" TRANSPARENCIES HELD "

918001

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PASMINCO EXPLORATION

EL 1/93 HUSKISSON RIVER EXPLORATION REORT

FOR THE PERIOD
21 MAY 1993 – 21 APRIL 1994

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AUTHOR: RA Polltock & MS Saxon

DATE: April 1994

REPORT No.: T94-1

SUBMITTED TO: Regional Exploration Manager – Tasmania

Loaned due Lodd

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– Melbourne
– Rosebery

Billiton Australia – Melbourne

SUBMITTED BY:

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MAY 1994

94-3567

" TRANSPARENCIES HELD "

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1 SUMMARY

Exploration on EL 1/93 has been divided into an eastern Mt Read Volcanic VHMS play (Boco JV with Billiton) and a western shale/carbonate hosted massive sulphide play in the Proterozoic Oonah Formation. An airborne magnetic and radiometric survey is the only exploration completed common to both areas this data has not been interpreted at this stage.

Mt Read Volcanic exploration has been centred on the Silver Falls prospect and included compilation of previous soil geochemistry, infill soil geochemistry and geological mapping. The program culminated in drilling HRD1 to test Pb Zn soil anomalies. The hole intersected veinlet style galena > sphalerite associated with sericitisation and carbonitisation. The best intercept in HRD1 was 6m @ 1.12% Pb with the highest Zn interval 2m @ 0.70%. Mineralisation and alteration are similar in style and intensity to that at Silver Falls and further work is not warranted in this section of the EL.

Exploration within the Oonah Formation was limited to minor geological mapping and rock chip sampling, and a review of the work completed by previous explorers. Recommendations for further work in this area include:

- resample existing holes from the Will O' Wisp prospect area;
- map and sample in area of untested anomalism;
- map and sample to the south of the Just in Time prospect area which is of relatively unexplored.

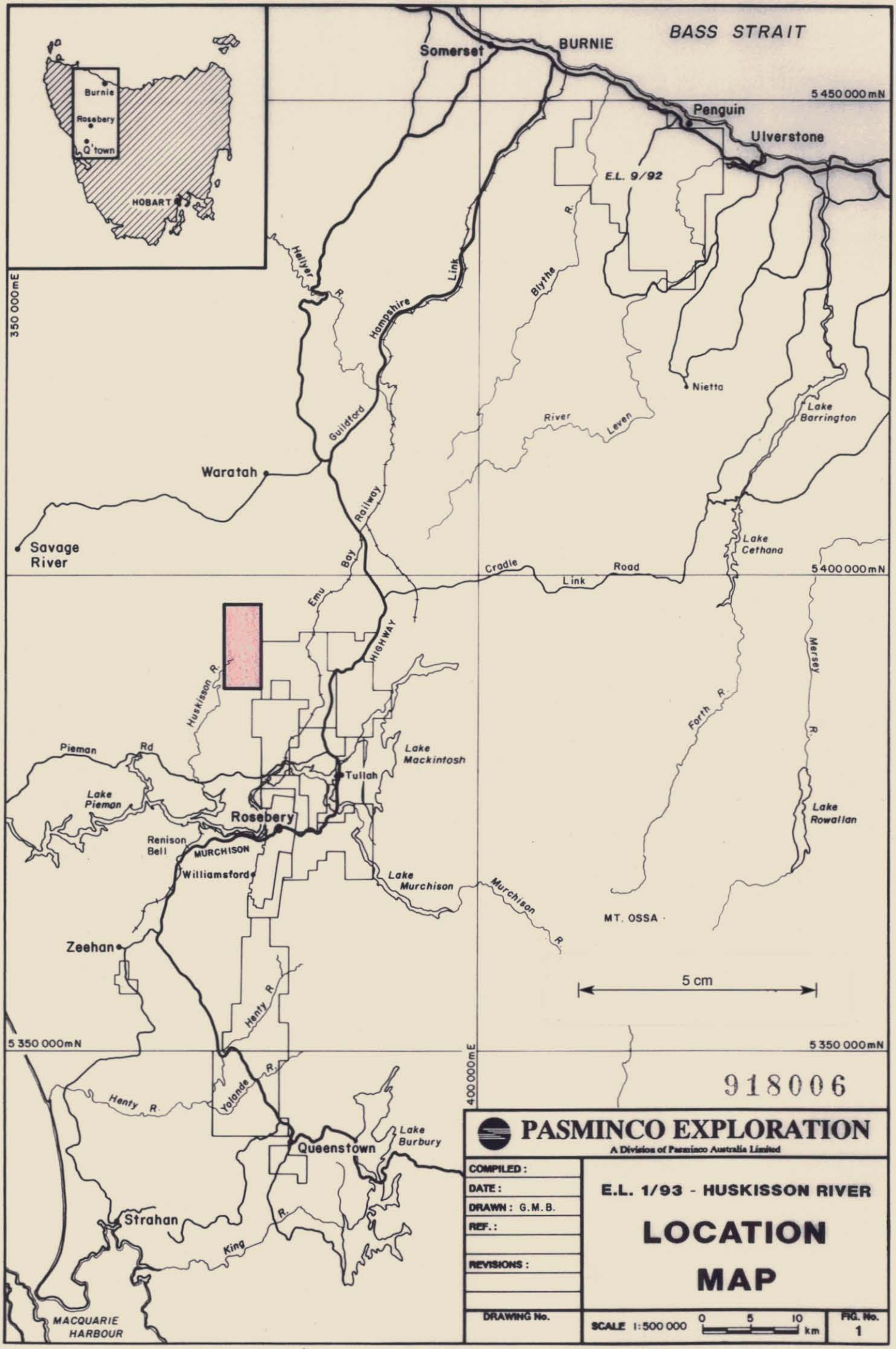
2 INTRODUCTION

This report documents work completed on the Pasminco Exploration Huskisson River EL 1/93 from May 1993 to April 1994. A recommended work program for the coming year is also documented.

The report is divided into two sections as a result of the EL straddling the boundary between two separate rock sequences that require independent exploration. The eastern section of the tenement covers Cambrian Mt Read Volcanics, whilst the western half covers Precambrian Oonah Formation.

Exploration on the Huskisson River EL is managed by Pasminco Exploration, a division of Pasminco Australia Ltd. The Huskisson River EL covers 36 sq. km., and lies 19km north-northwest of Rosebery, and includes the Silver Falls and Just in Time workings (fig. 1). The eastern section of the tenement is accessed by a rough track that heads north from Boco Road, whilst the western section is approached via the Forestry track known as Huskisson Drive.

Work during the 93/94 year has been by R. Poltock and M. Saxon. During this period activity has included: a high resolution aeromagnetic and radiometric survey; drilling of hole HRD1; compilation of existing soil geochemistry; review of existing data; mapping and rock chip sampling.



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PASMINCO EXPLORATION
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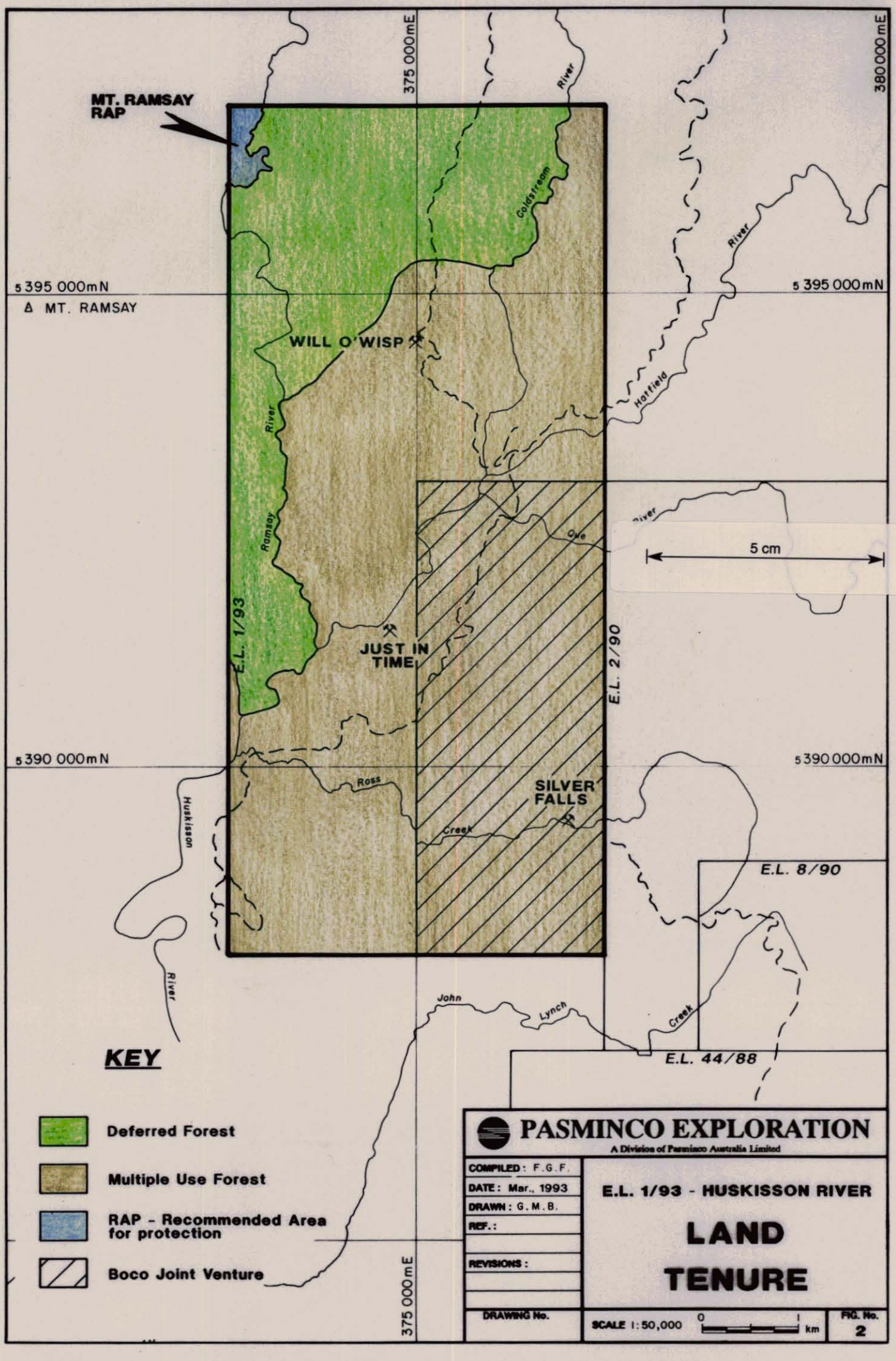
COMPILED :	E.L. 1/93 - HUSKISSON RIVER
DATE :	**LOCATION MAP**
DRAWN : G.M.B.	
REF. :	
REVISIONS :	
DRAWING No.	SCALE 1:500 000 (0 5 10 km)
	FIG. No. 1

3 TENURE

The Huskisson River EL 1/93 was granted to Pasminco Australia Ltd (Pasminco) on 21st May, 1993, covering 36 sq. km.(fig. 2). An area of 10 sq. km. in the southeast of the licence has subsequently been included in the Boco Joint Venture agreement with Billiton Australia, which previously applied to EL's 2/90 and 8/90 only. The area included in the Boco JV agreement is shown on Figure 2. Renewal of this tenement area is now being sought for a further twelve months.

The EL is subject to a number of land classifications. The tenure includes Deferred Forest Land, Multiple Use Forest Land and a small section of Mt Ramsay Recommended Area for Protection (Figure 2).


MT. RAMSAY RAP
375 000mE
380 000mE
River
Goldstream
River
5 395 000mN
MT. RAMSAY
WILL O'WISP
Hatfield
River
River
Ramsay
Ove
River
5 cm
E.L. 1/93
JUST IN TIME
E.L. 2/90
5 390 000mN
5 390 000mN
Ross
Creek
SILVER FALLS
Huskisson
E.L. 8/90
River
John
Lynch
Creek
E.L. 44/88
KEY
Deferred Forest
Multiple Use Forest
RAP - Recommended Area for protection
Boco Joint Venture
375 000mE
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED : F.G.F.
DATE : Mar., 1993
DRAWN : G.M.B.
REF. :
REVISIONS :
DRAWING No.
E.L. 1/93 - HUSKISSON RIVER
LAND TENURE
SCALE 1:50,000
0
1
km
FIG. No.
2

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4 REGIONAL GEOLOGY

EL1/93 straddles the western flank of the Dundas trough in western Tasmania. Two sequences prospective for base metals occur, the Proterozoic shales and carbonates and the mid to late Cambrian Mt Read Volcanics.

Basement in western Tasmania is the Precambrian comprising, dominantly green schist facies meta-sediments with minor basalts and dolerites. Higher grade amphibolite and eclogite facies also occur within the Precambrian (Burrett and Martin, 1989). Basement is exposed in the western part 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 mid to late Cambrian Dundas Group and predominantly calc-alkaline Mt Read Volcanics (MRV).

The CCF was deposited in shallow but rapidly subsiding basins (Brown, 1986 and Haines, 1991). The formation includes basaltic lavas and volcaniclastics, hematite facies turbidites, carbonates, chert and minor evaporites. The formation is exposed immediately west of the licence.

Ultramafic cumulates and volcanic equivalents were thrust onto the CCF in the mid Cambrian (Crawford and Berry 1991). These rocks are associated with strong magnetic anomalies and outcrop to the west of the licence in the Huskisson Syncline (Fig 3). The ultramafics are interpreted at depth between North Pinnacles and Silver Falls by Leaman (1993).

A package of sediments which post dates the ultramafics and possibly predates the MRV occurs in the eastern sector of the licence and footwall to the Rosebery Fault. These carbonate siltstones, wackes and polymict conglomerates are correlated with the Westcott Argillite/Salisbury Conglomerate in the Rosebery area and are considered to form the basal units of the Dundas Group. Gradationally overlying this sequence are quartz muscovite sandstone and conglomerate largely derived from Precambrian metasediments, but with some material from felsic volcanics and ultramafics. The sequence is correlated with the Stitt Quartzite at Rosebery.

The MRV form a 200km long by 20km wide north–south trending belt along the eastern side of the Dundas Trough, adjacent to and in some areas onlapping and intruding the Precambrian basement. The volcanics include intermediate to felsic lavas, subvolcanic porphyries and granites, volcaniclastics and basement–derived sedimentary rocks. The MRV host five economically significant volcanic hosted massive sulphide deposits.

In EL 1/93 equivalents of the MRV are restricted to a narrow strip between the Rosebery Fault and the licence boundary with EL 2/90. The MRV comprise pumiceous volcanics, quartz feldspar crystal sandstone and shales.

Regional structures associated with the MRV are the Rosebery Fault, splays of which extend into the Silver Falls area, and Henty Fault which is located 15km east of the licence.

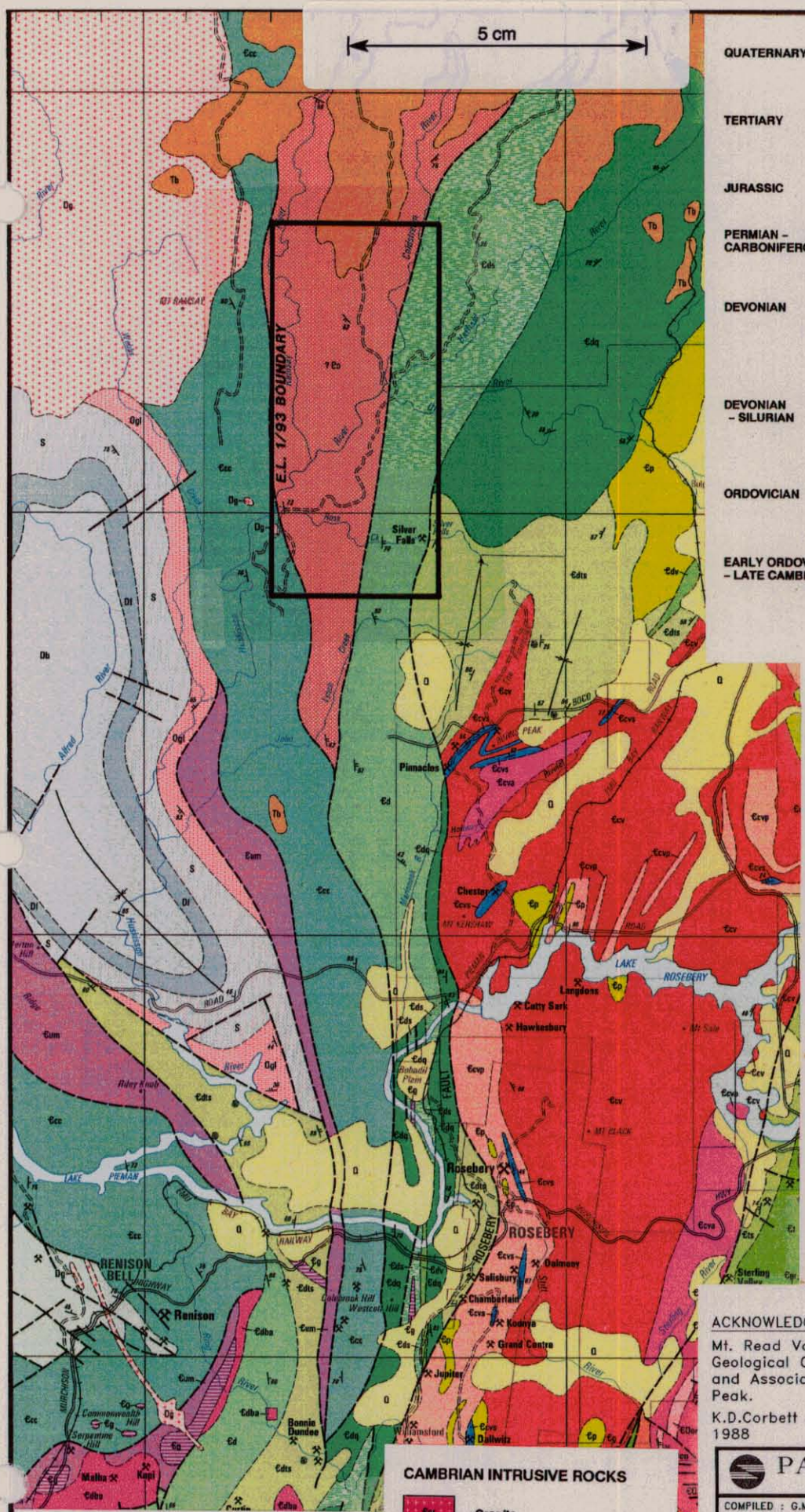
Cambrian volcanism and sedimentation was followed by predominantly basement derived late Cambrian to Devonian age sedimentation, which includes siliciclastic conglomerate, sandstone and limestone. None of these occur within the licence.

At least two phases of regional compression were associated with the mid Devonian Tabberabberan Orogeny (Keele, 1991). The development of folding, cleavage and regional thrusts in lower Palaeozoic rocks were associated with this event. Fold trends in the licences are N to NNE.

Deformation was followed by the extensive intrusion of Devonian to Carboniferous granitoids. The Meredith Granite and it's hornfels aureole outcrop in the western part of EL 1/93 (Brown 1986). The granites are associated with the main regional gravity feature in the area (Leaman and Richardson 1989).

These granites are associated with carbonate replacement tin mineralisation at Renison Bell and Mount Bischoff, and the Pb Zn Ag vein deposits of Zeehan and possibly the Tullah Fields.

After substantial erosion of this terrane extensive Tertiary flood basalts and sub–volcanic sediments were deposited. Remnants of the basalt flows are preserved between the Ramsay and Coldstream Rivers in the north of the licence.



QUATERNARY	Q	Glacial deposits, alluvium, etc.
TERTIARY	Tb	Basalt
	Ts	Sediments – gravel, sand, clays
JURASSIC	Jd	Dolerite
PERMIAN – CARBONIFEROUS	P	Undifferentiated
DEVONIAN	Dd	Dolerite
	Dg	Granite
DEVONIAN – SILURIAN	Db	Bell Shale
	Df	Florence Sandstone
	S	Silurian
ORDOVICIAN	Ogl	GORDON GROUP limestone
EARLY ORDOVICIAN – LATE CAMBRIAN	€Oou	Upper sandstone sequence including Pioneer Beds (€Oou)
	€Oo	Undifferentiated conglomerate and sandstone (€Oo)
	€Oon	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

€p	Quartz–feldspar porphyry, mostly intrusive
€ds	Mostly sedimentary rocks – greywacke, siltstone, conglomerate
€dts	Interbedded tuffs and sedimentary rocks
€d	
€dq	Quartzwacke–slate–siltstone units, e.g. Stitt Quartzite
€dv	Mostly felsic volcanics – mainly tuffs
€dm	Mixed felsic and mafic volcanics and epiclastic breccias, Que–Hellyer area
€dba	Basaltic to andesitic volcanics

CENTRAL VOLCANIC COMPLEX

€cv	Mainly feldspar–phyric volcanics — dacite, rhyolite, minor andesite (€cv)
€p	Felsic porphyry, mainly intrusive
€cvp	Mainly pyroclastic rocks
€cvs	Sedimentary rocks, mainly shale and sandstone
€cva	Andesitic volcanics

SOUTH AND EAST OF HENTY FAULT

TYNDALL GROUP AND CORRELATES

€ts	Mainly sed. rocks, incl Farrell Slates
€t	Mainly quartz–feldspar–phyric volcanic and volcaniclastic rocks (€t)
€tc	Mainly volcaniclastic congl. and sandstone
€stb	Sticht Range Beds – sandstone, siltstone, siliciclastic conglomerate

CAMBRIAN INTRUSIVE ROCKS

€gr	Granite
€p	Felsic porphyry
€g	Gabbro
€um	Ultramafic rocks & serpentinite

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 & A.W.McNeill B Sc(HON) 1988

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COMPILED : G.M.B.	E.L. 1/93 – HUSKISSON RIVER
DATE :	
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REVISIONS :	

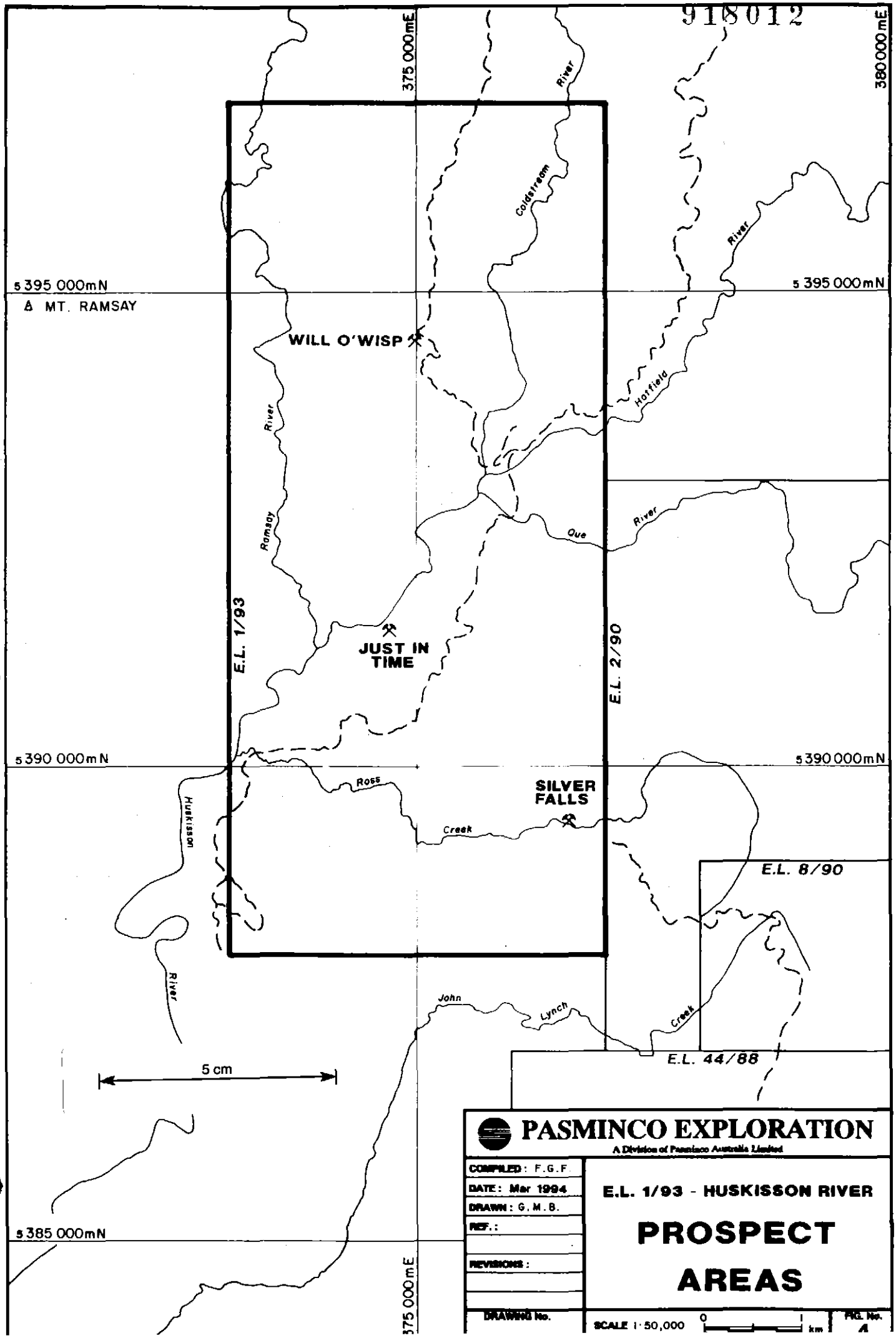
REGIONAL GEOLOGY

FROM MAP 6 OF THE MT. READ VOLCANICS PROJECT

DRAWING No.

SCALE 0 2 4 km

FIG. No. 3



PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED: F.G.F	E.L. 1/93 - HUSKISSON RIVER
DATE: Mar 1994	**PROSPECT AREAS**
DRAWN: G.M.B.	
REF.:	
REVISIONS:	
DRAWING No.	SCALE 1:50,000 0 km FIG. No. 4

5 REGIONAL EXPLORATION COMPLETED – AEROMAGNETICS

In March 1983, Geoterrex Pty Ltd conducted a heliborne magnetometer and spectrometer survey over the Huskisson River licence.

A summary of survey specification are as follows.

Aircraft:	Aerospatiale Squirrel 350B
Survey size:	423 line km
Flight line direction:	090 AMG
Line spacing:	100 metres
Tie line direction:	Orthogonal to traverse lines
Tie line spacing:	1000m
Minimum line length:	3000m
Navigation:	DGPS
Nominal sensor terrain clearance:	80m
Nominal aircraft speed:	40m per second

The Survey has not been interpreted at this stage but data is included in Figures 13–16.

6 MT READ VOLCANIC EXPLORATION

6.1 Previous Exploration

Galena, sphalerite and carbonate veins exposed at Silver Falls in Ross Creek were prospected with shallow pits and gouges at the turn of the century.

The Silver Falls mineralisation was tested by 4 small diameter (18mm) diamond drill holes ranging from 22–50m depth by EZ in 1949. Only a negligible amount of the core was assayed and the current state of the core renders it next to useless.

Aberfoyle Exploration Pty Ltd evaluated the Silver Falls prospect as part of their exploration in EL 22/74 Marionoak. Work included gridding, soil geochemistry, IP and geological mapping, the work is reported by Taylor 1979. Pasminco's diamond drill hole HRD1 was targeted at Pb Zn soil anomalies generated by Aberfoyle.

EZ explored the northern strike extent of the Silver Falls host sequence, the prospect being located on the boundary between their Bulgobac licence 12/72 and Aberfoyle's EL 22/74. EZ's work included gridding, soil/rock geochemistry, IP, mapping and costeaning; their target Pb Zn and Au. Work was spread over a period from 1980 to 1984 and was reported by Mollison 1980 and Sainty 1984.

Grid based exploration by Pasminco in EL 2/90 extended west of the licence boundary to cover the Silver Falls trend. This work was reported in Poltock 1993 and data relevant to Silver Falls is duplicated in this report.

6.2 Work Completed May 1993 – April 1994

6.2.1 GEOLOGY STRATIGRAPHY

Mapping has been completed in conjunction with work in the adjoining licence EL 2/90. The lithologies are described below in stratigraphic sequence from base to top.

Westcott Argillite/Salisbury Conglomerate

(Cwa Figure 5 & 6. Thin sections 34922 and 34948 Appendix i)

Interpreted as the stratigraphic base of the Cambrian in EL 1/93, the sequence is exposed in the E-NE sector of the licence on Huskisson Drive, Olympic Road and in the lower reaches of the Que River.

The unit comprises mauve, dolomitic siltstone -greywacke -polymict conglomerate, with a total thickness in excess of 500m. The sediments are thickly bedded, frequently graded and occasionally have well developed ripple marks.

Contacts with the underlying Precambrian? quartzite and slates exposed on Huskisson Drive are faulted. Contacts with the overlying quartz sandstone to the east are gradational and locally faulted (D Selley, Tas Uni, pers comm 1993).

Lithic constituents of the coarser grained lithologies are described by Crawford (Appendix i) and in order of abundance comprise:

- sedimentary clasts including siltstone, sandstone, chert and limestone (frequently hematitic).
- chloritised aphyric basalt – andesite of possible ophiolitic affinities.
- pelitic schist and gneiss or granitoid.
- serpentinite and coarse grained anorthosite.

The sandstone and the groundmass of the conglomerates is comprised of polycrystaline quartz (vein/metamorphic), plagioclase, muscovite, biotite and K feldspar.

The inferred provenance includes hematitic sediments, limestones, metamorphics and ophiolite. Crawford (Appendix i) sees no material than can be confidently identified as being sourced from the Mt Read Volcanics.

On the basis of provenance the unit is allocated to a stratigraphic position post dating the CCF and ophiolite emplacement but predating Mt Read volcanism; and is tentatively correlated with the Westcott Argillite at Rosebery on the basis of clast type, dolomitic component and association with the Stitt Quartzite (Green 1983).

Stitt Quartzite

(Csq Figure 5 and 6. Thin section 34944 Appendix i)

Extensive exposures of quartzite occur in the Que River, the NE extent of the Olympic Road and Ross Creek, and was intersected in DDH HRD1 between 260.0 – 295.70m (EOH) underlying the Rosebery Fault. Contacts with the underlying Wescott Argillite are gradational and locally faulted.

The dominant rock type is a well bedded quartzose sandstone with grey siltstone partings and occasional quartz cobble and mudstone granule conglomerate horizons. The total thickness may be in excess of 500m.

Lithic constituents in order of abundance in a coarse grained sandstone (TS 34944) are as follows:

- quartzite
- sericitised, quartz–phyric, glassy felsic lava.
- quartz muscovite schist.
- chlorite (serpentinite or volcanic glass?).

The sand grade component includes both polycrystalline and phenocrystic quartz and muscovite. Minor chrome spinel has also been reported by Aberfoyle in thin sections at Silver Falls (Taylor, 1979).

The quartzites are correlated with the Stitt Quartzite at Rosebery on the basis of lithology and stratigraphic associations.

Pumiceous volcaniclastic

This unit hosts mineralisation at the Silver Falls prospect and was intersected in HRD1 between 218.8–258.3m, the lower contact a cataclastite in the Rosebery Fault. The volcanics are sericite carbonate altered, the only remanent textures visible are tube pumice fragments. Prior to drilling the unit was interpreted as a lava possibly equivalent to the Pinnacles Rhyolite.

Quartz – Feldspar phyric lavas/clastics

(Cq Figure 5 and 6)

This distinctive quartz rich (quartz crystals to 8mm, rounded, embayed with inclusions) but texturally extremely variable unit forms a marker horizon between the Pinnacles Rhyolite and the overlying White Spur Formation at North Pinnacles on EL 2/90. It occurs on both limbs of the Silver Falls syncline and was intersected in DDH HRD1 between 199.0 – 218.8m. In the North Pinnacles to Silver Falls are thickness of the unit ranges from 1m – 100m.

Lithological variants include:

- medium grained equigranular quartz feldspar rock, which in thin section was described in an Aberfoyle report (Taylor, 1979) as a porphyritic microgranite (Silver Falls).
- equigranular quartz feldspar rock with locally abundant sericitised pumice clasts (EZ costean 5390 270N 377 175E).

The unit is interpreted as a shallow intrusive rhyolite with quartz crystal rich clastics being shed from the lavas.

White Spur Formation

(Cws Figure 5 and 6)

Exposed in the western limb of the Silver Falls syncline, the sequence is interpreted to have been largely faulted out by the Rosebery Fault.

The sequence comprises grey – black siltstone with quartz and feldspar crystal rich mass debris flows. The formation outcrops along the 4WD track east of the HRD1 collar and was intersected in the hole between 0 – 218.80m.

The felsic mass debris flows are frequently graded from a coarse crystal lithic base to a vitric siltstone top, the lower section of a graded unit occurs between 0–93.3m in HRD1. The conglomerate base of the flow unit in HRD1 comprises clasts of fossiliferous limestone, rhyolite lava, chloritised glass, black shale and crystal sandstone.

6.2.2 GEOLOGY STRUCTURE

The dominant feature in the area is the Rosebery Fault, an east dipping (40°) thrust fault which was intersected in HRD1 as a cataclastite 25m wide. Sulphide veinlets and the Mt Read Volcanics are restricted to the hangingwall of the fault, interpreted equivalents of the Stitt Quartzite and Westcott Argillite occurring in the footwall. The faults orientation and lithological associations (in the footwall) are similar to those at Rosebery 15km to the south.

Equivalents of the Mt Read Volcanics dip east sub paralleling the Rosebery Fault and form part of the western limb of the Silver Falls syncline (see Poltock 1993).

6.2.3 SOIL GEOCHEMISTRY

B/C horizon soil samples have been collected on the Silver Falls grid by hand auger, the survey was part of a more extensive program in EL 2/90 which will be reported in May 1994. Sampling was completed in the 1992–93 licence year but analytical data was not available at the time of reporting.

The majority of soils, are residual. The survey was designed to cover extensions of the Silver Falls soil anomaly defined previously by Aberfoyle (Taylor, 1979) and EZ (Mollison, 1980). Samples were dried, pulverised and analysed at Analabs for Cu, Pb, Zn, Mn, As by AAS. Analytical reports are included as Appendix ii, sample locations are plotted on Figure 7 and proportional plots of Pb and Zn shown on Figures 8 – 11. Most of the data is from Aberfoyle's work in 1979. A geological section with soil Pb, Zn data can be seen in the HRD1 drilling proposal (see Appendix iv).

The Pb, Zn anomaly is associated with altered and veined pumice breccias, crystal sandstones and siltstone (see Figure 12).

6.2.4 DIAMOND DRILL HOLE HRD1

HRD1 was drilled to test Pb, Zn soil anomalies associated with altered felsic volcanics at the Silver Falls prospect near the licence boundary with EL 2/90 (see drilling proposal Appendix iv and Figure 6).

A drill log is included as Appendix v and drill section as Figure 12. A summary of the sequence intersected follows:

0 - 218.80m
Crystal rich mass debris flows, these are correlated with the basal section of the White Spur Formation.

218 - 236.40m
Pumiceous volcanics.

236.40 - 260.60m
Cataclastic of pumiceous volcanics and siltstone.

260.60 - 295.70m
Sandstone, siltstone and greywacke granule conglomerate which are correlated with the Stitt Quartzite.

Mineralisation intersected in HRD1 includes disseminated and veinlet style galena > sphalerite with a carbonate quartz gangue. Mineralisation is hosted in all lithologies above the Rosebery Fault and is associated with varying degrees of carbonitisation and sericitisation. Best assay intervals in HRD1 are as follows:

178-180m 2m @ 0.19% Pb 0.70% Zn
199-203m 4m @ 1.14% Pb
213-219m 6m @ 1.12% Pb
243-251m 8m @ 0.65% Pb

The maximum assay interval for copper was 137ppm and silver 5ppm. All gold assays were less than the 0.008ppm detection level.

Mineralisation style and associated alteration is similar to that exposed in the Silver Falls workings and at this stage further work is not warranted.

7 OONAH FORMATION EXPLORATION

7.1 Previous Exploration

Modern exploration within the area now covered by EL 1/93 was initiated by Comstaff in 1969, being included within Part 2 of Comstaff EL 5/63. Exploration in the Coldstream–Huskisson–Ramsay area targeted asbestos, Ni, Sn, Au, and base metals in a range of geological environments. The original phase of work consisted of stream sediment sampling and reconnaissance mapping as part of a regional program.

Drainage sampling from 1969 to 1972 defined a number of lead dominated anomalies over Precambrian sediments (R1–10, C1–4). The Will O' Wisp project area was defined in March 1972 encompassing a number of these anomalous streams (fig. 4). Geological mapping in the area highlighted two gossanous–limonitic trends, upon which a small imperial grid was established (CMT) and soil sampled. Results of soil sampling on this grid resulted in extension of the grid (renamed WOW), and the construction of a road from Waratah.

During the summer of 1972/73, field activity concentrated on the WOW grid, and included test surveys of self–potential, ground magnetics, and Crone EM, each of which defined ambiguous anomalies. Diamond drilling occurred from January to March 1973, during which time six holes were drilled (CR1–6) for a total of 1060m. All holes were targeted on the basis of surface geochemistry and geology.

Drilling results were disappointing, all holes intersected a dolostone–black shale sequence, that displayed no significant post–diagenetic alteration. Visible mineralisation was sparse, and the holes were sampled over short intervals only. Core loss was locally very high (eg CR2, 38ft–547ft, loss of 52%). Available assay results for drilling are summarised in Appendix VI.

An INPUT EM survey was flown by Comstaff in 1975, which highlighted an anomaly adjacent to the WOW grid that was named CAB. As a result, the area was regridded on a metric basis (CAB grid), with the purpose of ground checking the INPUT anomaly and the WOW geochemistry. A° soil sampling, ground EM and ground magnetics were completed, and failed to locate the source of the CAB anomaly. This phase of exploration activity was poorly documented.

Comstaff recommenced exploration in the area in 1983, when relogging and reassaying of the CR1–6 drillholes highlighted extensive Pb–Zn anomalism in black shales. Results peaked in CR1 at 0.57% Zn and 0.19% Pb over approximately 4.0m, seemingly from a black sericitic siltstone horizon interbedded with dolostone. Work extended into 1984, when the CAB grid was restored and extended to the southwest, resampled by auger, and covered by GENIE EM. This phase of EM provided conductors at the CAB anomaly, as well as other weak effects in the area of prior drilling. The CAB anomaly was correlated with conductive shales exposed in a nearby track.

No targets were identified in the 1983/84 review of the Will O' Wisp area, however the trend was considered to be prospective, resulting in the 1984/85 season being focussed to the south on the circa–1915 Just–in–Time workings. The workings were cleared and further costeans dug to reveal a vertical quartz–barite–galena vein in steeply dipping shales and dolostones. Chip samples from the host rock were highly anomalous with respect to Pb. A small grid was constructed across the prospect area, and auger sampled at 20m intervals.

Work completed on the CAB grid during the 1984/85 season included a repeat of GENIE EM on anomalous lines, IP, extension of the grid to the north, and subsequent auger sampling of this grid extension. Minor stream sediment sampling was also undertaken. Mid–1985 marked compulsory partial relinquishment of Comstaff EL 5/63, Part 2, however the area that covered both Will O' Wisp and Just–in–Time prospects was retained.

EL 5/63 was offered for joint venture by Comstaff in late 1985, resulting in BHP farming in and managing exploration. Part 2 of the EL was reviewed by BHP, but no exploration was undertaken. The tenement was relinquished in full in June 1988.

RGC acquired EL's 12/90 and 15/90 during 1990, covering the current exploration area. The areas overlapping with EL 1/93 were relinquished in mid 1992 due to budget constraints. Although the relevant reports have not been reviewed, work appears minimal, and was focussed on Sn targets proximal to the Meredith Granite.

7.2 Results of Exploration

The following discussion reviews and interprets the results of exploration over the Precambrian by Comstaff, and incorporates data collected by Pasminco.

7.2.1 WILL O' WISP

Stratigraphy: Surface mapping and drilling defined a monotonous low grade clastic–carbonate sequence of unknown thickness (fig. 17). The sequence is believed to be conformable, and from east to west consists of:

Unit A. Intensely deformed carbonaceous shale with minor intercalated quartzite. Sedimentary layering typically masked by cleavage.

Unit B. Strongly deformed interbedded carbonaceous shale, quartzite and sandstone, with minor dolostone.

Unit C. Dolostone and dolomitic limestone with common interbedded clastic horizons. The carbonate sequence has been deeply weathered to approximately 30m, resulting in a non–calcareous silica breccia or silica flour in outcrop. No primary texture has been observed on surface.

Unit D. Interbedded siltstone and sandstone with minor shale dolostone and conglomerate. This sequence was not intersected during drilling.

Structure: The Precambrian sequence is intensely deformed by multiple compressional events. An abrupt increase in the degree of deformation of the Precambrian with respect to the Cambrian in the Hatfield–Coldstream confluence area indicates much of this deformation is associated with or predates the Penguin Orogeny. The Cambrian sequence on average strikes northeast and dips at a shallow to moderate angle to the southeast (Appendix VII).

The highest degree of deformation is observed within a shale dominated sequence that abuts the eastern bounding fault. Primary layering has been obliterated by cleavage development, excepting rare boudinaged sandstone beds. Multiple cleavage orientations have been recorded, typically trending north to north east with variable dip, inferred here to be produced and rotated during movement along the bounding fault. A northeast trending fault is interpreted to bound the west of this sequence due to a spatially equivalent change in both lithology and degree of cleavage development in shale.

Bedding within the shale/quartzite/sandstone unit to the immediate west is preserved and complexly folded. Fold styles vary from isoclinal to open. Isoclinal folding is common along the Will O' Wisp track, where isoclinal hinges plunge both to the north and south (Appendix VII). No features of N–S compression have been identified, suggesting plunge reversal of isoclinal folds is a result of sheath folding during a single high strain event. Open folding is rarely visible in outcrop, however appears to control regional structure. This is implied by steroplot of bedding measurements collected by Comstaff and Pasminco in the Will O' Wisp area (Appendix VII), that roughly plot on a great circle to indicate folding about a northwest to north–northwest axis.

Soil Geochemistry: Complete results of soil geochemical sampling of the CMT, WOW and CAB grids is not available, as contoured data only was included in early reports. A near full set of Pb, Zn, Cu, Ni, As, and Ba auger assay results from the CAB grid have been digitised from available plans (fig. 18–20).

The strongest soil anomalies for Pb, Zn and Cu correlate to a high degree, trending approximately north–south in the eastern portion of the grid area. This anomaly parallels the interpreted trend of the silica replaced dolostone horizon of Unit C, in part correlating with the dolostone, and in part correlating with clastic sequences along the dolostone margin. Limonitic soil associated with ironstone is inferred to be a strong control on anomalism. This anomaly has been fully drill tested. A further north–south elongate Cu anomaly is present 100–200m to the west of the dominant anomaly within Unit D, and remains unexplained. Additional base metal anomalies are more diffuse and lie in the southwest of the grided area. This anomalism approximates the position of a mapped basalt outlier, however it is worthy of note that where basalt was sampled in the far north of the CAB grid, a similar soil anomaly did not result.

Mineralisation: Limonitic and goethitic gossan is described from a number of locations in the Will O' Wisp area, typically within and at the margins of Unit C (Everett, 1972). Recent mapping in conjunction with a review of descriptions and photographs suggests the term ironstone is more appropriate, as no evidence of a sulphide precursor is evident. The ironstones vary from massive goethite to vuggy limonite mixed with shale and soil, and are invariably associated with limonitic soil when viewed in road cuttings. The ironstones are of obvious secondary origin and metal values are significantly enhanced by scavenging.

The nature of mineralisation intersected in drillholes is not well recorded. Mineralisation was sparse, the highlight being a 2 inch wide galena/sphalerite vein in CR4. The following general styles are described (Everett and Piggott, 1973)

1. syngenetic(?) pyrite with minor sphalerite within carbonaceous shale.
2. fine grained pyrite with traces of chalcopyrite, sphalerite and galena within dolostone. Commonly associated with stylolites, and as random grains in carbonate veinlets and on carbonate grain boundaries. Pyrite typically sub or euhedral cubic grains; atoll textures are common and some relict framboids exist.
3. occasional aggregates of pyrite, marcasite, galena, sphalerite and chalcopyrite with associated barite within dolostone. Inferred remobilisation.
4. veins or replacement masses containing pyrite, chalcopyrite, galena and sphalerite within dolomitic limestone near contact with clastic rocks.

It appears that coarse grained mineralisation of type 4 above was sampled in preference during 1973, however the style of mineralisation is not recorded with assay results. Assay results from 1973 are fully reported (Appendix VI), however reassay of CR1, CR2 and CR3 during 1983 is not fully documented, and accurate depth and lithology of samples cannot be ascertained.

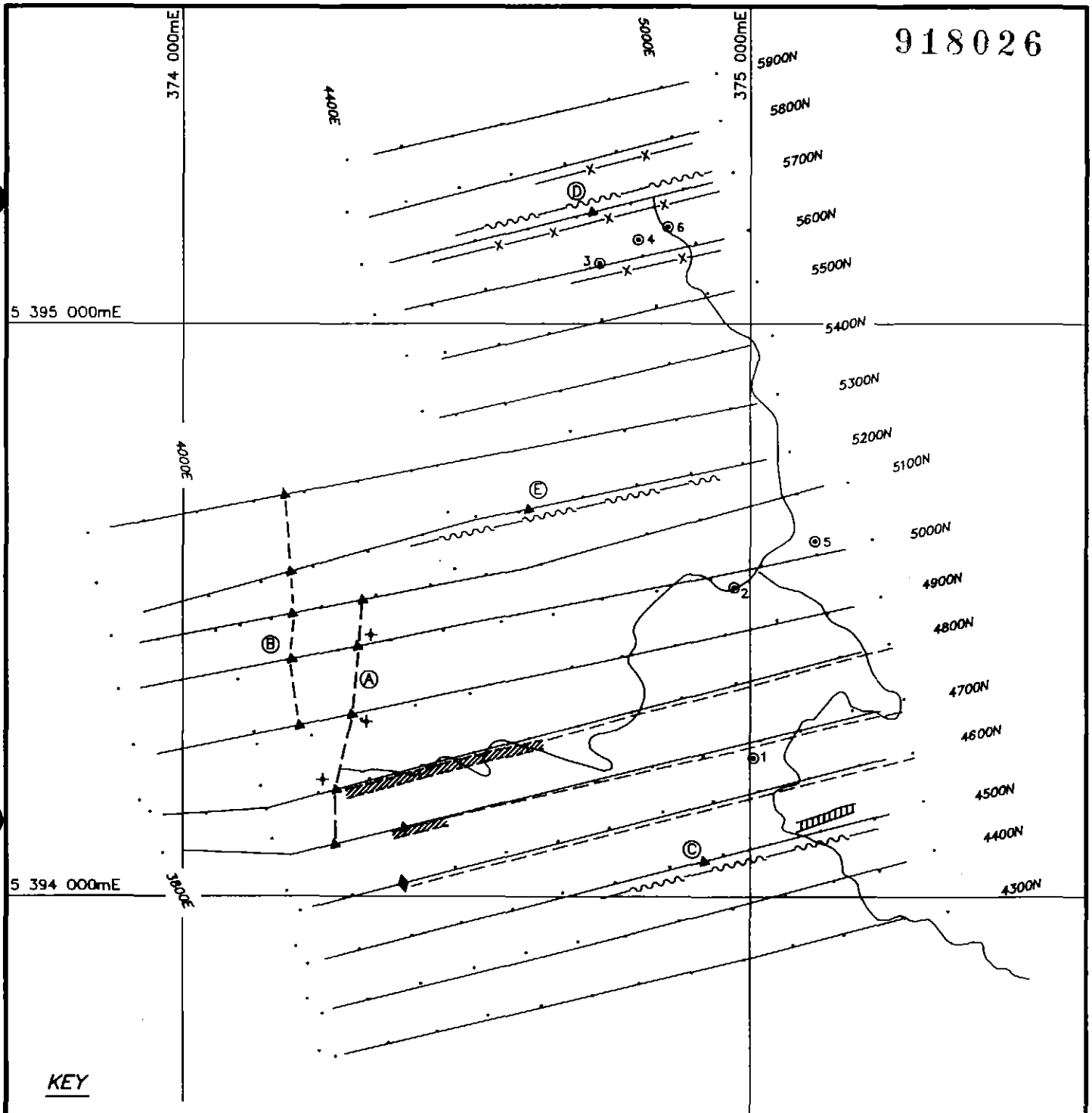
The lack of detailed descriptions of mineralisation style relative to assay results enables only a qualitative assessment of relative importance of each style. Resampling of fine grained clastic rocks in CR1, CR2 and CR3 during 1983 highlighted shale related mineralisation as a subtle and important style. Comments in Everett (1984), indicate this mineralisation is widespread, however only a small number of assay results exist that support such comments. Maximum assay results reported from carbonaceous shale are 0.16% Pb and 0.29% Zn at 57.99m–102.26m in CR2; and 0.51% Zn and 0.15% Pb at 160.93m–164.59m in CR1. It is significant also that maximum assay values from drill core for Sn and Au were 4 and 0.15 ppm respectively.

Lead isotope studies carried out by Comstaff show base metal veining in the Will O' Wisp area (type 4) to be Devonian in age. Disseminated mineralisation in the host sediment (type 1?) instead provides an enigmatic signature which can be interpreted as Cambrian in age (Everett, 1985), or more likely the result of the analytical interaction of Precambrian and Devonian lead.

Electrical Geophysics: Numerous phases of electrical geophysics were completed by Comstaff from 1971 to 1984 (fig. 21). Results have demonstrated the difficulty in applying EM and IP to exploration for pyritic and carbonaceous shale-hosted mineralisation, as follows:

1. 1972/72 Crone shootback EM survey on the small WOW grid delineated anomalies now regarded as spurious (Everett, 1985).
2. 1975 INPUT EM survey detected CAB anomaly centred at 5394025N, 374380E.
3. 1976 Crone EM survey was misplaced and failed to locate the CAB anomaly. Detected other weak possible anomalies.
4. 1983 GENIE EM survey covered entire CAB grid, detected an anomaly attributed to the CAB anomaly and discovered five (A-E) further weakly to highly conductive zones. Anomalies A, B and CAB were interpreted to come to surface with no geochemical response and were therefore rejected. C, D and E anomalies are associated with soil anomalism, however each exist on one survey line only.
5. 1984/85 GENIE EM follow up of anomaly D covered three 100m spaced grid lines and produced a similar response of limited dimensions.
6. 1984 Scintrex IP survey covered anomalies C, D and E, resulting in no repeated anomalies, and no correlation with the GENIE EM result. Dr D Trussell (see Everett, 1985) inferred that the EM anomalies must relate to either a conductive shear or massive sulphide. The only response worth consideration is at 4980E-5060E on 4500N, where a weakly chargeable source with accompanying resistivity low is present at approximately 40m depth.

Compilation of available data in this study suggests that both A and B anomalies do in fact correlate with moderate multi-element soil anomalism, however the presence of a basalt outlier in the same area makes interpretation difficult.



KEY

- 1975 CAB Input anomaly (MGH plot)
- 1983 GENIE EM Survey line
- GENIE anomaly (DBT) + = strongest response
- 1976 CRONE survey
- Possible 1976 CRONE anomaly
- 1985 GENIE EM Survey line
- 1984 SCINTREX IP Survey line
- IP anomaly
- ⊙1 Diamond drillhole
- Ⓐ Highly conductive east dipping (60°?) near surface (<10m)
- Ⓑ Low conductivity east dipping (40° – 60°) near surface (<10m)
- Ⓒ Weak anomaly dipping 60° to east 75m depth – highly conductive, possibly topographic
- Ⓓ Weakly anomalous dipping 30° – 45° to east depth 40 – 50m
- Ⓔ Very weak

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : M.S.S.	E.L. 1/93 – HUSKISSON RIVER
DATE : March, 1994	WILL O' WISP
DRAWN : G.M.B.	**GEOPHYSICAL SUMMARY**
REFERENCE :	**1975 – 1985**
REVISIONS :	
From Comstaff – 25/9/84	
DRAWING No	0 200 FIG No

7.2.2 JUST IN TIME

Stratigraphy: The Just in Time prospect is proximal to the Huskisson River and occurs on the margin of an area that been has recently logged, both features which limit exposure (fig. 4, 17). The Just in Time vein is hosted by thinly interbedded carbonaceous shale and fine-grained dolostones. The shale beds are very finely laminated, and contain 10-20% probable syngenetic pyrite (Everett, 1985). Stratigraphic position relative to the Will O' Wisp area is unknown.

Soil Geochemistry: An ENE trending grid was constructed and auger sampled for approximately 400m either side of the JIT vein (fig. 22-24). Pb results delineate the vein trend to the south of the trench exposure, however the disruption of soil related to trench excavation precludes a determination of an increase or decrease in anomaly strength in this direction. Isolated anomalous Pb-Ba results imply barite-galena veining is developed sporadically elsewhere within the grid area. Zn anomalism does not reflect the Pb-Ba trend, instead being strongly anomalous (5 to 10 times background) in the northwestern corner of the grid (fig. 22). The presence of the Huskisson River alluvial plain may prevent extension of soil sampling in this direction.

Mineralisation: The Just in Time workings expose a less than 1m wide quartz-barite-galena breccia vein, striking 140°, dipping subvertically. Petrographic description of vein samples states "all three rocks may be classified as altered breccias and exhibit variably silicified clasts of carbonaceous pelites within a matrix consisting of variably mylonitized pelite, 'hydrothermal' quartz, and quartz-barite composites. Relict features are consistent with a tectonic breccia mode of origin. Observed mineralisation comprises syngenetic pyrite in pelite clasts, and as mechanical inclusions in the matrix, supplemented by barite-hosted disseminations of galena" (Everett, 1985).

Wall rock sediments to the breccia vein are also Pb anomalous, however lack the Zn anomalism observed within shales from the Will O' Wisp area. Lead isotope studies carried out by Comstaff shows vein and wallrock Pb to be isotopically equivalent, and of a probable Precambrian origin.

A very high Pb:Zn ratio and no foreseen potential for economic volume down grades the Just in Time workings, however the possibly unrelated Zn anomaly in the grid area is yet to be explained.

7.2.3 OTHER ANOMALISM

Extensive stream sediment sampling within the area now covered by EL 1/93 by Comstaff resulted in a number of other geochemical anomalies. Stream anomalies are detailed in Everett (1972a, 1972b). Two Zn dominated anomalies were followed up with the CAJ and CAF(ext) grids, neither of which located any further base metal anomalism. Two remaining stream sediment anomalies (R2, R3) that appear to be untested are centred 1.5km to the southwest of the CAB grid, and 1km to the northwest respectively (fig. 17).

374 500mE | 374 750mE | 375 000mE | 375 250mE

5 391 500mN

5 391 250mN

ANOMALOUS ZN

5 cm

374 500mE | 374 750mE | 375 000mE | 375 250mE

PASMINCO EXPLORATION	A Division of Pasminco Australia Limited
COMPILED : M.S.S.	
DATE : April 1994	
DRAWN : G.M.B.	
REFERENCE :	
REVISIONS :	
DRAWING No. JIT_ZN	

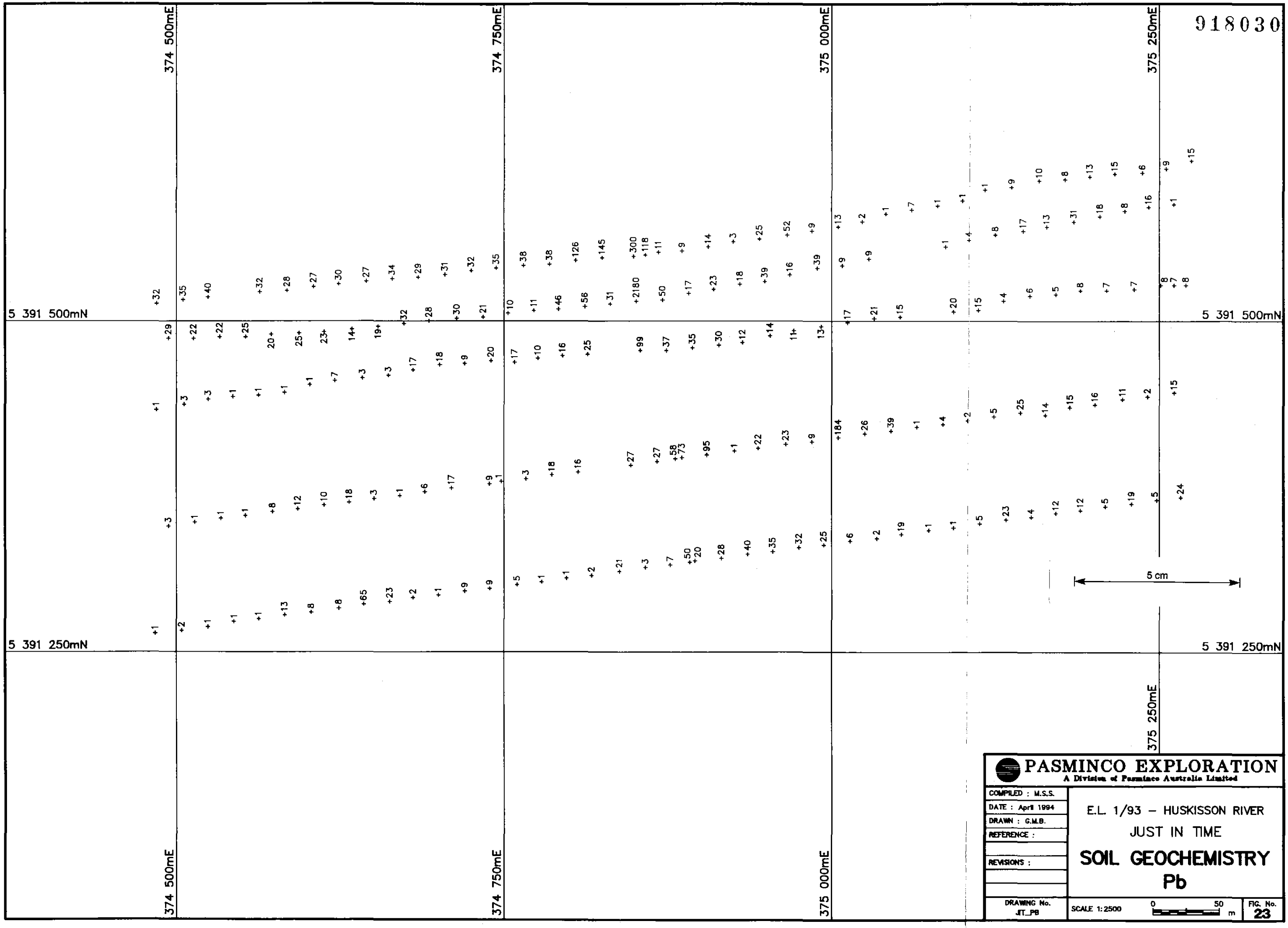
E.L. 1/93 – HUSKISSON RIVER

JUST IN TIME

SOIL GEOCHEMISTRY Zn

SCALE 1:2500 0 50 m

FIG. No. 22



PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : M.S.S.	E.L. 1/93 – HUSKISSON RIVER
DATE : April 1994	JUST IN TIME
DRAWN : G.M.B.	**SOIL GEOCHEMISTRY**
REFERENCE :	**Pb**
REVISIONS :	
DRAWING No. JIT_PB	SCALE 1:2500 0 50 m — FIG. No. 23

5 391 250mN

5 391 500mN

374 500mE

374 750mE

375 000mE

375 250mE

+20 +30 +15 120+

+30 +20 +30 100+ +110

+20 +20 +15 115+ +70

+20 +15 +20 100+ +70

+25 +20 +15 110+ +65

+45 +35 +15 145+ +115

+50 +30 +25 140+ +100

+50 +35 +35 150+ +105

+260 +80 +105 +110

+85 +25 +30 +175 +105

+25 +20 +40 +170 +100

+65 +30 +70 +135 +110

+45 +40 +1710 +90 +105

+45 +20 +237 +105 +390

+25

+30 +60 +357 +95 +125

+20 +110 +105 +700 +110

+20 +85 +110 +1200 +658

+15 +50 +770

+50 +45 +75 583+

+50 +35 +45 400+ +1350 +6330

+60 +50 +70 +45 175+

+75 +60 +70 160+ 75+

+55 +95 +80 +60 +75

+90 +20 +20 +60 +70

+85 +45 20 + +35 +30

+110 +45 20+ +30 +125

+45 +110 30+ +15 +85

+75 +70

+55 +40 +55

+40 +30 +30 +50 +30

+25 +45 +25 +40

+45 +45 +35 +55

+15 +45 +50 +25 +35

+15 +40 +40 +20

+15 +80 +60 +15

+35 +100 +65 +40

+25 +110 +65 +25 +40

+65 +100 +70 +30 +55

+85 +95 +50 +30 +70

+45 +80 +40 +150 +85

+75 +75 +90 +85

+45 +45 +20 +90

+80 +85 +45

+50

+50

LEGEND

Just In Time Vein Exposure

Just In Time Trenches

5 cm

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : M.S.S.
DATE : April 1994
DRAWN : G.M.B.
REFERENCE :
REVISIONS :
DRAWING No. JT_BA

E.L. 1/93 – HUSKISSON RIVER
JUST IN TIME

SOIL GEOCHEMISTRY
Ba

SCALE 1:2500 0 50 m

FIG. No. 24

9180 31

8 ENVIRONMENTAL DISTURBANCE & REHABILITATION

Existing vehicular 4WD tracks were used for access during the Silver Falls drilling program. The site of drill hole HRD1 was located on this track, consequently disturbance of the area was minimal. A sump to contain all drill cuttings and fluids was dug at the site and re-filled at the completion of drilling. The access track was stabilised by cutting drainage "grips" after all the drilling equipment had been removed. No other rehabilitation or re-vegetation work has been completed, at this stage.

Exploration on the western sector of the tenement has been of a reconnaissance nature, utilising existing forestry and past exploration tracks for access. There has been no new disturbance of vegetation in this area.

9 EXPENDITURE SUMMARY 1993-94

Total expenditure on EL 1/93 during the first year of tenure to 31 March 1994 is **$72 624.** A detailed breakdown of this expenditure is presented in the statement below.

Personnel: salaries, wages & on-costs	8 267
Travel & Accommodation	489
Geological Contractors	4 710
Analytical Costs	524
Geophysical Consultants	180
Aeromagnetic & Radiometric Survey	21 967
Other Consultants	27
Drilling: including contractor, access & core storage	22 569
Stores & Supplies	486
Vehicles Plant & Equipment	1 354
Tenement Costs	1 239
Computing	712
Office Running Costs	3 498
Administration	6 602
Total	**72 624**

10 CONCLUSIONS

Work completed to date on the Precambrian sequence covered by EL 1/93 has indicated a moderate level of exploration over a protracted period. Exploration in this area by Comstaff was generally treated as a low priority part of a large multi-commodity exploration effort, and as a result lay dormant for long periods of time. Work in the Will O' Wisp and Just in Time areas has indicated moderate potential for a major shale-hosted orebody within the Precambrian sequence. Low level Zn mineralisation of possible Precambrian age does occur within carbonaceous shale, however there is no evidence to suggest that the mineralisation intersected to date is the distal portion of a mineralised horizon.

Proximity to the Devonian age Meredith Granite, in combination with a Devonian isotopic signature in the Will O' Wisp area implies that Zeehan-style Pb-Zn-Ag vein mineralisation may be extensively developed. Such mineralisation is not an attractive exploration target for Pasminco, and may prove to be geochemically distracting. The pyritic-carbonaceous nature of the potential host rock limits the applicability of electrical geophysical methods, due to the constant ambiguity of anomalous responses. Limited exposure of Precambrian bedrock within the tenement (11sq.km) greatly hinders the capacity to trace a mineralised stratigraphic position to an economic orebody.

Exploration undertaken over the eastern part of EL 1/93, underlain by Cambrian volcanic and sedimentary rocks, including: detailed geological mapping and sampling, soil geochemistry, IP surveys and the completion of hole HRD1 (295.7m) has not enhanced the potential for this area to host a major massive sulphide deposit. Mineralisation and alteration styles appear to be restricted to lead-rich veinlets in carbonate-sericite altered structural zones associated with brittle movement on the Rosebery Fault and are possibly Devonian in age.

11 RECOMMENDATIONS

The following exploration program is recommended for the western part of EL 1/93 to evaluate the Precambrian sequence for sediment–hosted zinc–rich massive sulphide mineralisation:

1. further review and collate existing data;
2. relog and resample carbonaceous shale in CR series drill holes to characterise mineralisation and determine degree of granite influence;
3. map CAB grid in areas of untested soil and EM anomalism;
4. map Just in Time grid in area of Zn anomalism;
5. map and sample in untested areas drained by Geochemically anomalous creeks located by Comstaff;
6. map and rock chip sample to south of CAB grid which is relatively unexplored;
7. stream sediment and/or water sampling in areas untested by Comstaff (south of 5390000N);
8. grid based soil and/or bedrock geochemistry in areas highlighted by sampling and mapping;
9. process and interpret aeromagnetics acquired by Pasminco during 1993;

No further active exploration is recommended for the eastern part of EL 1/93 which is underlain by Cambrian volcanics and sediments, at this stage. However the results of active exploration in similar geology on adjacent tenements being managed by Pasminco should be monitored.

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APPENDICES

APPENDIX I

Petrological Report

PETROGRAPHIC REPORT

PASMINCO QUE RV. EL 2/90

(Attn Roger Poltock, Fergus Fitzgerald)

Tony Crawford, 26/3/93

SAMPLE NUMBER: 34948

LOCATION: PASMINCO EL2/90

SUMMARY:

This is a polymict greywacke, with clasts from pelitic metamorphic, ophiolitic, and possibly Success Creek Group hematitic siltstones and carbonates. It is probably best correlated with the Animal Creek Greywackes.

HAND SPECIMEN:

This is a dark grey, fine-grained, unbedded, micaceous greywacke.

THIN SECTION:

This sample in thin section shows bedding, in the form of minor but obvious variations of grainsize, although the clast composition of the various poorly-defined beds is essentially identical. This rock is a moderately well-sorted, framework-supported, almost matrix-free greywacke. It is marked by a remarkable diversity of lithic and mineral clasts, indicating at least three or four sources. Probably the most abundant grains are particularly angular quartz fragments, up to a maximum of 1mm across. These show features indicating derivation from pelitic metamorphics, and are sometimes intergrown with Kspar. There are few grains if any that I can confidently say were phenocrysts in felsic volcanics. Among the detrital grains are plentiful, well-formed biotite and muscovite crystals. These may be derived from coarse-grained pelitic metamorphics (gneisses) but it cannot be ruled out that are, in fact, derived from granitoids. It is significant in this respect that there is common angular detrital Kspar, some grains showing microcline twinning, that I have not seen in similar rocks from W Tasmania.

There is a great diversity of lithic clasts, including the following in approximate order of decreasing abundance:
(1) fine-grained siltstones and mudstones, often quite reddish and hematitic, (2) coarser-grained pelitic metamotphics, including quartz-muscovite schists and quartz-Kspar-mica gneisses, (3) chloritic, quench-textured and formerly glassy lavas, many of which are very similar to the low-Ti basalts in the ophiolites such as Heazlewood River Complex, (4) serpentine-chlorite clasts, occasionally with textures suggesting derivation from pyroxenites, and again suggesting derivation from the ophiolites, and (5) not uncommon reddish carbonate lithic clasts.

The source of the schists and gneisses, and the detrital quartz, micas and Kspar is presumably the Precambrian Tyennan core of Tasmania, but the common hematitic siltstones and reddish carbonates strongly resemble lithologies in the Success Creek Group and at the base of the Smithton Trough sequence. The ophiolites have clearly contributed significantly to this rock, and I see no lithic clasts unambiguously derived from the Mount Read Volcanics. This is probably a more 'mafic' version of the Animal Creek Greywackes.

SAMPLE NUMBER: 34944

LOCATION: PASMINCO EL2/90

SUMMARY:

This is another mixed provenance greywacke, with detrit components from pelitic metamorphics, quartz-phyric felsic lavas, and possibly some carbonated serpentine clasts from t ophiolitic rocks.

HAND SPECIMEN:

This is a coarse, quartz-rich greywacke with visible grai of quartz, lithic clasts and a dark, altered matrix.

THIN SECTION:

This is a poorly-sorted, almost framework-supported quartz-rich greywacke. The clasts vary in size from about 4mm maximum down to silt, and are dominantly angular quartz, and quartzite lithic clasts. The quartz clasts include both metamorphic quartz, commonly polycrystalline, with strained extinction, and bands of subgrain recrystallization, and more abundant and generally larger quartz phenocrysts. The latter are also commonly strained and sometimes show subgrain recrystallization, but they also often preserve crystal faces and recrystallized rounded melt inclusions. The lithic clasts show a large range in mineralogy and texture, reflecting their varied origins. Most abundant are thoroughly recrystallized, formerly glassy felsic lavas in which mosaic quartzo-feldspathic textures predominate, but are also variably recrystallized due to deformation. These felsic lava clasts occasionally contain small quartz phenocrysts and are often quite strongly sericitized. Other common lithic clasts include abundant quartzites, with strongly foliated quartz and no other mineral, and a number of quartz-muscovite schists. There are also quite a few small, less obvious lithic clasts composed of dull chlorite or serpentinite(?), that are strongly overprinted by calcite.

The matrix of this sample is all but eliminated by pressure solution, with strong stylolites marked by concentrations of insoluble opaque oxides or carbonaceous material being quite common. Minor components of the matrix are small detrital muscovite laths, and silty material that is highly sericite-altered, and commonly partially overprinted by calcite. A few small spots of brown sphalerite are present in the matrix.

This quartz-rich greywacke has a mixed pelitic metamorphic, and felsic volcanics provenance. The abundance of volcanic quartz and felsic lava clasts makes this greywacke petrographically unlike typical Animal Creek Greywacke. The probable presence of altered serpentinitic material could be checked by a Cr assay.

SAMPLE NUMBER: 34922
LOCATION: PASMINCO EL2/90
SUMMARY:

This is a coarse-grained greywacke derived dominantly fr fine-grained, sometimes carbonate-bearing metasediments, some pelitic metamorphics, detrital metamorphic or reef quartz, and serpentine and chromite from the mafic-ultramaf complexes. It contains apparently no material from the Moun Read Volcanics.

HAND SPECIMEN:

This is a .dark red-grey volcaniclastic sandstone with clasts of very fine-grained lava or tuff and chert to almost 1cm across.

THIN SECTION:

This sample is a totally framework-supported, poorly-sorted sandstone with clasts up to 1cm long, but the average grainsize is probably closer to 0.5mm. A large variety of lithic clasts are present, and most are sedimentary, although there are a few metavolcanic clasts. The latter are themselves variable, and include a large black clast of quenched aphyric andesite or basalt dominated by tiny sheaves of acicular albite microlites in devitrified glass charged with hematite dust. Other volcanic clasts include a few strongly chloritic rocks that have textures suggestive of derivation from the ophiolite (mafic-ultramafic complex) rather than the Mount Read Volcanics. Most lithic clasts, however, are composed of sandstones and siltstones with abundant angular, detrital quartz and albite. Finer-grained, often almost opaque sedimentary clasts are abundant and include cherty material, and siltstones or shales in which common calcite rhombs probably reflect an originally carbonate-rich sediment. At least three clasts unambiguously derived from the ophiolites are obvious. Two of these are flattened and smeared out serpentine clasts hosting several large euhedral red chromites. The third is a coarse-grained anorthosite, such as are represented in the upper parts of the ophiolitic magma chambers. Many smaller chlorite/serpentine clasts are probably similarly derived.

The other major detrital component in this greywacke is the abundant (~30 modal%) angular quartz grains. These average around 0.5mm across, show complex internal strain features, are sometimes polycrystalline, and are clearly not of volcanic origin. Detrital muscovite is not uncommon, and several small quartz-mica schist lithic clasts are clearly of metamorphic derivation. Despite a careful search, there is no compelling evidence that there is any component in this rock derived from the Mount Read Volcanics; if there is, it is subordinate and modally insignificant.

This rock is a coarse greywacke containing recycled metasediments and pelitic metamorphics, and less abundant material from the mafic ultramafic complexes. It is not typically Animal Creek Greywacke, although that would be the unit in the Mount Read Volcanic region that is petrographically most similar to this rock.

APPENDIX II

Analytical Reports – Soil Samples

918046

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.
A.C.N. 004 591 664

Phone (004) 316837 | 14 Thirkell St. CODEE TAS 7320 | Fax (004) 318890

ANALYTICAL REPORT No. 111310.60.094503

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:

Pasminco Exploration
P.O. Box 986
MOONAH TAS 7009

ORDER No.	PROJECT
0236	3009

DATE RECEIVED	RESULTS REQUIRED
[illegible]	[illegible]

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
9	10/05/93	1	186

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
035201/228 035231/035290	SG Prep : GP029,F2	Cu,Pb,Zn,Mn,GA140
035301/035466		As GA140

REMARKS

RESULTS TO

Roger Pollock Geological Pty Ltd
Mineral Exploration Contractor
C/- Post Office
WILMOT TAS 7310

RESULTS TO

Mr P Fitzgerald
Pasminco Exploration
P.O. Box 986
MOONAH TAS 7009

RESULTS TO

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Testing Services (Australia) Pty. Ltd.
A.C.N. 004 591 664

ANALYTICAL DATA

SAMPLE PREFIX	REPORT No.	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.09453	10/05/93	0236	7 OF 8

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Mn	As				
1	035365	2	7	9	29	<1				
2	035366	2	6	7	18	<1				
3	035367	3	9	10	18	4				
4	035368	3	6	6	19	<1				
5	035369	2	9	6	22	<1				
6	035370	3	7	6	19	<1				
7	035371	2	9	7	21	<1				
8	035372	3	7	7	22	<1				
9	035373	2	6	7	19	<1				
10	035374	3	6	6	25	<1				
11	035375	2	6	7	20	<1				
12	035376	3	8	9	20	<1				
13	035377	9	25	21	22	<1				
14	035378	24	67	53	109	40				
15	035379	4	8	8	14	3				
16	035380	3	5	6	21	<1				
17	035381	4	4	7	35	<1				
18	035382	2	5	7	21	<1				
19	035383	4	8	8	27	<1				
20	035384	3	10	9	23	1				
21	035385	4	8	10	47	1				
22	035386	3	9	10	23	2				

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER

13 KEYWORDS & LOCALITY

HUSKISSON, SILVER FALLS, WILL O' WISP, JUST IN TIME, MT READ VOLCANICS, OONAH FORMATION, VHMS, WHITE SPUR FORMATION, PUMICE BRECCIA, ROSEBERY FAULT, STITT QUARTZITE, WESTCOTT ARGILLITE, GALENA SPHALERITE, SERICITISATION, CARBONITISATION, SOIL GEOCHEMISTRY, DRILLING PETROLOGY. PARSONS & RAMSAY 1:25 000.

ANALABS

A Division of Inchcape Testing Services (Australia) Pty. Ltd.
A.C.N. 004 591 684

918049

ANALYTICAL DATA

SAMPLE PREFIX	REPORT No.	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.09453	10/05/93	0236	6 OF 8

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Mn	As				
10	035349	5	100	24	39	3				
11	035350	3	133	12	29	1				
12	035351	3	153	10	34	<1				
13	035352	3	159	19	36	4				
14	035353	6	463	35	267	10				
15	035354	3	459	35	61	5				
16	035355	4	448	25	52	4				
17	035356	3	381	36	61	4				
18	035357	3	126	22	37	4				
19	035358	5	77	18	24	2				
20	035359	3	138	29	62	7				
21	035360	4	101	29	58	3				
22	035361	5	472	57	64	18				
23	035362	4	16	15	25	3				
24	035363	2	44	15	33	1				
25	035364	3	27	14	24	2				

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Testing Services (Australia) Pty. Ltd.
A.C.N. 004 591 664

918050

ANALYTICAL DATA

SAMPLE PREFIX	REPORT No.	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.09453	10/05/93	0236	4 OF 8

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Mn	As				
10	035289	4	155	21	49	4				
11	035290	2	38	10	32	1				

Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.
A.C.N. 004 591 664

918051

Phone (004) 316837 | 14 Thirkell St. COOEE TAS 7320 | Fax (004) 318890

ANALYTICAL REPORT No. 111310.60.09475

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:

Pasminco Exploration
P.O. Box 586
BURNIE TAS 7320

ORDER No.	PROJECT
02257	3009

DATE RECEIVED	RESULTS REQUIRED
23/05/93	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No OF SAMPLES
1	28/05/93	1	285

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
17569 to 853	30 Prep : 6009.7	Cu,Pb,Zn,Mn,BA140,Mn/SR104 Ag/BA140

REMARKS

RESULTS TO

Rogey Pollock Geological Pty Ltd
Mineral Exploration Contractor
C/- Post Office
WILMOT TAS 7310

RESULTS TO

Mr T Fitzgerald
Pasminco Exploration
P.O. Box 586
BURNIE TAS 7320

RESULTS TO

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Testing Services (Australia) Pty. Ltd.
A.C.N. 004 591 664

ANALYTICAL DATA

SAMPLE PREFIX	REPORT No.	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.09475	28/05/93	0237	1 OF 12

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Mn	Mn	As			
4	035404	5	26	60	327	–	2			
5	035405	6	17	21	34	–	1			
6	035406	5	23	26	32	–	7			
7	035407	8	54	44	29	–	11			
8	035408	6	54	44	42	–	6			
9	035409	11	428	142	88	–	48			
10	035410	13	419	252	146	–	22			
11	035411	5	45	20	29	–	1			
12	035412	4	40	15	34	–	6			
13	035413	5	22	13	29	–	8			
14	035414	4	38	22	36	–	7			
15	035415	5	25	13	33	–	1			
16	035416	4	48	30	54	–	3			
17	035417	5	73	40	63	–	10			
18	035418	4	110	27	60	–	6			
19	035419	4	269	33	52	–	10			
20	035420	5	241	39	52	–	8			
21	035421	5	145	36	44	–	17			
22	035422	7	135	38	42	–	8			
23	035423	8	66	42	43	–	5			
24	035424	5	71	32	34	–	45			
25	035425	7	69	39	36	–	8			

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER Keith Hand

ANALABS

A Division of Inchcape Testing Services (Australia) Pty. Ltd.
A.C.N. 004 591 664

ANALYTICAL DATA

SAMPLE PREFIX	REPORT No.	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.09475	28/05/93	0237	2 OF 12

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Mn	Mn	As			
1	035426	7	67	36	37	-	10			
8	035433	9	33	33	75	-	4			

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER Keith Hand

APPENDIX III

Analytical Reports – DDH HRD1

ANALABS
A Division of Intertek Testing Services (Australia) Pty. Ltd.
A.C.N. 004 591 664

Phone (004) 316837 | 14 Thirkell St. CDOEE TAS 7320 | Fax (004) 318890

918055

ANALYTICAL REPORT No. 111310.60.10087

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:

Pasminco Exploration
P.O. Box 886
BURNIE TAS 7320

ORDER No.	PROJECT
0134	3015

DATE RECEIVED	RESULTS REQUIRED
16/03/94	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES
4	18/04/94	1

TOTAL No. OF SAMPLES: 33

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
472/500,35861/864	QC Prep : GP029-P1	Cu,Pb,Zn,Ag,Bi,Mn/GA140 Au,Au(R),Au(S)/GG309 As/HA140 Pb,Zn,Mn/GA104

REMARKS

RESULTS TO:

Mr F Fitzgerald
Pasminco Exploration
P.O. Box 886
BURNIE TAS 7320

RESULTS TO:

Roger Pollock Geological Pty Ltd
Mineral Exploration Contractor
C/- Post Office
WILMOT TAS 7310

RESULTS TO:

AUTHORISED OFFICER

Analabs

Analabs Pty. Ltd.
A.C.N. 004 581 664

9 1 8 0 5 6

ANALYTICAL DATA

SAMPLE PREFIX	REPORT No.	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.10087	19/04/94	0136	1 OF 4

	SAMPLE No.	Cu	Pb	Pb	Zn	Zn	Ag	Bi	Mn	Mn
METHOD		GA140	GA140	GA104	GA140	GA104	GA140	GA140	GA140	GA104
1	35861	16	>5000	0.68	454	-	1	<10	1058	-
2	35862	18	2837	-	230	-	1	<10	1091	-
3	35863	13	3412	-	228	-	1	<10	1399	-
4	35864	15	1726	-	381	-	<1	<10	950	-
5	37472	72	1905	-	>5000	0.70	5	<10	1158	-
6	37473	104	350	-	397	-	<1	<10	3812	-
7	37474	137	131	-	280	-	<1	<10	4255	-
8	37475	50	232	-	547	-	1	<10	4350	-
9	37476	82	>5000	1.29	947	-	4	<10	3693	-
10	37477	12	>5000	0.99	354	-	1	<10	>5000	0.70
11	37478	12	1565	-	450	-	1	<10	4022	-
12	37479	19	474	-	798	-	<1	10	3838	-
13	37480	18	592	-	699	-	<1	<10	4042	-
14	37481	14	2775	-	768	-	1	<10	2550	-
15	37482	10	1943	-	64	-	<1	<10	2059	-
16	37483	21	>5000	0.59	169	-	1	<10	2022	-
17	37484	15	>5000	1.16	282	-	2	<10	2670	-
18	37485	28	>5000	1.62	663	-	3	<10	2263	-
19	37486	17	1844	-	629	-	1	<10	1639	-
20	37487	10	515	-	117	-	<1	<10	4441	-
21	37488	9	3654	-	87	-	2	<10	1662	-
22	37489	12	3487	-	143	-	1	<10	1152	-
23	37490	6	3215	-	59	-	1	<10	1134	-
24	37491	8	3184	-	141	-	1	<10	1142	-
25	37492	9	2934	-	203	-	1	<10	947	-

Results in ppm unless otherwise specified
- = element not determined

IS = insufficient sample
SNR = sample not received

AUTHORISED OFFICER

Analabs

Analabs Pty. Ltd.
A.C.N. 004 591 664

918057

ANALYTICAL DATA

SAMPLE PREFIX	REPORT No.	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.10087	18/04/94	0136	2 OF 4

	SAMPLE No.	Cu	Pb	Pb	Zn	Zn	Ag	Bi	Mn	Mn
METHOD		GA140	GA140	GA104	GA140	GA104	GA140	GA140	GA140	GA104
1	37493	9	227	-	49	-	<1	<10	1102	-
2	37494	10	48	-	73	-	<1	<10	803	-
3	37495	6	57	-	39	-	<1	<10	1197	-
4	37496	6	140	-	39	-	<1	<10	1133	-
5	37497	9	2203	-	366	-	1	<10	1140	-
6	37498	9	>5000	0.67	203	-	1	<10	863	-
7	37499	11	4073	-	393	-	1	<10	1255	-
8	37500	12	>5000	0.84	499	-	2	<10	1209	-
9										
10										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
24	DETECTION	2	3	0.01	2	0.01	1	10	3	0.01
25	UNITS	ppm	ppm	%	ppm	%	ppm	ppm	ppm	%

Results in ppm unless otherwise specified
- = element not determined

IS = insufficient sample
SNR = sample not received

AUTHORISED OFFICER

Analabs

Analabs Pty. Ltd.
A.C.N. 004 591 664

918058

ANALYTICAL DATA

SAMPLE PREFIX	REPORT No.	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.10087	18/04/94	0136	3 OF 4

	SAMPLE No.	Au	Au(R)	Au(S)	As	As				
METHOD		GG309	GG309	GG309	HA140	GA140				
1	35861	<0.008	-	-	10.0	-				
2	35862	<0.008	-	-	8.5	-				
3	35863	<0.008	-	-	8.0	-				
4	35864	<0.008	-	-	4.5	-				
5	37472	<0.008	-	-	>100.0	180				
6	37473	<0.008	-	-	26.5	-				
7	37474	<0.008	-	-	27.0	-				
8	37475	<0.008	-	-	>100.0	120				
9	37476	<0.008	-	-	10.5	-				
10	37477	<0.008	-	-	7.0	-				
11	37478	<0.008	-	-	6.0	-				
12	37479	<0.008	<0.008	-	7.0	-				
13	37480	<0.008	-	-	7.0	-				
14	37481	<0.008	-	-	6.0	-				
15	37482	<0.008	-	-	6.0	-				
16	37483	<0.008	-	-	9.0	-				
17	37484	<0.008	-	-	6.5	-				
18	37485	<0.008	-	<0.008	6.5	-				
19	37486	<0.008	-	-	6.5	-				
20	37487	<0.008	-	-	4.5	-				
21	37488	<0.008	-	-	5.0	-				
22	37489	<0.008	<0.008	-	11.0	-				
23	37490	<0.008	-	<0.008	13.5	-				
24	37491	<0.008	-	-	3.5	-				
25	37492	<0.008	-	-	3.0	-				

Results in ppm unless otherwise specified
- = element not determined

IS = insufficient sample
SNR = sample not received

AUTHORISED OFFICER

Analabs

Analabs Pty. Ltd.
A.C.N. 004 591 664

918059

ANALYTICAL DATA

SAMPLE PREFIX	REPORT No.	REPORT DATE	CLIENT ORDER No.	PAGE
[redacted]	111310.60.10087	18/04/94	0136	4 OF 4

	SAMPLE No.	Au	Au(R)	Au(S)	As	As				
METHOD		GG309	GG309	GG309	HA140	GA140				
1	37493	<0.008	-	-	3.5	-				
2	37494	<0.008	-	-	5.0	-				
3	37495	<0.008	-	-	4.0	-				
4	37496	<0.008	-	-	4.0	-				
5	37497	<0.008	-	-	11.0	-				
6	37498	<0.008	-	-	8.0	-				
7	37499	<0.008	-	-	5.5	-				
8	37500	<0.008	-	-	36.0	-				
9										
10										
[redacted]										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
[redacted]										
24	DETECTION	0.008	0.008	0.008	0.5	50				
25	UNITS	ppm	ppm	ppm	ppm	ppm				

esults in ppm unless otherwise specified
= element not determined

IS = insufficient sample
SNR = sample not received

AUTHORISED OFFICER

APPENDIX IV

Drilling Proposal HRD1

DIAMOND DRILL PROPOSAL HRD 1

COLLAR	
AMG COORDINATES	376990E 5389180N (10m west of EL 2/90 boundary)
DIP	-60°
AZIMUTH	285° AMG (old Aberfoyle grid line 4900N)
RL	517m
TOTAL DEPTH	400m

TARGET

Target zinc rich VHMS mineralisation. The hole will test Pb, Zn soil and rock chip anomalies associated with altered felsic volcanics in vicinity of the old Silver Falls Prospect. Drilling will aid in establishing the style, grade and metal/alteration zonation of mineralisation at the prospect.

PROSPECT GEOLOGY

The alteration and mineralisation is hosted in a fine grained rhyolite and overlying quartz feldspar crystal rich sandstone. The sandstone is equigranular frequently having a granitic appearance, similar rock types occur in the Boco and Burns Peak EL's where they can clearly be demonstrated as sedimentary.

The host sequence is 120m thick on the proposed drill section and is interpreted to be a slice bounded by two east dipping (50°) splays of the Rosebery Fault. The dip on this structure is poorly constrained in this area and is based on dips associated with the Rosebery Fault further south. This fault bounded package can be traced south to the Browns Tunnel prospect in the Burns Peak licence, a distance of 5km.

The host sequence is pervasively silica-carbonate-sericite altered and is exposed at Silver Falls (SF), John Lynch Creek (2km south of SF) and the EZ costean (1km to the north of SF). Galena with subordinate sphalerite and pyrite occurs as stringers and disseminations within the altered volcanics. Weathered surfaces are frequently manganiferous. Assays of selected rock chips from Silver Falls are as follows:

- 0.7% Pb with negligible Cu, Zn – Kirsner, 1992.
- 3.35% Pb, 0.69% Zn, 0.08% g/t Au – Sainty, 1984.

A similar but shale dominated package within the Rosebery Fault was drilled at Burns Peak in DDH CP14, intersecting 30m @ 1% Zn.

Aberfoyle, (Taylor 1979) interpreted the mineralisation at Silver Falls as Devonian shear related, some of the quartz–feldspar crystal sandstones were considered to be microgranites. However the lack of tourmalinisation and albitization would indicate that the mineralisation is unlikely to be Devonian granitoid related.

PREVIOUS EXPLORATION

In the early 1900's mineralisation was located at Silver Falls and tested by shallow pitting.

EZ drilled four narrow diameter, shallow (22–50m) core holes in the 1940's (PP 61, 62, 63 and 73). Minimal assaying was carried out and the core is now in a next to worthless condition.

Aberfoyle gridded the area in 1979. Work completed on the grid included mapping, soil geochemistry and IP. A strong Pb, Zn soil anomaly was defined, the best IP response was not coincident with the soil anomaly.

EZ gridded the northern strike extent of the prospective package and carried out similar surveys to Aberfoyle. Strong Pb Zn soil anomalies were located and further evaluated with costeaning, exposing limonite veined felsic volcanics with up to 1.08% Pb (Mill, 1981). The prospect was re–evaluated by Sainty for gold in 1984 without significant results.

FIGURES

Location plan and interpretive geology	1:5 000
Drill section 4900N AMG 285	1:2 500

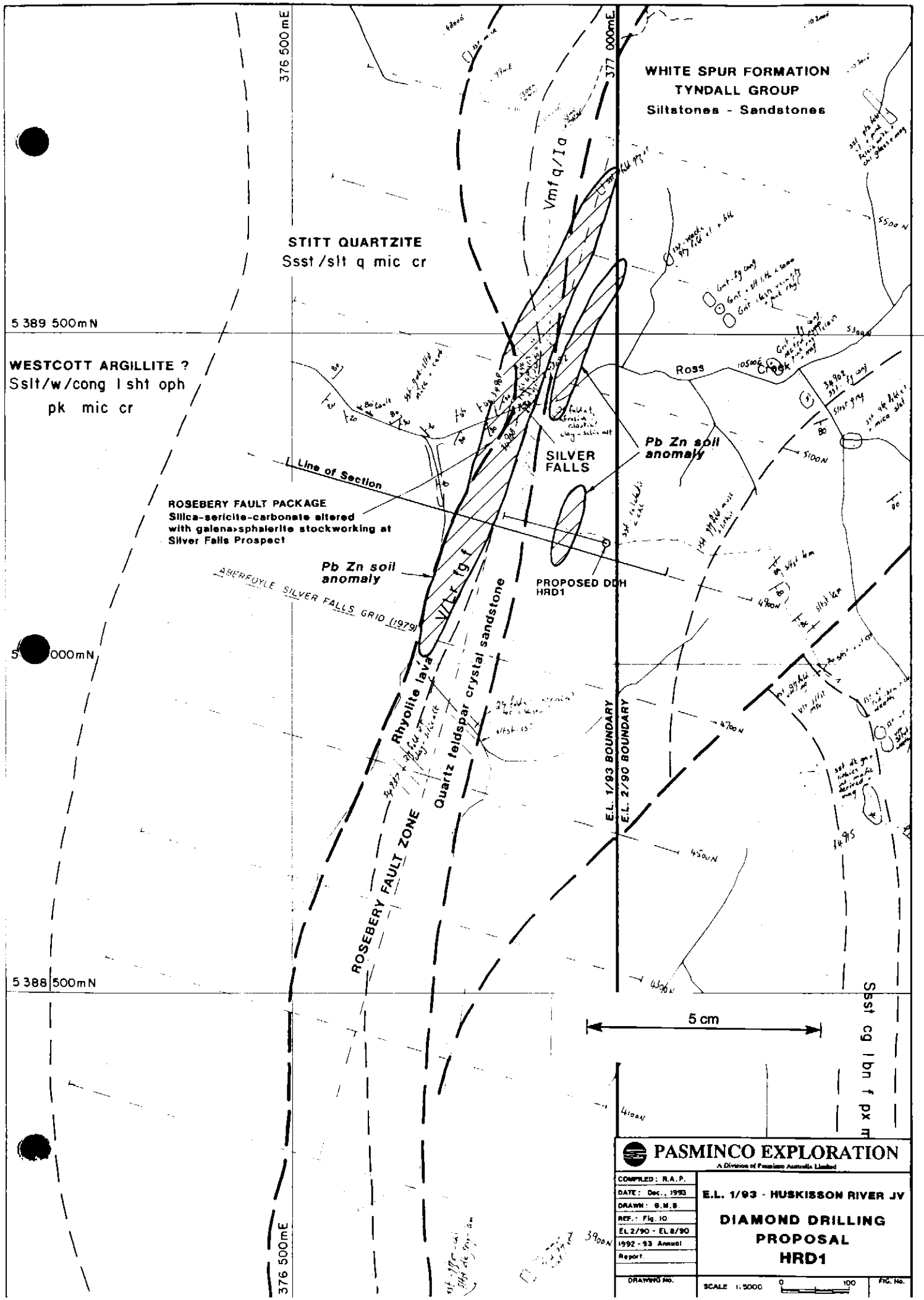
REFERENCES

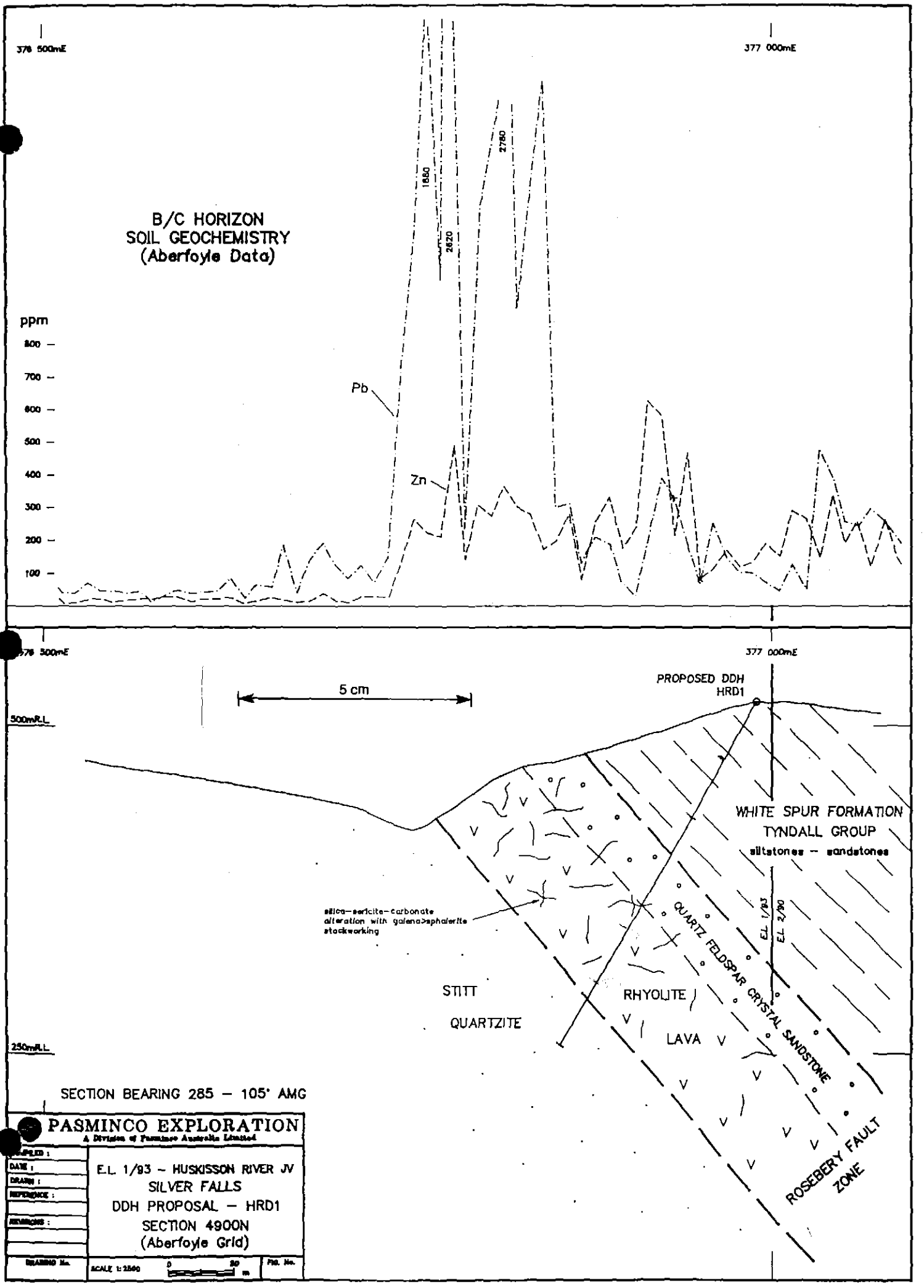
Kirsner, L.W., 1992 Pasminco Exploration. EL 2/90 Boco & EL 8/90 North Pinnacles Exploration Report. October 1990 – February 1992.

Mill, J.H.A., 1981 Progress Report on Activity July 1980 – June 1981 EL 12/72, EZ Co. Report.

Sainty, R., 1984 EL 12/72 Bulgobac – Silver Falls and North Pinnacles progress report on Exploration Activity 30/5/84 – 13/11/84, EZ Co. Report.

Taylor, J.R., 1979 Marionoak River. El 12/74 Tasmanian. Report for the year ending August 1979 EZ Co. Report.


376 500mE
377 000mE
WHITE SPUR FORMATION
TYNDALL GROUP
Siltstones - Sandstones
STITT QUARTZITE
Ssst/slt q mic cr
5 389 500mN
WESTCOTT ARGILLITE ?
Sslt/w/cong lsht oph
pk mic cr
Vmf q/Ia
Ross
Creek
SILVER FALLS
Pb Zn soil anomaly
Line of Section
ROSEBERY FAULT PACKAGE
Silica-sericite-carbonate altered with galena>sphalerite stockworking at Silver Falls Prospect
Pb Zn soil anomaly
PROPOSED DDH HRD1
ABERFOYLE SILVER FALLS GRID (1979)
5 000mN
Rhyolite lava
Quartz feldspar crystal sandstone
ROSEBERY FAULT ZONE
E.L. 1/93 BOUNDARY
E.L. 2/90 BOUNDARY
5 388 500mN
5 cm
Ssst cg lbn f px m
376 500mE
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: R.A.P.
DATE: Dec., 1993
DRAWN: S.M.S.
REF.: Fig. 10
EL 2/90 - EL 8/90
1992 - 93 Annual
Report
DRAWING No.
E.L. 1/93 - HUSKISSON RIVER JV
DIAMOND DRILLING
PROPOSAL
HRD1
SCALE 1:5000
0
100
FIG. No.


378 500mE
377 000mE
B/C HORIZON
SOIL GEOCHEMISTRY
(Aberfoyle Data)
ppm
800
700
600
500
400
300
200
100
Pb
Zn
1880
2620
2780
5 cm
500mRL
250mRL
PROPOSED DDH
HRD1
WHITE SPUR FORMATION
TYNDALL GROUP
siltstones – sandstones
silica–sericite–carbonate
alteration with galena>sphalerite
stockworking
STITT
QUARTZITE
RHYOLITE
LAVA
QUARTZ FELDSPAR CRYSTAL SANDSTONE
EL 1/93
EL 2/90
ROSEBERY FAULT
ZONE
SECTION BEARING 285 – 105° AMG
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
E.L. 1/93 – HUSKISSON RIVER JV
SILVER FALLS
DDH PROPOSAL – HRD1
SECTION 4900N
(Aberfoyle Grid)
SCALE 1:2500
0
50
m

APPENDIX V

Drill Log HRD1

HOLE No. HRD.1

PASMINCO EXPLORATION
DIAMOND DRILL CORE RECORD

LOCATION	TASMANIA
PROJECT	EL 1/93
PROSPECT	Silver Falls
DESIGNED BY	R Poltock
LOGGED BY	R Poltock
RELOGGED	
COMMENCED	19-1-'94
COMPLETED	10-3-'94
DRILLED BY	WAYNE HOW.
DRILL RIG	Longyear 38

OBJECTIVE

Test Pb/Zn soil geochemical anomalies over felsic volcanics 150m south of the Silver Falls prospect. The target a Zn rich VHMS deposit.

RESULT

A broad zone of galena/sphalerite veining was intersected. The host, carbonitized and sericitized siltstone, sandstone and pumice breccia. The Rosebery Fault was intersected between 236.4 - 260.60m

LOCATION/SURVEY DATA (AMG)

Grid	AMG		RL Collar m	517 m
Northing m	5389 188		Bearing Collar	282° AMG.
Easting m	376 985		Dip Collar	-60°
DH Survey Type	EASTMAN.		Length Hole m	295.7 m

Depth m	Bearing	Dip	Depth m	Bearing	Dip
50	284° AMG	-60			
100	283° "	-60.5			
150	283° "	-60			
200	283 "	-60			
250	284° "	-60			
295	285° "	59			

SIGNIFICANT INTERSECTIONS

From m	To m	Interval m	Pb	Zn				Comments
178	180	2	0.19%	0.70%				Dissem' and veinlet.
199	203	4	1.14%	-				" "
213	219	6	1.12%	-				" "
243	251	8	0.65%	-				" "

SIGNIFICANT CORE LOSS

From m	To m	% Lost
0	3.4	100%

POOR GROUND CONDITION ZONES

From m	To m	Condition

HOLE SIZE

Size	Depth m
HQ	0-24
NQ	24-295.7

HOLE CONDITIONS AFTER COMPLETION

Collar	-
Steel Casing	Cap HW
PVC Casing	0-295.7m
Ground Water	-
Wedge	-
Drill Pad	Not rehabilitated - on Silver Falls track

9180966

PASMINCO EXPLORATION

DIAMOND DRILL CORE LOG

HOLE No. HRD1

PROJECT: SILVER FALLS

Vertical Scale 1 : 250

DESCRIPTION					GRAPHIC			
From	To	LITHOLOGY	ALTERATION	MINERALISATION	Depth	Lith	Structures	STRUCTURES
0.00	3.40	No core recovered.			0			
3.40	11.00	SANDSTONE Cream, Brown, Medium grained, Massive, Crystal, Core broken, rubbly with limonitic joint coatings. CONTACT: Gradational,	Moderately Oxidised.		10			
11.00	18.00	SANDSTONE Cream, Grey, Medium grained, Massive, Crystal, Core broken, limonitic joint coatings. Deeply weathered may have been carbonitiized. Sandstone composed of crystals with feldspar>quartz. CONTACT: Gradational,	Moderately Oxidised.					
18.00	31.75	SANDSTONE Grey, Cream, Medium grained, Massive, Matrix supported, Crystal, Lithic, Sandstone composed of quartz and feldspar crystals plus lithics. Clasts include quartz *feldspar phyric volcanic*, chloritized glass and black siltstone. Rafts of siltstone occur between 29.60-30.00m. CONTACT: Gradational,	Slightly Oxidised.		20			
					30			
31.75	36.90	SILTSTONE Black, Different lithologies structurally interlayered, shear zone. CONTACT: Gradational, MIXED WITH SILTSTONE Cream, Pink, Vitric, MIXED WITH SANDSTONE Cream, Black, Crystal,						BROKEN CORE. PRIMARY FABRIC, A 85.

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG
Vertical Scale 1 : 250

HOLE No. HRD1

PROJECT: SILVER FALLS

DESCRIPTION					GRAPHIC			
From	To	LITHOLOGY	ALTERATION	MINERALISATION	Depth	Lith	Structures	STRUCTURES
		MIXED WITH SILTSTONE Cream, Pink, Vitric, MIXED WITH SANDSTONE Cream, Black, Crystal,						PRIMARY FABRIC, A 85, PRIMARY FABRIC, A 85,
36.90	63.00	SANDSTONE Cream, Grey, Medium grained, Massive, Crystal, Lithic, Lithics include black siltstone and feldspar phyric chloritized glass. Carbonate quartz veins common at 0 - 70LCA. CONTACT: Gradational, WITH MINOR SILTSTONE Sheared siltstone lens between 42.00-42.30m.			40 50 60			BEDDING, A 50, BROKEN CORE, Includes sheared shale raft.
63.00	91.00	SANDSTONE Cream, Grey, Medium grained, Coarse grained, Matrix supported, Lithic, Clasts to 30mm, include black siltstone, quartz feldspar phyric volcanic, chloritized glass (quartz feldspar phyric) and vein quartz. Sequence up hole facing. Scattered carbonate quartz veins. CONTACT: Gradational,	Slightly Carbonatised.		70			FAULT, A 75, Crush zone.

PASMINCO EXPLORATION

DIAMOND DRILL CORE LOG

HOLE No. HRD1

PROJECT: SILVER FALLS

Vertical Scale 1 : 250

DESCRIPTION					GRAPHIC			
From	To	LITHOLOGY	ALTERATION	MINERALISATION	Depth	Lith	Structures	STRUCTURES
					70			FAULT, A 75, Crush zone.
					80			
					90			
91.00	93.30	CONGLOMERATE Cream, Grey, Coarse grained, Matrix supported, Clasts to 60mm, angular to subrounded, include fossiliferous limestone, aphyric pink rhyolite, feldspar phyric rhyolite, chloritized glass, black siltstone and crystal sandstone. Matrix of crystal fragments and fine lithic clasts. This unit is interpreted as the base of a single mass flow (0-93.3m). CONTACT: Conformable abrupt, Sharp erosional.						Facing uphole, Graded bedding.
93.30	105.10	SILTSTONE Grey, Fine grained, Laminated, Siltstone slightly calcareous. Abundant carbonate and quartz veins. CONTACT: Gradational, MIXED WITH SANDSTONE Grey, Fine grained, Sandstone slightly calcareous.						BEDDING, D 85.
								BEDDING, D 79.
					100			FAULT, Broken core, crush zone at 102.6m, increase in density of carbonate quartz veining adjacent to fault zone.
105.10	113.00	SANDSTONE Grey, Fine grained, Medium grained, Bedded.						BEDDING, Facing uphole, Graded bedding.

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. HRD1

PROJECT: SILVER FALLS

Vertical Scale 1 : 250

DESCRIPTION					GRAPHIC			
From	To	LITHOLOGY	ALTERATION	MINERALISATION	Depth	Lith	Structures	STRUCTURES
105.10	113.00	SANDSTONE Grey, Fine grained, Medium grained, Bedded, Crystal, Lithic, Sandstone composed of quartz and feldspar crystal fragments, siltstone shreds and muscovite flakes. Unit facing up hole. Scattered carbonate quartz veins. CONTACT: Gradational, INTERBEDDED WITH SILTSTONE Dark, Grey,						BEDDING, Facing Uphole, Graded bedding. BEDDING, A 80, BEDDING, A 70, BEDDING, A 10,
113.00	126.40	SANDSTONE Cream, Grey, Fine grained, Medium grained, Bedded, Lithic, Sandstone quartzose, slightly micaceous, lithics to 5mm cocentrated toward base of unit indicating uphole facing. Minor carbonate quartz veins. CONTACT: Conformable abrupt, Sharp erosional. WITH MINOR SILTSTONE Grey,			110			BEDDING, A 80, BEDDING, A 85, FAULT, Broken core. BEDDING, A 75,
126.40	143.10	SILTSTONE Dark, Grey, Fine grained, Laminated, Soft sedimentary breccia of siltstone and sandstone clasts between 133.70-134.00 and 137.60-137.90m. Abundant carbonate quartz veins occur throughout the interval. CONTACT: Gradational, INTERBEDDED WITH SANDSTONE Grey, Fine grained,	Slightly Carbonatised.	VEIN, quartz carbonate	120 130 140			BEDDING, A 60, BEDDING, A 75, FAULT, A 65, BEDDING, A 45,

PASMINCO EXPLORATION

DIAMOND DRILL CORE LOG

HOLE No. **HRD1**

PROJECT: SILVER FALLS

Vertical Scale 1 : 250

DESCRIPTION					GRAPHIC			
From	To	LITHOLOGY	ALTERATION	MINERALISATION	Depth	Lith	Structures	STRUCTURES
143.10	161.40	SANDSTONE Grey, Cream, Medium grained, Massive, Crystal, Quartz feldspar crystal, scattered clasts of black siltstone. CONTACT: Gradational, INTERBEDDED WITH SILTSTONE Dark, Grey, Siltstone lenses frequently disrupted as a result of soft sedimentary deformation, and later deformed by shearing. Scattered carbonate quartz veins occur throughout.			140 150 160			BEDDING, A 45, BEDDING, A 45, BROKEN CORE. Fault crush zone at 156.00m.
161.40	192.40	SILTSTONE Dark, Grey, Laminated, CONTACT: Faulted,			170			BEDDING, A 45, Grading uphole, BEDDING, A 45, BEDDING, A 40, BEDDING, D 79,

PASMINCO EXPLORATION

DIAMOND DRILL CORE LOG

HOLE No. **HRD1**

PROJECT: SILVER FALLS

Vertical Scale 1 : 250

DESCRIPTION					GRAPHIC			
From	To	LITHOLOGY	ALTERATION	MINERALISATION	Depth	Lith	Structures	STRUCTURES
				STRINGER, carbonate quartz trace sphalerite trace galena Veinlets developed on fractures..	180			BEDDING, A 35. Grading uphole,
					190			FAULT, A 5, Fault 1-2cm wide with carbonate and quartz vein.
								FAULT, A 40,
192.40	199.00	SANDSTONE Grey, Cream, Medium grained, Coarse grained, Massive, Crystal, Lithic, Clasts to 25mm and include dark grey siltstone, grey limestone, felsic volcanic and massive pyrite (may be space fillings). Sandstone composed of quartz feldspar crystal fragments. CONTACT: Faulted, May be a faulted erosional contact.	Moderately Carbonatised,	DISSEMINATED, very minor pyrite trace sphalerite very minor galena Galena also occurs on joint faces. Pyrite disseminated and fine grained aggregates that may be clasts..				BROKEN CORE,
199.00	218.80	SANDSTONE Cream, Pink, Medium grained, Coarse grained, Massive, Lithic, Quartz feldspar crystals to 5mm, quartz with crushed/sucrose texture. Lithics scattered fine grained felsic? Black manganese and/or chlorite common on microfractures. CONTACT: Faulted,	Moderately Carbonatised,	STRINGER, trace galena Galena on joints and fractures, best development between 217.30-218.00m. Calcite quartz veining common..	200			
					210			

PASMINCO EXPLORATION

DIAMOND DRILL CORE LOG

HOLE No. HRD1

PROJECT: SILVER FALLS

Vertical Scale 1 : 250

DESCRIPTION					GRAPHIC			
From	To	LITHOLOGY	ALTERATION	MINERALISATION	Depth	Lith	Structures	STRUCTURES
					210			
218.80	220.80	PUMICEOUS MASS FLOW Cream, Medium grained, Massive, Pumiceous, Lithic, Clasts to 30mm of fine grained silica pyrite altered volcanic. CONTACT: Gradational,	Slightly Carbonatised, Slightly Sericitised.	STRINGER, very minor galena trace sphalerite Sulfides occur in scattered veinlets..	220			FAULT.
220.80	223.60	PUMICEOUS MASS FLOW Cream, Medium grained, Massive, Pumiceous, Lithic, Clasts to 15mm of fine grained silica pyrite altered volcanic. CONTACT: Gradational,	Highly Carbonatised. Slightly Sericitised.	STRINGER, trace galena Galena occurs in scattered veinlets..				
223.60	236.40	PUMICEOUS MASS FLOW Cream, Grey, Fine grained, Medium grained, Massive, Pumiceous, Lithic, Clasts to 20mm of fine grained silica pyrite alteration. Abundant microfractures with manganese and graphite, possibly associated with the Rosebery Fault.		STRINGER, trace galena	230			
236.40	255.60	FAULT ZONE (PUG) Cream, Black, Sheared, Pumiceous, Cataclasite composed of cream to pink pumice breccia fragments and black graphitic to manganiferous matrix. Shears are frequently graphitic. CONTACT: Faulted,	Slightly Silicified.	STRINGER, trace galena	240			FAULT. Mylonite, Cataclasite.

PASMINCO EXPLORATION

DIAMOND DRILL CORE LOG

HOLE No. HRD1

PROJECT: SILVER FALLS

Vertical Scale 1 : 250

DESCRIPTION					GRAPHIC			
From	To	LITHOLOGY	ALTERATION	MINERALISATION	Depth	Lith	Structures	STRUCTURES
255.60	258.30	PUMICEOUS MASS FLOW Cream, Pink, Medium grained, Sheared, Pumiceous, CONTACT: Faulted,	Slightly Sericitised.	STRINGER, trace galena	250			FAULT, Mylonite, Cataclasite. Fault gouge between 255.9-255.95m, margins of gouge zone at 30LCA.
258.30	260.60	FAULT ZONE (PUG) Cream, Black, Cataclasite composed of pumice breccia and quartzose sandstone fragments set in a graphitic matrix. CONTACT: Faulted,			260			FAULT, A 80, Brittle, Fault gouge 257.00-257.50m at 30LCA.
260.60	278.20	SANDSTONE Grey, Green, Medium grained, Massive, Micaceous, Lithic, Sandstone quartzose slightly micaceous. Lithics <2mm of cream-green siltstone, occuring mainly between 272.00-278.20m. Quartz carbonate veins common. CONTACT: Gradational, INTERBEDDED WITH SILTSTONE Grey, Massive, Sheared, Siltstone lenses frequently sheared, greatest shearing between 260.60-263.10m.						FAULT, Pug,
								FAULT, Pug,
					270			BEDDING, A 50, Grading downhole, Facing downhole,
								BEDDING, A 45, Grading downhole, Facing downhole,
								FAULT, A 30,
								BEDDING, A 25, Facing downhole, Grading downhole,
278.20	280.95	CONGLOMERATE Cream, Green, Fine grained, Medium grained, Clast supported, Clasts to 8mm, mainly of fine grained cream to green siltstone, greywacke and volcanics? CONTACT: Faulted, INTERBEDDED WITH SANDSTONE Grey, Green, Medium grained, Lithic. Clasts similar to conglomerate			280			BEDDING, A 30, Grading uphole, Facing uphole,
								BEDDING, A 60

PASMINCO EXPLORATION

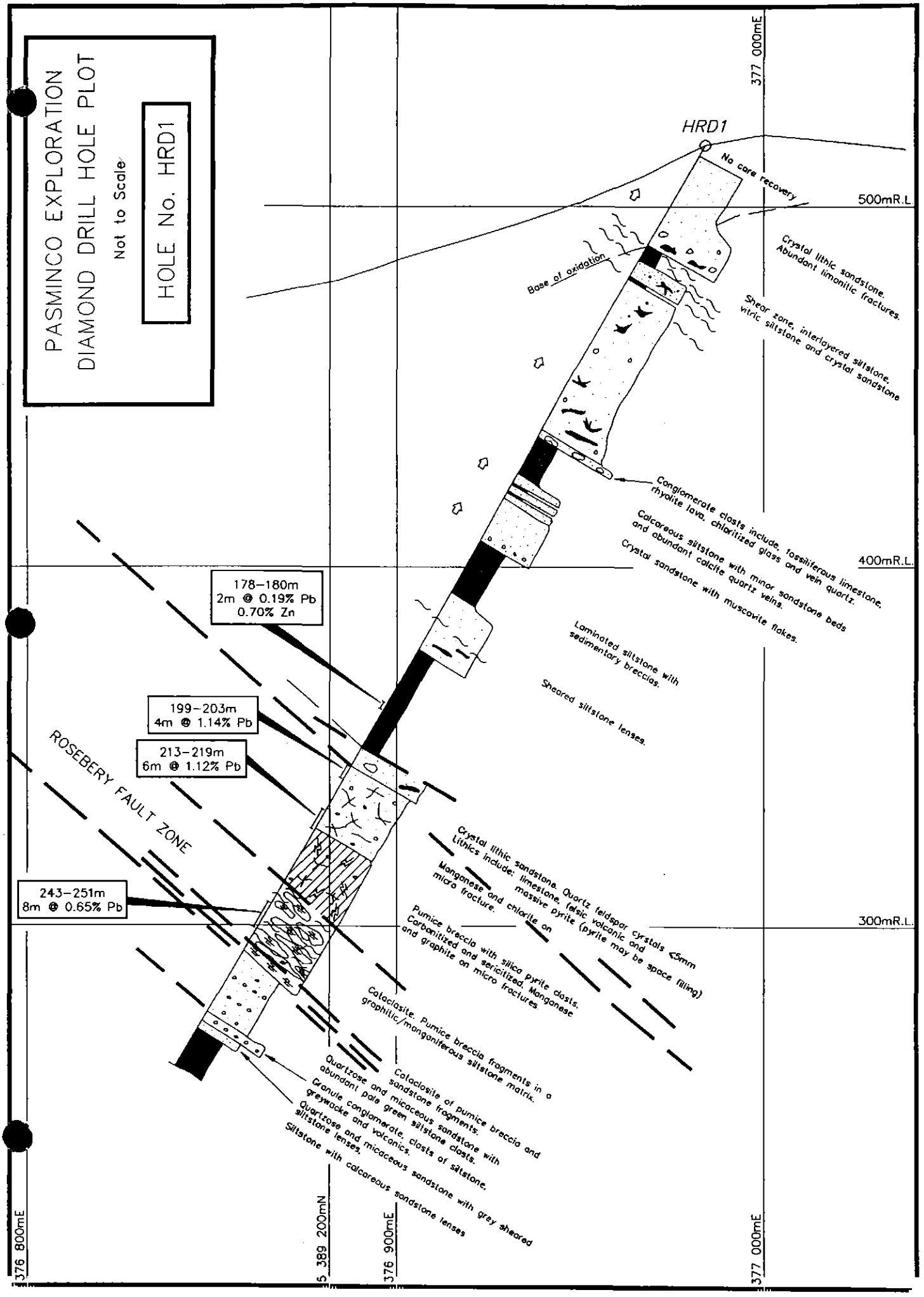
DIAMOND DRILL CORE LOG

HOLE No. HRD1

PROJECT: SILVER FALLS

Vertical Scale 1 : 250

DESCRIPTION					GRAPHIC			
From	To	LITHOLOGY	ALTERATION	MINERALISATION	Depth	Lith	Structures	STRUCTURES
		INTERBEDDED WITH SANDSTONE Grey, Green, Medium grained, Lithic, Clasts similar to conglomerate.			280			uphole, Facing uphole,
280.95	283.50	SANDSTONE Dark, Grey, Medium grained, Micaceous, Quartz and quartz carbonate veined. CONTACT: Faulted,						BEDDING, A 40, BEDDING, A 45, FAULT, Pug,
283.50	295.70	INTERBEDDED WITH SILTSTONE Dark, Grey, Sheared,						BROKEN CORE,
		SILTSTONE Dark, Grey, Laminated, Siltstone alternates with fine grained cream calcareous sandstone. CONTACT: Conformable abrupt, INTERBEDDED WITH TURBIDITE Cream, Fine grained, Medium grained, Micaceous, Turbidite sandstone occasionaly with siltstone ripup clasts.						BEDDING, A 10, BEDDING, A 30, BEDDING, A 80, BEDDING, A 80, BEDDING, A 85, BEDDING, D 35, BEDDING, A 85,
					290			
					300			
					310			


PASMINCO EXPLORATION
DIAMOND DRILL HOLE PLOT
Not to Scale
HOLE No. HRD1
HRD1
No core recovery
Base of oxidation
Crystal lithic sandstone. Abundant limonitic fractures.
Shear zone, interlayered siltstone, vitric siltstone and crystal sandstone
Conglomerate clasts include fossiliferous limestone, rhyolite lava, chloritized glass and vein quartz.
Calcareous siltstone with minor sandstone beds and abundant calcite quartz veins.
Crystal sandstone with muscovite flakes.
Laminated siltstone with sedimentary breccias.
Sheared siltstone lenses.
Crystal lithic sandstone. Quartz feldspar crystals <5mm Lithics include: limestone, felsic volcanic and massive pyrite (pyrite may be space filling)
Manganese and chlorite on micro fracture.
Pumice breccia with silica pyrite clasts. Carbonitized and sericitized. Manganese and graphite on micro fractures.
Cataclasite. Pumice breccia fragments in a graphitic/manganiferous siltstone matrix.
Cataclasite of pumice breccia and sandstone fragments.
Quartzose and micaceous sandstone with abundant pale green siltstone clasts.
Granule conglomerate, clasts of siltstone, greywacke and volcanics.
Quartzose and micaceous sandstone with grey sheared siltstone lenses.
Siltstone with calcareous sandstone lenses
178–180m
2m @ 0.19% Pb
0.70% Zn
199–203m
4m @ 1.14% Pb
213–219m
6m @ 1.12% Pb
243–251m
8m @ 0.65% Pb
ROSEBERY FAULT ZONE
500mR.L.
400mR.L.
300mR.L.
377 000mE
376 800mE
5 389 200mN
376 900mE
377 000mE

PHYSICAL PROPERTIES HRD1

SPECIFIC GRAVITY

depth	value	formation	lithology
62.30	2.75	WSF	sst
91.60	2.79	WSF	cong
97.90	2.74	WSF	slt
121.50	2.71	WSF	sst
164.00	2.75	WSF	slt
196.80	2.72	WSF	sst
205.60	2.70	CVC	sst
221.80	2.69	CVC	pmf
235.60	2.67	CVC	pmf
279.70	2.68	SQ	cong
286.70	2.72	SQ	slt

HRD1 MAGNETIC SUSCEPTIBILITY

depth	value	formation	lithology
3.60	0.04	WSF	sst
9.70	0.07	WSF	sst
10.70	0.02	WSF	sst
13.70	0.02	WSF	sst
14.80	0.05	WSF	sst
15.40	0.09	WSF	sst
16.00	0.05	WSF	sst
18.20	0.10	WSF	sst
19.70	0.34	WSF	sst
22.70	0.15	WSF	sst
24.00	0.27	WSF	sst
25.70	0.20	WSF	sst
27.40	0.18	WSF	sst
30.40	0.22	WSF	sst
31.70	0.14	WSF	sst
34.00	0.28	WSF	slt
34.70	0.20	WSF	slt
36.70	0.17	WSF	slt
37.70	0.15	WSF	sst
40.70	0.16	WSF	sst
42.00	0.05	WSF	sst
43.70	0.29	WSF	sst
46.70	0.30	WSF	sst
49.70	0.30	WSF	sst
51.00	0.28	WSF	sst
52.70	0.19	WSF	sst
55.70	0.26	WSF	sst
58.70	0.28	WSF	sst
61.70	0.25	WSF	sst
64.70	0.44	WSF	sst
67.70	0.39	WSF	sst
70.70	0.39	WSF	sst
73.70	0.31	WSF	sst
76.70	0.24	WSF	sst
79.50	0.30	WSF	sst

82.60	0.33	WSF	sst
85.70	0.31	WSF	sst
88.70	0.25	WSF	sst
91.70	0.26	WSF	cong
92.80	0.26	WSF	cong
94.70	0.19	WSF	slt
97.70	0.23	WSF	slt
100.70	0.22	WSF	slt
102.90	0.46	WSF	slt
105.90	0.15	WSF	sst
106.70	0.17	WSF	sst
109.70	0.20	WSF	sst
112.70	0.22	WSF	sst
114.20	0.23	WSF	sst
115.70	0.20	WSF	sst
118.20	0.21	WSF	sst
121.30	0.24	WSF	sst
124.30	0.21	WSF	sst
127.40	0.14	WSF	slt
130.50	0.11	WSF	slt
133.70	0.21	WSF	slt
136.70	0.23	WSF	slt
139.70	0.24	WSF	slt
142.70	0.19	WSF	slt
145.70	0.22	WSF	sst
148.70	0.25	WSF	sst
151.70	0.28	WSF	sst
154.70	0.21	WSF	sst
156.80	0.17	WSF	sst
158.30	0.22	WSF	sst
159.30	0.23	WSF	sst
161.30	0.18	WSF	sst
162.00	0.14	WSF	slt
163.40	0.13	WSF	slt
166.50	0.14	WSF	slt
168.50	0.04	WSF	slt
169.60	0.09	WSF	slt
172.70	0.16	WSF	slt
173.00	0.11	WSF	slt
175.50	0.07	WSF	slt
178.60	0.14	WSF	slt
180.30	0.12	WSF	slt
181.50	0.17	WSF	slt
184.60	0.14	WSF	slt
187.70	0.21	WSF	slt
190.70	0.19	WSF	slt
191.40	0.13	WSF	slt
193.70	0.20	WSF	sst
196.70	0.13	WSF	sst
199.60	0.11	CVC	sst
202.70	0.11	CVC	sst
205.70	0.13	CVC	sst
208.70	0.12	CVC	sst
211.70	0.11	CVC	sst
214.70	0.08	CVC	sst
217.70	0.21	CVC	sst
218.80	0.08	CVC	pmf
220.70	0.08	CVC	pmf
223.70	0.08	CVC	pmf
226.70	0.08	CVC	pmf
229.70	0.17	CVC	pmf
232.70	0.10	CVC	pmf
235.70	0.13	CVC	pmf

238.70	0.09	CVC	fz
241.70	0.07	CVC	fz
244.70	0.08	CVC	fz
247.70	0.08	CVC	fz
250.70	0.01	CVC	fz
253.70	0.08	CVC	fz
256.70	0.09	CVC	pmf
259.60	0.27	CVC	fz
261.20	0.38	SQ	sst
262.70	0.11	SQ	sst
265.70	0.01	SQ	sst
268.70	0.12	SQ	sst
271.70	0.09	SQ	sst
274.70	0.13	SQ	sst
277.70	0.19	SQ	sst
280.70	0.23	SQ	cong
283.70	0.06	SQ	slt
285.20	0.22	SQ	slt
286.70	1.50	SQ	slt
289.70	0.08	SQ	slt
292.70	0.08	SQ	slt
295.70	0.08	SQ	slt

SAMPLED INTERVALS HRD1

FROM	TO	SAMP
178.00	180.00	37472
193.00	195.00	37473
195.00	197.00	37474
197.00	199.00	37475
199.00	201.00	37476
201.00	203.00	37477
203.00	205.00	37478
205.00	207.00	37479
207.00	209.00	37480
209.00	211.00	37481
204.90	205.00	37701
211.00	213.00	37482
213.00	215.00	37483
215.00	217.00	37484
217.00	219.00	37485
219.00	221.00	37486
221.00	223.00	37487
222.00	222.10	37702
223.00	225.00	37488
225.00	227.00	37489
227.00	229.00	37490
229.00	231.00	37491
231.00	233.00	37492
232.70	232.80	37703
233.00	235.00	37493
235.00	237.00	37494
237.00	239.00	37495
239.00	241.00	37496
241.00	243.00	37497
243.00	245.00	37498
245.00	247.00	37499
247.00	249.00	37500
249.00	251.00	35861
251.00	251.10	37704
251.00	253.00	35862
253.00	255.00	35863
255.00	257.00	35864

APPENDIX VI

CR1-CR6 Assay Results

Diamond Drillhole Assay Results CR1
-handwritten depth indicates accurate depth unknown

FROM	TO	SAMPLE	Cu	Pb	Zn	Ag
40.54	41.15	-44560	5	310	750	
56.34	57.91	-44561	2	10	70	0.5
57.91	59.44	-44562	2	10	80	0.5
92.96	93.27	-44563	2	10	28	0.5
129.54	131.06	-44564	2	10	32	0.5
156.50	158.50	-44653	30	200	580	
158.50	160.50	-44654	70	340	1250	
160.50	162.50	-44655	70	1300	6100	
162.50	164.50	-44656	45	2500	5300	
164.59	166.12	-44565	55	680	600	0.5
166.12	167.64	-44566	12	160	240	0.5
182.88	184.40	-44567	10	360	40	0.5
213.36	216.41	-44568	12	12	20	0.5
216.41	219.46	-44569	5	10	20	0.5
219.46	222.50	-44570	2	10	22	0.5
222.50	225.55	-44571	2	5	12	0.5
225.55	228.60	-44572	15	30	30	0.5
228.60	231.65	-44573	3050	2230	2400	100.0
231.65	234.70	-44574	30	120	120	1.0
234.70	237.74	-44575	8	20	45	0.5
237.74	240.79	-44576	5	30	30	0.5
240.79	242.32	-44577	82	60	80	0.5
242.32	243.84	-44578	10	240	750	0.5

CR2

FROM	TO	SAMPLE	Cu	Pb	Zn	Ag
4.0	5.5	-44657	132	153	516	
12.0	13.5	-44658	10	475	500	
16.0	17.0	-44659	10	70	2000	
21.5	27.0	-44660	110	660	222	
51.0	101.0	-44661	138	1864	1971	
102.5	111.3	-44662	39	697	1780	
120.0	122.0	-44663	2	130	610	
147.0	150.0	-44664	2	110	1250	
166.0	173.0	-44665	80	209	1300	
48.77	50.29	-44579	420	850	270	10.0
57.99	102.26	-44673		1566	2876	5.6
107.59	110.64	-44674		1300	4300	3.5

CR3

FROM	TO	SAMPLE	Cu	Pb	Zn	Ag
		-44666	80	730	926	
		-44667	180	1700	2750	
17.0	19.5	-44668	230	2750	2300	
19.5	22.0	-44669	230	2600	2750	
23.5	31.0	-44670	195	2100	2300	
33.0	35.0	-44671	238	2650	2750	
44.81	45.72	-44580	12	22	30	0.5
45.72	48.76	-44581	20	35	32	0.5
48.76	50.29	-44582	75	45	32	1.0
50.29	52.73	-44583	107	530	150	1.0
52.73	54.41	-44584	212	12	40	3.0
54.41	55.78	-44585	22	20	40	0.5
109.12	109.73	-44586	6	90	340	0.5
109.73	112.76	-44587	19	45	500	0.5
112.78	115.83	-44588	9	12	38	0.5
115.83	117.35	-44589	6	30	65	0.5
152.40	155.45	-44590	15	15	320	0.5
155.45	158.19	-44591	150	15	1900	0.5
158.19	159.11	-44592	22	2480	2450	2.0
159.11	161.54	-44593	22	200	400	0.5
161.54	163.07	-44594	28	5	700	0.5
163.07	164.59	-44595	75	5	150	2.0
164.59	167.64	-44596	10	5	60	0.5
167.64	170.69	-44597	22	5	50	0.5
170.69	173.74	-44598	110	15	35	0.5
173.74	176.78	-44599	2	2	35	0.5
176.78	179.83	-44600	2	8	15	0.5
179.83	182.88	-44601	2	8	15	0.5
182.88	185.93	-44602	18	2	22	0.5
185.93	188.98	-44603	2	190	70	0.5
188.98	189.89	-44604	15	15	18	1.0

CR4

FROM	TO	SAMPLE	Cu	Pb.	Zn	Ag
34.75	36.58	-44605	19	270	3900	2.0
36.58	39.62	-44606	6	45	90	0.5
39.62	42.67	-44607	5	65	100	0.5
42.67	45.72	-44608	17	45	120	0.5
45.72	48.77	-44609	10	60	160	1.0
48.77	49.32	-44610	5	65	110	1.0
49.32	49.40	-44611	600	30000	30000	710.0
49.40	49.83	-44612	5	400	1200	0.5
53.04	54.86	-44613	43	120	550	2.0
54.86	57.30	-44614	42	35	75	1.0
57.30	60.96	-44615	51	20	70	1.0
60.96	64.01	-44616	65	40	75	2.0
64.01	67.06	-44617	57	40	46	2.0
67.06	70.10	-44618	45	35	58	1.0
70.10	72.24	-44619	97	73	77	1.0
72.24	76.20	-44620	13	12	8	0.5
116.74	118.57	-44621	44	45	30	1.0

CR5

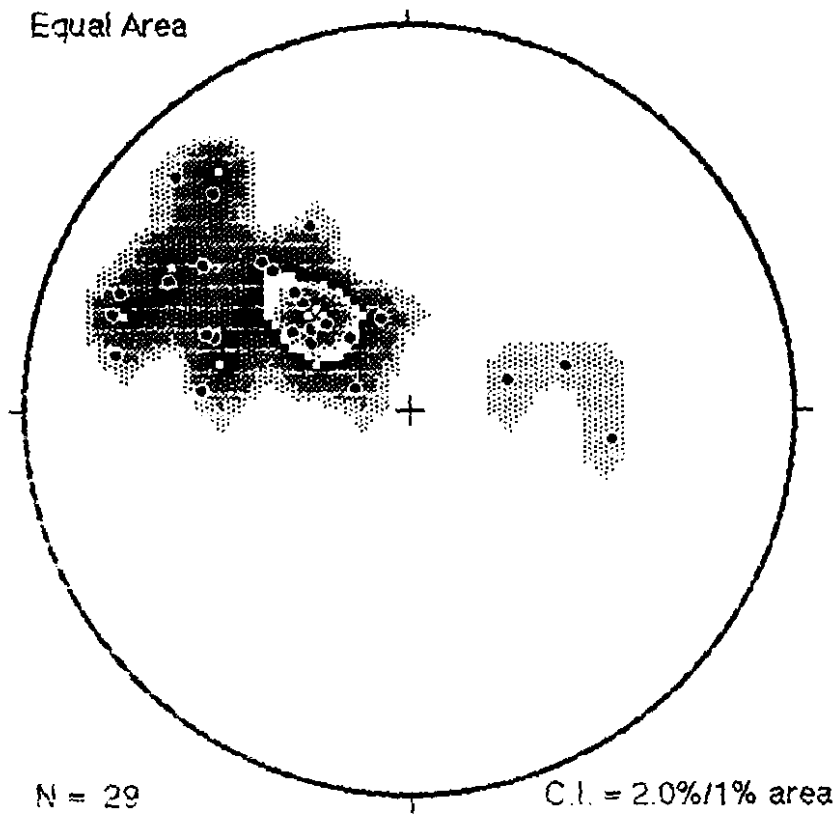
FROM	TO	SAMPLE	Cu	Pb	Zn	Ag
42.67	44.20	-44622	60	90	220	0.5
54.86	56.39	-44623	70	70	600	0.5
56.39	56.99	-44624	58	58	900	0.5
56.99	57.91	-44625	70	70	2200	3.0
57.91	59.01	-44626	72	72	900	1.0
62.18	64.01	-44627	21	21	375	0.5
64.01	65.53	-44628	16	16	140	0.5
65.53	67.06	-44629	27	27	165	0.5
67.06	70.10	-44630	25	25	260	0.5
99.06	100.58	-44631	28	28	78	0.5
115.82	117.35	-44632	92	92	3050	1.0
117.35	118.26	-44633	14	14	465	0.5
118.26	118.56	-44634	65	65	320	3.0
118.56	120.34	-44635	23	23	1150	0.5
120.34	121.01	-44636	57	57	1750	1.0
121.01	121.92	-44637	4	4	185	0.5
121.92	124.97	-44638	10	10	420	0.5
124.97	128.02	-44639	4	4	64	0.5

CR6

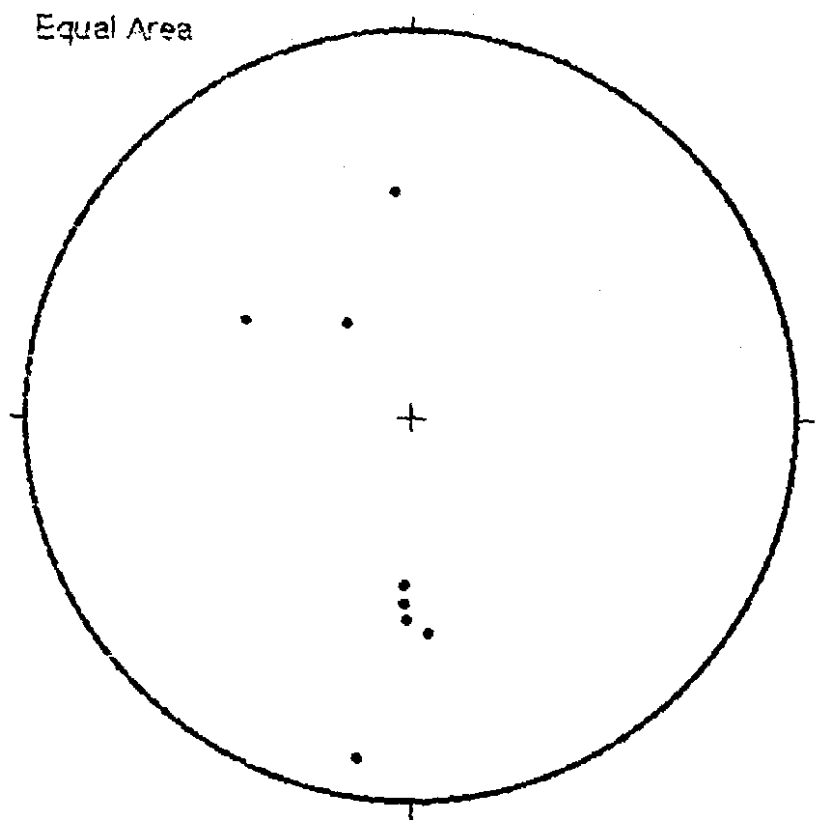
FROM	TO	SAMPLE	Cu	Pb	Zn	Ag
41.15	42.67	-44640	77	360	2100	3.0
71.63	73.15	-44641	10	720	295	0.5
76.20	79.25	-44642	6	45	95	0.5
115.82	117.65	-44643	4	13	34	0.5
117.65	119.79	-44644	73	180	305	3.0
119.79	121.62	-44645	15	60	115	0.5
121.62	122.52	-44646	47	55	87	0.5
124.97	126.49	-44647	36	70	350	0.5
173.74	175.87	-44648	95	19	185	1.0
175.87	176.48	-44649	38	90	90	1.0
176.48	177.70	-44650	62	105	69	2.0
177.70	179.83	-44651	16	19	47	0.5
179.83	182.88	-44652	8	45	99	0.5

APPENDIX VII

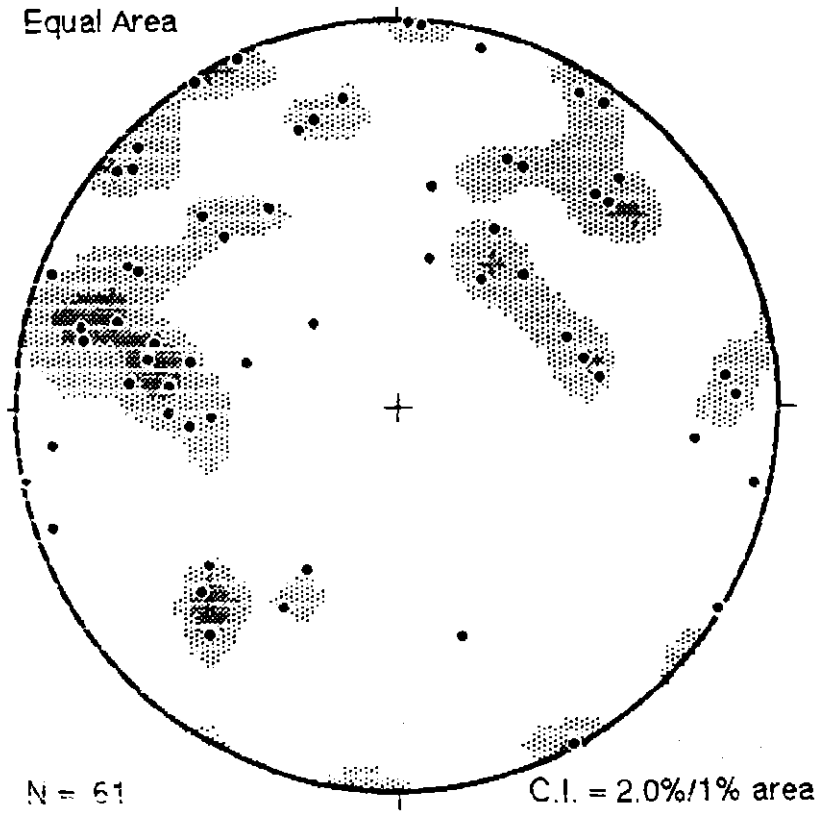
Structural Stereoplots



POLES TO SO FROM CAMBRIAN SEDIMENTS
IN THE WILL O' WISP AREA



PLUNGE OF ISOCLINAL FOLD HINGES IN
WILL O' WISP AREA



POLES TO SO FROM PRE-CAMBRIAN SEDIMENTS
IN THE WELL 3 WISP AREA

FIGURES

376 000mE. 377 000mE. 378 000mE. 379 000mE. 380 000mE.

5 393 000mN.

5 392 000mN.

5 391 000mN.

5 390 000mN.

E.L. 1/93 BOUNDARY

E.L. 2/90 BOUNDARY

RIVER

QUE

Sslt/w/cong l sht oph
pk mic cr

Ssst/slt q mic cr

Sslt/w/cong l sht oph
pk mic cr

V/Lf fg f

Vmf q/lg

LEGEND

1. General Form

Colour, grain size, overall texture, Rock Type, constituents & textures, alteration, mineralisation.

Descriptors and Rock Types to be separated by comma or slash. Derwent series 19 colours (in brackets) are intended for the Cambrian sequences.

2. Rock Types

Lavas L
- a (9) acid
- l (46) intermediate
- b (49) basaltic
- r (5) rhyolitic
- d (11) dacitic
- n (44) andesitic

Intrusives I
- a (13) acid
- l (46) intermediate
- b (49) basic
- fel felsic
- p porphyritic
- g (12) granitic
- peg pegmatitic

Volcaniclastics V
- pm (7) pumiceous mass flow
- q (32) quartz phyric mass flow
- sst (32) sandstone
- mf (32) graded crystal lithic

Sediments S
- sh (35) shale
- t (36) slate incl. black slate
- slt (35) siltstone
- sst (38) sandstone
- tb turbidite
- w (39) wacke
- cong (39) conglomerate
- b breccia
- cht (34) chert
- lst (65) limestone
- dol (65) dolomite
- q (39) quartzite
- fe iron formation
- gl (4) glacial deposits
- fgl (4) fluvioglacial deposits
- alv (4) alluvial deposits
- mst (38) mudstone

Metamorphic Rocks M
Colours should be hatched
- sh't (38) schist
- sp (38) semi-pelite
- ps (39) psammite
- amph amphibolite
- gran granulite
- sk skarn
- mb (65) marble
- m mylonite

3. Descriptors

Colour:

ple	pale	bl	blue
dk	dark	wht	white
clr	clear	yel	yellow
or	orange	ol	olive
blk	black	grn	green
pk	pink	ppl	purple
rd	red	crm	cream
brn	brown		

Grainsize:

fg fine grained
mg medium grained
cg coarse grained
vcg very coarse grained

Overall Texture:

aug augen
p porphyritic
fol foliated
clvd cleaved
msv massive
blk blocky
bd bedded
lam laminated
xbd cross bedded
xlam cross laminated
br brecciated
fb flow banded
fb flow brecciated
ufs upwards fining sequence
hyl hyalodastic
pill pillowed
pep peperitic

Constituents & Internal Textures:

f feldspar
q quartz
l lithic
pm pumice
styl stylolites
wsp wisps
ves vesicles
sph spherulites
lph lithophyse
mic micaceous
mag magnetite
cr chromite
px pyroxene
hb hornebleride
op ophiolite

Alteration:

alb albitised
ca carbonate alt
cht chloritised
ser sericited
kao kaolinised
ep epidotised
sil silicified

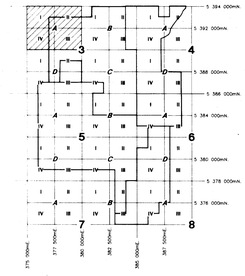
Mineralisation:

dss disseminated
str stringer
msv massive
gos gossan
bx boxwork
py pyrite
po pyrrhotite
asp arsenopyrite
gn galena
sp sphalerite
mag magnetite
hm haematite

3. Mapping Symbols

Unassigned ?
Use alone or as a qualifier to other rock types where uncertain.

- Strike and Dip of Strata (25)
- Strike and dip of inverted strata
- Strike and dip of cleavage or foliation (60)
- Plunge of lineation (50)
- Geological boundary position accurate
- Geological boundary position approximate
- Mine
- Abandoned prospect or mine
- Costean or trench
- Diamond drill hole, including projection
- I.P. Anomaly
- Unconformity
- Fault
- Thrust Fault
- Plunging antiform
- Plunging synform
- Shear/strong cleavage
- Slt ± Ser ± Py Alteration Zone
- Magnetic/Gravity/TM Lineaments
- Magnetic Trend Line



GRID CONVERGENCE 1.0°
GRID/MAGNETIC 12.0°

918089

94-3567

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : R.A.P.	E.L. 1/93 - HUSKISSON RIVER
DATE : April, 1993	**OUTCROP GEOLOGY, INTERPRETIVE GEOLOGY AND ROCK SAMPLE LOCATIONS**
DRAWN : G.M.B.	
REFERENCE :	
REVISIONS :	
DRAWING No. SHEET 3A	SCALE 1:5000 (0 100 200 METRES)
	FIG. No. 5

LEGEND

1. General Form

Colour, grain size, overall texture, Rock Type, constituents & textutres, alteration, mineralisation.

Descriptors and Rock Types to be separated by comma or slash. Derwent series 19 colours (in brackets) are intended for the Cambrian sequences.

2. Rock Types

Lavas L

a	(9)	acid
i	(46)	intermediate
b	(46)	basaltic
r	(9)	rhyolitic
d	(11)	dacitic
n	(46)	andesitic

Intrusives I

a	(11)	acid
i	(46)	intermediate
b	(46)	basic
fel		felsic
p		porphyritic
g	(12)	granitic
peg		pegmatitic

Volcaniclastics V

pm	(7)	pumiceous mass flow
q	(32)	quartz phyric mass flow
sst	(32)	sandstone
mT	(32)	graded crystal lithic

Sediments S

sh	(33)	shale
t	(36)	slate incl. black slate
slt	(35)	siltstone
sst	(38)	sandstone
tb		turbidite
w	(39)	wacke
cong	(39)	conglomerate
b		breccia
cht	(34)	chert
ls1	(46)	limestone
dol	(46)	dolomite
q	(39)	quartzite
Fe		iron formation
gl	(4)	glacial deposits
fg	(4)	fluvioglacial deposits
alv	(4)	alluvial deposits
mst	(35)	mudstone

Metamorphic Rocks M

Colours should be hatched

sht	(39)	schist
sp	(39)	semi-pelite
ps	(39)	psammite
amph		amphibolite
gran		granulite
sk		skarn
mb	(46)	marble
m		mylonite

3. Descriptors

Colour:

ple	pale	bl	blue
dk	dark	wht	white
clr	clear	yel	yellow
or	orange	ol	olive
blk	black	grn	green
pk	pink	ppl	purple
rd	red	crm	cream
brn	brown		

Grainsize:

fg	fine grained
mg	medium grained
cg	coarse grained
vcg	very coarse grained

Overall Texture:

aug	augen
p	porphyritic
fol	foliated
clvd	cleaved
mav	massive
blk	blocky
bd	bedded
lam	laminated
xbd	cross bedded
xlam	cross laminated
br	brecciated
fb	flow banded
fbr	flow brecciated
ufs	upwards fining sequence
hyl	hyaloclastic
pill	pillowed
peg	pegmatitic

Constituents & Internal Textures:

f	feldspar
q	quartz
l	lithic
pm	pumice
styl	stylolites
wsp	wisps
ves	vesicles
sph	spherulites
lph	lithophyses
mic	micaceous
mag	magnetite
cr	chromite
px	pyroxene
hb	hornablende
op	ophiolite

Alteration:

alb	albitised
co	carbonate alt
chl	chloritised
ser	sericited
kao	kaolinised
ep	epidotised
sil	silicified

Mineralisation:

diss	disseminated
str	stringer
mav	massive
gos	gossan
bx	boxwork
py	pyrite
po	pyrrhotite
asp	arsenopyrite
gn	galena
sp	sphalerite
mag	magnetite
hm	haematite

3. Mapping Symbols

Unassigned ?

Use alone or as a qualifier to other rock types where uncertain.

- Strike and Dip of Strata (25)
- Strike and dip of inverted strata
- Strike and dip of cleavage or foliation (60)
- Plunge of lineation (50)
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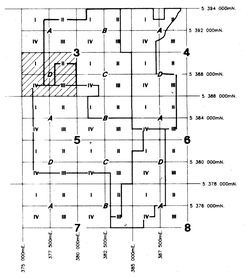
- Geological boundary position approximate
- Mine
- Abandoned prospect or mine
- Costean or trench
- Diamond drill hole, including projection
- I.P. Anomaly
- Unconformity
- Fault
- Thrust Fault
- Plunging antiform
- Plunging synform
- Shear/strong cleavage
- Si + Ser + Py Alteration Zone
- Magnetic/Gravity/TM Lineaments
- Magnetic Trend Line



918090

5 cm

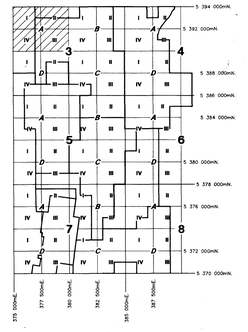
GN
MN
GRID CONVERGENCE 1.0°
GRID/MAGNETIC 12.0°

94 - 3567

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : R.A.P.	E.L. 1/93 - HUSKISSON RIVER
DATE : April, 1993	**OUTCROP GEOLOGY, INTERPRETIVE GEOLOGY AND ROCK SAMPLE LOCATIONS**
DRAWN : G.M.B.	
REFERENCE :	
REVISIONS :	
DRAWING No. SHEET 3D	SCALE 1:5000 (0 100 200 METRES)
	FIG. No. 6

376 000mE.
372 000mE.
378 000mE.
379 000mE.
380 000mE.
5 393 000mN.
5 392 000mN.
5 391 000mN.
5 390 000mN.
E.L. 1/93 BOUNDARY
E.L. 2/90 BOUNDARY



5 cm

GN
TN
MN
GRID CONVERGENCE 1.0
GRID/MAGNETIC 12.0

94-367

918091

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : R.A.P	E.L. 1/93 – HUSKISSON RIVER
DATE : April 1994	SILVER FALLS
DRAWN : G.M.B.	SOIL GEOCHEMISTRY
REFERENCE :	SAMPLE LOCATIONS
REVISIONS :	SHEET 3A
DRAWING No. 3A_pb	SCALE 1:5000 0 100 200 m
	FIG. No. 7

376 000mE. 377 000mE. 378 000mE. 379 000mE. 380 000mE.

5 393 000mN.

5 392 000mN.

E.L. 1/93 BOUNDARY

E.L. 2/90 BOUNDARY

5 391 000mN.

5 390 000mN.

6 cm

GRID CONVERGENCE 1.0

GN

MN

GRID/MAGNETIC 12.0

94-3567

918092

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : R.A.P	E.L. 1/93 – HUSKISSON RIVER SILVER FALLS
DATE : April 1994	SOIL GEOCHEMISTRY
DRAWN : G.M.B.	Pb
REFERENCE :	SHEET 3A
REVISIONS :	
DRAWING No. 3A_pb	SCALE 1:5000 (0 100 200 m) FIG. No. 8

376 000mE.

377 000mE.

378 000mE.

379 000mE.

380 000mE.

5 393 000mN.

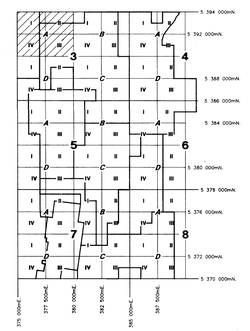
5 392 000mN.

5 391 000mN.

5 390 000mN.

E.L. 1/93 BOUNDARY

E.L. 2/90 BOUNDARY



GRID CONVERGENCE 1.0

GRID/MAGNETIC 12.0

GN

MN

5cm

918093

94-3567

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : R.A.P	E.L. 1/93 – HUSKISSON RIVER
DATE : April 1994	SILVER FALLS
DRAWN : G.M.B.	**SOIL GEOCHEMISTRY**
REFERENCE :	**Zn**
REVISIONS :	SHEET 3A
DRAWING No. 3A_zn	SCALE 1:5000 (0, 100, 200 m)
	FIG. No. 9

376 000mE.

377 000mE.

378 000mE.

379 000mE.

380 000mE.

5 389 000mN.

5 388 000mN.

5 387 000mN.

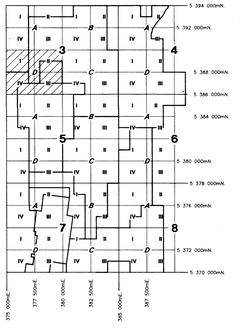
5 386 000mN.

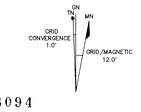
E.L. 1/93 BOUNDARY

E.L. 2/90 BOUNDARY

E.L. 8/90 BOUNDARY

E.L. 44/88 BOUNDARY





918094

5 cm

94-3567

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : R.A.P.	E.L. 1/93 – HUSKISSON RIVER
DATE : April 1994	SILVER FALLS
DRAWN : G.M.B.	SOIL GEOCHEMISTRY
REFERENCE :	Pb
REVISIONS :	SHEET 3D
DRAWING No. 3D_PB	SCALE 1:5000 0 100 200 m — FIG. No. 10

376 000mE.

379 000mE.

380 000mE.

5 389 000mN.

5 389 000mN.

E.L. 8/90 BOUNDARY

5 388 000mN.

5 388 000mN.

E.L. 1/93 BOUNDARY

E.L. 2/90 BOUNDARY

5 387 000mN.

5 387 000mN.

E.L. 44/88 BOUNDARY

5 386 000mN.

376 000mE.

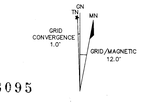
377 000mE.

378 000mE.

379 000mE.

380 000mE.

5 386 000mN.



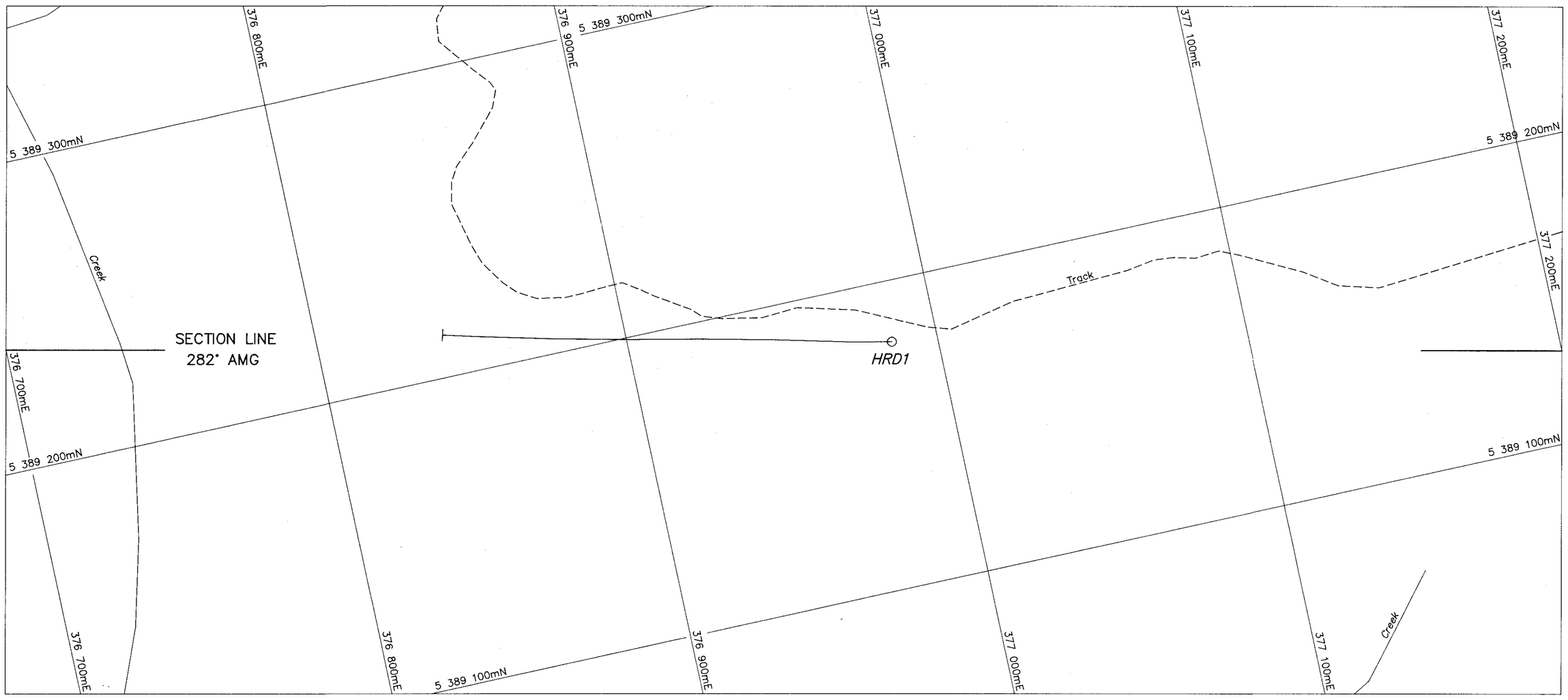
918095

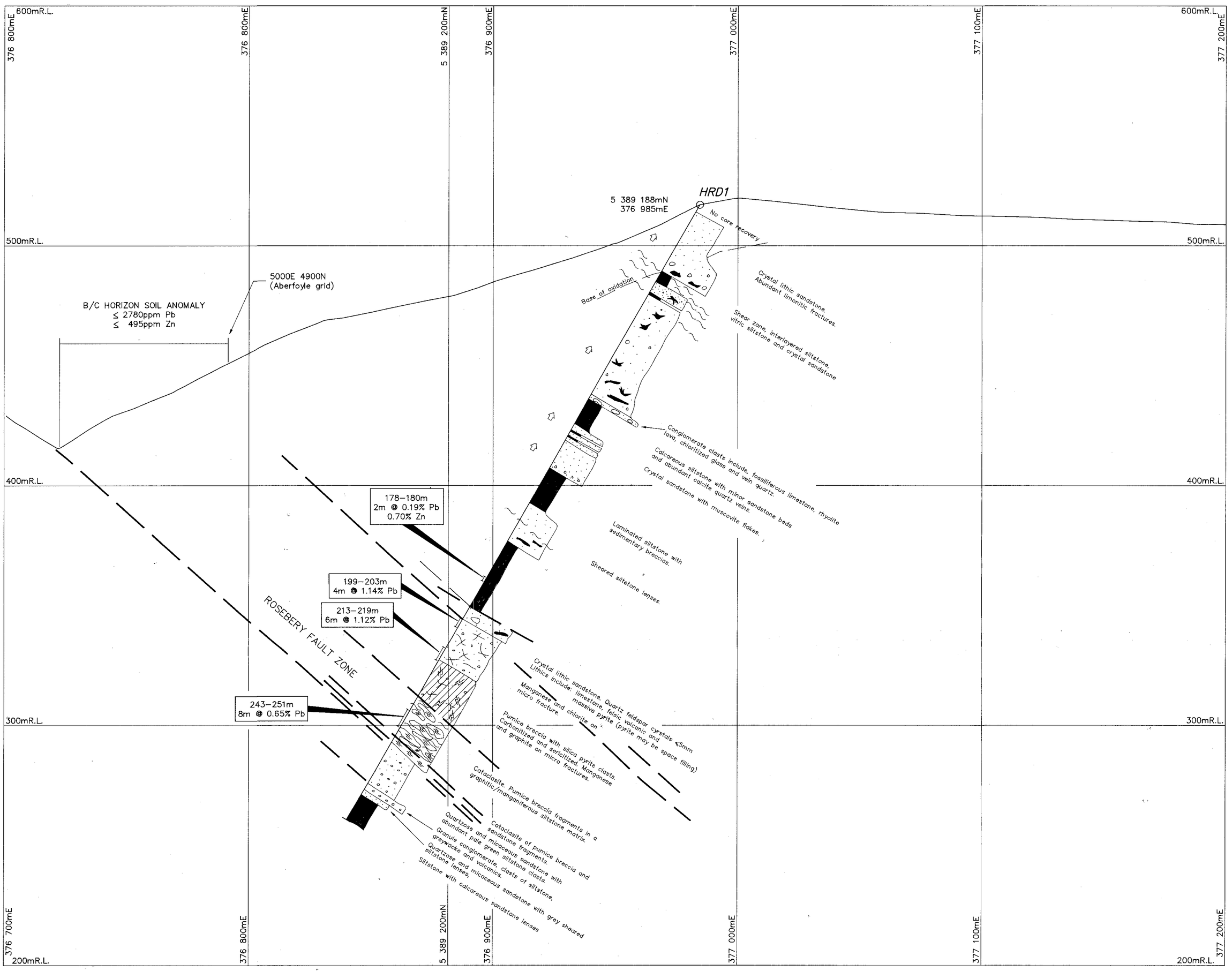
5 cm

94-3567

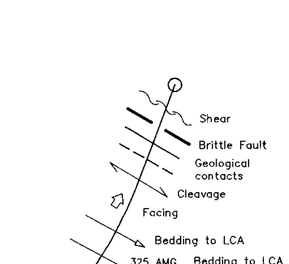
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

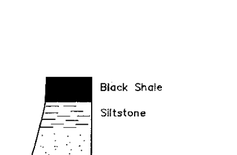
COMPILED : R.A.P.	E.L. 1/93 – HUSKISSON RIVER
DATE : April 1994	**SOIL GEOCHEMISTRY**
DRAWN : G.M.B.	**Zn**
REFERENCE :	SHEET 3D
REVISIONS :	
DRAWING No. 3D_ZN	SCALE 1:5000 0 100 200 m — FIG. No. 11





LEGEND





- Chloritic (Dacitic) Lavas/Sills
- Siliceous (Rhyolitic) Lavas/Sills
- Basic Dyke
- Hyaloclastite, Peperite
- Lava/sediment breccias
- Breccia
- Feldspar
- Quartz Crystals
- Lithic Clasts
- Black Mudstone Clasts
- Vesicles/Amygdales
- Spherulites
- Stylolite/"pseudo fiamme"
- Pumice Breccia
- Flow Banding
- Cloudy silica or
- Skarns Nodular Carbonate alteration
- Sulphides
- Schistose
- Massive Sulphides
- Brecciation (crackle/in-situ)
- Alteration

918096

5 cm

94-3567

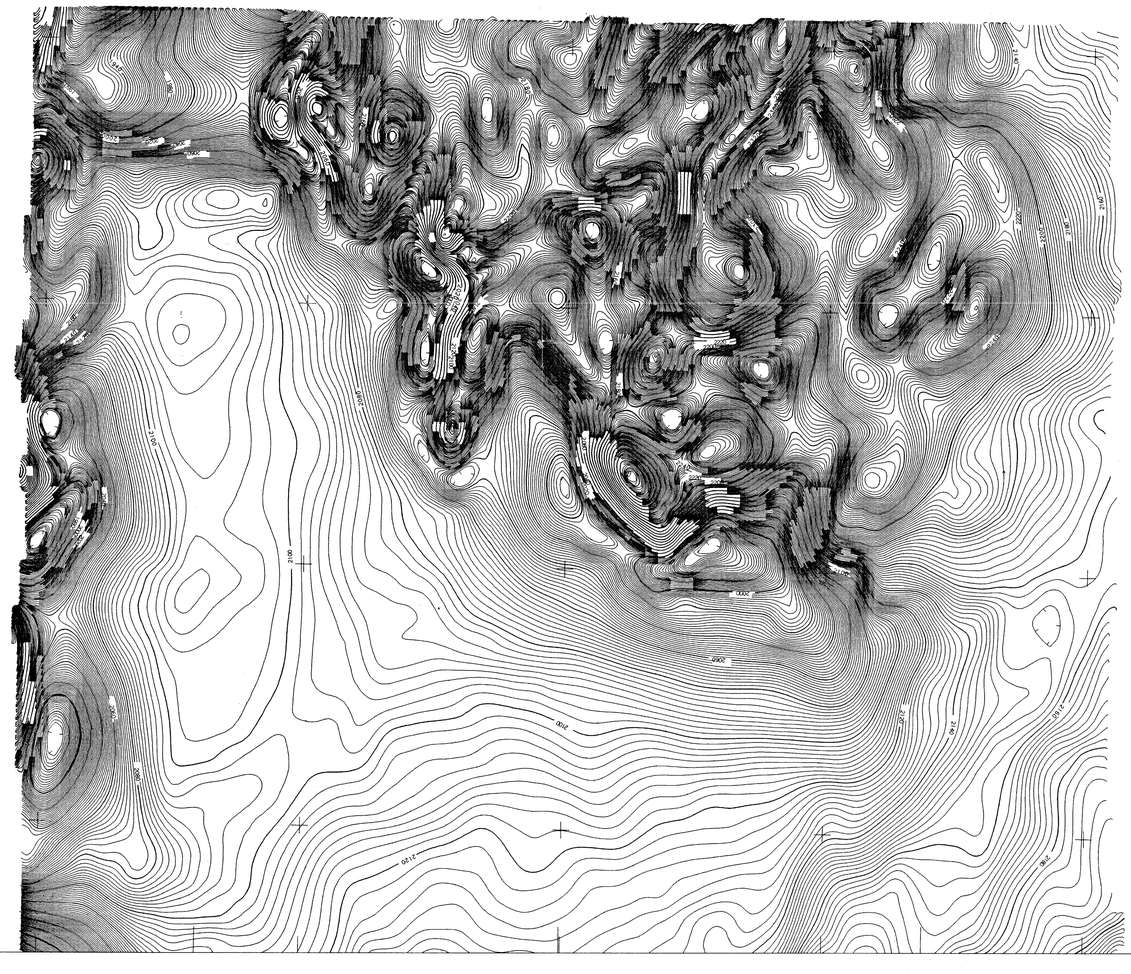
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : R.A.P.	E.L. 1/93 – HUSKISSON RIVER
DATE : April, 1994	DRILL SECTION
DRAWN : G.M.B.	282° AMG
REFERENCE :	HRD1
	ABERFOYLE LINE 4900N
REVISIONS :	
DRAWING No. HRD1_A1	SCALE 1:1000 0 20 40 m — FIG. No. 12

372000E 373000E 374000E 375000E 376000E 377000E 378000E

41°32'30"S
41°33'00"S
41°34'00"S
41°35'00"S
41°36'00"S

5400000N
5399000N
5398000N
5397000N
5396000N
5395000N
5394000N



145°27'30"E 145°28'00"E 145°29'00"E 145°30'00"E 145°31'00"E 145°32'00"E 145°32'30"E

AIRBORNE SURVEY SPECIFICATIONS

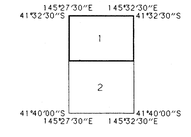
AIRCRAFT :	Squirrel Helicopter
MAGNETOMETER :	SCINTREX cesium vapour optical absorption mounted on a bird
	Sensitivity : 0.05 nT
RECORDING INTERVAL :	0.1 sec
NOMINAL TERRAIN CLEARANCE :	Sensor in towed bird at 80 m
SPECTROMETER :	Nuclear Data 256 channel ADC
	Volume : 16.8 litres
TOTAL COUNT WINDOW :	0.4 - 3.00 MeV
POTASSIUM WINDOW :	1.35 - 1.57 MeV
URANIUM WINDOW :	1.63 - 1.89 MeV
THORIUM WINDOW :	2.42 - 2.82 MeV
RECORDING INTERVAL :	1.0 sec
DATA RECORDING :	Geoterrex MADACS acquisition system
	Digital to magnetic tape
NOMINAL TERRAIN CLEARANCE :	Detectors in aircraft at 110 m
NOMINAL LINE SPACING :	Traverse lines 100 m
	Tie lines 1.0 km
FLIGHT PATH NAVIGATION :	SERCEL NR103 GPS and SERCEL NDS100 UHF DGPS navigation system
FLIGHT PATH RECORD :	real time from UHF DGPS system corrected for selected availability

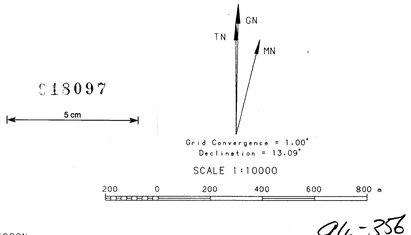
RESIDUAL MAGNETIC CONTOURS

Grid notation refers to Australian Map Grid Zone 55

Magnetics :	Diurnals removed; Tie-line levelled
IGRF :	1990 model (updated for secular variation to March 1993) removed, datum 2000 nT added
Total Field :	62138 nT (at 413500S, 1453000E)
Inclination :	72 degrees S
Declination :	13.09 degrees E
Grid mesh size :	25 x 25 metres
Grid filter :	None
Contour interval :	2, 20 and 200 nT

MAP INDEX





918097

5 cm

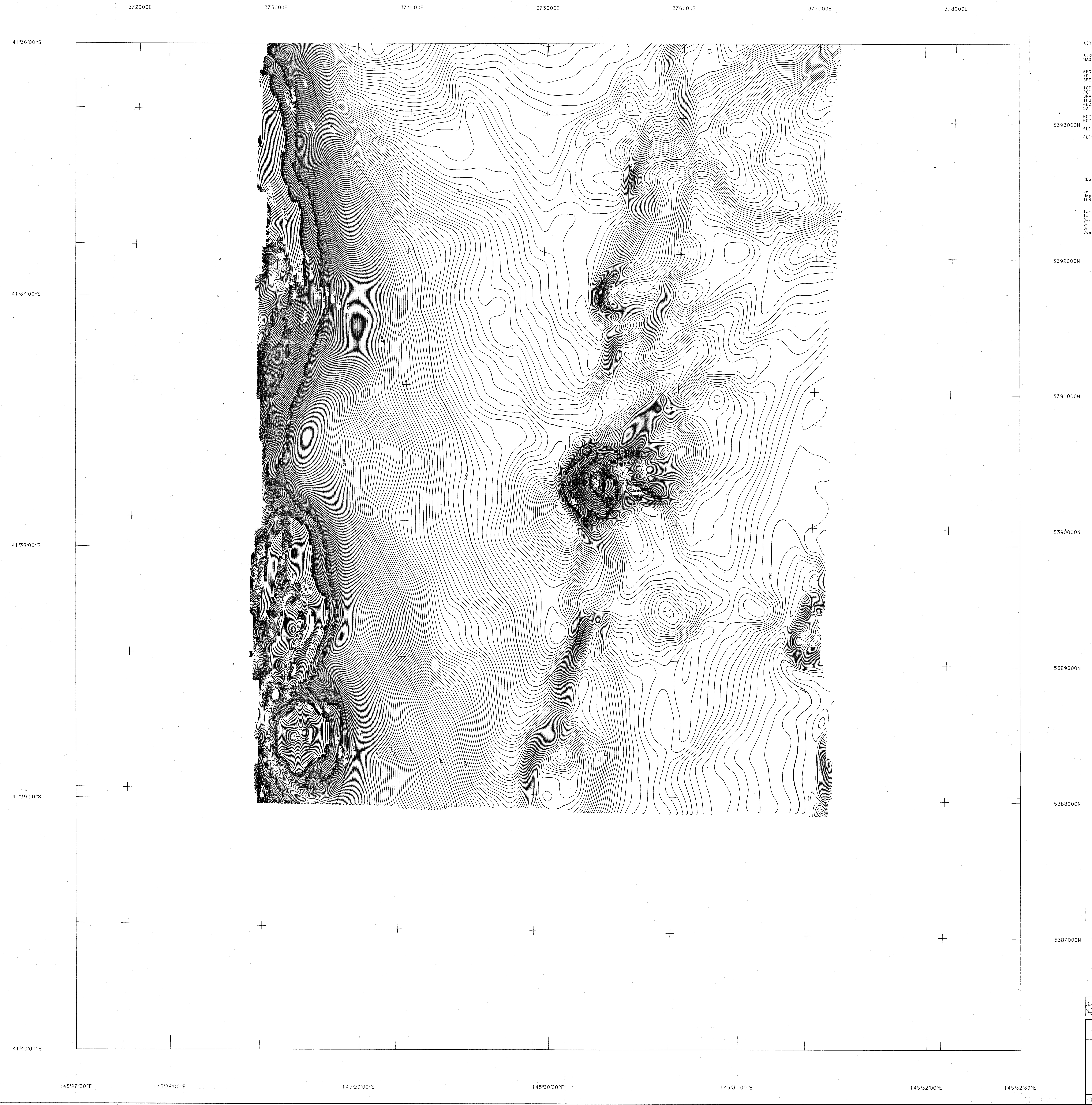
94-3567

JOB NO : 3-446
Surveyed by GEOTERREX PTY LTD : March 1993
Compiled by GEOTERREX PTY LTD. SYDNEY
Processed by GEOTERREX PTY LTD. SYDNEY

PASMINCO EXPLORATION

HUSKISSON EL 1/93
RESIDUAL MAGNETIC CONTOURS
BURNIE SK55-3
SHEET 1 OF 2 **Figure 13**

DRAWING NO: | DATE : 13-MAY-1993



AIRBORNE SURVEY SPECIFICATIONS

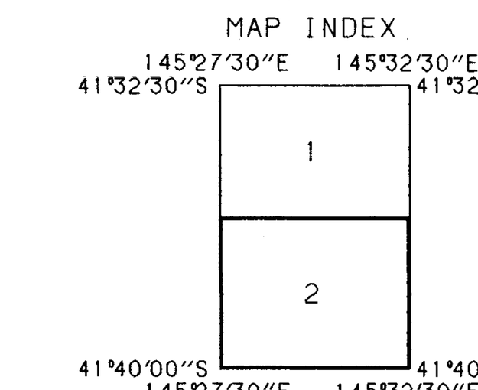
AIRCRAFT :	Squirrel Helicopter
MAGNETOMETER :	SCINTREX cesium vapour optical absorption mounted on a bird Sensitivity : 0.05 nT
RECORDING INTERVAL :	0.1 sec
NOMINAL TERRAIN CLEARANCE :	Sensor in towed bird at 80 m
SPECTROMETER :	Nuclear Data 256 channel ADC Volume : 16.8 litres
TOTAL COUNT WINDOW :	0.4 - 3.00 MeV
POTASSIUM WINDOW :	1.35 - 1.57 MeV
URANIUM WINDOW :	1.63 - 1.89 MeV
THORIUM WINDOW :	2.42 - 2.82 MeV
RECORDING INTERVAL :	1.0 sec
DATA RECORDING :	Geoterrex MADACS acquisition system Digital to magnetic tape
NOMINAL TERRAIN CLEARANCE :	Detectors in aircraft at 110 m
NOMINAL LINE SPACING :	Traverse lines 100 m Tie lines 1.0 km
FLIGHT PATH NAVIGATION :	SERCEL NR103 GPS and SERCEL NDS100 UHF DGPS navigation system
FLIGHT PATH RECORD :	real time from UHF DGPS system corrected for selected availability

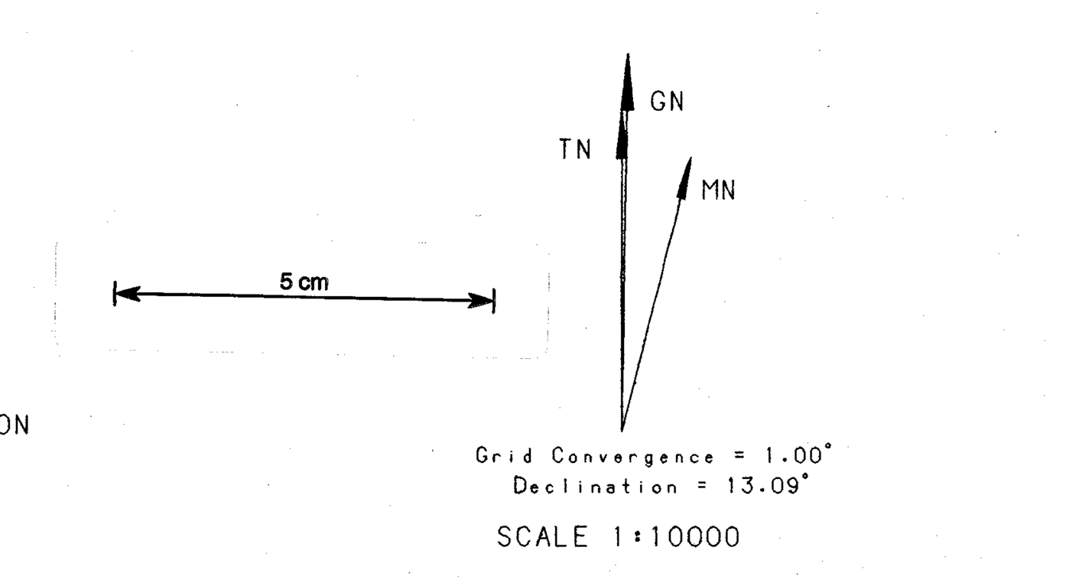
RESIDUAL MAGNETIC CONTOURS

Grid notation refers to Australian Map Grid Zone 55

Magnetics :	Diurnals removed. Tie-line levelled
IGRF :	1990 model (updated for secular variation to March 1993) removed. datum 2000 nT added
Total Field :	62138 nT (at 413500S, 1453000E)
Inclination :	72 degrees S
Declination :	13.09 degrees E
Grid mesh size :	25 x 25 metres
Grid filter :	None
Contour interval :	2, 20 and 200 nT

MAP INDEX





Grid Convergence = 1.00°
Declination = 13.09°

SCALE 1:10000

200 0 200 400 600 800 m

918098

94-3567

JOB NO : 3-446
Surveyed by GEOTERREX PTY LTD : March 1993
Compiled by GEOTERREX PTY LTD. SYDNEY
Processed by GEOTERREX PTY LTD. SYDNEY

PASMINCO EXPLORATION

HUSKISSON EL 1/93
RESIDUAL MAGNETIC CONTOURS
BURNIE SK55-3
SHEET 2 OF 2

Figure 14

DRAWING NO: | DATE : 13-MAY-1993

372000E 373000E 374000E 375000E 376000E 377000E 378000E

41°32'30"S
41°33'00"S
41°34'00"S
41°35'00"S
41°36'00"S

5400000N
5399000N
5398000N
5397000N
5396000N
5395000N
5394000N

792/1 794/1 795/1

1291/1 > 1290/1 > 1289/1 > 1288/1 > 1287/1 > 1280/1 > 1279/1 > 1278/1 > 1277/1 > 1276/2 > 1270/1 > 1269/1 > 1268/1 > 1267/1 > 1266/1 >

< 1292/2 < 1286/1 < 1285/1 < 1284/1 < 1283/1 < 1282/1 < 1281/1 < 1275/2 < 1274/3 < 1273/1 < 1272/1 < 1271/1 < 1265/1 < 1264/1 < 1263/1 < 1262/1 < 1261/1 < 1260/1 < 1259/1 < 1258/1 < 1257/1

791/1 793/1

145°27'30"E 145°28'00"E 145°29'00"E 145°30'00"E 145°31'00"E 145°32'00"E 145°32'30"E

AIRBORNE SURVEY SPECIFICATIONS

AIRCRAFT :	Squirrel Helicopter
MAGNETOMETER :	SCINTREX cesium vapour optical absorption mounted on a bird Sensitivity : 0.05 nT
RECORDING INTERVAL :	0.1 sec
NOMINAL TERRAIN CLEARANCE :	Sensor in towed bird at 80 m
SPECTROMETER :	Nuclear Data 256 channel ADC Volume : 16.8 litres
TOTAL COUNT WINDOW :	0.4 - 3.00 MeV
POTASSIUM WINDOW :	1.35 - 1.57 MeV
URANIUM WINDOW :	1.63 - 1.89 MeV
THORIUM WINDOW :	2.42 - 2.82 MeV
RECORDING INTERVAL :	1.0 sec
DATA RECORDING :	Geoterrex MADACS acquisition system Digital to magnetic tape
NOMINAL TERRAIN CLEARANCE :	Detectors in aircraft at 110 m
NOMINAL LINE SPACING :	Traverse lines 100 m Tie lines 1.0 km
FLIGHT PATH NAVIGATION :	SERCEL NR103 GPS and SERCEL NDS100 UHF DGPS navigation system
FLIGHT PATH RECORD :	real time from UHF DGPS system corrected for selected availability

FLIGHT PATH

Grid notation refers to Australian Map Grid Zone 55
Navigation fix 32768

MAP INDEX
145°27'30"E 145°32'30"E
41°32'30"S 41°32'30"S
1
2
41°40'00"S 41°40'00"S
145°27'30"E 145°32'30"E

TN GN MN

5 cm

Grid Convergence = 1.00°
Declination = 13.09°

SCALE 1:10000

200 0 200 400 600 800 m

94-3567

JOB NO : 3-446
Surveyed by GEOTERREX PTY LTD : March 1993
Compiled by GEOTERREX PTY LTD. SYDNEY
Processed by GEOTERREX PTY LTD. SYDNEY

918089

PASMINCO EXPLORATION

HUSKISSON EL 1/93
FLIGHT PATH
BURNIE SK55-3
SHEET 1 OF 2

Figure 15

DRAWING NO: | DATE : 13-MAY-1993

372000E 373000E 374000E 375000E 376000E 377000E 378000E

41°36'00"S
41°37'00"S
41°38'00"S
41°39'00"S
41°40'00"S

5393000N
5392000N
5391000N
5390000N
5389000N
5388000N
5387000N

791/1 792/1 793/1 794/1 795/1

1255/1 > 1254/1 > 1253/1 > 1252/1 > 1251/1 > 1250/1 > 1249/1 > 1248/1 > 1247/1 > 1246/1 > 1239/2 > 1238/2 > 1237/2 > 1236/1 > 1235/1 > 1234/1 > 1233/1 > 1232/1 > 1231/1 > 1220/1 > 1219/1 > 1218/1 > 1217/1 > 1216/1 > 1215/1 > 1214/1 > 1213/1 > 1212/1 > 1211/1 >

< 1257/1 < 1256/1 < 1245/1 < 1244/1 < 1243/1 < 1242/2 < 1241/3 < 1240/2 < 1230/2 < 1229/2 < 1228/1 < 1227/3 < 1226/1 < 1225/1 < 1224/1 < 1223/1 < 1222/1 < 1221/1 < 1210/1 < 1209/1 < 1208/1 < 1207/1 < 1206/1 < 1205/1 < 1204/1 < 1203/1 < 1202/1 < 1201/1

145°27'30"E 145°28'00"E 145°29'00"E 145°30'00"E 145°31'00"E 145°32'00"E 145°32'30"E

AIRBORNE SURVEY SPECIFICATIONS

AIRCRAFT :	Squirrel Helicopter
MAGNETOMETER :	SCINTREX cesium vapour optical absorption mounted on a bird Sensitivity : 0.05 nT
RECORDING INTERVAL :	0.1 sec
NOMINAL TERRAIN CLEARANCE :	Sensor in towed bird at 80 m
SPECTROMETER :	Nuclear Data 256 channel ADC Volume : 16.8 litres
TOTAL COUNT WINDOW :	0.4 - 3.00 MeV
POTASSIUM WINDOW :	1.35 - 1.57 MeV
URANIUM WINDOW :	1.63 - 1.89 MeV
THORIUM WINDOW :	2.42 - 2.82 MeV
RECORDING INTERVAL :	1.0 sec
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NOMINAL TERRAIN CLEARANCE :	Detectors in aircraft at 110 m
NOMINAL LINE SPACING :	Traverse lines 100 m Tie lines 1.0 km
FLIGHT PATH NAVIGATION :	SERCEL NR103 GPS and SERCEL NDS100 UHF DGPS navigation system
FLIGHT PATH RECORD :	real time from UHF DGPS system corrected for selected availability

FLIGHT PATH

Grid notation refers to Australian Map Grid Zone 55
Navigation fix 32768

MAP INDEX
145°27'30"E 145°32'30"E
41°32'30"S
1
2
41°40'00"S
145°27'30"E 145°32'30"E

5 cm

TN GN MN

Grid Convergence = 1.00°
Declination = 13.09°

SCALE 1:10000

200 0 200 400 600 800 m

918190 94-3567

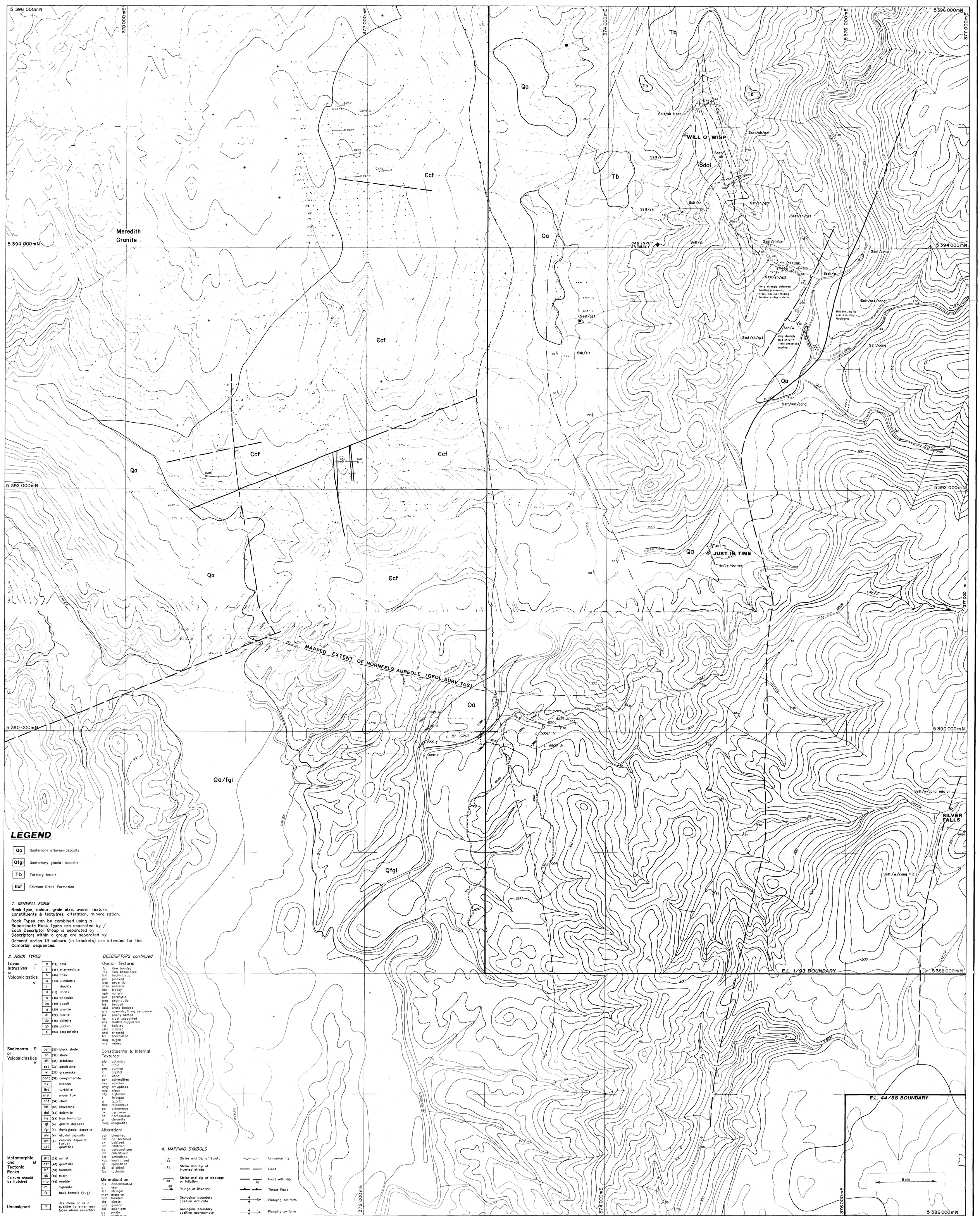
JOB NO : 3-446
Surveyed by GEOTERREX PTY LTD : March 1993
Compiled by GEOTERREX PTY LTD, SYDNEY
Processed by GEOTERREX PTY LTD, SYDNEY

PASMINCO EXPLORATION

HUSKISSON EL 1/93
FLIGHT PATH
BURNIE SK55-3
SHEET 2 OF 2

Figure 16

DRAWING NO: DATE : 13-MAY-1993



LEGEND

Qa	Quaternary alluvium deposits
Qfgl	Quaternary glacial deposits
Tb	Tertiary basalt
Ecf	Crimson Creek Formation

1. GENERAL FORM

Rock type, colour, grain size, overall texture, **constituents & textutres,** *alteration, mineralisation.*

Rock Types can be combined using a – Subordinate Rock Types are separated by / Each Descriptor Group is separated by , Descriptors within a group are separated by .

Derwent series 19 colours (in brackets) are intended for the Cambrian sequences.

2. ROCK TYPES

Lavas or Intrusives or Volcaniclastics	L I V	a	(14) acid
		i	(46) intermediate
		b	(49) basic
		u	(23) ultrabasic
		r	rhyolite
		d	(11) dacite
		n	(46) andesite
		ba	(49) basalt
		g	(20) granite
		di	(22) diorite
		do	(45) dolerite
		gb	(25) gabbro
		s	(23) serpentinite
Sediments or Volcaniclastics	S V	bsh	(35) black shale
		sh	(36) shale
		slt	(35) siltstone
		sst	(39) sandstone
		w	(37) greywacke
		cong	(39) conglomerate
		bx	breccia
		tbd	turbidite
		msf	mass flow
		cht	(34) chert
		lst	(65) limestone
		dol	(65) dolomite
		Fe	(64) iron formation
		gl	(4) glacial deposits
		fgl	(4) fluvioglacial deposits
		alv	(4) alluvial deposits
		cvl	(4) colluvial deposits (talus)
		qzt	quartzite
Metamorphic and Tectonic Rocks	M	sht	(38) schist
		qzt	(40) quartzite
Colours should be hatched		hf	(50) hornfels
		sk	(50) skarn
		mb	(48) marble
		m	mylonite
		fz	fault breccia (pug)
Unassigned		?	Use alone or as a qualifier to other rock types where uncertain

3. DESCRIPTORS

Colour:

ple	pale	bl	blue
dk	dark	wht	white
gy	grey	yel	yellow
or	orange	buf	buff
blk	black	grn	green
pk	pink	ppl	purple
rd	red	crm	cream
brn	brown	khk	khaki

Grainsize:

fg	fine grained
mg	medium grained
cg	coarse grained
vcg	very coarse grained

DESCRIPTORS continued

Overall Texture:

fb	flow banded
fbx	flow brecciated
hyl	hyaloclastic
pill	pillowed
pep	peperitic
msv	massive
blo	blocky
aph	aphyric
por	porphyric
peg	pegmatitic
bd	bedded
xbd	cross bedded
ufs	upwards, fining sequence
ps	poorly sorted
cs	clast supported
ms	matrix supported
fol	foliated
clvd	cleaved
shd	sheared
bx	brecciated
aug	augen
vnd	veined

Constituents & Internal Textures:

ply	polymict
li	lithic
pm	pumice
xl	crystal
vit	vitric
sph	spherulites
ves	vesicles
amy	amygdales
wsp	wisps
sty	stylolites
f	feldspar
q	quartz
mic	micaceous
cal	calcareous
px	pyroxene
hb	hornblende
cr	chromite
mag	magnetite

Alteration:

bch	bleached
dtx	de-textured
ox	oxidised
alb	albitised
co	carbonatised
chl	chloritised
ser	sericitised
kao	kaolinitised
ep	epidotised
sil	silicified
fuc	fuchsitic

Mineralisation:

dis	disseminated
v	vein
str	stringer
msv	massive
bnd	banded
cla	clasts
gos	gossan
sul	sulphides
py	pyrite
po	pyrrhotite
asp	arsenopyrite
gn	galena
sp	sphalerite
cp	chalcopyrite
ba	barite
mag	magnetite
hm	haematite
lm	limonite
au	gold
ag	silver
to	tourmaline
q	quartz
cb	carbonate
sd	siderite
mn	manganese carbonate
fl	fluorite

4. MAPPING SYMBOLS

- Strike and Dip of Strata (25)
- Strike and dip of inverted strata
- Strike and dip of cleavage or foliation (60)
- Plunge of lineation (50)
- Geological boundary position accurate
- Geological boundary position approximate
- Mine
- Abandoned prospect or mine
- Costean or trench
- Diamond drill hole, including projection
- Unchecked stream sediment anomaly
- Unconformity
- Fault
- Fault with dip (70)
- Thrust Fault
- Plunging antiform
- Plunging synform
- Shear/strong cleavage
- Vein

94-3567

918101

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : M.S.S.
DATE : April 1994
DRAWN : G.M.B.
REF:
REVISIONS :

E.L. 1/93 - HUSKISSON RIVER

OUTCROP AND INTERPRETIVE GEOLOGY

DRAWING No.

SCALE 1:10000 (0, 20, 40 metres)

FIG. No. 17

374 000mE

375 000mE

5 395 000mN

5 394 000mN

CR1

CR2

CR3

CR4

CR5

CR6

LEGEND

55ppm contour

Mapped basalt

CR1 Drillhole

918102

5 cm

94-3567

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : M.S.S.	E.L. 1/93 – HUSKISSON RIVER
DATE : April 1994	WILL O' WISP
DRAWN : G.M.B.	**SOIL GEOCHEMISTRY**
REFERENCE :	**Zn**
REVISIONS :	
DRAWING No. WOW_ZN	SCALE 1:5000 (0 – 100 m)
	FIG. No. 18

374 000mE

375 000mE

5 395 000mN

5 394 000mN

CR1

CR2

CR3

CR4

CR5

CR6

LEGEND

23ppm contour

Mapped basalt

● CR1 Drillhole

94-3567

918103

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : M.S.S.	E.L. 1/93 – HUSKISSON RIVER
DATE : April 1994	WILL O' WISP
DRAWN : G.M.B.	**SOIL GEOCHEMISTRY**
REFERENCE :	**Cu**
REVISIONS :	
DRAWING No. WOW_CU	SCALE 1:50000 0 100 m
	FIG. No. 20

374 000mE

375 000mE

5 395 000mN

5 394 000mN

CR1

CR2

CR3

CR4

CR5

CR6

LEGEND

40ppm contour

Mapped basalt

CR1 Drillhole

918104

5 cm

94-3567

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : M.S.S.	E.L. 1/93 – HUSKISSON RIVER
DATE : April 1994	WILL O' WISP
DRAWN : G.M.B.	**SOIL GEOCHEMISTRY**
REFERENCE :	**Pb**
REVISIONS :	
DRAWING No. WOW_PB	SCALE 1:5000 (0 – 100 m)
	FIG. No. 19