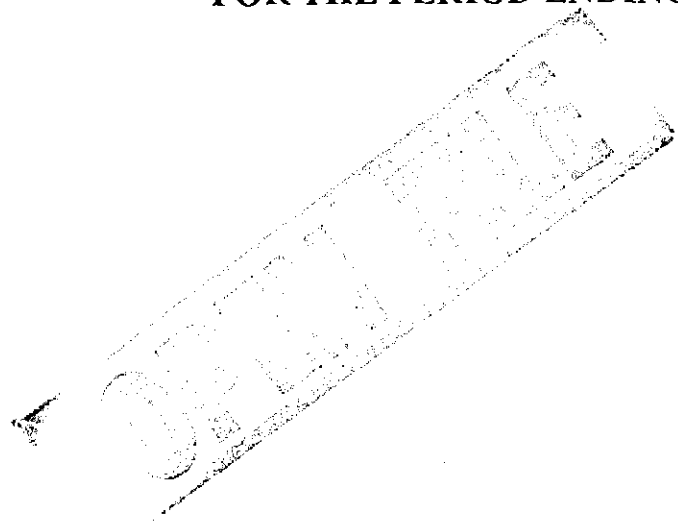
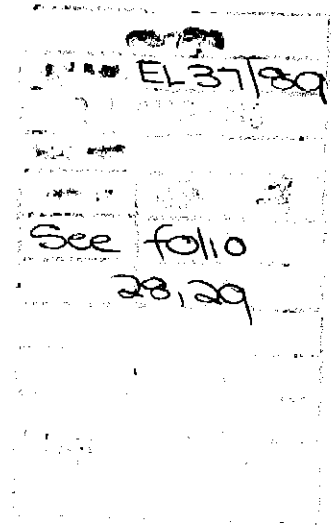
PASMINCO EXPLORATION
BULGOBAC EL 37/89
ANNUAL REPORT
FOR THE PERIOD ENDING JULY 1996





Author: N K McGunnigle
Date: August 1996
Report No.: TA-25
Submitted to: Regional Exploration Manager - Tasmania
Distribution: Mineral Resources Tasmania - Hobart
Pasminco Exploration - Burnie
- Rosebery
- Melbourne

Submitted by: N K McGunnigle

Accepted by:

BURNIE
AUGUST 1996

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In text:

SUMMARY

Limited exploration has been conducted on EL 37/89 over the past year. The EL was reduced from 49km^2 to 28km^2 on 2nd September 1995 due to statutory requirements.

A depth limited Mining Lease Application was requested by Gerald Purvis in February 1996, for 19.5ha in the Sock Creek area. Diamond drill holes SC1 and SC2 encountered extensive zones of sphalerite-galena veining, including 1.7m @ 1.9% Zn, 1.3% Pb (SC1) and 1.7m @ 10.2% Zn, 0.19% Pb and 11m @ 1.2% Zn, 0.4% Pb (SC2). These results are currently being assessed with the evaluation for further drilling.

RECOMMENDATIONS

1. Reconnaissance mapping and rock chip sampling should be undertaken south of Mt Charter in the areas where the Henty Fault intersects with the Mt Charter Fault and the CVC/Dundas Group contact.

2. A deep drill hole should test the Mixed Sequence adjacent to the Mt Charter Fault north of BHD6 as recommended by Purvis (1995) to follow up the epiclastic intersected in BHD6. This new 1150m vertical hole is proposed to be sited at 5392900mN, 388100mE, approximately 500m north of BHD6 and 250m east of the Mt Charter Fault. A second option to try and deepen existing hole HP3 is less favoured because the location is not as ideal as that for the new hole.

3. A Joint Venture partner will be sought for EL 37/89 in the near future.

1 INTRODUCTION

Work conducted on Bulgobac Hill EL 37/89 (Figure 1) in the period 2nd August 1995 to 2nd August 1996 was limited. As per statutory requirements the EL was reduced from 49km^2 to 28km^2 on 2nd September 1995 (Figure 2). A separate relinquishment report catalogues all work done on the dropped ground during the past five years.

EL 37/89 covers Cambrian Mt Read Volcanics SW of Hellyer Mine in Western Tasmania (Figure 3). A Hellyer-type volcanogenic Pb-Zn-Cu-Ag-Au massive sulphide deposit has been the main target of Pasminco's exploration programme to date. The terrain is rugged and vehicular access limited.

Although the old prospectors found no mineralised showings on the EL area, near-continuous exploration over the past 30 years has discovered three zinc occurrences in the volcanics:

- High Point (found by BHP in 1988 during drilling of an EM anomaly. BHP drilled 4 holes 1988-89).
- Sock Creek (detected 1973 by drainage survey by Comstaff, who drilled 14 holes prior to 1978).
- Sock Creek South (found by BHP in 1988 during drilling of an EM anomaly. 4 holes were drilled 1988-89).

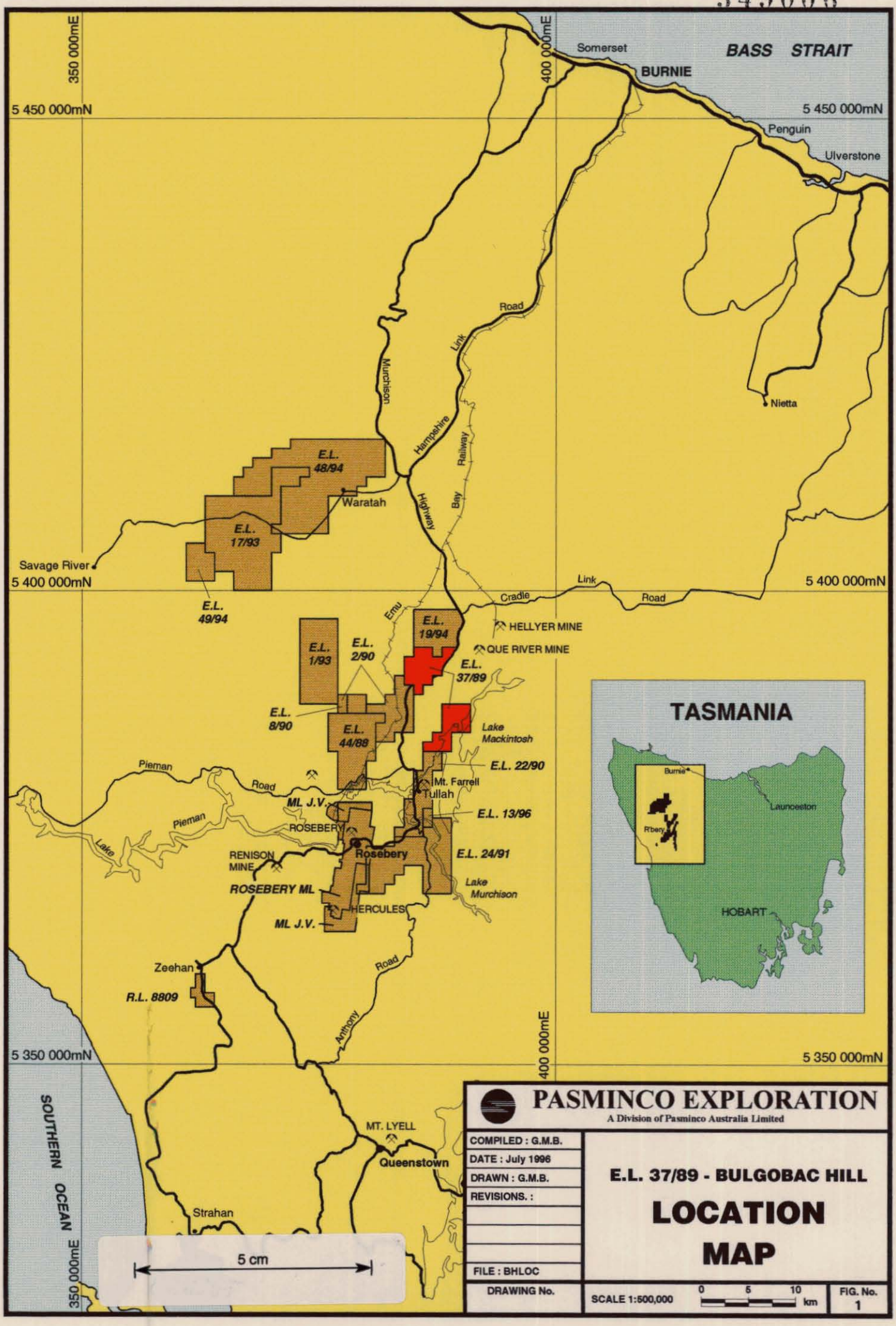
In addition, BHP drilled 9 shallow diamond drill holes (each less than 50m) at Tullabardine Gorge, without encountering mineralisation. They also covered almost the entire EL with UTEM.

Pasminco's involvement in the area commenced in 1990 and has concentrated on testing the mineralised Que-Hellyer Volcanics at High Point. A further 4 diamond drill holes (BHD1, 2/3, 5 & 6), totalling 3313m, have been drilled in this area. Deep holes were completed at Sock Creek in 1993 (BHD4, 617m), and at High Point in 1994 (BHD6, 1060.9m).

The EL has also been covered with detailed aeromagnetics and photogrammetry, and regional-scale gravity surveys extended over the majority of the EL area.

The palaeovolcanic history and stratigraphic correlations of the Que-Hellyer Volcanics at High Point was studied in detail by Pasminco supported Honours student Sam Watkins of Monash University.

The planned programme for 1996-97 is outlined in the recommendations.



PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : G.M.B.	E.L. 37/89 - BULGOBAC HILL
DATE : July 1996	LOCATION MAP
DRAWN : G.M.B.	
REVISIONS. :	
FILE : BHLOC	
DRAWING No.	SCALE 1:500,000 (0 5 10 km)
	FIG. No. 1

2 TENURE

The Bulgobac Hill Exploration Licence 37/89, covering 32km^2, was granted to Pasminco Mining Rosebery in March 1990. In August 1990 the licence was transferred to Pasminco Exploration.

In May 1992 and October 1993, EL 37/89 was increased to 49km^2 by the addition of 7km^2 in the Lake Mackintosh area (EL 17/92) and 10km^2 in the South Mt Charter area (EL 7/93).

On 2nd September 1995, EL 37/89 was reduced to 28km^2 and the licence was renewed for a further 12 months. The reduced EL is comprised of almost entirely Unallocated Crown Land (Figure 2).

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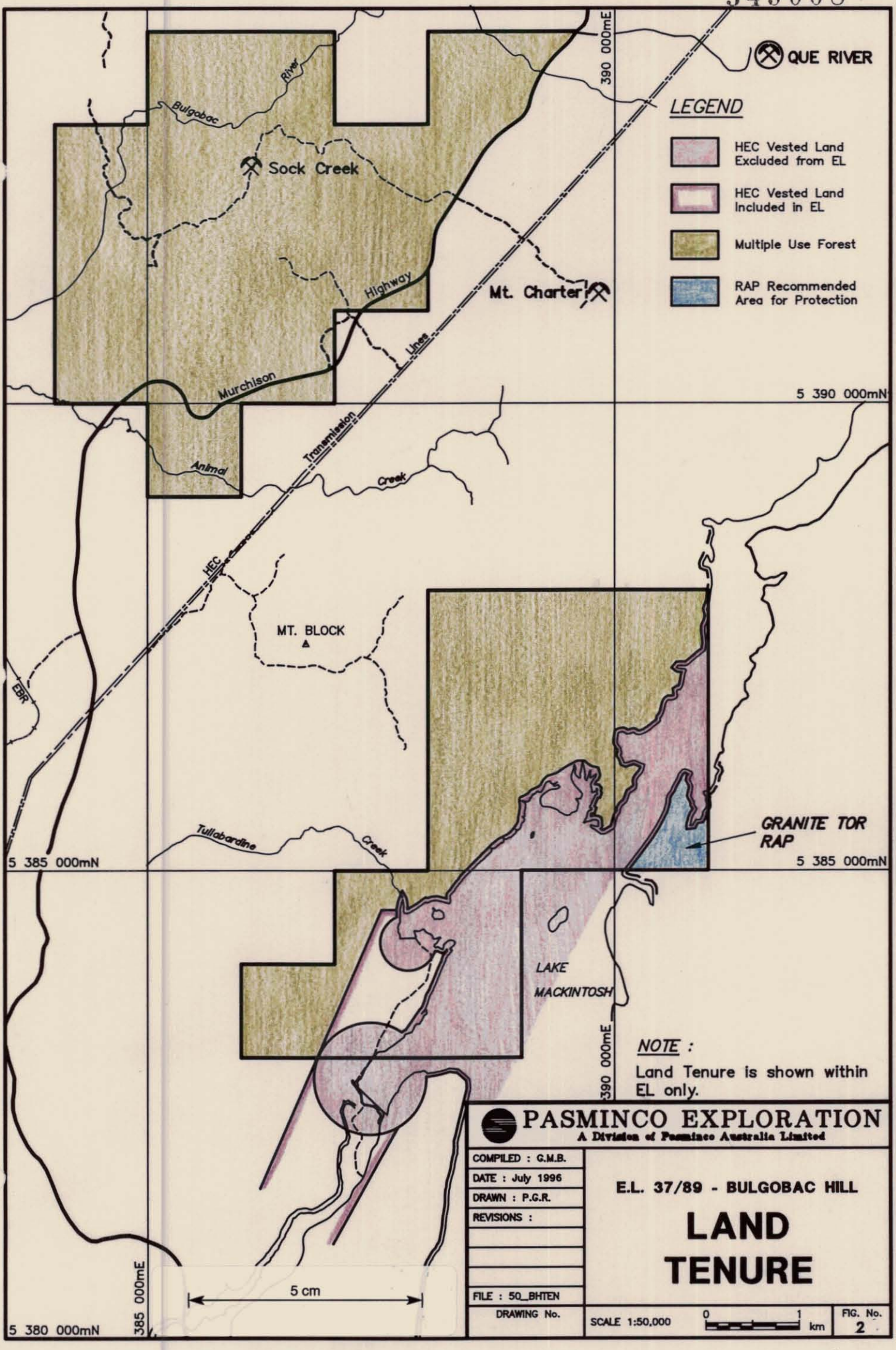

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COMPILED : G.M.B.	E.L. 37/89 - BULGOBAC HILL
DATE : July 1996	
DRAWN : P.G.R.	
REVISIONS :	
	LAND TENURE
FILE : 50_BHTEN	
DRAWING No.	SCALE 1:50,000 0 1 km
	FIG. No. 2

3 GEOLOGY

3.1 Stratigraphy & Structure

The geology of EL 37/89 is shown in Figures 3, 4 & 5.

The EL covers two main groups of the Cambrian Mt Read Volcanics - the Central Volcanic Complex (CVC), and correlates of the Dundas Group. A small sliver of the Farrell Slates east of the Henty Fault occurs in the SE part of the EL.

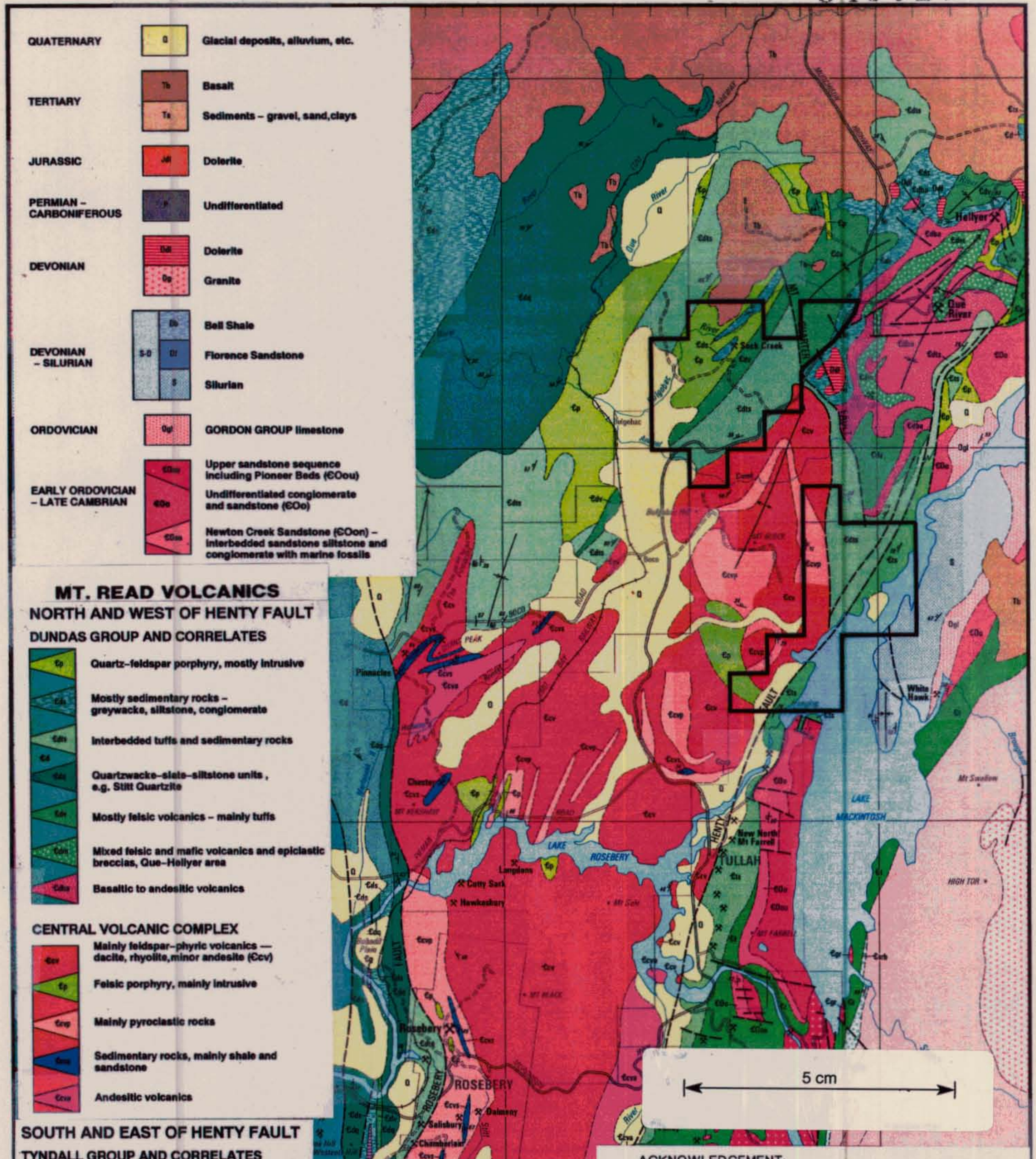
The Central Volcanic Complex covers the southern part of the EL and comprises rhyodacitic lavas, porphyries and volcaniclastics (mostly pyroclastics with minor epiclastics). These rocks are known as the Mt Block Volcanics.

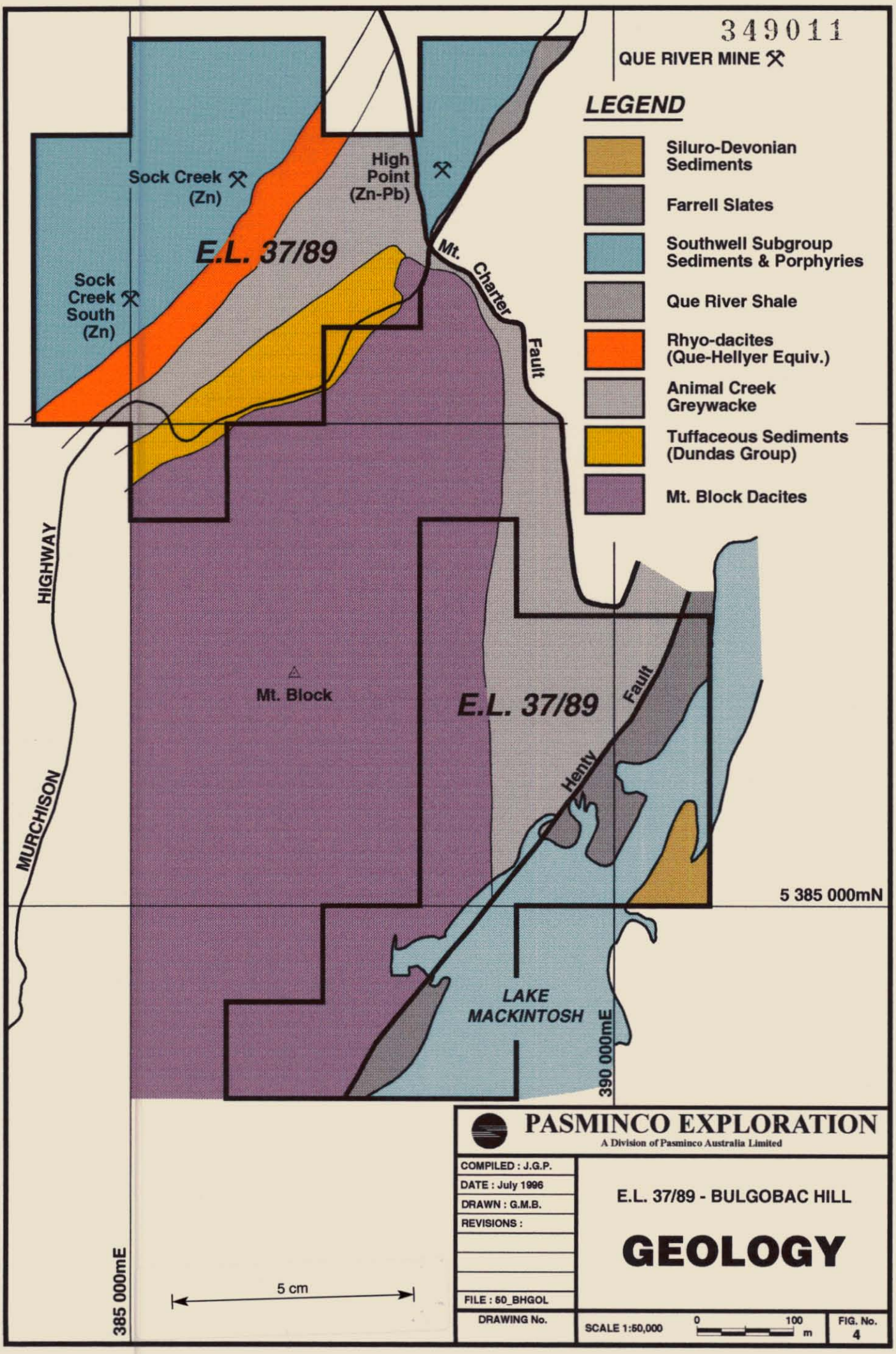
Dundas Group and correlates cover the northern half of the EL. They comprise the Que-Hellyer Volcanics (a mafic volcanic complex), sediments (including the Animal Creek Greywacke, Que River Shale and Southwell SubGroup), quartz-feldspar porphyry bodies, and rhyodacitic volcanics (mainly lavas). The relationship between the various units is shown in Figure 5.

The boundary between the Central Volcanic Complex and the Dundas Group within the EL area is gradational, facing and dipping to the west, with the Dundas Group apparently conformably overlying the CVC.

Major structures on the EL include the NE-trending Henty Fault and the N-S trending Mt Charter Fault. However, the magnetics and gravity highlight the presence of several major, apparently deep-seated, unmapped or poorly-mapped structures trending broadly E-W.

349010


QUATERNARY
Glacial deposits, alluvium, etc.
TERTIARY
Basalt
Sediments - gravel, sand, clays
JURASSIC
Dolerite
PERMIAN - CARBONIFEROUS
Undifferentiated
DEVONIAN
Dolerite
Granite
DEVONIAN - SILURIAN
Bell Shale
Florence Sandstone
Silurian
ORDOVICIAN
GORDON GROUP limestone
EARLY ORDOVICIAN - LATE CAMBRIAN
Upper sandstone sequence including Pioneer Beds (€Oou)
Undifferentiated conglomerate and sandstone (€Oo)
Newton Creek Sandstone (€Oon) - interbedded sandstone siltstone and conglomerate with marine fossils
MT. READ VOLCANICS
NORTH AND WEST OF HENTY FAULT
DUNDAS GROUP AND CORRELATES
Quartz-feldspar porphyry, mostly intrusive
Mostly sedimentary rocks - greywacke, siltstone, conglomerate
Interbedded tuffs and sedimentary rocks
Quartzwacke-slate-siltstone units, e.g. Stitt Quartzite
Mostly felsic volcanics - mainly tuffs
Mixed felsic and mafic volcanics and epiclastic breccias, Que-Hellyer area
Basaltic to andesitic volcanics
CENTRAL VOLCANIC COMPLEX
Mainly feldspar-phyric volcanics — dacite, rhyolite, minor andesite (€cv)
Felsic porphyry, mainly intrusive
Mainly pyroclastic rocks
Sedimentary rocks, mainly shale and sandstone
Andesitic volcanics
SOUTH AND EAST OF HENTY FAULT
TYNDALL GROUP AND CORRELATES
Mainly sed. rocks, incl Farrell Slates
Mainly quartz-feldspar-phyric volcanic and volcaniclastic rocks (€t)
Mainly volcaniclastic congl. and sandstone
Sticht Range Beds - sandstone, siltstone, siliciclastic conglomerate
CAMBRIAN INTRUSIVE ROCKS
Granite
Felsic porphyry
Gabbro
Ultramafic rocks & serpentinite
PRECAMBRIAN
Quartzite-slate sequences — correlates of Oonah Formation
Metamorphosed sequences of Tyennan Region. Major lithological boundary trends shown
Hellyer
Que River
Sock Creek
Pinnacles
Chester
LAKE ROSEBERY
LAKE MACKINTOSH
Cutty Sark
Hawkesbury
Langdons
White Hawk
New North Mt Farrell
TULLAH
Rosebery
ROSEBERY
Dalmeny
Salisbury
Chamberlain
Koonya
Grand Centre
Jupiter
HENTY
FAULT
5 cm
ACKNOWLEDGEMENT:
Mt. Read Volcanics Project Map adopted from Map 6 - Geological Compilation Map of the Mt. Read Volcanics and Associated Rocks, from Hellyer to South Darwin Peak.
K.D.Corbett B Sc (HON) PhD and A.W.McNeill B Sc (HON) 1988
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED : G.M.B.
DATE :
DRAWN :
REFERENCE :
REVISIONS :
DRAWING No.
E.L. 37/89 - BULGOBAC HILL
REGIONAL GEOLOGY
FROM MAP 6 OF THE MT. READ VOLCANICS PROJECT
SCALE 0 2 4 km
FIG. No. 3


349011
QUE RIVER MINE
LEGEND
Siluro-Devonian Sediments
Farrell Slates
Southwell Subgroup Sediments & Porphyries
Que River Shale
Rhyo-dacites (Que-Hellyer Equiv.)
Animal Creek Greywacke
Tuffaceous Sediments (Dundas Group)
Mt. Block Dacites
Sock Creek (Zn)
High Point (Zn-Pb)
E.L. 37/89
Sock Creek South (Zn)
Mt. Charter Fault
HIGHWAY
MURCHISON
Mt. Block
E.L. 37/89
Henty Fault
5 385 000mN
LAKE MACKINTOSH
390 000mE
385 000mE
5 cm
PASMINCO EXPLORATION
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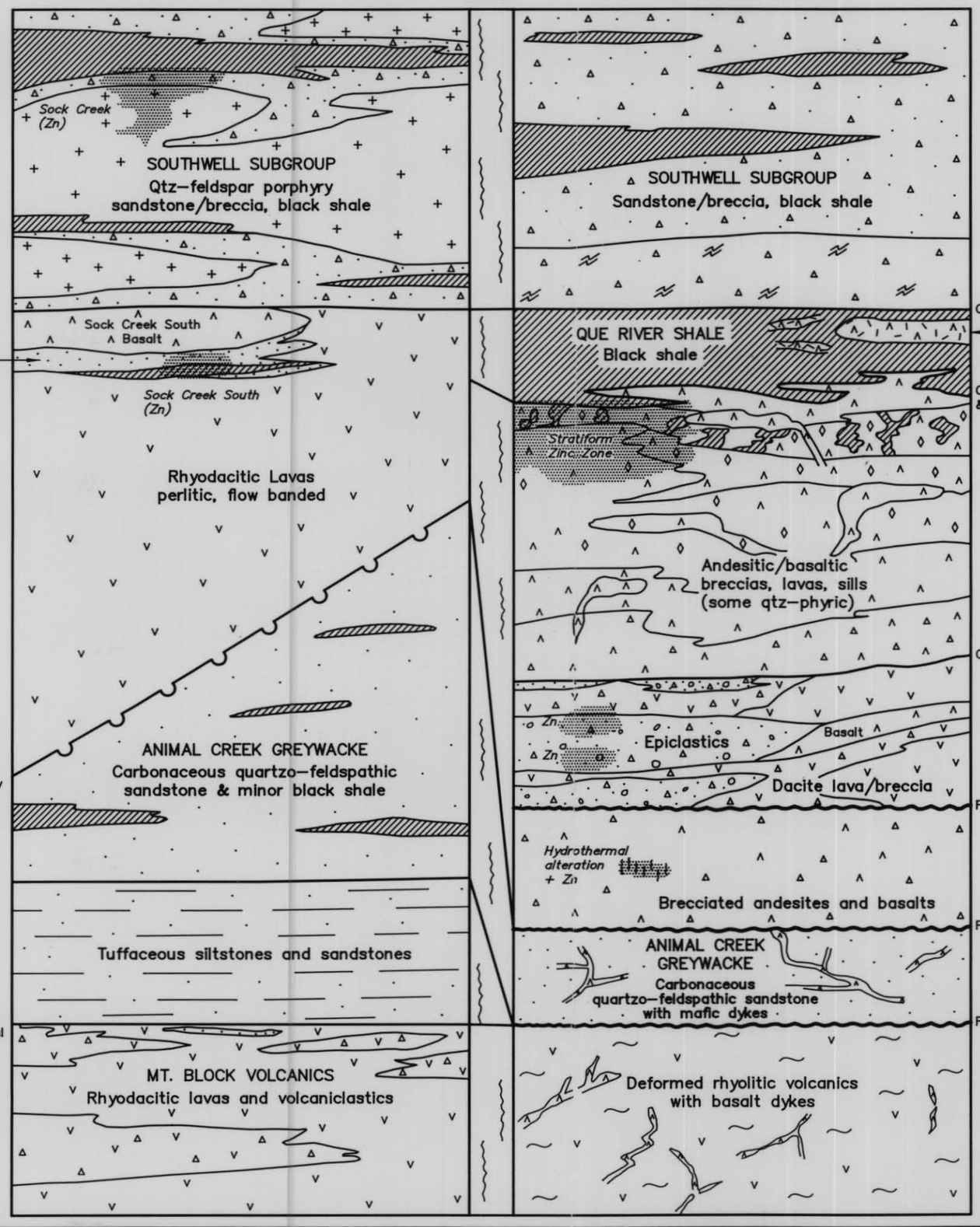
COMPILED : J.G.P.
DATE : July 1996
DRAWN : G.M.B.
REVISIONS :
FILE : 50_BHGOL
DRAWING No.
E.L. 37/89 - BULGOBAC HILL
GEOLOGY
SCALE 1:50,000
0
100
m
FIG. No.
4

WEST OF MT. CHARTER FAULT
(MT. BLOCK - SOCK CREEK AREA)

MT CHARTER FAULT

EAST OF MT. CHARTER FAULT
(HIGH POINT AREA)



DUNDAS GROUP

CENTRAL VOLCANIC COMPLEX

HANGINGWALL VOLCANICS

MIXED SEQUENCE

"FOOTWALL VOLCANICS"

QUE – HELLYER VOLCANICS

PASMINCO EXPLORATION
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COMPILED : J.G.P.	E.L. 37/89 – BULGOBAC HILL
DATE : August 1995	**STRATIGRAPHIC COLUMN**
DRAWN : G.M.B.	
REVISIONS :	
FILE : BH_STCOL	
DRAWING No.	NOT TO SCALE — FIG. No. 5

3.2 Mineralisation

Three Zn-dominated and Au/Ag-poor sulphide occurrences are known on the EL. These comprise:

1) Disseminated sphalerite-pyrite in altered Que-Hellyer Volcanics adjacent to the Mt Charter Fault at High Point
2) Sphalerite with lesser pyrite-galena-chalcopyrite in net-veins on the contact between quartz-feldspar porphyry and black shale at Sock Creek
3) Weak disseminated sphalerite in black shale at Sock Creek South (best intersection of 1m @ 2.5% Zn).

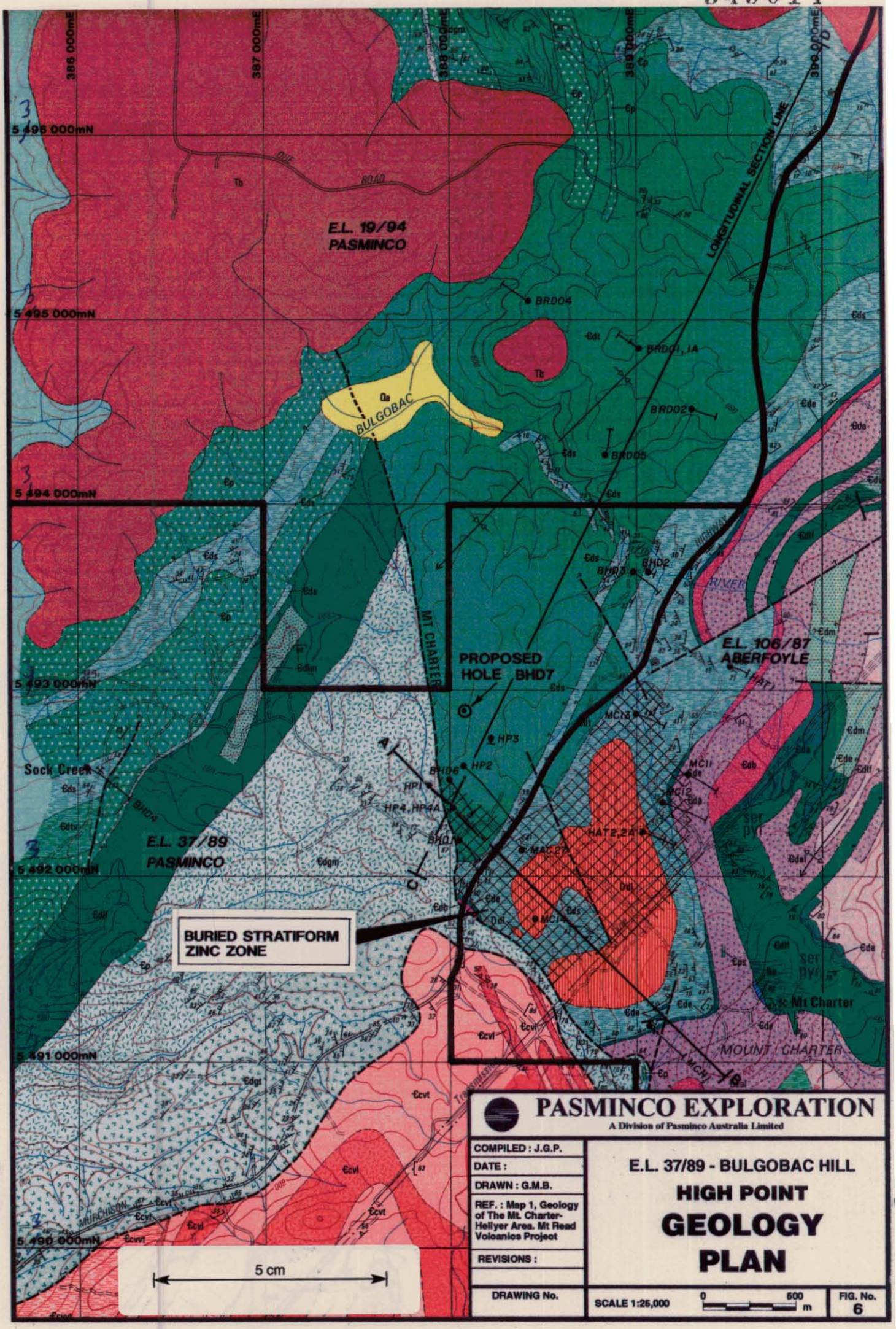
High Point is by far the most significant occurrence, although the tenor of Zn values intersected to date is not as high as at Sock Creek.

Mineralisation at High Point occurs at several stratigraphic levels within the Que-Hellyer Volcanics. At the top of the Hangingwall Volcanics (Hellyer Basalt equivalents), there is an really-extensive stratiform zone of disseminated sphalerite-pyrite up to 200m thick and averaging 0.2-0.5% Zn. The zone extends onto Aberfoyle ground east of High Point (Figure 6).

DDH BHD6 drilled in 1994 at High Point has shown there is also disseminated Zn mineralisation in both the Mixed Sequence and underlying altered "footwall volcanics". The Mixed Sequence was the principal target as this unit hosts both the Hellyer and Que River massive sulphide orebodies, and the presence of Zn mineralisation in BHD6 indicates the potential for massive sulphide development in the Mixed Sequence in this area (Purvis, 1995).

At Sock Creek the mineralisation attains grades up to 10% Zn over 1.7m, with a general tenor around 2-5% Zn over 5-10m. There is untested potential at this prospect for an open-cuttable body of mineralisation in the order of 100-200 000t @ 5-10% Zn (Purvis, 1994). Pasminco has tried unsuccessfully to interest small mining groups in the property. No other sulphide occurrences of note are known anywhere on the EL.

349014



PASMINCO EXPLORATION
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COMPILED : J.G.P.	E.L. 37/89 - BULGOBAC HILL
DATE :	HIGH POINT
DRAWN : G.M.B.	**GEOLOGY**
REF. : Map 1, Geology of The Mt. Charter-Hellyer Area. Mt Read Volcanics Project	**PLAN**
REVISIONS :	
DRAWING No.	SCALE 1:26,000 (0 — 500 m) FIG. No. 6

4 WORK COMPLETED

4.1 EL Reduction

On 2nd September 1995 EL 37/89 was required by statutory requirements to be reduced by at least 16km^2. The actual reduction totalled 21km^2, and comprises 20km^2 of CVC volcanics in the Mt Block area and 1km^2 of Dundas Group sediments in the NW corner of the EL.

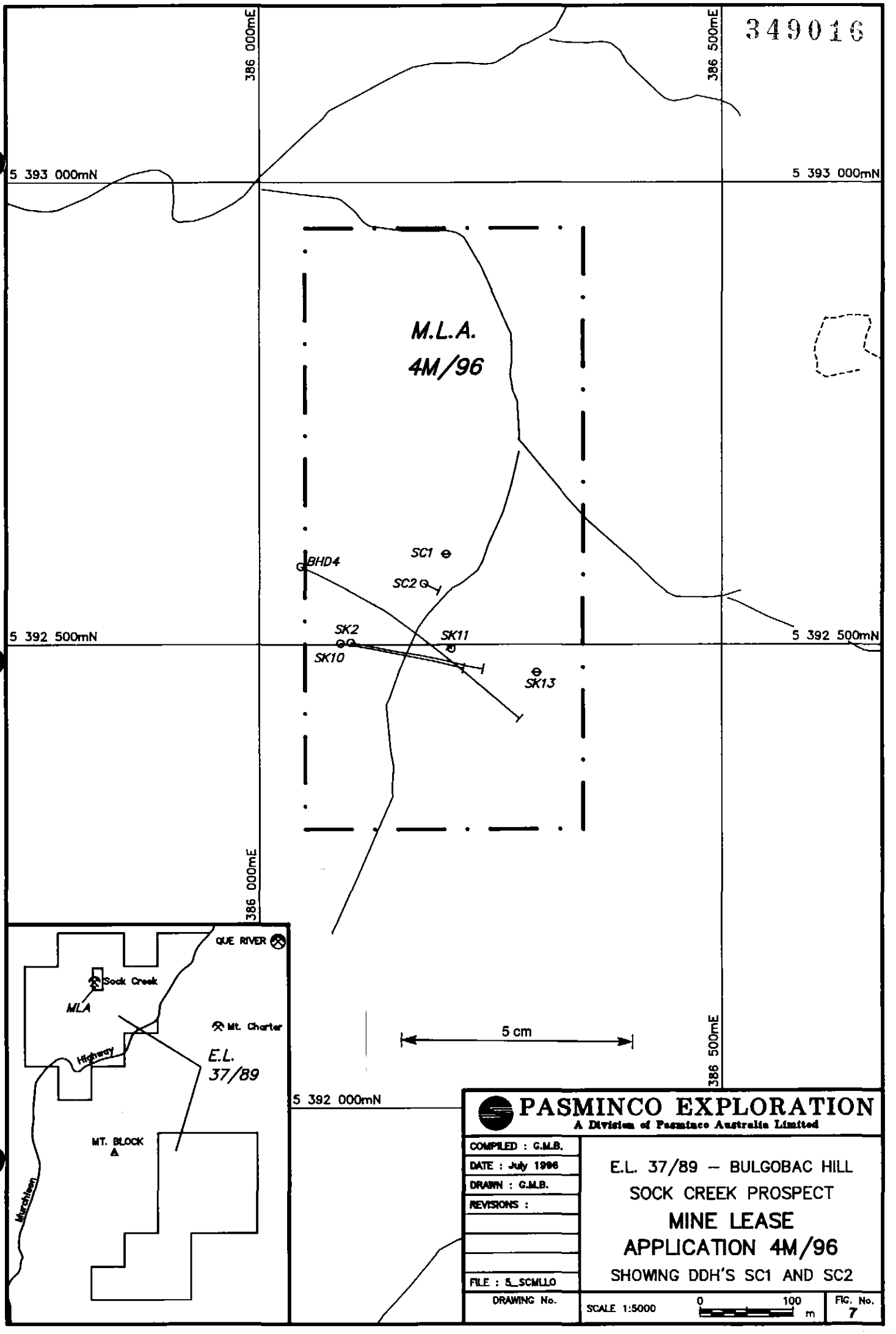
The area reduced was largely guided by the review of the mineral potential of the EL (Purvis, 1994 and 1995) and a relinquishment report submitted to Tasmania Development and Resources in August 1995 details all work conducted on the dropped ground during the past five years.

4.2 Honours Thesis

Sam Watkins of Monash University completed a Pasminco supported Honours Thesis on the Palaeovolcanology of the Mount Charter Group in the Bulgobac Hill Area (Watkins, 1995). Detailed core logging and petrology was carried out and the existing geochemical and assay data examined. The observed volcanic and sedimentary facies in the area exhibit depositional styles and facies relationships of subaqueous character. The lateral variation of facies indicate that Cambrian age fault structures affected the local topography at the time of deposition, and may have acted as preferential conduits for magmas and hydrothermal fluids during the deposition of the sequence.

4.3 Sock Creek ML Application 4M/96

In February 1996 Pasminco Exploration agreed to the request for a depth limited (to 100m) 19.5ha ML Application by J.G. Purvis over the Sock Creek Prospect (Figure 7). Preliminary results reported to Pasminco Exploration summarise the results of two



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COMPILED : G.M.B.	E.L. 37/89 – BULGOBAC HILL
DATE : July 1996	SOCK CREEK PROSPECT
DRAWN : G.M.B.	**MINE LEASE APPLICATION 4M/96**
REVISIONS :	SHOWING DDH'S SC1 AND SC2
FILE : S_SCMLLO	
DRAWING No.	SCALE 1:5000 (0 – 100 m)
	FIG. No. 7

short vertical diamond drill holes, SC1 (49.7m) and SC2 (69m) (Purvis, 1996).

Both SC1 and SC2 encountered extensive zones of sphalerite-galena veining in all rock types, which centred on 1.7m thick zones immediately beneath the upper contact of a quartz-feldspar porphyry body. In SC1 the main mineralisation was from 34.0 - 35.7m, and assayed 1.9% Zn and 1.3% Pb. The mineralised zone intersected in SC2 assayed 10.2% Zn and 0.19% Pb from 51.7 - 53.4m.

Intersections up to 1m @ 2.1% Zn were encountered in SC1 and 1m @ 5.3% Zn in SC2. An 11m interval in SC2 averaged 1.2% Zn and 0.4% Pb. Gold and silver values were negligible.

The results of SC1 and SC2 are currently being assessed by Purvis and the possibility of further drilling is being evaluated. The results of the programme will be reported to Pasminco Exploration upon completion.

4.4 High Point Deep Hole

It was decided in December 1995 that drilling of the proposed deep hole BHD7 at high point (AMG coordinates 5392900mN, 388100mE; Purvis 1995) would be delayed until the 1996-97 financial year.

5492900 on map
=

5 ENVIRONMENTAL DISTURBANCE AND REHABILITATION

Track rehabilitation to enable drill access was undertaken on the excised Sock Creek area (ML Application 4M/96) by JG Purvis and Associates.

Rehabilitation of the BHD6 site is yet to be completed, having been on hold to provide vehicular access for the proposed deep hole at High Point.

6 EXPENDITURE

Expenditure statement for the 12 month period ending June 1996.

	$
Personnel & Oncosts	15 864
Travel & Accommodation	2 820
Geological Consultants	11 125
Drilling (including access & core processing/storage)	822
Other Consultants	185
Stores & Supplies	1 054
Vehicles & Equipment	1 629
Computing	777
Tenement Costs	1 144
Office Running Costs	6 461
Administration Fee	4 188
TOTAL EXPENDITURE	**$46 069**

This brings total expenditure on EL 37/89 since its inception to $1 177 660

7 KEYWORDS & LOCALITY

Keywords

ZINC, MAFIC VOLCANICS, STRATIGRAPHY, STRUCTURE, VOLCANOGENIC, RIFT, GEOCHEMISTRY, DIAMOND DRILL, GEOPHYS BOREHOLE.

Locality

BURNIE SK55-3: BULGOBAC HILL, QUE RIVER, HELLYER

8 REFERENCES

Purvis, J.G. 1994. EL 37/89 Bulgobac Hill, Annual Report, August 1993 - August 1994. Unpub Pasminco Expln Rep, August 1994.

-----., 1995. EL 37/89 Bulgobac Hill, Annual Report, August 1994 - August 1995. Unpub Pasminco Expln Rep, August 1995.

----., J.G., 1996. ML Application 4M/96, Sock Creek. Report for period 1st January - 31st March 1996. Quarterly Report to Pasminco Exploration.

Watkins, S. 1995. Palaeovolcanology of the Mount Charter Group in the Bulgobac Hill Area, Western Tasmania. Unpub BSc hons thesis, Monash University, November 1995.