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NORGOLD LIMITED  
and  
THE SHELL COMPANY OF AUSTRALIA LIMITED  
STERLING VALLEY JOINT VENTURE

E.L. 29/88

Relinquishment Report

90-3189

EL29/88

LETTER  
17. 10. 90  
REFERS.

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## 1.0 INTRODUCTION

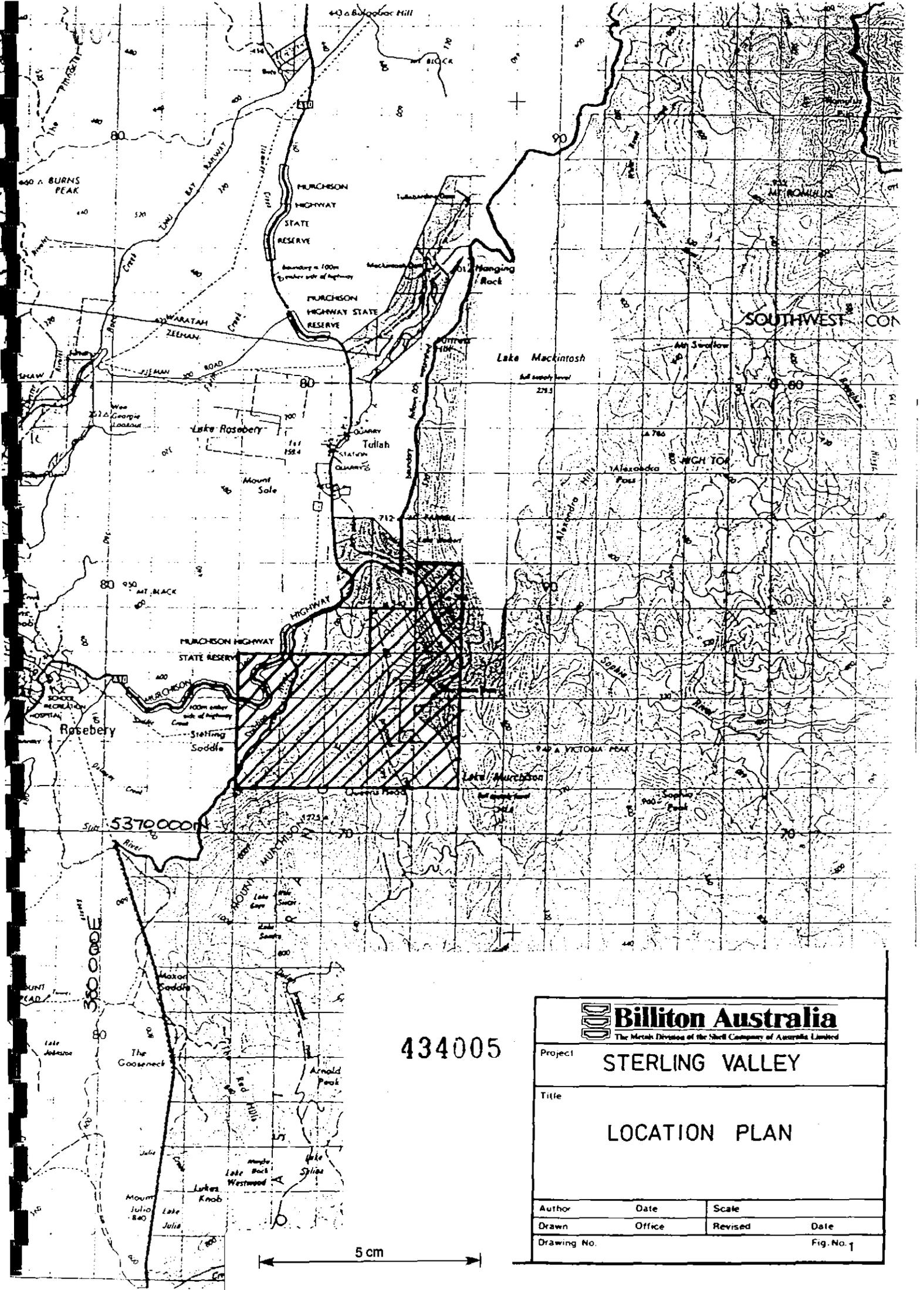
Exploration licence 29/88 is the subject of a joint venture between Norgold Limited (as tenement holder) and Billiton Australia (as manager). The licence was due for renewal on 14th October 1990 and application was made to the D.M.M.R. to renew the lease on behalf of the joint venture. An annual report on exploration activities (08.4949) was submitted to the Department in support of this application. A recent re-appraisal of the technical merits of the project area led the joint venture to gauge the interest of other parties by way of a farm-in opportunity. This exercise did not attract any firm offer.

The joint venture has now concluded that there is insufficient evidence to warrant continued exploration within the tenement and has therefore offered the licence for relinquishment.

## 2.0 LOCATION

The licence is situated between Rosebery and Tullah on the West Coast of Tasmania and is transected on its north-western edge by the Murchison Highway. (see Fig. 1) Access is gained via the partially sealed Anthony Road and an HEC power line track that traverses the western portion of the licence.

## 3.0 LAND TENURE



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5 cm

**Billiton Australia**  
The Metals Division of the Shell Company of Australia Limited

Project **STERLING VALLEY**

Title **LOCATION PLAN**

Author	Date	Scale	
Drawn	Office	Revised	Date
Drawing No.			Fig. No. 1

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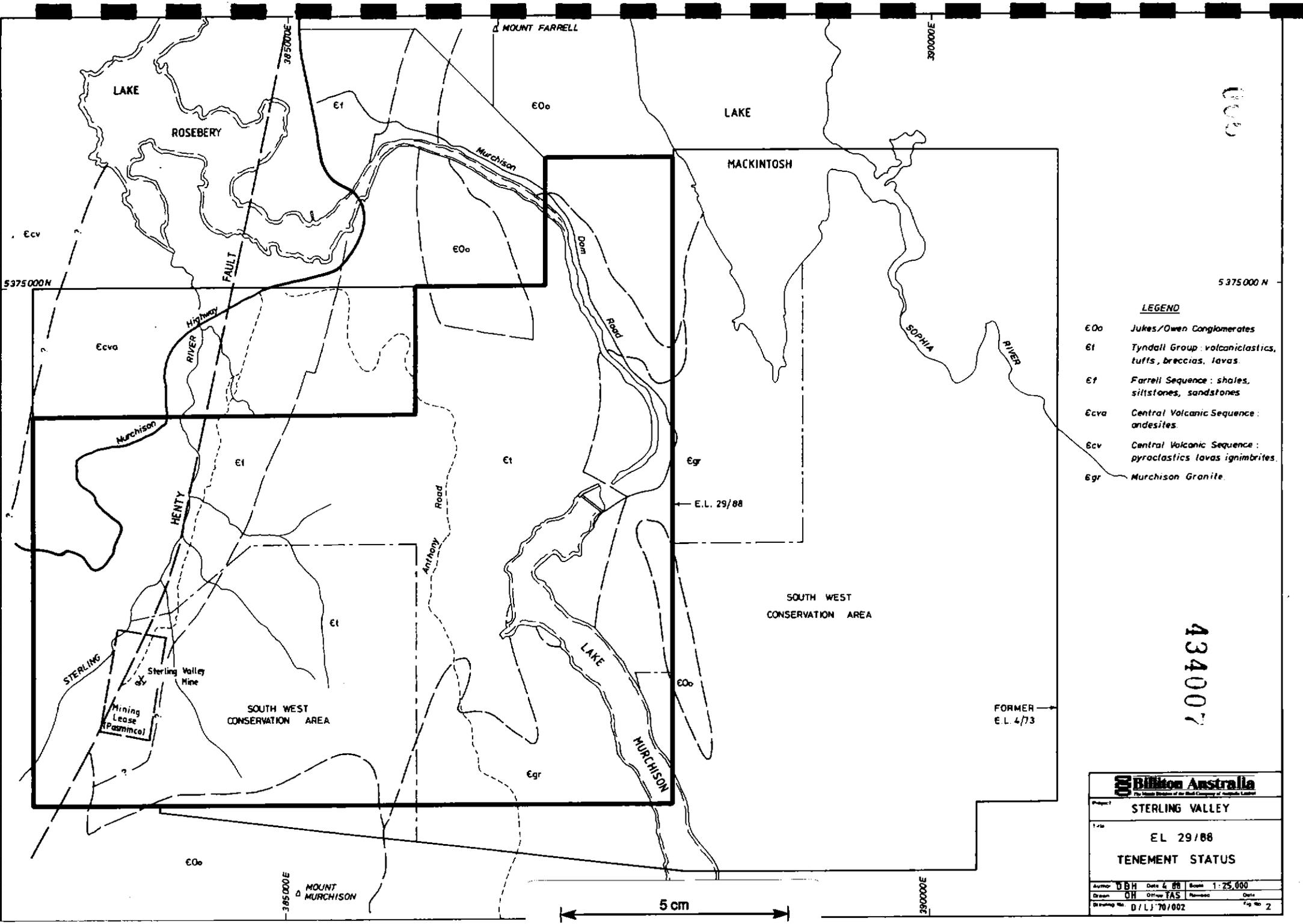
E.L. 29/88, of 17km<sup>2</sup>, was granted to Norgold Limited on the 14th October, 1988 for a period of ten years renewable every 12 months. A joint venture agreement is currently in place between Norgold Limited and the Shell Company of Australia Limited whereby Billiton Australia, the Metals Division of the The Shell Company of Australia Limited, manages the joint venture.

Norgold and Billiton entered into a joint venture agreement on 12th November 1986 in which E.L. 4/73 was the subject of this agreement. The licence expired on 6th March 1988 but a new exploration licence, namely EL 29/88, was granted to Norgold Limited on behalf of the Sterling Valley Joint Venture (see Fig. 2).

The licence area excludes 0.4km<sup>2</sup> Murchison Highway State Reserve, 1.5km<sup>2</sup> Land vested in the HEC and two mining leases (ML's 1M/55, 2M/55) held by Pasminco. In addition, approximately 80% of the licence is contained within the South West Conservation Area.

#### 4.0 PREVIOUS WORK

Previous exploration was carried out under EL 4/73 by Asarco (Aust) Pty Ltd (1973-74), Cominco Aust. Pty Ltd (1975-78) EZ Co (1979-86) and Billiton Australia (1987-88).



- LEGEND**
- E0o Jukes/Owen Conglomerates
  - E1 Tyndall Group: volcaniclastics, tuffs, breccias, lavas
  - E1 Farrell Sequence: shales, siltstones, sandstones
  - E0o Central Volcanic Sequence: andesites
  - Ecv Central Volcanic Sequence: pyroclastics lavas ignimbrites
  - Egr Murchison Granite.

<b>Billion Australia</b> The State Electricity of an Australian Company of Australia Limited			
Project: <b>STERLING VALLEY</b>			
Title: <b>EL 29/88</b>			
Tenement Status: <b>TENEMENT STATUS</b>			
Author: <b>DBH</b>	Date: <b>4/88</b>	Scale: <b>1:25,000</b>	
Drawn: <b>DBH</b>	Drawn: <b>TAS</b>	Revised:	Date:
Drawing No: <b>D/L/70/002</b>			Fig No: <b>2</b>

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A list of important references relating to this work is summarized in a previous report (08.4175) and is not reproduced here.

Billiton continued exploration on behalf of the joint venture within EL 29/88 during 1988-89. A comprehensive program of gridding (54 kms), geological mapping, selected rock chip sampling (78 samples), ground magnetics (50 kms), UTEM surveying (4 loops, 48kms) and diamond drilling (283m) was completed.

Exploration during 1989-90 has focussed on surface evaluation of the prospective volcanic hiatus identified during the course of detailed geological mapping. This work has included:

1. Lead Isotope Analysis: Six samples containing anomalous lead geochemical values were submitted to the CSIRO with the aim of determining the likely origin of the mineralization in relation to known VMS style mineralization within Tasmania.
2. Lithogeochemical Sampling: Seventy three rock chip samples were collected from three traverses across the Tyndall Group Volcanics. All samples were analysed for total silicates, Zr, Sr, Rb, Y, Nb.
3. Infill Gridding: A total 4.8 line kms was cut to provide a 100 metre spaced grid from 372900N to 374000N.

4. Auger C Horizon Soil Sampling: A total of 224 samples were collected on 200 metre spaced lines and analysed for Cu, Pb, Zn, Ag, Au, As, Ba.
5. Geological Mapping: The newly gridded lines were mapped and incorporated into the previous mapping. Rock chip sampling (4 samples) and petrological work (7 samples) was also completed.

#### 5.0 REGIONAL SETTING

The licence covers a portion of the eastern flank of the Mt. Read Volcanic belt immediately east of Rosebery, (see Fig 3) and includes a range of structural and stratigraphic features.

viz from west to east:

Central Volcanic Sequence (5%) - Mid Cambrian andesitic lavas and volcanoclastics.

Henty Fault Zone - a major NNE trending Cambrian structure that displays Devonian reactivation features.

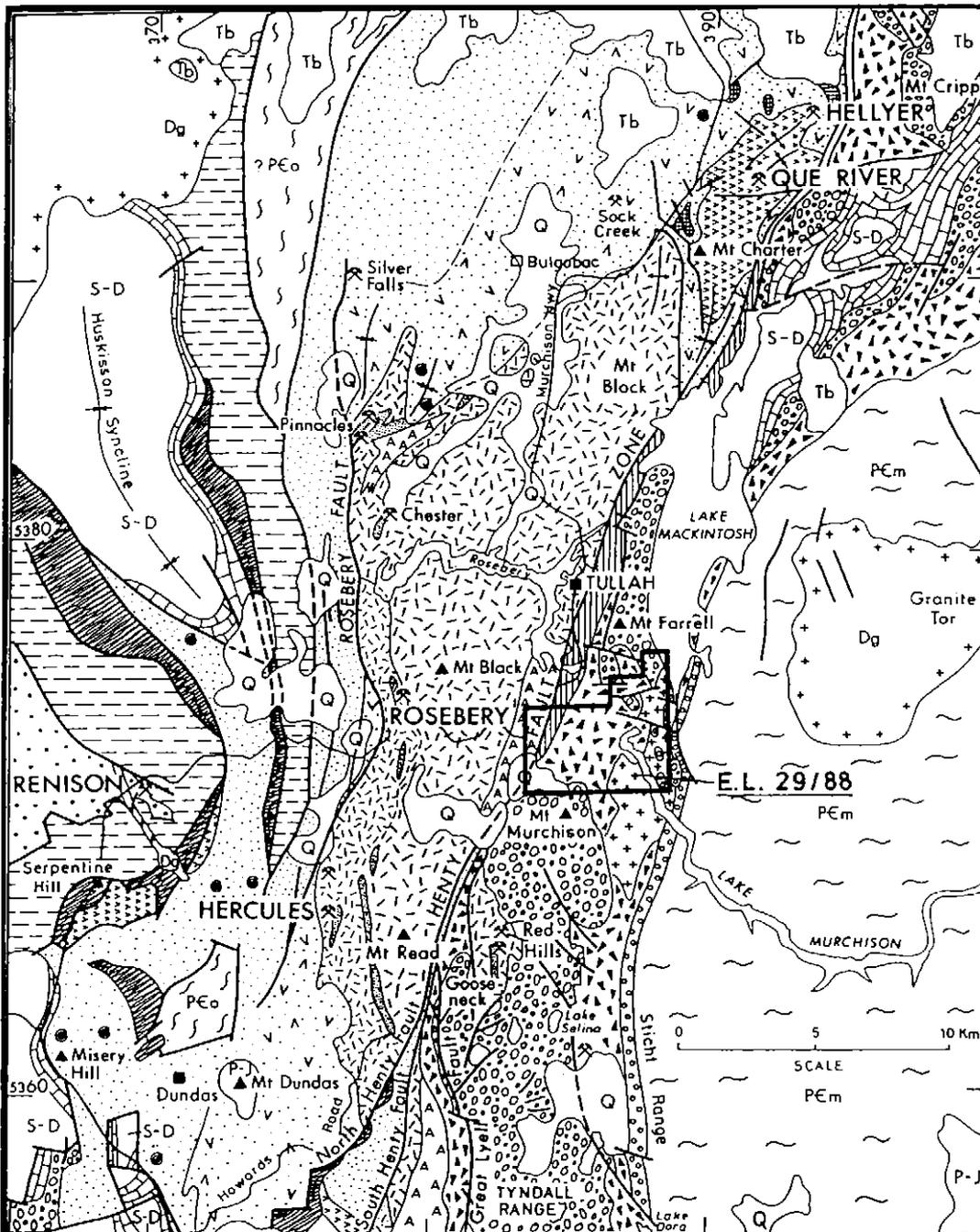
Farrell Sequence (5%) - Mid to Late Cambrian volcanoclastic sandstones and black shales.

Tyndall Group Volcanics (70%) - Mid to Late Cambrian acid - intermediate lavas and volcanoclastics.

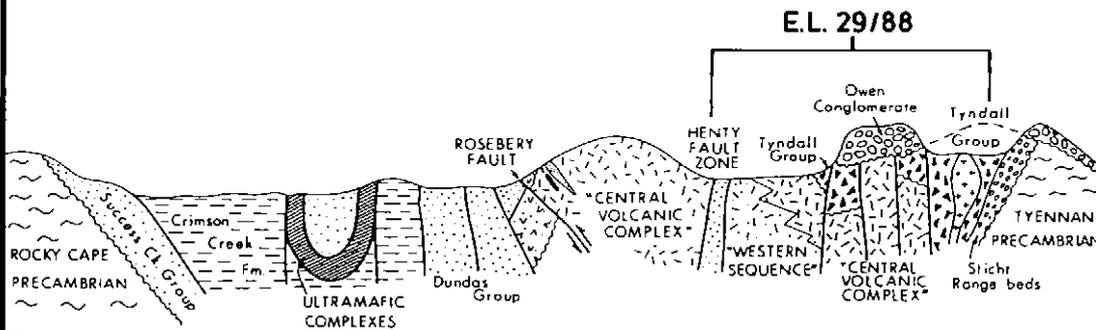
Owen Conglomerate (10%) - Late Cambrian to Ordovician siliciclastic conglomerate.

Granite (10%) - Late Cambrian granitic intrusives adjacent to the PreCambrian Tyennan Block.

Within the licence area the Tyndall Group Volcanics and Henty Fault Zone have been the main targets for exploration; the

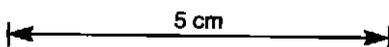


Geology of Northern Portion of Mt. Read Volcanics.



Diagrammatic Cross Section of Dundas Trough

Maps taken from "Geology and Mineral Resources of Tasmania."  
G.S.A. Spec. Publ. 15



Project			
STERLING VALLEY			
Title			
REGIONAL SETTING			
Author	JPR	Date	8/89
Scale	1: 250 000		
Drawn	OH	Office	TAS
Revised			
Drawing No.	Fig. No. 3		

former for VMS style base metal mineralization and the latter for structurally controlled gold-arsenic mineralization.

The Tyndall Group suite has historically been considered to be younger than the Central Volcanic Sequence and consisting of dominant quartz phyric lavas with lesser volcanoclastics and sediments. The sequence has never been systematically explored using modern exploration techniques, having been considered as a less prospective sequence than the Central Volcanics. A major objective in the acquisition of the licence by the Sterling Valley Joint Venture has been to comprehensively evaluate the Tyndall Group as a potential host to VMS style mineralization.

The Henty Fault Zone has received considerable attention recently by RGC at the Henty Prospect and by Billiton - Norgold - Little River Resources at Lakeside. Within this licence area, a small arsenic resource is inferred from limited drilling and low grade gold intercepts have been recorded.

## 6.0 EXPLORATION RESULTS

No exploration has been completed since reported in the 1990 Annual Report.

## 7.0 CONCLUSIONS

The Sterling Valley licence has been explored in conjunction with joint venture partners Norgold (Geopeko) for almost five years. Equity is currently shared equally. During this time, BAUS has acted as manager and has focussed on two principal targets viz. 1) stratabound sulphide hosted gold mineralization adjacent to the Henty Fault and 2) volcanogenic massive sulphide mineralization within Tyndall Group lithologies east of the Henty Fault.

Exploration has identified the presence of sub-economic auriferous sulphide stringers and veins within the fabric of the Henty system but has not supported the target concept of a consistent stratabound horizon of regular grade. It is considered unlikely that a deposit of >2m.tonnes @ >3g.t Au would be located near surface.

Recent exploration has focussed on the potential of the Tyndall Group volcanics to host a significant body of VMS style mineralization. A systematic programme of UTEM, mapping, sampling and lithogeochemical work has provided some encouragement by way of identifying a favourable stratigraphic horizon within the sequence. However, the lack of supporting geophysics would suggest that a mineralized body could be located only at depths of >200m below surface. Furthermore, surface geochemistry indicates a sporadic base metal anomalism with a similar alteration pattern.

## 8.0 RECOMMENDATIONS

Stratigraphic drilling of the main epiclastic sequence is suggested as an effective way to provide continuous geological information through the horizon of interest. A drill hole of 550 metres down hole length collared at 373000N 384700E would provide continuous geological information pertaining to both the interpreted hanging wall and footwall lithologies. Continuous lithogeochemical sampling and down hole EM surveying would provide a better understanding of the local geochemical and geophysical setting.