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MINERAL LEASE APPLICATION 4M/96

REPORT ON DRILLING

AT SOCK CREEK

WESTERN TASMANIA

MARCH 1996

J.G.PURVIS

J.G.Purvis & Associates P/L

DECEMBER 1996

97-3959

REPORT ON DRILLING - SOCK CREEK
ML 4M/96 - J G PURVIS & ASSOC.

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1. SUMMARY

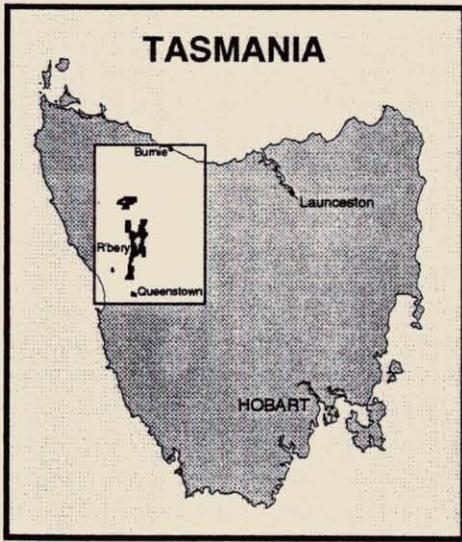
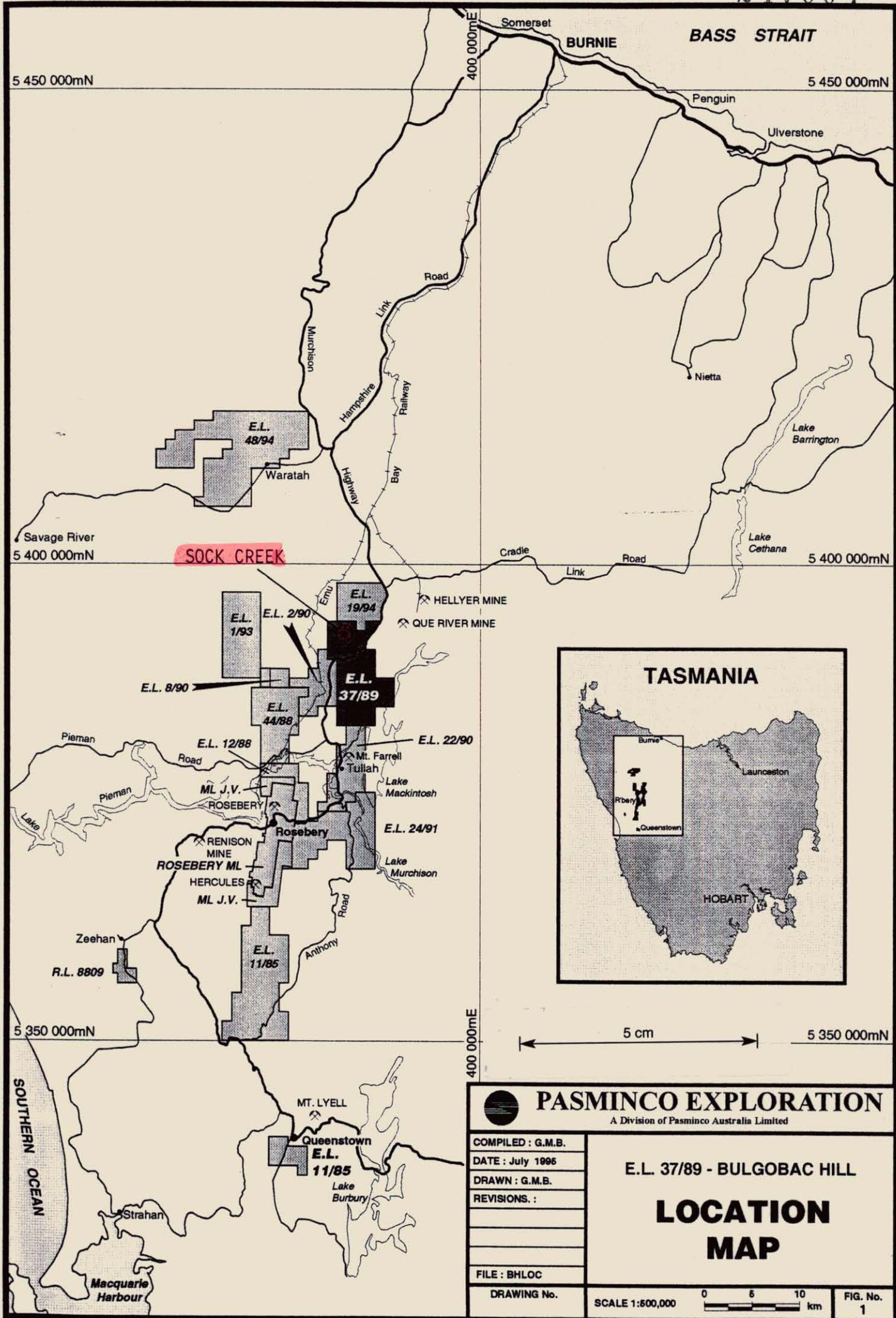
Two short diamond drillholes, SC1 and SC2, were drilled at the Sock Creek zinc prospect in March 1996 to see if shallow economic mineralization was ponded beneath a shale arch beside the Sock Creek Fault.

SC2 (69m) intersected 1.7m @ 10.2% Zn and 1m @ 5.3% Zn. In SC1 (49.7m) the values were poorer: 3m @ 1.6% Zn and 1m @ 2.1% Zn. Lead averaged less than 1% and precious metal values were negligible.

The style and tenor of the mineralization in the holes is the same as that encountered in earlier Comstaff drilling of the prospect. While the sphalerite veining is broadly centred beneath the shale arch, no ponding of mineralization is evident.

Sock Creek retains potential for small tonnages of 5-10% Zn material within the known mineralized zone adjacent to the Sock Creek Fault, but this will be significantly less than the 100-200,000t estimated if ponding had occurred.

No further drilling is intended and it is recommended the Mineral Lease application be withdrawn.



5 350 000mN ← 5 cm → 5 350 000mN

 PASMINCO EXPLORATION <small>A Division of Pasma Australia Limited</small>	
COMPILED : G.M.B. DATE : July 1996 DRAWN : G.M.B. REVISIONS : FILE : BHLOC DRAWING No.	E.L. 37/89 - BULGOBAC HILL LOCATION MAP
SCALE 1:500,000	
	FIG. No. 1

2. INTRODUCTION

The Sock Creek Zn prospect lies in timbered hills 3km west of the Murchison Highway and 8km SW of the Hellyer Mine, in Western Tasmania. Access is via a 4WD track and forestry road. The prospect occurs within EL 37/89 held by Pasminco Exploration. See Figure 1.

The mineralization comprises sphalerite-dominated net-veins on the contact between quartz-feldspar porphyry and black shale, adjacent to the Sock Creek Fault (Figure 2). The rocks belong to the Southwell SubGroup of the Dundas Group in the uppermost part of the Cambrian Mt Read Volcanics (Purvis, 1995).

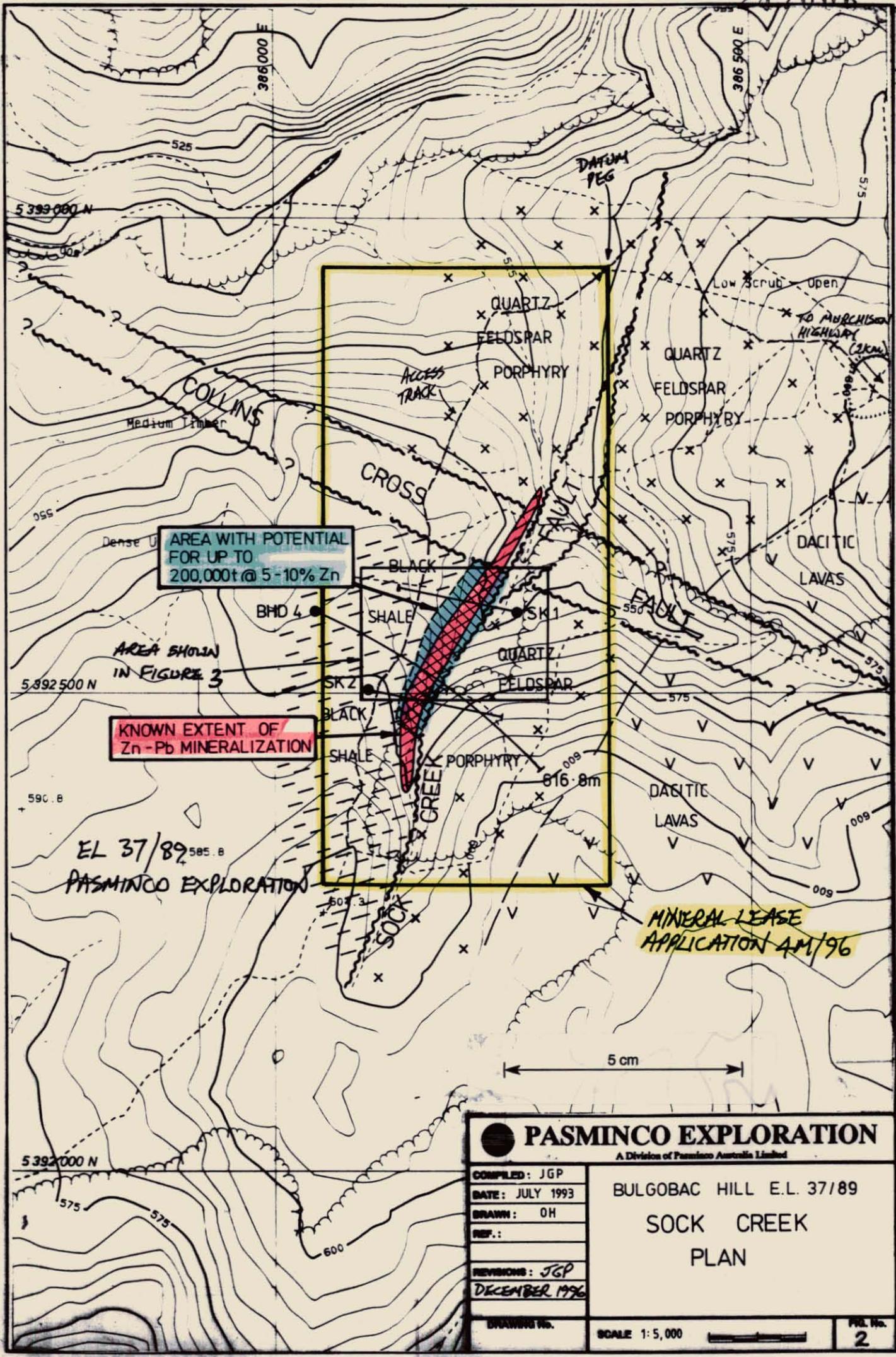
Sock Creek was found in 1970 by Comstaff (a consortium led by Anglo American) who drilled 14 holes there pre 1977. Best intersections were 1.7m @ 10% Zn, 4m @ 9% Zn and 8m @ 5% Zn. Apart from a UTEM survey by BHP in 1987 (no significant conductors detected - Hughes, in Purvis, 1993), there was no work of note at Sock Creek from 1977-1993.

In 1993 the author reviewed the Sock Creek data for Pasminco (Purvis, 1993), which led to the drilling of a barren deep hole (BHD4, 617m) in an attempt to locate more-significant "parent" mineralization beneath the known veins.

The review also outlined the possibility of shallow Zn mineralization "ponded" beneath a shale caprock arch beside the Sock Creek Fault. The arch had not been properly tested by the Comstaff drilling but those holes closest to the axis of the open anticline had the best values. The prospective area is shown in Figure 2. However, with the potential limited to less than 200,000t by the earlier drilling, Pasminco declined to drill test it.

In early 1996 the author sought and was granted permission by Pasminco to peg a 100m depth-limited 19.5ha ML over Sock Creek in order to test the ponding concept, with a view to selling any ore found to Rosebery Mine. The ML was pegged on 13th February 1996. After a small programme of gridding, surveying and mapping, two diamond holes, SC1 & 2 (118.7m), were put down in March 1996.

This report details the results of the drilling.



AREA WITH POTENTIAL FOR UP TO 200,000t @ 5-10% Zn

KNOWN EXTENT OF Zn-Pb MINERALIZATION

AREA SHOWN IN FIGURE 3

EL 37/89 PASMINGO EXPLORATION

MINERAL LEASE APPLICATION 4M/96

5 cm

PASMINGO EXPLORATION <small>A Division of Pasmingo Australia Limited</small>	
COMPILED: JGP	BULGOBAC HILL E.L. 37/89 SOCK CREEK PLAN
DATE: JULY 1993	
DRAWN: OH	
REF.:	
REVISIONS: JGP DECEMBER 1996	
DRAWING No.	SCALE 1:5,000
	FIG. No. 2

3. PROSPECT GEOLOGY

3.1. Rock Sequence

In ascending stratigraphic order the host rocks to the mineralization at Sock Creek are quartz-feldspar porphyry, porphyry-derived sandstone/breccia and black shale. The porphyry is coarse-grained, with quartz crystals to 10mm. It is extensively quench-brecciated and veined adjacent to its upper contact with the overlying sandstone/breccia.

From the rock relationships and textures it is apparent the porphyry was both extruded on and intruded (burrowed?) into, wet unlithified black shale containing horizons of porphyry-derived (crystal) sandstone. The quenching of the hot porphyry led to its extensive fracturing and brecciation, and also to a zone of varied and lensy lithologies along the contact with the overlying sediments. This unit, which averages 20-30m thick, is known as the "Mixed Zone" or "Mixed Epiclastics" (Purvis, 1993), and can best be described as a mixture of the sediments and pumiceous porphyry material deaggregated by the quenching and thermal turbulence in the contact zone.

3.2. Structure

The Sock Creek mineralization is located on and immediately south of the intersection of two major near-vertical structures: the NNE trending Sock Creek Fault and the WNW trending Collins Cross Fault. See Figure 2. According to Barwick (1991) the latter dextrally offsets the Sock Creek Fault 50-100m.

The Sock Creek Fault is a steeply SSE-dipping 2-10m wide zone of unmineralized cataclasite and pug with broken up quartz veins. Movement on the fault was *normal* (east block down) but substantial - the rocks to the east have the regional moderate westerly dip, while immediately west of the fault they have been dragged into a broad open anticlinal fold or arch. Facings indicate the rocks are upright.

3.3. Mineralization

Most of the mineralization is in a 300m long zone lying west of and parallel to the Sock Creek Fault, although a small proportion also occurs east of the fault. The best mineralization broadly coincides with the axis of the anticlinal fold, where this is capped by black shale. See Figure 2.

The mineralization comprises diffuse net-veins of quartz-carbonate-sphalerite with minor galena, pyrite and chalcopyrite, concentrated in the quench-brecciated upper contact zone of the quartz-feldspar porphyry. The overlying porphyry-derived sandstone/breccia is also mineralized in places, and broad zones of weaker mineralization in tiny quartz-chlorite veinlets occur in the black shale unit.

Mineralization is associated with quartz-carbonate flooding and manganese sericitization. Pyritization is extremely weak and limited. The sphalerite sometimes displays colloform texture and is generally light yellow-brown in colour (some dark sphalerite does occur). The mineralization is devoid of gold, and silver values average less than 5g/t.

Lead and sulphur isotopic signatures indicate the mineralization is Cambrian with affinities to both VMS and vein-style systems (Barwick, 1991). As the host rocks comprise some of the youngest units of the Mt Read Volcanics and are therefore of Late Cambrian age, it is probable mineralization occurred very shortly after the deposition of the host sequence.

It is believed fluid ingress was controlled by the Sock Creek Fault and its intersection with Collins Cross Fault, with mineralization localized by the favourably prepared brecciated upper margin of the porphyry beneath impervious shale caprock (Purvis, 1993).

4. WORK DONE FOR DRILL PLANNING

The prospective zone for the "ponding" concept was identified as being in the very top of the porphyry and its clastic envelope, along the axis of the anticlinal arch in the black shale caprock immediately west and parallel to the Sock Creek Fault. The zone was thought to be flat-lying with a gentle southerly plunge, up to 40m wide (E-W) and extending SSW for about 180m from the Cross Fault between Comstaff holes SK5 and SK1, to between holes SK2 & 3. See Figure 2. If the concept was correct, mineralization with a grade of 5-10% Zn over a vertical thickness of 5-10m was considered possible.

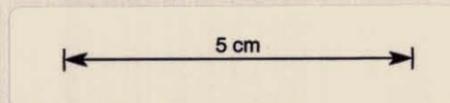
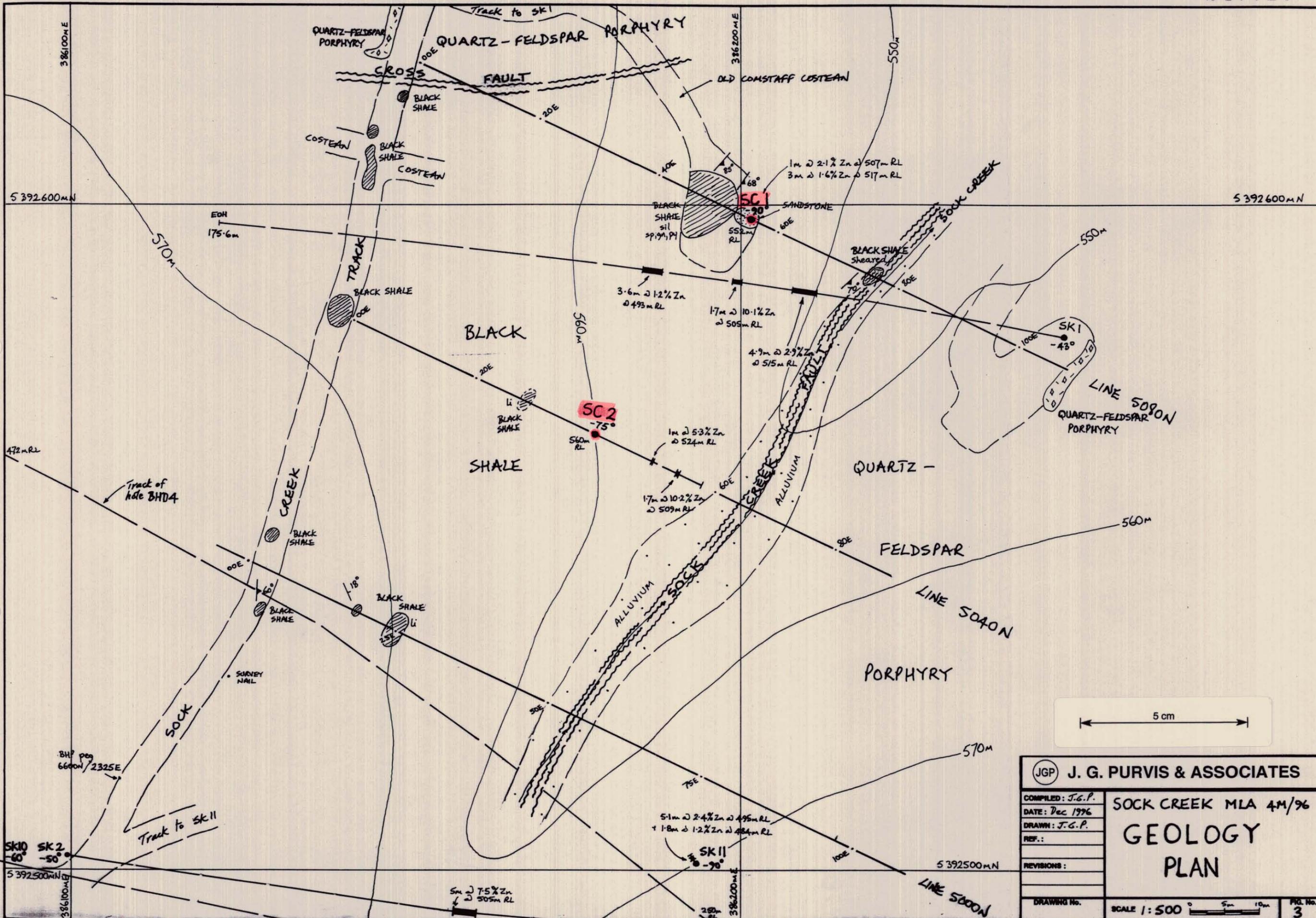
The Sock Creek Track was upgraded and three potential drillsection lines were cut at 115° AMG (103° mag) from the Sock Creek Track across the shale arch and Sock Creek Fault. The lines were pegged at 20m slope-corrected intervals.

The drillsection line for hole BHD4, cut in 1993 about 35m north of the mineralization in hole SK2, was recleared for 100m and designated Line 5000N (none of the pre-existing Comstaff or BHP lines could be found). Parallel new lines were put in 40m and 80m north of 5000N: Line 5040N extending 90m and 5080N extending 110m, the latter passing a few metres south of the collar of hole SK1. See Figure 3.

All three lines and the intervening section of Sock Creek Track were surveyed and mapped. Collars of Comstaff holes SK1, 2, 5, 10 & 11 were located and tied in to the surveyed area. Core from holes SK1, 2, 3, 5 & 11 was examined in Hobart (most of these holes had been relogged during the 1993 review).

As seen in Figure 3 outcrop in the area is exceedingly poor and largely limited to exposures created by Comstaff bulldozing. Compilation of the planned drillsections relied heavily on the old drillholes, particularly for the likely location of the axis of the shale arch.

Three diamond drillholes were planned but only the holes on lines 5080N and 5040N were drilled (March 1996). Hole 'C', sited at 5000N/48E, was cancelled following the disappointing results of SC1 & 2.



JGP J. G. PURVIS & ASSOCIATES	
COMPILED: J.G.P.	SOCK CREEK MLA 4M/96
DATE: Dec 1996	
DRAWN: J.G.P.	GEOLOGY PLAN
REF.:	
REVISIONS:	
DRAWING No.	SCALE 1:500
	5m 10m
	FIG. No. 3

5. DRILLING RESULTS

5.1. Hole SC1

Vertical hole SC1 was put in at 56E on 5080N after the originally planned site at 64E could not be accessed due to boggy ground. The detailed log of the hole is in Appendix 1 and the drillsection in Figure 4.

The hole encountered weak basemetal mineralization, with best intersections:
34.05-37.05m: 3m @ 1.6% Zn, 0.8% Pb Veining at faulted top porphyry contact
44.3-45.3m: 1m @ 2.1% Zn, 0.4% Pb Veining within porphyry.

These values are poorer than the 1.7m @ 10.1% Zn, and 4.9m @ 2.9% Zn, 1.3% Pb, encountered in Comstaff hole SK1 10m south and a few metres beneath SC1. If ponding had occurred the mineralization in SC1 could have been expected to be thicker and of better grade than that in SK1.

SC1 collared 20m west of the Sock Creek Fault (unusually exposed in the creek here as an outcrop of strongly sheared black shale), on the contact between the black shale unit and an underlying 12m band of graded, up-hole facing, siliceous sandstone. Below the sandstone SC1 intersected a 22m interval of Mixed Zone (porphyry breccias, crystal sandstone and minor black shale), then porphyry from 34m to the end of the hole at 49.7m. The top of the porphyry was 15m further downhole than anticipated.

Core bedding angles near the top of the hole and the distribution of the units on surface, show bedding here dips shallowly to the west. As bedding core angles further down the hole have a similar angle, it appears the entire sequence in SC1 has a shallow west dip. This places the axis of the anticlinal arch to the east of the hole.

Mineralization, comprising quartz-carbonate-sulphide veins, is present over limited intervals in the upper sandstone and the porphyry. The veining is diffuse and irregular net-vein type, but commonly exhibits a preferred orientation parallel to the weak foliation or shearing fabric dipping steeply

east and apparently associated with the Sock Creek Fault.

The most notable feature of SC1 is a series of strong faults at very low angle to the core axis and clearly sympathetic with the Sock Creek Fault. These faults made SC1 a less than perfect test of the ponding concept, especially as one strong fault coincides with the upper contact of the porphyry and may well have removed or displaced some of the mineralization. This fault also badly affected core recovery and therefore assay reliability in the main mineralized zone, most notably in the interval 34.05 - 35.7m.

From 34.05 to 34.5m there was no recovery and then in the 0.2m interval to 34.7m 3m of sand and gravel was recovered (and the hole began making substantial water). The assays of this sand and gravel material (1.9% Zn & 1.3% Pb) were about half that expected from the conservative visual estimate of sulphide content (10% sp & gn). However, repeat analyses by a second laboratory using a new split of the pulverized material returned similar values: 1.6% Zn & 1.2% Pb.

There was also no recovery in faulted ground at the base of this mineralized zone, from 37.05-37.7m.

5.2. Hole SC2

SC2 was collared at 40E on 5040N, angled at -75° to 115° AMG. Originally the hole was planned to be vertical at 53E, but after the steep faults were encountered in SC1 it was felt an angled hole collared further from the Sock Creek Fault might be safer. SC2 did not encounter any faults or bad ground.

The log of SC2 is in Appendix 2 and the drillsection is shown in Figure 5.

SC2 intersected mineralization as good as any of the Comstaff holes:

51.7-53.4m:	1.7m @ 10.2% Zn, 0.2% Pb	Veining at top contact of porphyry
36-37m:	1m @ 5.3% Zn, 0.7% Pb	Veining in crystal sandstone
16-33.35m:	17.35m @ 1% Zn, 0.5% Pb	Veining in black shale.

SC2 collared in black shale and was in this unit until 30.9m. Thin silty interbeds in the shale display up-hole facing. From 30.9m to 47.4m a crystal

sandstone of porphyry provenance was intersected. This unit is different in character to the unit intersected under the shale in SC1, being significantly coarser grained, ungraded, and composed of densely packed quartz and feldspar crystals and crystal fragments. Although it may well be a more-proximal equivalent or the basal part of the unit in SC1, the sandstone in SC2 has been included in the Mixed Zone which typically contains similar crystal sandstones.

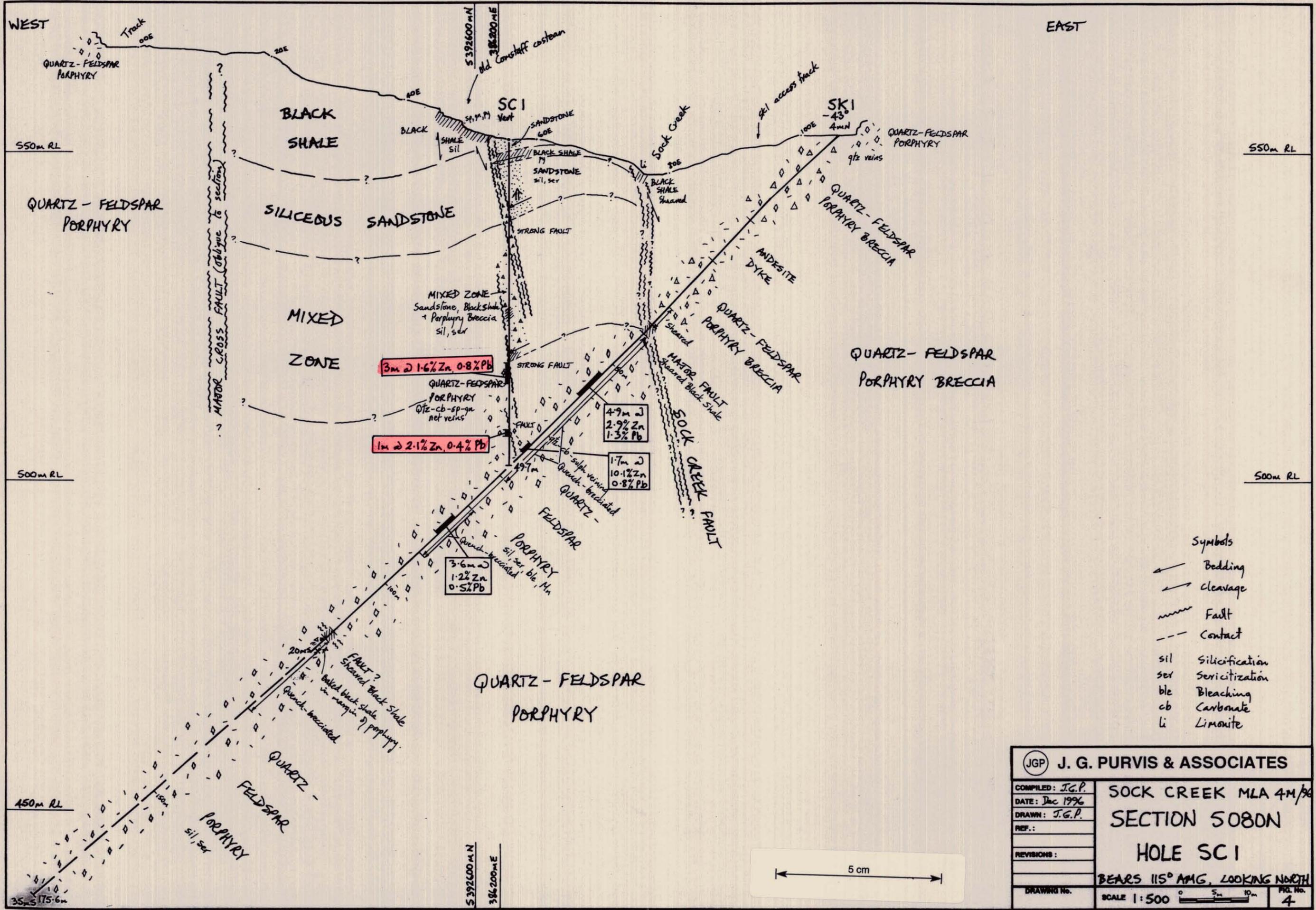
From 47.4m to the top of the porphyry at 51.45m, SC2 intersected porphyry breccia with shale and sandstone intercalations (Mixed Zone). The hole finished in porphyry at 69m. Again, the porphyry contact was about 15m deeper than anticipated.

Bedding angles in the hole are variable but have been interpreted, on the basis of their same sense relationship to the weak foliation, as indicating the sequence here overall has a slight east dip. The hole is judged to be essentially on the axis of the shale arch (see Figure 5).

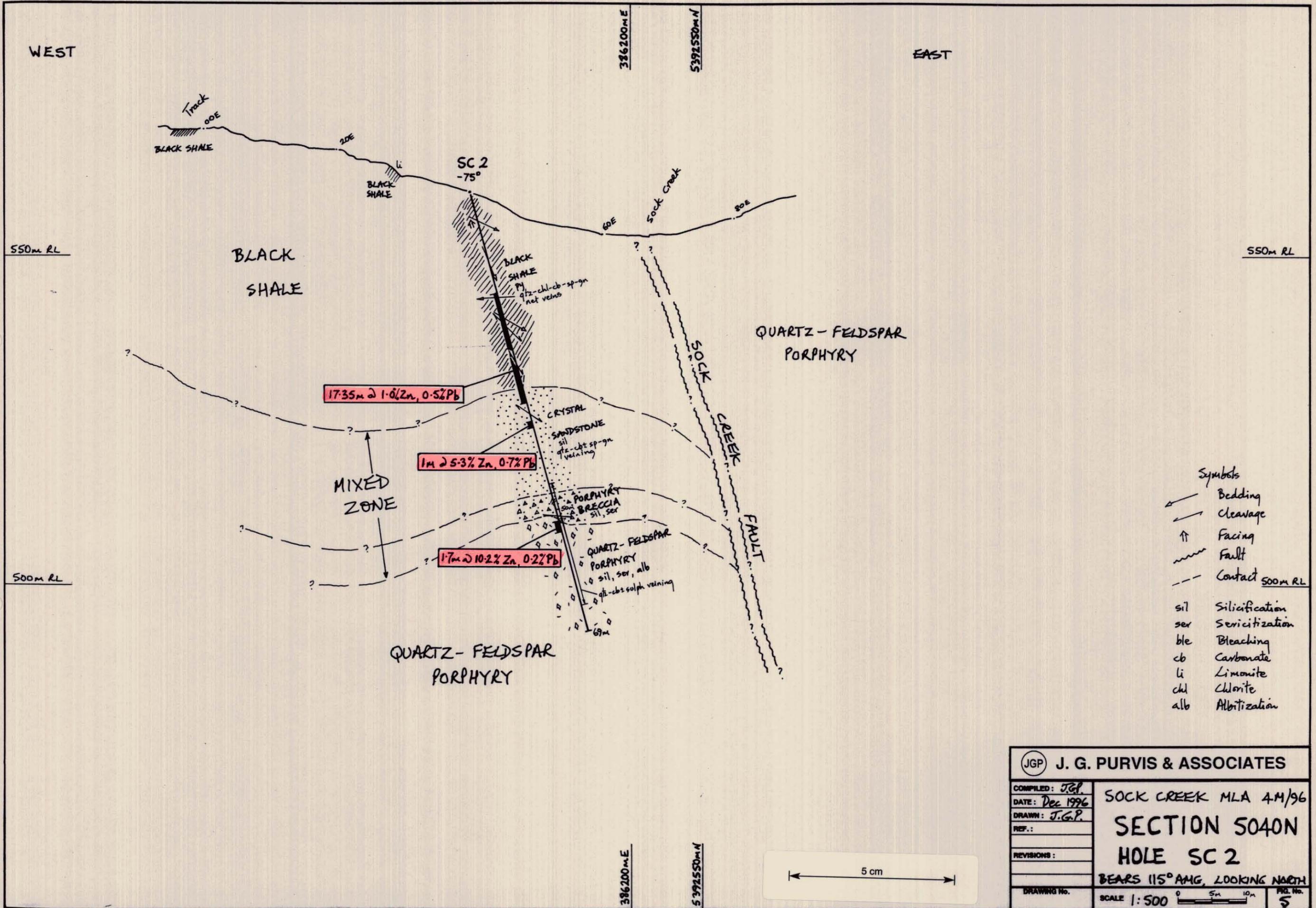
Mineralization in SC2 is more widespread and stronger than in SC1. The pyritic black shale unit is riddled with tiny net-veins and breccia-fill of quartz-chlorite-carbonate containing sphalerite and galena, averaging 1% Zn and 0.5% Pb over a 17m interval.

The main zones of diffuse quartz-carbonate-sulphide veining are in the middle and basal sections of the crystal sandstone (1m @ 5% Zn and 2.5m @ 1% Zn respectively); in the porphyry breccia (2m @ 1% Zn and 0.7m @ 1.4% Zn); and in the very top of the porphyry (1.7m @ 10% Zn). Although patchy and irregular, the veins are generally oriented at less than 45° to the core axis (commonly less than 20°), which has enhanced the intersection widths. This vein orientation is sub-parallel to the foliation associated with the Sock Creek Fault.

Although better than the values in SC1, there is still no evidence of sub-horizontal "ponding" of mineralization in SC2. As in SC1 the stronger veining appears to dip steeply east, parallel to the Sock Creek Fault.



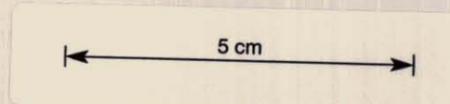
JGP J. G. PURVIS & ASSOCIATES	
COMPILED: J.G.P.	SOCK CREEK MLA 4M/96
DATE: Dec 1996	SECTION 5080N
DRAWN: J.G.P.	HOLE SC1
REF.:	BEARS 115° AMG, LOOKING NORTH
REVISIONS:	SCALE 1:500
DRAWING No.	FIG. No. 4



Symbols

	Bedding
	Cleavage
	Facing
	Fault
	Contact 500m RL
sil	Silicification
ser	Sericitization
ble	Bleaching
cb	Carbonate
li	Limonite
chl	Chlorite
alb	Albitization

J. G. PURVIS & ASSOCIATES	
COMPILED: JGP DATE: Dec 1996 DRAWN: J.G.P. REF.: REVISIONS:	SOCK CREEK MLA 4M/96 SECTION 5040N HOLE SC 2 BEARS 115° ANG, LOOKING NORTH
DRAWING No.	SCALE 1:500
	PLS No. 5



6. CONCLUSIONS AND RECOMMENDATIONS

1. Neither SC1 or SC2 indicate evidence for "ponding" of basemetal mineralization beneath the shale arch beside the Sock Creek Fault, although the best of the sulphide veins do occur in rocks immediately beneath the shale.
2. Due to faulting SC1 was a less than perfect test of the ponding concept.
3. The mineralized veins have a preferred orientation sub-parallel to the steeply east-dipping Sock Creek Fault and appear associated with early movement on that structure.
4. It is probable all the Sock Creek mineralization is primarily spatially related to the Sock Creek Fault. The axis of the shale arch, itself formed by movements on the fault, appears to have provided a secondary zone of weakness that has locally concentrated the mineralized veins
5. There is potential for small tonnages of 5-10% Zn material within the known mineralized zone, but this potential is significantly less than the 100-200,000t estimated if "ponding" of mineralization had occurred.
6. No further drilling is recommended and the Mineral Lease application should be withdrawn.



J.G. Purvis

Geologist

December 1996

7. REFERENCES

- Barwick, D.G. 1991 Geology and Mineralization of the Sock Creek and High Point Areas, Western Tasmania.
BSc Hons Thesis, University of Tasmania
- Purvis, J.G. 1993 EL 37/89 Bulgobac Hill, Annual Report For The Period February 1992 - July 1993.
Pasminco Expln Unpub Report T93-10, July 1993
- Purvis, J.G. 1995 EL 37/89 Bulgobac Hill, Annual Report August 1994 - August 1995.
Pasminco Expln Unpub Report T95-8, August 1995

8. KEYWORDS & LOCALITY**Keywords:**

ZINC, LEAD, VEINS, PORPHYRY, STRUCTURE, DRILL DIAMOND, MT READ VOLCANICS

Locality:

BURNIE SK55-3. SOCK CREEK, BULGOBAC HILL, HELLYER

APPENDIX 1

LOG OF DRILLHOLE SC1

Project: SOCK CREEK

Logged by: J.G. PURVIS

Date: 6.3.96

**PASMINCO EXPLORATION
DIAMOND DRILL LOG**

HOLE No. SC1

m	VEINING and ALTERATION (1 = weak, 4 = Intense)	STRUCTURE b = bedding c = cleavage f = fault Angles to LCA	GRAPHIC LOG					LITHOLOGY	MINERALISATION	
			0.06 mm	0.5 mm	2 mm	8 mm	32 mm			
1	ox (1) - on fract ser > chl (1-2) sil (1) Minor qtz veinlets	Mod fractured & broken						SILICEOUS QUARTZ-FELDSPAR SANDSTONE (Porphyry-derived) Even-grained. Xyls of qtz + feld. Minor fine pumice frags + rare lithic frags (v small). 1.7m	Minor dissem py, trace sp. Minor sp-gn-qtz veinlets	
2	Abund tiny (<1mm) chl ± qtz veinlets	Mod broken						BLACK SHALE	2-3% v fi gr sooty py. Minor sp-gn in qtz-chl veinlets	
3	chl (2)	B: 77°						3.5m		
4	sil-ser (2) > chl (1)	Mod fractured & broken						FINE SILICEOUS SANDSTONE Light grey. Hard. Uniform, even-grained silica > sericite rock, composed of tiny fragments of quartz, feldspar + volc glass.	1-2% py-sp-gn, dissem + tiny veinlets (± qtz) + sp veinlets	
5	Irreg + sl diffuse veins of qtz ± chl ± cb (leached) to 10mm, gen at low angle to LCA. (Best sulphides assoc in these veins)	weak C: 35° ↓ prominent fracture // LCA							← sp veinlets	
6									Minor to 1% sp-gn-py. Dissem + veinlets.	
7									sp veinlets	
8									5% sp-gn in irreg vein 10°	
9		Badly broken							Minor to 1% py-sp-gn, dissem + veinlets.	
10	Irreg cb veins ↓ unleached	some pug in fract						Tiny black shale grains Tiny pumice frags shale grain	Minor to 1% py-sp-gn, dissem + veinlets.	
11		B(?) : 65°						1.15m		
12	sil (2) Much of sil in diffuse "veins"	Strong fault: Badly broken, pug + cataclasite shearing 15°						STRONG FAULT // LCA Yellowish-green pug + cataclasite, with minor incorporated deformed black shale, in sandstone as above and coarse qtz-feld porphyritic rock with qtz xyls to 8mm.	Minor py-sp-gn 1% py-sp > gn dissem + tiny veinlets 2mm sp-gn veinlet 180°	
13	ser > chl (2-3) (Common qtz ± cb veinlets)									
14		pug + cataclasite in places moderate broken + becciated								
15		Fault 10°								
16								black shale siver 16.3m	← 2% py in shale	
17	sil-ser > ch-ble (2-b) sil in diffuse "veins" // shearing fabric	Occasional fract + broken zones. Weak shearing fabric. weak shearing 20°						FINE PORPHYRY BRECCIA Abundant qtz xyls (to 8mm) + feldspar (to 3mm) with porphyry frags + fi gr silic frags, to 30mm + fine pumice.	"MIXED ZONE": DE-AGGREGATED QTZ-FELDSPAR PORPHYRY MATERIAL WITH INTERCALATIONS OF BLACK SHALE	1-2% sp > gn > py blobs, dissem + tiny veinlets (sp yellow to black)
18	Common qtz ± cb net-veins									
19		f: 45°								
20	strong sil net-veins									
21	ser-alb-sil (1) Minor qtz-cb veinlets							CRYSTAL SANDSTONE Abund feld laths av 2mm. Lesser qtz av 2-3mm. Minor fine pumice.	Variably-textured. Greenish-grey to creamy yellow-green	Minor py + sp
22										
23		minor pug								
24	sil-ser > chl (1) Common qtz ± cb veinlets	Moderately broken. weak → C: 15°						PORPHYRY qtz + feldspar to 3mm.		Trace py + sp 1% leucoxene
25	ble > ser > chl (2-3) of 1/2 veinlets 75°	f: 30°						BRECCIATED diffuse PORPHYRY porph lumps to 40mm.		sp veinlets (1% sp) in 100mm qtz band

Project: SOCK CREEK
Logged by: J.G. PURVIS
Date: 10.3.96

PASMINCO EXPLORATION DIAMOND DRILL LOG

HOLE No. SC1

m	VEINING and ALTERATION (1 = weak, 4 = Intense)	STRUCTURE b = bedding c = cleavage f = fault Angles to LCA	GRAPHIC LOG 9.00 5.0 2 0 32 max min	LITHOLOGY	MINERALISATION
25	sil > ser-ble (2-3) Abund qtz-cb veinlets	Contact: 40° (abrupt)		5m BRECCIATED PORPHYRY BLACK SHALE	1% py-sp Dissem + veinlets
26	shale: sil/baking (2-3) Porph: ser-chl (2) Abund qtz-cb or chl, net-veinlets	B: 10° Moderately fractured + broken (fracts: 10-20°) B: 85° Contact: 40° (abrupt)		Irreg intercalations of porphyry (shale baked by porphyry)	py rich Minor py + sp
27				CRYSTAL SANDSTONE	sp veins in fault 2% sp
28	ser > chl (2) sil-ble (2) patchy, assoc with zones of diffuse qtz > cb veining	Strong f: 10° (with black shale) + qtz veins Weakly fractured, slightly broken		PARTLY BRECCIATED PORPHYRY A xyl-rich, porphyry-like rock with lumps of porphyry, fine frags of porphyry + rare lithos (< 10mm) Abund feld (2mm) + qtz (2-3mm, to 6mm).	Minor py + sp
29				BLACK SHALE	sp intercalations as before.
30				BLACK SHALE	10mm qtz-sp-py vein/60°
31				BLACK SHALE	2-3% py > sp (py dissem in shale, sp in qtz-cb veinlets)
32	sil/baking (2-3) of shale	Contact: abrupt irreg B: 65°		BLACK SHALE Irreg intercalations of porphyry, increasing with depth.	Minor py > sp
33	Abund tiny qtz-cb or chl, veinlets in shale	Broken		BLACK SHALE	10% sp-gn > py > cp dissem + some massive patches
34	sil > ser-ble (2-3) sil as diffuse qtz-sulph veins + patches	sand + gravel Strong Fault Zone Rubble + core frags		Strongly mineralized (fault)	5-10% sp-gn > py > cp blebs, patches + in veins + qtz, < 50°
35				QUARTZ-FELDSPAR PORPHYRY	5mm sp > gn veinlet 45° 2-3% sp > gn > cp blebs + veinlets 5-7% sp > gn > py > cp in diffuse qtz vein
36	sil (>3) assoc with diffuse qtz veining + flooding.	Fault 5-10° Barren cataclastic + pug		(creamy-yellow, grey-green or pale apricot) Hard. Coarse gr. Porphyritic qtz xyls (often sil corroded) to 8mm, feld xyls av 2mm, rarely to 5mm. In fine gr sil-ser groundmass. Some snowflake de-vitrification texture. Minor leucocene grains.	No core
37	ser-ble (2)	Badly broken			1% sp > py-cp in qtz veinlets
38					Minor sp mainly in qtz veinlets
39	Sil-ser-ble (1-2) sil locally 3 in vein-like bands	Largely unbroken			3 x 5mm qtz-cb-sp veinlets, 35° 3mm qtz-cb-sp veinlet, 55°
40	weak qtz-cb veining (diffuse)	Fracts 15-30°			10mm qtz-sp-cb vein, 45°
41	tiny chl veinlets 40°				
42					
43		Badly broken by brittle fault + fracts 0-25°			1% sp > gn-py in 1-2mm qtz veinlets, 10°
44		cutacelastite + pug			5-7% sp > gn > cp blebs in qtz veins
45	strong qtz-cb-sulph net-veining (irreg + diffuse)				1% sp > gn > py-cp as stringers, blebs, + dissem, assoc with qtz net-veining
46		Weakly fractured + broken			
47	Common qtz-cb veins (some pink chl)				
48	150mm sil-pink cb band out by qtz-sp veinlets				
49	46°				strong qtz-cb-sp-gn vein, 20mm, 5°
50				49.7m (EOH)	

**PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA**

HOLE No. **SCI**

PROJECT: **SOCK CREEK**

Page 4 of 5

SAMPLE						ASSAYS (ppm unless specified)												COMMENTS
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Ag	Au	As	Fe(%)		Pb*	Zn*			
SCI-1	SPLIT BOTK	9.4	9.9	0.5	0.5	30	3.18%	4000	4	<.008	3	1.26						Gr-sp vein in siliceous sandstone
SCI-2	"	16.3	18.3	2.0	1.95	7	73	925	<1	<.008	18	1.15						Weak sp in porphyry breccia
SCI-3	"	34.05	34.7	0.65	0.65	185	1.18%	1.68%	25	<.008	16	1.47		1.11%	1.51%			Sp-gn veins in fault in porphyry
SCI-4	"	34.7	35.7	1.0	0.7	183	1.36%	2.01%	2	<.008	12	1.15		1.27%	1.74%			" " " " " "
SCI-5	"	35.7	37.05	1.35	1.35	112	2526	1.28%	1	<.008	25	0.72		0.25%	1.16%			Sp-gn veins in porphyry
SCI-6	"	37.7	39.5	1.8	1.8	14	192	510	1	<.008	6	1.56						Minor sp-gn veinlets in porphyry
SCI-7	"	39.5	41.5	2.0	2.0	19	204	614	<1	<.008	4	1.67						" " " " " "
SCI-8	"	41.5	42.5	1.0	1.0	49	153	2847	<1	<.008	6	2.29						" " " " " "
SCI-9	"	42.5	44.0	1.5	0.8	38	761	3796	<1	<.008	11	1.14						" " " " " "
SCI-10	"	44.3	45.3	1.0	1.1	375	4224	2.08%	1	<.008	10	1.11						Blebs of sp-gn in gr veins in porphyry
SCI-11	"	45.3	47.3	2.0	1.65	49	439	2132	1	<.008	3	0.98						Weak sp-gn veinlets in porphyry
SCI-12	"	47.3	49.2	1.9	1.8	92	245	3633	<1	<.008	3	1.52						" " " " " "
														* Check analyses by AAS by ALS, Brisbane.				
DETECTION LIMITS:						2	3	2	1	0.008	2	0.01%						
Laboratory	ANALABS - COOEE			Analytical Method		AAS	AAS	AAS	AAS	FA	INDROE	AAS						
Job-No.	DO 1		Date 25.3.96		Detection Limit		GA140	GA140	GA140	GA140	GG309	HA101	GA140					

247022

APPENDIX 2

LOG OF DRILLHOLE SC2



PAMINCO EXPLORATION DIAMOND DRILL CORE RECORD

HOLE No. SC 2

Page 1 of 6

LOCATION	W. TASMANIA	OBJECTIVE	LOCATION/SURVEY DATA (AMG)						
PROJECT	ML 4M/96	TO TEST FOR MINERALIZATION BENEATH THE SHALE ARCH BESIDE THE SOCK CREEK FAULT.	Grid	AMG	LOCAL	RL Collar m	560		
PROSPECT	SOCK CREEK		Northing m	5392565.5	5040	Bearing Collar	115°		
DESIGNED BY	J.G. PURVIS		Easting m	386178	40	Dip Collar	-75°		
LOGGED BY	J.G. PURVIS		DH Survey Type	NIL			Length Hole m	69.0	
RELOGGED		RESULT STRONG SPHALERITE VEINING ENCOUNTERED AROUND THE UPPER CONTACT OF THE PORPHYRY BODY.	Depth m	Bearing	Dip	Depth m	Bearing	Dip	
COMMENCED	10.3.96								
COMPLETED	14.3.96								
DRILLED BY	L. STEBBINGS								
DRILL RIG	GOPHER								
SIGNIFICANT INTERSECTIONS									
From m	To m	Interval m	Zn	Pb				Comments	
51.7	53.4	1.7	10.2%	0.2%				Qtz-sp veins in porphyry	
36.0	37.0	1.0	5.3%	0.7%				Qtz-sp veins in xyl sst	
16.0	33.35	17.35	1.0%	0.5%				Qtz-chl-sp veins in black shale.	
SIGNIFICANT CORE LOSS			POOR GROUND CONDITION ZONES						
From m	To m	% Lost	From m	To m	Condition				
0	6.0	46							
11.5	12.0	60							
HOLE SIZE		HOLE CONDITIONS AFTER COMPLETION							
Size	Depth m	Collar	2.6M NQ STEM PIPE WITH SCREW-ON STEEL CAP LEFT IN TOP OF HOLE						
BQTK	69.0	Steel Casing							
		PVC Casing							NIL
		Ground Water							
		Wedge							
		Drill Pad							

247025

Project: SOCK CREEK

Logged by: J.G. FURNIS

Date: 14.3.96

PASMINCO EXPLORATION DIAMOND DRILL LOG

HOLE No. SC 2

Page 2 of 6

m	VEINING and ALTERATION (1 = weak, 4 = intense)	STRUCTURE b = bedding c = cleavage f = fault Angles to LCA	GRAPHIC LOG					LITHOLOGY	MINERALISATION
			0.05 mm	0.5 mm	2 mm	8 mm	32 mm max		
1	Abundant spiderly veinlets (net-vein type) of chl-qtz ± cb Overall: chl (1)	Moderately fractured & broken.						0 - 30.9m: BLACK SHALE Uniform, carbonaceous, pyritic, finely bedded, commonly disrupted by microfractures. Thin interbeds of dark grey silty shale to ≈ 15m.	Strong limonite stains & boxworks along fract & in qtz veinlets
2									
3									
4									
5									
6		B: 51°						2-3% v fi gr dissemin py - some bedded. Rare cp.	
7								5% py v fi gr dissemin Minor sp > gn in chl veinlets	
8									
9									
10		Fracts // LCA B: 7°							
11	Intense qtz-cb-sulph veining							Increasing sp-gn > py-cp in chl-qtz veinlets	
12	Veining mainly qtz ± cb (v little chl)	Strongest veining 30°						qtz-cb veinlets v common sp-gn-py-cp veining 10mm sp-gn-qtz veins	
13	qtz-cb-sulph veining (A)	vein 35°							
14								Minor dissemin py Minor sp-gn veinlets	
15		Fracts 10-15°							
16								5-10% dissemin py Common sp-gn > cp veinlets (qtz-cb)	
17		B: 78°							
18	qtz-cb-sulph veins (A)	Broken: f: 10° Strongly brecciated & fractured (30°) slightly broken.	Irreg bed of qtz-feld sst in black shale matrix					3% py > sp. Dissemin 3% dissemin py. Abundant qtz-spr-gn-chl veinlets 4mm sp > gn veinlet 45°	
19	(4) Tiny net-veins & breccia-fill of qtz-chl-sulph ± cb		100mm bed of qtz-feld sst.						
20		B: 45°						3-5% v fi gr dissemin py 3-5% sp-gn - qtz-chl veinlets abundant sp veinlets all angles	
21	Overall: chl (1) sil (1)	Strong foliation 30°							
22		small f (10°)							
23									
24		Largely unbroken Strong fracturing & foliation (30°)						gn veinlets sp veinlets	

Project: SOCK CREEK

Logged by: J.G. PURNIS

Date: 16.3.96

PASMINCO EXPLORATION DIAMOND DRILL LOG

HOLE No. SC 2

m	VEINING and ALTERATION (1 = weak, 4 = intense)	STRUCTURE b = bedding c = cleavage f = fault Angles to LCA	GRAPHIC LOG 0.0 0.5 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 mm	LITHOLOGY	MINERALISATION
25	Qtz > cb ± chl veining (3-4) + local bx fill	Largely unbroken	SP	BLACK SHALE As before	2-3% py ultra fine gr dissemin. 1-2% sp > qtz cp in qtz veinlets
26	Most veinlets in the foliation	B: 15°	SP		
27		Bedding badly disrupted by strong foliation, brecciation + veining	gn > sp		
28		C: 15°	sp - gn		
29					
30		Contact: Abrupt 21°		30.9m	15mm qtz - cb - sp 50° fine-grained
31	Common qtz, qtz-cb, + cb, veins + veinlets av < 10mm	(opp sense to veining) Hard & largely unbroken	Black shale shiver		1-2% sp - gn > py in veinlets (+ qtz) dissemin in zones of sil
32	Diffuse irreg qtz veins + sil (e)	B: 20°	SP	Black shale band very disrupted + veined	5-7% sp > sp - gn of dissemin qtz, 35°
33	Overall: sil (1-2) ser (1)	f: 25° broken			3% sp, dissemin + veinlets
34		Weak C: 50°			Minor dissemin py
35		C: 40°		CRYSTAL SANDSTONE ("PORPHYRY SANDSTONE") Grey to apricot massive, uniform. Predom densely packed feldspar (1-2mm) and qtz (1-3mm). Very subordinate qtz-sericite matrix. Minor black shale grains, fine purrice and rare lithic frags. Many xyl fragments.	Trace sp - gn in uncommon veinlets
36	sl diffuse qtz - sulph veins	Blotchy "pseudochastic" texture	sp vein		56mm sp vein 15°
37			sp		40mm qtz - sp vein 40°
38			sp		30mm qtz - sp vein 10°
39					Minor dissemin py
40		B?: 30°	Black shale grains fine purrice rare lithic to 5mm (with amorph)		Trace sp - gn in qtz - cb veinlets
41					
42	Common diffuse + irreg qtz - cb veins + veinlets, gen < 20° / LCA.				5mm qtz - sp - gn veinlet / LCA
43	Overall: sil (2) ser (1) alb (1)		sp	Small black shale fragment	2% sp > py - gn in irreg qtz - sulph veinlets + blebs, up to 30mm.
44			sp		30mm qtz - sp vein 55°
45					Minor dissemin py
46				5mm fi of sil - alb lithic common porphyry clast	Trace sp - gn.
47	Numerous diffuse irreg qtz veins + zones of sil (3) to 300mm	Contact: Abrupt 85°		47.4m	
48	Overall: sil (2-3) ser (2) alb (1)	Largely unbroken	porphyry	CRYSTAL - LITHIC BRECCIA ("PORPHYRY BRECCIA") Mottled greenish-grey black + pink. Irreg lumps of qtz - feld	2-3% sp > py - gn in blebs + veinlets up to 15mm + from // LCA to 40°
49		shale baked adjacent to porphyry	Black shale (green + brown)		Minor sp > py - gn 10mm qtz - sp vein
50		B: 45°			

PASMINCO EXPLORATION DIAMOND DRILL LOG

m	VEINING and ALTERATION (1 = weak, 4 = intense)	STRUCTURE b = bedding c = cleavage f = fault Angles to LCA	GRAPHIC LOG 0.05 mud 0.15 2 8 32 max min	LITHOLOGY	MINERALISATION
50	sil (2-3) (matrix only)	C: 40° B: 70°		porphyry in xyl 561 matrix lath to 7mm, feld to 2mm, lathes to 20mm, with intercalations of black shale to 550mm	Minor sp > py - gn
51	Minor qtz-cb veinlets ser (1-2)	contact: 15° abrupt, irreg		51.45m	2-3% sp > gn Dissem + veinlets to 4mm
52	↑ strong qtz-sulph veining av < 20° or 40°	Largely unbroken			↑ MAIN MIN ZONE ↑ 300mm qtz-sulph vein 45° (sp is yellow) Numerous 5-35mm qtz-sulph-ep-ep veins 15-20°
53					
54	Overall: sil (2-3) alb (1-2) ser (1-2)			QUARTZ-FELDSPAR PORPHYRY	1-2% sp in veinlets to 5mm, < 45° (most ≈ 20°)
55				Pale orange-grey. coarse gr. V hard. Uniform.	Minor sp
56				Qtz xyls to 10mm, av 4-5mm, often corroded	15mm qtz-sp-pink cb vein 15°
57				Pink feld xyls av 2mm, to 3mm	Trace sp, py, ep dissem + veinlets
58		Fract small f: 25°		In fine sil-ser-alb groundmass.	5mm qtz-sp-py veinlet, 45°
59				Some snowflake de-vitrification texture.	
60	Common qtz-alb veining (barren)			Alteration picks off vague brecciation texture (incipient quenching?)	Minor sp-py > ep in veinlets + blebs
61					15mm qtz-sp-gn-ep -py vein, 55° 8mm qtz-sp vein 10°
62	Tiny chl veinlets < 25°				Trace sulphides
63					
64					
65	10mm patches of banded chaledonic qtz				
66	Patchy sil > chl-ser (2-3) or sil > alb (2-3)			quench breccia texture	5-10mm qtz-sp-gn vein // LCA 5mm qtz-sp vein 10°
67					
68					
69				EOH 69m	sp blebs in diffuse qtz veins
70					

PASMINCO EXPLORATION
DIAMOND DRILL CORE ASSAY DATA

PROJECT: SOCK CREEK

SAMPLE						ASSAYS (ppm unless specified)												COMMENTS					
Number	Type	From m	To m	Interval m	Recovered m	Cu	Pb	Zn	Ag	Au	As	Fe(%)											
SC2-1	SPLIT BQTK	10	12	2	1.55	140	1394	0.64%	3	<.008	80	4.79										Black shale with qtz- <i>chl</i> -sulph veins	
SC2-2	"	12	14	2	2.0	211	1525	4.710	4	<.008	99	6.36											
SC2-3	"	16	18	2	1.95	146	2432	0.86%	4	<.008	95	6.12											
SC2-4	"	18	20	2	2.0	97	2274	0.78%	2	<.008	96	3.01											
SC2-5	"	20	22	2	1.75	197	0.68%	1.29%	4	0.018	137	4.65											
SC2-6	"	22	24	2	2.1	272	0.89%	1.69%	4	0.018	92	3.72											
SC2-7	"	24	26	2	2.0	210	0.60%	1.15%	3	0.031	94	4.95											
SC2-8	"	26	28	2	2.0	183	4755	0.69%	3	0.010	70	3.88											
SC2-9	"	28	30	2	1.8	149	3441	0.90%	3	0.019	79	4.41											
SC2-10	"	30	31	1	1.0	242	4409	1.02%	3	0.011	67	4.08											
SC2-11	"	31	32.5	1.5	1.6	68	2743	0.67%	1	<.008	6	1.64										Crystal sst with qtz-sulph veins	
SC2-12	"	32.5	33.35	0.85	0.85	102	2.0%	1.62%	3	<.008	469	0.96											
SC2-13	"	36	37	1	1.0	85	0.74%	5.27%	2	<.008	42	1.52											
SC2-14	"	42.5	45	2.5	2.45	29	295	0.91%	1	<.008	5	1.38											
SC2-15	"	47.4	49.4	2	2.0	145	1026	1.05%	<1	<.008	9	1.24										Crystal-lithic breccia with sulph veins	
SC2-16	"	51	51.7	0.7	0.7	39	1681	1.41%	1	<.008	12	0.99										" " " "	
SC2-17	"	51.7	53.4	1.7	1.7	212	1887	10.2%	2	<.008	5	1.09											Qtz-sp veins in q-f porphyry
SC2-18	"	53.4	55	1.6	1.6	20	31	3293	1	<.008	2	1.39											Porphyry with qtz-sp veinlets
SC2-19	"	55	57	2	2.0	52	15	2883	<1	<.008	6	1.25											" " " "
DETECTION LIMITS:						2	3	2	1	0.008	2	0.01%											
Laboratory ANALABS - CODEE				Analytical-Method		AAS	AAS	AAS	AAS	FA	HYDRIDE	AAS											
Job-No. DO 1		Date 25.3.96		Detection-Limit		GA140	GA140	GA140	GA140	GG309	HA-101	GA140											

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