township of Tennant Creek (Figure 1). Access to the tenement from Tennant Creek township is 80 km south via the Stuart Highway, then 50 kilometres east to Kurundi Station homestead. Access to the tenement areas requires using station access tracks for 40 kilometres, traveling NE of the homestead via Fork Creek Bore.



Another tenement in the Epenarra Project, EL 8272, is located 25 kilometres north of Fork Creek Bore and is accessed by a track on the Kurundi Station eastern boundary that was upgraded and extended into the prospect area by Normandy for drill rig access. Exploration Licence 8920, Alroy Prospect, is to the immediate north of Epenarra Prospect, and can only be accessed on the ground by cross country travel from the northernmost extent of the Epenarra prospect access track.

2.2 Climate and Physiography

The climate of the Tennant Creek district is mild to warm and dry throughout autumn, winter and spring, with cool to cold winds in winter. High temperatures (in excess of 30°C) occur in summer with associated seasonal rainfall in December to March, which can impede field programs.

The physiography shows significant variation across the project area. EL 8920 is dominated by flat, aeolian sand plains with significant scrub in the southern portion, thinning progressively to open Spinifex grass lands and Acacia scrub to the north.

2.3 Tenure

Exploration Licence 8920 was granted to Adelaide Resources NL on 19 September 1996 for a period of six years. The licence consisted of 160 graticular blocks with an area of approximately 515 square kilometres.

EL 8920 was subject to a Joint Venture Agreement between Adelaide Resources NL and Normandy Gold Pty Ltd, whereby Normandy were operators and sole contributors to exploration expenditure during the period August 1995 to May 1996.

The final Joint Venture report (Clifford and Stolt, 1997) has been used extensively in the preparation of this report.

3. PREVIOUS EXPLORATION

Prior to the grant of Exploration Licence 8920, there is little evidence of previous exploration for mineralisation in this area. It is probable that the lack of previous exploration was due to the:

- lack of outcrop
- extent and depth of cover, and
- a lack of intense discrete magnetic anomalies

Previous regional exploration has been undertaken by Geopeko, CRAE and Australian Ores and Minerals. CRAE flew an aerial geophysical survey and conducted magnetic modeling over the area of EL 8920 (Snelling 1980a & b; Steemson 1980), but concluded that no magnetic targets were of a level of prospectivity that justified drill testing.

Prospect-scale evaluation and drilling was limited to that conducted by Geopeko at Explorer 84, located within EL 8272.

4 REGIONAL GEOLOGY

The geological understanding of the Tennant Creek Inlier has been recently advanced by detailed geological mapping over the Tennant Creek and Flynn 1:100,000 map sheets (Donnellan et al. 1995), precision dating of stratigraphic components of the region (Compston, 1995) and regional geophysical interpretations.

The oldest exposed Proterozoic lithofacies in the Tennant Creek Inlier are the metasedimentary rocks of the Warramunga Formation, which are the host to the ironstone-Au-Cu-Bi mineralisation of the Tennant Creek Goldfield. These Palaeoproterozoic metasediments were deposited approximately 1860 Ma. Deformation and intrusion of the Warramunga Formation by volumous porphyries and granitoids occurred during the Barramundi Orogeny (1858 Ma to 1845 Ma).

Following deformation and uplift the volcanics and volcanoclastics of the Flynn Sub-Group were erupted (1845 Ma to 1827 Ma), with intrusion of porphyries and minor granitoids into the Warramunga Formation. An additional deformation event preceded the deposition of the Hatches Creek Group/Tomkinson Creek Sub-Group (1820 Ma to 1785 Ma) and the intrusion of late-stage granitoids and porphyries into both the Warramunga Formation and Flynn Sub-Group at 1650-1712 Ma.

Exploration Licence 8920 covers an area of very poor outcrop. Cenozoic and Quaternary aeolian and alluvial sand cover dominate the licence area. Limited outcrop marginal to the tenements has been interpreted as Cambrian Georgina Basin succession sedimentary rocks overlying Warramunga Formation metasedimentary rocks and Proterozoic intrusives (Wyche & Simons, 1987; Walley & Simons, 1987; Randel, 1966).

5 EXPLORATION CONDUCTED FROM 19/8/96 TO 25/7/97

5.1 Regional Aeromagnetic Interpretation

The geology of the project area has been previously interpreted as Palaeoproterozoic Warramunga Formation and Proterozoic Intrusives, overlain by Paleozoic and Cenozoic cover (Wyche & Simons, 1987; Walley & Simons, 1987; Randel, 1966). Open file BMR aeromagnetics and gravity data was processed and interpreted to confirm this conclusion and refine the interpreted distribution of the basement components. There were no significant features in the data and the whole EL is interpreted to consist of cambrian sediments overlying Proterozoic basement (Figure 1). There were no features in the magnetics worthy of follow-up or of producing an interpretive plan.

5.2 Access Tracks

Work on the clearing of new access tracks for the drilling on EL 8272 has established an access route for EL 8920. This can be extended later when required.

5.3 Remote Sensing Anomalies

Remote sensing images of the project tenements were analysed in an attempt to identify areas of potential basement subcrop not recognised by previous work. In EL 8920 six remote sensing anomalies were assessed as possible basement subcrop. Accessing these anomalies required helicopter support and a program was designed and implemented that allowed for assessment of the tenements as well as targeting anomalies.

EL 8920 was systematically examined at 200 feet flying height with a one minute flight-line spacing. In addition, the six remote sensing anomalies were specifically targeted. Field examination indicated the anomalous areas contrast with surrounding Quaternary aeolian sands in having a higher fines (clay) and iron oxide content. These anomalous areas are interpreted to be exposed components of the Cenozoic laterite profile, possibly developed over Cambrian rocks. The presence of near surface Cambrian carbonate lithofacies is suggested by a number of minor sink holes in the south-eastern quadrant of the tenement.

6 CONCLUSIONS

Exploration of EL 8920 conducted during the first year of tenure by the Epenarra Joint Venture included the application of geological, geophysical and remote sensing exploration techniques. The results of this work confirm the presence of a thick cover succession and have not identified any geophysical targets considered sufficiently prospective to justify drill testing.

In the context of Adelaide Resources current exploration strategy, the Favenc EL 8920 does not warrant a high ranking. Accordingly, the decision to relinquish the tenement was made and advised to the Northern Territory Department of Mines and Energy on 25 July 1997.

7 ENVIRONMENTAL AND REHABILITATION FACTORS

There was no substantial disturbance to any portion of EL 8920 and therefore no rehabilitation work was necessary.

8 EXPENDITURE

During the first year of tenure the combined Adelaide Resources and Normandy Gold expenditure on EL 8920 was \$30,511.28. The exploration expenditure covenant for this year had been set at \$30,000. A detailed breakdown of expenditure is provided below:

Expense	\$ Expenditure
Employee Costs	8,875.11
Overheads	7,350.16
Operating	13,322.81
Data Acquisition	700.00
Specialist Services	<u>263.20</u>
Total	\$30,511.28

9. ACKNOWLEDGEMENTS

This report has been prepared by extracting relevant data from the final Epenarra Joint Venture Report by Clifford and Stott (1997). Adelaide Resources' own interpretations have been added, for which Normandy Gold are not responsible.

10 REFERENCES

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REPORT NUMBER	AR.EP.97.12.02
REPORT NAME	FIRST AND FINAL REPORT FROM 19/8/96 TO 25/7/97 ON EL 8920, FAVENC, EPENARRA PROJECT, NORTHERN TERRITORY.
PROSPECT NAME(S)	EL 8920 ALROY PROSPECT
OWNER/JV PARTNERS	ADELAIDE RESOURCES NL NORMANDY GOLD PTY LIMITED
KEYWORDS	WARRAMUNGA FORMATION, CAMBRIAN COVER, AEROMAGNETIC TARGETS, REMOTE SENSING ANOMALIES
COMMODITIES	GOLD, COPPER
TECTONIC UNITS	TENNANT CREEK INLIER, GEORGINA BASIN
1:250,000 MAP SHEET	ALROY SE 53-15
1:100,000 MAP SHEET	FAVENC 5958