

PASMINCO EXPLORATION
EL 44/88 BURNS PEAK
PASMINCO - NORANDA - PLUTONIC
JOINT VENTURE
PARTIAL RELINQUISHMENT REPORT
DECEMBER 1988 - NOVEMBER 1993

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DATE: November 1993

REPORT No.: T93-15

SUBMITTED TO: Regional Exploration Manager - Tasmania

DISTRIBUTION: Mineral Resources Tasmania - Hobart
Pasminco Exploration - Burnie
- Melbourne
Noranda Minerals - Toronto
Plutonic Resources - Sydney

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1 SUMMARY

Exploration licence 44/88, Burns Peak in western Tasmania was granted to Pasminco Limited and Noranda Pty Ltd on 10 December 1988. Pioneer Minerals Australia Limited (now Plutonic Resources Limited) became a third member of the Burns Peak Joint Venture upon granting of the tenement. Each partner had an equal third interest in the JV and has contributed proportionally to the exploration expenditure up until June 1993, when Noranda elected not to contribute to the July–December 1993 program. Exploration has been managed and operated by Geopeko, on behalf of Pasminco, from December 1988 to June 1990 and since then by Pasminco Exploration, a division of Pasminco Australia Limited.

The Burns Peak tenement covers an area of 68km², which excludes approximately 5km² of land vested in the HEC around the Bastyan Dam and Lake Rosebery. The Joint Venture has explored this area for precious metal-rich polymetallic massive sulphide deposits. The main focus of this intensive exploration program has been within the portion of EL 44/88 to be retained. Under the current Mines Department regulations the tenement is due for a 50% reduction in area by 9 December 1993. This report details all exploration completed within the 34km² proposed for relinquishment.

Active exploration within the area to be relinquished has been restricted to the following work:

- 1 Photogrammetry and preparation of digital topographic base sheets
- 2 High resolution helicopter-borne magnetic and radiometric surveys
- 3 Semi-regional gravity surveys
- 4 Reconnaissance geological mapping and sampling
- 5 Structural geological synthesis of the remote sensing data sets, in conjunction with regional geological traverses

An evaluation of the results of these programs, including a detailed assessment of previous exploration data, especially geophysical survey results, has not identified any zones of potentially economic mineralisation within a few hundred metres of the surface. These results are in accord with the distinct lack of old prospects known within the area, despite its proximity to the Rosebery and Farrell mining fields. The area of Block A

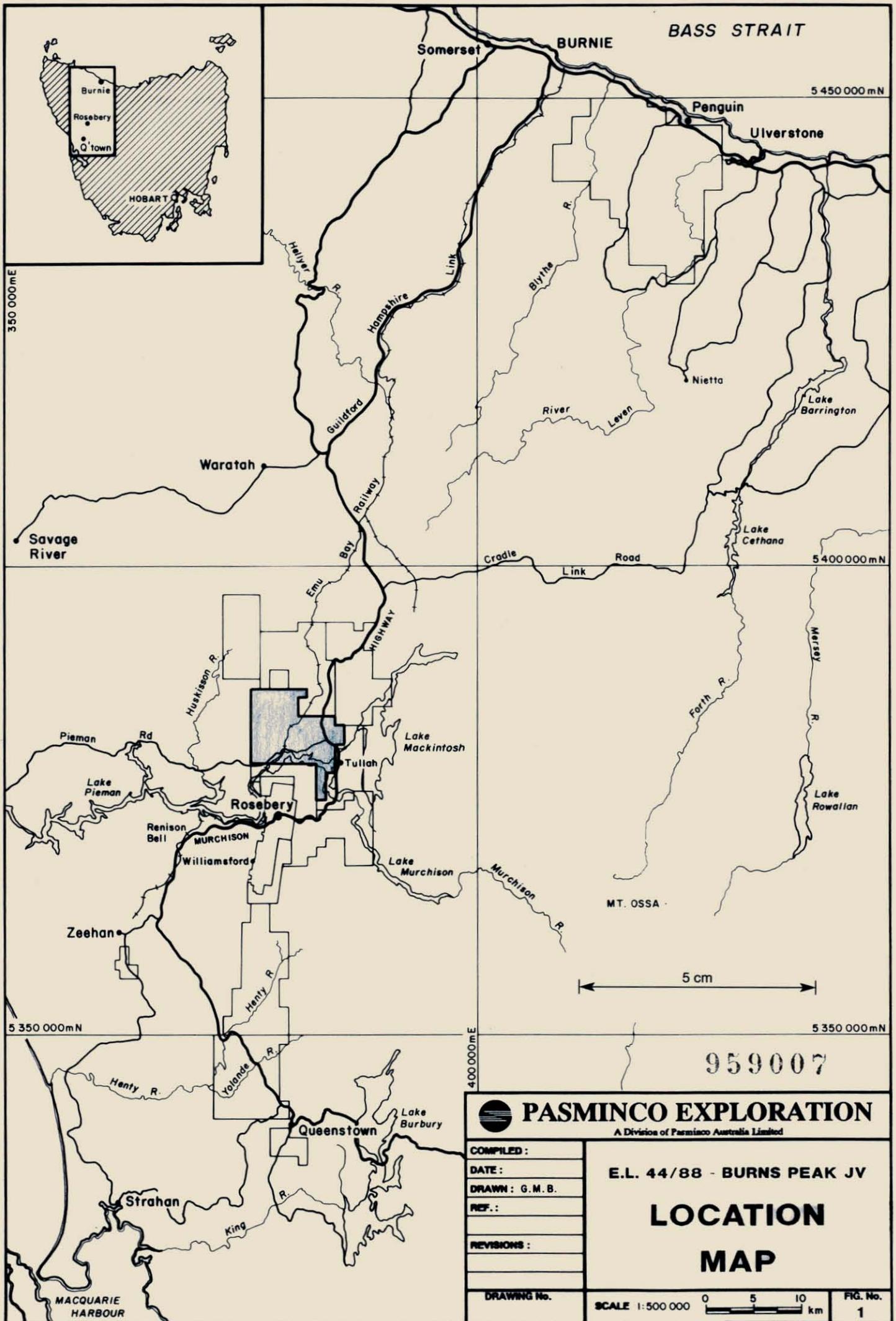
(30km²), proposed for relinquishment, is mostly underlain by weakly altered massive rhyolitic to dacitic lavas and volcanoclastics of the Cambrian Mt Read Volcanics Central Volcanic Complex. The other area to be relinquished, Block B (4km²), is underlain by interbedded siltstones, sandstones, conglomerates and lithicwackes of the Cambrian Dundas Group.

2 INTRODUCTION

This report details all exploration completed during the period December 1988 to November 1993 within the area of EL 44/88, Burns Peak, that is to be relinquished. The tenement is located 5km north of the Rosebery Mine and 15km south west of the Hellyer Mine in western Tasmania (see Figure 1). The tenement, which covers an area of 68km² is mostly underlain by Cambrian Mt Read Volcanics, which are host to the polymetallic massive sulphide deposit at Rosebery and Hellyer. The area proposed for relinquished on 9 December 1993, in compliance with Mines Department regulations, is 34km², comprising two areas, Block A (30km²) and Block B (4km²), shown on Figure 2.

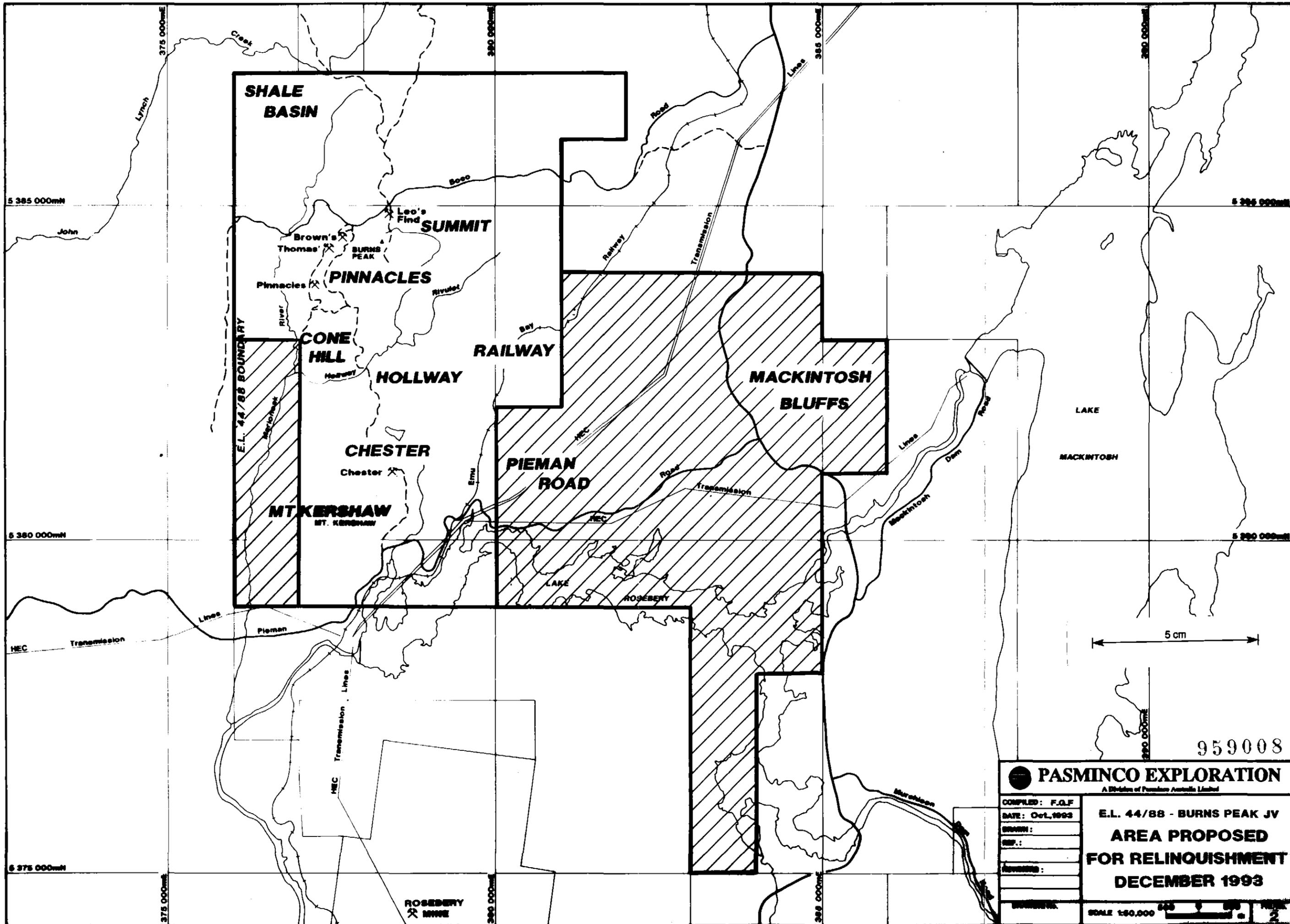
The Burns Peak licence is bounded roughly by the Murchison Highway in the east, Lake Rosebery in the south, the Boco Road in the north and the Marionoak River in the west. The land is mostly undulating with more rugged and thickly forested areas over the western half (Mt Kershaw-Burns Peak) and north eastern area (Mackintosh Bluffs), with more subdued and less densely vegetated areas in the central, south and east typically associated with Pleistocene glacial till-covered land. Good vehicular access is provided to many areas of the tenement off the Murchison Highway, Lower Pieman Dam Road, Boco Road and a network of 4WD tracks, the legacy of previous exploration, forestry and Hydro activities. In addition the Emu Bay Railway line transects the licence area. Away from these tracks, access is provided by a network of cut grid lines and walking tracks, except in the Mackintosh Bluffs area.

Most of the intensive exploration activities undertaken on EL 44/88 have been within the area to be retained after December 1993. The areas to be relinquished have been explored by semi-regional surveys such as geological mapping, aeromagnetics, radiometrics and gravity.



PASMINCO EXPLORATION
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COMPILED :	E.L. 44/88 - BURNS PEAK JV LOCATION MAP
DATE :	
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REF. :	
REVISIONS :	
DRAWING No.	SCALE 1:500 000
	FIG. No. 1



PASMINCO EXPLORATION
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COMPILED: F.Q.F	E.L. 44/88 - BURNS PEAK JV AREA PROPOSED FOR RELINQUISHMENT DECEMBER 1993
DATE: Oct, 1993	
DRAWN:	
REP.:	
REVISIONS:	
APPROVED:	SCALE 1:50,000

3 TENURE

Exploration Licence 44/88 was granted to Pasminco Limited and Noranda Pty Ltd on 10 December 1988, following their successful joint tender for part of ETA55, formerly part of EL 5/63 (Comstaff JV) and EL 1/62 (EZ JV). Pioneer Minerals Australia Limited (now Plutonic Resources Limited) became a third member of the Burns Peak Joint Venture upon granting of the tenement. The Joint Venture was finally executed on 6 March 1990 with each partner having an equal third interest. Each partner has contributed equally to the exploration expenditure since the inception of the project in 1988, until July 1993 when Noranda elected not to contribute to the July–December 1993 program.

Under the terms of the Burns Peak JV, Pasminco are the operators and managers of the exploration program. Initially Geopeko, the exploration division of North Broken Hill Peko Ltd, administered and operated the JV on behalf of Pasminco. Since July 1990 Pasminco Exploration, a division of Pasminco Australia Limited, has assumed these responsibilities.

The current land tenure of the licence area is shown in Figure 3. Most of the 68km² area is Unallocated Crown Land designed as Multiple Use Forest Land and a small area of Deferred Forest Land, part of the Mt Black area nominated for listing on the Register of the National estate. Land excluded from the licence comprises approximately 4.5km² vested in the HEC, principally around the Bastyan Dam and Power Station and associated Lake Rosebery and transmission lines. The boundary of EL 44/88 was amended on 17 May 1993, following the revocation of the Murchison Highway State Reserve.

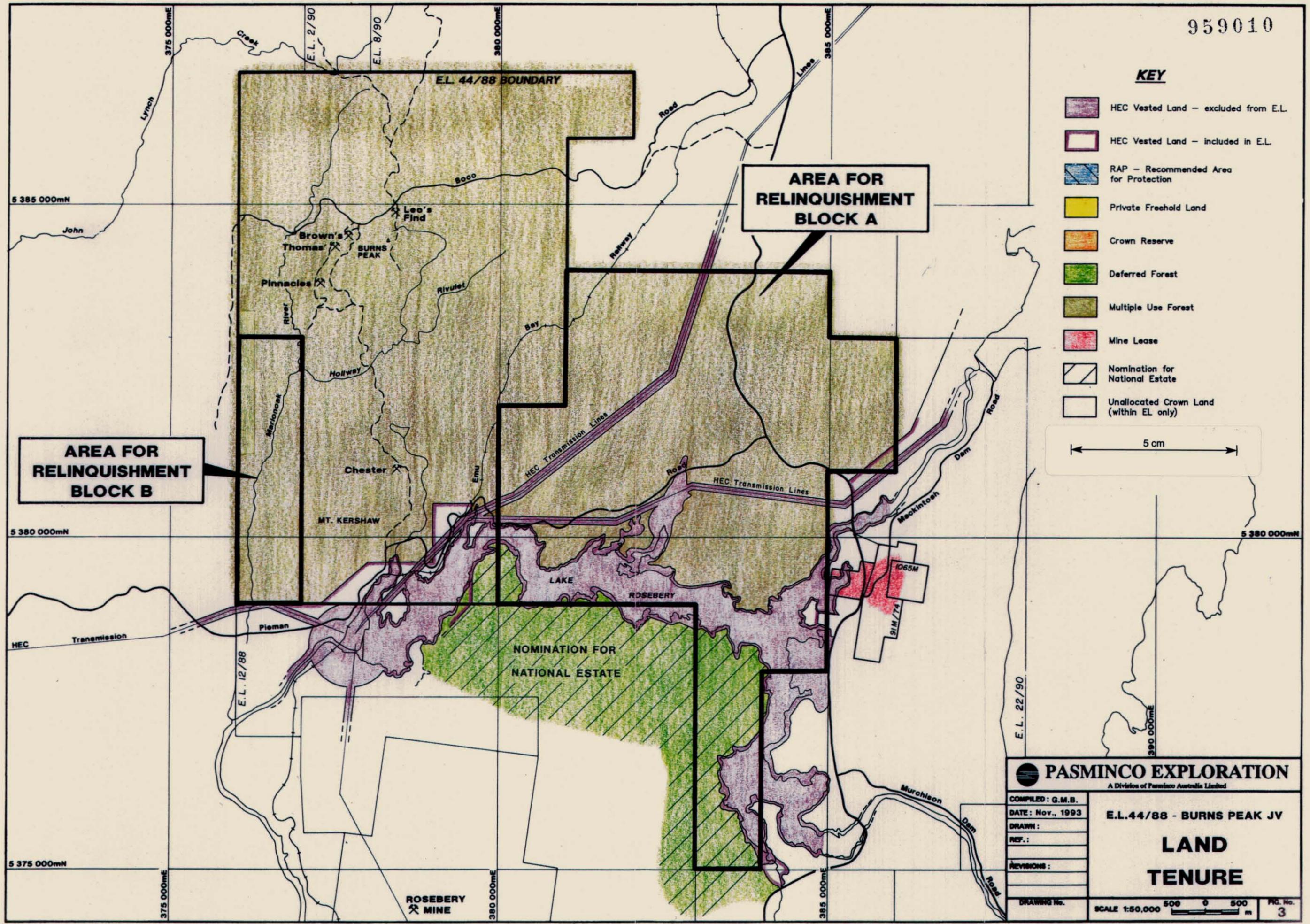
KEY

-  HEC Vested Land - excluded from E.L.
-  HEC Vested Land - included in E.L.
-  RAP - Recommended Area for Protection
-  Private Freehold Land
-  Crown Reserve
-  Deferred Forest
-  Multiple Use Forest
-  Mine Lease
-  Nomination for National Estate
-  Unallocated Crown Land (within EL only)

5 cm

AREA FOR RELINQUISHMENT BLOCK A

AREA FOR RELINQUISHMENT BLOCK B



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E.L.44/88 - BURNS PEAK JV

LAND TENURE

DRAWING No. SCALE 1:50,000  FIG. No. 3

ROSEBERY MINE

4 EXPLORATION PHILOSOPHY

The principal exploration target within EL 44/88 is a precious metal-rich polymetallic massive sulphide deposit hosted by the Cambrian Mt Read Volcanics. The target is expected to have similar characteristics to the world class deposits at Rosebery, located 5km south of the tenement and Hellyer, 15km to the NE.

Evidence for the occurrence of such deposits within the tenement is supported by several old workings developed on small bodies of high grade massive sulphide mineralisation in the Brown's Tunnel, Thomas' Tunnel and Southern Trenches area, collectively known as the Pinnacles Prospect. Total production from these working did not exceed 1000t, however subsequent detailed exploration, commencing in 1947 has shown that these occurrences have very similar characteristics to the major massive sulphide deposits within the Mt Read Volcanics. A much larger massive pyrite occurrence, known as the Chester Deposit, also occurs within the tenement. This deposit was mined intermittently from 1899, mostly for smelter flux for Mt Lyell. Despite the Chester massive sulphides being anomalously low in base metals, the occurrence represents a large, intensely altered hydrothermal system within the Mt Read Volcanics which was not well understood and could be associated with significant ore grade mineralisation.

The Burns Peak tenement straddles the northern strike extensions of the Rosebery Mine sequence, as well as the possible lateral equivalents of the Que-Hellyer Volcanic suite, which also hosts major deposits. The area has been explored by utilising modern exploration methods, in conjunction with revised geological models developed, in part, from active exploration on adjacent tenements managed by Pasmaenco.

5 REGIONAL GEOLOGY

The Burns Peak tenement, EL 44/88, lies entirely within the Middle Cambrian Mt Read Volcanics in Western Tasmania (see Figure 4), as part of the 1 000km wide Tasman Fold Belt of Eastern Australia. The Mt Read Volcanics form a belt approximately 200km long and 20 km wide on the western and northern margin of a Proterozoic basement block, known as the Tyennan region. Recent geochemical studies have identified three calc-alkaline to shoshonitic suites and two tholeiitic suites within the Volcanics, which are interpreted to have formed in a post-collisional tectonic setting (Crawford et al, 1992).

The volcanic belt comprises a stratigraphically and structurally complex series of predominantly massive lava-rich sequences and abundant intrusives along the eastern zone and a broader western zone of volcano-sedimentary sequences, especially submarine mass flow deposits, 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 Tabberabberan Orogeny, which over printed the earlier hydrothermal alteration and deformation features.



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E.L. 44/88 - BURNS PEAK J.V.

REGIONAL GEOLOGY

(FROM MAP 6
MT. READ VOLCANICS PROJECT)

DRAWING No.

SCALE

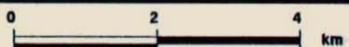
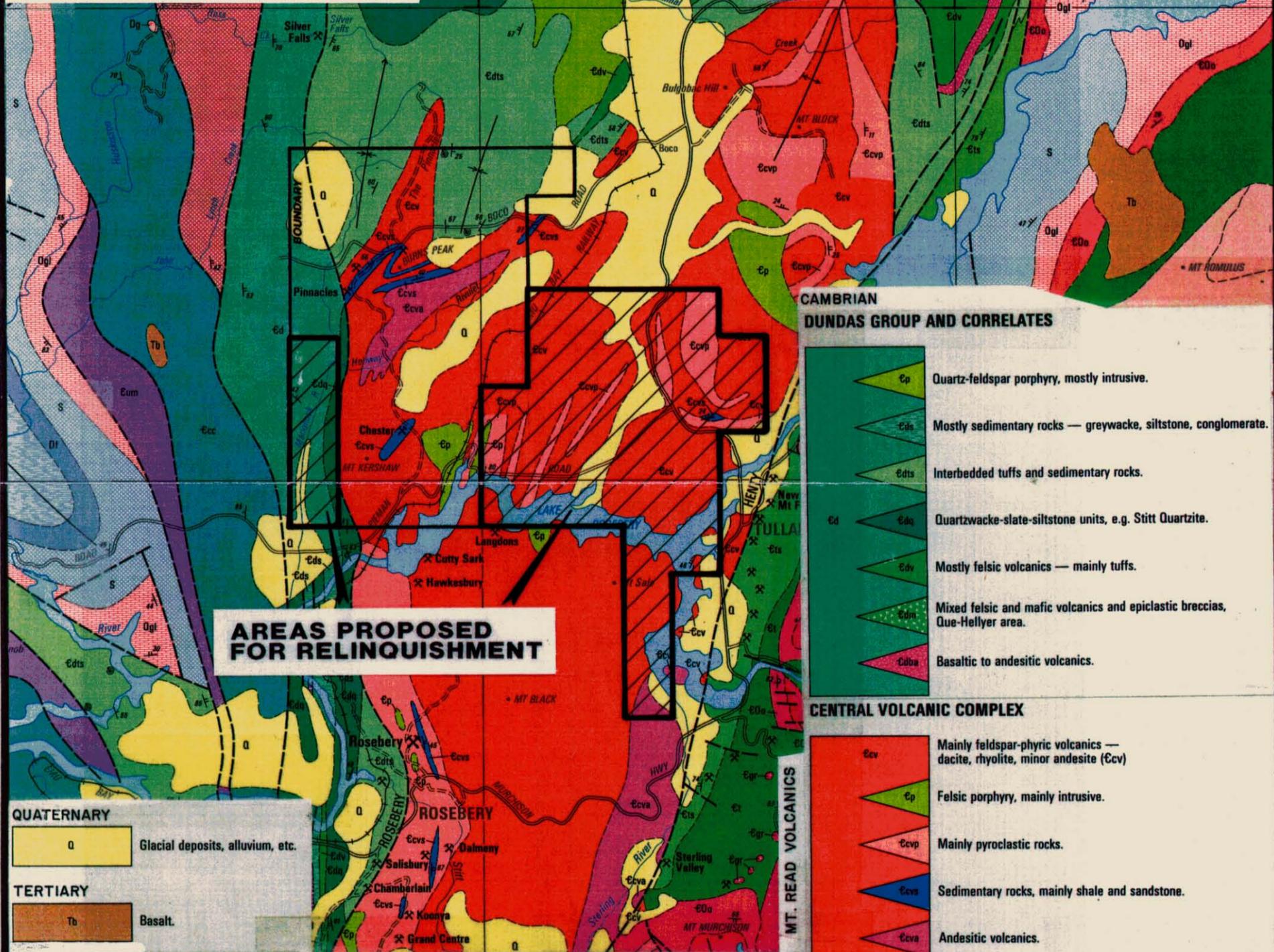


FIG. No.

4

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 (Hons), 1988.



AREAS PROPOSED FOR RELINQUISHMENT

QUATERNARY

Q Glacial deposits, alluvium, etc.

TERTIARY

Tb Basalt.

DEVONIAN

Ddl Dolerite

DEVONIAN - SILURIAN

Db Bell Shale
S-D D Florence Sandstone
S Silurian

ORDOVICIAN

Ogl GORDON GROUP limestone.

EARLY ORDOVICIAN - LATE CAMBRIAN

EOu Upper sandstone sequence including Pioneer Beds (EOu).
EOa Undifferentiated conglomerate and sandstone (EOa).
EOon Newton Creek Sandstone (EOon) — interbedded sandstone siltstone and conglomerate with marine fossils.

CRIMSON CREEK FORMATION

Ecc Mafic greywacke, mudstone, tholeiitic basalt.

UNASSIGNED CAMBRIAN UNITS

Eva Volcano-sedimentary sequence.
Ea Sedimentary sequence.
Eba Basaltic-andesitic volcanics.

SUCCESS CREEK GROUP

Esc Quartz sandstone, mudstone, siltstone with minor conglomerate and carbonate.

PRECAMBRIAN

Eo Quartzite-slate sequences — correlates of Onah Formation.
Em Metamorphosed sequences of Tyennan Region. Major lithological boundary trends shown.

CAMBRIAN

DUNDAS GROUP AND CORRELATES

Ecp Quartz-feldspar porphyry, mostly intrusive.
Eds Mostly sedimentary rocks — greywacke, siltstone, conglomerate.
Edts Interbedded tuffs and sedimentary rocks.
Cd Quartzwacke-slate-siltstone units, e.g. Stitt Quartzite.
Edv Mostly felsic volcanics — mainly tuffs.
Eum Mixed felsic and mafic volcanics and epiclastic breccias, Que-Hellyer area.
Cdba Basaltic to andesitic volcanics.

CENTRAL VOLCANIC COMPLEX

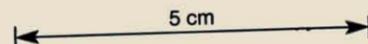
Ecv Mainly feldspar-phyric volcanics — dacite, rhyolite, minor andesite (Ecv)
Ecp Felsic porphyry, mainly intrusive.
Ecvp Mainly pyroclastic rocks.
Ecsa Sedimentary rocks, mainly shale and sandstone.
Eca Andesitic volcanics.

CAMBRIAN INTRUSIVE ROCKS

Egr Granite.
Ecp Felsic porp.
Eg Gabbro.
Eum Ultramafic rocks and serpentinite.

TYNDALL GROUP AND CORRELATES

Et Mainly quartz-feldspar-phyric volcanic and volcanoclastic rocks (Et)
Ets Mainly sedimentary rocks, including Farrell Slates.
Etc Mainly volcanoclastic conglomerate and sandstone.
Ecpb Sticht Range Beds — sandstone, siltstone, siliciclastic congl



6 PREVIOUS EXPLORATION

The current area of EL 44/88 has been extensively prospected and explored since late last Century, especially following discovery of the Rosebery deposit in 1893. Numerous prospects and old workings occur within the tenement, particular in the western third of the area between Mt Kershaw and Burns Peak (Green and Bamford, 1986). However only one minor mineral showing, Samuel Smith's Lode, a small pyrite occurrence near the Emu Bay Railway, lies within the area to be relinquished. Similarly, whilst the licence area has been continuously and often intensively explored since 1949, most of this modern exploration has focussed on the Chester-Pinnacles part of EL 44/88, which is being retained.

Previous exploration over the two blocks to be relinquished is summarised in Table 1. It has mostly been of a reconnaissance nature within parts of three principal former exploration tenements: EL 5/63, held by Comstaff (anon., 1988); EL 1/62 held by EZ (Mill et al, 1980, Randell et al, 1986) and EL 11/74 held by Cominco. This work has involved partial coverage by air-borne EM and magnetic surveys; regional-scale geological mapping and sampling; stream sediment and soil geochemistry; gradient array and dipole-dipole IP surveys along wide-spaced grid lines and more systematic UTEM survey coverage. The results of these various exploration programs have been generally disappointing. No specific target areas have been identified for more detailed investigations, in accord with the negative results from earlier prospecting activities.

TABLE 1

**EL 44/88 BURNS PEAK JV:
PREVIOUS EXPLORATION ON AREA RELINQUISHED DECEMBER 1993**

EL 5/63 Comstaff JV

1968-72	Initial phase of reconnaissance mapping, stream sediment geochemistry
1974-75	Airborne Input EM Survey, mostly over western area
1976-79	Preussag entered JV, geological mapping
1980-83	DIGHEM helicopter EM survey, partial coverage
1983-88	BHP entered JV, compilation, UTEM survey

EL 11/74 Cominco

1974-76	Geological mapping, stream sediment geochemistry, helicopter HEM 400 EM survey, single line dipole-dipole IP survey
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EL 1/62 EZ JV

1970-71	Reconnaissance stream sediment geochemistry
1972-73	Helicopter Turair EM survey - western margin Mt Sale
1974-75	Airborne Input EM survey - western area
1978-81	Getty Oil entered JV. Farm Creek, Pieman and Mt Sale Grids: gridding, geological mapping, dipole-dipole and gradient array IP, soil geochemistry, pitting
1983-84	DIGHEM survey, VLF EM, ground magnetics, soil geochemistry
1985-86	Billiton entered JV, Bulk leach cyanide gold geochemistry, UTEM survey

7 EXPLORATION COMPLETED DECEMBER 1988 – NOVEMBER 1993

Most of the active exploration undertaken since the inception of EL 44/88 has been within the area to be retained after December 1993. Work completed on the relinquished blocks has been restricted to semi-regional surveys, often as part of much larger programs over adjacent tenements managed by Pasminco Exploration. These activities have included:

- 1 Compilation and assessment of previous exploration results, particularly the UTEM surveys
- 2 Photogrammetry and production of digital topographic base sheets
- 3 Semi-regional geological mapping and sampling
- 4 High resolution helicopter-borne magnetic and radiometric surveys
- 5 Semi-regional gravity surveys
- 6 Structural geological synthesis from remote sensing data sets and regional traverses.

7.1 Photogrammetry

A new high level aerial photographic survey was flown by the Lands Department in December 1990 to provide black and white photos at 1:22 000 scale for digital photogrammetric map production by the HEC Enterprises Corporation. The survey was flown along north-south flight lines as part of a larger survey covering Pasminco Explorations tenements in western Tasmania. The HEC produced new topographic base sheets at 1:10 000, 1:5 000 and 1:2 500 scale, as well as digital data files for up-loading into Autocad and Techbase for subsequent manipulation.

In January 1991 the Lands Department covered the whole tenement with colour aerial photography at 1:10 000 scale. These photographs have been used for up-to-date access and as an aid to geological mapping.

7.2 Geology

The area to be relinquished has not been mapped in detail during 1988–93. Most geological investigations have either been associated with regional traverses, as part of a major basin analysis and structural study of the Mt Read Volcanics, or as reconnaissance mapping and sampling, particularly over areas highlighted by an analysis of the remote sensing (Satellite TM, aeromagnetism and gravity) data. The results from these investigations have largely confirmed the observations of previous geologists and are in general accord with the mapping of Corbett and McNeill (1986), see Figure 4.

The Mt Read Volcanics underlying the Burns Peak tenement are bounded by two major longitudinal structures, the Rosebery and Henty Faults (see Figure 4). Both fault zones record a complex and long-lived structural history, with major movement during the Devonian Tabberabberan Orogeny overprinting possible structures active during the Middle Cambrian and Late Cambrian–Early Ordovician (Delamarian Orogeny). The Rosebery Fault strikes north–south and dips between 40° and 46° to the east at surface. This fault either shallows, or flowers into the steeply west dipping (75°) Henty Fault system at depth.

This fault bounded sequence, within Block A comprises generally massive rhyolitic to dacitic lavas, sub-volcanic intrusives and pumiceous volcanoclastics of the Central Volcanics Complex (Corbett, 1992). These appear to be identical to the weakly altered and unmineralised Mt Black Volcanics, which overlie the Rosebery Mine Sequence.

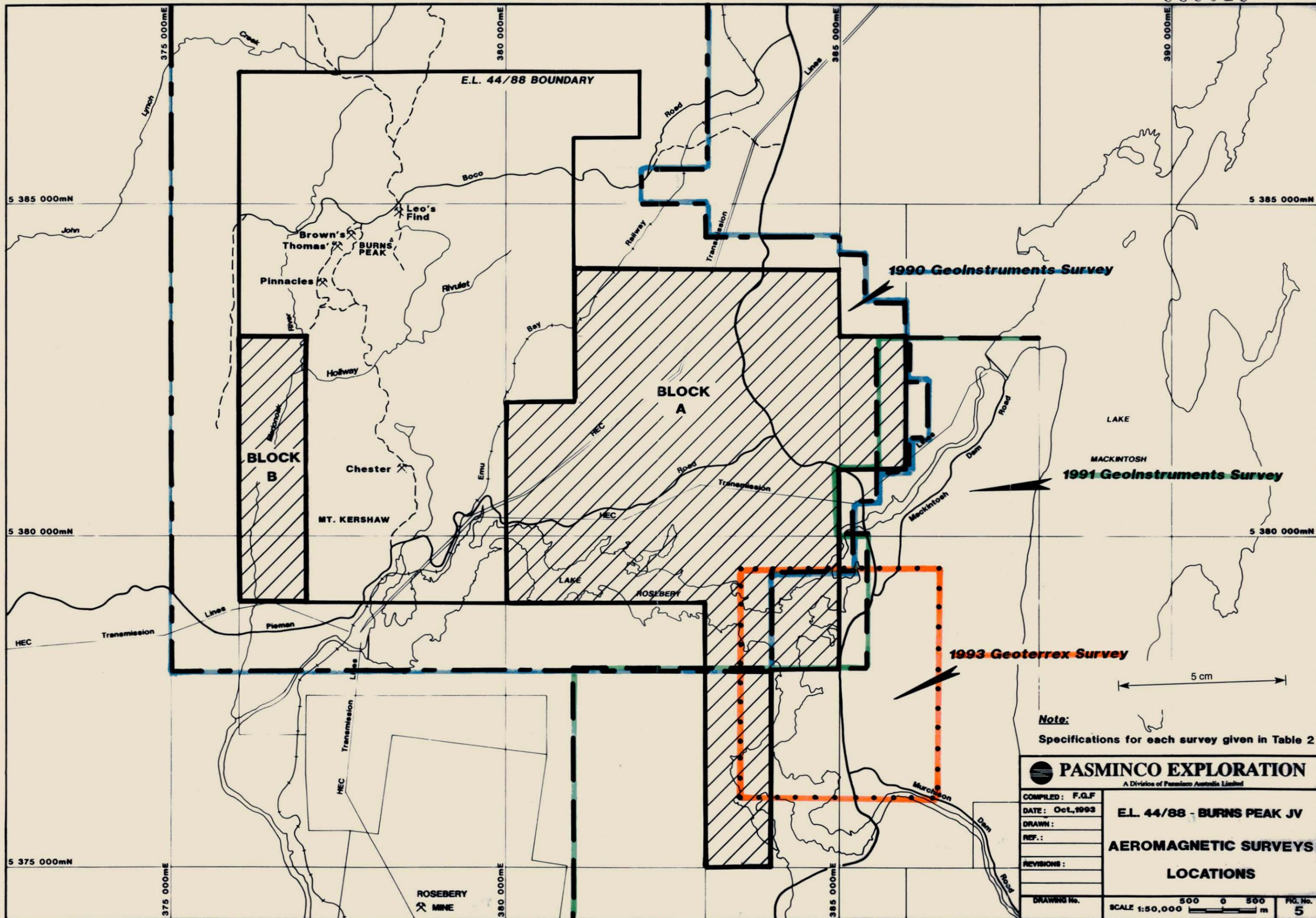
Block B occurs to the west of the Rosebery Fault. It is underlain by an interbedded and faulted sequence of siltstones, sandstones, conglomerates and lithic wackes of the Cambrian Dundas Group, which appears to have been predominantly derived from Proterozoic basement rocks. Recent mapping and petrographic studies from the area outside Block B suggests that there is a minor volcanic clastic component in some of these lithologies, indicating that they are either synchronous or post date the formation of at least part of the Mt Read Volcanics.

7.3 Aeromagnetism and Radiometrics

The area of EL 44/88 has been covered by parts of three separate helicopter-borne magnetic and radiometric surveys flown between 1990 and 1993. The area covered by each survey is shown in Figure 5 and the specifications of each survey is listed in Table 2. The data sets from these surveys have been merged by the Mines Department, under contract, to produce a single file of the total magnetic field. The Department were then requested to produce a drape at 120m terrain clearance and upward continuation of the data to 1300m above sea level. A plan showing the residual magnetic contours of the 120m drapes within the areas to be relinquished is presented as Figure 6. The digital data from all three surveys has been lodged with the Mines Department, along with flight line plans and other relevant maps.

Dr DE Leaman, of Leaman Geophysics, was contracted, initially to review the extant magnetic and gravity data over EL 44/88 in 1989, and then to prepare an acquisition report and preliminary interpretation of the main 1990 aeromagnetic survey. More detailed studies of the aeromagnetic data have been undertaken within the area to be retained. Key conclusions to come from Leaman's preliminary interpretation are as follows:

- 1 The most obvious features of the magnetic field trend NE-SW and they clearly reflect compositional variations within the volcanic piles.
- 2 Other trends and lineaments display NW-SE and sub E-W orientations, which probably represent transverse or conjugate fracture sets. Some clearly truncate shallow source texture and are regionally associated with mineralisation eg. at Chester.
- 3 The largest responses can be associated with Cambrian mafic-ultramafic rocks west of the area or at depth, possibly in fault-controlled slices **beneath** the exposed volcanic pile.
- 4 There is no evidence of "hydrothermal alteration signatures" in the magnetic data, within the areas to be relinquished.



Note:
Specifications for each survey given in Table 2

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E.L. 44/88 - BURNS PEAK JV
AEROMAGNETIC SURVEYS
LOCATIONS

SCALE 1:50,000
500 0 500 m
FIG. No. 5

TABLE 2

EL 44/88 BURNS PEAK JV: AEROMAGNETIC SURVEYS SPECIFICATIONS

SURVEY	BURNS PEAK	TULLAH	TULLAH GAP
CONTRACTOR	Geo Instruments	Geo Instruments	Geoterrex
DATE	February 1990	February 1991	March 1993
FLIGHT LINE DIRECTION	90° AMG	90° AMG	90° AMG
LINE SPACING	200m	100m	100m
TIE LINE DIRECTION	180° AMG	180° AMG	180° AMG
TIE LINE SPACING	1000m	2000m	1000m
NOMINAL SENSOR TERRAIN CLEARANCE	80m	80m	80m
NAVIGATION	visual/photo	visual/photo	DGPS
MAGNOMETER	Geometrics G813	Geometrics G833	Scintrex Cs vaper
RECORDING INTERVAL	0.48sec (~20m)	0.2sec (~7m)	0.1sec (~4m)
SENSITIVITY	0.1nT	0.01nT	0.05nT

7.4 Gravity Surveys

The two blocks to be relinquished within EL 44/88 have been covered by semi-regional gravimetric surveys, as part of a much larger program over adjacent tenements. The work was undertaken in three surveys during 1990 by Highland Exploration and Geopeko field staff, under the supervision of Dr DE Leaman. Additional gravimetric data was collected south of Lake Rosebery, within Block A, by Dr RG Richardson on contract from the Mines Department during 1991-92. The objective of these surveys was to in-fill the Mines Department regional survey, which was generally spaced at 1km centres, to at least 500m spaced stations and 250m spaced stations over the mineralised areas. Details and specification of the surveys are given in Leaman (1990) along with a preliminary interpretation of the data. The location of all the gravity stations within the relinquished blocks is shown in Figure 7 and the residual Bouguer Anomaly gravity contours are presented in Figure 8. Gravity station position and level control was provided by a network of surveyed stations with intermediate stations levelled using barometers. Terrain corrections and data reduction was undertaken jointly by the Mines Department and Leaman Geophysics. The residual Bouguer Anomalies have been derived from corrected data using the MANTLE 88 Model of Leaman and Richardson (1989).

DR DE Leaman was contracted to interpret the results of all the available gravity data, in conjunction with the existing magnetic, petrophysical databases (specific gravity and magnetic susceptibility) and known geology, to help develop a sub-surface structural model of the area. Key conclusions to come from his study in 1990 are:

- 1 The volcanic pile is made up of several large slices with basal detachments which generally dip to the south east.
- 2 This thrust stack has been folded, with amplitudes exceeding 2km, and has been pushed westward across the original basement - Dundas Trough margin by at least 3km.
- 3 Thrusting and folding of the pile has produced extremely variable thicknesses with the depth to the base of the volcanics onto the inferred Precambrian basement interpreted to be locally less than 1km within Block A.
- 4 Devonian granitoids affect the gravity field in the south eastern portion of Block A but are not involved with any major structures within the tenement area.

7.5 Structural Geology Synthesis

The regional setting of EL 44/88 was examined through analysis and integration of multiple data sets as part of a comprehensive project review undertaken by Pasminco in early 1993. The objectives of this study were to understand the relative importance of structural controls to known mineralisation and to discriminate target areas from areas of low prospectivity. The following digital data sets were used in this study: Geological maps at 1:25 000 scale from the Mt Read Volcanics Project series; Landsat TM; Integrated aeromagnetics, both residual total intensity and first vertical derivatives; Residual Bouguer Anomaly gravity and total count radiometrics. At the same time five regional cross sections were constructed from field mapping and existing data sets.

Figure 9 shows the degree of spatial correlation of the mapped and interpreted linears from each data set. Figure 10 presents a compilation of the major structural features, showing areas of significant and/or discrete magnetic lows which may be associated with hydrothermal alteration within the relinquished blocks. Kinematic information shown on this figure is derived from mapped and remotely sensed data. The structural history is developed in terms of the age relationships of structures relative to the regional folds and cleavage.

Pre-cleavage structures are suggested from inferred growth faults during deposition of the Mt Read Volcanics. The orientation of such structures has not been established but it is likely that they would have been re-activated and inverted during compression, obscuring the earlier growth history. Likely candidates are major faults and shear zones with a NE-SW and/or E-W orientation, such as the Boco Creek Shear Zone (see Figure 10).

Syn-cleavage structures, especially shear zones into which the regional cleavage intensifies, occur in the central and western parts of the tenement (see Figure 10). The Farm Creek Shear Zone (FCSZ) is identified from remote sensing only and no field evidence for its existence has been sought since its position is largely obscured by Quaternary glacial deposits. The Boco Creek Shear Zone (BCSZ) is an important feature in all of the remote data sets and occupies a steeply incised valley along which the Emu Bay Railway has been developed. The BCSZ separates a linear zone of high magnetic intensity to the west from low magnetic signatures to the east. The western units are also

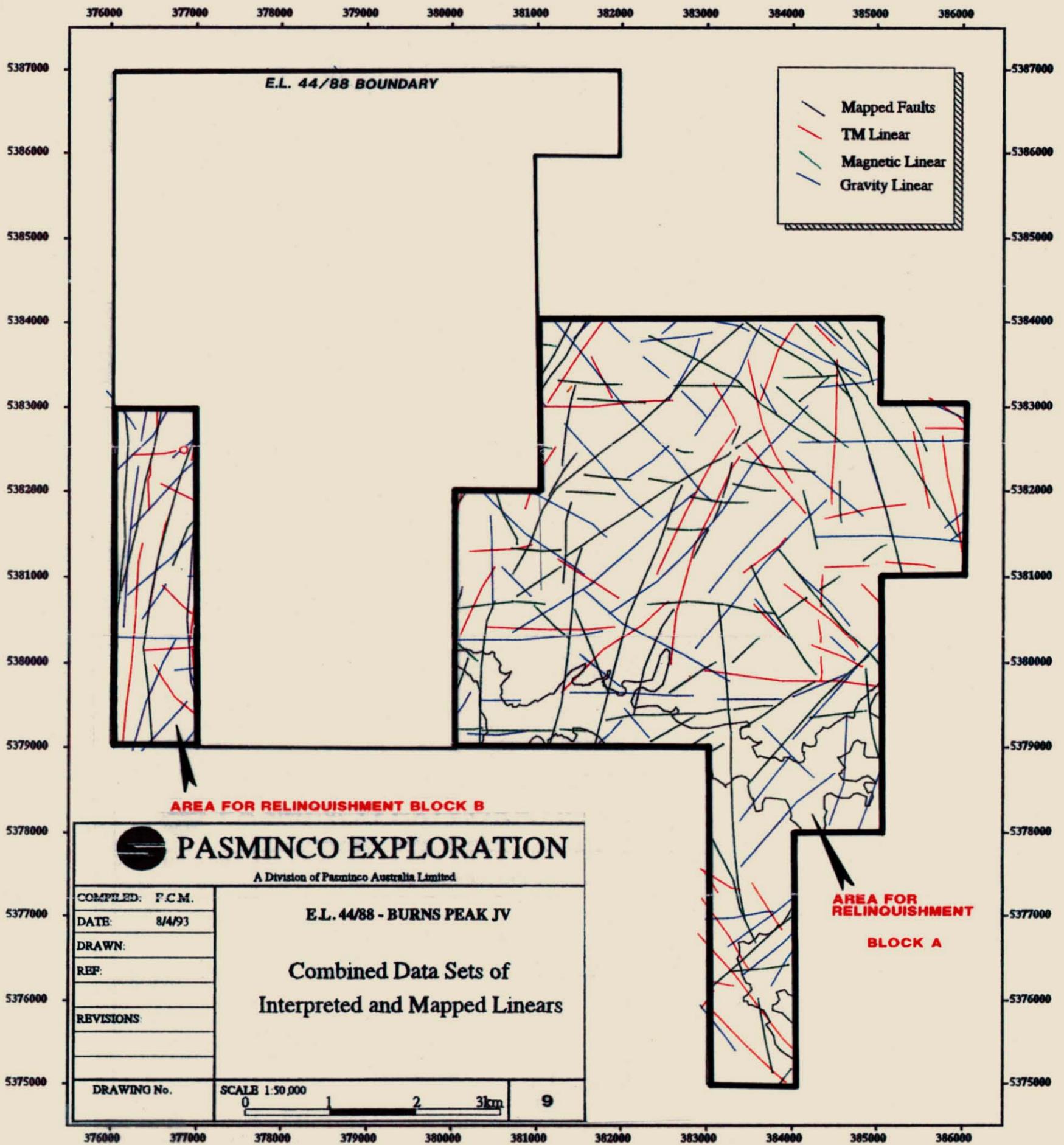


Figure 9

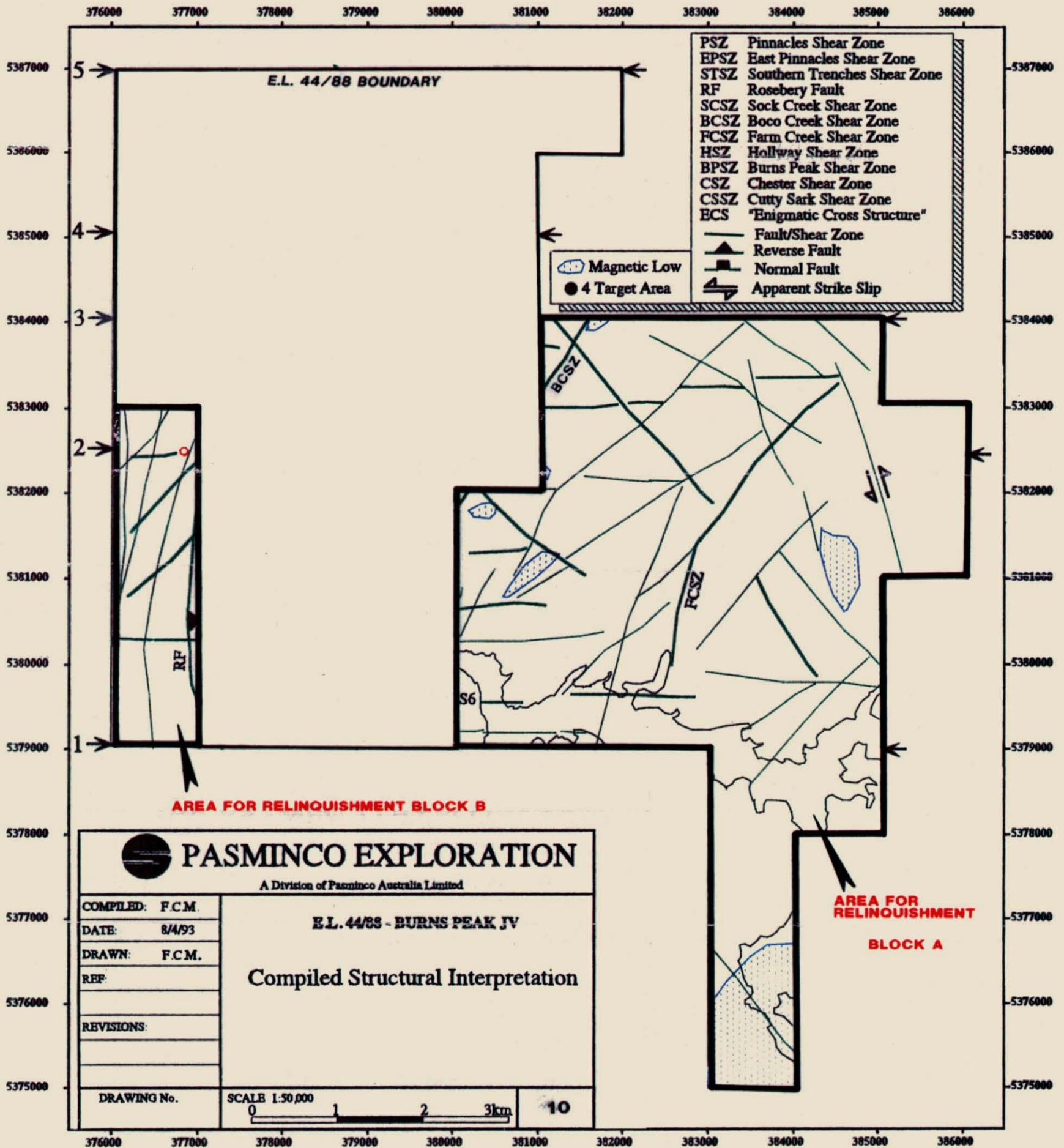


Figure 10

5 cm

more radiogenic. The shear lies close to the major NW-SE change in gravity gradient. Volcaniclastic units in the CVC to the east within Block A are cut by sub-vertical shear zones, subparallel to the BCSZ, that show west side up, dip slip displacement. Sericitic and pyritic alteration is associated with these shears. The BCSZ is associated with the large silica-sericite-pyrite alteration zone at Boco siding, along strike to the NE outside EL 44/88.

Sub E-W structures have been recorded as "enigmatic" because their expression on the mapped geology appears insignificant compared to their relative prominence in other data sets, such as TM, aeromagnetics and gravity. Although their stratigraphic effects are poorly understood, there are grounds to believe that such structures developed early as Cambrian growth faults. The intersections of ECS's with strike parallel "basin margin" faults could be an important factor in the localisation of mineralisation. Several ECS's have been interpreted within the area to be relinquished (see Figure 10).

8 ENVIRONMENTAL DISTURBANCE & REHABILITATION

Field activities associated with the exploration undertaken within the two blocks of EL 44/88 to be relinquished, which have impacted on the natural environment, have been limited. Most of the exploration has involved either remote sensing data gathering (eg. aeromagnetism and radiometrics) or regional-style investigations (eg. gravity, geological mapping) using the existing network of vehicular tracks and grid lines for access. No new tracks or grid lines have been established. Some minor refurbishing of existing grids east of the Emu Bay Railway was undertaken in 1991-92.

A program of progressively rehabilitating areas disturbed by previous exploration within the tenement was initiated in 1990, in partnership with the Mines Department. Most of this cost effective work has taken place within the area to be retained. No major areas of disturbance within Blocks A and B, and which are not required for on-going access, have been identified. Consequently, no rehabilitation of past disturbed areas within these blocks is planned.

9 CONCLUSIONS

The results from semi-regional exploration within the two blocks proposed for relinquishment from EL 44/88 do not indicate the likely occurrence of economic massive sulphide mineralisation within a few hundred metres of the surface.

The area of Block A (30km²) is mostly underlain by weakly altered massive rhyolitic to dacitic lavas, sub-volcanic intrusives and volcanoclastics of the Central Volcanic Complex, Mt Read Volcanics. No old prospects or significant mineral showings are known within the area, confirming the low prospectivity for polymetallic massive sulphide deposits.

The area of Block B (4km²) is underlain by interbedded and faulted siltstones, sandstones, conglomerates and lithicwackes of the Cambrian Dundas Group, west of the Rosebery Fault. The sedimentary units are predominantly derived from Proterozoic basement in western Tasmanian and are not considered to be prospective for volcanic-hosted massive sulphide mineralisation.

10 KEYWORDS & LOCATION**Keywords**

BASEMETALS, GOLD, VOLCANICS, THRUST, SHEAR ZONE, VOLCANOGENIC, CAMBRIAN, GEOL MAPPING, GEOPHYS GRAVITY, GEOPHYS MAGNETICS, REMOTE SENSING, STRUCTURAL ANALYSIS.

Location

BURNIE SK5503, QUEENSTOWN SK5505, BURNS PEAK, MT KERSHAW, LAKE ROSEBERY.

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APPENDICES

APPENDIX 1

SCHEDULE OF AREA RELINQUISHED, DECEMBER 1993

APPENDIX 1

SCHEDULE OF AREA RELINQUISHED EL 44/88 DECEMBER 1993**BLOCK A (30km²)**

Commencing at the north east corner of the area whose grid coordinates are 385 000 metres E, 5 384 000 metres N, thence grid south to 5 383 000 metres N, grid east to 386 000 metres E, grid south to 5 381 000 metres N, grid west to 385 000 metres E, grid south to 5 378 000 metres N, grid west to 384 000 metres E, grid south to 5 375 000 metres N, grid west to 383 000 metres E, grid north to 5 379 000 metres N, grid west to 380 000 metres E, grid north to 5 382 000 metres N, grid east to 381 000 metres E, grid north to 5 384 000 metres N, thence grid east to the point of commencement.

BLOCK B (4km²)

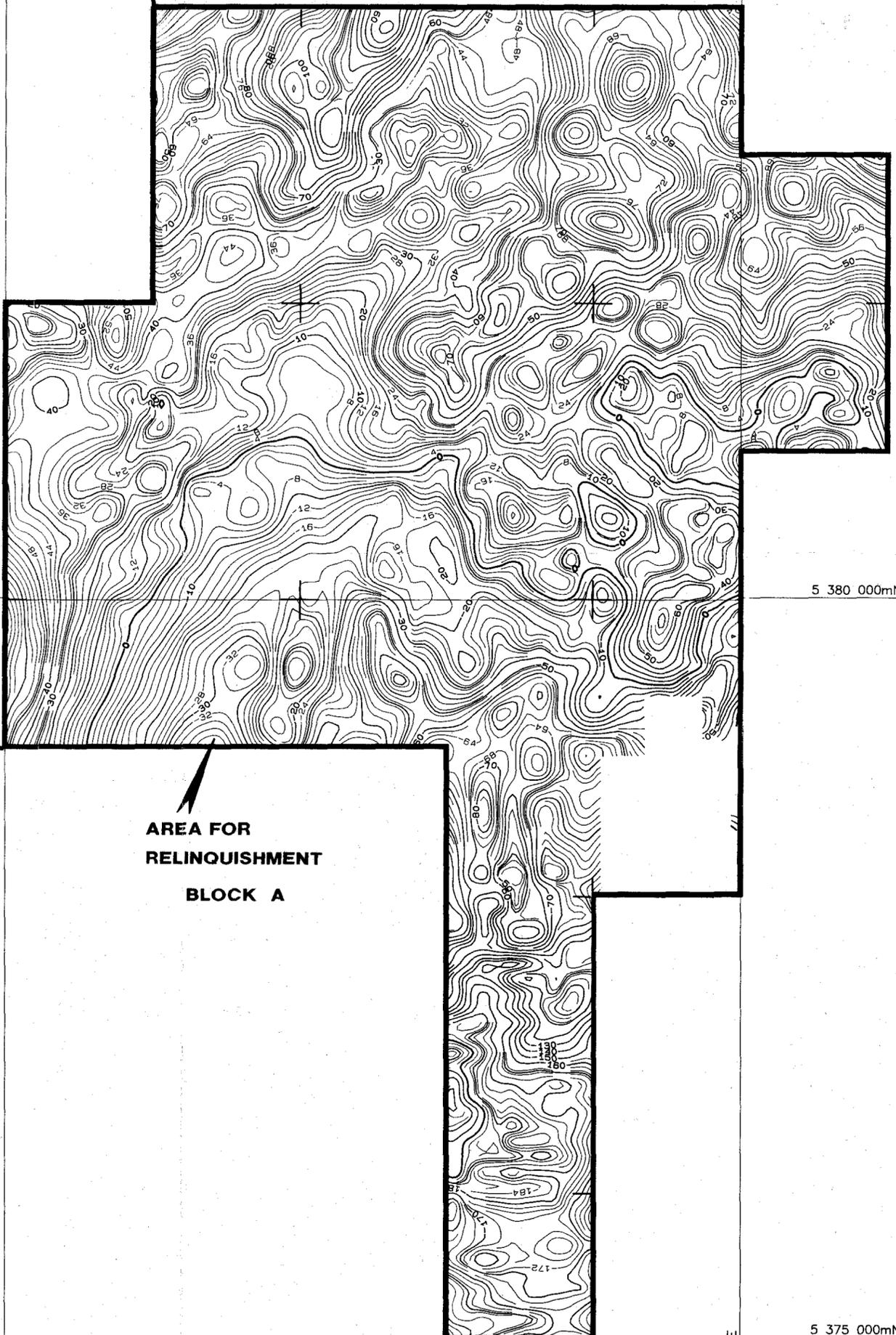
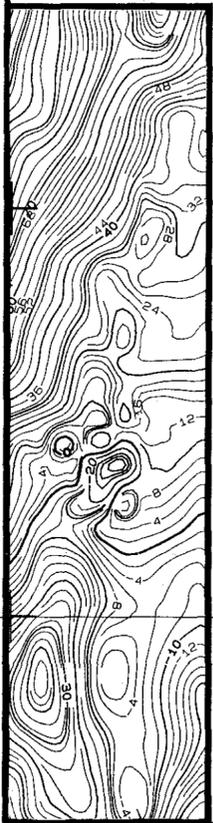
Commencing at the north east corner of the area whose grid coordinates are 377 000 metres E, 5 383 000 metres N, thence grid south to 5 379 000 metres N, grid west to 376 000 metres E, grid north to 5 383 000 metres N, thence grid east to the point of commencement.

FIGURES

E.L. 44/88

385 000mE

5 385 000mN



5 380 000mN

AREA FOR
RELINQUISHMENT
BLOCK B

AREA FOR
RELINQUISHMENT
BLOCK A

5 3 5 000mN

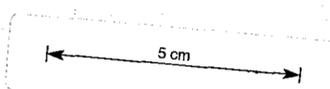
5 375 000mN

385 000mE

380 000mE

959034

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DATE : Nov., 1993	
DRAWN : G.M.B.	
REFERENCE : Tas. Div. of Mines & Min. Resources	
Aug., 1991	
DRAWING No.	
SCALE 1:25,000	0 500 m 6



93-3517

E.L. 44/88 BOUNDARY

385 000mE

5 385 000mN

9151.6744

8651.8104

5 380 000mN

9052.3080

8551.3407 x
x 8551.3406

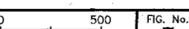
**AREA FOR
RELINQUISHMENT
BLOCK B**

**AREA FOR
RELINQUISHMENT
BLOCK A**

5 375 000mN

380 000mE

959035

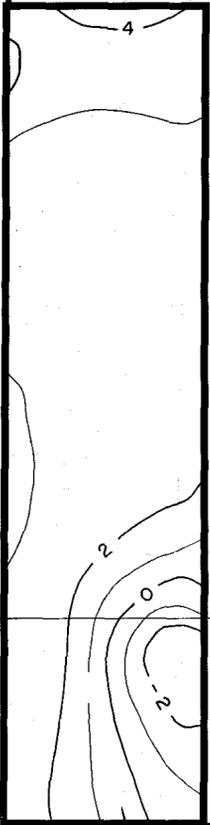
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REVISIONS :	
DRAWING No.	SCALE 1:25,000  Fig. No. 7

5 cm

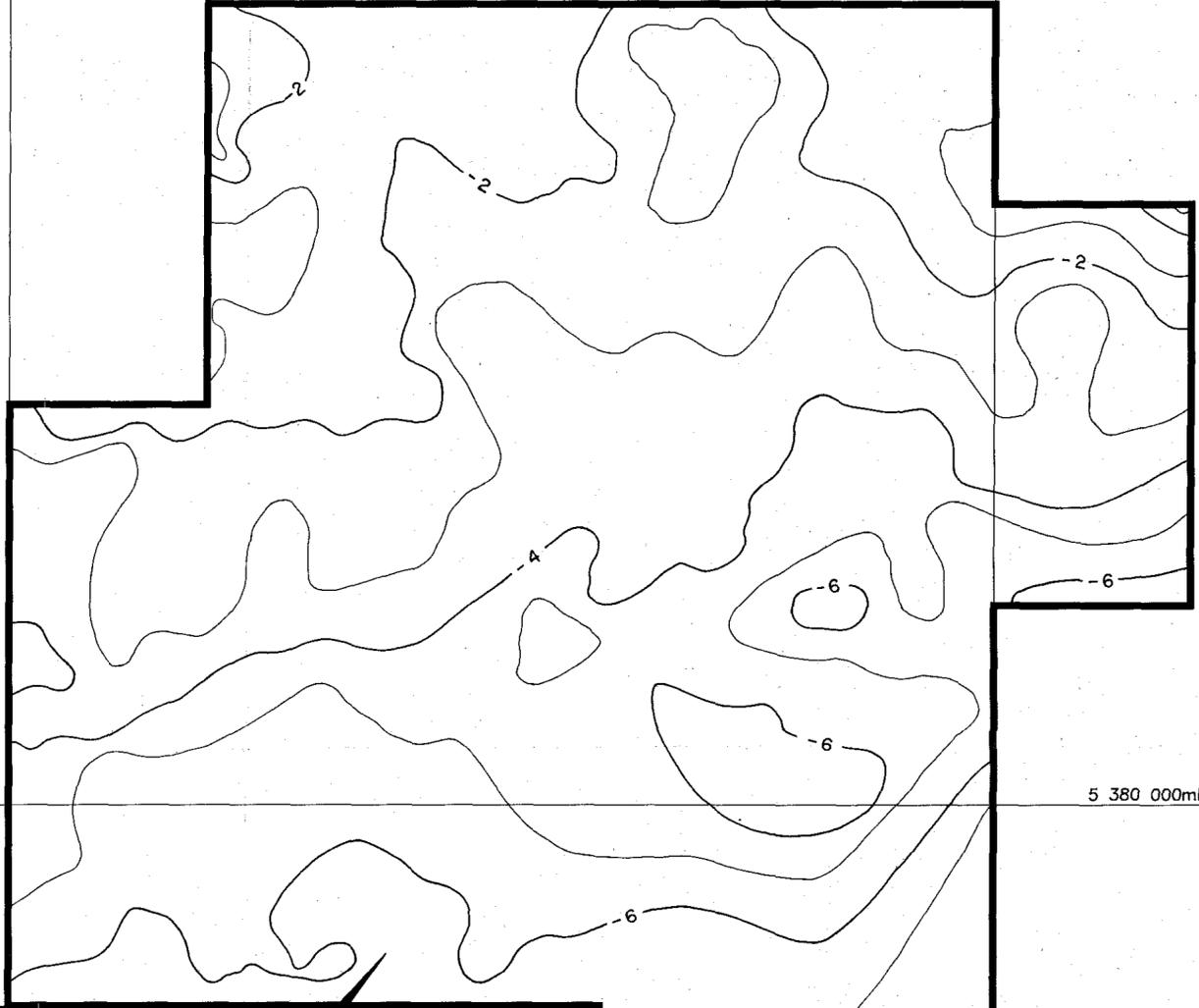
E.L. 44/88

385 000mE

5 385 000mN



AREA FOR
RELINQUISHMENT
BLOCK B



AREA FOR
RELINQUISHMENT
BLOCK A

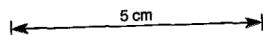
5 380 000mN

5 375 000mN

385 000mE

959036

PASMINCO EXPLORATION <small>A Division of Pasminco Australia Limited</small>	
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REF.: Tas. Div. of Mines & Min. Res.	
Feb., 1992	
Leadman Geophysics	
March 1992	
DRAWING No.	SCALE 1:25 000
FIG. No. 8	



380 000mE