NICRON RESOURCES LIMITED

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REPORT ON WORK COMPLETED WITHIN EXPLORATION LICENCE 7232 ADELAIDE RIVER AREA, NORTHERN TERRITORY

16.09.94 - 16.12.94

Project Name:	MAUREEN
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Author: I.K. Butler / P.M. Melville

Date: 9 January, 1995

LOCATION MAP

SUMMARY

The Maureen gold project is owned 100% by Australian Gold Mines NL through its subsidiary Northern Territory Gold Mines NL. The project is centred on the Maureen and Maureen Extended prospects where previous exploration indicated a potential resource of 15-20,000 ozs could exist, mostly at Maureen.

An Option to Purchase Agreement for 3 months was signed between Nicron Resources and NT Gold Mines NL which allowed Nicron Resources to carry out exploration on the property.

The mineralisation is located 20kms by road to the ENE of Woodcutters Mine. It was discovered by Kennecott Exploration in 1986, followed up by BP Australia and later Riomin Australia Gold Pty ltd through to 1990. They concluded the gold resource was small and probably uneconomic. No further substantial exploration has been conducted on the property.

The gold mineralisation is hosted by Early Proterozoic Koolpin Formation chert, iron formation and mudstone intruded by Zamu Dolerite. It occurs on the east limb of a south plunging major anticline.

Work carried out by Nicron Resources during the Option period includes compilation and review of previous geological data and soil sampling. This work has revealed there has been a substantial amount of exploration for gold conducted by earlier workers within the area occupied by EL 7232. There are areas with anomalous gold, however, there is little potential to locate outcrops of significant gold mineralisation. Further exploration is required in areas of poor outcrop.

1. INTRODUCTION

The Maureen gold project is owned 100% by Australian Gold Mines NL through its subsidiary Northern Territory Gold Mines NL. The project is centred on the Maureen and Maureen Extended Prospects where previous exploration activities have indicated potential resources of 15-20,000 ozs, mostly at Maureen.

On the 16th September 1994 an Option Agreement was signed between Nicron Resources Limited and Northern Territory Gold Mines NL. The terms and conditions of the agreement were:

- payment of $30,000 Option Fee
- period of Option to be 3 months
- minimum of $70,000 to be spent on exploration
- related to specified tenements (MCN 4021, AN 363, and EL 7232)

The three month option was considered adequate for the evaluation of both prospects.

The purpose of this report is to present the geological data from work conducted by Nicron Resources during the Option period.

2. LOCATION AND TENURE

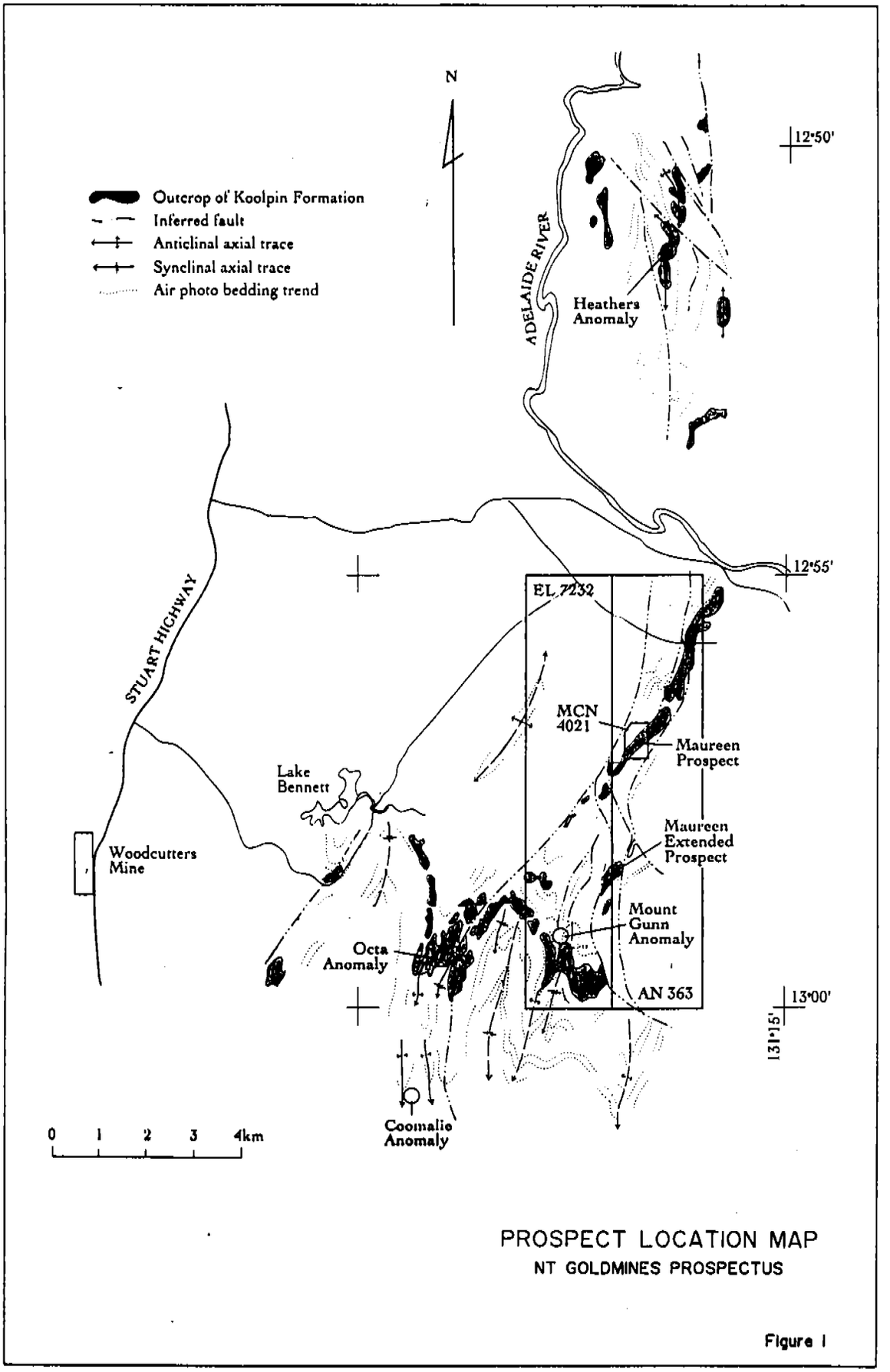
Maureen is located 70km south-east of Darwin and 20km by road to the east north-east of Woodcutters Mine (Figure 1).

The project area comprises three exploration licences (EL's 7232, 8157 and 8201), one authority (AN 363) and one mineral claim (MCN 4021). The bulk of the mineralisation occurs at Maureen within MCN 4021, which is located on the boundary of RO (Reserved from Occupation) 1307 which covers the proposed Marrakai Dam Acquisition Area.

3. CONCLUSIONS

- The outcropping areas have been well explored and there is little potential to locate outcrops of significant gold mineralisation.

- Further exploration is required in areas of poor outcrop.



PROSPECT LOCATION MAP

NT GOLDMINES PROSPECTUS

Figure 1

4. RECOMMENDATIONS

- Do not exercise the Maureen and Maureen Extended Option.

5. PREVIOUS EXPLORATION

Up to 1986 when the area was first recognised for its gold potential, several companies had conducted exploration for base metals and uranium in the region.

Kennecott Exploration (Australia) Limited was the first company to specifically explore for gold. Regional stream sediment and rock chip sampling identified several potential zones of gold mineralisation, including Maureen and Maureen Extended. In 1987 the operations of Kennecott came under the control of BP Australia Gold P/L and in 1990 Riomin Australia Gold P/L assumed control.

Between 1987 and the end of 1990 detailed exploration was carried out over both prospects and adjacent ground by the above companies. Further regional and detailed stream and rock chip sampling was conducted as well as reconnaissance mapping.

At both Maureen and Maureen Extended Prosects the detailed exploration comprised soil and rock chip sampling, costeaning, mapping, geophysics and drilling. A total of 81 holes were drilled for an advance of 4087 metres: 52 at Maureen (3202m) and 19 at Maureen Extended (885m).

Assessment by Riomin concluded that the resource at Maureen was small and probably uneconomic. They attempted to 'farm out' the tenements but were unsuccessful and consequently relinquished them. Messrs N.Scriven and R.Johnson acquired the prospects and subsequently sold the properties to Northern Territory Gold Mines in 1993. There are no records of any substantial exploration being conducted between October 1990 and the present exploration by Nicron Resources.

6. GEOLOGY AND MINERALISATION

6.1 STRATIGRAPHY

The prospects are located within the Pine Creek Inlier. They lie on a sinuous belt of folded Early Proterozoic South Alligator Group strata which are located on the eastern flank of the Archaean Waterhouse-Rum Jungle basement highs.

The formations represented at both localities are (stratigraphic bottom to top):

- Koolpin Formation
- Gerowie Tuff
- Mt Bonnie Formation

Sills of Zamu dolerite intrude the Koolpin and are folded with the enclosing rocks. 'Wildman Siltstone' has been mapped at Maureen but has now been tentatively included with the Koolpin (Nicholson & Ormsby, 1993). At both localities there is a distinct thinning of the South Alligator lithologies, which is interpreted to be a function of their position relative to basement paleo highs (Nicholson & Ormsby, 1993).

The Koolpin Formation which constitutes the host to much of the mineralisation comprises the following lithologies at Maureen:

- grey to greenish grey laminated silicified mudstones, pyritic in part (ex Wildman Siltstone)
- Hematitic - carbonaceous mudstone with interlayered tourmalinite and cherty bands
- Iron Formation composed of pyritic nodular chert and strongly ferruginised mudstones
- Laminated grey to mauve mudstone/siltstone with chert bands. Some dolomitic facies.

The Gerowie Tuff and Mt Bonnie Formation crop out sparsely on the eastern side of Maureen Ridge. Neither have shown to be mineralised at this locality though they are important gold hosts elsewhere in the Pine Creek Geosyncline.

Limited outcrop at Maureen Extended in combination with costean mapping has indicated a series of NNE trending doleritic intrusions within Koolpin Formation. The latter comprises tightly folded grey/greenish and red-brown hematitic laminated mudstone with interbedded graphite-rich variants and rare tourmalinites.

6.2 STRUCTURE

At both Maureen and Maureen Extended, the prospects are bounded by arcuate regional structures and lie on the eastern limb of a major regional anticline.

At a prospect scale the major structural features are NE to NNE trending folds and sub-parallel faults. These tight to closed folds plunge from 20-50° to the south and north, are upright and generally have wavelengths of 100-400 metres. Localised tight folding has been recorded at both localities through costean mapping and orientation of diamond drill core at Maureen.

Several fault sets show both NNW and NE orientations. The former probably account for a ~1km displacement of the stratigraphy between Maureen and Maureen Extended. The NE faults are more or less parallel to bedding and show extensional features such as 'pull-apart' structures as observed within the Iron Formation at the northern end of the Maureen Prospect (Bosch, et. al., 1989). Prominent buck quartz veins e.g. along the western boundary of Maureen, represent the more regional strike parallel system and in this case appear to define the western extent of the mineralisation (Enclosure 1).

6.3 MINERALISATION

Gold mineralisation at both prospects represent virgin discoveries resulting from regional stream sediment sampling instigated by Kennecott in 1986. The immediate area has no previous history of gold mining operations and represents one of a number of locations in the region where grass roots exploration techniques have led to the discovery of new occurrences.

6.3.1 Maureen

Gold mineralisation is present as both stratiform and vein type, the former being restricted to the Iron Formation and associated mudstones while the latter occurs within stratigraphically lower mudstones and to a lesser extent, the Zamu dolerite. Localising factors for the zone of gold enrichment are essentially structurally-based with lithological input in the form of syngenetic metal concentrations in the Iron Formation (Nicholson & Eupene, 1984).

The position of the Iron Formation relative to the Koolpin/Gerowie Tuff contact places the mineralised zone in the upper sections of the middle Koolpin termed as I5 by Nicholson & Eupene (1984). Bosch (1989) describes two distinct Iron Formation types at the prospect forming up to three separate beds and separated by strongly sheared ferruginous mudstones.

The two types are:

(i) laminated and spherulitic (i.e. nodular) sulfide-rich cherts with hematite layers

(ii) massive quartz-hematite rock forming a breccia.

Surficially, the sulphidic cherts of I5 are manifested as nodular, silicified, hematite-limonite rich rocks forming linear 'ribs' of resistant outcrop along the summit of Maureen ridge. Interlayered with the ironstones and immediately underlying them are beds of strongly ferruginized and sheared mudstones. These are considered part of the Iron Formation and can contain significant grades and widths of mineralisation. Observation of RC cuttings by the author and Bosch et.al. (1989) recognised these sediments as being pervasively ferruginised with little or no veining, implying a bedded nature to the mineralisation. The underlying or footwall mudstone component of the Iron Formation (IF) has been designated as the upper mudstone (UM), and is sandwiched between the IF and dolerite or the stratigraphically lower mudstone units.

Geochemistry of the IF shows an enrichment in gold throughout most of the prospect areas. This agrees with data supplied by Nicholson (1979) that the iron formation and associated hematitic mudstones carry syngenetic-digenetic concentrations of gold and other elements with economic accumulations of the various metals being zoned stratigraphically. There are enrichments of Pb, Zn, Cu and As at Maureen but not necessarily associated with the IF.

Extensive rock chip sampling along the central part of the ridge gave a range of values from 0.5 to 2g/t. The north-south limits of this value range tend to correspond to the thinning of the IF. For example, south of 10000N, gold results from rock chipping decrease from 1.86g/t to 0.18g/t and down to 0.3g/t and 0.5g/t over 100 metres; a similar effect is apparent to the north of 10300N. There is also a correlation between higher gold values and a mapped concentration of N-S localised sinistral faults within this same interval.

The vein-type mineralisation occurs as parallel sets of fracturing having a general NNW-N strike and steep westerly dip. The majority of this style is hosted by hematitic-carbonaceous mudstones (sometimes cherty) and to a lesser extent meta dolerite. Nicholson (1979) states that vein deposits spatially related to auriferous Iron Formations are remobilisation phenomena. This would appear to be the case here where redistribution of the gold into the fracture sets has taken place. The host in which this vein-type mineralisation occurs has been designated as the 'lower mudstone' (LM). The width of this fracture system appears to correlate with the northern and southern limits of the higher grade zone in the Iron Formation. This mineralised 'corridor' has well defined boundaries: the stratiform zone to the south and the boundary strike parallel fault to the north (Enclosure 4).

Recent mapping by one of the authors (PMM) has defined three major vein trends (all magnetic bearings):

(i) 320-340°,steep west dip
(ii) 00, steep east or west
(iii) 015-035°steep east dip.

In places a stockwork system is indicated with vein strikes ranging from type (i) to (iii), the latter being (in part) more or less parallel to bedding. Associated minor faulting and shearing of various orientations may be present also. Vein widths can vary from a few millimetres up to 4 cm with densities up to 20/metre though 5 to 10/metre would be more representative.

An assessment of data relating to the vein style mineralisation tends to confirm the erratic nature of the system. Bosch et. al. (1989) states two points which have significance and these appear to have been borne out by the current work:

(i) trenching in several areas in the vicinity of veined outcrops show the veining to 'pinch and swell' with individual structures not being traceable over the width of the trench, and

(ii) a broad assessment based on drilling by BP and Riomin states that "the more extensive zones of veining .... appear to be discontinuous along strike".

Little is known about the mineralisation present in the dolerite suffice to say that it is insignificant from an economic viewpoint. Sub-surface data is sparse with perhaps five drill holes intersecting mineralised dolerite. In the majority of cases, the mineralised dolerite is heavily altered with abundant hematite and limonite. Nicholson and Eupene (1984) state that gold mineralisation occurs with sulphide concentrations in a variety of situations within the Zamu dolerite, for example on or near sill contacts. This latter example seems to fit most of the intersections at Maureen. Another style observed here occurs in a fine grained greenish dolerite (? granophyre) where minor gold values occur in a sulphide-rich quartz vein.

7. WORK CARRIED OUT

All of the geological data from previous work conducted in the area was compiled and reviewed. The results of this work are presented in Section 6.

Regional traversing around the prospect located an area of strongly limonitic dolerite with intense quartz veinlet stockworking. The outcrop was tested by two soil sampling traverses spaced 100m apart (see Enclosure 1 for location). A total of 28;40# soil samples were collected at 25m intervals along the lines. The samples were analysed for Au by fire assay (FA50 method) at Assaycorp, Pine Creek. The gold values were generally low (<5 ppb). the maximum value being 10 ppb.

Access tracks to Maureen and Maureen Extended, which pass through EL 7232, were regraded during the exploration programme.

8. EXPENDITURE

Wages	350
Salaries	1,500
Consultants	320
Assays	462
Equipment Hire	579
TOTAL	**$3,211**

9. REFERENCES

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Bosch, GL, Walker, MD, and Moore, J, 1989. EL 4943, Adelaide River. Annual Report for the period ending 30 September 1989, *Seltrust Mining Corporation Pty Ltd Report* (unpublished).

Nicholson, PM and Eupene, GS, 1984. Controls on gold mineralisation in the Pine Creek Inlier, in *Proceedings Darwin Conference, 1984,* pp 337-396. (The Australasian Institute of Mining and Metallurgy: Melbourne).

Nicholson, PM, 1980. The geology and economic significance of the Golden Dyke Dome, Northern Territory, in *Uranium in the Pine Creek Geosyncline* (Eds: J.Ferguson and AB Goleby), pp 319-334. (International Atomic Energy Agency: Vienna).

Nicholson, PM and Ormsby, WR, 1993. Geology, mineralisation and exploration strategy Pine Creek Inlier, *Aztec Mining Company Report* (unpublished).

APPENDIX I

ANALYTICAL RESULTS

ASSAYCORP PTY LTD
A.C.N. 052 082 011
174 Ward Street, Pine Creek, N.T. 0847
P.O. Box 41, Pine Creek, N.T. 0847
Telephone (089) 76 1262
Facsimile (089) 76 1310

ASSAY CODE: AC 17929

Nicron Resources Limited

Distribution
IAN BUTLER

Client Reference: 3813
Project :
Cost Code:

Date Received: 13/11/1994
Number of Samples: 28

Sample Preparation

Analysis	Analytical Technique	Precision & Accuracy	Detection Limit	Data Units
Au	FA50	Acc. ± 15%	1	ppb
Au(R)	FA50	Acc. ± 15%	1	ppb

Authorisation: Ray Wooldridge
Report Dated: 30/11/1994

ASSAYCORP PTY LTD
A.C.N. 052 982 911
174 Ward Street, Pine Creek, N.T. 0847
P.O. Box 41, Pine Creek, N.T. 0847
Telephone (089) 76 1262
Facsimile (089) 76 1310

ASSAY CODE: AC 17929

Sample	Au (ppb)	Au(R) (ppb)
677780	6	
677781	3	
677782	9	8
677783	10	10
677784	5	
677785	5	
677786	2	
677787	3	
677788	1	
677789	1	1
677790	1	
677791	2	2
677792	2	
677793	1	
677794	<1	
677795	9	11
677796	4	5
677797	4	
677798	3	
677799	1	
677800	<1	
677801	2	
677802	1	
677803	1	
677804	1	2

ASSAYCORP PTY LTD
A.C.N. 052 982 911
174 Ward Street, Pine Creek, N.T. 0847
P.O. Box 41, Pine Creek, N.T. 0847
Telephone (089) 76 1262
Facsimile (089) 76 1310

ASSAY CODE: AC 17929

Sample	Au (ppb)	Au(R) (ppb)
677805	1	
677806	1	
677807	1	

MAUREEN EXTENDED PROSPECT
SHEET 2 (SOUTH)
GEOLOGY & ROCK CHIP GOLD RESULTS WITH SOIL SAMPLE LINE, TRENCH & DRILLHOLE LOCATIONS

NORMANDY METALS LTD.

After G Bosch et al 1989

ENCLOSURE 1

SOIL SAMPLE TRAVERSE

SOIL SAMPLE TRAVERSE

TRENCH 5

TRENCH 6

TRENCH 7

TRENCH 8500 N

TRENCH 8252 N

TRENCH 7960 N

TRENCH 8

TRENCH 7703 N

TRENCH 7600 N

TRENCH 7412 N

TRENCH 9

TRENCH 10

TRENCH 7041 N

SWAMP

MAUREEN EXTENDED PROSPECT

WILDMAN SILTSTONE

LOCATION OF PROSPECT

SCALE 1:2500

0 50 100 200 300m

PNTAR- PERCUSSION DRILL HOLE

DNTAR- DIAMOND DRILL HOLE

*L 88128 ROCKCHIP SAMPLE LOCATION

FERRICRETE

Sm MUDSTONE

St SILTSTONE

Sch CHERT

Sf IRON FORMATION Sf1 laminated Sf2 massive

ST TOURMALINE-BEARING SILTSTONE

TS TUFF (TUFFACEOUS CHERT)

DOLERITE

QUARTZ VEIN

py PYRITE

Ap ARSENOPYRITE

FeOx IRON OXIDE

MnOx MANGANESE OXIDE

lim LIMONITE

haem HAEMATITE

sil SILICEOUS

ser SERICITE

BRECCIA

BEDDING

CLEAVAGE

JOINT

QUARTZ VEIN (MINOR)

SHEAR

WRENCH FAULT + (↑ SENSE UNKNOWN)

UNDIFFERENTIATED FAULT

SYNCLINAL AXIS

ANTICLINAL AXIS

BEDDING/CLEAVAGE INTERSECTION LINEATION

MINOR FOLD AXIS

FACING (SEDIMENTARY)

GEOLOGICAL BOUNDARIES

OUTCROP LIMIT

APPROXIMATE

INFERRED

TRACK

FENCE

CREEK

TRENCH

LINE OF SOIL SAMPLES