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OPEN FILE

SEL 7707
RELINQUISHMENT REPORT
To March 1993

Pine Creek Sheet SD 52.08 Burrundie 14/6-IV, 5270.4

Compiled for Northern Gold NL
by Michelle Stokes
May 1993

SUMMARY

Northern Gold completed a first pass reconnaissance exploration programme on the relinquished area of SEL 7707. This consisted of a literature search in the Department of Mines and Energy Library in Darwin, interpretation of geophysical data, field inspection and geological mapping of the lease.

The western part of the original tenement was deemed to be least prospective and was relinquished as per statutory requirements on 28th February 1993.

CONTENTS

1 INTRODUCTION

1.1 Title and location

SEL 7707 was granted on 31st March 1992 to Mr RM Biddlecombe for a period of three years. The licence covered 34 blocks (106 sq km): Figure 1. The tenement is managed by Northern Gold NL under a farm-in agreement with Mr RM Biddlecombe. The areas shown (Fig. 2) were relinquished on 24th March 1993 and are the subject of this report.

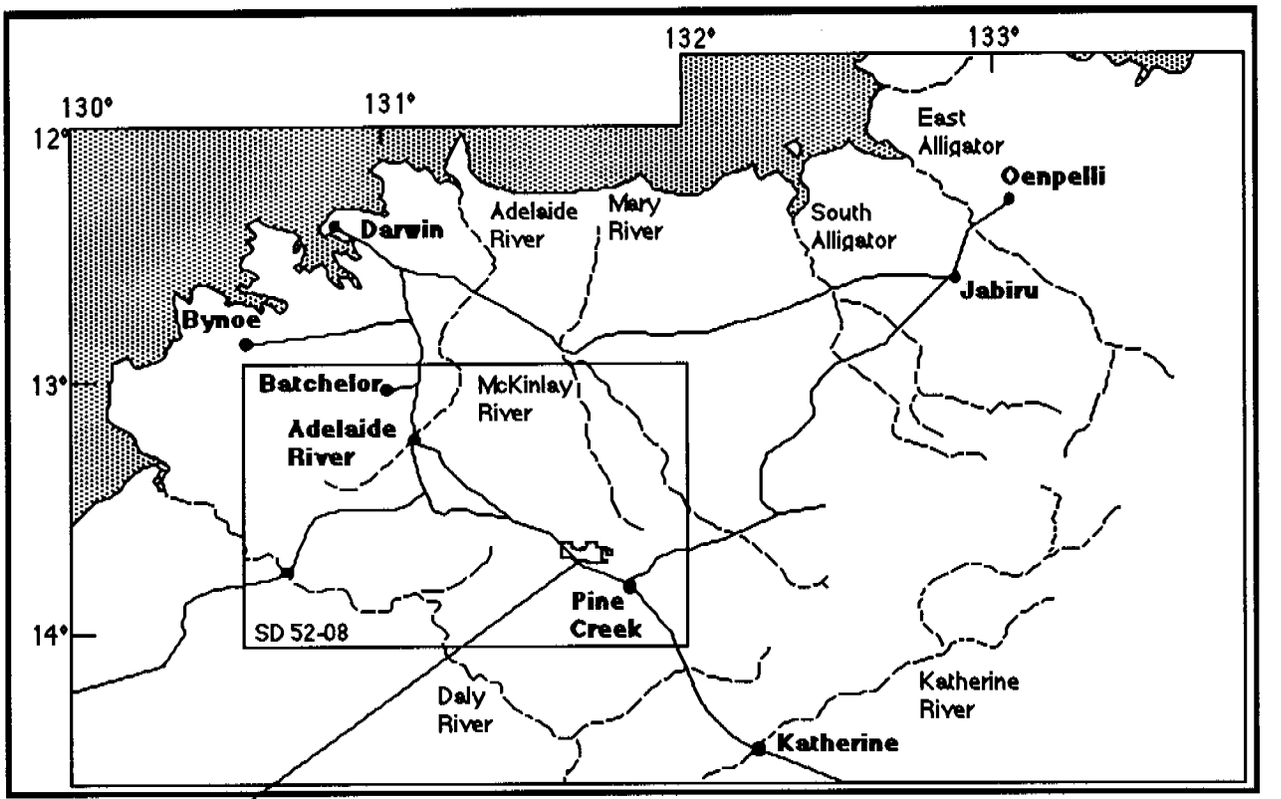
SEL 7707 is located in the Emerald Springs area within the Cullen Mineral Field. Access to the tenement is from the Stuart Highway via bush tracks.

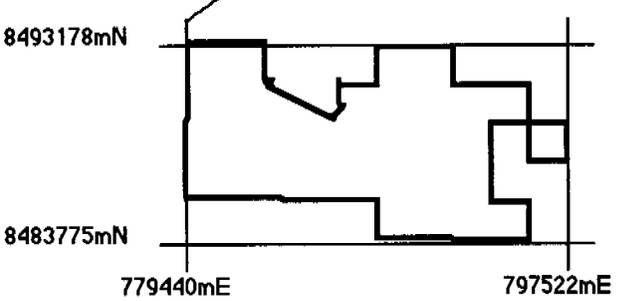
SEL 7707 lies within the Mary River Pastoral Lease (PL 815).

1.2 Previous Work

A Search of the Department of Mines and Energy open file records was undertaken to determine the extent of exploration undertaken to date on the tenement.

The western half of the tenement overlies the McMinns Bluff Granite and has been partially explored for Sn and W. No significant occurrences were defined (CR90/690) although elsewhere within the tenement old alluvial workings within the granitic rocks do occur.





EL 7707 (SEL)

Snaddens Creek

Date granted:- 31/3/1992

Expiry date:- 30/3/1995

Report date:- 30/4/1993

Reduction date:- N/A

Rent:-$220

Covenant:-93- $35,000

Size:- 22 Bl.

1KM

Figure 1

EL 3391

48

Relinquished Relinquished

STUART HIGHWAY

Emerald Springs

49

Relinquished Relinquished Relinquished Relinquished

DARWIN - KATHERINE TRANSMISSION LINE

CREEK

50

Relinquished Relinquished Relinquished Relinquished Relinquished

SEL 7707

NIENABER

51

Relinquished Relinquished Relinquished Relinquished Relinquished

52

Relinquished

53

14/6-IV BURRUNDIE

Figure 2

2 GEOLOGY

2.1 Regional Geology

SEL 7707 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 purposes 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 number of late syn-orogenic to post-orogenic Proterozoic granitoids. Largely undeformed Middle and Late Proterozoic, Palaeozoic and Mesozoic strata as well as Cenozoic sediments and laterite overlie the Pine Creek Geosyncline lithologies.

2.2 Local Geology

The local geology is dominated by sediments of the South Alligator and Finnis River Groups, and by granitic rocks of the syn-orogenic Cullen Batholith. The sediments have been intruded by pre-orogenic sills of the Zamu dolerite and folded into tight SE plunging folds.

The western portion of the tenement is dominated by the Mcminns Bluff Granite, a coarse porphyritic adamellite, that is preserved as low relief hills commonly covered by sandy alluvium and soils. The granite caused hornfelsing of the sediments along the contact zone.

3 EXPLORATION COMPLETED

3.1 Aeromagnetics

Northern Gold purchased aerial geophysics of the Pine creek area from Aerodata. (This data set included magnetic data and uranium and potassium radiometric data.) Sel 7707 lies within the area covered by the geophysics. The survey had the following specifications.

Aircraft	Rockwell Shrike Commander 500S
Magnetometer	Scintrex V201 Split Beam Cesium
Vapour	Resolution: 0.04 nanoTesla
	Cycle Rate: 0.2 second
	Sample Interval: 14 meters
Spectrometer	256 Channel Geometrics Exploranium GR800B
Processed Channels:	
	Total Count 0.4 - 3.01 MeV
	K40 1.37 - 1.56 MeV
	Bi214 1.67 - 1.86 MeV
	Tl208 3.02 - 6.00
	Cosmic 3.02 - 6.00
	Volume: 33.56 litres
	Cycle Rate: 1.0 second
	Sample Interval: 70 meters
Data Acquisition	Hewlett Packard 9000 Series Computer Aerodata Digital Data Acquisition System.
Flight Line Spacing	Traverse Lines: 200 meters
	Tie Lines 5000 meters
Flight Line Direction	Traverse Lines: 090-270 degrees
	Tie Lines: 180-360 degrees
Survey Height	70 meters - mean terrain clearance
Navigation	Syledis UHF positioning system.

3.2 Aeromagnetic Results

Results of the geophysics were used primarily as imaged processed data for regional mapping for regional interpretation of exploration concepts. These images are not suitable to submit in an individual licence report as the information affects many other areas and possible future targets. However, a copy of the total field magnetic intensity contour map of the relinquished area is included as figure 3.

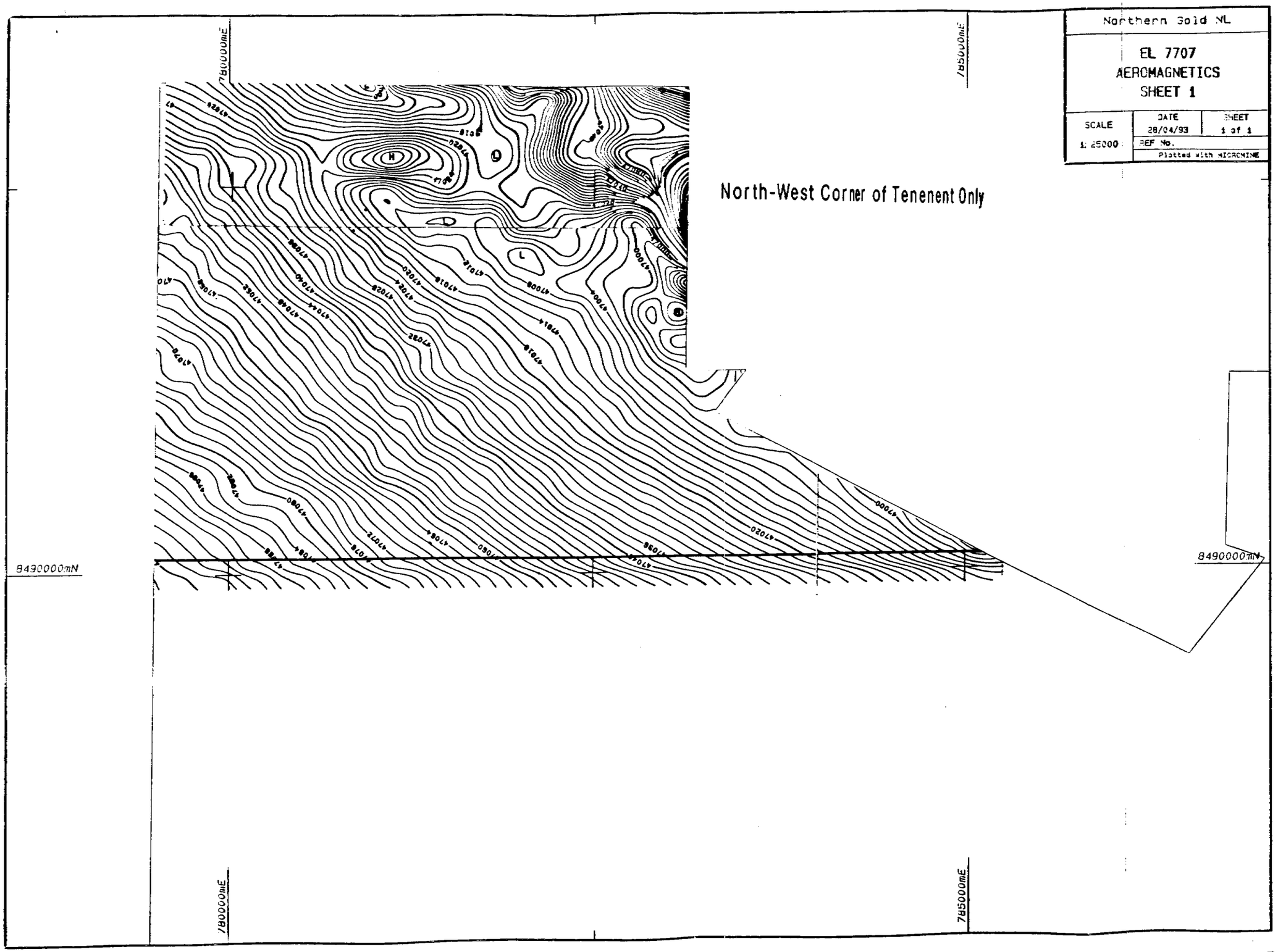

Northern Gold NL
EL 7707
AEROMAGNETICS
SHEET 1
SCALE
1: 25000
DATE
28/04/93
SHEET
1 of 1
REF No.
Plotted with MICROMINE
North-West Corner of Tenenent Only
7800000mE
7850000mE
8490000mN
8490000mN
7800000mE
7850000mE

Figure 3

4 CONCLUSION

Reconnaissance and interpretation of the aeromagnetic data indicated that the area relinquished was not as prospective as that retained, and no field work was conducted.

5 REFERENCES

CR90/690, 1990. Final Report Exploration Licence 6595. The Possum Gold Mining Co Ltd. Northern Territory Department of Mines Open File Report.