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EL 7113

PARTIAL RELINQUISHMENT REPORT

To 3rd December 1992

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

Compiled for Northern Gold NL
By Warren Cooper
February 1993

SUMMARY

A first-pass exploration program of geological mapping and rock chip sampling was carried out on EL 7113 to test the area for Au and base metal mineralisation. No anomalous mineralisation was encountered in the area covered by this report.

The northern block was deemed to be least prospective and was relinquished as per statutory requirements on 3rd December 1992.

CONTENTS

1 INTRODUCTION

1.1 Title and location

EL 7113 was granted on 3rd December 1990 to Northern Gold for a period of four years. The licence covers three blocks (16 45,16 46,16 47) and had an expenditure covenant of $11,000 for the first year of tenure.

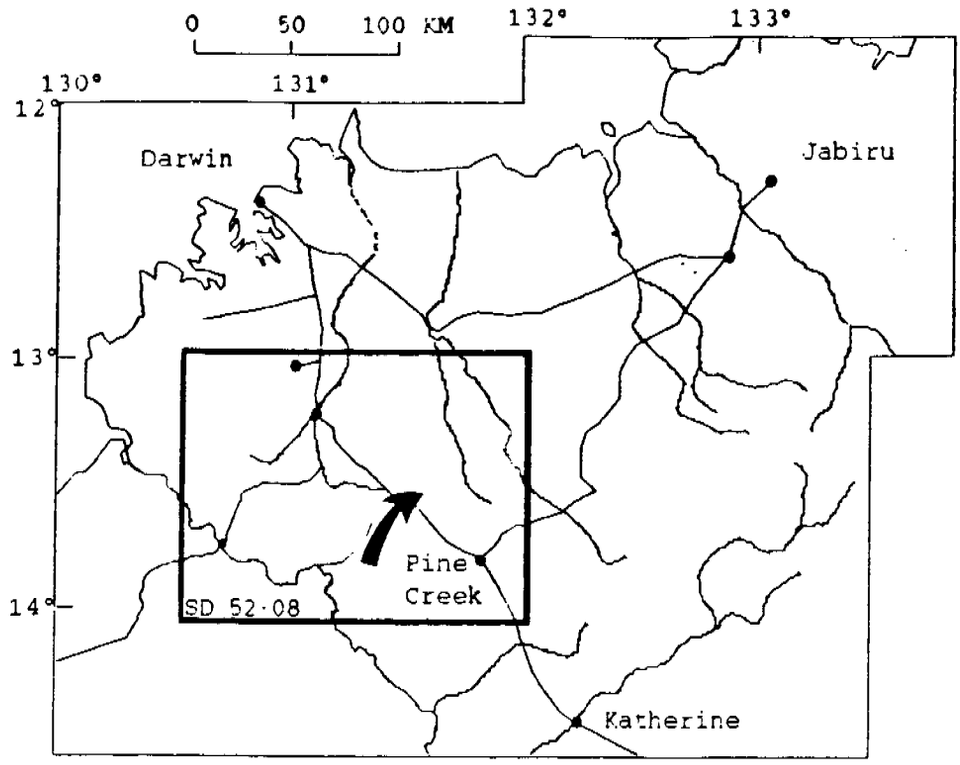
EL 7113 is located approximately 4 km north-west of Emerald Springs (Fig. 1) within the Cullen Mineral Field. Access to the tenement is from the Stuart Highway to the south and from the Fountain Head road to the north via poor bush tracks.

EL 7113 lies within the Mary River Pastoral Lease (PL 815).

1.2 Previous Work

EL 3138, which included EL 7113, was granted to Geopeko Ltd. in 1981. Geopeko carried out regional stream sediment sampling and follow up detailed soil sampling in 1982 (Nicholson and Radford, 1982). No detailed work was carried out over the present area of EL 7113.

Anaconda Australia acquired the tenement in 1984 and relinquished the area in 1985 (Kavanagh 1984).


0 50 100 KM
132°
133°
130°
131°
12°
13°
14°
Darwin
Jabiru
Pine Creek
SD 52-08
Katherine

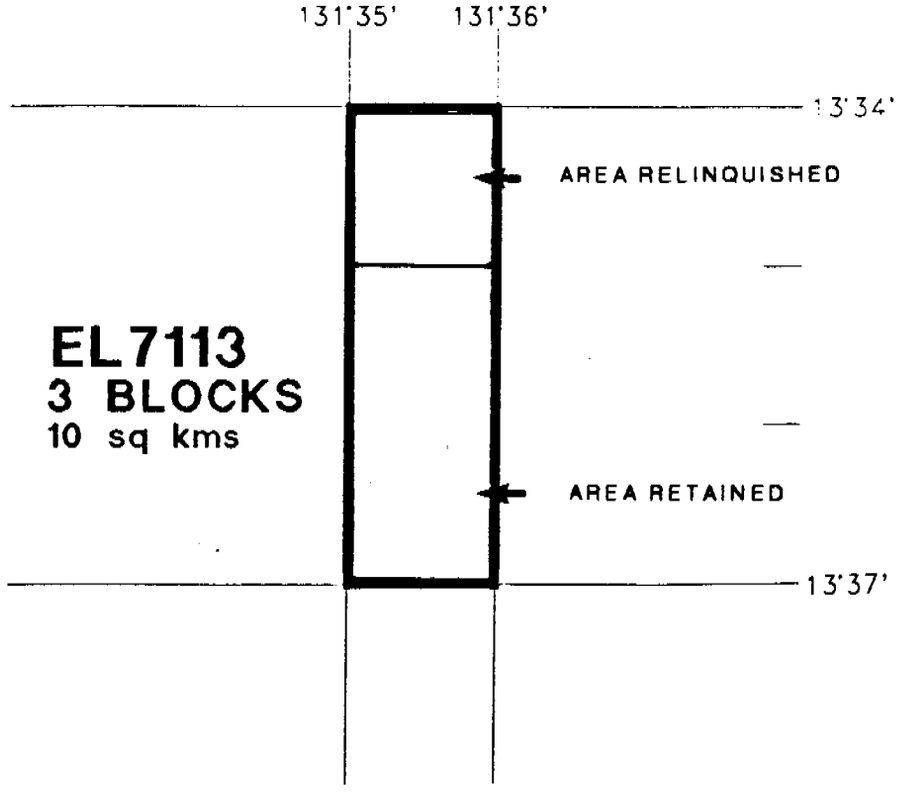

131°35'
131°36'
13°34'
13°37'
AREA RELINQUISHED
AREA RETAINED
EL7113
3 BLOCKS
10 sq kms

Figure 1

The ground, which consisted of 21 graticular blocks, was subsequently obtained by CSR Exploration as EL 4817. CSR entered into a joint venture with Cyprus Minerals Australia in 1987 and carried out an airborne magnetic survey followed by a limited stream sediment sampling program, targeting dolerite-hosted sulphide related disseminated gold mineralisation. Cyprus carried out detailed rock chip and stream sediment sampling programs targeting stratabound gold/base metal deposits in the Koolpin Formation and epigenetic gold deposits in the Zamu Dolerite. The management of EL 4817 was passed on to Hudspeth and Co in 1989 as part of the Australia-wide split up of interests between Cyprus Gold Australia and Arimco NL (CR90/274).

The southern section of the licence is adjacent to the Margaret Diggings, a historic producer of both alluvial and hard rock gold.

Mineral claims held by Nord Australex (MCN 605 to 621) covered part of the present license area. These were relinquished in 1990.

2 GEOLOGY

2.1 Regional Geology

EL 7113 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

Geological reconnaissance was carried out over EL 7113 and a geological map is presented in Figure 2. The geology of EL 7113 consists of low bouldery hills of Zamu dolerite and pelitic sediments, believed to belong to the Lower Proterozoic Koolpin Formation. The sediments have been tightly folded into north-westerly striking folds that tend to have a northerly plunge. In the

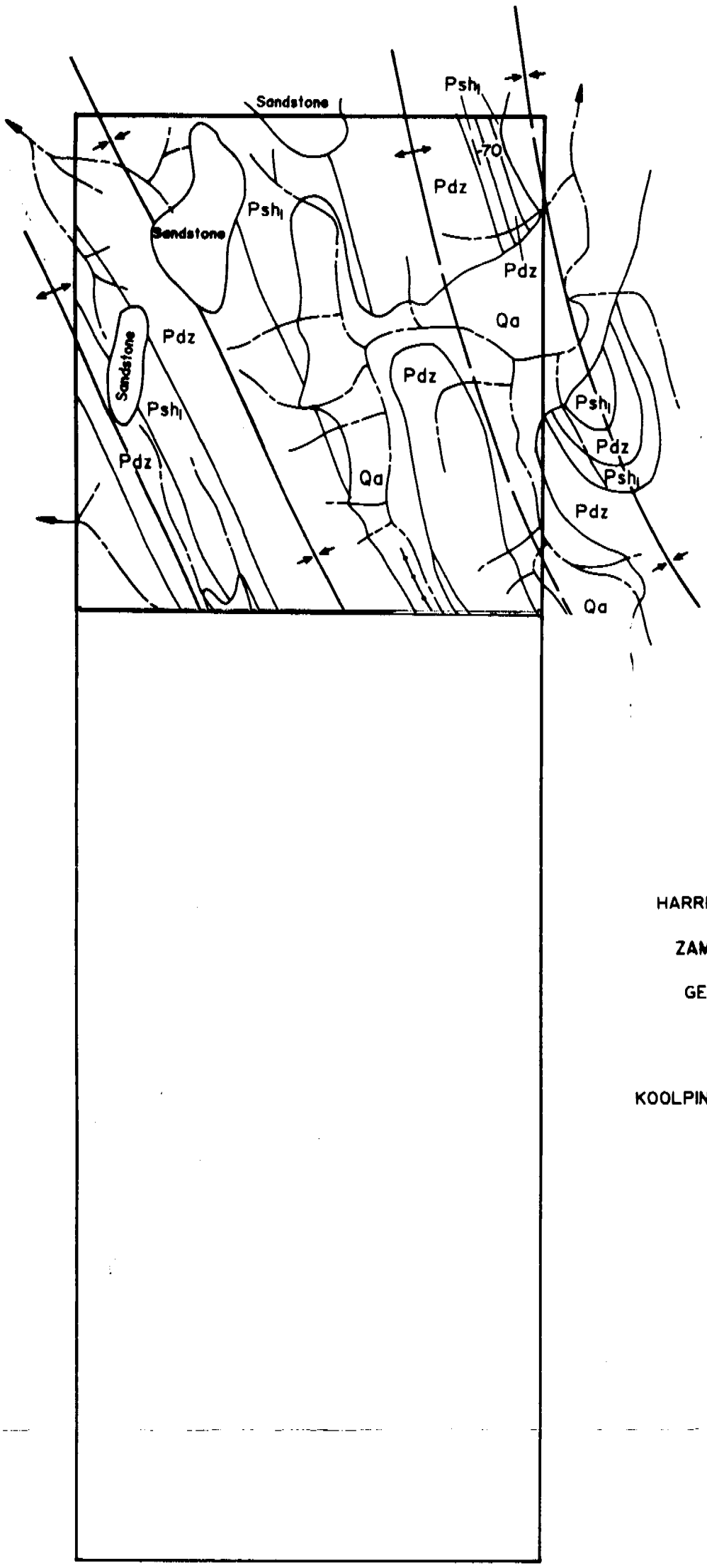
780 000mE

782 000mE

8 498 000mN

8 496 000mN

8 494 000mN



LEGEND

	Qa	Recent sediments and alluvium
HARRIET GRANITE	Pgr	Granite
ZAMU DOLERITE	Pdz	Dolerite
GEROWIE TUFF	Pch	Cherts, laminated cherts, siltstone
KOOLPIN FORMATION	Psl	Grey brown siltstones, minor cherts
	Psh_2	Black grey carbonaceous shale, grey siltstones
	Psh_1	Grey red siltstones, minor greywacke and calcareous units

- Creek
- Contact
- Antiform
- Synform
- F — Inferred fault
- 40 — Bedding
- 80 — Overturned bedding
- Quartz vein

0 1 2 km

Northern Gold N.L.

EL 7113 GEOLOGY

COMPILED BY	DATE	SCALE
W. Cooper	Dec. 1991	1 : 20 000

FIGURE 2

license cherts and tuffaceous siltstones of the Gerowie Tuff are exposed stratigraphically above the Koolpin Formation

Zamu dolerite, intruded largely as sills into the Proterozoic sediments, is the dominant rock type within the tenement. The dolerite is characteristically massive and medium grained, but varies to fine grained. Structural thickening of the dolerite appears to occur at the fold closures

The sediments of the Koolpin Formation that were intruded by the dolerite consist of laminated sulphidic and carbonaceous shale, siltstone, and chert. These strike between 140-170 degrees on the limbs of the fold and dip steeply to the east and west, or are overturned. A weak bedding parallel schistosity, taken as the axial planar cleavage to the dominant folding event is commonly observed in the shales. This fabric tends to overprint and partially obliterate primary bedding structures.

Rare, clean to gossanous quartz veins, are found throughout the tenement in all lithologies.

2.3 Geophysics

Northern Gold purchased aerial geophysics of the Pine Creek area from Aerodata. Northern Gold received magnetic, uranium and Potassium data. EL 7113 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

T1208 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 EXPLORATION COMPLETED

Northern Gold completed a reconnaissance exploration programme. 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.

3.1 Mapping

No targets worthy of follow-up exploration were encountered during mapping of the area covered by this report.

3.2 Geophysics

Results of the geophysics were used primarily as imaged processed data for regional interpretation of exploration concepts. These images are not suitable to submit in a 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 northern block of El 7113 is included as Figure 3.

8500000N
8499000N
8498000N
8497000N
8496000N
8495000N
8494000N
8493000N
8492000N

783000E
782000E
781000E
780000E
779000E
778000E

Northern Gold NL

EL 7113

Aeromagnetic Data

SCALE	DATE	SHEET
1: 25000	10/05/91	1 of 1
	REF NO.	
	Plotted with MICROMINE	

FIGURE 3

4 CONCLUSIONS

The northern block was deemed to be least prospective and was relinquished as per statutory requirements on 3rd December 1992.

5 REFERENCES

CR90/274 1990. ARIMCO N.L. EL 4817 Depot Creek. Relinquishment Report Ending 1990.

KAVANAGH M.E. 1984. Anaconda Australia Limited: EL 3138, Annual report for the third year of tenure. Northern Territory Geological Survey, Open File Report CR85/063.

NICHOLSON P.M. and RADFORD N.W. 1982. Geopeko Ltd: EL 3138, annual report for first year of tenure. Northern Territory Geological Survey, Open File Report CR87/17.