



Northern Gold NL

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EL 9128 1999 FINAL REPORT

26th June 1995 to 25th June 1999

Burrundie (14/6-IV) 1:50,000 scale map sheet

Title Holder:- Northern Gold N.L.

June 1999

Author:- N. Mottram

NTDME

Northern Gold N.L., Adelaide River

Northern Gold N.L., Perth Office

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CR99/298

SUMMARY

EL 9128 is located approximately 150 kilometres south - east of Darwin and 2 kilometres north - east of Hayes Creek, on the Burrundie (14/6-IV) 1:50,000 scale map sheet.

The licence area consists of sediments from the South Alligator Group, including the Gerowie Tuff, Mount Bonnie Formation and Koolpin Formation, and the overlying Burrell Creek Formation from the Finnis River Group. Zamu Dolerite sills are also present within the tenement area.

EL 9128 was granted to Mr. Stuart Henson on the 26th of June 1995, for a period of two years. A transfer of the title to Northern Gold N.L. was registered on the 31st of January, 1997. The licence was renewed on the 16th of November, 1998, for a period expiring on the 25th of June, 1999.

Exploration completed over EL 9128 has consisted of alluvial prospecting and reconnaissance, conducted by Stuart Henson, and digital data studies.

Northern Gold N.L. completed work programs involving digital data acquisition and manipulation, an airborne magnetic survey and digital terrain modelling to assess the regional structure and determine the best method of exploration to be used on the licence.

After a thorough review of all data, the decision was made to allow the licence to expire.

The covenant for the 1998/99 year of tenure was \$8,600, however, as no field work was completed, the only costs incurred were administrative and reporting costs, totalling \$755.

Northern Gold N.L. expenditure over EL 9128, from the transfer of title to the expiry date, totalled \$11,775.

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1.0 INTRODUCTION

EL 9128 is located approximately 150 kilometres south - east of Darwin and 2 kilometres north - east of Hayes Creek on the Burrundie (14/6-IV) 1:50,000 scale map sheet. The licence, consisting of 1 graticular block, 3 square kilometres in area, lies between latitudes 13°33' south and 13°34' south and longitudes 131°30' east and 131°31' east (Figure 1). EL 9128 is situated within Pastoral Lease No. 903, Douglas, held by Tovehead Pty Ltd.

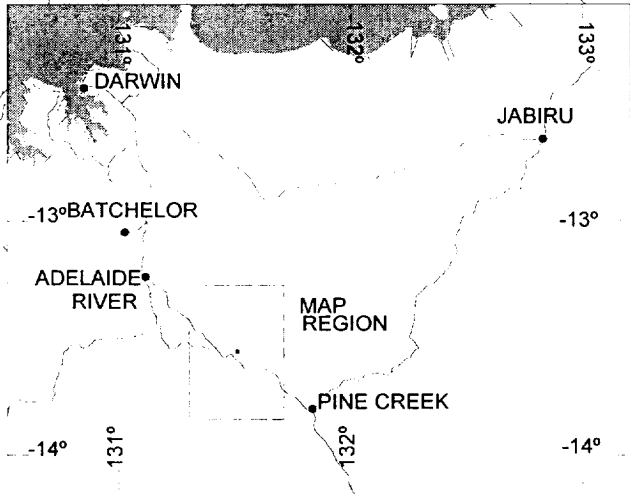
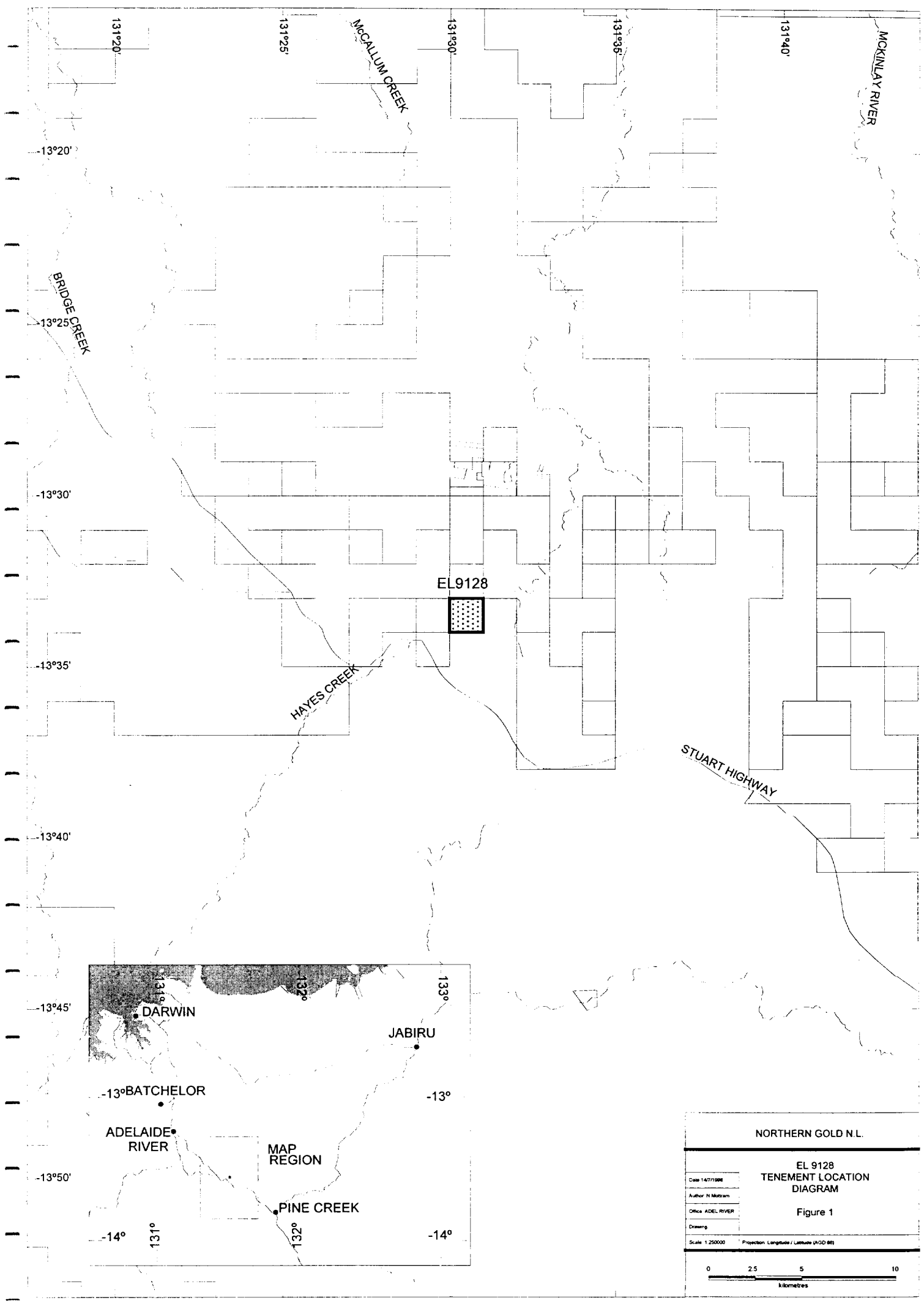
Access is via the Stuart Highway to Hayes Creek and then along tracks throughout the area.

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NORTHERN GOLD N.L.	
EL 9128 TENEMENT LOCATION DIAGRAM	
Figure 1	
Date 14/7/1998	
Author N Mutran	
Office ADEL RIVER	
Drawing	
Scale 1:250000	Projection Longitude / Latitude (GDA 86)
<div>0 2.5 5 10</div> <div>kilometres</div>	

2.0 GEOLOGY

2.1 Regional Geology

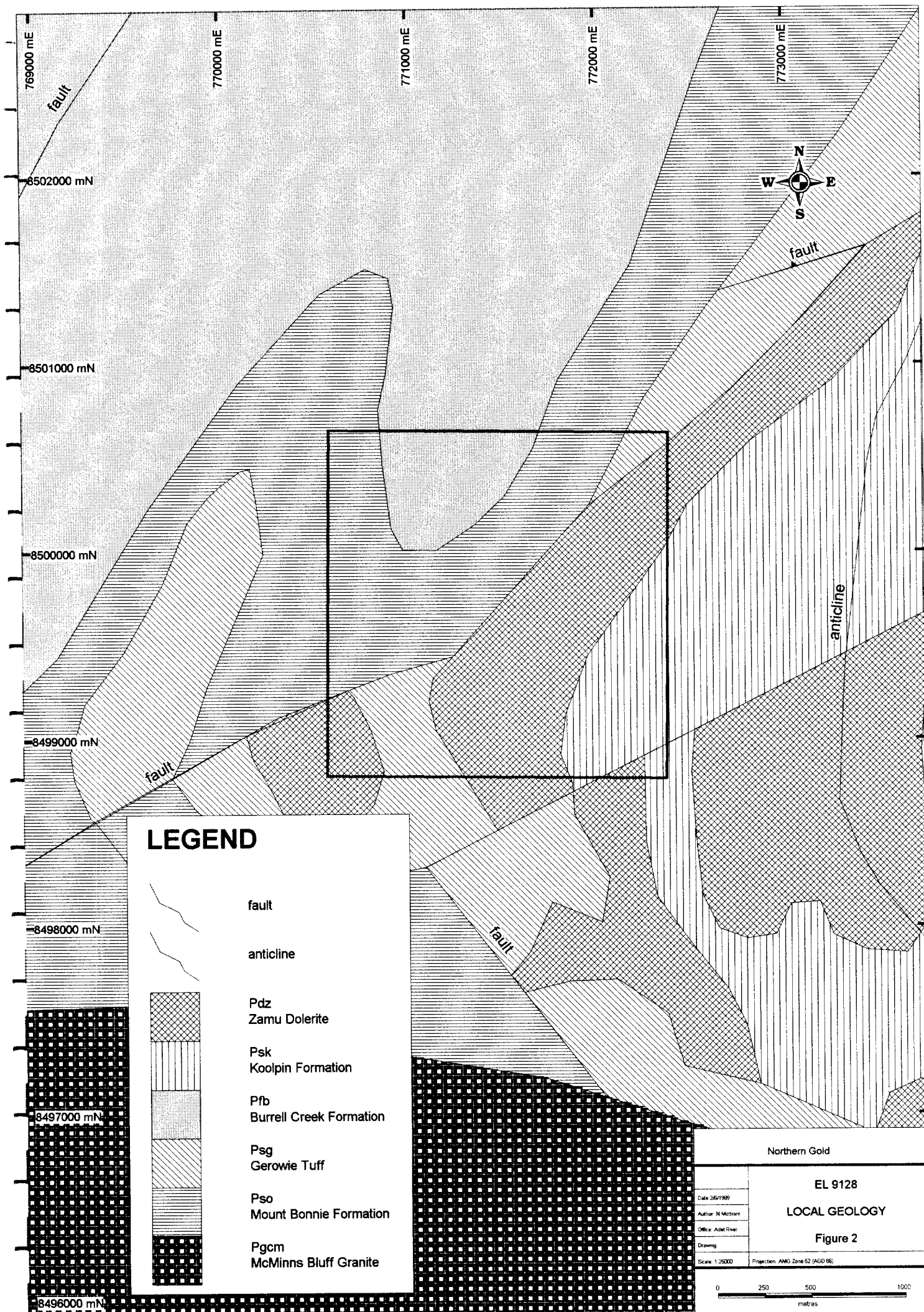
EL 9128 is situated within the Pine Creek Geosyncline, a tightly to isoclinally folded sequence of mainly pelitic and psammitic Lower Proterozoic sediments with interlayered tuff units. All the lithologies in the area have been metamorphosed to low, and in places, medium grade, metamorphic assemblages. For the purpose of this report, the prefix meta- is implied, but omitted from the rock names and descriptions.

The sequence has been intruded by pre-orogenic dolerite sills of the Zamu Dolerite and a large number of late syn-orogenic to post-orogenic Proterozoic granitoids. Largely undeformed Middle and Late Proterozoic, Palaeozoic and Mesozoic strata, as well as Cainozoic sediments and laterites, overly the Pine Creek Geosyncline.

2.2 Local Geology

The licence area consists of sediments from the South Alligator Group, including the Gerowie Tuff, Mount Bonnie Formation and Koolpin Formation, and the overlying Burrell Creek Formation from the Finnis River Group (Figure 2). The Mount Bonnie Formation is folded and faulted against the Gerowie Tuff in the north - east and south - west of the tenement. Zamu Dolerite sills are also present within the tenement area (Socic, 1997).

The McMinns Bluff Granite intrudes to the south of EL 9128 (Socic, 1997).



3.0 EXPLORATION COMPLETED

3.1 1995/96 Exploration

Stuart Henson, the previous title holder, conducted alluvial prospecting and reconnaissance over the licence during the 1995/96 year of tenure.

3.2 1996/97 Exploration

During the 1996/97 field season, Northern Gold N.L. completed a work program involving digital data acquisition and manipulation. Landsat Imagery, SPOT Imagery and AGSO mapping were obtained and used in conjunction with aerial mapping and site visits to determine the best method of gold exploration to be used on the licence (Socic, 1997).

GIS and satellite imagery were used to log soil types, indicating that the region comprises mainly lateritised lower saprolite (Socic, 1997).

Satellite imagery was also used to interpret the structural geology of the region Figure 3.

Interpretation of the GIS and remote sensing imagery shows the Mount Bonnie Formation sediments and the Zamu Dolerite outcropping along north - east to south - west trending structures, dominating the tenement. The contact metamorphic aureole caused by the McMinns Bluff Granite, can be seen 12 to 15 kilometres south of the tenement (Socic, 1997).

3.3 1997/98 Exploration

During the 1997/98 exploration season Northern Gold N.L. completed a work program involving magnetic data acquisition and manipulation, and digital terrain modelling. The data was obtained and used in conjunction with aerial mapping, site visits and previous digital data interpretations (Mottram, 1998).

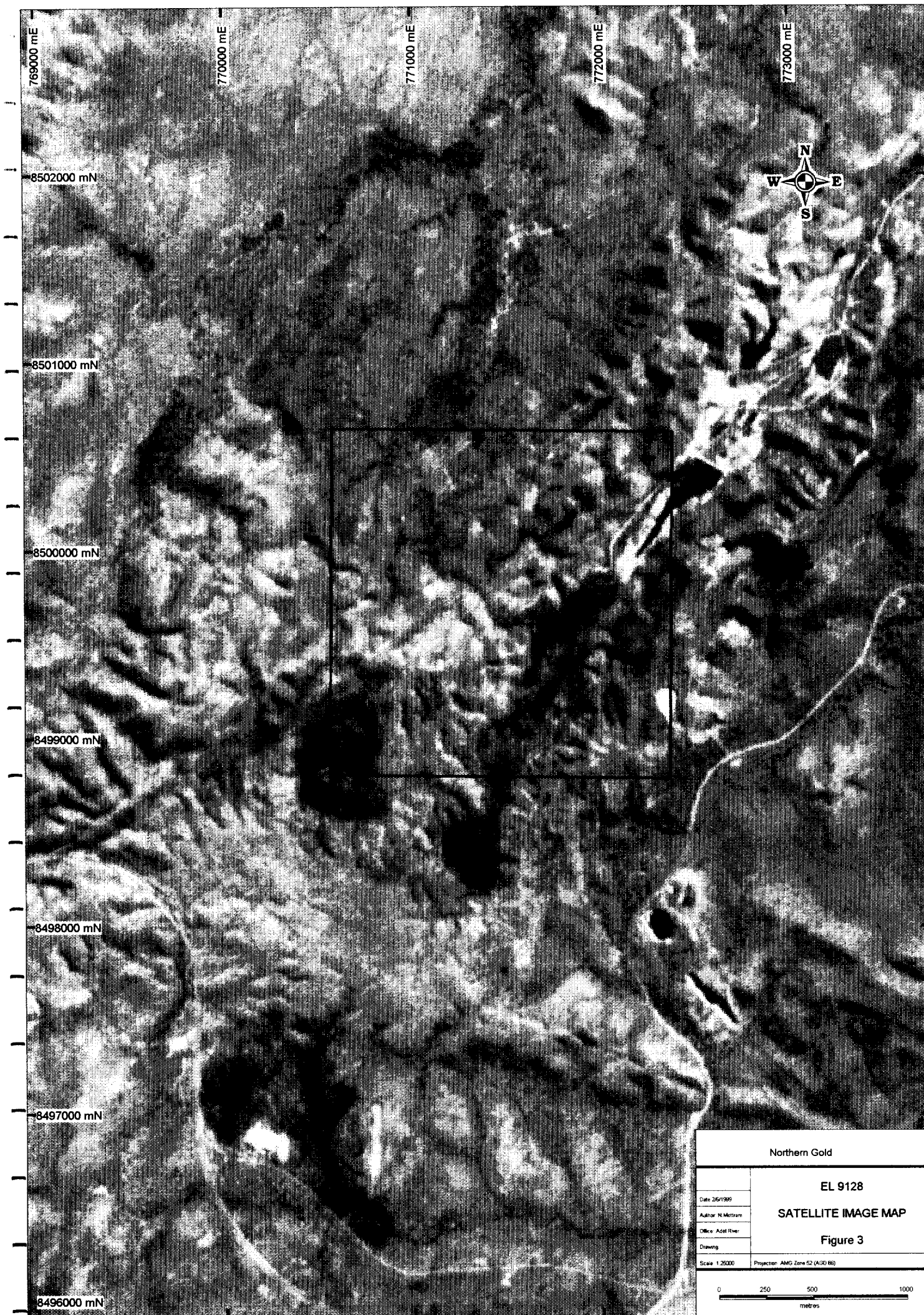
3.3.1 Geophysics

Northern Gold N.L. purchased multiclient aerial geophysics from World Geoscience. The data covers areas not previously held by Northern Gold N.L. It is presented as a south - west, sun shaded residual plot in Figure 4 (Mottram, 1998).

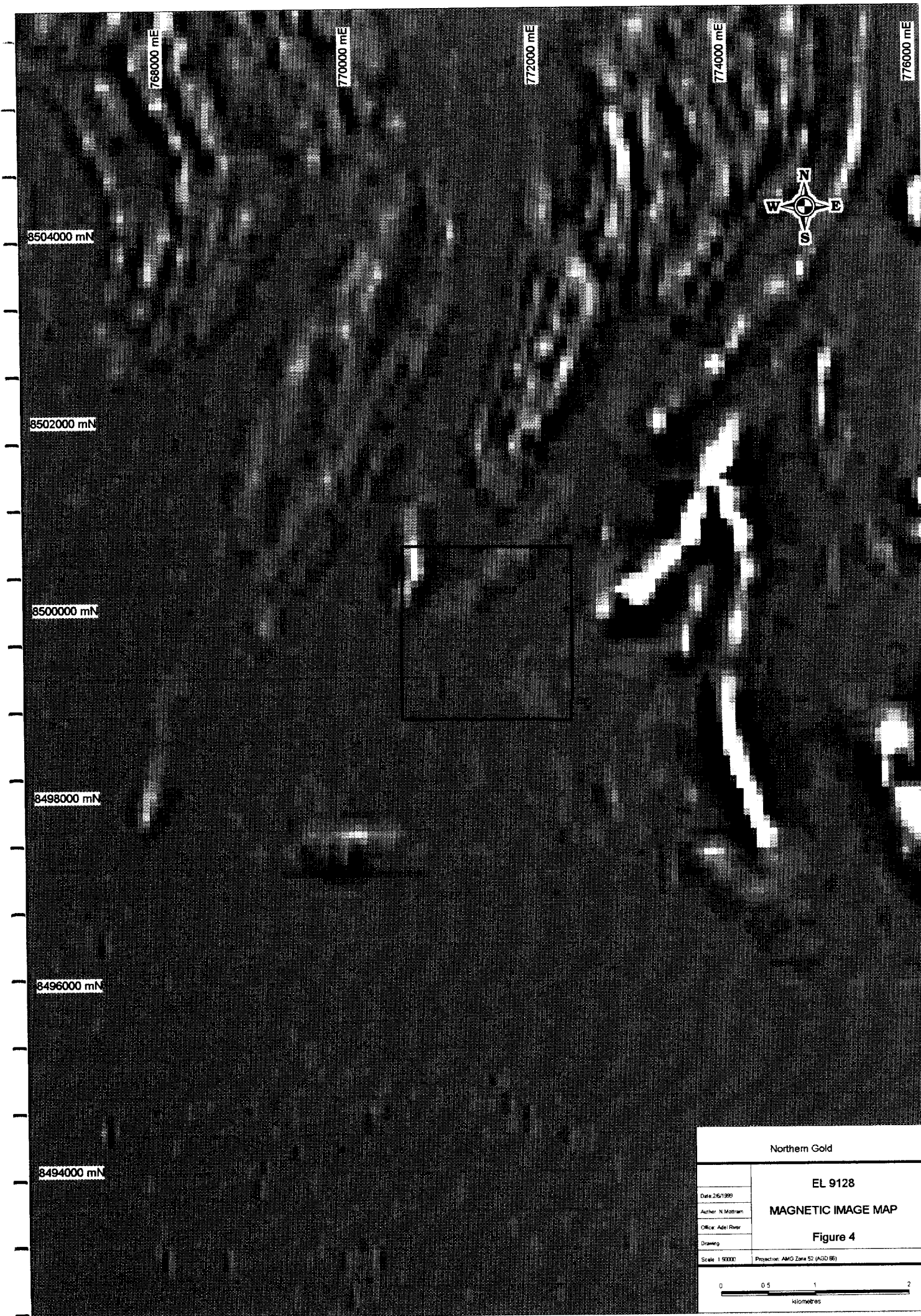
EL 9128 lies within the area covered by the survey.

The survey specifications are listed in Table 1.

The results of the geophysics were used primarily as imaged processed data for regional interpretation of exploration concepts (Mottram, 1998).



Northern Gold	
EL 9128	
SATELLITE IMAGE MAP	
Figure 3	
Date 26/1/99	
Author NI Mettram	
Office Adet River	
Drawing	
Scale 1:25000	Projection: AMG Zone 52 (AGD 86)
0 250 500 1000 metres	



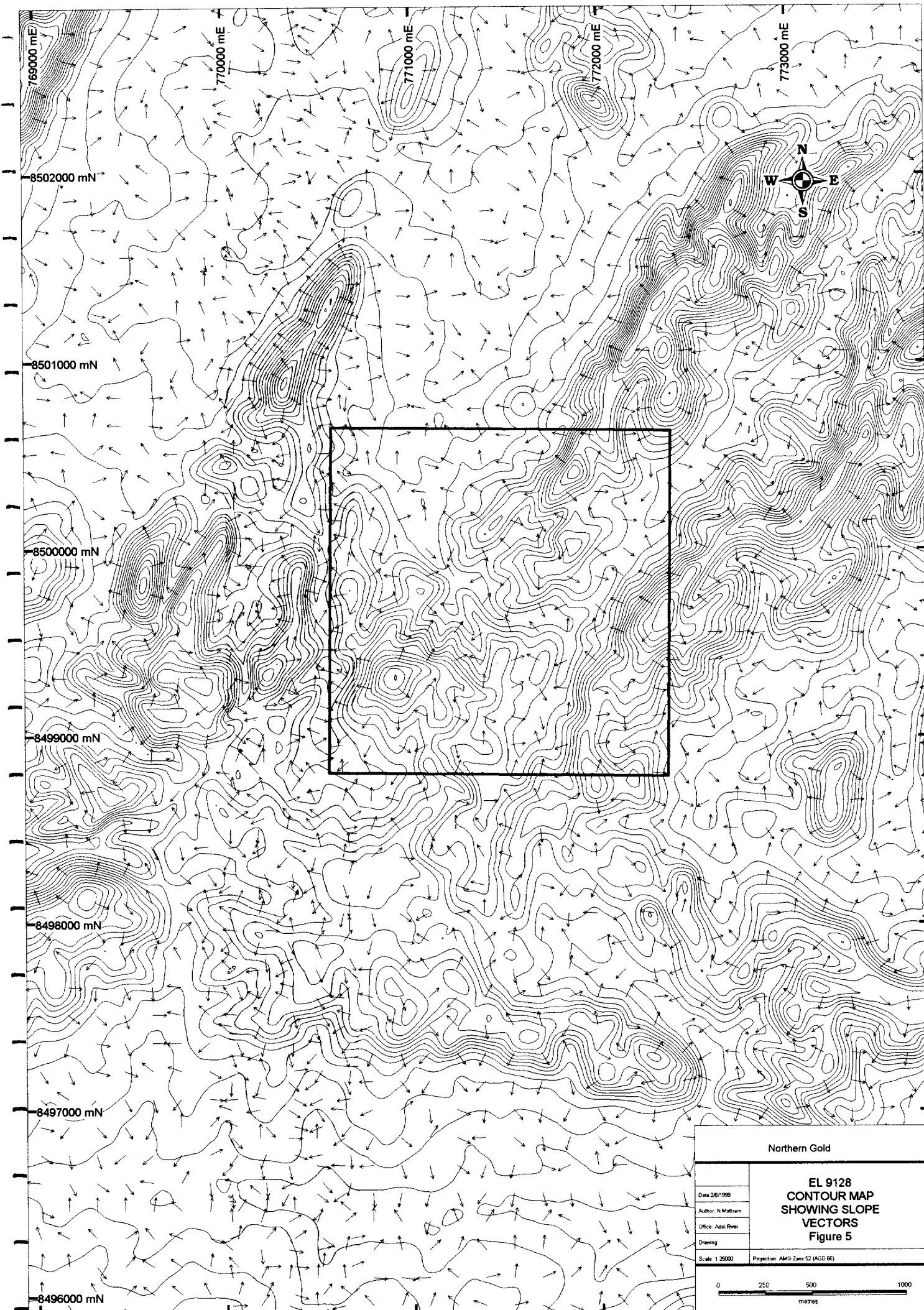
Northern Gold	
EL 9128	
MAGNETIC IMAGE MAP	
Figure 4	
Date: 2/5/1999	
Author: N. Mottram	
Office: Adelaide River	
Drawing:	
Scale: 1:50000	Projection: AMG Zone 52 (AGD 86)
0 0.5 1 2 kilometres	

Table 1 Aerial Geophysical Survey Specifications

Aircraft	Rockwell Strike Commander 500S
Magnetometer	Scintrex V201 Split Beam Caesium Vapour
	Resolution: 0.04 nanoTesla
	Cycle Rate: 0.2 second
	Sample Interval: 14 metres
Spectrometer	256 Channel Geometrics Exploranium GR800B
Processed Channels	Total Count 0.4 - 3.01 MeV
	K ₄₀ 1.37 - 1.56 MeV
	Bi ₂₁₄ 1.67 - 1.86 MeV
	Ti ₂₀₈ 3.02 - 6.00
	Cosmic 3.02 - 6.00
	Volume: 33.56 litres
	Cycle Rate: 1.0 second
	Sample Interval: 70 metres
Data Acquisition	Hewlett Packard 9000 Series Computer:
	Aerodata Digital Data Acquisition System
Flight Line Spacing	Traverse Lines: 200 metres
	Tie Lines: 5000 metres
Flight Line Direction	Traverse Lines: 090 - 270 degrees
	Tie Lines: 180 - 360 degrees
Survey Height	70 metres - mean terrain clearance
Navigation	Syledis UHF Positioning System

3.3.2 DTM Studies

A contour map of the region was compiled, showing the slope vectors of the terrain, indicating possible dispersion directions of mobile elements (Figure 5).



4.0 NORTHERN GOLD N.L. EXPENDITURE

Northern Gold N.L. expenditure over EL 9128, from the transfer of title to the expiry date, totalled \$11,775. Details of this expenditure are listed in Table 2 and Table 3.

Table 2 Northern Gold N.L. 1996 to 1998 Expenditure

<u>COSTS</u>	<u>AMOUNT</u>
Report Compilation	600
Tenement Management	815
Data Review	415
Stationary and Office Expenses	55
Computing	75
Motor Vehicle Expenses and Fuel	185
AGSO Mapping	505
GIS Manipulation	1,435
Geophysics	965
DTM Manipulation	1,420
Satellite Imagery & Manipulation	1,520
Salaries and Wages	1,590
Subtotal	9,580
Administration @ 15%	1,440
TOTAL	<u>\$11,020</u>

Table 3 Northern Gold N.L. 1998/99 Expenditure

<u>COSTS</u>	<u>AMOUNT</u>
Report Compilation	175
Tenement Management	105
Data Review	80
Salaries and Wages	270
Subtotal	630
Administration @ 20%	125
TOTAL	<u>\$755</u>

5.0 REFERENCES

MOTTRAM, N., (1998). EL 9128, 1997/98 Annual Report, 26/06/97 to 25/06/98.
Unpublished report by Northern Gold N.L. for the NTDME.

SOCIC, N., (1997). EL 9128, 1996/97 Annual Report, 26/08/96 to 25/08/97.
Unpublished report by Northern Gold N.L. for the NTDME.