NT54/1

FIRST ANNUAL REPORT
EL6363 THE HUB
NORTHERN TERRITORY
DARWIN 1:250,000 SHEET

D.F. Thomson
December, 1989

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SUMMARY

Broad spacedregional soil and drainage geochemistry has failed to locate any significant anomalies. The sampling density may be inadequate to detect mineralisation particularly if the dispersion trains from subcropping mineralisation are only short.

However it is considered unlikely that the untested zone host economic mineralisation of size and type sought.

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INTRODUCTION

Exploration Licence 6363 was originally applied for as part of a much larger application (ELA5264) which was partially in conflict to a prior application by CEGBEA. Following the granting of the rival application to CEGBEA, ELA5264 was divided into 4 applications which were granted to Newmont Australia Limited on November 16, 1988.

Exploration licence 6363 is contiguous with EL6364 along the Mary River and EL5008 to the south (Figure 1). The licence has a common anniversary with EL6364.

Location and Access

Exploration Licence 6363 comprises 23 blocks covering 58 square kilometres. The licence lies approximately 20km south east of Mt Bundey, and 120km south east of Darwin.

The licence covers part of pastoral lease 933. Pastoral lease 933 was formerly part of old Mt Bundey station, but is now the site of the proposed live firing range for the 2nd Cavalry Regiment.

Accommodation in the area includes motel rooms and powered caravan sites at the Bark Hut Inn located 3km east of the Mary River bridge on the Arnhem Highway and a camping ground at Annaburroo Lagoon.

Access to most of the licence is via station tracks which are impassable during the wet season. As a result field activity is effectively limited to the period between May and November.

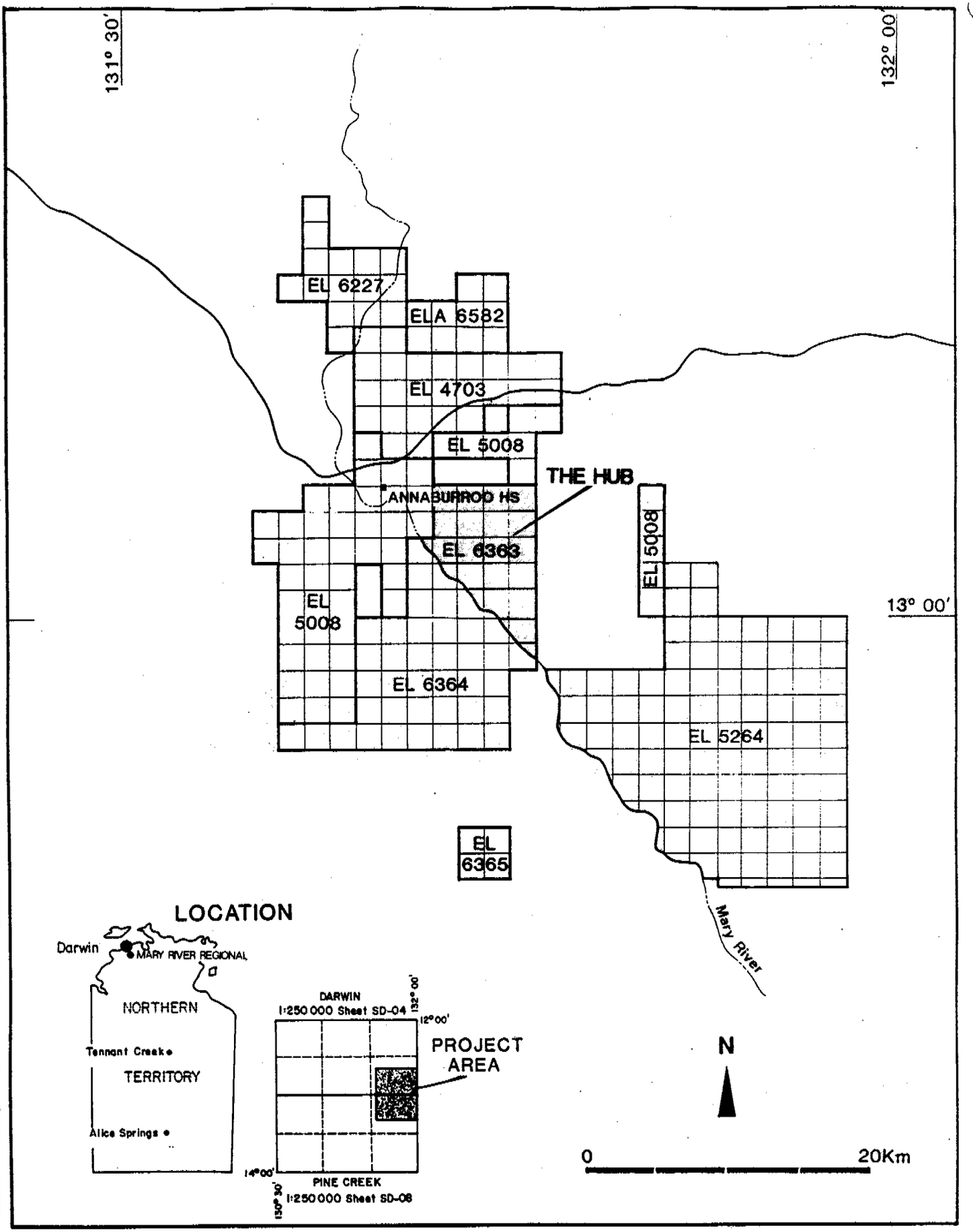
Regional Geology

Licence EL6363, encompasses Early Proterozoic rocks of the South Alligator and Finnis River Groups. These rocks comprise the middle and upper units of the Pine Creek Geosyncline.

The lower most unit of the South Alligator Group exposed in the licence is the Gerowie Tuff. The Gerowie Tuff represents a period of felsic volcanism dated at about 1880my (Stuart-Smith et.al. 1984, Page 19) during which pyroclastics and cherts were deposited conformably over the Koolpin Formation (the lower most unit of the South Alligator Group).

The overlying Burrell Creek Formation represents a change in conditions to deeper water flysch style sedimentation with shales and slates being deposited. This represents the last episode in the Early Proterozoic phase of deposition in the Pine Creek Geosyncline.

The South Alligator Group rocks have suffered one major phase of folding which resulted in moderate to steep folds with southerly plunges being developed in the area. Fold axis trend 200° in the Annaburroo licence area.



NORTHERN TERRITORY

MARY RIVER REGIONAL

PROJECT AREA LOCATION MAP

THE HUB

Newmont Australia Limited

Greenschist facies metamorphism of the Pine Creek Geosyncline occurred at about 1800my. The intrusion of the Mt Bundey, Margaret and Cullen Granites concluded the development of the Pine Creek Geosyncline.

The Marrakai-Coiwong shear zone passes through the licence area just north of the Mary River.

GEOLOGY

The lowest unit of the Pine Creek Geosyncline to outcrop in the licence area is the Gerowie Tuff. This unit outcrops along the fold axes of two tight southerly plunging folds in the central part of the licence.

The Mount Bonnie Formation conformably overlies the Gerowie Tuff and outcrops along the limbs of the anticlines and in the syncline that separates them.

Outcrop of the Burrell Creek Formation which conformably overlies the Mount Bonnie Formation is confined to a small area in the west of the licence near the Mary River.

The south eastern half of the licence is covered by Cainozoic river alluvium represented by black soil plains.

EXPLORATION

General

Exploration currently in progress on EL6363 is aimed at the discovery of economically viable gold mineralisation. Styles of mineralisation specifically sought include auriferous fracture zones and stockworks associated with sheared anticlinal closures as well as gold associated with syngenetic stratabound sulphides.

The area was probably prospected by early miners and was prospected by panning stream sediments by Geonorth in 1982 without success. Therefore it can be assumed that any gold mineralisation that may exist is either very fine grained so as to be invisible to these methods or has very short dispersion trains. Locally deep weathering and extensive laterite and colluvium cover may further complicate exploration.

In recognition of these factors it was decided to explore the area using a combination of drainage and soil sampling employing the bulk cyanide leach method for gold analysis in conjunction with geological reconnaissance and rock chip sampling.

Drainage and Soil Sampling

Drainage and soil sampling programmes completed over EL6363 included helicopter supported first regional coverage over the entire licence area (Figure 2). This was followed up by ground based sampling of anomalous zones and additional regional sampling programmes. Comparison of sample locations with published BMR geology maps suggest that the more favourable structures and stratigraphic units may not have been sampled in sufficient density. This would be particularly so if any gold in the system only has short dispersion trains.

Reconnaissance geological mapping carried out in conjunction with drainage sampling programmes.

Thirty-two first pass samples were assayed for Au, Ag, Pd and Pt by bulk cyanide leach. All samples returned gold values below 1ppb Au, with the maximum value 0.7ppb Au. Eleven samples returned Ag assays greater than 10ppb to a maximum of 48.6ppb Ag (56517). All Pd assay were either on or below detection (0.1ppb). Only one sample (56613) showed detectable cyanide soluble Pt returning 0.06ppb Pt.

CONCLUSIONS AND RECOMMENDATIONS

Broad spaced regional soil and drainage sampling has failed to reveal any Au, Ag, Pd or Pt anomalies. The generally higher Ag values received merely reflect the greater mobility of that element and are not thought to be significant.

Comparison of the distribution of samples with outcropping structures on published BMR maps suggests that the more favourable stratigraphic units may not have been adequately sampled.

However, from experience gained on adjoining exploration licences it is considered unlikely that the untested structures and stratigraphy host an economic target of the size and type sought. Therefore it is recommended that Newmont relinquish EL6363.

EXPLORATION LICENCE 6363 THE HUB

YEAR 1 EXPENDITURE SUMMARY

ITEM	EXPENDITURE
Salaries, Wages & Overheads	4,037
Contracted Services:-	
Assays	629
Helicopter Charter	1,895
Consultant	127
Survey	387
Drafting	289
Administration and Support:-	
Supplies and Rentals	2,624
Travel, Accommodation & Freight	1,120
Vehicle Costs	338
Administration	368
Total	$11,814

GENERAL REFERENCES

Stuart-Smith, P.G.; Wallace, D.A.; and Roarty, M.J., 1984: Mary River - Point Stuart Region, NT 1:100,000 Geological Map. Commentary Bur. Min. Resources

Stuart-Smith, P.G.; Needham, R.S.; Wallace, D.A.; and Roarty, M.J., 1986: McKinlay River, NT 1:100,000 Geological Map. Commentary Bur. Min. Resources.

APPENDIX 1

ROCK CHIP SAMPLE LEDGER AND RESULTS

784000E 789000E 794000E 799000E

8570000N 8565000N 8560000N 8555000N

EL 5008

EL 6363

EL 6364

056523 (6,32,4)
056524 (0 3,61,4)
056518 (0 2,70,4)
056517 (0 6,486,01)
056614 (0 3,219,4)
056615 (0 2,253,4)
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056617 (0 3,198,4)
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056611 (0 5,29,4)
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056564 (0 4,70,4)
056565 (0 6,13,4)
056557 (0 3,99,4)
056560 (0 7,186,4)
056563 (0 4,111,4)
056566 (0 4,54,4)
056559 (0 3,11,4)
056562 (0 4,85,4)
056561 (0 6,09,4)
056500 (0 4,49,4)
056475 (0 5,36,4)
056492 (0 6,82,4)
056499 (0 1,14,4)
056476 (11,14,4)
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056494 (4,43,4)
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063118 (12,279,0 05)(4 0 05)
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85467 (0 29) 85468 (0 78)
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86307 /0 08
85471 85472
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86308 0 54
85474

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0 02 0 02 0 02 0 02 0 02 0 02 0 04 0 04 0 02 <0 02

LEGEND

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+ 0 68 — ROCK CHIP SAMPLING, Au IN ppm.

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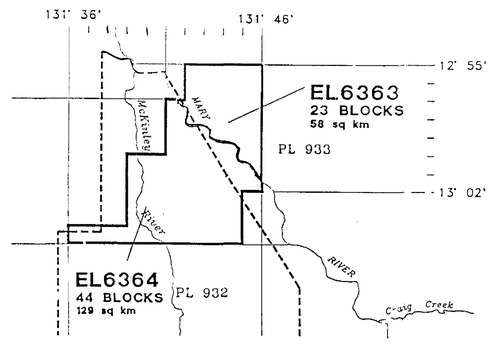

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Newmont Australia Limited

PROJECT McKINLAY RIVER,THE HUB

TITLE BLEG SAMPLE LOCATIONS & Au, Ag, Pt ASSAYS [ppb]

COMPILED D.T.	SCALE 4/1/90	DATE REVISED	PLATE
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