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EL 96/87	
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PASMINCO EXPLORATION

EL 96/87

PRESTON

FINAL REPORT

APRIL 1990 - MARCH 1991

OPEN FILE

MICROFILMED

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 DATE: April 1991
 REPORT No: T91-4
 SUBMITTED TO: Regional Exploration Manager - Tasmania
 DISTRIBUTION: Mines Department - Hobart
 Pasminco Exploration - Burnie
 - Melbourne

SUBMITTED BY: *[Signature]*
 ACCEPTED BY: *[Signature]*
 Burnie
 April 1991

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SUMMARY

1

Exploration Licence 96/87, Preston, covering 118km² was granted to the Electrolytic Zinc Company of Australasia Limited (now Pasminco Australia Limited) on 22 April 1988. Since that time a relatively low key exploration program has been undertaken to locate economically viable volcanogenic massive sulphide mineralisation.

This work has involved: a detailed assessment of the results of previous exploration, including resampling and assay of drill core; regional stream sediment geochemistry; gridding, geological mapping, rock chip and soil geochemistry in the Crosby Creek and Tulip Tree Creek areas; a lead isotope study of mineralised occurrences; a ground magnetic survey over the Tulip Tree Creek Grid and mapping and sampling of the Castra Road Alteration Zone.

None of the results of these investigations are sufficiently encouraging to warrant further exploration at this time and it is recommended that the licence should not be renewed beyond the current term, which is due to expire on 21 April 1991.

1. INTRODUCTION

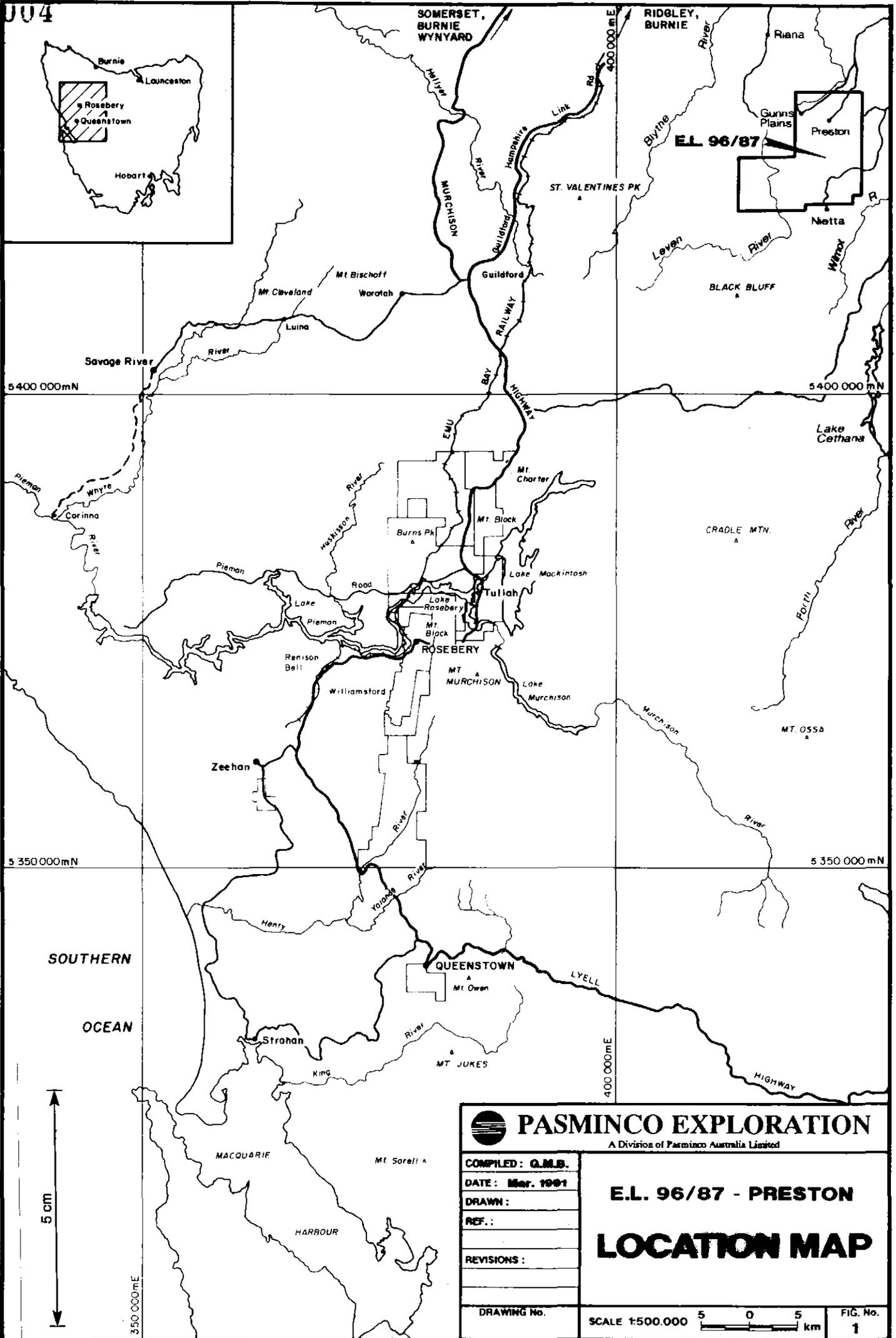
2

This Final Report for EL 96/87, Preston, summarises all of the exploration activity undertaken since the grant of this licence on 22 April 1988. There was no active field work carried out within the licence area during the last 12 months. Notice of the Company's intention not to renew the licence was submitted to the Mines Department on 19 March 1991.

Exploration Licence 96/87 is located in Northern Tasmania and is centred approximately 30km south east of Burnie (see Figure 1). The area is readily accessible along sealed and gravel secondary roads south of the Bass Highway. A network of minor roads and 4WD farm and forestry tracks provide good access to most of the tenement area apart from the thickly timbered and deeply incised south western block, centred on the on the Leven River drainage system.

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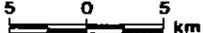
367000



5 cm

350 000mE

400 000mE

 PASMINGO EXPLORATION <small>A Division of Pasmingo Australia Limited</small>	
COMPILED : G.M.B. DATE : Mar. 1981 DRAWN : REF. : REVISIONS :	E.L. 96/87 - PRESTON LOCATION MAP
DRAWING No.	SCALE 1:500,000 
	FIG. No. 1

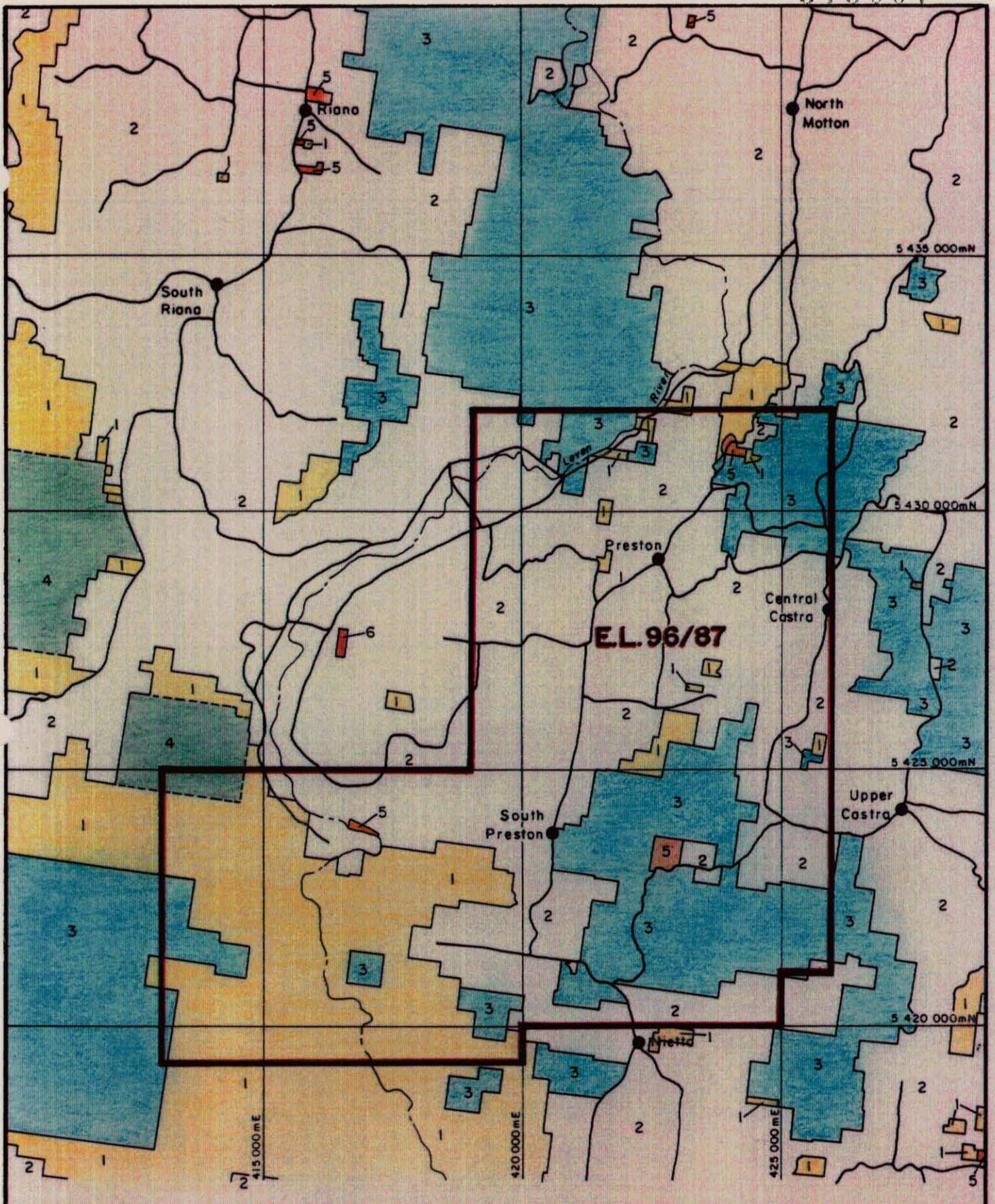
2. TENURE

4

Exploration Licence 96/87 covering ETA 8 was first applied for on September 1987 by the Electrolytic Zinc Company of Australasia Limited (EZ). The licence was subsequently granted to EZ on 22 April 1988 covering an area of 113km². An additional EL Application 21/88 was lodged over an area of 5km² adjoining EL 96/87 to cover further old CRA Exploration grids. This was granted and then amalgamated with EL 96/87 on 27 September 1988 bringing the total area to 118km² (see Figure 2). The current schedule of the tenement is presented in Appendix 1.

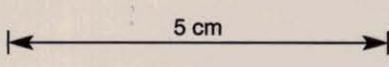
Title to the tenement was changed to Pasminco Australia Limited (PAL) on 19 August 1990 as part of a registered change of Company Name. Exploration activity has been conducted by North Broken Hill – Peko, on behalf of EZ and since 1 July 1990 by Pasminco Exploration, a division of PAL.

The land tenure of the licence area is predominantly Private Property, State Forest and Crown Land with a small area covered by a Timber Reserve and Administrative Reserves (Crown Land subject to Lands Department approval) (see Figure 2). Most of the northern and eastern portions of the area is arable farm land used for pasture and crops. In contrast, the southern and western portions are predominantly Crown Land and State Forest, which is administered by the Forestry Commission. These areas are generally covered by thick regrowth of eucalypt or pine plantations.



LEGEND

- 1 Leased or non-allocated crown land.
- 2 Private freehold land.
- 3 Forestry Commission-State forest.
- 4 Timber reserve.
- 5 Administrative reserve.
- 6 N.P.W.S. - State reserve.



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E.L. 96/87 - PRESTON

LAND TENURE

DRAWING No.	SCALE 1:100,000		FIG. No. 2
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3. REGIONAL GEOLOGY

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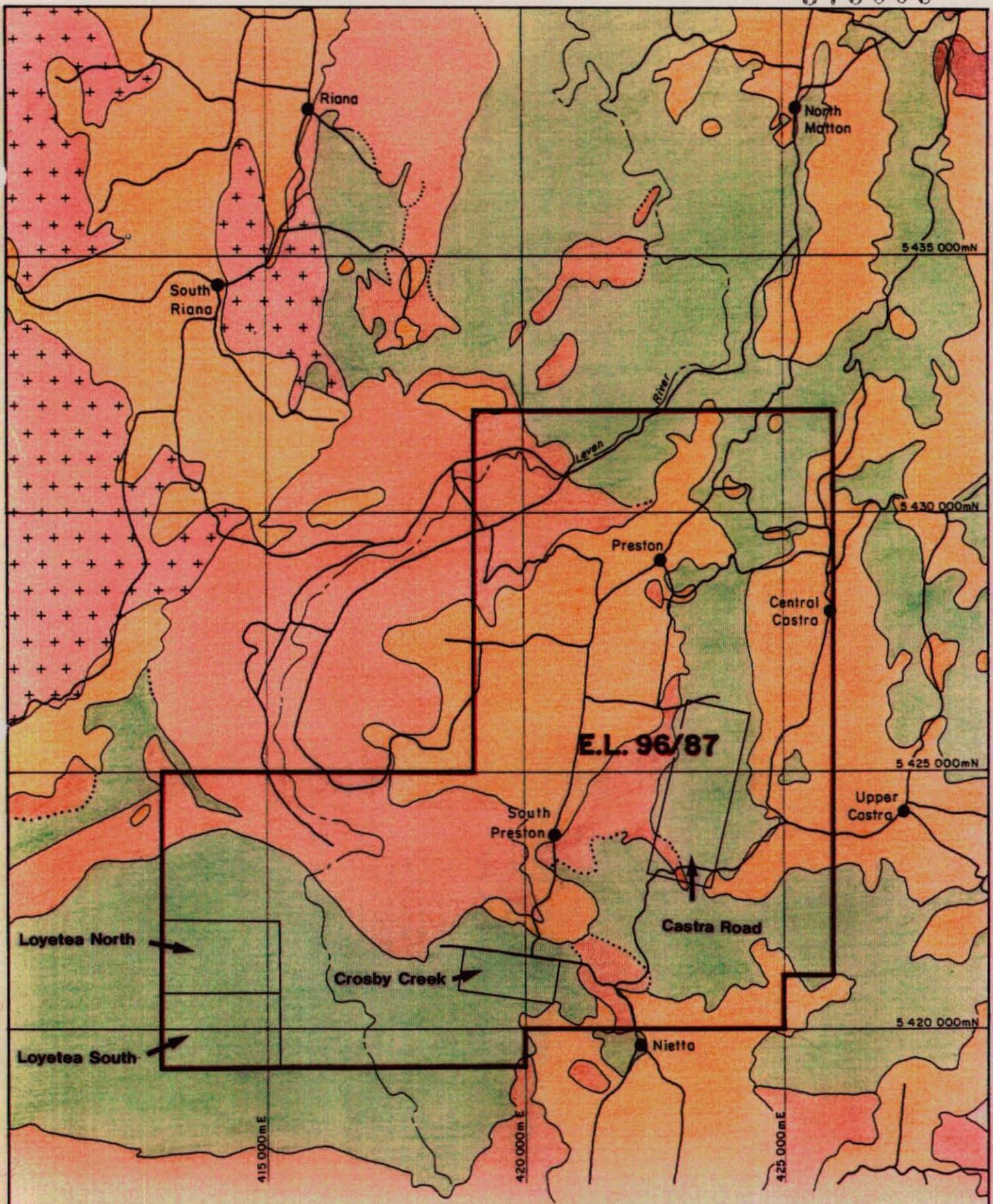
The Preston area lies within the northern extensions of the Cambrian Dundas Trough, which contains the highly prospective Mt Read Volcanics, just north of the Precambrian basement metamorphic complex (see Figure 3). The Cambrian volcano-sedimentary sequence, which infills the Fossey Mountain and Dial Range Troughs, is succeeded by Ordovician and Silurian Sedimentary Formations. Large Devonian granitoids intruded this sequence (eg the Housetop Granite) producing a significant contact metamorphic areole. Finally, this deformed sequence was covered by Tertiary sediments and basalt flows. Remnants of the Tertiary basalts cover one third of the EL.

The Cambrian sequence exposed within the licence area comprises felsic lavas and volcanoclastics as well as turbiditic sedimentary units. High level Cambrian felsic intrusive bodies, including rhyolitic and dacitic porphyries, occur within this volcano-sedimentary sequence.

Government maps, the Cethana 1:50 000 Mineral Occurrence Map (Bamford and Green, 1988a), the Ulverstone 1:50 000 Mineral Occurrence Map (Bamford and Green, 1988b), the St Valentine 1:50 000 Geological Map Sheet (Baillie et al, 1986) and the Loongana Metallic Mineral Deposits Map (Green and Taheri 1989) provide up to date summaries of the geological understanding of EL 96/87 and surrounding areas.

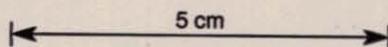
A total of 13 known mineral occurrences have been recorded within the Preston area. Virgoe and Mathison (1989) present a summary of these occurrences and show their location. Most of these relate to small base metal prospects within the Cambrian sequence, however there has been no significant production from any of these shows. Jennings (1979) reviews early Government Reports on many of these old prospects.

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LEGEND

- 58 Tertiary basalt.
- 13 Ordovician & Silurian Sedimentary rocks.
- 46 Cambrian Volcanic - Sedimentary rocks.
- 55 Precambrian rocks.
- 21 Devonian Granite.



PASMINCO EXPLORATION

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REVISIONS :

DRAWING No.

E.L. 96/87 - PRESTON

**REGIONAL GEOLOGY
SHOWING PROSPECT AREAS**

SCALE 1:100,000

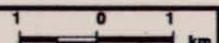


FIG. No.
3

4. EXPLORATION PHILOSOPHY

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The principal exploration target was volcanogenic massive sulphide (VMS) deposits of the Rosebery – Hellyer style within the Cambrian volcano–sedimentary sequence. A secondary target was gold mineralisation possibly associated with the Cambrian volcanics or the Devonian granites.

Favourable indications for the occurrence of massive sulphides mineralisation were discovered during previous exploration by CRAE during the 1970's. CRAE located several areas of intense sericite–pyrite alteration within the Cambrian sequence. They intersected sub volcanic porphyries, which are associated with minor disseminated and veinlet base metal mineralisation, during drilling at Crosby Creek and Loyetee South (see Figure 3).

It was believed that, whilst no massive sulphide mineralisation had been discovered, those prospect areas identified, including widespread soil and stream geochemical anomalies, may not have been adequately tested and that significant potential for VMS occurrences remained in the area.

5. SUMMARY OF EXPLORATION 1988-1991

9

Exploration Licence 98/87, Preston was previously covered by parts of former EL's 19/72 (CRAE), 8/77 (CRA-Billiton-Comalco Joint Venture) and 2/76 (Geopeko). A detailed summary of the previous exploration and significant results from these investigations is presented in Virgoe and Mathison (1989).

This work has included: stream sediment and soil geochemistry; geological mapping and sampling; aeromagnetic and helicopter electromagnetic (HEM 400) surveys; gradient array and pole-dipole EIP surveys; SP surveys and diamond drilling (5 holes total).

The following exploration has been undertaken by EZ/Pasminco since the granting of EL 98/78. (note that there has been no active exploration undertaken during the last 12 months) (see Virgoe and Mathison, 1989 and Virgoe, 1990):

1. Relogging and selective resampling of CRAE's five diamond drill holes in the Loyetea and Crosby Creek areas.
2. Clearing of access tracks and grid cutting in the Loyetea area known as the Tulip Tree Creek Grid.
3. Grid cutting in the Crosby Creek area.
4. Geological mapping, rock chip and C-horizon soil sampling and drainage sampling in the above gridded areas.
5. Rock chip sampling of McPherson's Copper Prospect and the Preston Silver Mine workings.
6. Lead isotope determinations on samples from the Tulip Tree Creek Grid, CRAE's drill holes and old workings.
7. A ground magnetic survey over the Tulip Tree Creek Grid.
8. Mapping and sampling of the Castra Road alteration zone.
9. Infill stream sediment sampling, including bulk leach extractable gold (BLEG), to provide complete coverage of the Cambrian rocks within the EL.
10. Petrographic study of samples from Crosby Creek and Tulip Tree Creek.

The most significant results to come from these investigations may be summarised as follows:

1. A Cambrian lead isotope signature for base metal mineralisation in the Fossey Trough.
2. Weakly anomalous lead and zinc values (Pb 300-665 ppm) and Zn (400-2300 ppm) were reported from rock chip samples from both Tulip Tree Creek and Crosby

Creek Grids. Most elevated geochemistry came from samples of volcanoclastic sediments or siltstone.

3. Identification of an intermediate to acid subvolcanic-volcanic complex extending from Tulip Tree Creek to Crosby Creek.

4. Flanking volcanoclastics and sediments appear to be folded into an anticline with the volcanic complex in the core.

5. Intense sericitic alteration at Tulip Tree Creek appears to be shear related. Altered rocks are not geochemically anomalous.

6. Most rocks throughout the Tulip Tree Creek and Crosby Creek areas show no evidence of hydrothermal alteration.

6. ENVIRONMENTAL REHABILITATION

11

The only activities which have impacted significantly on the local environment within EL 96/87 have been limited to clearing of existing access tracks and the cutting of grid lines in the Tulip Tree Creek and Crosby Creek areas. Both grids were cut to meet with the Mines Department specifications and thus minimise environmental disturbance and were approved by the Department. There were no earthworks associated with any of the exploration undertaken.

No specific steps are required to rehabilitate any work areas. Natural revegetation is occurring within these areas. The licence area has not been recently inspected by any officers from the Mines Department.

7. EXPENDITURE

Total expenditure on EL 96/87, Preston since the grant of the tenement on 22 April 1988 to 31 March 1991 is \$182 599

This expenditure is subdivided as follows:

Geology (salaries, wages, consultants, petrography)	73 841
Geochemistry (wages, contractors, analyses)	46 023
Geophysics (consultants)	11 530
Other Exploration Expenditure (gridding, stores, vehicles)	31 101
Administrative overheads (office costs)	20 104

8. CONCLUSIONS AND RECOMMENDATIONS

13

The results of exploration completed todate within EL 96/87, Preston, including work undertaken over this same area within previous exploration tenements, has failed to locate economic base metal or gold mineralisation. Whilst the geological setting may still be favourable for the occurrence of volcanogenic massive sulphide deposits within the Cambrian sequences, there are no significant untested target areas identified by the recent exploration.

It is recommended that the licence not be renewed beyond the current term, which is due to expire on 21 April 1991.

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APPENDIX.1
EL 96/87 PRESTON
TENEMENT SCHEDULE

Commencing at the north eastern corner of the area whose grid co-ordinates are 426 000 metres E. 5 432 000 metres N. thence grid south to 5 421 000 metres N. grid west to 425 000 metres E. again grid south to 5 420 000 metres N. again grid west to 420 000 metres E. again grid south to 5 419 275 metres N. again grid west to 413 000 metres E. grid north to 5 425 000 metres N. grid east to 419 000 metres E. grid north to 5 432 000 metres N. aforesaid thence grid east to the point of commencement.

This area excludes: 13.3 ha Gravel Reserve