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**MICROFILMED**

ANNUAL REPORT

EXPLORATION LICENCE 47/71

QUEEN HILL

TASMANIA

For 12 months to December 21, 1983

**Distribution:**

Hawthorn 1  
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SUMMARY

This report details exploration conducted on the Queen Hill Exploration Licence 47/71, excluding CML 36M/81, for the 12 months ending December 21, 1983. The Statement of Expenditure is for the 1983 Aberfoyle Exploration budget year, commencing November 15, 1982 and ending November 14, 1983.

The models for tin exploration on the licence involve carbonate-rich rocks which are either replaced away from granite as at the Renison Bell Mine or altered to skarn near the granite contact as recognised at the St Dizier and Mt Lindsay deposits.

All the geophysical anomalies examined in this report are thought to be too close to granite for the development of carbonate replacement cassiterite-sulphide mineralisation. Other environmental factors involved are likely to be the lack of sufficient pyritic stratigraphy and the absence of a closed system, where the depth to the granite is shallow.

The development of carbonate-skarn horizons at the transitional boundary between quartzite and shale was established and identified on the Donnellys, Central Anomaly and Silver Stream grids. Rock chip samples anomalous in tin were collected from these grids (Donnellys 1.35% Sn; Central Anomaly 140 ppm Sn; Silver Stream Anomaly 390 ppm Sn). Unlike St Dizier where mineralization is at the surface, the depths of these anomalies varies from 10 to 100 metres and would require drill testing.

However, skarns in general are not considered to be particularly prospective. Petrological observations on rocks from both St Dizier and Donnelly's indicate that the tin is usually tied up in complex silicate or borate form. In both cases, the cassiterite is very fine. At Donnelly's, no primary cassiterite is seen and retrogression of the skarn is responsible for the very fine (<10 $\mu$ ) secondary cassiterite present.

In the Central Anomaly area there are at least three parallel skarn horizons with depths that vary from 25 metres to greater than 100 metres and strike lengths of approximately 300 metres.

Twelve Mile Creek has a lenticular magnetic anomaly indicating a probable skarn in an area where a thick unit of shale is already known. The magnetic anomaly has a strike extent of approximately 500 metres and a depth in places as shallow as 25 metres.

In the Tasman River Zone, results are not encouraging due to the effect of magnetically noisy basalt masking any response from the underlying rocks. What is thought to be a skarn horizon occurs on the western margin of the bush covered basalt.

Silver Stream Anomaly has a small area of gossan over a probable skarn of at least 400 metres strike extent. However, the ground magnetic data and the narrow shale unit present suggest a width of less than 20 metres with a weak disseminated source 25 to 75 metres deep.

3.

The magnetic anomaly associated with E.M. anomalies 228C-229A, has a depth-to-top of 50-70 metres and a strike extent of at least 300 metres, but lacks outcrop control and anomalous geochemistry.

The North-West Anomaly, Granite 1 and Granite 2 Anomalies are situated in magnetically noisy granite. No quartz-tourmaline-tin veins or highly altered granite were seen on any of the grids, and no further exploration is warranted.

The 1983 exploration programme on the Queen Hill Licence has identified several targets requiring further work to complete the evaluation of the regional tin potential. These are the Central Anomaly, where a strong magnetic response coincident with anomalous geochemistry over a skarn horizon, warrants testing by a single diamond drill hole to establish the form of the tin mineralisation. At Donnelly's Prospect, costeaning and ground EM is required to trace prospective stratigraphy and expose skarns. The Twelve Mile Creek and Tasman River Zone need costeaning to expose and sample what geophysical techniques have defined as potential skarns.

None of these prospects represent particularly attractive targets in the current tin climate and stage of development of Aberfoyle's Zeehan tin resources. The timing of further follow-up exploration on the licence is largely dependent on these factors and priorities for exploration funds within the State.

## INTRODUCTION

The Queen Hill Exploration Licence 47/71 of 122 square kilometres is located on the west coast of Tasmania with the town of Zeehan situated in the south-east corner of the licence area and the small settlement of Granville Harbour to the north-west (Plate QH110).

The Annual Report for the year ending December 21, 1982 (Richardson and Rombouts, 1982) contains a history and the past tenure record.

The objective of the current exploration programme is to regionally assess the area of the exploration licence in order to locate drilling targets and ultimately find further near surface high grade (~1% Sn) tin mineralisation to enhance any future Zeehan operation.

Geophysical targets for exploration exist on the licence, some of which have attracted limited follow-up work in previous seasons. It is proposed to assess these anomalies by reconnaissance mapping, rock geochemistry and ground magnetics.

CENTRAL ANOMALY AREAINTRODUCTION

Exploration on the licence in 1983 shifted away from the Donnellys Prospect (Plate D on 4) in order to bring the other targets on the licence to the same stage of understanding so that an objective rating could be applied to each.

The most prospective of these targets is the Central Anomaly where an extension of the St Dizier skarn horizon is already known. Work was previously deferred so that the new find at Donnellys could be evaluated.

PREVIOUS EXPLORATION

In 1967 Pickands Mather International produced a map of the interpreted geology of the area between St Dizier and Big H, at a scale of 400 feet to 1 inch. This showed a magnetite-pyrrhotite zone bounded to the north by banded tourmalinized argillites and quartzites, and to the south by chiastolitic argillite. At the Central Anomaly the chiastolitic argillite was mapped as extending to the north. It was interpreted that the skarn horizon trended to the north along the margins of the chiastolitic argillite with no connection between the St Dizier skarn horizon and the Big H skarn horizon. A 160 metre diamond drill hole, H101 was collared 200 metres to the west of the magnetic anomaly defined by recent ground magnetics and was drilled almost parallel to strike. 1.2 metres of 0.45% Sn was intersected in the last 20 metres of the hole, with the highest tin value being 6400 ppm.

In 1973 a metric 100 metre grid was established by Cominco Exploration between St Dizier and Big H. Ground magnetics were completed on each line and these delineated the magnetite-bearing skarn horizon. The depth to the top of the Central Anomaly was interpreted as being about 130 metres.

An airborne magnetic survey was flown over parts of Exploration Licence 22/73 during April, 1975 in order to trace the extent of the known magnetic skarn and to locate any other skarn occurrences.

A DIGHEM survey was flown in March 1980 over an area of approximately 65 sq. km. which included the Central Anomaly. The responses in the Central Anomaly region showed generally poor correlation between EM and magnetics, unlike St Dizier and Big H where there is a good correlation. This suggests the source of the EM in the Central Anomaly region is not entirely due to the known skarn horizon.

In June 1980, a RAB drilling programme was conducted which covered the Central Anomaly as well as the Big H Anomaly. At the Central Anomaly, the highest tin value obtained was 650 ppm (Plate St Diz 43).

#### GRIDDING

During April, 1983, the grid was re-established over the Central Anomaly with new pegs replacing those destroyed by bush fires. The grid was extended to the north and south to cover DIGHEM anomalies 220C, 221C, 222A, B & E, 223B and 224B Plate QH 183). A total of 9.2 line km of extensions were added.

7.

GEOLOGY (Plate St. D 46)

The Central Anomaly - Big H region was mapped in the latter part of 1982 and early 1983 using the existing grid lines and with reconnaissance mapping to the north.

The lithologies are very similar to those recognised on the Donnellys grid. (Plate Don 4)

Granite

On the southern edge of the mapped area is a pink alkaline quartz-two-feldspar-biotite granite which is part of the Heemskirk Granite body. Quartz-tourmaline nodules are locally very common. Small isolated granite outcrops are present in the Big H area. Pickands Mather International diamond drill hole DDH 102 passed through granite into quartzite.

Shale

The shale is black and carbonaceous with commonly developed andalusite (chiastolite) and tourmaline (dravite) crystals. The fine grained portion of the rock consists of a mass of quartz, carbon (?graphite), sericite and pyrite.

Minor pyrite veining occurs in the shale, and at grid reference 21340E 20420N disseminated pyrrhotite with green micaceous skarn mineralogy is developed. None of these rocks assayed more than 35 ppm Sn. Rock sample 261395 (grid reference 21300E 20340N) also located in shale gave the highest tin value of the rock samples assayed with 140 ppm

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Sn. This is a limonite stained white clay bed such as that commonly found at the transitional contact between the shale and quartzitic siltstone-sandstone units. It is at this position that the skarn is known to develop.

A low ridge of silicified black shale is found between 22200E and 22300E at the position of the skarn horizon determined by the 1980 RAB drilling programme.

#### Skarn

A white, slightly pinkish clay interbedded with grey carbonaceous clay is generally the only indication during mapping of what might be skarn.

In the vicinity of Big H and to the west of the Central Anomaly there are isolated tree covered gossans which are variably magnetic. At grid reference 22590E 20100N books of green coloured mica outcrop.

#### Quartzitic Sandstone - Siltstone

Quartz veined quartzitic siltstone-sandstone outcrops on the ridges. That these quartzites contain a high proportion of siltstone-shale is only recognised when the metamorphosed equivalents are seen near the granite. The interlaminated metasomatised argillites become dark grey to black in colour due to the presence of secondary biotite and tourmaline.

#### Tertiary - Quaternary Gravels

A thin cover of gravels can be seen on the ridges, approximately half

9.

a metre thick in places, but varying between zero and four metres on the side road to DDH101. RAB drilling in the valley indicates that thicknesses can attain fifteen metres near the Central Anomaly.

## STRUCTURES

### Geological Contacts

Apart from the granite contact an accurate determination of the contacts between major rock units is restricted to outcrops along roadways and water races. Change in slope, together with the strike direction measured in nearby rocks, is found to be a good approximation to the position of the contact between the shale unit and the more resistant quartzitic rocks. The skarn contacts are particularly difficult to determine due to lack of outcrop, the indeterminate nature of the rock itself, and poor resistance to erosion.

Skarn is thought to develop between the shale and quartzitic rocks at what is interpreted as the upper contact of the shale unit. This observation is based on the regional evidence that the Oonah Quartzite and Slate generally young to the north, and from the vast majority of dip readings taken during mapping.

The dip of most units is commonly greater than  $70^{\circ}$ , with local variations in dip direction. At Big H, on the northern side of the skarn, the preferred dip of the rocks is to the south, whereas the rocks on the southern side of the skarn retain the regional northerly dip.

Faulting

There are a number of fault controlled photolinear features visible in the aerial photographs. Faulting is also seen to be a factor in the present position of contacts and possibly in the development of skarn and related mineralization.

Folding

Microfolding and warping is common. Large scale folding is not seen but may be inferred by the rapid changes in strike direction in some areas.

GEOPHYSICS

A ground magnetic survey was conducted over the re-established grid and the grid extensions during May, 1983 (Plate QH 219). A contour map of the results indicates lenticular anomalies associated with the known skarn horizon trending towards the Central Anomaly, from both St Dizier and Big H. In the vicinity of the Central Anomaly the horizon appears to widen, and at least three parallel skarns are evident from the profiles with depths varying from 30 metres to over 70-100 metres. There is a break in continuity between the skarn horizon at St Dizier and the Central Anomaly near 21150E and similarly between the skarn horizon at Big H and the Central Anomaly around 21750E. Both are possibly due to faulting.

To the south of the Central Anomaly a shallow magnetic feature of low magnetite content is associated with EM anomaly 220B. A lenticular

11.

magnetic anomaly, also shallow and of low magnetic content, is present 400 metres to the east. Mapping in this region has demonstrated a repetition of the map units existing further north. A shale unit, approximately 50 metres thick, is bounded to the north by banded tourmaline altered quartzites and to the south by granite, which also intrudes the shale. The magnetic anomalies are present on the northern contact of the shale and are thought to indicate development of skarn at this position.

Previously, it was thought that the DIGHEM anomalies 221C, 222E, 223B and possibly 224B may be outlining mineralisation along a second skarn parallel to the St Dizier-Central-Big H skarn horizon. Anomalies 221C, 222E and 223B represent both magnetic and EM targets, while 224B represents a poor conductor with no magnetic response.

From the ground magnetic survey a thin ten metre skarn horizon of 100-150 metre strike length is interpreted as being associated with DIGHEM anomaly 222E. Depth-to-top of the magnetic response is approximately 25 metres. There is no connection with the magnetic feature associated with DIGHEM anomaly 222E which is also shallow.

Grid line 21400E from 20265N to 20850N and grid line 21700E from 20400N to 20800N were both traversed by Max - Min EM. The resistivity readings obtained are low and characteristic of the graphitic shale. These results support the DIGHEM Survey data which shows a low resistivity trend to the north of the Central Anomaly extending to the north-west beyond the Twelve Mile Creek anomaly.

12.

The mapping found very little outcrop to confirm a northerly strike for the sediments. However, outcrop at grid reference 21700E 20625N has strike directions which closely approximate to this trend.

The skarn horizons in the Central Anomaly region need further exploration by drilling to determine whether the anomalies represent economic mineralization at depth. Unlike St Dizier and Big H, where the mineralization is near the surface, the depth of the anomalies in the Central Anomaly region prohibits further evaluation by surface exploration.

TWELVE MILE CREEK ANOMALY (Plate QH 183)PREVIOUS EXPLORATION

The DIGHEM Survey flown in March 1980 revealed a conductor in the Twelve Mile Creek area which was subsequently located on the ground. Two backhoe trenches were completed to evaluate the source of the anomaly. Black shale, similar to that seen south of the skarn horizon at St Dizier, was the only rock type found in these trenches. Assay results were low with one sample recording 260 ppm Sn and the rest less than 50 ppm Sn. Conductivity measurements on the shale gave a resistivity value of 78 ohm-metres in laboratory measurements which agrees with a background resistivity of 100 ohm-metres obtained from the DIGHEM data. Therefore, it is very unlikely that the trenches crossed the conductor. A SIROTEM survey consisting of three lines, 100m apart was completed in May 1980 by GEOEX Pty Ltd to determine the exact location of the anomaly. The SIROTEM Survey outlined a steeply dipping "narrow" (<50m) conductor of at least 100 metres strike length. The axis of the anomaly was shown to coincide with the eastern ends of the trenches.

Bedrock geochemical samples were taken at 8.0m intervals by reverse circulation drilling. The drilling commenced at the eastern end of the trenches and extended along the trenches for approximately 50 metres. From 24 metres to 40 metres pale grey and buff clay was encountered with trace mica and sulphides. Assays were low with tin values less than 50 ppm Sn.

GEOLOGY

Silicified black shale forms a shallow ridge at the eastern end of the trenches. A similar low ridge of black shale is found between 22200E and 22300E at the position of the St Dizier-Big H skarn horizon.

West of the trenches the strike of the quartzite, measured in a number of outcrops, swings around to the north-west in the direction of the trenches.

GEOPHYSICS

An anomaly with a similar lenticular contour plan as that shown by the St Dizier skarn horizon is indicated by the ground magnetic survey. Some peaks are as shallow as 25-30 metres and the strike length is 600 metres, although the strike is variable. The western lobe of the anomaly ends 75 metres to the south-east of the eastern end of the trenches while the eastern lobe trends south towards the Central Anomaly and joins the magnetic anomaly associated with DIGHEM feature 221C. A Max-Min EM traverse on line 21200E from 21050N to 21300N revealed a broad unit of low resistivity (graphitic shale) ending just beyond the eastern end of the trenches, where a narrow steeply dipping conductive unit exists at the contact with a rock type of greater resistivity (quartzite).

TASMAN RIVER ZONEPREVIOUS EXPLORATION

In 1981 a grid with lines 400 metre apart was placed to the west of bush covered basalt near Tasman River. This follow-up work was to test an area of anomalous magnetics seen in the DIGHEM survey undertaken in March 1980. The ground magnetic survey on this grid showed a broad magnetic anomaly open to the north and extending beyond the boundary of the Exploration Licence (Plate TR 1). The area to the west of the basalt has until recently been worked for alluvial tin.

In 1983 a zone of low resistivity was recognised from the DIGHEM survey as extending from the Central Anomaly north-west to the Tasman River Zone. The low resistivity zone is attributed to a shale unit. The possibility that the DIGHEM anomalies of the Tasman River Zone might indicate the presence of skarn within or on the margins of the shale, resulted in a grid being placed over these anomalies. From the DIGHEM survey it was recognised that the basalt was at most 30 metres thick and that its patchy distribution might not interfere with a ground magnetic survey.

GRIDDING

Six and a half kilometres of grid were cut with lines at 100 metre spacings.

GEOLOGY

Preliminary mapping indicates that there is no outcrop of either skarn or shale. Rare quartzite outcrops occur on the western edge of the bush. Within the bush there is basalt float and some outcrop (Plate TR2).

16.

GEOPHYSICS

A ground magnetic survey was recently completed over the grid (Plate TR3). For much of the coverage the very noisy magnetic basalt masks the response from the underlying rocks. However, a skarn horizon is believed to occur on western margin of the bush striking north westerly as interpreted on lines 9400N to 10000N.

DIGHEM ANOMALIES 228C AND 229APREVIOUS EXPLORATION

The March, 1980 DIGHEM survey indicated that these anomalies are both possible conductor anomalies with associated magnetic responses. A ground magnetic traverse completed in June, 1981 defined an anomaly of 120 gamma intensity. A single line I.P. survey using 100 metre dipole spacing, detected a weak chargeability high about 150 metres north of the magnetic anomaly centre. Of the fourteen stream sediment, soil and rock chip samples taken, the highest tin value recorded was 15 ppm Sn.

In November, 1982, two line kilometres of grid was placed over the magnetic anomaly.

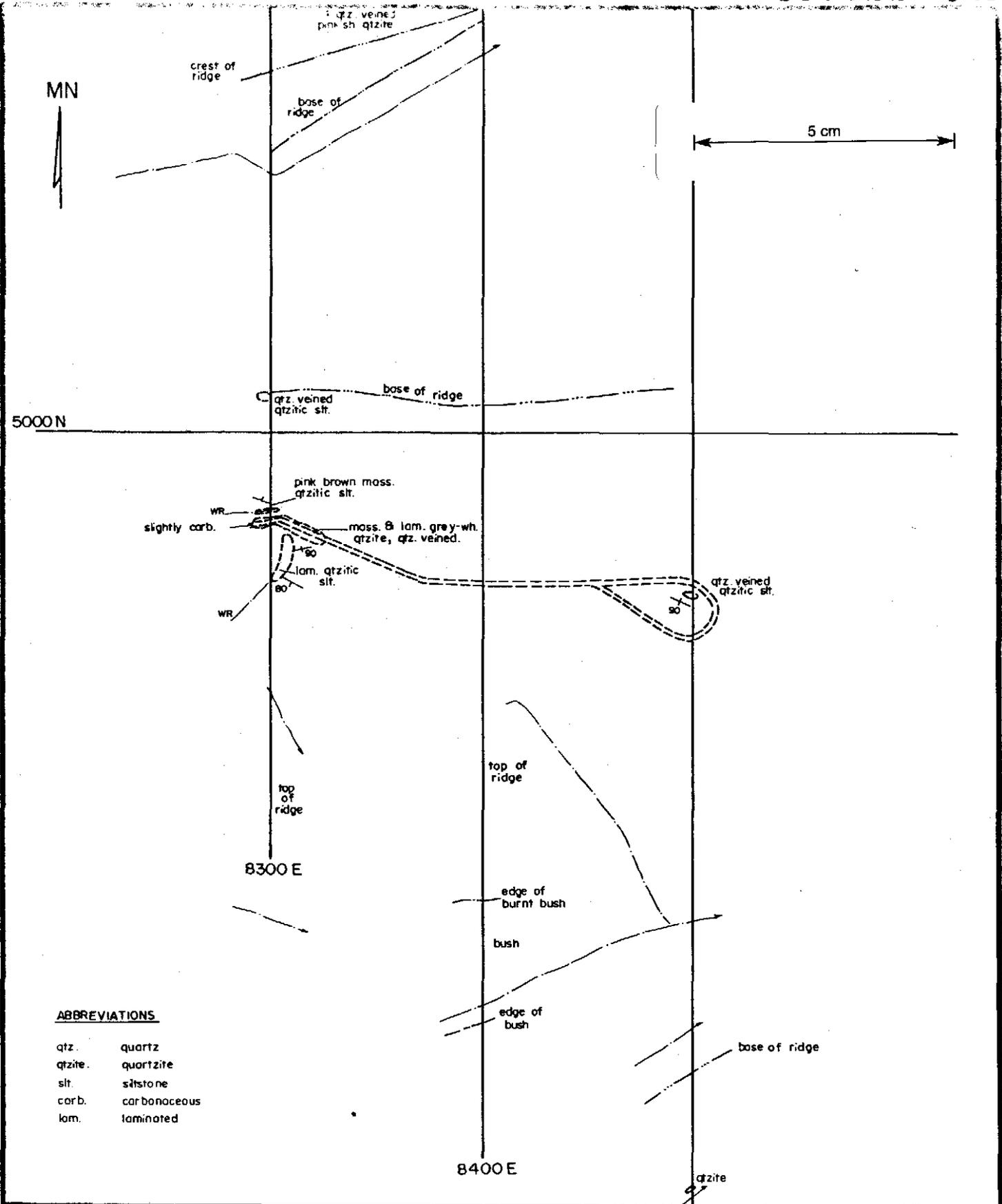
GEOLOGY

The anomaly is centred at the base of a low ridge on the edge of swampy ground where there is no outcrop exposed over the centre of the anomaly. On the track at the top of the ridge there is a combination of pink-grey slightly carbonaceous quartzitic siltstone and quartz veined quartzite (Plate QH 197).

There remains the possibility that the base of this ridge marks the local development of a skarn horizon as seen at St Dizier.

GEOPHYSICS

A ground magnetic survey executed over the grid confirmed the presence of a 120 gamma magnetic anomaly. Depth-to-top is approximately 50-70



**ABBREVIATIONS**

- qtz. quartz
- qtzite. quartzite
- slt. siltstone
- carb. carbonaceous
- lom. laminated

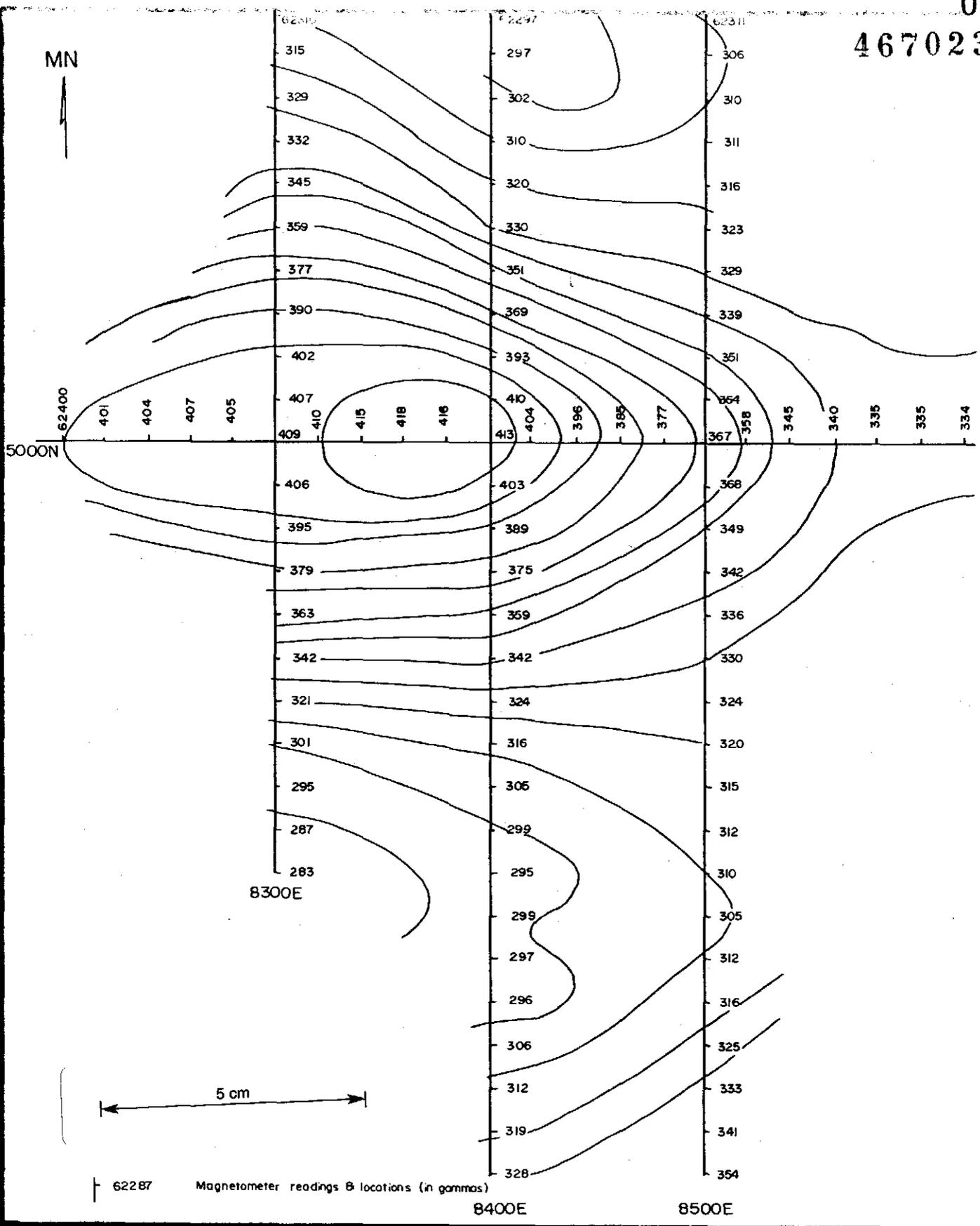


**Aberfoyle Exploration Pty Ltd**

Geology:	M. J. R.
Drawn:	M. J. R.
Traced:	R. J. E.
Checked:	
Revised by:	Date:

NORTH WEST TASMANIA  
 QUEEN HILL E.L. 47/71  
 Magnetic Anomaly Follow-up 1982-3  
**E.M. ANOMALY 228C-229A**  
 OUTCROP GEOLOGY

Location code:	K55/5
Date:	January, 1983
Scale:	1:2500
Plate No	QH 197



**Aberfoyle Exploration Pty Ltd**

Geology:	NORTH WEST TASMANIA QUEEN HILL E.L.47/71 Magnetic Anomaly Follow-up 1982-3 <b>E.M. ANOMALY 228C-229A</b> GROUND MAGNETICS	Location code: K55/5
Drawn: M.J.R.		Date: January, 1983
Traced: R.J.E.		Scale: 1: 2500
Checked:		Plate No
Revised by: Date:		QH198

metres and the strike extent is at least 200 metres parallel to that of the country rocks. (Plate QH 198)

Lack of a geochemical anomaly suggests that the presence of economic tin mineralisation is unlikely.

Further exploration is not recommended.

SILVER STREAM ANOMALYPREVIOUS EXPLORATION

The Silver Stream anomaly is situated one kilometre north of the Tenth Legion magnetite skarn prospect at which minor tin mineralisation has been found. (CRA Exploration).

Initial follow-up of this anomaly was completed in June 1978. A ground magnetic survey was conducted over a one kilometre north-south traverse. The anomaly was read as approximately 200 gammas and results were interpreted to indicate the contact between two rock types, quartzite and slate, of differing magnetic susceptibility.

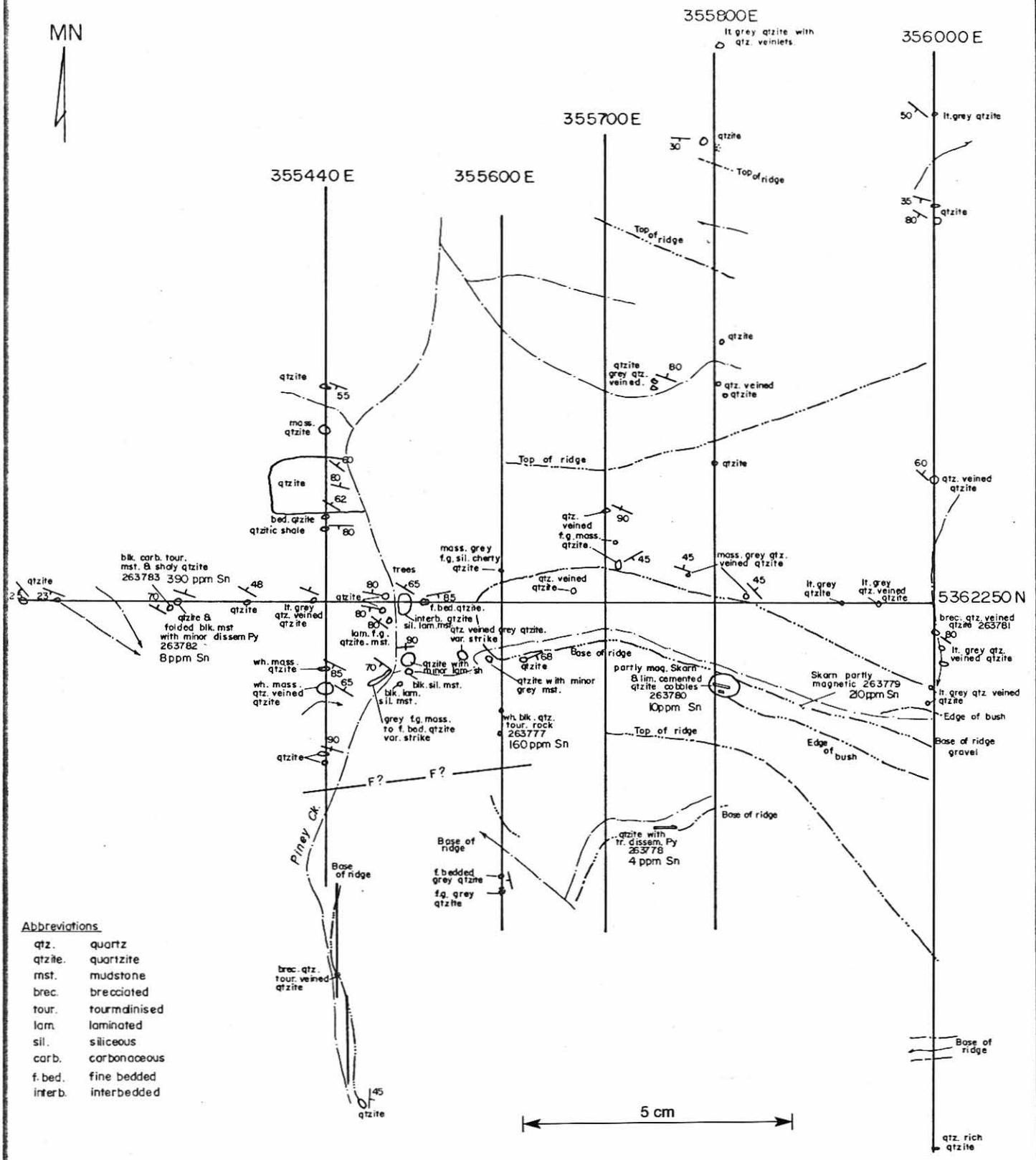
In 1980, ten samples of quartzite were collected for assay. The highest tin value obtained was 45ppm Sn.

Recently 5.35 line kilometres of grid was placed over the anomaly.

GEOLOGY (Plate QH 196)

Black ironstone gossan was found (highest assay 210 ppm Sn) as well as minor alluvial workings at the interpreted position of the contact between quartzite and a thin unit of shale. Green quartz-tourmaline veining found nearby assayed 160 ppm Sn and tourmalinised shale along strike 390 ppm Sn.

The shale occurs in a narrow valley which runs parallel to strike. Dips are variable but generally greater than 60° towards the north east. The preferred strike direction is 50-70° from magnetic north.



- Abbreviations.**
- qtz. quartz
  - qtzite. quartzite
  - mst. mudstone
  - brec. brecciated
  - tour. tourmalinised
  - lam. laminated
  - sil. siliceous
  - carb. carbonaceous
  - f. bed. fine bedded
  - interb. interbedded

N.B. Strike measurements corrected to grid north.

# Aberfoyle Exploration Pty Ltd

Geology: M.J.R.	NORTH WEST TASMANIA QUEEN HILL E.L. 47/71 Magnetic Anomaly Follow-up 1982-3 <b>SILVER STREAM</b> OUTCROP GEOLOGY	Location code: K55/5
Drawn: M.J.R.		Date: January, 1983
Traced: R.J.E		Scale: 1: 5000
Checked:		Plate No
Revised by:     Date:		QH 196



Granite outcrops two kilometres to the west.

#### GEOPHYSICS

A ground magnetic survey conducted over the grid located a magnetic anomaly of 170 gammas with a strike length of at least 500 metres; although the anomaly is not closed off to the east (Plate QH 195). Magnetite content is low and a weak disseminated source or thin horizon is suggested. On line 355700E the depth-to-top of the anomaly is 50-70 metres. The magnetic anomaly on the base line on the western side of the grid has a depth-to-top of about 25 metres although this cannot be determined accurately as the anomaly is not closed off. Tourmalinization of the sediments indicates granite is near surface here.

In conclusion, the presence of only minor tin mineralisation in skarn at Tenth Legion where there is a much greater development of gossan, and the thin nature of the shale and inferred skarn horizon (<20 metres) at Silver Stream, detract from further exploration in the area.

JUNCTION ANOMALYPREVIOUS EXPLORATION

Geological reconnaissance of this area in 1978 revealed only thinly bedded Oonah Quartzite and Slate. A two kilometre long ground magnetic traverse over the anomaly in an east-west direction parallel to strike, produced a depth estimate in excess of 300 metres.

In March 1983, 9.8 line kilometers of grid was placed over the Junction anomaly which is located near the top of a 150 metre high ridge.

GEOLOGY (Plate QH 218)

Quartz veined quartzite and quartzitic siltstone are the dominant rock types present with minor grey shaley quartzite. Dips are generally to the north-north east and in the order of 45-90° with dips over 70° predominating. Largely due to the presence of bush near the centres of the anomaly there is very little outcrop visible in these parts of the grid.

There is no pyrrhotite or magnetite evident to indicate the source of the anomaly. Two samples were taken, both assayed less than 10 ppm Sn.

GEOPHYSICS

A broad anomaly of 200 gammas is outlined by the ground magnetic contour map (Plate QH 223). On line 6300E where the source is at its shallowest, the depth is 125-150 metres.

Junction Anomaly lies on a magnetic linear feature which also passes through Queen Hill-Severn. Magnetically anomalous dolerite is present two kilometres to the north-west.

A recent Department of Mines gravity survey reveals that the Heemskirk Granite contact extends at depth as far as the Junction Anomaly. It is therefore conceivable that the Anomaly could possibly represent a deep skarn. However, lack of any associated geochemical anomaly and the depth to the top of the anomaly discourage further exploration.

NORTH WEST ANOMALYPREVIOUS EXPLORATION

This aeromagnetic anomaly was originally thought to relate to the outcrop of Jurassic Dolerite. A 600 metre long ground magnetic traverse was positioned over the Oonah Quartzite and Slate between the granite and the dolerite in 1980. The ground traverse detailed a subsidiary magnetic anomaly. Rock chip samples of laminated quartzite and siltstone were not anomalous (highest value 40 ppm Sn).

A more recent aeromagnetic survey, May 1981, clearly demonstrates that the North-West anomaly relates to the Heemskirk Granite. In March 1983, 2.1 line kilometres of grid was surveyed in over the anomaly. The southern half of the proposed grid proved to be in impenetrable bush and the grid was not completed.

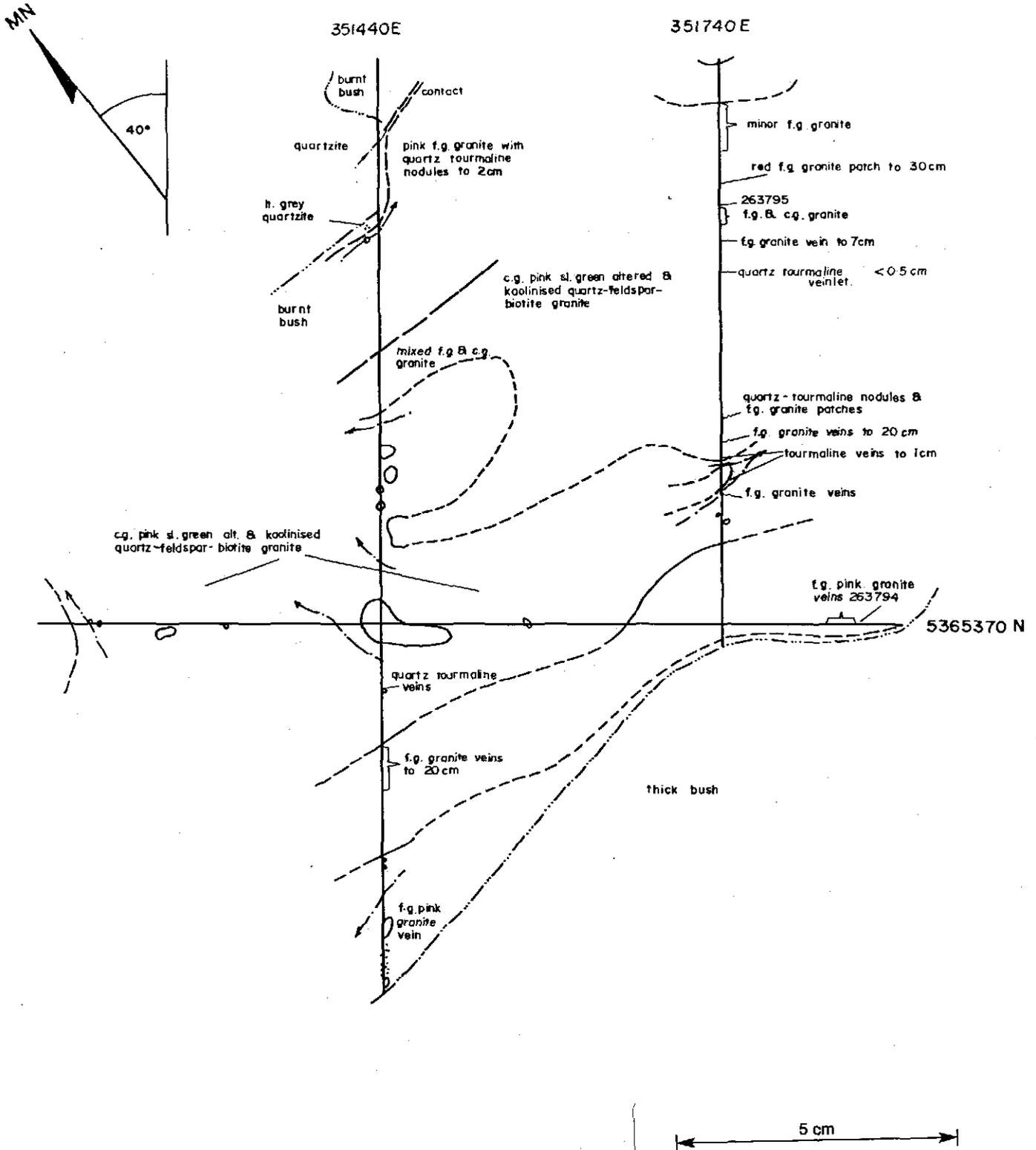
GEOLOGY (Plate QH 214)

The predominant rock type present is pink coarse grained kaolinised quartz-feldspar-biotite granite. Around the margin of the granite body fine grained pink granite with quartz-tourmaline nodules to 2 cm is recognised. Fine grained pink granite also occurs as veins and patches in the coarse granite.

No disseminated or vein magnetite is seen. Rock samples are not particularly anomalous containing less than 40 ppm Sn.

GEOPHYSICS

The ground magnetic data indicates a spikey anomalous zone, confined to the coarse granite (Plate QH 224).



**Aberfoyle Exploration Pty Ltd**

Geology:	M.J.R.
Drawn:	M.J.R.
Traced:	R.J.E.
Checked:	M.J.R.
Revised by:	Date:

NORTH WEST TASMANIA  
 QUEEN HILL E.L. 47/71  
 Magnetic Anomaly Follow-up 1982-3  
**NORTH WEST ANOMALY**  
 OUTCROP GEOLOGY

Location code:	K55/5
Date:	March, 1983
Scale:	1:5000
Plate No	QH 214



GRANITE ANOMALIES 1 AND 2

These anomalies were revealed by an aeromagnetic survey conducted by the Department of Mines in May 1981. A grid of 3.7 line kilometres was placed over each of the anomalies.

GEOLOGY (Plates QH 212, 217)

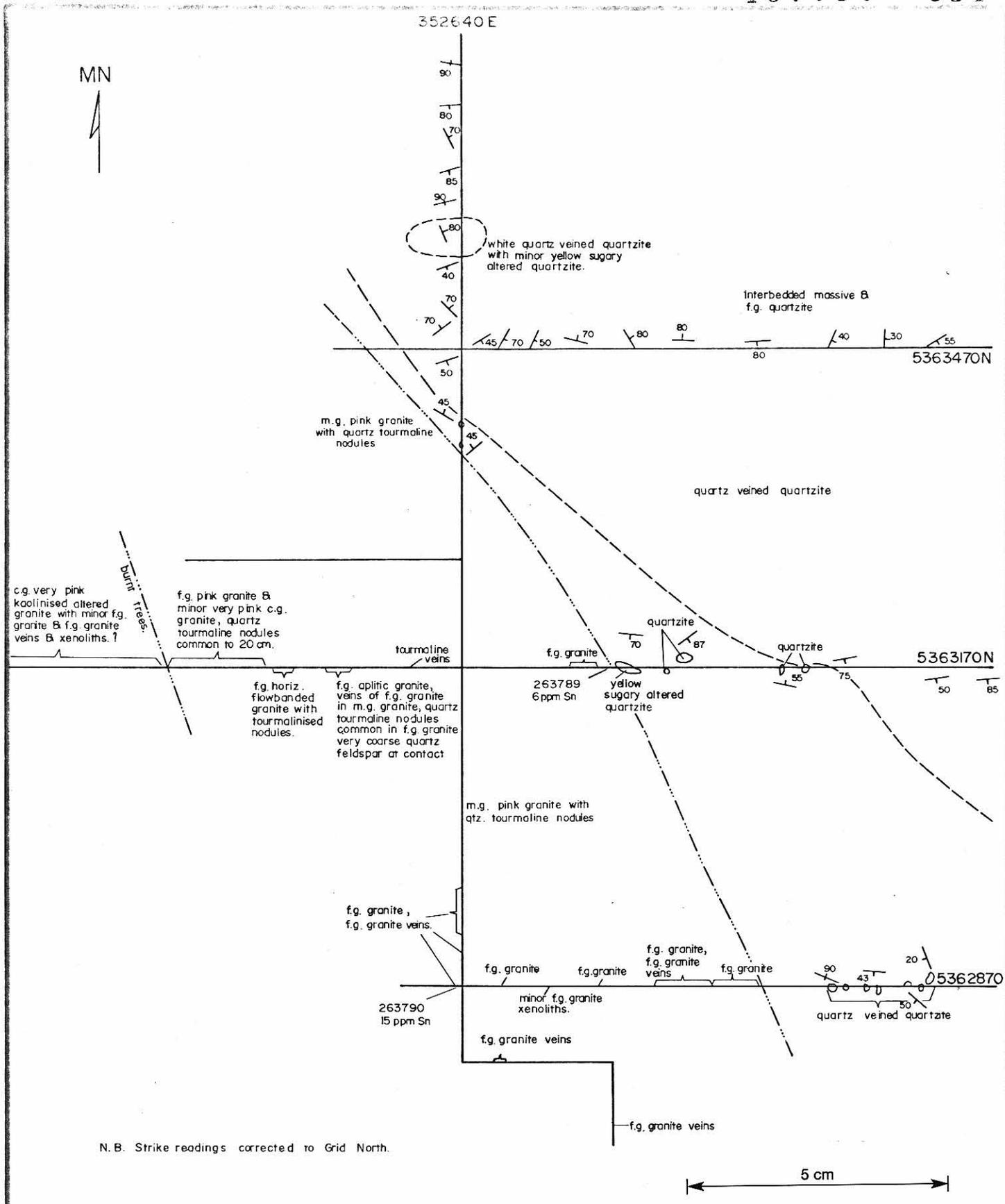
The granite types are the same as for the North-West Anomaly, however, boundaries are less well defined. There is a gradation in grain size between pink coarse grained granite and medium grained granite and also between pink fine grained granite with quartz, feldspar phenocrysts, and medium grained granite.

Once again, fine grained granite occurs around the margins of the main granite body. Fine grained granite is also present as veins, xenoliths and local areas within other granite. Segregation bands of fine and coarse granite were observed on Granite Anomaly 1 at grid reference 5363170N, 352470E. Quartz-tourmaline nodules and veins are more common in fine grained granite.

Areas of bush occur predominantly over kaolinised coarse grained granite.

Quartzite is present on both grids. It is quartz veined with an occasional quartz-tourmaline vein and is usually finely bedded. Near the granite contact the quartzite is altered to a sugary texture and is a yellow colour. Strike and dip directions are variable, the general strike being east-west.

Rock samples assayed less than 20 ppm Sn.



**A** Aberfoyle Exploration Pty Ltd

Geology: M.J.R.	NORTH WEST TASMANIA QUEEN HILL E.L.47/71 Magnetic Anomaly Follow-up 1982-3 <b>GRANITE ANOMALY I</b> OUTCROP GEOLOGY	Location code: K55/5
Drawn: M.J.R.		Date: February, 1983
Traced: R.J.E.		Scale: 1:5000
Checked: M.J.R.		Plate No
Revised by: Date:		QH 212



GEOPHYSICS

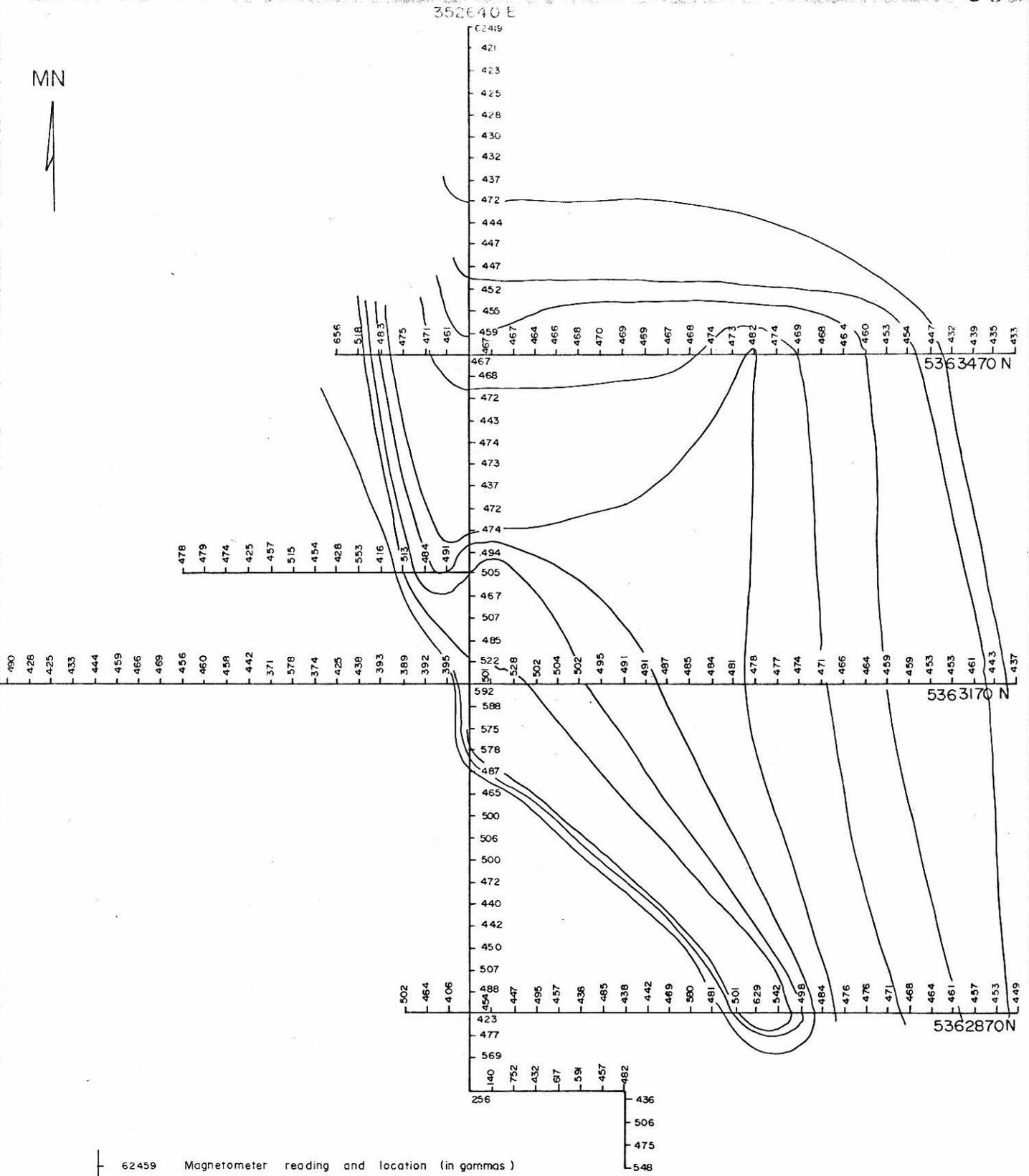
A ground magnetic survey was carried out over both grids (Plates QH 210, 215). Again, due to the spikey nature of the anomalous zone, the anomalies were not able to be successfully contoured. The fine grained granite in general is much less noisy than the coarser variety.

The ground magnetic results suggest the presence of near surface magnetite, however, none is seen and a portable susceptibility meter used on rock outcrop gave a zero response for quartzite and an average reading of  $0.1 \times 10$  cgs for the granite (Plates QH 211, 216).

All three granite anomalies occur along a common ridge and less than 500 metres from the granite contact.

No quartz-tourmaline-tin veins were found and as the geochemical results are not anomalous, the occurrence of hydrothermally altered granite with greisen or disseminated tin mineralisation is unlikely. No further follow-up of these magnetic anomalies in the Heemskirk Granite is warranted.

MN



62459 Magnetometer reading and location (in gammas)

5 cm

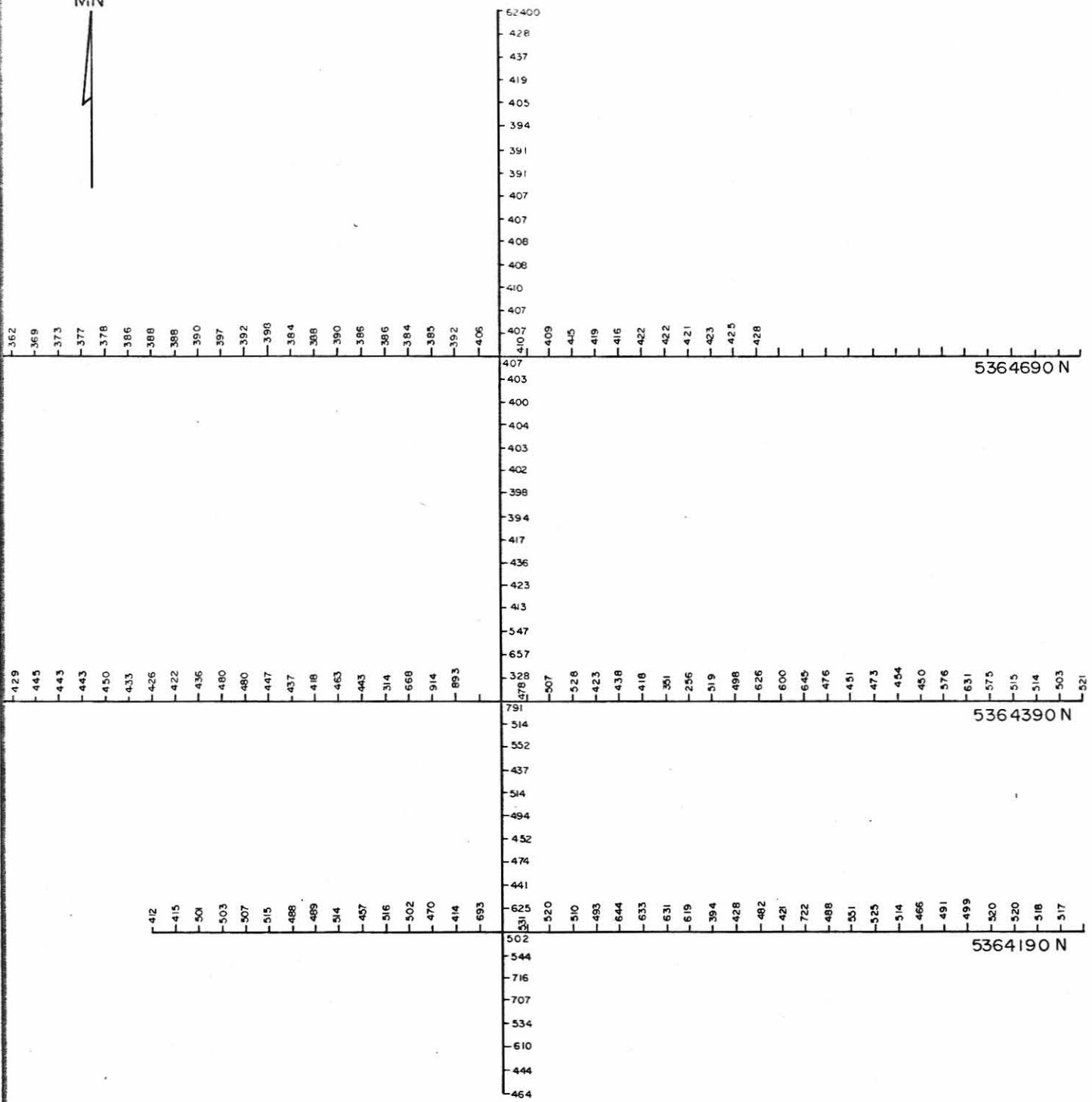


**Aberfoyle Exploration Pty Ltd**

Geology:	NORTH WEST TASMANIA QUEEN HILL E.L. 47/71 Magnetic Anomaly Follow-up 1982-3 <b>GRANITE ANOMALY I</b> GROUND MAGNETICS	Location code: K55/5
Drawn: M.J.R.		Date: February, 1983
Traced: R.J.E.		Scale: 1 : 5000
Checked: M.J.R.		Plate No
Revised by:      Date:		QH 210

MN

352690 E



62441 Magnetometer reading and location (in gammas)

5 cm



**Aberfoyle Exploration Pty Ltd**

Geology:	NORTH WEST TASMANIA	Location code: K55/5
Drawn: M.J.R.	QUEEN HILL E.L.47/71	Date: March, 1983
Traced: R.J.E.	Magnetic Anomaly Follow-up 1982-3	Scale: 1 : 5000
Checked: M.J.R.	<b>GRANITE ANOMALY 2</b>	Plate No
Revised by: Date:	GROUND MAGNETICS	QH 215



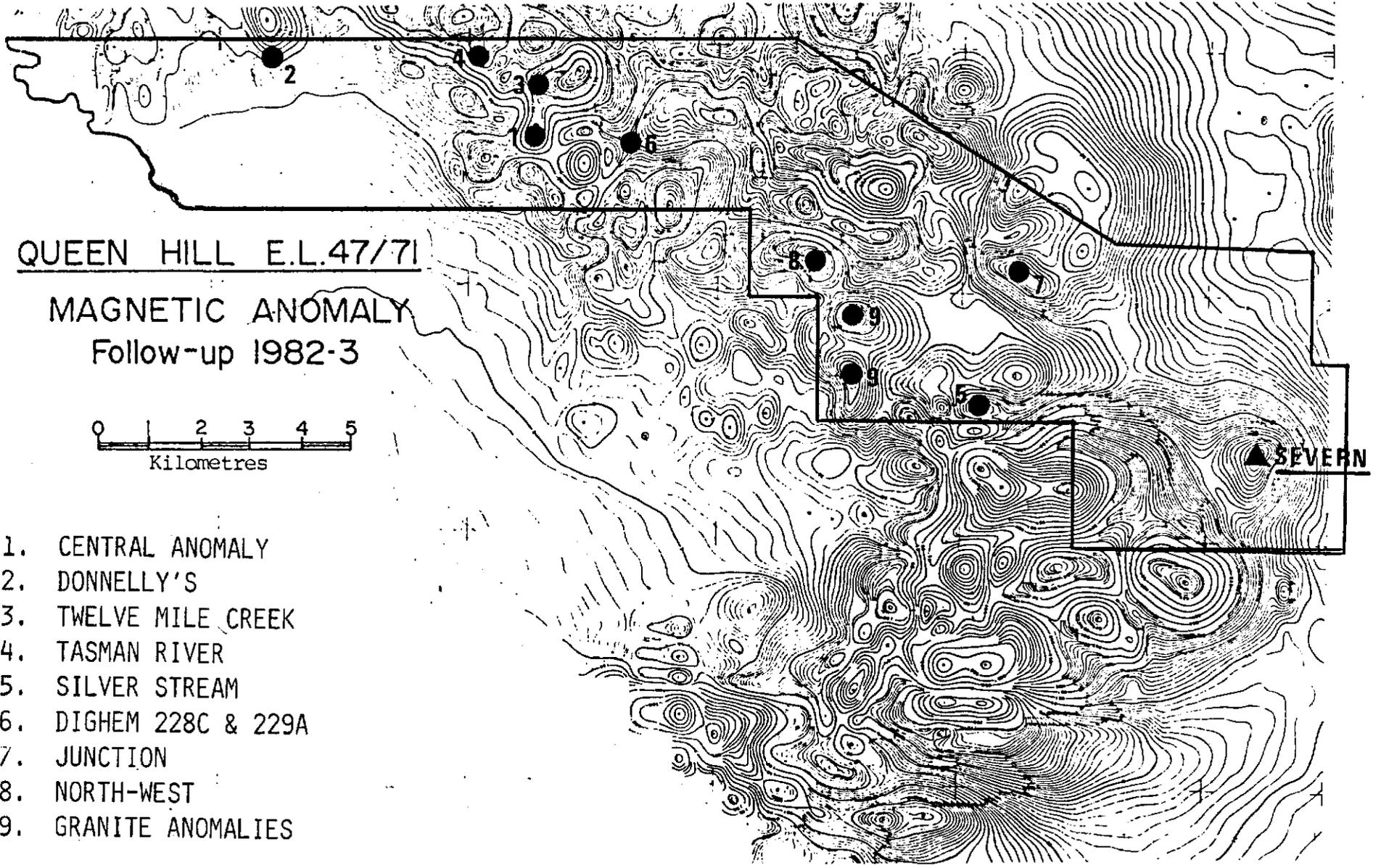


CONCLUSIONS

Exploration on the Queen Hill Licence during 1983 was designed to assess the known aeromagnetic anomalies (Table 1) utilising all existing data, and supplemented by additional geological mapping, ground magnetics and rock geochemistry where necessary. This work has resulted in the various anomalies being rated in order of their potential to host shallow high grade tin mineralisation and for subsequent follow-up work (Figure 1).

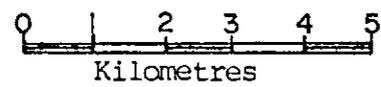
The principal targets are the Central Anomaly, where a strong magnetic response is coincident with anomalous geochemistry over a skarn horizon. A diamond drill hole is warranted to test this area and establish the form of the tin mineralisation. At Donnelly's Prospect costeaning and ground EM is necessary to trace prospective stratigraphy and expose skarns. The Twelve Mile Creek and Tasman River Zone require costeaning to expose and sample what geophysical techniques have defined as potential skarns.

None of these potentially stanniferous skarn prospects represent particularly attractive targets in the current tin climate and stage of development of Aberfoyle's Zeehan tin resources. The urgency of this follow-up exploration on the Queen Hill Licence is largely dependent on these factors and other priorities for exploration funds within the State.



QUEEN HILL E.L.47/71

MAGNETIC ANOMALY  
Follow-up 1982-3



- 1. CENTRAL ANOMALY
- 2. DONNELLY'S
- 3. TWELVE MILE CREEK
- 4. TASMAN RIVER
- 5. SILVER STREAM
- 6. DIGHEM 228C & 229A
- 7. JUNCTION
- 8. NORTH-WEST
- 9. GRANITE ANOMALIES

(FOLLOW-UP PRIORITY RATINGS 1 - 9)

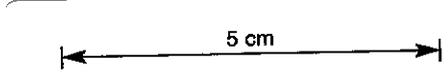


FIGURE 1.

TABLE 1

## QUEEN HILL EXPLORATION LICENCE 47/71 - PRINCIPAL AEROMAGNETIC ANOMALIES

MAGNETIC ANOMALY	AMPLITUDE IN GAMMAS	DEPTH	SHAPE	DIP	STRIKE LENGTH	SN PPM HIGHEST VALUE	EXPLANATION
Donnellys:202E	140		Flat Lying				Salt Water in gravels?
203A(2 anomalies)	400 & 500		Flat Lying moderately conducting >10m				
205X	50	65m to top providing source not broad e.g.100m					
205A	50		Flat Lying min=10m				
202D	See 202E			Steeply dipping		1.05%(costean 300m to S.E.)	Magnetite and ?pyrrhotite in skarn
Magnetite skarn not covered by ground magnetics						1.35% (rock chip)	Magnetite and ?pyrrhotite in skarn
St Dizier	430					142,000 tons 0.96% (Report Dec 78)	Tin associated with pyrrhotite and magnetite in skarn
Big H		Shallow Body				360 ppm (RAB drilling)	Tin occurs in magnetite oxidised capping
Central Anomaly	500	>70-100m		50-60°		6400 ppm (DDH 101) 4 ft of 0.45% (DDH 101)	Magnetite and pyrrhotite in skarn
Second Skarn Horizon	700	=25m	with =10m		100-150m	Weak Source	No oxidised capping. Probable magnetite and pyrrhotite in skarn
Twelve Mile Ck 220C	4000	Some Peaks 25-30m			600m	260 ppm in trench	Probable skarn; originally thought to be graphitic shales
Southern Skarn at granite contact	350W of granite 300E of granite	Shallow			=200m E of granite =200m W of granite	Low magnetite content	No oxidised capping. Probable magnetite and pyrrhotite in skarn.
Tasman River Zone	500				600m	150 ppm stream sediment anomaly	Not adequately tested by in 1982; almost certainly mostly disseminated magnetite in basalt. Anomaly on western edge possible skarn

467044

043

MAGNETIC ANOMALY	AMPLITUDE IN GAMMAS	DEPTH	SHAPE	DIP	STRIKE LENGTH	Sr ppm HIGHEST VALUE	EXPLANATION
228C & 229A	100	50-70m			At least 200m		Possible skarn not outcropping
Silver Stream	100-150	Main Anom =50-70m on line 5700E West Anom =25m	Thin horizon		At least 300m -500m	390 ppm in tourmalinised shale along strike from oxidised capping Magnetite content small	Partly magnetic FeOx rock at contact between quartzite and minor mudstone is probable skarn. Minor tin mineralisation in skarn 1km away at Tenth legion
Junction	100-500	Line 6300E 125-150m	Very Broad deep source on line 6900E				Situated on same magnetic linear as Severn. No surface expression. Possible discrete dolerite body separated from main body 2.7 km away or skarn at depth
North West						3,400 ppm stream sediment anomaly 1 km away in granite	Previous explanation related anomaly to Jurassic Dolerite. Anomalous zone in granite probably disseminated or veined magnetite
Granite Anomaly 1							Magnetically anomalous zone in granite probably disseminated or veined magnetite
Granite Anomaly 2							Magnetically anomalous zone in granite probably due to disseminated or veined magnetite

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- |                                     |      |  |
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\* \* \* \* \*

APPENDIX I

STATEMENT OF EXPENDITURE

## ABERFOYLE EXPLORATION PTY. LTD.

## STATEMENT OF EXPENDITURE

## QUEEN HILL EL 47/71

Expenditure for year ended 14 November, 1983

## GEOLOGY

Salaries	13,917.00	
Wages	395.00	
Contractors	40.25	
Materials	609.13	
Travelling	290.37	
Fuel	1,381.99	
Communications	812.04	
Hiring Costs	29.35	
District Accommodation	1,672.23	
Freight	20.53	
Vehicle Costs	2,369.75	
Equipment Costs	<u>232.70</u>	21,050.34

## SURVEY

Salaries	1,936.00	
Wages	1,088.00	
Materials	36.15	
Fuel	319.23	
District Accommodation	285.67	
Vehicle Costs	<u>392.00</u>	4,057.05

## GEOPHYSICS

Salaries	8,064.00	
Wages	834.00	
Materials	330.00	
Travelling	1,149.10	
Fuel	297.52	
Hiring Costs	250.00	
District Accommodation	289.88	
Freight	225.56	
Vehicle Costs	1,106.00	
Equipment Costs	<u>85.00</u>	12,631.06

## GEOCHEMISTRY

Salaries	272.00	
Vehicle Costs	<u>106.00</u>	378.00

## ASSAYS

Contractors	<u>225.35</u>	225.35
-------------	---------------	--------

- 2

TENURE

Salaries	780.00	
Materials	12.50	
Tenement Costs	<u>3,050.00</u>	3,842.50

LEGAL/JV COSTS

Salaries	<u>159.00</u>	159.00
----------	---------------	--------

OTHER SERVICES

Materials	183.69	
Fuel	44.38	
District Accommodation	<u>300.00</u>	528.07

DIRECT COSTS

---

42,871.37

INDIRECT COSTS

---

6,430.59

TOTAL

---

\$49,301.96

---

APPENDIX II

ROCK CHIP ASSAY RESULTS

GEOCHEMICAL SAMPLE LOG

NGN

Queen Hill E.L.

OXIDIZED PRODUCTS 0  
 BREWERY ROCK 1  
 STREAM SEDIMENT 3

UNALTERED BEDROCK 4  
 SURFACE TRANSPORTED 7  
 MINERAL TAIL 8  
 WASTE SLIME 9

CAP PUNCH: YES  NO  VLN: YES  NO   
 DATE: 8-10-82 1 of 1

FACTORY	NORTHINGS	SAMPLE NUMBER	DEPTH	SIZE FRACTION	METALS ppm		GEOLOGICAL LOG
					Sn		
360720	5362700	261383		M	380		Montana Mine, blk shale
		261384		M	140		Barnetts Mine, massive Py & galena
		261385		M	100		Quigley Mine, blk shale & Py, galena
357580	5362600	261386		M	500		Doric Mine, magnetic blk shale & Py & galena
357405	5362400	261387		M	900		Doric Mine, massive Py & galena
		261388		M	160		Big Ben Mine, blk shale & siderite, Py, galena
		261389		M	45		Montana Ag Pb Mine, blk shale & siderite, galena, sph.
		261390		M	100		Barnetts Mine East adit carb. blk shale & 260i disse. Py
		261391		M	70		Eureka Mine adit, blk sandy & S & disse. sulphide

467051



PROJECT: Silver Stream Mag Anom & St. Dizier Grid. BSS SIEVE SIZE CODE - MESH NUMBER: A 200 D 80 G 30, B 100 E 60 H 20, C 100 F 40. T = TOTAL. SAMPLE TYPE CODE:  WEATHERED BEDROCK W,  OXIDIZED PRODUCTS O,  FRESH ROCK R,  STREAM SEDIMENTS S,  SURFACE TRANSPORTED T,  RESIDUAL SOIL E,  MINE DUMP M. CARD PUNCH PRINT: YES  NO . VERIFY: YES  NO . DATE: 14-1-83. SHEET: 1 of 1.

EASTINGS		NORTHINGS		SAMPLE NUMBER		DEPTH IN CMs		MO	SIZE FRACTION	Sample Type	METAL VALUES PPM																GEOLOGICAL LOG																																																				
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	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
355600		5362150		263777		3		X	R	-	S <sub>n</sub>		Cu		Pb		Zn		wh-blk qtz-tourm rock																																																												
355750		5362050		263778		4		X	W	-	S <sub>n</sub>		Cu		Pb		Zn		qtzite & dissem Py in ungy qtz patches																																																												
355870		5362150		263779		10		10	O	-	S <sub>n</sub>		Cu		Pb		Zn		Magnetic (in part) Feox cemented or breccia rock																																																												
355810		5362175		263780		4		15	O	-	S <sub>n</sub>		Cu		Pb		Zn		Feox capping, minor magnetite																																																												
355305		5362250		263782		15		X	R	-	S <sub>n</sub>		Cu		Pb		Zn		Blk note Py film along bedding plane																																																												
355295		5362250		263783		X		15	R	-	S <sub>n</sub>		Cu		Pb		Zn		35 Blk tourm. attd mat.																																																												
21750		20800		263784		6		X	W	-	S <sub>n</sub>		Cu		Pb		Zn		50 Interbedded carb. mat & qtzite siltstone & dissem Py																																																												
21110		20450		263785		15		X	W	-	S <sub>n</sub>		Cu		Pb		Zn		30 Blk carb mat & ungy Py-qtz.																																																												
349000		5366800		263786		5		0.049	R	-	S <sub>n</sub>		Cu		Pb		Zn		105 Magnetic tourm. in granite																																																												
22100		20215		263787		8		X	R	-	S <sub>n</sub>		Cu		Pb		Zn		35 Sil. rock at contact b/w carb. mat & qtzite, dissem Py																																																												
21420		20385		263788		20		X	W	-	S <sub>n</sub>		Cu		Pb		Zn		10 Blk carb mat & ungy Py																																																												

GEOCHEMICAL SAMPLE LEDGER

RGN

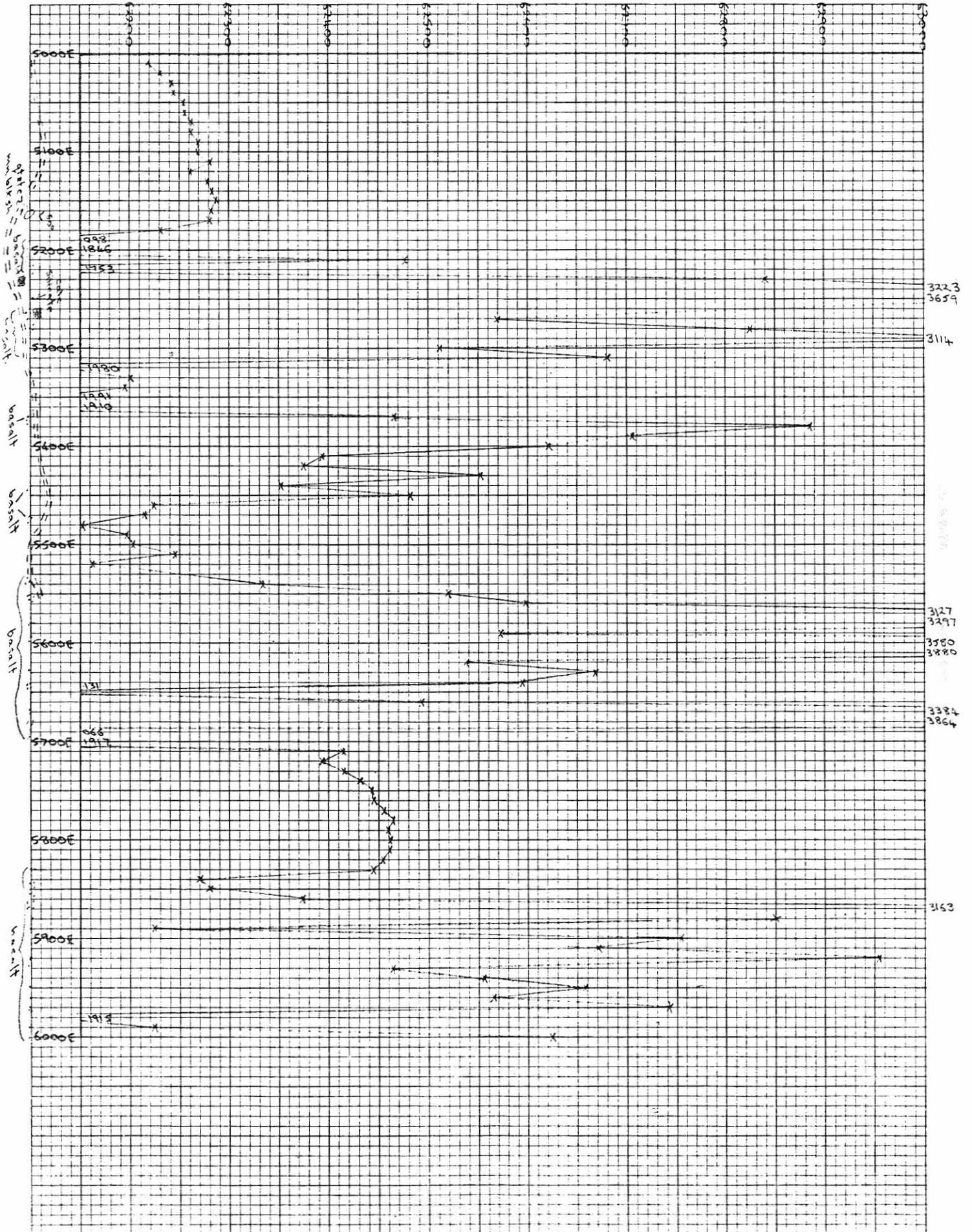
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Granite Anom 182, Junction & Nth West Anomalies		5363170		263789		R		6				fine grained granite		11-3-83 1091	
Granite Anom 1		5362870		263790		R		15				course grained granite with tourmaline			
" "		5364390		263791		R		10				fine-medium grained granite			
Granite Anom 2		5365270		263792		R		7				qtz veined contorted black shale			
Junction Anom		5364682		263793		R		8				grey clay rich fine grained quartzite			
" "		5365370		263794		R		35				course grained pink granite & dissem. tourm.			
North-West Anom		5365740		263795		R		25				fine grained pink granite			
" "															

467054

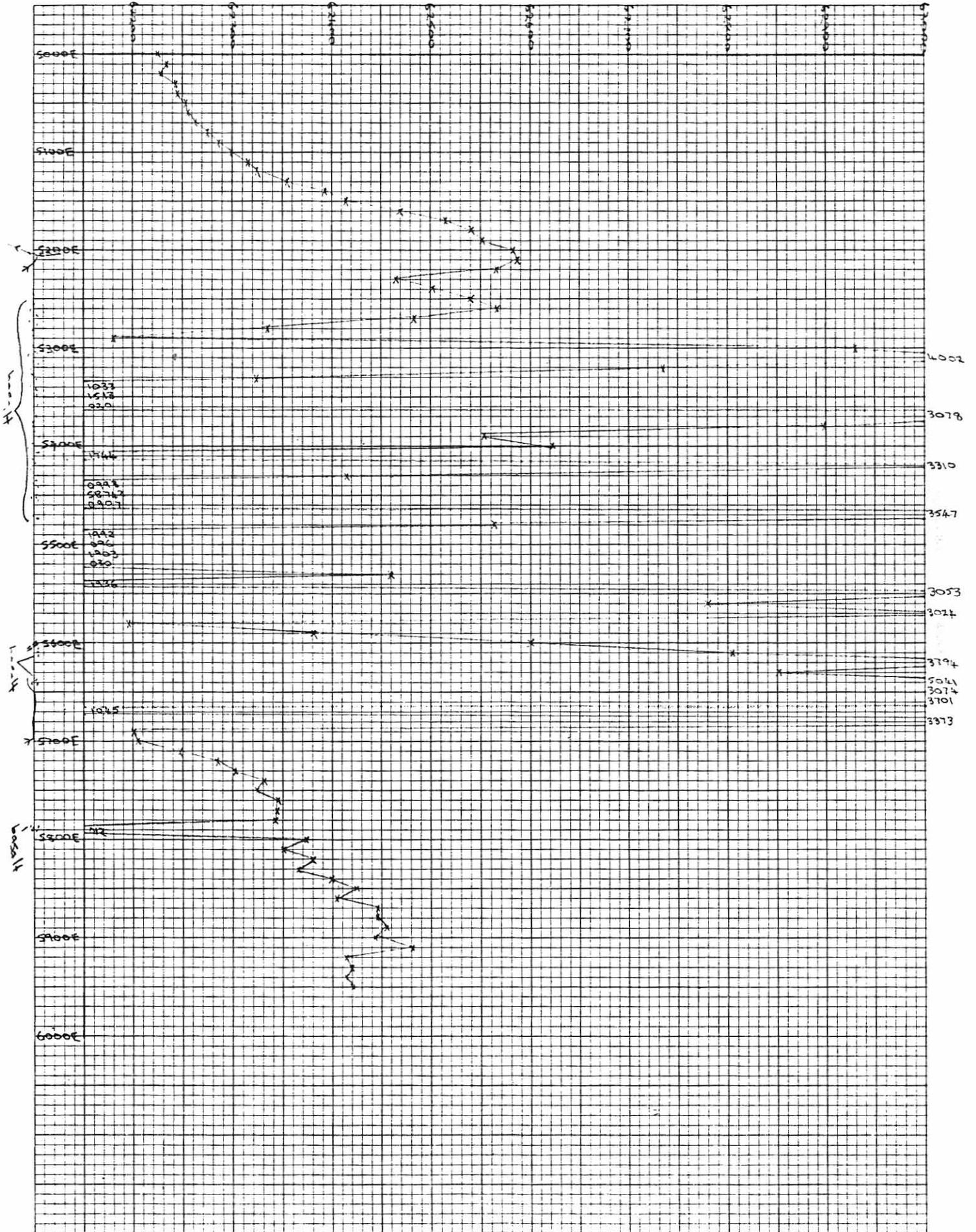
APPENDIX III

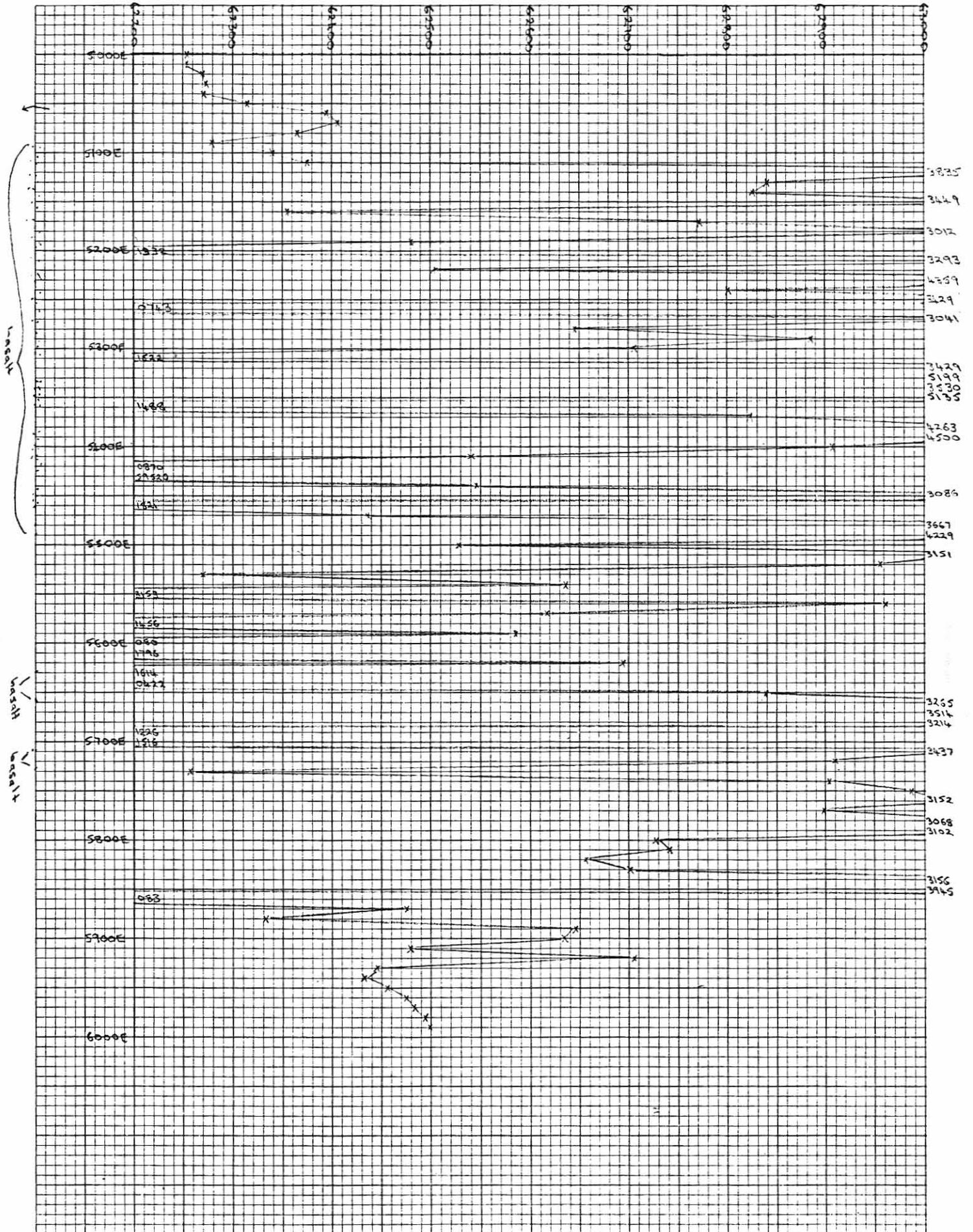
GROUND MAGNETIC PROFILES

LINE 0000 N TASHUN ZONE ANOMALIES



LINE 9200 N TASMAN ZONE ANOMALIES

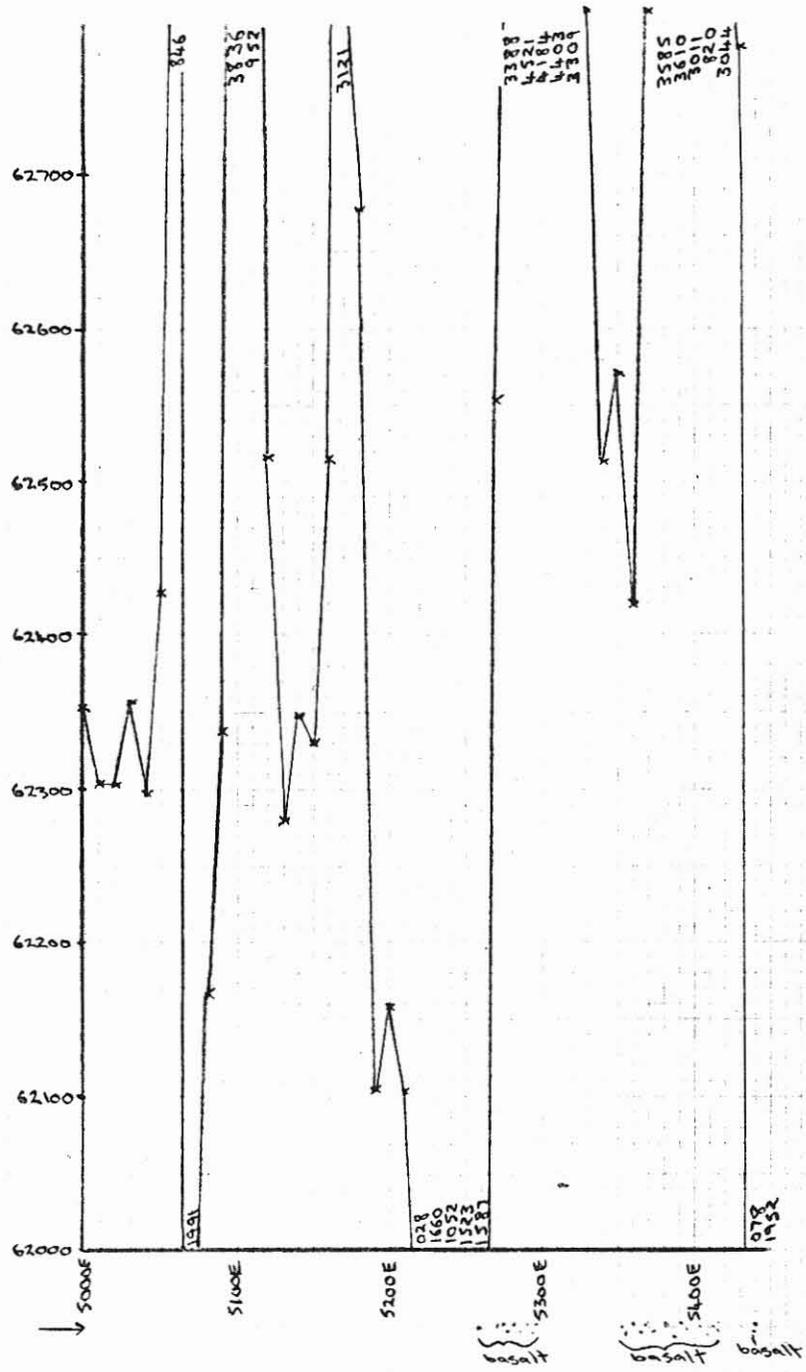






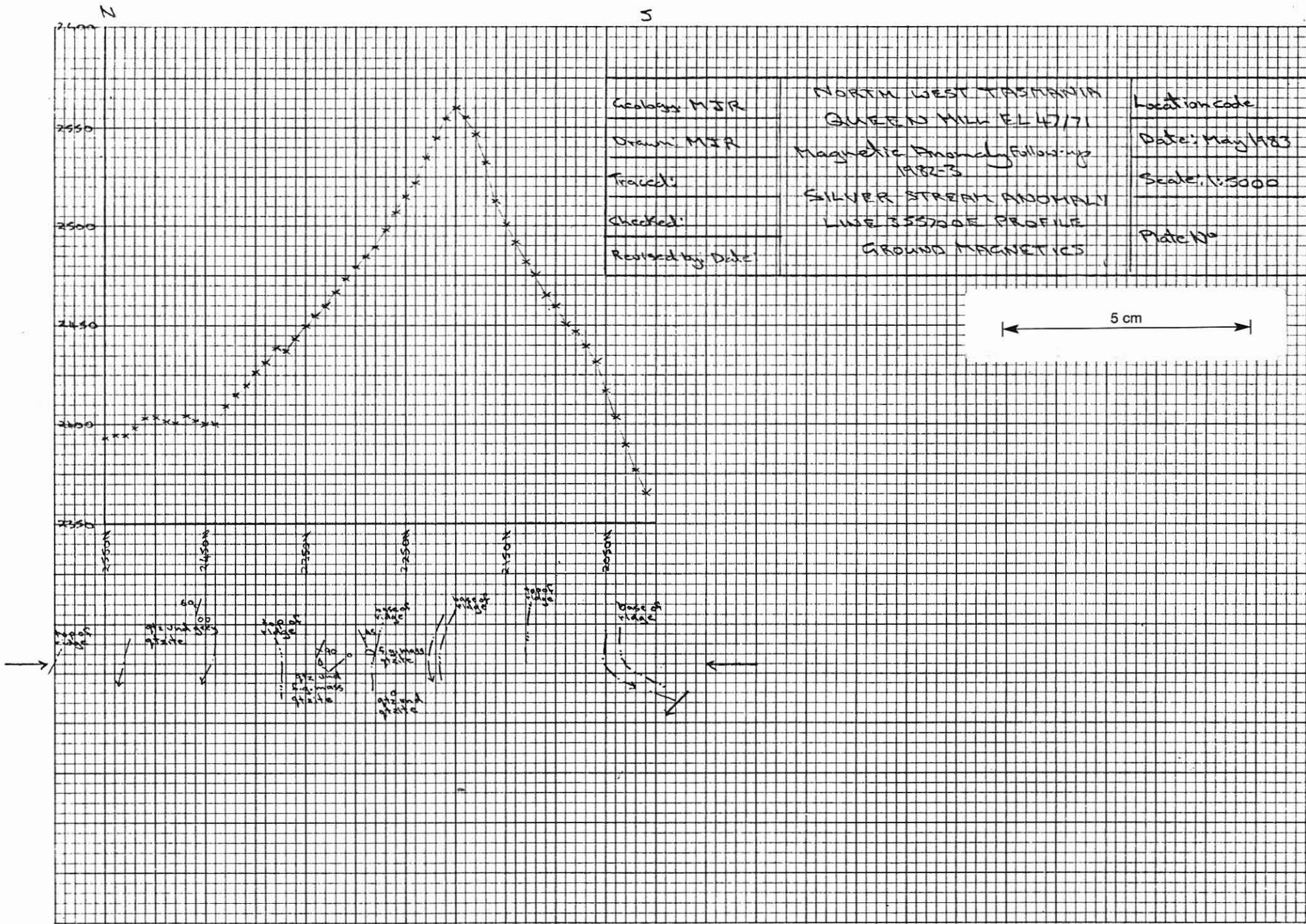


# LINE 10000 N TASMAN ZONE ANOMALIES



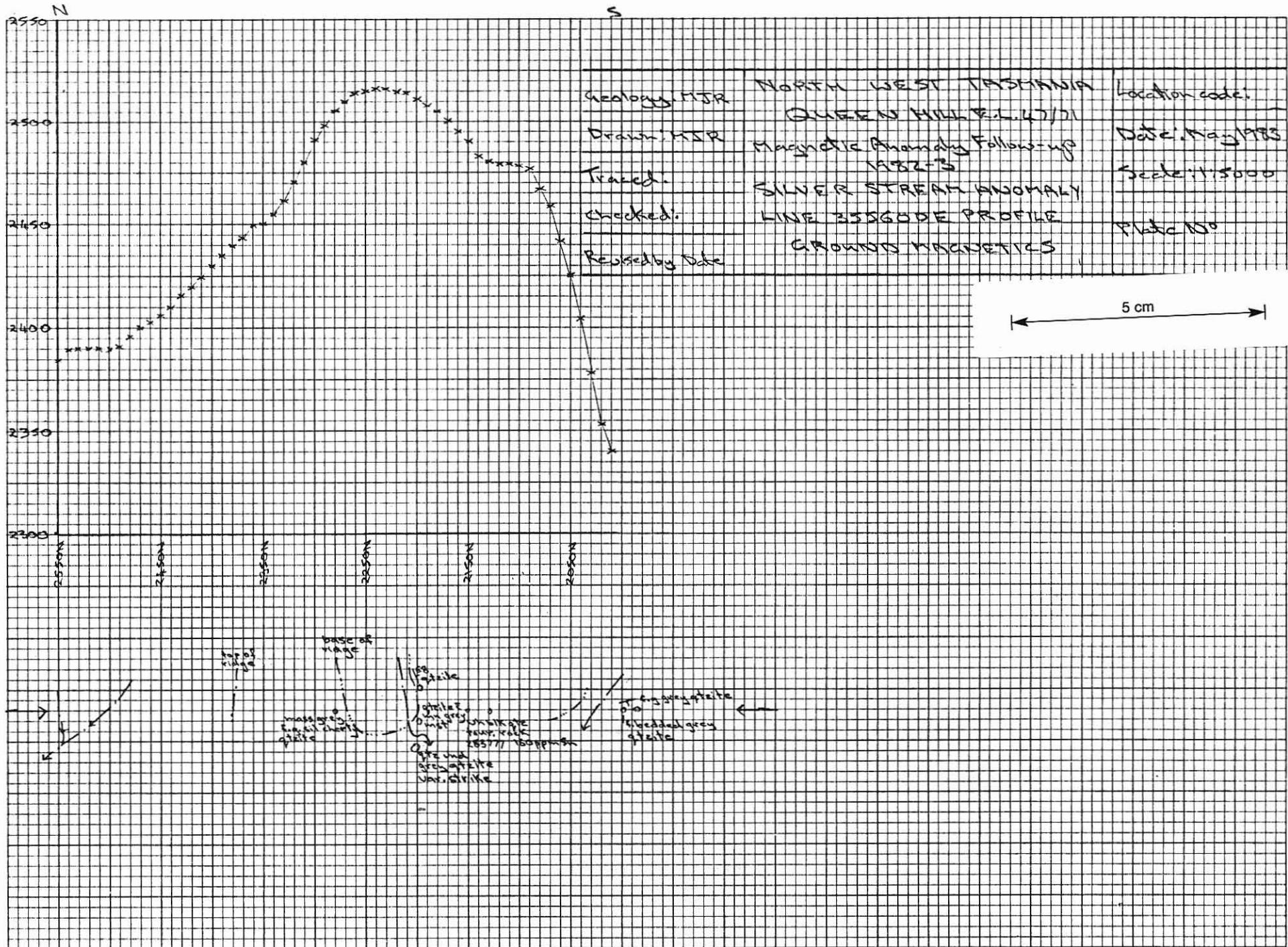
467061 060

LINE 355700E SILVER STREAM ANOMALY



Geology: MJR	NORTH WEST TASMANIA	Location code
Drawn: MJR	QUEEN HILL EL 47/71	Date: May 1983
Traced:	Magnetic Anomaly Follow-up 1982-3	Scale: 1:5000
Checked:	SILVER STREAM ANOMALY	Plate No
Revised by: Date:	LINE 355700E PROFILE	
	GROUND MAGNETICS	

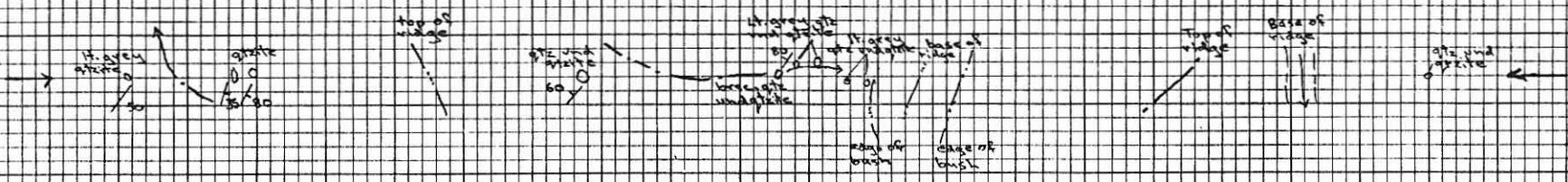
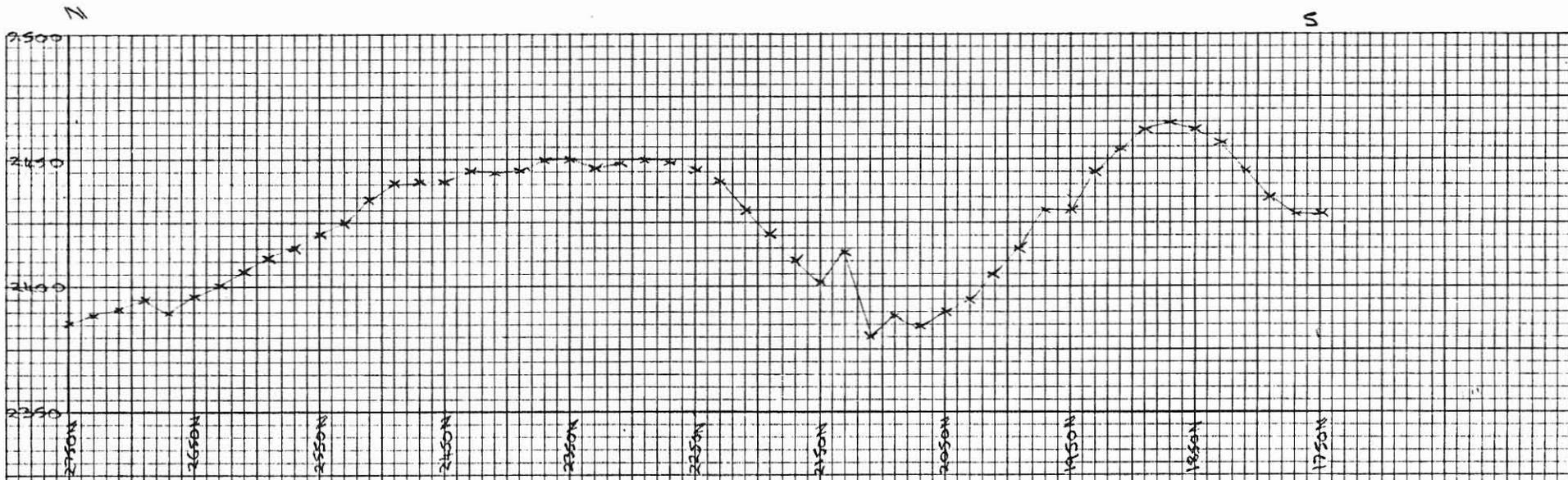
LINE 355600E SILVER STREAM ANOMALY



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Drawn: MJR	QUEEN HILL P.L. 47/71	Date: May 1983
Traced:	Magnetic Anomaly Follow-up 1982-3	Scale: 1:5000
Checked:	SILVER STREAM ANOMALY LINE 355600E PROFILE	Plate No
Revised by Date:	GROWNS MAGNETICS	



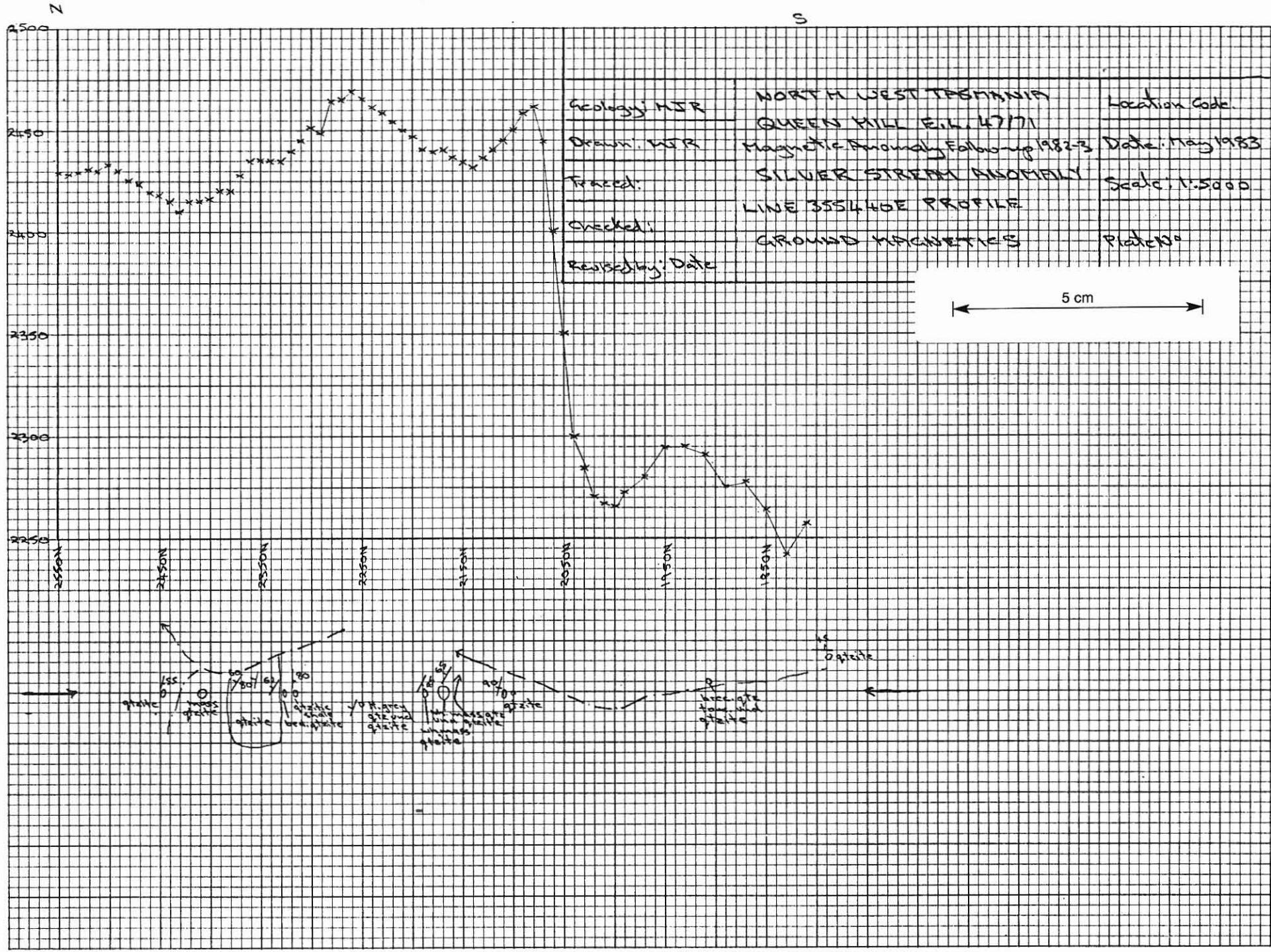
LINE 356000E SILVER STREAM ANOMALY



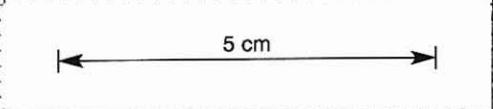
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Drawn: MSR	QUEEN HILL E.L. 45171	Date: May 1983
Traced:	Magnetic Anomaly Follow-up 1982-3	Scale: 1:5000
Checked:	SILVER STREAM ANOMALY	Plate No.
Revised by Dede	LINE 356000E PROFILE	
	GROUND MAGNETICS	

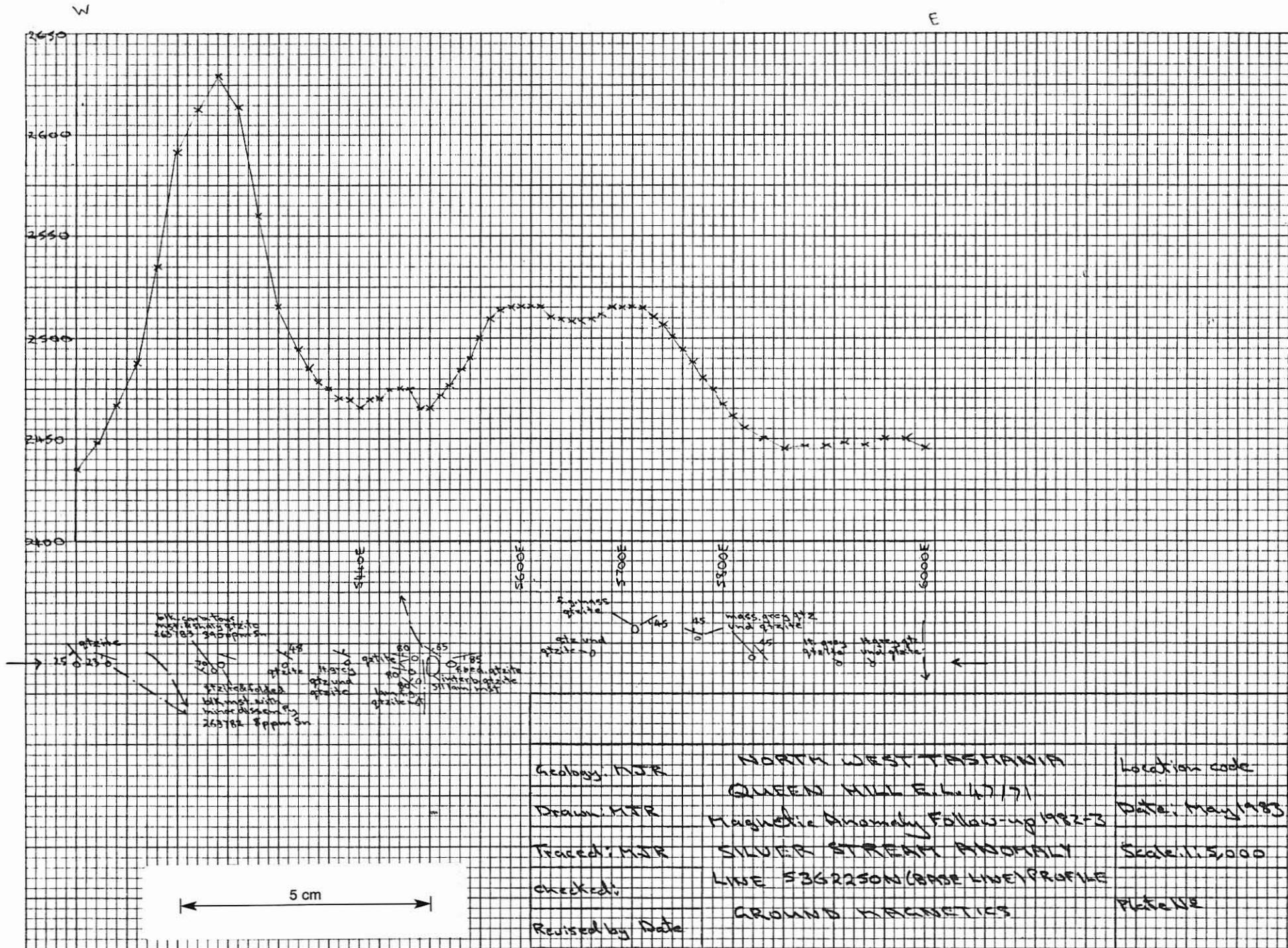
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Drawn: W/R	QUEEN HILL E.L. 4771	Date: May 1983
Traced:	Magnetic Anomaly Follow-up 1982-3	Scale: 1:5000
Checked:	SILVER STREAM ANOMALY	Project:
Revised by: Date	LINE 355440E PROFILE	
	GROUND MAGNETICS	



LINE 53622SON BASE LINE SILVER STREAM.



Geology: MTR	NORTH WEST TASMANIA	Location code
Drawn: MTR	QUEEN HILL E.L. 45/71	Date: May 1983
Traced: MTR	Magnetic Anomaly Follow-up 1982-3	Scale: 1:5,000
checked:	SILVER STREAM ANOMALY	Plate No
Revised by Date	LINE 53622SON (BASE LINE) PROFILE	
	GROUND MAGNETICS	

# LINE 6000 E JUNCTION ANOMALY

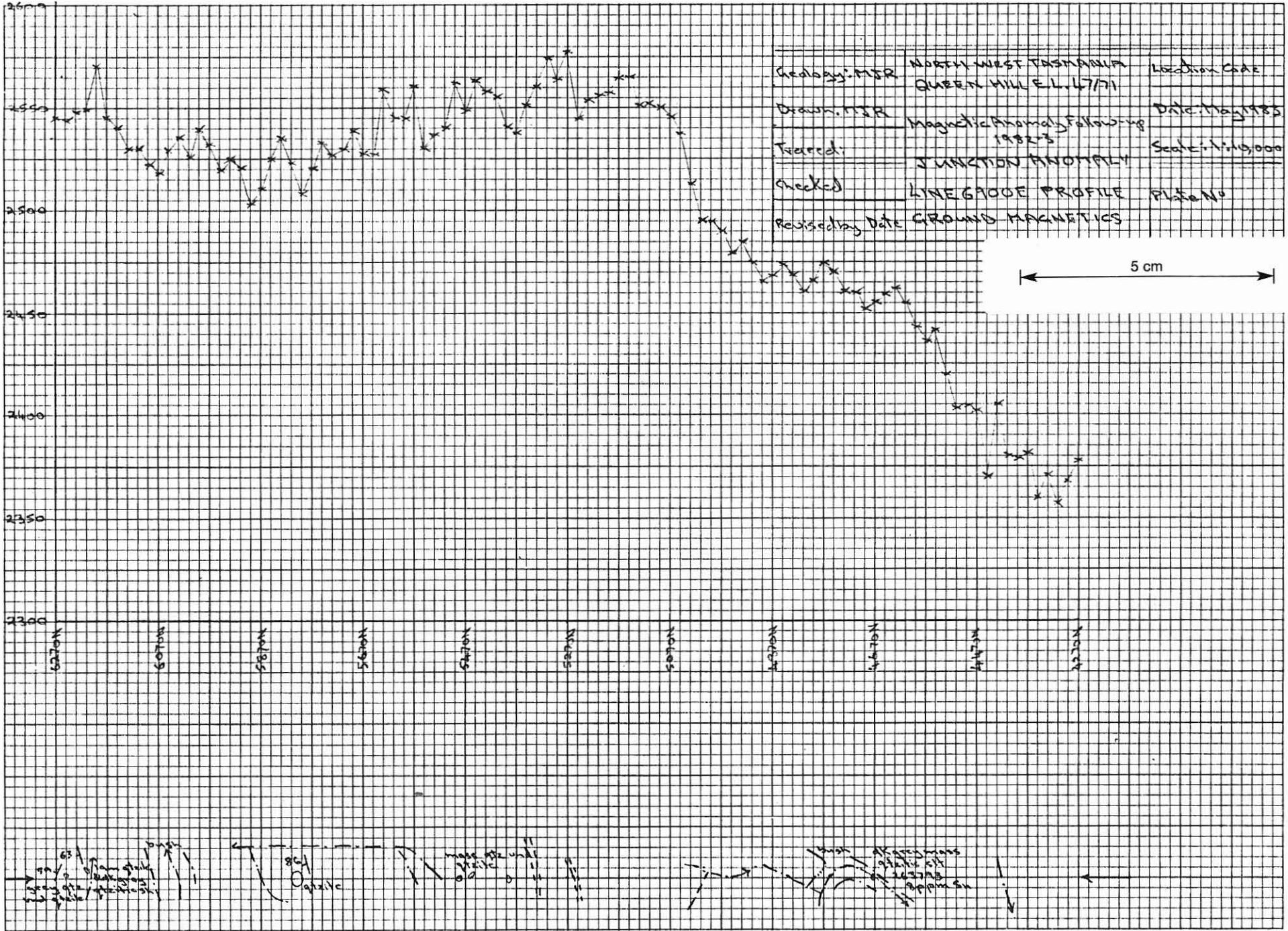


Geology: M.S.R.	NORTH WEST TASMANIA	Location Code:
Drawn: M.S.R.	QUEEN HILL E.L. 47/51	Date: May 1983
Traced:	Magnetic Anomaly Follow-up 1982-83	Scale: 1:10,000
checked:	JUNCTION ANOMALY	Plot No:
revised by Date:	LINE 6000 PROFILE	
	GROUND MAGNETICS	

# LINE 6900E JUNCTION ANOMALY

N

S



# LINE 6600 E JUNCTION ANOMALY



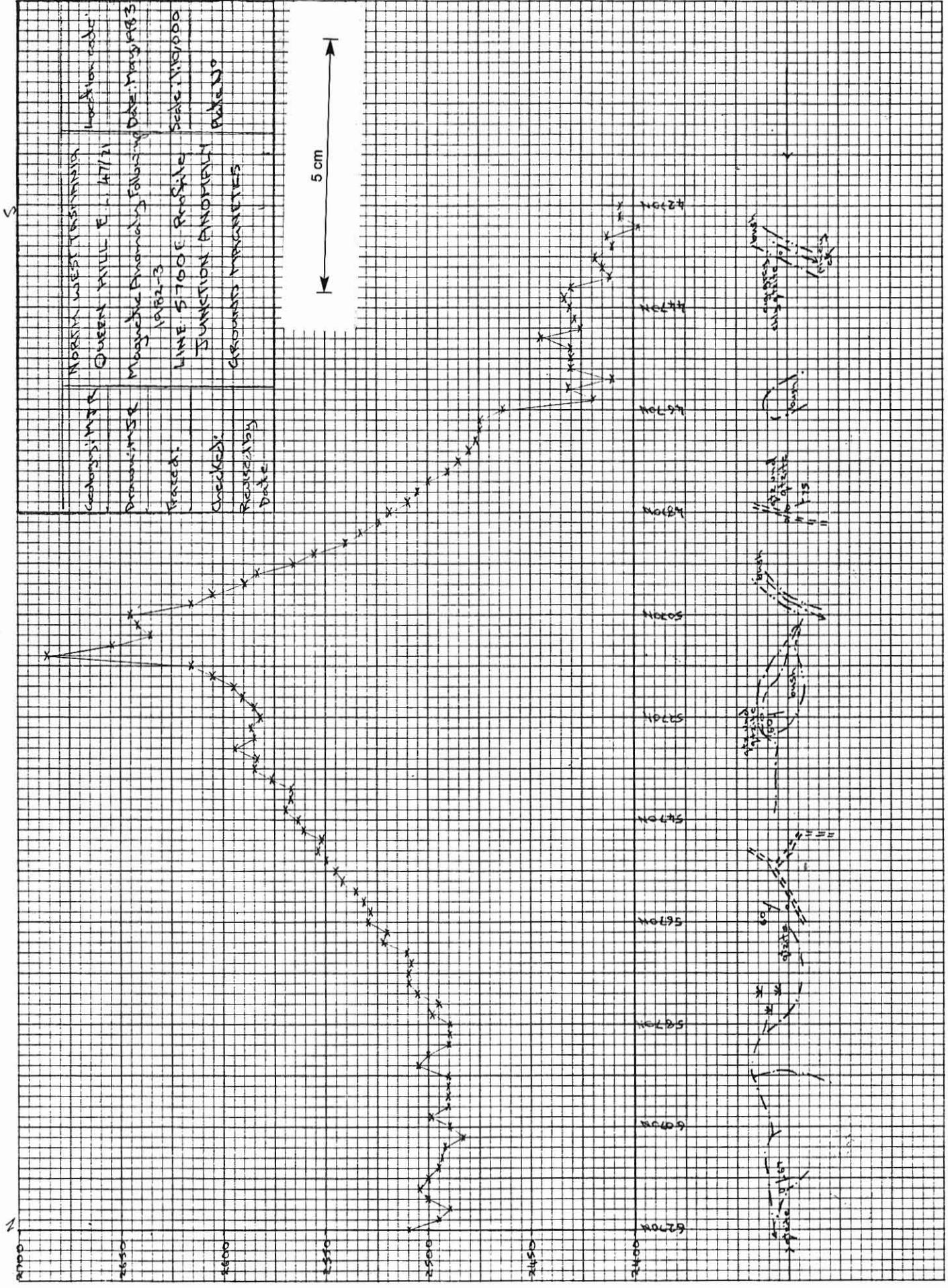
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Geology: N.J.R.  
 Drawn: N.J.R.  
 Traced:  
 checked:  
 Revised by Date

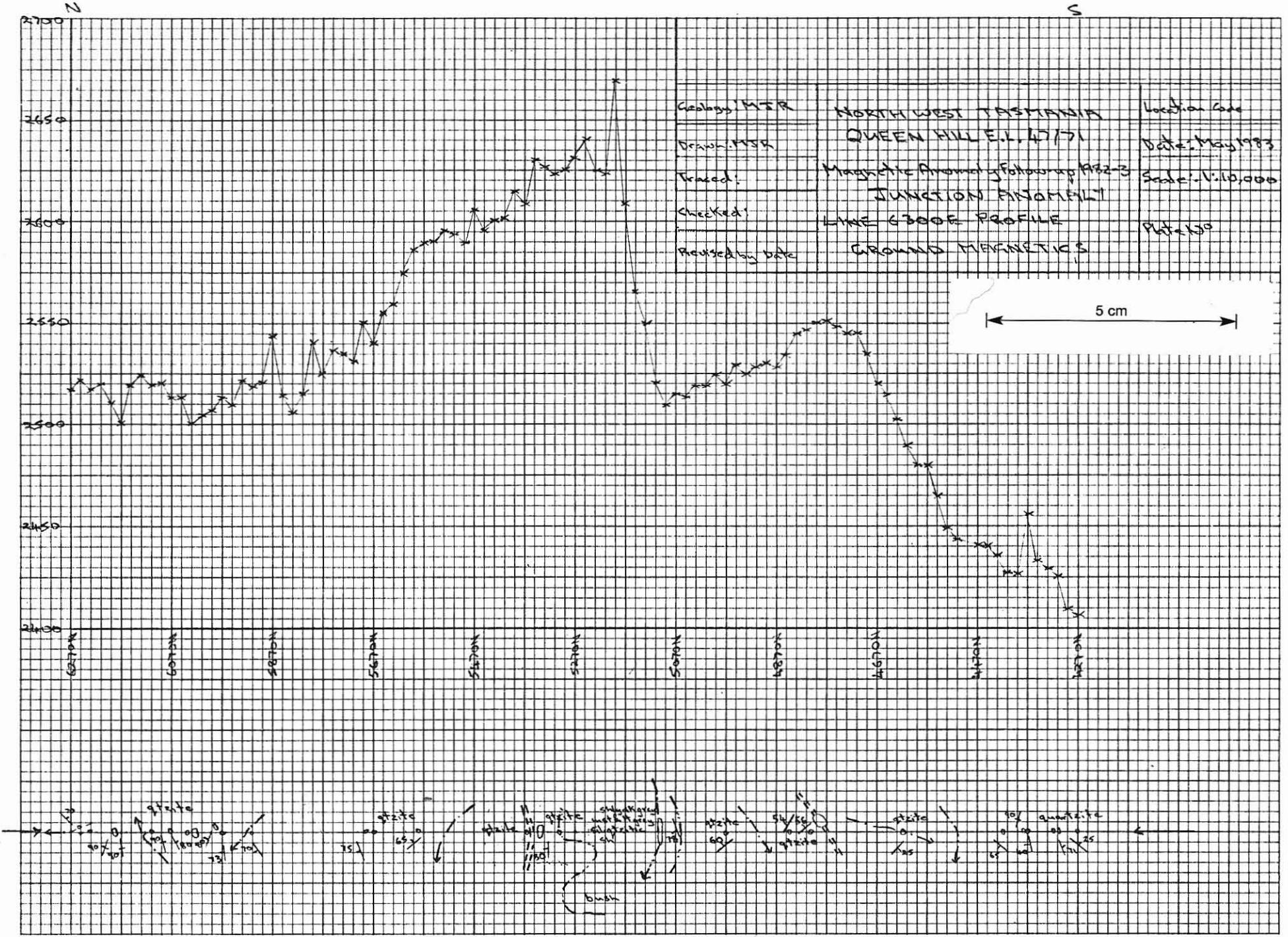
NORTH WEST TASMANIA  
 QUEEN HILL E.L. 4771  
 Magnetic Anomaly Following 1982-3  
 JUNCTION ANOMALY  
 LINE 6600 E PROFILE  
 GROUND MAGNETICS

Location: Gde  
 Date: May 1983  
 Scale: 1:10,000  
 Plate No

LINE 5700E JUNCTION ANOMALY



# LINE 6300E JUNCTION ANOMALY

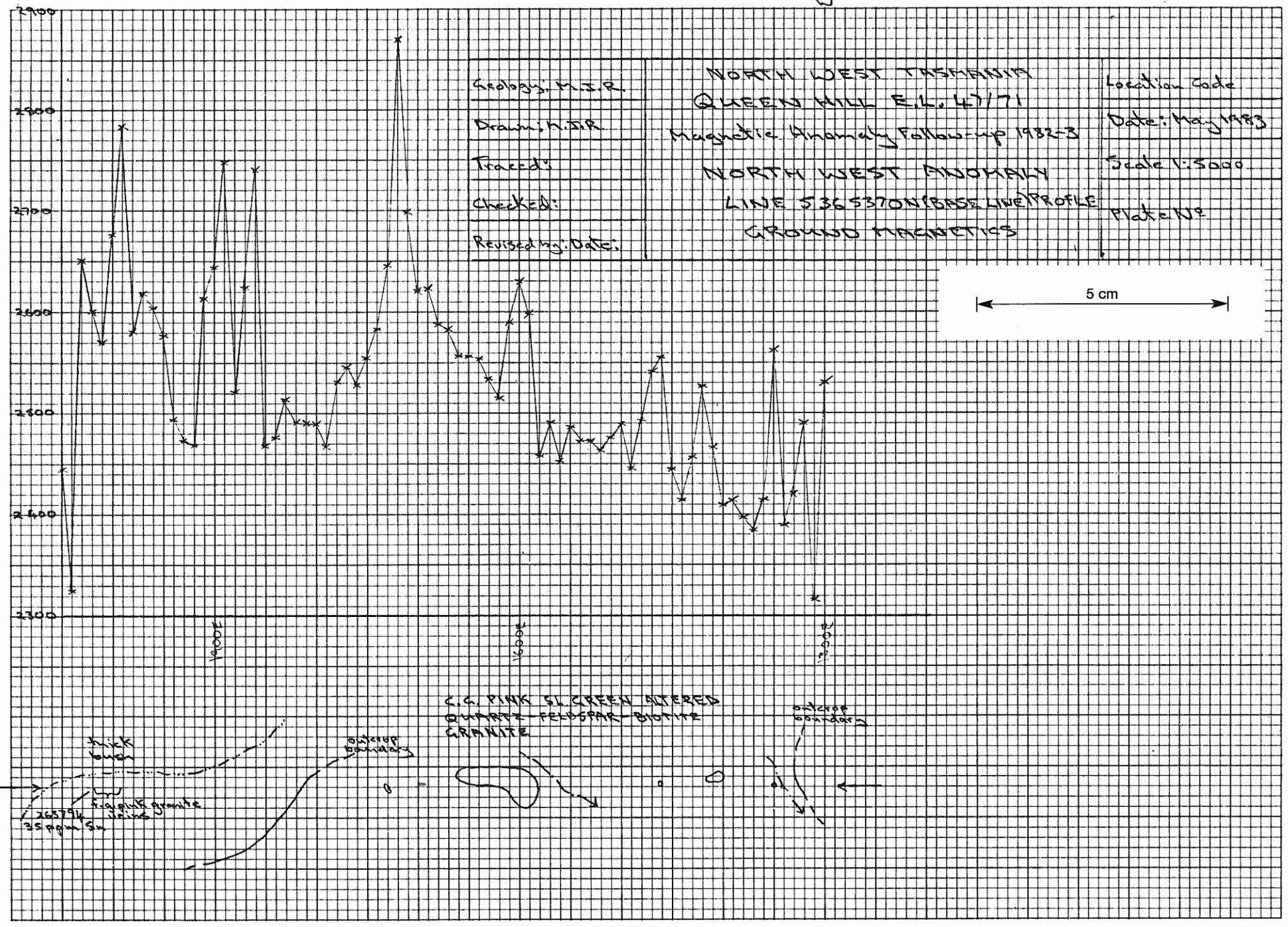


Geology: MTR	NORTH WEST TASMANIA	Location Code
Drawn: HSS	QUEEN HILL E.L. 47/71	Date: May 1983
Traced:	Magnetic Anomaly following AB2-3	Scale: 1:10,000
Checked:	LINE 6300E PROFILE	Plot: 130
Revised by date	GROUND MAGNETICS	

LINE 5370N (BASE LINE) NORTH-WEST ANOMALY

E

W



5 cm

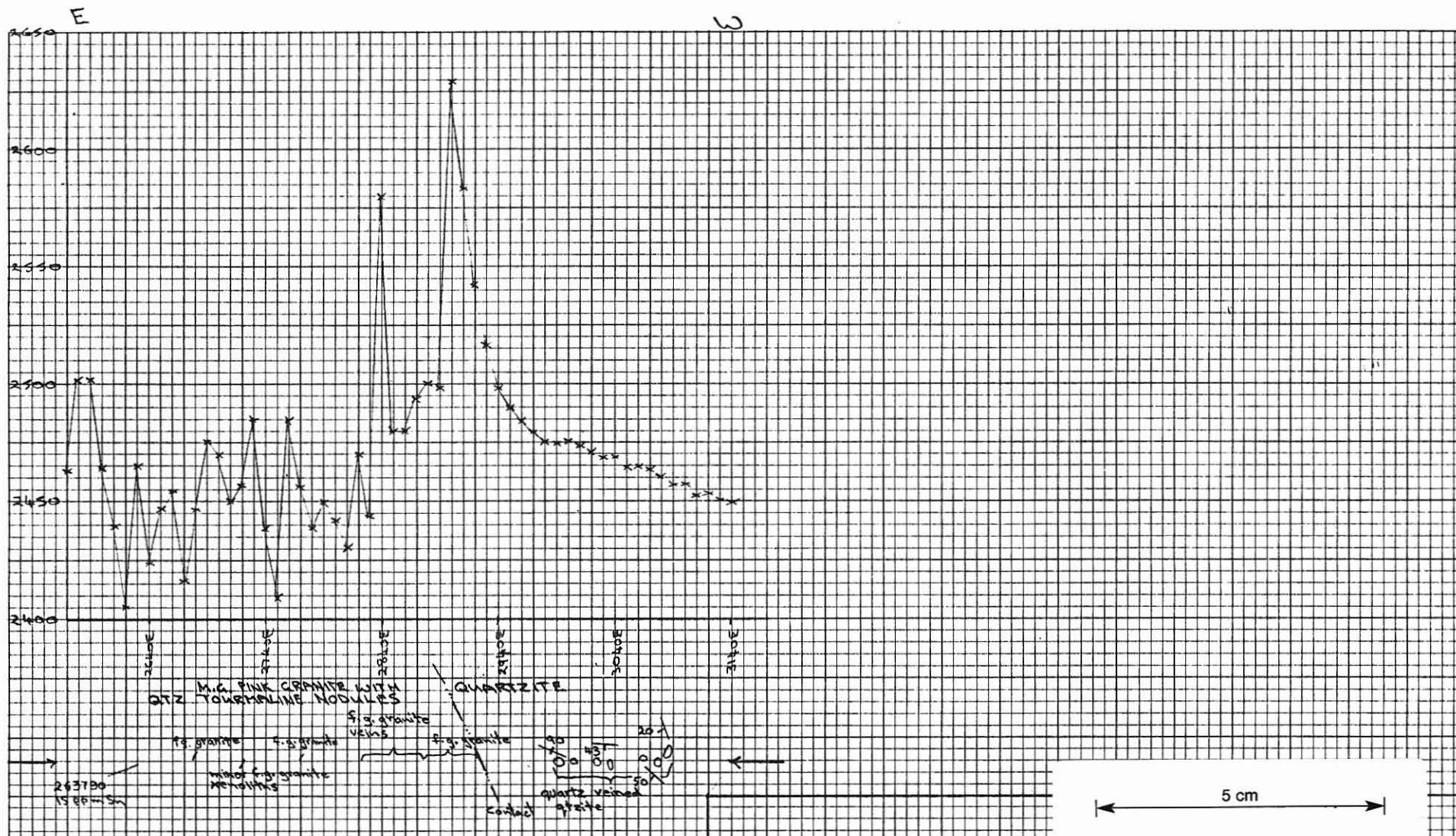
C.G. PINK SL. GREEN ALTERED  
QUARTZ FELDSPAR BIOTITE  
GRANITE

outcrop boundary



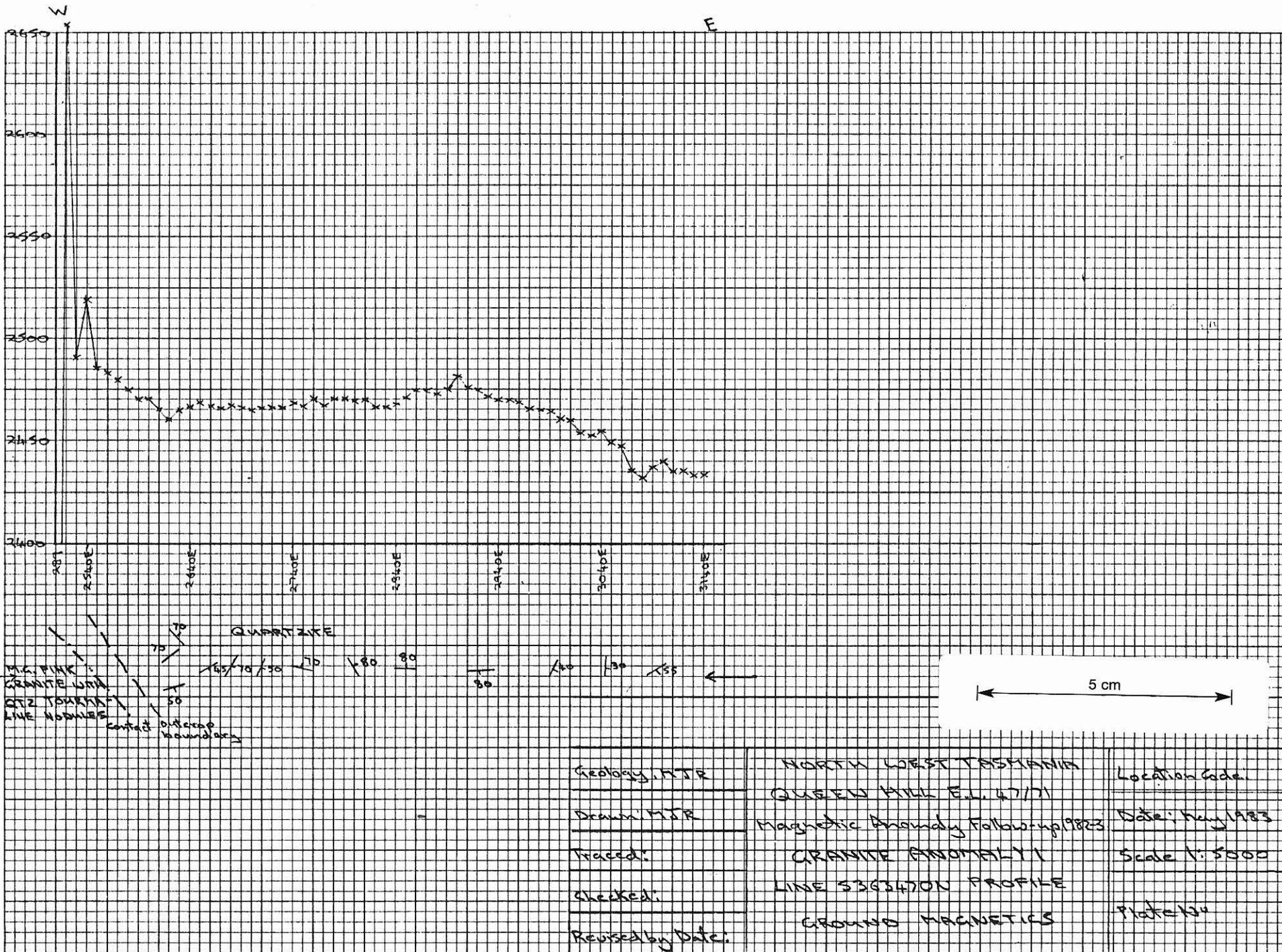


LINE 5362870N GRANITE ANOMALY 1

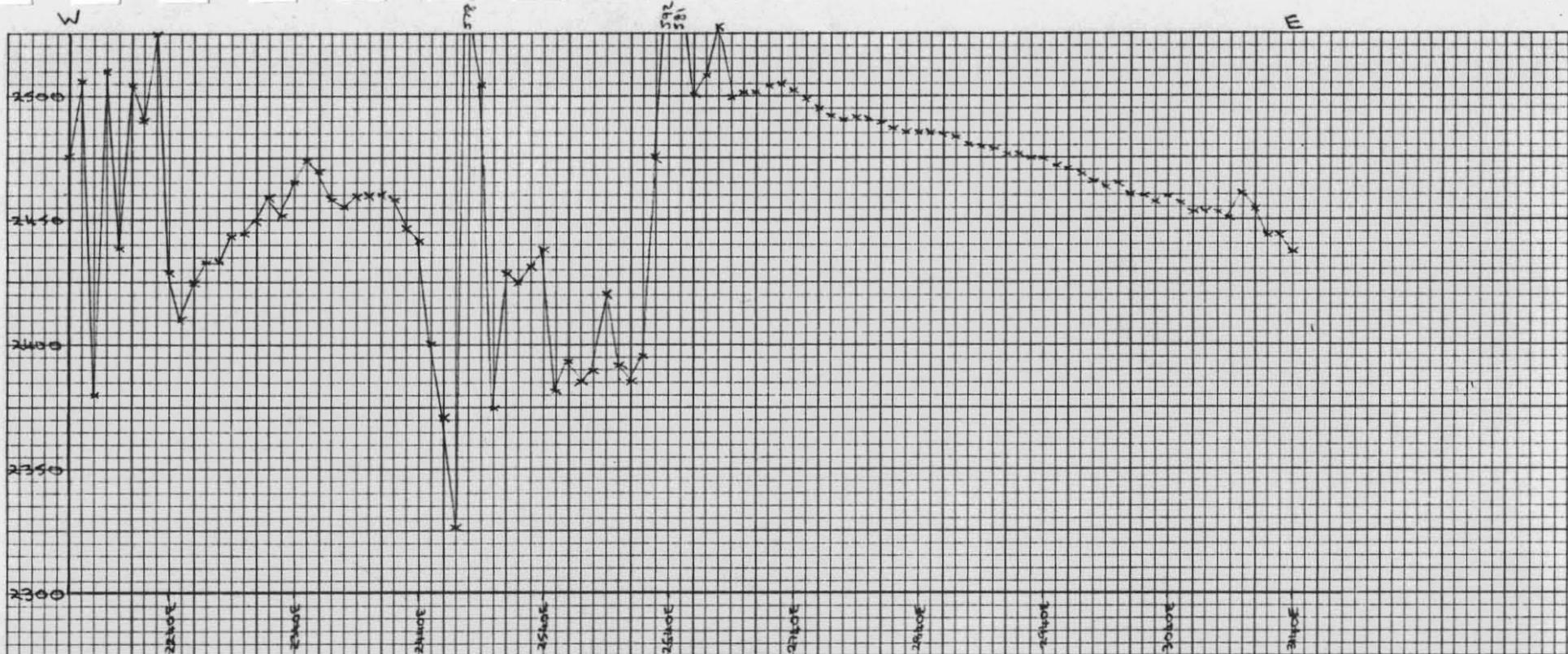


Geology. MTR	NORTH WEST TASMANIA	Location Code
Drawn. MTR	QUEEN HILL E.L. 2751	Date: May 1983
Traced:	Magnetic Anomaly Follow-up 1982-3	Scale: 1:5000
Checked:	GRANITE ANOMALY 1	Plate No.
Revised by Date	LINE 5362870N PROFILE	
	CROWN MAGNETICS	

LINE 5363470N GRANITE ANOMALY 1



Geology: MTR	NORTH WEST TASMANIA	Location Code:
Drawn: MTR	QUEEN HILL E.L. 47/71	Date: May 1983
Traced:	Magnetic Anomaly Follow-up 1983	Scale: 1:5500
Checked:	GRANITE ANOMALY 1	Plate 134
Revised by Date:	LINE 5363470N PROFILE	
	GROUND MAGNETICS	



f.g. very pink granite with altered quartzite & f.g. granite veins & nodules

f.g. pink granite minor very pink c.a. granite quartz tourmaline nodules common to 20cm

M.C. PINK GRANITE WITH QUARTZ TOURMALINE NODULES

QUARTZITE

f.g. horiz. flow banded quartzite with tourmaline nodules

f.g. aplite granite veins of f.g. granite in m.g. granite quartz tourmaline nodules common in f.g. granite very coarse quartz & feldspar at contact

quartzite  
f.g. granite  
2627.89

yellow sandy altered quartzite

quartzite  
155

150

85

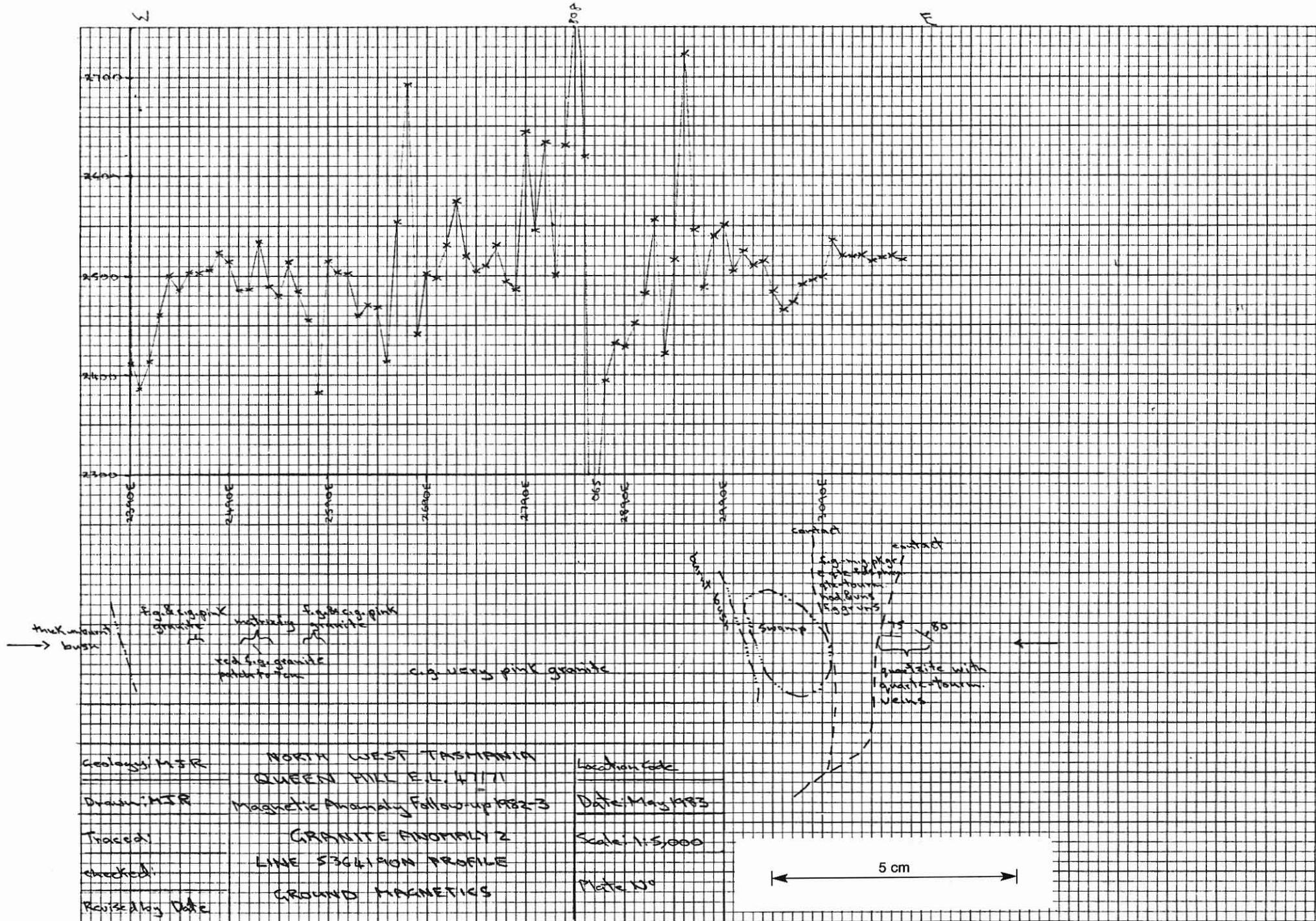
outcrop boundary

contact

5 cm

Geology: MSR	NORTH WEST TASMANIA	Location Code
Drawn: MSR	QUEEN HILL E.-. 47/71	Date: May 1983
Traced:	Magnetic Anomaly Follow-up 1982-3	Scale: 1:5000
Checked:	GRANITE ANOMALY 1	Plate No
Revised by: Date	LINE 5363170N PROFILE	
	GROUND MAGNETICS	

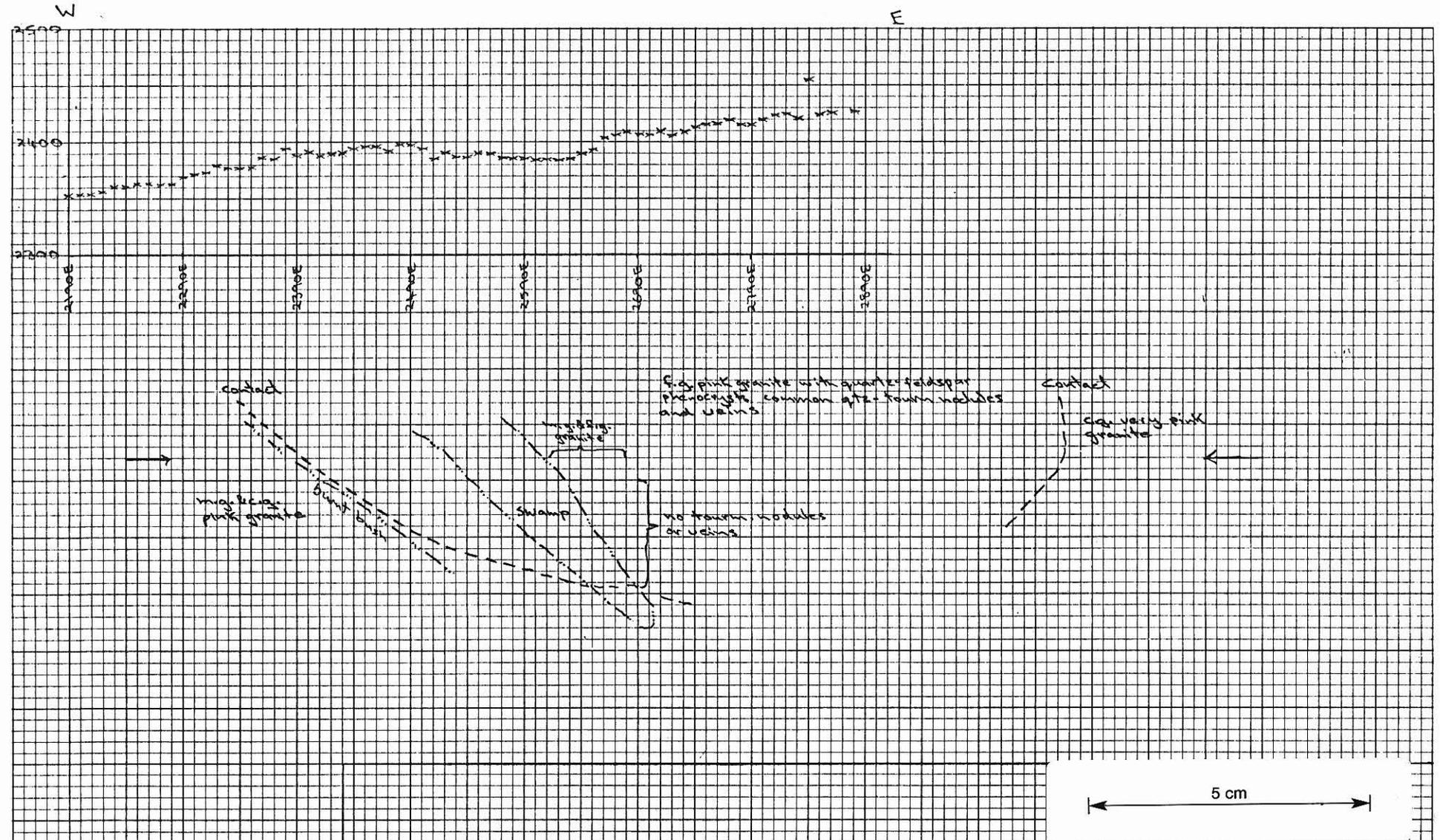
LINE 5364190N GRANITE 2 ANOMALY



Geology: M.R.	NORTH WEST TASMANIA	Location Code
Drawn: M.R.	QUEEN HILL E.L. 4771	Date: May 1983
Traced:	Magnetic Anomaly Follow-up 1982-3	Scale: 1:5,000
Checked:	GRANITE ANOMALY 2	Plate No.
Revised by Date	LINE 5364190N PROFILE	
	GROUND MAGNETICS	

5 cm

LINE 5364690N GRANITE ANOMALY 2

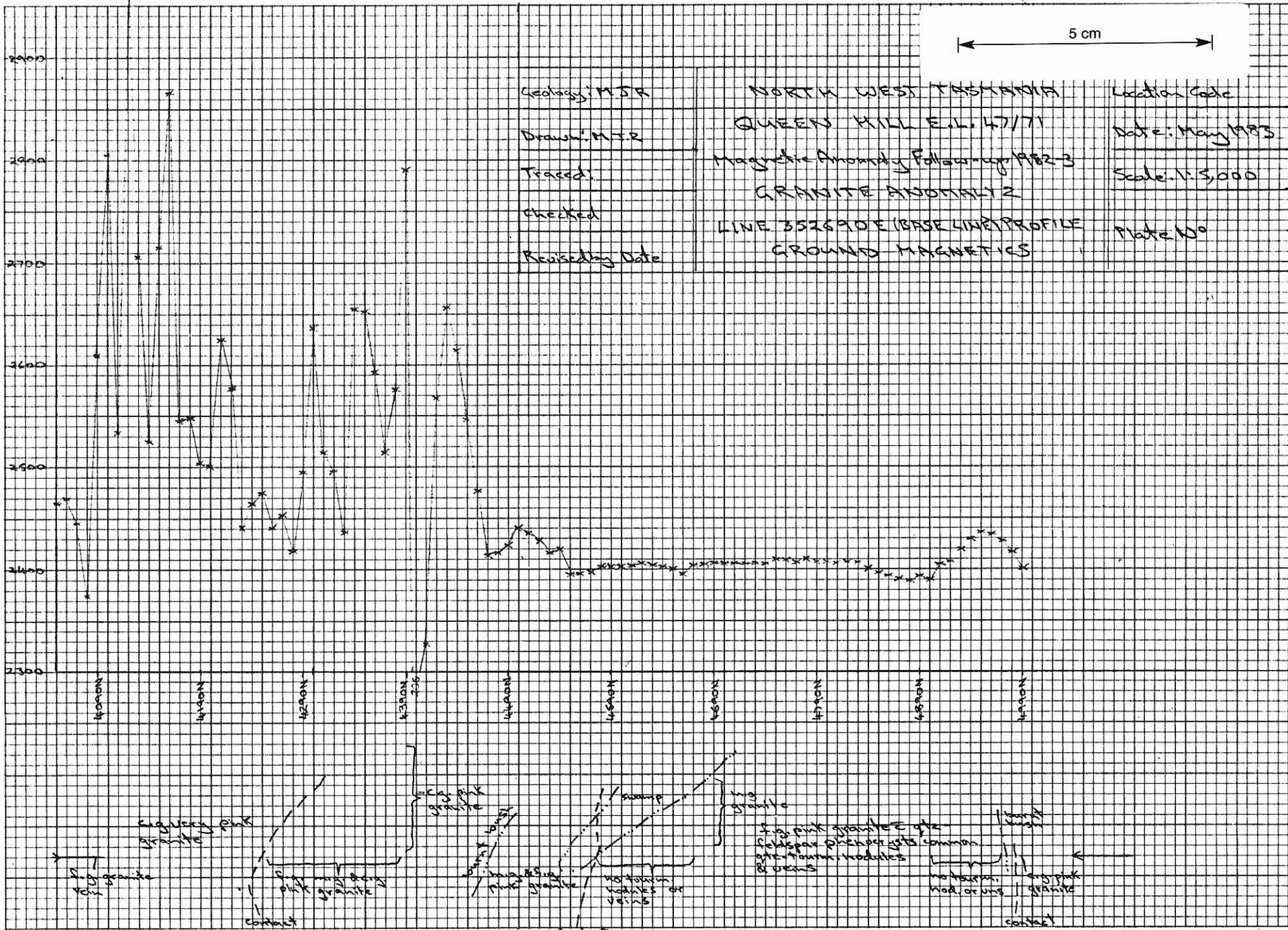


Geology: MSR	NORTH WEST TASMANIA	Location Code:
Drawn: MSR	QUEEN HILL E.L. 4711	Date: May, 1983
Traced:	Magnetic Anomaly Follow-up 1982-83	Scale 1:5,000
Checked:	GRANITE ANOMALY 2	Plate No
Revised by: Date	LINE 5364690N PROFILE	
	GROUND MAGNETICS	

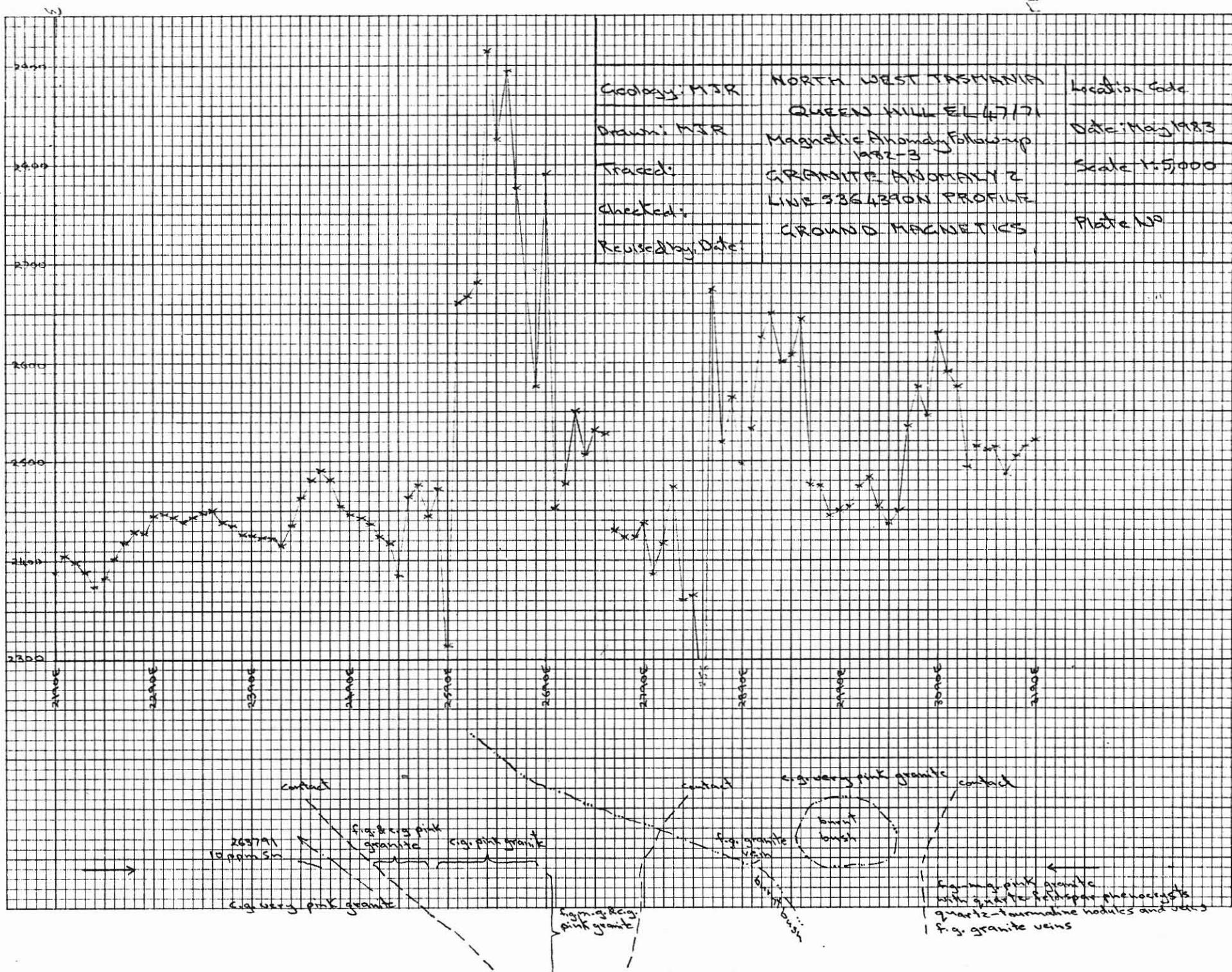
BASE LINE 352690E GRANITE ANOMALY 2

S

N

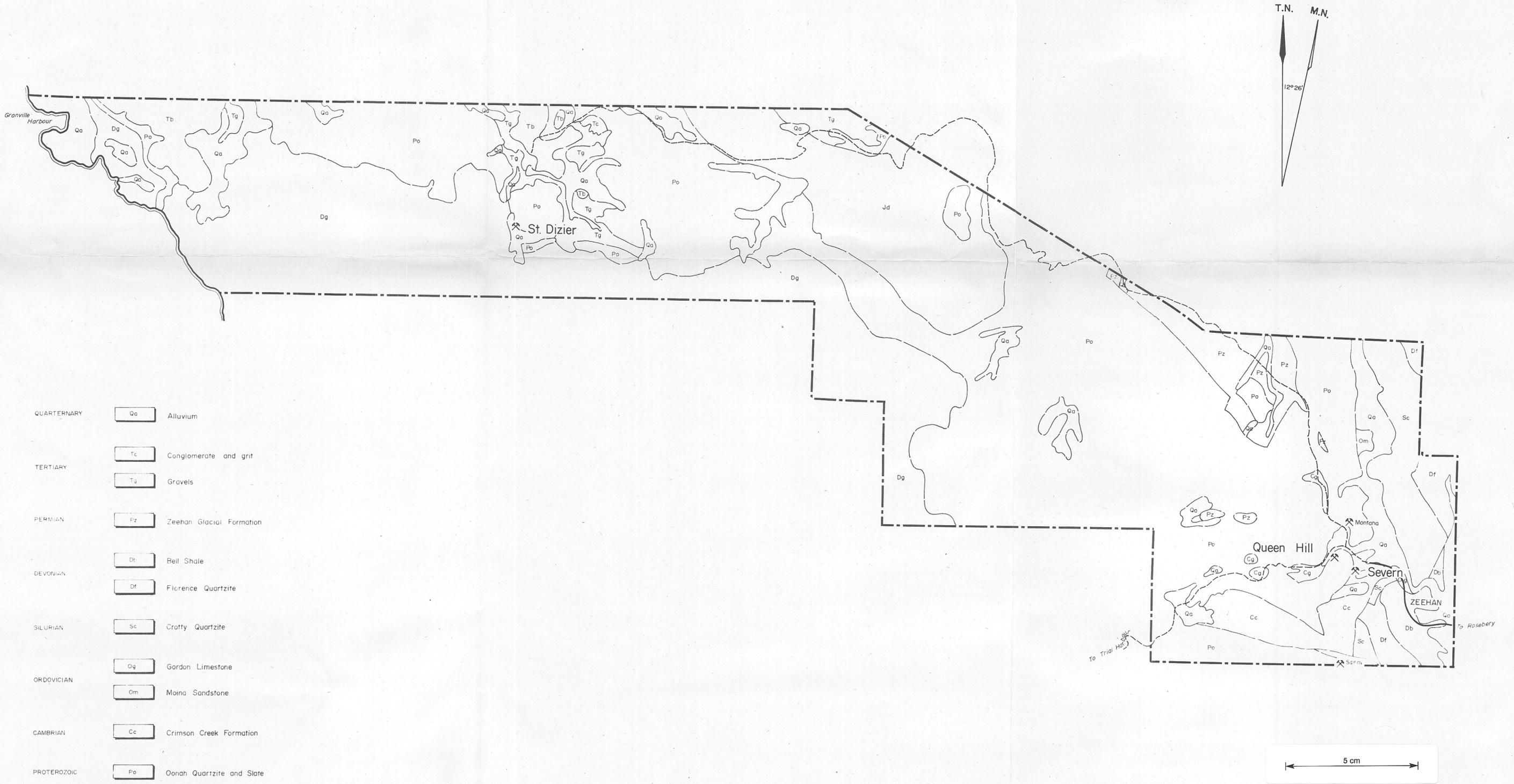


LINE 3364390N GRANITE ANOMALY 2



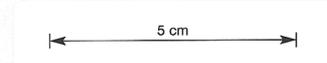
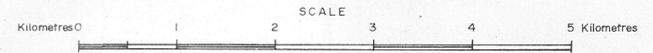
Geology: MTR	NORTH WEST TASMANIA	Location Code
Drawn: MTR	QUEEN HILL EL 47/21	Date: May 1983
Traced:	Magnetic Anomaly Following 1982-3	Scale 1:5,000
Checked:	GRANITE ANOMALY 2 LINE 3364390N PROFILE	Plate No
Revised by Date:	GROUND MAGNETICS	

5 cm



- QUATERNARY
- Qa Alluvium
- TERTIARY
- Tc Conglomerate and grit
  - Tg Gravels
- PERMIAN
- Pz Zeehan Glacial Formation
- DEVONIAN
- Dt Bell Shale
  - Df Florence Quartzite
- SILURIAN
- Sc Crotty Quartzite
- ORDOVICIAN
- Og Gordon Limestone
  - Om Moira Sandstone
- CAMBRIAN
- Cc Crimson Creek Formation
- PROTEROZOIC
- Po Oanah Quartzite and Slate

- IGNEOUS ROCKS
- TERTIARY
- Tb Basalt
- JURASSIC
- Jd Dolerite
- DEVONIAN
- Dg Granite
- CAMBRIAN
- Cg Gabbro



467083

<b>Aberfoyle Exploration Pty Ltd</b>		
Geology Zeehan 1"=1mile	NORTH WEST TASMANIA QUEEN HILL E.L. 47/71 REGIONAL GEOLOGY	Location code: Date: October 1978 Scale: 1:50,000 Plate No: QH 110
Drawn: RKY		
Traced:		
Checked:		
Revised by: Date:		

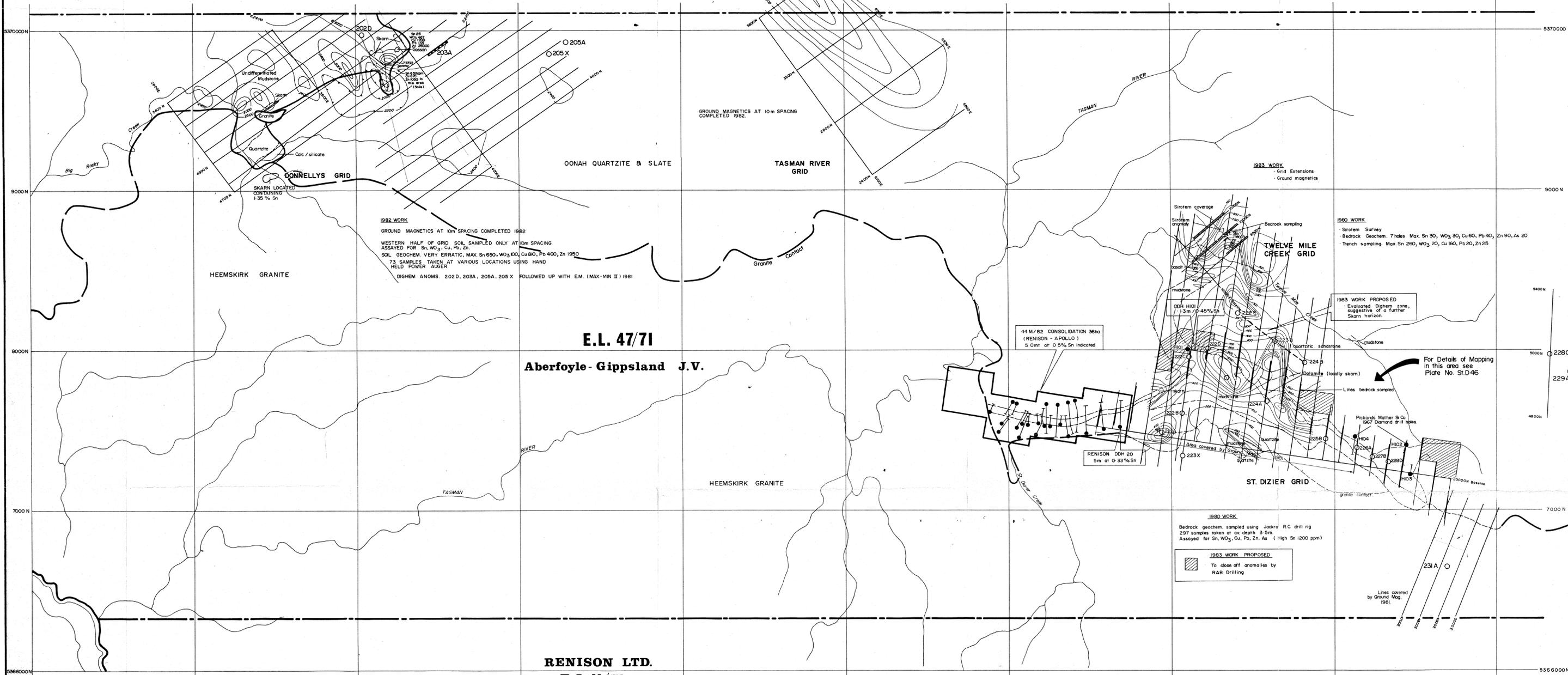
84-2087

001



C.R.A. EXP. P/L

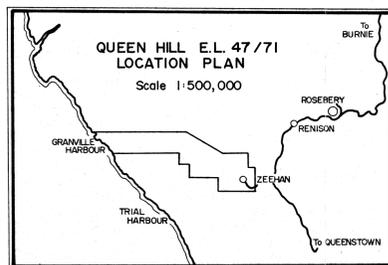
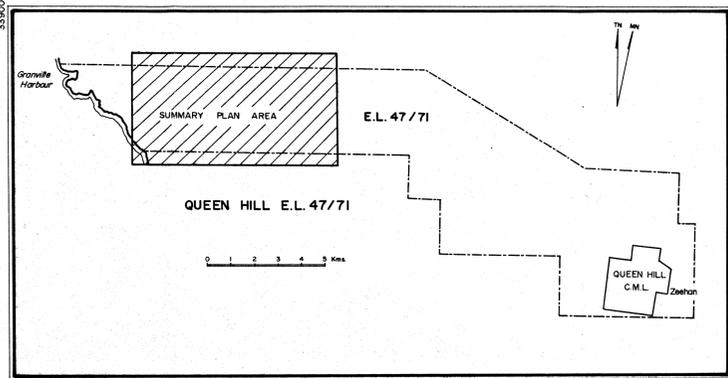
E.L. 1/77



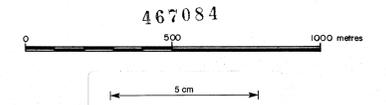
E.L. 47/71

Aberfoyle - Gippsland J.V.

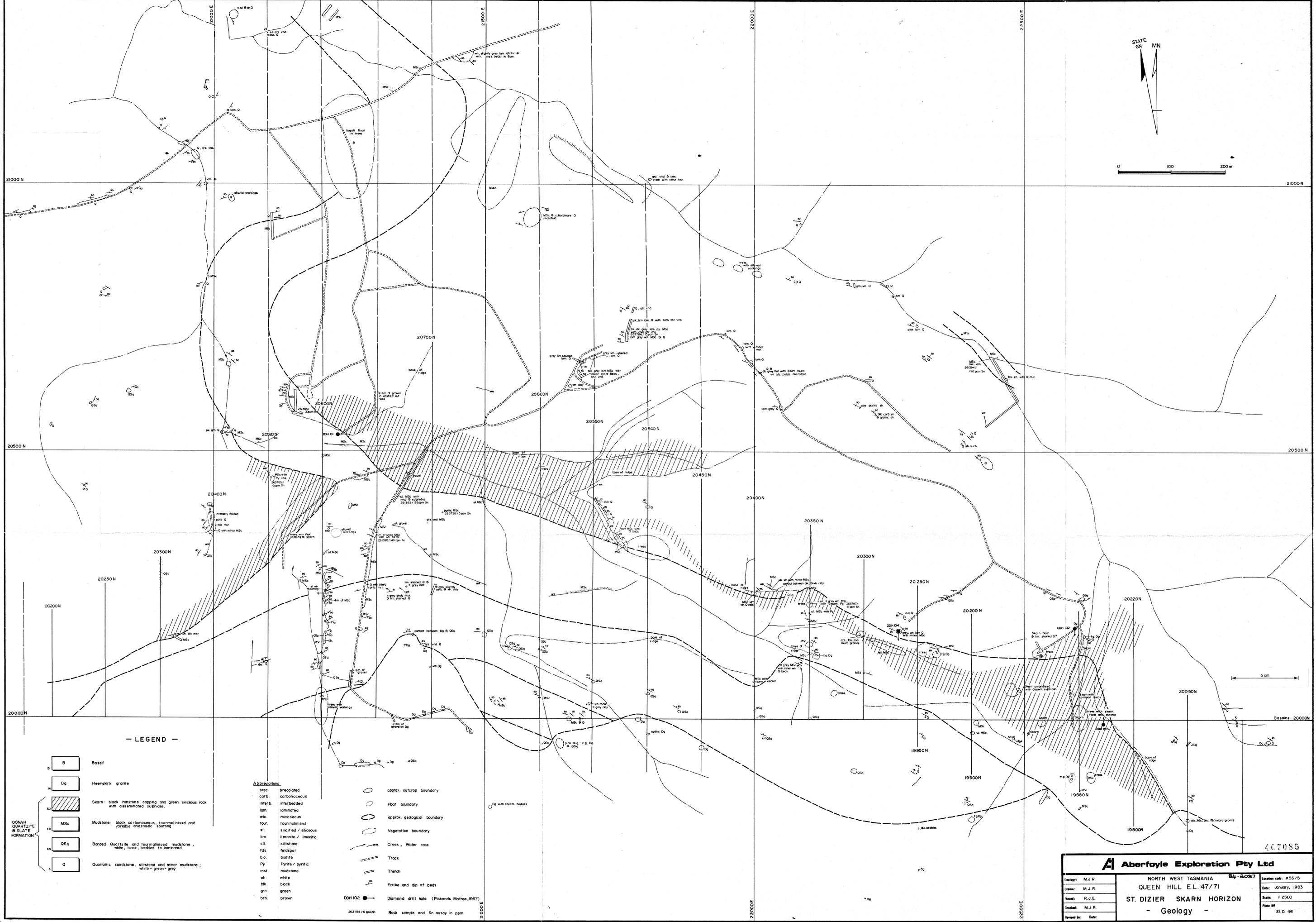
RENISON LTD.  
E. L. 11/76



- LEGEND —
- 223 X Dighem anomaly (Flown 1980)
  - 62 400 Ground magnetic contour in gammas
  - Sirotek coverage
  - ◇ Sirotek anomaly
  - Bedrock sampling
  - Diamond drill hole
  - Exploration licence boundary



<b>Aberfoyle Exploration Pty Ltd</b>		
Geology: M.J.R.	Location code: 84-2087	Date: March, 1982
Drawn: R.J.E.	NORTH WEST TASMANIA QUEEN HILL LICENCE 47/71	
Traced:	SUMMARY PLAN	
Checked:	Scale: 1:10,000	Plate No: OH 183
Revised by: M.J.R. Date: 2/2/83		

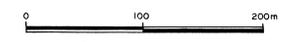
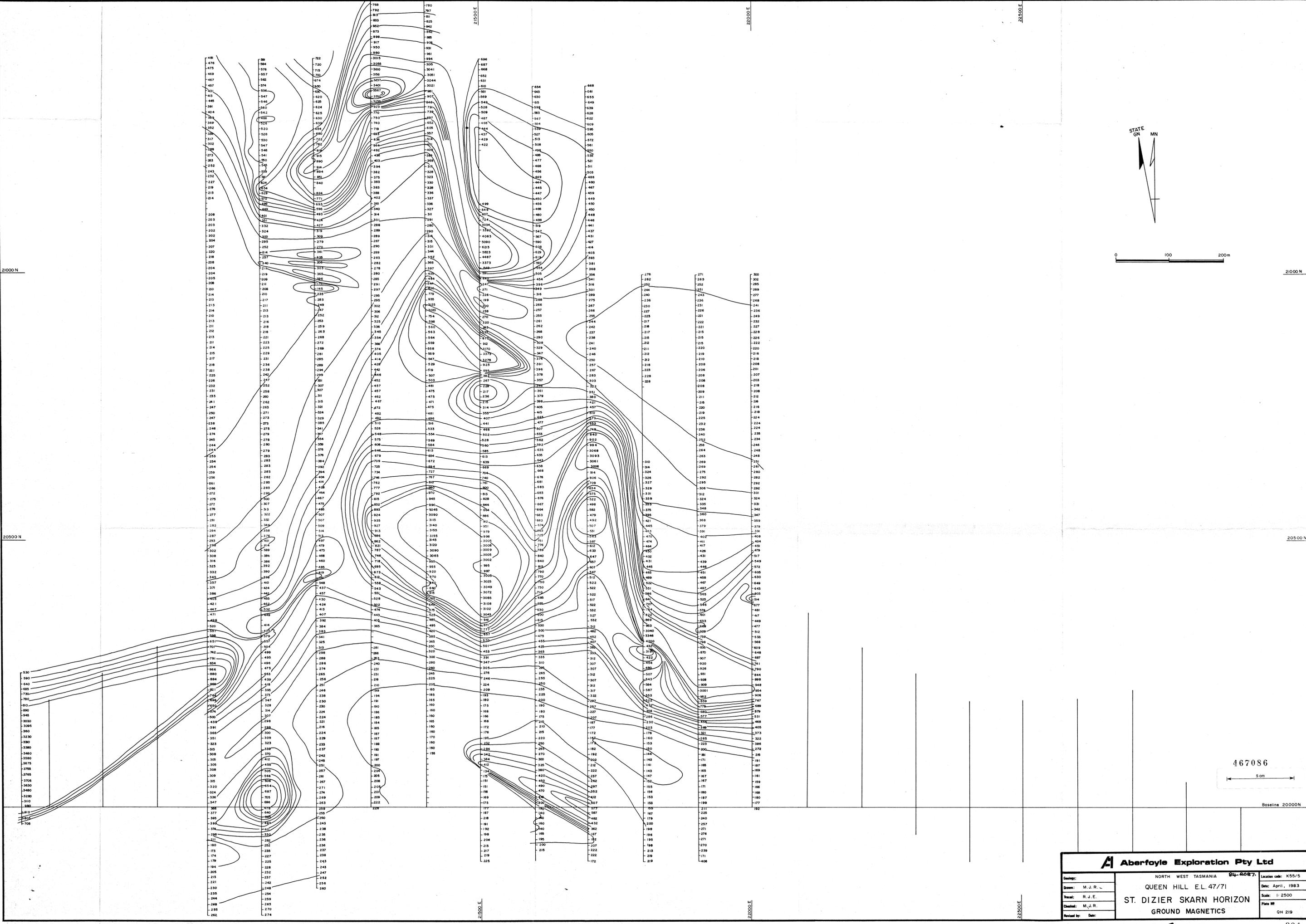


— LEGEND —

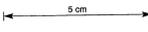
- |   |  |   |  |
|---|--|---|--|
| <p>51 B</p> <p>54 Dg</p> <p>52</p> <p>60 MSC</p> <p>69 Qsq</p> <p>3 Q</p> | <p>Basalt</p> <p>Heemskerk granite</p> <p>Skarn: black ironstone capping and green siliceous rock with disseminated sulphides.</p> <p>Mudstone: black carbonaceous, tourmalinised and variable chert-like spotting</p> <p>Banded Quartzite and tourmalinised mudstone: white, black, bedded to laminated</p> <p>Quartzitic sandstone, siltstone and minor mudstone; white - green - grey</p> | <p><b>Abbreviations</b></p> <p>trac. traceolite</p> <p>carb. carbonaceous</p> <p>interb. interbedded</p> <p>lam. laminated</p> <p>mic. micaceous</p> <p>tour. tourmalinised</p> <p>sil. silicified / siliceous</p> <p>lim. limonite / limonitic</p> <p>silt. siltstone</p> <p>fs. feldspar</p> <p>bio. biotite</p> <p>Py. Pyrite / pyritic</p> <p>mst. mudstone</p> <p>wh. white</p> <p>blk. black</p> <p>gn. green</p> <p>brn. brown</p> | <p>○ approx. outcrop boundary</p> <p>□ Flat boundary</p> <p>○ approx. geological boundary</p> <p>○ Vegetation boundary</p> <p>—w—w— Creek, Water race</p> <p>— Track</p> <p>— Trench</p> <p>Strike and dip of beds</p> <p>DDH 102 ● Diamond drill hole (Pickands Mother, 1967)</p> <p>263785/6 ppm Rock sample and Sn assay in ppm</p> |
|---|--|---|--|

<b>A Aberfoyle Exploration Pty Ltd</b>		
Geology: M.J.R.	NORTH WEST TASMANIA 84-2087	Location code: K55/5
Drawn: M.J.R.	QUEEN HILL E.L. 47/71	Date: January, 1983
Traced: R.J.E.	ST. DIZIER SKARN HORIZON	Scale: 1:2500
Checked: M.J.R.	- Geology -	Plate No: St. D. 46
Revised by: Date:		

407085



467086

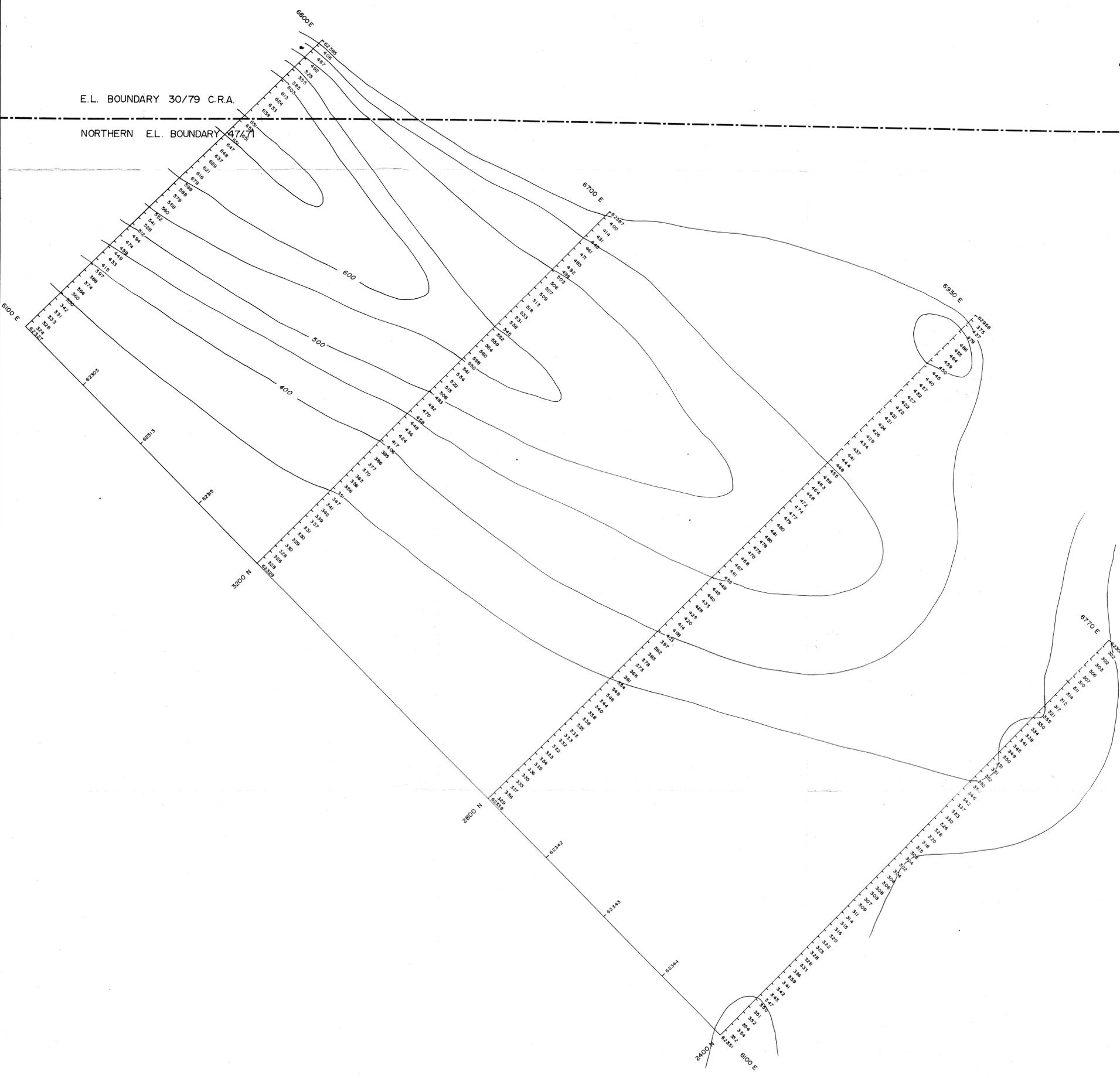


<b>Aberfoyle Exploration Pty Ltd</b>	
Geology:	NORTH WEST TASMANIA 94-2067
Drawn: M.J.R.	QUEEN HILL E.L.47/71
Traced: R.J.E.	ST. DIZIER SKARN HORIZON
Checked: M.J.R.	GROUND MAGNETICS
Location code: K55/5	Date: April, 1983
Scale: 1:2500	Plan No
OH 219	

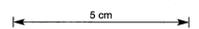


E.L. BOUNDARY 30/79 C.R.A.

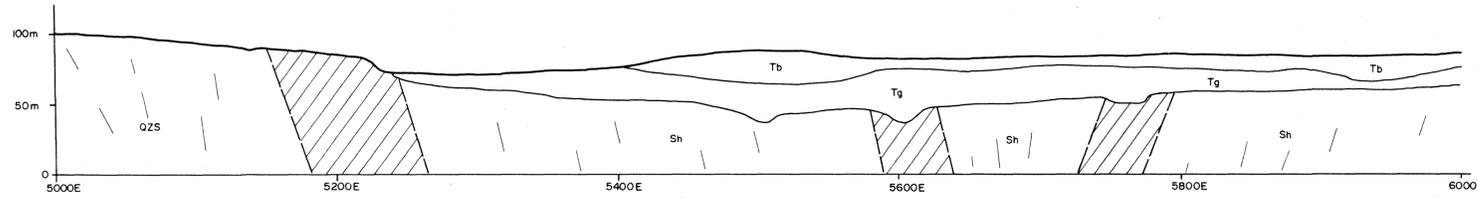
NORTHERN E.L. BOUNDARY 47/71



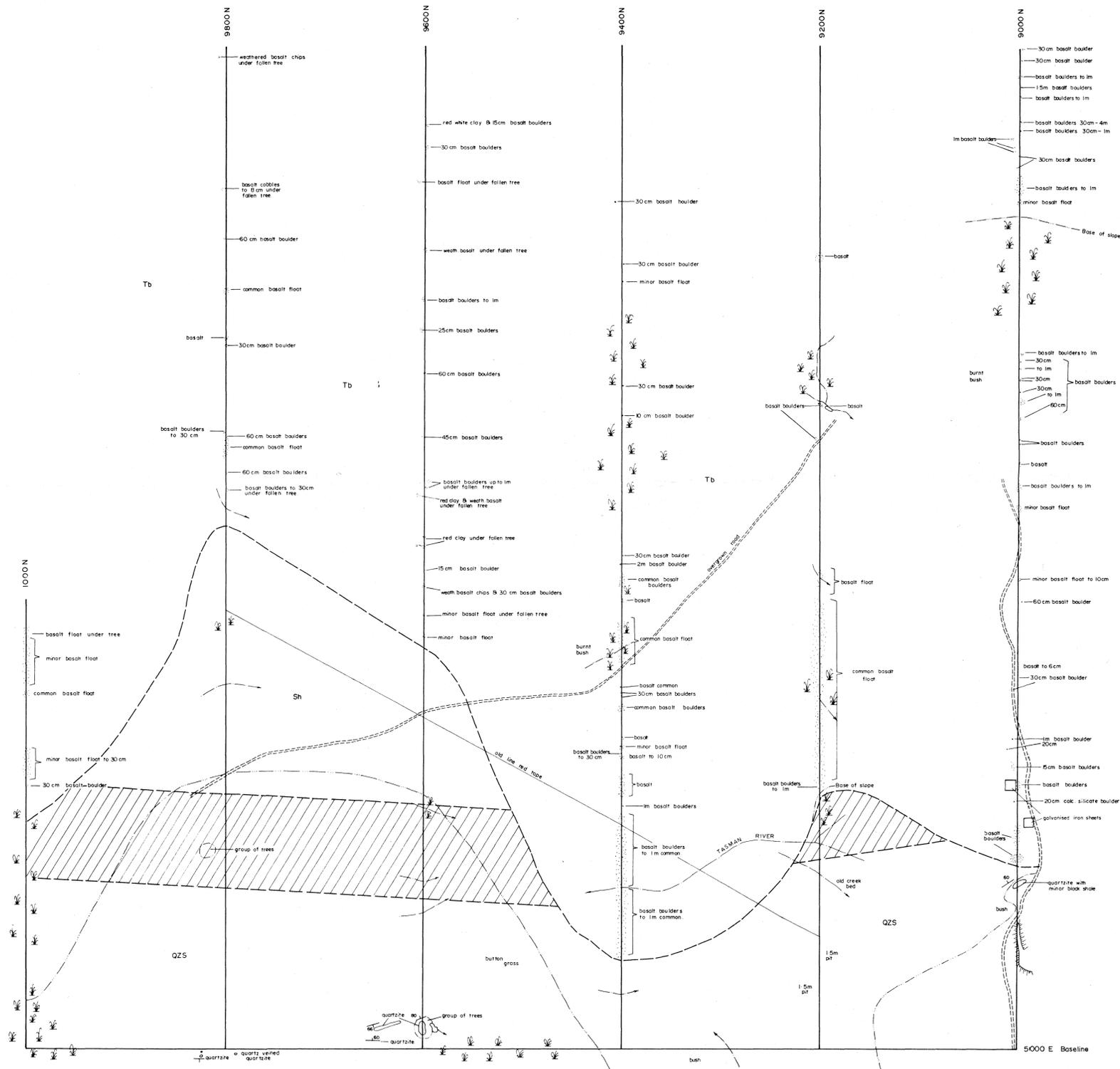
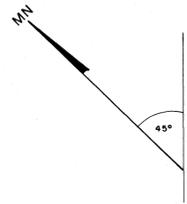
467087



		84-2087	
		NORTH WEST TASMANIA	
Ecology:		QUEEN HILL E.L. 47/71	Location code:
Drawn: E. S.		TASMAN RIVER GRID	Date: February, 1982
Traced: J.L.R.		GROUND MAGNETICS	Scale: 1: 2500
Checked:			Plate No. TR 1
Revised by:	Date:		

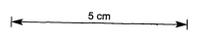


Theoretical Cross Section along Line 9600 N

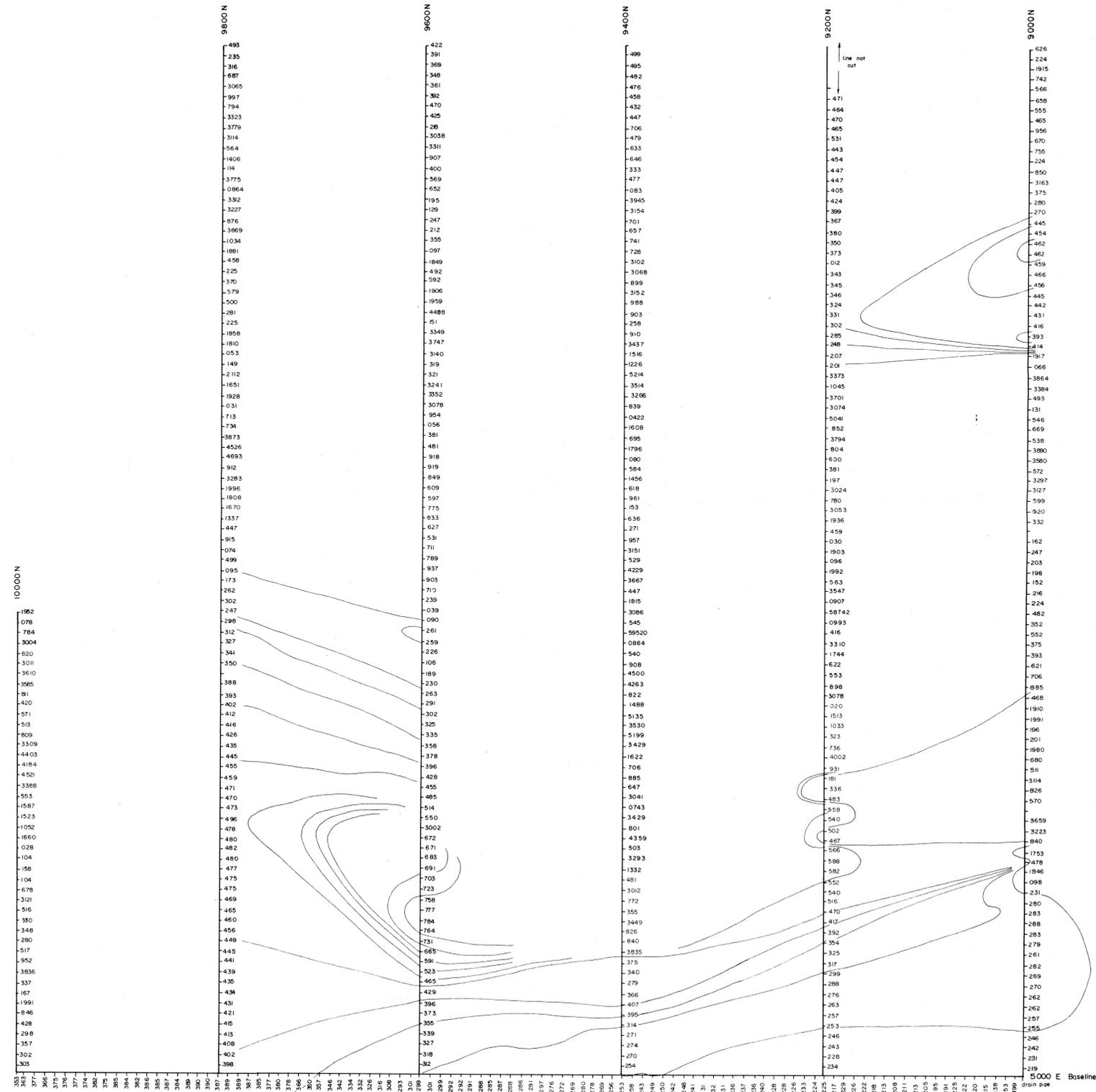
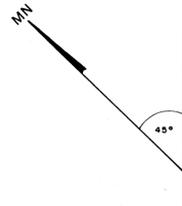


- LEGEND —
- Tb Tertiary basalt
  - Tg Tertiary gravels
  - Sh Carbonaceous shale
  - Skorn Skorn
  - QZS Quartzite & slate
- Upper Precambrian - Cambrian ?
- Geological contact approx.
  - Outcrop
  - Floot or boulders
  - River or creek
  - Road or track
  - Vegetation change
  - Swamp

467088

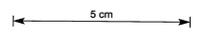


<b>Aberfoyle Exploration Pty Ltd</b>		
Geology: M. J. R.	NORTH WEST TASMANIA 84-3087	Location code: K55/5
Drawn: M. J. R.	QUEEN HILL E.L. 47/71	Date: July, 1983
Traced: R. J. E.	MAGNETIC ANOMALY FOLLOW-UP 1982-3	Scale: 1:2,500
Checked: M. J. R.	<b>TASMAN RIVER ZONE ANOMALIES</b>	Plate No:
Revised by: Date:	<b>Outcrop Geology</b>	TR 2.

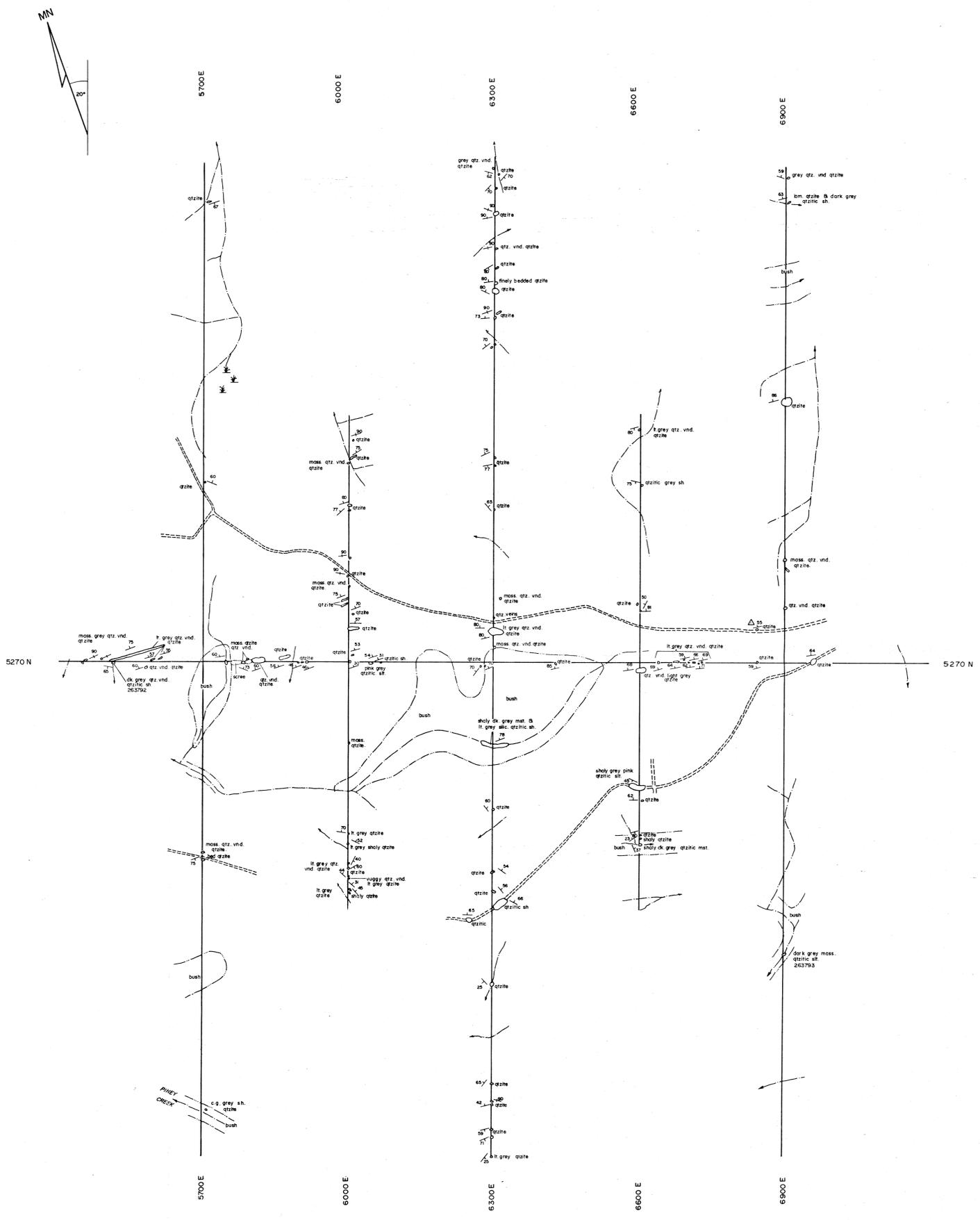


62279 Magnetometer reading & location (in gammas)

467089



<b>Aberfoyle Exploration Pty Ltd</b>		
Geology: M.J.R.	NORTH WEST TASMANIA QUEEN HILL E.L. 47/71	Location code: K55/5
Drawn: M.J.R.	MAGNETIC ANOMALY FOLLOW-UP 1982-3	Date: July, 1983
Traced: R.J.E.	<b>TASMAN RIVER ZONE ANOMALIES</b>	Scale: 1:2,500
Checked: M.J.R.	Ground Magnetics	Plate No. TR 3
Revised by: Date:		



- LEGEND -

Abbreviations:

- qtz. quartz
- qtzite. quartzite
- sh. shale
- slt. siltstone
- mst. mudstone
- moss. massive
- vnd. vained
- bed. bedded

Outcrop  
 Scree  
 River or creek  
 Vegetation change  
 Track  
 Rock chip sample taken, given number.

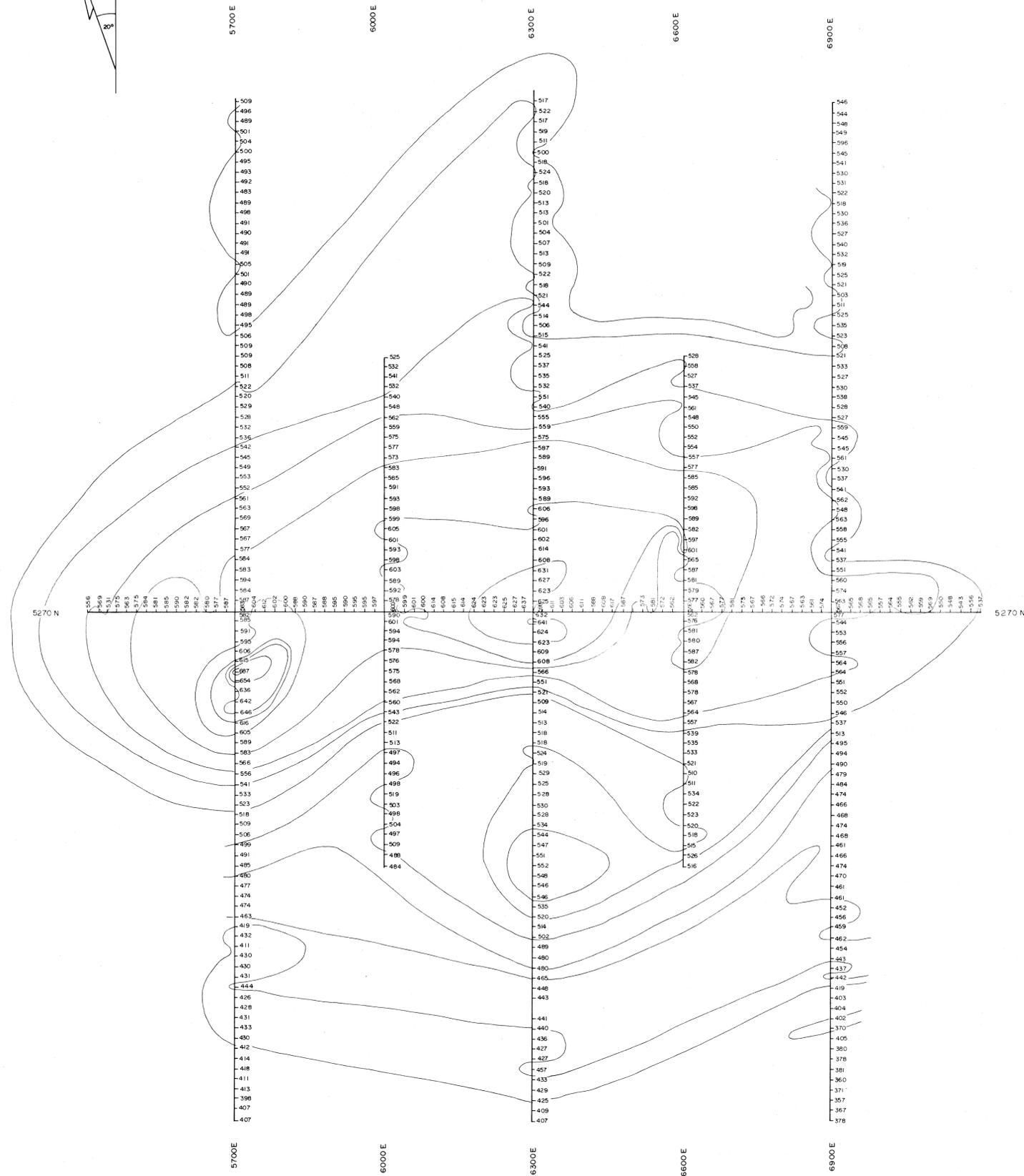
467090

5 cm

N.B. Strike readings corrected to State Grid North

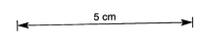
<b>Aberfoyle Exploration Pty Ltd</b>		Location code: K55/5
Geology: M.J.R.	NORTH WEST TASMANIA QUEEN HILL E.L. 47/71 Magnetic Anomaly Follow-up 1982-3	Date: March, 1983
Drawn: M.J.R.	<b>JUNCTION ANOMALY</b>	Scale: 1:5000
Traced: R.J.E.	<b>OUTCROP GEOLOGY</b>	Plate No. QH 218
Checked: M.J.R.		
Revised by: Date:		

84-2087 008

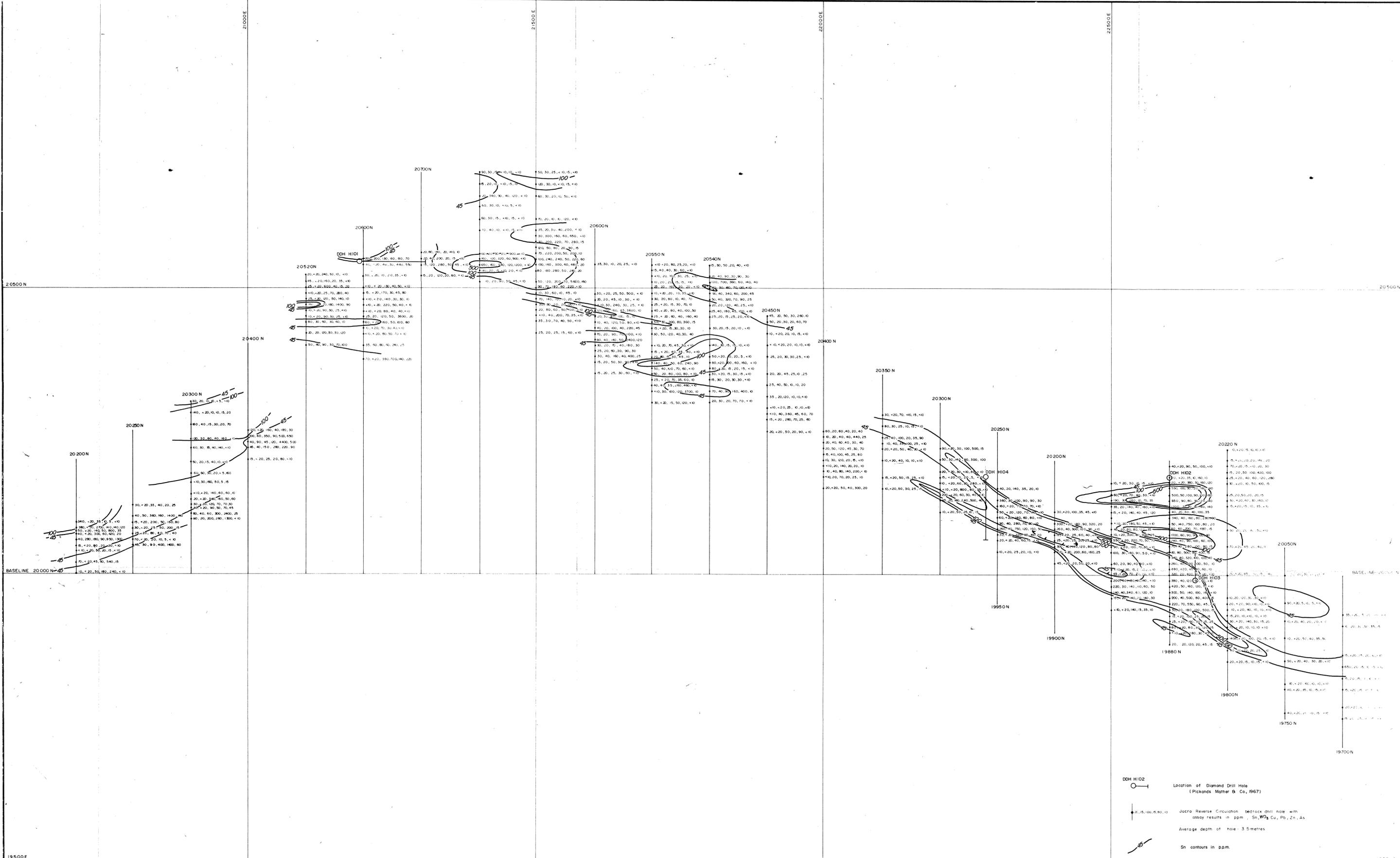


<b>Aberfoyle Exploration Pty Ltd</b>		
Geology:	NORTH WEST TASMANIA	Location code: K55/5
Drawn: M.J.R.	QUEEN HILL E.L. 47/71	Date: March, 1983
Traced: R.J.E.	Magnetic Anomaly Follow-up 1982-3	Scale: 1:5000
Checked: M.J.R.	<b>JUNCTION ANOMALY</b>	Plate No
Revised by: Date:	<b>GROUND MAGNETICS</b>	QH 223

467091





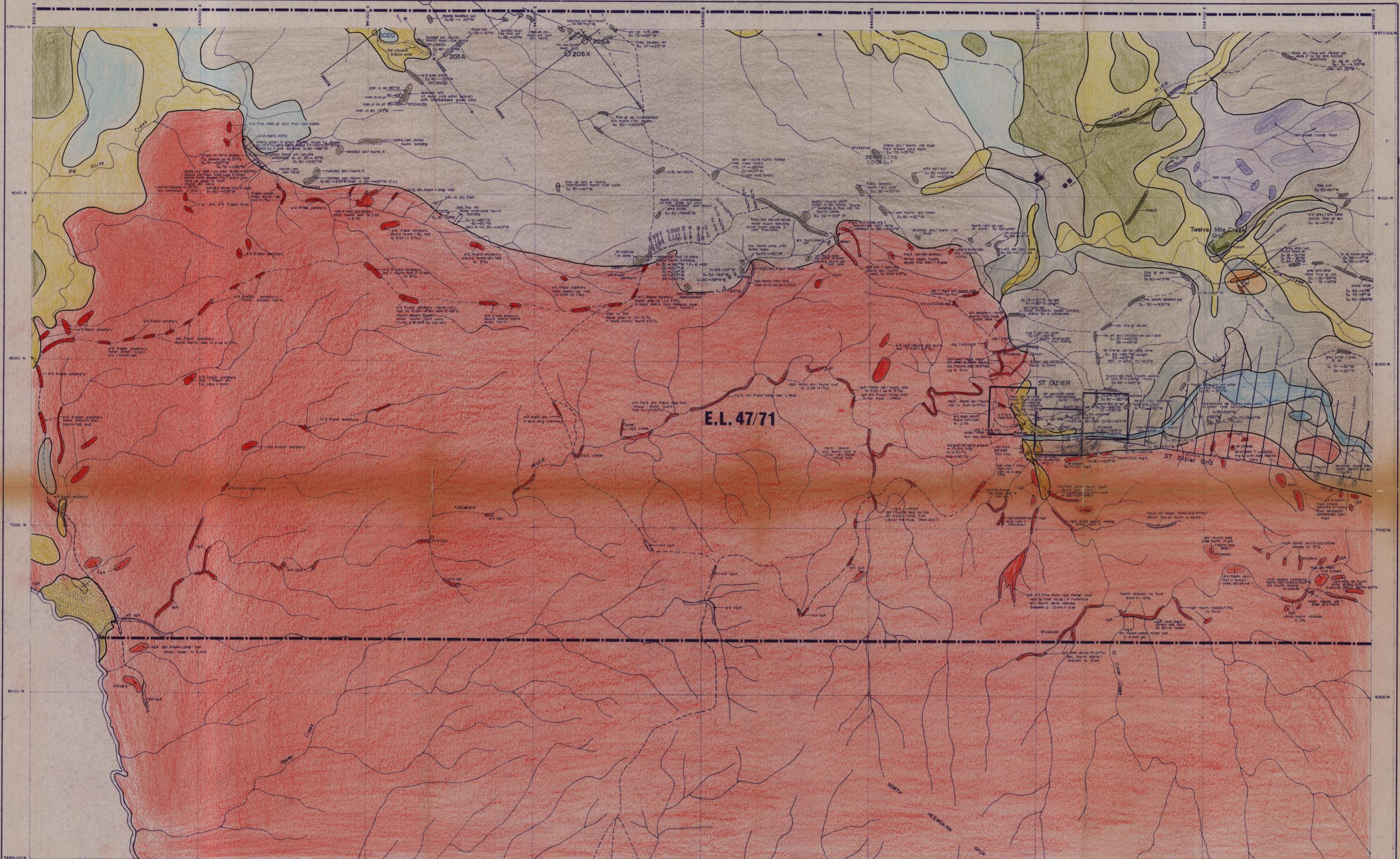


DDH H102 Location of Diamond Drill Hole (Pickfords Mather & Co, 1967)  
 Micro Reverse Circulation bedrock drill hole with assay results in ppm: Sn, WO<sub>3</sub>, Cu, Pb, Zn, As  
 Average depth of hole - 3.5 metres  
 Sn contours in ppm

467093

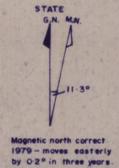


<b>Aberfoyle Exploration Pty Ltd</b>		NORTH WEST TASMANIA 84-2067	
Geology: R M J	Drawn: R J E	EXPLORATION LICENCE No 4771	Date: July, 1990
Checked: R J E	Revised by: Date	ST. DIZIER GRID	Scale: 1:2500
		Bedrock Geochemistry Sn in ppm	File No: ST. DIZ 43



E.L. 47/71

Base sheet enlarged from  
1:51,680 Tasmanian Lands  
Dept. Topo.



33/370	335/370	347/370
331/365	338/365	347/365
331/360	338/360	347/360

5 cm

FOR LEGEND SEE PLATE STD. 40

467094 <b>Aberfoyle Exploration</b>		61-1597
Geology J. W.	NORTH WEST TASMANIA	Location code
Drawn J. W.	QUEEN HILL E.L. 47/71	Date April, 1980
Traced R. J. E.	ST. DIZIER AREA	Scale 1:10,000
Checked	GEOLOGICAL MAP	Plate No.
Revised by Date		STD. 42 / 339 / 365