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Project Name: T2/ROPER RIVER

Title: EXPLORATION LICENCE 4679
PARTIAL RELINQUISHMENT REPORT

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STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE 4679

ROPER RIVER AREA

PARTIAL RELINQUISHMENT REPORT

M.H. PODOLSKY

JANUARY, 1989

CONTENTS

SUMMARY

1. INTRODUCTION
2. STOCKDALE PROSPECTING LIMITED (SPL) - GREATER PACIFIC INVESTMENTS (GPI) JOINT VENTURE
3. ABORIGINAL LIAISON
4. ACCESS
5. PHYSIOGRAPHY
6. HABITATION, CLIMATE AND VEGETATION
7. GEOLOGY
 - 7.1 Tectonic Setting
 - 7.2 Geological / Tectonic History
8. FIELD WORK
 - 8.1 SPL 1984 - 1986
 - 8.2 SPL 1984 - 1986 Results
 - 8.3 GPI 1986
 - 8.4 1987 - 1988
9. PERSONNEL
10. EXPENDITURE

REFERENCES

TABLES

TABLE 1 : Stratigraphy of EL 4679

TABLE 2 : Expenditure

APPENDICES

APPENDIX 1 : GPI Quarterly Report for period 30/ 4/88 - 29/ 7/88

MAPS

MAP 1 : Area retained and relinquished EL 4679

MAP 2 : Samples Locations over EL 4679 relinquished area 1:100,000

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE 4679

ROPER RIVER AREA

PARTIAL RELINQUISHMENT REPORT

1. INTRODUCTION

Exploration Licence 4679, which was granted on 25 October 1984, is located on the Hodgson Downs 1:250,000 mapsheet area in the north of the Northern Territory. This report details all work in the area to be relinquished to the partial relinquishment date on 25 October 1988.

The licence prior to reduction occupied an area of 124 blocks (400 km²). It was granted to Stockdale as part of a regional diamond exploration programme in conjunction with work on the adjoining Exploration Licences 4475, 4477-89, 4633-4634 and 4866 in the Roper River area.

In September, 1988 the northern and eastern sectors of the licence area totalling 62 blocks (200 km²) were relinquished (Map 1).

The tenement holding history is summarised:

GRANTED	AREA SQ. KM.	BLOCKS	COMMENTS
25/10/84	1607	499	
	802	249	Part relinquished 25/10/86
	399	124	Part relinquished 25/10/87
	* 200	62	Part relinquished 25/10/88

* Area retained (Map 1).

2. STOCKDALE PROSPECTING LIMITED (SPL) - GREATER PACIFIC INVESTMENTS (GPI) JOINT VENTURE

A Joint Venture Letter of Agreement was signed between SPL and GPI on 29 July 1986. Under the terms of agreement, GPI has the right to explore for all minerals except diamonds.

3. ABORIGINAL LIAISON

Prior to commencement of fieldwork, information was obtained on the location of sacred sites from the Aboriginal Sacred Sites Protection Authority in Darwin.

Contact was maintained with the Aboriginal communities at Roper Valley, Hodgson River and Nutwood Downs Stations. Campsite and sample locations were cleared with respect to sacred sites and good relationships were maintained with the communities concerned.

4. ACCESS

Access to the Exploration Licence from Mataranka takes less than an hour by a sealed road and a good track. There are only a few tracks within the Exploration Licence and travel is slow.

5. PHYSIOGRAPHY

The area occupied by the Exploration Licence is drained by the Strangways River and the upper reaches of Cattle Creek, which eventually flow northwards into the Roper River. The Exploration Licence falls within one major physiographic division, the Gulf Fall Division.

Variably eroded Proterozoic sediments occupy the area of the Exploration licence. The Gulf Fall consists of a mature surface of broad flat-floored valleys, rubble covered hills and cuesta ridges rising up to 400 feet above plain level.

6. HABITATION, CLIMATE AND VEGETATION

The area is largely uninhabited with the exception of small communities of European station staff at two stations - Hodgson and Nutwood Downs on the Hodgson Downs mapsheet.

The climate is the typical wet / dry regime of Northern Australia with a warm dry season from April to October and hot wet season from November to March.

Vegetation varies from grass covered black soil and alluvial plains to open and medium dense eucalypt forests with only sparse grass cover. Dense undergrowth occurs locally, particularly along water courses.

7. GEOLOGY

7.1 Tectonic Setting

The Exploration Licence occurs within the central-west portion of the Macarthur Basin, which was a large and complex Proterozoic depositional basin that extends from Arnhem Land in the north to beyond the Queensland border in the south. Cambrian volcanics of the Daly River Basin occur within the Exploration Licence area, and essentially flat-lying Mesozoic sediments form a variably eroded cover.

7.2 Geological / Tectonic History

The stratigraphy of the area is summarised in Table 1.

In Upper Proterozoic (Roper Group era) terrigenous sandstone / shale with sub-ordinate carbonate deposition took place with thickness being determined by early movements along lineaments. Sedimentation ceased with deposition of the Maiwok sub-group in a well defined sub-basin.

TABLE 1 : SUMMARY OF STRATIGRAPHY, EL. 4679 (from Dunn, 1963)

AGE	ROCK UNIT AND SYMBOL	APPROX. THICKNESS (FEET)	LITHOLOGY	STRATIGRAPHIC RELATIONSHIP	TOPOGRAPHY	REMARKS
QUATERNARY		to 50	Sandy, alluvium, transported black soil.		Flood plains and swamps.	
CENOZOIC		to 50	Superficial cover - mostly sand, some laterite, soil, rubble and travertine.		On surface of plateaux and flat mature land surfaces.	Sand mainly derived from older friable sandstone.
LOWER CRETACEOUS	Mullamen Beds	to 200	Porcellanite and claystone, Calcareous and ferruginous sandstone, massive, white, friable sandstone. Local calcarenite lens.	Unconformable on older rocks.	Tablelands and mesas. Undulating hills below tablelands.	Plant and marine fossils.
LOWER CAMERIAN	Antrim Plateau (Cla) Volcanics	200	Massive and amygdaloidal basic lavas. Red feldspathic sandstone.	Unconformable on Upper Proterozoic sediments.	Rounded low hills.	
UPPER (?) PROTEROZOIC	<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin-right: 5px;">Roper Group</div> <div style="display: flex; flex-direction: column; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin-bottom: 10px;">Maitwok Sub-Group</div> <div style="display: flex; flex-direction: column; align-items: center;"> <div>(Pvb)</div> <div>(Pd1)</div> <div>Worok Sandstone Member (Prk)</div> <div>Bessie Creek Sandstone (Pre)</div> <div>Murri Member (Pm)</div> <div>Hodgson Sandstone Member (Prh)</div> <div>Jalboi Member (Pri)</div> <div>Linmen Sandstone (Pri)</div> </div> </div> </div>	?	Acid to intermediate (?) volcanic breccia.	Not known.	Low hills.	Exposed in circular area. May be collapse structure.
		200	Massive dolerite	Intrudes Proterozoic rocks as sills	Plains.	Intruded at several stratigraphic levels.
		40 to 150	Blocky medium sandstone interbedded with shale and siltstone.	Generally at base of Maitwok Formation where it conformably overlies Velkerri Formation.	Scarps and cuestas.	
		100 to 200	Friable, massive fine to coarse quartz sandstone.	Conformable on Corcoran Formation.	Prominent ridges reduced to sandy rises in places.	Is characteristically jointed.
		up to 200	Ferruginous sandstone and flaggy siltstone; shale	Top of Abner Sandstone, conformable on Hodgson Sandstone Member.	Capping on plateaux and dip slopes of sandstone.	
		100 to 300	Friable, massive medium to coarse sandstone; siltstone.	Conformable on Jalboi Member.	Prominent ridges and hills.	Characteristically jointed.
		400 to 600	Blocky and flaggy quartz sandstone, slumped greywacke, siltstone and shale.	Conformable between Hodgson and Arnold Sandstone Members.	Rounded hills and banded ridges.	
		300 to 2000	Silicified purple and white clean quartz sandstone with grit bands; poorly sorted feldspathic sandstone, fine micaceous siltstone, red and green shale.	Base of Roper Group. Unconformable over McArthur Group.	Prominent ridges.	

Dolerite sills and a prominent ring structure containing volcanic breccia have been assigned an Upper Proterozoic (?) age by authors of the Bureau of Mineral Resources (BMR) explanatory notes.

Uplift and erosion of Proterozoic sediments was followed by extrusion of Cambrian Antrim Plateau Volcanics and their equivalents (Nutwood Downs Volcanics) and by deposition of both carbonate (Tindall Limestone) and sandstone (Bukalara Sandstone).

No sedimentation is in evidence between Cambrian and Lower Cretaceous times when initially terrestrial then later shallow marine epicontinental sediments were deposited (Mullaman Beds). Emergence of the Cretaceous sediments was followed by lateritisation (early Tertiary?) then downwarping with the present day drainage dominated by the Roper River developing on the warped surface.

Descriptions of the rock units in the Macarthur Basin are detailed in the BMR explanatory notes (Dunn, 1963).

Subsequent work on the Macarthur Basin has led to a revision of the Proterozoic age divisions and assisted in the correlation of Proterozoic units across the area. This more recent work is not discussed here.

8. FIELD WORK

8.1 SPL 25 October 1984 - 24 October 1986

A programme of reconnaissance stream sampling was carried out on the Exploration Licence.

A total of:

three barrage (300 ltr) samples of -4.75/0.5mm,
five 50 ltr stream samples of -2.0/0.5mm, and
five 25 ltr stream samples of -2.0/0.3mm

were taken from within the area relinquished.

An overall density of 1:15 km² has been achieved.

The material was bagged and despatched to SPL's Darwin Treatment Plant and concentrates forwarded to SPL's Melbourne Laboratory for further treatment, and examination for diamonds and kimberlitic indicator minerals.

8.2 SPL 1984 - 1986 Results

All samples proved to be negative, as no diamonds or kimberlitic indicator minerals were recovered.

8.3 GPI 1986 (29 July 1986 - 29 January 1987)

During the period 29 July 1986 - 29 January 1987, GPI completed a review of regional geophysics, aerial photography interpretation, and a ground geophysical survey.

Exploration by GPI was based on the identification of mafic / ultramafic intrusives and related sulphide mineralisation as defined by a gravity survey and indicated by an induced polarisation survey. Gamma spectrometer readings and magnetometer readings were also taken. The ground survey undertaken in November, 1986 was intended to be of a reconnaissance nature to determine some of the geophysical characteristics of the structures in the area. The geophysical data are still being studied and give some encouragement to the possibility of locating unexposed mafics and ultramafics at relatively shallow depth in the licence area retained. This work is detailed in a separate report submitted by GPI (1987).

8.4 1987 - 1988

No field work was carried out during 1987 / 1988 by Stockdale Prospecting Limited. No field work was carried out by GPI (see Appendix 2 for logistical problems) and a request for variation of covenant for this Exploration Licence has been submitted (Vercoe, 1988).

A Quarterly Report for the three month period 30/ 4/88 to 29/ 7/88 submitted by GPI is attached as Appendix 1.

9. PERSONNEL

Field staff involved in the 1984 - 1986 programme were:

<u>Designation</u>	<u>Number</u>
Geologist	1-2
Field Hands	3
Cook	1
Helicopter Pilot	1
Helicopter Engineer	1

10. EXPENDITURE

A total expenditure of \$40949 has been allocated on a proportional basis for the portion of licence relinquished as shown in Table 2.



M. H. PODOLSKY
Senior Geologist

Darwin, NT

January, 1989

J. JOYCE
Senior Divisional
Geologist - North

OFG:EIP592

TABLE 2 : EXPENDITURE SUMMARY

ROPER RIVER AREA, MT COLTON PROJECT TO 30 OCTOBER, 1988

	4679
TENEMENT COSTS	1250
DRAFTING	42
ADMINISTRATION : HEAD OFFICE	478
: REGIONAL	113
CAPITAL UTILISATION	460
TOTAL DURING 1988	2343
PRO RATA ALLOCATION OF PREVIOUSLY REPORTED EXPENDITURE	38606
TOTAL EXPENDITURE IN RELINQUISHED AREA	40949

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PRO RATA ALLOCATION OF PREVIOUSLY REPORTED EXPENDITURE	38606
TOTAL EXPENDITURE IN RELINQUISHED AREA	40949

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BMR Explanatory Notes : Hodgson Downs 1:250,000 mapsheet.
2. FERGUSON, J., BRETT, R., MILTON, D.J., DENCE, M.R., SIMONDS, C.H., and TAYLOR, S.R., 1978
Cryptoexplosion Structure, Northern Territory, Australia : Preliminary Results Meteoritics 13, p. 459.
3. GREATER PACIFIC INVESTMENTS LIMITED, 1987
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Final Report on areas of fifty percent relinquishment Exploration Licence 4679: Roper River area, Northern Territory.
5. VERCOE, S.C., 1988
Exploration Licences 4483 and 4679, Roper River area, Northern Territory. Common Report date 1 July 1988.

APPENDIX 1

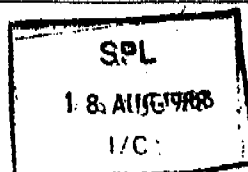
Greater Pacific Investments Limited

(Incorporated in Victoria)

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16 August, 1988

Stockdale Prospecting Limited
60 Wilson Street
SOUTH YARRA VIC 3141

Attention: Mr K J Stracke

Dear Mr Stracke

Quarterly Report on EL 4679 Mt Colton for the
period ending 29th July 1988

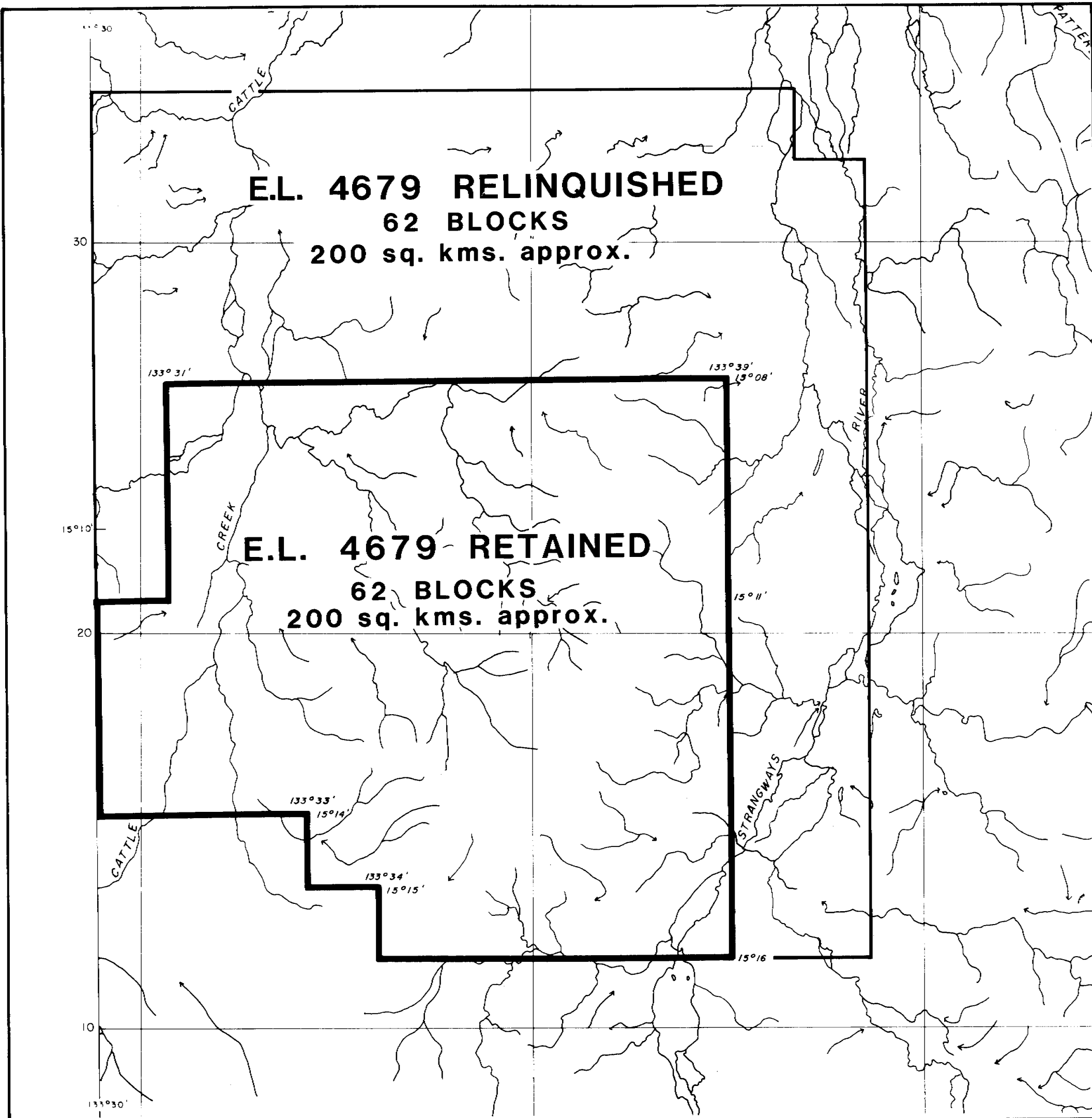
No field work was carried out during the period.
Expenditure was Nil.

Stadcote Drilling has been contracted to undertake the
diamond drilling program which is now expected to be
carried out in September 1988.

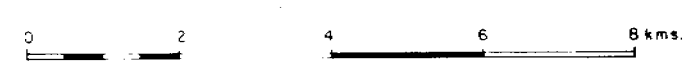
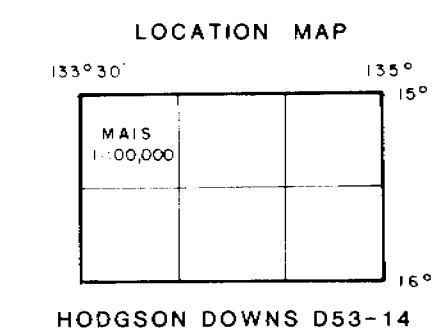
Yours sincerely

Dr John Ferguson
Chief Executive
TENZOR RESOURCES LIMITED

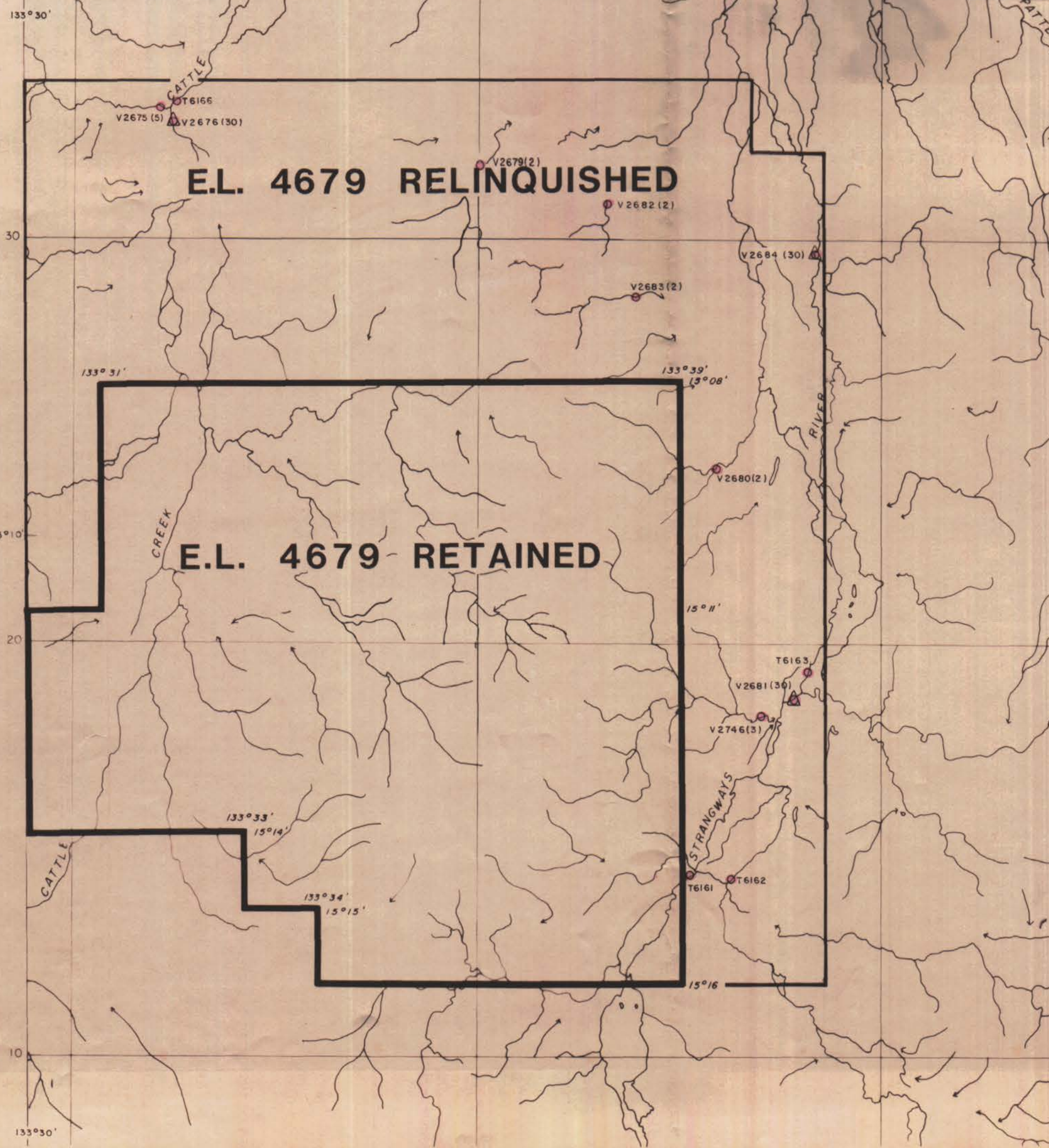
MAPS



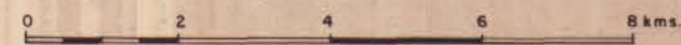
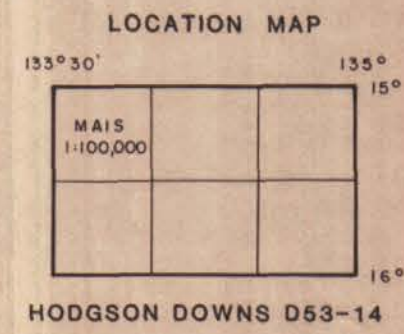
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MAP 1	
STOCKDALE PROSPECTING LIMITED	
NORTHERN TERRITORY HODGSON DOWNS D53-14 MAIS 1:100,000	
SHOWING RETAINED/RELINQUISHED AREAS OVER EL 4679	
Compiled	ADS
Drawn	ADS
Date	SEPT. '88
Scale	1:100,000
Revised	
SEL 3479	



- SAMPLE LOCATION
- △ BARRAGE SAMPLE



MAP 2	
STOCKDALE PROSPECTING LIMITED	
NORTHERN TERRITORY	
HODGSON DOWNS D53-14 MAIS 1:100,000	
SHOWING	
SAMPLE LOCATIONS OVER	
RELINQUISHED PORTION OF	
EL 4679	
Compiled	ADS
Drawn	ADS
Date	JAN. '89
Scale	1:100,000
Revised	
SEL 3479 A	