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**PASMINCO EXPLORATION**  
**MT BLACK EL 12/88**  
**JOINT VENTURE**  
**FINAL REPORT**  
**SEPTEMBER 1988 - AUGUST 1995**

**TRANSPARENCIES**  
**HELD**

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**AUTHOR:** MS Saxon

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August  
1995

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**FINAL REPORT 1988-1995**  
**PASMINCO EXPLORATION - SAXON M S**

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4. *Magnetic image.*

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## 1 SUMMARY

Exploration Licence 12/88, Mt Black, covering 9km<sup>2</sup> was granted to the Austmin Resources NL/Climax Mining Limited Joint Venture on 3rd September 1988. Pasminco Australia Limited joint ventured into this project on 28 May 1990. Since that time a moderate level of activity has been undertaken to locate economically viable volcanogenic massive sulphide mineralisation.

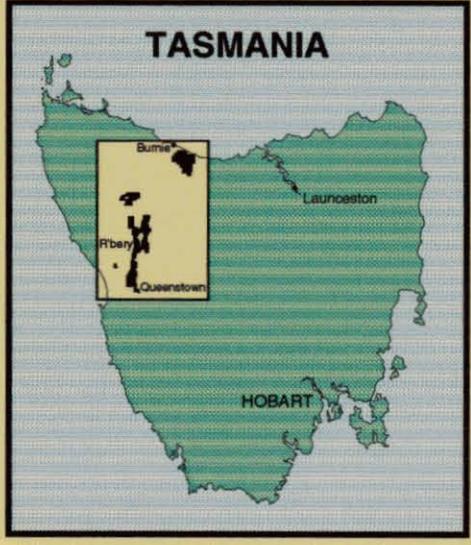
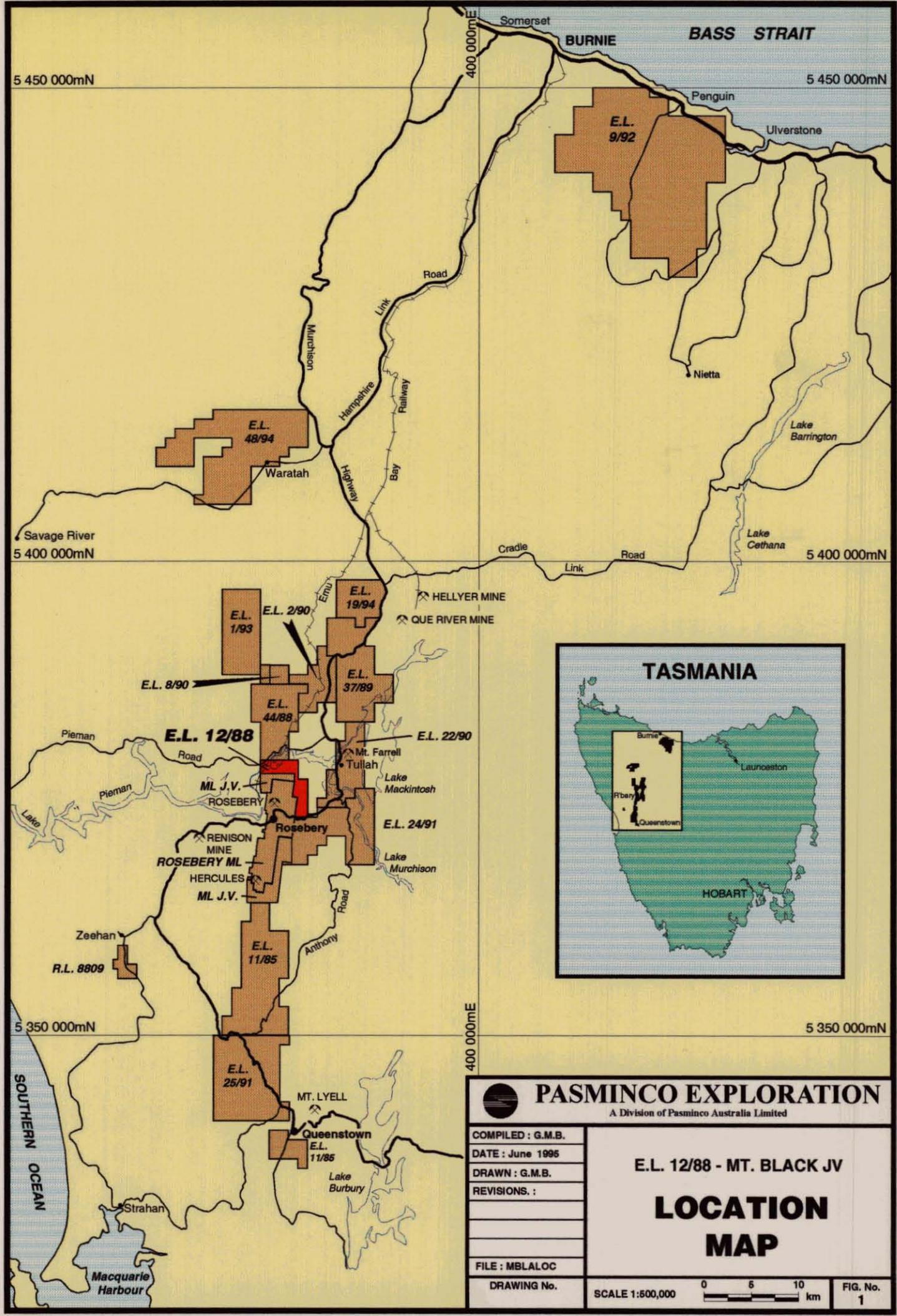
This work has involved a detailed assessment of previous exploration, mapping, rock chip sampling, aeromagnetics, four diamond drill holes, down hole EM and IP.

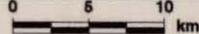
Results gained from this activity have not indicated proximity to economic mineralisation, and have not been sufficiently encouraging to warrant further exploration. It is recommended that the licence not be renewed beyond the current term, which is due to expire on 2 September 1995.

## 2 INTRODUCTION

This Final Report for EL 12/88, Mt Black, summarises all exploration activity undertaken on this licence since granting on 3rd September, 1988. Activity and expenditure since last reported was limited to financial and logistic support of PhD student Catherine Gifkins, whose field area includes the Mt Black licence. No exploration activity has been completed during the past 12 months. Notice of Pasminco Australia Limited's intention not to renew this licence was submitted to the Department of Mines on 24th July 1995.

The Mt Black tenement is located immediately north and west of the Consolidated Rosebery Mine Leases in western Tasmania (see Figure 1), and covers an area of 16km<sup>2</sup>. The licence area straddles the very rugged and thickly vegetated Mt Black massif, which rises to an elevation of 929m above the HEC impoundment of Lake Rosebery, at 159m above sea level. Access is via the Murchison Hwy in the south and Pieman Road in the north, plus other minor HEC and old exploration tracks. A network of cut grid lines from previous exploration of the area allow foot access to much of the licence.



 <b>PASMINCO EXPLORATION</b> <small>A Division of Pasminco Australia Limited</small>	
COMPILED : G.M.B. DATE : June 1995 DRAWN : G.M.B. REVISIONS :  FILE : MBLALOC DRAWING No.	<b>E.L. 12/88 - MT. BLACK JV</b>  <b>LOCATION MAP</b>
SCALE 1:500,000	
	FIG. No. 1

### 3 TENURE

Exploration Licence 12/88 was granted to Austmin Resources NL (Austmin) and Climax Mining Limited (Climax) on 3rd September 1988, following their successful joint tender for part of ETA 31, formerly part of EL 1/62 (held by the EZ Co.) Climax withdrew from the Joint Venture in March 1990 and sole title to the licence was transferred to Austmin on 29 May 1990.

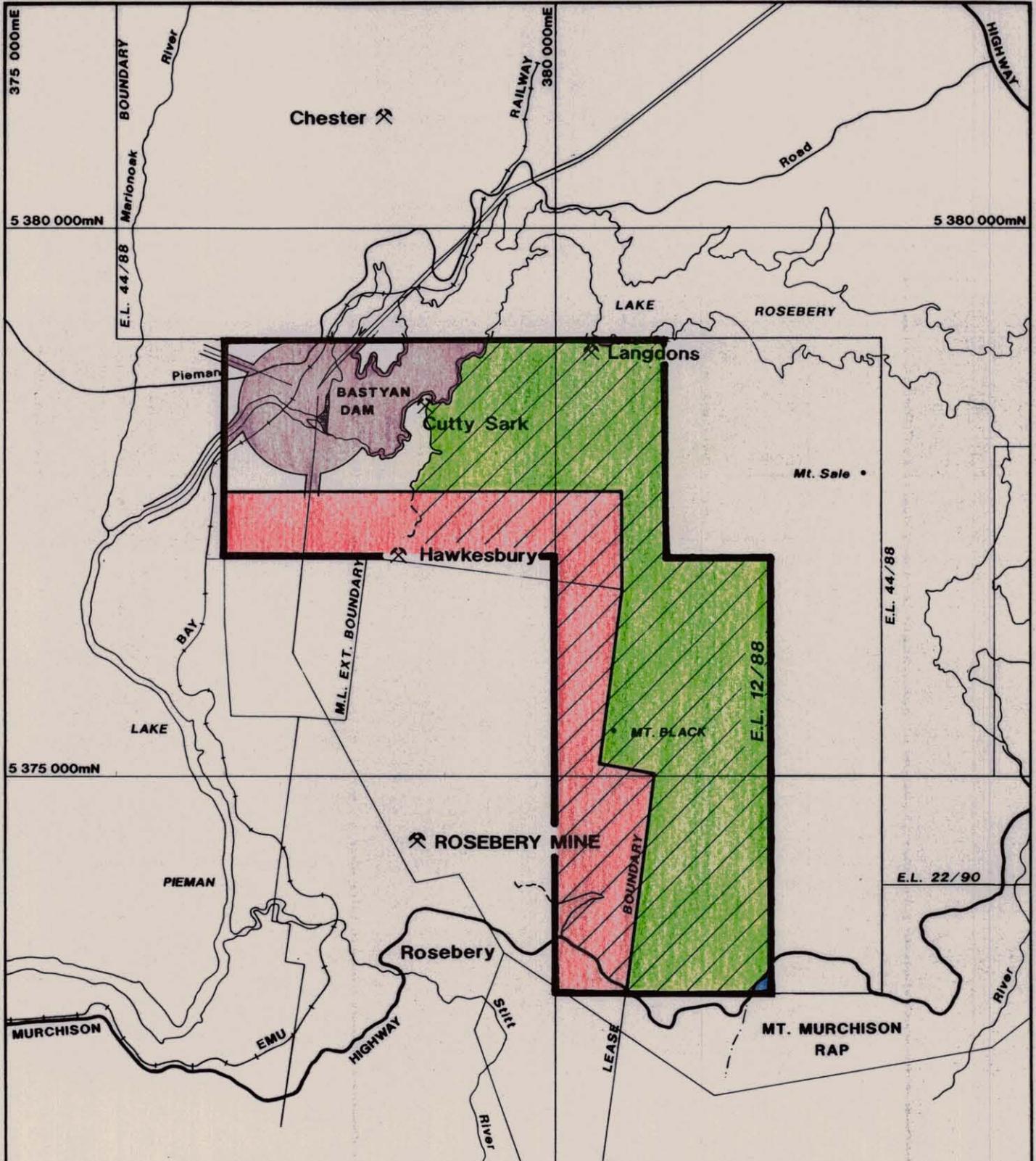
Pasminco Australia Limited (Pasminco) signed a Heads of Agreement to Joint Venture the tenement with Austmin on 28 May 1990. Under the terms of this Agreement, Pasminco Exploration, a division of Pasminco Australia Limited, could earn a 60% equity in the tenement by spending \$300 000 within two years. Pasminco reached this point during April 1992 and have continued to manage and sole fund the exploration program ever since.

Austmin transferred their interest and management of the Mt Black Joint Venture to Majestic Resources NL in 1992, and to Ida Valley NL during 1994.

The boundary of EL 12/88 was amended on 17 May 1993 following the revocation of the Murchison Highway State Reserve. Partial relinquishment of the licence in accord with Department of Mines regulations was completed during July 1993. The total area of 16km<sup>2</sup> of the licence currently excludes the following (see Figure 3):

5km<sup>2</sup> in Mining Leases

2km<sup>2</sup> land vested in the HEC



**KEY**

-  HEC Vested Land Excluded from E.L.
-  RAP - Recommended Area for Protection
-  Deferred Forest
-  Uncommitted Crown Land
-  Nomination for National Estate
-  Mine Lease Excluded from E.L.

**NOTE** - The Land Tenure is only shown within the E.L.12/88 Boundary

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# LAND TENURE

#### 4 EXPLORATION PHILOSOPHY

The principal exploration target within EL 12/88 was a precious metal-rich polymetallic massive sulphide deposit hosted by the Cambrian Mt Read Volcanics. The target was expected to have similar characteristics to the world class deposits at Rosebery, located within 2km of the tenement, and Hellyer, 25km to the NE.

The tenement abuts the Consolidated Rosebery Mine Leases to the south and east. Consequently, the area has potential for along strike and down-dip extensions of the Rosebery mineralised horizon, which trends northwards into the licence area near the Bastyan Dam and dips eastwards at 45° beneath Mt Black. Current geological understanding indicates that depth to this target is well beyond economic interest.

## 5 REGIONAL GEOLOGY

Basement in western Tasmania is Precambrian in age, consisting predominantly of greenschist facies metasediments with minor basalts and dolerites. Higher grade amphibolite and eclogite facies also occur within the Precambrian (Turner, 1989). Basement is exposed west of the licence in the Huskisson River valley (Figure 3).

Cambrian volcanism and sedimentation developed on this continental crust, and can be subdivided into the Eo-Cambrian tholeiitic Crimson Creek Formation (CCF) and the Middle Cambrian Mt Read Volcanics (MRV).

The Mt Black tenement, EL 12/88, lies entirely within the MRV. The MRV are part of the Tasman Fold Belt of eastern Australia and form a tract approximately 200km long and 20km wide on the western and northern margin of a Precambrian basement block known as the Tyennan region. The volcanic belt is comprised of an eastern zone of stratigraphically and structurally complex massive felsic lavas and associated volcanoclastics with common intrusives, and a broader western zone of volcano-sedimentary sequences, known variously as the Dundas Group, Yolande River Sequence and Mt Charter Group (Corbett, 1992). The relationship between different units is complicated by rapid facies variations, at least two phases of major deformation in the late Cambrian – early Ordovician and the Devonian, and by generally poor exposure.

Lower greenschist facies regional metamorphism and syn to post-kinematic granitoid intrusion accompanied the Devonian Tabberaberan Orogeny, which overprinted the earlier hydrothermal alteration and deformation features.

## 6 PREVIOUS EXPLORATION

The area of EL 12/88 was vigorously prospected last Century during the initial minerals boom in western Tasmania. Despite these efforts and the close proximity to the world class Rosebery massive sulphide deposit, less than half a dozen minor base metal showings were found. These all occur in the general area of the Bastyan Dam, either within the strike extensions of the Rosebery Mine Sequence or in the basal part of the overlying Mt Black Volcanics.

Modern exploration commenced in earnest within EL1/62, held by the Electrolytic Zinc Company of Australasia (EZ). During the period between 1962 and 1988 the area was systematically surveyed with regional geology; stream, soil and rock chip geochemistry; ground magnetic, IP and EM surveys; and airborne magnetic and EM surveys. Detailed investigations by Getty Oil (in Joint Venture with EZ from 1978–1985) and Billiton (JV with EZ from 1985–1988) culminated in drilling six diamond drill holes. Hine and Scott (1989) summarised the previous exploration, including significant results and Hine (1990) prepared compilation maps of the geology, geochemistry and geophysical surveys undertaken prior to the grant of EL 12/88.

Table 1 summarises the previous exploration activities, as well as the more important results of this work.

TABLE 1

## SUMMARY OF PREVIOUS EXPLORATION WITHIN EL 12/88

YEAR	COMPANY	WORK DONE	RESULTS
1962	EZ	Selective IP surveys Mt Black.	
1971	EZ	Geol. mapping; low density stream sed. sampling.	Pb, Zn, Mn anomalies recorded.
1972	EZ	Selected Turair Airborne EM; magnetics.	Several weak conductors defined.
1973	EZ	Mapping; TURAM; IP; DDH's - Rosebery area.	Palaeogeographic model outlined.
1975	EZ	IP; soil sampling - Bobadil, Cutty Sark areas.	Cu, Pb, Zn & IP anomalies recorded.
1979	EZ-Getty	Gradient array IP; magnetics-Mt Black, Langdons, Mt Sale areas.	Numerous IP responses recorded.
1979	EZ-Getty	Dipole-dipole IP - Mt Black, Mt Sale areas.	IP responses downgraded.
1979	EZ-Getty	Aeromagnetics; photogeol; INPUT EM-general IP; magnetics; soil geochem; mapping-Cutty Sark; Mt Sale areas.	Soil anomalies, magnetic anomalies Cutty Sark.
1980	EZ-Getty	Mapping; soil geochem; gradient array IP - Langdons, Mt Sale.	Several anomalies outlined Mt Sale.
1981	EZ-Getty	IP; soil geochem; pits - Mt Sale.	No significant anomalies recorded.
1984	Getty-EZ	Dighem III; UTEM; 2 DDH's Cutty Sark; VLF - Mt Black; 1 DDH - Bobadil.	No significant mineralisation in DDH's; best intercept 20m @ 0.32% Zn.
1985	Getty-EZ	Mapping; creek sampling; VLF; magnetics-Mt Black; DDH - Bobadil.	No significant mineralisation in DDH; weak EM responses.
1986	Billiton-EZ	UTEM, 22 loops over EL 1/62; selective SIROTEM; BLEG geochem.	Numerous weak UTEM responses recorded.
1987	Billiton-EZ	UTEM; CSAMT, 1 DDH, RED87-1 (607m) - Robbies Creek.	DDH intersected 41m shear zone with magnetite-pyrite.

**7 EXPLORATION COMPLETED SEPTEMBER 1988 – JUNE 1995**

Details of exploration by both the Climax–Austmin JV and Pasminco–Austmin JV on EL 12/88 are provided in relevant annual reports since inception. The work completed has included:

- |                                  |   |
|----------------------------------|---|
| 1988/89:<br>(Hine & Scott, 1989) | review of existing data<br>photogeological study<br>geological mapping and sampling<br>soil auger sampling<br>four diamond drill holes (MBD1–4)<br>site preparation for proposed drill hole MBD5<br>petrology<br>ground magnetics |
| 1989/90:<br>(Hine, 1990)         | compilation of drilling results   |
| 1990/91:<br>(Purvis, 1991)       | geological mapping in Bastyan Dam area<br>aeromagnetic survey<br>gravity survey<br>aerial photography<br>structural interpretation<br>petrology, lithogeochemistry<br>one diamond drill hole (BY1)                                |
| 1991/92:<br>(Purvis, 1992)       | geological mapping<br>petrology, lithogeochemistry, isotope study<br>gravity survey<br>relogging MBD1–4<br>one diamond drill hole (BY2)<br>DHEM survey (BY1)  |

1992/93: (FitzGerald, 1993)	geological mapping and rock chip sampling IP survey DHEM survey (BY2)
1993/94:	No Work
1994/95:	Financial and Logistic Support of PhD Student Rehabilitation of site BY2.

No significant mineralisation was located by any of the above activity.

## 8 ENVIRONMENTAL DISTURBANCE AND REHABILITATION

Exploration activities undertaken during the tenure of EL12/88 that have impacted on the natural environment have included:

- clearing of helicopter sites for drill holes MBD1-4
- clearing of track and site for proposed drill hole MBD5
- clearing of tracks and sites for drill holes BY1 and BY2
- refurbishment of gridlines for IP survey

Austmin monitored vegetation regrowth at the proposed site of MBD5 and associated egress track, on the NE slopes of Mt Black. The Department of Mines retained a portion of the bond lodged by Austmin to be used in complete rehabilitation of this site by additional seeding and monitoring over subsequent years.

The tracks cleared for holes BY1 and BY2 have been fully rehabilitated, with top soil replaced and seedlings planted. Revegetation of site BY1, undertaken during March 1991, has been very successful, with the drill site now difficult to locate.

Natural regrowth of vegetation along gridlines cleared for IP is occurring at a rapid rate. No activity is planned or required to rehabilitate these areas.

## 9 EXPENDITURE

Expenditure on EL 12/88 from July 1994 till July 1995 was \$14 521. Bringing the total expenditure on EL12/88, Mt Black, since granting of the tenement on 3rd September 1988 to \$749 833.

Expenditure for the period July 1994 to July 1995 is as follows:

Personnel & Oncosts	8 855
Travel & Accommodation	487
Drilling (core storage)	251
Other Contractors	68
Store & Supplies	342
Vehicles & Equipment	661
Computing Costs	341
Tenement Costs	570
Office Running Costs	1 626
<b>Total Direct Costs</b>	<b>13 201</b>
Management Fee	1 320
<b>TOTAL EXPENDITURE</b>	<b>14 521</b>

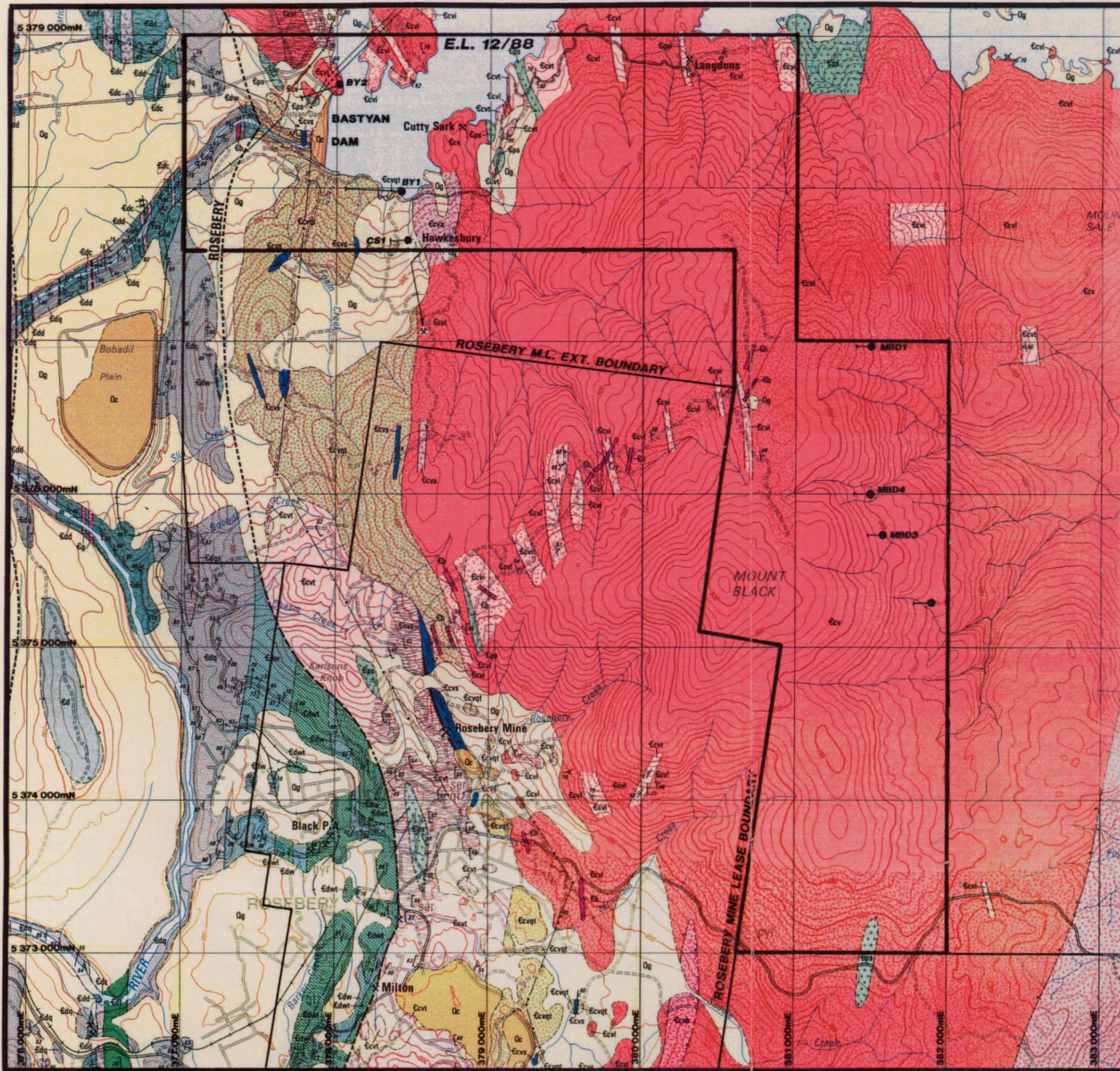
## 10 CONCLUSIONS AND RECOMMENDATIONS

The exploration activity completed to date within EL12/88, Mt Black, has failed to locate or provide good indication of economic base metal or gold mineralisation. Although the host sequence of the Rosebery orebody may trend into the licence, the depth to this horizon is interpreted to be much too deep to be a valid target for drilling. No other significant target areas remain untested.

It is recommended that the licence be relinquished.

## 11 REFERENCES

- Corbett, K.D., 1992. Stratigraphic – Volcanic Setting of Massive Sulphide Deposits in the Cambrian Mount Read Volcanics, Tasmania. *Econ Geol* 87(3), 564–586
- Crawford, A.J., Corbett, K.D., & Everard, J.L., 1992. Geochemistry of the Cambrian Volcanic–Hosted Massive Sulphide – Rich Mount Read Volcanics, Tasmania, and some Tectonic Implications. *Econ Geol* 87 (3), 597–619
- FitzGerald, F.G., 1993. EL12/88 Mt Black. Pasminco – Austmin Joint Venture Annual Report, August 1992 to July 1993. Unpubl report for Pasminco Exploration, T93–8. July 1993.
- ., F.G., 1993. EL12/88 Mt Black. Pasminco – Austmin Joint Venture Partial Relinquishment Report, September 1988 to July 1993. Unpubl. report for Pasminco Exploration, T93–9. July 1993.
- Hine, R., 1990. Annual Report on Exploration EL 12/88 Mount Black, Tasmania, Period September 1989 to August 1990. Unpubl. report for Austmin Resources NL. August 1990.
- ., R., & Scott, G., 1989. Annual Report on Exploration of EL 12/88 Mount Black, Tasmania for the Period September 1988 to August 1989. Unpubl. report for Climax Mining – Austmin Gold JV. August 1989.
- Leaman, D.E., & Richardson, R.G., 1989. Production of a Residual Gravity Field Map for Tasmania and some implications. *Exploration Geophys* 20 181–184
- Purvis, J.G., 1991 Mt Black EL 12/88 Pasminco–Austmin JV Annual Report August 1990 –August 1991. Unpubl report for Pasminco Exploration, T91–7, August 1991.
- ., 1992. Mt Black EL 12/88 Pasminco–Austmin JV Annual Report August 1991 – August 1992. Unpubl report for Pasminco Exploration T92–9, June 1992.



### LEGEND

#### QUARTERNARY

- Qc Cultural features - waste dumps, dams, etc
- Qg Glacial deposits, mostly till. Moraine ridge crests indicated (••). Occurrences of granite erratics indicated (Qg ⊕)

#### DUNDAS GROUP

- Edd Dolomitic siltstone and sandstone with minor conglomerate
- Edq Quartzwacke interbedded with black phyllitic mudstone, grey siltstone, minor conglomerate (Edq). Some dominantly siltstone units (Edqs) and conglomerate units (Edqc) indicated.
- Edw Lower sequence of interbedded lithicwacke, siltstone, mudstone and quartz-feldspar-phyric tuff of White Spur Formation (Edw). Some tuff units (Edwt) indicated.

#### CENTRAL VOLCANIC SEQUENCE

- Ep Felsic porphyry, generally intrusive. Quartz-feldspar porphyry (Ep); spherulitic feldspar-quartz porphyry (Eps)
- Ecv Felsic pyroclastic rocks, including tuff, breccia, vitric ash. Generally feldspar-phyric (Ecv).
- Ecvb Fiamme-bearing eutaxitic tuff of ignimbrite type. Some block-and-ash flow units shown (Ecvib).
- Ecvb Lithic breccia and agglomerate.
- Ecvb Crystal tuff, crystal-lithic tuff, commonly bedded.
- Ecvb Fine grained vitric tuff.
- Ecvb Quartz-feldspar-phyric tuff, often with lithic clasts.
- Ecvsc Shale, siltstone, sandstone, minor tuff. Units of chert or chert-pyrite rock as indicated (Ecvsc)
- Ecvb Dominantly feldspar-phyric lava of rhyolitic, dacitic or andesitic composition (Ecvb). Some units of andesitic lava (Ecvb) and quartz-feldspar-phyric lava (Ecvq) shown. Sequence of hornblende-phyric lava and minor tuff at Mackintosh Bridge area indicated (Ecvlm)
- Ecvb Basaltic lava.

CAMBRIAN

#### CAMBRIAN INTRUSIVE ROCKS

- Qb Basalt

#### OVERPRINTS AND MINERALISATION

- PYT Alteration in volcanic rocks, usually with strong schistosity. ser=sericite, pyr=pyrite, chl=chlorite, qtz=quartz
- Area of strongly cleaved or disrupted rocks, usually associated with fault zones
- Massive sulphide lens

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E.L. 12/88 - MT. BLACK J.V.  
**GEOLOGY**  
(FROM MAP 2  
MT. READ VOLCANICS PROJECT)

SCALE 1:25,000 2500250 m  
FIG. No. 3

**12 KEYWORDS AND LOCATION****Keywords**

GOLD, LEAD, ZINC, ACID VOLCANICS, CAMBRIAN

**Location**

QUEENSTOWN SK5505, MT BLACK, ROSEBERY, BASTYAN

**APPENDIX 1**

**Schedule of Tenement Boundary**

## **SCHEDULE**

Commencing at the north west corner at grid co-ordinates are 377 000 metres E. 5 379 000 metres N. thence grid east to 381 000 metres E. grid south to 5 377 000 metres N. again grid east to 382 000 metres E. again grid south to 5 373 000 metres N. grid west to 380 000 metres E. grid north to 5 377 000 metres N. aforesaid again grid west to 377 000 metres E. aforesaid thence again grid north to the point of commencement.

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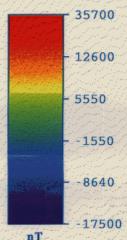
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Init.	Date	Init.	Date	Mt Black EL AREA (1988)		Printed: NovajetA0	
						Traced:	
Map Projection: TMAMG54				Colour Drape, Pseudocolour, Sun NE 60 70		Checked:	
Geodetic Datum: AGD66						Plate No.	
Location Code:		Scale: 1:10000		Date: 14-9-1995			

EL 12/88

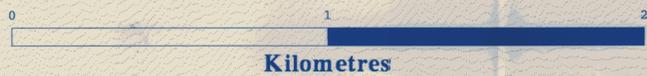
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Mt Black EL Boundary (1988)

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