CR95/137 OPENFILE

EL 7113

Final Report

To December 1994

Pine Creek Sheet SD 52-8 Burrundie 14/6-IV (5270.4)
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SUMMARY

In 1994 Northern Gold NL reviewed the data to date in EL 7113. The exploration conducted by Northern Gold and previous work conducted by other exploration companies has down graded the potential for economic gold mineralisation on the ground covered by EL 7113.

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TABLE

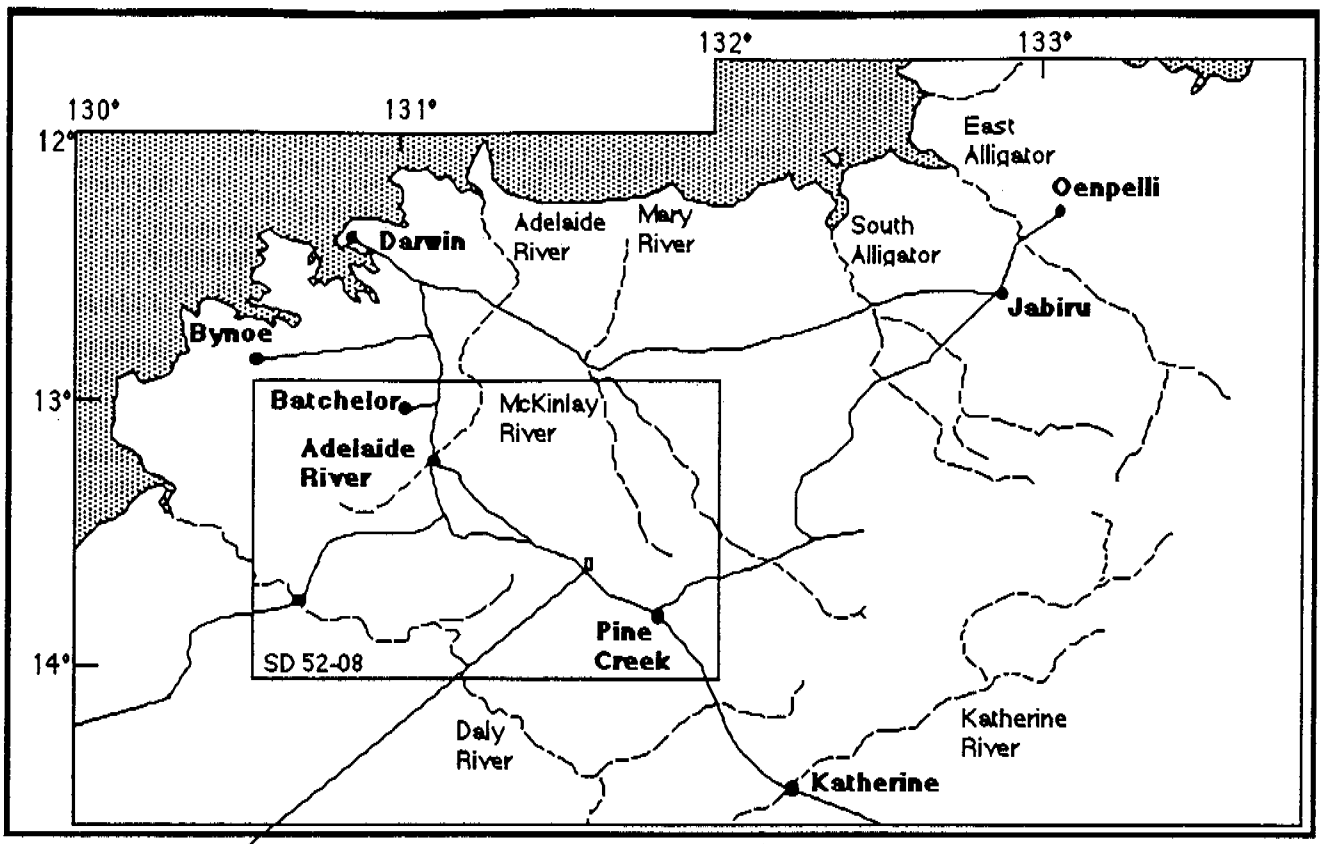
1 INTRODUCTION

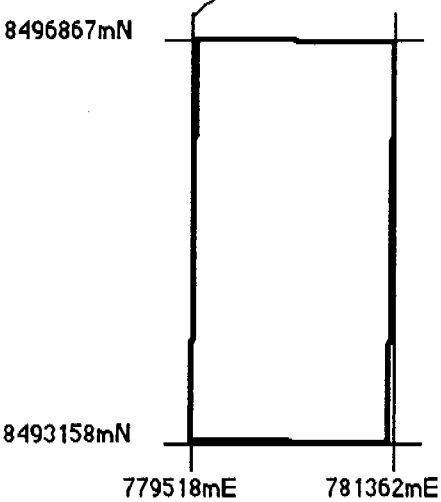
1.1 Title and Location

EL 7113 was granted on 3rd December 1990 to Northern Gold NL for a period of four years. The licence initially covered three blocks (16/45, 16/46, 16/47). The northern block (16/45) was relinquished in 1993.

EL 7113 is located approximately 4 km north-west of Emerald Springs (fig. 1) within the Cullen Mineral Fields. 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).





EL 7113

Date granted:- 3/12/1990

Expiry date:- 2/12/1994

Report date:- 29/12/94

Size:- 2 Bl.

1KM

Figure 1

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 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 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 (Fig.2). The geology of EL 7113 is comprised of low bouldery hills of Zamu dolerite and pelitic sediments, believed to belong to the Lover Proterozoic Koolpin Formation. The lithologies have been tightly folded into north-westerly striking folds that tend to have a southerly plunge. 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 is common in fold closures.

The sediments of the Koolpin Formation, which were intruden by the dolerite, consists of laminated sulphidic and carbonaceous shale, siltstone and chert. These strike between 140-170° 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 observes in the shale. This fabric tends to obliterate primary bedding structures.

Chert and cherty siltstone of the Gerowie Tuff is exposed in the south of the tenement near the Harriet Granite contact. Rare, clean, to gossanous, quartz veins are found throughout the tenement in all lithology's.

The mineralisation is observed on the surface as gossanous quartz veining in highly altered bedded and laminated siltstone, chert, mudstone and minor greywacke. The alteration products of the host rocks include silica, tourmaline, biotite and pyrite. The intensity of the alteration decreases away from the mineralised quartz veins. The quartz veining is thought to be located within a strike-slip shear zone that is bedding sub-parallel in strike and dip.

The drilling indicates that the gossanous material has formed as a secondary cap on the surface of the mineralised zone. The shear zone was intersected by all holes and is

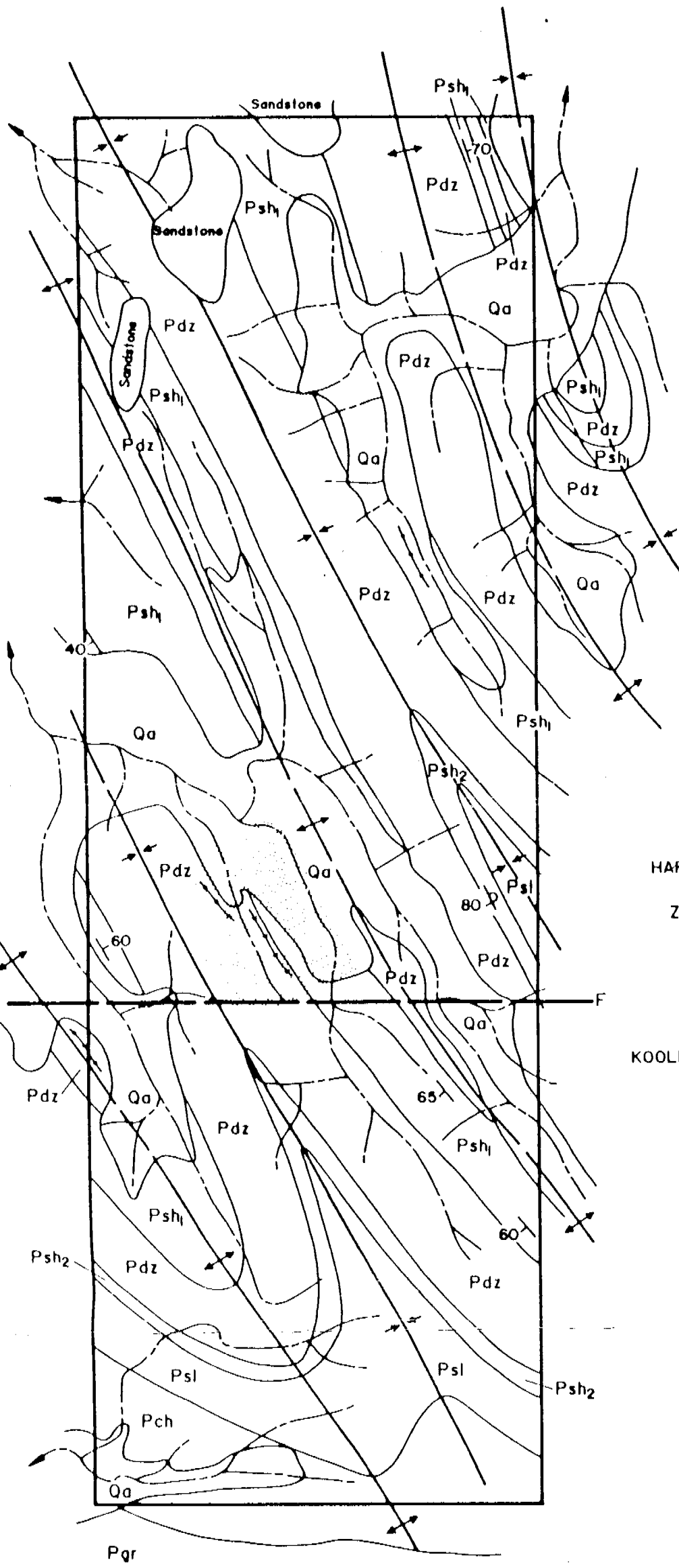
780 000mE

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 — F — Inferred fault
- 40 — Bedding
- 80 — Overturned bedding
- Quartz vein

0 1 2 km

AREA SOIL SAMPLED

Figure 2

Northern Gold N.L.

EL 7113
GEOLOGY

COMPILED BY	DATE	SCALE
W. Cooper		1 : 20 000

characterised by high levels of biotite, tourmaline and silicification of the host rocks. quartz veining within the shear is poddy and discontinuous along strike indicating syn-to-post emplacement boudinaging.

3 PREVIOUS EXPLORATION

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 took over the tenement in 1984 and relinquished the area in 1985 (Kavanagh 1984).

The ground was subsequently obtained by CSR Exploration as EL 4817, which consisted of 21 graticular blocks. 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 strata bound gold/base metal deposits in the Koolpin Formation and epigenetic gold deposits in the Zamu Dolerite. The control 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).

Exploration by Freeport of Australia, Oceania Exploration and Nord Resources Pty Ltd was carried out on mineral claims MCN's 605-622 between 1983 to 1991. Work included geological mapping, rock chip and soil sampling, stream sediment sampling, ground magnetics and limited drilling. Much of the detailed follow-up work was carried out on MCN 605 where a siliceous gossan within a banded iron formation was identified as anomalous in Au and base metals (CR91/258,Orridge,1989).

Northern Gold NL conducted a first pass exploration program in 1991/92 to test the area for gold and base metal mineralisation (Cooper, 1991, 1992). An area of anomalous Au defined by soil sampling and rock chip sampling was identified. The results for Au, As, Cu, Pb and Zn show a coincident anomaly that is 300 metres long by 60 metres wide with values up to 59 ppb Au, 560 ppm As, 197 ppm Cu, 192 ppm Pb and 159 ppm Zn. This anomalous zone is spatially associated with the gossanous quartz vein identified as containing Au and base metal mineralisation. This was the same zone targeted by Freeport of Australia.

In 1993 Northern Gold completed shallow RC drilling program designed to test part of the Au anomalous area, defined by rock chip sampling, for gold and base metal mineralisation.

Three drill holes, each of 39 metres in depth were targeted at the mineralised shear zone. A total of 118 calico samples were collected and sent to Assaycorp of Pine Creek for analysis by Au 50g fire assay and CU, Pb, Zn and As by AAS. The best

intersection was two metres @ 1.75 ppm Au. Nine samples returned results greater than 0.1 ppm Au. Results tor other elements analysed were all low.

4 EXPLORATION COMPLETED

In 1994 Northern Gold NL reviewed the data to date and the potential for further exploration targets on EL 7113.

5 CONCLUSIONS

The exploration conducted by Northern Gold and previous work conducted by other exploration companies has down graded the potential for near-surface economic gold mineralisation on the ground covered by EL 7113.

6 EXPENDITURE

Expenditure on EL 7113 during the anniversary year totalled $3,128. Details of this expenditure are listed below as Table 1.

Vehicle costs	$350
Report & Plan Preparation	$300
Wages & Salaries	$1,600
Field expenses	$50
Hire charges	$420
SUBTOTAL	$2,720
15% Head Office and NT Administration	$408
TOTAL	**$3,128**

Table 1.

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7. REFERENCES

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