



Northern Gold NL

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EL 9463 1998 FINAL REPORT

5th June 1996 to 6th July 1998

Burnside (14/2-II) 1:50,000 scale map sheet

**Title Holders:- Northern Gold N.L. and Camelot Northern
Territory Ltd.**

Managed by:- Northern Gold N.L.

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NTDME

Northern Gold N.L., Adelaide River

Northern Gold N.L., Perth Office

SUMMARY

EL 9463 is located approximately 10 kilometres north - west of Hayes Creek on the Burnside (14/2-II) 1:50,000 scale map sheet.

AGSO mapping indicates that EL 9463 is dominated by Quaternary alluvial sediments caused by depositional creek systems. Sedimentary units of the Burrell Creek Formation subcrop in the east to south - east of the tenement.

EL 9463 was granted to Northern Gold N.L. (50%) and Camelot Northern Territory Ltd. (50%) on the 5th of June 1996 for a period of six years. The licence was surrendered on the 6th of July, 1998.

During the life of the tenement, Northern Gold N.L. carried out a work programs based on digital data studies and rock chip sampling.

Northern Gold N.L. completed work programs based on digital data acquisition and manipulation during the 1996/97 and 1997/98 years of tenure. Landsat Imagery, SPOT Imagery and AGSO mapping were obtained and used in conjunction with aerial geophysics, DTM studies, aerial mapping, and site visits, to determine the best method of gold exploration to be used on the licence.

During the 1997/98 exploration season, Northern Gold N.L. completed a rock chip sampling program over EL 9463. The program consisted of the collection of 12 samples (Sample Nos. 080016 - 080027) from outcrop throughout the tenement.

The samples were submitted to Assaycorp, in Pine Creek, for analysis of Au, using FA50 technique, and As by G300A method.

The rock chip sampling returned disappointing results.

The covenant for the 1997/98 year of tenure was \$6,690 and the expenditure totaled \$7,005.

The expenditure, from the grant date to the surrender date, totaled \$14,125.

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1.0 INTRODUCTION

EL 9463 is located approximately 10 kilometres north - west of Hayes Creek on the Burnside (14/2-II) 1:50,000 scale map sheet. The tenement, which consists of 1 graticular block, 3 square kilometres in area, lies between latitudes 13°29' south and 13°30' south and longitudes 131°25' east and 131°26' east (Figure 1). The licence is situated within Pastoral Lease No. 903, Douglas, held by Tovehead Pty. Ltd.

Access is via the Stuart Highway, and then along station tracks.

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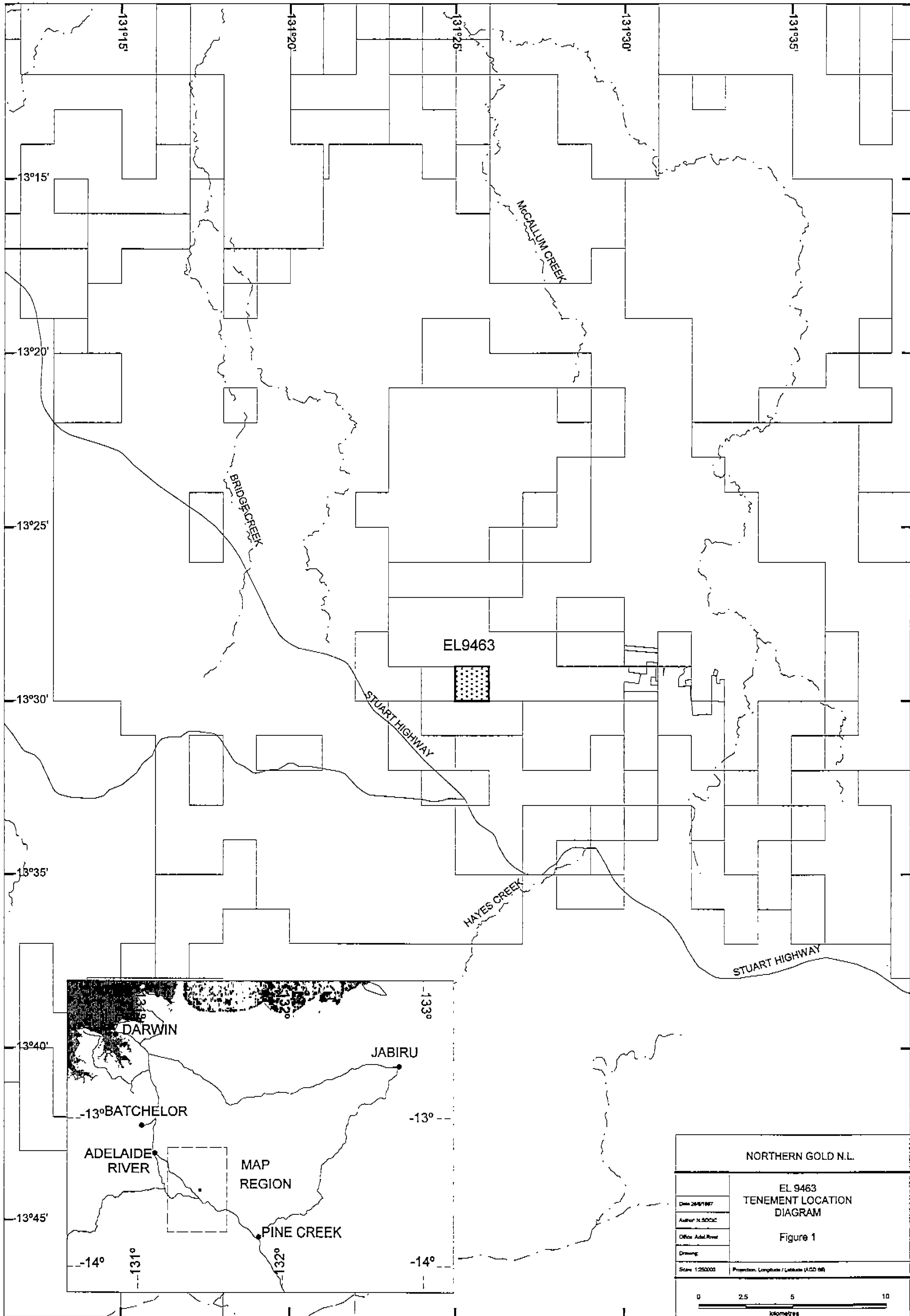
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NORTHERN GOLD N.L.	
EL 9463 TENEMENT LOCATION DIAGRAM	
Figure 1	
Date 26/6/1987	
Author N.SOCAC	
Office Adnl.River	
Drawing:	
Scale 1:250000	Projection: Longitude / Latitude (AGD 88)
0 2.5 5 10 kilometres	

2.0 GEOLOGY

2.1 Regional Geology

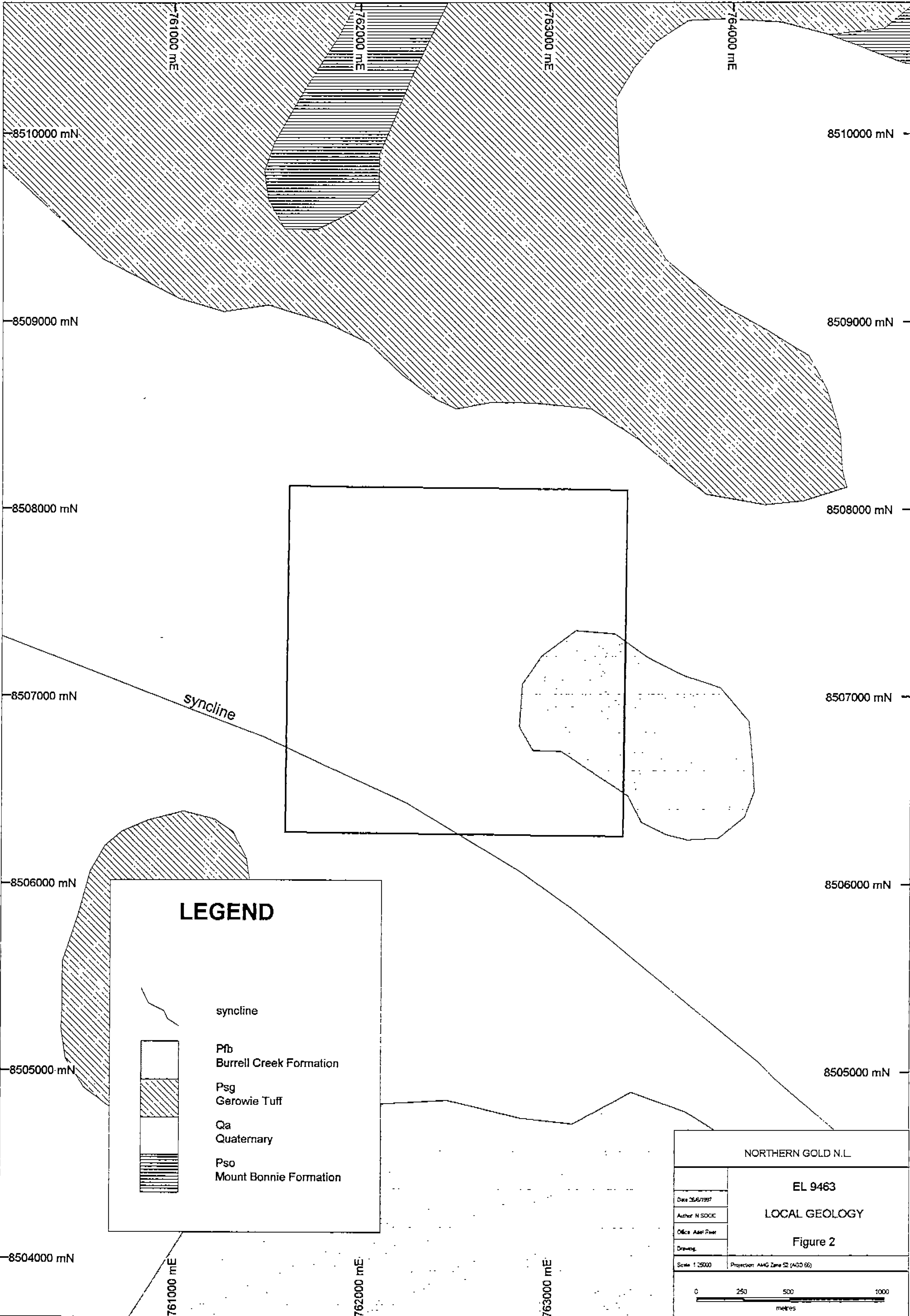
EL 9463 is situated within the Pine Creek Geosyncline, a tightly to isoclinally folded sequence of mainly pelitic and psammitic Lower Proterozoic sediments with interlayered tuff units. All the lithologies in the area have been metamorphosed to low, and in places, medium grade, metamorphic assemblages. For the purpose of this report, the prefix meta- is implied, but omitted from the rock names and descriptions (Socic, 1997).

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 (Socic, 1997).

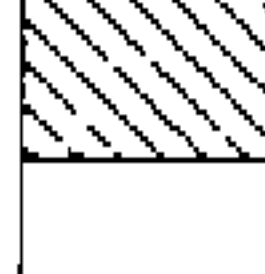
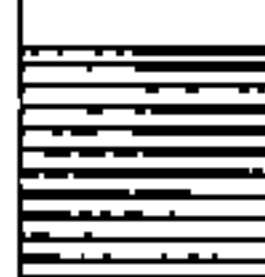
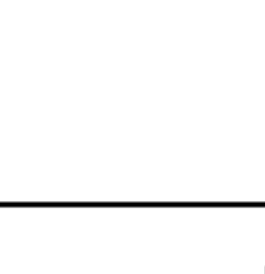
2.2 Local Geology

AGSO mapping indicates that EL 9463 is dominated by Quaternary alluvial sediments caused by depositional creek systems (Socic, 1997).

Sedimentary units of the Burrell Creek Formation subcrop in the east to south-east of the tenement (Figure 2).



LEGEND

-  syncline
-  Pfb
Burrell Creek Formation
-  Psg
Gerowie Tuff
-  Qa
Quaternary
-  Pso
Mount Bonnie Formation

NORTHERN GOLD N.L.

EL 9463

LOCAL GEOLOGY

Figure 2

Date 26/6/1997

Author N SOGIC

Office Adel River

Drawing

Scale 1:25000

Projection AMG Zone 52 (AGD 66)



3.0 PREVIOUS EXPLORATION

Previous exploration within EL 9463 was completed by Dominion Gold Operations Pty. Ltd., over EL 7044.

EL 7044 was granted to Dominion Gold Operations Pty. Ltd. on the 14th of November 1990, and expired on the 13th of November 1992. During this time, Dominion Gold Operations Pty. Ltd. completed airphoto interpretations, airborne geophysical interpretations, geological mapping at 1:25,000 scale with compilation at 1:10,000 scale, stream sediment sampling and rock chip sampling (Pooley, 1993).

Geological mapping and air photo interpretation highlighted outcrops of east - west trending Mount Bonnie Formation sediments, with similarly orientated photo linears (Pooley, 1993).

Stream sediment sampling highlighted values of 88 ppb and 6 ppb Au in fines which drain the Zapopan workings. Gold anomalism was evident 2 kilometres from the source. Most results were in the range of <1 - 3 ppb Au in fines, with pan concentrates in the range of 4 - 110 ppb Au. Except for the samples draining workings, results reflected background values. This was also evident for As, Mn, Fe, Cu, Pb and Zn (Pooley, 1993).

Rock chip sampling concentrated on quartz occurrences within drainages and outcrop. A maximum result of 0.09 ppm Au was obtained (Pooley, 1993).

4.0 EXPLORATION COMPLETED

During the life of the tenement, Northern Gold N.L. carried out a work programs based on digital data studies and rock chip sampling.

4.1 1996/97 GIS and Remote Sensing Studies

Northern Gold N.L. completed a work program based on 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 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 indicates that Quaternary sediments are present in the south - west and north - west of the tenement. The Burrell Creek Formation subcrops throughout the licence (Socic, 1997).

4.2 1997/98 Exploration Program

During the 1997/98 exploration season, Northern Gold N.L. completed a work program involving aerial magnetic data acquisition and manipulation, digital terrain modelling and rock chip sampling.

4.2.1 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.

EL 9463 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.

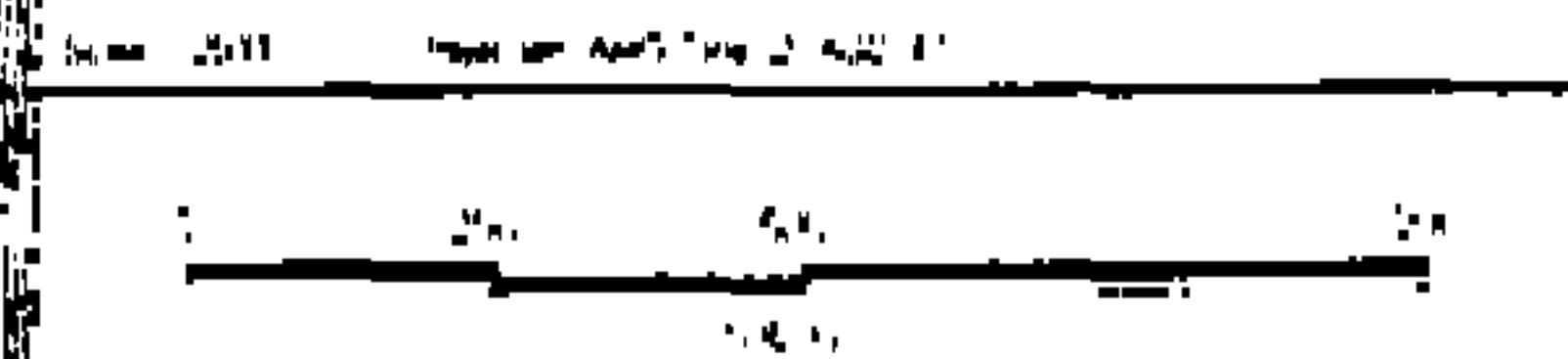


NORTH RINGOLD NI

EL 9463

SATellite IMAGE MAP

Figure 3



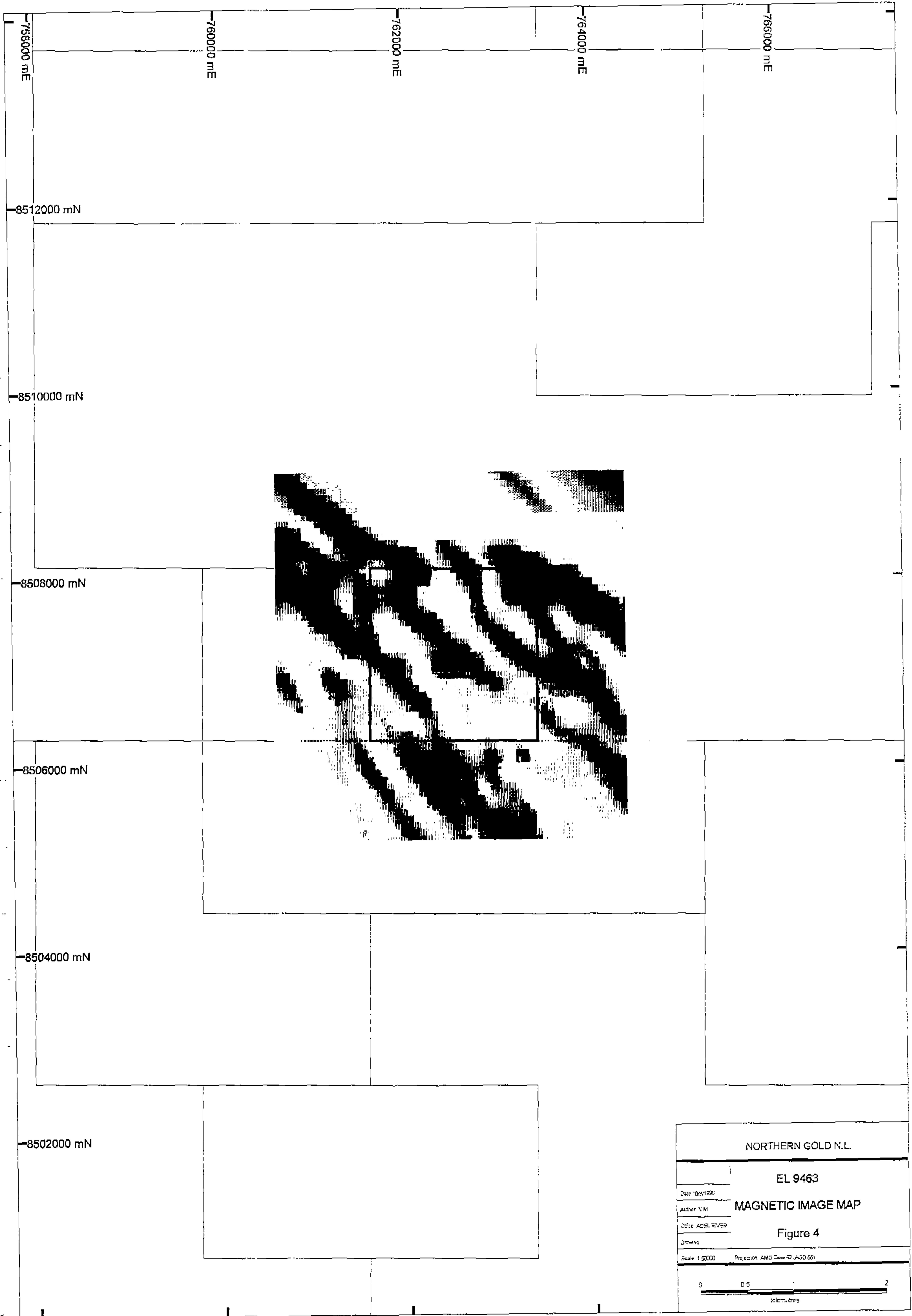
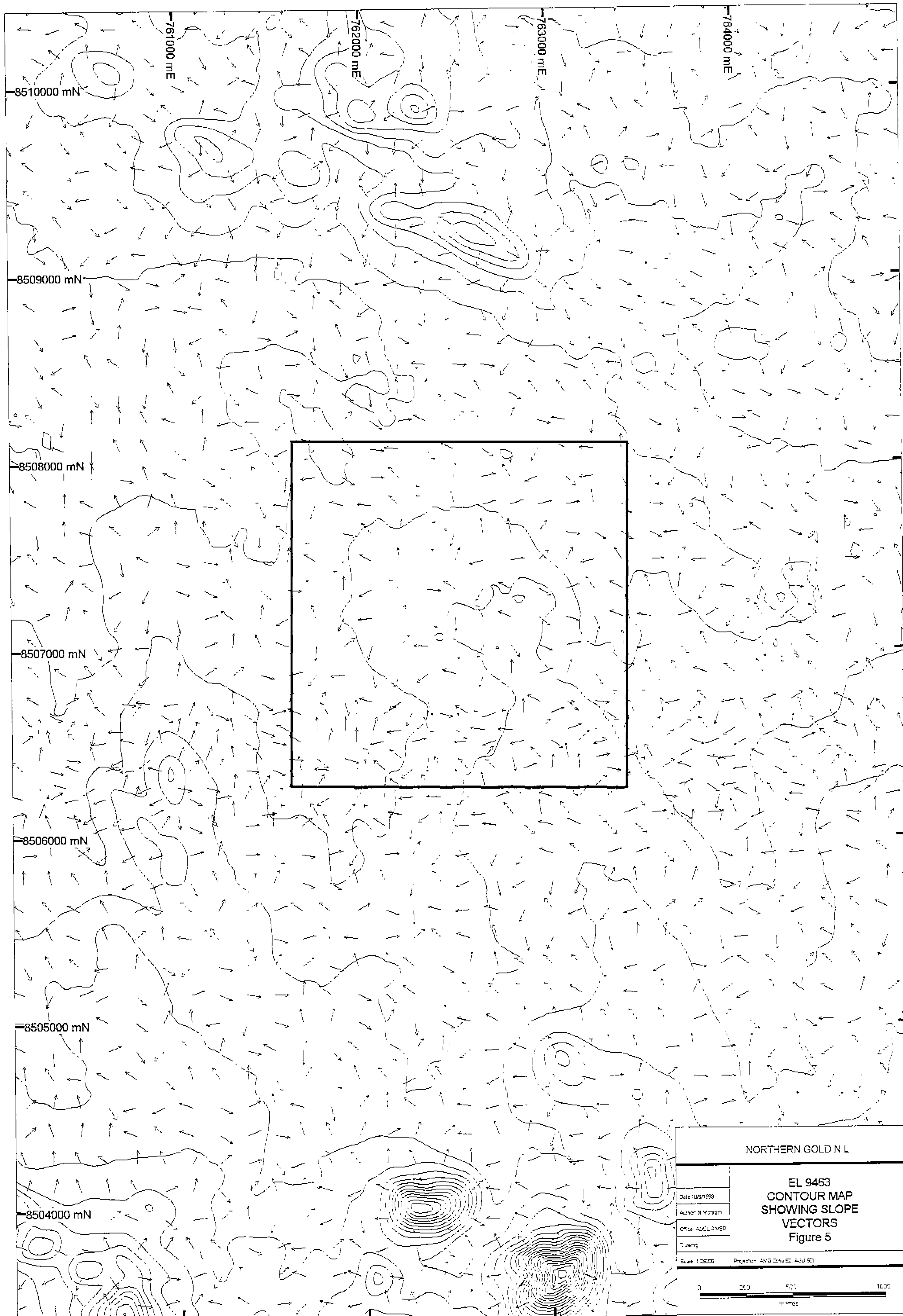


Table 1 Aerial Geophysical Survey Specifications

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
	Th ₂₀₈ 3.02 - 6.00
	Cosmic 3.02 - 6.00
	Volume: 33.56 litres
	Cycle Rate: 1.0 second
	Sample Interval: 70 metres
Data Aquisition	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

4.2.2 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).



4.2.3 Rock Chip Sampling

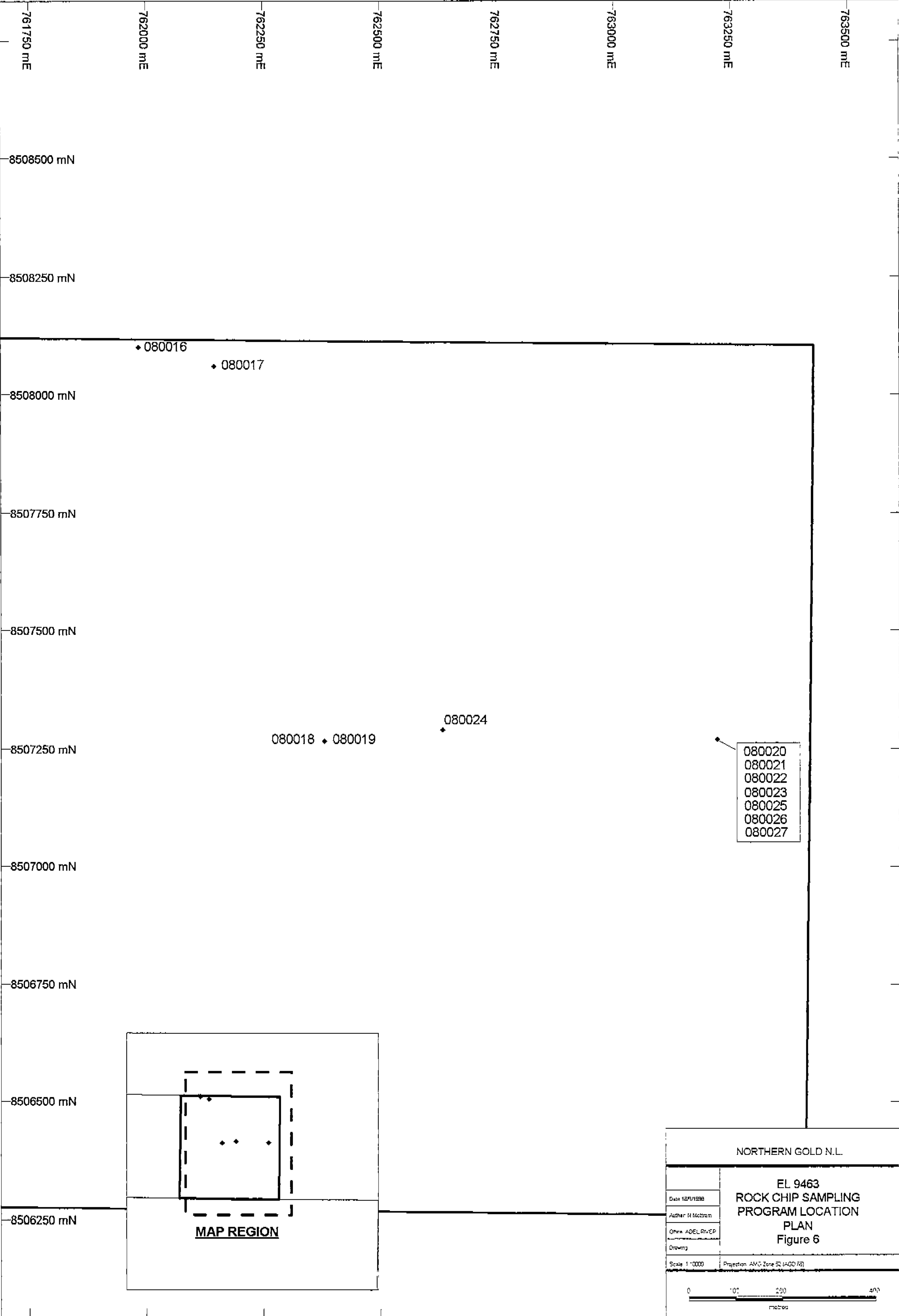
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The samples were submitted to Assaycorp, in Pine Creek, for analysis of Au, using FA50 technique, and As by G300A method.

The rock chip sampling locations and results are listed in Table 2. Sample locations are also shown on plan in Figure 6.

Table 2 Rock Chip Sampling Program Locations and Results

Sample Number	AMG North	AMG East	Au ppm	As ppm	Description
080016	8508101	761984	<0.01	3	Tombstone Greywacke
080017	8508060	762145	<0.01	13	Quartz Float
080018	8507267	762380	<0.01	28	Quartz Float
080019	8507267	762380	<0.01	49	Quartz Float
080020	8507270	763220	<0.01	48	Quartz Vein
080021	8507270	763220	<0.01	110	Quartz Vein
080022	8507270	763220	<0.01	232	Mafic Dyke
080023	8507270	763220	<0.01	6	Quartz Float
080024	8507291	762633	<0.01	<1	Quartz Float
080025	8507270	763220	<0.01	100	Quartz Vein
080026	8507270	763220	<0.01	1	Quartz Vein
080027	8507270	763220	<0.01	<1	Quartz Vein



5.0 EXPENDITURE

Expenditure over EL 9463, from the grant date to the surrender date, totaled \$14,125. Details of this expenditure are listed in Table 3 and Table 4.

Table 3 EL 9463 1996/97 Expenditure

<u>COSTS</u>	<u>AMOUNT</u>
Report Compilation	370
Tenement Management	540
Data Review	390
Drafting and Computing	310
Photocopying	165
Stationary and Office Expenses	60
Computing	75
Motor Vehicle Expenses and Fuel	150
AGSO Mapping	525
Satellite Imagery & Manipulation	1,580
GIS Manipulation	785
Salaries and Wages	1,240
Subtotal	6,190
Administration @ 15%	930
TOTAL	<u>\$7,120</u>

Table 4 **EL 9463 1997/98 Expenditure**

<u>COSTS</u>	<u>AMOUNT</u>
Report Compilation	280
Tenement Management	490
Data Review	200
Geological Mapping	470
Assays	170
Consumables	50
Accommodation, Field, Travel Exp.	45
Photocopying	95
Stationary and Office Expenses	55
Computing	90
Motor Vehicle Expenses and Fuel	110
Mapping & Aerial Photography	210
Geophysics	585
GIS Manipulation	610
DTM Manipulation	950
Casual Wages	440
Salaries	1,240
Subtotal	6,090
Administration @ 15%	915
TOTAL	<u>\$7,005</u>

6.0 REFERENCES

- POOLEY, S., (1993). EL 7044, Faded Lily South, Brocks Creek Area, N.T., Years One and Two of Tenure. Unpublished report by Dominion Gold Operations Pty. Ltd. for the NTDME.
- SOCIC, N., (1997). EL 9463, 1996/97 Annual Report, 05/06/96 to 04/06/97. Unpublished report by Northern Gold N.L. for the NTDME.