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PLUTONIC OPERATIONS LIMITED
(A.C.N. 004 680 997)

SORELL PENINSULA

OPEN FILE

EL 4/92 and EL 7/92

EL 4/92

EL 7/92

MINES		
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EL 4/92	SEE FOLIO	59
EL 7/92	SEE FOLIO	58

ANNUAL REPORT

SEPTEMBER 1993 TO AUGUST 1994

94 - 3021

Distribution

1. Plutonic Operations - Sydney
2. Tasmanian Department of Resources & Energy

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August 1994

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Plutonic

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1.0 SUMMARY AND RECOMMENDATIONS

1.1 Summary

The two exploration licences - EL 4/92 "Muddy Cove Creek" and EL 7/92 "High Rocky Point" - cover the belt of calc-alkaline Mt Read Volcanics on the Sorell Peninsula (Figure 1).

This belt of highly prospective volcanics has seen very little exploration, largely due to the fact that the rocks have only recently been identified as Mt Read correlates.

The large proportion of mafic-intermediate volcanics, including dioritic intrusives, means that the belt is highly prospective for porphyry Cu-Au, as well as massive sulphides.

The central part of the belt, the focus of the work planned for the 1994-1995 season, has seen little exploration over most of its area. Exploration during the 1992-1993 season evaluated a number of geochemical and geophysical targets, with encouragement from the Thomas Creek Prospect which returned soil sample values up to 1 g/t Au and 3360 ppm Cu.

A one day field trip by project and senior geologists to evaluate exploration targets was undertaken. No other field work was conducted during the reporting period.

1.2 Recommendations

Two phases of exploration are recommended for the 1994-1995 field season.

The first phase is to fly airborne EM over both tenements with Geotem equipment. A total of about 1200 line km has been proposed to ensure detailed coverage. Completion of this programme is dependent on both weather and more so on equipment availability which is currently scheduled for January 1995.

The second phase is to drill test anomalies generated by the geophysical survey with equipment selected to suit the access conditions. Concurrent with this will be follow-up of recommendations for exploration made in the August 1993 Annual Report. These include regional -80# fraction stream sediment sampling and mapping in the area between Spero and Hibbs Rivers, and further work on the Thomas Creek prospect which has anomalous Cu (to 3360 ppm) and Au (to 0.97 g/t) in soils over a 500 x 350m alteration zone in intermediate volcanics. The prospect straddles the contour cliff between a magnetic high and low. Three 800m lines of IP should also be surveyed to determine the optional drill position.

2.0 INTRODUCTION

2.1 Tenure

EL's 4/92 "Muddy Cove Creek" (243 km²) and 7/92 "High Rocky Point" (183 km²) were granted to Plutonic Operations Limited on 11 September 1992. The EL's are located in Tasmania's south-west (see Figures 1, 2 and 3).

2.2 Access and Land Usage

Access to both EL's is problematic with no vehicular access possible except for trail bikes in a few peripheral areas. The prospective rocks are invariably under thick bush with few natural helipads. Passage through this bush is generally slow and physically demanding. Creeks can also be clogged and difficult to travel along.

The Sorell Peninsula is on Tasmania's south-west coast, receiving the full brunt of the roaring forties so that exploration in the winter months is not always possible.

All of the area in both EL's is included in the South West Conservation Area. This means that although exploration is allowed, there are more stringent guidelines than in Crown Land elsewhere.

3.0 REGIONAL GEOLOGY

3.1 Introduction

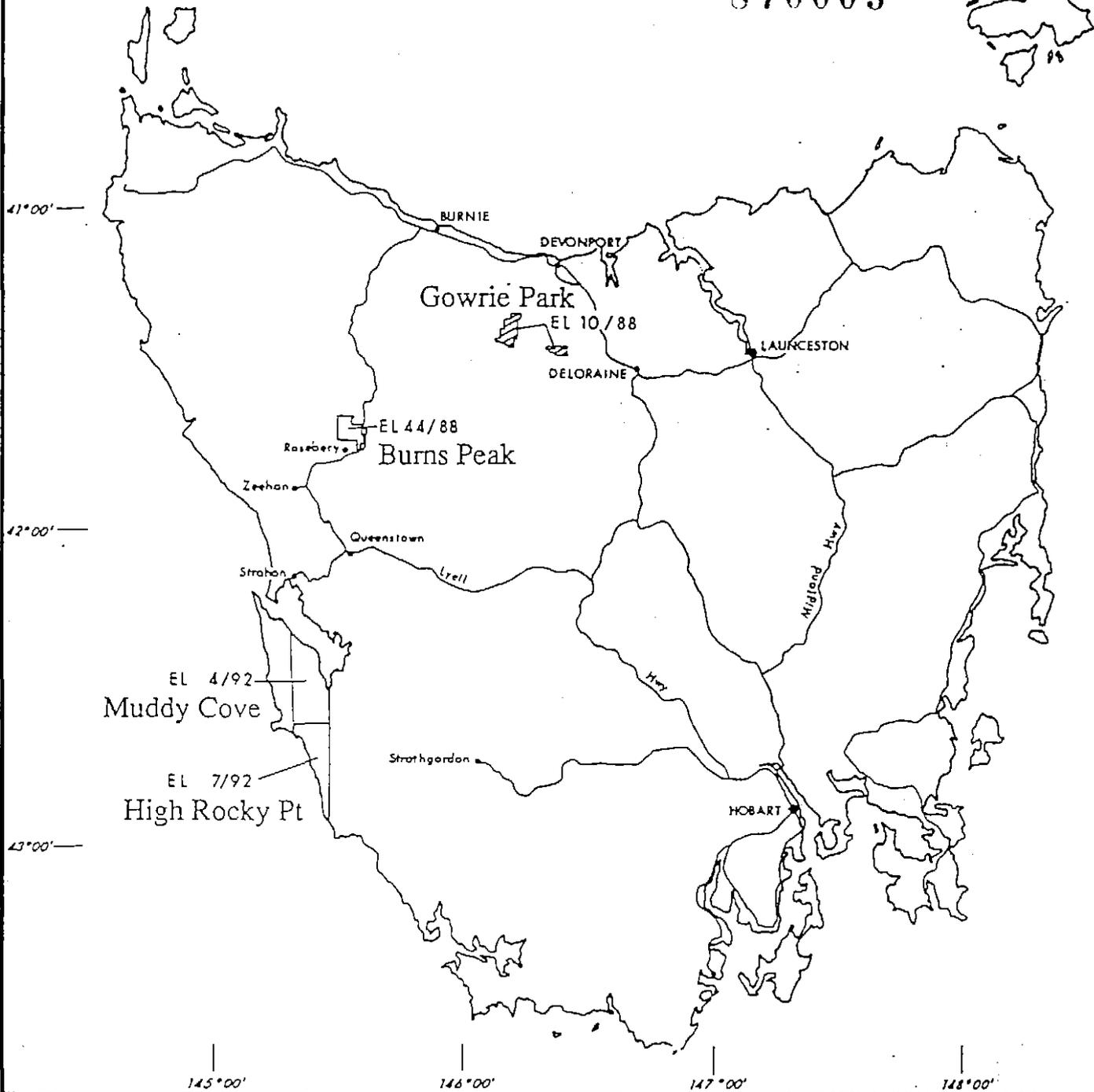
Due to the difficulty of access, lack of outcrop and the limited amount of exploration to date, the geology of the Sorell Peninsula is relatively poorly understood.

The main part of the Mt Read Volcanics belt runs south from Hellyer, through Rosebery and Queenstown along the West Coast Range to South Darwin Peak where it disappears under a Tertiary graben, reappears on the D'Aguillar Range, disappears under another Tertiary graben and then reappears on the coast at Elliott Bay.

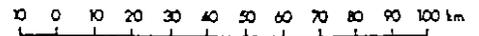
The Noddy Creek Volcanics lie to the west of the D'Aguillar Range and are not part of this main belt. The Noddy Creek Volcanics are correlated with the Mt Reads on the basis of their petrology and calc-alkaline geochemical characteristics by a number of workers, however, it is difficult to structurally relate these volcanics with the main belt.

From regional scale magnetics and gravity it is clear that there is a major structure running north-south through Birch's Inlet on the east side of the Sorell Peninsula and a second structure running under Macquarie Harbour. As discussed later, associations with some more exotic boninitic rocks suggest that the Noddy Creek Volcanics and indeed the whole Sorell Peninsula may have been faulted south from near Zeehan though the possibility of a separate sub-arc should not be discounted.

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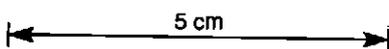
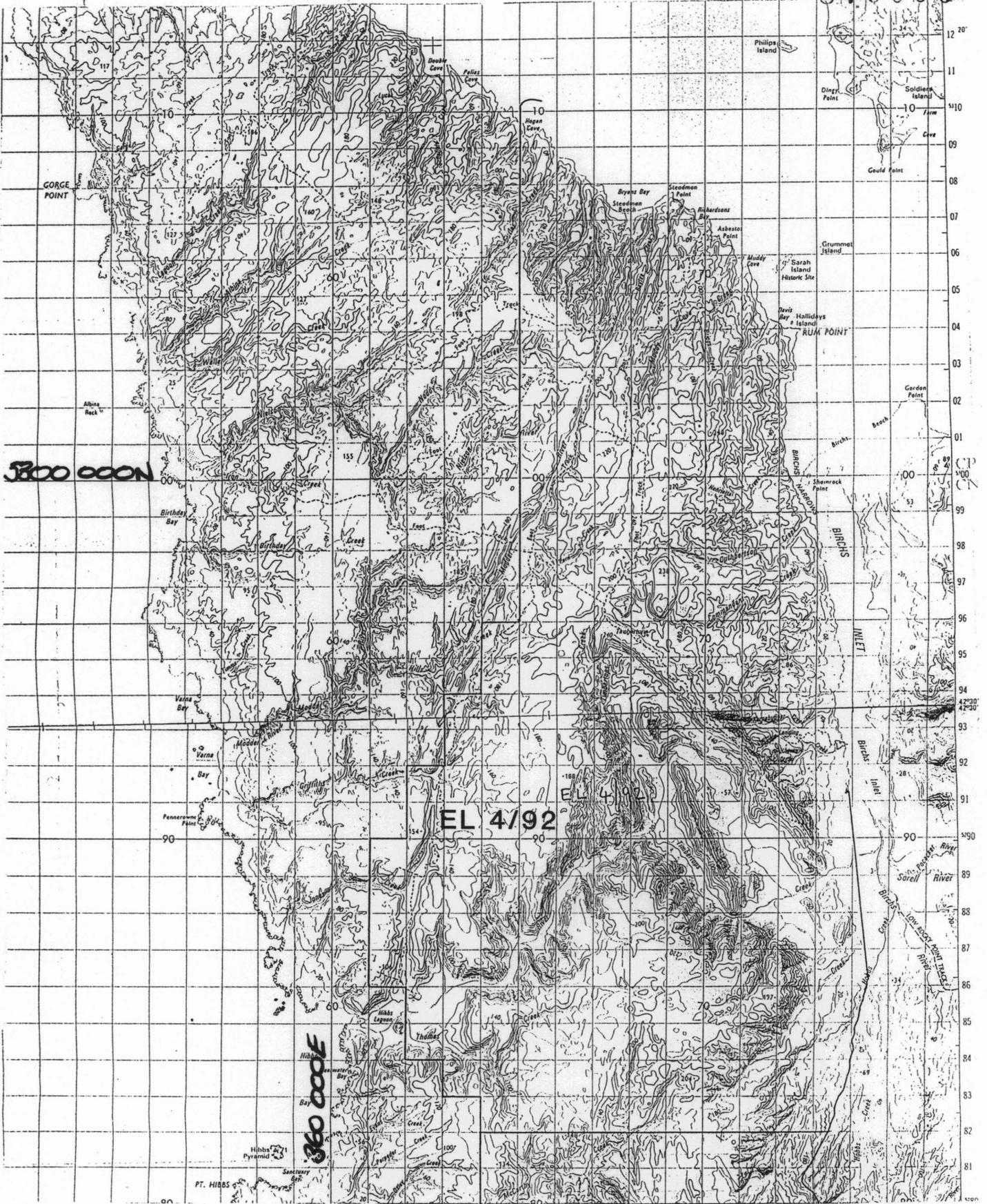


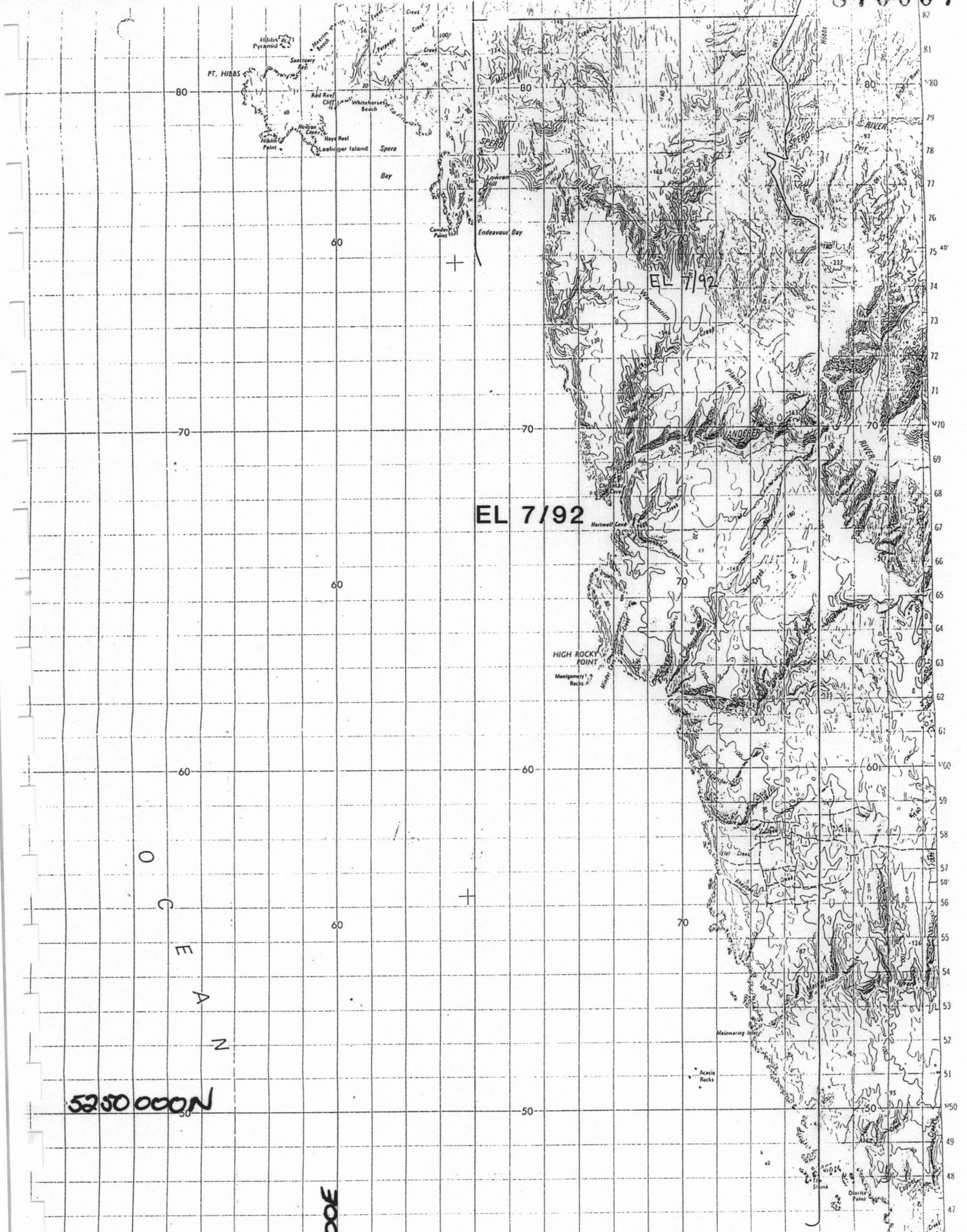
FIGURE 1

REVISION	PLUTONIC OPERATIONS LIMITED A.C.N. 004 680 997	
Technical Report No.	PROJECT: TASMANIA GENERAL	
ORG. OFFICE	PROJECT LOCATIONS	
CHECKED BY:		
DATE: APR. 1992	DRAWN BY: K.G.F./L.H.S.	DWG No.
SCALE 1:2000000	GEOLOGIST: K.M.T.	PROJECT No. 701



5 cm

Revision:	PLUTONIC OPERATIONS LIMITED A.C.N. 004 680 997	
Technical Report No:	PROJECT: 708-SORELL PENINSULA	
Compiled by: Checked by:	G. MacDonald EL 4/92 - "MUDDY COVE CREEK"	
Date: Scale:	REFERENCE:	DWG NO:
Apr. '93 1:100000		FIGURE 2



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Revision:	PLUTONIC OPERATIONS LIMITED A.C.N. 004 680 997	
Technical Report No:	PROJECT: 708 - SORELL PENINSULA	
Compiled by: Checked by:	EL 7/92 - "HIGH ROCKY POINT"	
Date: Scale:	REFERENCE:	DWG NO:
Apr '93 1:100000	FIGURE 3	

Two fault bound belts of Cambrian rocks occur on the northern part of the Sorell Peninsula. The westernmost contains the tholeiitic Lucas Creek Volcanics and associated carbonate and greywacke-mudstone sequences. The eastern belt comprises the Noddy Creek Volcanics, the Hibbs River ultramafic belt and extensive greywacke-mudstone sequences. A detailed account of the geology is included in the August 1993 annual report.

4.0 EXPLORATION PHILOSOPHY

The prospective rocks in EL's 4/92 and 7/92 are correlates of the Mt Read Volcanics. As such they are prospective for medium to large tonnage base metal deposits with gold credits a-la Rosebery or Hellyer. In particular the predominance of mafic/intermediate volcanics and derived sediments suggests an approximate time correlation with Hellyer and Que River.

The Henty gold mine is also hosted in the Mt Read Volcanics. Hence Cambrian hosted gold orebodies are a potential target.

The reported presence of dioritic intrusives in the Timbertops area and further south around Thomas Creek, the latter associated with anomalous copper and gold in altered mafic/intermediate volcanics, indicates that the area is also prospective for porphyry Cu-Au deposits.

5.0 EXPLORATION HISTORY

The area referred to in this report has little of the evidence of small mining which characterises most of the west coast north of Macquarie Harbour. Asbestos was mined from Asbestos point around the turn of the century and there is a small copper prospect hosted in carbonates in Birthday Bay. Previous work by Lyell - EZ Exploration (1956-62), BHP (1964-72) and Amoco (Cyprus)/Poseidon/Placer J.V. (1983-1988) is summarised in the August 1993 annual report.

6.0 WORK CONDUCTED 12 MONTHS TO AUGUST 1994

A brief one day field trip by project and senior geologists to evaluate geological and geophysical anomalies was undertaken in February 1994. A number of the previously identified airborne EM anomalies examined were considered insufficiently defined or insufficiently tested. For these reasons it has been proposed to fly the tenements with airborne EM using Geotem equipment. A programme comprising about 1200 line km was submitted to Geoterrex and costed at about \$30,000 (\$12 per line km + \$15,000 for mobilisation and data processing). A fixed wing aircraft should be available by January 1995 summer season. No other field work was carried out during the reporting period.

BIBLIOGRAPHY

- MacDonald, G 1993: Annual report on exploration activity for the 12 months to August 1993. EL's 4/92 and 7/92 Sorell Peninsula. Unpub. Tasmanian Mines Department Report for Plutonic.
- MacDonald, G 1993: Proposed Works Programme - Sorell Peninsula - December. Unpub. Plutonic Resources Technical Report.