

**MICROFILMED**

EXPLORATION LICENCE 10/80  
GREAT PYRAMID, TASMANIA  
PROGRESS REPORT ON EXPLORATION TO  
21ST JULY, 1981  
INCLUDING  
REPORT FOR THE SIX MONTHS ENDED  
21ST JULY, 1981

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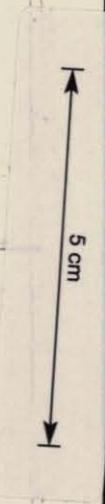
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PETROLOGICAL REPORTS

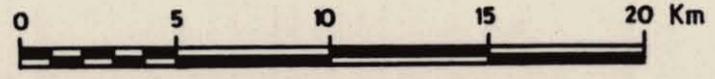
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Scale 1:250,000



Centre  
Melbourne  
Date  
31-8-81

THE BROKEN HILL PROPRIETARY CO. LTD.  
E.L. 10/80, GREAT PYRAMID, TAS.  
LOCATION MAP

Project No.  
Drawing No.  
A4-2255

1. GENERAL

EL 10/80 of 12 square kilometres, which includes the Great Pyramid tin prospect, was applied for on 12th February, 1980 and granted to The Broken Hill Proprietary Company Limited on 21st July, 1980, after the Company had successfully tendered for the right to apply for the area in October, 1979.

2. EXPLORATION PHILOSOPHY AND OBJECTIVES

The object of exploration at Pyramid Hill is to prove up a bulk low grade, open cut extractable tin deposit. The tin mineralization for the greater part occurs as cassiterite within a swarm of thin, closely spaced veinlets with a NE trend and a steep NW dip. Much of the previous testing of the deposit, by underground development and drilling, was such that the vein swarms were not adequately sampled.

3. GEOLOGY AND MINERALIZATION

3.1 Geology

The following description of the geology of the deposit is by D.M. Ransom, Consultant Geologist.

3.1.1 Regional

Great Pyramid occurs in the Mathinna Beds, a sequence of sandstones, shales and quartzites of probable Lower Devonian age, exhibiting sedimentary structures indicative of a turbidite sequence. The sequence has not been subdivided.

3.1.2 Great Pyramid Area

The area mapped is approximately 1200 metres in length and 400 metres wide, occupying a prominent north-west trending ridge, Pyramid Hill. Outcrop is reasonably abundant on the ridge top, but usually restricted to track cuttings on the slopes. Previous drilling campaigns have created reasonably extensive outcrops in these areas. All outcrops in the area mapped have been plotted on the 1:1000 scale fact plan.

Rock types: The main rock types are quartzite, sandstone and shale. They are gradational to one another in most exposures, caused by variation in the proportions of each rock type, by variations in thickness of bedding, and by degree of alteration - the quartzite probably being an alteration product of the sandstone. It is generally difficult therefore to objectively designate rock types, hence rock unit boundaries are somewhat subjective.

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The quartzite which occupies the ridge top is generally a hard grey massive rock with a "vitreous" character on fresh surfaces. It tends to ring when hammered. In the main outcrops, beds are commonly several metres in thickness, separated by very thin (1-2 cm) shale beds. Bedding is usually difficult to recognise although it is parallel to a well developed jointing direction. The quartzite may weather to a red-brown or pink colour at surface and underground, and is gradational to rocks mapped as sandstone. These rocks form less prominent outcrops, are softer, grey-brown or pink weathering and more friable. Sandstone is usually thinner bedded (10-50 cm) and interbedded with grey shale. It is best observed in underground exposures. Some ambiguity in the separation of quartzite from sandstone in the interpretation will be noted. The thicker sandstone units (> 40 cm) may form prominent rubbly outcrops on the ridge tops, but where interbedded with shale are generally poorly exposed. The shale interbeds dominate the sandy beds on the south-western side of the ridge comprising an easily mapped thinly laminated pink to red-brown weathered unit, exposed only in the adits or in track cuttings. These rocks probably underlie the ridge slopes. Small scale cross bedding is fairly common. In fresh exposures they are generally grey.

There is no significant metamorphism.

Structure: Observations both underground and on surface indicate most bedding strikes approximately north-west and dips about 70 degrees south-west. Facing determined from sedimentary structures, mainly flame structures, small scale cross bedding and rarely graded bedding, is dominantly upright to the south-west.

A few small folds were observed underground, generally asymmetrical with short north-east limbs. No significant development of axial plane cleavage is present, but a prominent cleavage lies parallel to bedding, almost certainly a bedding fissility. Lineation is almost completely absent. Folds where observed plunge about 20 to 30 degrees south-east. Hence the evidence suggests the area mapped lies on the upright limb of an anticline with its hinge to the north-east.

The adit mapping shows a greater variability in dip than the surface mapping, particularly in those openings on the north-east side of the ridge. Flat dipping beds are more difficult to recognise in the surface outcrops.

By inspection of the dip and dip direction of bedding in the area mapped, two structural domains can be defined, separated by a line striking about 330 degrees passing through the centre of the area. To the south of this line, bedding strikes approximately north-west and dips fairly constantly at 60 to 70 degrees to the south-west. To the north of this line dips are variable. When plotted on a stereographic projection, the south-western domain shows a point maximum fabric, while the north-western domain shows a girdle fabric,

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indicating the presence of open folds plunging shallowly south-west.

The line between the two structural domains so defined is interpreted as a fault. This interpretation is supported to some extent by red-brown weathered and sheared mudstone in outcrop and faulted zones mapped in various adits. Also a slight displacement of a mafic dyke mapped by Jack (1964) coincides with the location of the fault.

In the north-west of the area mapped to the south of the fault, bedding bends to a westerly orientation, and the main quartzite unit trends in the direction of a tin/copper geochemical anomaly defined in the Paringa survey. This fold is a buckle unrelated to the folding described above.

Stratigraphy: No stratigraphy can be confidently mapped. An interpretation of rock unit boundaries, essentially areas dominated by quartzite, sandstone and shale as defined above are shown in the map. No positive correlation can be made across the fault although the quartzite units may be extensions of one another.

### 3.2 Mineralization

As described in previous literature, the tin mineralization at Great Pyramid comprises an area of cassiterite-bearing close spaced joints. These joints strike about 070 degrees and dip about 60 to 70 degrees to the north-west, being strictly planar, and while fairly constant in orientation, also reflect the structural domains defined by bedding. No other mineralized joint sets can be systematically mapped, although isolated veins of different orientations can be observed occasionally. Unmineralized joints were mapped in the adits. The mineralized joints are strictly ultra-narrow fissures, 1 to 5 mm in width. They are usually lined (rarely filled) with white quartz and exhibit open spaces or limonite filling, probably after carbonate (siderite or ankerite). Minor sulphide, (pyrite, arsenopyrite, chalcopyrite, sphalerite) muscovite and a large number of accessory minerals including wolframite and fluorite have been previously described. The joint density is generally greater than 80/metre, and up to 120/metre in the more intensely mineralized areas defined by previous drilling.

The mineralized joints exhibit quartzite envelopes of variable width (usually 1-2 cm). It is where the vein density is such that these envelopes coalesce, that the quartzites described above occur. Jointing and veining are best developed in the thicker, more massive beds, and while present in the interbedded sandstones and shales, mineralization is rare.

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Geometrically the mineralized joints are normal to the fold axes as observed in outcrop and as defined by the girdle fabric of the north-east structural domain, strongly implying they are related to the folding. It is not known if this jointing is developed on a regional scale.

Drilling by BHP and Paringa has defined two zones of mineralization, a "north-east" and a "south-west" lens. As shown in the map, these lenses are interpreted as being truncated by the fault described above. It is possible they are faulted repetitions of one another, but if so, they represent quite different structural levels, i.e. may be the product of a large normal displacement. Neither the north-western extensions of the north-eastern lens nor the south-eastern extension of the south-western lens has been defined by the drilling to date - the Paringa holes on the north-east zone stopped at the lease boundary. However, the most important areas of mineralization appear to be in close proximity to the interpreted fault. The apparent difference in strike of the two mineralized lenses is a product of the steep topography on the south-western side of the ridge; this is also reflected in the interpreted rock unit boundaries. Both lenses are in fact parallel to bedding.

Mapping around the margins of the mineralized lenses suggests that their boundaries coincide approximately with a lessening of the density and integrity of mineralized joint systems. Black quartz veins, which are cut by the mineralized joints are observed and there is a tendency for carbonate vein fillings to take the place of quartz. This may indicate a local zoning phenomenon. Minor copper carbonate staining occurs in calcite veined and sheared grey shale in a number of the adits.

To summarize, the controls of mineralization at Great Pyramid appear to be as follows:-

1. Thick sandstone/quartzite units,
2. Dense, close-spaced jointing, oriented normal to the local fold axis,
3. Proximity to a throughgoing fault.

If the jointing is present on a regional scale, none of the above factors uniquely locates the mineralization, since none of the controls are unique to the Pyramid Hill area. It is proposed that the coincidence of all three factors, plus perhaps a regional zoning effect related to a buried granite source for the tin, have combined to form the environment for the mineralization. It can be argued that deformation, faulting and intrusion are approximately coeval, and that the controls are a combination of fortuitous stratigraphy (thick quartzite units), structure (folding and ?faulting to produce open spaces) and zoning (appropriate distance from a granitic tin source).

4. SUMMARY OF WORK COMPLETED

- 1. Literature survey and review of available data;
- 2. Geological mapping at 1:1000 (surface) (Figure 2) and 1:200 underground including fracture density analysis (Figures 3-6);
- 3. Soil sampling at 25 metre intervals on 50 metre spaced lines over the Pyramid grid area of 800 x 600 metres (see Figure 8), minus 40 mesh fraction analysed for tin, tungsten, copper, lead, zinc, silver and arsenic;
- 4. Drilling programme of 13 holes for a total of 1229 metres including core logging, sampling and assaying (see Figure 2 for location);
- 5. Underground sampling of the No. 2 NLL drive (35 x 2 m channel samples of 3-40 kg each) and bulk sampling (4 x ½ tonne grab samples) for metallurgical test work;\*
- 6. Petrological study of 30 samples from underground and surface exposures (Appendix 1).

\* results of the channel and bulk sampling had not been received at the time of preparation of this report.

5. SUMMARY OF WORK IN PROGRESS

- 1. Report preparation covering the first phase drilling programme including preliminary reserve calculations;
- 2. Ground magnetic surveying at 5 metre intervals on 50 metre spaced lines;
- 3. Metallurgical testing;
- 4. Petrology of core samples;
- 5. Construction of a 1:500 scale model of the deposit;
- 6. Evaluation of techniques best suited to further exploration of the deposit.

6. 1980/81 DRILL PROGRAMME - SUMMARY OF RESULTS

Results of the recently completed drill programme available at the time of preparation of this report are summarized in Tables 1 and 2. The holes were drilled in such an orientation as to be at the highest practical angle to both the mineralized joint set and the bedding.

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Core was photographed, logged, split by diamond saw and routinely assayed by Australian Laboratory Services in Brisbane for Sn, W, Cu, Pb, Zn, Ag, As and Mo. Samples with greater than 9 ppm Ag were analysed for gold. All core was of HQ diameter except where drilling conditions necessitated reduction to NQ. Sample intervals were 2 metre except where otherwise dictated by lithological boundaries. Ultraviolet and scintillometer scans of the core were also carried out. In both instances results were negative. Sludge samples were collected over 3 metre intervals where a suitable water return was achieved.

A total of 836 samples, comprising 527 half-core, 74 percussion chip and 235 sludge, were obtained from the drilling programme.

Geological logs and assay logs are currently in preparation.

TABLE 1

Great Pyramid Prospect  
Summary of Drilling Results to 16/4/'81

BPD 1

<u>Sa. No.</u>	<u>Interval(m)</u>	<u>Length(m)</u>	<u>Sn%</u>	<u>Ag(ppm)</u>
BJ 001-003	3.0- 9.0	6.0	0.13	1.7
BJ 010-024	19.8-49.1	29.3	0.18	2.6
BJ 027-035	55.1-70.65	17.65	0.07	6.3
BJ 041-045	79.0-89.6	10.6	0.12	1.2

Downhole average Sn% : 0.10 (101.2 m)

BPD 3

<u>Sa. No.</u>	<u>Interval(m)</u>	<u>Length(m)</u>	<u>Sn%</u>	<u>Ag(ppm)</u>
BJ 062-065	0.0- 6.8	6.8	0.13	2.5
BJ 077-093	29.7-64.2	34.5	0.23*	5.8
BJ 099-111	74.5-100.05	25.55	0.05	6.4

\* includes 2 m at 2.10% Sn  
Downhole average Sn% : 0.10 (100.05 m)

BPD 4

<u>Sa. No.</u>	<u>Interval(m)</u>	<u>Length(m)</u>	<u>Sn%</u>	<u>Ag(ppm)</u>
BJ 136-159	0.0-47.3	47.3	0.10	10.2
BJ 136-191	0.0-112.45	112.45	0.07	11.6

Downhole average Sn% : 0.06  
Ag(ppm) : 10.6 (125.5 m)

BPD 5

<u>Sa. No.</u>	<u>Interval(m)</u>	<u>Length(m)</u>	<u>Sn%</u>	<u>Ag(ppm)</u>	<u>Cu%</u>
BJ 239-245	0.0-14.8	14.8	0.17	4.8	<0.01
BJ 262-282	49.2-93.1	43.9	0.06	15.4	0.12

Downhole average : Sn% : 0.07  
Ag(ppm) : 10.0 (100.23 m)

TABLE 1 CONT'D

BPD 9b (percussion hole)

<u>Sa. No.</u>	<u>Interval(m)</u>	<u>Length(m)</u>	<u>Sn%</u>	<u>Ag(ppm)</u>
BJ 371-377	4.0-18.0	14.0	0.53	2.6
BJ 381-390	24.0-44.0	20.0	0.14	2.1

Downhole average : Sn% 0.24 (45 m)

BPD 9a (cored hole)

<u>Sa. No.</u>	<u>Interval(m)</u>	<u>Length(m)</u>	<u>Sn%</u>	<u>Ag(ppm)</u>	<u>W(ppm)</u>
BJ 328-336	0.0-17.0	17.0	0.17	1.8	-
BJ 339-351*	21.75-48.4	26.65	0.20	6.2	50
BJ 354-357	52.45-60.45	8.0	0.28	8.6	-

\* BJ 347 missing  
Downhole average : Sn% 0.14 (82.2 m)  
Ag(ppm) : 5.0

BPD 8

<u>Sa. No.</u>	<u>Interval(m)</u>	<u>Length(m)</u>	<u>Sn%</u>	<u>W%</u>	<u>Cu%</u>	<u>Ag(ppm)</u>
BJ 413-415	42.25-48.40	6.15	0.06	0.007	0.01	1.5
BJ 419-422	55.15-63.15	7.90	0.11	<.001	0.04	4.1
BJ 430-436	77.85-91.15	13.30	0.05	0.003	0.15	14.9
BJ 441-442	99.15-103.08	3.93	0.02	<.001	0.12	5.0

Downhole average Sn% : 0.03 (103.1 m)  
Ag ppm : 4.5

BPD 2a

<u>Sa. No.</u>	<u>Interval(m)</u>	<u>Length(m)</u>	<u>Sn%</u>	<u>Ag(ppm)</u>
BJ 318-321	9.9-17.2	7.3	0.17	3.4

Downhole average Sn% : 0.11  
Ag(ppm) : 2.7 (19.6 m)

TABLE 1 CONT'DBPD 10

<u>Sa. No.</u>	<u>Interval(m)</u>	<u>Length(m)</u>	<u>Sn%</u>	<u>W%</u>	<u>Cu%</u>	<u>Ag(ppm)</u>
BJ 453	4.0- 6.3	2.3	0.36	0.006	-	2
BJ 458-474	14.8-48.10	33.3	0.25	0.007	-	2.8
BJ 479-481	56.3-64.0	7.7	0.14	0.019	-	3.7
BJ 496-498	96.7-102.95	6.25	0.14	0.055	0.18	10.8
	(E.C.H.)					

Downhole average \* Sn% : 0.15 (93.3 m)  
(\* excluding diorite dyke)

TABLE 2

Summary of 1980-81 Diamond Drill Programme  
Great Pyramid

Hole	<u>Commenced</u>	<u>Completed</u>	<u>Completed</u> <u>Depth(m)</u>	<u>Diamond</u>		<u>Percussion</u> <u>(m)</u>
				HQ	NQ	
BPD1	17/10/80	03/11/80	101.20	90.60	-	9.00
BPD2a	13/12/80	07/01/81	19.65	19.65	-	-
BPD2b*	07/01/81	14/01/81	28.00	-	-	28.00
BPD3	04/11/80	19/11/80	100.05	96.75	-	3.30
BPD4	21/11/80	01/12/80	125.55	99.60	25.95	-
BPD5	04/12/80	12/12/80	100.23	100.23	-	-
BPD6	Not drilled					
BPD7	05/06/81	27/06/81	139.55	87.50	25.36	19.00
BPD8	20/02/81	19/03/81	103.08	77.14	17.05	8.89
BPD9a	15/01/81	15/02/81	82.20	23.40	45.80	13.00
BPD9b*	13/02/81	19/02/81	45.00	-	-	45.00
BPD10	20/03/81	09/04/81	102.95	16.70	82.25	4.00
BPD11	10/04/81	09/05/81	219.75	89.00	120.75	9.00
BPD12	16/05/81	25/05/81	61.48	52.48	-	9.00
BPD13	Not drilled					
<u>TOTAL:</u>			<u>1228.69m</u>	753.05	317.16	148.00
				(Other 10.29 m)		

Appendix 1  
Petrological Reports

EXPLORATION DEPARTMENT

Petrology Section

938016

Memo to: MR. RICK HINE,  
HOBART OFFICE.

Date 30th July, 1981.

Our Ref: DJG:DK

Your Ref:

Subject: E1/15: Petrology of diamond drill core showing  
anomalous silver and tin values from BPD5, Pyramid Hill,  
Tasmania.

File: M579

Date:

Introduction:

A sample of diamond drill core from BPD5, Pyramid Hill (MRL 12989) was submitted for identification of any silver-bearing phases.

The interval from which this sample was obtained assayed 36 PPM Ag and 0.12% Sn.

Results of the examination:

The sample has been identified as immature lithic medium sandstone. It comprises poorly sorted angular to subrounded quartz detritus together with scattered rounded lithic fragments of chert, argillite and rare rounded detrital zircons, set in a sericitic/illitic matrix. The quartz grain size ranges from 40 to 800 microns, mainly 280 microns, indicating medium sand grade.

Crosscutting veinlets and patches of medium to coarse grained strained interlocking quartz together with secondary goethite and rosettes of pale greenish scorodite\*, are also present. Some of these patches of coarse grained quartz have been fractured and rehealed, indicating a later shearing event.

In reflected light, the following minerals were identified, amounting only to approximately 1-2 volume percent:

pyrite,  
arsenopyrite (associated with pyrite and as  
minute inclusions in digenite),  
rutile (optics, reflectance = 21),  
digenite,  
covellite\*\*  
tarnished copper iron sulphide,  
(idaite?)\*\*  
cassiterite (optics, reflectance = 11)\*\*\*  
goethite,  
rare chalcopyrite (SEM).

\* The hydrated iron arsenate, scorodite was confirmed by XRD.

\*\* Both these phases contained traces of Ag according to SEM.

\*\*\* Confirmed also by SEM which also detected minor Ag and Sb together with a trace of iron.

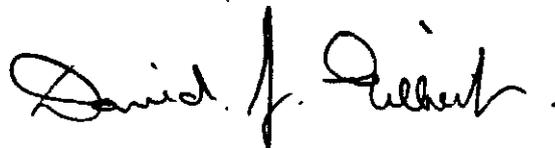
Most of the observed copper sulphide mineralisation occurs within or near the crosscutting quartz veinlets. Rare scattered patches of cassiterite crystals (125µm across) also occur within these veinlets.

Discrete silver phases were not detected and it is believed that most of the silver occurs in secondary supergene copper sulphide (covellite) and tarnished copper iron sulphide (idaite?).

Minor silver, antimony and a trace of iron were detected in the cassiterite. This occurrence of silver is very unusual and may possibly indicate replacement of an earlier silver-bearing sulphosalt by cassiterite.

Conclusions:

- 1: Discrete silver phases were not detected. Minor silver and antimony were detected in cassiterite and traces of silver were detected in supergene covellite and tarnished copper iron sulphide (idaite?).
- 2: The unusual occurrence of minor silver and antimony in cassiterite could possibly indicate replacement of an earlier tin sulphosalt or even tin bearing tetrahedrite by cassiterite, but there is no textural evidence for this.



D.J. Gilbert,  
Petrologist.

cc: Mrs. D. Jenkinson,  
(Library, Camberwell)

Pontifex & Associates

Mineralogical Report No. 3188

COMMENTS PPT SERIES

This group was submitted as a possible tuffaceous facies. All samples consist mainly of variably fine to very coarse, subangular to rounded, detrital quartz grains of apparent 'normal' clastic type, probably derived from an acid plutonic and/or metamorphic terrain.

Minor to subordinate lithic components are essentially 'pelitic' (shale/mudstone, some cherty); these are selectively weathered and ferruginised. Similar material forms a matrix. Accessory tourmaline zircon and opaque oxides are widespread.

There is no diagnostic evidence of a tuffaceous contribution to this facies.

PPT - 24 : fairly massive, fine to coarse grained (lithic)  
MRL 12,653 quartz sandstone;  
lithic detritus and intergranular matrix, argillised/  
limonitised;  
accessory tourmaline, zircon.

About 70% of this rock consists of a massive to vaguely bedded, moderately tightly packed aggregate of subangular to subrounded (and some rounded) quartz grains. This aggregate is not well sorted, with grain size ranging from 0.1 to 0.7 mm diameter.

There are no characteristics diagnostic of a specific genesis for these quartz grains, however most appears to derive from an acid igneous or coarse grained metamorphic terrain, certainly there is no evidence of a direct volcanic (or tuffaceous) origin.

About 30% of the aggregate consists of detrital lithic grains, of the same grain size range mainly of probable pelitic, possible felsic composition, selectively altered to clays and limonitised. Similar material of the same composition is scattered, intergranular; minor chert detritus is also present.

Accessory minerals include tourmaline, lesser zircon, muscovite and opaque oxides, (suggesting an acid igneous source).

PPT - 25 : incipiently quartzitic;  
NRL 12,654 fine to coarse (lithic) quartz sandstone;  
minor sericitic detritus as illdefined grains and  
sparsely intergranular.

This rock consists essentially of a massive to vaguely bedded, fairly tightly packed aggregate of generally subangular to subrounded quartz grains, ranging in size from 0.1 mm to 1 mm in maximum dimension. Most grains contain opaque dust inclusions (far more than in PPT - 24), indicating a stressed 'granitic' or metamorphic origin. The aggregate is incipiently quartzitic.

Minor detrital grains of chert are scattered. Minor pelitic detritus, (weakly metamorphosed) occurs as illdefined grains and rather sparse intergranular matrix.

Accessory to trace detrital tourmaline, zircon, opaque oxides are present.

PPT - 26 : heterogeneous, poorly sorted fine to very coarse  
MRL 12,655 (lithic) quartz sandstone;  
minor pelitic matrix and fragments, accessory  
tourmaline.

This is a coarser, unsorted and more crudely bedded equivalent of PPT - 25, composed largely of a heterogeneous, loose-packed aggregate of subrounded to rounded quartz grains 0.1 to 1.5 mm in maximum dimension. Minor lithic fragments of altered pelitic composition, rarely of chert and vein quartz, are randomly disposed.

About 15% of the rock consists of a patchy matrix of finer quartz mixed with limonitised clay-sericite and vague small cherty domains.

Accessory very small grains of detrital tourmaline and opaque oxides, also trace zircon are scattered.

PPT - 27 : fine to coarse (lithic) quartz sandstone;  
MRL 12,656 minor matrix of limonitised clay sericite;  
several quartz veins with associated, very  
limited sericitic silicic alteration.

This is a massive to vaguely bedded sandstone dominated by subangular to subrounded quartz grains which range in size from 0.1 to 0.5 mm.

Minor lithic detritus of ferruginised clay-sericite, rare chert and fine vein quartz are scattered. Similar limonitic clay-sericite, and cryptocrystalline silica is widespread as a matrix, including diffuse patches of 'cherty' composition similar to that in PPT - 26. In this rock however, the cherty patches are more or less marginal to quartz veins and include minor dispersed sericite, indicative of incipient sericitic and silicic hydrothermal alteration.

Trace to accessory detrital tourmaline, zircon, rutile, muscovite are scattered.

PPT - 28 : poorly sorted, mixed fine quartzose sand, and coarse  
MRL 12,857 to very coarse lithic quartz sand;  
lithic components and a sparse matrix, mainly pelitic.

This rock consists essentially of a massive, loose packed aggregate of subrounded to rounded grains and subordinate lithic fragments average size 0.5 mm (50%), randomly disposed through (mixed with) a finer sand, average size 0.1 mm.

The coarser fraction consists of about two thirds single crystal quartz grains, about one third lithic detritus including ferruginised pelitic detritus (shale/mudstone), lesser cherty-mudstone, trace grains of vein-quartz.

The finer fraction consists mainly of quartz grains but with a sparse intergranular matrix of ferruginised clay-sericite.

Accessory tourmaline, zircon, opaque oxides are present.

PPT - 29 : poorly sorted, fine to coarse quartz sandstone;  
MRL 12,658 minor matrix of limonitised clay-sericite;  
random leach cavities probably after similar  
clay-sericite domains.

A poorly sorted, fine to very coarse quartz sandstone essentially the same as the facies above, forms a variably continuous, rather corroded-looking framework enclosing numerous, random, small leach voids.

A matrix of ferruginised fine muscovite, including sericite is widespread intergranular and it appears that similar material (and/or clay-sericite lithic fragments), has been leached out to form the voids.

Trace detrital tourmaline and zircon are scattered.

**PPT - 30** : massive to bedded fine to coarse, pelitic quartz  
**MRL 12,659** sandstone, widespread siliceous, clay/sericite matrix;  
quartz vein with weak sericitic alteration borders;  
accessory tourmaline, zircon and opaque oxides (weathered).

This rock consists of a more or less bedded, fairly tightly-packed aggregate of angular to subangular, and some subrounded grains of quartz and minor pelitic lithic fragments, all evenly mixed with a size range of 0.1 to 0.7 mm. The lithic grains include cherty and/or sericitic mudstone.

A ubiquitous intergranular matrix of clay-sericite intimately mixed with extremely fine 'quartzitic' quartz forms about 20% of the rock.

Accessory detrital opaque oxides (weathered) also trace detrital tourmaline and zircon occur in incipient heavy mineral laminations.

Narrow margins bordering a quartz vein are selectively limonitised (possibly due to earlier, slight enrichment of sericite).

PYRAMID TIN PROSPECT  
LOCATION OF PETROGRAPHIC SAMPLES - 2

- PPT 24 "Tuff"; outcrop in track, 590mE 045mN.
- PPT 25 "Tuff"; medium-fine grained. Outcrop in road-cutting, 385mE 120mN.
- PPT 26 "Tuff", medium grained. Road cutting, 403mE 085mN.
- PPT 27 "Tuff", severely altered sandstone. Road cutting near BPD 10 drill site, 360mE 152mN.
- PPT 28 "Tuff", coarse grained. Road cutting, 315mE 205mN.
- PPT 29 Severely altered "tuff" (equiv of PPT 26?). Road cutting, 403mE 085mN.
- PPT 30 "Tuff" (fine grained equiv of PPT 28?). Road cutting, 320mE 204mN.

PYRAMID TIN PROSPECT - LOCATION OF  
PETROGRAPHIC SAMPLES

- PPT 1 Quartzite; N<sup>o</sup> 2 NLL, south wall, 20.6m; predom veinlet orientation is approximately 065° 70 NW dip. PBS 4 site.
- PPT 2 Quartzite; N<sup>o</sup> 2 NLL, south wall, 26m.
- PPT 3 Quartzite/sandstone, N<sup>o</sup> 2 NLL drive, south west wall, 7m; oxidized veinlets with musc strike 055°.
- PPT 4 Sandstone/quartzite, North Adit, south wall, 5m from drive; coincides with PBS 1 site (bulk sample) veinlets strike approximately 030°.
- PPT 5 Quartzite, North Adit, south wall, 20m; in folded shallow dipping sequence; veinlets 060° steep NW dips.
- PPT 6 Sandstone/shale, North Adit, south wall, 19m.
- PPT 7 Quartzite; 5m from North Adit end, south wall; intense joints.
- PPT 8 Quartzite; C Adit, north wall, 18.5m, veinlets 060° steep NW dip.
- PPT 9 Quartzite; C Adit, north wall, 32.5m (coincides with PBS 2 site), minor pyrite one veinlet - most oxidized.
- PPT 10 Shale; C Adit, roof, 40m; bedding 340° 70 W.
- PPT 11 Quartzite/Sandstone; C Adit, north wall, 43m.
- PPT 12 Shale; C Adit, north wall, 60m, bedding 340° 70 NW.
- PPT 13 Quartzite; N<sup>o</sup> 2 SLL; at PBS 3 site, junction of drive.
- PPT 14 Shale; N<sup>o</sup> 2 SLL; south wall, 25m, bedding approximately 160° 45 SW.
- PPT 15 Sandstone/quartzite; N<sup>o</sup> 3 SLL, north wall, 8m, bedding approximately 310° 15 NE.
- PPT 16 Shale; N<sup>o</sup> 3 SLL, south wall, 30m; bedding essentially as above.
- PPT 17 Sandstone; N<sup>o</sup> 3 SLL, south wall, 30m.
- PPT 18 Sandstone/quartzite; Magazine Adit, south wall, 35.5m.
- PPT 19 Quartzite; outcrop near 250 N 350 E
- PPT 20 Mineralized quartz vein in quartzite same locality.
- PPT 21 Sandstone; Brock's Adit 20m, north wall.
- PPT 22 Shale, Brock's Adit, north wall, 40m, bedding approximately 080° 75 - 80° S.
- PPT 23 Sandstone; Brock's Adit, north wall, 65m.

REPORT CMS 80/10/28Pyramid Tin Prospect (Tasmania) Rocks

Twenty-three samples were received for thin-section preparation and petrological-mineralogical examination. They are briefly described in the accompanying tables, and the main points are summarised below.

Summary

The rocks consist of a series of clastic sediments, originally ranging from feldspathic sandstones (perhaps even arkoses) through sandy siltstones, argillaceous siltstones to argillites; the rocks are indurated and thoroughly lithified, but metamorphism was minimal and was confined to weak dynamic metamorphism expressed in strain-extinction in quartz. Clastic textures are well-preserved in almost all rocks, and recrystallization is restricted to fine matrix-cement. Little or no metasomatism is in evidence, and the rocks as a whole are not pneumatolysed. In fact, the general paucity of metasomatic or metamorphic effects is noteworthy, and may well be useful from the metallurgical point of view, lessening energy needs for grinding.

Mineralisation

Cassiterite was the only tin phase detected; in all but two rocks (one of these is doubtful), the cassiterite occurs only in narrow, generally parallel quartz veins which also contain small amounts of muscovite-hydromuscovite and oxidised sulphides, with occasional "transported" scorodite (not in situ formation); these veins make variable angles with bedding, and since the specimens are not orientated there is little value in many measurements. The veins range in width from 0.05 mm to 1.5-2 mm, and in some specimens are cut and minimally displaced by younger, apparently barren quartz veins. The veins are fracture-fillings, and are evidently erratically distributed, hence quantitative estimates of their abundance or of the contained cassiterite would be highly unreliable.

The amount of cassiterite present is quite variable from vein to vein and within each vein. Grainsizes range from 0.02 mm (20  $\mu$ ) to single crystals up to 1.5 mm; clusters are not common. The bulk of the cassiterite is coarser than 0.1 mm (100  $\mu$ ) and is thus of quite a reasonable grainsize. The cassiterite is dark mottled brown, apparently clean and free of inclusions. The presence of scorodite indicates that arsenopyrite would be encountered in fresh ore, which will need to be eliminated from, say, a gravity concentrate by a flotation stage; scorodite itself is unlikely to be a problem, since it is a fairly soft mineral of moderate specific gravity (3.1 - 3.3).

? One or two samples contain fine cassiterite in the host-rocks themselves and these are likely to present liberation problems, because the cassiterite is not

Sample No.	Rock Type - Composition	Fabric	Minor Minerals	Central Mineralogical Services Comments
PPT 1 (T.S. 34632)	Mineralised Quartzite. Rounded, stressed quartz grains, sericite-quartz cement. Quartz veins with euhedral cassiterite 0.02 - 1 mm, clusters up to 3 mm, mostly > 0.2 mm.	Faintly bedded, well-sized/sorted; indurated weakly stressed. Veins 0.1 - 6 mm wide.	Fine sericite, jarosite after ?pyrite, goethite in veins.	Parallel veins with very variable amounts of cassiterite. Weak post-mineralisation stress. Host-rock virtually unaltered.
PPT 2	Mineralised Quartzite. Rounded, stressed quartz grains, fine quartz-sericite matrix/cement; irregular sericite veinlets. Dispersed euhedral cassiterite 0.01 - 0.3 mm.	Well-indurated, finer components recrystallized; fine-grained.	Fine leucokene throughout; detrital zircon grains.	Cassiterite scattered through rock, not confined to sericite veins; mostly fine-grained (< 0.1 mm), dark crystals.
PPT 3	Quartzite (Weakly Mineralised). Rounded, stressed, sand-size quartz grains, sericite patches (after feldspar); sericite-quartz cement. Quartz veins, trace fine cassiterite.	Well-bedded, -sorted, and -sized; medium-grained.	Two sets of quartz veins; younger set is barren.	Original rock was feldspathic sandstone or arkose; indurated, partly re-crystallized. Isolated cassiterite 0.05 - 0.15 mm in some veins.
PPT 4	Mineralised Quartzite. Rounded, occasional angular, quartz grains, finer quartz matrix, quartz-sericite cement. Quartz veins with cassiterite 0.02 - 0.15 mm, dark, cloudy.	Moderately sorted/sized indurated, weakly stressed. Bedded.	Goethite patches after ?pyrite. Sericite veinlets.	Quartz-cassiterite veins are < 0.5 mm wide, make an angle of about 60° with bedding, but variable (not straight).
PPT 5	Mineralised Quartzite. Silt-sized, fine sand-sized quartz grains, quartz-sericite matrix/cement. Narrow quartz-cassiterite veins; irregular cassiterite 0.02 - 0.3 mm.	Finer-grained than previous rocks, thus more recrystallized, but clastic textures preserved.	Minor sericite in quartz veins. Leucokene throughout; detrital zircon.	Quartz-cassiterite veins are < 1 mm thick, make 35-40° angle with bedding. Cassiterite is dark, semi-opaque.
PPT 6	Argillite. Massive, uniform ultrafine sericite-illite, with many small shapeless cavities possibly after authigenic carbonate.	Homogeneous, featureless, no bedding. Clay flakes are aligned.	Fine, subparallel tourmaline needles; ultrafine leucokene.	Simple composition; cavities possibly after carbonate; no veining/mineralisation seen.
PPT 7	Mineralised Quartzite. Subrounded, sand-size quartz grains, interstitial fine quartz, sericite; quartz veins 0.05 - 1.5 mm wide, with cassiterite 0.05 - 0.3 mm.	Clastic textures preserved, but matrix recrystallized. Bedded.	Younger quartz-sericite veins.	Minor fine cassiterite, mostly < 0.05 mm, occurs throughout rock, not confined to, but dominantly in, the veins.
PPT 8	Mineralised Quartzite. Subrounded, stressed quartz grains, sericitised feldspar; quartz-sericite cement. Many quartz veins, with cassiterite crystals 0.03 - 1 mm.	Well-indurated, fine sand grade; weakly bedded.	Sericite in veins, also conspicuous scorodite - (Fe, Al) arsenate.	Presence of scorodite indicates oxidation of arsenopyrite, but no in situ; scorodite is mostly re-deposited.
PPT 9	Mineralised Quartzite. Rounded, stressed, sand-sized quartz grains, sericitised feldspar; quartz-sericite cement. Quartz veins with cassiterite 0.02 - 0.2 mm.	Good relict clastic textures; bedded.	Wide veins of coarse quartz-pyrite cutting earlier quartz-cassiterite veins.	Same lithology as other quartzites; sericite is pervasive, probably mostly recrystallized clastic clay.

				Central Mineralogical Services
Sample No.	Rock Type - Composition	Fabric	Minor Minerals	Comments
PPT 10	Argillaceous Siltstone. Scattered subangular sand-size quartz grains embedded in silt-size quartz, with sericite, mica flakes, clay lenses.	Fine-grained, well-bedded, laminated. Many voids.	Goethite-limonite patches after ?pyrite. Detrital heavy minerals.	Small voids similar to those in PPT 6 and also possibly carbonate. Indurated rock, but not metamorphosed.
PPT 11	Quartzite. Framework of rounded, sand-sized, stressed quartz grains and sericitised feldspars; matrix/cement of fine quartz and sericite.	Grainsizes average 0.2 to 0.3 mm; moderately sorted/sized, weakly bedded.	Barren veins of stressed quartz.	Same lithology as the other quartzites, but no cassiterite-bearing veins seen.
PPT 12	Shale/Sandy Siltstone. Gradational change from siltstone with sand-size quartz and shale lenses, to a ferruginous shale; all ferruginised.	Well-bedded, especially shale and shale lenses. Fine-grained.	Small limonite patches; some maybe altered carbonate, some ?oxidised pyrite.	Grainsize gradation is at right angles to bedding. No quartz veins, no cassiterite seen.
PPT 13	Quartzite. (Weakly Mineralised). Some clastic quartz patches, but mostly sericite and recrystallized quartz, with many quartz-sericite veins, traces of cassiterite.	Some clastic textures and bedding, but mostly recrystallized.	Thin limonitic leucoxene films/veinlets.	Cassiterite is dark, semi-opaque, very poorly defined, with irregular outlines, < 0.1 mm in size.
PPT 14	Argillaceous Siltstone. Scattered sand-sized quartz grains in sericite, muscovite flakes, silty quartz, abundant fine goethite.	Well-bedded; coarser grains not sorted, but haphazardly distributed.	Diffuse goethite patches surrounding ?oxidised pyrite.	Featureless rock, probably originally pyritic (i.e. with syngenetic pyrite).
PPT 15	Quartzite. Framework of rounded, stressed quartz grains, silt-size quartz matrix, fine quartz-sericite cement, with conspicuous leucoxenic rutile.	Only moderately sorted/sized. Distinctly bedded. Medium-grained.	Series of parallel quartz-chlorite-sericite veins with ?oxidised sulphides.	Very similar to the other quartzites. No cassiterite detected in the veins. Rock is well-indurated.
PPT 16	Argillaceous Siltstone. Fine-sand quartz grains scattered through a mass of illite-sericite and chlorite with silty quartz; argillaceous lenses.	Structureless; bedding indicated by clay lenses. Fine-grained.	Goethite veinlets discolouring adjacent rock.	Quite similar to the other siltstones in this suite. Featureless. Unmetamorphosed.
PPT 17	Sandy Argillaceous Siltstone. Rounded quartz grains, a few sericitised feldspars, silty matrix of quartz, mica flakes, chlorite, with recrystallized clays.	Moderately to poorly sorted/sized; finer and coarser beds.	Thin parallel goethite veinlets. Detrital tourmaline, zircon.	As above, but more sandy, with poorer sorting, sizing; featureless.
PPT 18	Quartzite. Sand-size rounded, stressed quartz, sericitised feldspar grains, interstitial fine quartz and sericite, detrital heavy minerals.	Moderately sorted, weakly bedded, medium-grained. Good clastic textures.	Quartz-tourmaline veins with scorodite. Sericite veinlets.	Same lithology as the other quartzites; originally feldspathic. No cassiterite detected in veins.

				Central Mineralogical Services
Sample No.	Rock Type - Composition	Fabric	Minor Minerals	Comments
PPT 19	Mineralised Quartzite. Stressed quartz, sericitised feldspar grains, quartz-sericite cement. Quartz veins with euhedral cassiterite 0.02 to 0.2 mm.	Moderately sorted/sized, medium-grained; well-indurated.	Goethite in veins, after sulphides. Fine leucoxene through rock.	Cassiterite occurs in narrow (< 2 mm) parallel veins with quartz, goethite, and hydromuscovite.
PPT 20	Mineralised Quartzite. Small, closely-packed rounded quartz grains, interstitial quartz-sericite, with ultrafine cassiterite. Quartz-cassiterite veins.	Good clastic textures preserved, but matrix/cement recrystallized.	Quartz-cassiterite veins contain muscovite and goethite after sulphides.	Cassiterite in veins as 0.02 - 1.5 mm good crystals; in rock, cloudy, poorly defined patches < 0.05 mm - some may be leucoxene.
PPT 21	Silty Argillaceous Sandstone. Rounded/subrounded sand-size quartz grains, minor feldspar fragments, in a silty, argillaceous matrix with mica flakes.	Moderate to poor sorting and sizing; weakly bedded. Medium-grained.	Fine goethite veins, adjacent limonite staining of rock.	No cassiterite detected. Lithology similar to siltstones and argillites, but higher proportion of sand.
PPT 22	Argillite. Dominantly composed of fine recrystallized clays (now sericite), with minor silt-sized quartz grains.	Homogeneous fabric, no banding. Good preferred orientation.	Diffuse veins and irregular patches of limonite.	Very uniform, featureless rock; no mineralisation detected.
PPT 23 (T.S. 34655)	Indurated Siltstone. Mostly silt- and fine sand-sized, subangular quartz grains, with interstitial fine quartz and sericite, clastic mica flakes.	Some bedding orientation. Uniform fabric, no layering.	Wide quartz veins, narrow goethite veinlets.	Goethite veinlets probably represent oxidised sulphides. Rock has same lithology as the quartzites, but finer.

938031

APPENDIX 11

SOIL SAMPLE RESULTS.

**THE BROKEN HILL PROPRIETARY CO. LTD.**

EXPLORATION OFFICE  
152 Macquarie Street, Hobart



Telegraphic Address:  
"HEMATITE" HOBART  
TELEX: 58023

Postal Address: G.P.O. BOX 1140 L  
HOBART, 7001

Telephone: 23 7208  
or  
23 2986

YOUR REF. TCR81-1589  
OUR REF. RH:RF

22 December 1981

③

Director of Mines,  
Department of Mines,  
GPO Box 124B,  
HOBART, 7001

Director of Mines	A.O.	C.G.	E.O.	D.S.M.E.
<i>[Signature]</i>	<i>[Signature]</i>	X		
Received	24 DEC 1981		RAIL	
Answered				
DEPT. OF MINES				
REF. No. 11,140/81				

*OTJ* ②  
*Is this for year?*

Dear Sir,

Exploration Licence 10/80, Great Pyramid, Tasmania  
Progress Report on Exploration to 21.7.81

P.c. ①

Thank you for your letter of 15 December 1981 relating to the above report. I enclose for inclusion in the appendix a set of results for soil samples R40-1 to R40-504. Sample locations are plotted on Figure 8-1. I also enclose a copy of plan 10/80-19 with the interpreted fault and the two zones of mineralization.

I apologize for any inconvenience which may have resulted from our oversight. Summary maps of exploration to date are being prepared for inclusion in our next six monthly report.

Yours faithfully

Richard Hine  
Senior Geologist

Encl

Date Received 04/11/80

CAMBERWELL

HOBART, TAS. 7001

Date Completed 07/01/81

VIC

Order No.: R400 - 00627

Sample Type: SOIL, ROCK

938034

No. of Samples: 300

SAMPLE NO.

Cu

Pb

Zn

Sn

W

Ta

As

Ag

m

m

m

m

m

m

m

m

1

1

1

XRF 1A

XRF 1A

XRF 1B

5-B

1

R40- 1

20

60

45

20

&lt;10

&lt;10

7

2

R40- 2

20

55

100

5

&lt;10

&lt;10

7

2

R40- 3

20

50

105

&lt;5

&lt;10

&lt;10

7

2

R40- 4

55

50

85

&lt;5

&lt;10

&lt;10

10

3

R40- 5

45

90

180

65

&lt;10

10

10

2

R40- 6

10

35

75

20

&lt;10

&lt;10

4

1

R40- 7

20

145

60

40

&lt;10

10

5

1

R40- 8

30

80

105

15

&lt;10

&lt;10

7

2

R40- 9

35

80

55

30

&lt;10

&lt;10

30

3

R40- 10

20

45

95

90

&lt;10

10

10

2

R40- 11

25

60

70

310

&lt;10

&lt;10

45

2

R40- 12

45

80

195

115

&lt;10

&lt;10

75

2

R40- 13

50

85

190

185

&lt;10

&lt;10

80

2

R40- 14

60

80

85

265

&lt;10

&lt;10

105

2

R40- 15

45

45

155

200

&lt;10

&lt;10

40

2

R40- 16

40

60

85

215

&lt;10

&lt;10

70

2

R40- 17

10

35

75

25

&lt;10

&lt;10

4

1

R40- 18

20

35

40

140

&lt;10

&lt;10

40

2

R40- 19

40

50

30

155

&lt;10

&lt;10

125

3

R40- 20

20

40

30

160

&lt;10

&lt;10

60

2

R40- 21

30

55

50

80

&lt;10

10

140

3

R40- 22

30

45

80

225

&lt;10

20

40

2

R40- 23

20

50

140

55

&lt;10

&lt;10

25

3

R40- 24

60

40

65

150

&lt;10

&lt;10

30

2

R40- 25

30

40

60

175

&lt;10

&lt;10

30

2

R40- 26

30

35

80

75

&lt;10

&lt;10

12

2

R40- 27

35

35

100

40

&lt;10

&lt;10

10

2

R40- 28

30

120

70

30

&lt;10

&lt;10

14

2

R40- 29

20

45

80

20

&lt;10

&lt;10

8

2

R40- 30

25

70

65

65

&lt;10

&lt;10

20

2

UNITS LEGEND ----- m - Parts per million

b - Parts per billion

% - percent

g - Grams

a - Absorbance

Signature: *D. J. Furley*

This Laboratory is registered by  
 the National Association of Testing  
 Authorities (NATA). The tests  
 performed here have been  
 approved by NATA with its terms of regl.





11 Date Received 04/11/80 CAMBERWELL 4. HOBART, TAS. 7001

12 Date Completed 07/01/81 VTC

14 Order No.: R400 - 00627 Sample Type: SOIL, ROCK 938037 No. of Samples: 400

SAMPLE NO.	Cu	Pb	Zn	Sn	W	Ta	As	Ag
	M	M	M	M	M	M	M	M
	1	1	1	XRF 1A	XRF 1A	XRF 1B	S-B	1
21 R40-91	90	110	85	515	<10	<10	180	2
22 R40-92	25	30	75	390	<10	<10	25	1
23 R40-93	40	50	210	215	<10	<10	45	2
24 R40-94	30	35	220	220	<10	<10	35	1
25 R40-95	70	55	140	60	<10	<10	45	2
26 R40-96	25	85	30	245	<10	<10	16	1
27 R40-97	85	85	115	120	<10	<10	30	1
28 R40-98	50	140	165	50	<10	<10	20	1
29 R40-99	95	220	210	145	<10	<10	25	1
30 R40-100	50	180	140	130	<10	<10	20	1
31 R40-101	80	70	150	65	<10	<10	60	3
32 R40-102	20	50	95	150	<10	<10	30	1
33 R40-103	25	55	120	170	<10	<10	30	1
34 R40-104	30	55	80	20	<10	<10	20	2
35 R40-105	45	40	55	5	<10	<10	20	2
36 R40-106	25	65	55	45	<10	<10	20	1
37 R40-107	50	75	290	35	<10	<10	40	1
38 R40-108	15	30	15	5	<10	<10	14	1
39 R40-109	10	35	20	5	<10	<10	20	2
40 R40-110	15	45	70	45	<10	<10	16	2
41 R40-111	35	150	65	115	<10	<10	130	2
42 R40-112	20	80	25	145	<10	<10	110	1
43 R40-113	35	110	40	110	<10	<10	120	2
44 R40-114	25	110	50	240	<10	<10	80	1
45 R40-115	25	110	15	990	<10	<10	70	1
46 R40-116	30	145	15	0.15	% <10	<10	170	1
47 R40-117	120	260	40	0.13	% <10	<10	320	1
48 R40-118	20	85	20	0.28	% <10	<10	35	1
49 R40-119	105	85	45	540	<10	<10	440	2
50 R40-120	10	30	35	0.37	% <10	<10	20	1

53 UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent  
54 g - Grams a - Absorbance

Signature: *H.F. Finlayson*

Compu: Resources Company





6.

11 Date Received - 04/11/80 CAMBERWELL  
 12 Date Completed 07/01/81 VIC  
 14 Order No.: R400 - 00627 Sample Type: SOIL, ROCK 938039 No. of Samples: 400

SAMPLE NO.	Cu	Pb	Zn	Sn	W	Ta	As	Ag
	M	M	M	M	M	M	M	M
	1	1	1	XRF 1A	XRF 1A	XRF 1B	5-B	1
R40-151	25	430	35	0.20	% 10	<10	125	2
R40-152	90	0.13	% 85	0.28	% 20	<10	560	3
R40-153	100	0.15	% 100	0.30	% 10	<10	760	3
R40-154	110	0.13	% 55	760	<10	<10	920	3
R40-155	40	760	220	0.19	% 10	<10	35	2
R40-156	55	960	30	0.15	% 10	<10	145	2
R40-157	145	600	340	0.12	% <10	<10	70	5
R40-158	110	410	250	520	10	<10	60	4
R40-159	230	760	210	990	20	<10	240	10
R40-160	310	680	195	885	10	<10	160	5
R40-161	250	640	120	470	<10	<10	360	6
R40-162	420	760	135	510	<10	<10	280	10
R40-163	230	0.11	% 220	575	20	<10	90	5
R40-164	220	460	140	690	<10	<10	150	2
R40-165	130	560	175	0.16	% 20	<10	160	2
R40-166	185	230	85	0.24	% 10	<10	85	3
R40-167	75	155	35	515	<10	<10	240	2
R40-168	70	150	45	640	<10	<10	80	3
R40-169	60	80	25	395	<10	<10	65	2
R40-170	45	95	10	0.28	% 10	<10	150	1
R40-171	20	180	10	0.15	% 10	<10	50	1
R40-172	85	175	40	0.10	% <10	<10	70	2
R40-173	90	190	45	980	<10	<10	60	2
R40-174	120	320	95	980	10	<10	60	11
R40-175	40	160	45	295	<10	<10	120	2
R40-176	230	640	40	930	<10	<10	480	6
R40-177	90	270	20	0.12	% 10	<10	140	3
R40-178	125	170	30	780	<10	<10	40	6
R40-179	35	195	15	0.23	% 10	<10	155	1
R40-180	40	175	25	0.26	% 20	10	150	2

53 UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent  
 54 g - Grams a - Absorbance

Signature: *A. F. Finlayson*

Computer Research Company



























Date Completed 16/07/81

V L

Order No.: R700 - 000648

Sample Type: SOIL

938053<sup>20</sup>

No. of Samples: 47

SAMPLE NO.	Cu	Pb	Zn	Ag	As	Sn	W	
	M	M	M	M	M	M	M	
	1	1	1	1	5-B	XRF 1A	XRF 1A	
R40-488	40	30	80	1	25	40	<10	
R40-489	10	10	20	1	7	20	<10	
R40-490	5	15	45	<1	4	40	<10	
R40-491	2	10	20	<1	1	35	<10	
R40-492	10	60	65	<1	1	60	<10	
R40-493	10	60	55	1	2	55	<10	
R40-494	15	30	20	1	30	30	<10	
R40-495	20	20	55	1	5	45	<10	
R40-496	20	20	60	1	6	45	<10	
R40-497	40	50	115	1	16	45	<10	
R40-498	10	20	20	<1	3	20	<10	
R40-499	55	70	80	1	20	35	<10	
R40-500	30	40	100	<1	8	55	<10	
R40-501	35	50	190	1	10	40	<10	
R40-502	20	40	140	1	7	70	<10	
R40-503	30	50	160	1	12	145	<10	
R40-504	10	20	20	<1	1	25	<10	

UNITS LEGEND ----- m - Parts per million  
g - Grams

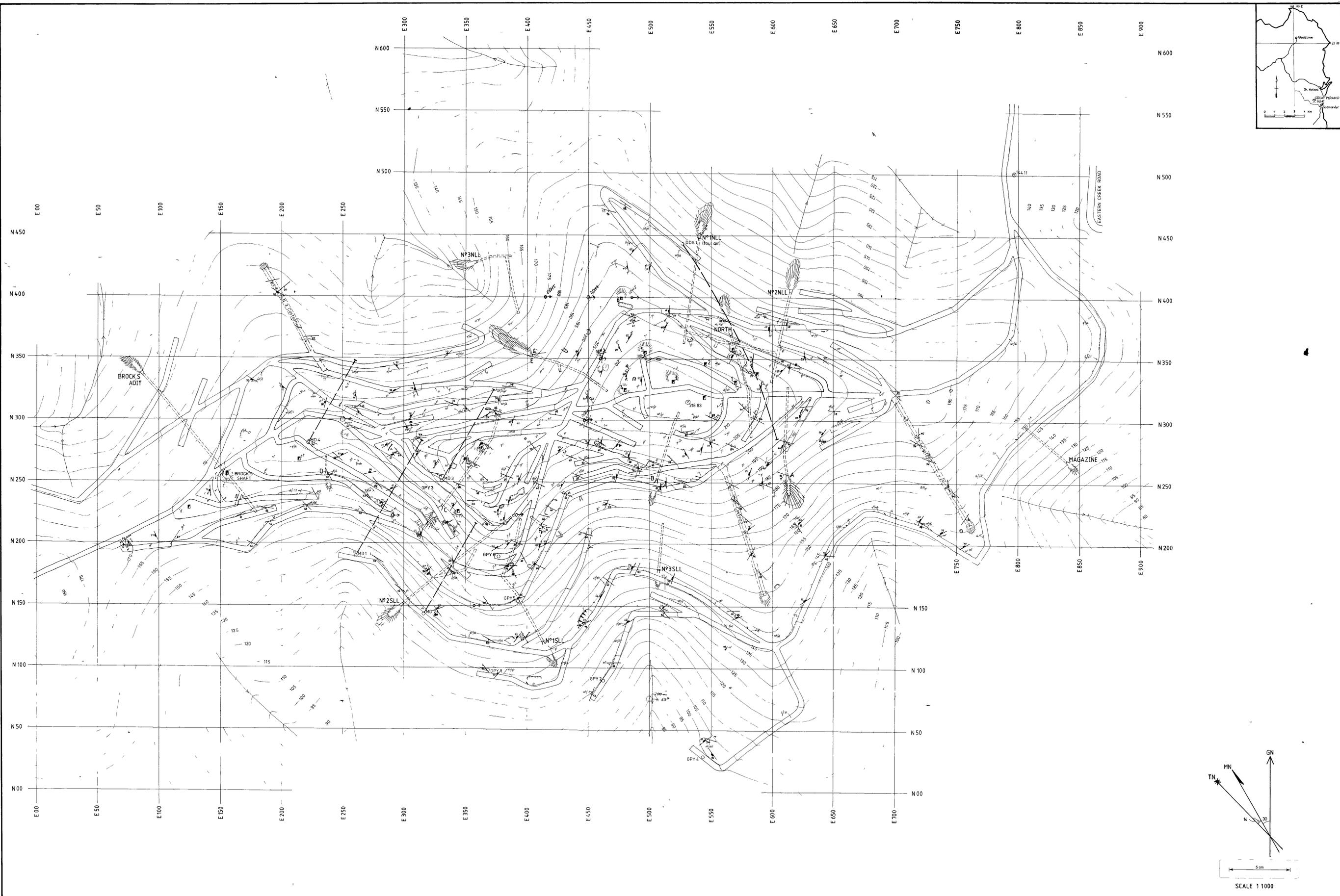
b - Parts per billion  
a - Absorbance

% - percent

Signature: *A. J. Finlayson*



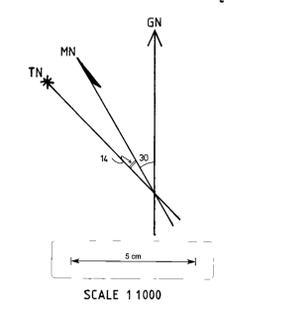
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Levels are on reputed State Datum. The datum has been transferred from Skyline Trig Station (S.T. 665) to PCP1 (refer Forestry Commission map 6041-00) by the Forestry Commission and from PCP1 to this site by Peacock, Darcey and Anderson (Path Surveyors - refer map B145P)

- 91 Hard grey quartzite generally massive with rare thin interbedded shale lenses. Beds usually >1m in width.
- 92 Outcrop boundary
- 93 Sheeted joints dip & strike
- 94 Bedding dip & strike
- 95 Red brown grey or yellow brown shale. Fairly bedded with rare sandstone or quartzite beds.
- 96 Adit with wings
- 97 Shaft with dip
- 98 Working pits, trenches etc
- 99 Diamond Drill Hole, GPY - like pipe or coal
- 100 MD - Manic Dip 60 depression
- 101 OAS - BHP (M/S) 45 depression
- 102 DD Hole, collar not located
- 103 Trench
- 104 Creek
- 105 Cliff
- 106 Star symbol in concrete 7.8m work height

NOTE: Map to accompany report by D.M. Ransom Sept 1980



SCALE 1:1000

0 50 100 metres

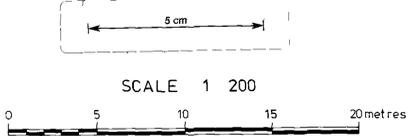
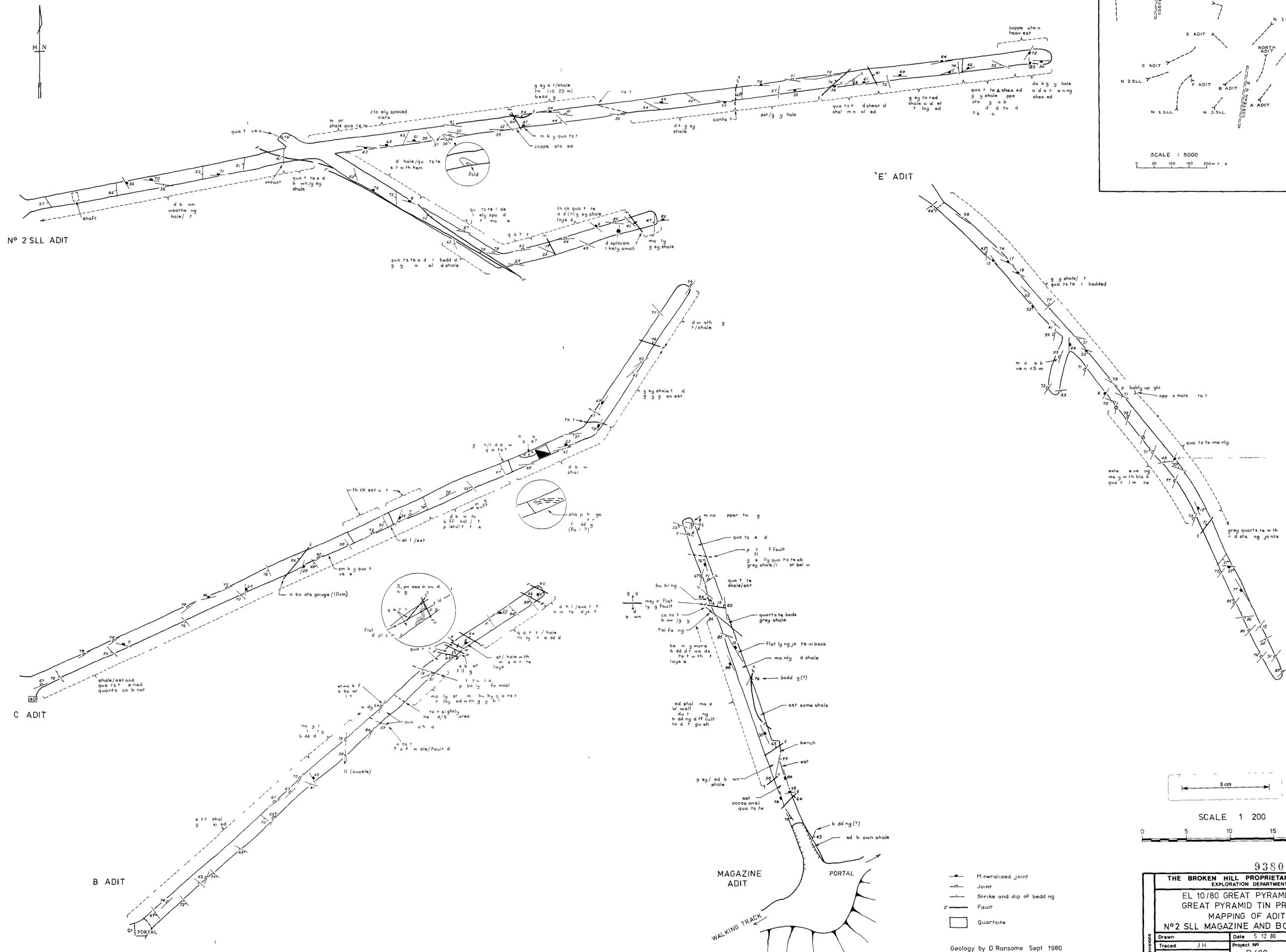
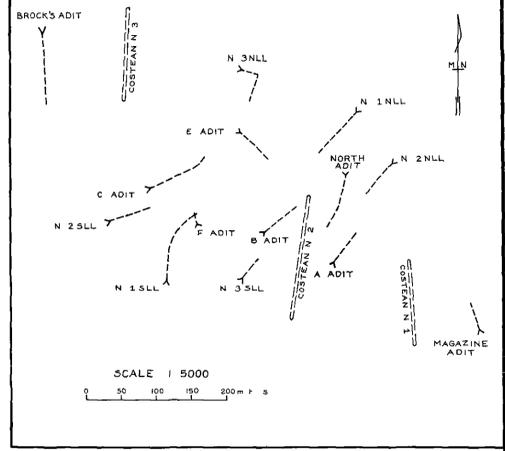
TOPO CONTOUR INTERVAL 5 METRES 93051

**THE BROKEN HILL PROPRIETARY CO LTD**  
EXPLORATION DEPARTMENT

EL 10/80 GREAT PYRAMID PROSPECT, NE TASMANIA

SURFACE GEOLOGY  
ADITS AND DRILL HOLES

Drawn	D.A. STEELE	Date	29-9-80	Centre	HOBART
Traced		Project No	R400	Drawing No	AO-10/80-4
Checked					
OTC					

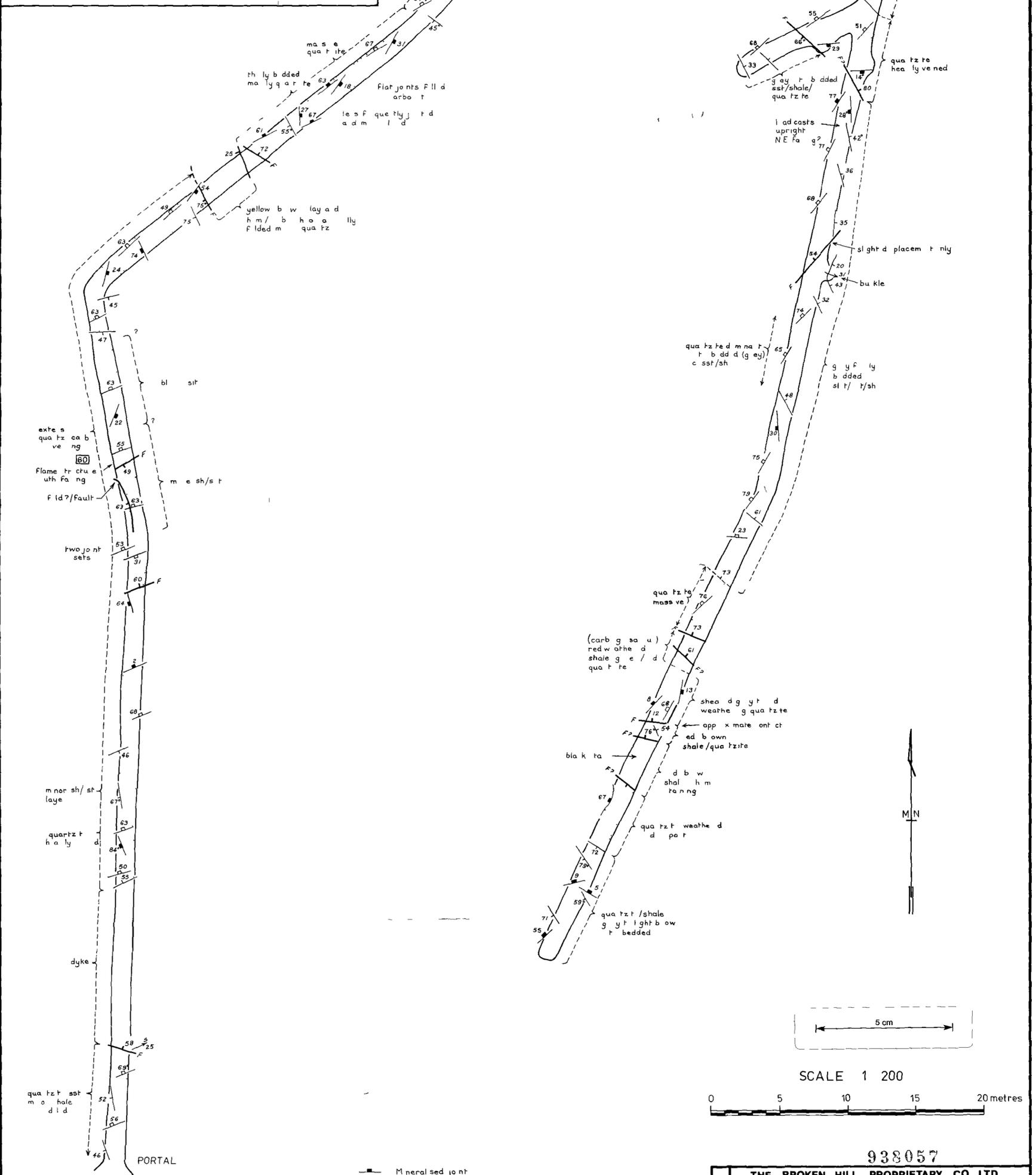
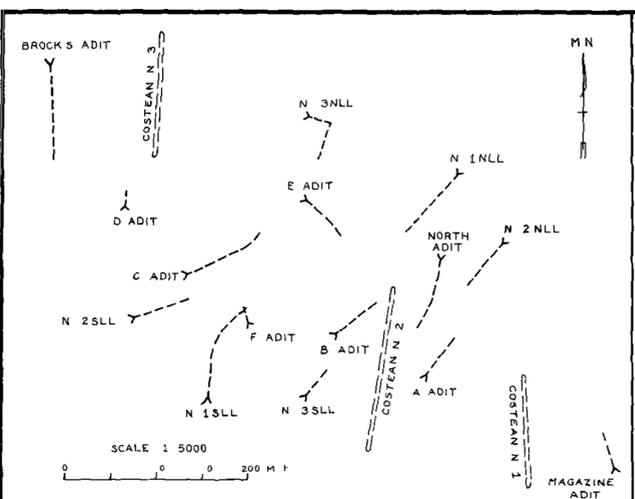


- Mineralised joint
  - Joint
  - Strike and dip of bedding
  - Fault
  - Quartzite
- Geology by D Ransome Sept 1980

938055

THE BROKEN HILL PROPRIETARY CO LTD EXPLORATION DEPARTMENT		
EL 10/80 GREAT PYRAMID TAS GREAT PYRAMID TIN PROSPECT MAPPING OF ADITS N°2 SLL MAGAZINE AND BCE ADITS		
Drawn	Date 5 12 80	Centre HOBART
Traced JH	Project No	
Checked	R 400	A1-10/80 9





No 1 SLL ADIT

- Mineral sed joint
- Joint
- Strike and dip bedding
- Fault
- Quartzite

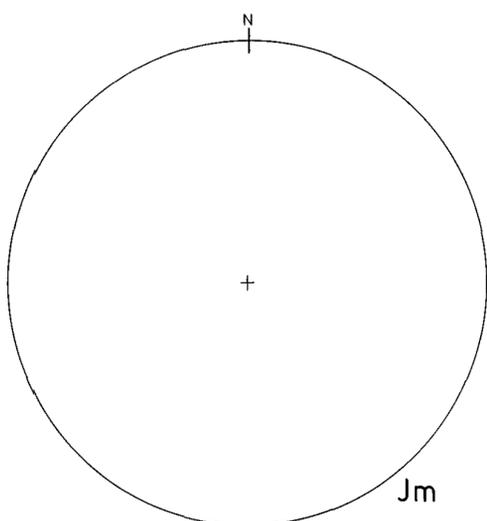
Geology by D Ransome Sept 1980

938057

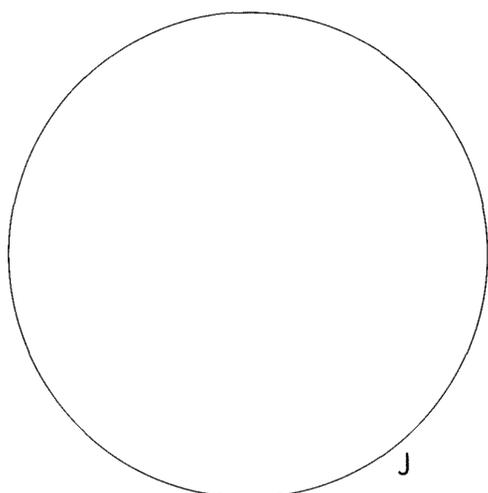
**THE BROKEN HILL PROPRIETARY CO LTD**  
EXPLORATION DEPARTMENT

EL 10/80 GREAT PYRAMID TAS  
GREAT PYRAMID TIN PROSPECT  
MAPPING OF ADITS  
No 1 SLL AND NORTH ADIT

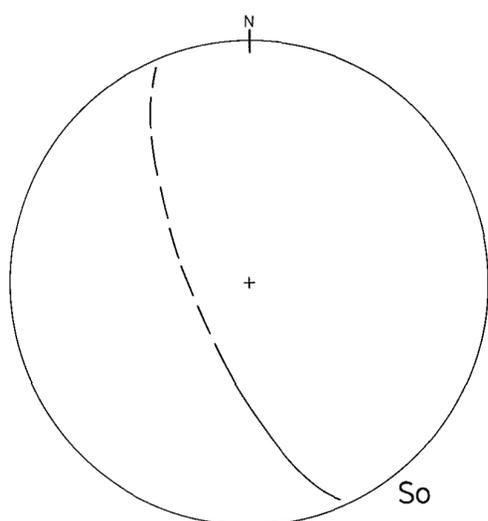
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	Traced JH	Project No R400	Drawing No A2-10/80 11
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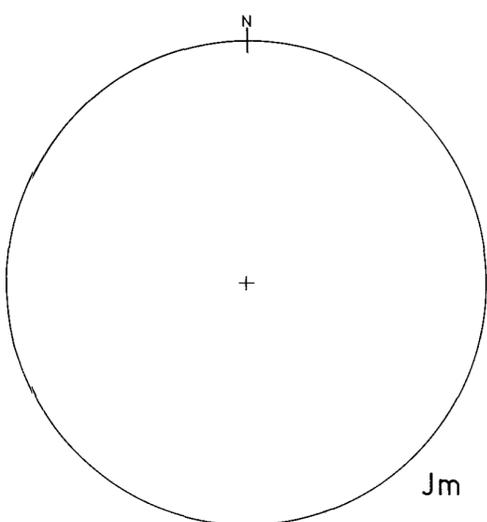
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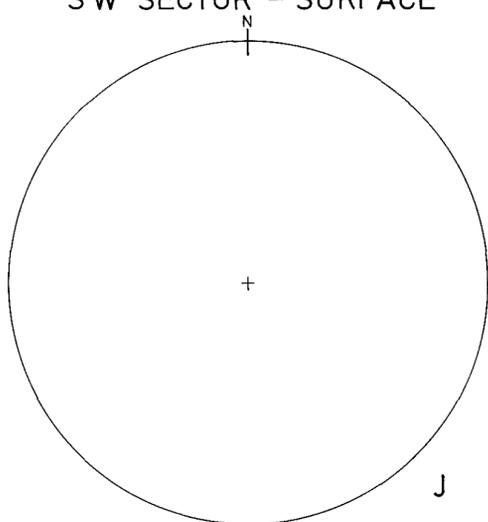
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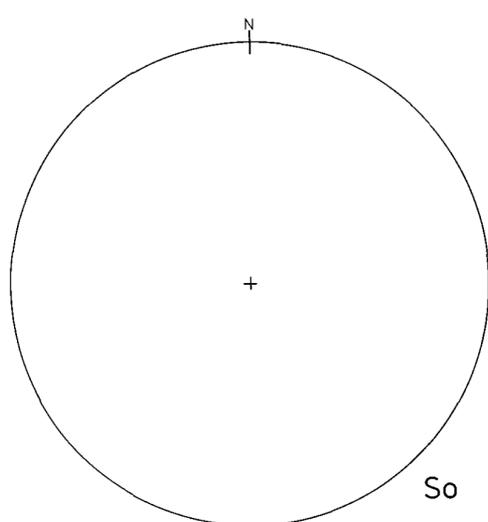
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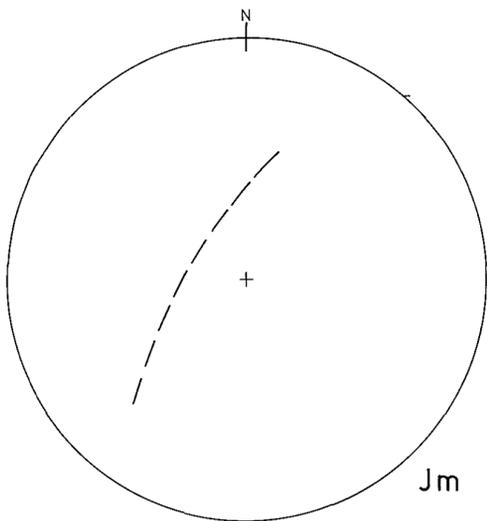
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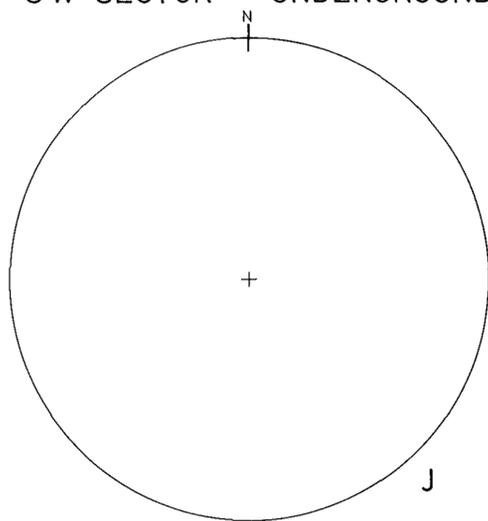
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SW SECTOR - UNDERGROUND



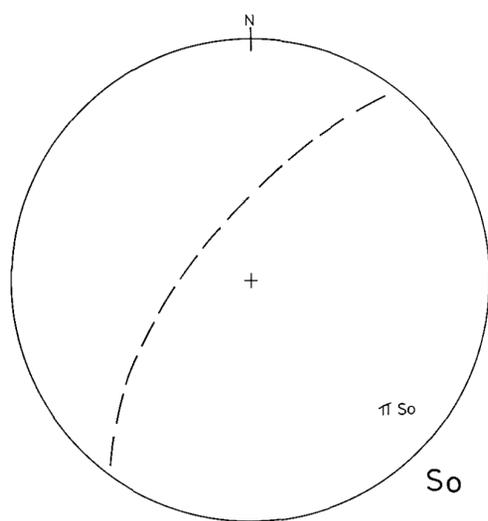
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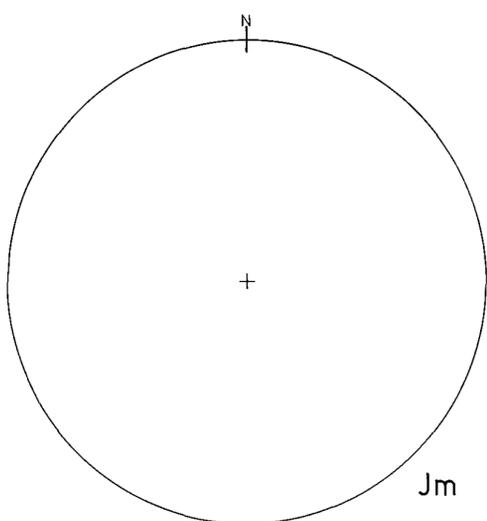
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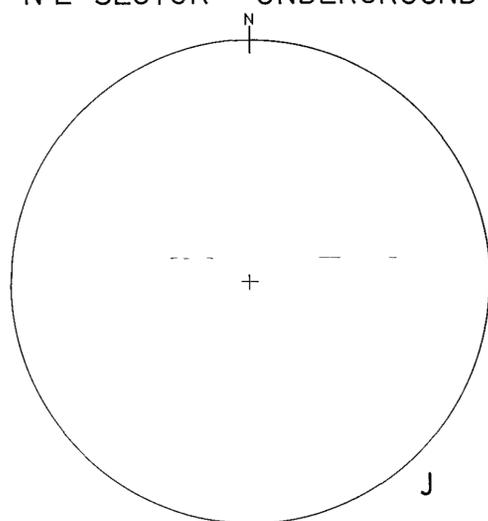
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NE SECTOR - UNDERGROUND



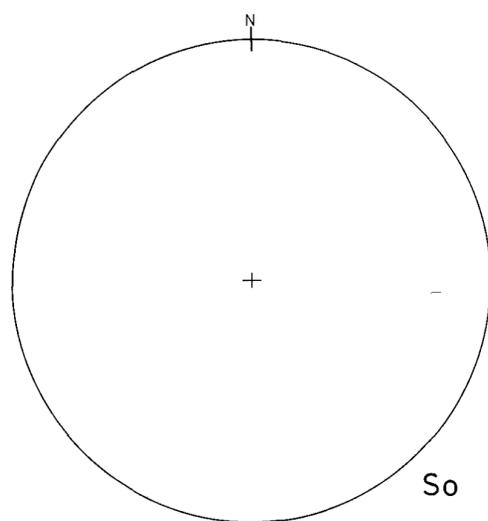
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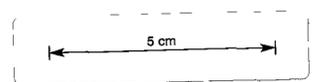
MINERALISED JOINTS



JOINTS  
TOTAL UNDERGROUND

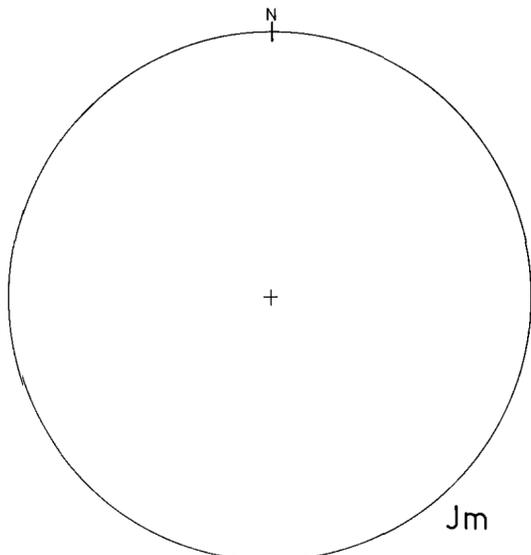


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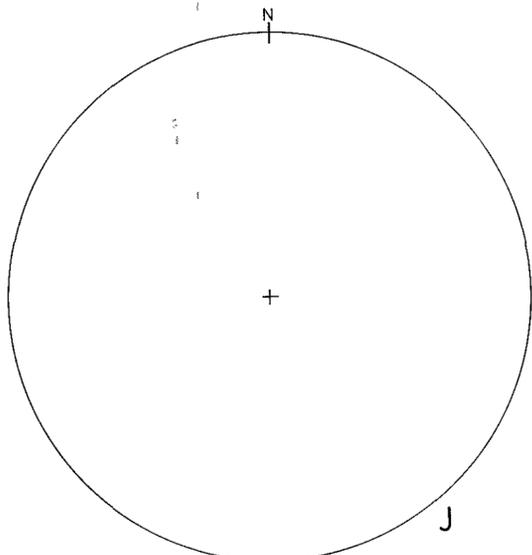


THE BROKEN HILL PROPRIETARY CO LTD EXPLORATION DEPARTMENT			
EL 10/80 GREAT PYRAMID TAS			
STRUCTURAL PLOTS			
JOINTS AND BEDDING			
SHEET 1			
Drawn	Date 17 10 80	Centre HOBART	
Traced J.H.	Project No	Drawing No	
Checked	R400	A2-10/80-12	

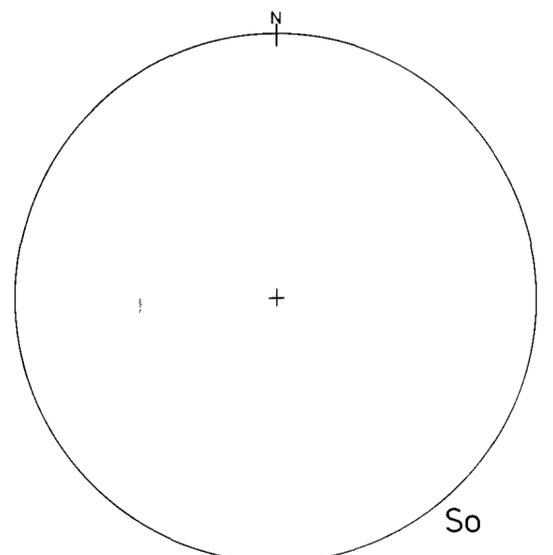
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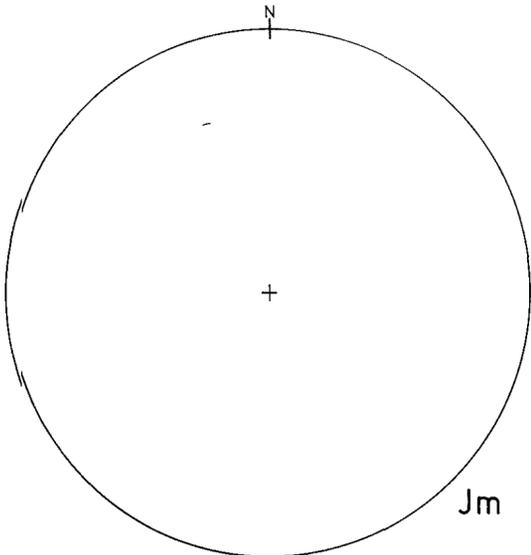
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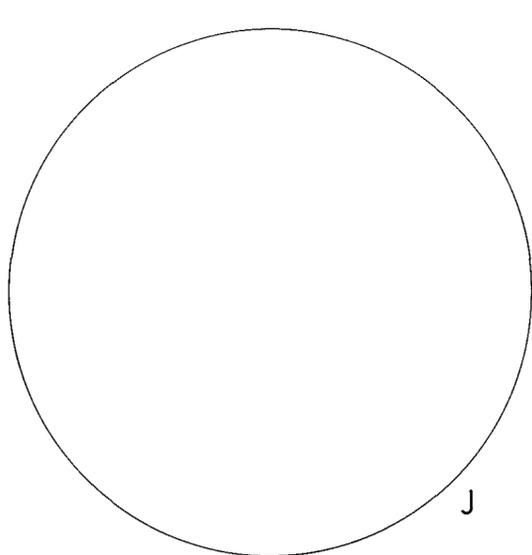
JOINTS  
'E' ADIT



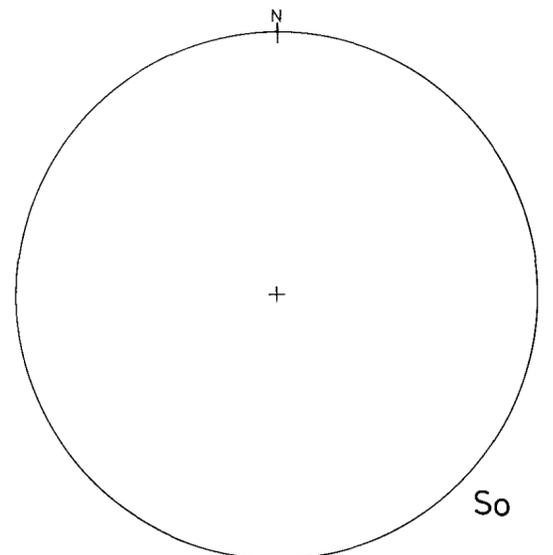
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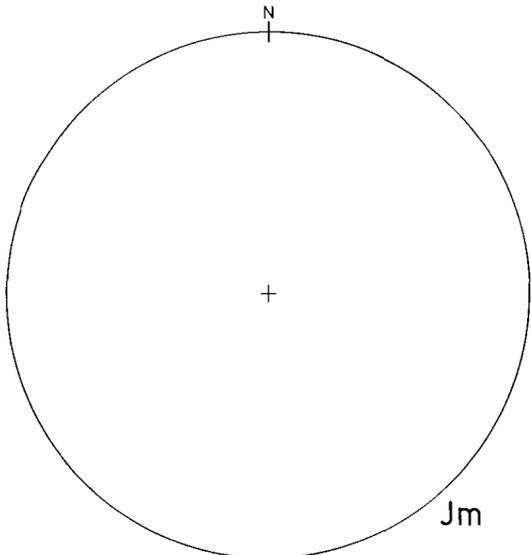
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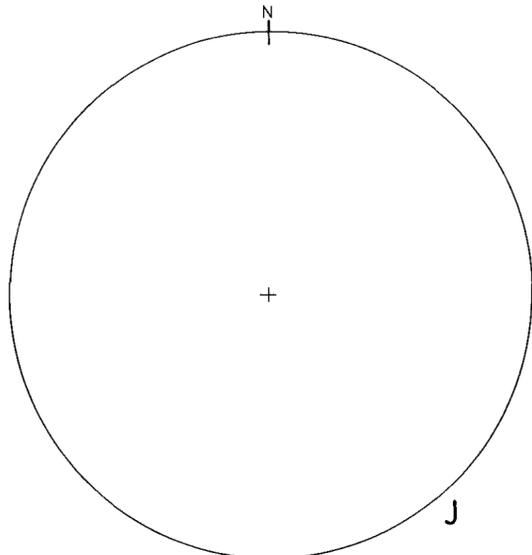
JOINTS  
'F' ADIT



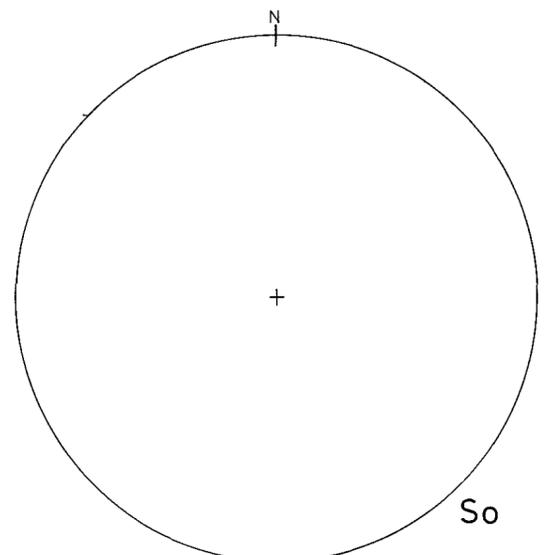
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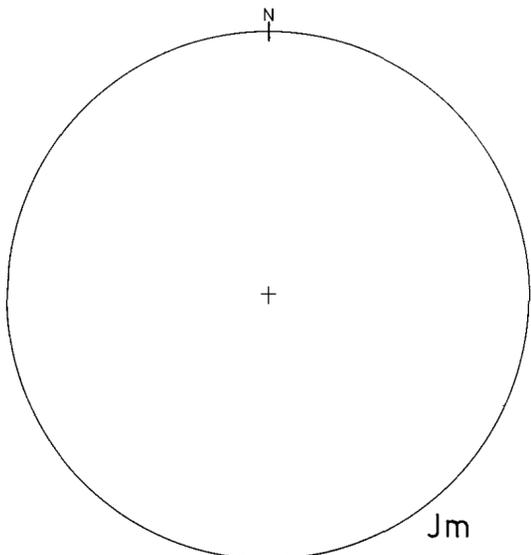
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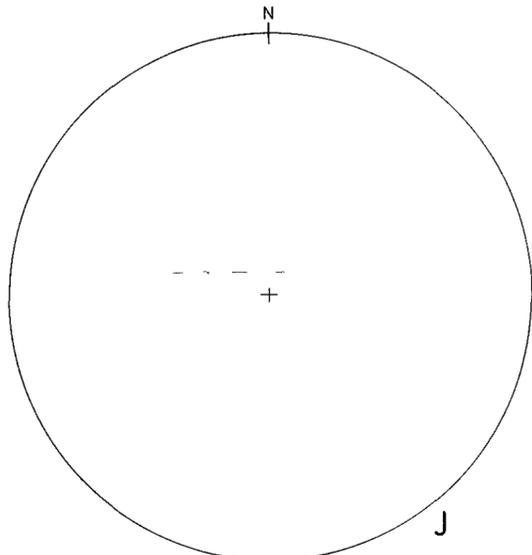
JOINTS  
BROCK'S ADIT



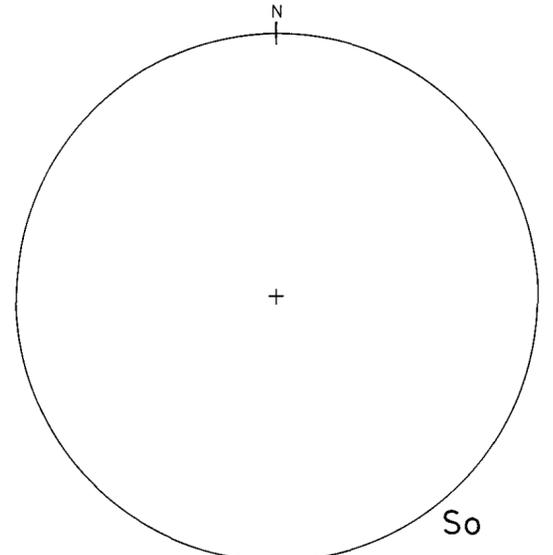
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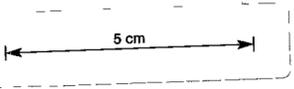
MINERALISED JOINTS



JOINTS  
NORTH ADIT

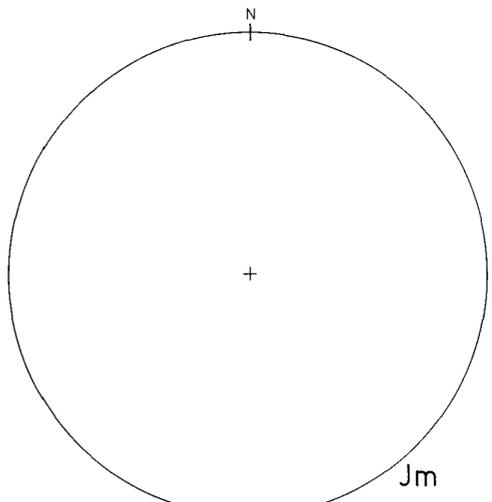


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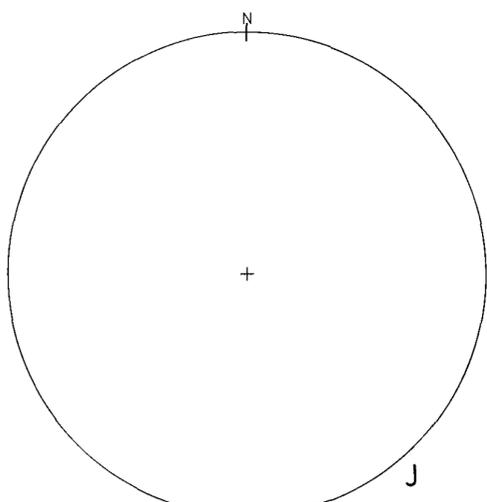


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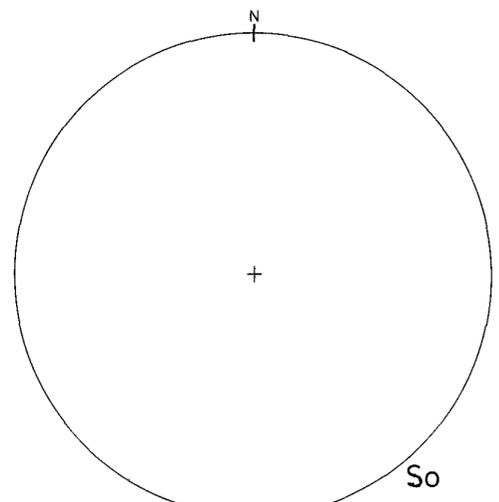
THE BROKEN HILL PROPRIETARY CO LTD			
EXPLORATION DEPARTMENT			
EL 10/80 GREAT PYRAMID TAS			
STRUCTURAL PLOTS			
JOINTS AND BEDDING			
SHEET 2			
Revisions	Drawn	Date 19-10 80	Centre HOBART
	Traced J.H.	Project No	Drawing No
	Checked	R400	A2-10/8013



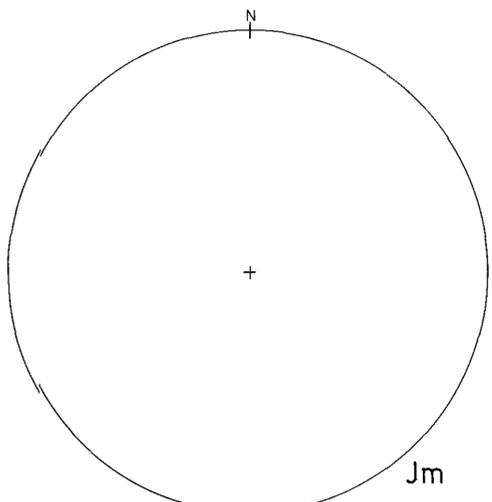
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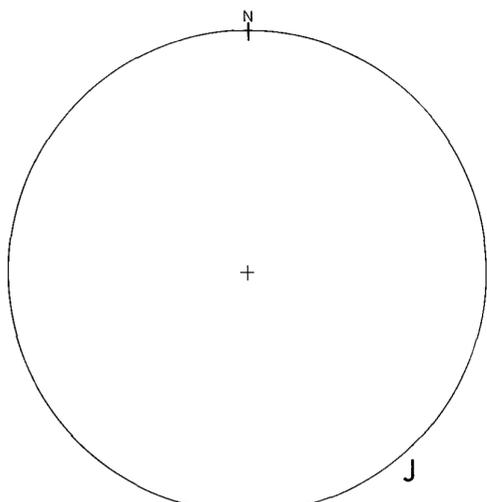
JOINTS  
# 3 NORTH LL ADIT



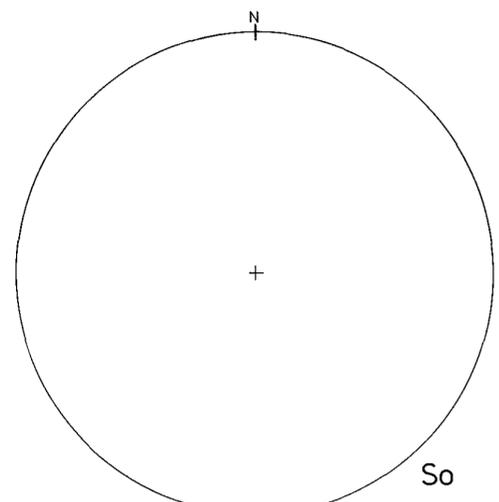
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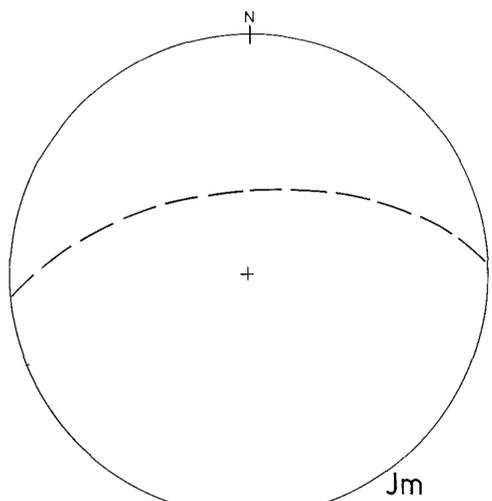
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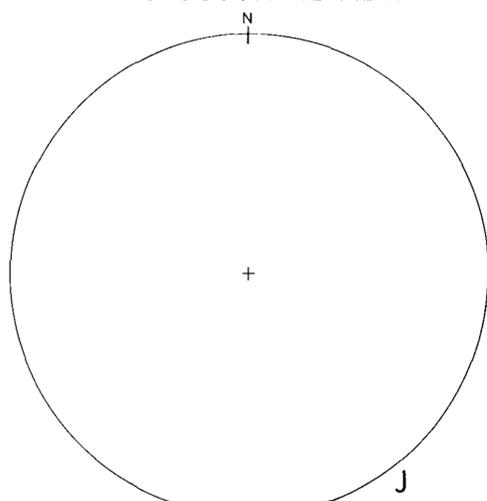
JOINTS  
# 1 SOUTH LL ADIT



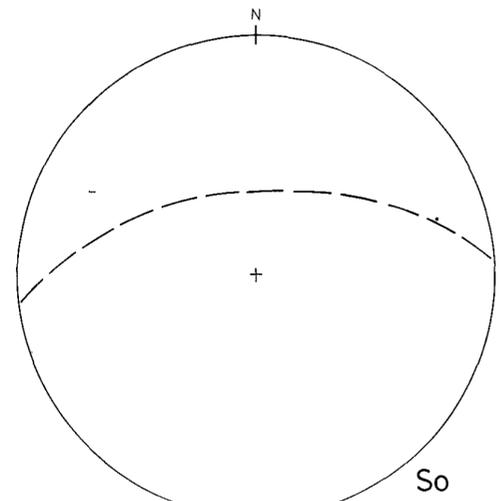
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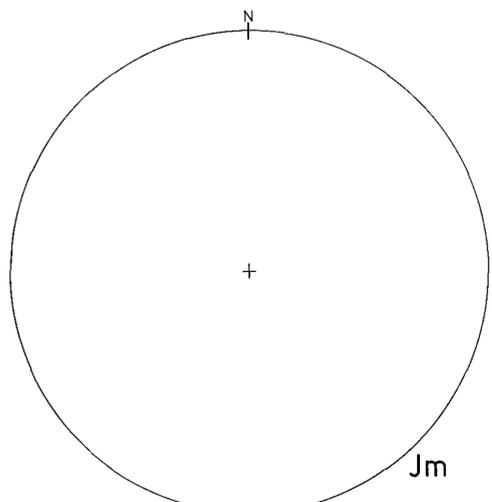
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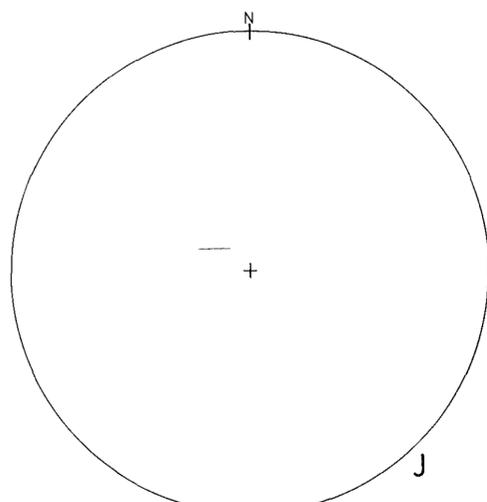
JOINTS  
# 2 SOUTH LL ADIT



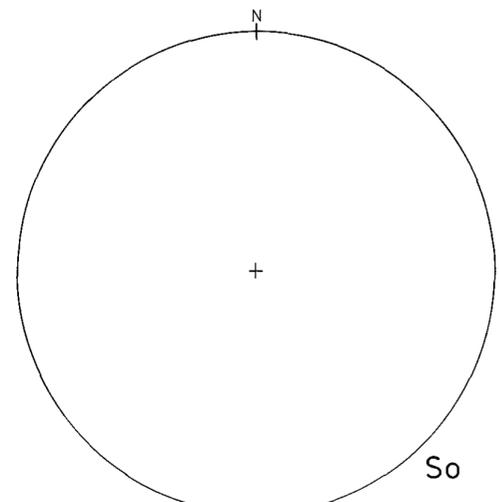
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MINERALISED JOINTS



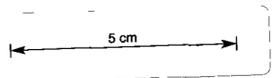
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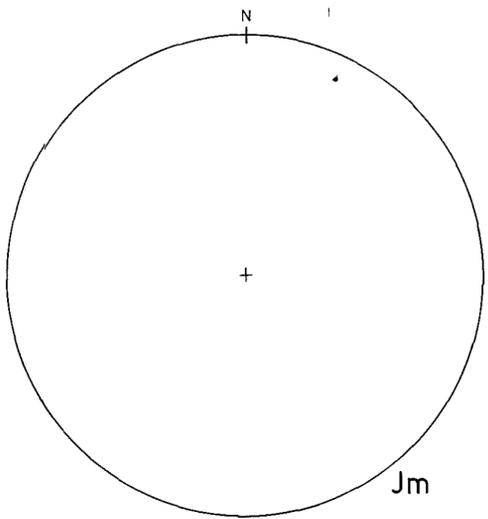


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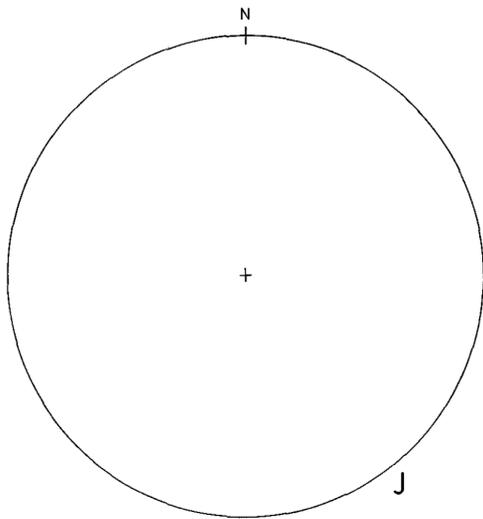
938060

THE BROKEN HILL PROPRIETARY CO LTD		
EXPLORATION DEPARTMENT		
EL 10/80 GREAT PYRAMID TAS		
STRUCTURAL PLOTS		
JOINTS AND BEDDING		
SHEET 3		
Drawn	Date 19 10 80	Centre HOBART
Traced J H	Project No	Drawing No
Checked	R400	A2-10/80 14

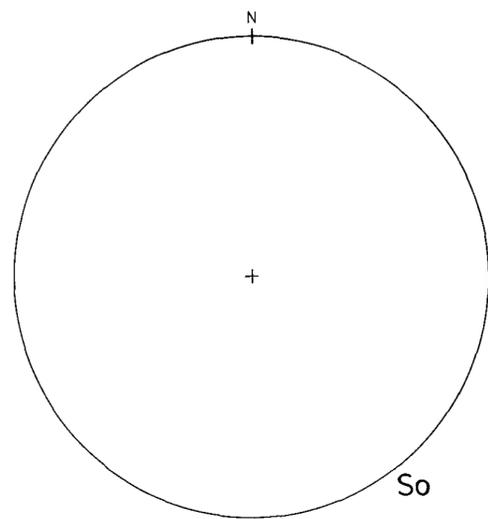




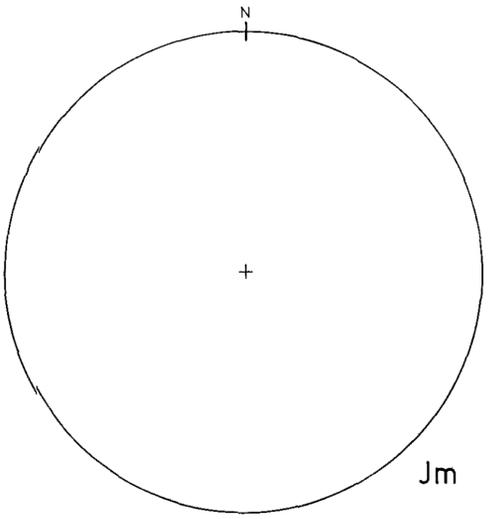
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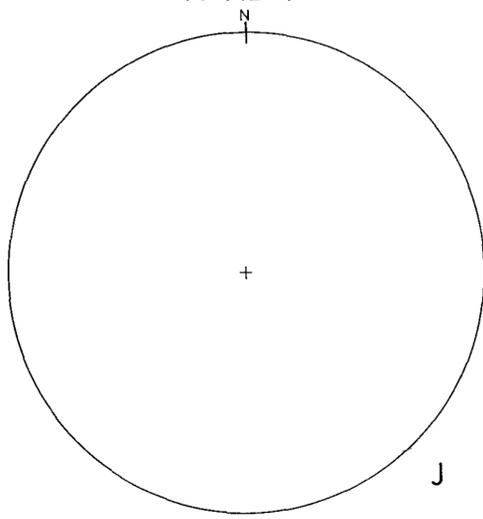
JOINTS  
'A' ADIT



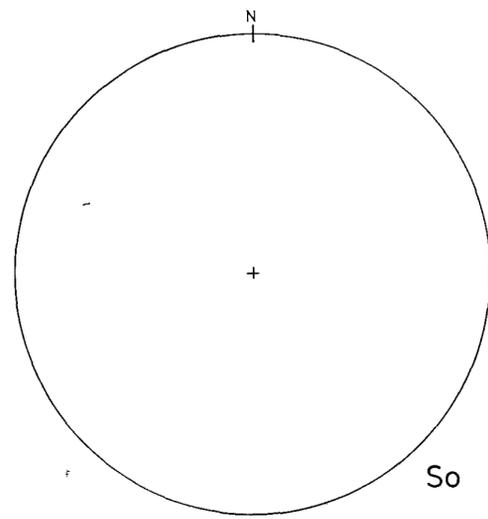
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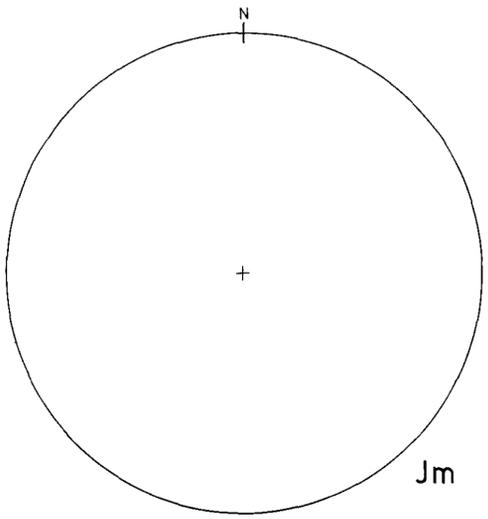
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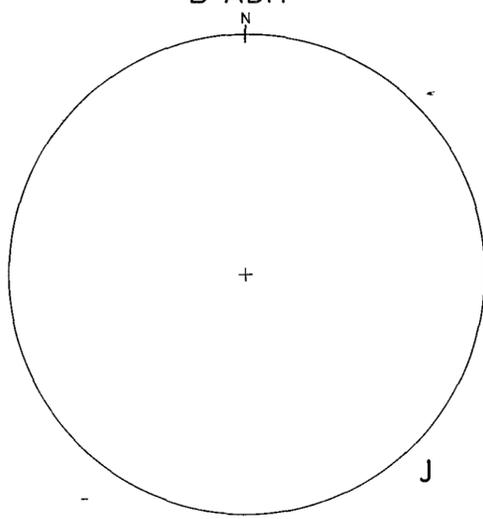
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'B' ADIT



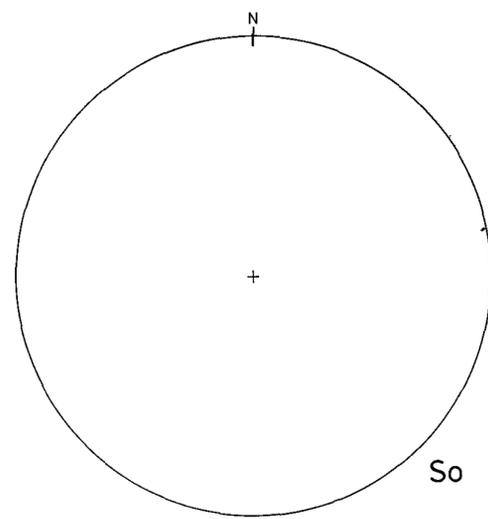
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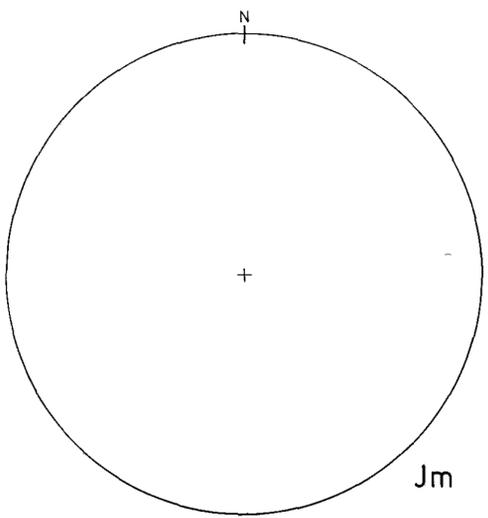
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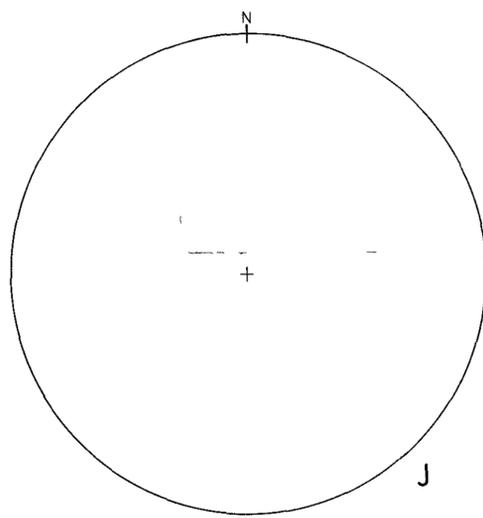
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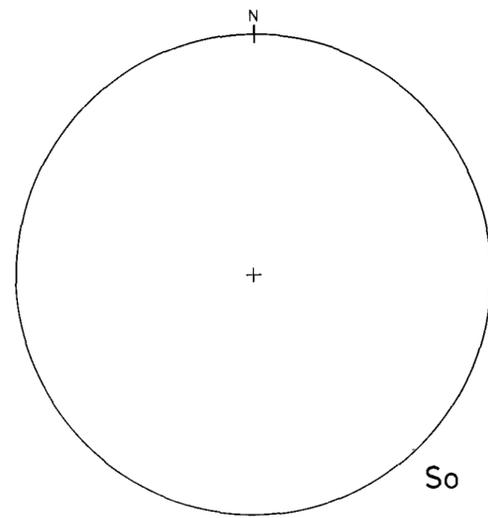
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MINERALISED JOINTS



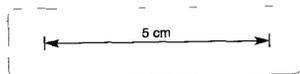
JOINTS  
D ADIT

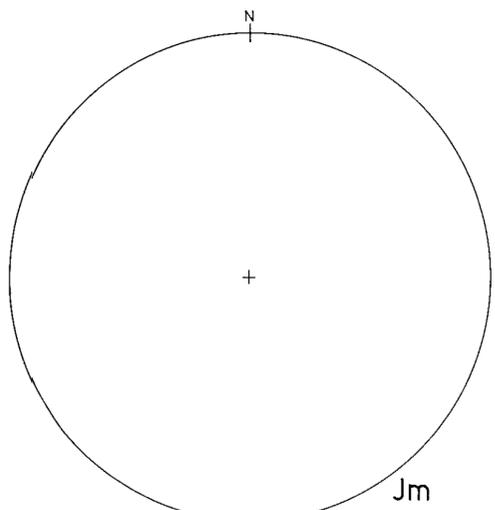


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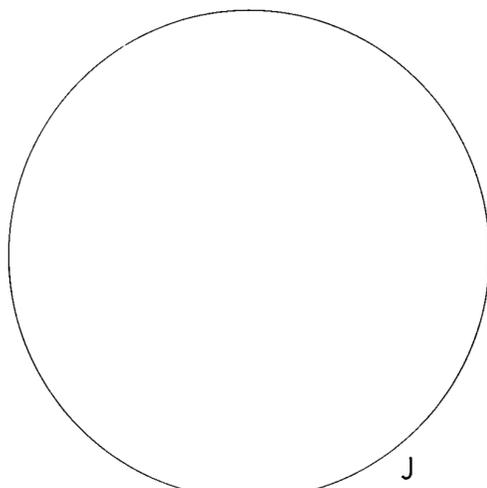
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THE BROKEN HILL PROPRIETARY CO LTD		
EXPLORATION DEPARTMENT		
EL 10/80 GREAT PYRAMID TAS		
STRUCTURAL PLOTS		
JOINTS AND BEDDING		
SHEET 4		
Drawn	Date 17 10 80	Centre HOBART
Traced JH	Project N <sup>o</sup>	Drawing N <sup>o</sup>
Checked	R400	A2-10/80 15

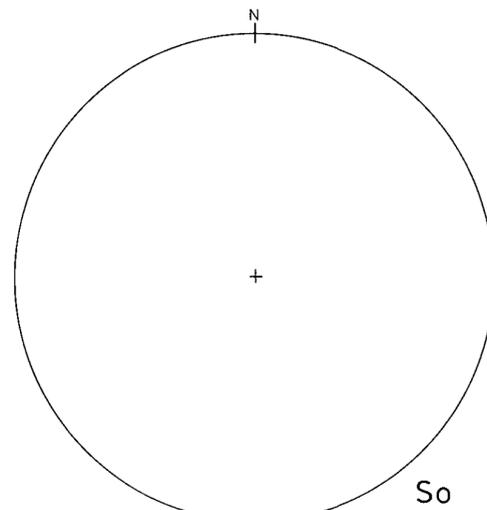




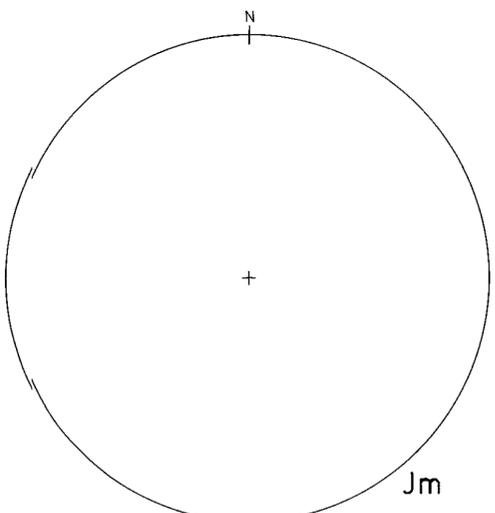
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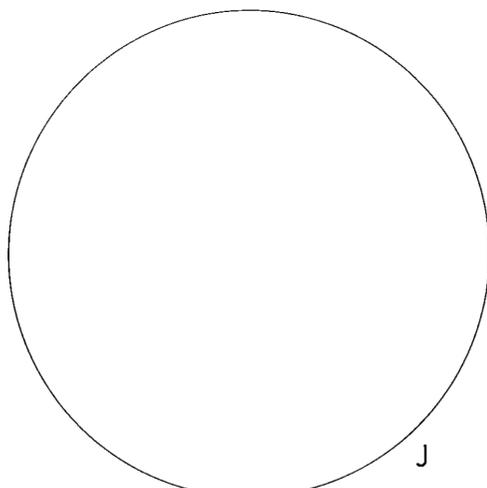
JOINTS  
NE SECTOR - SURFACE



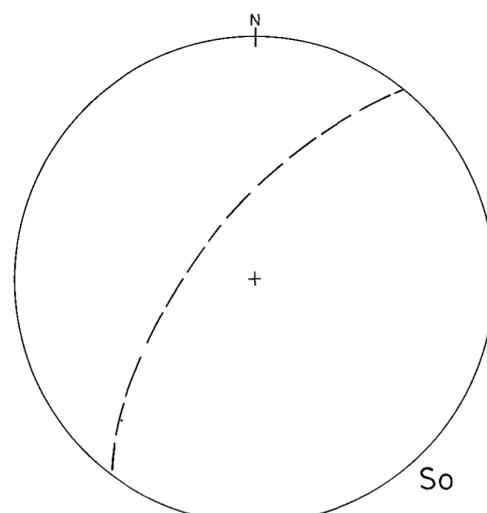
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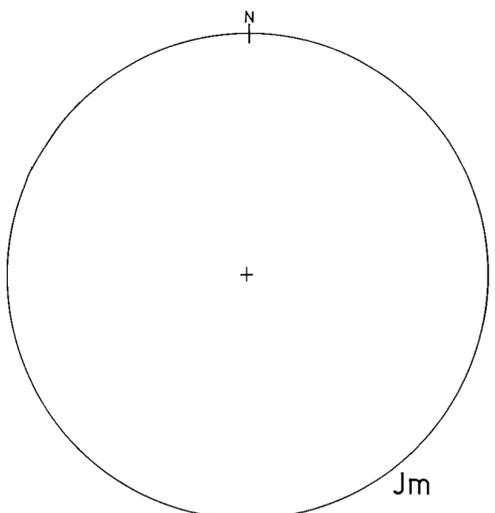
MINERALISED JOINTS



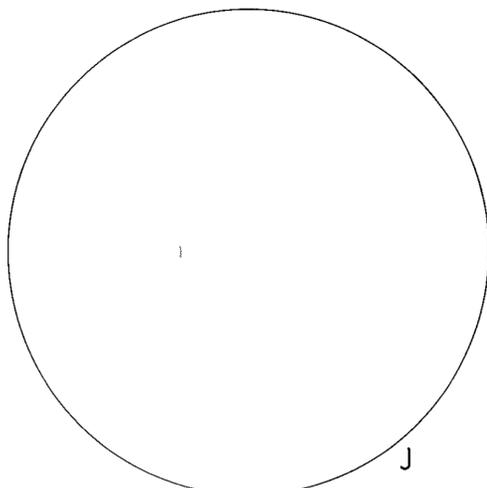
JOINTS  
NE SECTOR - TOTAL



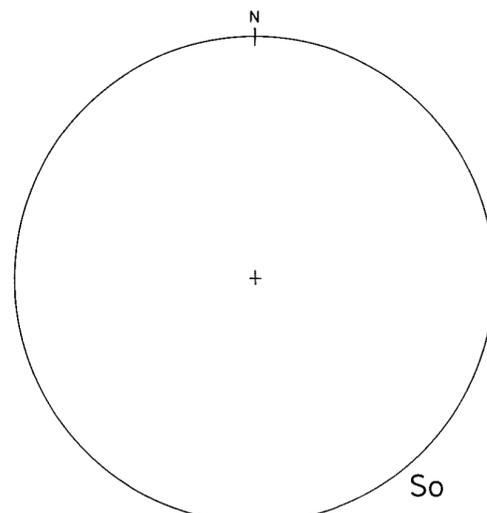
BEDDING



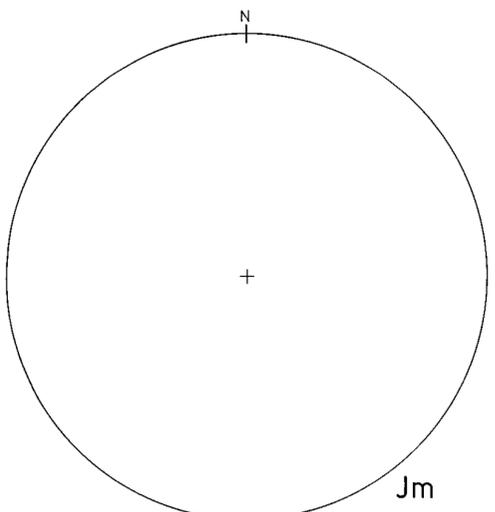
MINERALISED JOINTS



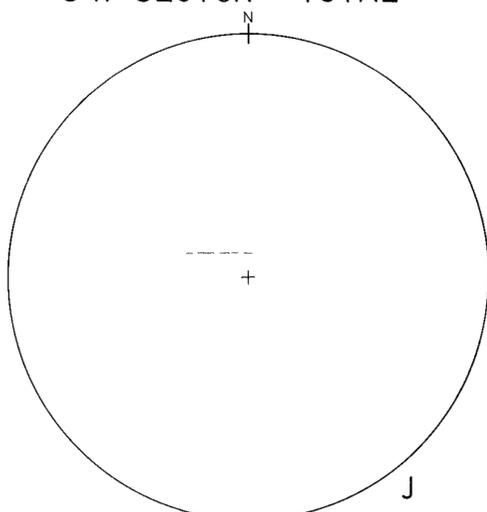
JOINTS  
SW SECTOR - TOTAL



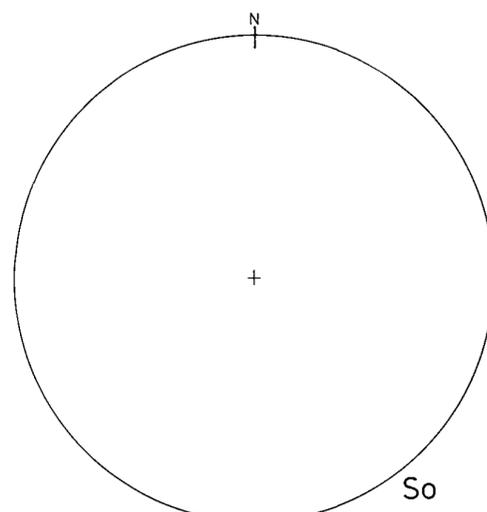
BEDDING



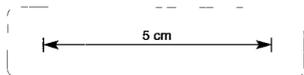
MINERALISED JOINTS



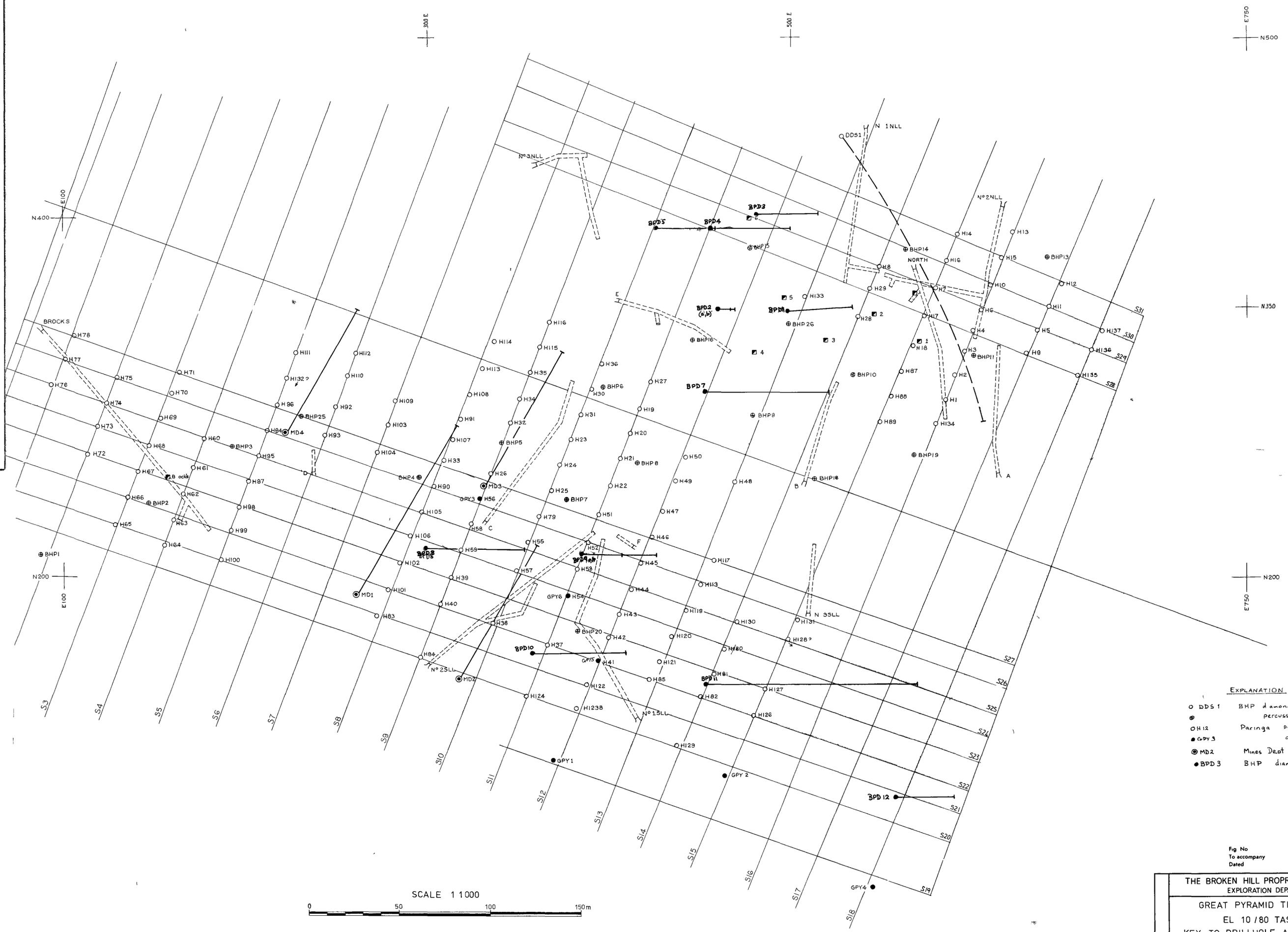
JOINTS  
MAGAZINE ADIT



BEDDING



938062		
THE BROKEN HILL PROPRIETARY CO LTD EXPLORATION DEPARTMENT		
EL 10/80 GREAT PYRAMID TAS STRUCTURAL PLOTS JOINTS AND BEDDING		
SHEET 5		
Drawn	Date 19 10 80	Centre HOBART
Traced J H	Project N°	Drawing N°
Checked	R400	A2-10/80-16



BHP  
Grid North  
030 mag

- EXPLANATION**
- DDS 1 BHP diamond hole 1965 percussion
  - OH 12 Paringa percussion hole
  - GPY 3 Paringa diamond hole
  - ⊙ MD 2 Mines Dept diamond hole
  - BPD 3 BHP diamond hole

Fig No  
To accompany  
Dated **938063**

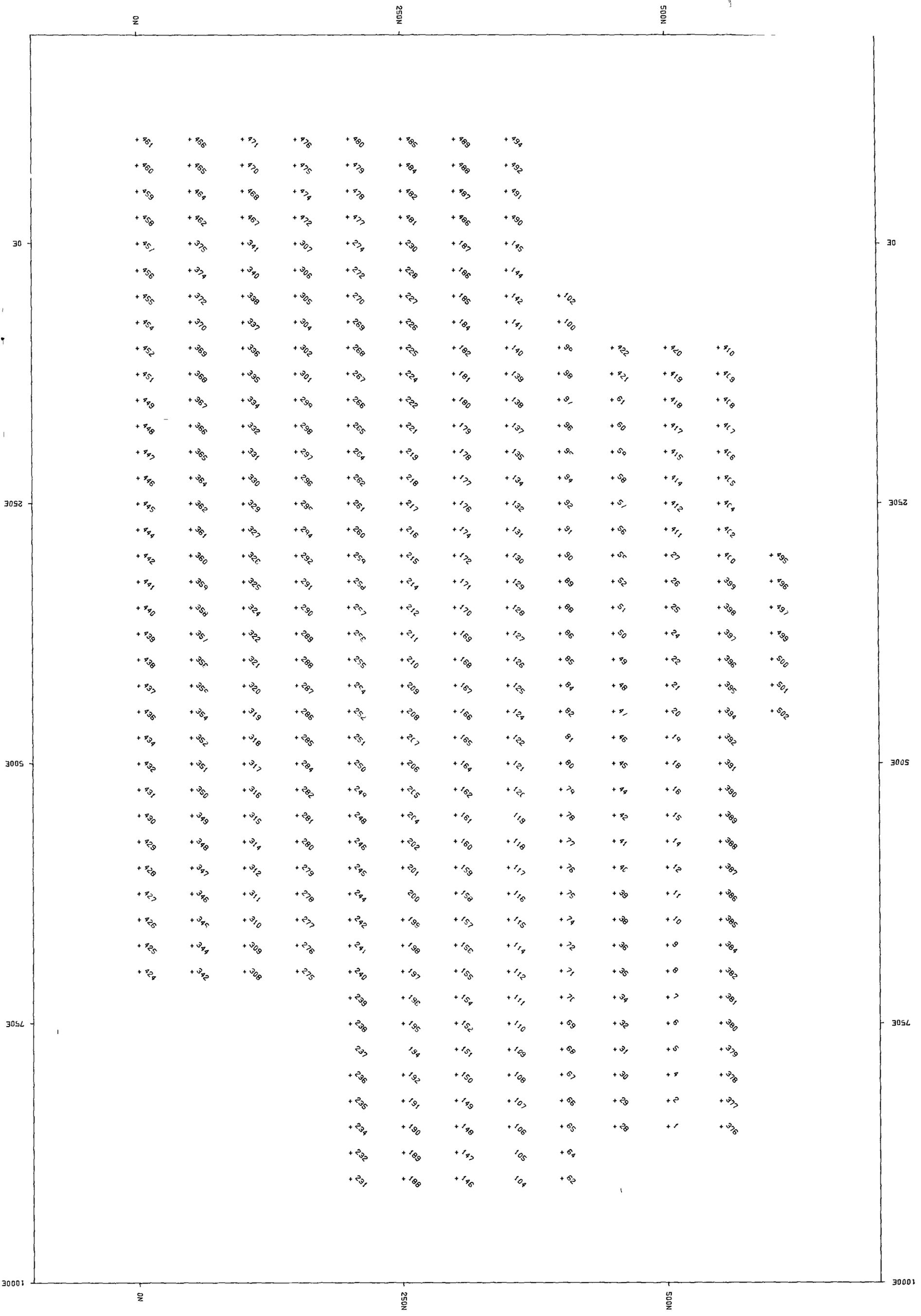
THE BROKEN HILL PROPRIETARY CO LTD EXPLORATION DEPARTMENT			
GREAT PYRAMID TIN PROSPECT EL 10 / 80 TASMANIA KEY TO DRILLHOLE ASSAY SECTIONS			
Drawn	RH	Date	8 - 10 80
Traced	JH	Centre	HOBART
Checked		Project No	
Drawn		Drawing No	A1-10/80-6

SCALE 1 1000  
0 50 100 150m

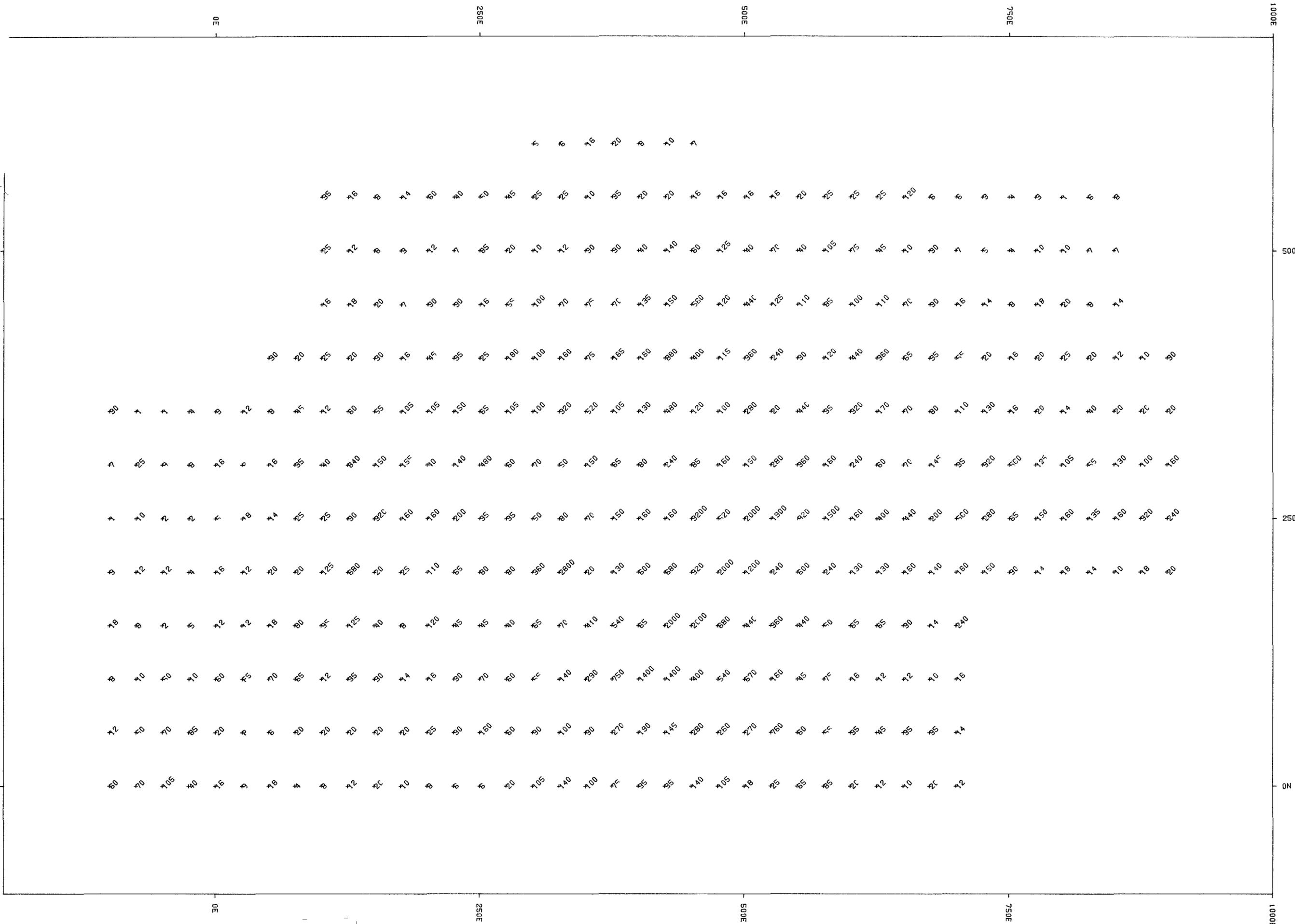
5 cm



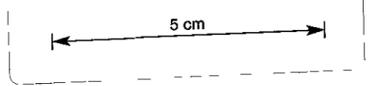
GRI  
 GREAT PYRAMID SAMPLE NUMBERS  
 SCALE 1:2500



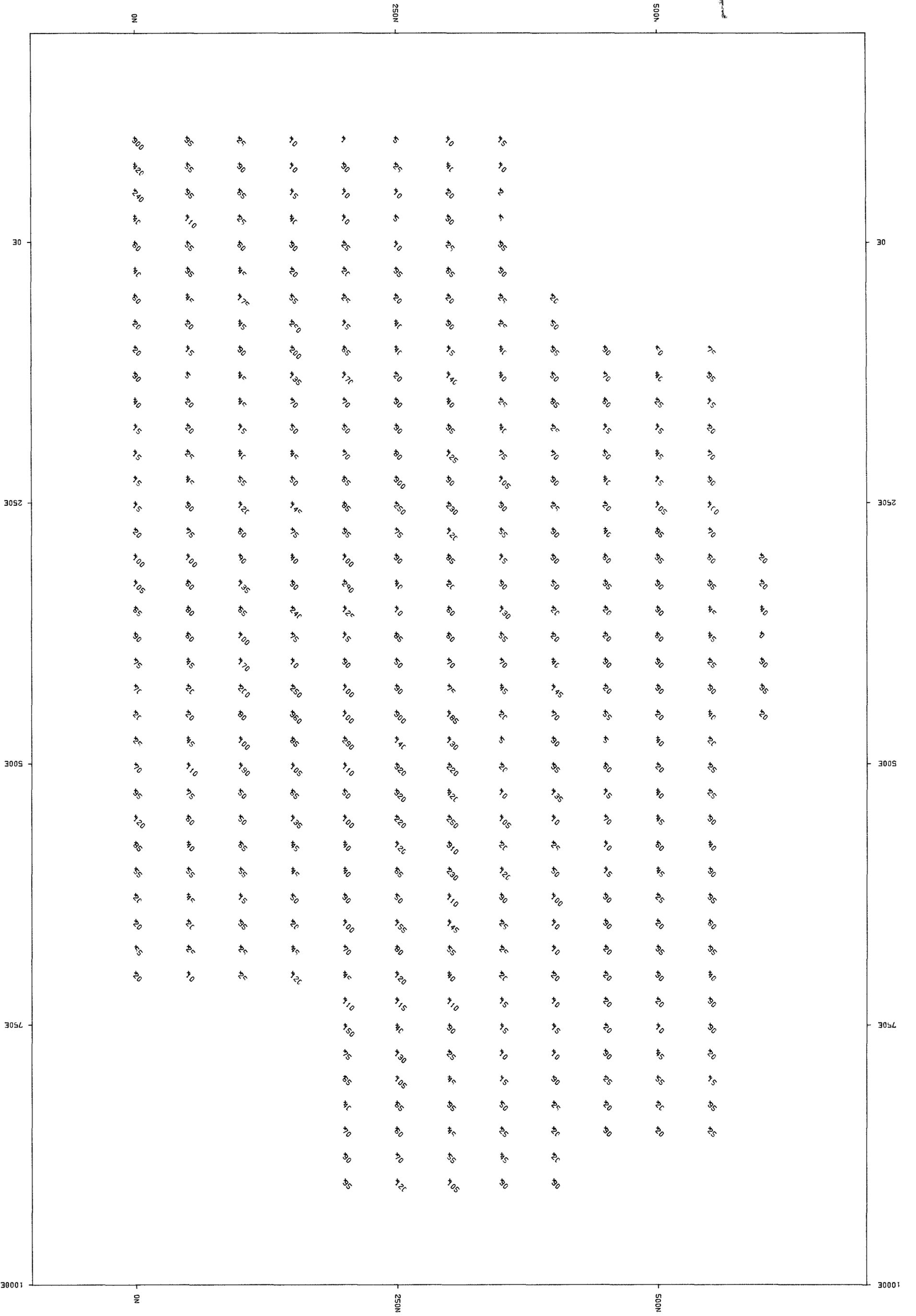
938064



GRT  
 GREAT PYRAMID ARSENIC IN SOIL  
 SCALE 1 2500

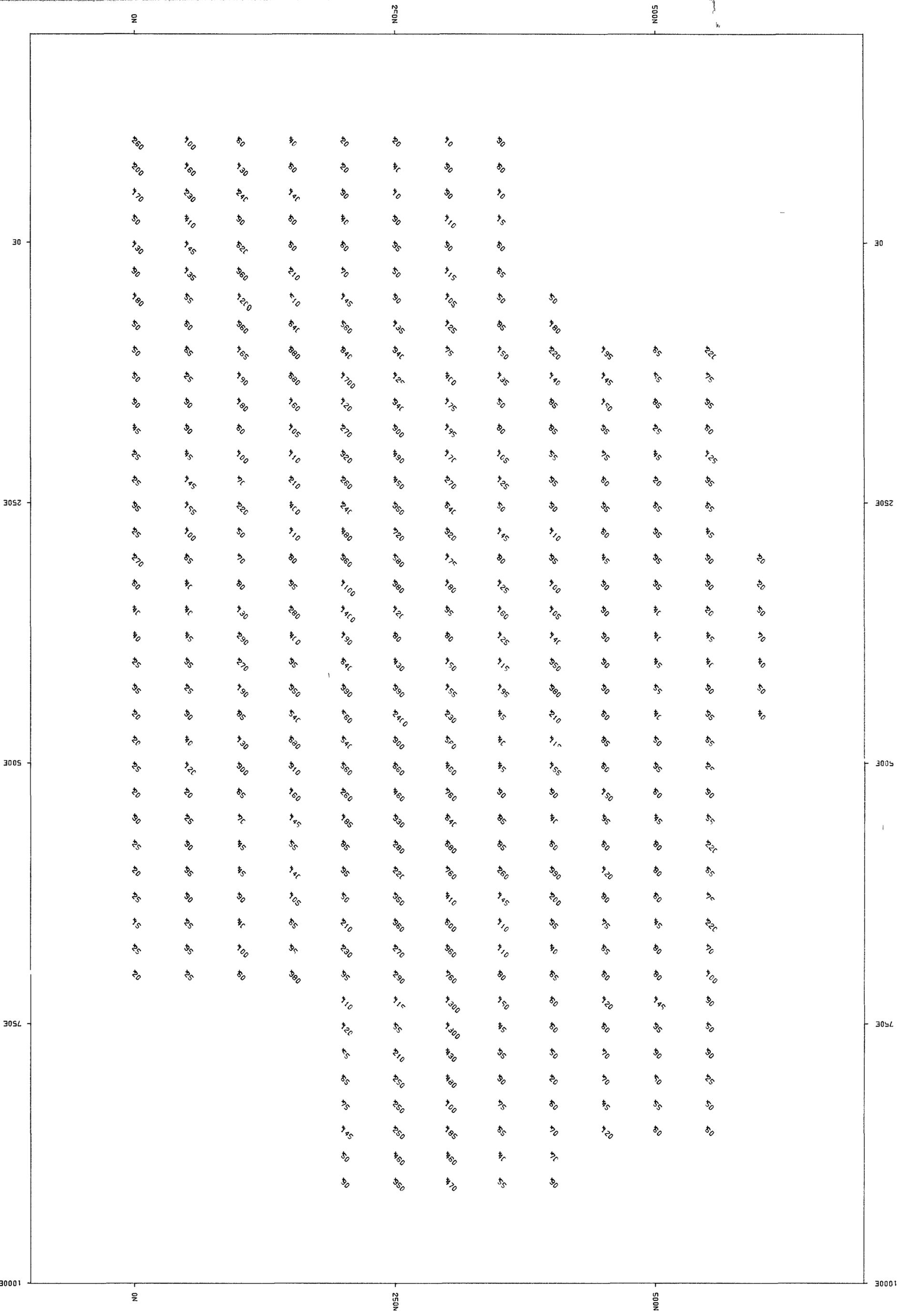
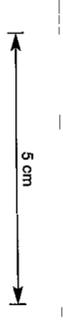


GRT  
GREAT PYRAMID COPPER IN SOIL  
SCALE 1 2500



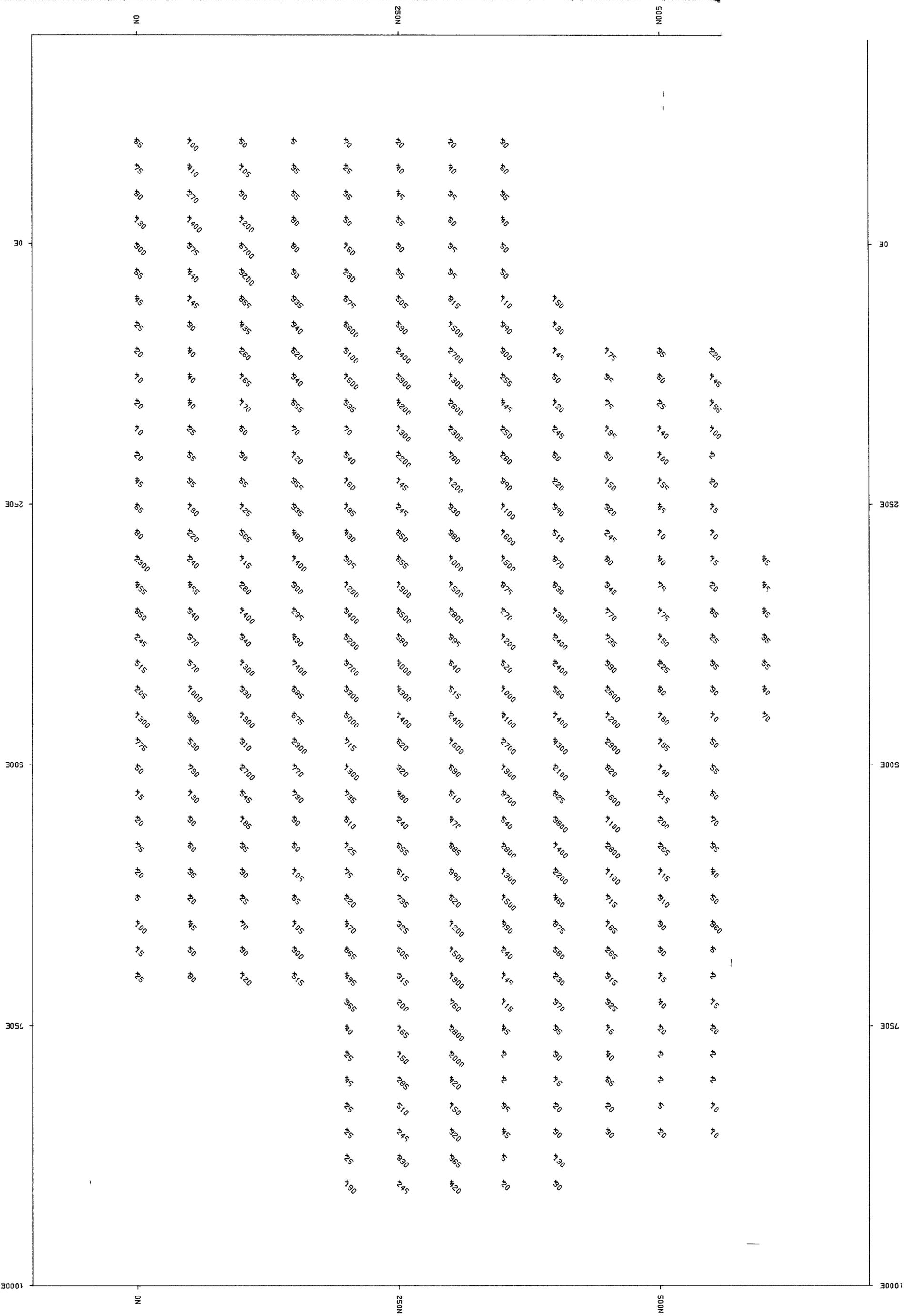
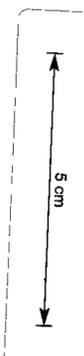
938066

GRT  
GREAT PYRAMID LEAD IN SOIL  
SCALE 1 2500

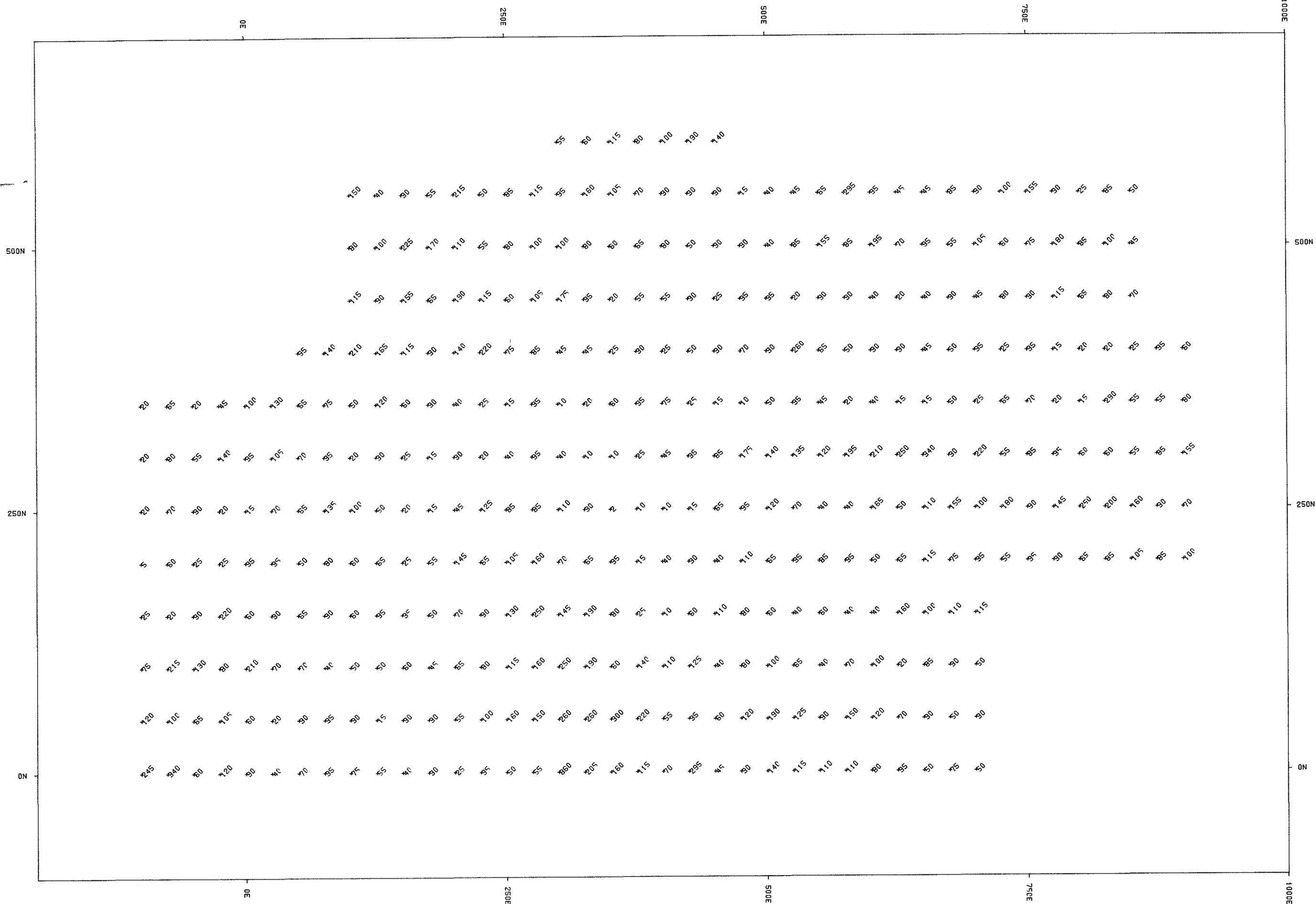


932067

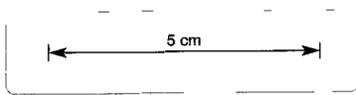
GRT  
GREAT PYRAMID TIN IN SOIL  
SCALE 1 2500

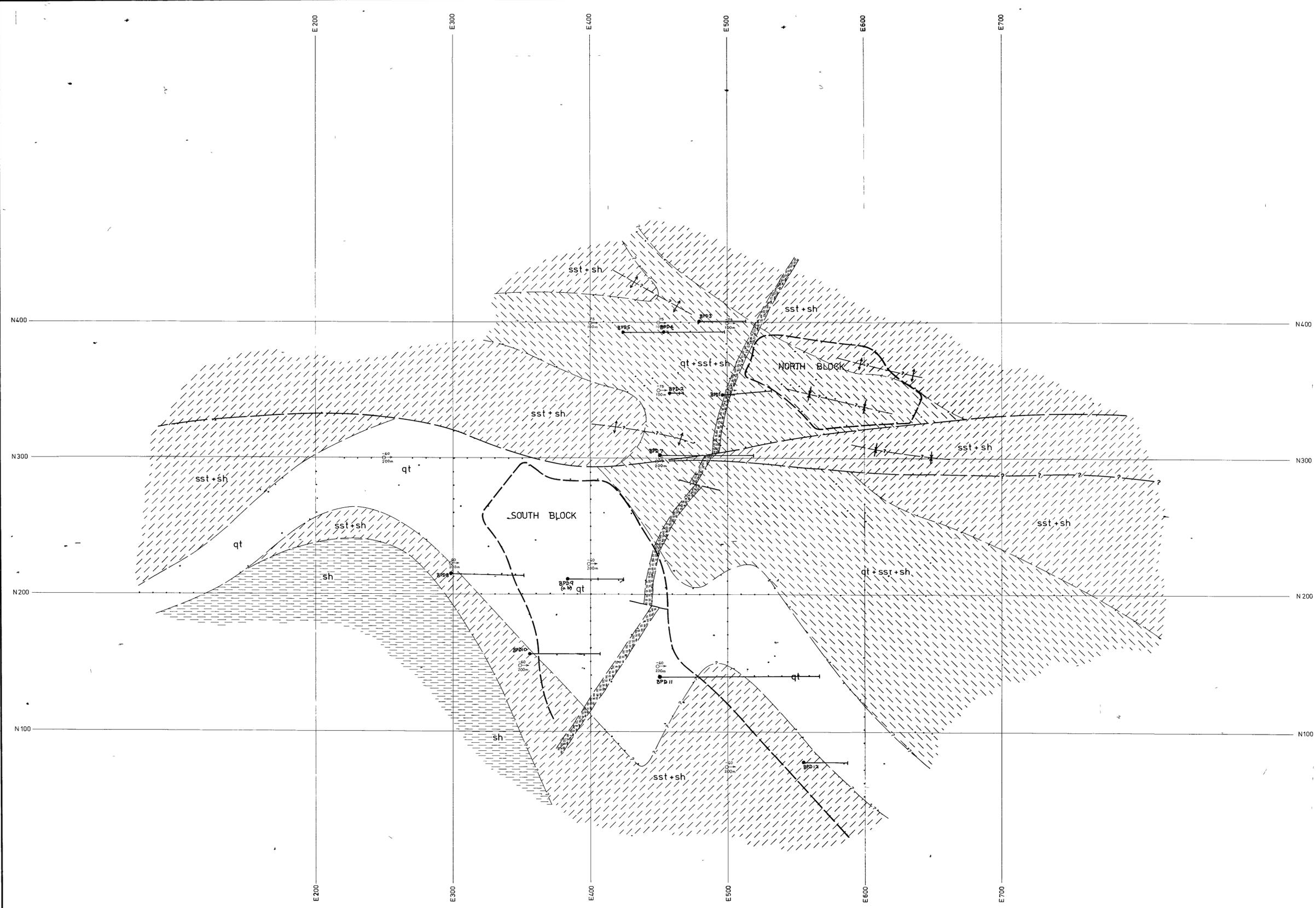


890386



GRT  
 GREAT PYRAMID ZINC IN SOIL  
 SCALE 1 2500

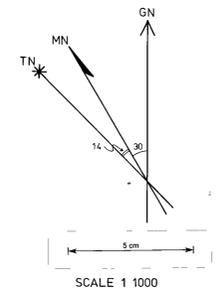




- - - - - Geological boundary - approximate  
 - - - - - Geological boundary - inferred  
 - - - - - Fault - position approximate  
 - - - - - Fault - position inferred  
 - - - - - Inferred anticline syncline - plunge uncertain

qt  
 sst  
 sh  
 sst+sh

Proposed DD Hole collar bearing depression (60°) and depth (200m)  
 Approximate boundaries of Range one reserve outline



SCALE 1 1000  
 TOPO CONTOUR INTERVAL 5 METRES

<b>THE BROKEN HILL PROPRIETARY CO LTD</b>			
EXPLORATION DEPARTMENT			
EL 10/80 GREAT PYRAMID PROSPECT, NE TASMANIA			
SURFACE GEOLOGICAL INTERPRETATION			
WITH PROPOSED DDH's (DMR's)			
Drawn	D A STEELE	Date	3-10-80
Traced	J E H	Project No	R400
Checked		Drawing No	AO-10/80-19
Drawn by		Centre	HOBART

NOTE: Map to accompany report by DM Ransom Sept 1980