PASMINCO EXPLORATION

BURNS PEAK EL 44/88

ANNUAL REPORT

NOVEMBER 1990 - OCTOBER 1991

volume 1 of 2

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Pasminco Exploration - Burnie
- Melbourne

Noranda Pty Limited

Plutonic Operations Limited

Phil Jones & Associates

SUBMITTED BY: Lindsay Kirsner

ACCEPTED BY:

Burnie
November 1991

PLATE 1

DRILLING BPD 72, JULY 1991

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1. SUMMARY

Work undertaken during the year on the Burns Peak EL 44/88 has included a continuation of detailed geological mapping, rock-chip sampling for geochemical analysis, a short-hole "Wacker" bedrock geochemical sampling program, close-spaced gravity infill over areas highlighted in the 1990 regional gravity study (ongoing) and the drilling of four diamond drill holes (one in progress, total 2030.2m). Consultants reports were received covering: (i) the down-hole electromagnetic (DHEM) program carried out during the previous report period and a repeat program early in this period, and (ii) integration of the first phase of gravity infill with previously acquired aeromagnetic data. These are included as Appendices 7 & 4 respectively. Aerial photography coverage of the EL in colour and black and white, photogrammetry and the preparation of computer-generated topographic base plans was undertaken, significant rehabilitation programs were continued in areas affected by previous exploration activities, and at sites of recent earthworks required for drill site access. An agreement between the DRE-Division of Mines and Mineral Resources and Pasminco Exploration on behalf of the Burns Peak Joint Venture was signed during the year whereby the parties share equally in the costs of rehabilitation of areas affected by previous explorers.

Total expenditure for the period 1 November 1990 to 30 September 1991* was **$420 795**.

This brings expenditure since granting of the EL to **$1 419 230**.

*(figures for October 1991 were not available at the time of writing).

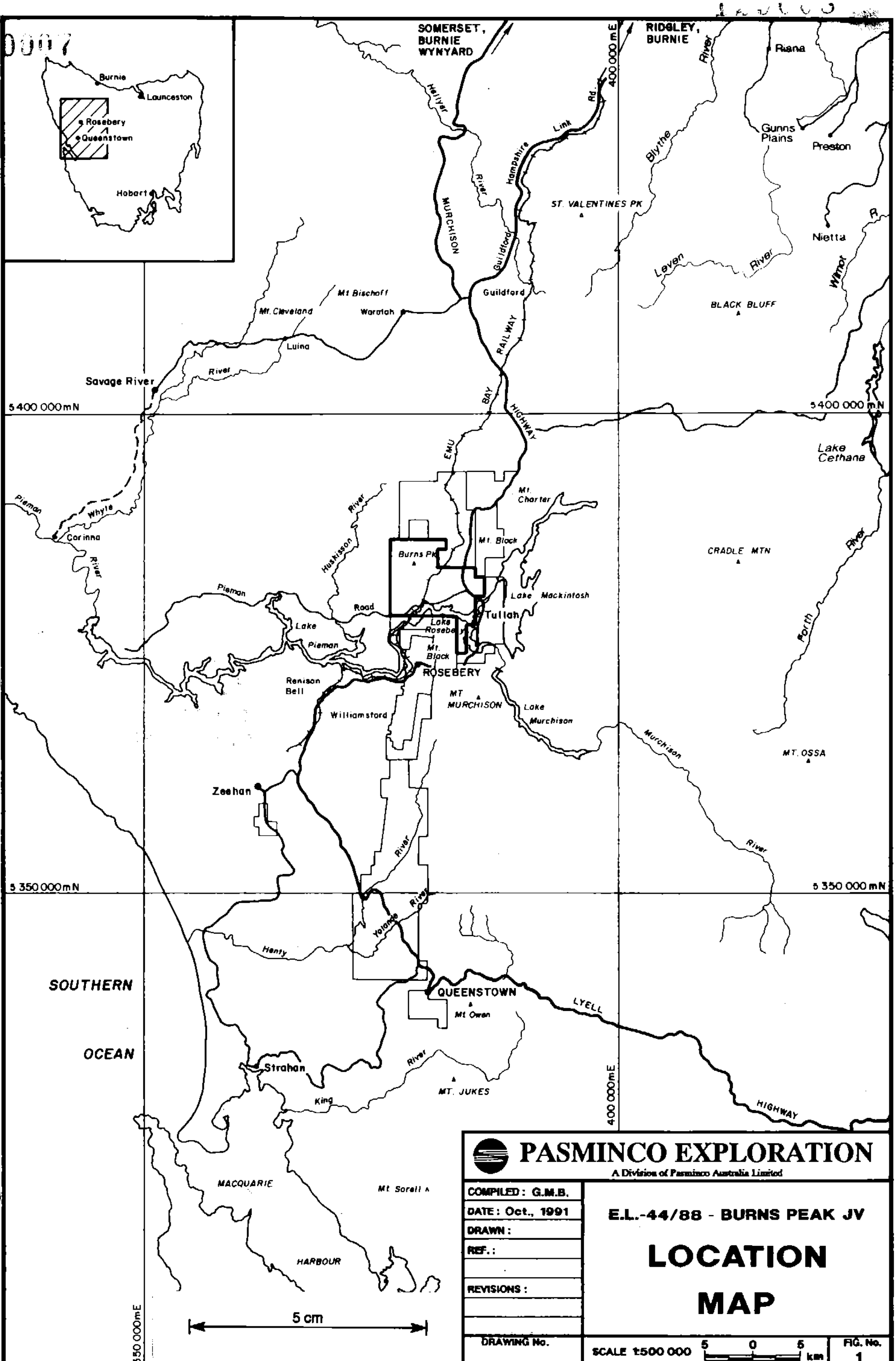
2. INTRODUCTION

This report documents work undertaken on the Burns Peak EL 44/88, Western Tasmania, covering the period from November 1990 to October 1991. The proposed work program for the period November 1991 to October 1992 is also outlined.

Exploration on the Burns Peak EL is managed and operated by Pasminco Exploration, a division of Pasminco Australia Limited, on behalf of a joint venture between themself, Noranda Proprietary Limited and Plutonic Resources Limited. The EL covers 63km^2 of Cambrian Mt Read Volcanics, and lies immediately west of the Tullah township, north of Lake Rosebery (figures 1 – 3). Exploration targets on the EL are principally polymetallic (zinc, lead, copper, silver, gold) sulphide deposits, similar to those at Rosebery.

The EL includes old workings in the Pinnacles and Chester areas which have been the focus of significant exploration effort over the past 40 years, leaving a legacy of good access tracks and grid lines covering the western half of the EL. The eastern half is less explored, leading to slightly more difficult access in the thickly vegetated and higher relief areas.

During the period covered by this report, exploration effort has again focussed on the known mineralised belt on the western side of the EL. However, some regional-style and specific area mapping and sampling programs were undertaken on selected areas on the eastern half of the EL.



PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : G.M.B.	E.L.-44/88 - BURNS PEAK JV
DATE : Oct., 1991	LOCATION MAP
DRAWN :	
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DRAWING No.	SCALE 1:500 000 5 0 5 km
FIG. No. 1	

3. TENURE

The Burns Peak EL 44/88 was initially granted for a renewable one year term on 9 December 1988 to Noranda Pty Ltd and Pasminco Limited in joint venture following their successful tender. Pioneer Minerals Australia Limited became a third member of the joint venture upon granting of the EL. The formal Burns Peak Joint Venture was finally executed on 6 March 1990, between the three companies, having been effectively in place since granting of the EL. The licence was renewed in December 1989 and 1990, and a further one year renewal is being sought.

Initially expenses were shared equally between Noranda, Pasminco and Pioneer with Pasminco the designated operators.

Until 1 July 1990, Geopeko, the Exploration division of North Broken Hill Peko Ltd administered and operated the EL under contract for Pasminco. Since that time, Pasminco Exploration (a division of Pasminco Australia Ltd) has taken over these responsibilities. All expenses and tenure are still shared equally between the three Burns Peak Joint Venture partners. Pioneer Minerals Australia has now become Plutonic Operations Limited and "Pasminco Australia Limited" has been substituted on all licence documents in place of "Pasminco Limited".

The EL is subject to a number of land usages, including land vested in the Hydro-Electric Commission in the area immediately surrounding Lake Rosebery and the Transmission Lines, timber reserves in the Mt Kershaw-Chester-Hollway area and near the eastern end of Lake Rosebery, State Reserves along the Murchison Highway, a small Crown Reserve on the north shore of Lake Rosebery, part of the Farrell Mine Lease and an area nominated for registration on the National Estate in the south of the EL. Land tenure and land usage on EL 44/88 are shown in figure 2.

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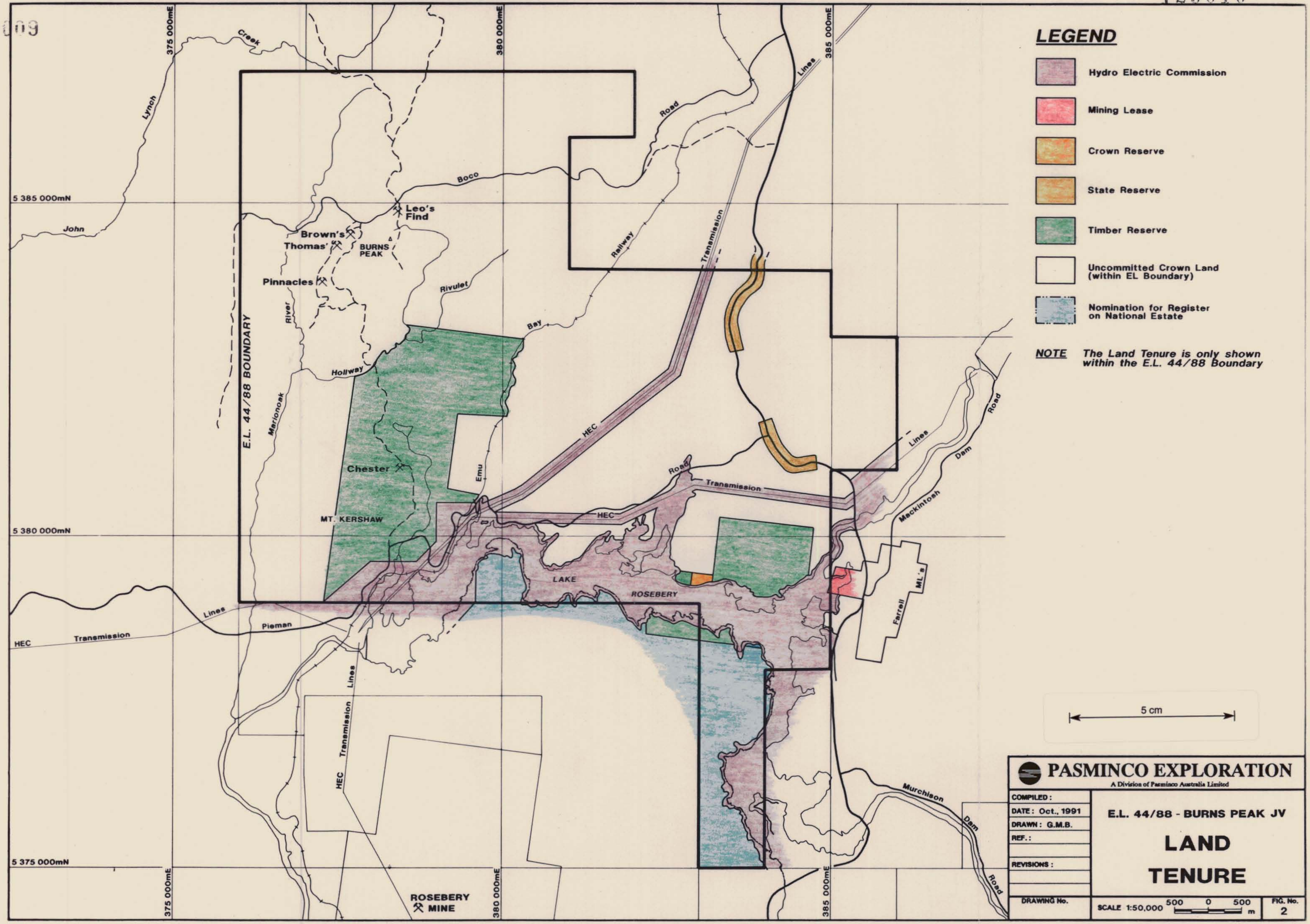


4. REGIONAL GEOLOGY

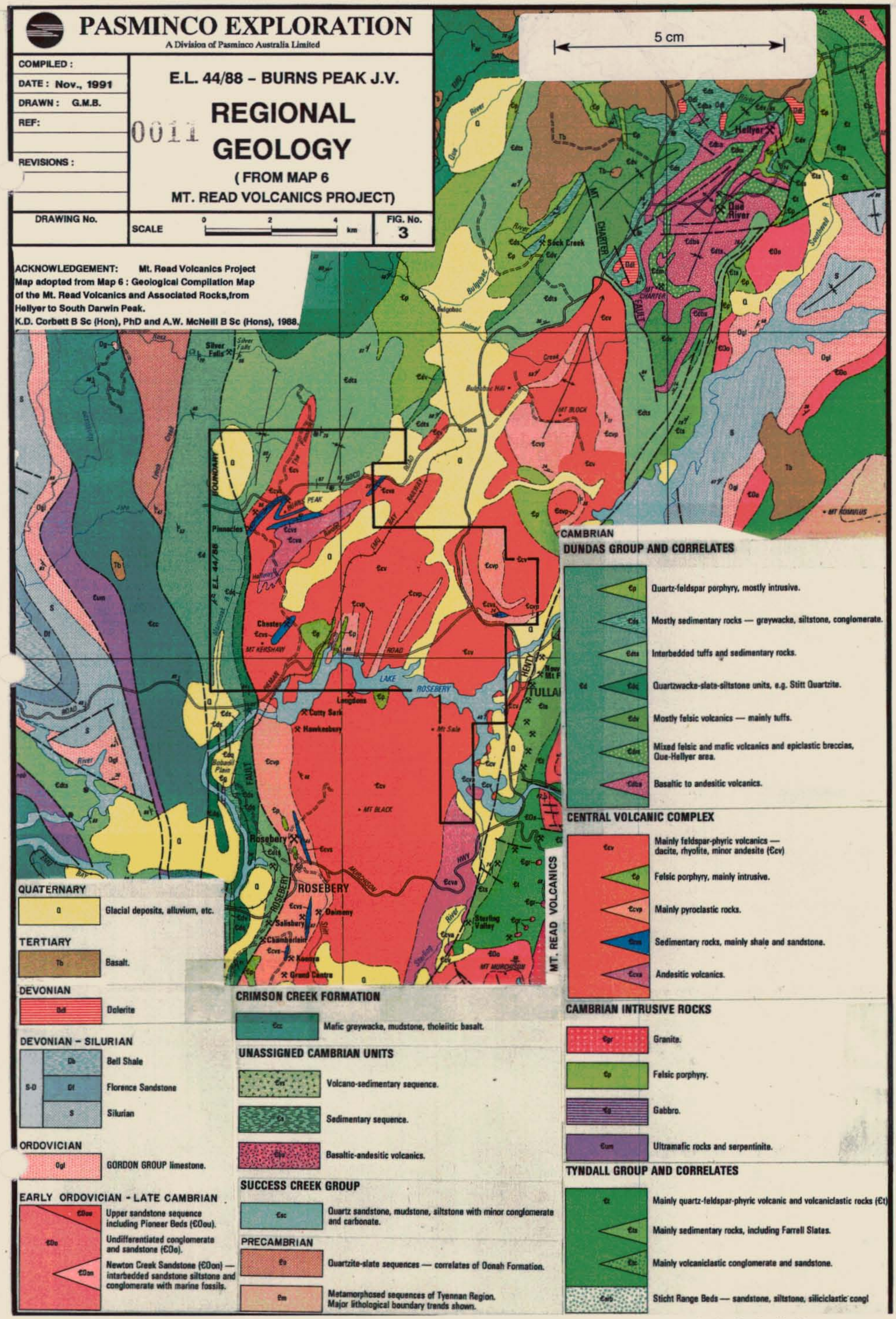
The Burns Peak EL covers a large section of the Cambrian Mt Read Volcanics in Western Tasmania. Most of the units exposed at the surface are included in the Central Volcanic Sequence (CVS) (Corbett and McNeill, 1986, figure 3) and consist of rhyolitic to dacitic lavas and associated volcaniclastic deposits, andesitic lavas and minor sedimentary units. Intruding the sequence are minor quartz-feldspar porphyries and basalt/dolerite sills and dykes. The EL also incorporates a slice of Dundas Group sediments on the western and northern margins. The major contact in the SW of the EL between the Central Volcanic Sequence and the Dundas Group is the Rosebery Fault, which strikes north-south and dips between 40° and 46° to the east at surface. This structure shallows at depth and was an active thrust fault for at least part of its history. In the northwest and north of the EL the CVS-Dundas Group contact is less clear-cut, but may be, in part, thrust controlled also.

The Henty Fault Zone, which forms the eastern boundary of the CVS and trends NNE lies just outside the eastern boundary of the Burns Peak EL.

Units generally trend north-south in the southern and western parts of the EL but turn to a NE-SW trend in the area to the east of the Pinnacles workings. A north-south trend is also apparent along the Pinnacles "Axis" (formerly Pinnacles "Anticline") in the far north of the EL. A proposed stratigraphy is outlined in Rosenhain and Mathison (1989) but this is continually under review.

Numerous sub-economic base metal sulphide deposits occur on the western side of the EL, in a 2km wide belt of mineralised rocks including the Pinnacles, Thomas' Tunnel, Brown's Tunnel and Leo's Find workings. The large Chester massive pyrite deposit occurs in the southwest of the EL. A number of smaller gold, base metals or pyrite workings are also documented, mainly along the western side of the EL, within the CVS rocks.

During the period covered by this report, exploration has concentrated on the areas of known sulphide mineralisation, around the Pinnacles-Leo's Find area and the Chester-Mt Kershaw area. Less intense activity was centred on the area between Pinnacles and Chester covering the Cone Hill gravity and magnetic anomaly, and the Hollway alteration zone. Reconnaissance was undertaken on the Mackintosh Bluffs prospect, over the Railway anomaly, and in the area near the Pieman Road (figure 4).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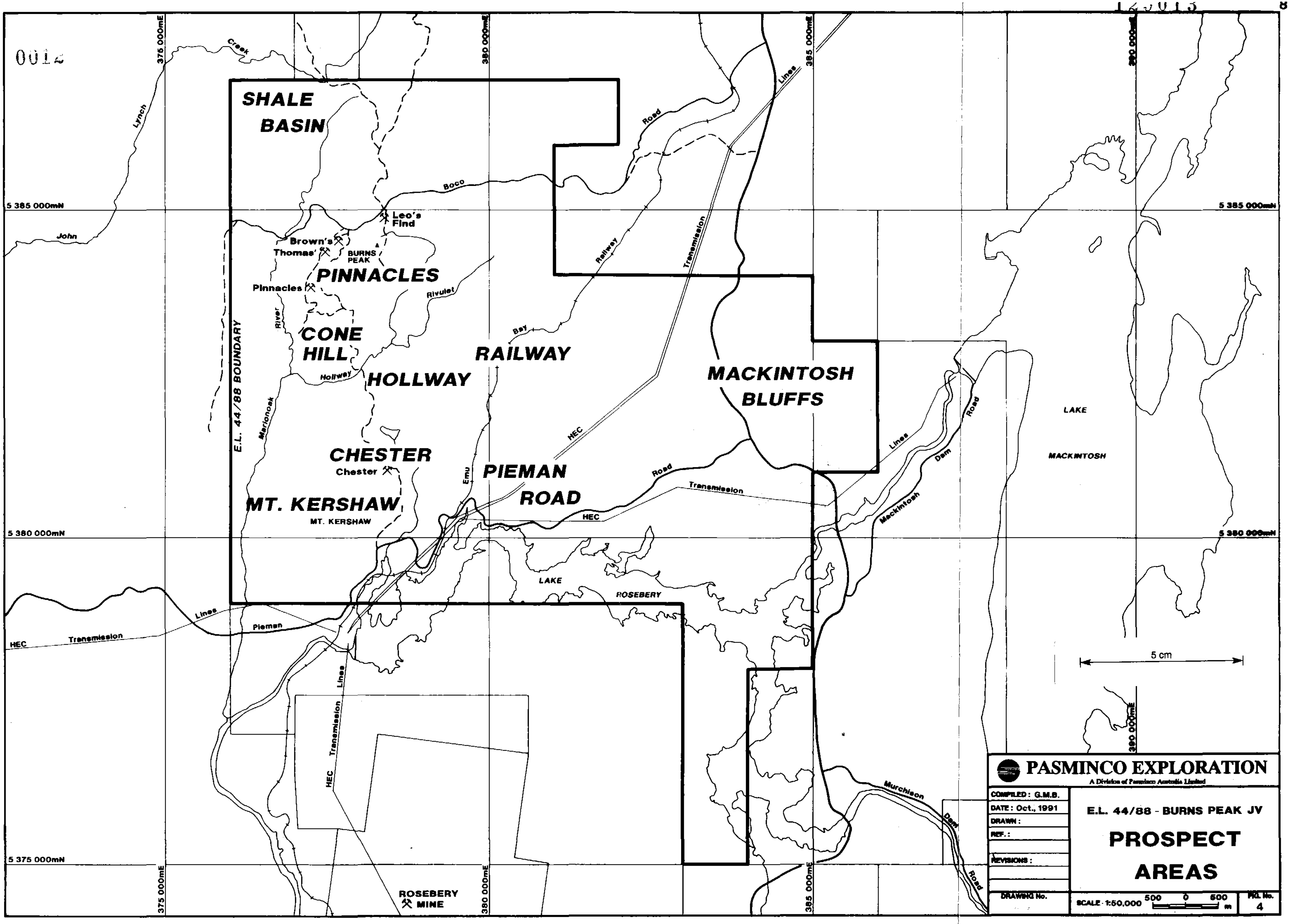
A Division of Pasminco Australia Limited
COMPILED :
DATE : Nov., 1991
DRAWN : G.M.B.
REF:
REVISIONS :
DRAWING No.
E.L. 44/88 - BURNS PEAK J.V.
REGIONAL GEOLOGY
(FROM MAP 6
MT. READ VOLCANICS PROJECT)
SCALE 0 2 4 km
FIG. No. 3
0011
5 cm
ACKNOWLEDGEMENT: Mt. Read Volcanics Project
Map adopted from Map 6 : Geological Compilation Map of the Mt. Read Volcanics and Associated Rocks, from Hellyer to South Darwin Peak.
K.D. Corbett B Sc (Hon), PhD and A.W. McNeill B Sc (Hons), 1988.
QUATERNARY
Glacial deposits, alluvium, etc.
TERTIARY
Basalt.
DEVONIAN
Dolerite
DEVONIAN - SILURIAN
Bell Shale
Florence Sandstone
Silurian
ORDOVICIAN
GORDON GROUP limestone.
EARLY ORDOVICIAN - LATE CAMBRIAN
Upper sandstone sequence including Pioneer Beds (€Oou).
Undifferentiated conglomerate and sandstone (€Oo).
Newton Creek Sandstone (€Oon) — interbedded sandstone siltstone and conglomerate with marine fossils.
CRIMSON CREEK FORMATION
Mafic greywacke, mudstone, tholeiitic basalt.
UNASSIGNED CAMBRIAN UNITS
Volcano-sedimentary sequence.
Sedimentary sequence.
Basaltic-andesitic volcanics.
SUCCESS CREEK GROUP
Quartz sandstone, mudstone, siltstone with minor conglomerate and carbonate.
PRECAMBRIAN
Quartzite-slate sequences — correlates of Oonah Formation.
Metamorphosed sequences of Tyennan Region. Major lithological boundary trends shown.
CAMBRIAN
DUNDAS GROUP AND CORRELATES
Quartz-feldspar porphyry, mostly intrusive.
Mostly sedimentary rocks — greywacke, siltstone, conglomerate.
Interbedded tuffs and sedimentary rocks.
Quartzwacke-slate-siltstone units, e.g. Stitt Quartzite.
Mostly felsic volcanics — mainly tuffs.
Mixed felsic and mafic volcanics and epiclastic breccias, Que-Hellyer area.
Basaltic to andesitic volcanics.
CENTRAL VOLCANIC COMPLEX
Mainly feldspar-phyric volcanics — dacite, rhyolite, minor andesite (€cv)
Felsic porphyry, mainly intrusive.
Mainly pyroclastic rocks.
Sedimentary rocks, mainly shale and sandstone.
Andesitic volcanics.
CAMBRIAN INTRUSIVE ROCKS
Granite.
Felsic porphyry.
Gabbro.
Ultramafic rocks and serpentinite.
TYNDALL GROUP AND CORRELATES
Mainly quartz-feldspar-phyric volcanic and volcaniclastic rocks (€t)
Mainly sedimentary rocks, including Farrell Slates.
Mainly volcaniclastic conglomerate and sandstone.
Sticht Range Beds — sandstone, siltstone, siliciclastic congl
MT. READ VOLCANICS
ROSEBERY
LAKE ROSEBERY
BURNS PEAK
Hellyer
Que River
Rosebery
MT BLACK


0012
SHALE BASIN
PINNACLES
CONE HILL
HOLLWAY
CHESTER
MT. KERSHAW
RAILWAY
PIEMAN ROAD
MACKINTOSH BLUFFS
Leo's Find
Brown's
Thomas'
BURNS PEAK
Pinnacles
Chester
MT. KERSHAW
E.L. 44/88 BOUNDARY
LAKE ROSEBERY
LAKE MACKINTOSH
ROSEBERY MINE
Lynch Creek
John
Boco
Rivulet
River
Hollway
Marionoak
Emu
Bay Railway
Road
HEC Transmission Lines
Pieman
Mackintosh Dam Road
Murchison Dam Road
375 000mE
380 000mE
385 000mE
390 000mE
5 385 000mN
5 380 000mN
5 375 000mN
5 cm
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED : G.M.B.
DATE : Oct., 1991
DRAWN :
REF. :
REVISIONS :
DRAWING No.
E.L. 44/88 - BURNS PEAK JV
PROSPECT AREAS
SCALE 1:50,000
500 0 500 m
FIG. No. 4

5. PREVIOUS EXPLORATION

The extensive history of exploration and mining in the area covered by the current Burns Peak EL 44/88 was summarised by Rosenhain and Mathison (1989) and this is included below as Table 1. The Burns Peak Joint Venture was initiated on granting of the licence in December 1988, and is currently reaching the end of its third year of operation. Details of these activities are documented in the past two annual reports (Rosenhain and Mathison 1989; Lorrigan 1990) as well as this volume.

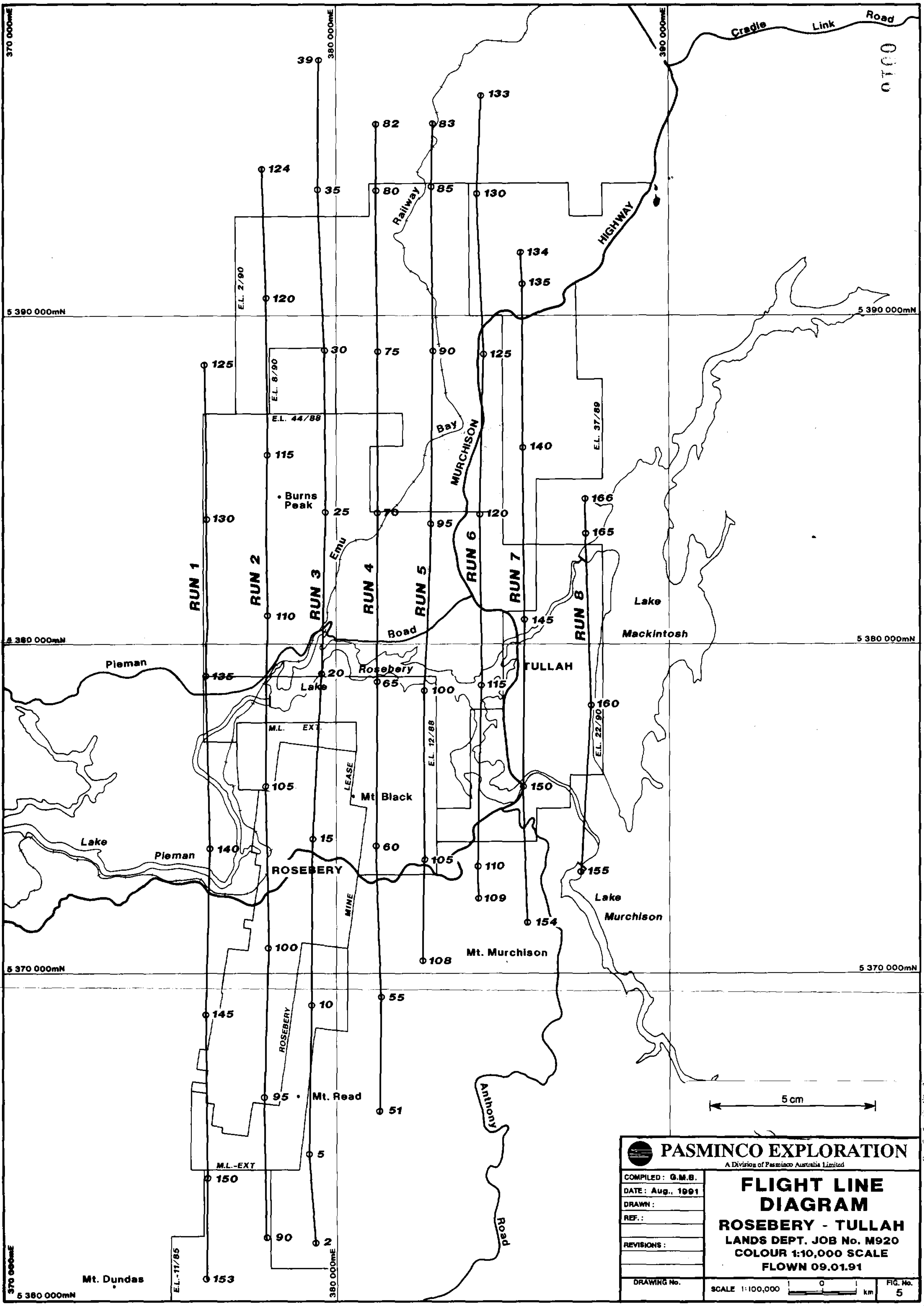
TABLE 1

History of Exploration on EL 44/88

1896	Discovery of alluvial gold in Marionoak River by Tom Strong. (Strong's Alluvial Workings)
1896	Discovery of Pinnacles Lodes by McGuiness Bros.
1899	Discovery of Chester by F Kershaw and H Sanderson. (Kershaw's Iron Blow)
1899	Brown's Tunnel driven (Brown's Workings) est. production 300t @ 2% Zn, 2g/t Au, 44g/t Ag.
1899	Southern Workings est. production 55t @ +10% Zn, +8% Pb, 8g/t Au, 38g/t Ag.
1899	Thomas' Tunnel driven (Thomas' workings) est. production 50t @ 4% Zn, 7% Pb, 1g/t Au, 240g/t Ag.
1908	Mt Lyell Mining and Railway Co Ltd secured Chester Leases.
1908–1913	Intensive exploration and mining development at Chester. Production 36 000t @ 37% S.
1918–1920	Minor production from Chester by Cuming Smith & Co. Production 700t @ +25% S.
1947–1950	Electrolytic Zinc Company created foot and vehicle access to Pinnacles area. 13 small diameter diamond drill holes completed and workings and topography surveyed. Geophysical test surveys at the Pinnacles (SP, ground magnetics and resistivity).
1959–1960	EL 4/59 Rio Tinto Australia (?EZ Joint Venture) Geochemical, geological and geophysical surveys over Pinnacles and Chester. Techniques included Sharpe vertical loop EM, Turam, ground magnetics (vertical field), gravity.

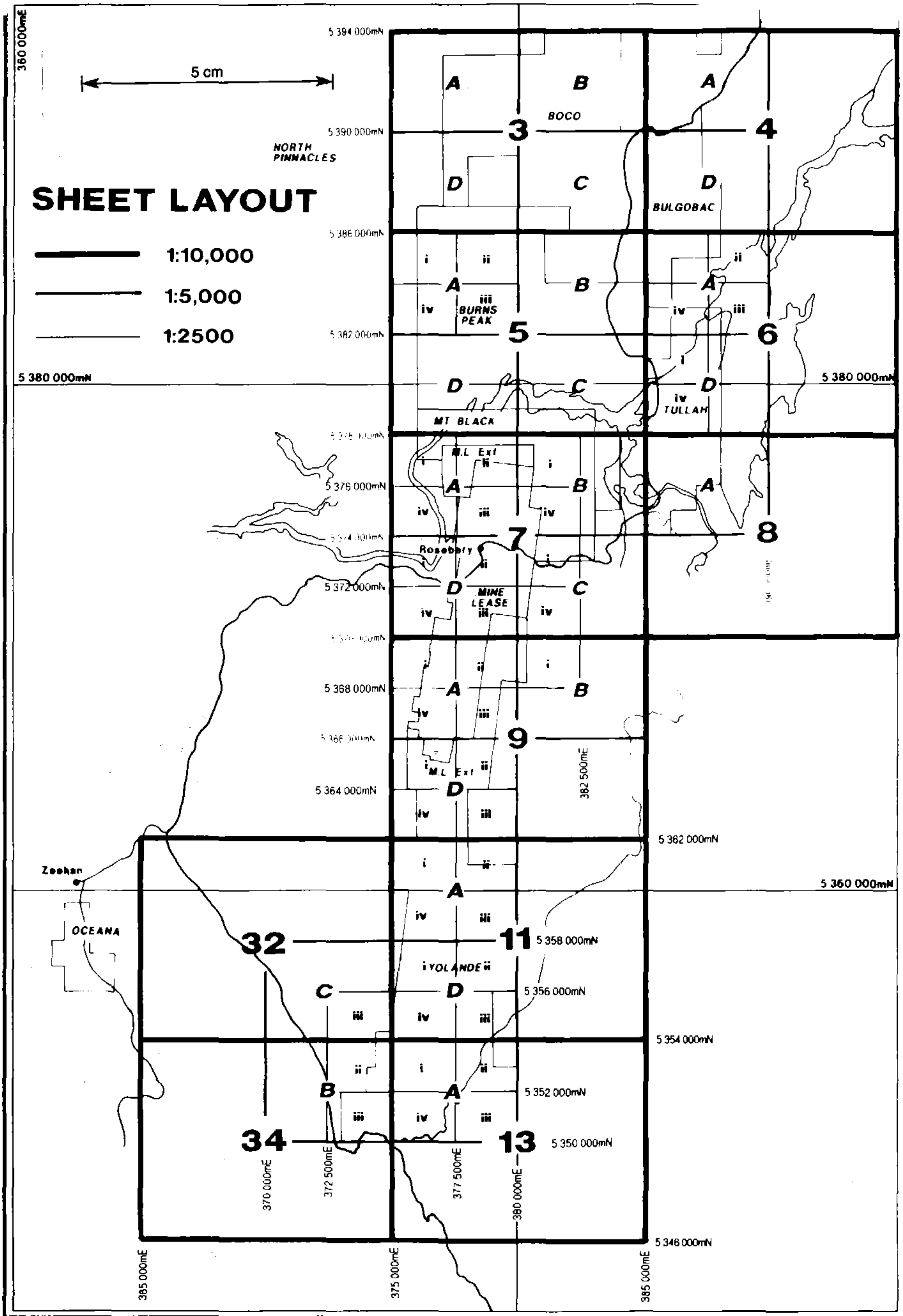
	"The significant feature of this coverage is that Pinnacles Mine Mineralisation is non-conducting".
1963	Comstaff acquires EL 5/63 which included the Burns Peak area.
1968-1972	Initial phase of gridding, geochemical sampling, geophysics (IP and EM), mapping and diamond drilling (3 DDH) by Comstaff.
1973-1976	Second phase of gridding, geochemical sampling, etc. 8 DDH drilled at Pinnacles and 12 DDH at Chester. (New metric grid, new soil sampling, new IP). Airborne EM.
1976-1979	Preussag entered into Joint Venture with Comstaff. Detailed mapping and structural synthesis completed. C horizon soil geochemistry, 2 DDH, trial PEM and IP over Leo's Find.
1980-1983	Exploration of East Chester area. New grid, grid extensions, C horizon soil geochemistry, ground magnetics. IP, DIGHEM. Four DDH (EAB 1-4) drilled at East Chester (Au).
1984-1985	New grid at Pinnacles (EAF) mapped, C horizon soil sampling, ground magnetics and UTEM. 15 DDH-discovery of small lenses of massive sulphides and patchy gold mineralisation. New geological interpretation.
1986-1988	BHP entered Joint Venture. Reinterpretation and compilation of exploration results. "Blanket" UTEM and downhole SIROTEM. New geological interpretation. Petrological studies. Wacker sampling.
1988-1990	Pasminco-Noranda-Plutonic Joint Venture on new EL 44/88. Extensive geological mapping, re-appraisal of previous data, Wacker sampling, geochemistry, petrology, DHEM, CSAMT, DH-SIROTEM, Mise-a-la-Masse, aeromagnetic survey, regional gravity survey, drilling of 9 DDH (BPD 62-70*) Rehabilitation of old tracks, costeans and workings.

* completed in 1990-1991 period.


PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: G.M.B.
DATE: Aug., 1991
DRAWN:
REF.:
REVISIONS:
DRAWING No.
FLIGHT LINE DIAGRAM
ROSEBERY - TULLAH
LANDS DEPT. JOB No. M920
COLOUR 1:10,000 SCALE
FLOWN 09.01.91
SCALE 1:100,000
FIG. No. 5
RUN 1
RUN 2
RUN 3
RUN 4
RUN 5
RUN 6
RUN 7
RUN 8
ROSEBERY
TULLAH
Lake Mackintosh
Lake Murchison
Lake Pieman
Lake Rosebery
Mt. Black
Mt. Read
Mt. Murchison
Mt. Dundas
Burns Peak
Cradle Link Road
HIGHWAY
MURCHISON
Anthony Road
5 cm

12

0017



PASMINCO EXPLORATION

SHEET LAYOUT

129017

SCALE 1: 200.000

Figure 6

6. WORK UNDERTAKEN - NOVEMBER 1990 TO OCTOBER 1991

6.1 General

6.1.1 PHOTOGRAMMETRY

In December 1990 a new high-level aerial photographic survey (black and white) was flown by the Lands Department to provide a basis for photogrammetric map production by the HEC. This was part of a larger survey covering all of Pasminco Exploration's tenements in Western Tasmania. In January 1991 colour 1:10 000 aerial photography was flown by the Lands Department to provide up-to-date photographs for mapping and access (*figure 5*). New 1:10 000, 1:5 000 and 1:2 500 scale base plans have been produced by the HEC (figure 6). The contoured data has been acquired on optical disk via North West CAD Centre for use on Autocad. The raw photogrammetric survey data points (DTM's) have been appended to the gravity stations survey file to provide modelled profiles on drill sections using our Techbase software (after: Penney, Quayle and Smith, 1991).

6.1.2 RE-PRESENTATION OF 1990 AEROMAGNETIC DATA

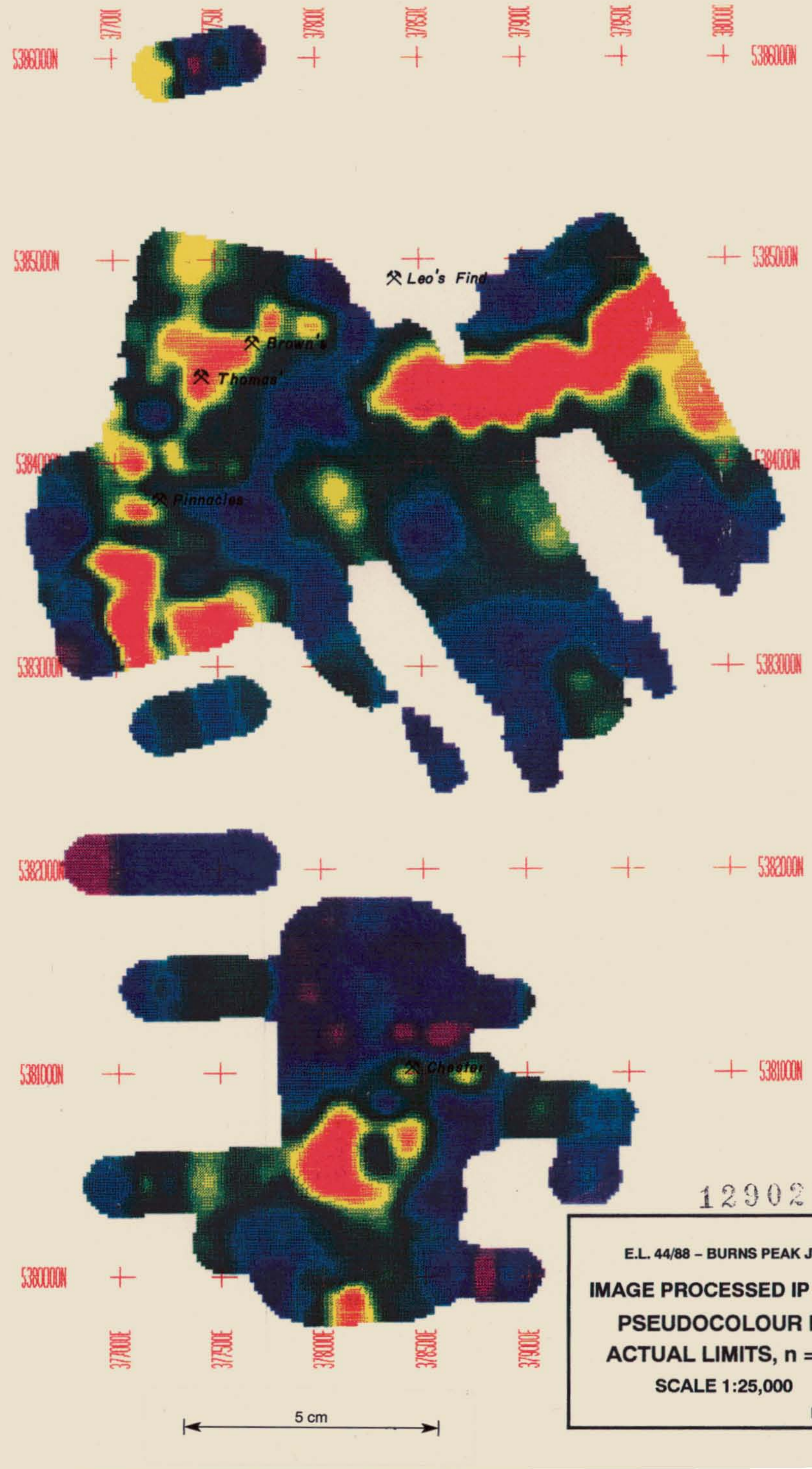
During 1990, a helicopter-borne low-level aeromagnetic survey was flown with east-west lines at 200m spacing and north-south tie lines at 1 000m spacing. Nominal terrain clearance was 80m. Results and interpretation of this survey were presented in the 1990 Annual Report (Lorrigan, 1990), using the filtered and corrected magnetic contour plans supplied by geophysical contractors Geoinstruments Pty Ltd. While these plans were visually easy to use, some important magnetic character was demonstrably obscured during the filtering process. During 1991 the raw, unfiltered magnetic data was re-presented using nominal 120m terrain clearance, and patched-into adjacent Pasminco Exploration aeromagnetic surveys to give high quality, accurate data covering all of Pasminco's Western Tasmania tenements at 1:10 000 and 1:25 000 scale. Upward continued magnetic contour plans were also prepared using 1 300 metres above sea-level as the common datum height (to clear all local topography) at a scale of 1:25 000. These new magnetic plans were prepared for Pasminco Exploration by the DMMR under the guidance of Dr R G Richardson and have further aided the interpretation of both regional and local geological features, particularly structures and lithological variation (figure 7). Further discussions incorporating the use of these magnetic contour plans are included in following sections dealing with specific prospect areas, and in Leaman (1991) (Appendix 4).

6.1.3 GRAVITY INFILL PROGRAM AND MAGNETICS INTEGRATION

Following the semi-regional gravity survey carried out over the majority of the Burns Peak EL at nominal 500m station spacing in 1990, a number of anomalous zones were outlined for follow-up studies. These studies included further geological and geochemical mapping and sampling programs and recently a gravity infill program at nominal 250m station spacing over the most prospective areas. To date, 140 stations have been completed, covering the Chester and Pieman Road prospects (figure 4), with further infill stations planned to cover the Cone Hill and Railway prospects early in the new licence year. The program is being conducted under contract by the DMMR with field readings and computerised data manipulations being undertaken and supervised by Dr R G Richardson. All new gravity data is being interpreted and integrated with the previously acquired aeromagnetics by Dr D E Leaman of Leaman Geophysics, incorporating the most recent geological interpretation, as well as specific gravity and magnetic susceptibility readings from core and outcrop supplied by Pasminco Exploration geologists. The first of these detailed studies covering the Chester prospect was received from Leaman Geophysics in September 1991 and is included as Appendix 4. This report is further discussed below in section 6.4.

6.1.4 IP AND RESISTIVITY COMPILATION

All induced polarisation (IP) and resistivity surveys carried out by previous explorers on the area covered by the Burns Peak EL were digitised, image processed and re-presented as computer-generated pseudo-colour and black and white contour plots by S A Whitaker using the ERMAPPER facility at Pasminco Exploration's Hawthorn Office (Whitaker, 1991). Five separate surveys were incorporated in this study, covering an area of 35km^2 on the western side of the licence, centred on the Pinnacles and Chester workings. This new study has proven to be successful, despite the lack of uniform survey techniques and insufficient data collection in some areas. The images of the IP and resistivity show good correlation with known geology and mineralisation, and have provided useful information when mapping general geology as well as specific shale and mineralised units. Anomaly detection and ranking is also facilitated by the use of these integrated images. Two coloured plots are included (figures 8 and 9) showing IP and resistivity data for a single array style and dipole spacing (n=2) as examples of presentation style available through use of ERMAPPER.



E.L. 44/88 – BURNS PEAK JV

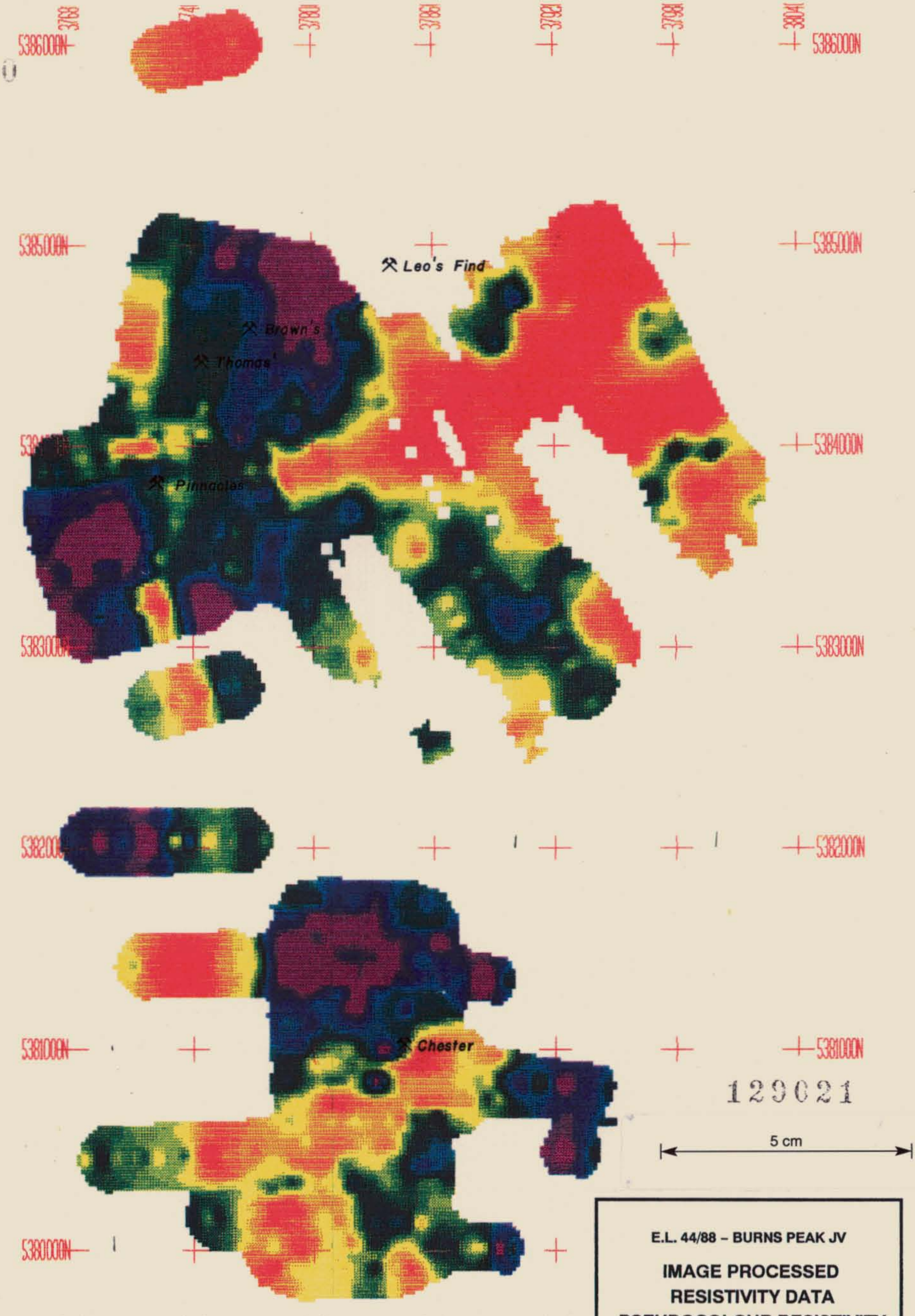
IMAGE PROCESSED IP DATA

PSEUDOCOLOUR IP

ACTUAL LIMITS, n = 2

SCALE 1:25,000

Figure 8



E.L. 44/88 – BURNS PEAK JV

IMAGE PROCESSED RESISTIVITY DATA PSEUDOCOLOUR RESISTIVITY ACTUAL LIMITS, n = 2

SCALE 1:25,000

Figure 9

6.1.5 COMPUTERISATION OF DRILLING DATA

The acquisition of Techbase software at Pasminco Exploration's Burnie office has facilitated computer generation of drill sections and plans, amongst other operations. This has meant that historic drill hole data in the form of collar coordinates and downhole surveys must be transferred to the Techbase system's main database before plots can be generated. Much of this historic data already existed on floppy disk, but contained many errors and omissions as well as having a different format to that required for entering data into Techbase. The process of correcting and entering this data is partly complete, and the initial results can be seen in the form of computer plotted drill holes on the 1:5 000 scale geology outcrop and interpretation plans included as plans at the back of this report (figures 23, 24, 26 & 27). The bulk of the down-hole geochemical data remains to be entered.

6.1.6 HONOURS STUDENT PROJECTS

During the current period, three Bachelor of Science (Honours) geology students undertaking their final year of study supported by the Burns Peak Joint Venture partners have submitted their reports to Pasminco Exploration. Work on the Hollway Andesite by BPC Coutts of the Centre for Ore Deposit and Exploration Studies (CODES) at the Geology Department, University of Tasmania was summarised in the 1990 Annual Report (Lorrigan, 1990). His report was received in December 1990.

R O Reid's work, also based at CODES, was on the Burns Peak-Boco Road area, centred on Leo's Find (figure 4). His report was received in early 1991. His conclusions outline a series of three conformable sequences of fine to medium grained sediments volcanic sandstones, volcanic breccias, lavas, porphyries and volcaniclastics folded about a northeast trending and plunging syncline. Deposition is interpreted as subaqueous, dominated by mass flow turbidity currents and lava flows. Lithologies are seen as similar to the Que-Hellyer sequence. Two wrench-style northeast trending faults are also mapped, cross cutting some of the major lithologies.

S P Boda of the Australia National University, Canberra, studied the geology, structural setting and genesis of the Chester mine area, and submitted his report in August 1991. He concludes that the Chester pyrite deposit, hosted in a package of sediments lies conformably on volcanics comprised of rhyolitic lavas and tuffs. Intense alteration and mafic dykes are also features of the mine area. The rocks are interpreted to have undergone up to two phases of folding about shallow-plunging NNE-trending fold axes. The penetrative axial planar cleavage dips steeply to the east. Alteration in the deposit was due to hydrothermal activity in a "geothermal" rather than "VMS" system. Fluid inclusion work, oxygen and sulphur isotope studies and chlorite geochemistry all indicate low temperature, high oxidation state fluids that were incapable of carrying a significant volume of base metals. Light sulphur isotopes indicate the absence of seawater sulphur input. Genesis of the deposit is stated to have occurred on a topographic high in subaerial conditions, not as a VMS deposit.

6.1.7 ISOTOPE STUDIES

Preliminary results and some discussion of seventeen sulphur and five oxygen isotope analyses on rocks from the Chester area were received from Dr GR Green, Senior Geologist with the Division of Mines and Mineral Resources, Hobart. These results show:

i. $\delta^{34}S$ values for pyrite and sphalerite at Chester are between −5.42 and +1.1 per mil., significantly lower than at Rosebery;

ii. $\delta^{34}S$ for sphalerite at Bastyan Dam, 2.5km south of Chester, of +7.37 per mil., just below the Rosebery range;

iii. $\delta^{34}S$ for barites at Chester of +15.9 to +23.15 per mil., significantly lower than Cambrian sea water sulphate (+30 per mil.), and Rosebery, Hercules, Que River and Hellyer which range upward from +35 to over +40 per mil.

iv. Oxygen isotope values range from 7.9 to 10.4 per mil., indicating a possible fluid temperature range of 199^0–240^0C.

These results suggest little or no sea water input into the sulphur in the hydrothermal fluid at Chester. One explanation is that the temperatures were too low to allow inorganic reduction of sea water sulphate (<230^0C). This temperature is also too low for the fluid to carry any significant base metals. Another explanation is that the hydrothermal system was dominated by meteoric waters ("fresh" water) with $\delta^{34}S$ close to 0.0 per mil.

These results tend to down-grade the prospectivity of the Chester system for significant VMS-style base metal mineralisation. However, this is not the only model for base metal mineralisation in the Mt Read Volcanics and the Chester area remains an important focus of exploration activity on the Burns Peak EL.

6.1.8 REGIONAL STUDY

During early 1991 Terry Lees and international consultant John Wright conducted a base metal regional study of western Tasmania which was based on 8 regional traverses (Wright et al. 1991). The conclusions of that study are profound and far reaching and no attempt will be made here to summarise that work.

6.2 Pinnacles Area (Brown's Tunnel-Leo's Find)

6.2.1 REVIEW OF WORK IN THE AREA SINCE 1988

Since work was begun on EL 44/88, in December 1988, a large proportion of exploration effort has been expended in the Pinnacles Area.

The area contains a number of old workings. Southern Trenches, Thomas's Tunnel and Brown's Tunnel are the most significant of these. They were small lead and zinc holdings, although they also contain significant gold grades.

In the early 1980's Comstaff undertook diamond drilling in the Brown's Tunnel area. They had some success in discovering massive base metal sulphides in holes drilled under and around the old workings. The best intersection was in EAF9 11.1m @ 0.96% Cu,8.01% Pb, 18.92% Zn, 93ppm Ag, 4.74g/t Au. Comstaff estimated the ore reserves at Brown's Tunnel to be 109 055t @ 1.26% Cu, 6.58% Pb, 18.83% Zn, 122ppm Ag, 4.69g/t Au. (Roberts, 1985).

The exploration that has subsequently been undertaken by the Burns Peak Joint Venture partners has been directed at:

a). Understanding the controls on the known mineralisation

b). Testing favourable horizons at some distance away from the known mineralisation

Table 2 Summarises a number of geophysical and geochemical methods that have been applied to developing drill targets. These have been combined with on-going geological interpretation.

A total of 397.8m of diamond drilling has been undertaken since June 1989. The results of this drilling are discussed, briefly in section 6.2.2.

Table 2 – Technical Surveys in the Pinnacles Area

METHOD	DATE	SIGNIFICANT RESULTS	FOLLOW UP	REPORTING
Review of BHP UTEM data	Sept 1989	No drillable targets defined		Interpretation of Electromagnetic Surveys at Burns Peak (EL 44/88) Mitre Geophysics
Review of Gravity Magnetic Data	Feb 1989	Leo's Find identified as a target area, because of its location at the intersection of N-S & E-W structures	BPD 65, 71, 72	Review of Magnetic & Gravity Data EL 44/88 Burns Peak D E Leaman
CSAMT Survey	Sept 1989	Conductive zones of alteration on Pinnacles Grid lines 5600N & 5800N	BPD 69, 65	Interpretation of Electromagnetic Surveys at Burns Peak (EL 44/88) Mitre Geophysics
Down Hole EM	Sept 1989	No drill targets		As above
As above	Dec 1989	Weak off-hole responses recorded on BPD 63 & BPD 65	Neither followed up; BPD 63 thought to be Rosebery Fault. BPD 65 thought to be contact	Further DHEM surveys at Burns Peak (EL 44/88) Mitre Geophysics
Oxygen Isotope/ Alteration Study	Nov 1989	Most "proximal alteration" observed in BPD 62		Second Report on the Pinnacles Project Dr G Green
Structural Geology Brown's Tunnel	April 1990	Identification of numerous faults in the Brown's Tunnel area. Some though to be steepened thrusts, slice up sedimentary units & explain the observed stratigraphic dicontinuty	Structural style applied to geological interpretation	Structural Geology of the Brown's Tunnel area. Burns Peak WTas. C G Elliot
Integration of Magnetic & Gravity Data	Sept 1990	NE-SW & NW-SE lineaments recognised. These correspond with the Pinnacles Axis & the Structure truncating the Pinnacles Rhyolite south of Brown's Tunnel. No obvious alteration anomalies.	Applied to general geological (esp structural) interpretation.	Integration of initial interpretation Gravity & Magnetic Data. EL 44/88 Burn's Peak. Dr DE Leaman, Sept 1990
Alteration & Oxygen Isotope Studies	January 1991	Temperature & intensity of alteration decreases on the western side of the Pinnacles Axis, between BPD 69 & BPD 70. Significant alteration identified at the top of BPD 62 & within BPD 65, on the Eastern side of the Axis.	BPD 72	Pinnacles Oxygen isotopes. Memo to Pasminco Exploration from Dr Geoff Green.
Down hole EM	Jan 1991	Possible off hole source in BPD 69 at 403m & above the hole.		Report on DHEM Surveys DDH's BPD 67-70. Mitre Geophysics.

6.2.2 CURRENT GEOLOGICAL INTERPRETATION

Early work in the Brown's Tunnel Area led to the conclusion that the mineralisation is confined to a particular stratigraphy, the Brown's Tunnel Sequence. This work also implied that there is an association of ore with areas of strongest deformation.

The exploration programme was directed at testing the favourable stratigraphy at intervals of 300-400 metres along strike. Some of the drill holes were targeted on sites where it was thought that the stratigraphy would be deformed by a complex arrangement of structures. The information arising from the diamond drilling programme has enabled the geological interpretation of the Pinnacles area to be steadily refined. The current interpretation is illustrated in figures 11 to 17, as sections and plans of the area. The relationship of the various rock types to one another is shown in figure 10.

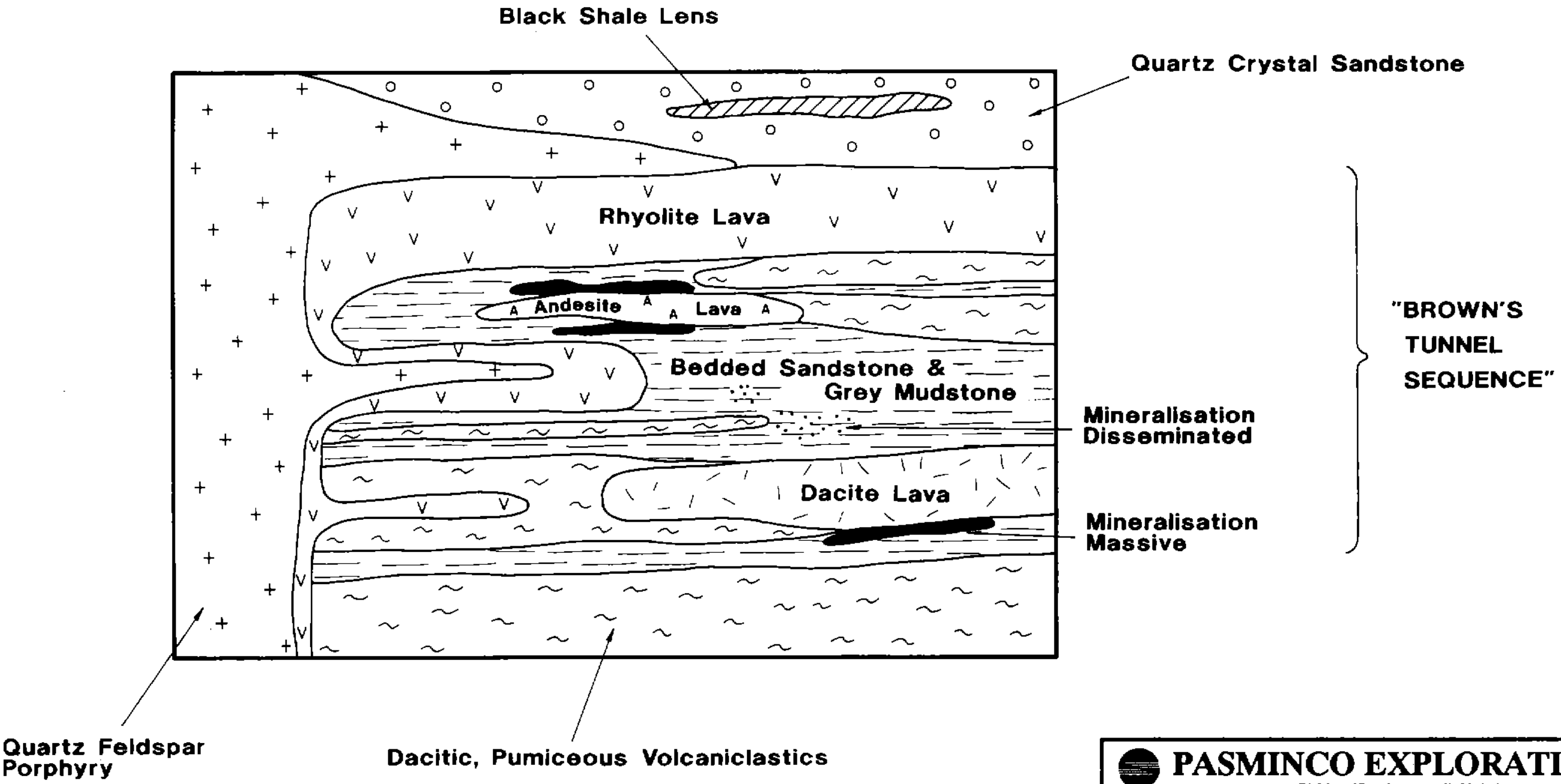
LITHOLOGIES

The oldest unit in the area is apparently DACITIC, PUMICEOUS VOLCANICLASTICS. These rocks contain no quartz phenocrysts, they are however feldspar-phyric in places. They vary in appearance but are most often characterised by a "wispy", fragmental texture. This texture may partly be the result of alteration but in many places, tube pumice is present. These rocks extend upwards into the stratigraphy and also occur, in narrow bands, (5-10m) within the overlying BROWN'S TUNNEL SEQUENCE. At this point in the stratigraphy they sometimes contain irregular shaped siliceous mudstone fragments and there appears to have been mixing of the volcanics with mudstone.

The BROWN'S TUNNEL SEQUENCE consists of interbedded grey, CONGLOMERATE, SANDSTONE, MUDSTONE (much of which is siliceous), DACITIC, PUMICEOUS, VOLCANICLASTICS and MINOR BLACK SHALE. These sediments are mainly derived from volcanic material, although bedded mudstone and sandstone clasts also occur.

Within this package of sediments, three types of volcanic rock occur at various intervals and levels in the sequence:

1. A vesicular ANDESITE lava occurs on the western limb of the Pinnacles Axis. This rock cannot be viewed in outcrop and its total volume as part of the BROWN'S TUNNEL SEQUENCE is small. Although it is not seen above or below the sediment



129027

PASMINCO EXPLORATION
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COMPILED : A.N.L.	E.L. 44/88 - BURNS PEAK JV
DATE : Oct., 1991	STRATIGRAPHY FOR
DRAWN : G.M.B.	BROWN'S TUNNEL
REF. :	YABBY CREEK AND
REVISIONS :	LEO'S FIND
DRAWING No.	SCALE
FIG. No. 10	

package, it appears to occur at different stratigraphic levels and cannot be adequately correlated between drill holes. Some holes that have penetrated the sedimentary package have failed to intersect the andesite at all. The margins of the andesite are frequently pepertic and many have intruded the wet sediments. In the Brown's Tunnel area, the rock is highly altered and contains disseminated pyrite and chalcopyrite.

2. What has been termed DACITE LAVA has a similar distribution to the andesite, though it occurs on both sides of the Pinnacles Axis. This term encompasses a variety of rock types, the unifying feature being that they are strongly feldspar-phyric, but contain no quartz phenocrysts and no pumiceous material. In places they appear to be fragmental, but the fragments are angular, not wispy.

3. Quartz-feldspar phyric-RHYOLITE LAVA. Only small volumes of this rock occur within the sediment package. Generally, the Rhyolite (known regionally as PINNACLES RHYOLITE) overlies the Brown's Tunnel Sequence.

The PINNACLES RHYOLITE consists of coherent, flow-banded lava, hyaloclastites and autobreccias, Near its boundary it is often perperitic and encloses small amounts of mudstone and sandstone. At some sites it is apparently associated with a strongly quartz-feldspar phyric PORPHYRY which intrudes at all levels of the sequence. The Rhyolite occurs as a rind on the Porphyry in places and hence, their emplacement would appear to be coincident, with the Rhyolite perhaps being the chilled margin of the Porphyry.

Overlying the PINNACLES RHYOLITE, is an interval of QUARTZ FELDSPAR CRYSTAL SANDSTONE. This rock also contains fragments of Rhyolite lava, confirming it's stratigraphic position, above the Rhyolite. In the Pinnacles area, the boundary between these two lithologies is always faulted.

STRUCTURE

The Pinnacles area is dissected by numerous faults. Many of these were identified by Colleen Elliot in a structural mapping exercise in early 1990. (in Lorrigan, 1990). It is difficult to discern which faults have any significance in displacing lithologies. In many places the overall displacement seems to have occurred on a series of parallel structures, within a fault zone. On the geological Interpretation plan (figure 11) these zones are simply marked as individual faults.

The three overriding structural features of the area are the deformation associated with the Brown's Tunnel mineralisation, the Pinnacles Axis, and the truncation of the Pinnacles Rhyolite on a NW–SE trending structure south of Brown's Tunnel:

i. The deformation that is spatially, at least, associated with mineralisation consists of a series of NE–SW trending shear zones. The zones are marked by intense cleavage development and drag folding. They are associated with strong sericitisation and sometimes, silicification of the host rock.

ii. The Pinnacles Axis marks the boundary between east and west facing sediments. From the drilling results, it is clear that although there is a facing reversal over the axis, it is not a simple anticline. There is not a straight forward correlation of rock types and thickness across the structure, although there is on its limbs, especially the Western limb. Faults observed in the drill holes and at surface are thought to alter the distribution of the rock types as shown on the plan and sections. Although there may, in truth, be more structures than are shown in the figures, the later are thought to be a reasonably accurate representation of the nature of the geology along the axis.

iii. The third structure mentioned is implied rather than seen, although its trend is quite obvious on regional landsat and magnetic imagery. Lack of drilling and outcrop in the area has prevented field identification of the structure, which trends NW–SE and forms the southern boundary of the Pinnacles Rhyolite. The nature and amount of movement on the structure is unknown. An apparent thickening in the Brown's Tunnel sediment south of the Rhyolite (rather than a simple displacement) may indicate that the structure was active during emplacement of the Rhyolite. An alternative to this is that an offset in the sediments, corresponding with the truncation of the Rhyolite has been "corrected" or taken up by more recent folding and shearing. Either of these explanations would make this structure older than others mapped in the area.

A third alterative would have this as a late structure, on which vertical displacement of a synclinal keel of rhyolite and sediments has taken place. The sediments may be folded under the rhyolite at depth beneath, say, the collar of EAF13. Uplift on the southern side of the structure would have raised the keel of rhyolite above erosion base level, leaving only sediments outcropping.

Having described the structures within the Pinnacles area, two main structures which bound that block of sediments and lava should be mentioned. Both of these are shown in figure 11 and 12. One of the structures is apparently a low angle fault, which was identified in drill holes BPD63 and CP14. It separates the Pinnacles Block from the overlying Quartz Crystal Sandstone, though to be part of the Lower Dundas sediments.

West of this is another low angle structure, the Rosebery Fault. This is of regional significance, it extends 20km to the south and truncates the host rocks at Rosebery Mine. Regionally, it divides rocks of the Lower Dundas Trough from Upper Dundas sediments.

MINERALISATION

The only significant mineralisation in the Pinnacles area is at Brown's Tunnel itself. Drilling undertaken by the current tenement holders has failed to intersect any further massive ore.

A number of the holes, however, have penetrated geochemically anomalous zones, in both the Pinnacles Rhyolite and the Brown's Tunnel Sequence.

A summary of these intersections is shown in Table 3.

In studying the pattern of low level mineralisation in the area, it is clear that the sediments of the Brown's Tunnel Sequence are generally anomalous with respect to zinc, lead and gold. Away from Brown's Tunnel, however, there appears not to have been any focussing mechanism efficient enough to concentrate mineralising solutions to the extent that they would form ore.

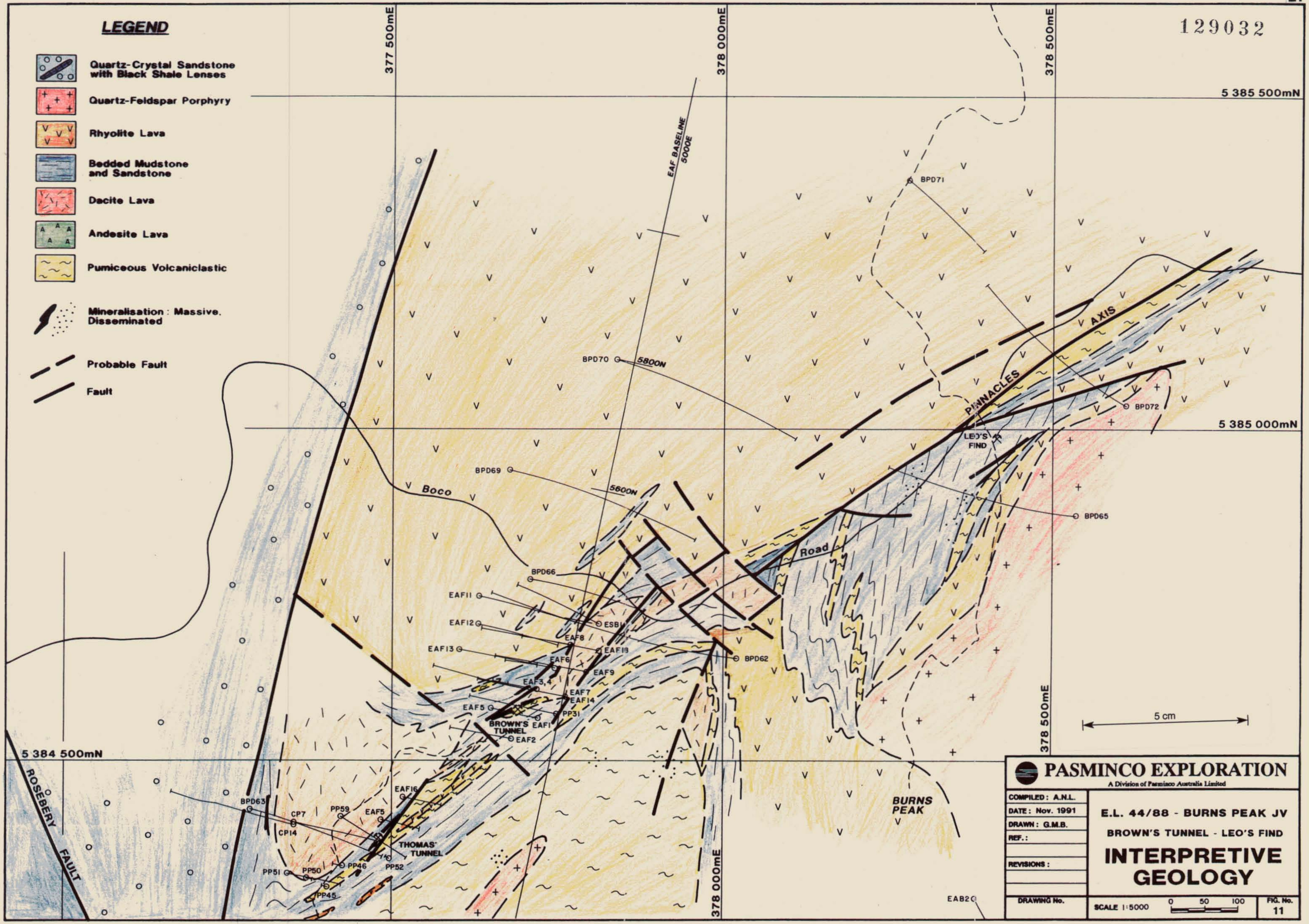
There could be several reasons for this deficiency, One possible explanation is that Brown's Tunnel is at the centre of a small exhalative system and that the fluids from this system did not extend far before being diluted by sea water.

Another possibility is that a structural focussing mechanism was present at Brown's Tunnel and not elsewhere. The presence of strong deformation at Brown's Tunnel and its absence elsewhere lends some weight to this argument.

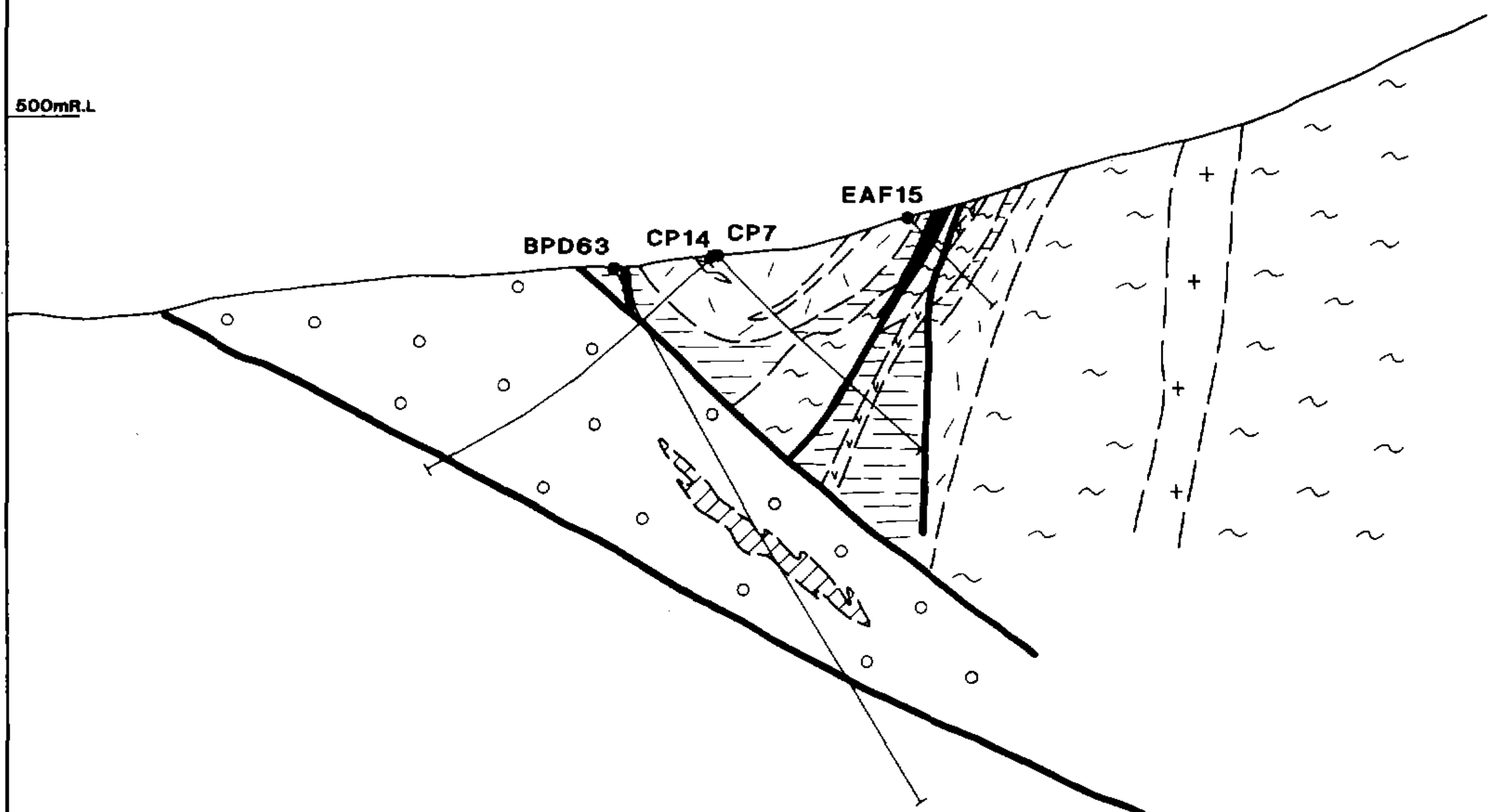
Because of this possible structural association, two holes were drilled into the interpreted intersection of the Brown's Tunnel Sequence and the Pinnacles Axis. This Axis has a similar

Table 3 – Drill Hole Intersections, Pinnacles Area

DRILL HOLE	FROM	TO	ROCK TYPE	Cu (ppm)	Pb (ppm)	Zn (ppm)	Au (g/t)	(Pbxm) (Znxm) /100
BPD 62	17	18	Course epiclastics	82	3100	4550	<0.01	76.5
	20	23	Shales, siltstone, siliceous	130	940	4390	0.27	159
	472	482	Shale i/b with coarse seds. strong ser.	19	1090	4500	0.03	559
	492	522	As above	25	700	4700	0.01	1620
	543	536	Strongly sericitised pum. volcaniclastic	17	3000	9300	<0.01	246
	542	554	As above	440	200	6070	0.02	752
	572	578	Pumiceous volcaniclastic	420	1820	5500	0.02	439
	642	644	Breccia within Rhyolite lava	370	115	2600	0.03	53
BPD 63	27	31	Volc. siltstone	180	2200	64000	0.2	2626
	34	37	Rhyolite lava	120	310	5400	0.02	171
	188	200	Black shale with Rhyolite clasts. Qtz veining	25	280	5300	0.04	670
	200	210	As above	77	3000	13400	0.03	1370
BPD 65	356	364	Sericitised pumiceous volcaniclastic	73	3012	3783	0.19	544
	394	412	Interbedded coarse epiclastics & shales	186	3237	6044	<0.01	1146
	488	490	Prob. vein in pum. Volcaniclastic	740	52	33500	<0.01	68
BPD 66	157	167	Grey, bedded, sil. shales, deformed	3304	3932	17620	0.39	2155
BPD 69	260	266	Grey, bedded, sil. shales & ser.volc.	52	2830	6733	.066	574
	360	364	Sericitised volcaniclastics	31	430	9700	<0.01	405
BPD 70	302	322	Grey, bedded, sandstone & Conglomerate	34	3973	835	0.015	962
	330	332	Pumiceous volcaniclastics	88	1920	4200	<0.015	122
BPD 71	136	140	Rhyolite lava	43	1050	3225	<0.01	171
	403	407	?strongly chloritic Rhyolite lava	11	5025	5275	<0.01	412
	469	471	Deformed, pum., volcaniclastic	2350	330	17900	0.03	365



129032
LEGEND
Quartz-Crystal Sandstone with Black Shale Lenses
Quartz-Feldspar Porphyry
Rhyolite Lava
Bedded Mudstone and Sandstone
Dacite Lava
Andesite Lava
Pumiceous Volcaniclastic
Mineralisation : Massive, Disseminated
Probable Fault
Fault
377 500mE
378 000mE
378 500mE
5 385 500mN
5 385 000mN
5 384 500mN
EAF BASELINE 5000E
5800N
5600N
BPD71
BPD70
BPD69
BPD72
BPD65
BPD66
BPD62
BPD63
EAF11
EAF12
EAF13
EAF5
EAF2
EAF16
ESB1
EAF8
EAF19
EAF6
EAF9
EAF3, 4
EAF7
EAF14
EAF1
PP31
PP59
PP46
PP52
PP51
PP50
PP45
CP7
CP14
EAB2
BROWN'S TUNNEL
THOMAS' TUNNEL
LEO'S FIND
PINNACLES
AXIS
Boco
Road
ROSEBERY FAULT
BURNS PEAK
5 cm
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED : A.N.L.
DATE : Nov. 1991
DRAWN : G.M.B.
REF. :
REVISIONS :
DRAWING No.
E.L. 44/88 - BURNS PEAK JV
BROWN'S TUNNEL - LEO'S FIND
INTERPRETIVE GEOLOGY
SCALE 1:5000
0 50 100
FIG. No. 11



LEGEND

- Quartz-Crystal Sandstone with Black Shale Lenses
- Quartz-Feldspar Porphyry
- Rhyolite Lava
- Bedded Mudstone and Sandstone
- Dacite Lava
- Andesite Lava
- Pumiceous Volcaniclastic
- Mineralisation : Massive, Disseminated
- Probable Fault
- Fault

0032

129033

PASMINCO EXPLORATION
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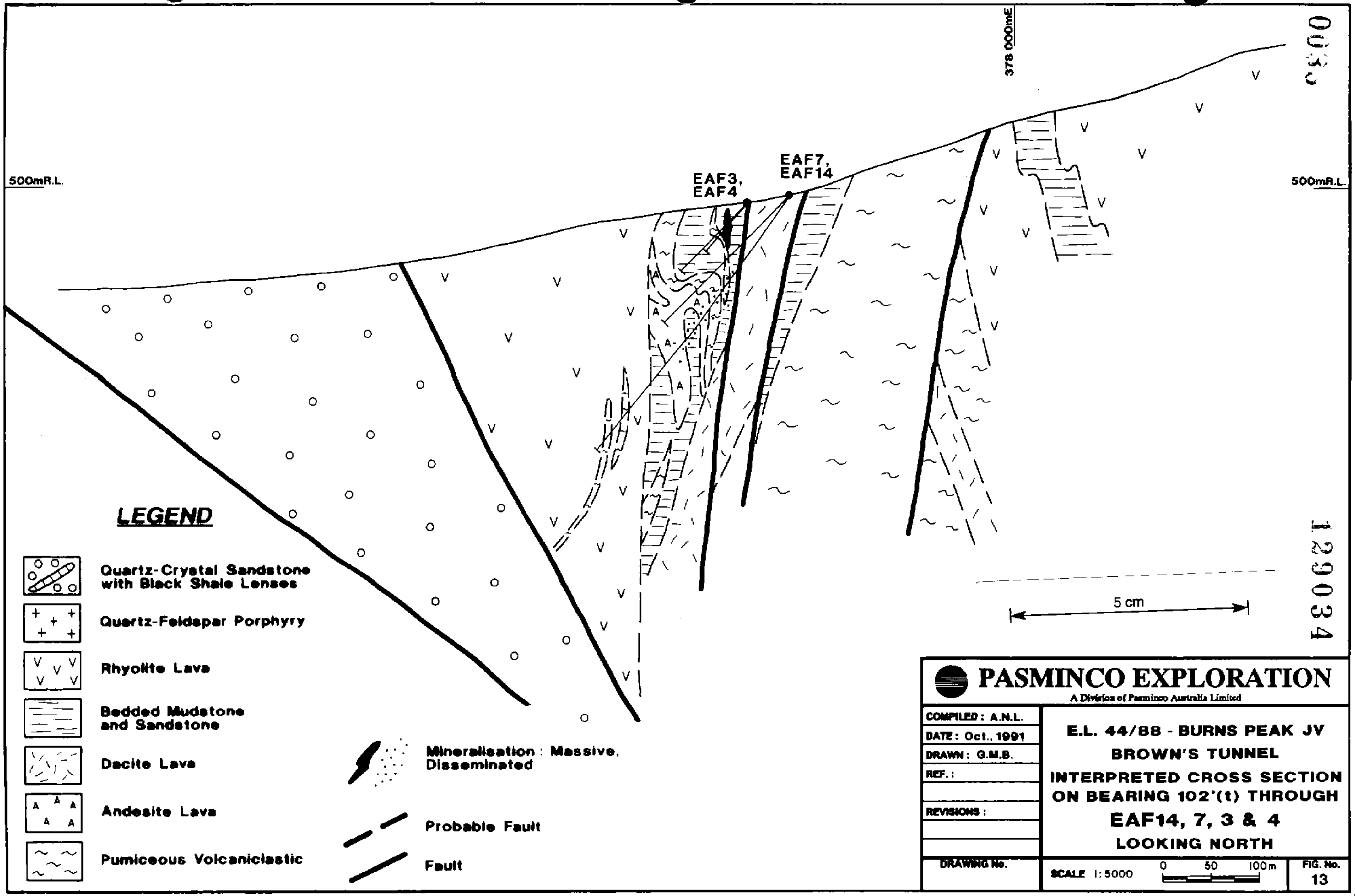
COMPILED : A.N.L.	E.L. 44/88 - BURNS PEAK JV
DATE : Oct., 1991	BROWN'S TUNNEL
DRAWN : G.M.B.	INTERPRETED CROSS SECTION
REF. :	ON BEARING 102°(t) THROUGH
REVISIONS :	BPD63, CP7, CP14, EAF15
	LOOKING NORTH
DRAWING No.	SCALE 1:5000 (0 50 100 m) — FIG. No. 12



378 000mE
500mR.L.
500mR.L.
EAF3,
EAF4
EAF7,
EAF14
5 cm
LEGEND
Quartz-Crystal Sandstone with Black Shale Lenses
Quartz-Feldspar Porphyry
Rhyolite Lava
Bedded Mudstone and Sandstone
Dacite Lava
Andesite Lava
Pumiceous Volcaniclastic
Mineralisation : Massive, Disseminated
Probable Fault
Fault
PASMINCO EXPLORATION
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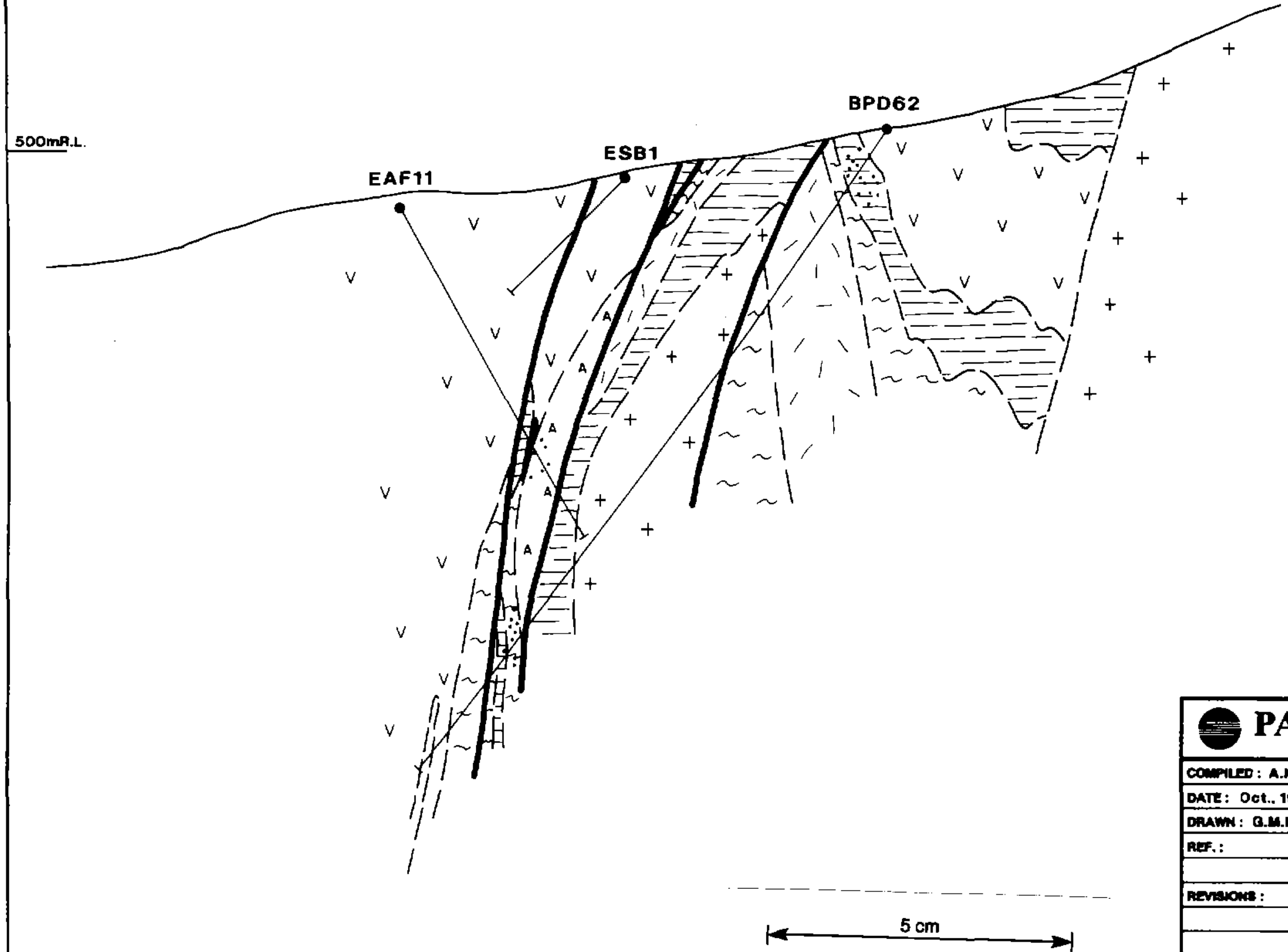
COMPILED : A.N.L.
DATE : Oct., 1991
DRAWN : G.M.B.
REF. :
REVISIONS :
DRAWING No.
E.L. 44/88 - BURNS PEAK JV
BROWN'S TUNNEL
INTERPRETED CROSS SECTION
ON BEARING 102°(t) THROUGH
EAF14, 7, 3 & 4
LOOKING NORTH
SCALE 1:5000
0 50 100m
FIG. No.
13

0036

129034



LEGEND

- Quartz-Crystal Sandstone with Black Shale Lenses
- Quartz-Feldspar Porphyry
- Rhyolite Lava
- Bedded Mudstone and Sandstone
- Dacite Lava
- Andesite Lava
- Pumiceous Volcaniclastic
- Mineralisation : Massive, Disseminated
- Probable Fault
- Fault

PASMINCO EXPLORATION
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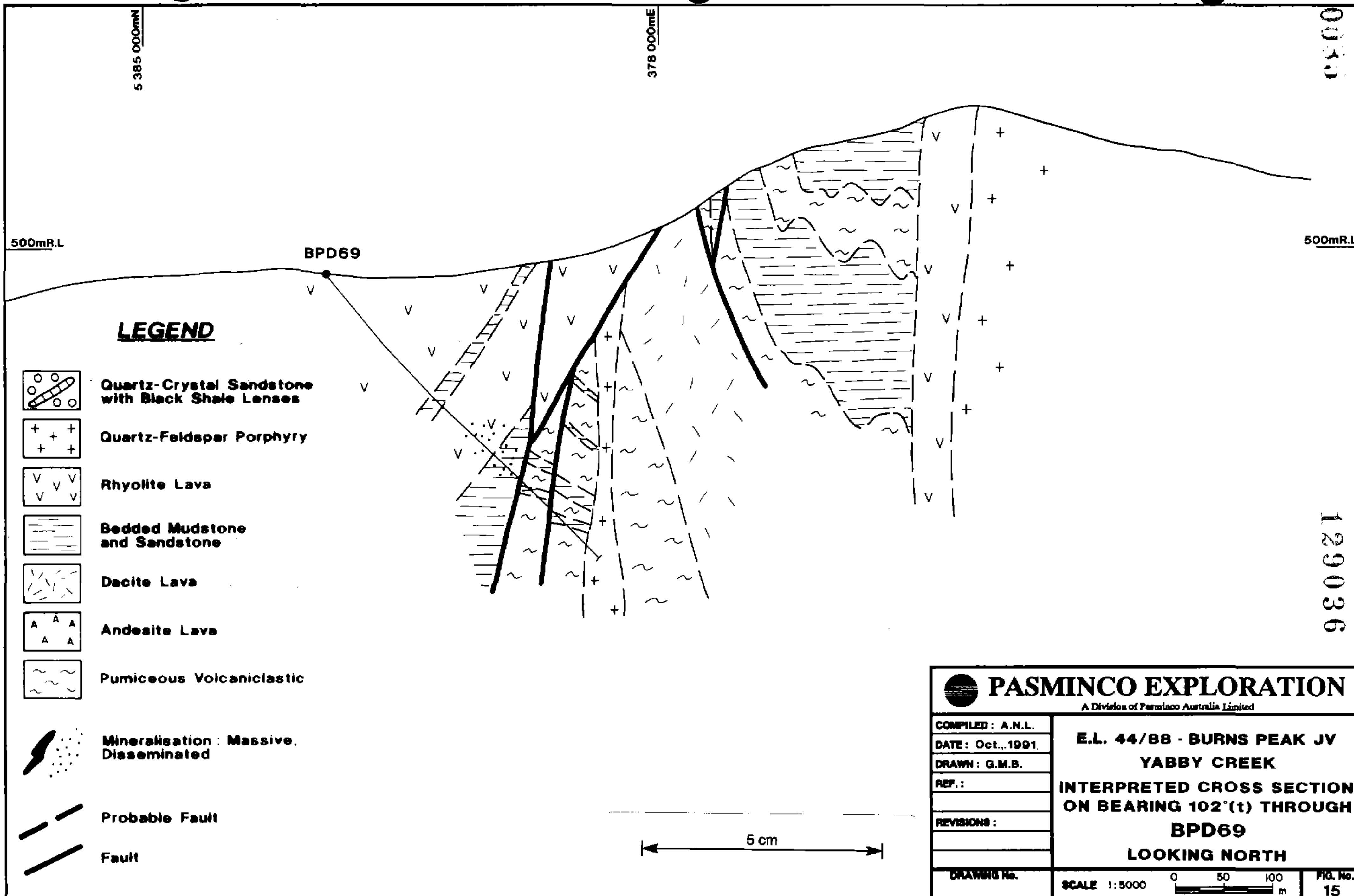
COMPILED : A.N.L.	E.L. 44/88 - BURNS PEAK JV
DATE : Oct., 1991	BROWN'S TUNNEL
DRAWN : G.M.B.	INTERPRETED CROSS SECTION
REF. :	ON BEARING 102°(t) THROUGH
REVISIONS :	EAF11, ESB1 & BPD62
	LOOKING NORTH
DRAWING No.	SCALE 1:5000 — 0 50 100 m — FIG. No. 14


5 385 000mN
378 000mE
500mR.L
500mR.L.
BPD69
LEGEND
Quartz-Crystal Sandstone with Black Shale Lenses
Quartz-Feldspar Porphyry
Rhyolite Lava
Bedded Mudstone and Sandstone
Dacite Lava
Andesite Lava
Pumiceous Volcaniclastic
Mineralisation : Massive, Disseminated
Probable Fault
Fault
5 cm
PASMINCO EXPLORATION
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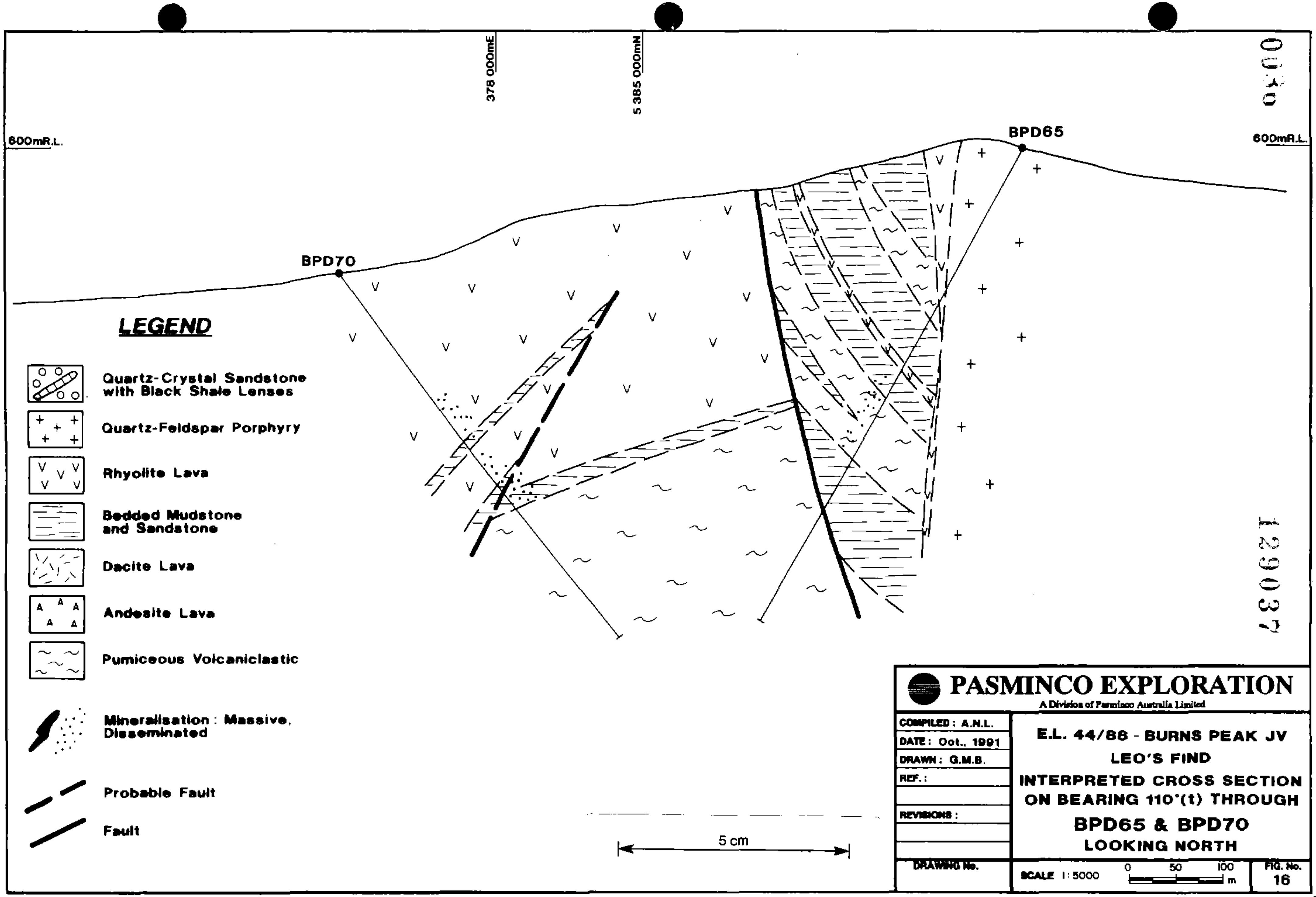
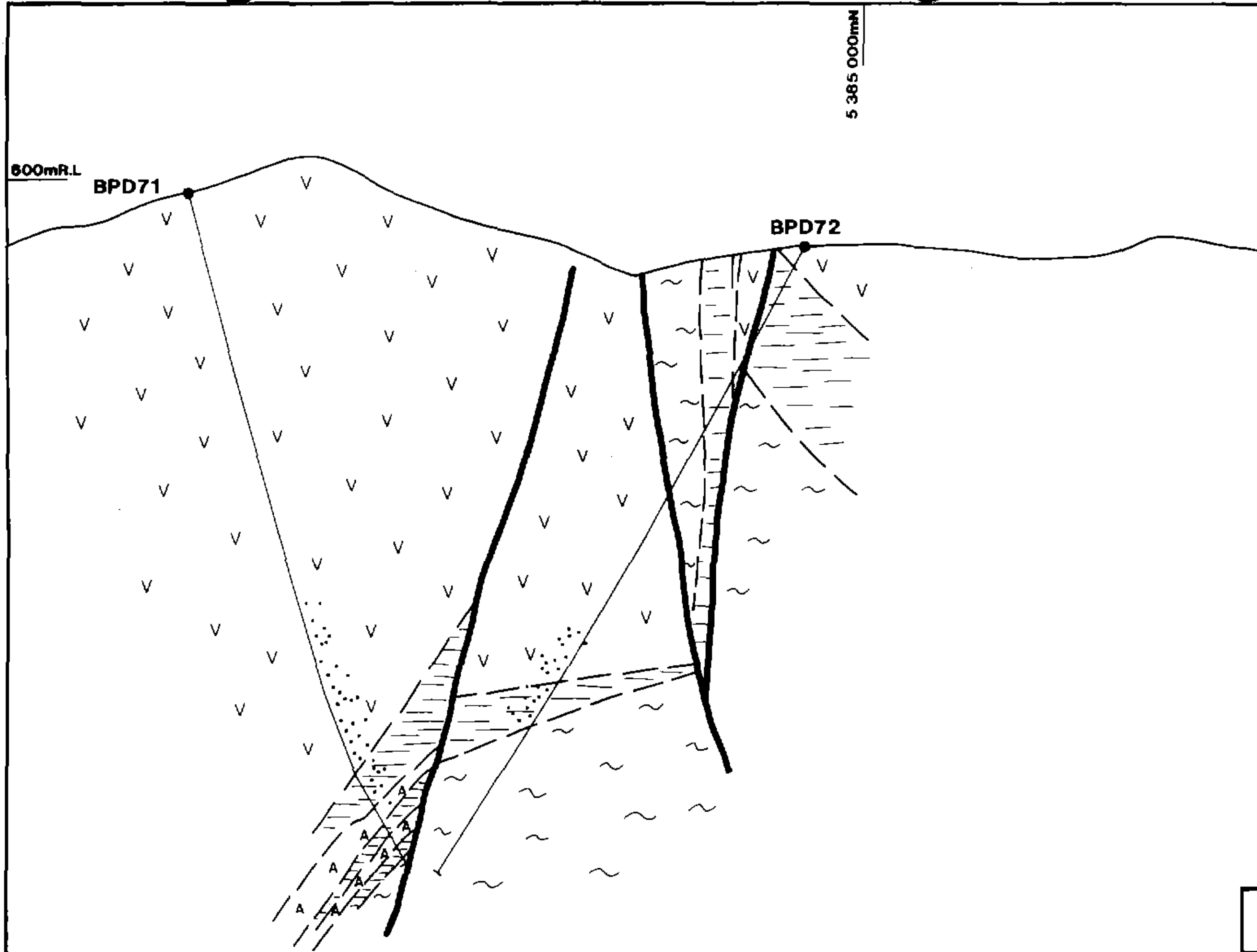
COMPILED : A.N.L.
DATE : Oct., 1991
DRAWN : G.M.B.
REF. :
REVISIONS :
DRAWING No.
E.L. 44/88 - BURNS PEAK JV
YABBY CREEK
INTERPRETED CROSS SECTION
ON BEARING 102°(t) THROUGH
BPD69
LOOKING NORTH
SCALE 1:5000
0 50 100
m
FIG. No.
15

129036



378 000mE
5 385 000mN
0030
600mR.L.
600mR.L.
BPD65
BPD70
LEGEND
Quartz-Crystal Sandstone with Black Shale Lenses
Quartz-Feldspar Porphyry
Rhyolite Lava
Bedded Mudstone and Sandstone
Dacite Lava
Andesite Lava
Pumiceous Volcaniclastic
Mineralisation : Massive, Disseminated
Probable Fault
Fault
5 cm
129037
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED : A.N.L.
DATE : Oct., 1991
DRAWN : G.M.B.
REF. :
REVISIONS :
DRAWING No.
E.L. 44/88 - BURNS PEAK JV
LEO'S FIND
INTERPRETED CROSS SECTION ON BEARING 110°(t) THROUGH
BPD65 & BPD70
LOOKING NORTH
SCALE 1:5000
0 50 100 m
FIG. No. 16

32



5 cm

LEGEND

- Quartz-Crystal Sandstone with Black Shale Lenses
- Quartz-Feldspar Porphyry
- Rhyolite Lava
- Bedded Mudstone and Sandstone
- Dacite Lava
- Andesite Lava
- Pumiceous Volcaniclastic
- Mineralisation : Massive, Disseminated
- Probable Fault
- Fault

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : A.N.L.	E.L. 44/88 - BURNS PEAK JV
DATE : Oct., 1991	LEO'S FIND
DRAWN : G.M.B.	INTERPRETED CROSS SECTION ON BEARING 135°(t) THROUGH
REF. :	BPD71 AND BPD72
REVISIONS :	LOOKING NORTH
DRAWING No.	SCALE 1:5000 — 0 50 100 m — FIG. No. 17

0037

129038

orientation to he dominant structure at Brown's Tunnel.

Neither of these holes intersected significant mineralisation. A number of faults were encountered, but the deformation associated with these is far less intense than the shearing observed at Brown's Tunnel.

Of the BPD holes drilled in the Pinnacles Area, the best intersections, in terms of lead and zinc mineralisation (see table 3) were in the holes closest to Brown's Tunnel itself (BPD63, 66, 62). This would suggest that the probability of locating massive ore within the Brown's Tunnel Sequence diminishes with distance away from the known ore occurrence. Although BPD70 and BPD65 intersected anomalous lead and zinc, subsequent drilling, along strike (BPD71, 72) only confirmed a trend of decreased mineralisation to the north.

Within the Brown's Tunnel Area, there remain two untested targets. These are:

1. Down hole EM anomaly in BPD69

   This hole is close enough to Brown's Tunnel to be of interest. The sediments intersected in this hole although not strongly mineralised, were highly altered and truncated by faulting. It is possible that an ore horizon has been faulted out. As the EM anomaly is above the hole, only a short hole would be required to test this.

2. Ore intersection at the top of BPD63

   In terms of metal content, this is the best intersection in the BPD holes. It consists of 3m @ 6.4% zinc, including a 0.6m zone of 35.2% zinc, 7300ppm Pb and 1.1g/t Au. The host rock is volcaniclastic siltstone of the Brown's Tunnel Sequence.

   This ore is west of the main Brown's "line of lode" and is thought to occur on the western limb of a syncline which folds the sediments around the southern extremity of the Pinnacles Rhyolite - (The geology is illustrated in figures 11 and 12). This western limb has not been drilled to test for continuation of the ore. This is chiefly because it is assumed that any ore horizon would be truncated by the Rosebery Fault and the structure parallel to it. It is possible, however that the are horizon may continue north and under the closure of the syncline, in which case there would be space enough for an ore body of at least 2 000 000t. A regional, northerly plunge and the probable steepening of the truncating structure could increase this volume significantly.

The prospectivity of the Brown's tunnel Sequence in this position may well be enhanced by its relative proximately to Brown's Tunnel itself and to the NW _ SE trending, regional structure which forms the southern boundary of the Pinnacles Rhyolite. A relatively shallow (probably 250m) drill hole would test the Sequence here.

6.3 Cone Hill

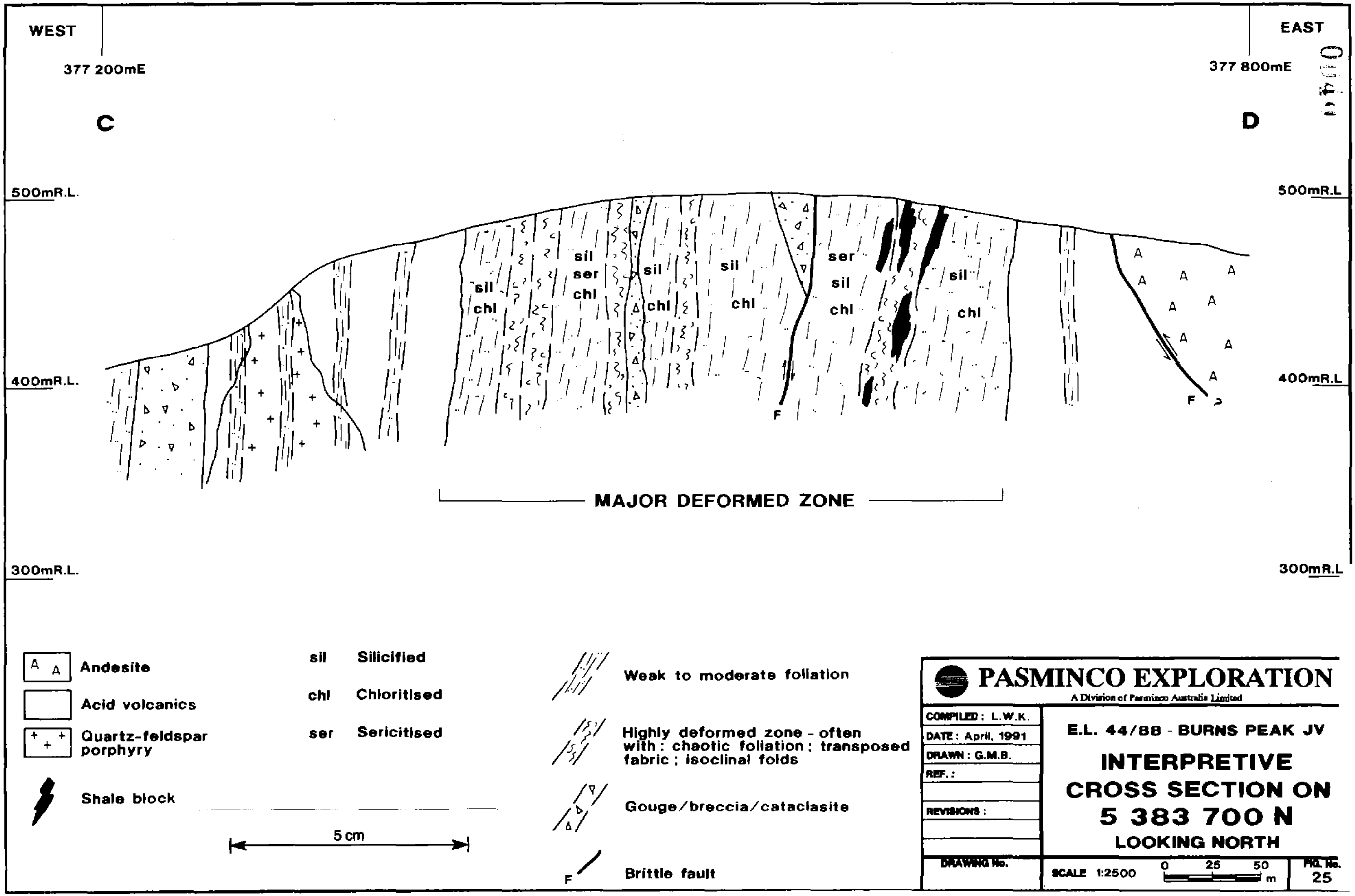
Mapping of all surface exposure was undertaken in the Cone Hill area as a follow-up to the area having been highlighted as anomalous on studying both gravity and magnetic features. This mapping extended that undertaken previously (Lorrigan, 1990) in both the Pinnacles and Hollway areas. The main aim of the re-mapping of some critical exposures was to gain a better structural understanding of the area and to shed light on the nature of features that may be causing the gravity and magnetic responses.

The results of mapping are presented in the outcrop maps, (figures 20, 21 & 22). Interpretation of critical features is summarised in figure 24, interpretive map, and figure 25, cross section.

The western margin of the volcanics in the Cone Hill area is the Rosebery Fault. Its position at surface is mappable in a number of costeans, however a dip on this structure is not evident in outcrop. Diamond drill hole CP2 does intersect the fault, and from this, its dip is estimated at 40^0 to the east. The Rosebery Fault is not a simple planar structure in this area, although it does juxtapose felsic volcanics with fine grained sediments of the Dundas Group. The structure seems to have a zone of influence in the form of strongly sheared rocks up to 20m wide in costeans, and 10m wide in drill core. There is little or no mineralisation associated with the structure here.

The major rock type in the Cone Hill area is a rhyolite to dacite lava and lava breccia unit, with minor quartz-feldspar porphyry lenses, fine-grained sediments and basalt dykes interfingered with it. Immediately east of this main unit is the main body of the Hollway andesite (figure 24). (see Appendix 3 for rock chip descriptions).

The rocks in the Cone Hill area are generally moderately to strongly foliated with mineral elongation and cleavage trending NNW and dipping steeply to the east. This is the regional cleavage orientation observed over much of the Burns Peak EL.



WEST
EAST
377 200mE
377 800mE
C
D
500mR.L.
400mR.L.
300mR.L.
sil
ser
chl
F
MAJOR DEFORMED ZONE
Andesite
Acid volcanics
Quartz-feldspar porphyry
Shale block
sil Silicified
chl Chloritised
ser Sericitised
5 cm
Weak to moderate foliation
Highly deformed zone - often with: chaotic foliation; transposed fabric; isoclinal folds
Gouge/breccia/cataclasite
Brittle fault
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: L.W.K.
DATE: April, 1991
DRAWN: G.M.B.
REF.:
REVISIONS:
DRAWING No.
E.L. 44/88 - BURNS PEAK JV
INTERPRETIVE CROSS SECTION ON 5 383 700 N
LOOKING NORTH
SCALE 1:2500
0 25 50 m
FIG. No. 25

Additionally, an extensive sub-vertical alteration and deformation corridor runs NNE-SSW parallel to and 350 to 550 metres east of the Rosebery Fault. Silica-sericite-chlorite alteration dominates, with total obliteration of feldspar crystals in some zones, grading through less deformed and altered zones to fully feldspar-phyric lavas with a weak regional cleavage outside the main zone (figures 24 & 25). Pyrite is the only sulphide mineral observed in the zone, and even this is in minor disseminated amounts (<1%) in zones of strongest sericitisation. Tectonic brecciation, transposed layering and tight folding characterise the most strongly deformed sectors of this main corridor (figure 25). Fine-grained sediments (grey shales) are incorporated at the eastern edge of the zone as discontinuous "pods" with a seemingly random orientation of bedding within the deformed zone. These pods appear to have been "torn" from nearby sedimentary units and incorporated in the volcanics, either due to primary volcanic activity or tectonic movements. A number of highly silicified, more resistant lavas form the peaks of steep-sided hills in the area, including Cone Hill itself, and are included in the main alteration zone (figures 20, 21 & 22).

Within the main deformation zone, faults are common. They are generally associated with some late stage quartz veining, probably reflecting movements in the Devonian, and record normal movement contemporaneous with or post-dating the main deformation. There are both low-angle and high-angle brittle faults, high angle ones being sub-parallel to cleavage. Gouge zones and cataclasites are more common along the high angle faults. The low angle faults are more planar, with apparently less movement recorded. Cleavage is not necessarily stronger or better developed near the faults, however it does become chaotic in orientation at the margins of and in localised areas places within the fault zone (figure 25).

The contact between the Hollway Andesite to the east and the main Pinnacles - Cone Hill Rhyolites is of unknown nature, and is possibly a faulted contact, not necessarily a conformable contact. This is proposed due to the proximity of the eastern boundary of the Cone Hill deformed zone to the contact, and the fact that the two have parallel strike for much of their length. Drilling the contact would be the only way of resolving its nature unequivocally.

The alteration within the Cone Hill deformation corridor appears to be zoned, with varied alteration fronts overlapping within the major alteration zone.

A number of NNE trending quartz-porphyry lenses appear outside the alteration and deformation zone, to both the west and north. In the south, basalt and rhyolite interfinger with each other, probably stratigraphically, but some further investigation is required to unravel their true relationships.

The geological investigations carried out in the vicinity of Cone Hill have failed to up-grade the areas in terms of base metal prospectivity, however a significant deformation and alteration zone has been outlined which may help in the interpretation of the nature of the gravity and magnetic features in the area. A follow-up gravity infill survey with stations spaced at a nominal 250m is planned for early in the next period (November 1991).

6.4 Chester-Mt Kershaw

6.4.1 PREVIOUS WORK

The work undertaken in the Chester-Mt Kershaw area during 1991 follows on from the programs initiated in 1989 and 1990 (Mathison & Rosenhain, 1989; Lorrigan 1990). These previous programs included geological mapping, rock chip sampling and lithogeochemical analysis, major regional gravity and aeromagnetic surveys as well as re-assessment of previous geochemistry (A° soil sampling and Wacker bedrock sampling), UTEM and geological mapping. This work culminated in the drilling of two diamond drill holes (BPD 67 & 68, total 937m) under the old Chester and SW Chester workings respectively, into the previously untested depth extensions of the steeply east-dipping NNE trending Chester alteration zone. These holes intersected highly pyritic-sericitic-silicified dacite lavas for most of their length, and had increased base metal levels only on the periphery of the main alteration.

Also resulting from previous work was the identification of a "favourable horizon" on the contact between the dacite lavas and the major coarse epiclastic unit, where the Chester host position lies. This contact often has fine grained sediments or bedded ash layers along it, that are the host of the major sulphide mineralisation in the area. This horizon was identified by a combination of rock chip lithogeochemistry utilising Ti/V ratios and by detailed petrological studies (Lorrigan, 1990).

In addition, regional gravity and aeromagnetic studies lead exploration back into the Chester area due to unexplained anomalies in the regional gravity signature lying directly NE of the Chester mine, and a major truncation of magnetic character, also NE of Chester. These previous exploration results formed the basis of the 1991 program in the Chester-Mt Kershaw area.

6.4.2 1991 PROGRAM SUMMARY

Work undertaken in 1991 included:

- Geological mapping and rockchip sampling on grid-lines to the east & northeast of the Chester workings to extend the mapping previously completed (Lorrigan, 1990).
- "Wacker" drilling to sample bedrock in areas of little exposure, to test the proposed position of the favourable horizon, and to gain samples for geochemical analysis.
- 74 new Wacker samples were analysed for base metals, gold and pathfinder elements and 179 Wacker samples, previously collected by BHP (1987), were assayed for pathfinder elements to add to base metals and gold which had already been assayed for.
- Gravity infill program was carried out, with reading of 140 stations at a nominal 250m spacing (including Pieman Road and Chester areas) over areas highlighted by Leaman as anomalous from the regional survey (see Lorrigan, 1990). Integration of this program with the aeromagnetics and the most recent geological interpretation was presented in Leaman 1991 (Appendix 4).
- A brief structural field study was carried out by Pasminco's in-house structural geologist.
- Planning and drilling of two diamond drill holes (BPD 73, 417.9m; BPD 74, *in progress*). The first was to test the "favourable horizon" near Mt Kershaw, coincident with a strong bedrock geochemical anomaly and the second was to test a gravity anomaly in the proposed down-plunge position of the favourable horizon.

6.4.3 DISCUSSION

(i) MAPPING & SAMPLING

Geological mapping and rock-chip sampling along old BHP grid lines (cut mid-1980's) was completed between the Chester-Pinnacles Track and the Emu Bay Railway between 5 380 000N and 5 381 000N (figure 26). This mapping covered the area highlighted by the NE Chester gravity and aeromagnetic anomaly (Leaman, 1990), as well as the proposed surface trace of the favourable lithological break to the northeast of Chester (Lorrigan, 1990). This mapping defined a series of lithologies comprising, from east to west; feldspar phyric, acid to intermediate lavas; pumiceous volcaniclastics; fine-grained sediments; fine to medium grained dacite lavas and lava breccias with varying degrees of chloritisation and albitisation.

Locally, increased amounts of fine-grained disseminated pyrite occur in the more chloritised zones (figures 26 & 27). This sequence in the northeast is interpreted to trend NNE, and dip steeply to the ESE, from evidence gained by mapping the Emu Bay Railway cuttings and sparse structural data recorded in outcrop on grid lines (figure 28). The Ti/V field boundary interpreted from rock chip analysis is coincident with the mapped position of the fine grained sedimentary unit to the northeast of Chester. This is the position of the "favourable horizon" where massive lavas to the east come into contact with epiclastic and volcaniclastic units to the west.

As a follow-up to this mapping, it was proposed to test the favourable horizon on both the northeast and western sides of Chester with a series short diamond drill holes utilising a portable drill rig that can be used on grid lines with minimal environmental disturbance. This rig was unavailable, so a portable "Wacker" drill rig, (which cuts up to 8cm diameter holes into the upper layer of bedrock) was used to collect bedrock samples across the favourable horizon. Three gridlines were sampled to the northeast of Chester and two lines to the west for a total of 74 samples. These samples were logged and assayed for a suite of elements used as "pathfinder" and alteration indicators, including Cu, Pb, Zn, Au, Ag, Mn, Ba, Bi, Sn, Sb, As, Tl. In addition, 179 previously collected samples (by BHP, 1987) from across the favourable horizon were analysed for Mn, Ba, Bi, Sn, Sb, Tl, the other elements having been analysed for previously. The location of samples, grid lines and full geochemical results are included as Appendix 2.

(ii) BPD 73

Geochemical results from 1991 Wacker samples collected northeast of Chester were disappointing. No anomalous metal levels were detected in any of the samples assayed. This result was in part due to the inability of the Wacker cutting head to penetrate gravel-sized fluvio-glacial surficial deposits, often encountered at shallow depths. Fifteen of the thirty-three samples collected northeast of Chester were contaminated by or wholly composed of fluvioglacial gravel (Appendix 2). In addition nine of the forty-one samples collected during the same program on two lines to the west of Chester, near Mt Kershaw, had fluvio-glacial contamination. In contrast none of the previously collected BHP (1987) Wacker samples from the Mt Kershaw area, upon re-logging, were found to contain fluvio-glacial contamination. These samples were collected by the same contractor using similar equipment, however the cutting head used was only 3cm diameter (versus 6-8cm diameter used in 1991). The rationale behind using the larger cutting head for the 1991 program was to gain a larger sample, however with the benefit of hindsight, a complete set of samples of smaller size would have been far more useful. The loss of nearly one third of the potential information due to inability to penetrate surficial deposits negated the additional value of collecting larger samples. This must be taken into account for any future program in glacial affected areas.

The results gained from assaying the samples from the Mt Kershaw area, west of Chester (1991 and 1987 program) for a multi-element "pathfinder" suite (see list, above) were very effective in anomaly detection and drill target generation. An anomalous metal level was taken to indicate only the uppermost 10% (approximate) of assay results for each metal taken individually. This assumed a roughly log-normal distribution, which approximates true distribution for metals in these samples. All metals analysed for showed some degree of anomalism in some samples, except for Bi and Tl. These two have subsequently been discarded from the "pathfinder" suite as their high detection limits do not allow anomaly detection in this type of program. Sn and Sb are also of dubious value. Anomalous levels used for each of the ten remaining elements are given below:

Metal:	Cu	Pb	Zn	Ag	Au	Mn	Ba	Sn	Sb	As
Anomalous level: ppm	40	400	400	3	0.015	400	1 000	4	4	8

A simple weighting scheme was devised to indicate which samples were worthy of follow-up. With every sample treated separately, each sample was given a point for each element it contained that has a level higher than the anomalous level given above. This led to the majority of samples returning a "pathfinder index" value of zero. Many also returned a value of one. A number of samples ran much higher than this, with eighteen samples recording a pathfinder index value of four, five or six anomalous elements. Fourteen of these eighteen highly anomalous samples were collected from a north-south trending zone approximately 100 metres wide on the western flank of MT Kershaw. This position is directly above the mapped position of the critical stratigraphic break between epiclastics and lavas, along which fine grained sediments often lie, including the Chester host sediments (figure 27, map & figure 28, cross section). This position also coincides with a "third order" IP anomaly albeit in an area of sparse IP coverage (figure 8).

The down-dip extension of the structure or stratigraphic break controlling the distribution of anomalous metal values at the surface and causing the IP anomaly was the target of diamond drill hole BPD 73. This hole was collared at AMG 5 380 600N 377 435E 520m above sea level (approximately) and drilled west (258° magnetic), at an initial collar dip of -60°. The drill log of BPD 73 is included in Appendix 1. This hole was drilled from 26 September to 17 October, and was completed at 417.9m. Assay results and detailed petrographic analysis of the core were not available at the time of writing this report. A summary log is given below:

0-138.5m	DACITE LAVA & SHALLOW INTRUSIVE - variably chloritised and sericitised, sporadically flow banded feldspar phyric and generally weakly foliated (regional cleavage). Quartz and carbonate filled veins and vughs contain minor galena + sphalerite. Disseminated pyrite (<1%). Devonian (pink/orange) alteration overprint. Some brecciated zones (primary lava breccias?).
138.5m-147.0m	TECTONIC BRECCIA-INCLUDES FINE GRAINED SEDIMENTS & LAVA FRAGMENTS (FAULT ZONE) - sericitised and pyritised (<5%) much broken core and qtz-carbonate veining; minor sphalerite and chalcopyrite mineralisation.
147.0-203.5m	DACITE LAVA BRECCIA & EPICLASTIC BRECCIA - massive, occasionally foliated, includes Devonian alteration and minor disseminated pyrite.
203.5-265.95m	DACITE LAVA BRECCIA & EPICLASTIC BRECCIA - as above, but with marked increase in qtz-carbonate veining and minor chalcopyrite mineralisation; traces of sphalerite and galena.
265.95-267.4	DACITE LAVA
267.4-269.4	BASALTIC DYKE
269.4-269.75	FAULT ZONE/PUG
269.75-270.9	SHEAR ZONE - banded and possibly mylonitic.
270.9-325.7	DACITE LAVA & EPICLASTIC BRECCIA - variably feldspar phyric and colour varies from pale grey through pink to dark grey-green. Contains minor faults and shear zones, qtz-carb veining and some grainsize variations. Pink/orange colour Devonian overprint dominates.
325.7-329.0	BASALTIC DYKE
329.0-379.9	DACITE LAVA & EPICLASTIC BRECCIA

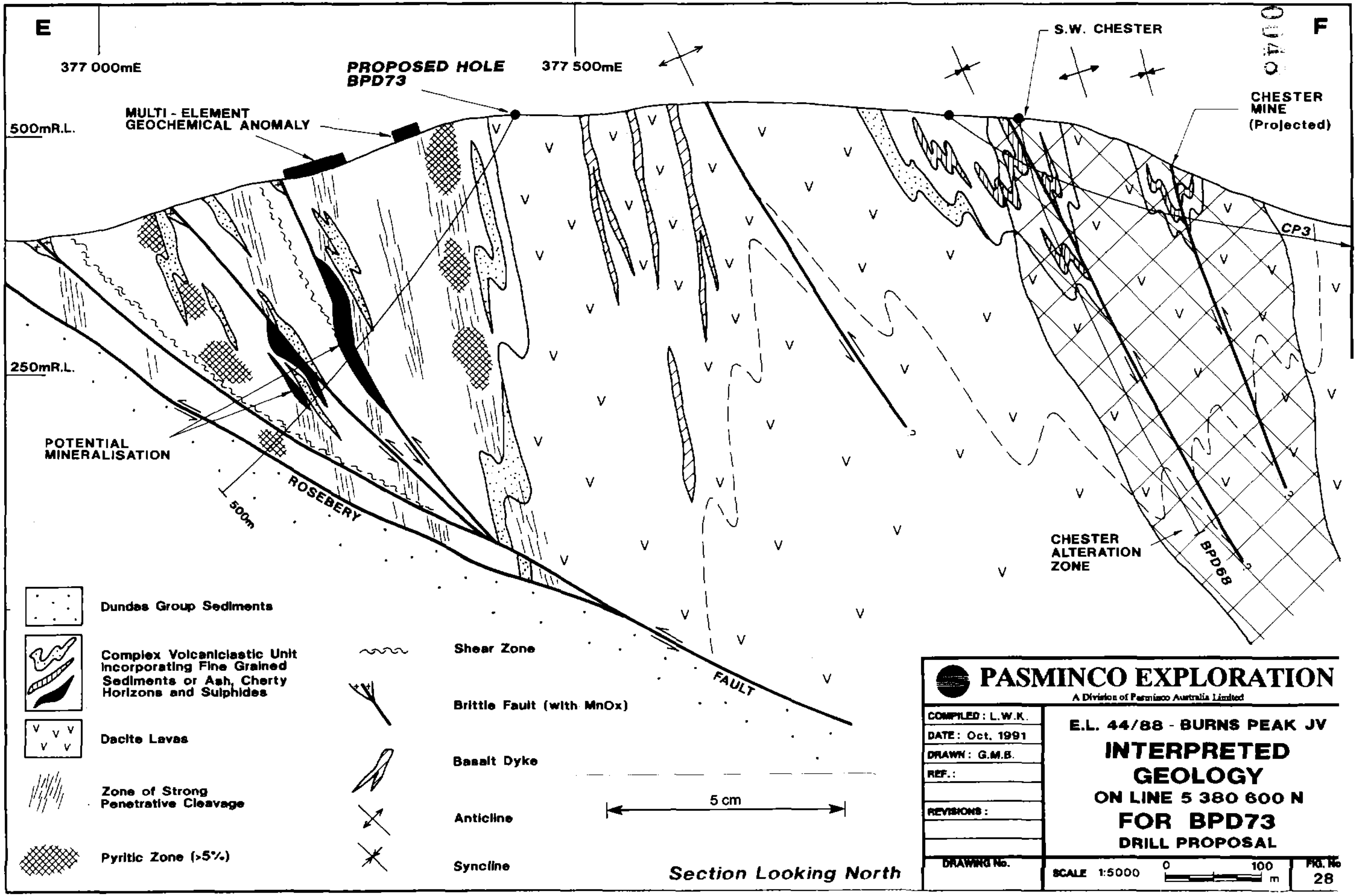
	- as above.
379.9-393.9	COARSE DACITIC ? INTRUSIVE
393.9	ROSEBERY FAULT
393.9-398.0	BLACK SHALE (ROSEBERY FAULT ZONE)
	- brecciated, faulted, broken core, veined.
398.0-403.2	SHALLOW INTRUSIVE (DACITE)
	- medium-grained msv. chloritised acid volcanic.
403.2-417.9	BLACK SHALE
	- bedded black shales, finely laminated. Variable bedding to core angle, small joints and faults, minor carbonate veining.

(iii) BPD 74

Concurrently with the completion and analysis of the Wacker program and the planning of diamond drill hole BPD 73 was the gravity infill program around the Chester mine. Results of this program were sent to Dr D E Leaman for processing and interpretation. The detailed gravity survey was integrated with the 1990 aeromagnetic survey and recent geological interpretation, culminating in the presentation of the Detailed Review of the Chester Area (Appendix 4) by Leaman. This report incorporates all available measured data - including magnetic susceptibilities from critical outcrop and drill core and specific gravity measurements from core. (Those collected during the current period are included in Appendix 6). Significant conclusions from this report one:

- The definition of a string of positive mass anomalies trending north to NNW from a larger positive mass anomaly at the Chester mine. (figures 24 & 27).
- Large NW - SE trending and sub-east-west trending structures (defined from aeromagnetics) intersect immediately north of Chester.
- The NW-SE structure truncates a strong north-south trend to its southwest, in the Chester area, and a strong high-relief character to its north-east.
- Alteration penetrates to the depth of the Rosebery Fault in the Chester area.

A full reprint of the Leaman report is included as Appendix 4, and contains all relevant gravity data, as well as plans and sections through the area. The most recent geological interpretation of the Chester area is included in figures 27, 28 and 29. These show a series of shallow NNE plunging and trending folds, with a steep easterly-dipping axial planar cleavage and some parasitic folding. The folds tend to be cut by steep NNE trending faults,



PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

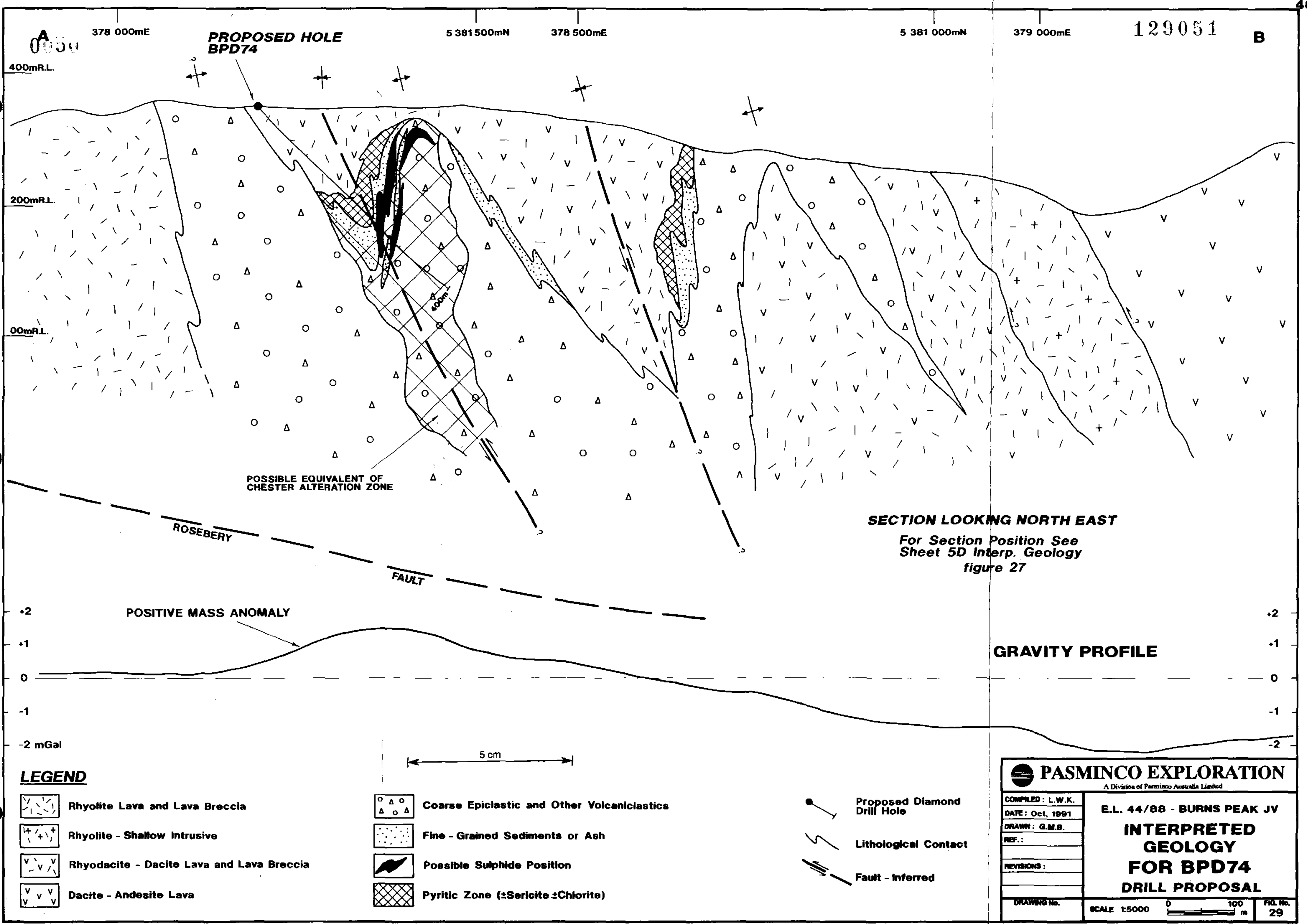
COMPILED : L.W.K.	E.L. 44/88 - BURNS PEAK JV
DATE : Oct. 1991	INTERPRETED GEOLOGY
DRAWN : G.M.B.	ON LINE 5 380 600 N
REF. :	FOR BPD73
REVISIONS :	DRILL PROPOSAL
DRAWING No.	SCALE 1:5000 0 100 m — FIG. No 28

and the whole volcanic sequence is cut off at depth by the Rosebery Fault. This is the "most folded" solution to the problems of structure in the in the Chester area, but fits the data currently available. The reality may be somewhat simpler.

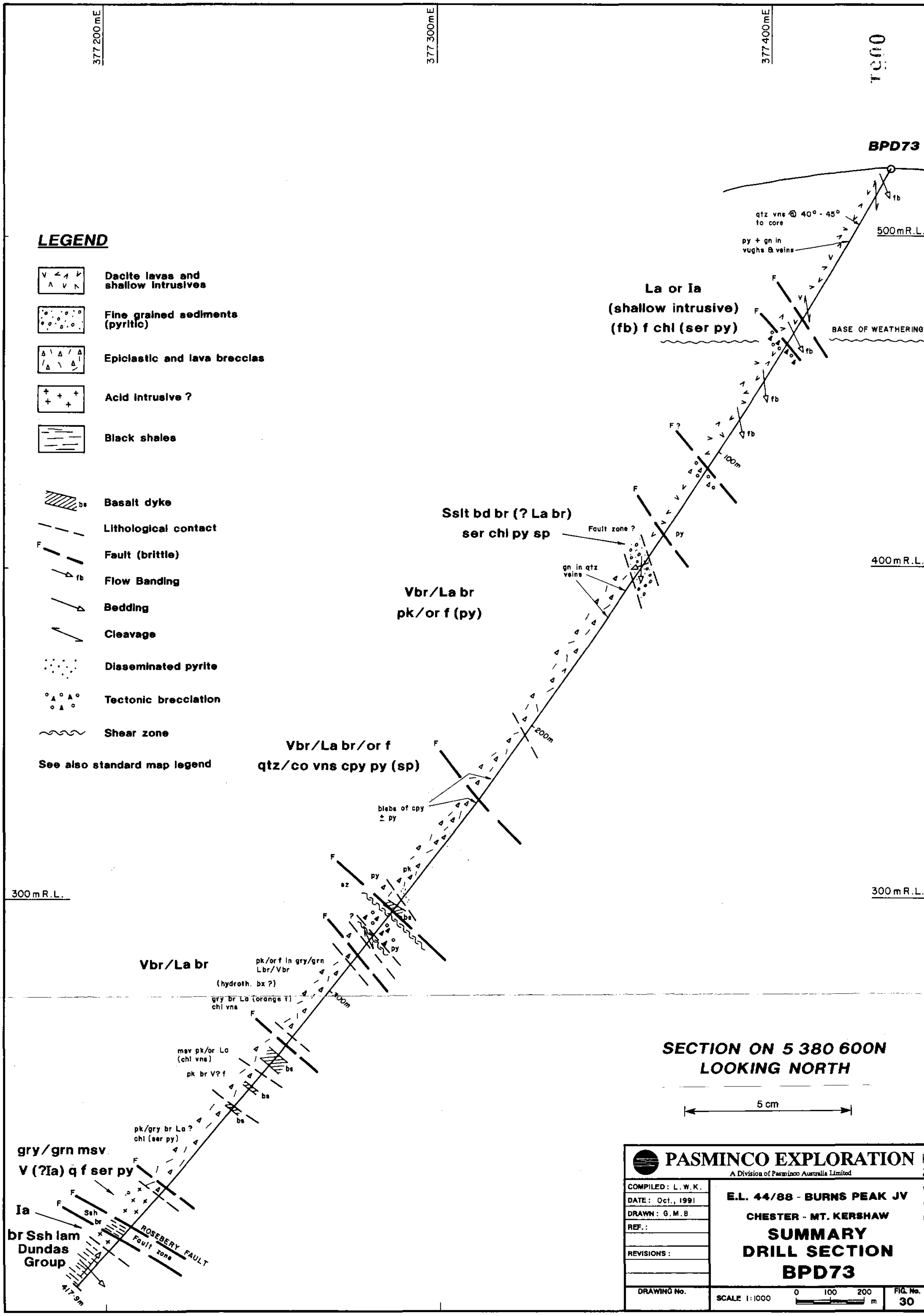
Diamond drill hole BPD 74 was designed to test for potentially mineralised horizons or structures within this folded sequence of coarse epiclastics, dacite lavas, lava breccias and *fine grained sediments approximately 700m north of the* Chester pyrite deposit. The target was defined after the recent close-spaced gravity measurements were interpreted and integrated with the 1990/91 aeromagnetic survey and current geological interpretation of the area. The series of positive gravity anomalies that extend northward from a main anomaly situated at the Chester pyrite workings (figures 24 & 27) were unexpected, unassessed and as yet untested. The north to NNW trend of these gravity features is identical to the trend of the magnetic contours in the area. This trend is truncated to the north of the Chester Dam by the regional-scale NW-SE trending feature, evident in magnetic, gravity and to a lesser extent geological features. Also evident in the magnetics is a regional E-W trending feature, that passes through the Chester deposit itself. These E-W features are present for most known sites of major mineralisation in Western Tasmania and are believed to indicate basement discontinuities. The zone to be drill tested is in the area of influence of the NW-SE magnetic feature, coinciding with the largest of the untested gravity anomalies.

The nature of the NW-SE feature is unknown, but it is likely to be a fundamental lithological break, defined by the complete contrast of magnetic character between its NE and SW sides. The feature may be a basement - *controlled fault and may have been the pathway for* mineralising fluids. Surface geological evidence for this structure is provided in the pinching of units and the disappearance of the epiclastic horizon to the NE (figure 27). The drill hole will also intersect the lithological contact between the coarse epiclastic units and the dacite lavas, that often contains fine grained sediments, particularly in the Chester and SW Chester workings, and hosts the major sulphide mineralisation in the area. This diamond drill hole is the first on the Burns Peak licence specifically designed to test a gravity and magnetic anomaly highlighted by Dr D E Leaman.

A proposed cross section for BPD 74, incorporating a gravity profile, is presented as figure 29. This drill hole was collared on 24 October 1991 and no results were available, at the time of writing this report.



A
B
0050
129051
378 000mE
5 381 500mN
378 500mE
5 381 000mN
379 000mE
PROPOSED HOLE BPD74
400mR.L.
200mR.L.
00mR.L.
400m
POSSIBLE EQUIVALENT OF CHESTER ALTERATION ZONE
ROSEBERY FAULT
SECTION LOOKING NORTH EAST
For Section Position See Sheet 5D Interp. Geology figure 27
POSITIVE MASS ANOMALY
GRAVITY PROFILE
+2
+1
0
-1
-2 mGal
5 cm
LEGEND
Rhyolite Lava and Lava Breccia
Rhyolite - Shallow Intrusive
Rhyodacite - Dacite Lava and Lava Breccia
Dacite - Andesite Lava
Coarse Epiclastic and Other Volcaniclastics
Fine - Grained Sediments or Ash
Possible Sulphide Position
Pyritic Zone (±Sericite ±Chlorite)
Proposed Diamond Drill Hole
Lithological Contact
Fault - Inferred
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED : L.W.K.
DATE : Oct, 1991
DRAWN : G.M.B.
REF. :
REVISIONS :
DRAWING No.
E.L. 44/88 - BURNS PEAK JV
INTERPRETED GEOLOGY FOR BPD74
DRILL PROPOSAL
SCALE 1:5000
0 100 m
FIG. No. 29


377 200mE
377 300mE
377 400mE
BPD73
500mR.L.
400mR.L.
300mR.L.
LEGEND
Dacite lavas and shallow intrusives
Fine grained sediments (pyritic)
Epiclastic and lava breccias
Acid intrusive ?
Black shales
Basalt dyke
Lithological contact
Fault (brittle)
Flow Banding
Bedding
Cleavage
Disseminated pyrite
Tectonic brecciation
Shear zone
See also standard map legend
qtz vns @ 40° - 45° to core
py + gn in vughs & veins
La or Ia
(shallow intrusive)
(fb) f chl (ser py)
BASE OF WEATHERING
Sslt bd br (? La br)
ser chl py sp
Fault zone ?
gn in qtz veins
Vbr/La br
pk/or f (py)
Vbr/La br/or f
qtz/co vns cpy py (sp)
blebs of cpy ± py
Vbr/La br
pk/or f in gry/grn Lbr/Vbr
(hydroth. bx ?)
gry br La (orange ?) chl vns
msv pk/or La (chl vns)
pk br V? f
pk/gry br La ? chl (ser py)
gry/grn msv
V (?Ia) q f ser py
Ia
br Ssh lam
Dundas
Group
ROSEBERY FAULT
Fault zone
417.9m
SECTION ON 5 380 600N
LOOKING NORTH
5 cm
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: L.W.K.
DATE: Oct., 1991
DRAWN: G.M.B
REF.:
REVISIONS:
DRAWING No.
E.L. 44/88 - BURNS PEAK JV
CHESTER - MT. KERSHAW
SUMMARY
DRILL SECTION
BPD73
SCALE 1:1000
FIG. No. 30

6.5 Other Prospects

6.5.1 MACKINTOSH BLUFFS

Reconnaissance mapping was undertaken on this prospect. Rocks mapped as sediments on the bluffs themselves may be lava breccias with patches of strong silicification. Samples of these will be sent for petrological examination.

Some highly siliceous rock chip samples contained large (1-2cm) clots of pyrite. One of these was sent for assay. No association of pyrite and silicification with base metal or gold mineralisation was found. The assay results are as follows:

Sample No.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au g/t
30556	10	5	40	0.5	<0.008

6.5.2 HOLLWAY

Brief reconnaissance mapping was undertaken in the Hollway area as a follow up to the work completed by an Honours student in 1990 (see Lorrigan, 1990). This was an extension of the Cone Hill mapping to the south, linking the two prospects in a continuous belt (figures 24 & 27). The Hollway alteration zone remains a target of interest on the Burns Peak EL and will be included in future programs for more detailed study.

6.5.3 RAILWAY

The Railway prospect (figure 4) was highlighted as being geophysically anomalous in character following the 1990 regional gravity and aeromagnetic interpretation and integration (Leaman, 1990; Lorrigan, 1990). Follow-up work has begun, with regional-style geological mapping along the Emu Bay Railway (figures 23 & 26), which clips the western edge of the anomalous zone, and planing for a gravity infill program, with stations spaced at a nominal 250m, similar to the Cone Hill, Chester and Pieman Road programs outlined elsewhere in this report.

The mapping already completed has outlined a sequence of massive feldspar-phyric, acid to intermediate lavas, lava breccias and minor volcaniclastics with little or no alteration detectable at surface. A number of high-angle faults and shear zones have also been identified. Further follow-up work is planned for the coming year in this area, following similar lines to those described in sections 6.3 (Cone Hill) and 6.4 (Chester-Mt Kershaw) above. (see section 8).

6.6 Drilling Summary

BPD 70	AMG COORDINATES:	538 5103.4N
		377 836.9E
		466.9mASL
	COLLAR DIP:	-55^{0}
	COLLAR AZIMUTH (AMG):	107^{0}
	TOTAL DEPTH:	495.5m
	DATE COMMENCED:	2 OCTOBER 1990
	DATE COMPLETED:	2 NOVEMBER 1990
	PROSPECT:	YABBY CREEK
BPD 71	AMG COORDINATES:	5 383 373.5N
		378 279.5E
		589.0m ASL
	COLLAR DIP:	-75^{0}
	COLLAR AZIMUTH (AMG):	132^{0}
	TOTAL DEPTH:	495.5m
	DATE COMMENCED:	NOVEMBER 1990
	DATE COMPLETED:	21 DECEMBER 1990
	PROSPECT:	LEO'S FIND
BPD 72	AMG COORDINATES:	5 385 034.4N
		378 610.4E
		547.3m ASL
	COLLAR DIP:	-62^{0}
	COLLAR AZIMUTH (AMG):	304^{0}
	TOTAL DEPTH:	563.2m
	DATE COMMENCED:	1 AUGUST 1991
	DATE COMPLETED:	5 SEPTEMBER 1991
	PROSPECT:	LEO'S FIND
BPD 73	AMG COORDINATES:	5 380 600N
	(APPROX.)	377 435E
		520m ASL

	COLLAR DIP:	-60°
	COLLAR AZIMUTH (AMG):	270°
	TOTAL DEPTH:	417.9m
	DATE COMMENCED:	26 SEPTEMBER 1991
	DATE COMPLETED:	17 OCTOBER 1991
	PROSPECT:	CHESTER - MT KERSHAW
BPD 74	AMG COORDINATES:	5 381 730N
	(APPROX.)	378 160E
		350mASL
	COLLAR DIP:	-50°
	COLLAR AZIMUTH (AMG):	135°
	TOTAL DEPTH:	400m (PROPOSED)
	DATE COMMENCED:	24 OCTOBER 1991
	DATE COMPLETED:	(IN PROGRESS)
	PROSPECT:	CHESTER

TOTAL METRES DRILLED: **2030.2m**
(2 OCTOBER 1990 - 17 OCTOBER 1991)

7. ENVIRONMENTAL REHABILITATION

An active rehabilitation program is being implemented on EL 44/88.

Old workings and areas of past disturbance are being rehabilitated on a cost sharing basis with the mines department.

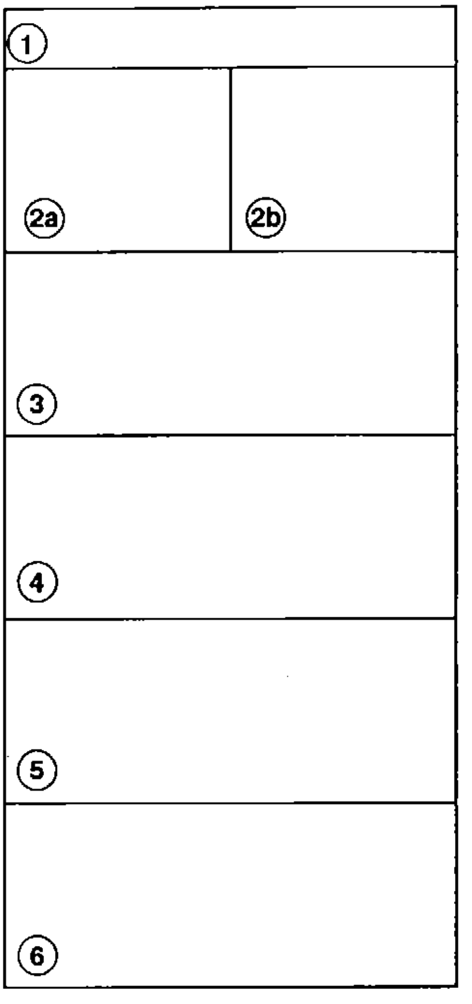
Test areas have been established and are regularly monitored to ascertain the optimum methods and conditions for revegetation programs.

The co-ordinated use of earth moving equipment in conjunction with drill rig mobilisation has proved a cost effective approach to rehabilitation work.

A photographic record of rehabilitation work on EL 44/88 is being kept up to date.

0056

129057



1. SEEDLINGS E. Obliqua, E. Nitida.
2a. SEEDLINGS E. Obliqua, E. Nitida – fertilized with N.P.K.
2b. SEEDLINGS E. Obliqua, E. Nitida – no fertilizer.
3. Tea tree slash – no fertilizer.
4. SEEDLINGS E. Nitida, no slash – fertilized with N.P.K.
5. SEEDLINGS E. Nitida, slash – fertilized with N.P.K.
6. SEED MIX E. Nitida, L. Scoparium, slash – fertilized with N.P.K.

SEEDLINGS USED : E. Obliqua – 160
E. Nitida – 40

SLASH VEGETATION USED : L. Scopariun, L. Nitidum, M. Squarrossa, M. Squmea.

PASMINCO EXPLORATION A Division of Pasminco Australia Limited	
COMPILED : H.C.R. DATE : Nov., 1991 DRAWN : G.M.B. REF. : REVISIONS :	E.L. 44/88 – BURNS PEAK JV **REVEGETATION TEST AREA** ESTABLISHED 11.10.90
DRAWING No.	SCALE
FIG. No. 31	

8. WORK PROPOSED - NOVEMBER 1991 TO OCTOBER 1992

PINNACLES

Reassessment of all geological, geochemical and geophysical data; down-hole EM on all outstanding holes (BPD 71 & 72); assessment and possible trial of other down-hole logging methods. Short hole diamond drilling program.

CONE HILL

Gravity infill, at nominal 250m spacing; interpretation and integration with aeromagnetics; follow-up of favourable results; geochemical and/or bedrock sampling program, leading to possible drilling targets.

HOLLWAY

Detailed geological mapping of the eastern andesite contact; geochemistry and/or bedrock sampling program. Definition of drill targets.

RAILWAY

Grid cutting; gravity infill at 250m spacing; integration and interpretation of gravity and aeromagnetics; geological mapping; geochemical sampling and drill target generation.

CHESTER

Ongoing drilling program (BPD 74); DHEM and other down-hole logging; lithogeochemistry with a view to defining the direction most favourable within the Chester system for major base metal mineralisation; alteration studies; new targets.

PIEMAN ROAD

Integration of gravity and aeromagnetics; geological mapping; geochemical sampling; definition of drilling targets.

EASTERN HALF OF EL

Geophysical data review; geological follow-up of favourable targets with an emphasis on structural geology; geochemical sampling in areas of intersect. New prospect generation.

GENERAL

-2 000m of diamond drilling

-total budget for 1991-92: $450 000

9. EXPENDITURE SUMMARY

EXPENDITURE STATEMENT
FOR THE PERIOD 1.11.90 TO 30.9.91

BURNS PEAK 44/88, TASMANIA

Expenditure	**$**
Personnel	68 769
Travel & Accommodation	10 063
Consultants & Contractors	86 224
Drilling	124 995
Stores & Supplies	7 321
Vehicles Plant & Equipment	7 174
Tenement	4 495
Computing	4 809
District Office	68 691
Administration	38 254
Total	**420 795**

This brings total expenditure since granting of the EL to: **$1 419 230***

Proposed budget for 1 November 1991 to 31 October 1992 is: **$450 000**

* this figure does not include the estimated expenditure for October 1991 ($40 000)

10. CONCLUSIONS

Although no significant mineralisation was intersected in drill holes during 1990-91, some encouraging exploration results were achieved.
These include:

-The outlining of three distinct positive gravity anomalies to the north of the Chester pyrite deposit that were previously unknown.

-The drilling of a potentially mineralised lithological contact west of Chester, near Mt Kershaw, that had elevated base metal content (BPD 73). Indications exist for more major mineralisation elsewhere on this contact.

-The outlining of a major alteration and structural corridor in the Cone Hill region coinciding with gravity and magnetic anomalies.

-Further drilling of the Pb - Zn - anomalous Brown's Tunnel Sequence along the complex Pinnacles Axis, and a new more comprehensive understanding of the structure and distribution of lithologies in the area. Identification of two shallow drilling targets.

These good results and other favourable leads in the area will be followed up by a continuing vigorous exploration program on the Burns Peak EL. A budget of $450 000, including 2 000m of diamond drilling is proposed for the twelve month period from November 1991 to October 1992.

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KEYWORDS

LEAD, ZINC, VOLCANOGENIC, MASSIVE SULPHIDE, MT READ VOLCANICS. THRUST, GEOLOGY, AEROMAGNETICS, DOWN HOLE ELECTROMAGNETICS, GRAVITY, CHESTER, PINNACLES, BURNS PEAK EL 44/88, GEOCHEMISTRY, CAMBRIAN.

LOCALITY

SOPHIA	1:100 000	SHEET	8014
BURNIE	1:250 000	SHEET	SK55

APPENDIX 1
Diamond Drill Hole Logs
and Results

0065

HOLE No. BPD 70

PASMINCO EXPLORATION
DIAMOND DRILL HOLE LOG

Page of

LOCATION	TASMANIA.
PROJECT	BURN'S PEAK
PROSPECT	YABBY CREEK
DESIGNED BY	A. LORRIGAN
LOGGED BY	A. LORRIGAN
RELOGGED	
COMMENCED	2/10/1990
COMPLETED	2/11/1990
DRILLED BY	Diamond Drilling Tasmania Pty. Ltd.
DRILL RIG	L/Y 38

OBJECTIVE

To test for strike extensions of the Brown's Tunnel Mineralisation on the Western Limb of the Pinnacles Anticline.

RESULT

25.8m of the "Brown's Tunnel Sediments" were intersected. They are weakly mineralised, containing 20m at 0.39% Pb, including 2m at 0.85% Pb + 4m at 0.68% Pb.

LOCATION/SURVEY DATA (AMG)

Grid	AMG	RL Collar m	466.9
Northing m	53 85103.4	Bearing Collar	095 (mag)
Easting m	377836.9	Dip Collar	55.
DH Survey Type	Eastman Camera.	Length Hole m	495.5m.

Depth m	Bearing (Mag)	Dip	Depth m	Bearing	Dip
Set Up	95	55			
50	95	55			
150	99	54			
200	100	54			
250	102	54			
300	104	53.5			
350	105	53			
400	105	51.5			
450	106	51			
495.	109	49.			

SIGNIFICANT INTERSECTIONS

From m	To m	Interval m	Cu	Pb	Zn	Ag	Au (ppm)	Comments
302	322	20	34	3973	835	2.2	0.015	"Brown's Tunnel Sediments"
326	328	2	50	1200	810	<1		}
330	332	2	88	1920	4200	2		}
340	342	2	36	2000	310	2		}

SIGNIFICANT CORE LOSS

From m	To m	% Lost

POOR GROUND CONDITION ZONES

From m	To m	Condition

HOLE SIZE

Size	Depth m
Tricone (HW)	3.8
HQ	87.6
NQ	495.8 (EOH)

HOLE CONDITIONS AFTER COMPLETION

Collar	
Steel Casing	
PVC Casing	PVC Casing for Down Hole EM 0-495.8m.
Ground Water	
Wedge	
Drill Pad	Completely Rehabilitated - no vehicular access.

129064

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 70

PROJECT: E.L. 44/88 BURN'S PEAK – YABBY CREEK AREA.

Graphic Scale 1: 250

CORE RECOVERY From m	Interval m	%	RQD	DESCRIPTION From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	CODES LITHO	STRUCT	ALTN	MIN
0	3·8			0	3·8	Tricone Chips of white and pink, quartz + feldspar phyric lava.	3·8							
3·8	15·9	95		3·8	15·9	HQ Core Weathered, white, pink + pale green, quartz and feldspar phyric clasts in a light coloured, fine grained groundmass. Rhyolite Lava Breccia.	15·9							
15·9	57·5	100		15·9	57·5	Transition from weathered, white rock to pink, less broken rock. at 21·4. Quartz and feldspar phyric, flow banded, massive Rhyolite Lava. Feldspar phenos are replaced by cream coloured carbonate ?siderite. Weak sericite alteration along some flow bands. Groundmass is siliceous + the rock is hard.	57·5							
57·5	59·4	100		57·5	59·4	Jig-saw fracturing of rhyolite, fractures filled with quartz	59·4							

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT:

HOLE No. 8PD70

Graphic Scale 1:250

CORE RECOVERY From m	Interval m	%	RQD	DESCRIPTION From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
59.4	79.0	100		59.4	79.0	Rhyolite Lava. - cont.							
79.0	81.8	100		79.0	81.8	Change to a cream colour marks a change to increased carbonate alteration, which defines the flow banding in places & also occurs in patches. Accompanied by stronger sericite alteration also. Carbonate-filled microfaults slightly offset the flow banding. Rhyolite Lava - cont. NQ Core from 87.6m	79.0 81.8	X m/flts					
81.8	232.2	100		81.8	232.2	Pink and green, breccia with angular to sub-angular clasts. Open frame work. Clasts and matrix are both feldspar and quartz phyric.							
81.8	100.0	100				Different types of alteration are what define the clasts. Some are strongly sericite altered ?after volc. glass. This alteration tends to be							
100.0	120.0	98				associated with carbonate alteration (sericite with pseudomorphing of feldspar phenocrysts. Other clasts are hard and siliceous and are	120.0						

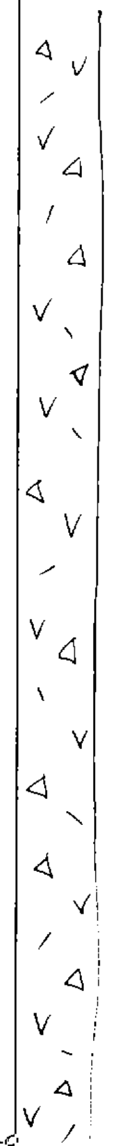
5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT:

Graphic Scale 1:

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology (0·06 0·5 2 8 32)	Graphic Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
120·0	180·0	100		81·8	232·2	characteristically pink, probably from albitisation.								
						Matrix is similarly, variably altered.								
						The defined nature of the clasts suggests a								
						primary origin for the breccia, rather than purely								
						an alteration feature. Maybe a hyaloclastite								
						Rhyolite Lava Breccia								
							150·0							



129067

5 cm

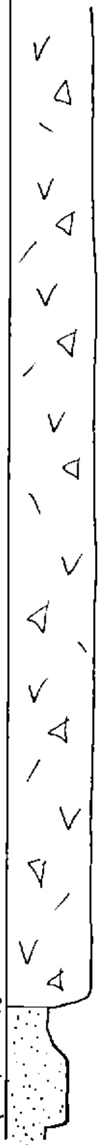
PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 70

PROJECT:

Graphic Scale 1:

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
180.0	236.5	100		81.8	232.5			006 052 832						
						Rhyolite Lava Breccia								
				232.2	241.6	Pink, clastic lithology. Clasts of pink, siliceous	232.2							
236.5	239.5	95				rhyolite and some softly deformed shale clasts.								
						Rhyolite Sandstone with Shale Clasts.	236.5		Bkn. Gnd.					
239.5	241.5	98				Weak carbonate + sericite alteration of clasts	238.5 / 241.0							



0057

129068

5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT:

HOLE No. BPD 70.

Graphic Scale 1: 250

0056

1290069

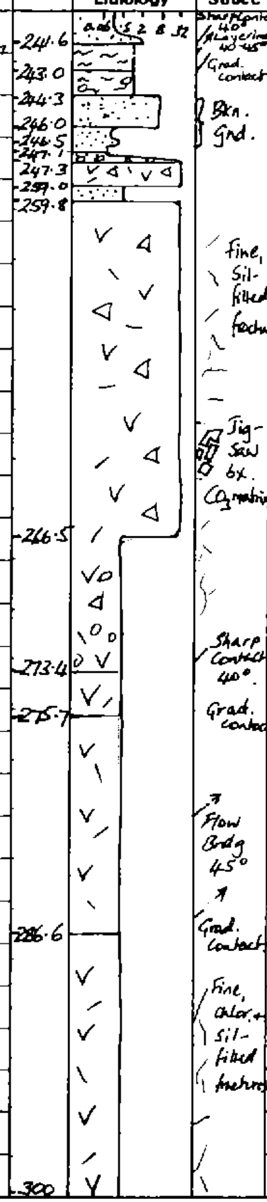
CORE RECOVERY

From m	Interval m	%	RQD
241.5	244.3	98	
244.3	246.5	90	
246.5	259.8	100	
259.8	303.2	100	

DESCRIPTION

From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	MINERALISATION	LITHO	STRUCT	ALTN	MIN
241.6	244.3	Light green rock with strong, wispy, sericitic layering, which wraps around strongly carbonate-altered feldspar ?phenocrysts. From 243.0, contains clasts of grey fine grained sediment and pink rhyolite. Strong sericite /carbonate alteration throughout. <u>Altered, Vitric, Volcaniclastic.</u>					
244.3	246.0	Pink clastic rock, clasts rhyolite siliceous, fine-grained sediments. <u>Rhyolite / Sediment Sandstone.</u>					
246.0	247.3	Upward fining unit with clasts of pink rhyolite and fine-grained, siliceous sediments. <u>Rhyolite / Sediment Conglomerate / Sandstone.</u> Chlorite alteration of some larger clasts.					
247.3	259.0	Brecciated appearance, pink and green rock, composed of highly chlorite altered patches & pink siliceous patches. Both are quartz and feldspar phyric. <u>Rhyolite Lava Breccia ?Hyaloclastite.</u>					
259.0	259.8	Green clastic rock, composed of small sericitic fragments of ?altered rhyolite. <u>Rhyolite Siltstone.</u>					
259.8	273.4	Coarse brecciated appearance. Green chloritic patches and pink siliceous patches. Both are quartz and feldspar phyric. Below 266.5					

Depth / Graphic Lithology / Struct.



5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT:

HOLE No. BPD 70

Graphic Scale 1:250

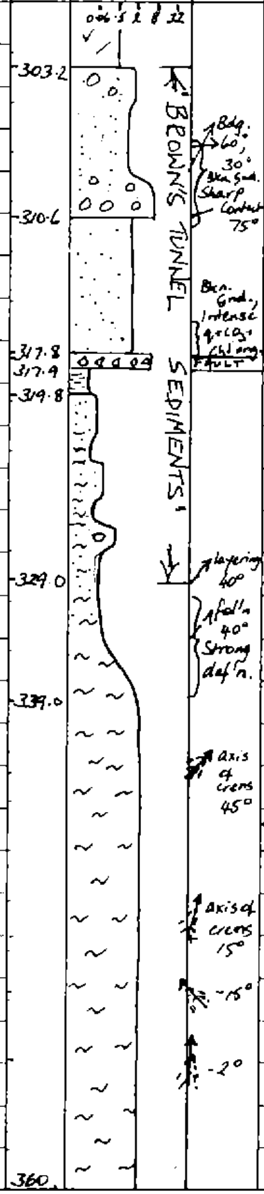
CORE RECOVERY

From m	Interval m	%	RQD
303.2	307.2	100	
307.2	311.6	98	
311.6	314.0	100	
314.0	317.8	98	
317.8	317.9	90	
317.9	319.8	98	
319.8	495.8	100	

DESCRIPTION

From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)
259.8	273.4	the patches are smaller and there are fewer chloritic patches. There are however grey, fine grained inclusions which resemble sediments. Feldspars are now carbonate. Altered Rhplite Hyaloclastite
273.4	303.2	Pink + light green coloured, fine grained, mostly siliceous rock, with some patches of chlorite alteration. Quartz (rare) and feldspar phyric. Flow banded. Feldspars are now carbonate. 275.7 – 286.6 Rock is green coloured and feldspars ⇒ sericite. 286.6 – 303.2 Rock is cream coloured feldspars ⇒ siderite and sericite. Flow banded Rhyolite Lava
303.2	310.6	Grey Sandstone + Conglomerate. Predom. grey sediment clasts, some acid volcanic (pink + green) clasts. Carbonate stringers + alt'n throughout. Sericite alteration of some clasts. Galena in stringers
310.6	317.8	Pink, predominantly volcanic (rhyolite?) clasts. Some grey, fine grained sediment clasts. Matrix, fine grained, siliceous. Pervasive carbonate alteration. Quartz + carbonate-filled stringers, with galena + sphalerite, sometimes also chlorite. Rhyolite Sandstone.

Graphic (Depth / Lithology / Struct.)



MINERALISATION

- 303.2
- Galena in carbonate stringers.
- 310.6.
- Galena + sphalerite in qtz-carb-chlor veins.
- 310.6 – 311.6 Spots of pyrite
- 317.8
- 317.9.
- galena + sphalerite in carbonate, qtz/carb + qtz/chlor/carb veins + stringers.
- 329.0
- 329.0 – 495.8.
- Spots sphalerite + galena through matrix.
- 341.7 galena, sphalerite in matrix.

CODES

LITHO	STRUCT	ALTN	MN

5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT:

HOLE No. BPD 70

Graphic Scale 1:250

From m	Interval m	Description (incl. LITHOLOGY, STRUCTURE & ALTERATION)	Struct.	Mineralisation
317.8	317.9	Strong quartz veining, breccia of rounded, siliceous fragments in a carbonate/sericite matrix. Cataclasite - Fault Zone		
317.9	319.8	Grey, bedded, weakly siliceous Mudstone. quartz - carbonate veining with galena + sphalerite. Pervasive carbonate alteration		
319.8	329.0	Pale green, clastic rock with clear clastic (sandstone) textures in places, giving way to wispy layering elsewhere. Clasts are predominantly sericite-rich (?vitric), with some pink, siliceous fragments. Some grey sediment clasts, these tend to be larger (up to 8cm) + increase in abundance towards bottom contact. Strong sericite alteration. Carbonate spots (?after feldspar) and stringers of carbonate (quartz). These carry sphalerite and galena. Volcaniclastic Sandstone	Bkn. ground; axis of vein. 15°	
329.0	495.8	Pink and green rock, consists of highly chloritic patches, with poorly defined boundaries in a siliceous matrix. A layering in the chloritic patches commonly exhibits a crenulation fabric and is thought to represent tube pumice. The size of the chlorite patches		

Depth: 422

12907 1

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 70

PROJECT:

Graphic Scale 1: 250

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Graphic Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN

averages 1-10cm., the mean size increases from 339 m downhole, some patches are as large as 30cm.

Matrix has a mottled appearance, it contains feldspars which may have been enlarged by alteration - possibly albite rims, followed by carbonate alteration. The rest of the matrix appears to be a mixture of fine grained silica & minor sericite.

There are no quartz phenocrysts.

Traces of disseminated pyrite occur throughout this rock, slightly more abundant in the chlorite patches.

Spots of sphalerite and galena throughout the matrix (trace only)

454.5 / 459.8 / 460.8: 3 x thin bands (½-2cm) of fine-grained sediment with grey sil clasts.

Depth: 454.5, 459.8, 460.8, 480

Struct.: fol'n 15°; Zone strong shrg.; axis cross 35°; 10°; 20°; foll'n 25° shrg; axis cross 30°; 5°; 10°; 20°

Mineralisation: 454.5 / 459.8 / 460.8: sphalerite + galena assoc. with sediments.

5 cm

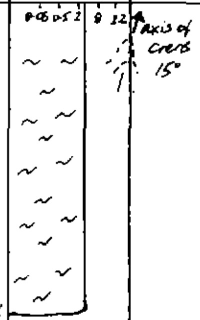
PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 70

PROJECT:

Graphic Scale 1:250

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Graphic Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
						495.8m. End of Hole	495.8							



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5cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

HOLE No. BPD 70

PROJECT :

SAMPLE						ASSAYS (ppm unless specified)						COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Mn	Ag	Au	
30401		57	58			10	14	38	70	<1	<0.01	
402		58	59			<2	8	38	280	"	"	
403		230	232			4	36	200	1160	"	"	
404		232	234			8	52	270	1060	"	"	
405		234	236			8	84	240	2250	"	"	
406		236	238			5	125	360	1900	"	"	
407		238	240			5	30	100	1440	"	0.01	
408		240	242			5	88	135	2700	"	<0.01	
409		242	244			4	44	125	1520	"	"	
410		244	246			3	44	210	1660	"	"	
411		246	248			6	58	94	1920	"	"	
412		248	250			5	36	105	2700	"	"	
413		250	252			2	82	110	2200	"	"	
414		252	254			<2	25	46	1700	"	"	
415		254	256			13	32	66	1660	"	"	
416		256	258			<2	28	80	1480	"	"	
417		258	260			5	42	105	1240	"	"	
418		300	302			17	22	350	950	"	"	
419		302	304			15	8500	870	3050	6	0.02	
420		304	306			11	3300	1080	2800	4	0.04	
421		306	308			10	2800	920	2350	3	0.04	
422		308	310			10	1646	1040	1860	1	0.01	
423		310	312			30	2900	820	1650	2	0.02	
424		312	314			72	1580	1400	1440	<1	<0.01	
425		314	316			100	1360	280	590	<1	0.01	
426		316	318			62	8900	320	1120	2	0.01	
Laboratory CLASSIC - Sth Aust.				Analytical-Method		AAS 2	AAS 2 AAS 4	AAS 2	AAS 2	AAS 2	FA 1	
Job-No 09D.4385		Date 20/12/1990		Detection-Limit		2ppm	4ppm	2ppm	4ppm	1ppm	0.01g/t.	

D/N SDS 0202

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

HOLE No. BPD 70

PROJECT :

Page 2 of 2

SAMPLE						ASSAYS (ppm unless specified)						COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Mn	Ag	Au	
30427		318	320			8	4860	730	970	2	0.01	
428		320	322			25	3950	890	850	1	<0.01	
429		322	324			9	210	78	850	<1	0.01	
430		324	326			10	400	110	860	<1	0.01	
431		326	328			50	1200	810	650	<1	<0.01	
432		328	330			18	200	820	1160	<1	0.01	
433		330	332			88	1920	4200	1740	2	0.01	
434		332	334			5	50	120	2450	<1	<0.01	
435		334	336			12	155	92	2150	<1	0.06	
436		336	338			<2	42	88	3200	<1	0.02	
437		338	340			24	710	85	2900	2	0.02	
438		340	342			36	2000	310	2150	2	0.01	
439		354	356			4	140	50	2450	<1	0.02	
440		356	358			6	78	82	2300	<1	0.02	
441		358	360			4	85	60	1880	<1	<0.01	
30442		360	362			4	50	58	1940	<1	<0.01	

Laboratory | Analytical Method

Job-No. | Date | Detection Limit

HOLE No. BPD 71

PASMINCO EXPLORATION
DIAMOND DRILL HOLE LOG

Page of

LOCATION	TASMANIA
PROJECT	BURNS PEAK
PROSPECT	LEO'S FIND
DESIGNED BY	A. LORRIGAN
LOGGED BY	A. LORRIGAN
RELOGGED	
COMMENCED	1/11/1990
COMPLETED	21/12/1990
DRILLED BY	Diamond Drilling Tasmania Pty Ltd.
DRILL RIG	UY 38

OBJECTIVE

To test for strike extensions of the Brown's Tunnel mineralisation on the Western Limb of the Pinnacles Anticline.

RESULT

57.2 m of 'Brown's Tunnel Sediments' were intersected, these rocks contain trace amounts of sphalerite and galena, disseminated and in carbonate veinlets.

LOCATION/SURVEY DATA (AMG)

Grid	AMG		RL Collar m	589.0
Northing m	5383573.5		Bearing Collar	120 (mag)
Easting m	378279.5		Dip Collar	75
DH Survey Type	Eastman Camera		Length Hole m	553.6 m.

Depth m	Bearing	Dip	Depth m	Bearing	Dip
50	115				
100	115				
150	[illegible]				
200	115				
250	119				
300	[illegible]0				
350	120				
450	121				
500	124				
553	124				

SIGNIFICANT INTERSECTIONS

From m	To m	Interval m	Cu ppm	Pb ppm	Zn ppm			Comments
136	142	6	32.3	1013.3	2883.3			
403	407	4	11.0	5025	5275			
469	471	2	2350	330	17900			

SIGNIFICANT CORE LOSS

From m	To m	% Lost

POOR GROUND CONDITION ZONES

From m	To m	Condition
547	553.6	Broken, clay pug.

HOLE SIZE

Size	Depth m
Tricone (HW)	3.5
HQ	37.0
NQ	(EOH) 553.6

HOLE CONDITIONS AFTER COMPLETION

Collar	
Steel Casing	0-2m HW
PVC Casing	PVC Casing for Down Hole EM 0-553.6m.
Ground Water	
Wedge	
Drill Pad	

0070

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 71

PROJECT: BURN'S PEAK

Graphic Scale 1:250

CORE RECOVERY				DESCRIPTION						MINERALISATION	CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.		LITHO	STRUCT	ALTN	MIN
0	33	99		0	64.6	Pink and dark green breccia, clasts of pink siliceous, feldspar + quartz-phyric rhyolite some of these are flow banded, other clasts of chlorite with large feldspar phenocrysts, now altered to carbonate, Also some quartz phenos. The matrix is a mixture of chlorite and very fine grained silica. Probably a primary breccia (not alteration effect) because the flow banded clasts are mixed up with non flow banded clasts. <u>Rhyolite Lava Breccia.</u>	0 … 60m	0.06 .5 2 8 32						
33	82.9	100												

129077

5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 71

PROJECT:

Graphic Scale 1: 250

Core Recovery From m	Interval m	%	RQD	Description From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
							64.6						
					64.6	77.0	Rhyolite Lava Breccia. As above, but clast size is smaller, also density of clasts is lower. Chlorite alteration increases down hole. Sphalerite + Galena in quartz stringers from 74.0m.	77.0		74.0 — Sphalerite and galena in quartz stringers and in patches + spots through breccia + sediment matrix. (Trace)				
				77.0	79.6	Rock becomes very fine grained. Both contacts are gradational. Perlitic fractures at 78.1m. Some feldspar + quartz phenocrysts, but in general the rock is massive + very fine grained. Chilled Rhyolite Lava ?Hyaloclastite.	79.6	Broken Ground					
				79.6	137	Predominantly pink, feldspar + quartz-phyric, rhyolite lava, with some flow banded and chlorite-rich ?clasts. Brecciated appearance not as strong as 0-77.0m. Rhyolite Lava Breccia. Intense sericite and carbonate alteration 82.9-84.2			106.9 - 107.9 quite intense sphalerite spotting.				
82.9	84.2	98											
84.2	175.9	100							Traces of sphal + galena in stringers + spots + patches				
							120						

0077

129078

5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT:

HOLE No. BPD 71

Graphic Scale 1: 250 — Page 3 of 11

CORE RECOVERY From m	Interval m	%	RQD	DESCRIPTION From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
									of the breccia matrix.				
						Intense quartz veining, 124.8–126.1		q fbg All angles; q 45°	124.8–126.1 Intense sphalerite + galena spotting, assoc. with CO_3 alteration				
						Intense sericite and carbonate alteration, 132.0–134.0.			Traces of sphalerite + galena in stringers + in spots + patches in breccia matrix				
							137						
						Gradual change from fragmental appearance to massive, flow banded, quartz + feldspar phyric rhyolite. Flow Banded Rhyolite Lava.		q 35°	140.9–141.1 Intense sphal. + gal. min. (spots.)				
								q 25°					
175.9	177.0	75											
177.0	244.9	100						q all angles; Bx-gtd					
				178.2	194.2	Coarse fragmental appearance, fragments	178.2; 180						

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT:

HOLE No. BPD 71

Graphic Scale 1: 250

Page 4 of 11

CORE RECOVERY From m	Interval m	%	RQD	DESCRIPTION From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
				178.2	194.2	3-80mm in size, rounded-sub angular Some fragments are feldspar-quartz phyric pink rhyolite, occasionally flow banded. Others are wispy and sericitic or chloritic Matrix of fine sericite and silica.			Breccia Quartz Vein Matrix	180 Spots and veinlets of sphalerite + galena 185.8				
						Rhyolite Lava Breccia.	194.2							
				194.2	381.7	Feldspar + rarely quartz, phyric Flow Banded Rhyolite Lava.								
						Variably altered as follows:-								
						194.2-228.2 Pink, siliceous with chlorite patches.								
						228.2-241.0 Strong sericite alteration throughout. Feldspars ⇒ Carbonate.								
						241.0-281.0 Pink siliceous with chlorite patches.								
						281.0-289.0 Feldspar ⇒ sericite.								
						289.0-296.6. Strong carbonate alteration, associated with carbonate veining. Minor sericite alt.								
						296.6-310.8. Pink siliceous with chlorite patches.								
						310.8-326.9 Feldspar ⇒ sericite. Clay on breaks								
						326.9-349.9 Pink siliceous with chlorite patches. Minor carbonate alt'n of feldspars.	240							

0073

129080

5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 71

PROJECT:

Graphic Scale 1: 250

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MN
						349.9-353.9 - Sericite + carbonate								
244.9	247.5	98				alt'n of matrix + feldspars								
247.5	289.0	100				353.9-364.8 Pink siliceous with			Bkn ground Cb, q vng.					
289.0	296.6	95				chlorite patches.								
296.6	309.9	100				364.8-369.0 Silica alt. of matrix with								
						sericite alt'n of matrix +								
						feldspars.								
						369.0-379.3 Pink siliceous with chlorite								
						patches.								
						379.3-381.7 Very strong pink colour,								
						siliceous, sericite patches								
									Sil-filled hairline fractures.					
										289.0				
									Broken Ground Carbonate Veining.	Trace galena associated with carbonate veining.				
										296.6				
								300						

0080

129081

5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 71

PROJECT:

Graphic Scale 1: 250

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Graphic Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
310.9	324.4	90												
324.4	364.8	100												
									Broken Ground Vuggy Clay between breaks					
							360							

129082

5 cm

0082

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 71

PROJECT :

Graphic Scale 1: 250

CORE RECOVERY From m	Interval m	%	RQD	DESCRIPTION From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Struct.	MINERALISATION	CODES LITHO	STRUCT	ALTN	MIN
364.8	369.0	90						Broken Ground. Some pug between breaks.					
369.0	412.3	100											
412.3	413.3	98											
413.3	426.1	100											
								Top contact fragmented					
				381.7	383.1	Pink coloured, very fine grained, finely brecciated with curved fractures characteristic of perlitic fracturing. Chilled Rhyolite Lava.	381.7 / 383.1	Bottom contact Sharp, 60°					
				383.1	402.9	Feldspar (quartz-rare) phyric Rhyolite Lava Alteration :- 383.1 - 388.5 - Light green, sericite alt'n throughout. 388.5 - 402.9 - Pink, siliceous with chlorite patches.	402.9	Sharp contact 60°					
				402.9	403.4	Buff coloured, very fine graind ? Chilled Rhyolite Lava.	403.4	30° q/cb vng ? Fault on contact.					
				403.4	410.1	Strongly chlorite altered rock. Enhanced, carbonate-altered feldspar phenocrysts throughout. Sphalerite & galena on rims of chlorite-altered patches. ? Altered Rhyolite Lava.	410.1 / 412.9 / 420	Sharp contact 45° Bkn Gnd Fault. Main Breaks 30°	417.9 galena assoc. with siliceous patches.				

129083

5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 71

PROJECT:

Graphic Scale 1: 250

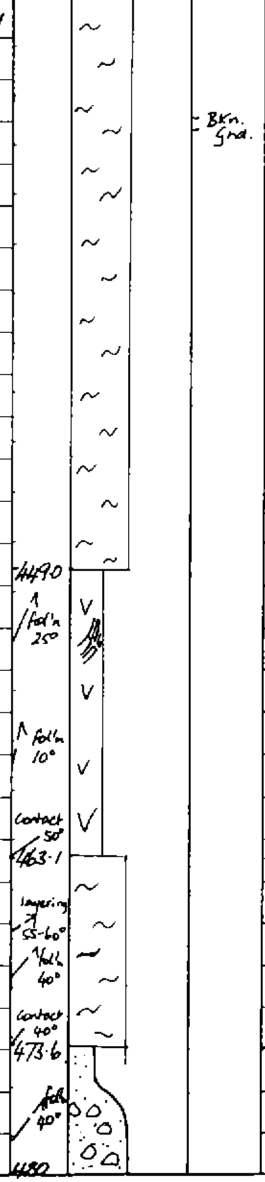
CORE RECOVERY

From m	Interval m	%	RQD
426.1	426.8	80	
426.8	552.4	100	

DESCRIPTION (incl. LITHOLOGY, STRUCTURE & ALTERATION)

From m	Interval m	Description
410.1	410.3	Highly altered rock, strong sericite and pink siliceous alteration. Numerous carbonate altered feldspar phenocrysts are surrounded by very fine, grey siliceous material. Rock develops a wispy layering down hole. ?Altered Rhyolite lava mixed with Pumiceous Volcaniclastics.
412.9	449.0	Highly altered and deformed rock. Very strong sericite alteration and pink and grey siliceous patches. Siliceous areas in the rock are surrounded by wispy sericite. Tube pumice texture at 414.4. Below 427.7 there are rounded chlorite spots. At 439.2m + 440.1m, there are basalt or andesite clasts. Altered Pumiceous Volcaniclastic. This rock correlates with the lithology found beneath the black shale in BPD 62.
449.0	463.1	Very fine grained, massive siliceous lava with perlitic fracturing (especially 453.5 - 454.0) is juxtaposed with foliated sericitic rock. Boundaries are not

Depth / Graphic Lithology / Struct.



MINERALISATION

463.1m.

Sphalerite in siliceous patches and veins. One 15mm vein at 20° to core.

Tr - 1% pyrite disseminated throughout.

473.6.

CODES

LITHO	STRUCT	ALTN	MIN

5 cm

129084

0085

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 71

PROJECT:

Graphic Scale 1: 250

CORE RECOVERY From m	Interval m	%	RQD	From m	Interval m	DESCRIPTION (incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	MINERALISATION	LITHO	STRUCT	ALTN	MIN
						clear cut between these lithologies, the						
						clastic appearance is thought to be an						
						alteration feature or the result of						
						quenching chilling part of a lava. The	488.5	488.5				
						perlitic fracturing supports this.		Trace bedded pyrite in				
								mudstone.				
						Acid Hyaloclastite Lava.	Bdg 60°	Trace sphalerite and				
						Rounded white carbonate and silica		galena in quartz-				
						spots from 455m.	Contact 50°	carbonate veins.				
							501.1	501.1				
				463.1	473.6	Pink, fragmental looking rock with						
						numerous wispy sericitic fragments.						
						A wispy layering penetrates much of the						
						rock and appears to pre-date the lower						
						angled foliation.						
						Altered, Deformed Pumiceous Volcaniclastic						
				473.6	488.5	These rocks are grouped together because						
						boundaries cannot be defined between	Contact 50°					
						them. Top consists of green, highly altered,	522.7					
						sericitic, fine grained ?Pumiceous	Bdg 60°	523.0 ?Pyrite clast.				
						Siltstone, grades to rock with a fine siliceous	Contact 40° 527.3	527.3				
						matrix and lots of small chlorite-rich	Fol'n 40°	Trace sphal. + galena in				
						flecks and clasts, also larger, chlor-alt.	30° 530.8	quartz-carbonate stringers. Clots pyrite. 530.8				
						feldspar + quartz-phyric clasts, grey	Faulted Contact	Tr pyrite on contact.				
						mudstone also occurs in this interval. Then	Slicken Sides					
						into coarse, angular breccia with quartz-		537.9				
						feldspar phyric, pink clasts and also	SHD					

0084

129085

5 cm

0080

129086

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 71

PROJECT:

Graphic Scale 1: 250

CORE RECOVERY From m	Interval m	%	RQD	DESCRIPTION From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
						green, vesicular ?basalt/andesite clasts in a fine grey mud matrix which exhibits soft sed. deformation textures.				1-2% disseminated pyrite. 545.9 – 546.6				
						Polymict Mass Flow Deposit.	Flow bdg 85°		85° Fault bdg	1% diss. pyrite throughout.				
552.4	553.6	95				Grading suggests an uphole facing.	553.6	E.O.H.	Broken ground					
				488.5	501.1	Mafic/Intermediate volcanic breccia with mudstone + minor sandstone matrix. Jig-saw fracturing + arcuate quench fracturing suggests mixing of lava with wet sediments. Basalt or Andesite Peperite. 495.5 - graded bedding, grades uphole. Volcanic clasts are sericite altered, with spots originating on amygdales.								
				501.1	522.7	Light green, sericite altered, amygdaloidal (q-filled) Basalt or Andesite Lava.								
				522.7	527.3	Bedded sandstone. Upward fining unit with graded mudstone beds near top + coarser unit at base.								
				527.3	530.8	Highly deformed rock, consisting of layers of fine grey, siliceous mudstone + sandstone and chloritised-sericitised								

5 cm

0080

HOLE No. BPD 71

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT:

Graphic Scale 1: 250

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Graphic Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
						andesite or basalt.								
						527.3-528 Spots originating from feldspar phenocrysts, now carbonate + quartz.								
						Alteration is blotchy with patches of sericite, chlorite + grey silica.								
						Either a deformed, altered Peperite or " " Volcaniclastic.								
				530.8	553.6	Monomict breccia with angular, feldspar phyric, flow banded clasts.								
						Dacite Lava Breccia.								
						Alteration varies throughout:-								
						530.8 - 537.9 Predominantly siliceous. Feldspars ⇒ carbonate. Minor qtz/carb. veining. Intense veining at 535.8 assoc. with chloritic zone.								
						537.9-545.9 Flow banding highlighted by chlorite alteration. Qtz/carbonate stringers throughout (90/m)								
						545.9-546.6. Predominantly siliceous.								
						546.6 - 553.6. Silica of matrix /sericite of clasts. Clay associated with broken ground. 552.4-553.6.								
						END OF HOLE 553.6m								

129087

5 cm

HOLE No. BPD 71

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

PROJECT :

SAMPLE Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Mn	Ag	Au	COMMENTS
30443		76	78			10	200	540	710	<1	<0.01	
444		78	80			9	420	440	820	"	<0.01	
445		80	82			5	640	1540	520	"	"	
446		82	84			13	165	1100	620	"	"	
447		84	86			15	410	1540	400	"	"	
448		86	88			22	145	220	910	"	"	
449		88	90			19	92	180	770	"	"	
450		90	92			62	160	610	710	1	"	
451		92	94			12	580	1300	840	1	"	
452		94	96			32	350	1140	710	<1	"	
453		96	98			12	260	950	1100	<1	0.04	
454		98	100			8	190	830	1040	1	"	
455		100	102			8	125	610	810	<1	"	
456		102	104			8	140	360	930	1	"	
457		104	106			9	130	270	750	<1	"	
458		106	108			7	430	1180	1060	1	"	
459		108	110			24	220	1040	660	<1	"	
460		110	112			58	60	280	580	<1	"	
461		112	114			90	14	260	410	1	"	
462		114	116			50	32	290	620	2	"	
463		116	118			24	68	145	520	1	"	
464		118	120			28	52	110	630	1	"	
465		120	122			17	12	42	290	<1	"	
466		122	124			10	150	320	900	<1	"	
467		124	126			48	280	310	6100	3	0.01	
468		126	128			10	650	220	1660	1	0.01	
Laboratory CLASSIC - Sth. Aust.				Analytical-Method		AA3	AAS3	AAS3	AAS3 AAS4	AAS1	FA1	
Job-No. 1AD1317	Date 31/5/91.			Detection-Limit		2ppm	4ppm	2ppm	4ppm	1ppm	0.01g/t	

O/N 0204

129088

0080

129089

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

PROJECT :

HOLE No.

SAMPLE						ASSAYS (ppm unless specified)						COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Mn	Ag	Au	
30469		128	130			11	185	135	1120	<1	<0.01	
470		130	132			8	195	410	1100	1	"	
471		132	134			10	520	1180	1280	2	"	
472		134	136			32	250	1180	780	<1	"	
473		136	138			62	1160	3100	610	1	"	
474		138	140			25	940	3350	540	<1	"	
475		140	142			10	940	2200	610	1	"	
476		178	180			16	125	410	710	<1	0.01	
477		180	182			13	230	110	390	"	<0.01	
478		182	184			10	370	380	470	"	"	
479		289	291			22	210	100	450	"	"	
480		291	293			54	62	82	770	"	"	
481		293	295			54	28	92	1380	1	"	
482		295	297			96	12	140	700	<1	"	
483		380	382			7	260	165	1680	1	"	
484		382	384			2	85	190	1750	<1	"	
485		403	405			8	6000	6100	20000	18	"	
486		405	407			14	4050	4450	33000	72	"	
487		407	409			24	1860	980	10400	35	"	
488		409	411			12	1280	1320	9100	13	"	
489		411	413			5	145	92	2750	1	"	
490		413	415			40	110	65	2300	1	"	
491		415	417			105	105	36	1440	2	"	
492		417	419			88	810	44	1150	2	"	
493		419	421			9	72	48	1220	<1	"	
494		421	423			38	2800	105	1460	2	"	
Laboratory				Analytical-Method								
Job-No.	Date			Detection-Limit								

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

PROJECT :

HOLE No.

SAMPLE						ASSAYS (ppm unless specified)														COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Mn	Ag	Au									
495		423	425			70	120	55	1500	<1	<0.01									
496		425	427			550	38	60	780	1	"									
497		427	429			68	12	50	790	<1	0.02									
498		429	431			11	10	38	820	"	<0.01									
499		431	433			44	10	35	810	"	"									
30500		433	435			55	8	40	1000	"	"									
34001		435	437			22	15	48	940	1	"									
02		437	439			30	8	38	1000	<1	"									
03		439	441			26	12	50	1080	1	"									
04		441	443			6	15	46	1250	<1	0.01									
05		443	445			13	12	35	1020	"	<0.01									
06		445	447			15	14	46	870	"	"									
07		447	449			11	18	40	910	"	"									
08		449	451			30	15	42	740	"	"									
09		451	453			14	15	52	1050	"	"									
10		453	455			20	12	52	920	"	"									
11		455	457			10	8	42	860	"	"									
12		457	459			16	15	54	1340	"	"									
13		459	461			32	14	40	1200	1	"									
14		461	463			75	16	34	1040	<1	"									
15		463	465			24	16	52	940	"	"									
16		465	467			7	28	90	970	"	"									
17		467	469			11	66	120	490	"	0.02									
18		469	471			2350	330	17900	410	2	0.03									
19		471	473			24	62	64	290	2	<0.01									
301020		473	475			50	50	1160	400	<1	0.01									

Laboratory		Analytical Method													
Job-No.	Date	Detection Limit													

120090

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

PROJECT :

HOLE No. BPD 71.

SAMPLE						ASSAYS (ppm unless specified)														COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Mn	Ag	Au									
301021		475	477			6	62	420	1250	<1	<0.01									
22		477	479			9	8	55	1480	"	"									
23		479	481			7	18	55	1300	"	"									
24		481	483			6	76	300	1320	"	0.01									
25		483	485			4	10	60	45	"	0.01									
26		485	487			6	26	140	1080	"	<0.01									
27		487	489			3	70	470	2200	"	<0.01									
28		489	491			5	440	2200	3750	1	0.02									
29		481	493			10	390	1460	4150	<1	0.02									
30		493	495			15	190	730	560	<1	0.05									
31		495	497			120	280	810	1580	2	0.10									
32		497	499			5	64	250	1800	1	0.01									
33		499	501			8	20	86	1650	<1	0.04									
34		501	503			11	10	92	1620	"	0.01									
35		503	505			4	15	125	1760	"	0.18									
36		505	507			4	14	94	1600	"	0.05									
37		507	509			<2	15	95	1420	"	<0.01									
38		509	511			9	14	90	1520	"	"									
39		511	513			2	26	90	1240	"	"									
40		513	515			2	15	78	1520	"	"									
41		515	517			125	12	95	1550	"	"									
42		517	519			58	8	60	1480	1	"									
43		99	521			98	14	88	1660	<1	0.01									
44		521	523			5	36	170	1580	"	<0.01									
45		523	525			2	12	125	2900	"	"									
301046		525	527			<2	16	54	510	"	"									
Laboratory				Analytical-Method																
Job-No.	Date			Detection-Limit																

129091

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

HOLE No. BRD 71

PROJECT :

SAMPLE						ASSAYS (ppm unless specified)						COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Mn	Ag	Au	
301047		527	529			3	140	490	1140	2	<0.01	
48		529	531			2	44	72	890	1	″	
49		531	533			3	25	92	2850	<1	″	
50		533	535			<2	20	90	2050	<1	″	
51		535	537			3	40	120	2700	1	″	
52		537	539			<2	690	790	3850	<1	″	
53		539	541			2	98	710	5400	″	″	
54		541	543			2	38	270	4950	″	″	
55		543	545			<2	28	460	4950	″	″	
56		545	547			2	20	125	2750	″	″	
57		547	549			2	32	70	850	″	″	
58		549	551			4	15	56	690	″	″	
301059		551	553.6			2	24	64	1020	″	″	

Laboratory		Analytical-Method	
Job-No.	Date	Detection-Limit	

0096

129092

HOLE No. BPD 72.

PASMINCO EXPLORATION
DIAMOND DRILL CORE RECORD

Page of

LOCATION	Tasmania
PROJECT	Burn's Peak
PROSPECT	Leo's Find
DESIGNED BY	A.N.L.
LOGGED BY	A.N.L.
RELOGGED	
COMMENCED	
COMPLETED	
DRILLED BY	Diamond Drilling Tasmania
DRILL RIG	Longyear 44.

OBJECTIVE

To test the Brown's Tunnel Sequence, 400m along strike from BPD 65, at its intersection with the Pinnacles Axis.

RESULT

No significant mineralisation intersected, though altered rocks of the Brown's Tunnel Sequence were encountered.

LOCATION/SURVEY DATA (AMG)

Grid	AMG		RL Collar m	547.3
Northing m	385034.4		Bearing Collar	292 (mag)
Easting m	378610.4		Dip Collar	75
DH Survey Type	Eastman Camera		Length Hole m	566.2

Depth m	Bearing (mag.)	Dip	Depth m	Bearing	Dip
50	292	62			
100	291	61½			
150	293	61			
200	294	61			
250	296	60			
300	299	59½			
350	301	59			
400	303	58			
450	304	57			
500	306	57			
550	307	56½			

SIGNIFICANT INTERSECTIONS

From m	To m	Interval m					Comments

SIGNIFICANT CORE LOSS

From m	To m	% Lost
271.7	273.3	25

POOR GROUND CONDITION ZONES

From m	To m	Condition
240	285	Faulted, broken ground (had to cement hole)
Within Rhyolite Lavas.		Bit life well below average in these rocks.

HOLE SIZE

Size	Depth m
HQ	555
NQ	566.2

HOLE CONDITIONS AFTER COMPLETION

Collar	PVC Casing
Steel Casing	—
PVC Casing	0 – 566.2m
Ground Water	
Wedge	
Drill Pad	

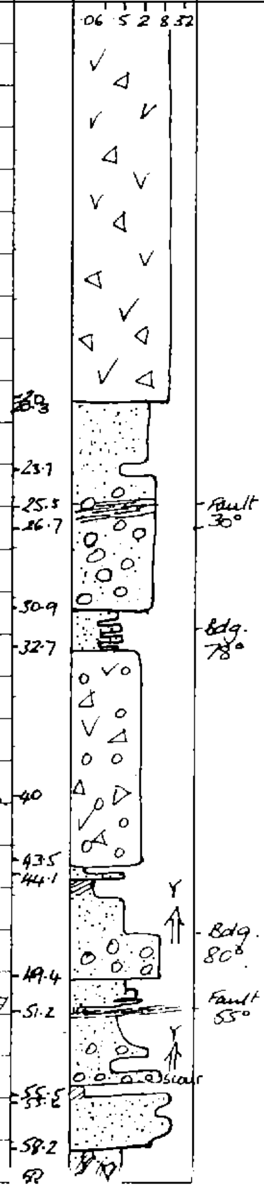
PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 72

PROJECT: BURN'S PEAK.

Graphic Scale 1:250

CORE RECOVERY From m	Interval m	%	RQD	DESCRIPTION From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	MINERALISATION	LITHO	STRUCT	ALTN	MIN
0	20.3			0	20.3	Pink and pale green breccia, composed of quartz-feldspar phyric fragments. Matrix of the same composition. Clast boundaries often diffuse.					
						Extensive sericite alteration of the matrix and some clasts. Pink + siliceous alteration of the other clasts. Mod-intense CO_3 veining.					
						0-13.0m; weathered, broken.					
						13.0-26.45m; broken.					
						TRICONE; 0- m HQ CORE FROM m.					
						RHYOLITE BRECCIA.					
				20.3	30.9	passing down into conglomerate. Clasts are qtz. and feld. phyric rhyolite. Matrix is fine + siliceous.					
						Broken ground and fault, 25.5-26.7.					
						Intense, green, sericite and CO_3 alteration assoc. with fault.	- 32.7				
						RHYOLITE SANDSTONE/CONGLOMERATE.	Trace pyrite as				
				30.9	32.7	Green/Pink, bedded, well sorted, RHYOLITE SANDSTONE (some rounded)	dissem. cubes.				
				32.7	43.5	Breccia of qtz-feld phyric rhyolite clasts, 1-400mm.					
						Intense sericite/CO_3 alteration and veining. Feldspars ⇒ CO_3. Broken ground	- 41.3				
						RHYOLITE BRECCIA					
				43.5	44.1	RHYOLITE SANDSTONE.					
				44.1	49.4	Upward fining sequence of RHYOLITE CONGLOMERATE/SANDSTONE/MUDSTONE. Well sorted, bedded. Strongly sericitic clasts at base. Erosional ba and graded bedding indicates facing uphole.					



129094

5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 72

PROJECT: BURN'S PEAK

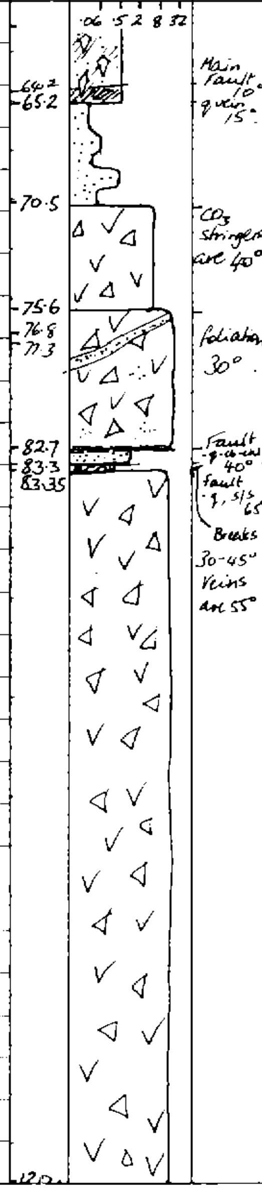
Graphic Scale 1:250

0094

129095

CORE RECOVERY From m	Interval m	%	RQD	DESCRIPTION From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)
				49.4	55.5	Dark grey SANDSTONE, rhyolite fragments abundant, also some sediment clasts. Erosional base indicates upHole facing. Quartz-filled fault with slickensides at 51.2m. 55.5m REDUCE TO NQ.
				55.5	55.6	Dark grey MUDSTONE.
				55.6	58.2	green RHYOLITE SANDSTONE.
				58.2	64.2	Sandstone of rhyolite and sediment fragments, brecciated by adjacent fault. BRECCIATED SANDSTONE
				64.2	65.2	FAULT ZONE, Dense network of quartz carbonate veins. Fine fault gouge with some sediment clasts. Very broken ground.
				65.2	70.5	Buff coloured, extremely fine grained rock. Clastic texture where the grain size is larger, elsewhere the texture is "cherty" and siliceous. Rare ?clasts of sulphide and chloritic volcanics. VOLCANIC (?RHYOLITE) SILTSTONE
				70.5	75.6	Breccia, composed of quartz and feldspar-phyric clasts, some flow banded. Strong, patchy, chlorite/sericite/carbonate alteration. Carbonate stringers throughout. RHYOLITE BRECCIA.
				75.6	82.7	Polymict breccia, comprising rhyolite and mudstone/siltstone clasts (dark grey-black). Clast size; 2-500mm. Interval of bedded sediment, 76.8-77.3 ?clast. Chlorite alteration of the volcanic clasts. Broken ground. Weak foliation developed

Depth / Graphic (Lithology, Struct.)



MINERALISATION

65.2 Rare, small clasts py, sph + gn.
70.5

75.6 Some mudstone clasts highly pyritic. Trace of sph in some of these.

82.7 Bold py in mudst. clasts
83.3

84.55 Patches dk gy, f.g.
84.65 Sulphide

86.8 fine, dark gy sulph.
87.7 assoc. c qtz stringers.

CODES: LITHO | STRUCT | ALTN | MIN

5 cm

HOLE No. BPD 72

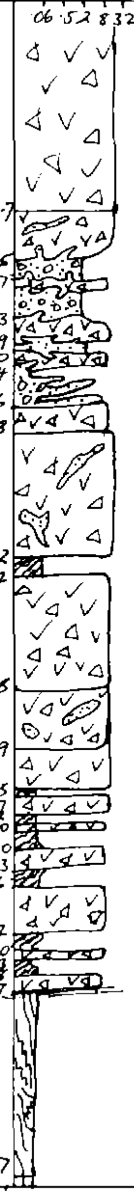
PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT: BURN'S PEAK

Graphic Scale 1:250

CORE RECOVERY From m	Interval m	%	RQD	DESCRIPTION From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
				82.7	83.3	Fault bounded block of dark green quartz							
						sandstone. Larger clasts of grey mudstone with							
						bedded pyrite. SANDSTONE.							
				83.3	83.35	FAULT, Mixture of sheared seds + rhy. breccia.							
						Intense qtz-CO3 veining. Broken ground	130.7		130.7				
						Slickensides on qtz veins + breaks.	132.5		Rare py. clasts. Tr. f.g. diss				
				83.35	130.7	Pale green-pink, brecciated appearance.	133.7		py in seds.				
						Clasts, 2-80mm, are feld, qtz-phyric, some are	135.3, 136.9		Minor gn/sph assoc c̄				
						flow banded.	137.0, 137.4	Bdg 20°	q/CO3 vng.				
						In places there is no clear definition between	139.6, 141.8	Fault 2mm Cb/chl 25°	141.8				
						clasts and matrix. Matrix also qtz-feld phyric							
						in part, elsewhere, very fine silica/sericite.							
						RHYOLITE LAVA BRECCIA.							
						Patchy sericite alteration throughout, in	148.2, 149.2	foliation 15°					
						places assoc. with dark chlorite. Elsewhere		contact 75°	Tr. gn in qtz-CO3 veins				
						rock is pink + siliceous.		veinlets (q-ch) 70-80°					
				130.7	141.8	This interval consists of alternating bands	154.8						
						of green feld-qtz phyric, sericitised + chloritised	157.9						
						rhyolite breccia and sandstone conglomerate	160.5, 160.7	fol'n 40°	Dark blebs of sph + gn				
						The latter rock consists of clasts of qtz	161.2, 162.0, 163.0	fol'n 5°, fol'n 20°	@ 163.6 + 168.2.				
						sandstone, fine siliceous mudstone (light grey/beige)	163.3, 164.6	fol'n 90°, 60°					
						and dark grey mudstone. There are some	167.2	fol'n 60° 10°					
						pyrite clasts.	168.0, 168.7, 168.8, 169.7	Fault q/cb 80°					
						The boundaries between the two rock							
						types are irregular + probably peperitic		fol'n 10°					
						RHYOLITE / SANDSTONE "PEPERITE"							
				141.8	148.2	RHYOLITE BRECCIA. Patchy green ser/chlor alteration		fol'n 20°, fol'n 35°					
						+ pink/siliceous zones. Occasional irregularly	179.7, 180	fol'n 5°					

Graphic Lithology



5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 72

PROJECT:

Graphic Scale 1:250

0090

129097

DESCRIPTION (incl. LITHOLOGY, STRUCTURE & ALTERATION)

From m	Interval m	Description
141.8 (cont)	148.2	bounded sediment intervals. Pink qtz-carb vein, 40mm @ 147.1 m.
148.2	149.5	Strongly sericitic rock with a strong foliation. No preservation of primary textures (unless foliation is 1°??) ?ALTERED, GLASSY LAVA OR VOLCANICLASTIC. Downhole boundary very sharp ?fault, <1mm
149.5	154.8	RHYOLITE BRECCIA. Patchy alteration resulting in contrasting green, chlorite/sericite zones + pink siliceous areas. Numerous quartz-carbonate veinlets
154.8	157.9	As above with some clasts of light grey, siliceous mudstone and dark grey sandstone. From 157.4 a foliation is developed, qtz-carb. oughs stretch out parallel to this.
157.9	169.7	Alternating intervals of RHYOLITE BRECCIA and foliated, strongly sericitic ?ALTERED, GLASS LAVA OR VOLCANICLASTIC. The latter contain ?tube pumice (suggesting the vol'clastic interpretation), they may also be clasts as one of the intervals does not go right through the core. All the boundaries are sharp, though irregular. The foliation is also irregular and wavy in places. This, and the lack of any foliation in the Breccia suggests that it may be a primary feature. Lower boundary faulted.

Graphic Log

Depth: 181.55, 181.8, 186.8, 189.2, 198.2, 198.5, 205.8, 240

Struct: faults? Bdg 25; fol'n 30° bdg 30°; microflts 0-5°; Contact 20°; qtz/cb vn 10°; fol'n 30°; qtz/cb vng 80°; qtz/cb vng 65-70°; qtz/cb vng 60°

MINERALISATION

- 181.55-181.8 Tr. bdd. py. Tr. sph + gal on upper contact.
- 181.8-186.8 Tr. bdd py.
- 189.2-198.2 Tr. diss. py. Tr. sph + gal as stringers + spots.
- 198.2-198.5 Tr py.
- 237.0-239.0 Tr sph/gn assoc. with veining.

CORE RECOVERY

From m	Interval m	%	RQD

CODES

LITHO	STRUCT	ALTN	MIN

5 cm

0096

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 72

PROJECT:

Graphic Scale 1: 250

Page 5 of 12

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
				169.7	179.7	Pale pink-green rock consisting of pink, siliceous zones and strongly sericitic zones. A strong foliation is developed. This is wavy and inconsistent in places, it may represent a primary feature. Some possible ?clasts of tube pumice. Elsewhere textures have been masked by the alteration. ?ALTERED GLASSY VOLCANIC, PROBABLY VOLCANICLASTIC			cleavg predom. 60°.					
				179.7	181.55	Mixture of dark grey, siliceous, buff coloured zones and sericitic, wispy patches. ?ALTERED GLASSY VOLCANIC, PROBABLY VOLCANICLASTIC.								
				181.55	181.8	Dark grey, bedded, MUDSTONE/SILTSTONE. Upper contact is a hairline fault								
				181.8	186.8	Rock consists of light grey siliceous zones, mixed with pale green, wispy, sericitic zones. Wisps have a consistent orientation ?POSSIBLY A MIXTURE OF GLASSY VOLCANIC + SILICEOUS MUDSTONE.			fl. bedg. 35°					
				186.8	187.2	Grey bedded SANDSTONE. Bedding slightly transposed on microfaults. Bottom contact faulted.	200		fl. bedg. 45°					

129098

5 cm

0099

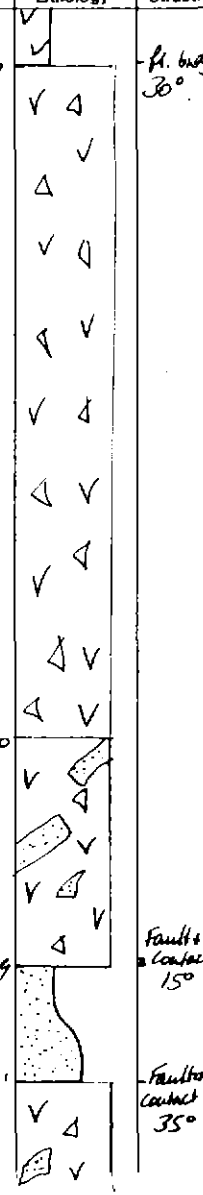
PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 72

PROJECT :

Graphic Scale 1: 250 — Page 6 of 12

CORE RECOVERY From m	Interval m	%	RQD	DESCRIPTION From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
				187.2	189.3	Rounded, fine grained siliceous fragments, grey and buff in a sericite matrix. DEFORMED + ALTERED ?GLASSY VOLCANICLASTIC.	303.7	fl. bdg. 30°	303.7-337.0				
				189.3	198.2	Buff, fine grained, siliceous zones in a sericitic matrix. In places there are rounded, fine grained, grey sediment clasts and quartz-feldspar phyric rhyolite clasts. ALTERED VOLCANICLASTIC.			Rare traces sph+gal assoc c cb/qtz stringers.				
				198.2	198.5	FAULT ZONE. Vughy quartz + carbonate vein.							
				198.5	205.8	Wispy, sericitic and chloritic fragments, some with tube pumice textures in a fine, siliceous, sericitic matrix. RHYOLITIC, PUMICEOUS VOLCANICLASTIC. Broken ground strong sericite alteration; 204.0-205.8m.	337.0						
				205.8	257.8	Pink to green breccia, composed of quartz-feldspar rhyolite fragments in a matrix of the same. Clasts are slightly more siliceous, matrix sericitic. RHYOLITE LAVA BRECCIA	349.9 / 354.1	Fault & Contact 15° / Fault & contact 35°	Tr. sph + gal on fault.				



129099

5 cm

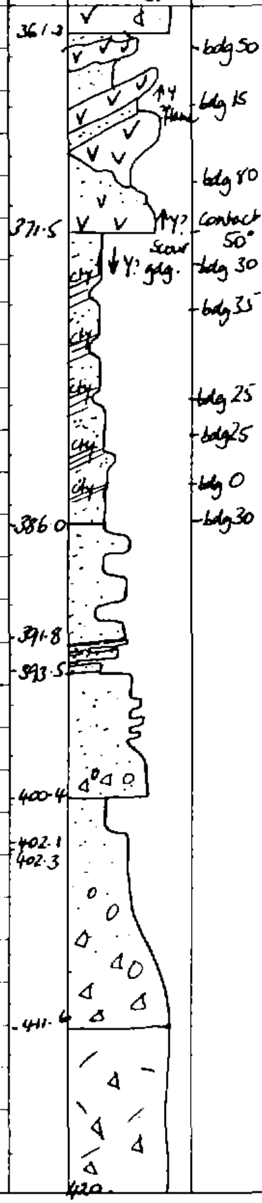
HOLE No. BPD 72

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT :

Graphic Scale 1: 250

CORE RECOVERY				DESCRIPTION						MINERALISATION	CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
						209.2-209.4 Zone quartz/chlorite/carbonate veining 1-30mm.				361.2-371.5 Tr. sph + gal throughout. In clots + assoc. c̄ q-ch stringers				
						212.2- 225.6 Zone of quartz/carbonate stringers (1mm) and veins (to 200mm). Chlorite and sericite in some of these				371.5-386.0 Sph + gal along bdg. planes 372.7-372.9, 373.5-375.4 376.1-376.2 377.2-379.9 380.5-380.7 381.85-383.0. assoc c̄ cil, cty beds				
						213.3-216.0 Broken ground.								
						237.6-239.0 Strong qtz-carbonate veining hair line-180mm associated with enhanced carbonate alteration								
						239.0-257.8 Carbonate veining, 4 veins/m								
				257.8	303.7	Highly siliceous, pink and green, quartz-feldspar phyric, flow banded RHYOLITE LAVA. Many feldspars altered to chlorite or sericite. 262.8-265.5 Broken Ground. 262-275- Streaky sericite alteration associated with fine fracturing. Minor qz/carb veining throughout (stringers) Good flow banding on bottom contact.				257.8-303.7 Rare traces Sph + gal assoc. with qtz/carb. stringers esp. 284.0-285.0				



129100

5 cm

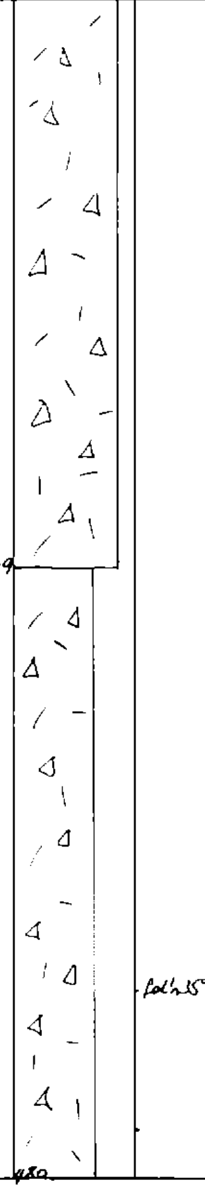
PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 72

PROJECT:

Graphic Scale 1: 250

CORE RECOVERY From m	Interval m	%	RQD	DESCRIPTION From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	CODES LITHO	STRUCT	ALTN	MIN
				303.7	337.0	Breccia, monomict, defined by alteration zones. Some are pink and/or grey and siliceous. Others are green and sericitic. Both zones are feldspar and quartz phyric. Some quartz phenocrysts 1-1.5 mm. RHYOLITE LAVA BRECCIA.								
				337.0	348.9	As above, RHYOLITE LAVA BRECCIA with rare sediment clasts - fine grained, grey, sandstone & mudstone & pink rhyolitic sandstone. From 346.8, ground is broken. This is accompanied by strong clay and sericite alteration. Bottom contact faulted.	448.9							
				348.9	354.1	Very fine grained, pale green/pink rock, probably RHYOLITIC SANDSTONE, though sedimentary textures are not obvious. Bottom contact faulted.								
				354.1	361.3	RHYOLITE LAVA BRECCIA (as above) with zones of Rhyolite Sandstone. ?Probably clasts, however these have irregular boundaries, maybe soft sediment deformation. On the other	450		foln 35°					



5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 72

PROJECT:

Graphic Scale 1: 250

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
						hand, the fine grained lithology is possibly a rapidly chilled version of the Rhyolite Lava. Bottom contact broken.	489.7							
				361.3	371.5	Sequence of interbedded RHYOLITE LAVA and even grained SANDSTONE. There are also coarser, sericitic sediments with no internal bedding. The contacts between the Rhyolite + sediments are irregularly shaped. 365.5–365.6 is a dark grey, very fine, siliceous sediment. Flame structure here suggests uphole facing. Bottom contact possibly an eroded surface / scour channel, also suggests up hole facing. Minor density qtz/carb stringers throughout.	502.0 510.7		Bdg 20° Bdg 50° fault/contact 65° CO_3 vein 10°	506.4–506.6 q vng c̄ tr. py, sph. 510.4–510.6 1% diss py in dk gy sed. 510.7–539.0 Tr sph + gal c̄ some carbonate spots.				
				371.5	386.0	Well bedded sediments; green sericitic + buff ?rhyolitic SANDSTONE. Very fine, siliceous (cherty), grey MUDSTONE. Strongly sericitic zone on upper contact. Grading here indicates down hole facing.								
				386.0	411.6	Overall upward fining unit. Coarse towards base, with very fine	539.0							

5cm

0114

HOLE No. BPD 72

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

PROJECT :

Graphic Scale 1: 250

CORE RECOVERY				DESCRIPTION								CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Graphic Struct.		MINERALISATION	LITHO	STRUCT	ALTN	MIN
				386.0	411.6 (cont)	siliceous beds near the top, at 390.4, 390.7 + 392.6-392.9m									
						DACITE BRECCIA - SANDSTONE. Clasts are pink siliceous or green sericitic, feldspar phyric. Well bedded in sandstone part of unit. The finest beds carry sph + galena as veinlets. They also exhibit soft sediment deformation. Grades down into :-									
				411.6	448.9	Pink and green DACITE BRECCIA. Pink siliceous + green sericitic, feldspar phyric clasts in a fine, buff coloured matrix. 432-440m qtz/carb veining 6/m 3-7mm. Grades into :-									
				448.9	489.7	Finer grained, feldspar phyric ?flow banded (could be foliation) DACITE LAVA BRECCIA. Clasts are not as well defined as in previous unit. Sericite - Carbonate altered especially 463.9-489.7 where there is intense veining. Broken ground accompanies particularly strong alteration from 485.2-487.2m.									

Depth: 540.5, 541.3, 544.9, 545.4, 546.6, 555.9, 556.7, 557.6-8, 557.9, 558.0, 559.9, 560.1

4x mafic dykes.

566.2
E.O.H.

Struct.: Dyke contacts: Top 30°, Btm 30° } opposite sence. Btm 30°. Btm 50°. Top 40°. Btm irreg.

Mineralisation: 565.0-566.2 - Tr. sph + gal with carbonate spots.

120103

5cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 72

PROJECT :

Graphic Scale 1: 250

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
				489.7	502.0	As above DACITE LAVA BRECCIA with intervals of fine grained, bedded, sandstone & mudstone. Thought to be clasts. Their boundaries are irregular & bedding is disrupted within them ?soft sediment incorporation of seds into lava. Broken ground 492.7 - 494.4								
				502.0	510.7	Interval of very odd rocks! Very fine grained, strongly chloritic & sericitic mudstone. Bedded. Some coarser beds of sandstone & some intervals with larger, rounded grey sediment clasts, also some dacite clasts. At 506.5m there is is a basalt or andesite clast. Very strong chlorite alteration 508.4 - 510.7. At 509.4 ?deformed quartz vein								
				510.7	539.0	Massive interval of feldspar phyric rock with a very fine, siliceous buff coloured groundmass. Wispy zones of sericite & chlorite. Some of these contain tubules. The zones themselves are up to 45mm wide. Particularly good tube texture at								

129104

5 cm

PASMINCO EXPLORATION
DIAMOND DRILL CORE LOG

HOLE No. BPD 72

PROJECT :

Graphic Scale 1: 250

CORE RECOVERY				DESCRIPTION							CODES			
From m	Interval m	%	RQD	From m	Interval m	(incl. LITHOLOGY, STRUCTURE & ALTERATION)	Depth	Graphic Lithology	Struct.	MINERALISATION	LITHO	STRUCT	ALTN	MIN
				510.7	539.0	(cont.) 536.5m								
						Numerous rounded carbonate spots throughout, range in size from 4-15mm.								
						DACITIC, PUMICEOUS VOLCANICLASTICS.								
						516m 30mm Carb. vein.								
				539.0	566.2	As above but contains some much finer-grained intervals, which are not as abundant in green wispy zones.								
						Carbonate spots throughout, 4-20mm.								
						~~There are~~								
						DACITIC, PUMICEOUS VOLCANICLASTICS.								
						There are four intervals within this unit that have a fine, volcanic texture and are highly carbonate/chlorite altered.								
						All except one have sharp contacts								
						Probable MAFIC INTRUSIONS								
						@ 556.7-556.9								
						557.6-557.8								
						557.9-558.0								
						559.9-560.1.								
						561.7-563.0 strong carb. veining								
						566.2m END OF HOLE.								

01114

129105

5 cm

HOLE No. BPD 72

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

PROJECT : BURNSPEAK.

Page 1 of 3

SAMPLE						ASSAYS (ppm unless specified)					COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Ag	Au	
32402	SPLIT CORE	34	36			<5	16	48	<0.5	<0.006	
03	"	36	37			<5	<5	69	"	"	
04	"	37	38			<5	24	99	"	"	
05	"	38	39			9	10	58	"	"	
06	"	39	40			8	10	73	"	"	
07	"	40	41			<5	8	78	"	"	
08	"	41	42			<5	<5	57	"	"	
09	"	42	43			5	31	51	"	"	
32410	"	43	44			5	184	247	"	"	
11	"	65	67			<5	16	87	"	"	
12	"	67	69			<5	13	64	"	0.013	
13	"	69	71			<5	<5	64	"	<0.008	
14	"	75	77			<5	248	302	"	"	
15	"	77	79			5	94	144	"	"	
16	"	79	81			<5	95	110	"	"	
17	"	81	83			<5	17	92	"	"	
18	"	83	85			13	62	157	"	"	
19	"	85	87			7	11	33	"	"	
32420	"	87	89			5	6	23	"	"	
21	"	130	132			<5	12	58	"	"	
22	"	132	134			10	67	133	"	"	
23	"	134	136			<5	24	91	"	"	
24	"	136	138			<5	69	239	"	"	
25	"	138	140			31	217	428	0.8	"	
26	"	140	142			<5	79	143	<0.5	"	
27	"	148	150			<5	13	74	"	"	
Laboratory	ANALABS.			Analytical Method		GA140	GA140	GA140	GA140	GG309	
Job-No. 0211	Date Oct. 1991			Detection Limit		5	5	5	0.5	0.008	

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PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

HOLE No. BPD72

PROJECT: BURN'S PEAK

Page 2 of 3

Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Ag	Au	COMMENTS
32428	SPLIT CORE	150	152			<5	57	137	<0.5	<0.008	
29	"	152	154			"	914	748	"	"	
30	"	157	159			"	126	144	"	"	
31	"	159	161			"	55	171	"	"	
32	"	161	163			"	60	72	"	0.013	
33	"	163	165			"	123	77	"	<0.008	
34	"	165	167			"	53	79	"	"	
35	"	167	169			"	12	47	"	"	
36	"	169	171			9	235	135	"	"	
37	"	178	180			<5	69	72	"	"	
38	"	180	182			"	162	167	"	"	
39	"	182	184			"	303	166	"	"	
32440	"	184	186			"	58	107	"	"	
41	"	186	188			38	323	428	"	0.011	
42	"	188	190			7	254	685	"	<0.008	
43	"	190	192			<5	67	48	"	"	
44	"	192	194			"	58	78	"	"	
45	"	194	196			"	21	31	"	"	
46	"	196	198			"	[illegible]	86	"	"	
47	"	198	200			17	15	105	"	"	
48	"	237	239			12	19	353	"	"	
49	"	283	285			13	66	146	"	0.017	
32450	"	353	355			13	108	405	"	0.019	
51	"	360	362			10	85	364	"	0.011	
52	"	362	364			12	164	799	"	0.012	
53	"	364	366			14	520	1388	0.6	0.019	
Laboratory ANALABS				Analytical-Method		GA140	GA140	GA140	GA140	GG309	
Job-No. 0211		Date Oct. 1991		Detection-Limit		5	5	5	0.5	0.008	

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PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

HOLE No. BPD 72

PROJECT: BURN'S PEAK

SAMPLE						ASSAYS (ppm unless specified)					COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Ag	Au	
32454	SPLIT CORE	366	368			13	277	1197	0.5	0.008	
55	"	368	370			10	168	580	<0.5	0.014	
56	"	370	372			8	146	341	0.5	0.020	
57	"	372	374			13	163	197	1.2	0.084	
58	"	374	376			10	218	440	<0.5	0.014	
59	"	376	378			15	257	406	<0.5	0.031	
32460	"	378	380			13	604	703	0.8	0.024	
61	"	380	382			10	279	601	0.7	0.022	
62	"	382	384			19	312	584	0.9	0.028	
63	"	384	386			28	203	337	0.7	0.124	
64	"	386	388			15	187	369	1.2	0.044	
65	"	390	392			35	249	1646	1.3	0.442	
66	"	409	411			56	94	1841	0.8	0.194	
67	"	554	556			5	6	47	<0.5	0.025	
68	"	556	558			7	12	63	<0.5	0.013	
69	"	558	560			5	6	34	<0.5	0.018	
32470	"	562	564			6	15	86	<0.5	0.016	
71.	"	564	566.2			5	15	92	<0.5	0.035	

Laboratory	ANALABS		Analytical-Method	GA140	GA140	GA140	GA140	GA309
Job-No.	0211	Date Oct. 1991	Detection-Limit	5	5	5	0.5	0.008

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HOLE No. BPD 73

PASMINCO EXPLORATION
DIAMOND DRILL CORE RECORD

LOCATION	WESTERN TASMANIA
PROJECT	BURNS PEAK
PROSPECT	CHESTER - MT KERSHAW
DESIGNED BY	L.W. KIRSNER
LOGGED BY	L.W. KIRSNER
RELOGGED	
COMMENCED	26th SEPTEMBER 1991
COMPLETED	17th OCTOBER 1991
DRILLED BY	DIAMOND DRILLING TASMANIA
DRILL RIG	LONGYEAR 44

OBJECTIVE

To test favorable stratigraphic horizon, equivalent to the Chester host position, to the west of Chester, near Mt Kershaw. To test the source of bedrock & soil geochemical anomalies. To intersect the Rosebery Fault.

RESULT

Contact zone between lavas (0 - 138.5) and volcaniclastics (147.0 - 393.9) contained brecciated mix of fine grained sediments and volcanic-derived fragments. Elevated levels of sphalerite observed in this interval (138.5 - 147.0 m). Chalcopyrite occurs in interval 203.0 - 265.95. Rosebery Fault intersected at 393.9 m. Dundas Group Shales 393.9 - 417.9.

LOCATION/SURVEY DATA (AMG)

Grid	AMG	RL Collar m	520 m (approx)
Northing m	5380 600 N (approx)	Bearing Collar	270° (AMG)
Easting m	377 435 E (approx)	Dip Collar	−60°
DH Survey Type	EASTMAN SINGLE-SHOT CAMERA	Length Hole m	417.9 m

Depth m	Bearing AMG	Dip	Depth m	Bearing	Dip
50	269.5°	−59.5°			
100	269°	−57°			
150	270°	−56°			
200	268°	−54.5°			
250	266°	−52°			
300	268°	−51.5°			
350	267°	−49.5°			
400	268°	−48°			

SIGNIFICANT INTERSECTIONS

From m	To m	Interval m					Comments
138.5	147.0 m	8.5 m					Assay results not yet available, but 1000's ppm Zn expected

SIGNIFICANT CORE LOSS

From m	To m	% Lost

POOR GROUND CONDITION ZONES

From m	To m	Condition

HOLE SIZE

Size	Depth m
HQ	0 - 79.8
NQ	79.8 - 417.9

HOLE CONDITIONS AFTER COMPLETION

Collar	Not cased
Steel Casing	Nil
PVC Casing	0 - 417.9 (class 9, 32 mm - nominal size)
Ground Water	Nil
Wedge	–
Drill Pad	Sump filled in and topsoil replaced on pad by excavator.

HOLE No. BPD 73

PASMINCO EXPLORATION
SUMMARY DIAMOND DRILL CORE LOG

PROJECT: BURNS PEAK – CHESTER

Graphic Scale 1:

From m	Interval m	Code	Description	Depth	Graphic
0 – 138.5	138.5		DACITE LAVAS & SHALLOW INTRUSIVES		
138.5-147.0	8.5		FINE GRAINED SEDIMENTS & LAVA FRAGMENTS		
147.0-379.9	232.9		EPICLASTIC & LAVA BRECCIA		
379.9–393.9	14.0		COARSE DACITIC INTRUSIVE ?		
393.9	–		ROSEBERY FAULT		
393.9-398.0			(SHEARED) BLACK SHALE		
398.0-403.2			DACITIC INTRUSIVE ?		
403.2-417.9			LAMINATED BLACK SHALE		
0.0-138.5	(138.5)		DACITE LAVAS & SHALLOW INTRUSIVES.		
0.0-13.0	13.0	—	- chloritised, pale cream to grey, poorly to moderately foliated, chloritic wisps in places reminiscent of flow banding, some preferred alignment of feldspar and chloritised crystals (up to 3mm across) parallel to regional cleavage @ 30° to core, generally partially elongate in cleavage. Some larger patches of fine-grained chloritic material, possibly originally devitrified glass. Some 'blotchy' cream/pink zones interspersed with pale green chloritic zones. Minor chlorite veins at 30° to core.		

From m	Interval m	Code	Description	Depth	Graphic
			Some fine-grained disseminated pale cream sericite? in first few metres. Weathered out vughs throughout. · 4.2m - chlorite-carbonate vein @ 30° - occasional fine grained grey partially chloritised zones that appear to be "clasts" enveloped by regional cleavage. · 6.4m - patch of possible primary lava flow brecciation. "clasts" of pale cream rock surrounded by chloritised (devitrified glass?) groundmass. 5mm to 25mm across · 9.7m - regional cleavage at 28° to core · 10.8-12.0m veins of chlorite incorporating fragments of pale cream lava, up to 8mm wide (? hydrothermal fracturing?) · 12.2m - possible primary layering - chlorite altered flow banding? @ 50° to core. - minor disseminated pyrite throughout.		
13.0-21.9	8.9	—	- more patchy, possibly flow banded & variably chloritised. Some patches unchloritised with no phenocrysts in pale cream rock. · 17.1m - narrow (2-3mm) qtz vein containing galena & pyrite crystals, @ 10° to core. · 17.5 - 2mm pyrite vein on break in core · 18.0 - 4mm qtz + gn + py vein @ 30° · 18.4 - 3mm qtz + chl vein @ 45° · 18.4-19.0 - 2mm qtz vein @ 0° to core (qtz veins blocky white brittle fracture fill-type) quartz + chl veins: 21.0m - 4mm wide @ 45° 21.2m - 20mm wide @ 40°		

PASMINCO EXPLORATION
SUMMARY DIAMOND DRILL CORE LOG

HOLE No. BPD 73

PROJECT: BURNS PEAK - CHESTER

Graphic Scale 1:

From m	Interval m	Code	Description	Depth	Graphic
			· 21.45m - galena-pyrite vein on "alteration front"/ edge of flow banded glassy patch, in vugh-filling position, associated with quartz veins, (in zone of patchy chl ± ser alteration).		
			· 21.9 - qtz vein with two or more growth periods incorporating chlorite blebs.		
21.9-26.3	4.4		- Medium grey-green, wispy to flow banded, chloritic (after feldspar) phyric, with zones of massive to moderately cleared lava (devitrified glass) interspersed with patchy/wispy flowbanded & moderately sericitic cream-yellow lavas. occasional blebs of pinkish coloured mineral (iron oxide? @ 22.8m)		
			· 22.6 - vugh filled with pyrite crystals		
			· 23.4 - chlorite veins ± qtz		
			· 24.0 - minor aggregates of dissem. pyrite		
			· 24.75 - qtz vein with vughs filled with galena ± pyrite ± chalcopyrite. Blocky qtz in variable width veins (2mm → 15mm).		
			· 25.5 - py + gn in small vughs near 45° fracture. Phenocrysts of feldspar + chl become less dominant from here on.		
26.3-31.0	4.7		- sericitised flow bands ± disseminated py in pale green/grey poorly chloritic, generally massive to weakly foliated dacite lava. Small vugh containing py scattered intermittently with some larger qtz phenocrysts or vesicle fill.		
31.0-32.0	1.0		disseminated pyrite in pale green chloritic lava. occasional fractures with quartz/carbonate veining contain gn ± py. Qtz/carb. blebs also associated with aggregated pyrite.		
32.0-35.3	3.3		- rock takes on blotchy pink/orange appearance & still contains disseminated pyrite (<< 1%)		
			· 32.4 - pyrite on veins & joints & sutures (? clast boundaries?)		
35.3-37.0	1.7		- fine fracture-fill (1mm) chlorite veins in tectonically brecciated pale green-cream massive dacite lava. Patchy quartz vugh-fill.		
37.0-37.5	0.5		- broken ground; massive white quartz vein with chl-filled vesicles, a number of different generations of growth recorded (MINOR FAULT)		
37.5-39.2	1.7		- pale green & grey, fine grained, blotchy, patchily sericitised; disseminated fine-grained (1/3mm?) pyrite in grey (siliceous) patches. Hints of flow banding. Patches of feldspar phenocrysts irregularly distributed. Common chlorite-breccia veins. (38.0 - 5cm qtz vein)		
			· 38.9 - qtz + py - filled vugh.		
39.2-39.9	0.7		- Pinkish-orange colouration (DEVONIAN OVERPRINT?) becomes apparent in feldspar-phyric, fine to medium grained - POSSIBLE SHALLOW INTRUSIVE.		
			39.6 - chl veinlets & vughs filled with carbonite + py + qtz.		

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PASMINCO EXPLORATION
SUMMARY DIAMOND DRILL CORE LOG

HOLE No. BPD 73

PROJECT: BURNS PEAK - CHESTER

Graphic Scale 1:

From m	Interval m	Code	Description	Depth	Graphic
			·39·95m - Chloritised breccia zone (MINOR FAULT).		
39·9–48·4	8·5		- pale green-yellow fine-med grained, msv, vuggy (weathered) with chloritised patches up to 10mm (possible devitrified glass). Patchy pink albitisation. Fine chlorite veinlets @ 20° → 45° to core throughout (average 3-4 veinlets per metre). Some carbonate veining associated with chlorite veinlets. Pervasively sericitised, but low levels (1-2%). Dissem. pyrite on some vughs & in more sericitised patches. Feldspar phenocrysts iron-oxide stained throughout.		
48·4	-		- CONTACT - Irregular surface in unbroken core ⇒ flow margin? @ ~80° to core.		
48·4–49·85	1·45		- dark, medium grained, massive; with some fine grained chloritic matrix; sericitised feldspar phenocrysts up to 2mm across, undeformed, comprise ~1% of rock. Some hints of regional cleavage at ~40° to core (possibly flow bands?) Patchy quartz & carbonate vugh fill; Similar lithology to above but without pink/orange zones.		
49·6–49·85	0·2		- MINOR FAULT - broken core, chl + ser + clayey coating on some fragments.		
49·85	-		- CONTACT / ALTERATION FRONT?		
49·85–51·2	1·35		- pale yellow - cream, coarser grained, chloritic crystals with well developed cleavage. fine grained sericite - disseminated or patchy. Strong regional cleavage @ 35° - 45°.		
			·50·6 - 40mm qtz + chl + ser vugh fill.		
51·2–51·35	0·15		- FAULT - 15 cm zone @ 50° to core. Clayey pug zone incorporating fragments of surrounding rock.		
51·35–56·3	4·95		- pale green-yellow, sericitised, rare quartz & feldspar phenocrysts. Massive Rhyodacite lava. Variably iron-oxide stained in patches containing higher chlorite & more phenocrysts.		
			·52·7 Regional Cleavage moderately developed @ 48°		
			·56·1 " " " " @ 35°		
56·3–61·45	5·15		- Lava contains zones of fine grained chlorite (possibly devitrified glass) after flow bands, @ 60° to core. Matrix is chloritic pale green/cream/pink sericitic with chloritised feldspars.		
61·45–61·8	0·35		- FAULT ZONE - @ 40° to core. quartz veins + pug zone. Brecciated & chloritised in randomly developed dilational openings.		
61·8–67·0	5·2		- medium grained, with mid-green to orange/pink matrix, chloritised feldspar phenocrysts, small sericite patches, some wispy sericite veinlets on joints. qtz 'eyes' - associated with joints or veins variably developed & up to 4mm across, euhedral secondary qtz. Hints of flowbanding at 53° to core (62·45m)		
67·0	-		- broken ground, possible fault zone or flow top?		
67·0–68·1	1·1		- medium to dark green chloritised flow banded lava. Medium grained. Secondary quartz ± pyrite.		
			·67·6 - pyrite on joint // to core		
			·67·9 - strong development of blebby secondary qtz up to 8mm x 40mm long.		
68·1–70·7	2·6		- pink-orange, (Devonian) altered, massive, fine to med grained lavas with chloritised feldspars.		

PASMINCO EXPLORATION
SUMMARY DIAMOND DRILL CORE LOG

HOLE No. BPD 73

PROJECT: BURNSPEAK - CHESTER

Graphic Scale 1:

From m	Interval m	Code	Description	Depth	Graphic
70.7-79.8	9.1		- patchily sericitised, flow-banded (40° to core), with almost "pumiceous" look, otherwise similar to previous interval. Plus qtz-carbonate vugh fill ± pyrite. Diseminated fine grained sericite alteration. Includes "spots" of carbonate + qtz with increased pyrite. flowbands @ 70° to core (71.1m)		
79.8-82.0	2.2		· Pink-orange colour (DEVONIAN) dominates matrix, with dark chloritised crystals (after feldspar)		
82.0-84.9	2.9		· Pseudoclastic appearence with chloritised feldspar dominated areas interspersed with massive pale buff-orange matrix. Possibly alteration controlled.		
84.9-85.0	0.1		· Small scale faulting & chlorite veining on faults @ 50°		
85.0-91.4	6.4		· Weakly sericitised, pale buff colour, dacite lava, variably feldspar phyric with patchy chlorite alteration. Sericitisation picks out flow banding in places (eg 86m) Carbonate veining (eg: @ 90.4m).		
91.4-116.0	24.6		· Chlorite alteration creating "pseudo-clastic" appearance in otherwise similar dacite lava - (flowbanded, pink alteration, qtz-carb. vughfill etc)		
			· 109.6 - veining (chl + qtz) on tectonically "disturbed zone"		
116.0-130.0	14.0		· Massive, fine to med. grained, pink/grey/pale green DACITE LAVA. Qtz-carb blebs developed sporadically qtz-carb veinlets @ 40° to core, 3mm wide, at ~1m intervals. Minor py in veins & vughs.		
130.0-134.9			· increase in diseminated py in pink/grey lavas. Chlorite blebs & feldspar phenocrysts. fine dissem. ser.		
			· 131.45 - small alteration/fault zone (4mm) + chl + carb.		
			· 131.9 - carbonate vein/vugh fill.		
131.9-137.8	5.9		· pyrite - diseminated & along veins in increasingly altered & broken core. Chl. veining on joints ⇒ breakage lines. Patchy chl alt[n] persists.		
			· 132.2 - pyrite veins along joints sub-parallel to core		
137.8-138.5	0.7		- clastic appearance. Sharp boundaries between grey fine-grained pyritic zones & medium grained buff coloured chloritically altered lavas. Much sericitisation & broken ground - fault zone? Possible lava breccia with later tectonic disturbance?		
			· 138.1 - qtz vein, 3cm wide @ 90° to core, connected ~~to~~ thinner (0.5cm) veins // to core.		
			· 138.4 - qtz vein, 2cm wide @ 80° to core.		
138.5-147.0	(8.5)		<u>FINE GRAINED SEDIMENTS & LAVA FRAGMENTS</u>		
138.5-141.4	2.9		- grey, siliceous, fine-grained, ? brecciated sediments? glassy lava. Wavy banding - possibly disturbed bedding in less intensely brecciated & broken zones. Pyrite (≤5%) and minor disseminated sphalerite (<<1%). Possible galena. 'Blebs' of fine grained sulphide in matrix up to 4mm across, mostly pyrite.		
141.4-141.8	0.4		- unequivocal sediment, bedded, cream colour, fine grained, wavy bedding @ ~32° to core + bedding parallel and vein controlled pyrite bands (fine grained, discontinuous, 1mm wide).		
141.8-147.0	5.2		- much sericitisation & chloritisation in green/yellow broken core, some brecciation		

HOLE No. BPD 73

PASMINCO EXPLORATION
SUMMARY DIAMOND DRILL CORE LOG

PROJECT: BURNS PEAK - CHESTER

Graphic Scale 1:

From m	Interval m	Code	Description	Depth	Graphic
			evident, generally similar to 138.5-141.4 interval but more brecciated/primary clastic? lava breccia appearance. High sulphide (pyrite ± sp.) content - up to 6-8% locally. Pyrite replaces clasts & formed along joints & fractures in random orientation. Generally pale grey-green siliceous "clasts" (? lava).		
			· 144.8 - quartz-carb. vein // to core + sp + gn		
			· 145.1 - flow bands? at 15° to core		
			· 145.75 - carb. veins with pg along them @ 20° to core in chl/ser altered glassy ? brecciated lava.		
			· 146.0 - Flow bands? @ 90° to core with clasts of fine grained grey ? lava breccia.		
			· 146.2 - Flow bands? @ 40° to core		
			· 146.25 - 20mm massive barren quartz vein		
			· 146.5 - 10mm qtz vein with sphalerite + galena selvages, in sericitised, soft unsilicified breccia (? lava?).		
			LAVA BRECCIA / EPICLASTIC.		
147.0-203.5	56.5		- conformable (?) boundary to pale orange/pink devonian altered lava breccias. Massive, occasionally qtz-carbonate veined, usually barren (except 149.9 - galena on qtz vein & 159.3 increased pyrite in 10mm qtz vein). Clasts are chloritic devitrified glass, probably lava fragments? Matrix is massive crm/pink/orange massive; with < 0.1% disseminated pyrite. Iron stained, 1mm		

From m	Interval m	Code	Description	Depth	Graphic
			sized feldspar phenocrysts comprise ~1%. Clasts 2mm-30mm across, average 10mm.		
			· 154.6 - qtz vein on fault at 90° to core.		
			Clasts often angular, non-jigsaw fit with hints of pumice...		
			· 170.6 - quartz vein, 35mm wide @ 35° to core		
			· 172.0 - FAULT ZONE (pug)		
			· 194.9-195.0 - carbonate + chlorite veins in random orientation in ? fault zone.		
			· 196.0 - 50mm massive qtz vein @ 30° to core contains carbonate blebs.		
203.5-265.95	62.45		- Marked increase in quartz-carbonate veins from ~1 per 10 metres to 2 to 3 per metre, usually 2-3mm wide & @ ~40° to core. Some with pyrite developed along margins.		
			· 220.7 - quartz-carbonate vein with pyrite and chalcopyrite developed.		
			· 227-260 - qtz-carb. veins have chalcopyrite + pyrite ± minor sphalerite & traces of galena.		
			· 236.9 - large (10mm) bleb of chalcopyrite in tectonically disturbed zone 30 cm wide, containing joints & fractures & small faults.		
265.95-267.4	1.45		- sharp "intrusive" contact with massive, pale green/grey, fine grained ? lava flow with massive fine grained pyrite blebs, up to 7mm across and minor chl. altered veins. Pale pink colour in patches.		

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PASMINCO EXPLORATION
SUMMARY DIAMOND DRILL CORE LOG

HOLE No. BPD 73

PROJECT: BURNS PEAK - CHESTER

Graphic Scale 1:

From m	Interval m	Code	Description	Depth	Graphic
267.4-269.75	2.35		FAULT ZONE - pug/broken core.		
269.75-270.9	1.15		SHEAR ZONE? - grey, fine grained, banded, veined, mylonitic appearence?, no sense of movement observed (sediments?) Patchy chlorite & sericite alteration.		
270.9-274.8	3.9		DACITE LAVA - massive pink, feldspar-absent, much jointing/anastamosing fine lines of chlorite ⇒ high strain indicated? Includes ~~the~~ pyrite along fine fracture planes.		
274.8-275.8	1.0		- grey, siliceous, dk grey spotted, with thin fractures, (generally @ ~63° to core). Strong tectonic(?) brecciation appearance in places with schistose anastamosing possible SHEARED fabric. Disseminated pyrite ~ 0.5 %.		
275.8-276.3	0.5		- euhedral, terra-cotta coloured feldspar phenocrysts in grey-white strongly foliated matrix with green-grey chloritic veins // to cleavage. Disseminated pyrite <0.5%. Cleavage @ 45° to core. Faulted lower boundary - distinct "line" with chlorite on it at ~80° to core.		
276.3-276.7	0.4		- grey, massive, LAVA?, with minor sphalerite mineralisation (≪0.1%) ± pyrite. Chlorite veinlets randomly oriented. FAULTS?		
276.7-280.3	3.6		- pale grey, finely banded, siliceous sediment? Finely mineralised (py <1%) SHEAR ZONE? Anastamosing pattern, varies into pink & grey colour with occasional sprinklings of terra cotta coloured feldspar phenocrysts. Banding @ 60° to core. 277.7 - qtz veins - massive ± carbonate. - apparent grain size variations appear controlled by intensity of the "shear zone"..? or sediment variations?		
280.3-281.5	1.2		- massive to moderately foliated dark green/grey lava BRECCIA? Terra cotta feldspars variably developed. Pyrite 1-2% ± cpy ± sp (@ 280.8) Foliation @ 50° to core 281.1m		
281.5-284.1	2.6		- dark green, massive, with pink feldspars and chlorite veinlets @ 40° to core LAVA?		
284.1-287.3	3.2		- pink, siliceous BRECCIA, variably brecciated with chloritised layers and some grey/green bands. Pyrite < 0.5%. Broken core with hints of faulting/shearing fabric in fragments (eg: 286.6-287.3).		
287.3-289.9	2.6		- massive pink feldspar-phyric acid? LAVA with chlorite veinlets. Minor quartz/carb veining. Takes on increasing BRECCIATED appearence (quench fabric?) down-hole and increased grey-green colour.		
289.9-315.5	25.6		- terra-cotta coloured feldspars phenocrysts in grey/pink ? quench brecciated matrix, criss-crossed		

PASMINCO EXPLORATION
SUMMARY DIAMOND DRILL CORE LOG

HOLE No. BPD 73

PROJECT: BURNS PEAK - CHESTER

Graphic Scale 1:

From m	Interval m	Code	Description	Depth	Graphic
			by fine diffuse chlorite veinlets (HYDROTHERMAL BRECCIA?) Minor sericitisation. Varies down-hole between chlorite-feldspar, buff coloured zones and pink, siliceous terracotta-feldspar zones.		
315.5-318.6	3.1		As above, but becomes less feldspar-phyric & takes on fine grained matrix and green-grey colour. Less brecciated. Only fine chlorite veins. Some disseminated pyrite.		
318.6-325.7	7.1		Massive pink/orange LAVA with minor chlorite veinlets		
			• 321.6-322.3 - FAULT ZONE - broken ground, leached.		
325.7-329.0	3.3		- BASALTIC DYKE		
329.0-333.5	4.5		- grey/pink/green siliceous lava with chlorite veinlets		
333.5-338.4	4.9		- Strongly BRECCIATED, chloritised, with terra cotta coloured feldspars & grey/pink massive groundmass.		
338.4-338.6	0.2		- BASALTIC DYKE		
338.6-345.1	6.5		- varied pink-grey, BRECCIATED, chloritised(ate) (as above 333.5 - 338.4)		
345.1-346.4	1.3		- BASALTIC DYKE		
346.4-374.9	28.5		- pink-grey, brecciated, chloritised, some massive siliceous zones, mainly chaotic chl. veinlets, feldspar phenocrysts.		

From m	Interval m	Code	Description	Depth	Graphic
			• 357.5 - qtz-carb. veining.		
374.9-376.5	1.6		- dark grey-green, feldspar & quartz phyric? sericitised ACID LAVA? foliated variably...		
376.5			FAULT		
376.5-380.4	3.9		- pink, massive, siliceous, LAVA?		
380.4-390.7	10.3		- massive, quartz-phyric, feldspathic VOLCANICLASTIC? pumiceous? Weakly sericitised. Disseminated pyrite < 1%. Dark grey colour. DACITIC INTRUSIVE?		
390.7-393.9	3.2		- as above, paler yellow/green with pink patches ? INTRUSIVE?		
393.9	-		ROSEBERY FAULT (Fault "zone" = 393.7 - 398.0)		
393.9-398.0	4.1		BLACK SHALE - black, massive to finely laminated shale. quartz + feldspar + carbonate "eyes" in zone 395.6 - 397.6. (Tectonically derived?) Much brecciation, broken ground, some foliation @ ~75° to core.		
398.0-403.2	5.2		ACID INTRUSIVE? - yellow-grey, fine to medium grained, massive sericitic, Lava/Intrusive?		

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HOLE No. BPD 73

PASMINCO EXPLORATION
SUMMARY DIAMOND DRILL CORE LOG

PROJECT : BURNS PEAK - CHESTER

Graphic Scale 1:

From m	Interval m	Code	Description	Depth	Graphic	From m	Interval m	Code	Description	Depth	Graphic
403.2-417.9	14.7		BLACK SHALE - finely laminated, with varied bedding to core angle, many small joints & faults, grey layers, minor carbonate veining. Most bedding @ ≈ 85° to core Some bedding subparallel to core!								
417.9	-		END OF HOLE.								

1121617

DRILL HOLE SAMPLE SHEET

PAGE 1 CORE RECOVERY

Drill Hole No	From	To	~~Sample No~~ RECOVERY	Comment	Drill Hole No	From	To	~~Sample No~~ RECOVERY	Comment
BPD73	0.00	4.0	2.8	HQ WHOLE CORE	BPD73	133.0	135.0	2.0	NQ WHOLE CORE
	4.0	7.0	2.85			135.0	139.0	3.8	
	7.0	10.0	2.95			139.0	142.0	2.8	
	10.0	13.0	3.0			142.0	146.2	4.05	
	13.0	16.0	2.9			146.2	151.0	4.75	
	16.0	21.8	5.65			151.0	154.5	2.7	LESS .80
	21.8	25.0	3.3			154.5	160.0	5.5	
	25.0	28.0	2.95			160.0	163.0	3.0	
	28.0	31.0	2.95			163.0	165.6	2.5	
	31.0	34.0	2.9			165.6	171.6	5.95	
	34.0	37.0	2.75			171.6	173.4	1.55	
	37.0	40.0	2.9			173.4	179.4	6.0	
	40.0	42.1	2.0			179.4	185.0	5.6	
	42.1	45.2	3.05			185.0	188.8	3.7	
	45.2	47.6	2.3			188.8	196.0	7.2	
	47.6	49.8	2.1			196.0	202.0	6.0	
	49.8	52.8	2.95			202.0	205.6	3.5	
	52.8	55.0	2.15			205.6	208.9	3.2	
	55.0	58.0	2.95			208.9	214.0	4.9	
	58.0	61.0	2.9			214.0	226.0	11.95	
	61.0	63.8	2.75			226.0	231.3	5.25	
	63.8	66.9	3.05			231.3	233.1	1.8	
	66.9	70.0	3.1			233.1	237.5	4.45	
	70.0	71.6	1.5			237.5	243.7	6.2	
	71.6	74.6	3.0			243.7	249.9	6.15	
	74.6	77.7	3.05			249.9	253.0	3.05	
	77.7	79.7	2.0			253.0	259.0	6.0	
	79.7	82.0	2.1	NQ WHOLE CORE		259.0	265.0	6.0	
	82.0	85.0	3.0			265.0	270.0	4.95	
	85.0	87.1	2.0			270.0	272.5	2.5	
	87.1	89.4	2.25			272.5	275.1	2.55	
	89.4	93.0	3.6			275.1	278.8	3.6	
	93.0	100.0	6.85			278.8	284.1	5.3	
	100.0	106.0	6.0			284.1	286.8	2.6	
	106.0	109.6	3.5			286.8	290.6	3.7	
	109.6	113.7	4.1			290.6	292.8	2.2	
	113.7	119.6	5.25	LESS .65		292.8	295.8	3.0	
	119.6	125.1	6.05	+ .55		295.8	301.0	5.15	
	125.1	131.3	6.05			301.0	304.0	2.95	
	131.3	133.0	1.7			304.0	308.6	4.65	

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~~DRILL HOLE SAMPLE SHEET~~

Page 2

CORE RECOVERY

Drill Hole No	From	To	~~Sample No~~ RECOVERED	Comment	Drill Hole No	From	To	Sample No	Comment
BPD73	308.6	312.1	3.35	NO WHOLE CORE					
	312.1	313.0	.9						
	313.0	318.1	5.0						
	318.1	321.8	3.8						
	321.8	325.4	3.7						
	325.4	326.5	1.2						
	326.5	328.0	1.7						
	328.0	331.7	3.8						
	331.7	333.4	1.9						
	333.4	337.8	4.3						
	337.8	340.9	3.1						
	340.9	343.7	3.0						
	343.7	346.0	2.3						
	346.0	350.5	4.6						
	350.5	355.0	4.5						
	355.0	361.0	6.0						
	361.0	364.0	3.0						
	364.0	367.2	3.3						
	367.2	370.0	2.9						
	370.0	374.2	4.2						
	374.2	376.3	2.0						
	376.3	377.9	1.7						
	377.9	383.4	5.3						
	383.4	385.0	1.7						
	385.0	388.9	3.96						
	388.9	391.2	2.3						
	391.2	393.9	2.7						
	393.9	396.6	2.7						
	396.6	403.0	6.4						
	403.0	407.0	4.0						
	407.0	409.0	2.0						
	409.0	413.0	3.95						
	413.0	417.9	4.9						
E.O.H									

APPENDIX 2
Wacker Drill Sample Logs, Maps
and Geochemical Results

Chester Wacker sampling program 19/8 - 21/8/1991

Contractor : Nick Pollock
Geologist : Lindsay Kirsner
Weather : Poor

LINE No:	START:	FINISH:	SAMPLE NOS:	No:	DATE:
5381500N	378925E	379250E	32311 → 32324	14	19/8/91
5381300N	378775E	378975E	32325 → 32333	9	19/8/91
5381100N	378700E	378900E	32334 → 32343	10*	20/8/91
5380800N	377725E	377200E	32344 → 32365	22	20/8/91
5380200N	376850E	377300E	32366 → 32384	19	21/8/91
				74	

* two samples were collected at 378775E, one at 5381080N; other at 5381100N
* 32337 * 32338

LWK.
23·8·'91.

Chester Wacker Sample descriptions

LINE: 5381500 N.

32311. - pale grey/crm/brown; semi-consolidated; feldspar frag. up to 2mm across; some dk. brown soil (⇒ above La)

32312 - grey, f·mg, leached, fissile, weathered acid? rock...

32313 - grey, fg, some chl., some fsp frags (1mm), Weath La?

32314 - qtz pebbles, mafic lithic pebbles, fg gravel, some dk. soil, ⇒ surficial / fluvioglacial cover.

32315 - crm/gry, fsp frags, some brn soil, weathered to leached (white) in places, weath La?

32316 - gry, leached, occasional lithic grains, (La?) unconsol.

32317 - gry, leached, unconsol., some fsp & qtz, occasional lithics (La?)

32318 - as above (# 316 & 317)

32319 - some lge. lithic frags + qtz frags (⇒ surficial contamination) otherwise grey, weathered (La?)

32320 - gry, clay-rich, some fsp & qtz grains, occ. lithics, generally weath/leached (La?)

32321 - unconsolidated grey stuff with occasional white fsp fragments...

32322 - dk gry-brown, almost gravelly-looking (⇒ surficial?) some consolidated, ple gry (La?).

32323 - dk gry soil c̄ some qtz & lithic pebbles (⇒ not bedrock or weathered rock; probably surficial).

32324 - gry/wht, consolidated, weathered rock c̄ some crm patches & green chl (fuchsite?) alteration.

32325 - gry, gravelly, qtz + fsp rich, mud horizon, semi-consol.

32326 - ple gry/wht, polymict gravel, some rnd. qtz pebbles + lithics + fsp fragments ⇒ surficial/glacial.

32327 - dk. brown, clayey soil c̄ pebbles & frags of surficial material ⇒ surficial/glacial.

32328 - gry, fg, felds. frag, weathered La bedrock.

32329 - weath. chl/ser, gravelly, muddy, qtz, felds & lithic frags, possibly some weath. bedrock c̄ surficial contam.

32330 - weathered feldspars, med-grey to dk gry, unconsolidated, weath felds. phyric bedrock.

32331 - fluvioglacial gravels - qtz pebbles up to ~~[illegible]~~ 5cm, much qtz & fsp ...

32332 - some ple leached, weath. grey bedrock c̄ some fsps, some soil etc...

32333 - dk brown, clayey soil incorporating fsp & qtz frags...

32334 - surficial polymict gravels c̄ much iron staining...

32335 - mud, clay, sand, gravel; various frags of lithic qtz & fsp. some bedrock? mainly surficial -

32336 - polymict gravel & soil → surficial. Iron stained.

32337 - dk brown soil c̄ rnd qtz + felds & lithic frags... → surficial.

32338 - dk brown soil incorporating qtz pebbles, acid lava (ple pk) pebbles, fsp etc.

32339 - fluvioglacial gravels, as above (338).

32340 - fluvioglacial gravels... & soil

32341 - fluvio glacial gravel & soil. Some ple. grey leached (? bedrock) frags.

32342 - coarse sand-sized, gravelly debris, incl. ~~much~~ many lithic clasts & mafic debris.

32343 - as above (342)

32344 - weathered bedrock - wht, leached, fsp-phy La?

32345 - brownish/yellowish, ruddy soil -

32346 - weath. bedrock, ple wht, fsp, chloritic.

32347 - crumbly weath. bedrock, some mafic fsp. phy frags, some brown soil..

32348 - crm/wht weath bedrock.

32349 - pale, crumbly, clayey weath. bedrock, some fsp frags.

32350 - pale weath. bedrock, qtz & fsp x'ls...

32351 - fragmented grey, silicified, rock - possibly La?

32352 - grey, leached, fsp-phy ~~to~~ acid rock. Fragmented.

32353 - weath bedrock, fsp, chl patches.

32354 - basalt dyke c̄ carbonate veins. Dk grn.

32355 - siliceous, iron stained, possibly pyritic, rock fragments (definite bedrock). sericitic.

32356 - strong yellow ochre colour, (basalt?), vfg, msv, some crimson veining ... (vege?)

32357 - yellow ochre colour again, now with gravel & pebbles ⇒ surficial contamination.

32358 - dk grn & ple yellow, carbonate veined basalt dyke.

32359 - polymict muddy gravel, some grey sed. appearance but mainly iron stained & chloritic.

32360 - chloritic, feldspathic, grey/pale grn weath. La.

32361 - as above, but a bit gravelly also.

32362 - ple grey, pebbly surficially contaminated, minor chl.

32363 - brown/gry, soil & weath rock La?

32364 - alt. fsp in gry grnd mass ~~some~~ La?

32365 gry, weath/leached, minor chl ...

32366 - brn/gry, gravelly, weath rock (contam c surface deps).

32367 - fluvio/gl. gravel. - polymict ...

32368 - brown/ochre, clay-rich gravelly stuff. some ple bedrock frags.

32369 - Rby F? dk grey gravels & Fg seds. Possibly Dundas grp?

32370 - gry, qtz & fsp - phy, ironstained acid rock.

32371 - gry, weath, iron st. La

32372 - gravelly, ple gry, surficial? La?

32373 - gravelly surficial stuff.

32374 - gry bedrock c some gravel contam.

32375 - as above (374)

32376 - gry acid fsp bedrock.

32377 - as above (376)

32378 - brn acid gravelly msv. La/surficial contam

32379 - gry, fg, msv, La?

32380 - "

32381 - fsp phy, chl, gry, iron oxides, La?

32382 - dk gry bedrock, fsp + minor soil contam.

32383 brown "

32384 brown "

Chester Walker samples - splits BHP 1987.

8931 - ple wht/gry, fsp ± qtz La.

8932 "

8933 "

8934 "

8935 - gry, clay-rich, wht/ple ...

8936 - crm/wht, some chl, some iron staining...

8937 "

38 " w/out chl ± fsp.

39 " "

40 " "

41 crm/gry, fg, ± fsp.

42 " " " ± chl & Fe stain

43 " " " + iron staining

44 grey, leached, friable, clay-rich.

45 " " " "

46 " " " " some darker weathered/iron staining

47 crm/gry, clayey, + fsp.

8948 crm/gry, fsp + clay ± ...

49 gry/grn, fg. (chl?)

50 leached ple crm/wht.

51 " "

52 brn/crm, polymict - some 'soil contam?'

53 crm/gry ....

54 ple gry/wht, some chl...

55 ple gry/wht.

56 " "

57 crm/gry ± fsp.

58 " " " ± chl.

59 " " No chl or fsp...

60 " "

61 crm/wht.

62 gry/wht ± fsp ± chl

63 yell/wht, Fe stain,

64 fg, green, chloritic => basalt...

②

8965 strong ochre yellow/red colour
fg ± fsp.
8966 green fg, ⇒ basalt.
8967 ple grn, fg, clay-rich (Not basalt?)
fg seds?
68 crm/wht, iron stain, alt? La.
69 grey/wht La.
70 gry, ironstained, some chl.
71 crm/brn, Fe-stained. (ep. seds?)
72 crm/wht, brown stains, frags of lith?
73 crm/brn, frags of lithics?
74 green, chloritic, fg, Basalt...
75 wht, leached, La + fsp?
76 brn/crm, some chl... La?
77 wht/crm, + fsp?
78 " "
79 wht leached..? fg.
80 yellow/wht, Fe-stained & leached..

9003 crm/gry fg stuff.
9004 " "
05 brn/gry "
06 " "
07 brn/yell, poss. seds..
08 yell/Festained & ple grn. chloritic fg. weath rock..
09 crm/wht, fg, pale...
10 wht, fg, leached.
11 " " " poss. clasts.
12 " " "
13 " " "
14 crm/buff, fg.
15 " " "
16 wht, fg, leached
17 wht, " "
18 " " "
19 crm/wht fg ± fsp & chl

9020 crm/wht, fg, ± fsp

21 " " " (iron stained).

22 " "

23 MISSING.

24 ~~cs~~ wht, fg, bleached?

25 gry/wht, " "

26 wht " "

27 MISSING.

28 wht, f-mg, brn stains.

29 " " "

30 crm/yellow, " , " , fsp.

31 wht, fg, leached?

32 gry/wht, mg, pinkish tinge, dk clasts?

33 wht, fg, leached.

34 " " " (crm stains)

35 grn/gry f-mg, chl, yell Fe stain

36 wht/gry, fg, "

9037 gry/wht, fg, La/3

38 crm/wht " "

39 " " " "

40 " " " "

41 " " " "

42 crm, fg, La?

43 wht " , leached.

44 " " " Fe-stain.

45 " " "

46 crm/yell, fg, Fe-stain.

47 wht, fg, leach

48 " " Fe-st.

49 " "

50 crm/brn, grn chl, Fe-stained. f-mg.

51 (Rock Chip) - chloritic, pumiceous (?), poss. volcaniclastic, foliated. gry/wht, fg.

52 wht, fg, leached, La?

53 crm " "

9054 crm/wht, fg, La? ~~(bad)~~

9055 wht/v. ple grn tint, fg

56 wht, fg, clayey

57 " " , pumiceous?

58 " "

59 crm/wht, fg. ± fsp

60 gry/wht, fg, ± fsp

61 crm, fg...

9210 brn/wht, fg, "...

11 " " "

12 " " "

13 grn, chloritic, fg, ± fsp (basalt?)

14 brn, f-mg, soil contam?

15 wht/brn, m-cg, surficial contam? (gravelly)

16 dkgry, hard - poss. gravel? dolerite? fsp-phy. (sol. rock).

17 brn, fg, fsp, ?

18 crm/wht, fg, La?

9219 crm/gry, f/mg.

9401 pl. grn, fg, chl (poss. basalt? not dto enough)

9402 crm, f-mg, fsp

03 " fg, leached.

04 " " "

05 brn, f-mole, soil contam, Fe stained

06 wht, fg, ± fsp

07 crm/gry f-mg

08 " "

09 " " ± qtz

10 crm, f-mg.

11 brn/gry, fg.

12 MISSING

13 wht "

14 ple grn/crm, fg, alt fsp. (chl).

15 yell/gry, fg.

16 brn/gry, ple, f-mg

17 ple brn, hard, fg,

18 " " "

01

129133

5

~~9447~~

~~48~~

19 crm, f-mg, ±f)

20 " " "

21 ple grn, fg, hard ... chl?

22 wht, fg, hard, leached?

23 gry/crm, fg-mg, ±fsp.

24 " " "

25 yellow/crm, fg, iron stained.

26 ple gry&, some Fe-st, fg.

27 fg, gry & yell, fol, ±fsp ±q.

28 brn, mg, sed?, soil contam?

29 brn/wht, leached, fg.

30 grn/brn, fg.

31 gry/brn, m-cg, gravel contam.

32 hard (rock frags), dol? fsp (surficial derived?)

33 " " " "

9453 crm, fg, q±f.

54 ple grn/wht, chl tr, fg.

55 brn, soil contam, fsp frags

56 ple-mid grn, vfg, uniform, clayey ... (basalt?)

57 ple grn/crm, fg, (chl.)

58 crm/wht, hard, fg (poss. surficial)

59 wht, fg, ves, pum?

60 ple grn/crm, fg, chl?

61 crm/wht, fg, Fe-stain.

62 brn/crm, soil contam?, fg...

63 brn/yell, fg, oxidised...

64 wht, fg, hard! ±fsp.

65 " " leached/chalky.

66 wht, fg, clayey.

67 ple grn, fg, (chl)

68 brn/wht, f-mg ± fsp.

69 wht, chalky fg

⑥

9470 wht, chalky, fg.

9480 brn, oxidised, fg.

9481 wht/ple grn, fg, pom? ± fsp

82 " " " "

83 " " " "

84 wht/ple grn, f, fg.

85 crm/wht, fg, fsp.

86 crm, fg, some surficial frag contamin.

87 wht, fg, ...

88 gry, pink tint, hard (La alb?)

89 wht, fg, clayey

90 wht, fg, chalky.

91 crm/wht, fg, fissile.

Burns Pk - Chester
BHP Wacker Samples.

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

129135

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

0134

ANALYTICAL REPORT No. 111310.60.08238

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
0162 & 0210	3006

DATE RECEIVED	RESULTS REQUIRED
27/08/91	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
8	20/09/91	1	182

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
8931/8980, 9003/9061,	RC Prep : GP029-P2	Mn,Bi/GA140
9210/9219, 9401/9433,	RC Prep : GP029-P2	As/GA114
9453/9470, 9480/9491	RC Prep : GP029-P2	Ba,Sn,Sb,Ti/GI222

RESULTS TO:
Mr L Kirsner
Pasminco Exploration
P.O. Box 886
BURNIE TAS 7320

RESULTS TO:

RESULTS TO:

REMARKS

AUTHORISED OFFICER

0130 129136

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08238	20/09/91	0162	1 OF 8

TUBE No.	SAMPLE No.	Mn	Bi	As	Ba	Sn	Sb	Tl		
1	8931	56	<10	1	849	1.60	2.00	1.61		
2	8932	175	<10	1	1580	2.12	3.62	1.84		
3	8933	117	<10	2	1460	1.74	2.62	1.66		
4	8934	162	<10	<1	1880	2.27	3.30	2.04		
5	8935	82	<10	<1	1240	1.59	2.77	1.28		
6	8936	526	<10	3	1160	2.21	2.11	1.64		
7	8937	472	<10	2	1250	1.97	2.69	1.61		
8	8938	1304	<10	<1	1250	2.03	2.33	1.61		
9	8939	100	<10	<1	1160	1.25	1.47	1.27		
10	8940	94	<10	<1	1270	2.45	3.63	2.22		
11	8941	135	<10	<1	1090	1.68	2.54	1.48		
12	8942	143	<10	1	1280	2.53	3.35	1.62		
13	8943	343	<10	2	1340	1.97	1.17	1.73		
14	8944	175	<10	1	1380	1.93	1.23	1.97		
15	8945	159	<10	2	1070	1.98	2.60	1.65		
16	8946	413	<10	8	1070	3.00	2.57	1.85		
17	8947	374	<10	2	593	1.64	1.73	0.83		
18	8948	168	<10	3	768	1.79	2.99	1.58		
19	8949	323	<10	1	792	1.73	3.07	1.67		
20	8950	86	<10	<1	965	1.79	3.29	1.04		
21	8951	110	<10	<1	655	1.75	1.51	0.99		
22	8952	180	<10	<1	442	2.44	1.52	1.07		
23	8953	100	<10	<1	618	2.36	2.03	1.31		
24	8954	134	<10	<1	707	2.01	1.05	1.04		
25	8955	135	<10	<1	631	2.24	2.23	1.15		

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

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A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08238	20/09/91	0162	2 OF 8

TUBE No.	SAMPLE No.	Mn	Bi	As	Ba	Sn	Sb	Tl		
1	8956	73	<10	<1	762	2.10	1.54	1.20		
2	8957	45	<10	<1	663	1.68	6.97	1.60		
3	8958	221	<10	<1	1020	2.46	2.13	1.79		
4	8959	229	<10	<1	987	2.36	3.03	1.44		
5	8960	95	<10	<1	1400	2.21	2.12	1.27		
6	8961	79	<10	<1	1330	2.17	1.56	1.39		
7	8962	597	<10	<1	966	2.04	2.46	1.03		
8	8963	70	<10	3	973	2.25	2.02	1.28		
9	8964	1465	<10	2	612	1.60	3.70	0.60		
10	8965	85	<10	11	140	1.22	2.69	<0.50		
11	8966	1915	<10	4	269	1.10	1.72	<0.50		
12	8967	2015	<10	1	1000	0.77	0.98	1.64		
13	8968	178	<10	<1	1180	2.70	2.89	1.88		
14	8969	115	<10	<1	1660	[illegible].67	2.25	1.87		
15	8970	1135	<10	1	597	1.84	1.52	1.13		
16	8971	6000	<10	2	811	2.33	2.30	1.58		
17	8972	1701	<10	13	946	2.42	2.07	1.42		
18	8973	3764	<10	<1	806	2.01	1.45	1.44		
19	8974	1745	<10	1	707	1.65	2.44	0.99		
20	8975	100	<10	2	142	1.41	2.80	<0.50		
21	8976	4985	<10	[illegible]	594	1.95	3.44	1.53		
22	8977	715	<10	1	642	1.93	2.48	1.28		
23	8978	184	<10	1	785	2.06	2.04	1.31		
24	8979	55	<10	<1	665	2.29	1.56	0.99		
25	8980	102	<10	1	511	1.79	1.88	0.96		

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08238	20/09/91	0162	3 OF 8

TUBE No.	SAMPLE No.	Mn	Bi	As	Ba	Sn	Sb	Tl		
1	9003	68	<10	<1	585	2.23	1.94	1.06		
2	9004	100	<10	<1	827	2.85	2.83	1.20		
3	9005	76	<10	<1	737	2.47	1.33	1.03		
4	9006	40	<10	<1	476	1.87	1.91	0.88		
5	9007	220	<10	1	554	1.94	2.02	1.15		
6	9008	780	<10	3	344	2.03	4.39	1.66		
7	9009	138	<10	3	512	1.75	2.85	1.69		
8	9010	66	<10	3	443	3.11	2.03	1.23		
9	9011	410	<10	<1	386	2.72	1.69	0.70		
10	9012	120	<10	<1	669	3.22	1.37	1.04		
11	9013	257	<10	<1	795	2.26	1.77	1.06		
12	9014	200	<10	1	584	2.72	2.39	1.06		
13	9015	70	<10	<1	642	2.24	1.52	1.45		
14	9016	75	<10	1	533	1.96	1.35	0.95		
15	9017	96	<10	<1	515	2.34	1.03	1.16		
16	9018	85	<10	1	770	2.02	3.15	1.97		
17	9019	480	<10	<1	796	1.76	2.69	1.34		
18	9020	380	<10	1	1300	0.84	1.48	1.91		
19	9021	265	<10	<1	1460	1.79	2.84	1.53		
20	9022	212	<10	<1	1880	2.28	2.72	1.47		
21	9023	SNR	—	—	—	—	—	—		
22	9024	120	<10	<1	1390	1.07	0.83	1.67		
23	9025	150	<10	<1	1660	1.34	1.25	1.49		
24	9026	70	<10	<1	1030	1.71	2.74	1.59		
25	9027	SNR	—	—	—	—	—	—		

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08238	20/09/91	0162	4 OF 8

TUBE No.	SAMPLE No.	Mn	Bi	As	Ba	Sn	Sb	Tl		
1	9028	415	<10	<1	802	1.70	2.73	0.84		
2	9029	2340	<10	3	960	1.80	4.42	1.83		
3	9030	427	<10	3	1360	1.67	3.64	1.62		
4	9031	273	<10	2	2090	2.02	3.39	1.90		
5	9032	305	<10	3	1390	2.91	1.42	0.79		
6	9033	140	<10	1	1430	2.18	1.85	1.72		
7	9034	104	<10	3	853	2.58	1.92	0.88		
8	9035	510	<10	3	540	2.89	2.61	0.74		
9	9036	250	<10	2	923	2.15	0.81	0.96		
10	9037	185	<10	1	1260	2.74	3.12	1.71		
11	9038	95	<10	1	2080	2.01	4.75	1.90		
12	9039	120	<10	1	3470	2.37	4.77	1.91		
13	9040	87	<10	<1	1730	1.88	2.20	1.76		
14	9041	80	<10	1	1010	1.53	0.86	1.51		
15	9042	63	<10	1	883	2.09	2.18	1.51		
16	9043	54	<10	<1	820	2.10	1.84	1.36		
17	9044	38	<10	1	1160	2.44	3.08	1.93		
18	9045	76	<10	<1	2170	2.28	2.45	1.79		
19	9046	131	<10	1	1940	1.69	2.67	1.20		
20	9047	97	<10	1	1170	1.70	4.31	1.63		
21	9048	146	<10	2	1460	2.15	2.95	1.69		
22	9049	100	<10	1	1280	1.67	1.45	1.61		
[illegible]	9050	276	<10	2	390	2.47	3.28	1.04		
24	9051	1497	<10	1	889	2.16	3.83	1.35		
25	9052	71	<10	1	1170	1.85	2.61	1.60		

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08238	20/09/91	0162	5 OF 8

TUBE No.	SAMPLE No.	Mn	Bi	As	Ba	Sn	Sb	Tl		
1	9053	115	<10	1	1590	2.86	2.27	2.43		
2	9054	278	<10	1	586	1.18	3.01	0.59		
3	9055	145	<10	1	1170	1.65	2.59	1.32		
4	9056	134	<10	3	1260	2.39	2.77	1.56		
5	9057	287	<10	2	1650	2.08	4.82	2.02		
6	9058	80	<10	1	929	2.35	1.39	1.02		
7	9059	63	<10	2	498	2.12	2.18	0.77		
8	9060	370	<10	2	626	1.92	2.73	1.07		
9	9061	112	<10	1	1720	1.82	2.64	1.29		
10	9210	36	<10	<1	669	2.36	1.26	0.97		
11	9211	47	<10	<1	984	2.03	1.94	1.24		
12	9212	32	<10	<1	935	2.39	1.66	0.93		
13	9213	2957	<10	2	925	2.25	2.66	0.72		
14	9214	145	<10	4	605	1.57	3.93	0.94		
15	9215	140	<10	3	500	1.54	1.40	0.62		
16	9216	305	<10	1	1160	1.99	2.25	0.69		
17	9217	47	<10	1	671	1.88	2.33	0.71		
18	9218	28	<10	<1	431	1.73	0.96	<0.50		
19	9219	2400	<10	6	573	2.13	2.05	1.27		
20	9401	1138	<10	5	189	1.07	1.84	<0.50		
21	9402	95	<10	2	289	1.57	1.51	0.54		
22	9403	124	<10	2	280	2.17	1.19	<0.50		
23	9404	113	<10	1	623	2.17	1.94	<0.50		
24	9405	136	<10	1	770	2.13	2.39	0.94		
25	9406	52	<10	1	787	2.51	1.58	0.98		

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08238	20/09/91	0162	6 OF 6

TUBE No.	SAMPLE No.	Mn	Bi	As	Ba	Sn	Sb	Tl		
1	9407	55	<10	4	541	1.81	1.90	0.62		
2	9408	53	<10	1	233	2.20	2.16	0.78		
3	9409	25	<10	1	273	1.79	1.38	0.67		
4	9410	60	<10	1	496	2.21	1.77	0.80		
5	9411	30	<10	<1	653	2.24	1.50	0.87		
6	9412	SNR	—	—	—	—	—	—		
7	9413	47	<10	1	1460	2.82	2.33	2.27		
8	9414	372	<10	1	1060	1.51	1.92	1.42		
9	9415	270	<10	1	644	1.60	3.04	1.69		
10	9416	273	<10	1	451	1.73	1.40	0.95		
11	9417	55	<10	1	62	0.83	1.45	<0.50		
12	9418	101	<10	1	216	1.39	1.12	0.50		
13	9419	43	<10	2	1300	2.03	2.75	1.76		
14	9420	30	<10	2	761	2.41	1.44	0.91		
15	9421	1260	<10	6	1120	1.62	2.57	1.09		
16	9422	52	<10	3	931	1.22	1.45	1.19		
17	9423	57	<10	2	795	2.92	2.03	0.91		
18	9424	47	<10	<1	756	2.12	2.45	1.10		
19	9425	33	<10	3	728	0.92	1.97	0.53		
20	9426	36	<10	8	1640	3.33	1.55	0.92		
21	9427	41	<10	15	832	1.85	2.61	1.27		
22	9428	538	<10	6	639	1.69	2.22	0.76		
23	9429	85	<10	1	554	1.62	1.04	0.58		
24	9430	58	<10	<1	434	1.69	1.42	0.76		
25	9431	82	<10	1	371	1.77	1.29	0.50		

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08238	20/09/91	0162	7 OF 8

TUBE No.	SAMPLE No.	Mn	Bi	As	Ba	Sn	Sb	Tl		
1	9432	77	<10	1	300	1.12	1.88	<0.50		
2	9433	595	<10	1	827	1.28	2.05	0.61		
3	9453	187	<10	3	685	1.65	1.28	0.86		
4	9454	203	<10	1	917	2.29	1.30	0.91		
5	9455	77	<10	2	555	1.94	1.73	0.63		
6	9456	620	<10	1	770	0.87	0.86	1.08		
7	9457	370	<10	3	782	1.99	0.99	0.72		
8	9458	163	<10	1	442	1.32	1.28	0.64		
9	9459	224	<10	<1	1070	2.66	2.48	1.23		
10	9460	290	<10	2	416	1.74	1.96	0.59		
11	9461	142	<10	3	503	1.75	2.60	0.92		
12	9462	100	<10	1	537	1.69	1.57	0.91		
13	9463	223	<10	8	490	1.79	1.18	0.77		
14	9464	65	<10	1	476	1.34	1.28	0.63		
15	9465	60	<10	1	391	1.96	1.75	0.70		
16	9466	121	<10	<1	1320	1.87	1.22	1.72		
17	9467	820	<10	1	1690	2.51	2.08	2.09		
18	9468	117	<10	4	734	1.86	1.30	0.81		
19	9469	59	<10	1	223	1.19	1.55	0.90		
20	9470	44	<10	3	413	1.50	2.04	0.86		
21	9480	150	<10	1	467	2.02	2.51	0.89		
22	9481	286	<10	5	614	1.56	1.67	0.70		
[illegible]3	9482	423	<10	6	680	1.66	2.20	0.85		
24	9483	1325	<10	4	1750	1.72	1.95	2.29		
25	9484	425	<10	7	745	1.43	1.61	0.52		

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No	PAGE
	111310.60.08238	20/09/91	0162	8 OF 8

TUBE No.	SAMPLE No.	Mn	Bi	As	Ba	Sn	Sb	Tl		
1	9485	250	<10	2	729	2.03	1.11	0.73		
2	9486	215	<10	2	709	2.04	1.32	0.60		
3	9487	110	<10	1	510	1.80	0.78	0.76		
4	9488	245	<10	4	591	1.74	1.82	0.53		
5	9489	302	<10	4	1360	2.11	3.22	1.87		
6	9490	60	<10	<1	383	1.47	1.73	1.10		
7	9491	83	<10	4	841	3.28	2.66	1.49		
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21	N.B. Sn and Sb Acid Soluble									
22	SNR = Sample not received									
23	DETECTION	5	10	1	2	0.50	0.05	0.50		
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
25	METHOD	GA140	GA140	GA114	GI222	GI222	GI222	GI222		

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Burns Peak. Chester. Waratah.

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A Division of Inchcape Inspection and Testing Services Australia Pty Ltd

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

ANALYTICAL REPORT No. 111310.60.08235

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
0161 & 0210	3006

DATE RECEIVED	RESULTS REQUIRED
23/08/91	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
8	12/09/91	1	74

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
32311/32384	SO Prep : GP029-P2	Cu,Pb,Zn,Ag,Mn,Bi/GA140
32311/32384	SO Prep : GP029-P2	Au,Au(R),Au(S)/GG309
32311/32384	SO Prep : GP029-P2	Ba,Sn,Sb/GX401
32311/32384	SO Prep : GP029-P2	As/GA114
32311/32384	SO Prep : GP029-P2	Ba,Sn,Sb,Fl/GI222

RESULTS TO:
Mr L Kirsner
Pasminco Exploration
P.O. Box 886
BURNIE TAS 7320

RESULTS TO:

RESULTS TO:

REMARKS

AUTHORISED OFFICER

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A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08235	12/09/91	0161	1 OF 8

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Mn	Bi	Au	Au(R)	Au(S)
1	32311	19	17	39	<1	230	<10	<0.008	—	—
2	32312	10	<5	8	<1	83	<10	<0.008	—	<0.008
3	32313	18	19	76	<1	343	<10	<0.008	—	—
4	32314	20	13	30	<1	284	<10	<0.008	—	—
5	32315	10	5	5	<1	93	<10	<0.008	—	—
6	32316	10	<5	<2	<1	130	<10	<0.008	—	—
7	32317	4	<5	<2	<1	46	<10	<0.008	—	—
8	32318	4	<5	<2	<1	44	<10	<0.008	—	—
9	32319	3	<5	<2	<1	165	<10	<0.008	—	—
10	32320	4	<5	2	<1	210	<10	<0.008	—	—
11	32321	3	<5	<2	<1	15	<10	<0.008	—	—
12	32322	4	<5	<2	<1	37	<10	<0.008	<0.008	—
13	32323	2	<5	<2	<1	34	<10	<0.008	—	—
14	32324	2	<5	3	<1	118	<10	<0.008	—	—
15	32325	<2	10	<2	<1	61	<10	<0.008	—	—
16	32326	<2	<5	<2	<1	31	<10	<0.008	—	—
17	32327	2	9	12	<1	95	<10	<0.008	—	—
18	32328	<2	<5	<2	<1	12	<10	<0.008	—	—
19	32329	<2	<5	8	<1	122	<10	<0.008	—	—
20	32330	<2	<5	4	<1	69	<10	<0.008	—	—
21	32331	9	14	24	<1	214	<10	<0.008	—	—
22	32332	<2	<5	10	<1	71	<10	<0.008	<0.008	—
23	32333	<2	<5	3	<1	73	<10	<0.008	—	—
24	32334	<2	<5	<2	<1	36	<10	<0.008	—	—
25	32335	<2	<5	<2	<1	35	<10	<0.008	—	—

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08235	12/09/91	0161	2 OF 8

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Mn	Bi	Au	Au(R)	Au(S)
1	32336	10	19	38	<1	184	<10	<0.008	—	—
2	32337	10	16	33	<1	274	<10	<0.008	—	—
3	32338	9	14	36	<1	268	<10	<0.008	—	—
4	32339	7	14	27	<1	263	<10	<0.008	—	—
5	32340	5	9	31	<1	351	<10	<0.008	—	—
6	32341	4	8	25	<1	249	<10	<0.008	—	—
7	32342	10	21	36	<1	318	<10	<0.008	—	—
8	32343	8	17	59	<1	387	<10	<0.008	—	—
9	32344	<2	<5	<2	<1	32	<10	<0.008	—	—
10	32345	<2	<5	<2	<1	24	<10	<0.008	—	<0.008
11	32346	<2	5	3	<1	21	<10	<0.008	—	—
12	32347	<2	10	32	<1	64	<10	<0.008	<0.008	—
13	32348	<2	<5	8	<1	60	<10	<0.008	—	—
14	32349	7	<5	<2	<1	14	<10	<0.008	—	—
15	32350	2	83	71	<1	28	<10	<0.008	—	—
16	32351	<2	<5	<2	<1	14	<10	<0.008	—	—
17	32352	<2	<5	<2	<1	22	<10	<0.008	—	—
18	32353	<2	44	9	<1	45	<10	<0.008	—	—
19	32354	46	19	141	<1	592	<10	<0.008	—	—
20	32355	4	11	4	<1	36	<10	<0.008	—	—
21	32356	53	24	135	<1	305	<10	<0.008	—	—
22	32357	12	11	38	<1	172	<10	<0.008	<0.008	—
23	32358	61	21	164	<1	1100	<10	<0.008	—	—
24	32359	19	6	94	<1	488	<10	<0.008	—	—
25	32360	12	62	53	<1	192	<10	<0.008	—	—

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ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08235	12/09/91	0161	3 OF 8

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Mn	Bi	Au	Au(R)	Au(S)
1	32361	7	<5	25	<1	110	<10	<0.008	—	—
2	32362	5	10	<2	<1	52	<10	<0.008	—	—
3	32363	8	55	71	<1	319	<10	<0.008	—	—
4	32364	6	<5	9	<1	71	<10	<0.008	—	—
5	32365	14	<5	43	<1	229	<10	<0.008	—	—
6	32366	5	<5	21	<1	95	<10	<0.008	—	—
7	32367	12	34	281	<1	879	<10	<0.008	—	—
8	32368	7	14	78	<1	217	<10	<0.008	—	—
9	32369	13	13	95	<1	888	<10	<0.008	—	<0.008
10	32370	21	41	155	<1	2050	<10	<0.008	—	—
11	32371	8	9	63	<1	393	<10	<0.008	—	—
12	32372	11	12	11	<1	140	<10	0.011	<0.008	—
13	32373	8	26	30	<1	231	<10	<0.008	—	—
14	32374	7	19	46	<1	391	<10	<0.008	—	—
15	32375	4	18	<2	<1	75	<10	<0.008	—	—
16	32376	5	15	<2	<1	103	<10	0.022	0.022	—
17	32377	8	24	32	<1	248	<10	<0.008	—	—
18	32378	24	132	28	<1	144	<10	<0.008	—	<0.008
19	32379	28	51	<2	<1	65	<10	<0.008	—	—
20	32380	7	28	9	<1	56	<10	0.011	<0.008	—
21	32381	26	144	15	<1	80	<10	0.018	0.014	—
22	32382	5	210	16	<1	128	<10	0.014	0.014	—
23	32383	12	41	40	<1	145	<10	<0.008	—	—
24	32384	4	16	5	<1	65	<10	<0.008	—	—
25										

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.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08235	12/09/91	0161	4 OF 8

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Mn	Bi	Au	Au(R)	Au(S)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22	N.B. Sn and Sb Acid Soluble values using ICP-MS methodology									
23	DETECTION	2	5	2	1	5	10	0.008	0.008	0.008
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
25	METHOD	GA140	GA140	GA140	GA140	GA140	GA140	GG309	GG309	GG309

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

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ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08235	12/09/91	0161	5 OF 8

TUBE No.	SAMPLE No.	As	Ba	Ba	Sn	Sn	Sb	Sb	Tl	
1	32311	2	810	841	4	2.7	<3	1.89	0.6	
2	32312	<1	590	633	8	2.0	<3	1.86	1.0	
3	32313	2	770	754	3	1.9	<3	1.41	0.6	
4	32314	4	720	739	3	2.4	<3	1.47	0.5	
5	32315	<1	350	355	<3	3.0	<3	1.79	<0.5	
6	32316	<1	740	790	<3	2.2	<3	1.07	0.5	
7	32317	<1	140	—	<3	—	3	—	—	
8	32318	<1	170	—	<3	—	<3	—	—	
9	32319	1	260	—	5	—	<3	—	—	
10	32320	1	510	—	<3	—	<3	—	—	
11	32321	1	55	—	<3	—	4	—	—	
12	32322	2	310	—	<3	—	<3	—	—	
13	32323	2	410	—	<3	—	<3	—	—	
14	32324	1	1150	—	4	—	<3	—	—	
15	32325	<1	380	—	3	—	<3	—	—	
16	32326	<1	240	—	<3	—	<3	—	—	
17	32327	1	720	—	<3	—	<3	—	—	
18	32328	<1	50	—	<3	—	<3	—	—	
19	32329	<1	450	—	3	—	<3	—	—	
20	32330	<1	380	—	3	—	<3	—	—	
21	32331	1	560	—	<3	—	<3	—	—	
22	32332	1	380	—	<3	—	3	—	—	
23	32333	1	480	—	<3	—	<3	—	—	
24	32334	<1	880		<3	—	<3	—	—	
25	32335	<1	830	—	4	—	<3	—	—	

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

129150

0149

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08235	12/09/91	0161	6 OF 8

TUBE No.	SAMPLE No.	As	Ba	Ba	Sn	Sn	Sb	Sb	Tl	
1	32336	3	630	—	3	—	<3	—	—	
2	32337	3	620	—	4	—	<3	—	—	
3	32338	6	600	—	<3	—	<3	—	—	
4	32339	2	590	—	<3	—	3	—	—	
5	32340	3	700	—	<3	—	3	—	—	
6	32341	2	750	—	4	—	<3	—	—	
7	32342	5	630	—	<3	—	<3	—	—	
8	32343	3	540	—	4	—	<3	—	—	
9	32344	<1	1250	—	<3	—	<3	—	—	
10	32345	<1	360	—	<3	—	<3	—	—	
11	32346	<1	650	—	5	—	<3	—	—	
12	32347	<1	1100	—	<3	—	<3	—	—	
13	32348	<1	900	—	3	—	<3	—	—	
14	32349	<1	800	—	4	—	<3	—	—	
15	32350	1	720	—	<3	—	<3	—	—	
16	32351	<1	690	—	<3	—	<3	—	—	
17	32352	<1	730	—	<3	—	<3	—	—	
18	32353	<1	620	—	<3	—	<3	—	—	
19	32354	2	240	—	3	—	<3	—	—	
20	32355	<1	910	—	<3	—	<3	—	—	
21	32356	9	160	—	<3	—	<3	—	—	
22	32357	1	990	—	<3	—	<3	—	—	
[illegible]	32358	3	290	—	<3	—	7	—	—	
24	32359	<1	940	—	<3	—	<3	—	—	
25	32360	2	1200	—	<3	—	<3	—	—	

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

129151

0150

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08235	12/09/91	0161	7 OF 8

TUBE No.	SAMPLE No.	As	Ba	Ba	Sn	Sn	Sb	Sb	Tl	
1	32361	1	920	--	<3	--	<3	--	--	
2	32362	2	1100	--	6	--	<3	--	--	
3	32363	<1	640	--	<3	--	<3	--	--	
4	32364	<1	560	--	4	--	<3	--	--	
5	32365	1	340	--	<3	--	<3	--	--	
6	32366	1	490	--	<3	--	6	--	--	
7	32367	4	270	--	4	--	<3	--	--	
8	32368	6	410	--	3	--	<3	--	--	
9	32369	5	260	--	<3	--	<3	--	--	
10	32370	8	470	--	<3	--	<3	--	--	
11	32371	2	590	--	<3	--	4	--	--	
12	32372	1	650	--	<3	--	<3	--	--	
13	32373	3	700	--	<3	--	<3	--	--	
14	32374	4	650	--	<3	--	<3	--	--	
15	32375	1	470	--	<3	--	<3	--	--	
16	32376	<1	750	--	<3	--	<3	--	--	
17	32377	<1	980	--	<3	--	3	--	--	
18	32378	13	250	--	4	--	<3	--	--	
19	32379	8	1000	--	<3	--	4	--	--	
20	32380	4	850	--	<3	--	<3	--	--	
21	32381	16	1000	--	<3	--	<3	--	--	
22	32382	4	1200	--	<3	--	<3	--	--	
23	32383	6	930	--	<3	--	<3	--	--	
24	32384	<1	1200	--	<3	--	<3	--	--	
25										

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

0151 129152

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

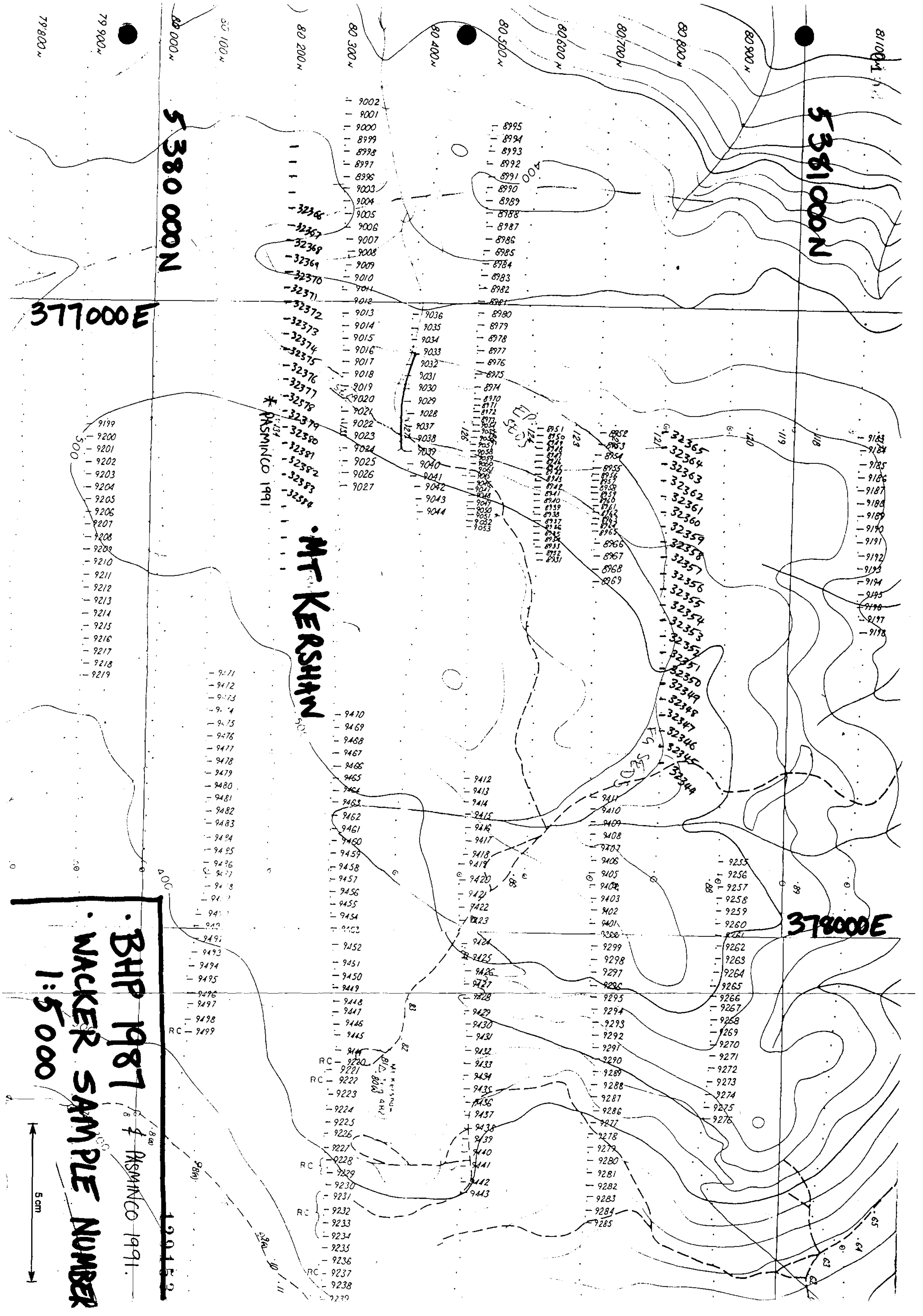
ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	111310.60.08235	12/09/91	0161	8 OF 8

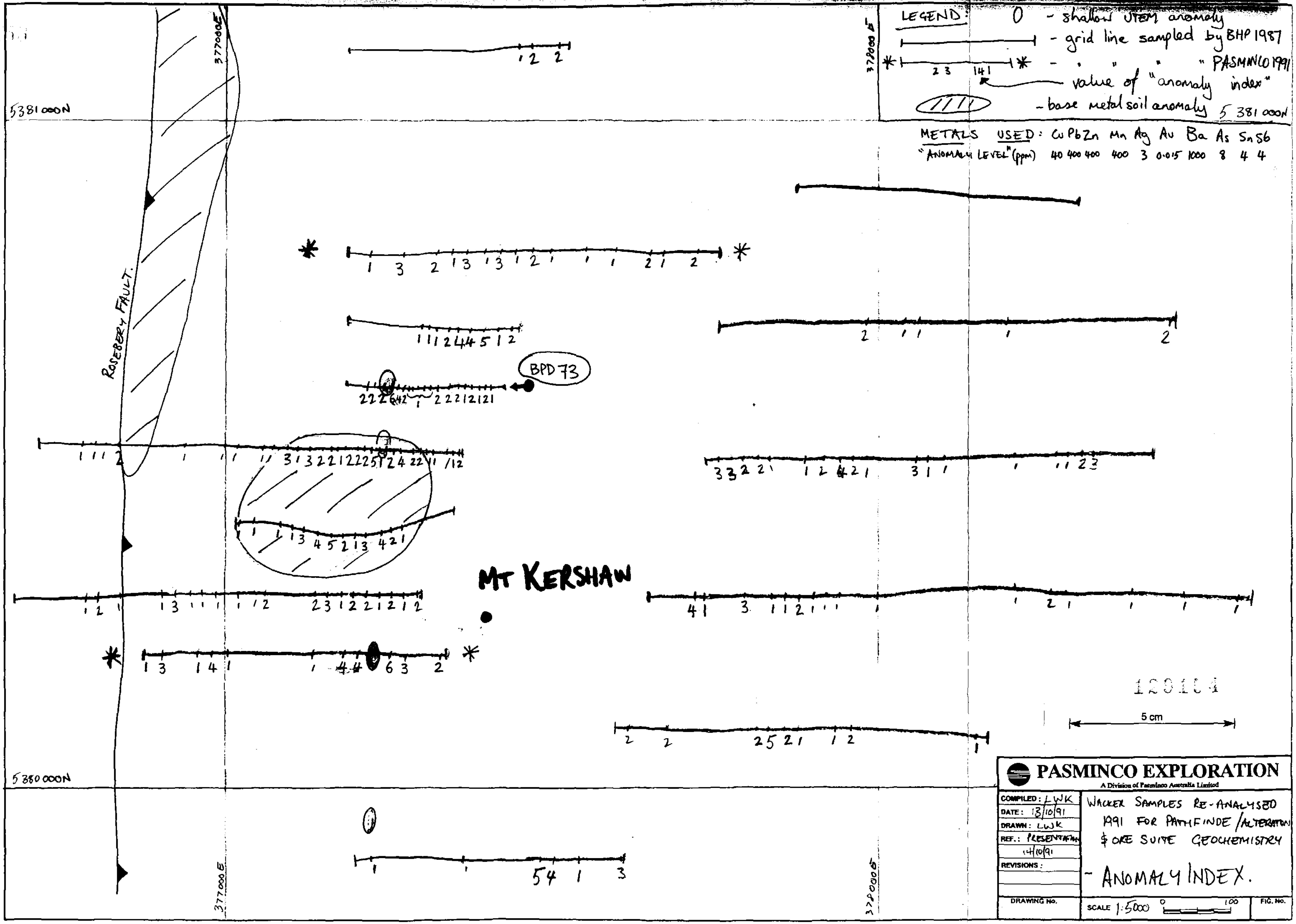
TUBE No.	SAMPLE No.	As	Ba	Ba	Sn	Sn	Sb	Sb	Tl	
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22	N.B. Sn and Sb Acid Soluble values using ICP-MS methodology									
23	DETECTION	1	10	2	3	0.5	3	0.05	0.5	
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
25	METHOD	GA114	GX401	GI222	GX401	GI222	GX401	GI222	GI222	

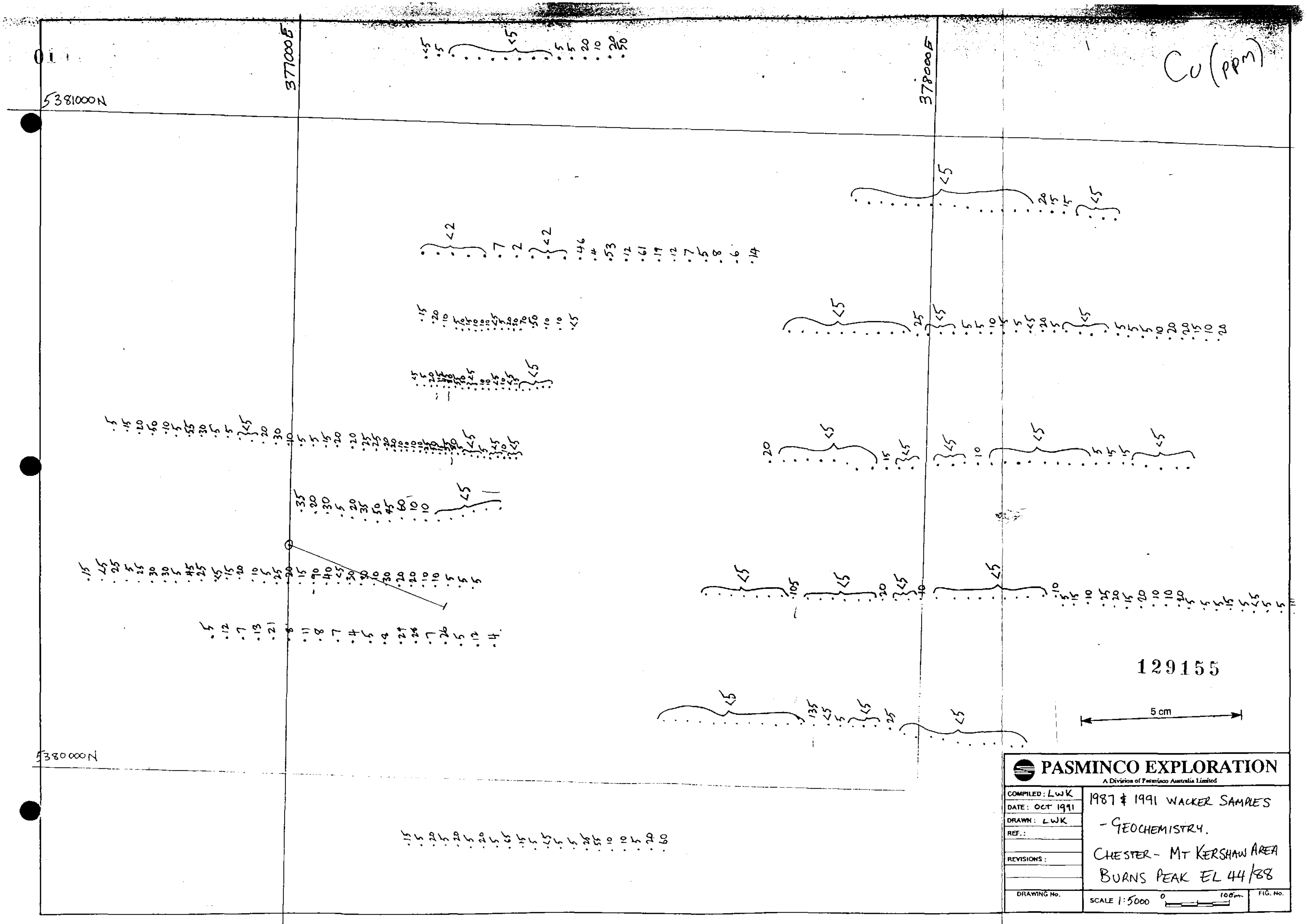
Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

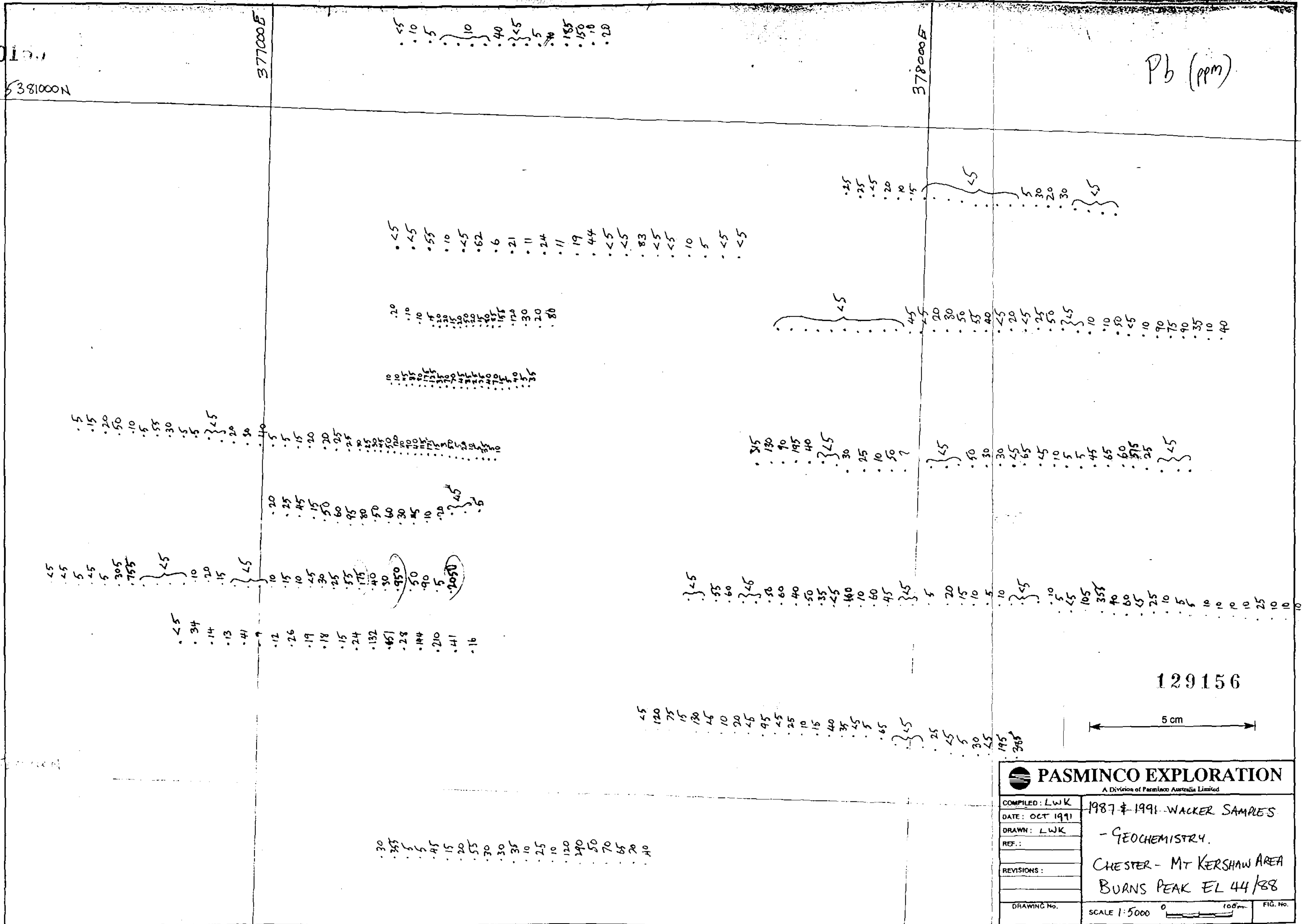
AUTHORISED OFFICER



5 380 000N
5 381 000N
377000E
378000E
MT KERSHAW
PASMINCO 1991
BHP 1987
WACKER SAMPLE NUMBER
1:5000
5 cm


LEGEND:
0 - shallow UTEM anomaly
- grid line sampled by BHP 1987
- " " " " PASMINCO 1991
value of "anomaly index"
- base metal soil anomaly
5381000N
METALS USED: Cu Pb Zn Mn Ag Au Ba As Sn Sb
"ANOMALY LEVEL" (ppm) 40 400 400 400 3 0.015 1000 8 4 4
377000E
378000E
5381000N
5380000N
ROSEBERY FAULT.
BPD 73
MT KERSHAW
5 cm
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: LWK
DATE: 13/10/91
DRAWN: LWK
REF.: PRESENTATION 14/10/91
REVISIONS:
DRAWING No.
WACKER SAMPLES RE-ANALYSED 1991 FOR PATHFINDER/ALTERATION & ORE SUITE GEOCHEMISTRY
- ANOMALY INDEX.
SCALE 1:5000
FIG. No.


Cu (ppm)
377000E
378000E
5381000N
5380000N
129155
5 cm
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: LWK
DATE: OCT 1991
DRAWN: LWK
REF.:
REVISIONS:
DRAWING No.
1987 & 1991 WACKER SAMPLES
- GEOCHEMISTRY.
CHESTER - MT KERSHAW AREA
BURNS PEAK EL 44/88
SCALE 1:5000
FIG. No.

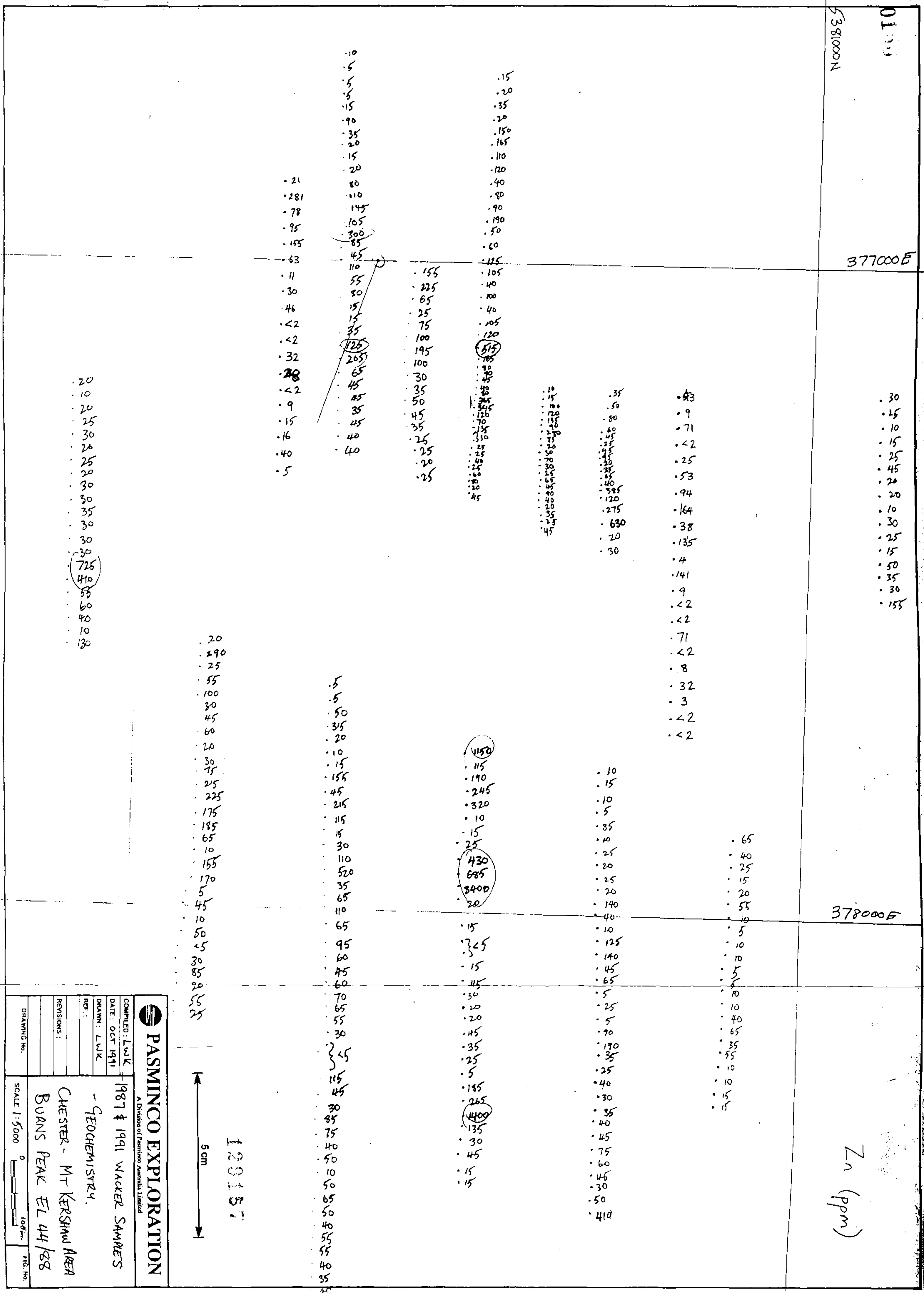


PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

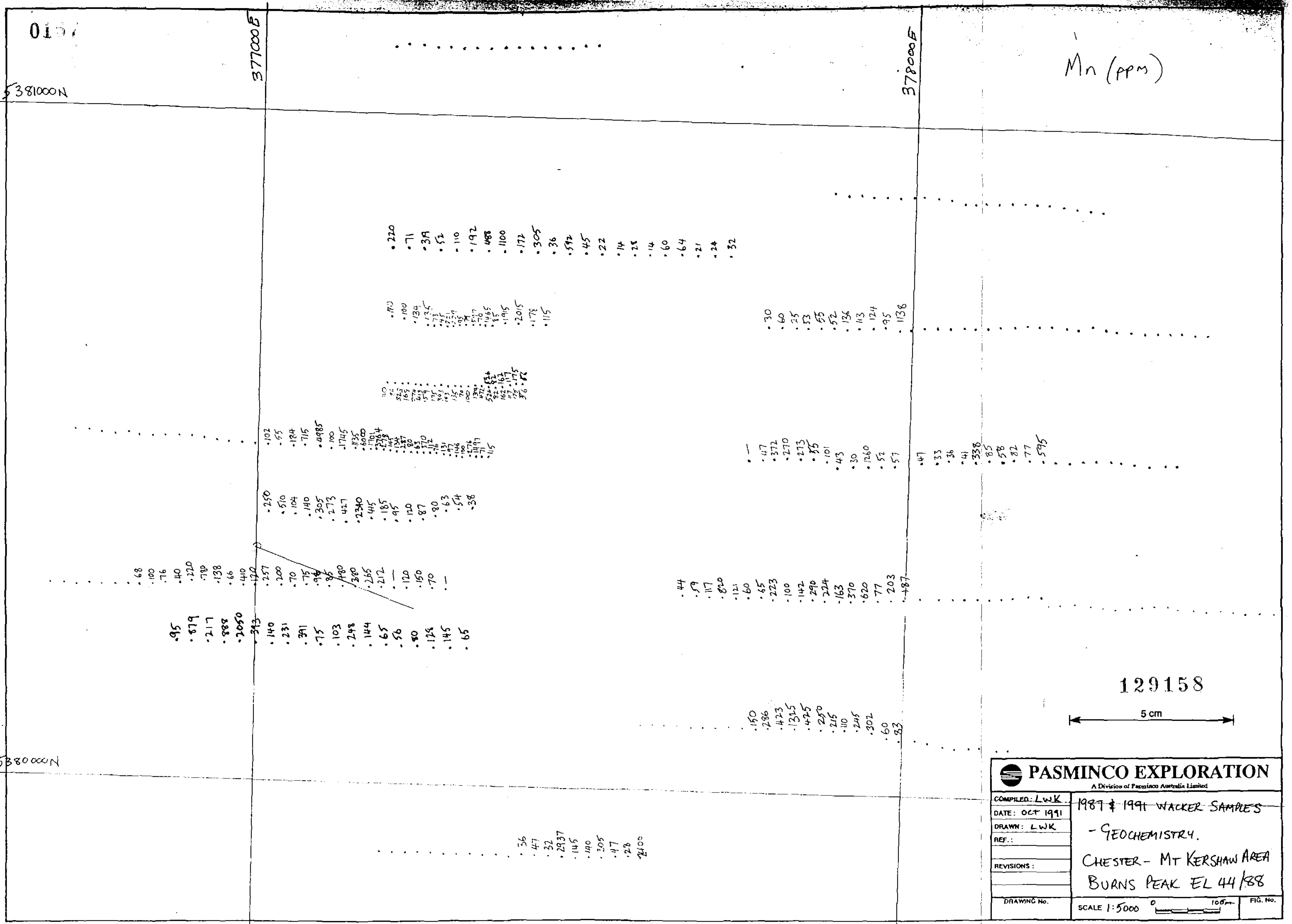
COMPILED: LWK
DATE: OCT 1991
DRAWN: LWK
REF.:
REVISIONS:
DRAWING No.

1987 & 1991 WACKER SAMPLES
- GEOCHEMISTRY.
CHESTER - MT KERSHAW AREA
BURNS PEAK EL 44/88

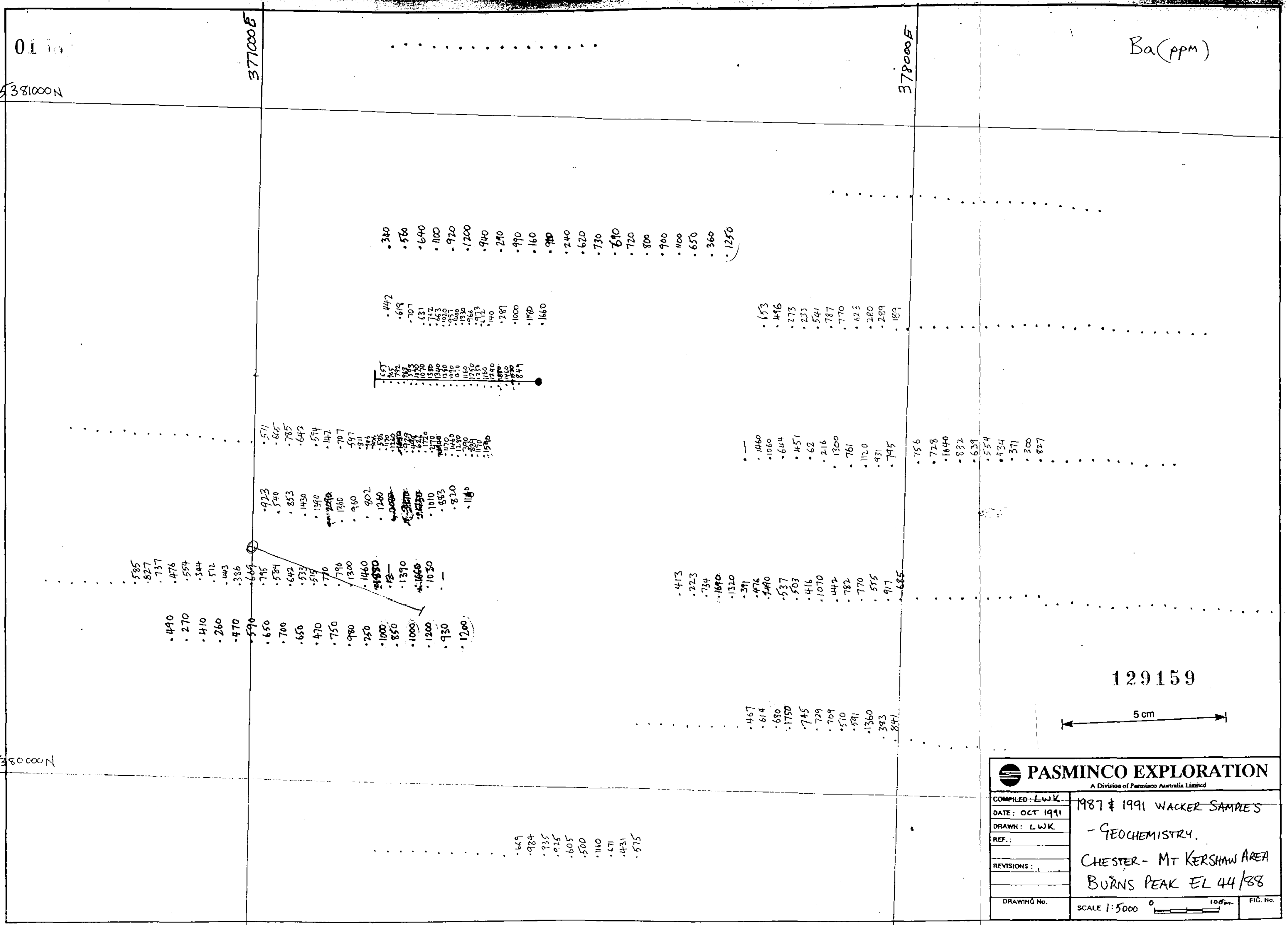
SCALE 1:5000 0 100m
FIG. No.



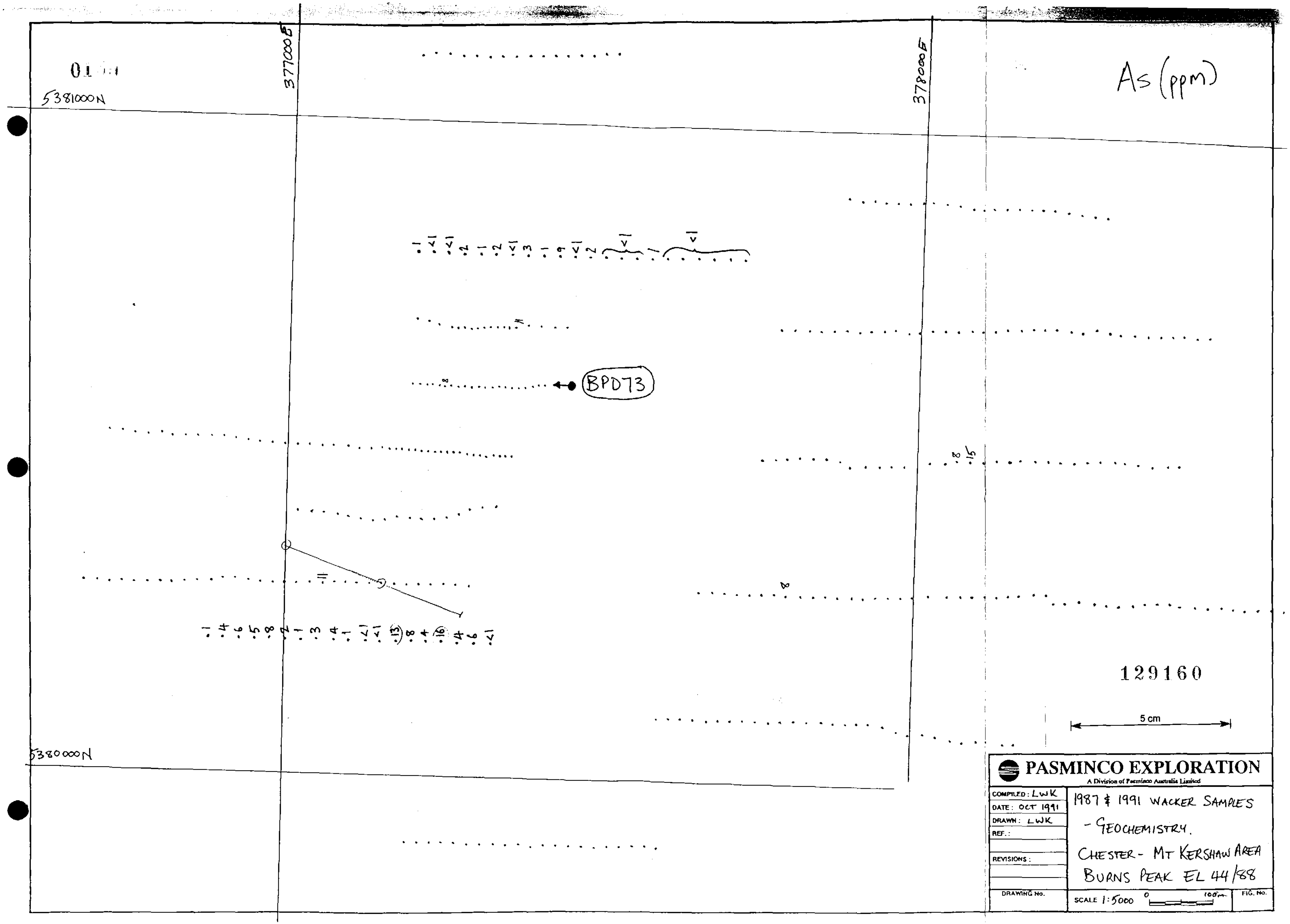
5381000N
377000E
378000E
Zn (ppm)
5 cm
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: LWK
DATE: OCT 1991
DRAWN: LWK
REF.:
REVISIONS:
DRAWING No.
1987 & 1991 WACKER SAMPLES
- GEOCHEMISTRY.
CHESTER - MT KERSHAW AREA
BUANS PEAK EL 44/88
SCALE 1:5000
100m
FIG. No.

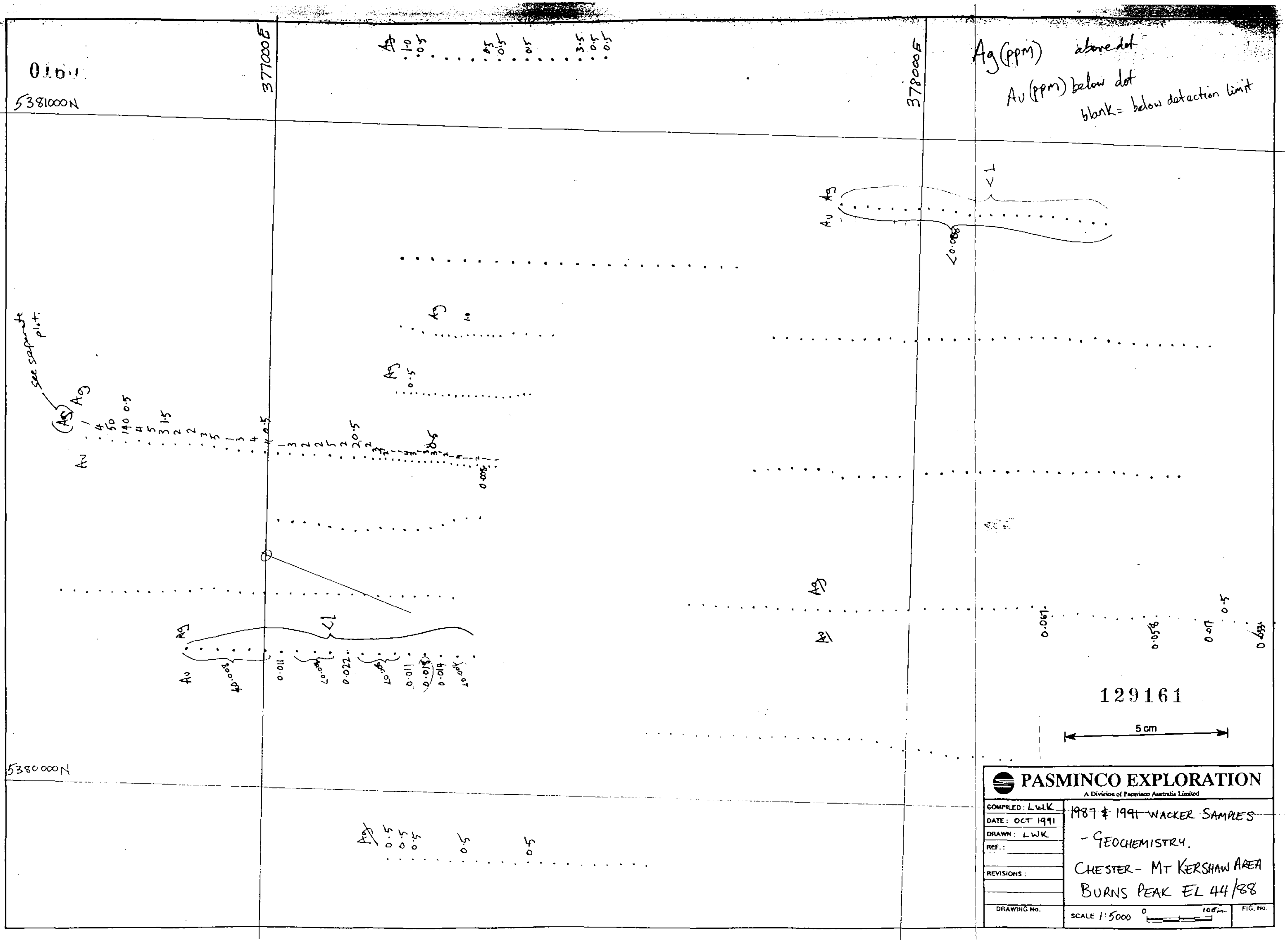


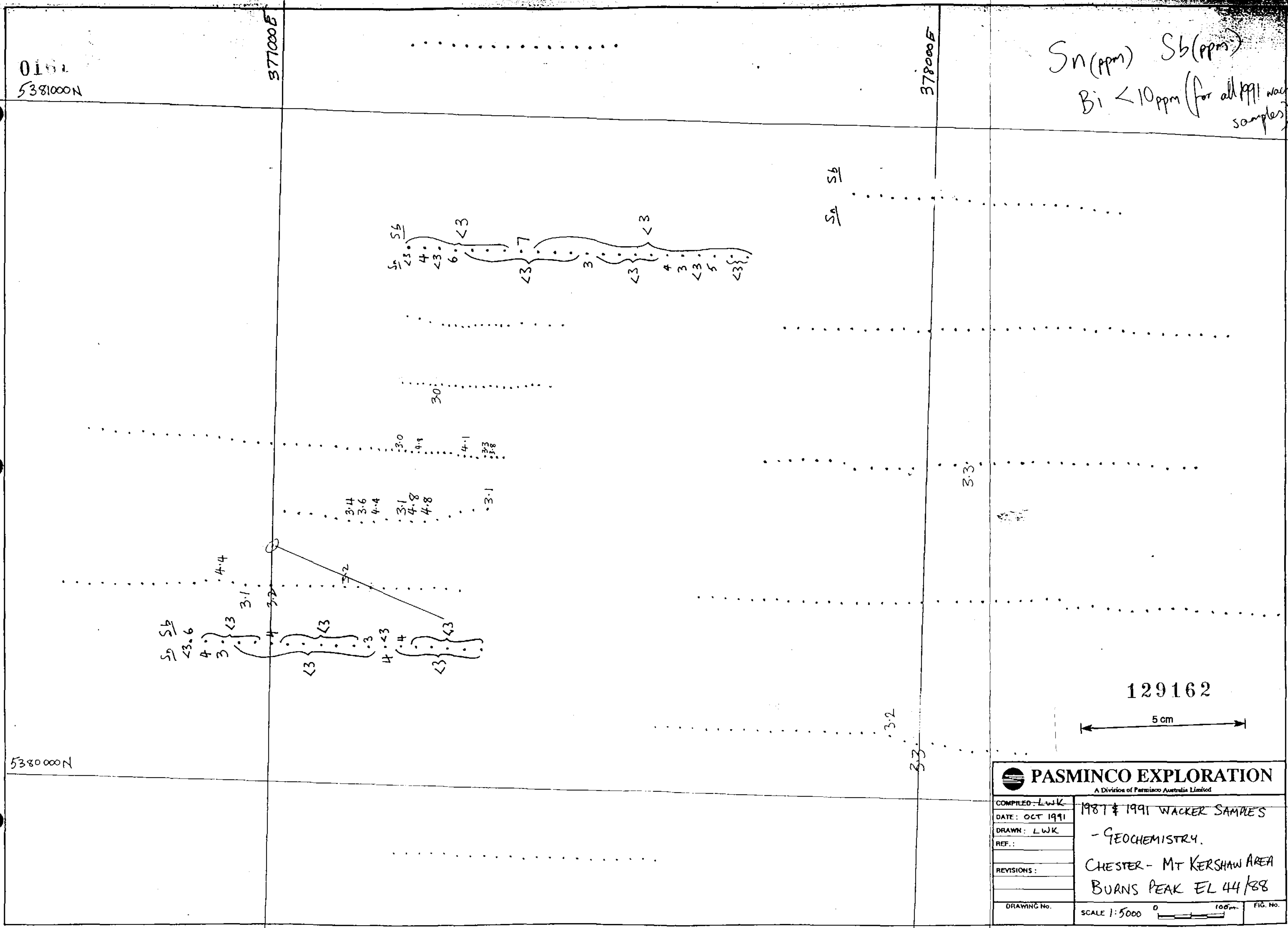
0100
5381000N
5380000N
377000E
378000E
Mn (ppm)
129158
5 cm
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: LWK
DATE: OCT 1991
DRAWN: LWK
REF.:
REVISIONS:
DRAWING No.
1987 & 1991 WACKER SAMPLES
- GEOCHEMISTRY.
CHESTER - MT KERSHAW AREA
BURNS PEAK EL 44/88
SCALE 1:5000
0
100m
FIG. No.



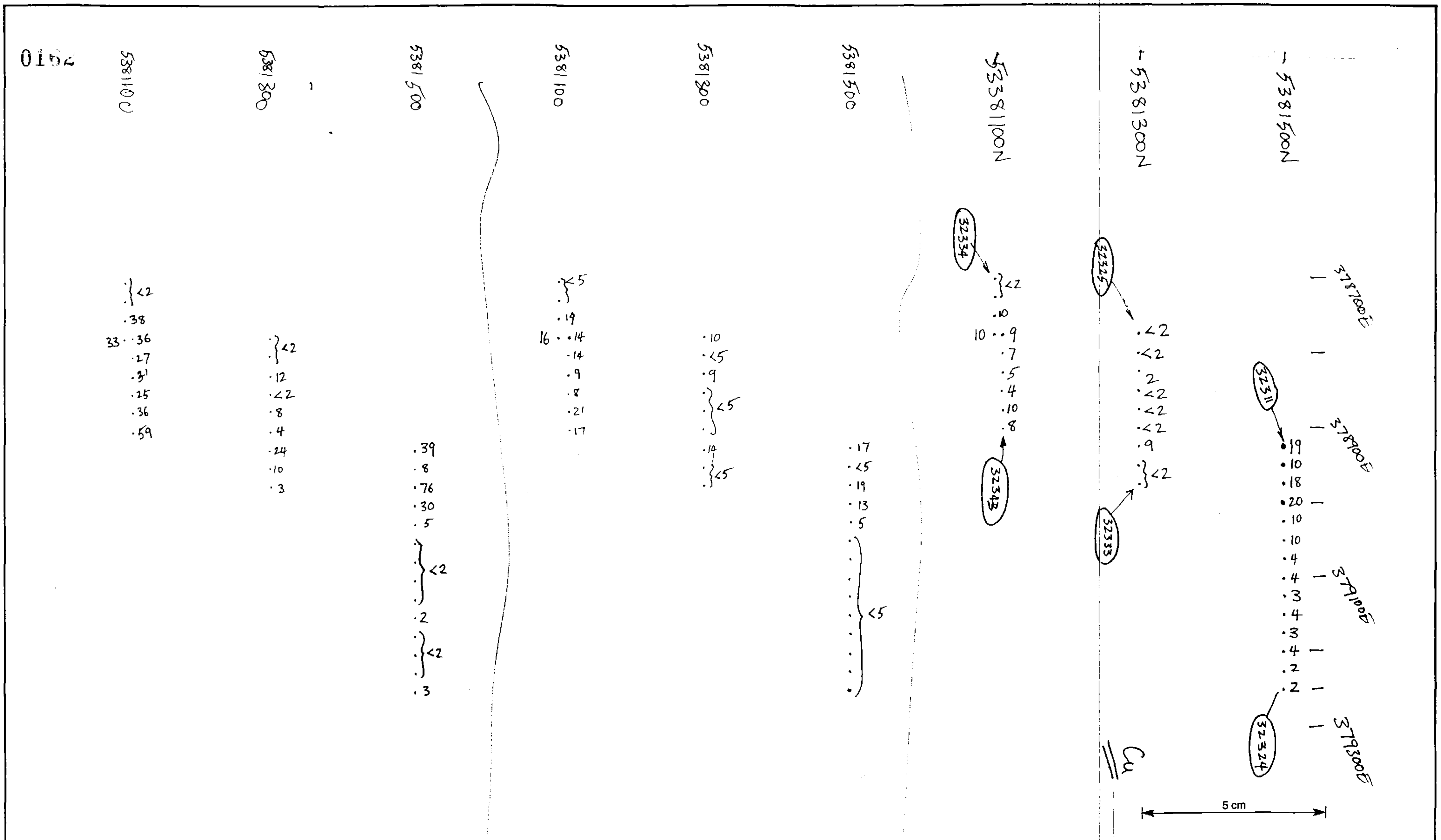
Ba (ppm)
377000E
378000E
5381000N
5380000N
129159
5 cm
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: LWK
DATE: OCT 1991
DRAWN: LWK
REF.:
REVISIONS:
DRAWING No.
1987 & 1991 WACKER SAMPLES - GEOCHEMISTRY.
CHESTER - MT KERSHAW AREA
BURNS PEAK EL 44/88
SCALE 1:5000
0
100m
FIG. No.


As (ppm)
5381000N
377000E
378000E
BPD73
5380000N
129160
5 cm
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: LWK
DATE: OCT 1991
DRAWN: LWK
REF.:
REVISIONS:
DRAWING No.
1987 & 1991 WACKER SAMPLES
- GEOCHEMISTRY.
CHESTER - MT KERSHAW AREA
BURNS PEAK EL 44/88
SCALE 1:5000
0
100m
FIG. No.


0161
5381000N
377000E
378000E
Ag (ppm) above dot
Au (ppm) below dot
blank = below detection limit
see separate plot
5380000N
129161
5 cm
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: LWK
DATE: OCT 1991
DRAWN: LWK
REF.:
REVISIONS:
DRAWING No.
1987 & 1991 WACKER SAMPLES
- GEOCHEMISTRY.
CHESTER - MT KERSHAW AREA
BURNS PEAK EL 44/88
SCALE 1:5000
FIG. No.



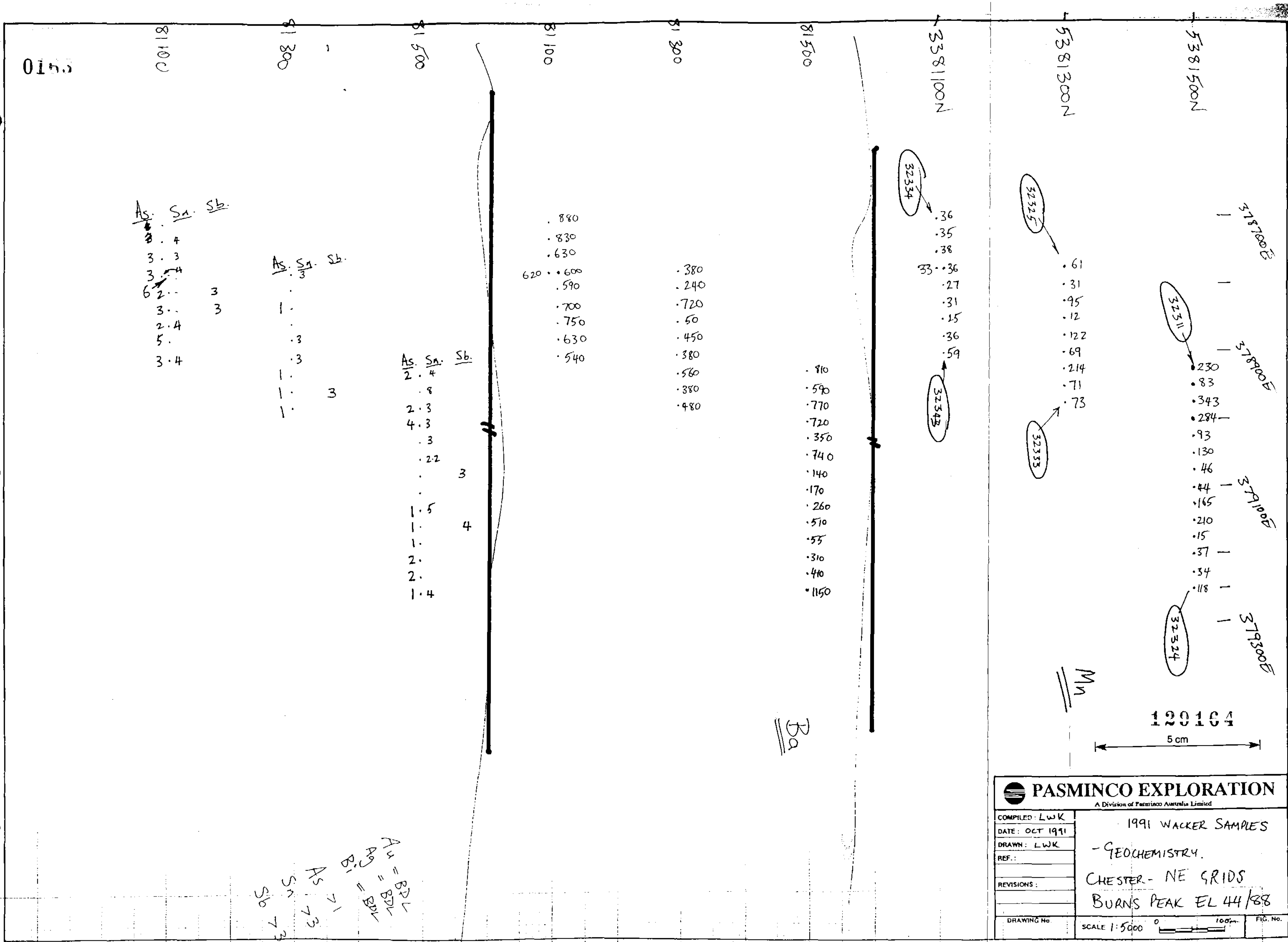
0162
5381000N
377000E
378000E
Sn(ppm) Sb(ppm)
Bi <10ppm (for all 1991 wacker samples)
Sb
Sn
5380000N
129162
5 cm
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED: LWK
DATE: OCT 1991
DRAWN: LWK
REF.:
REVISIONS:
DRAWING No.
1987 & 1991 WACKER SAMPLES - GEOCHEMISTRY.
CHESTER - MT KERSHAW AREA
BURNS PEAK EL 44/88
SCALE 1:5000
0
100m
FIG. No.



PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED: LWK	1991 WACKER SAMPLES
DATE: OCT 1991	GEOCHEMISTRY
DRAWN: LWK	CHESTER - NE GRIDS.
REF.:	
REVISIONS:	BURNS PEAK EL 44/88.
DRAWING No.	SCALE 1:5000 0 100m
FIG. No.	

129163



PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED: LWK
DATE: OCT 1991
DRAWN: LWK
REF.:
REVISIONS:
DRAWING No.

1991 WACKER SAMPLES
- GEOCHEMISTRY.
CHESTER - NE GRIDS
BURNS PEAK EL 44/88

SCALE 1:5000 0 100m
FIG. No.

APPENDIX 3

Rock Chip Sample Records

ROCK CHIP SAMPLE RECORD. (LEGEND AS FOR STANDARD MAP SHEETS)

CONE HILL.

SAMPLE No.

31701 5383 240N 377450 E
· crm/pk, fg, wk.fol/msv, La, sil
- patchy silicification developed

31702 5383 350N 377825 E
· gry, fg, clvd, Vpum, sil.
- med. to coarse pumice clasts in a fg sil. clastic (?) matrix

31703 5384 000N 377600 E
· crm/pk, fg, wk. fol/msv, La(br), sil
- partially brecciated, silicified lava.

31704 5383 700N 377600 E
. crm, fg, wk. fol, La, f, ser-sil.
- altered, feldspar phyric acid lava

31705 5383 733N 377437 E
· gry/grn, fg, fol, La?, chl (talc)
- chloritic acid rock with talc blebs

31706 5383 742N 377857 E
· dkgry/grn, f-mg, fol, Ln, f, hbl
- andesite with feldspar & hornblende.

31707 5383 423N 377460 E
· wht, fg, ves, La, (q), (vns)
- fine gr, acid lava with fine qtz phenos & veinlets.

01 31708 5383 425 N 377315 E

· crm, fg, br, La, q, (sil)

– strongly brecciated acid lava

31709 5383 313 N 377188 E

· plegm, f-Mg, msv, Vpum, (chl), (ser), f

– feldspathic pumiceous volcaniclastic

LWK.

BURNS PEAK. EL 44/88 26-7-'91.

ROCK CHIP SAMPLE DESCRIPTIONS. EAST CHESTER GRID LINES.

SAMPLE No.

31725. 538?500N 378137E - gry, f-Mg, msv, La, f-phy, sil, dissvfg py.
- fg grey siliceous matrix with partially altered feldspar (white) and v. fine py (<<1%) some v.f. veining.

31726. 5381500N 378389E
- pk/dkgrn/gry, f-Mg, br, La, f-phy, ab/chl, diss.py (1-2%)
- diss.py throughout a pk/dk grn/gry brecciated?, feldspar-phyric, lava breccia. some v.f. veining.

31727. 5381500N 378566E
- gry (pk/grn), fg, fb, La, (disspy)
- patchy chl & ab alteration in well developed flow banded acid lava.

31728. 5381500N 378573E
- pale grey, somewhat siliceous, brecciated?, some flow banding acid (glassy?) lava.
- gry, fg, fb/fΔ?, La, (sil) vfg diss py (similar to 31727!).

31729. 5381500N 378835E
- wht, fg, MSV, La?, (q) f,
- weathered, ironstained "vesicular" (probably due to weath.), acid lava, with feldspar & possibly vfg qtz (⇒ rhyodacite?)

31730. 5381500N 378850E ·pk/grn, f-Mg. msv, La, f, chl/ab, py.
* - pk/dkgrn, f-Mg, MSV, La, f-phy, chl/ab, dissem. py (~1%).
- feldspar-phyric, dark grn/pk altered glassy matrix, c̄ strongly developed alteration front, dissem. py; "blebs" of chl altn in albitised zone, some preferred orient'n or flattening of some feldspar phenos. giving a pseudo-breccia appearence.
- (May be an alteration affect). leucoxene?

31731 5381500 378893 - dk pk/grn/gry, Mg, fb, La, f, chl/ab, leucox, py.
* ple pink feldspar phyric (altn enhanced?) chloritised & albitised; flow-banded with good chl "pseudo flamme" altn along flow banding (~1cm wide); dissem. py (~1%); blotchy chl/ab altn in zones w/out flow bands; some "blebs" of chl. altn in ab. zones. → leucoxene? (TiO_2)

29.7.91

31732 5381700N 378403E

- crm/gry, fg, msv, La, (f)(py).
- weathered, now crm/gry colour, fine gr (glassy?), massive with what may have been flow banding?, very fine grained dissem. py (visible under hand lens in direct sunlight) (<<1%). Acid lava

31733 5381700 N 378439E

- crm/gry, fg, (ves) msv, La
- pale crm/grey vesicular (2°?), some preferred orientation (flow banding?) glassy lava? Appearence of possible pumiceous zones...

31734 5381700N 378487E

- plr pk/gry-grn, f-Mg, msv, La, f
- pale pink with gry/green patches of chloritic alteration, giving somethg of a brecciated appearence. Disseminated fg feldspar phenos throughout indicate that the colour is probably an altn effect. White leached/weathered patches on the periphery. vfg leucoxene (?) dissem throughout & somewhat concentrated on the periphery of some altn patches

31735 5381700N 378553E

- dk gry, Mg, msv, La (Ln?), f, (py?) dolerite? Ib?
- dark grey feldspar-rich (>50%) & glassy matrix. Med. grained white feldspar crystals dominate. ⇒ intermediate/andesitic lava?

31736 5381700N 378578E

- gry/crm, f-Mg, br, La, f.
- feldspar phyric, somewhat brecciated appearence (hyalo?), med. gry to crm coloured, poor to un-altered; Patches of 2mm x'lline feldspar sit adjacent to ~~me~~ blocky/breccia? textured patches

29.7.91

31737. 5381700N 378617E (Va?, pum?)
* - ple pk/gry-grn, f-mg, MSV, La, (q) f, (lucox?) ab/wk chl (pum?).
- quartz(?) and feldspar-phyric (up to 3mm across), ~~pale~~ acid lava or possible high-level intrusive. Dominantly c̄ a pale-pink (albitized) ground mass (glassy?), but contains a distinct alteration front where the alb. altⁿ makes way for chl. altⁿ. pervasive Wisps of possible pumice clasts with a preferred orientation, probably 1° but possibly alteration enhanced (maybe tectonic foliation? Not likely...).

31738. 5381700 N 375663 E
* - ple pk/grn, f-mg, msv, La, f, chl (ab).
- pale pk/grn, feldspar-phyric (up to 3mm), chl (ab) altered, and feldspars are beginning to be altered/dissolved/mobilised. Blotchy appearence with no distinct fronts (unlike 31737)
- vfg. black flecks of some "unidentifiable" mineral... (possibly mt?..)

31739. 5381700 N 378711E
- dk gry, fg, msv. La? (Mhornf.?), (sil)
- hard, fine grained, dark grey, "hornfelsic" rock. has some feldspar phenos (< 1mm) and some leucoxene? (fg pale flecks) some small black blotches also (silicification?)

31740. 5381697 N 378780E
- wht, fg, msv. La, f.
- white, fine grained (to "glassy"), weathered, now vesicular (2°) [probably after feldspar?] Acid Lava. Some flecks possibly indicative of flow banding?

31741 5381675N 378778E
- ple pk/wht, fg, msv, La, f
As above (# 31740).

29.7.91

31742 5381654 N 378775E

-pk/gry, fg, msv, Li/a, f (hbl?),

. fine-grained, grey to pinkish grey, massive volcanic, with dark f crystals (feldspar) and black flecks - possibly hornblende in a glassy matrix...

31743. 5381635 N 378774E

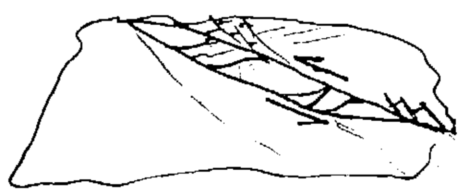
-crm, f-mg. msv, La, f.

. crm/grey, feldspar-phyric (~1mm x'lls), glassy matrix, acid lava (rhyodacite).

31744. 5381545 N 378770E

* -crm/brn, fg, msv, La, f.

-contains fine, "shear zone mimicking" patterns of faults/joints/"dislocations" (Near a fault?).



31745. 5381500N 378709E

-dkpk, mg, f-phy, La/Ia, f, (hbl?) alb (chl) (py)

-(same o/c as #31731). Pink (albite), altered fabric with gry/grn blebs, moderately alt. fsp phenos (up to 3mm), vfg leucox. dissem, & some pyrite (up to 2mm across; < 1%). Veins (chloritised). No flowbands.

31746. 5381500 N 378950E !

crm-gry, fg, msv, Ssst/slt, q?

. grain size 1/16 → 1/8 mm?; well sorted, ~~siliceous~~? silicified (⇒ Not a metaqtzite, but strong bonding...); "Unaltered", but weathering appears to have bleached the dk grey colour from most of the rock...

⇒ silty sandstone. (possible sapmite? fine-grained enough?)

31747. 5381500N 379105E.

weath?

- (rd/brn) gry/crm, mg, Msv, Vpum, (f)
- mid-grey, pumiceous volcaniclastic, c̄ possible low degree of welding/flattening & preferred orientation of pumice clasts. Some shards & fiamme certainly present, but some "undeformed" pumice clasts also appear. Some feldspar x'lls also?

31748. 5381500N (fΔ?) (la?) 379137E

- wht/gry, f&cg, br, ~~Vpum~~, pum, (sil).
- pumiceous, fragmental / brecciated, some clasts contain possible flow banding, (Possibly "quench-fragmented" or even epiclastic or flowbreccia?) → no real evidence only conjecture...
- somewhat silicified/cherty → Maybe volcaniclastic

31749. 5381500N 379336E

- dk gry/pk, fg, f-phy, La/i, f (ab).
- dk grey glassy groundmass with white feldspar phenocrysts up to 2mm across; some pale pink altered patches (ab). Black flecks (hbl?); & something of a preferred orient^n in the groundmass of any fine x'lls may indicate tectonic alignment ~~of~~ or compaction (flow bands?) ... ⇒ dac/andesite.

31750. 5381500.N. 379370.E.

- as above (≠ 31749) but with ~~less~~ no ~~of~~ pink ab. alt^n (leucox?)
- dk gry. fg, f-phy, La/i, f.

31751 5381500N 379478E

- mid-gry, fg, f-phy, La/i, f.
- medium grey, glassy matrix c̄ feldspar phenos up to 3mm; slight alt^n on edges of feldspars; vfg pale crm. flecks throughout (leucox?)
⇒ dacite (andesite?).

31752 5381500 N 379592 E

- gry, fg, msv(fb), La/i, f-phy.
- similar to # 31750. Some hints of flow banding (that may even be pumiceous...) => dac/andesite

31753 5381500 N 379635 E

- grey, fg, msv, La/i, f(br).
- medium to pale grey, pseudo-breciated appearence, feldspar crystals, dk. grey flecks, possibly fsp also, hints of pumice but also looks a little flow banded...

31754 5381500 N 379687 E

- gry, f-mg, msv, La/i, f-phy & qtz vug fill,
- med-dk grey matrix feldspar x/lls in matrix; some quartz vugh-fillings; dk grey flecks;

017

LWK.

BURNS PEAK EL 44/88 9.8.91.

ROCK CHIP SAMPLE DESCRIPTIONS. EAST CHESTER GRID LINES.

31755 5381700 N 378840 E
- dk Gry, fg, msv, Ib, f-phy.
- dolerite. fg, hard as hell, unaltered, forms prominent o/c.

31756 5381700 N 378810 E
- pk, fg, msv, La, f.
- dacite - rhyolite lava, with some preferred orientation of <3mm feldspar phenocrysts in a fg, pl pk groundmass.

31757 5381700 N 378850 E
- dk gry, fg, msv, Ib, f-phy
- dolerite, fg, hard as hell, unaltered, etc....

31758 5381700N 378890E
- dk gry, fg, msv, Ib, f-phy
- dolerite!

31759 5381700N 379062 E
- pk-gry, fg, msv, La, f-phy.
- fine gr. feldspar phenos in a pale groundmass.

31760 5381700 N 379100E
- gry, fg, msv, Li(a), glassy, sil.
- glassy, siliceous, fine grained acid/intermediate lava.

31761 5381700N 379219E.
ple pk-dk grn, fg, msv, La, (chl/ab) sil
- pseudo fiamme, blotchy textured, chl altered, silicified acid lava.

31762 5381700N 379229E.
- dk gry/grn, fg, msv, Li(a), f.
- dk gry/grn, f-phyric, glassy acid to intermediate Lava?

31763 - dk gry, fg, msv, Li, f.
- 5381700N 379884E.
- Andesite/acid-intermed, f-phyric lava ...

APPENDIX 4

Detailed Review - Chester Area Gravity and Magnetics. Leaman Geophysics

0176 LEAMAN GEOPHYSICS

Survey Review, Specification, Reduction, Interpretation
Gravity, Magnetic and Seismic Methods
Structure and Prospect Evaluation

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129177

DETAILED REVIEW: CHESTER AREA
EL 44/88 BURNS PEAK

for
PASMINCO EXPLORATION
by
Dr. D.E. Leaman

September 1991

CHESTER

0177 129178

CONTENTS

SUMMARY

Both gravity and magnetic data can be used to suggest that the general vicinity of Chester Mine is important. Some very large regional structures intersect nearby and there are marked changes in local trends and properties.

Both gravity and magnetic data show measurable responses to the known alteration and mineralisation and the associated host materials near Chester. There are local increases in density within the immediate vicinity and some local losses in susceptibility. About this core effect it is common to note local density reductions and increases in magnetisation. These yield what I have previously called a couplet effect. The range of densities noted within the altered and mineralised Chester zone (from 2.6 to 2.9) is consistent with field patterns.

Both data sets should be able to track alteration and mineralisation systems like Chester.
The gravity response is the most marked and defines a peak near Chester and an extension slightly west of north. This is contrary to all surface geological expectation (except for the alignment of a few dolerite dykes) but is supported by magnetic gradient orientations near the regional corridor intersection. Some refinement of the location of the major faults and discontinuities is suggested by integration of the two data sets and the most anomalous area lies within a diamond-shaped area formed by the intersection of primary trends.
Analysis suggests that the alteration is pervasive and penetrates the volcanics to the Rosebery Fault detachment. This means that the vent is displaced and any potential targets must be sought within the same detachment slice - i.e., hosts must also be preserved. These are, however, exposed at Chester but are generally absent to the south in the vicinity of the indicated vent position and peak alteration. Such materials may occur and be preserved down plunge to the north in the region of the Chester Dam but that the alteration system exposed to the east of the dam is up dip and not significant for targetting purposes.

The general setting is very similar to that of Rosebery and the Mt Black Volcanics but there is little to suggest any Rosebery or Hellyer type responses or large ore bodies outside the Chester-Chester Dam axis and this does not persist for more than 400 m south of Chester.

There are insufficient data available (gravity) to determine whether comparable alteration and host conditions apply around the northern side of Mt Kershaw but there are some indications that any mineralisation will be of lesser volume if present.

Drilling in the region of the Chester Dam is recommended.

INTRODUCTION

This report considers some of the possible implications of detailed gravity and magnetic data in the region of Chester Mine and its associated belt of altered volcanics (Figure 1).

Anomalous character in these data sets has been described previously in regional terms (Leaman, 1990).
A significant positive mass anomaly was defined immediately north and east of Chester and a negative mass anomaly to the south. Data coverage did not allow definition. The Chester site, and the alteration, were inferred to lie above the concealed edge of the Dundas Trough sedimentary basin rocks. The exposed volcanic pile has been displaced westward along relatively low angle faults such as the Rosebery Fault.
Magnetic data revealed intersection of several major trends in the region and the Chester site lies within a major sub E-W corridor.

The magnetic data set has since been corrected and replotted to adjust for clearance deviations and to identify suspect data. The gravity survey has been detailed and infilled within the Chester - Lake Rosebery area.
The revised and updated data set has formed the basis of this interpretive review which was undertaken to refine geological understanding, define anomalous and potentially mineralised areas and assist targetting for the next round of drilling.

DATA

The available magnetic data are shown in Figures 2A, B and 4A, B for a 120 m drape clearance, and in Figure 3 for a fixed level of 1300 m ASL. These are corrected data sets and minor oscillations evident in drape data reflect sites where the survey was out of clearance specification. Discontinuities in the high level set reflect a need to reprocess the grids linking surveys since the map was produced from a fragmental assembly whose overlap was often too little to retain all data at joins using a uniform gridding filter. Neither blemish type affects the use of the data as reported here.
The geological basemap for Figure 1 and 2B is based on Corbett & McNeill (1986) while that for Figures 4A, B, 5 is a detailed but largely interpretive revision by A. Lorrigan and L. Kirsner for Pasminco Exploration. Exposure is limited in this area.

Residual gravity data are shown in Figure 5. The residual anomalies have been derived by the method of Leaman & Richardson (1989). Recently acquired data have been tabulated in the appendix. The nominal station spacing in the Chester area is about 200 m.

ROCK PROPERTIES

General estimates of rock properties have been derived from the property data base developed by Pasminco Exploration augmented by some local determinations.

Most rocks are virtually non magnetic. For example, few samples from core (BPD68 east of Mt Kershaw) registered susceptibilities as high as 0.00001 cgs, most were unmeasurable. Unaltered rocks were generally less than 0.00003 cgs (including dacitic lavas, sediments and volcaniclastics) whereas values as high as 0.0003 cgs may be associated with altered dacites. Typical contrasts are therefore about an order of magnitude, but generally subtle.

Density determinations have been restricted to BPD67 and 68. Altered zones may be as low as 2.55 to 2.64 t/cu m but massive, pyritised volcanics may be as dense as 2.91 t/cu m. Such materials are typically 2.86-2.90 t/cu m. These values may be contrasted with normal values for these rock types of 2.73 to 2.78 t/cu m.

INTERPRETATION

General Comments

There are few obvious direct correlations between the magnetic field and geological base maps. The field is dominated by large gradients which cross the Chester area. These fan from a major anomaly near, and south of, Lake Rosebery. A fan of trends from NNE, N, NNW to NW is evident in the Chester region.. The general lack of correlation with surface materials implies either that these rocks are of little consequence magnetically and that underlying sources and features are neither deep nor insignificant, or that there are substantial concealed structural boundaries within the exposed volcanic complex.
Between Chester and Mt Kershaw the field is generally of low relief and erratic with the exception of several gradient steps.

The most striking feature in the field trends NW-SE immediately north of Chester Dam. This feature terminates a NE grain which extends beyond Boco and it may be two-staged with a subsidiary element about 600 m SW of the main change. This element is not as sharply defined but is close to the Chester mine site. It is marked by the truncation of anomaly noses extending from the NE. If these trends are matched with detailed geological inferences as shown in Figures 4 and 5 then it will be noted that there is no evidence of any truncation in major units and that many of these show a NE trend which persists across the NW corridor to Mt Kershaw.
I was careful to use the word "major" units above because it is clear that pinching of units, including the important possible sedimentary host fragments, does occur in this zone and the folds may have complex variations in or near it. The distribution of intermediate

rocks to the east of Chester appear to have been affected as well. These subtle suggestions are enough to demonstrate a minimum age for the influence of the structure - whatever it might be - as at least contemporaneous with development of the volcanic pile. It is also clear that the rocks north of it are decidedly more magnetic and presumably either different in composition or less altered than those preserved in the fault wedge above the Rosebery Fault to the west. In this the pattern is identical to that observed at Rosebery where the volcanics which include the mine sequence are much less magnetic than those above in Mt Black. Elements of the same trend pattern occur at Rosebery where magnetic units in the hanging wall sequence are terminated by a NNW or NW-trending structure.

The systematic terminations of many anomalies and gradient dislocations which can be linked to a sub E-W feature at about 5381 000 mN are far less evident. The inferred location of this feature is shown in Figure 6 and there is a 1 km wide band affected. The feature is probably multiple and the extant Chester Mine lies on the northern edge of this corridor or zone. High level data presentation (Figure 3) clearly suggests the significance of this corridor. It may be recognised by the change in form of the anomaly nose extending south from Chester but in regional terms it marks the general southern edge of a major normal anomaly and source distribution which is quite unlike anything observed south of Lake Rosebery.

None of these large corridors is evident in exposed geology other than in very subtle manifestations. The general NE trend so apparent in Figure 2 is recognisable as the regional grain of both igneous boundaries and structural axes. But these persist south of Chester Dam while the anomalies do not. A major structure is clearly concealed here.

Some other minor associations between field and geology can be noted. Dolerite dykes in the Chester area are aligned NNW and this is typical of the gradients in the vicinity although no feature is directly related to a dyke or group of dykes. It would appear, however, that the dykes have been controlled by structures of some substance.

Portions of the volcanic sequence present mappable responses but these tend to occur only where alteration has affected properties. For example parts of the rhyolitic sequence near 378 000 E, 5382 000 N is atypically magnetised and can be traced as a nose toward the SW. This appears to be an exceptional natural response. Other effects, such as near 378 000 E, 5380 000 N or Chester Dam are related to alteration and perhaps mineralisation whereas other distinct features occur on unit boundaries in the east of the area - as between rhyolite and intermediate intrusives.

The magnetic field is able to distinguish regimes in terms of primary and secondary character. The low level field is dominated by strong local NE trends N of Chester. These are rare, or weaker, to the south. South and east of Chester strong local character is absent and the field is dominated by massive or large scale effects. This

provides a total contrast with the northern and western parts of the area. The high level field shows that large sources and substantial deeper effects have been concealed by local character north of Chester but that this local character is absent to the south and that the regional character is reduced as well. The two corridors outlined from inspection of the two sets of presentations demarcate these characteristics.
Chester lies at, or NEAR, a very important structural control as represented by these corridors. The lack of correlation at all scales between both fields and surface geology stresses the control of upper crustal features as a basis for the response.

Gravity data are more diffuse, given the coverage, but there is a marked correlation between response and alteration, and perhaps pyritic mineralisation. The peak effect is very close to Chester, probably reflecting the exposure of dense mineralised host. The anomaly pattern is, however, most striking and unexpected overall.

The mass anomaly trends N-S or perhaps NNW. The very trend so evident in the magnetic data. Compare Figures 4B and 5B. This is not the trend implied for the extension of alteration based on surface mapping. The gravity field, like the magnetic field, largely ignores surface indications of the geology. There are suggestions that the coarse epiclastics are generally less dense than associated volcanics (proven, see below) and that the andesite boundary to the east is gravimetrically mappable.
Although data coverage is poorer in the Mt Kershaw region there is no evidence of such a strong response in association with the possible host exposures around the north side of Mt Kershaw. Given extant data the most significant effects appear to be near 377 300 E. 5380 700 N. The magnitude of this western response is not known to exceed any part of the Chester trend. Little more can be said about this area.

The significance of the Chester anomaly and its extension to the NNW, however, cannot be overstated. It is unexpected and it has never been assessed. It extends across a region in which the host rocks are concealed. The anomaly pattern would indicate their continuation.

Analysis

A number of gravity and magnetic profiles have been examined using 2D methods. While these have some limitations these are rarely serious for initial analysis or relatively shallow feature study - especially if locked into an array.
The conceptual basis from which all sections have been reviewed, or have evolved, is indicated in the base maps for Figures 4A, B and 5B, and sections (Figures 7A, B, C). The sections were supplied by L. Kirsner of Pasminco Exploration.

No serious limitations are introduced by the magnetic data or coverage but the gravity coverage is gappy and the limited number of stations available may be affected by unrecognised errors or surface materials.

Both data sets carry a regional component; the magnetics being affected by the gross ultramafic effect west of the area and the regional anomaly to the north (Figure 3) while the gravity is affected by the Tor-Pine Hill Granite spine several kilometres to the south. The impact of these elements has been assessed regionally and found to be generally consistent with previously reported studies.

Regional issues and setting are reviewed in Figures 8A, B using data adjusted to 1300 m ASL (e.g. Figure 3).
Figure 8A presents a basic solution which considers the shallow geology and any large scale source known to be present (such as granite or ultramafics). The curve fit parameters are regionally consistent and derived from previous work. The diagram shows that it is possible to satify the gravity profile, but not the magnetic profile, using wedges of volcanics, a trough of sediments and an ultramafic complex. The granite dominates the gravity field. The magnetic field shows that the situation is much more complex. In particular, is the 200 nT differential due to the giant deep source to the north? Or, is its location peculiar to the zone beneath the disrupted volcanics?
Figure 8B presents a more complete view and shows that the gravity solution is not greatly altered while honouring realistic densities. This is not true of the magnetic case which requires that the solution depend either on unrealistic (unobserved) volcanic contrasts or an underlying mafic sequence. The minimum amount required is shown but any increase in it can be used to reduce the volcanic contrast values to acceptable ranges. The gravity data will allow this mass exchange by counterbalancing the position of the Precambrian basement. Only a few hundred metres are involved and the sequence is removed by granite near Tullah. The Cambrian-Precambrian junction east of Tullah, including the Murchison Granite extended, is also terminated by Devonian granitoids. A thick wedge of Ordovician rocks near Tullah are also shown.
The model suggests various linkages between the lower Cambrian successions and structures west of Chester to those which might be present beneath it, including extensions of Crimson Creek Volcanics. An accumulation of these rocks (or at least a sequence with substantial mafic content such as the Mainwaring Group or correlates) at depth might well account for the large regional anomaly north of Chester and Boco. The model also suggests the regional setting for any mineralisation in the vicinity of Chester - after due allowance for lateral dislocations - which I relate to the emplacement of the granite. The Chester site lies close to the edge of a large basement step and thick Cambrian deposition. This is a limited and narrow structure. The western side of the "basin" is complex and north of this area involves all lower Cambrian units and Oonah(?) Precambrian at surface. This is clearly the major structure in this part of the area involving older thrusts.

Detailed reviews consider the local implications of the data set but do not show the regional sources which provide the long wavelength effects observed. These effects have been assessed and incorporated using the assumptions of Figure 8B. While some uncertainty may attach to those assumptions the general conclusions are not radically affected. All property assumptions used in detailed sections are based on observed values where available, or regional extrapolations otherwise. No unsustainable values have been used.

Line 805: 5380 500 mN, Figure 9.

The magnetic profile is affected by data acquisition failures at 376 500 and 378 800 mE. Mafic dykes in the Mt Kershaw area are not material but do generally occur in a zone of gradient change. The altered rocks south of Chester are denser and less magnetic than background but there volumes are small and properties inferred are consistent with observations (eg. BPD68).
The volcanic pile can be subdivided into discrete zones on the basis of both data sets. General lack of data around Mt Kershaw restricts conclusions about possible host conditions there.

Line 810: 5381 000 mN, Figure 10.

This profile samples the northern end of the Chester mineralisation and presents a similar but coherent gravity response. Much of the effect can be explained by pyrite and alteration within the known cherts and other sediments near surface. Much of the altered rock mass is less dense and less magnetic. It is also possible to suggest a slightly lower contrast in each data set for the epiclastics using the distribution suggested from surface and guide sections, with some minor variations. Compare Figure 7B.
Possible discordant relationships for the materials east of 379 000 E are also indicated. The intrusives of this region are magnetically distinctive and clearly not generally altered.
The Chester alteration volume, however, is penetrative of the volcanic fault wedge and suggests translation from the root. It might also suggest that the viable host materials have been utilised. If Chester is uneconomic is it possible to find more of these, perhaps closer to vent, off this northing? The sizeable gravity anomaly south of the mine (refer Figure 5) has been extensively drilled and not known to be due to other than alteration and pyrite - which can account for it. Is the peak anomaly simply a reflection of surface exposure of the pyritic materials? This issue is considered on other profiles.
The lesson of this section is that the possible host rocks are recognisably denser and associated with magnetic variations.

Line 815: 5381 500 mN, Figure 11.

The profiles again mark divisions and differences within the volcanic sequence. A complex fold, as proposed in Figure 7C, is feasible but the coarse epiclastic breccia may well persist to the east. Normal rocks cannot account for the magnetic profile near 379 300 mE. The response here requires some highly altered rock junctions or an insertion of more mafic material into the sequence carrying the pumiceous volcaniclastics and rhyolites. A folded fault including mafics or intense oxidation is indicated in this zone. This concept is compatible with a discordant junction with the remainder of the volcanic sequence to the west.

The entire pattern east of 379 000 mE, on all sections, is comparable with that on Mt Black above Rosebery; a deformed lower sequence folded and sheared - and perhaps mineralised - and a much less altered upper sequence with a contact dipping at about 45 degrees. Is this contact an equivalent of the Mt Black Thrust? The implication might be that possible host rocks continue beneath it.

The gravity solution is generally satisfied by the magnetic limits but the core of material near 378 400 E, while of lower relief than near Chester has not been satisfied. There is clearly extra mass in this region, either within these volcanics or near the contact with epiclastics. Depth estimates are very approximate. This is a zone worthy of further examination. It has never been drilled. The position noted is directly down dip to the west of significant alteration and sediments at surface near 378 800 E. No large mass anomaly is associated with these exposures but a blurred response extends to cover them (see the -0.5 to -1.0 mGal contours in Figures 5A, B). The focussed mass is to the west near Chester Dam.

Line 982: 377250/5378400-379000/5382000, Figure 12.

This profile was selected to test the nature of the peak response near Chester and review resolution of the various elements of the anomalies. Gravity coverage is acceptable from 1700 m.

The profile emphasizes the Chester zone and its anomalous density distribution but confirms that much of the effect is very local and could be explained by shallow mass distributions within the cherts and other sediments. Other densities are consistent with core determinations. Changes in both gravity and magnetic character indicate a junction or fault control within the volcanics and the alteration is certainly through the sequence.
The major change in volcanics occurs north of Chester, not south of it, where these lithologies appear normal once clear of the immediate vicinity of the Chester zone. A large volume is indicated near the contrast implied by drilling south of Chester in the region east of the dam - where sediments are exposed and the contact with volcanics is altered. This section lies directly east of the main gravity axis in this region and suggests a dispersed lateral effect. Any target, therefore, lies west of this profile.

The model also suggests increasing complexity in the units and their relationships along strike and down plunge of the folds and that the epiclastics persist north of the dam. The general increase in the magnetic field in this zone at the NE end of the section represents the effect of stepping toward the northern edge of the NW corridor which cuts of the magnetic volcanics to the north. See previous discussion. There may well have been structural controls on local volcanism and sedimentation in this belt north and east of the dam.

Line 780: 376900/5379900-379000/5382000, Figure 13.

This profile is comparable to 982 but provides an alternate sampling of the mass anomaly and the possible conditions near Mt Kershaw.

Gravity data leave something to be desired in the first 700 m. The line passes west of Chester but the anomalous zone near the dam is evident and implied to dip east. A substantial volume of denser volcanics (altered?) is also required and this is verified by the magnetic response in the area. Possible host or mineralisation may occur at shallow depth on this alignment (near 378 400 E, 5381 350 N). This location lies near a mapped contact between volcanics and epiclastics. The nose of magnetic change associated with this pattern extends northward to the northern edge of the NW corridor along the eastern side of the gravity anomaly. There can be little doubt of the association.

The overlying volcanics are distinctive and may well be no part of the lower, altered and mineralised sequence.

Line 781: 377000/5381000-379100/5379600, Figure 14.

This section reviews the character of the folds and volcanics south of the obvious Chester anomaly but samples the response from the exposures of cherts near 378 000 E, 5380 500 N. These do produce a response but it is slight and the conclusion may be affected by paucity of gravity data in this area. There is an associated magnetic response of the type observed further north but in each data set the effect is minor and not part of some more regional elevation or change. No large volumes can be involved, either altered or mineralised.

Line 782: 378000,5382000-380050/5380550, Figure 15.

This profile slips across the northern side of the extended mass anomaly to sample the shoulder of the response and the exposed materials near 379 000 E, 5381 500 N. The Chester Dam area is clearly anomalous in both data sets and possible target material can be inferred at shallow depth between epiclastics and volcanics across the fold.

The model stresses the striking change in character east of 379 000 E. The gravity field is not well defined in this region but the magnetic field suggests that the various intrusives here include thin slices of magnetite rich material or mafics. These appear to reflect contact phenomena.

The apparent gravity spike near 1800 m is not well defined and should not be considered significant at this stage.

Summary

Inferences from the analysis have been summarised in Figure 16. This suggests the location of major discontinuities, mass distribution and immediate targets.

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Report submitted on behalf of Leaman Geophysics

by

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F. Aus. I.M.M., M.M.I.C.A.

Date: 22/9/91

APPENDIX:

PRELIMINARY LISTING OF GRAVITY STATIONS ACQUIRED IN 1991.

9151.6125	380027.0	380162.0	177.04	980.278694	980.334115	1.25	19.35*PAS9
9151.6126	379915.0	380285.0	176.44	980.279201	980.334013	1.04	-19.07*PAS9
9151.6127	379920.0	380475.0	189.60	980.277136	980.333859	1.11	-18.32*PAS9
9151.6128	380030.0	380540.0	213.10	980.272147	980.333808	1.72	-18.03*PAS9
9151.6129	380080.0	380595.0	232.00	980.268324	980.333765	1.85	-17.96*PAS9
9151.6130	379825.0	380625.0	173.80	980.279659	980.333737	1.48	-18.41*PAS9
9151.6131	379880.0	380755.0	170.80	980.279745	980.333633	1.72	-18.57*PAS9
9151.6132	379915.0	380940.0	185.90	980.276964	980.333484	1.76	-18.19*PAS9
9151.6133	379695.0	380595.0	171.36	980.280281	980.333759	1.63	-18.14*PAS9
9151.6134	379770.0	380240.0	174.52	980.280529	980.334047	1.20	-17.99*PAS9
9151.6135	379705.0	380300.0	171.51	980.281265	980.333998	1.19	-17.81*PAS9
9151.6136	379570.0	380310.0	167.70	980.282135	980.333988	1.21	-17.66*PAS9
9151.6137	379490.0	380255.0	169.20	980.281810	980.334031	1.20	-17.74*PAS9
9151.6138	379415.0	380140.0	167.50	980.282431	980.334123	1.27	-17.48*PAS9
9151.6139	379340.0	380230.0	177.50	980.280625	980.334049	1.35	-17.16*PAS9
9151.6140	379655.0	380390.0	159.50	980.283081	980.333924	1.20	-18.27*PAS9
9151.6141	377910.0	380460.0	499.10	980.219062	980.333844	3.19	-13.41*PAS9
9151.6142	377750.0	380460.0	517.50	980.215736	980.333842	3.80	-12.50*PAS9
9151.6143	377900.0	380310.0	442.50	980.230579	980.333965	2.71	-13.63*PAS9
9151.6144	377900.0	380110.0	413.70	980.236142	980.334126	3.20	-13.41*PAS9
9151.6145	378000.0	380100.0	399.80	980.238139	980.334136	3.32	-14.03*PAS9
9151.6146	377910.0	380210.0	430.10	980.232854	980.334046	2.65	-13.94*PAS9
9151.6147	378100.0	380320.0	445.60	980.228495	980.333960	3.86	-13.95*PAS9
9151.6148	378250.0	380315.0	428.00	980.230206	980.333966	4.86	-14.71*PAS9
9151.6149	377950.0	380515.0	510.10	980.216749	980.333800	3.33	-13.38*PAS9
9151.6150	378250.0	380520.0	427.30	980.232634	980.333800	3.67	-13.44*PAS9
9151.6151	378100.0	380515.0	471.70	980.223965	980.333802	3.53	-13.52*PAS9
9151.6152	377720.0	380835.0	521.00	980.215372	980.333539	2.27	-13.41*PAS9
9151.6153	377780.0	380705.0	524.30	980.214789	980.333644	3.00	-12.72*PAS9
9151.6154	377950.0	380710.0	518.10	980.215172	980.333643	3.40	-13.15*PAS9
9151.6155	378100.0	380710.0	483.30	980.221900	980.333645	3.23	-13.44*PAS9
9151.6156	377565.0	380610.0	522.90	980.215076	980.333718	2.80	-12.98*PAS9
9151.6157	389586.0	393994.0	659.79	980.177504	980.323076	0.37	-15.40*PAS9
9151.6158	388990.0	393050.0	653.00	980.180247	980.323830	0.45	-14.67*PAS9
9151.6159	388955.0	393500.0	648.00	980.181193	980.323466	0.40	-14.39*PAS9
9151.6160	388780.0	393730.0	651.00	980.180772	980.323279	0.45	-13.99*PAS9
9151.6161	389030.0	393950.0	648.00	980.181078	980.323104	0.44	-14.11*PAS9
9151.6162	388410.0	393915.0	631.00	980.184510	980.323125	0.67	-13.81*PAS9
9151.6163	388050.0	393580.0	663.00	980.177150	980.323390	0.56	-15.25*PAS9
9151.6164	388080.0	393890.0	651.00	980.179578	980.323141	0.55	-14.94*PAS9
9151.6165	388545.0	393505.0	652.00	980.180170	980.323457	0.48	-14.54*PAS9
9151.6166	388230.0	393225.0	684.00	980.173805	980.323679	0.41	-14.90*PAS9
9151.6167	388485.0	393015.0	690.00	980.173260	980.323852	0.39	-14.46*PAS9
9151.6168	388060.0	393040.0	680.00	980.174244	980.323826	0.48	-15.33*PAS9
9151.6169	388490.0	392560.0	677.20	980.174932	980.324219	0.45	-15.61*PAS9
9151.6170	388020.0	392515.0	694.00	980.171167	980.324249	0.45	-16.10*PAS9
9151.6171	387415.0	392550.0	680.00	980.179377	980.324213	0.37	-10.69*PAS9
9151.6172	387785.0	392710.0	662.00	980.176834	980.324089	0.43	-16.59*PAS9
9151.6173	387620.0	392850.0	640.00	980.181700	980.323974	0.37	-16.00*PAS9
9151.6174	387065.0	393015.0	629.00	980.183707	980.323834	0.60	-15.79*PAS9
9151.6175	387060.0	393450.0	597.00	980.189747	980.323483	0.65	-15.64*PAS9
9151.6176	387050.0	393935.0	523.00	980.203090	980.323091	0.73	-16.39*PAS9
9151.6177	384444.0	389710.0	398.78	980.230636	980.326467	0.51	-16.88*PAS9
9151.6178	384919.0	390174.0	447.22	980.220495	980.326099	0.80	-16.44*PAS9
9151.6179	385356.0	390128.0	472.24	980.215688	980.326141	0.83	-16.73*PAS9
9151.6180	385699.0	389885.0	515.77	980.206799	980.326342	1.00	-17.08*PAS9
9151.6181	385987.0	390058.0	537.66	980.202278	980.326206	0.78	-17.38*PAS9
9151.6182	386523.0	390263.0	564.83	980.196811	980.326047	0.68	-17.44*PAS9
9151.6183	386760.0	390298.0	583.24	980.192825	980.326022	0.77	-17.69*PAS9
9151.6184	386966.0	390372.0	594.18	980.190330	980.325965	0.81	-17.93*PAS9
9151.6185	387230.0	390932.0	620.37	980.185456	980.325517	0.60	-17.42*PAS9
9151.6186	387721.0	391245.0	625.68	980.184299	980.325270	0.83	-17.05*PAS9
9151.6187	388050.0	391539.0	641.98	980.181002	980.325037	0.52	-17.22*PAS9
9151.6188	388103.0	391918.0	664.87	980.176901	980.324732	0.55	-16.48*PAS9
9151.6189	388288.0	392222.0	688.33	980.172371	980.324489	0.41	-16.29*PAS9
9151.6190	388795.0	392960.0	662.80	980.178182	980.323900	0.40	-14.93*PAS9
9151.6191	389252.0	393612.0	632.21	980.184261	980.323380	0.49	-14.26*PAS9

9151.6058	378450.0	380905.0	392.40	980.239745	980.333492	4.64	-11.92*PAS9
9151.6059	378365.0	380875.0	414.00	980.235941	980.333515	4.76	-11.38*PAS9
9151.6060	378150.0	380895.0	482.80	980.222225	980.333496	3.00	-13.30*PAS9
9151.6061	378315.0	380710.0	391.30	980.240615	980.333648	4.17	-11.89*PAS9
9151.6062	378468.0	380689.0	339.00	980.251024	980.333667	3.77	-12.19*PAS9
9151.6063	378495.0	380478.0	367.30	980.244094	980.333837	4.66	-12.83*PAS9
9151.6064	378550.0	381045.0	320.70	980.254541	980.333381	2.97	-12.79*PAS9
9151.6065	378250.0	381695.0	347.90	980.251368	980.332852	1.03	-12.02*PAS9
9151.6066	378245.0	381505.0	345.70	980.251655	980.333005	0.99	-12.36*PAS9
9151.6067	378400.0	381505.0	347.20	980.250985	980.333007	0.97	-12.76*PAS9
9151.6068	378555.0	381505.0	340.80	980.251655	980.333009	1.15	-13.17*PAS9
9151.6069	378705.0	381495.0	322.80	980.254684	980.333020	1.13	-13.71*PAS9
9151.6070	378945.0	381530.0	321.10	980.253948	980.332995	1.39	-14.49*PAS9
9151.6071	378700.0	381685.0	363.40	980.245155	980.332866	1.75	-14.48*PAS9
9151.6072	378400.0	381690.0	340.00	980.252046	980.332858	1.32	-12.61*PAS9
9151.6073	378397.0	381190.0	335.10	980.251970	980.333261	2.52	-12.86*PAS9
9151.6074	378350.0	381315.0	338.30	980.252390	980.333160	2.09	-12.13*PAS9
9151.6075	378500.0	381345.0	322.70	980.254856	980.333138	1.23	-13.57*PAS9
9151.6076	378655.0	381360.0	313.20	980.256462	980.333128	1.05	-14.01*PAS9
9151.6077	378950.0	381320.0	281.30	980.261834	980.333164	1.37	-14.63*PAS9
9151.6078	379100.0	381320.0	286.00	980.260247	980.333166	2.03	-14.63*PAS9
9151.6079	379250.0	381315.0	225.90	980.270551	980.333172	2.06	-16.13*PAS9
9151.6080	379250.0	381115.0	227.60	980.270751	980.333334	2.00	-15.81*PAS9
9151.6081	379090.0	381120.0	246.20	980.267722	980.333327	1.73	-15.45*PAS9
9151.6082	378950.0	381130.0	257.60	980.266402	980.333317	0.94	-15.31*PAS9
9151.6083	378777.0	381076.0	265.70	980.265160	980.333359	0.93	-15.01*PAS9
9151.6084	378777.0	381205.0	267.70	980.264797	980.333255	1.08	-14.72*PAS9
9151.6085	378650.0	381105.0	297.40	980.259167	980.333334	1.83	-13.84*PAS9
9151.6086	378485.0	381115.0	334.50	980.251855	980.333323	2.23	-13.44*PAS9
9151.6087	378350.0	381080.0	419.00	980.233953	980.333350	3.59	-13.38*PAS9
9151.6088	378200.0	381090.0	463.00	980.226202	980.333339	2.88	-13.18*PAS9
9151.6089	378650.0	380910.0	287.80	980.260706	980.333491	2.01	-14.16*PAS9
9151.6090	378800.0	380915.0	250.80	980.267521	980.333489	1.60	-15.04*PAS9
9151.6091	378950.0	380905.0	236.90	980.270426	980.333499	1.28	-15.19*PAS9
9151.6092	379110.0	380900.0	189.60	980.277270	980.333505	2.24	-16.70*PAS9
9151.6093	379250.0	380895.0	264.50	980.263306	980.333511	2.89	-15.29*PAS9
9151.6094	378800.0	380710.0	219.00	980.272883	980.333654	2.20	-15.49*PAS9
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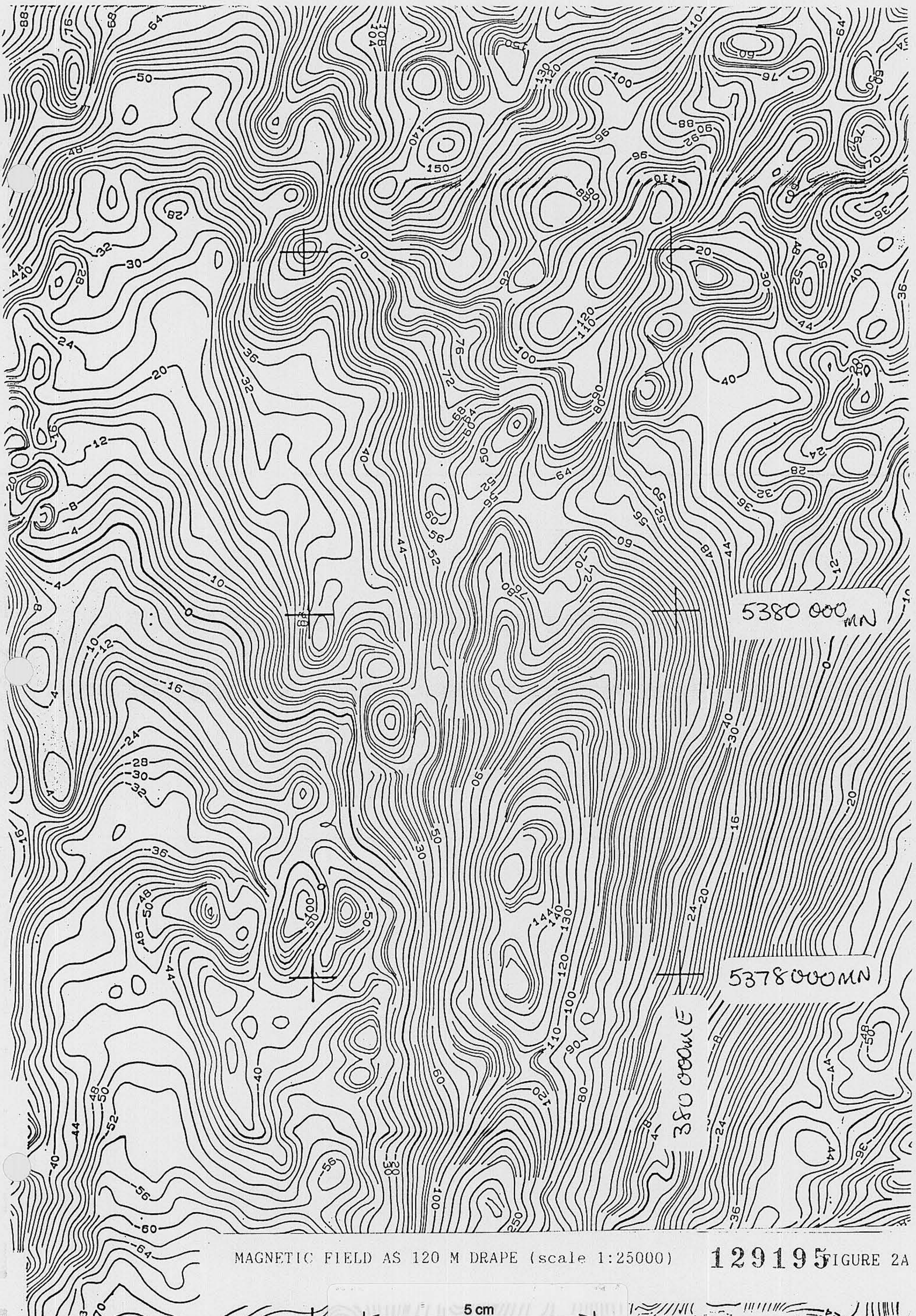
9151.6098	378707.0	380500.0	259.70	980.265122	980.333823	4.07	-13.55*PAS9
9151.6099	379547.0	380705.0	256.60	980.265055	980.333669	2.40	-15.74*PAS9
9151.6100	379400.0	380710.0	301.90	980.256109	980.333663	2.26	-15.91*PAS9
9151.6101	379275.0	380710.0	297.20	980.257179	980.333661	2.53	-15.49*PAS9
9151.6102	379396.0	380500.0	214.20	980.273351	980.333832	1.73	-16.62*PAS9
9151.6103	379250.0	380500.0	248.90	980.267196	980.333830	2.20	-15.48*PAS9
9151.6104	378952.0	380505.0	186.40	980.278857	980.333822	1.60	-16.70*PAS9
9151.6105	379100.0	380500.0	232.30	980.271277	980.333828	1.59	-15.27*PAS9
9151.6106	379535.0	380430.0	180.70	980.279526	980.333890	1.33	-17.49*PAS9
9151.6107	379225.0	380299.0	200.67	980.276821	980.333992	0.96	-16.74*PAS9
9151.6108	379100.0	380310.0	220.16	980.273389	980.333981	0.93	-16.36*PAS9
9151.6109	378950.0	380310.0	178.30	980.279956	980.333979	1.27	-17.68*PAS9
9151.6110	379150.0	380105.0	216.80	980.273934	980.334147	1.15	-16.42*PAS9
9151.6111	379273.0	380116.0	190.13	980.278560	980.334140	1.19	-16.99*PAS9
9151.6112	379100.0	379900.0	237.30	980.269318	980.334312	1.20	-17.12*PAS9
9151.6113	379220.0	379905.0	182.43	980.279659	980.334310	1.39	-17.38*PAS9
9151.6114	379990.0	380270.0	223.60	980.269901	980.334026	1.47	-18.67*PAS9
9151.6115	380125.0	380355.0	247.40	980.265494	980.333959	1.53	-18.27*PAS9
9151.6116	380240.0	380455.0	278.90	980.259263	980.333880	1.86	-17.90*PAS9
9151.6117	380320.0	380520.0	294.40	980.256223	980.333828	1.93	-17.77*PAS9
9151.6118	380175.0	380270.0	214.30	980.271449	980.334028	1.55	-18.88*PAS9
9151.6119	380275.0	380285.0	218.30	980.270790	980.334017	1.60	-18.69*PAS9
9151.6120	380470.0	380295.0	191.80	980.275215	980.334012	1.89	-19.18*PAS9
9151.6121	380560.0	380235.0	182.30	980.277174	980.334062	1.28	-19.75*PAS9
9151.6122	380334.0	380156.0	171.56	980.279401	980.334122	1.34	-19.64*PAS9
9151.6123	380525.0	380205.0	173.30	980.278809	980.334085	1.25	-19.94*PAS9
9151.6124	380185.0	380205.0	173.93	980.278866	980.334081	1.87	-19.13*PAS9

9151.6192	385281.0	378804.0	176.16	980.273208	980.335279	1.08	-26.34*PASS
9151.6193	385502.0	379746.0	179.70	980.272998	980.334521	0.69	-25.49*PASS
9151.6194	385401.0	380115.0	164.47	980.276496	980.334222	0.83	-24.55*PASS
9151.6195	383580.0	381262.0	198.41	980.273437	980.333273	0.44	-20.37*PASS
9151.6196	382325.0	380620.0	189.41	980.275454	980.333774	0.85	-20.21*PASS
9151.6197	381904.0	380428.0	193.48	980.274422	980.333924	0.97	-20.48*PASS
9151.6198	381215.0	380284.0	186.96	980.275358	980.334031	0.92	-20.98*PASS
9151.6199	383750.0	382031.0	209.93	980.270465	980.332654	0.55	-20.35*PASS
9151.6200	383465.0	383323.0	227.54	980.266345	980.331608	0.99	-19.52*PASS
9151.6201	383942.0	384291.0	304.69	980.251750	980.330833	0.71	-18.44*PASS
9151.6202	383838.0	384924.0	307.49	980.251588	980.330321	0.47	-17.78*PASS
9151.6203	383892.0	385151.0	316.84	980.249905	980.330138	0.45	-17.46*PASS
9151.6204	384015.0	385388.0	339.62	980.244849	980.329949	0.56	-17.73*PASS
9151.6205	384164.0	385883.0	365.85	980.238837	980.329551	0.47	-18.28*PASS
9151.6206	384260.0	386158.0	383.72	980.235253	980.329331	0.56	-18.04*PASS
9151.6207	384413.0	386874.0	401.34	980.231793	980.328753	0.53	-17.48*PASS
9151.6208	384279.0	387558.0	408.98	980.229585	980.328201	0.55	-17.62*PASS
9151.6209	385035.0	378175.0	168.40	980.274890	980.335783	1.05	-26.72*PASS

GENERAL LOCATION OF CHESTER MINE AND STUDY AREA

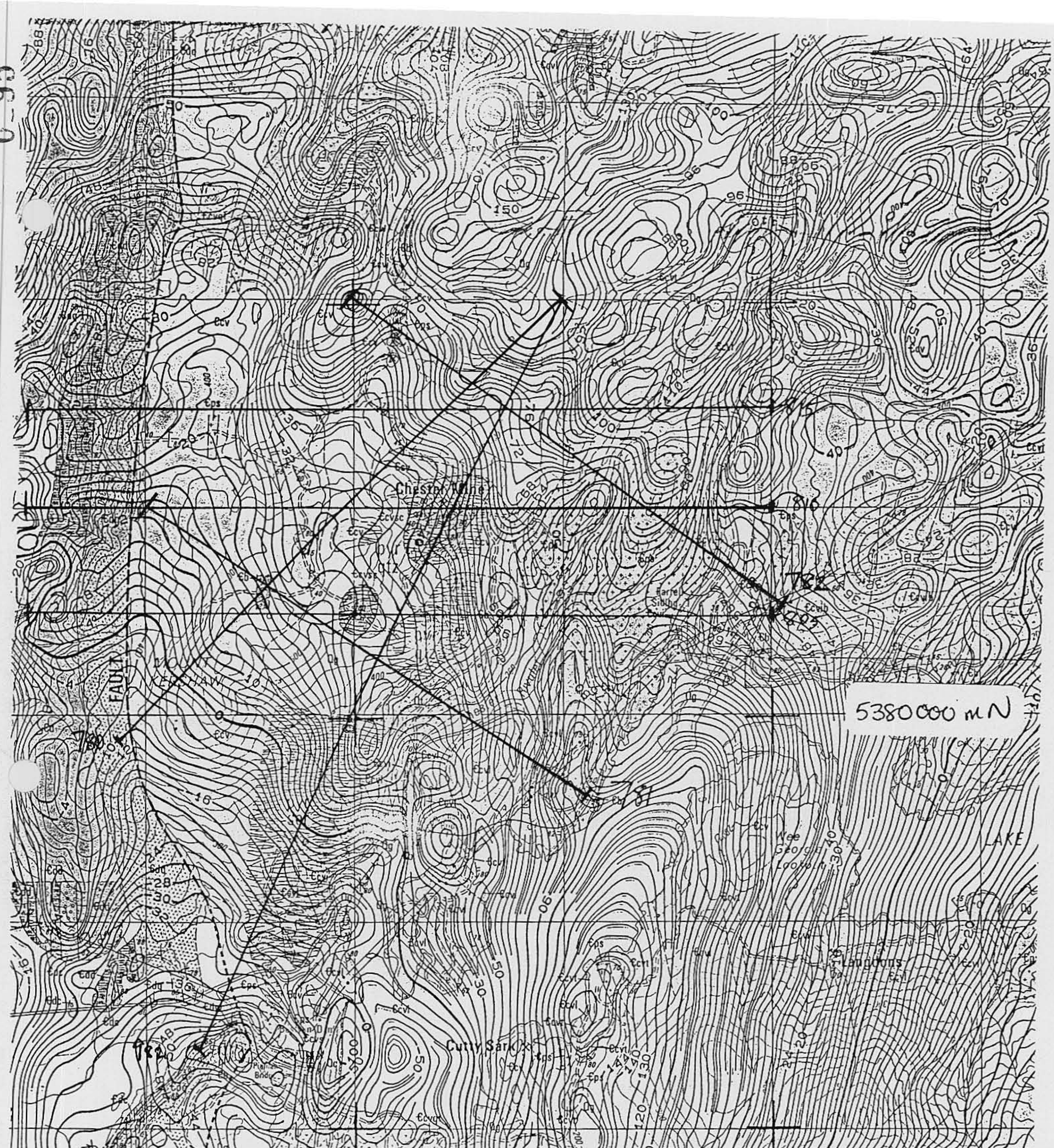
FIGURE 1

129194



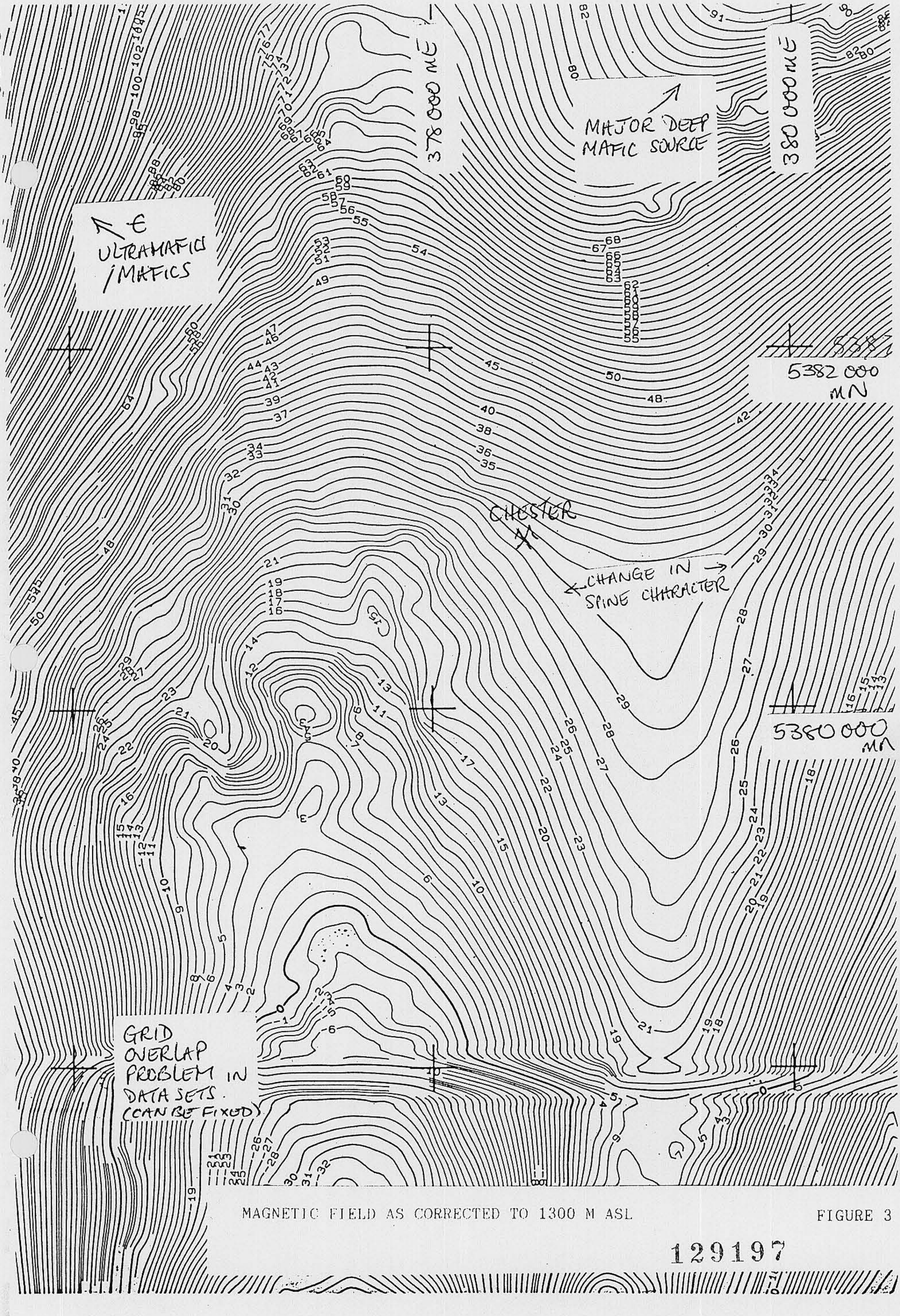
MAGNETIC FIELD AS 120 M DRAPE (scale 1:25000)

129195 FIGURE 2A

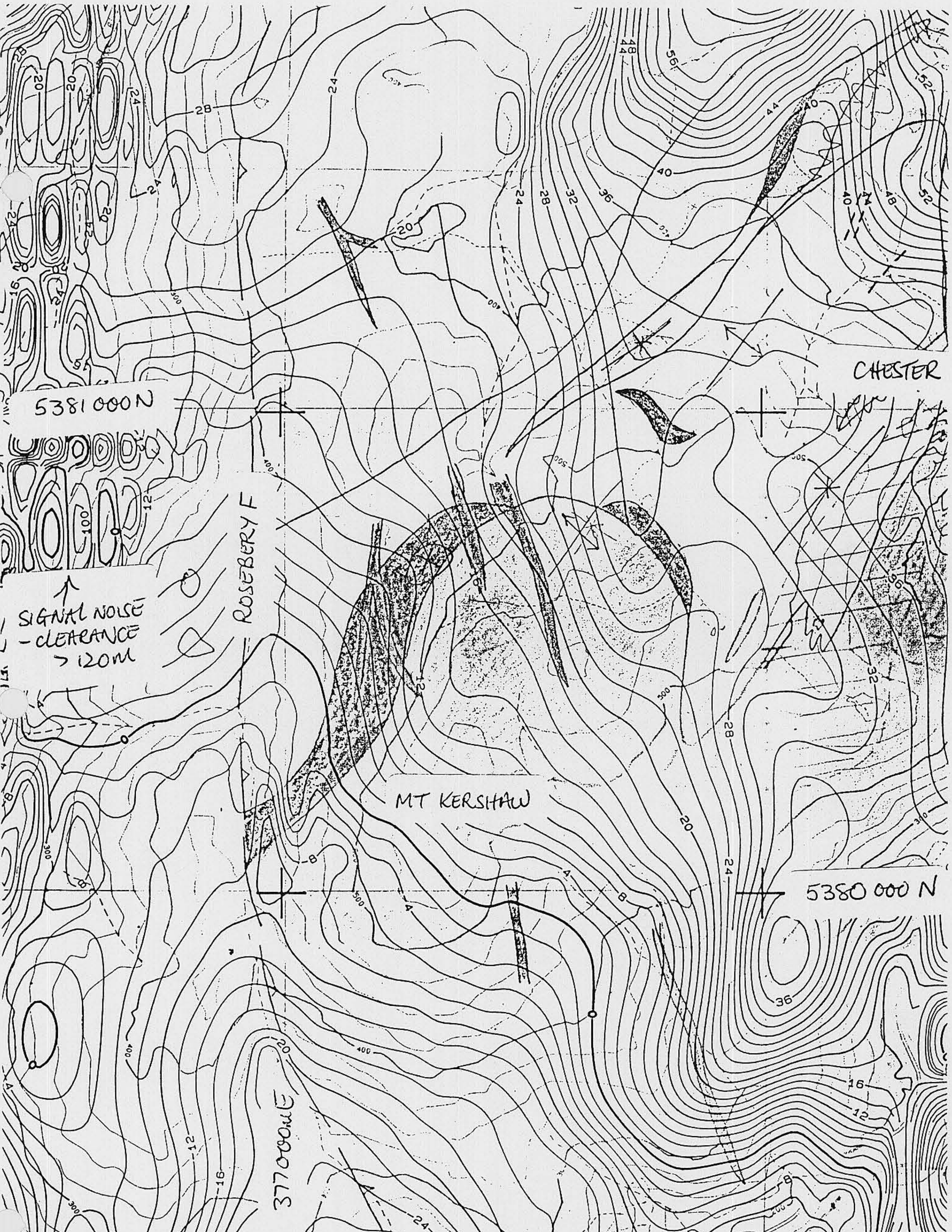


MAGNETIC FIELD AS 120 M DRAPE AND GEOLOGICAL BASEMAP + Profiles

FIGURE 2B



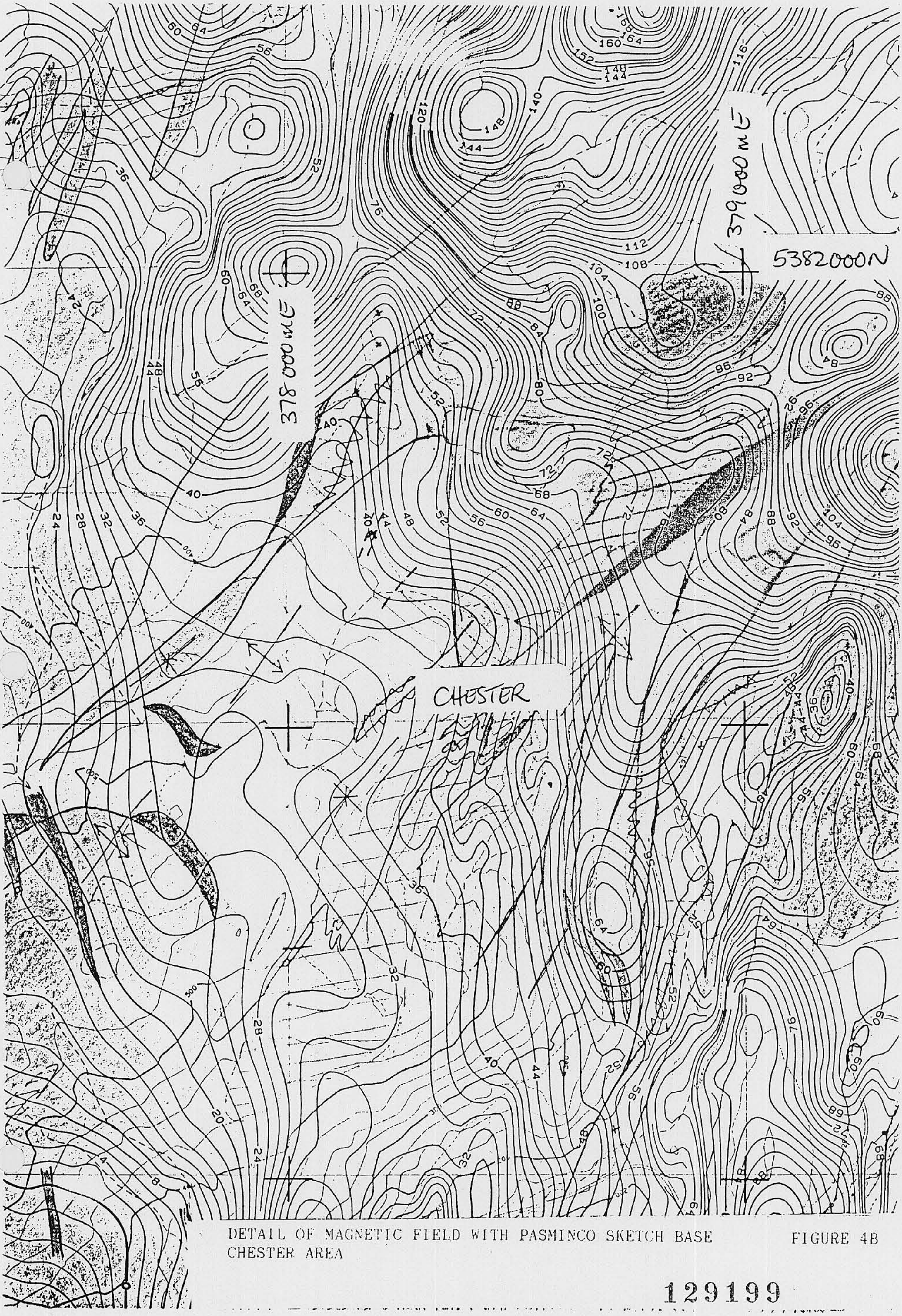
MAGNETIC FIELD AS CORRECTED TO 1300 M ASL FIGURE 3



DETAIL OF MAGNETIC FIELD WITH PASMINCO SKETCH BASE
MT KERSHAW AREA

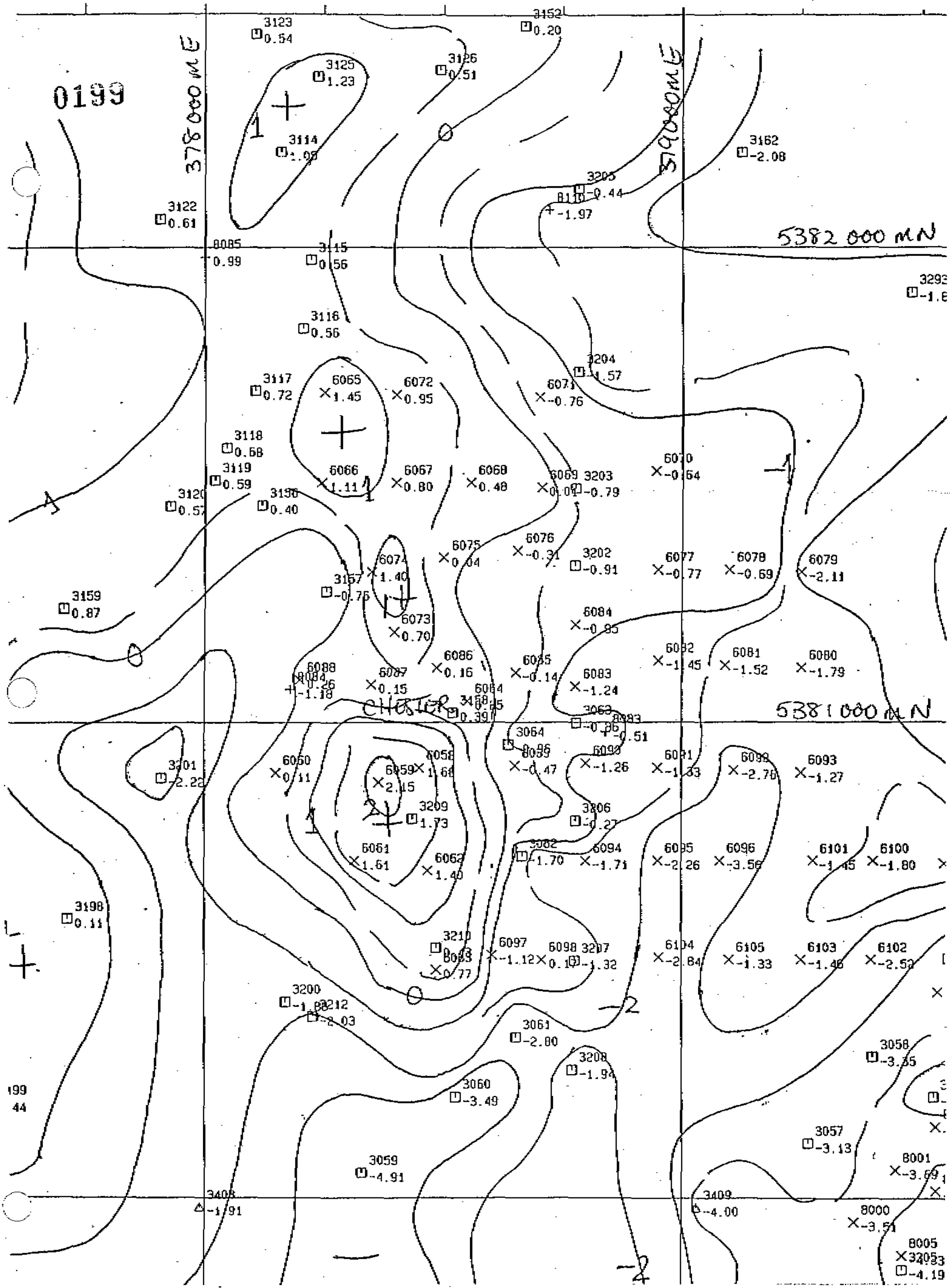
FIGURE 4/

129198



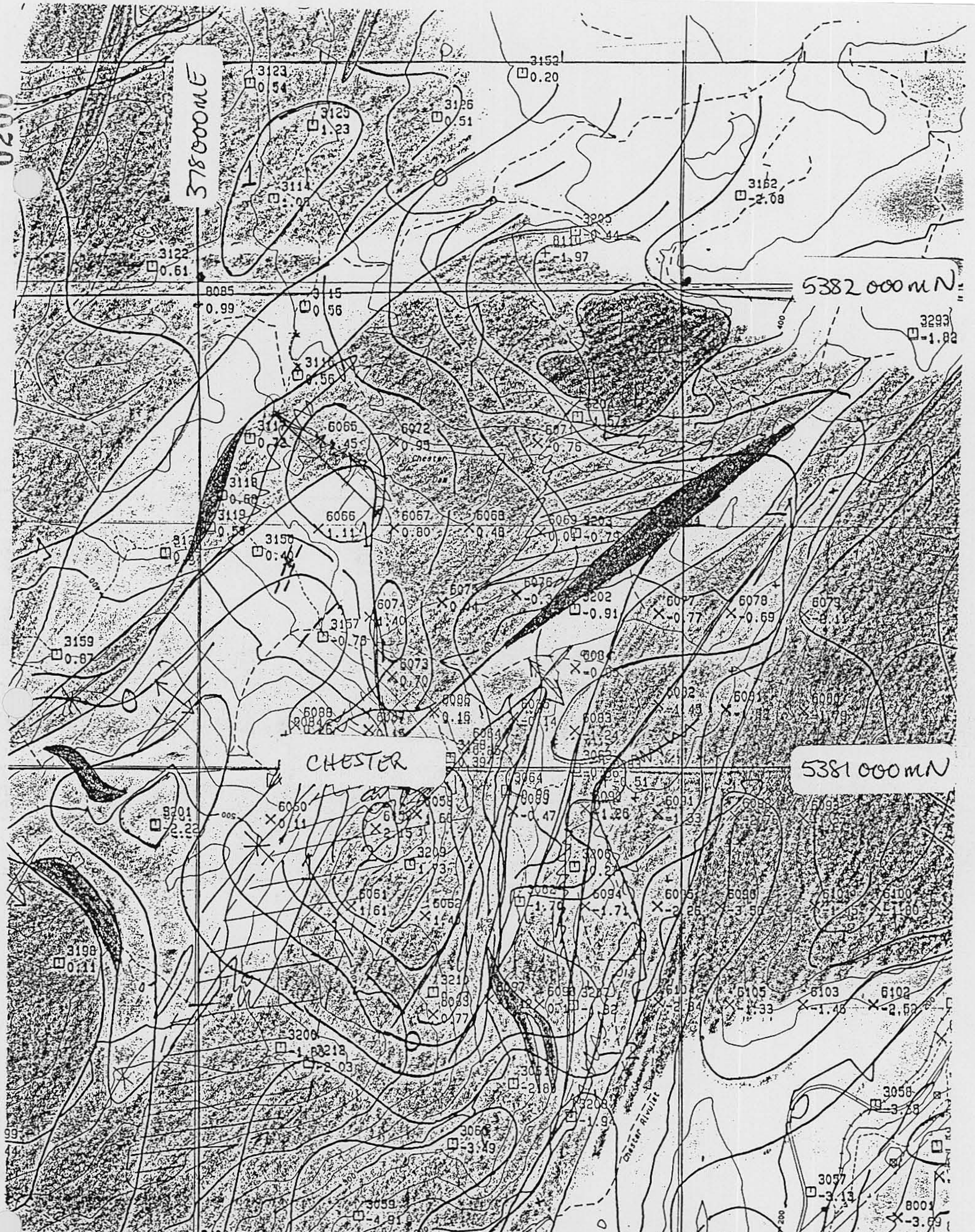
DETAIL OF MAGNETIC FIELD WITH PASMINCO SKETCH BASE
CHESTER AREA

FIGURE 4B



DETAIL OF RESIDUAL BOUGUER ANOMALIES CHESTER AREA FIGURE 5A

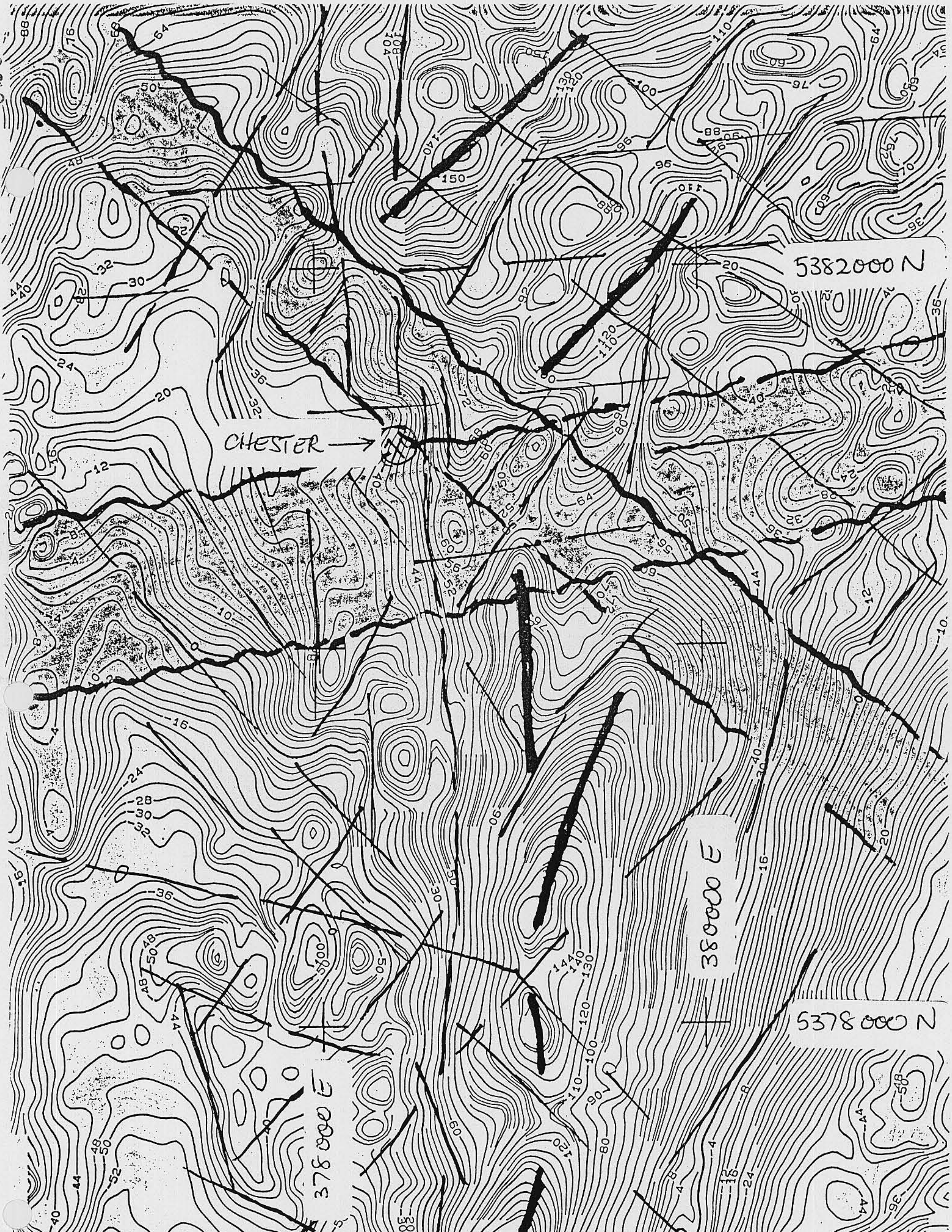
129200



DETAIL OF RESIDUAL BOUGUER ANOMALIES CHESTER AREA
PASMINCO SKETCH BASE

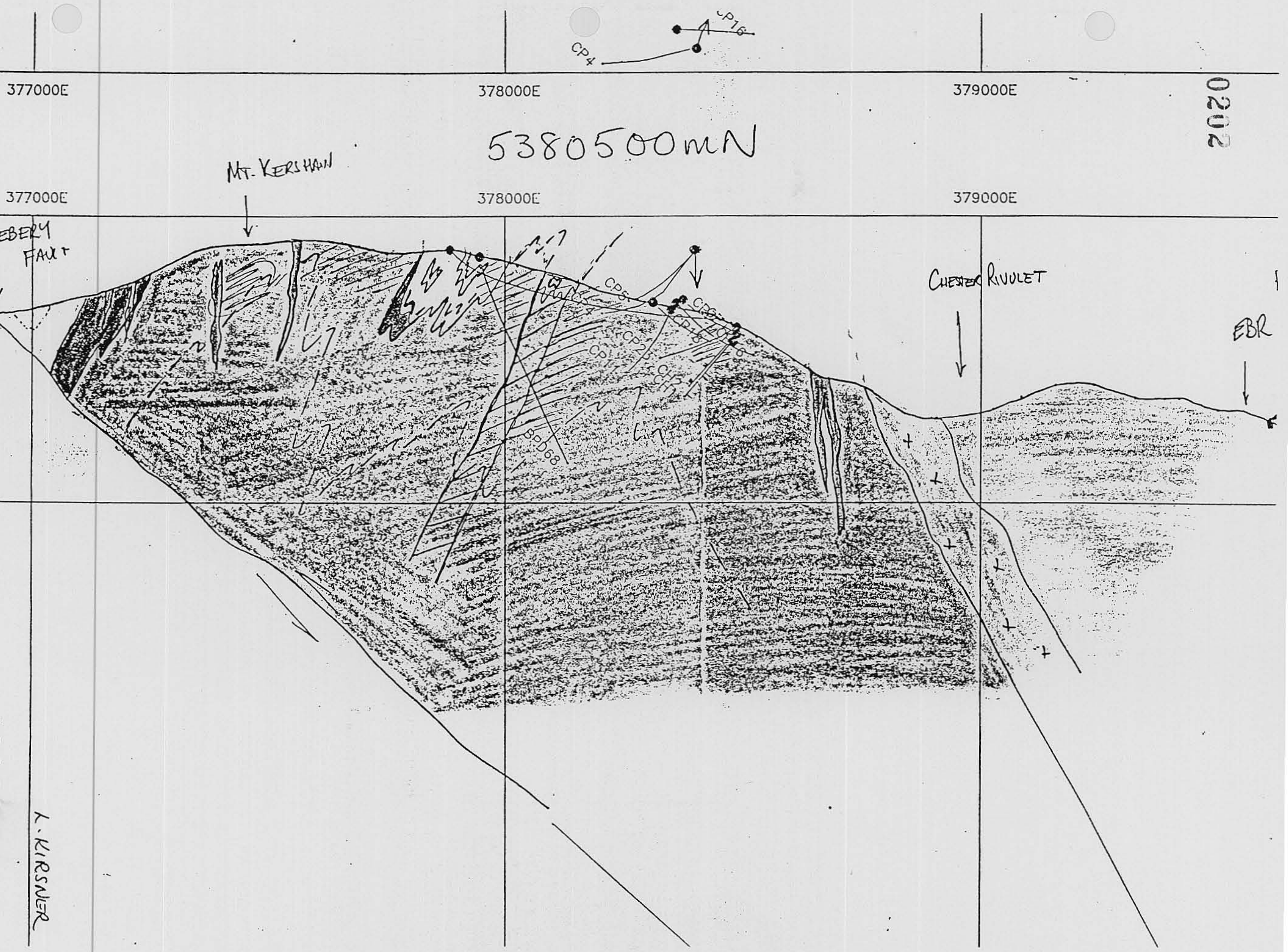
FIGURE 5B

129201



REGIONAL TRENDS IN CHESTER AREA 129202 FIGURE 6

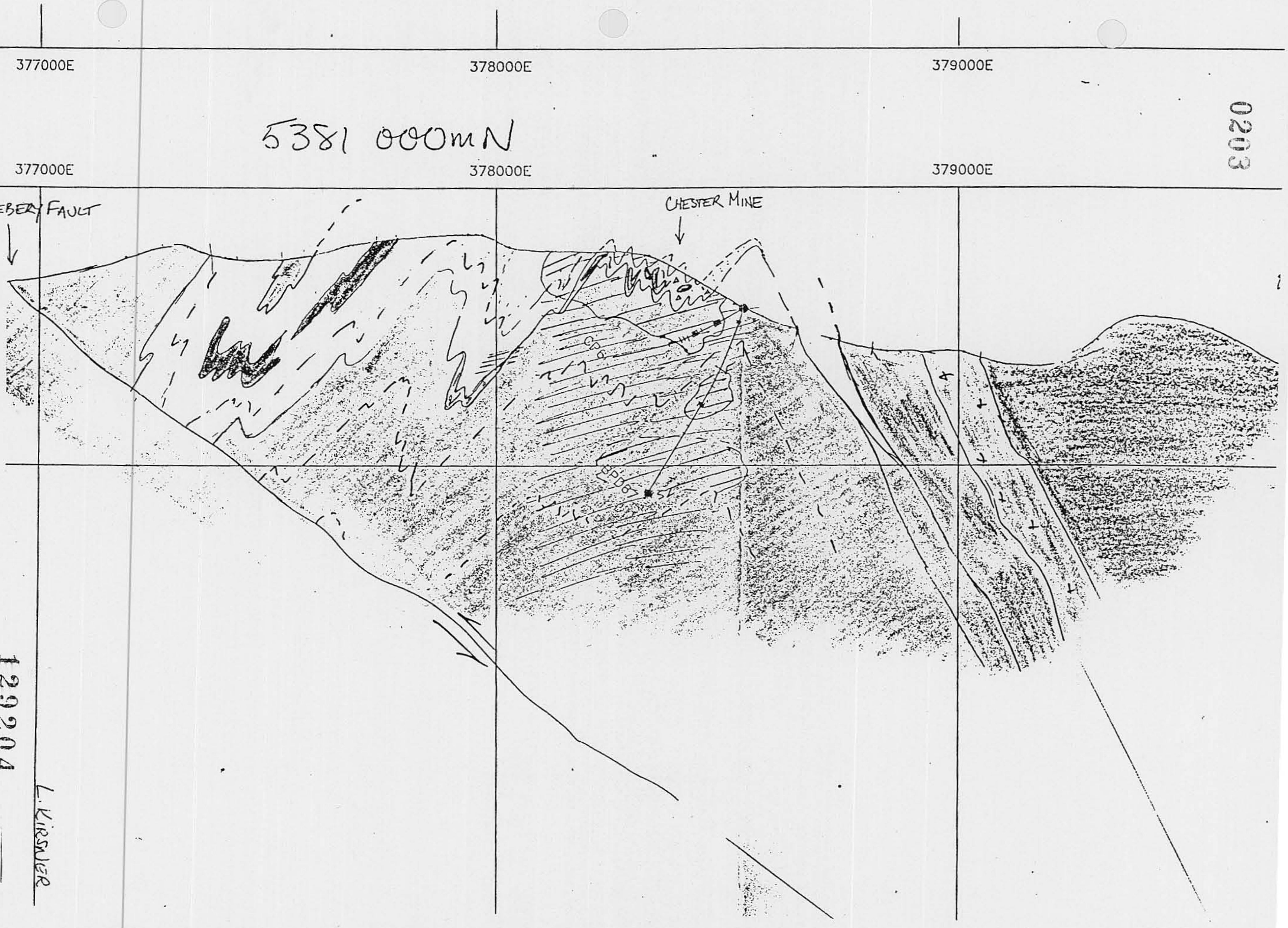
44/88 B.P.K. DEL 09/91



SKETCH GEOLOGICAL SECTION 5380 500 N

129203

FIGURE 7A



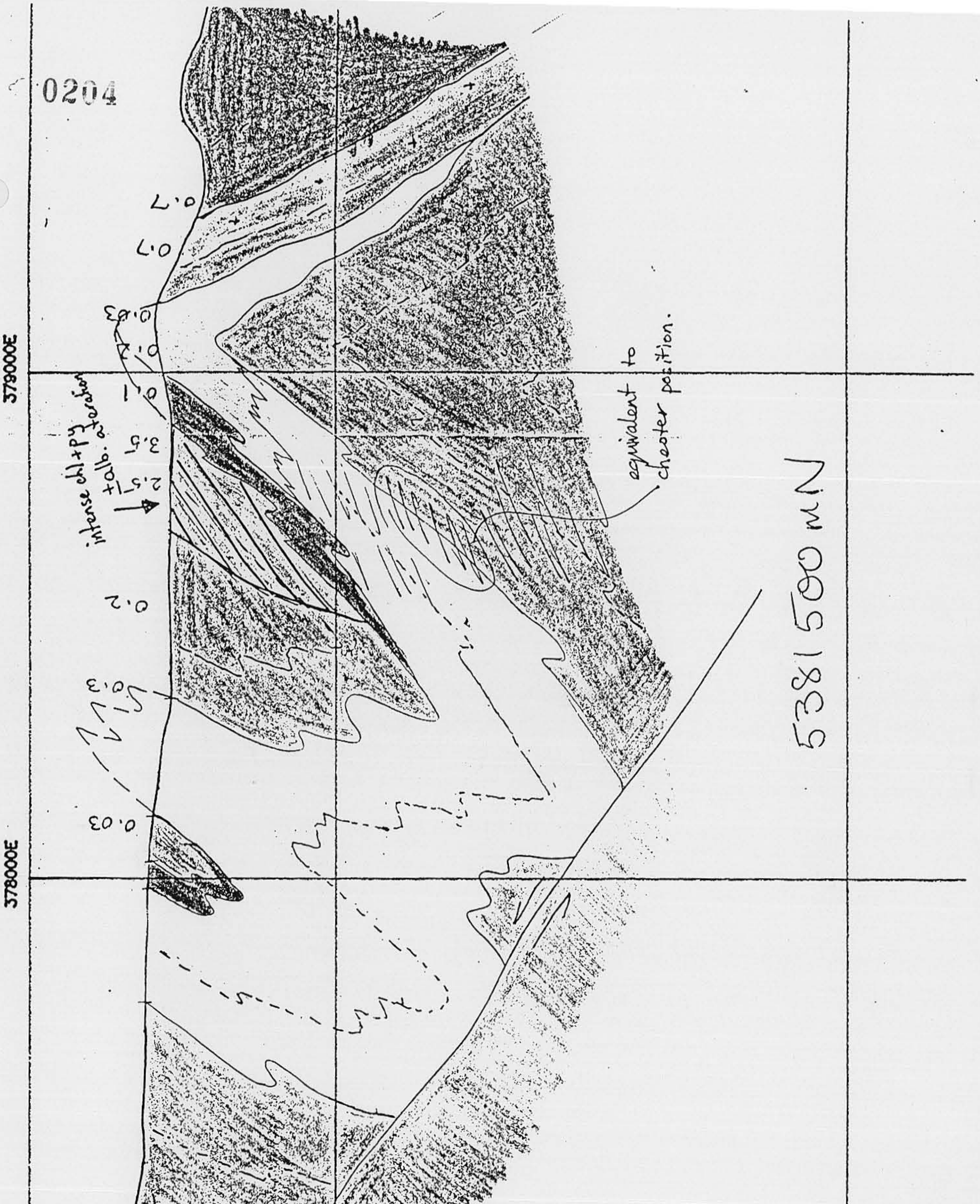
SKETCH GEOLOGICAL SECTION 5381 000 N

FIGURE 7B

0203

129204

0204



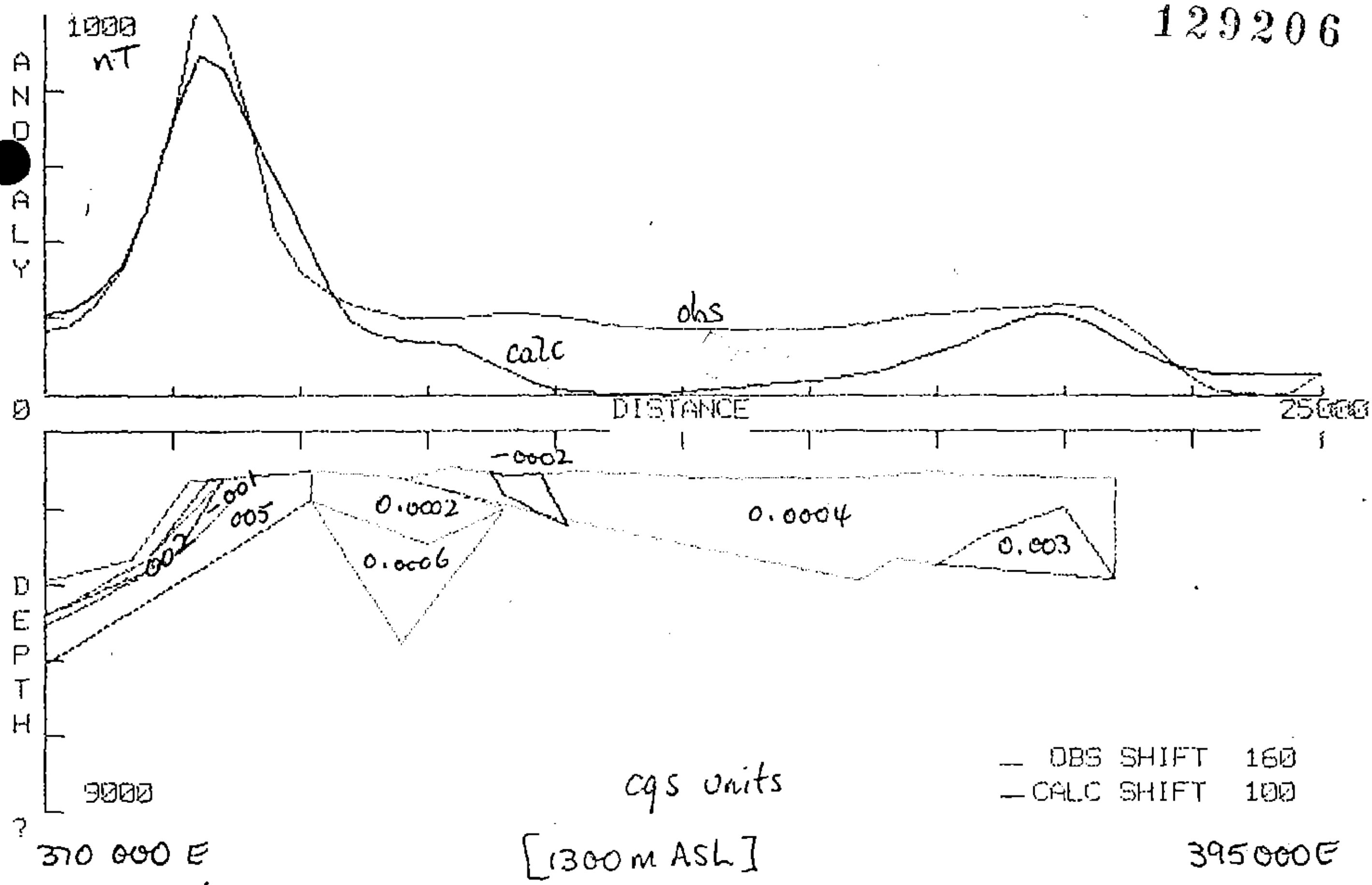
SKETCH GEOLOGICAL SECTION 5381 500 N

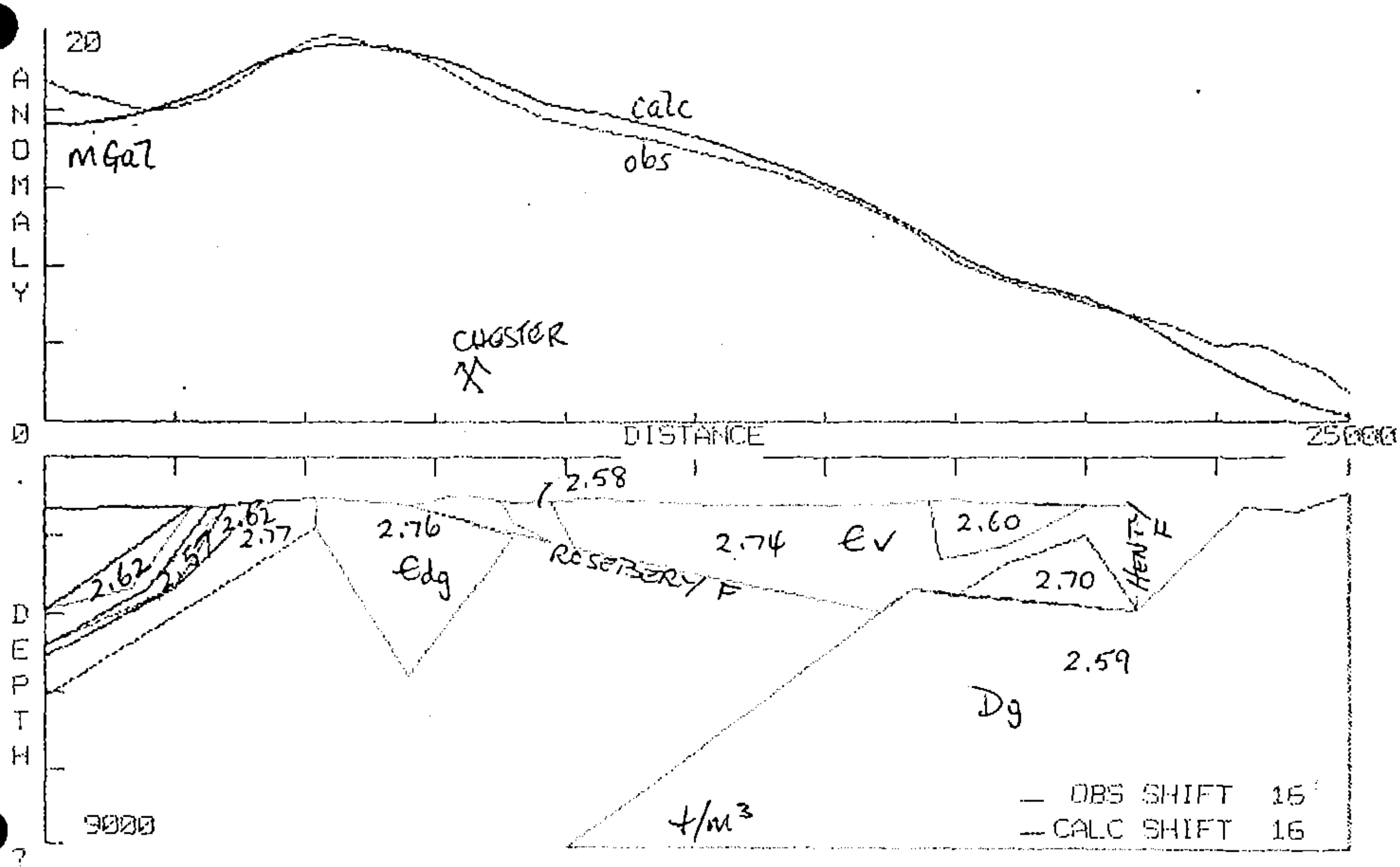
FIGURE 7C

129205

0200

129206





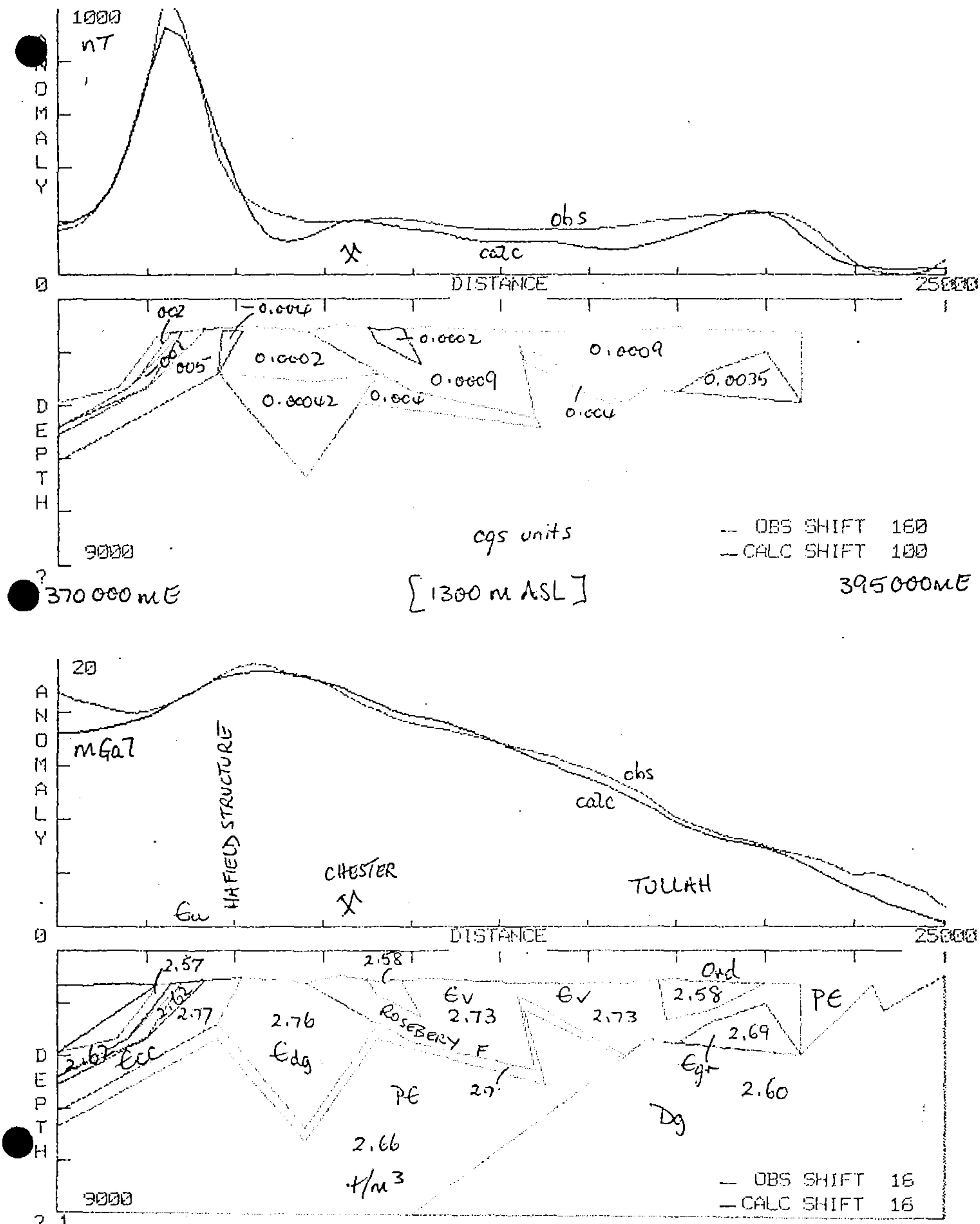
5 381 000 mN
(Regional A)

44/88
B.Pk. DEC 09/91

REGIONAL INTERPRETATION (A)
5381 000 MN FIGURE 8A

020

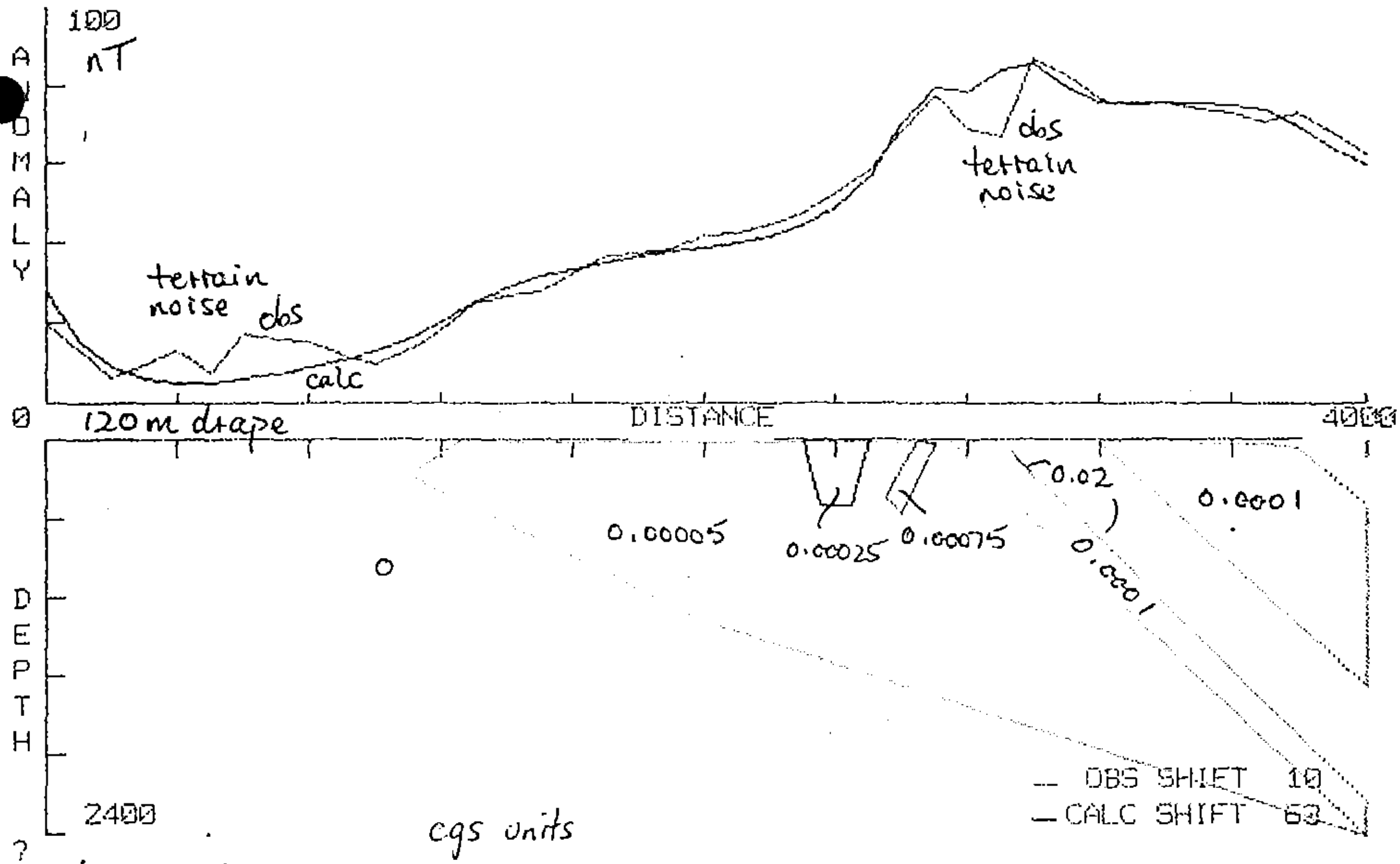
129207

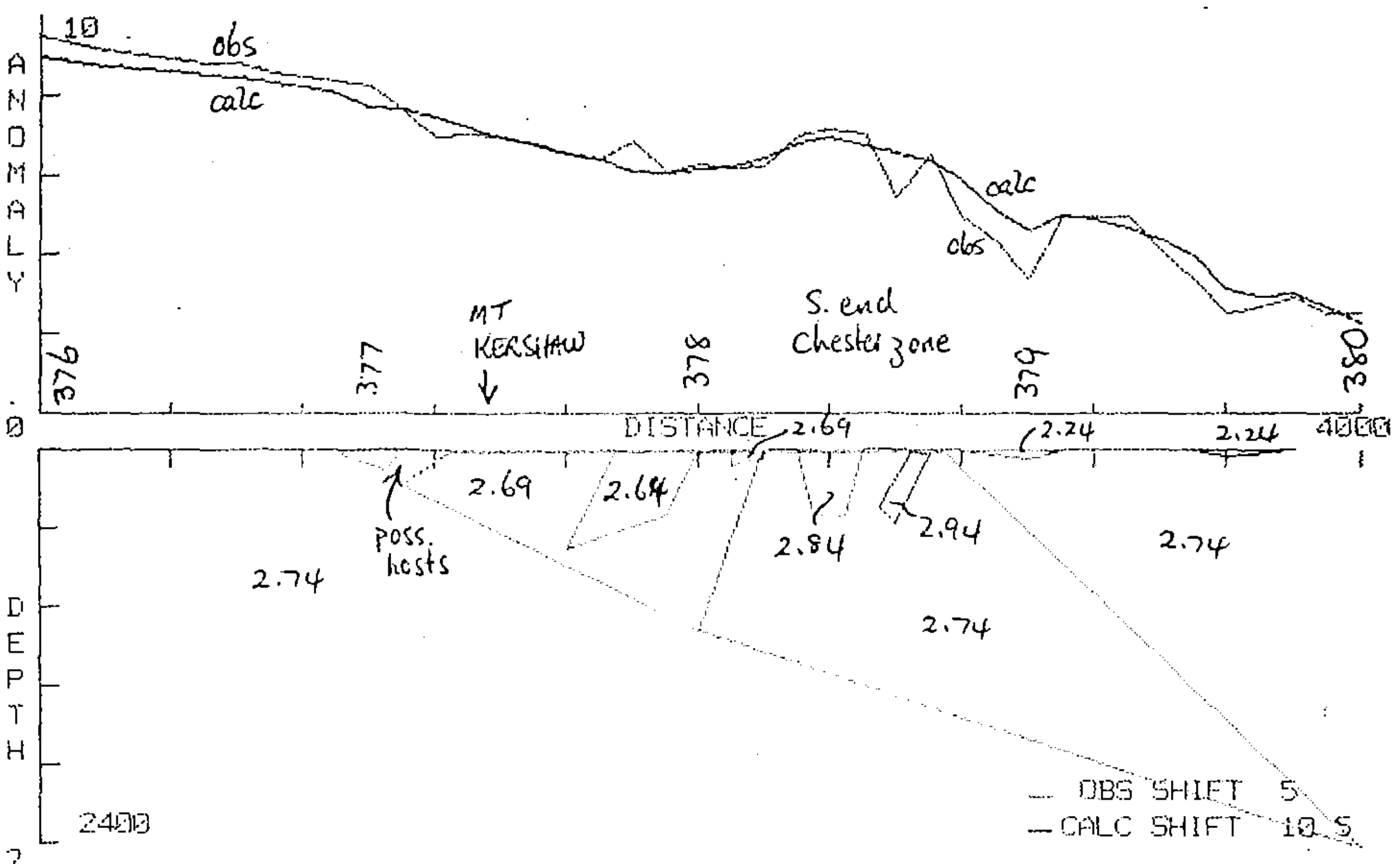


44/88
B.PK. DEL
04/91

REGIONAL INTERPRETATION (B)
5381 000 MN FIGURE 8B

5 381 000 m N
(Regional B)





5380 500 mN

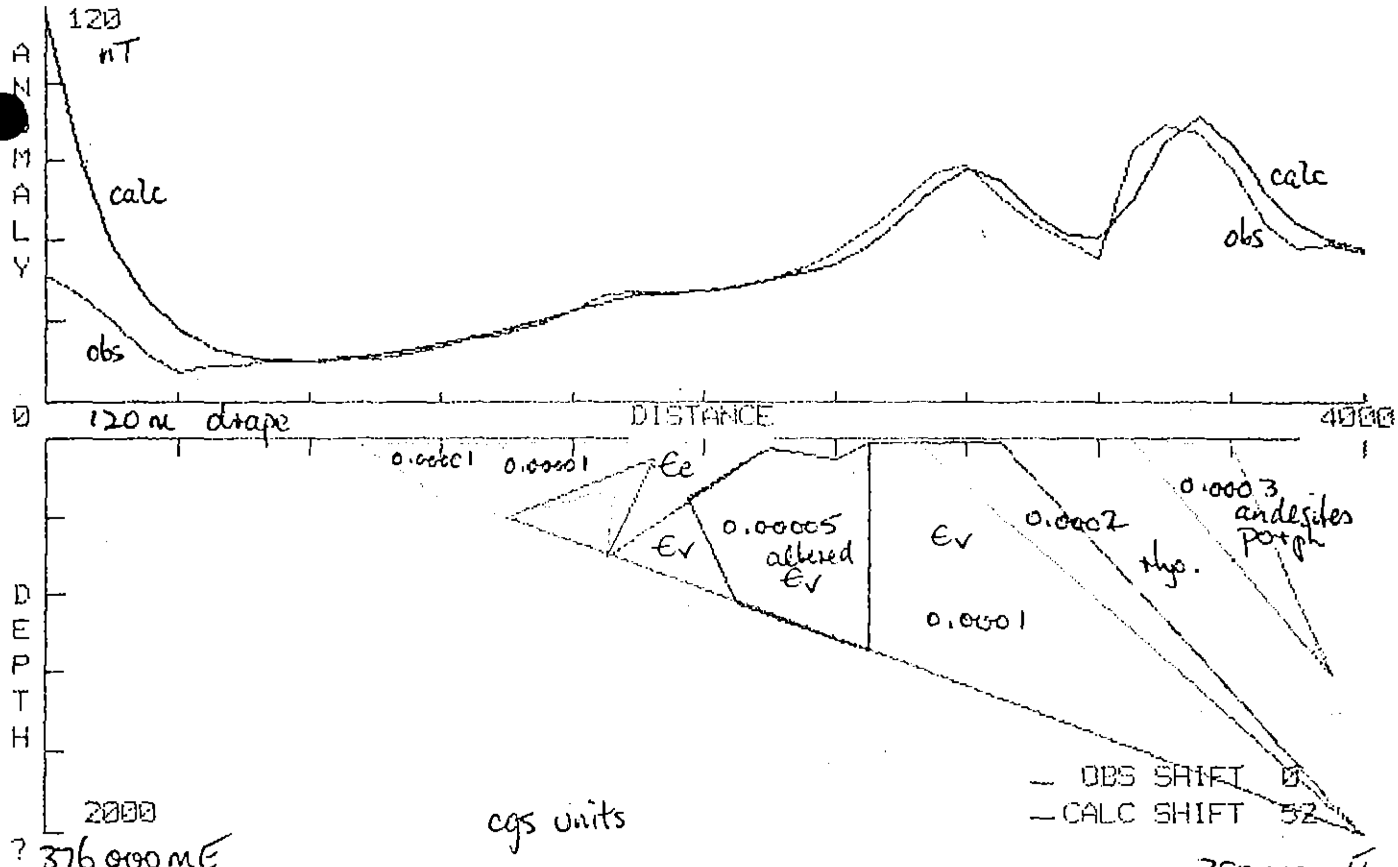
LINE 805

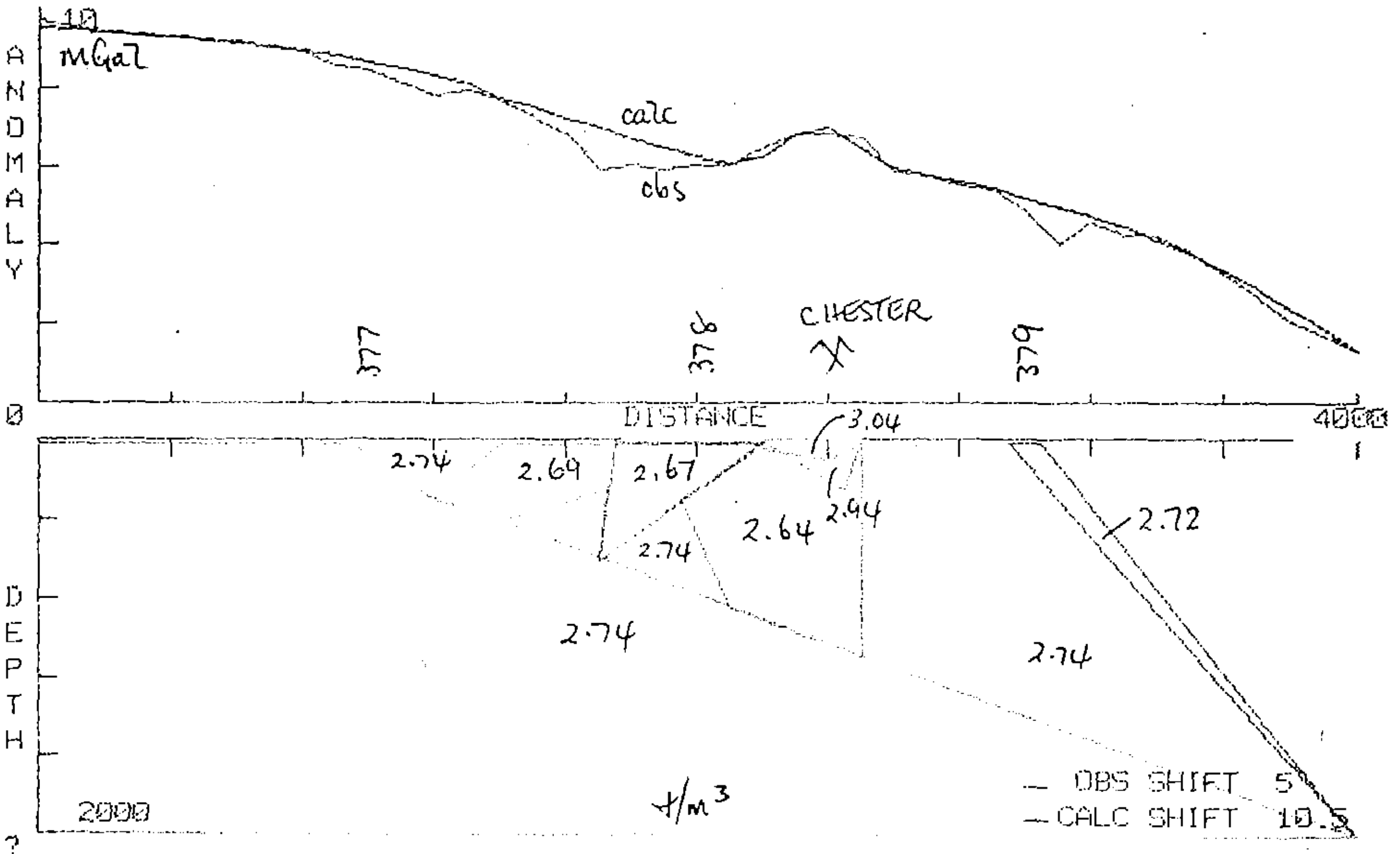
FIGURE 9

44/88
B.PK DEL 09/91

02?0

129209



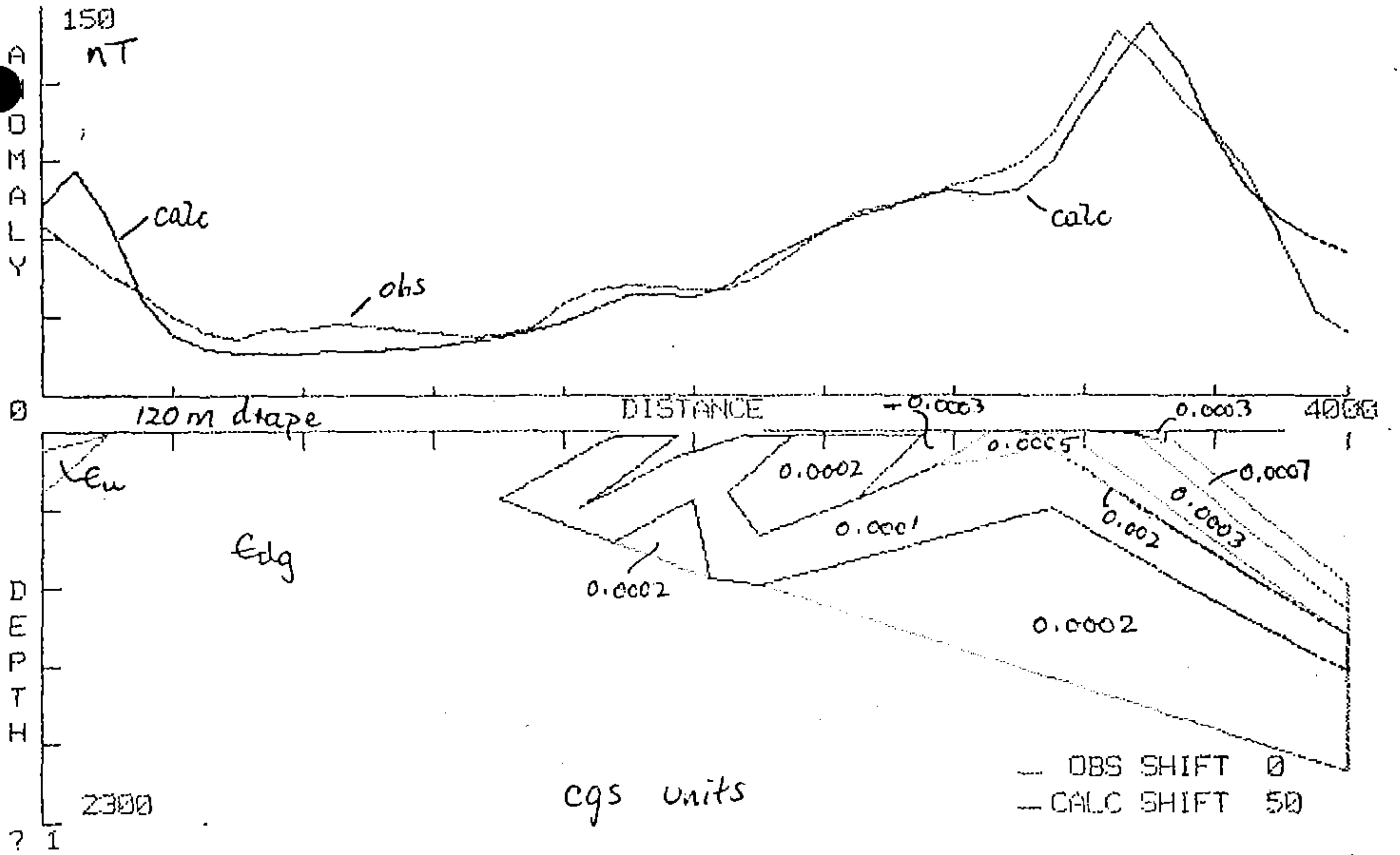


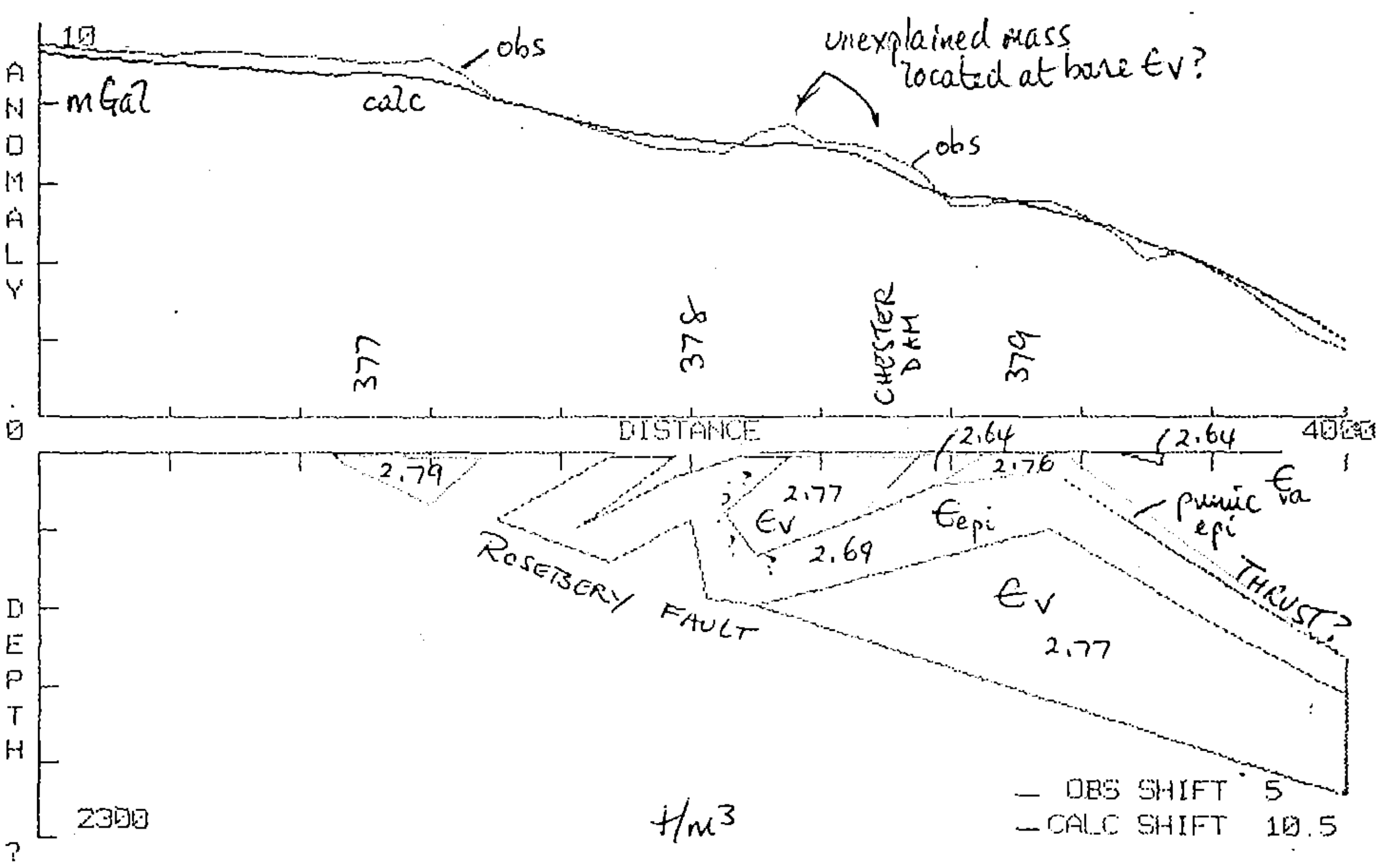
5381 000mN

LINE 810

44/88
B. PK DEL 09/91

FIGURE 10

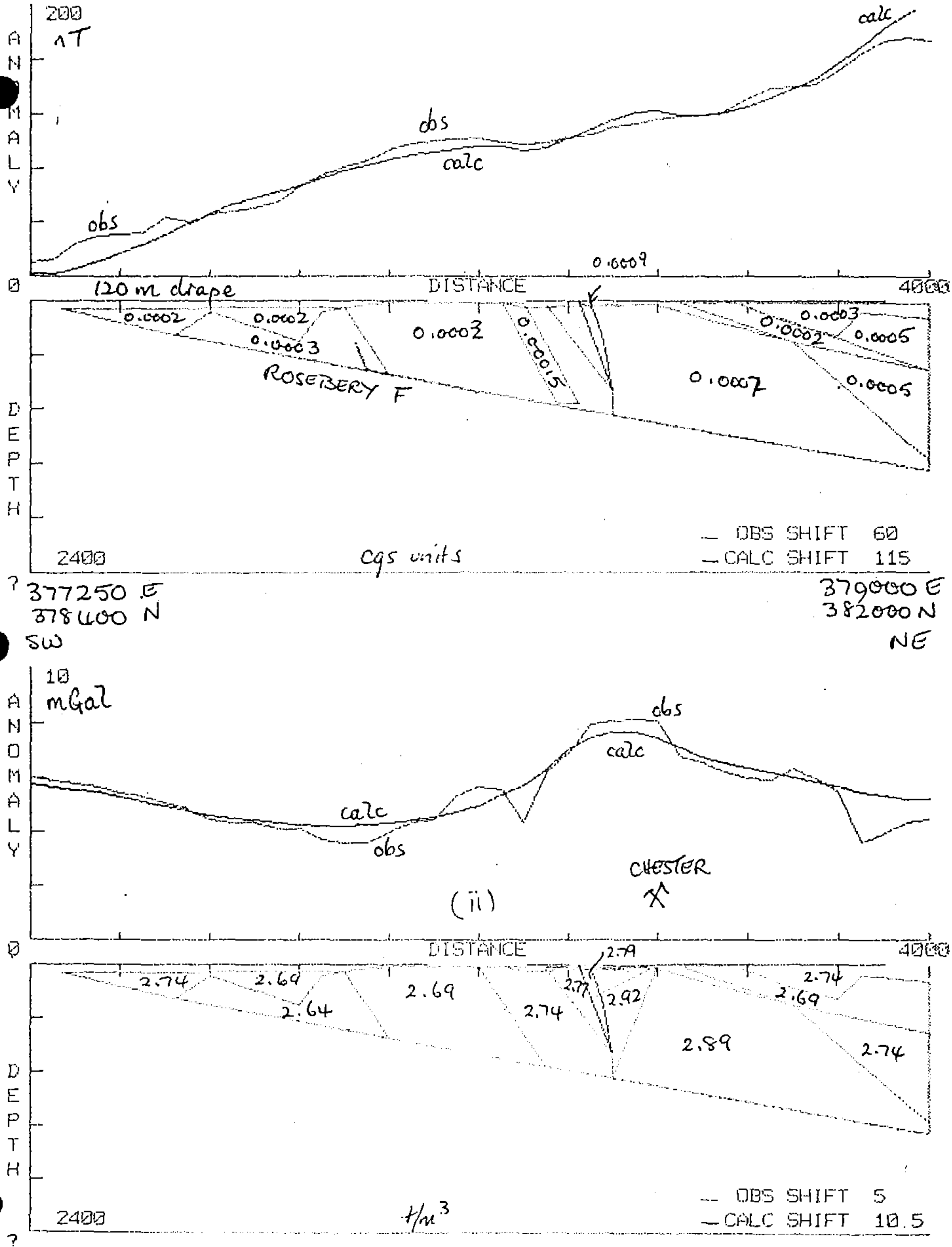




44/88
B.PK DEL 09/91

5 381 500 mN

FIGURE 11



LINE 982

44/88
B.PK DEC 09/91

FIGURE 12

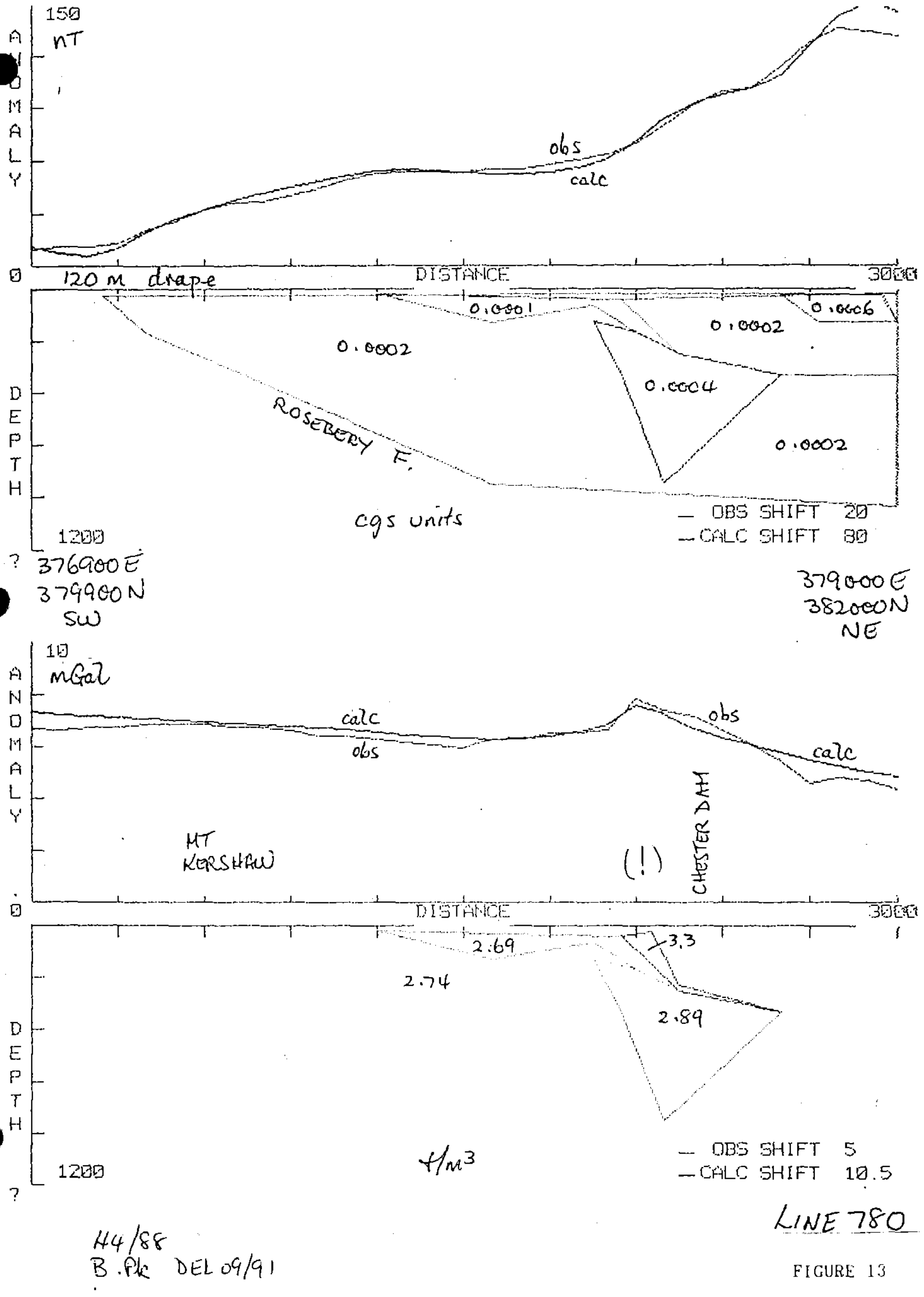
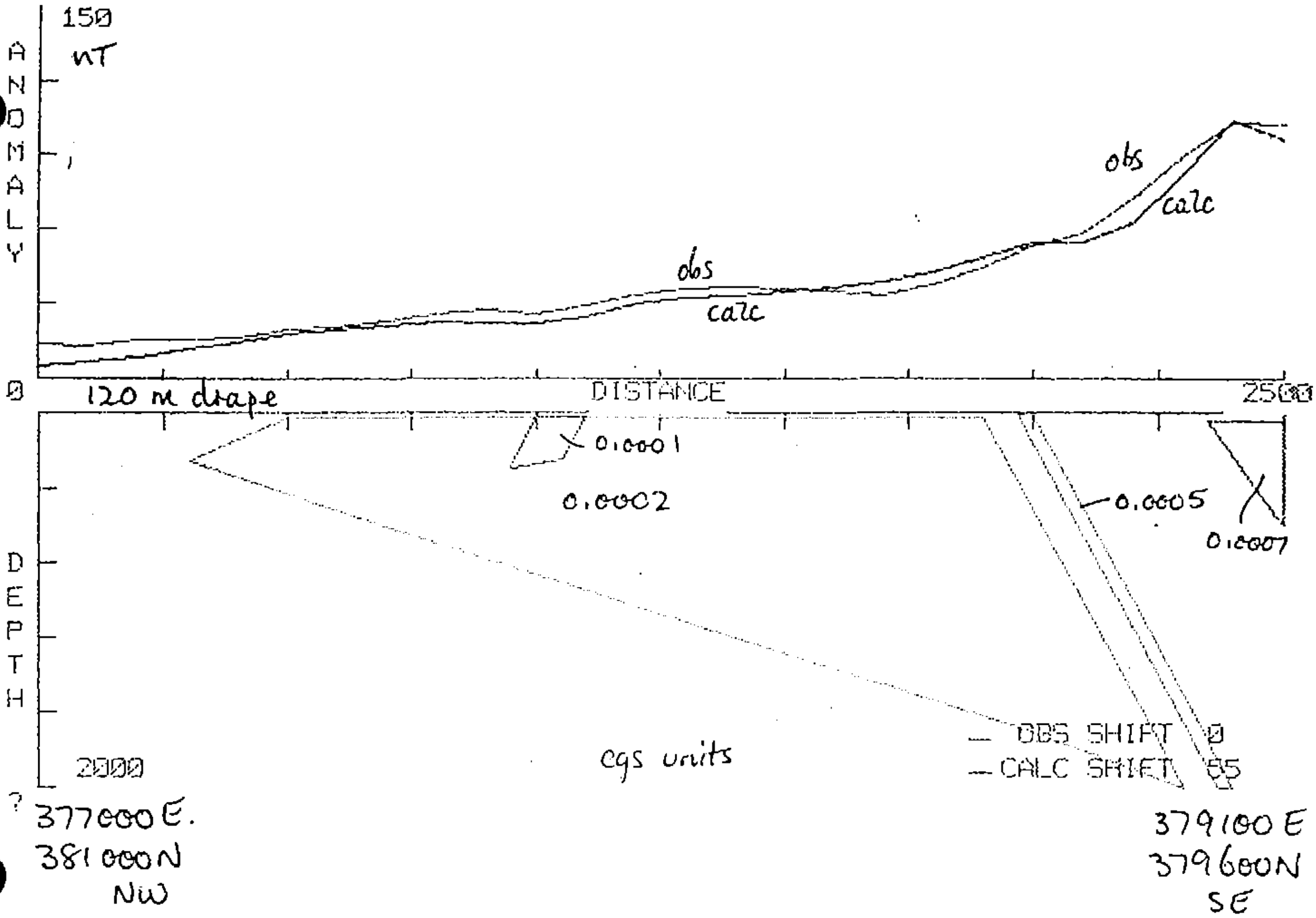
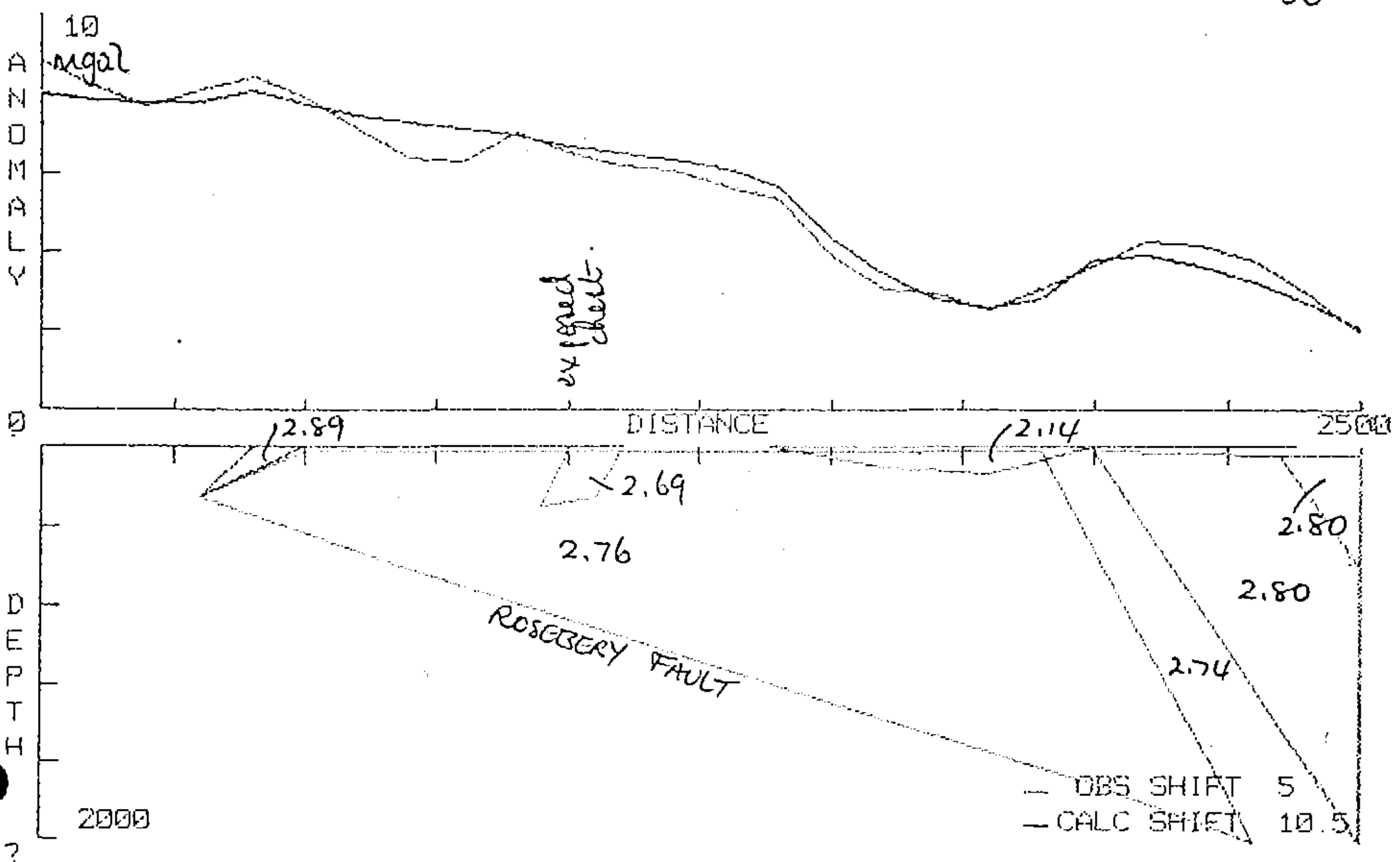

150
nT
ANOMALY
obs
calc
0
120 m drape
DISTANCE
3000
0.0001
0.0006
0.0002
0.0002
0.0004
ROSEBERY F.
0.0002
DEPTH
1200
cgs units
OBS SHIFT 20
CALC SHIFT 80
376900 E
379900 N
SW
379000 E
382000 N
NE
10
mGal
ANOMALY
calc
obs
obs
calc
MT
KERSHAW
(!)
CHESTER DAM
0
DISTANCE
3000
2.69
3.3
2.74
2.89
DEPTH
t/m³
OBS SHIFT 5
CALC SHIFT 10.5
1200
LINE 780
H4/88
B. Pk DEL 09/91

FIGURE 13

0212

129213

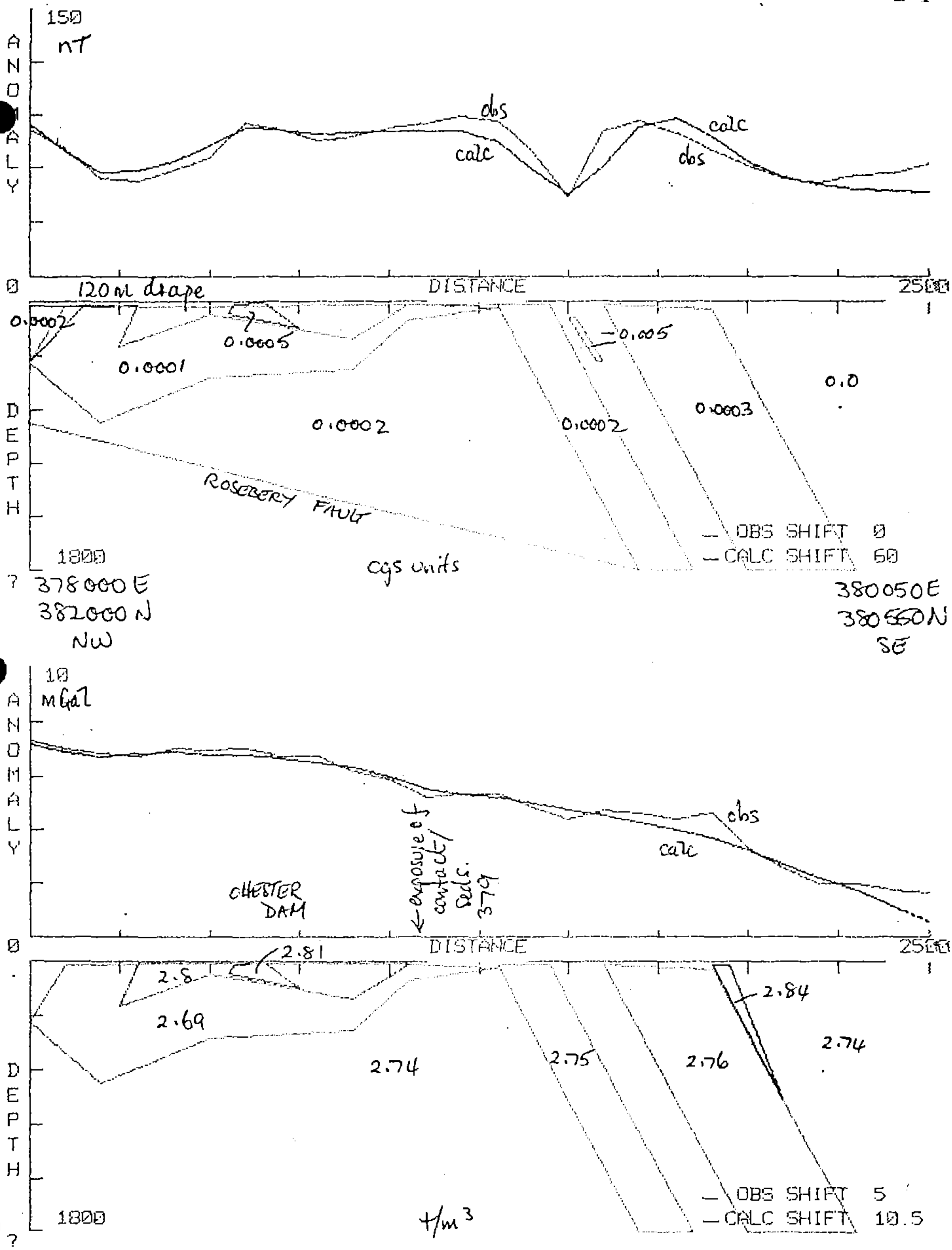




LINE 781

44/88
B.FK. DEC 09/91

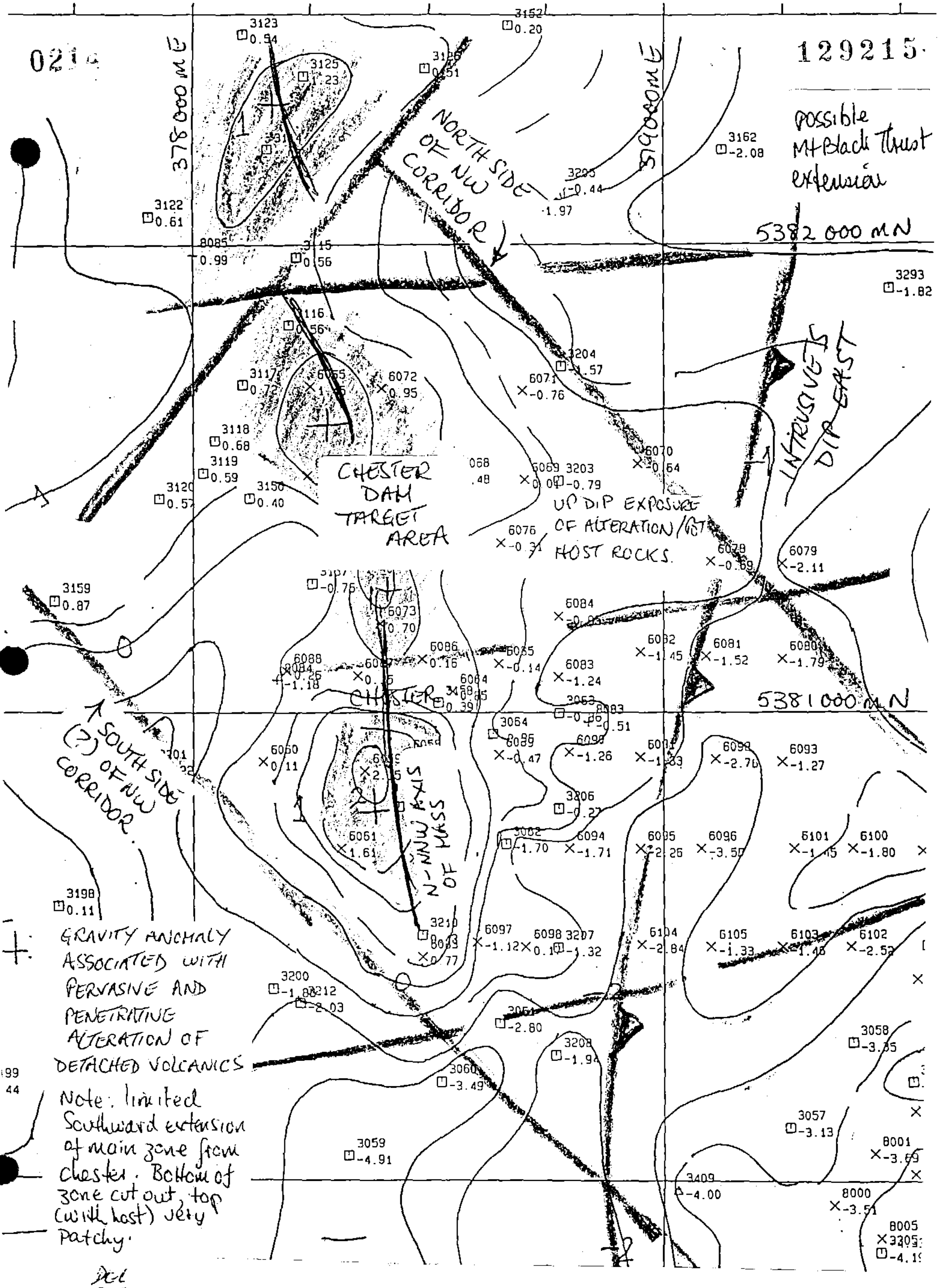
FIGURE 14



LINE 782

44/88
B.PK. DEL 09/91

FIGURE 15



SUMMARY OF INTERPRETATION AND TARGETS

FIGURE 16

APPENDIX 5

SG and Magnetic Susceptibility

Readings Nov 1990 - Oct 1991

MAGNETIC SUSCEPTIBILITY READINGS

PAGE 1

DDH No	From	To	Reading	Comment
BPD 73	0·00	·01		HQ WHOLE CORE
	7·0	·04		
	10·0	·21		
	13·0	·23		
	16·0	·15		
	19·0	·26		
	21·8	·44		
	25·0	·22		
	28·0	·81		
	31·0	·12		
	34·0	·28		
	37·0	·24		
	40·0	·29		
	42·1	·23		
	45·2	·18		
	47·6	·53		
	49·8	·31		
	52·8	·45		
	55·0	·21		
	58·0	·21		
	61·0	·17		
	63·8	·54		
	66·9	·22		
	70·0	·33		
	71·6	·36		
	74·6	·24		
	77·7	·23		
	79·7	·25		
	82·0	·20		NQ WHOLE CORE
	85·0	·16		
	87·1	·20		
	89·4	·11		
	93·0	·14		
	100·0	·20		
	109·6	·27		
	113·7	·18		
	119·6	·10		
	125·1	·17		

129218

021/

MAGNETIC SUSCEPTIBILITY READINGS

PAGE 2

DDH No	From	To	Reading	Comment
BPD 73	131.3		.18	NQ WHOLE CORE
	133.0		.13	
	135.0		.17	
	139.0		.09	
	142.0		.02	
	146.2		.11	
	151.0		.07	
	154.5		.07	
	160.0		.07	
	163.0		.08	
	165.6		.07	
	171.6		.06	
	173.4		.09	
	179.4		.08	
	185.0		.12	
	188.8		.08	
	196.0		.06	
	202.0		.10	
	205.6		.09	
	208.9		.12	
	214.0		.07	
	226.0		.12	
	231.3		.11	
	233.1		.10	
	237.5		.12	
	243.7		.07	
	249.9		.10	
	253.0		.13	
	259.0		.09	
	265.0		.10	
	270.0		.11	
	272.5		.19	
	275.1		.08	
	278.8		.05	
	284.1		.11	
	286.8		.25	
	290.6		.08	
	292.8		.14	

MAGNETIC SUSCEPTIBILITY READINGS

Page 3

DDH No	From	To	Reading	Comment
BPD 73	295.8		.10	NQ WHOLE CORE
	301.0		.12	↓
	304.0		.12	
	308.6		.10	
	312.1		.09	
	313.0		.08	
	318.1		.31	
	321.8		.45	
	325.4		.17	
	326.5		.30	
	328.0		.39	
	331.7		.10	
	333.4		.11	
	337.8		.18	
	340.9		.07	
	343.7		.12	
	346.0		.33	
	350.5		.10	
	355.0		.11	
	361.0		.12	
	364.0		.25	
	367.2		.17	
	370.0		.11	
	374.2		.14	
	376.2		.09	
	377.9		.07	
	383.4		.09	
	385.0		.19	
	388.9		.18	
	391.2		.08	
	393.9		.12	
	396.6		.16	
	403.0		.08	
	407.0		.15	
	409.0		.19	
	413.0		.24	
	417.9		.15	
	E.O.H			

0219

129220

S G READINGS

DDH No	DEPTH	DRY weight	~~WET weight~~	Volume	S G	Comment
BPD 73	50.0 M	768		303	2.53	HQ WHOLE CORE
	100.0	603		223	2.70	NQ WHOLE CORE
	150.0	430		161	2.67	↓
	200.0	530		196	2.70	
	249.9	714		259	2.75	
	300.0	637		237	2.68	
	350.0	442		167	2.64	
	400.0	403		148	2.72	

0220

129221

S G READINGS

DDH No	DEPTH	DRY weight	~~WET weight~~	Volume	S G	Comment
BPD 73	50.0 M	768		303	2.53	HQ WHOLE CORE
	100.0	603		223	2.70	NQ WHOLE CORE
	150.0	430		161	2.67	↓
	200.0	530		196	2.70	
	249.9	714		259	2.75	
	300.0	637		237	2.68	
	350.0	442		167	2.64	
	400.0	403		148	2.72	

S G READINGS

DDH No	DEPTH	DRY weight	~~WET weight~~	Volume	S G	Comment
BPD 73	50.0 M	768		303	2.53	HQ WHOLE CORE
	100.0	603		223	2.70	NQ WHOLE CORE
	150.0	430		161	2.67	↓
	200.0	530		196	2.70	
	249.9	714		259	2.75	
	300.0	637		237	2.68	
	350.0	442		167	2.64	
	400.0	403		148	2.72	

0224

129223

S G READINGS

DDH No	DEPTH	DRY weight	~~WET weight~~	Volume	S G	Comment
BPD 73	50.0 M	768		303	2.53	HQ WHOLE CORE
	100.0	603		223	2.70	NQ WHOLE CORE
	150.0	430		161	2.67	
	200.0	530		196	2.70	
	249.9	714		259	2.75	
	300.0	637		237	2.68	
	350.0	442		167	2.64	
	400.0	403		148	2.72	

S G READINGS

DDH No	DEPTH	DRY weight	~~WET weight~~	Volume	S G	Comment
BPD 73	50.0 m	768		303	2.53	HQ WHOLE CORE
	100.0	603		223	2.70	NQ WHOLE CORE
	150.0	430		161	2.67	
	200.0	530		196	2.70	
	249.9	714		259	2.75	
	300.0	637		237	2.68	
	350.0	442		167	2.64	
	400.0	403		148	2.72	

0224

S G READINGS

129225

DDH No	DEPTH	DRY weight	~~WET weight~~	Volume	S G	Comment
BPD 73	50.0M	768		303	2.53	HQ WHOLE CORE
	100.0	603		223	2.70	NQ WHOLE CORE
	150.0	430		161	2.67	↓
	200.0	530		196	2.70	
	249.9	714		259	2.75	
	300.0	637		237	2.68	
	350.0	442		167	2.64	
	400.0	403		148	2.72	

022[illegible]

129226

S G READINGS

DDH No	DEPTH	DRY weight	~~WET weight~~	Volume	S G	Comment
BPD 73	50.0m	768		303	2.53	HQ WHOLE CORE
	100.0	603		223	2.70	NQ WHOLE CORE
	150.0	430		161	2.67	
	200.0	530		196	2.70	
	249.9	714		259	2.75	
	300.0	637		237	2.68	
	350.0	442		167	2.64	
	400.0	403		148	2.72	

0220

AMG GRID COORDINATES:		ROCK TYPE:	SAMPLE No.	SG:
5381500 N	378389E	brecciated ~~acid~~ dacite lava	31726	2.62
81500N	78850E	dacite lava + chl+alb+py	30	2.67
81500	78893	" " " " "	31	2.61
81700	78403	dacite lava	32	2.44
81700	78487	" "	34	2.47
81700N	78617E	" "	37	2.58
81700	78663	" " +chl	38	2.57
81700	78711	" "	39	2.57
81654	78775	" " +hbl	42	2.62
81635	78774	" "	43	2.49
81545	78770	" "	44	2.52
81500	78909	" " +alb+chl	45	2.55
81500	78950	siltstone	46	2.57
81500	79105	pumiceous volcaniclastic	47	2.50
81500	79336	intermed. lava	49	2.49
81500	79478	" "	51	2.50
81500	79592	" "	52	2.44
81500	79635	" "	53	2.48
81500	79687	" "	54	2.58
81700	78840	dolerite	55	2.63
81700	78810	dacite lava	56	2.66
81700	78850	dolerite	57	2.63
81700	78890	dolerite	58	2.74
81700	79062	dacite lava	59	2.47
81700	79100	acid/intermediate lava	60	2.60
81700	79219	" " "	61	2.47
81700	79229	" " "	62	2.36
81700	79884	intermed. lava	63	2.49

Magnetic susceptibility: outcrop. (Chester Mine Area)

AMG COORDINATES:			MAG SUS: (SI $\times 10^{-3}$)
①	5380980 N	378530E	0.03 0.04 0.05 0.10 0.07 0.05
②	5380980N	377430E	0.35 0.39 0.45 0.59 0.40 0.33
③	5380960N	377360E	0.09 0.05 0.03

– silicified, 'cherty' pyritic sediments.

129227

MAG. SUS. READINGS – CHESTER EAST. 29·8·91

(All readings are SI units $\times 10^{-3}$) (parentheses indicate possible inaccurate readings)

– 5381500N 3 150E ≡ 31725

0·01 0·03 0·01 0·08 0·03

– 5381500N 3 389E ≡ 31726

0·21 0·20 0·27 0·32 0·21 0·33 0·20

– 5381500N 378 570E ≡ 31727 & 31728

0·29 0·12 0·21 (0·08)

– 5381500N 378 850E ≡ 31729

2·28 3·30 2·84 2·22

– 5381500N 378 900E ≡ 31731 & 31745

3·78 4·35 3·74 (2·93) 3·50 3·79

– 5381500N 378950E ≡ 31746

(0·07) 0·11 0·11 0·10 0·09

– 5381500N 379 100E ≡ 31747

0·25 (0·05) 0·19 (0·08) 0·12

– 5381500N 379140E ≡ 31748

0·02 0·03 0·05

– 5381500N 379 320E ≡ 31749 →

0·84 1·03 0·55 0·75

– 5381550N 378 780E ≡ 31744

1·67 1·49

– 5381570N 378 770E (≡ 31744?)

2·40 3·00 3·10

– 5381650N 378 770E ≡ 31742

(0·27) (0·41) (0·27) 3·49 2·27 1·69

– 5381700N 378 800E ≡ 31756

0·87 0·82 1·05 1·27 1·73 1·11

– 5381700N 378840E → 890E ≡ 31755; 57; 58

3·17 2·06 1·71 2·41 2·37

0221

129228

APPENDIX 6

Report on DHEM Surveys, DDH's BPD 67–70

(plus addendum). Mitre Geophysics

MITRE GEOPHYSICS PTY LTD
MINERAL EXPLORATION AND ENGINEERING CONSULTANTS
BUGGS LANE ELLIOTT TASMANIA 7325 PHONE 004-363143

REPORT ON DHEM SURVEYS, BURNS PEAK (E.L. 44/88), DDH'S BPD67-70.

for

Pasminco Exploration, Tasmania

SURVEY DETAILS

DHEM surveys were carried out down DDH's BPD67, BPD68, BPD69 and BPD70 in November, 1990. The work was carried out by McSkimming Geophysics using a Mk2 Sirotem. Both early- and standard-time measurements were made, at 10m intervals down the holes. Two loops were used for each hole: one maximally and the other minimally coupled. The loop locations are given in Figures 1a & 1b. The results were plotted logarithmically by the contractor and copies are included in this report (Figures 2, 3, 4 & 5). To verify that the equipment was working properly, a survey was also carried out down the Que River hole QR1060A. This work was done using Tx loop 7, with standard times at a 20m reading interval (Figure 6). (The loop numbers for holes BPD69 & BPD70 have all been increased by 2 since MkSkimming's survey. The figures have been changed for this report, but not the digital records.)

INTERPRETATION

To assist the interpretation, cross-sections of the EM field patterns have been produced for the four holes (Figures 7-10). (The positions of the proposed loops were used for these calculations, which in some cases vary slightly from the actual positions.) The results were generally disappointing, however an off-hole source is indicated in one hole and repeat surveying is required down another. A summary of the results is given in Table 1.

BPD67

Despite the successful testing of the equipment at Que River, the results from both loops are suspect for this hole and resurveying is recommended. A very persistent (in-hole) response was recorded near 50m from the maximally coupled loop 67/1. This section of the hole contained minor disseminated pyrite, but insufficient to produce the strong, local response shown on Figure 2a. The results from loop 67/2 (Figure 2b) show no sign of the strong self-response expected in this area (or of the shallow 'anomaly' seen in 67/1) and the shallow section of the hole shows the wrong (ie, unexpected) sign (compare with the results from the other three holes). Although these results are suspect, it is worth mentioning that a subtle concave character can be seen in some early channels from 67/1 with a corresponding convex character in 67/2. These may suggest a distant conductor (possibly the overlying Chester pyrite deposit) and should be looked for in the repeat work.

BPD68

This hole was drilled near to the S.W. Chester workings. Very high positive and negative values were recorded near the top of the hole from loops 68/1 and 68/2 respectively. These are attributed to self-response of the probe and possibly to conductive surface conditions. A very subtle convexity can be seen in some intermediate time channels from 68/2 below 200m. If due to an off-hole conductor, this is interpreted to be due to a surficial source lying outside of the 68/2 loop edges and thus of no interest.

BPD69

A possible response was recorded in this hole from the maximally coupled loop (#17), centred at 360m. Removal of best fitting straight line background responses to channels 6-14 between 250m and 410m produces the result shown in Figure 11. Modelling of this anomaly (Figure 12) indicates an off-hole source, probably above the hole. The model is not a very good fit to the data, but does show similar characteristics. The ratios of positive to negative response are different and these are highly dependent upon the removed 'regional' and it is quite possible that an overly simple approach has been used here. This ratio also varies with dip and although a less well fitting model is obtained from a westerly dip, it seems likely that the source is close to, if not coincident with, the steeply west dipping tuff-porphyry contact logged at 403m down the hole. BPD69 intersected broken ground here and the anomaly may be due to a high porosity zone along the contact. The model conductance of 200S is high for such a source, however no great effort has been made to match amplitudes and decay rates. Similarly the model plate dimensions of 100m (long) x 50m (deep) are not definitive.

If, despite the above, this response is considered to be of potential interest, a more thorough interpretation is required and resurveying with differently placed loops is recommended to help position the source. A DHMMR survey would determine unambiguously whether the source was above or below the hole.

BPD70

No anomalies were recorded down this hole and the profiles, with the exception of excess noise around 200m from loop 20, are as expected.

QR1060A

This hole has been surveyed many times by Aberfoyle Resources to check DHEM equipment. It is a deep hole (1250m+) and has a subtle response at around 950m (Silic and Eadie, 1989)*. McSkimming's equipment for this survey was limited to around 1000m, but the results show very good agreement with a previous Sirotem (standard time) survey by the same company which extended down to 1260m (Figure 13) and thus the survey verified that the equipment was functioning correctly at the commencement of the Burns Peak contract.

RECOMMENDATIONS

It is recommended that BPD67 be repeated using both loops.

If the region near the tuff/porphyry contact at the bottom of BPD69 has any potential on other, independent criteria, it is recommended that the results from loop 17 be more thoroughly interpreted and that the hole be resurveyed from another set of loops to better define its position.

J.R. Bishop
Jan., 1991.

PET/MG91/03

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* Silic, J. and Eadie, E.T., 1989. DHEM: the Que-Hellyer volcanics experience. Explor. Geophysics, 20, 65-69.

LIST OF FIGURES

Table 1

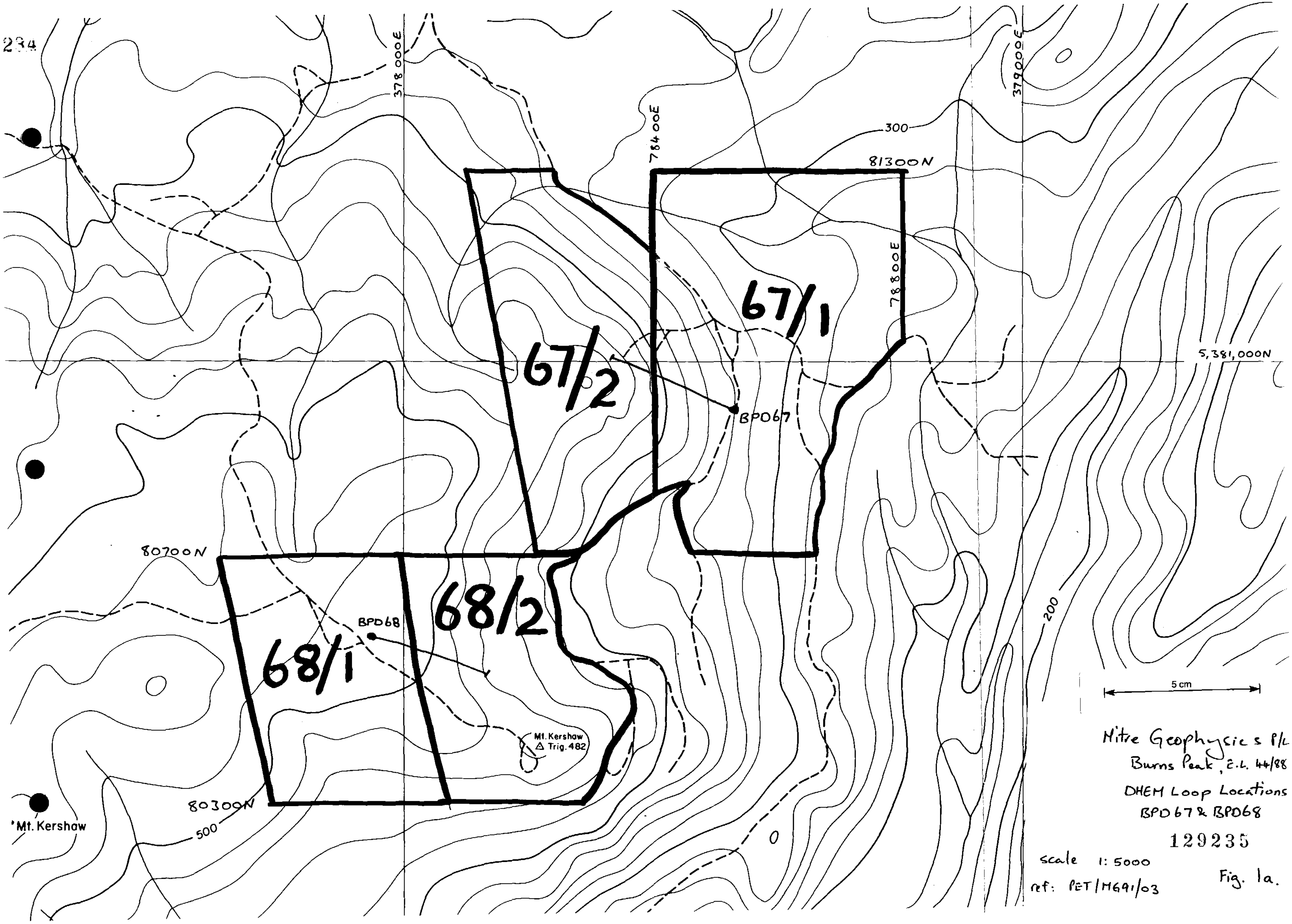
BURNS PEAK DHEM SURVEY DETAILS

Contractor: McSkimming Geophysics

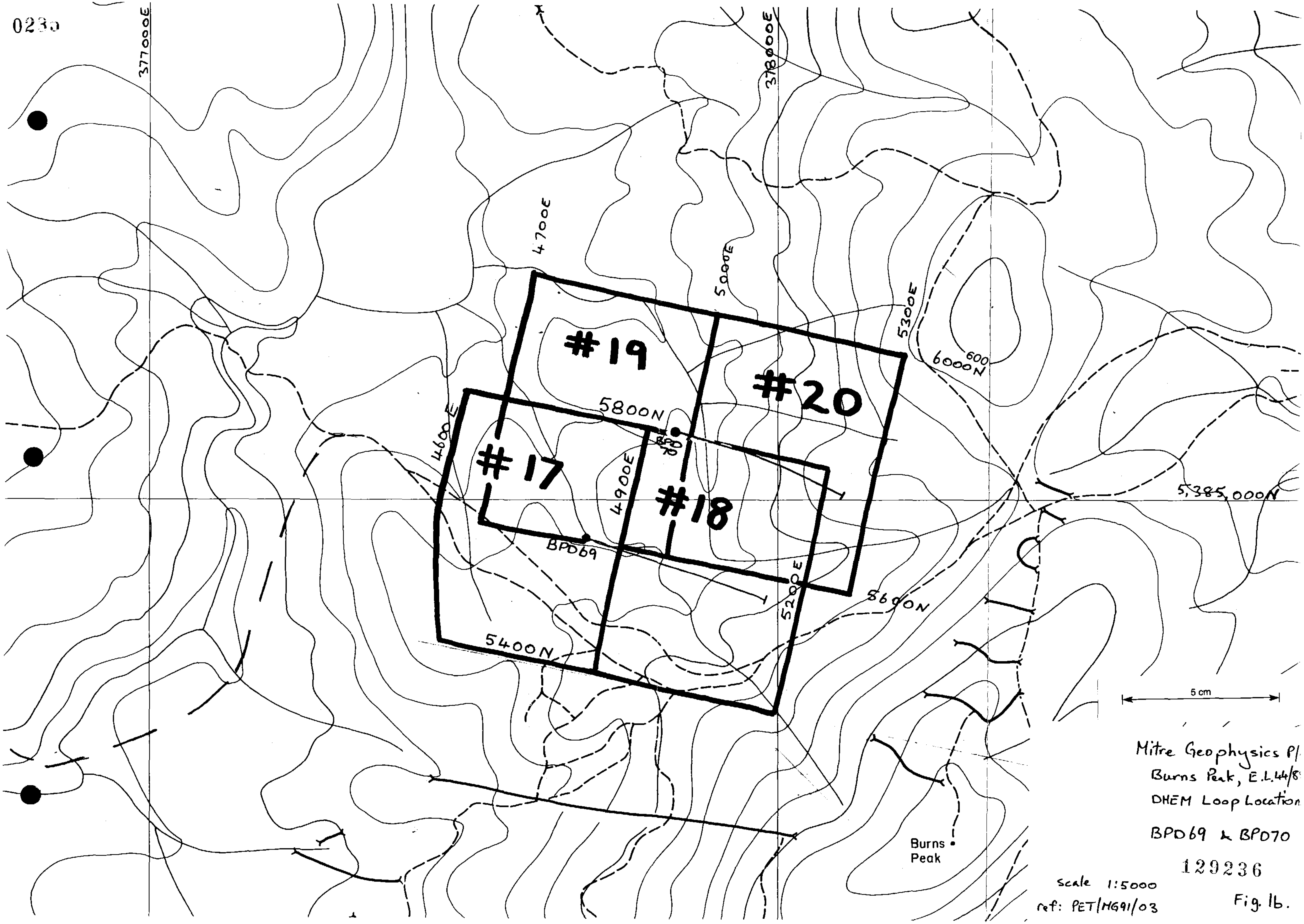
Equipment: Sirotem Mk 2 (ET & ST)

Date: Nov., 1990.

Hole	EOH/Survey depth	Survey loops	Result
BPD67	464/450	67/1 & 67/2	Suspect data: to be resurveyed
BPD68	474/470	68/1 & 68/2	-
BPD69	421/410	17 & 18	Probable off-hole response at tuff-porphyry contact.
BPD70	497/490	19 & 20	-
QR1060A	1250+/1010	#7	Surveyed to check equipment.


378000E
78400E
379000E
78800E
81300N
5,381,000N
80700N
80300N
300
200
500
0
67/1
67/2
68/1
68/2
BPD67
BPD68
Mt. Kershaw
Δ Trig. 482
Mt. Kershaw
5 cm
Mitre Geophysics P/L
Burns Peak, E.L. 44/88
DHEM Loop Locations
BPD67 & BPD68
129235
scale 1: 5000
ref: PET/M691/03
Fig. 1a.

0230

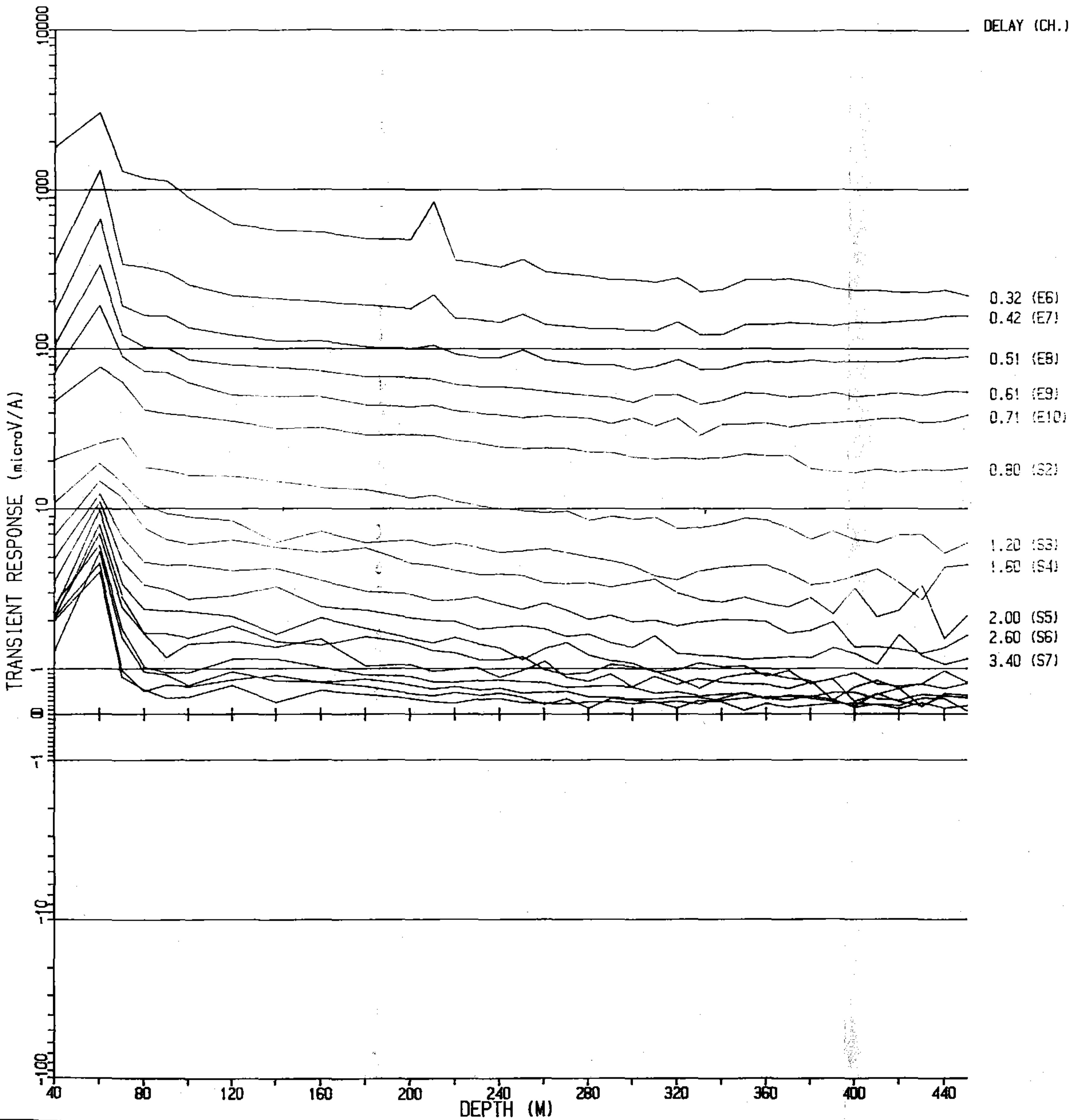


Mitre Geophysics P/
Burns Peak, E.L.44/8
DHEM Loop Location
BPD69 & BPD70

129236

Scale 1:5000
ref: PET/MG91/03

Fig. 1b.



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS

SURVEY DATE : NOV. 1990
CONFIGURATION : 450M SQUARE TX. LOOP, DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 1024
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1224
CURRENT : 5.2 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:2000
VERTICAL SCALE - LOGARITHMIC 4CM. PER DECADE LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

PASMINCO

TASMANIA
BURNS PEAK

SIROTEM PROFILE
BPD67 LOOP 1

SCALE - 1:2000 ref: PET/MG91/03

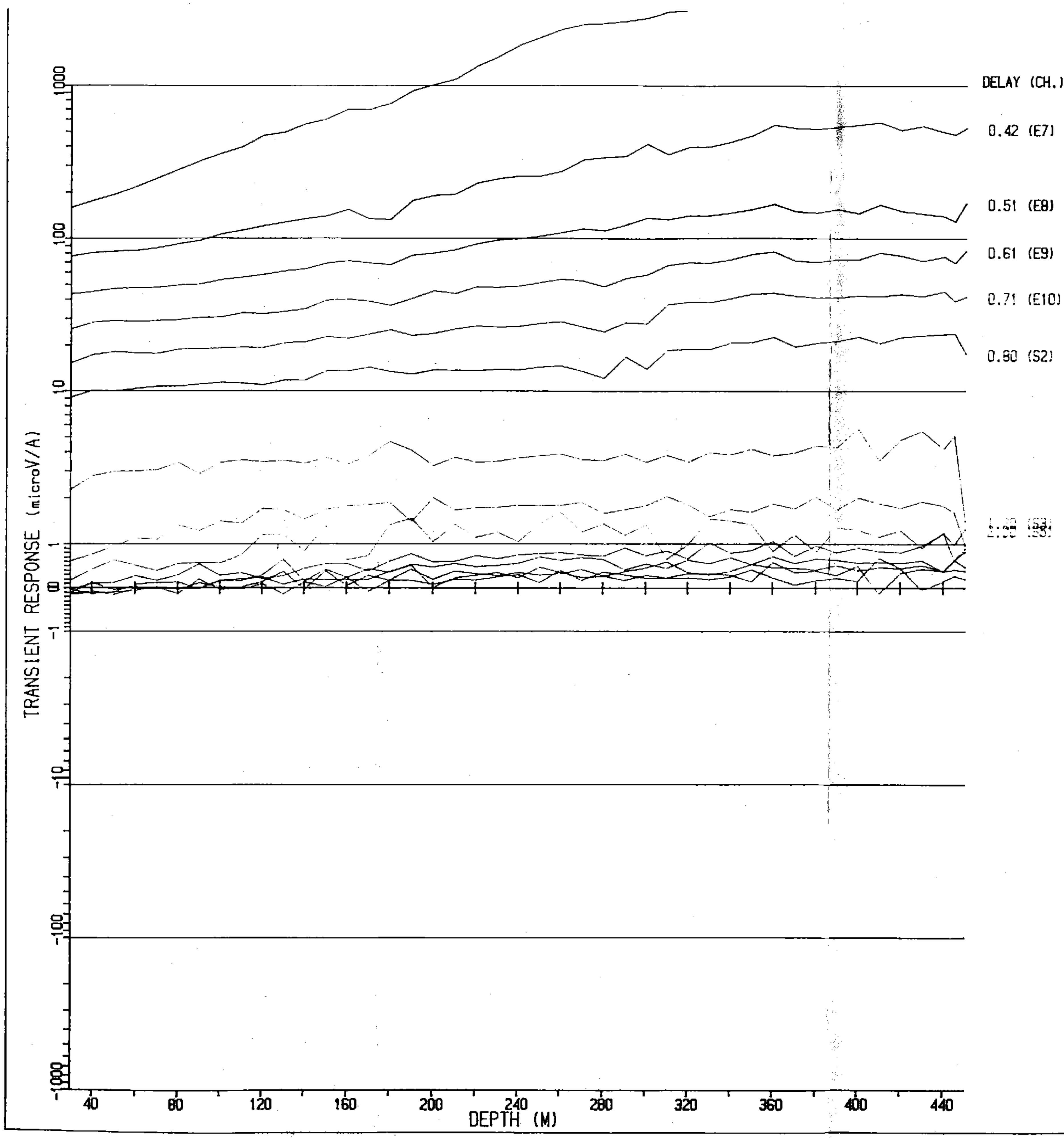
5 cm

BPD 67/1

129237

Fig 2a.

0237



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS

SURVEY DATE : NOV. 1990
CONFIGURATION : 550M SQUARE TX. LOOP, DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 1024
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1224
CURRENT : 7.8 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:2000
VERTICAL SCALE - LOGARITHMIC 4CM. PER DECADE LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

PASMINCO

TASMANIA
BURNS PEAK

SIROTEM PROFILE
BPD67 LOOP 2

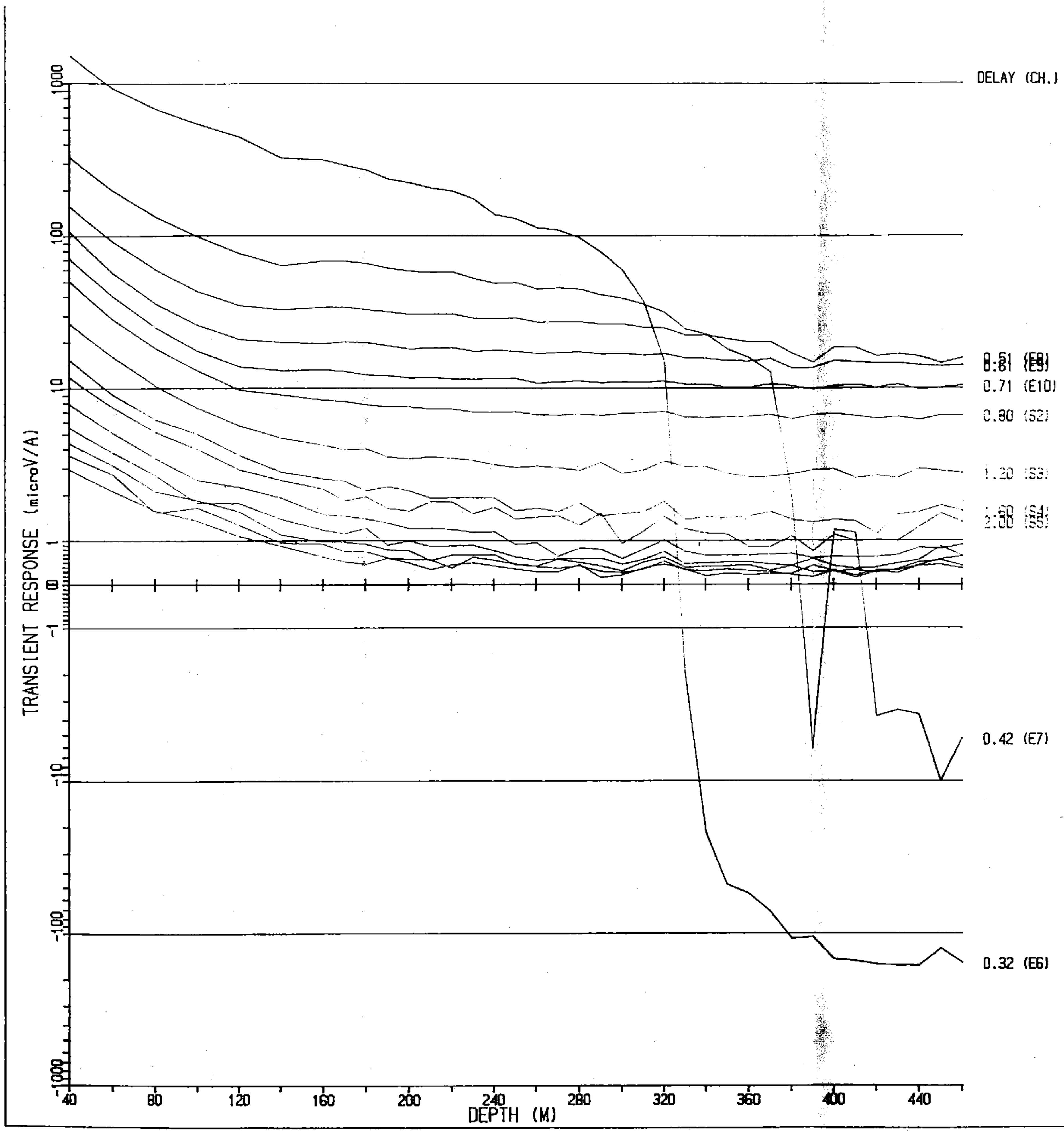
SCALE - 1:2000 ref: PET/MG91/03

129238

5 cm

BPD67/2

Fig. 2b.



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS

SURVEY DATE : NOV. 1990
CONFIGURATION : 400M SQUARE TX. LOOP, DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 1024
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1224
CURRENT : 7.6 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:2000
VERTICAL SCALE - LOGARITHMIC 4CM. PER DECADE LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

PASMINCO

TASMANIA
BURNS PEAK

SIROTEM PROFILE
BPD68 LOOP 1

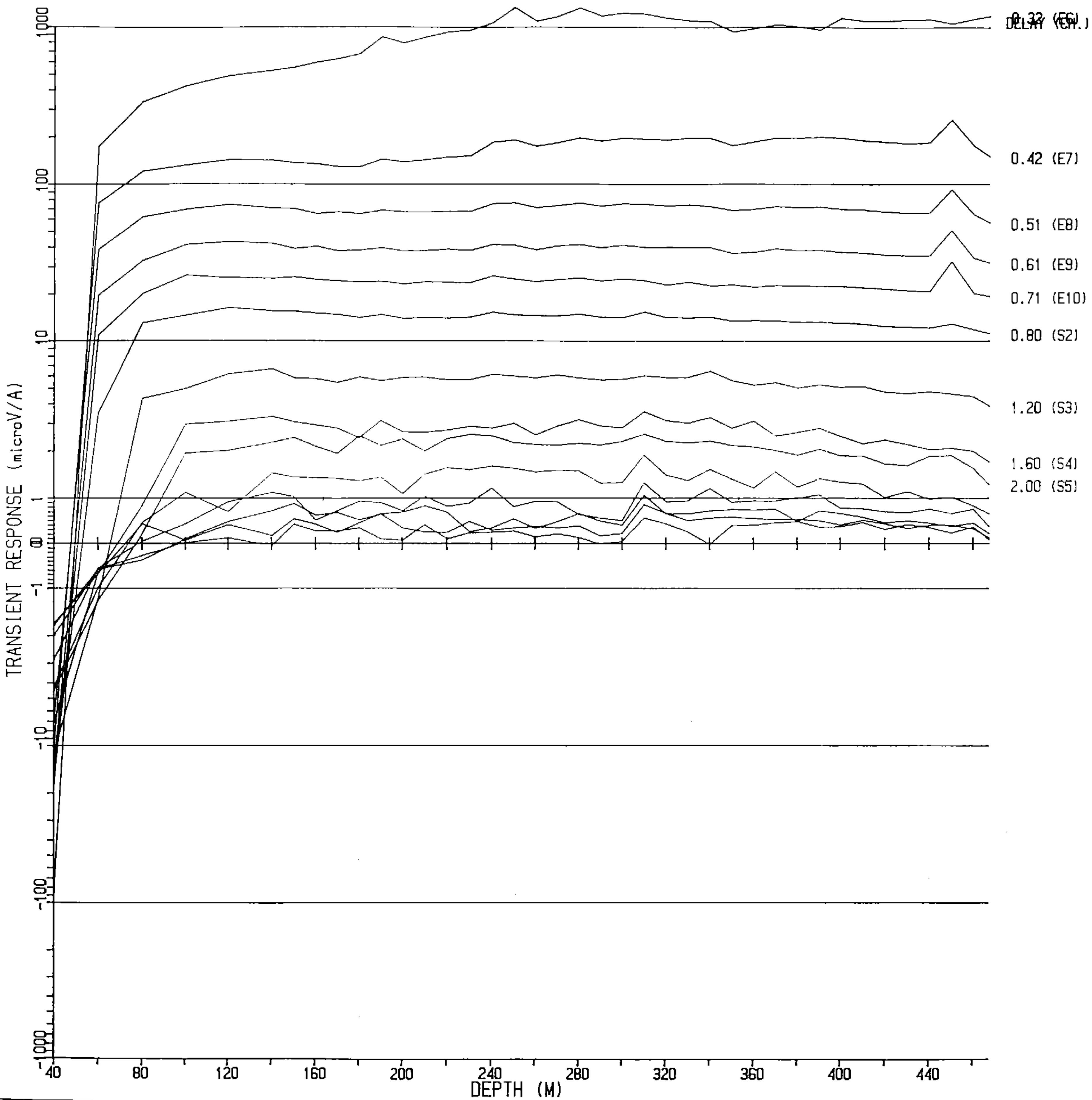
SCALE - 1:2000 | ref: PET/MG91/03

129239

5 cm

BPO68/1

Fig. 3a.



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS

SURVEY DATE : NOV. 1990
CONFIGURATION : 400M SQUARE TX. LOOP, DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 2048
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1224
CURRENT : 7.2 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:2000
VERTICAL SCALE - LOGARITHMIC
4CM. PER DECADE
LINEAR BETWEEN
-1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

PASMINCO

TASMANIA
BURNS PEAK
SIROTEM PROFILE
BPD68 LOOP 2

SCALE - 1:2000 ref: PET/MG91/03

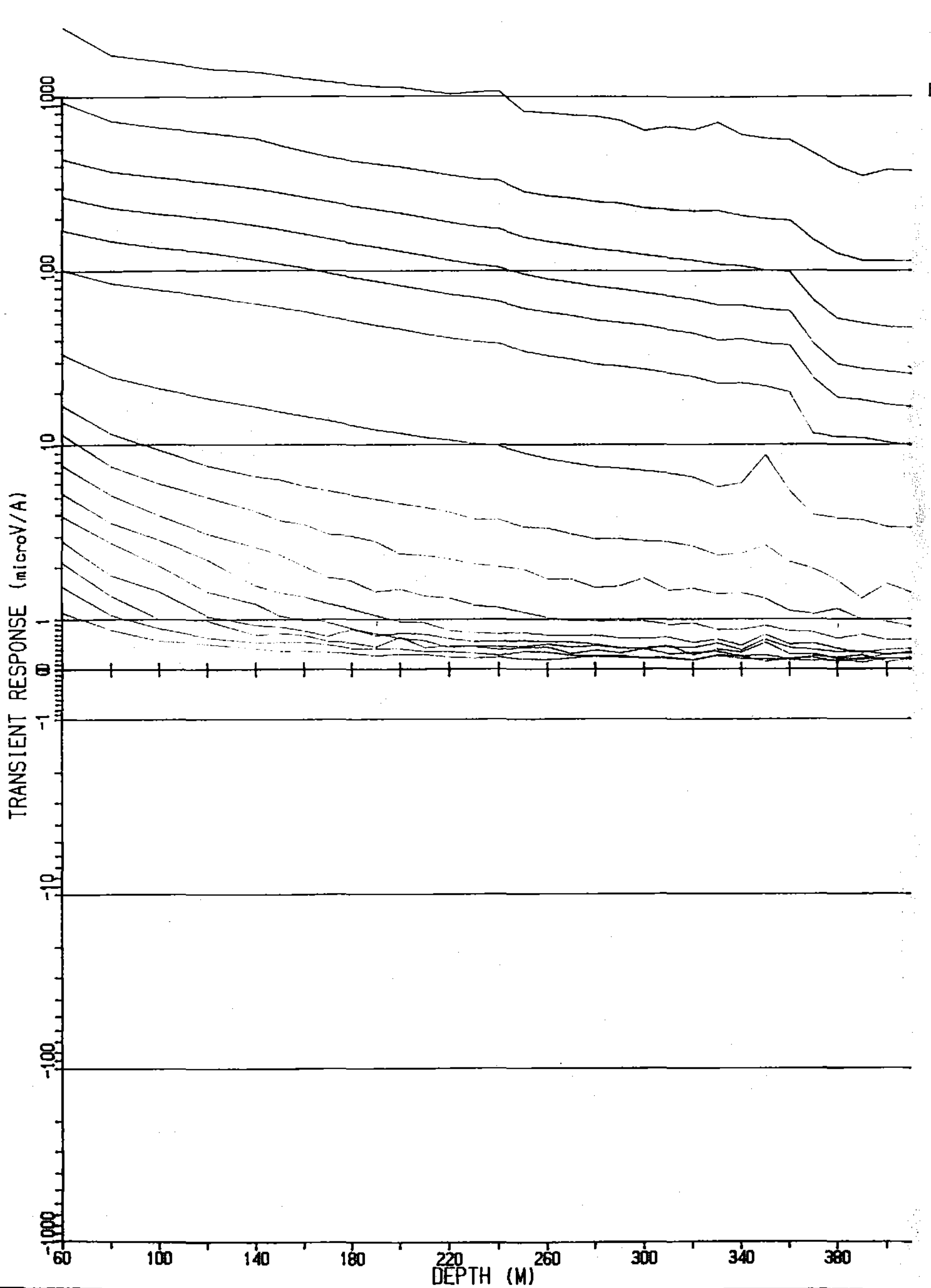
129240

5 cm

BPD68/2

Fig. 3b.

0240



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS

SURVEY DATE : NOV. 1990
CONFIGURATION : 300M SQUARE TX. LOOP, DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 1024
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1224
CURRENT : 7.5 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:2000
VERTICAL SCALE - LOGARITHMIC 4CM. PER DECADE LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

PASMINCO

TASMANIA
BURNS PEAK

SIROTEM PROFILE
BPD69 LOOP 17

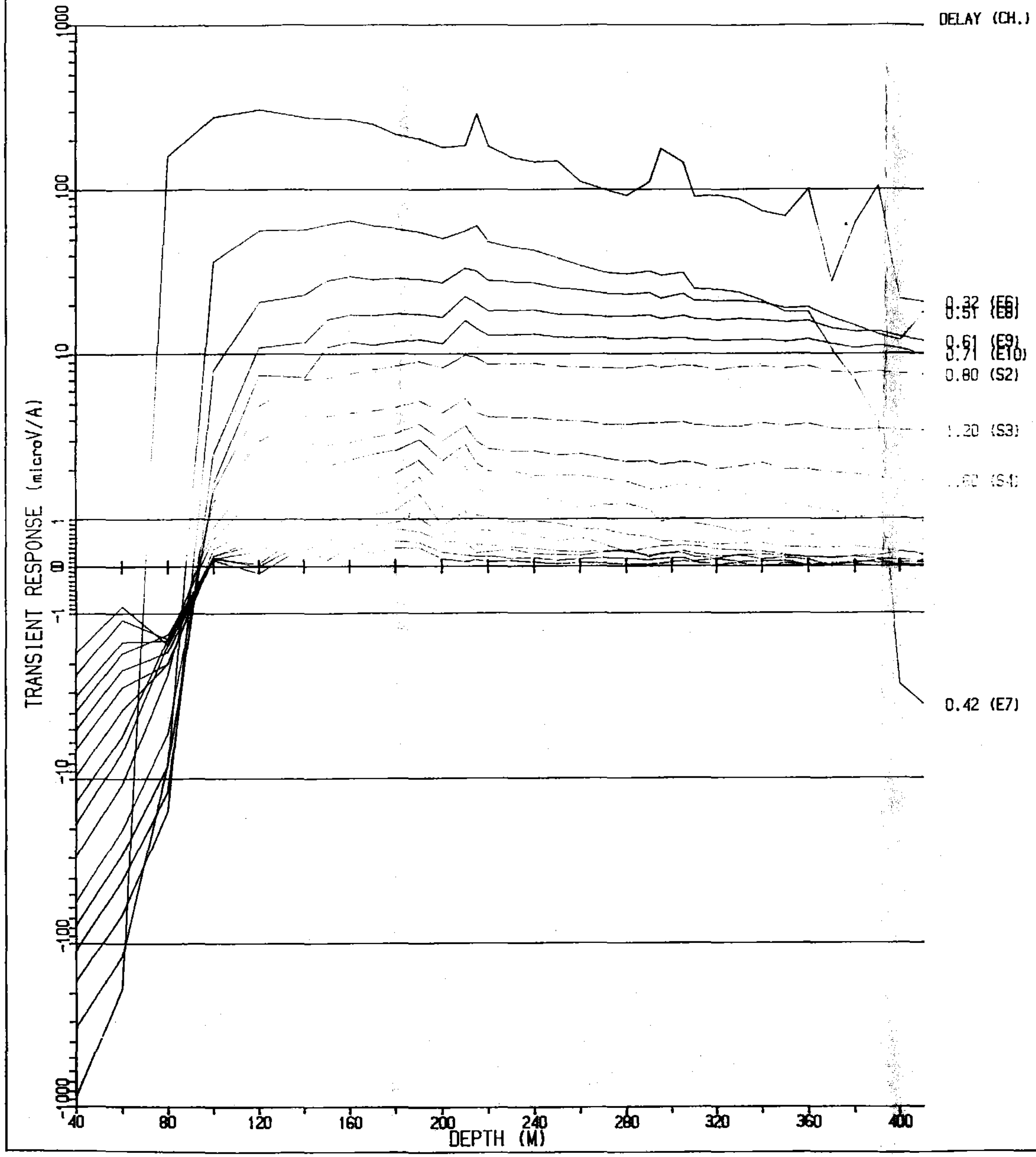
SCALE - 1:2000 ref: PET/MG91/03

129241

5 cm

BPD69 — 17

Fig. 4a.



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS

SURVEY DATE : NOV. 1990

CONFIGURATION : 300M SQUARE TX. LOOP, DRILL HOLE SURVEY

READING INT. : 20 METRES

NO. OF STACKS : 1024

TRANSMITTER : MEDIUM POWER

RECEIVER : SIROTEM II S/N 1224

CURRENT : 8.4 AMPS

OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:2000

VERTICAL SCALE - LOGARITHMIC 4CM. PER DECADE LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS

E - EARLY TIME WINDOW

S - STANDARD TIME WINDOW

PASMINCO

TASMANIA

BURNS PEAK

SIROTEM PROFILE

BPD69 LOOP 18

SCALE - 1:2000 ref: PET/MG91/03

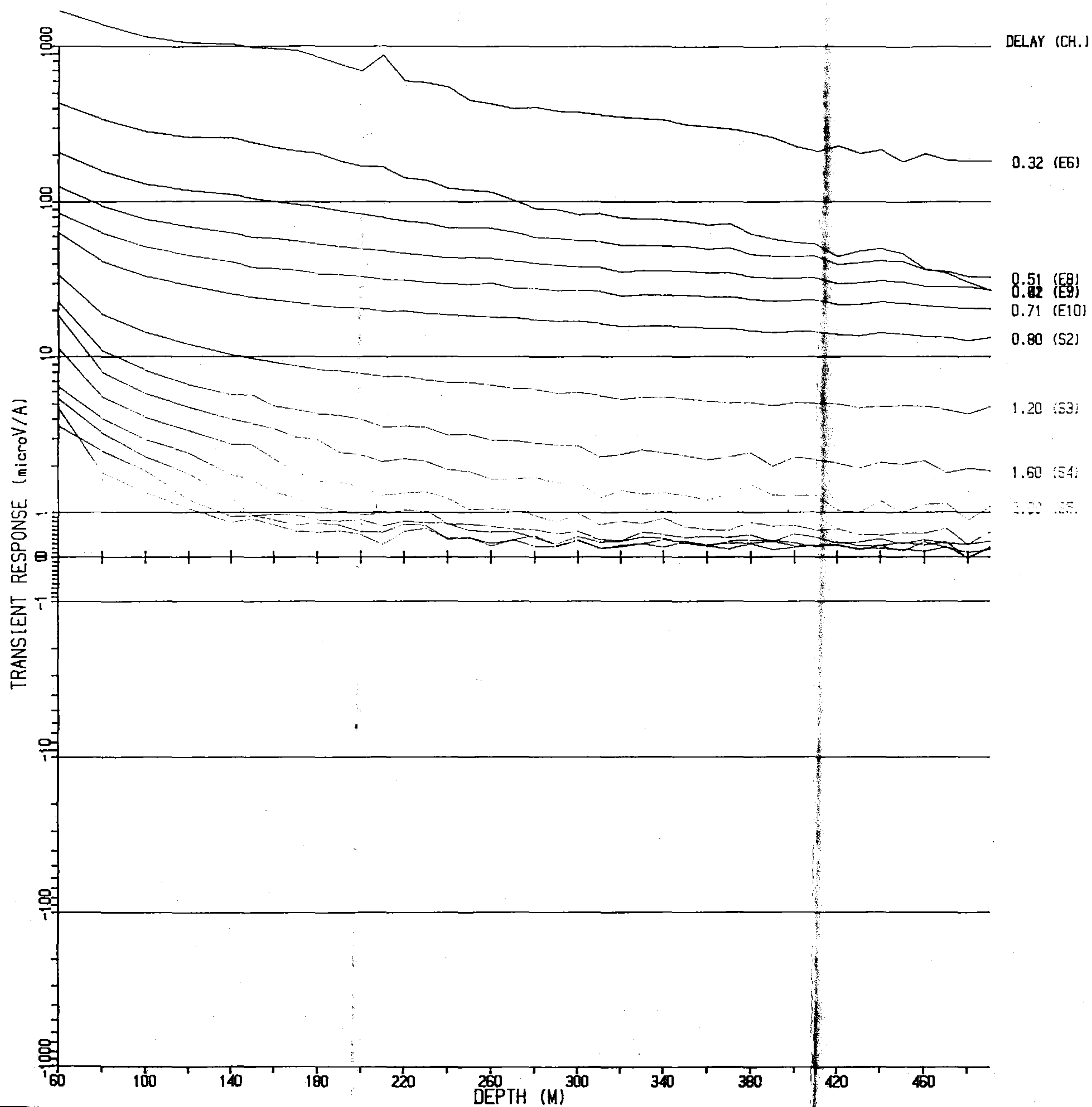
129242

5 cm

BPD69 — 18

Fig. 4b.

0242



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS

SURVEY DATE : NOV. 1990

CONFIGURATION : 300M SQUARE TX. LOOP, DRILL HOLE SURVEY

READING INT. : 20 METRES

NO. OF STACKS : 1024

TRANSMITTER : MEDIUM POWER

RECEIVER : SIROTEM II S/N 1224

CURRENT : 6.7 AMPS

OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:2000

VERTICAL SCALE - LOGARITHMIC 4CM. PER DECADE LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

PASMINCO

TASMANIA
BURNS PEAK

SIROTEM PROFILE
BPD70 LOOP 19

SCALE - 1:2000 | ref: PET/MG91/03

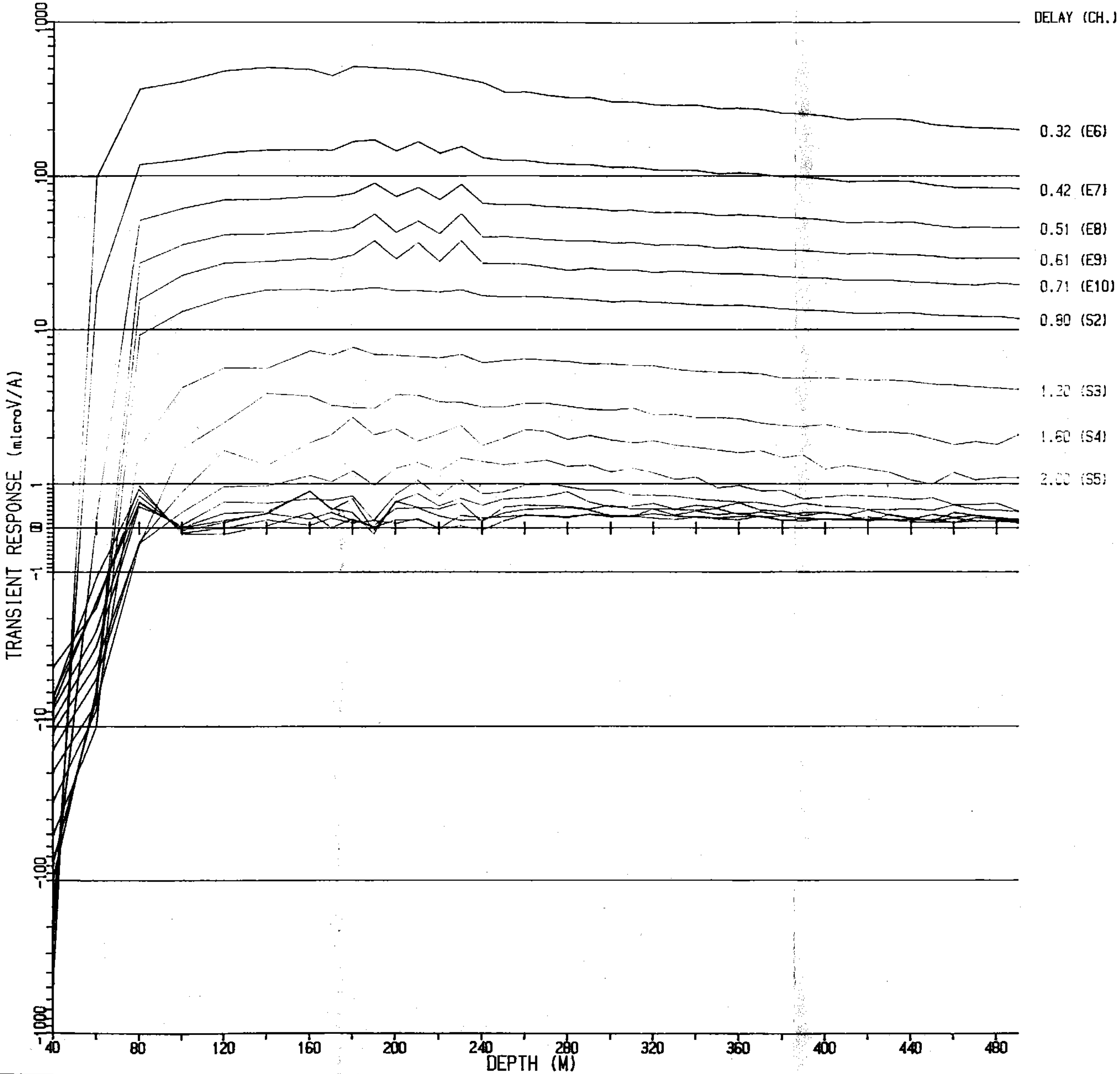
129243

5 cm

BPD70 - 19

Fig. 5a.

5 cm



SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS

SURVEY DATE : NOV. 1990
CONFIGURATION : 300M SQUARE TX. LOOP, DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 1024
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1224
CURRENT : 7.3 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:2000
VERTICAL SCALE - LOGARITHMIC 4CM. PER DECADE LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

PASMINCO

TASMANIA
BURNS PEAK

SIROTEM PROFILE
BPD70 LOOP 20

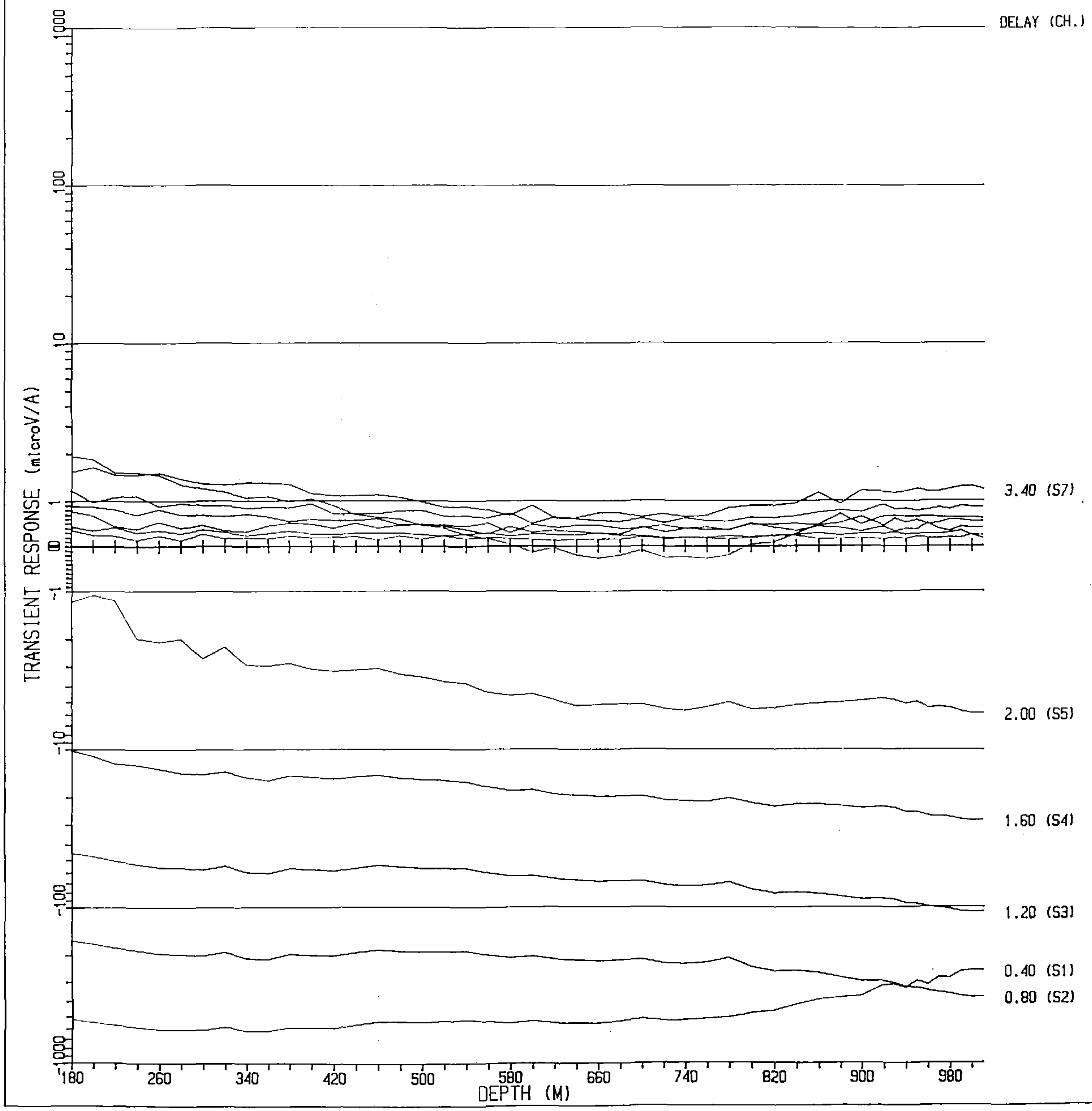
SCALE - 1:2000 | ref: PET/MG91/03

129244

BPD70 – 20

Fig. 5b.

0244



5 cm

SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS

SURVEY DATE : NOV. 1990
CONFIGURATION : 800M SQUARE TX. LOOP, DRILL HOLE SURVEY
READING INT. : 20 METRES
NO. OF STACKS : 2048
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1224
CURRENT : 11.3 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:4000
VERTICAL SCALE - LOGARITHMIC 4CM. PER DECADE LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

PASMINCO

TASMANIA
QUE RIVER

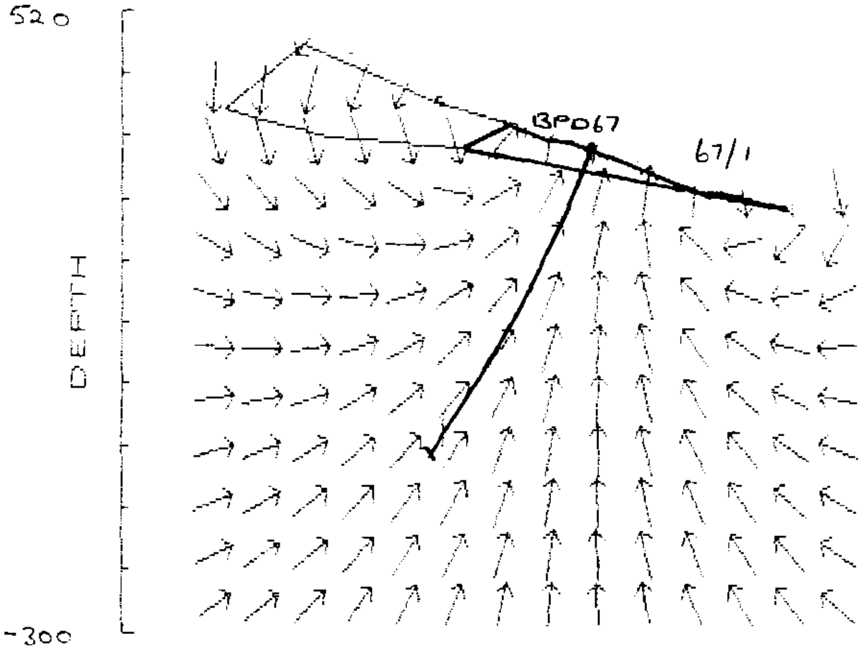
SIROTEM PROFILE
QR1060A

SCALE - 1:4000 | ref: PET/MG91/03

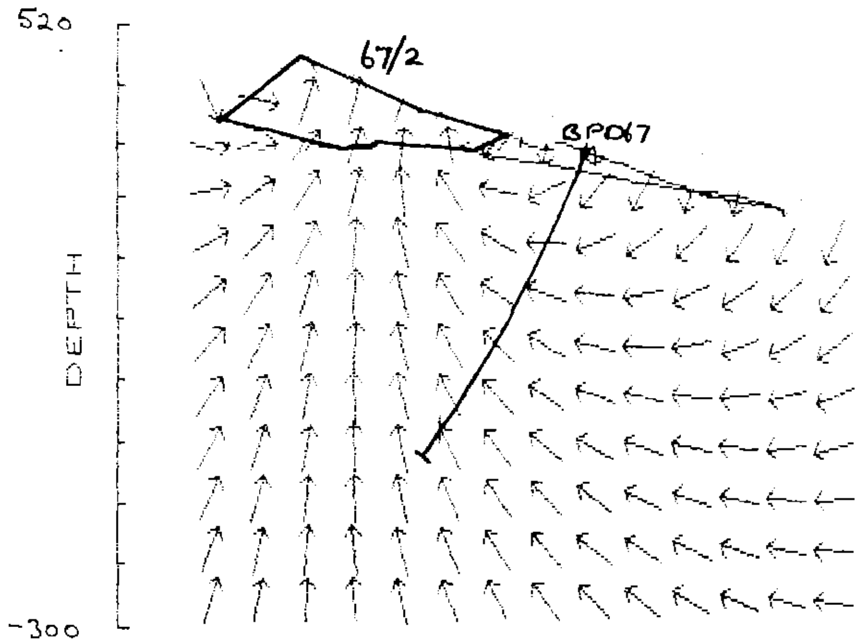
129245

QR1060A
Fig. 6.

0240



Projected Section from (1000.0N, 8000.0E) on Bearing 100.0 Length 900.0



129246

Burns Peak, EL 44/88
DHEM SURVEYS

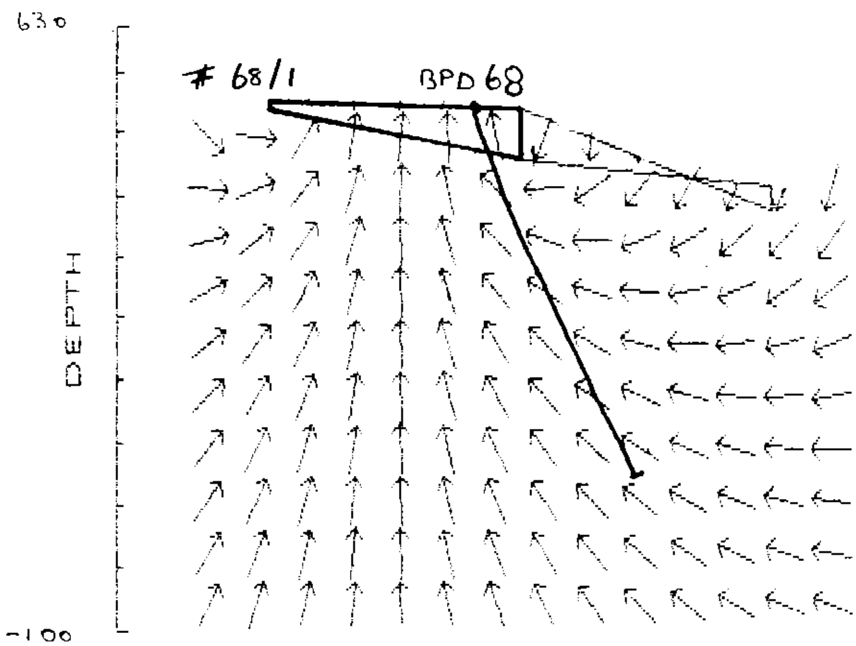
EM FIELD PATTERNS
BPO67/1 & BPO67/2

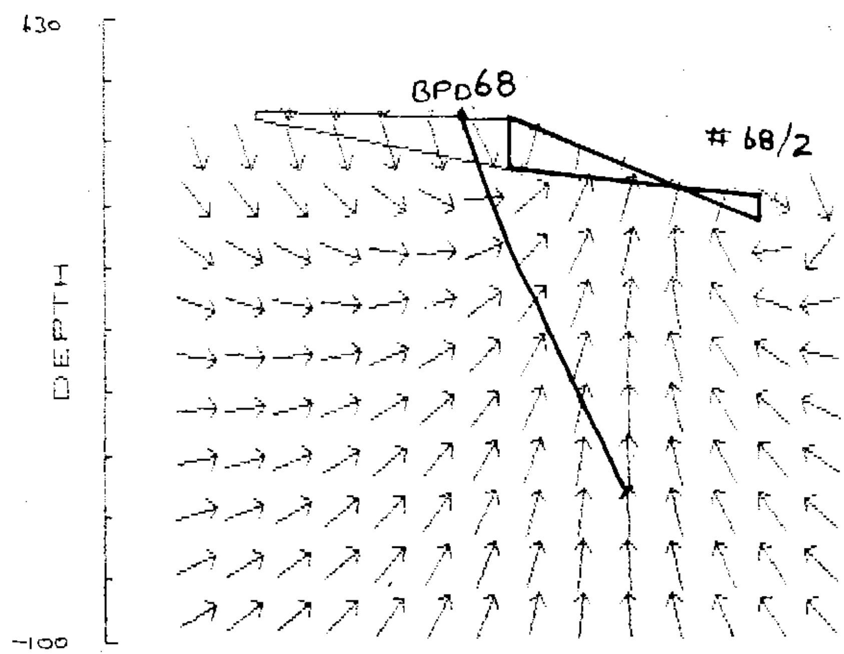
ref: RET/MG91/03

Fig. 7.

0240

Projected Section from (550.0N, 7600.0E) on Bearing 90.0 Length 800.0



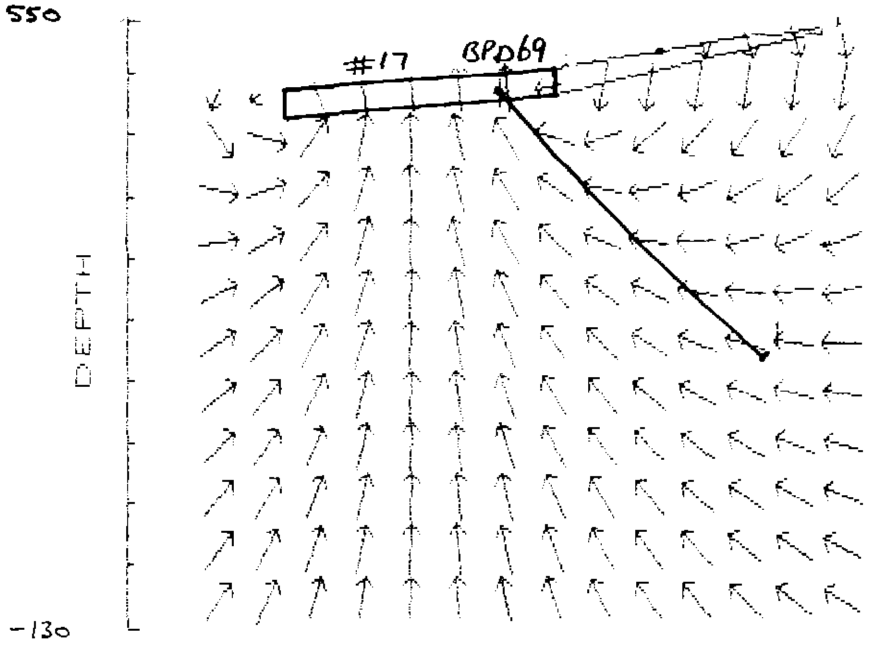


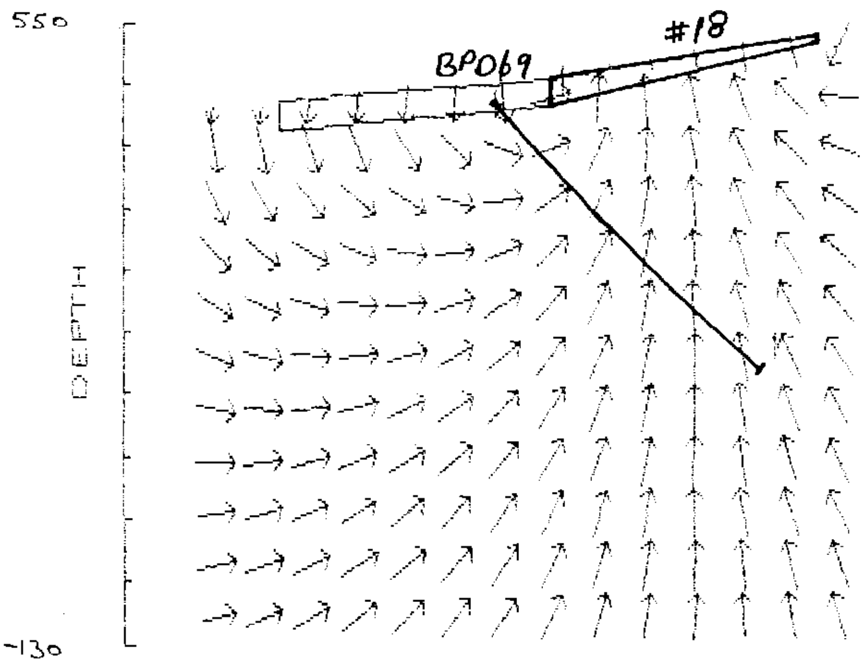
129247

Burns PK, E.L. 44/88
DHEM SURVEYS
EM FIELD PATTERN
BPD68/1 & BPD68/2

ref. PET/HG91/03

Projected Section from (5570.0N, 4500.0E) on Bearing 90.0 Length 750.0





129248

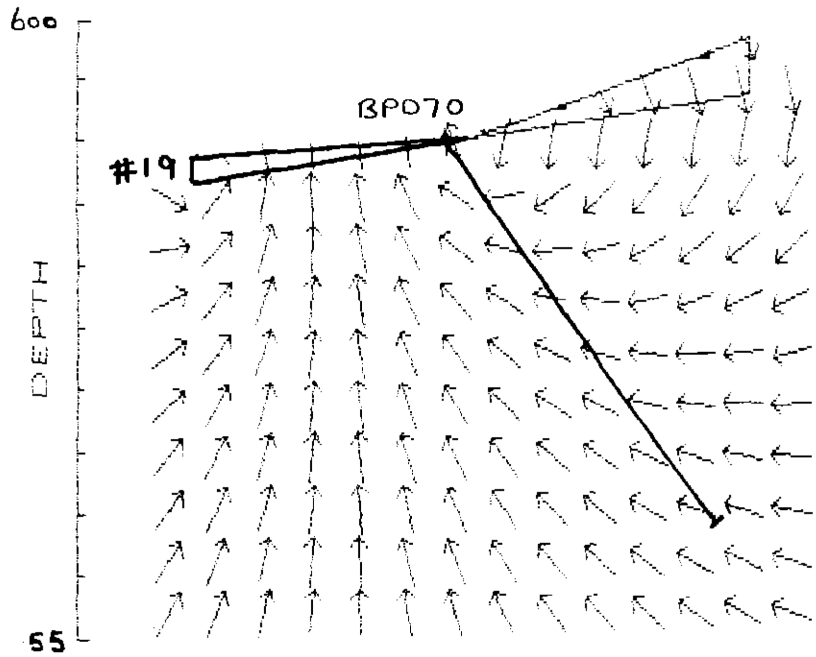
Burns Peak, EL. 44/88
DHEM SURVEYS

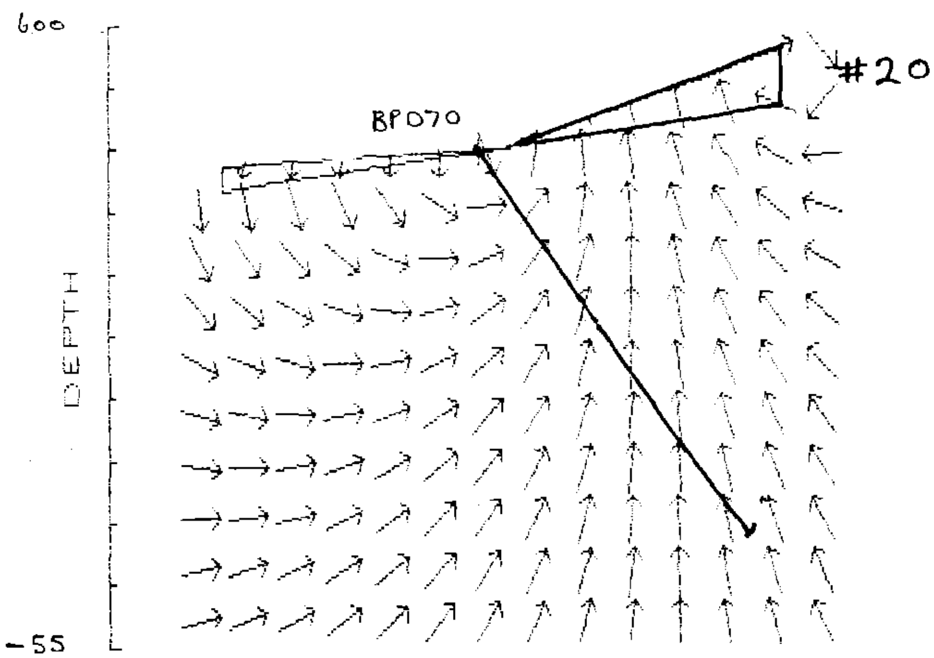
EM FIELD PATTERNS
#17 & #18

Fig. 9.

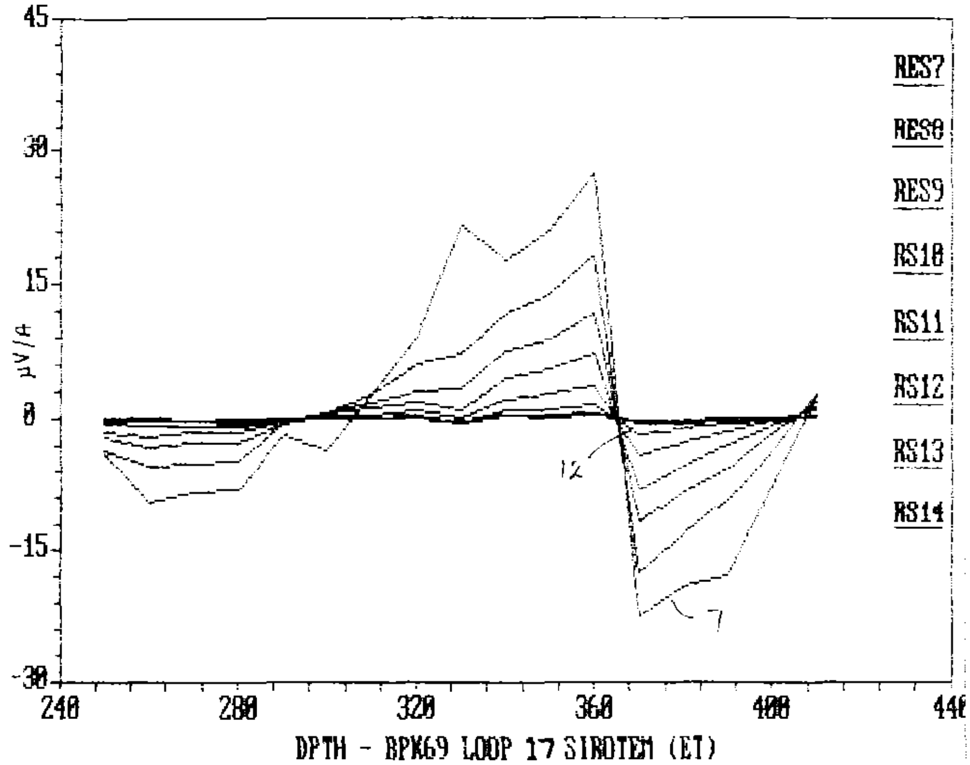
ref: PET/H691/03

Projected Section from (5775.0N, 4650.0E) on Bearing 90.0 Length 720.0





Burns Peak, E.L. 44/88
DHEM SURVEYS
EM FIELD PATTERNS
#19 & #20
Fig. 10



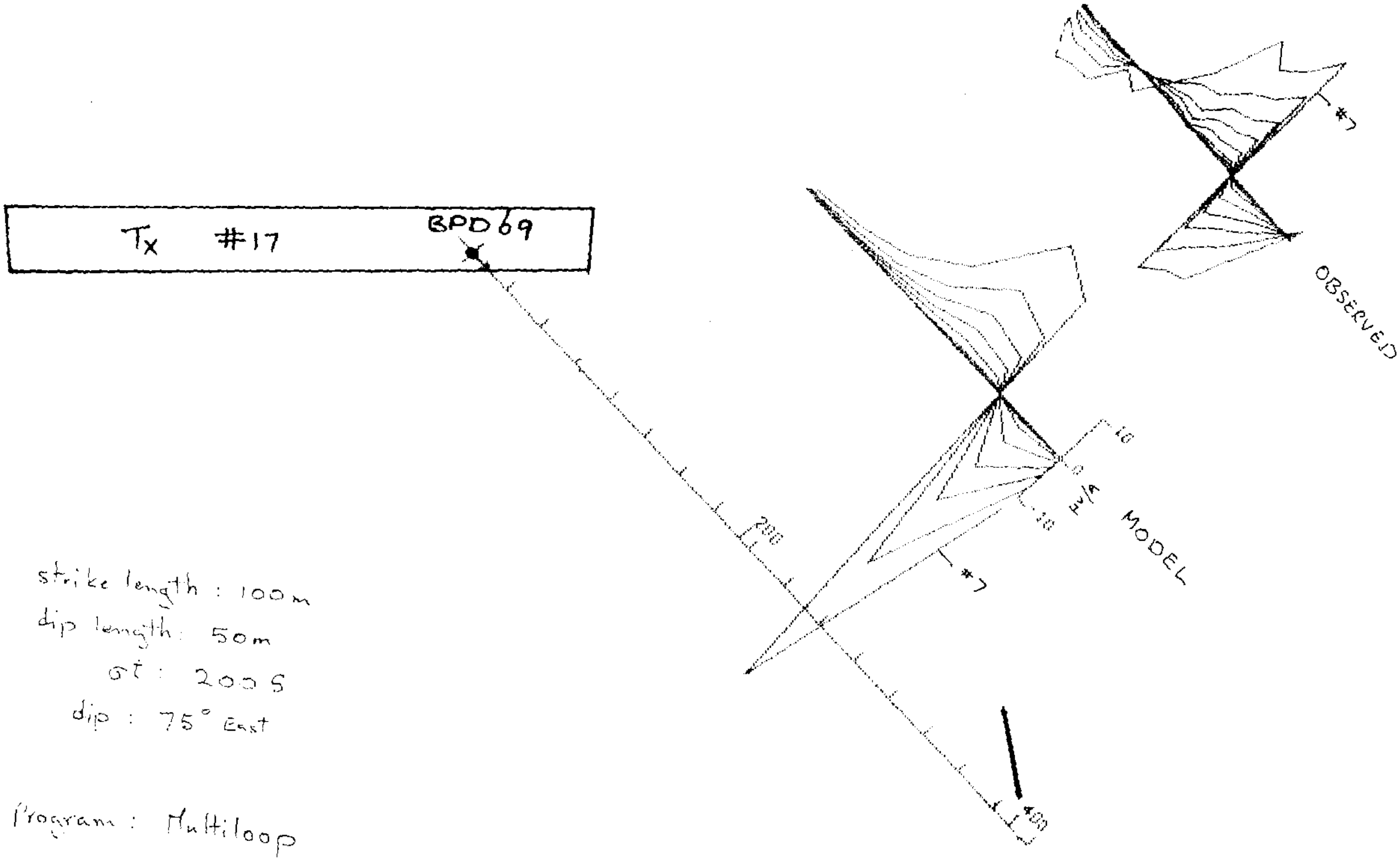
129250

Burns Peak, E.L. 44/88
DHEM SURVEY

BPD69/17 Residual Response

Fig. 11.

ref: PET/MG91/03



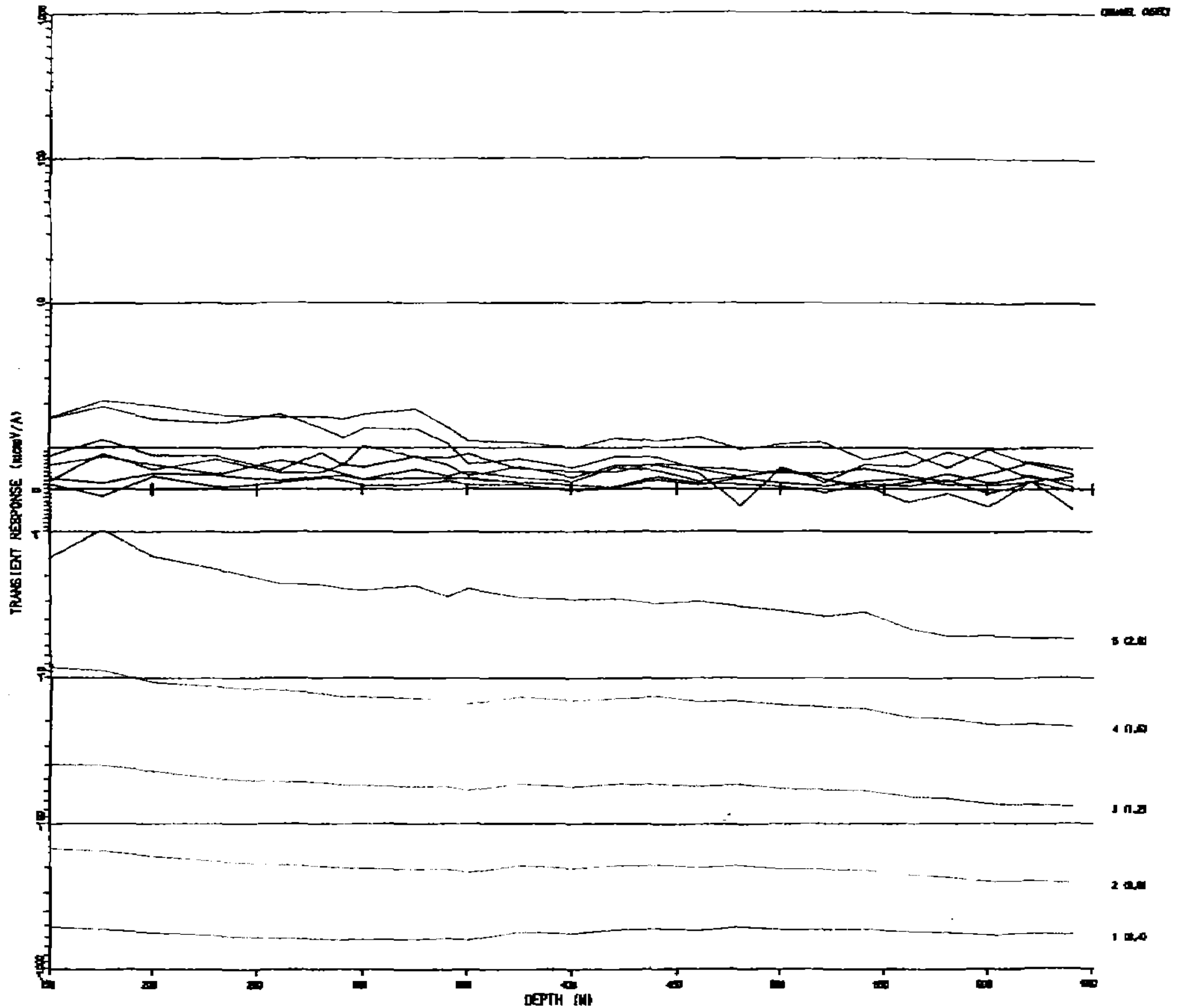
strike length : 100m
dip length : 50m
σt : 200 S
dip : 75° East

Model Program : Multiloop

ref: PET/MG91/03

Burns Peak, E.L. 44/88
DHEM SURVEY
Model Response : BPD69

Fig. 12



200 250 300 350 400 450 500 550 600 650

SURVEY SPECIFICATIONS

PLOT SPECIFICATIONS

5 cm

QUE RIVER MINES

TASMANIA
QUE RIVER
SIROTEM PROFILE
LINE QR 1060A LOOP 7

DS 3A

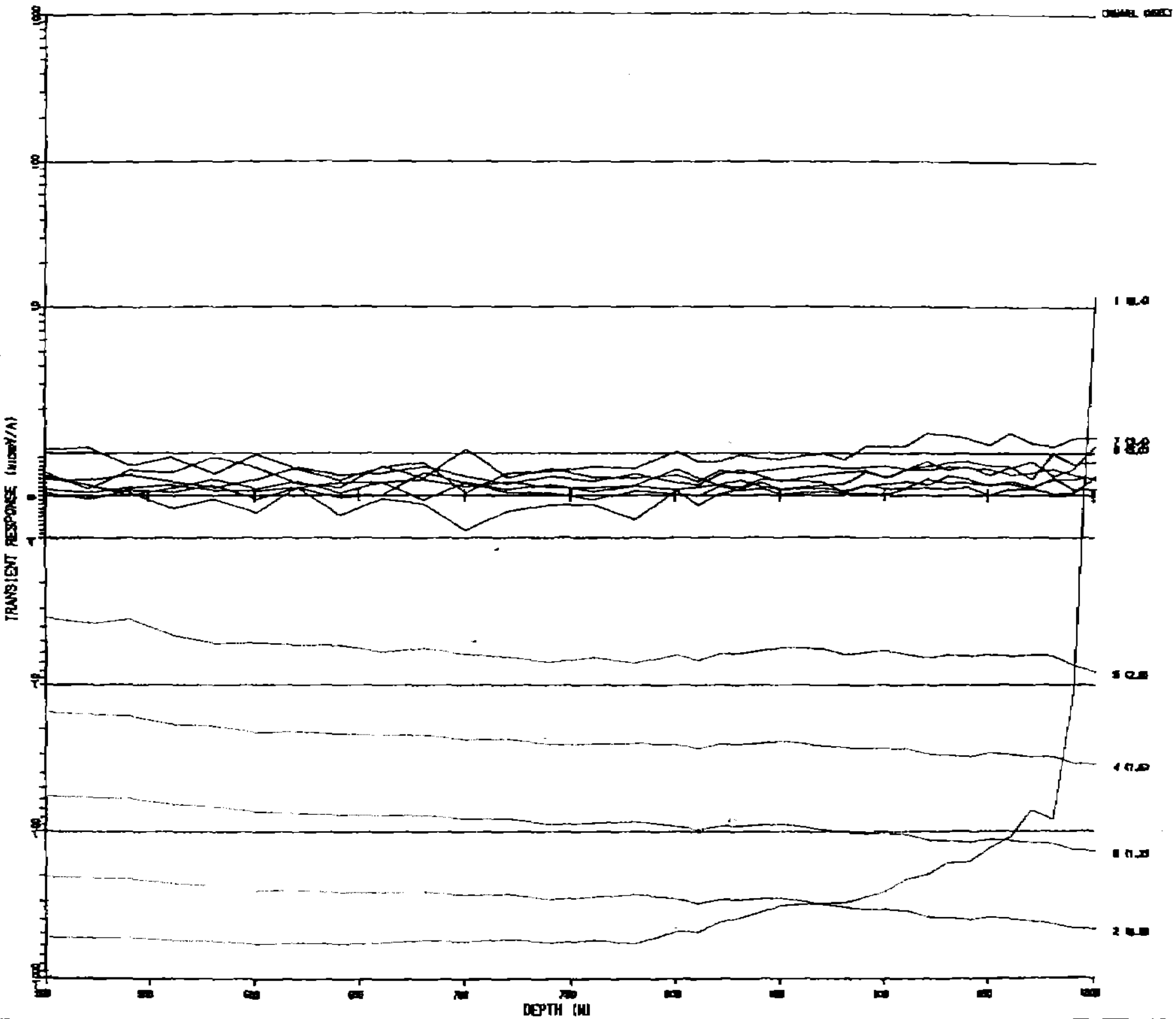
ref: PET/MG91/03

FIG. 13a.

TC20

12952

7020



SURVEY SPECIFICATIONS

PLOT SPECIFICATIONS

129253

5 cm

QUE RIVER MINES

TASMANIA

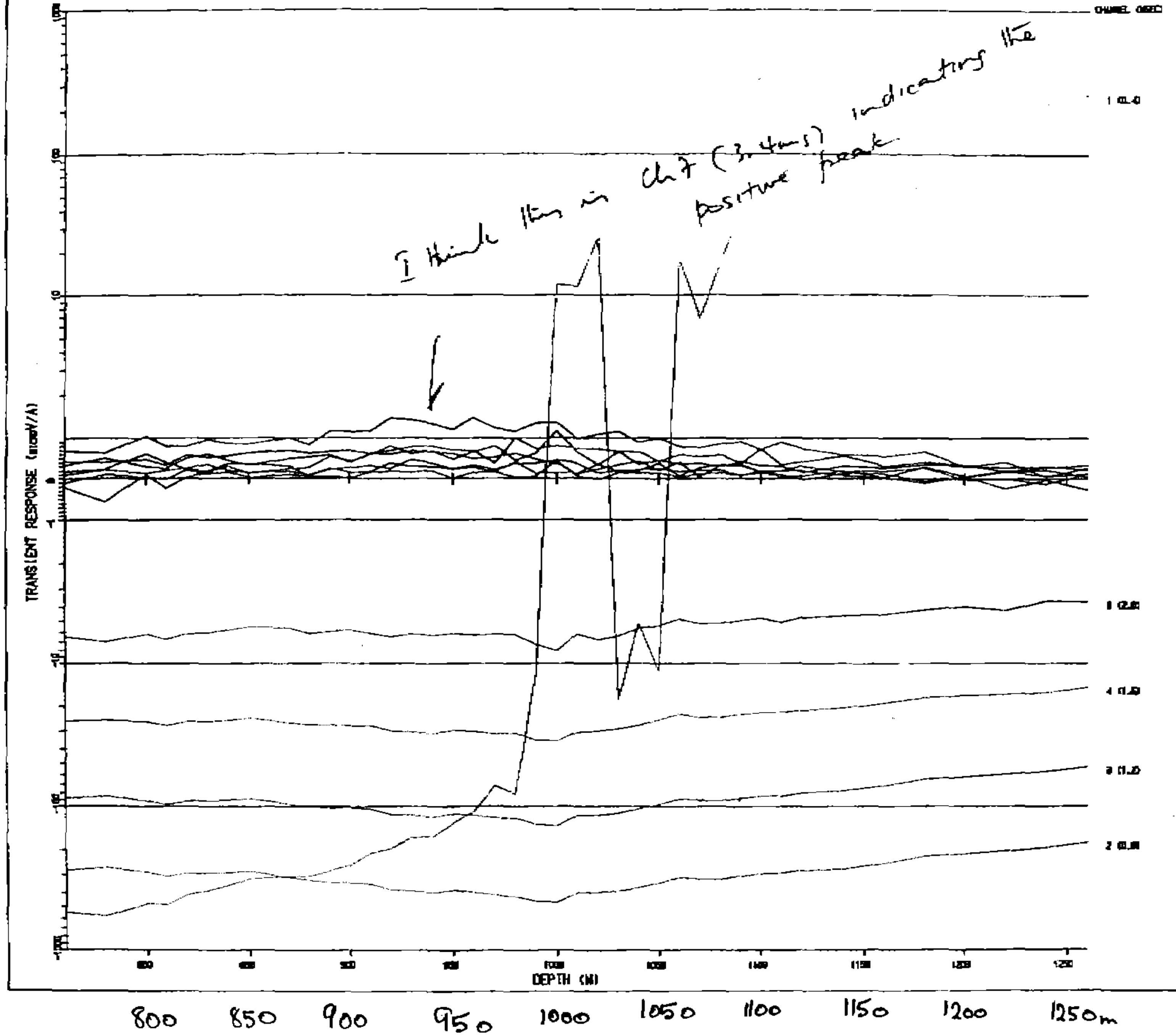
QUE RIVER

SIROTEM PROFILE

LINE QR 1060A LOOP 7

DS 3B

ref: PET/MG91/03 Fig. 13b.



0255

SURVEY SPECIFICATIONS

DATA ACQUIS'N : [illegible] GEOPHYSICS P/L

SURVEY DATE : AUGUST [illegible]
CONFIGURATION : [illegible] SQUARE TRANSMITTER LOOP, [illegible] HOLE SURVEY
[illegible] INT. : [illegible] METRES
NO. OF STACKS : [illegible]
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM [illegible]
CURRENT : [illegible] AMPS
OPERATOR : P [illegible]

129254

PLOT SPECIFICATIONS

HORIZONTAL SCALE - [illegible]
VERTICAL SCALE - LOGARITHMIC
4CM. PER DECADE
[illegible]

5 cm

QUE RIVER MINES

TASMANIA
QUE RIVER
SIROTEM PROFILE
LINE QR 1060A LOOP 7

SCALE - [illegible] | DS 3C

ref: PET/MG91/03

FIG. 13c

0254 129255

MITRE GEOPHYSICS PTY LTD
MINERAL EXPLORATION AND ENGINEERING CONSULTANTS
BUGGS LANE ELLIOTT TASMANIA 7325 PHONE 004-363143

ADDENDUM TO

REPORT ON DHEM SURVEYS, BURNS PEAK (E.L. 44/88),

DDH'S BPD67-70

for

Pasminco Exploration

by

Dr J.R. Bishop

PET/MG91/03(add)
July, 1991.

INTRODUCTION

Suspect results were recorded during the DHEM survey of BPD67 in November, 1990 and resurveying was recommended. The results of the repeat work are given here as an addendum to the original report.

SURVEY DETAILS

The work was carried out in March 1991, again by McSkimming Geophysics using a Mk 2 Sirotem. Similar specifications to the original work were applied, except that only standard times were recorded. The results for loops 67/1 and 67/2 are given in Figures 1 and 2 respectively.

INTERPRETATION

There is no indication in the loop 67/1 repeat data of the persistent response recorded at 60m in the original survey, which was the prime reason for the repeat work. The loop 67/2 repeat data is similar to the original, but does not show the (unexpected) increase in amplitude with depth which can be seen in the earlier work. One can speculate that the results of the earlier survey of BPD67 were caused by equipment malfunction, although this section was apparently repeated at the time by McSkimming.

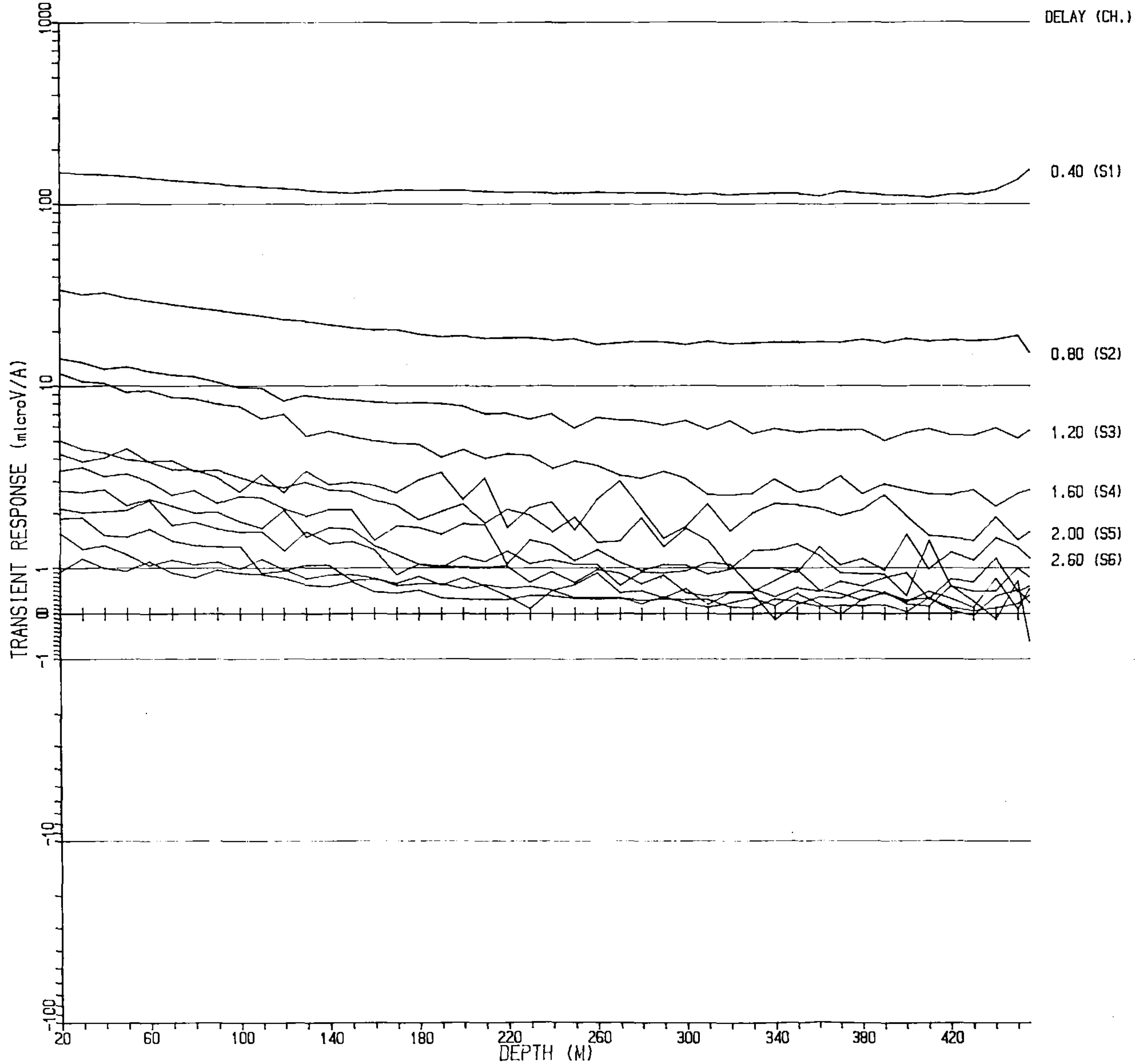
BPD67 was sited to search for massive sulphides beneath the Chester pyrite deposit and it was expected that such a significant amount of sulphide would give a DHEM response. Given the apparent lack of a response, it was decided to carry out some modelling to determine what sort of anomaly might be expected. The modelling has simulated EM37 data operating at 25Hz and channels 6 to 20 of the EM37 cover approximately the same time span as channels 1 to 11 of Sirotem. The EM37 unit of $1nv/a\text{-}m^2$ is equivalent to $10\mu v/a$ in the Sirotem data.

The modelling assumed a 150m x 150m plate dipping shallowly to the west with the relatively low conductance of 10 S. Figure 3 shows a plan view of the model conductor with respect to the drill hole and transmitter loops. Strong responses were obtained from both loops (Figures 4 and 5). Although these decay quite rapidly, they are still recognisable in the later time data (channel 6 has been emphasised in the Figures).

Thus the modelling has shown that if Chester were conductive, a recognisable response would have been obtained from BPD67. These results reinforce those from an earlier UTEM survey, which also failed to record any responses.

J.R. Bishop

LIST OF FIGURES



5 cm

SURVEY SPECIFICATIONS

DATA ACQUIS'N	:	McSKIMMING GEOPHYSICS
SURVEY DATE	:	MARCH 1991
CONFIGURATION	:	500M SQUARE TX. LOOP, DRILL HOLE SURVEY
READING INT.	:	10 METRES
NO. OF STACKS	:	1024
TRANSMITTER	:	MEDIUM POWER
RECEIVER	:	SIROTEM II S/N 1224
CURRENT	:	5.9 AMPS
OPERATOR	:	P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE	-	1:2000
VERTICAL SCALE	-	LOGARITHMIC 4CM. PER DECADE LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

PASMINCO

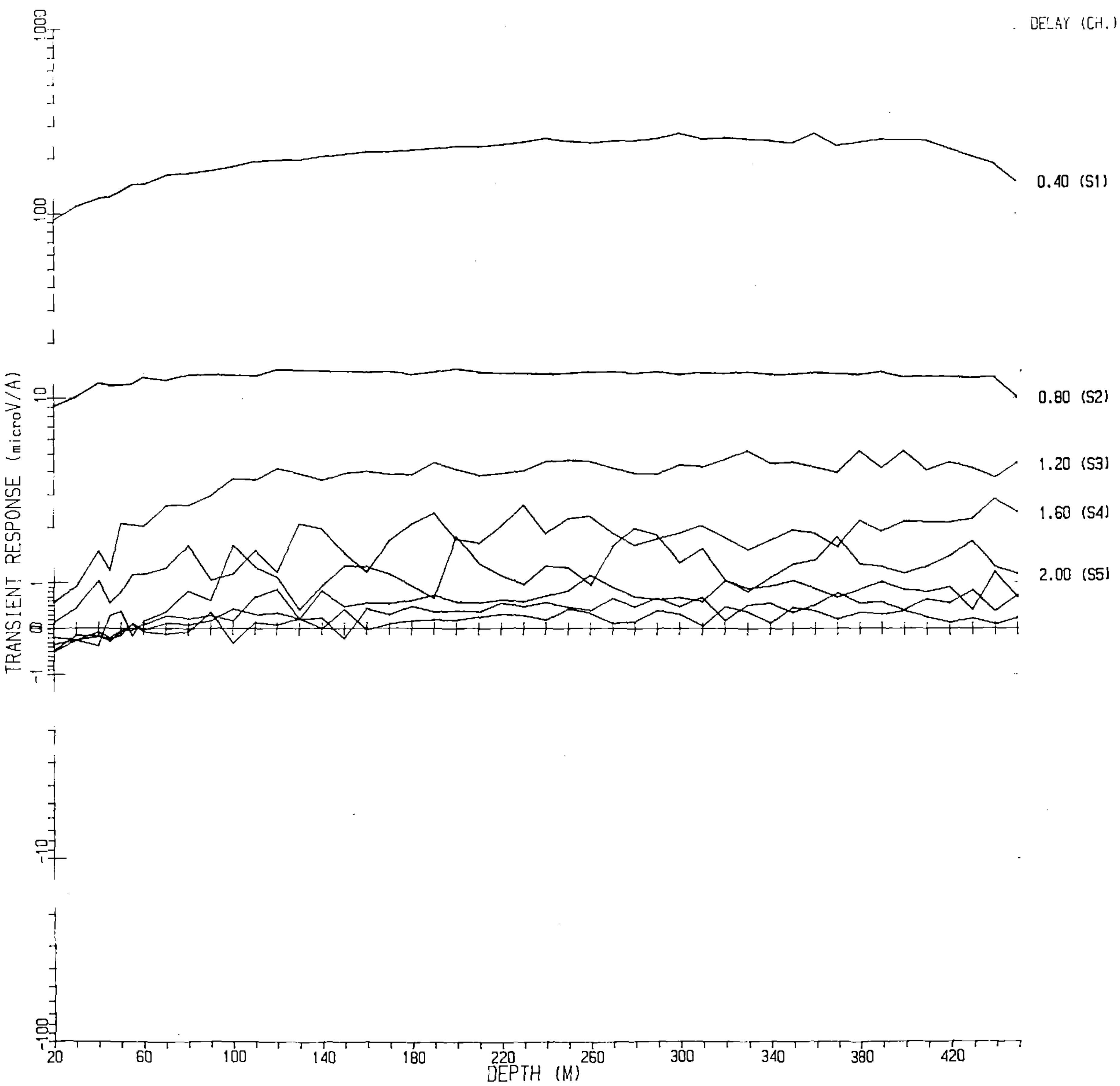
ROSEBERY
BURNS PEAK

SIROTEM PROFILE
LINE BPD 67 LP1

SCALE - 1:2000 | PET/MG91/03

BPD 67
Loop 67/1
Fig 1.

129259



5 cm

SURVEY SPECIFICATIONS

DATA ACQUIS'N : McSKIMMING GEOPHYSICS

SURVEY DATE : MARCH 1991
CONFIGURATION : 500M SQUARE TX. LOOP, DRILL HOLE SURVEY
READING INT. : 10 METRES
NO. OF STACKS : 1024
TRANSMITTER : MEDIUM POWER
RECEIVER : SIROTEM II S/N 1224
CURRENT : 6.0 AMPS
OPERATOR : P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE - 1:2000
VERTICAL SCALE - LOGARITHMIC 4CM. PER DECADE LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

PASMINCO

ROSEBERY
BURNS PEAK

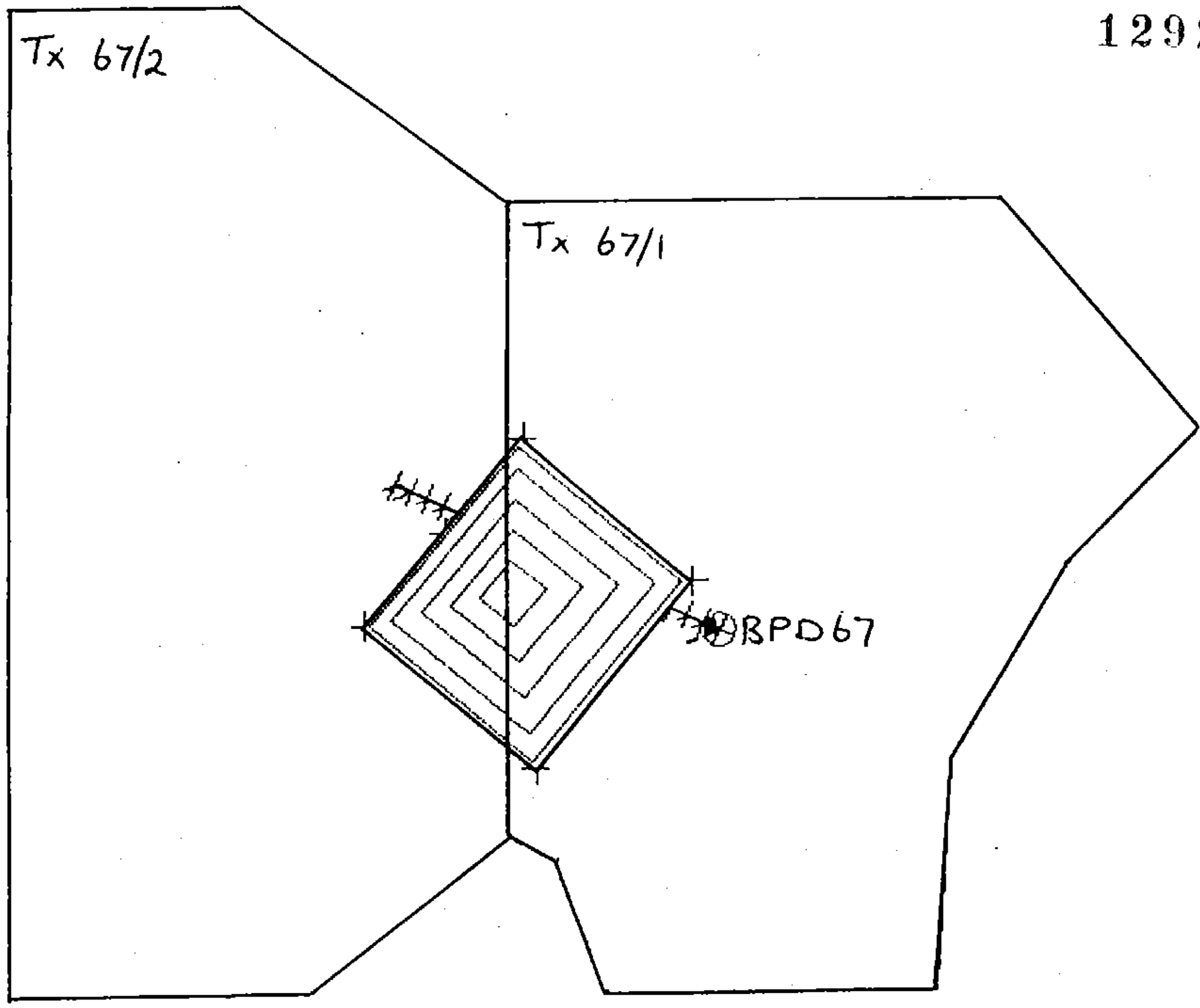
SIROTEM PROFILE
LINE BPD 67 LP2

SCALE - 1:2000 | RET/MG91/03

BPD67
Loop 67/2
Fig 2.

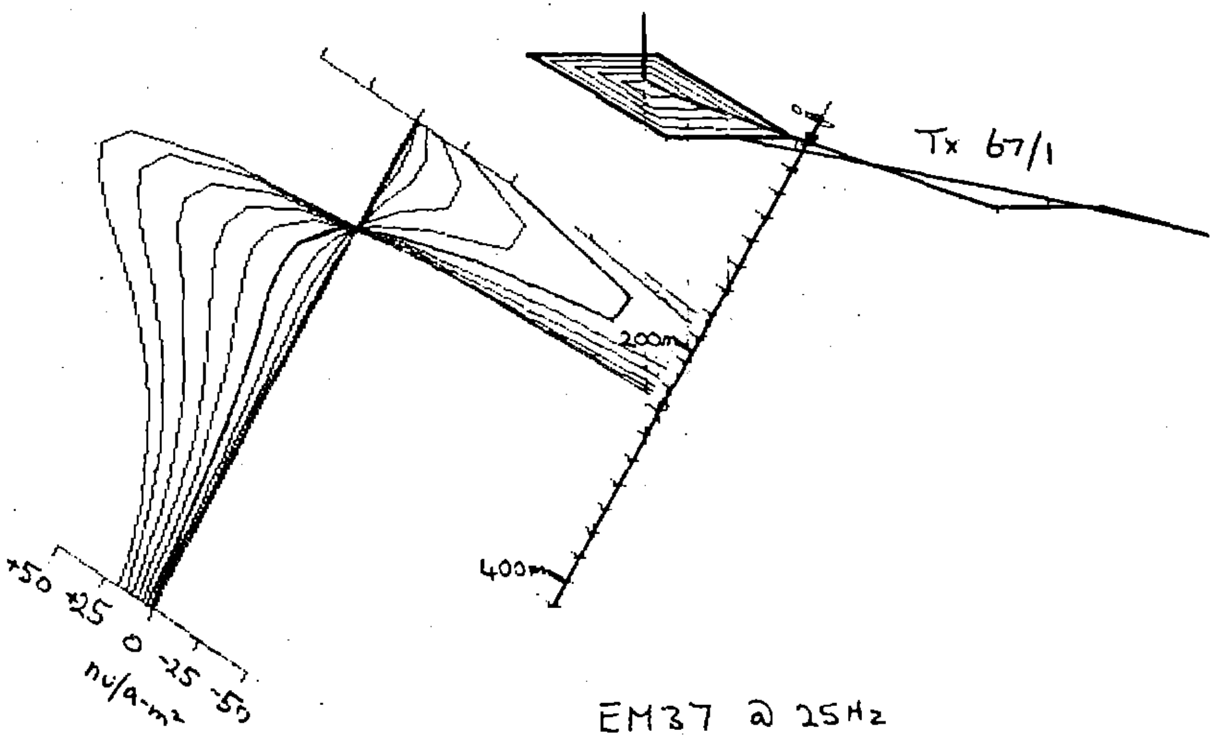
0259

129260



Burns Peak (E.L. 44/88)
DHEM
BPD 67
CHESTER MODELLING
Plan View Fig.3.

ref: PET/MG91/03(add)



EM37 @ 25Hz
#1 – #20

PET/MG91/03 (add)

BURNS PERK DHEM

BPK 67

DIP 25.00

STRIKE -40.00

LENGTH 160.00

DIP LENGTH 120.00

CONDUCTANCE 10.00

POSITION [illegible] [illegible] [illegible]
(CENTRE OF TOP EDGE)

BPD67 DHEM
CHESTER MODELLING

REGISTERED USER
MITRE GEOPHYSICS

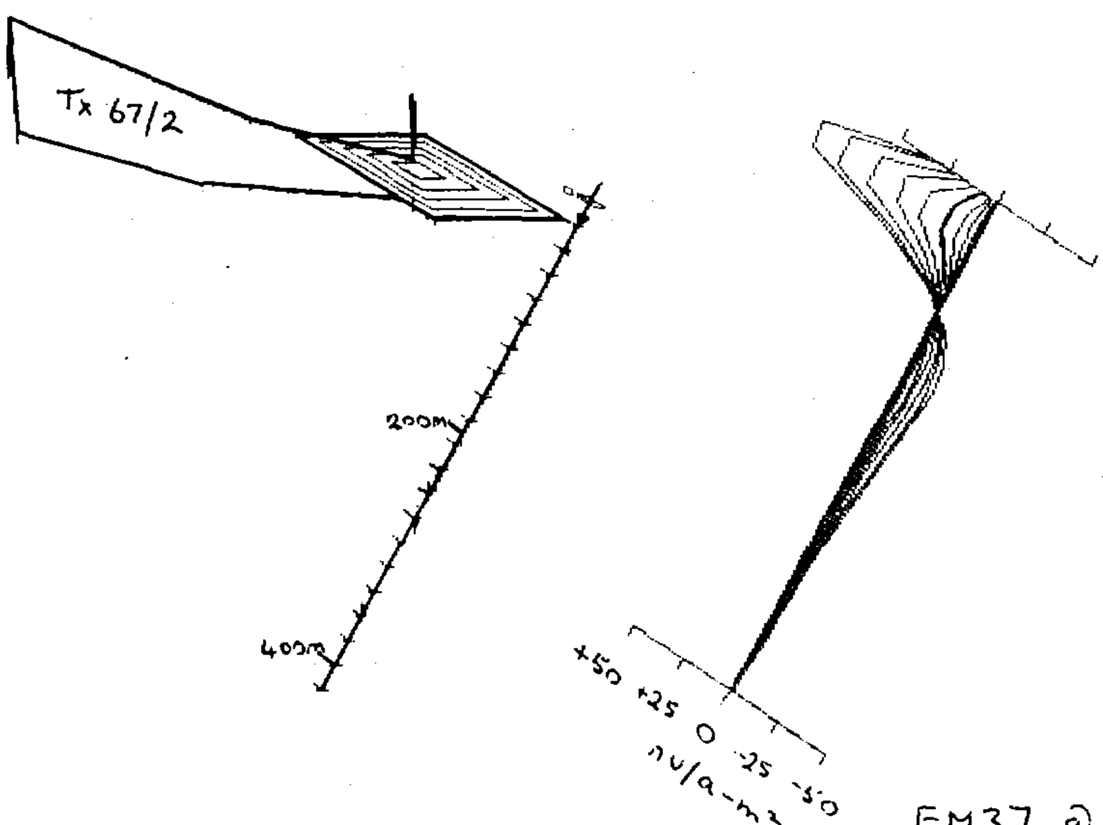
MultiLoop
© LAMONTAGNE GEOPHYSICS LTD

Fig 4

1292261

0200

0262



EM37 @ 25Hz
#1 - #20

BURNS PEAK DHEM
BPK 67

DIP	55.00
STRIKE	-40.00
LENGTH	160.00
DIP LENGTH	150.00
CONDUCTANCE	10.00
POSITION (CENTRE OF TOP EDGE)	8850. 980. 880.

BPO67 DHEM
CHESTER MODELLING

REGISTERED USER
MITRE GEOPHYSICS

MultiLoop
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Fig. 5

129262

APPENDIX 7

Alteration Studies Update

(Memo from Dr G Green)

0255

129264

M

Department of Resources & Energy

DIVISION OF MINES AND MINERAL RESOURCES

TASMANIA

PO Box 56
ROSNY PARK
TASMANIA 7018
Gordons Hill Road
ROSNY PARK
☎ (002) 30 8333

FACSIMILE TRANSMISSION

DATE: 7/1/91

SUBJECT: Pinnacles oxygen isotopes

TO: Pasminco Exploration

ATTENTION: Angela Lorrigan

SENDER: Geoff Green

☎ 002 308335

NUMBER OF PAGES (Including this page): 4 : oxygen isotope data & preliminary thoughts

MESSAGE: Oxygen isotope data.

Sample	DDH, m	Rock type	$\delta^{18}O$ (‰)
30201	BPD 69, 253	rhyolite	10.59
30206	BPD 69, 325.2	pumiceous epiclastic	11.04
30207	BPD 69, 361.6	pumiceous epiclastic	10.57
30209	BPD 69, 393.3	pumiceous epiclastic	10.48
30212	BPD 66, 101.8	rhyolite lava	10.98
30214	BPD 66, 146.9	~~chloritised~~ rhyolite	10.64
30218	BPD 66, 191.5	pumiceous epiclastic	10.97
30223	EAB 4, 136.0	andesite	10.00
30224	EAB 4, 166.8	felsic lava	12.46
30226	BPD 70, 299.25	altered HW rhyolite	11.45
30228	BPD 70, 303.7	pumiceous epiclastic	11.05
30230	BPD 70, 346.2	pumiceous epiclastic	10.75

PLEASE NOTIFY SENDER IF ALL PAGES ARE NOT RECEIVED

FAX No: Within Australia: 002 442117
International: 61 02 442117

TEL No. 002 442117 07,01,91 13:06 P.01

OXYGEN ISOTOPE ANALYSES · PINNACLES AREA
(Previously submitted)

Sample No.	DDH	metres	$\delta^{18}O_{SMOW}$ (‰)
82005	BPD 62	107.45	8.42
82007	BPD 62	162.28	9.69
82014	BPD 62	254.4	10.07
82024	BPD 62	629.4	11.65
82028	EAF 9	160.9	9.65
82028A	EAF 9	179.4	7.84 8.05 repeats av. 7.94
82031	EAF 9	213.1	12.99
82032	EAF 9	218.2	11.21
82050	EAF 18	36.35	13.10
82076	BPD 65	198.5	10.08
82079	BPD 65	270.3	10.48
82086	BPD 65	371.3	10.28
82091	BPD 65	410.2	9.46
82094	BPD 65	490.5	9.78
82097	BPD 65	591.3	10.25

Interpretation of these data will be included in a report to be forwarded towards the end of January. Most have just come off the mass spectrometer this afternoon. The low numbers in the top of 62 & in 65 look interesting.

Geoff.

129266

0260

Data from international quartz standard NBS 28 give mean of 9.595 ‰ (4 samples) cf accepted value of 9.6 ‰. Standard deviation 0.17 ‰. Implies $\delta^{18}O$ differences of 0.3 - 0.4 ‰ can be confidently interpreted.

A number of points are significant.

1. With the exception of EAB 4, no sharp $\delta^{18}O$ changes in any of the holes. Although there is clear evidence of faulting in a number of holes (e.g. at about 166.5 m in BPD 66) there is no suggestion from the isotope data that these are particularly large scale structures (cf. David Leaman's interpretation).

2. The sharp $\delta^{18}O$ change in EAB 4 might be in part a function of rock mineralogy: chlorite concentrates the light ^{16}O isotope compared with quartz, muscovite, carbonate, feldspar. Therefore other factors being equal (water : rock ratio, temperature) an altered andesite will have a lower $\delta^{18}O$ value than a rhyolite. Consistent with the field observations, there is no isotopic evidence for an increase in alteration downhole.

3. Data suggest lower temperature of alteration of rocks in BPD 70 cf BPD 69 & BPD 66 (consistent with field observation), but no significant difference between the latter two holes. In the field I had the impression that alteration was stronger in hole 66 (particularly in the hangingwall rhyolite and host rock). Petrography when done in detail, and

4. Data from BPD 65 and the upper part of BPD 62 indicate significant alteration in these holes (cf BPD 66, 69, 70) and this suggests further potential on the eastern limb of the anticline.

I am getting into the petrography will need 3 or 4 days to complete it.

I can come up next week to look at Steve Boda's work

Please let me know if this is convenient.

Happy New Year

Geoff Green.

PASMINCO EXPLORATION

BURNS PEAK EL 44/88

ANNUAL REPORT

NOVEMBER 1990 – OCTOBER 1991

volume 2 of 2

AUTHORS: LW Kirsner, A N Lorrigan & H C Rae

DATE: November 1991

REPORT No: T91–13

SUBMITTED TO: Regional Exploration Manager – Tasmania

DISTRIBUTION: Department of Resources & Energy – Division of Mines & Mineral Resources – Hobart

Pasminco Exploration – Burnie
– Melbourne

Noranda Pty Limited

Plutonic Operations Limited

Phil Jones & Associates

SUBMITTED BY: Lindsay Kirsner

ACCEPTED BY:

Burnie
November 1991

10207

91-3310.

129269

PASMINCO EXPLORATION
WEST TAS TENEMENTS

RESIDUAL MAGNETICS

Contour Interval 2 nT

Terrain Clearance – 120m

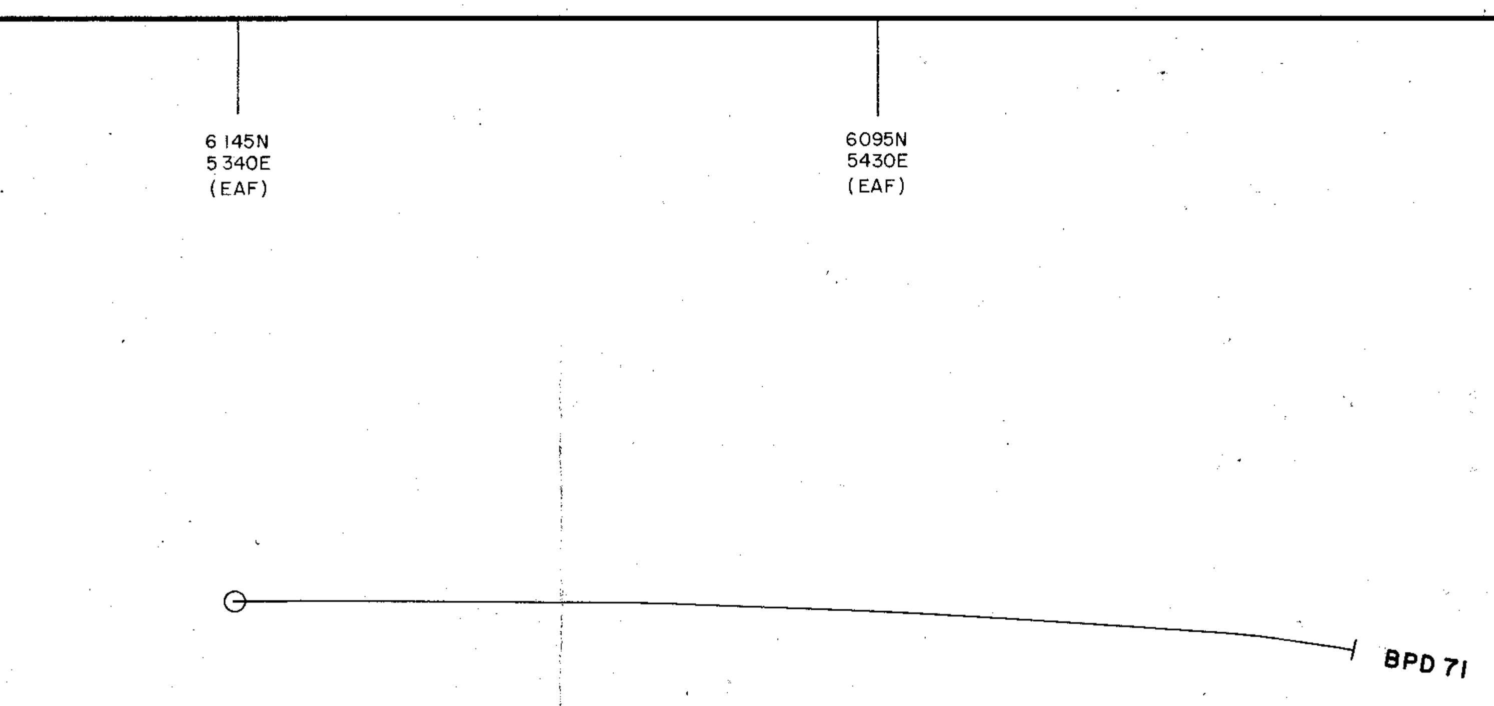
SHEET 5

Processed Tas Division of Mines & Mineral Resources
August 1991

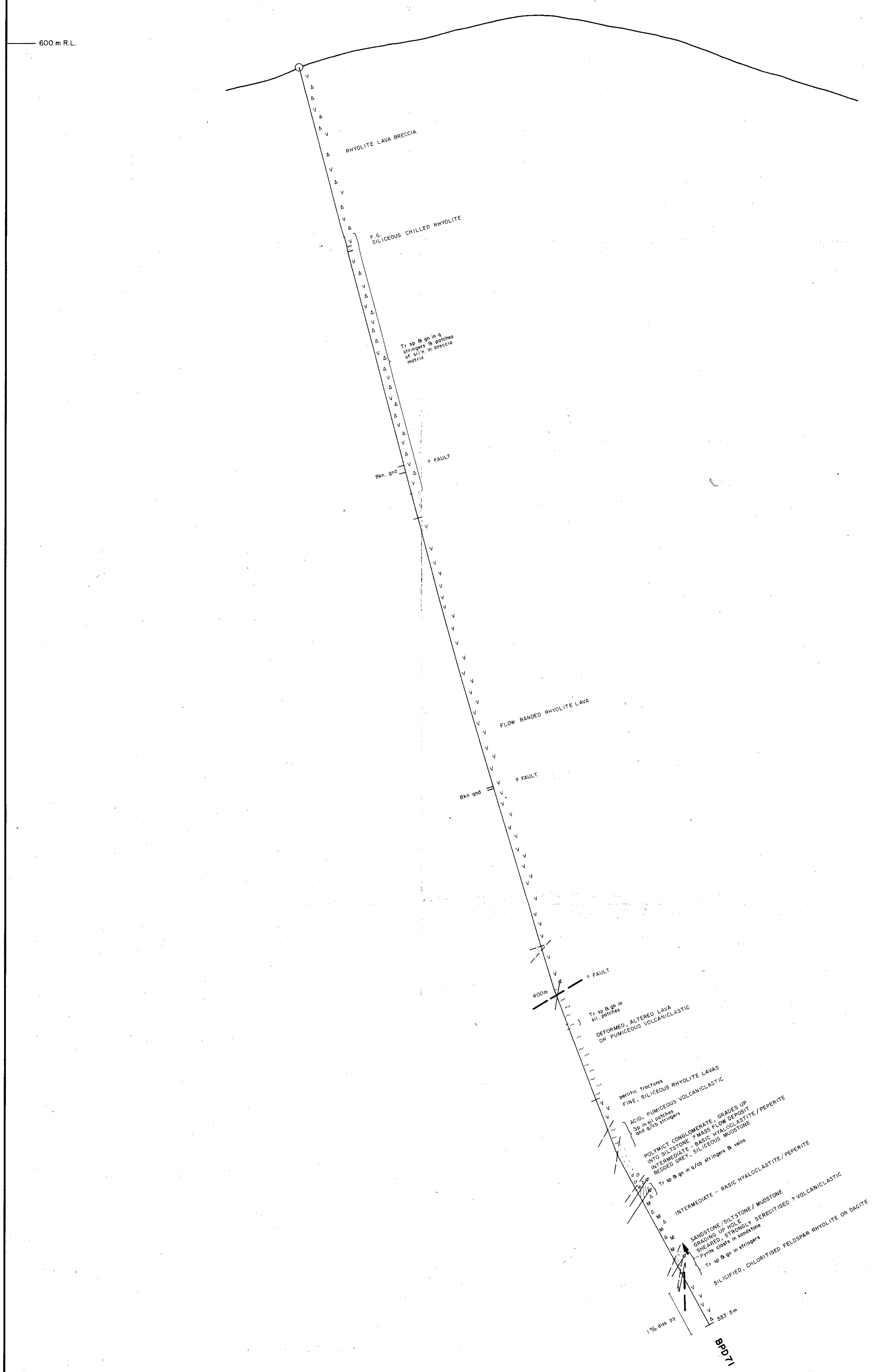
Figure 7

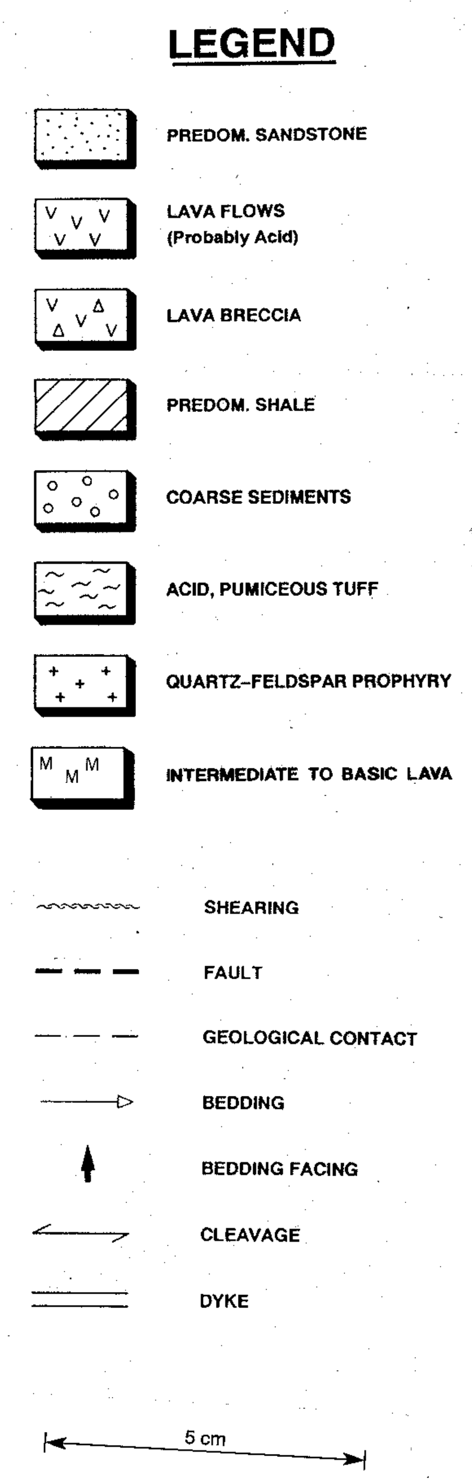
10208

PLAN



SECTION





91-3310.

129270

PASMINCO EXPLORATION
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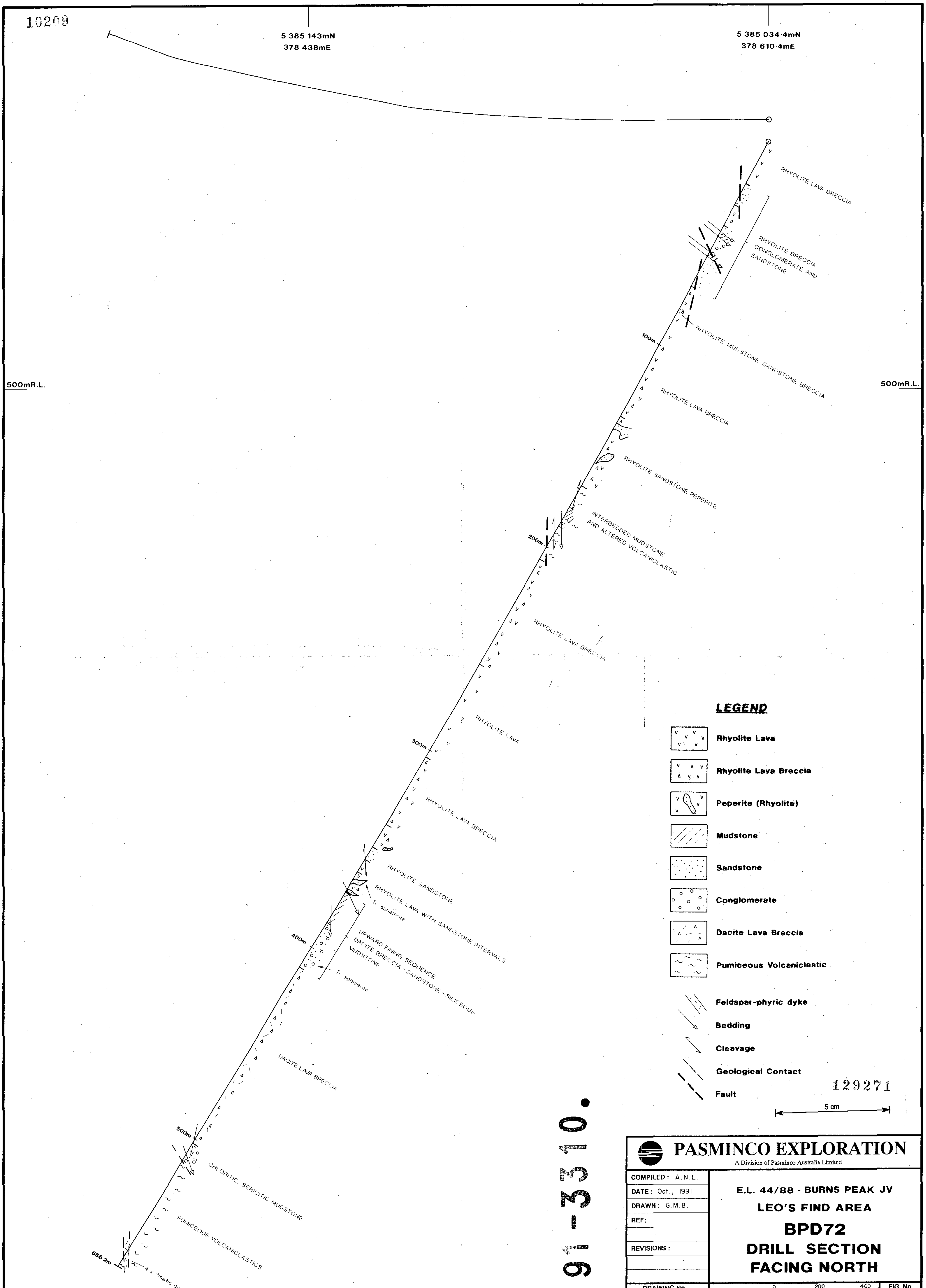
COMPILED : A.N.L.	E.L. 44/88 - BURNS PEAK J.V.
DATE : April, 1991	LEO'S FIND AREA
DRAWN : G.M.B.	BPD71
REF:	DRILL SECTION
REVISIONS :	FACING NORTH
DRAWING No.	SCALE 1:1000 (20 0 20 METRES) — FIG. No. 18

10209



LEGEND

- Rhyolite Lava
- Rhyolite Lava Breccia
- Peperite (Rhyolite)
- Mudstone
- Sandstone
- Conglomerate
- Dacite Lava Breccia
- Pumiceous Volcaniclastic
- Feldspar-phyric dyke
- Bedding
- Cleavage
- Geological Contact
- Fault

129271

5 cm

91-3310.

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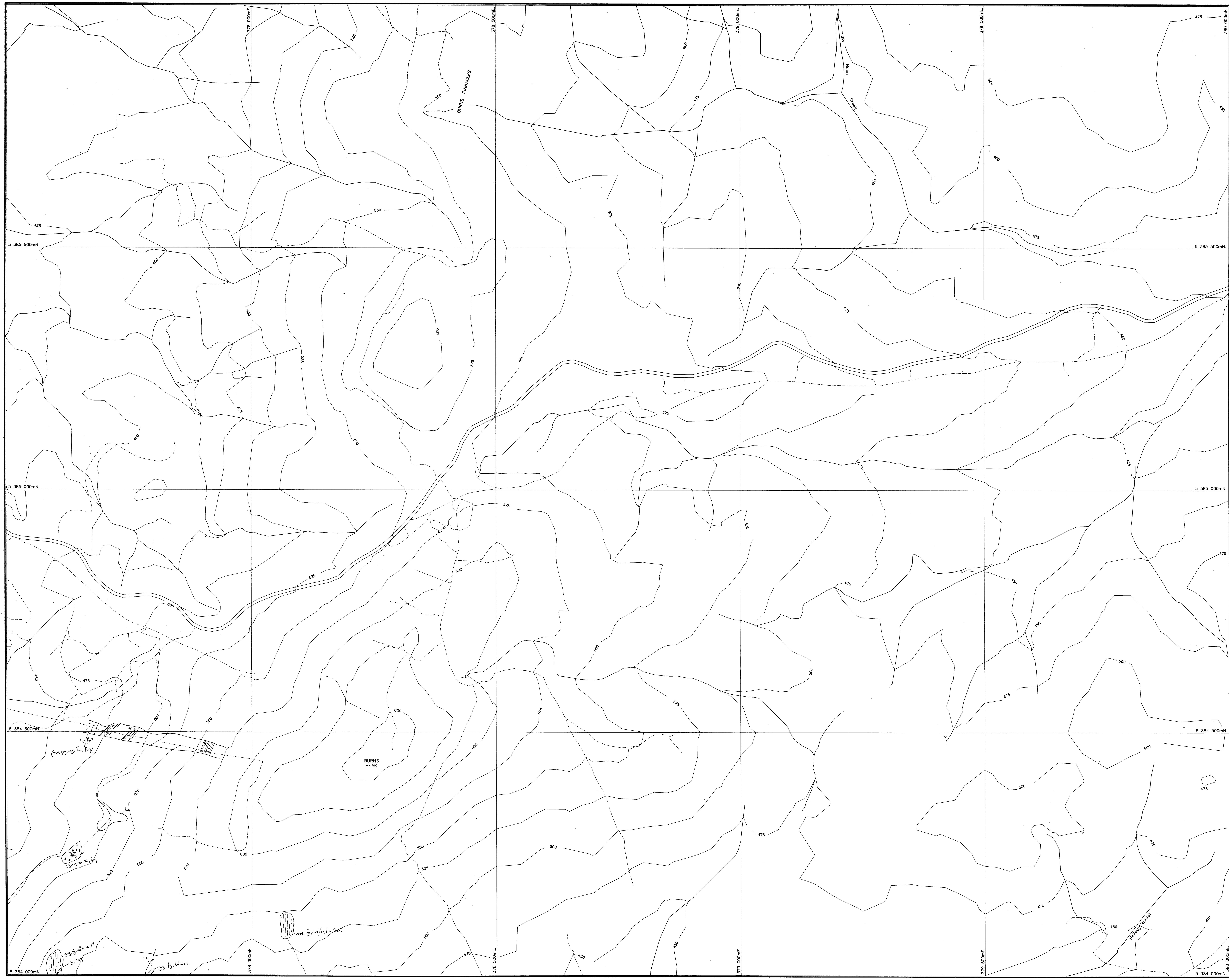
DRAWN: G.M.B.	**BPD72**
REF:	**DRILL SECTION**
REVISIONS:	**FACING NORTH**
DRAWING No.	SCALE 1:1000 (0 200 400 METRES) — FIG. No. 19

10210



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	(49)	basaltic
r	(9)	rhyolitic
d	(11)	dacitic
n	(46)	andesitic

Intrusives I

a	(12)	acid
i	(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

Sediments S

sh	(35)	shale
t	(36)	slate incl. black slate
slt	(35)	siltstone
sst	(39)	sandstone
tb		turbidite
w	(39)	wacke
cong	(39)	conglomerate
Δ		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	(35)	mudstone

Metamorphic Rocks M
Colours should be hatched

sht	(38)	schist
sp	(35)	semi-pelite
ps	(39)	psammite
amph	(49)	amphibolite
gran		granulite
sk		skarn
mb	(65)	marble
m		mylonite

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

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
fΔ flow brecciated

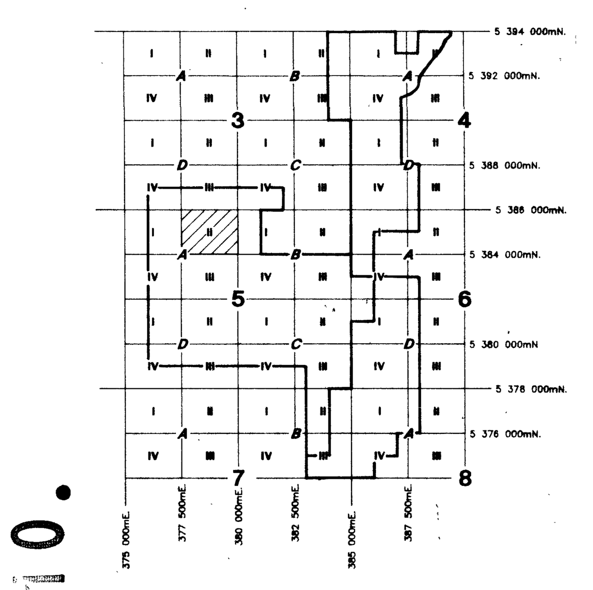
Constituents & Internal Textures:
f feldspar
q quartz
l lithic
pm pumice
styl stylolites
wsp wisps
ves vesicles
sph spherulites
lph lithophysae

Alteration:
alb albitised
co carbonate alteration
chl chloritised
ser sericited
kao kaolinised
ep epidotised
sil silicified

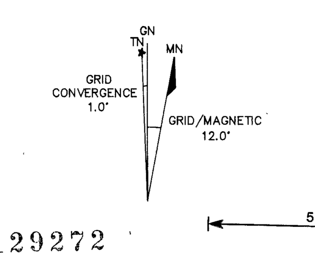
Mineralisation:
diss disseminated
str stringer
msv massive
gos gossan
bx boxwork
py pyrite
po pyrrhotite
asp arsenopyrite
gn galena
sp sphalerite
mag magnetite
hm haematite

4. Mapping Symbols

25° Strike and Dip of Strata
Strike and dip of inverted strata
60° Strike and dip of cleavage or foliation
50° Plunge of lineation
Geological boundary position accurate
Geological boundary position approximate
Mine
Abandoned prospect or mine
Costean or trench
Diamond drill hole, including projection
Unconformity
Fault
Thrust Fault
Plunging antiform
Plunging synform
Shear/mylonite
Intense regional cleavage
Disseminated pyrite
Tectonic breccia
Manganese oxide coating on outcrop
Mineralisation : massive, disseminated



91-33 O.



5 cm

129272

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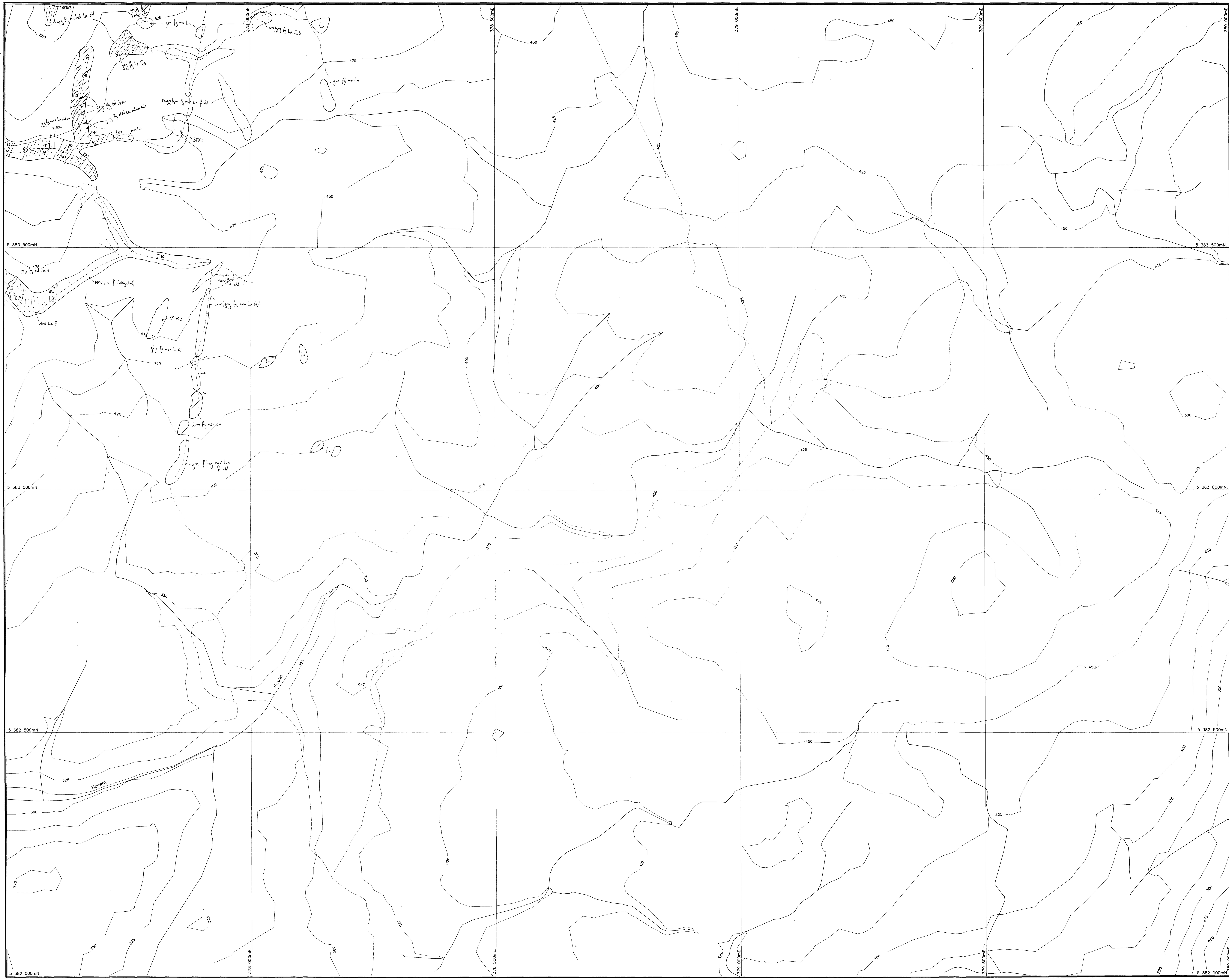
REFERENCE :	GEOLOGY
REVISIONS :	
DRAWING No. SHEET 5A-2	SCALE 1:2500 (0 50 100 METRES) — FIG. No. 20

10211



L E G E N D

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 (49) basaltic
- r (9) rhyolitic
- d (11) dacitic
- n (46) andesitic

Intrusives I
- a (12) acid
- i (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

Sediments S
- sh (35) shale
- t (36) slate incl. black slate
- slt (35) siltstone
- sst (39) sandstone
- tb turbidite
- w (39) wacke
- cong (39) conglomerate
- Δ 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 (35) mudstone

Metamorphic Rocks M
Colours should be hatched
- sht (38) schist
- sp (35) semi-pelite
- ps (39) psammite
- amph (49) amphibolite
- gran granulite
- sk skarn
- mb (65) marble
- m mylonite

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

3. Descriptors

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

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, fΔ flow brecciated

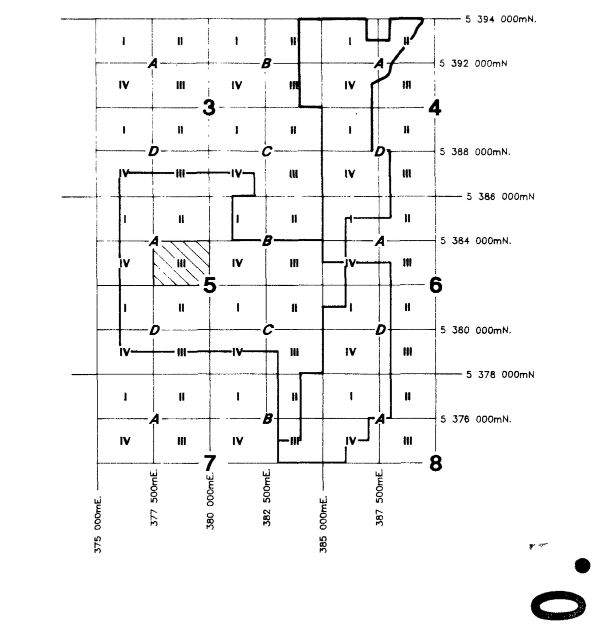
Constituents & Internal Textures:
f feldspar, q quartz, l lithic, pm pumice, styl stylolites, wsp wisps, ves vesicles, sph spherulites, lph lithophysae

Alteration:
alb albitised, co carbonate alteration, chl chloritised, ser sericited, kao kaolinised, ep epidotised, sil silicified

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

4. Mapping Symbols

- 25° Strike and Dip of Strata
- Strike and dip of inverted strata
- 60° Strike and dip of cleavage or foliation
- 50° Plunge of lineation
- Geological boundary position accurate
- Geological boundary position approximate
- Mine
- Abandoned prospect or mine
- Costean or trench
- Diamond drill hole, including projection
- Unconformity
- Fault
- Thrust Fault
- Plunging antiform
- Plunging synform
- Shear/mylonite
- Intense regional cleavage
- Disseminated pyrite
- Tectonic breccia
- Manganese oxide coating on outcrop
- Mineralisation massive, disseminated



GRID CONVERGENCE 1.0°
GRID/MAGNETIC 12.0°
5 cm

91-3310.

129273

PASMINCO EXPLORATION
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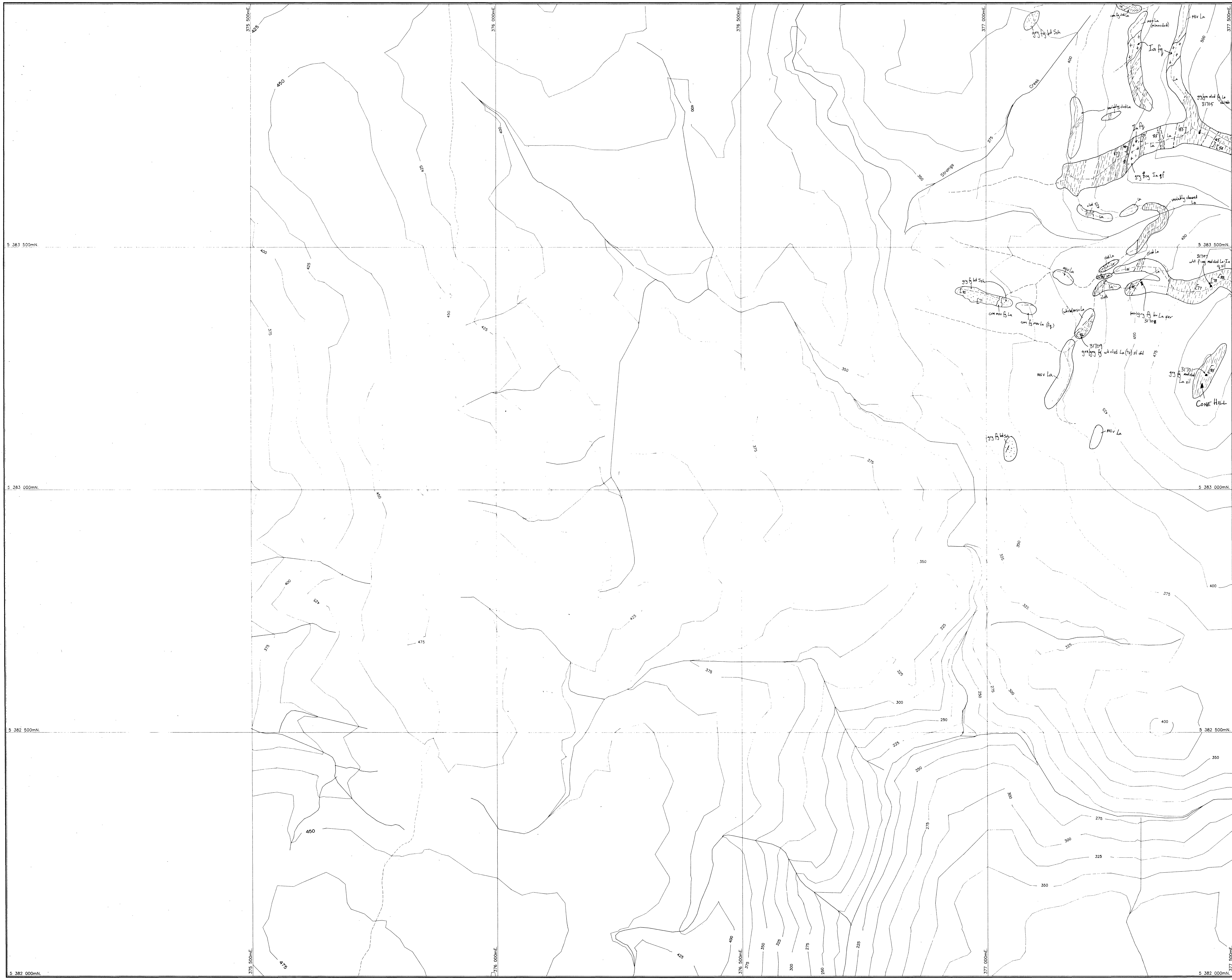
REFERENCE :	OUTCROP
REVISIONS :	GEOLOGY

DRAWING No.	SCALE 1:2500 (0 50 100 METRES)	FIG. No.
SHEET 5A-3		21

10212



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cg coarse grained
vcg very coarse grained

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fol foliated
clvd cleaved
msv massive
blk blocky
bd bedded
lam laminated
xbd cross bedded
xlam cross laminated
br brecciated
fb flow banded
fΔ flow brecciated

Constituents & Internal Textures:
f. feldspar
q quartz
l lithic
pm pumice
styl stylolites
wsp wisps
ves vesicles
sph spherulites
lph lithophysae

Alteration:
alb albitised
co carbonate alteration
chl chloritised
ser sericited
kao kaolinised
ep epidotised
sil silicified

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

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Strike and dip of inverted strata
60° Strike and dip of cleavage or foliation
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Thrust Fault
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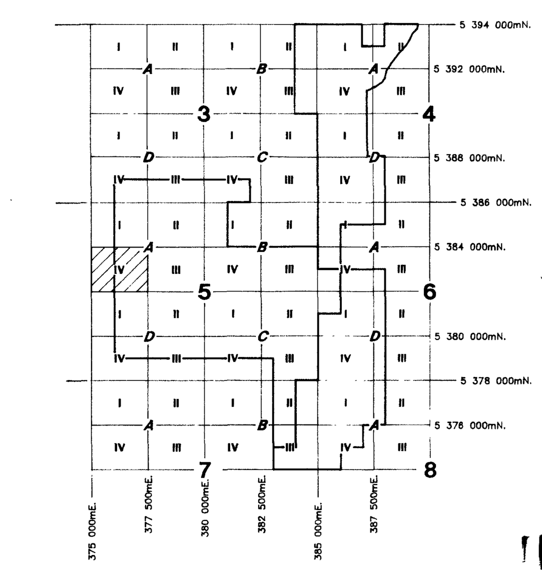
Plunging synform
Tectonic breccia
Manganese oxide coating on outcrop
Mineralisation : massive, disseminated



GN TN MN
GRID CONVERGENCE 1.0°
GRID/MAGNETIC 12.0°
5 cm

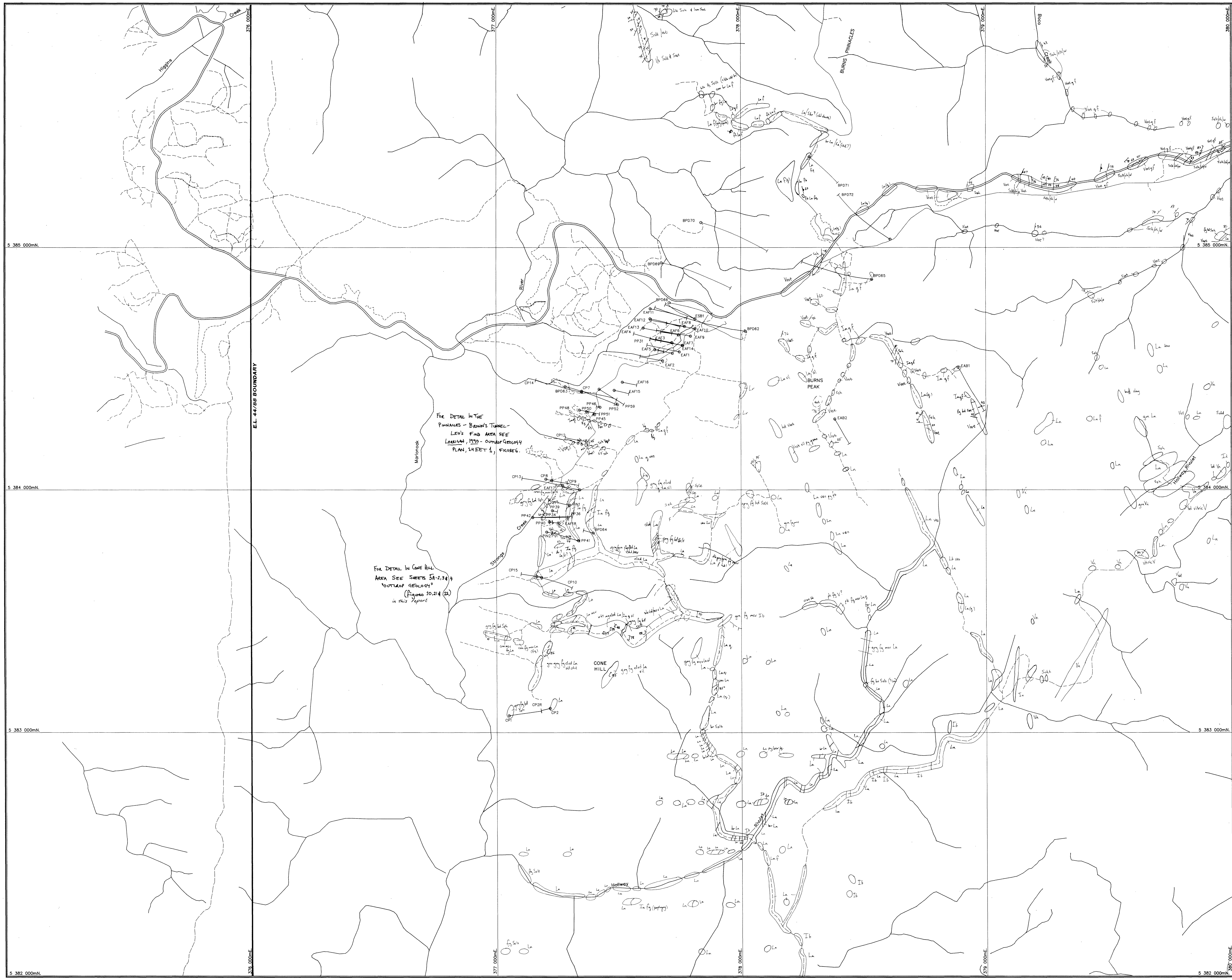
91-3340

129274

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : L.W.K.	E.L. 44/88 - BURNS PEAK JV
DATE : Oct., 1991	CONE HILL
DRAWN :	OUTCROP
REFERENCE :	GEOLOGY
REVISIONS :	
DRAWING No. SHEET 5A-4	SCALE 1:2500 (0 50 100 METRES) — FIG. No. 22

10213



LEGEND

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fel		felsic
p		porphyritic
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peg		pegmatitic

Volcaniclastics V

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q	(32)	quartz phyric mass flow
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sst	(39)	sandstone
tb		turbidite
w	(39)	wacke
cong	(39)	conglomerate
Δ		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	(35)	mudstone

Metamorphic Rocks M
Colours should be hatched

sht	(38)	schist
sp	(35)	semi-pelite
ps	(39)	psammite
amph	(49)	amphibolite
gran		granulite
sk		skarn
mb	(65)	marble
m		mylonite

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

3. Descriptors

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

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; fΔ flow brecciated

Constituents & Internal Textures:
f feldspar; q quartz; l lithic; pm pumice; styl stylolites; wsp wisps; ves vesicles; sph spherulites; lph lithophysae

Alteration:
alb albitised; co carbonate alteration; chl chloritised; ser sericited; kao kaolinised; ep epidotised; sil silicified

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

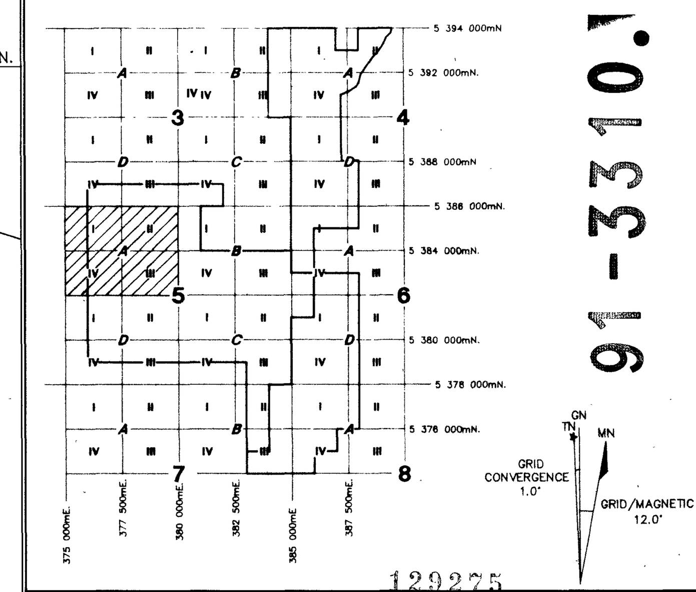
4. Mapping Symbols

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
Shear/mylonite
Intense regional cleavage
Disseminated pyrite
Unconformity
Fault
Thrust Fault
Plunging antiform
Plunging synform
Tectonic breccia
Manganese oxide coating on outcrop
Mineralisation : massive, disseminated

NOTE SOURCE :-

Comstaff Mapping	1984	10%
BHP Mapping	1986	5%
Geopeko/Pasminco Mapping	1988-1991	50%
R. Reid.(Tas. Uni.)	1990	5%
B. Coutts (Tas. Uni.)	1990	10%

5 cm



91-3310.

129275

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

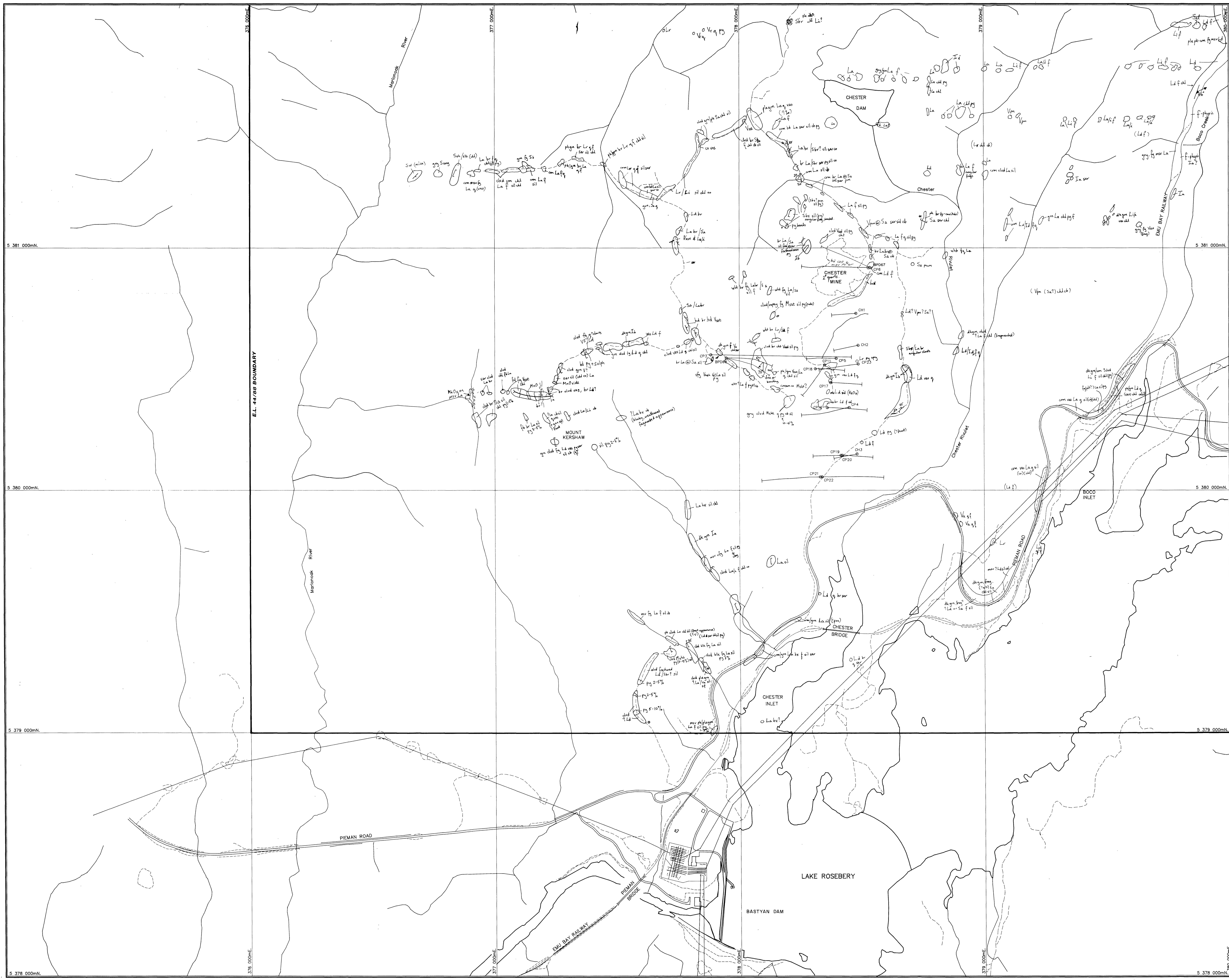
COMPILED : L.W.K.	E.L. 44/88 - BURNS PEAK JV
DATE : Oct., 1991	**OUTCROP GEOLOGY**
DRAWN : G.M.B.	
REFERENCE :	
REVISIONS :	
DRAWING No. SHEET 5A	SCALE 1:5000 (0 100 200 METRES) — FIG. No. 23

N.W. Coast Computer Aided Drafting Centre. Phone (004 354315) Fax. (004 354495)

16214


LEGEND
1. General Form
2. Rock Types
3. Descriptors
4. Mapping Symbols
DUNDAS GROUP
Predominantly fine grained sediments
ROSEBERY FAULT
E.L. 44/88 BOUNDARY
PINNACLES Vpm AXIS
BURNS PEAK
CONE HILL
Lr
Ln
Ld
Vpm
Vsst f q
Ssh/slt
Smst/sst
Ia q f
Sslt
5 385 000mN.
5 384 000mN.
5 383 000mN.
5 382 000mN.
376 000mE.
377 000mE.
378 000mE.
379 000mE.
380 000mE.
GRID CONVERGENCE 1.0°
GRID/MAGNETIC 12.0°
5 cm
129276
91-3310.
PASMINCO EXPLORATION
A Division of Pasminco Australia Limited
COMPILED : A.N.L./ L.W.K.
DATE : Oct., 1991
DRAWN : G.M.B.
REFERENCE :
REVISIONS :
E.L. 44/88 - BURNS PEAK JV
INTERPRETIVE GEOLOGY
DRAWING No. SHEET 5A
SCALE 1:5000
0 100 200
METRES
FIG. No. 24

10215



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	(49)	basaltic
r	(9)	rhyolitic
d	(11)	dacitic
n	(48)	andesitic

Intrusives I

a	(12)	acid
i	(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

Sediments S

sh	(35)	shale
t	(36)	slate incl. black slate
slt	(35)	siltstone
sst	(39)	sandstone
tb		turbidite
w	(39)	wacke
cong	(39)	conglomerate
Δ		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	(35)	mudstone

Metamorphic Rocks M
Colours should be hatched

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amph	(49)	amphibolite
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sk		skarn
mb	(65)	marble
m		mylonite

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

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
- fΔ flow brecciated

Constituents & Internal Textures:

- f feldspar
- q quartz
- l lithic
- pm pumice
- styl stylolites
- wsp wisps
- ves vesicles
- sph spherulites
- lph lithophysae

Alteration:

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

Mineralisation:

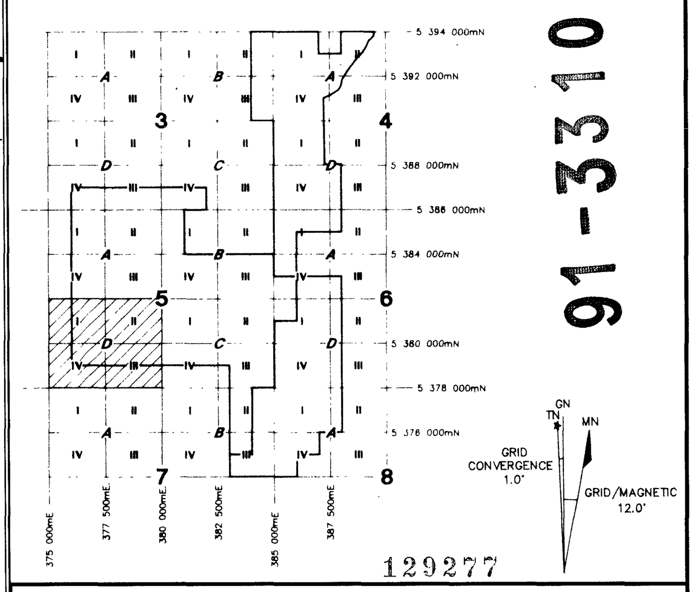
- diss disseminated
- str stringer
- msv massive
- gos gossan
- bx boxwork
- py pyrite
- po pyrrhotite
- asp arsenopyrite
- gn galena
- sp sphalerite
- mag magnetite
- hm haematite

4. Mapping Symbols

- 25° Strike and Dip of Strata
- Strike and dip of inverted strata
- 60° Strike and dip of cleavage or foliation
- 50° Plunge of lineation
- Geological boundary position accurate
- Geological boundary position approximate
- Mine
- Abandoned prospect or mine
- Costean or trench
- Diamond drill hole, including projection
- Unconformity
- Fault
- Thrust Fault
- Plunging antiform
- Plunging synform
- Shear/mylonite
- Intense regional cleavage
- Disseminated pyrite
- Tectonic breccia
- Manganese oxide coating on outcrop
- Mineralisation massive, disseminated

NOTE **SOURCE :-** **Pasminco Mapping** **1990-1991**
B. Coutts (Tas. Uni.) **1990**

5 cm



91-3310.

129277

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : A.N.L., L.W.K.	E.L. 44/88 - BURNS PEAK JV
DATE : Oct., 1991	**OUTCROP GEOLOGY**
DRAWN :	
REFERENCE :	
REVISIONS :	
DRAWING No. SHEET 5D	SCALE 1:5000 (0 100 200 METRES) — FIG. No. 26

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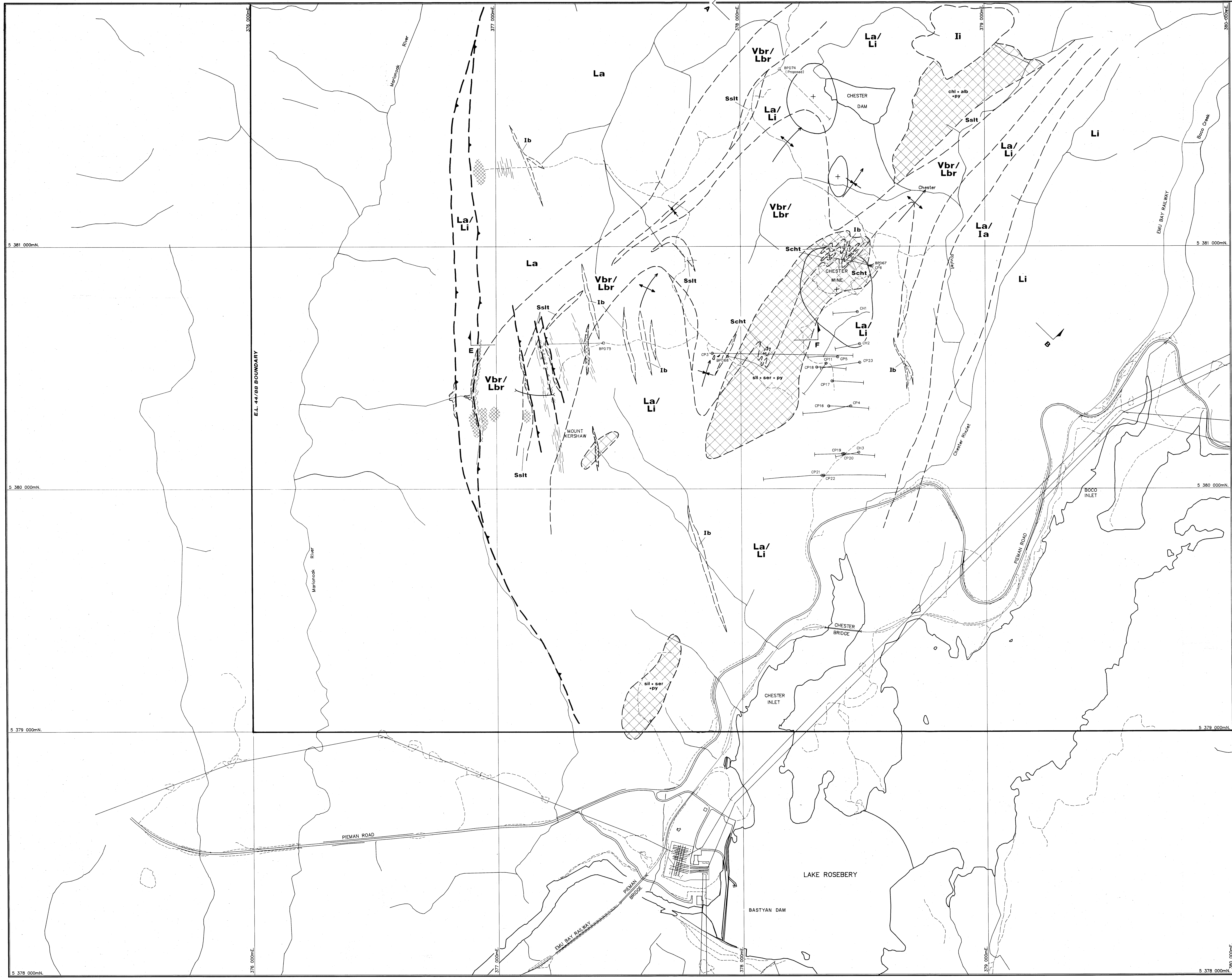
10216



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.

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a	(12)	acid
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p		porphyritic
g	(12)	granitic
peg		pegmatitic

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pm	(7)	pumiceous mass flow
q	(32)	quartz phyric mass flow
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q	(39)	quartzite
Fe		iron formation
gl	(4)	glacial deposits
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Colours should be hatched

sht	(38)	schist
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mb	(65)	marble
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Unassigned ? Use alone or as a qualifier to other rock types where uncertain.

3. Descriptors

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

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
fΔ flow brecciated

Constituents & Internal Textures:
f feldspar
q quartz
l lithic
pm pumice
styl stylolites
wsp wisps
ves vesicles
sph spherulites
lph lithophysae

Alteration:
alb albitised
co carbonate alteration
chl chloritised
ser sericited
kao kaolinised
ep epidotised
sil silicified

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

4. Mapping Symbols

25° Strike and Dip of Strata
Strike and dip of inverted strata
60° Strike and dip of cleavage or foliation
50° Plunge of lineation
Geological boundary position accurate
Geological boundary position approximate
Mine
Abandoned prospect or mine
Costean or trench
Diamond drill hole, including projection
Unconformity
Fault
Thrust Fault
Plunging antiform
Plunging synform
A Cross section marker
Shear/mylonite
Intense regional cleavage
Disseminated pyrite
Tectonic breccia
Manganese oxide coating on outcrop
Mineralisation : massive, disseminated
Excess Mass, 1mGal anomaly 1991 Gravity Survey

GN TN MN
GRID CONVERGENCE 1.0°
GRID/MAGNETIC 12.0°

129278

5 cm

91-3310.

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : L.W.K.
DATE : Oct., 1991
DRAWN : G.M.B.
REFERENCE :
REVISIONS :

E.L. 44/88 - BURNS PEAK

INTERPRETIVE GEOLOGY

DRAWING No. SHEET 5D
SCALE 1:5000 0 100 200 METRES
FIG. No. 27

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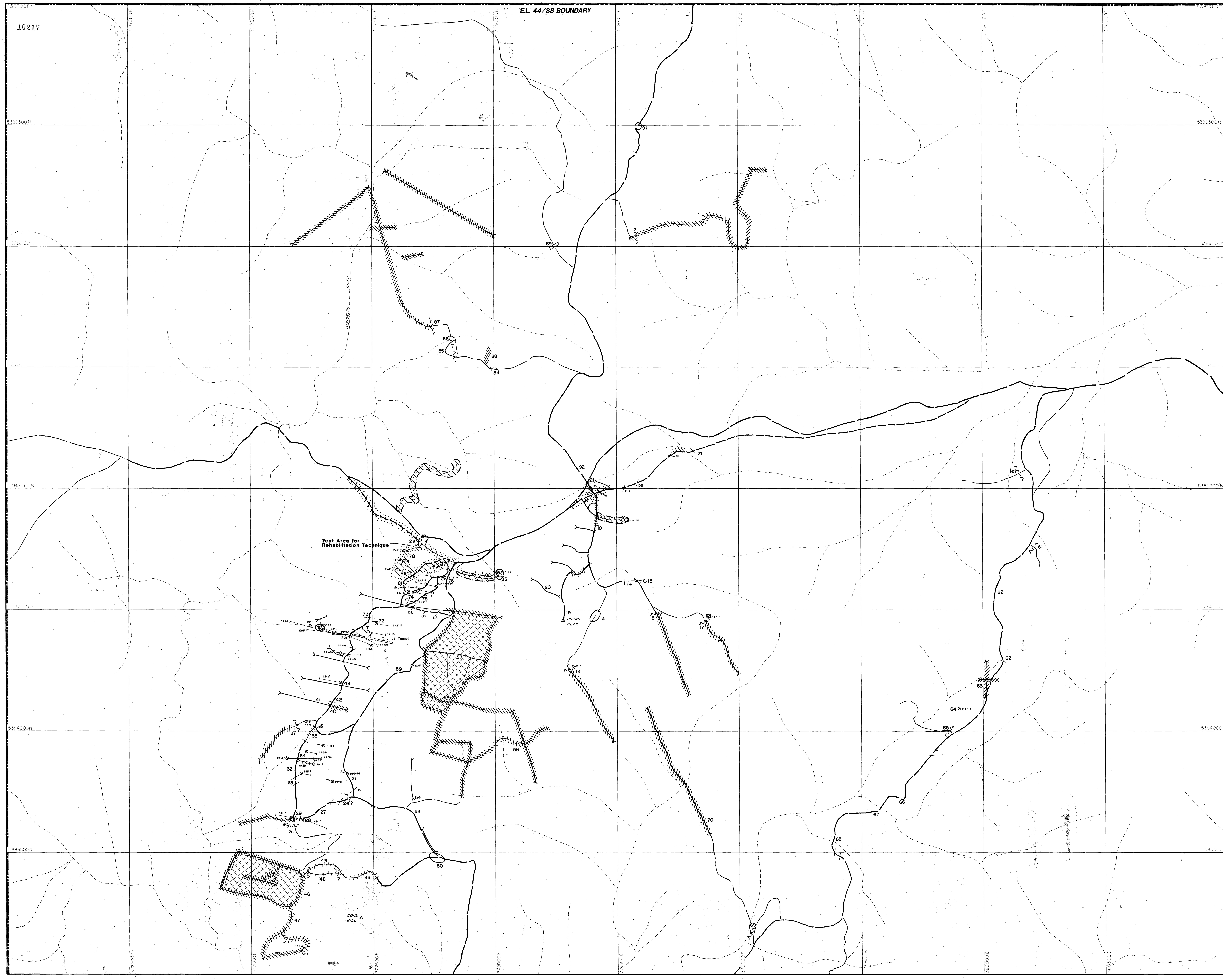
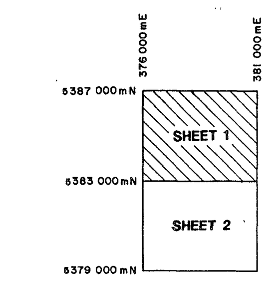
10217



LEGEND

- Pasminco Exploration Rehabilitation Area.
- Joint Rehabilitation Area Pasminco Exploration / Dept. of Mines.
- Major access track.
- Superfluous track/access.
- Roadwork requiring bulldozer.
- Possible dieback area.
- Large log across track.
- Rejuvenated Vegetation
- Rejuvenated rainforest.
- No access.
- 64 Reference numbers for 1990 report notes.
- Lease boundary
- Watercourse
- Road
- CP 9 Drill hole
- Costean



SHEET INDEX

129279

5 cm

91-3310.

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED : H.C.R.	E.L. 44/88 – BURNS PEAK J.V.
DATE :	**AREAS IDENTIFIED FOR REHABILITATION**
DRAWN : Nov., 1991	SHEET 1
REF:	
REVISIONS :	
DRAWING No.	SCALE 1:5000 (100 0 100 METRES)
FIG. No. 32	

PASMINCO EXPLORATION
A Division of Pasminco Australia Limited

COMPILED: H.C.R.
DATE: Nov., 1991
DRAWN: T.G.F.
REF:
REVISIONS:
DRAWING No.

E.L. 44/88 – BURNS PEAK J.V.

AREAS IDENTIFIED FOR REHABILITATION

SHEET 2

SCALE 1:5000

FIG. No. 33