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MICROFILMED

Progress Report

QUEEN HILL JOINT VENTURE

E.L. 47/71

Tasmania 78-1261

Quarter to
March 31, 1978

OPEN FILE

D.C. Simpson
Geologist
Abminco Exploration Division

001

265002

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INTRODUCTION

Since the last report was submitted, Exploration Licences 47/71, 22/73 and 13/76 have been consolidated into the one licence, E.L. 47/71. Thus, commencing with this report, all exploration carried out in the joint venture area will be reported in the one document.

This report summarises the field programme to date and includes comments on earlier geochemical work for which assays are only now available.

PROGRAMME

Following 1:10,000 scale mapping of the eastern part of E.L. 47/71, work in hand consists of follow up of the anomalies delineated by the airborne magnetic survey of December 1977.

The summer programme to date has consisted of:

- . the airborne magnetic survey
- . rating of anomalies
- . gridding of two of the anomalies with lines 50 metres apart
- . geological mapping at 1:10,000 scale.

Each phase of the programme is discussed below.

AIRBORNE MAGNETIC SURVEY

An airborne magnetic survey covering the original "Queen Hill" and "Heemskirk" exploration licences (E.L's 47/71 and 13/76) was flown in December 1977. The aim of this survey was to locate magnetic anomalies which may be due to pyrrhotite with associated cassiterite mineralisation. The survey was flown at a mean terrain clearance of 60 metres. This height was chosen after trial flights at 60 and 90 metres were flown, when it became obvious that anomaly/regional gradient contrast was improved at the lower level. Because of steep terrain, part of the western area, near the Heemskirk Granite, was not flown.

Due to changes in strike over the area of the licence, flight lines are at different orientation for the eastern and western areas. This may be seen on the magnetic contour plan (Plate QH 91). Spacing of flight lines averages 140 metres.

Contoured plans of the magnetic results are shown on Plates QH 90A, B, and 91. For ease of reference, the significant anomalies are named. Those anomalies recommended for follow up work are commented on below. Those marked * are discussed, but do not warrant follow up.

(1)* "Severn"

This anomaly was drilled in 1976 and 1977 and is located underneath the western end of Zeehan township. (DDH's G-39 to G-43).

The source of the anomaly is pyrrhotite mineralisation containing tin. (Simpson, 1977)

(2)* "Queen Hill"

This small anomaly is represented by a pyrrhotite-rich section as intersected by diamond drill holes G-22 and G-26.

(3) "Manganese Hill"

A small anomaly within the prospective Crimson Creek Formation. Results from the proposed ground magnetic survey may be "noisy" due to the local development of ferruginous material. Gridding is in progress, preparatory to a ground magnetic survey.

(4) "Tramway"

This circular anomaly is again in the Crimson Creek Formation. Gridding is in progress, preparatory to a ground magnetic survey.

(5)* "Swansea"

Outside the licence area, ground reconnaissance has revealed that outcrop in the area is Pre-cambrian Oonah Quartzite and slate, and the source of the anomaly is yet to be located. It is likely to be pyroxenite or serpentinite, similar to that known to outcrop 1 km south, and also in workings at the Silver Duke, the same distance to the south east.

(6) "Big One"

No outcrop seen to explain the source of the anomaly. This is most likely within a lease held by Electrolytic Zinc Co. Ltd. over the Comstock workings. E.Z. have no objections to an initial follow up of the anomaly by Abminco.

The complex of anomalies to the south of the "Big One" is known to be caused by Cambrian gabbro.

(7) "Junction"

From reconnaissance in this area, only Onah Quartzite and slate is known. Geological mapping and ground magnetic traverses are planned before further follow up is recommended. Amplitude is approximately 70 gammas.

(8) "North West"

The geology here has not been examined, but the anomaly is close to a Jurassic dolerite sheet. Geological reconnaissance and a ground magnetic survey are planned.

GEOLOGICAL MAPPING

The objective of the geological mapping was to provide control for interpretation of the airborne magnetic survey. Aerial photographs, enlarged to a scale of 1:10,000, were used. Coverage was concentrated on the strike extensions of Queen Hill and Severn stratigraphy.

Much of the geological information gathered confirmed previous mapping by the State Geological Survey and other companies. Some additional detail was gained along strike to the south west, where the massive quartzite marker horizon known at Queen Hill, was demonstrated to continue nearly 1 km south west from Queen Hill. This marker is not known to the south or west of the major fault trending north west between the Manganese Hill and Tramway grids. (See Plates QH 86A and B.)

Within the area of the Severn mineralisation, a fault interpretation explains the close contact between the massive quartzite and the Crimson Creek Formation at the northern end of Queen Hill. This interpreted fault is shown on Plates QH 86A and B. The effect of this fault on the Severn mineralisation is to be investigated.

An integral part of the mapping programme was a compilation of previous data, such as distribution of lead-silver lodes, original companies' lease boundaries, and some early geological mapping. This compilation is shown on Plates QH 87A and B.

GEOCHEMISTRY

Bedrock auger geochemical sampling was conducted in August 1977, as an orientation programme over the Severn mineralisation. The aim of this programme was to determine if a geochemical halo existed over the mineralisation and, if it does, to develop a useful geochemical technique for detecting blind tin mineralisation.

Tin analyses were by XRF, and Cu Pb Zn by AAS following perchloric acid leach. Assay data has recently been received from the laboratory and has been briefly interpreted. The following preliminary observations are made on the results. (See Plates QH 89A and B.)

- 1) Tin values vertically above the Severn mineralisation are very low except for a few isolated values. Values are generally less than 40 ppm.
- 2) A zone, 100 x 75 metres on the east flank of Queen Hill and centred approximately at 1600N 825E, exceeds 100 ppm Sn. This does not coincide with any area of known mineralisation,
- 3) Lead shows several high values vertically above the Severn mineralisation with values up to 2250 ppm. However, values are erratic in their distribution.

Two interpretations are possible from these lead results:

- a) they represent a halo over the top of the blind Severn tin mineralisation, or
 - b) they represent a leakage along a fault zone interpreted as striking parallel to State Grid North and roughly coincident with Fowler Street.
- 4) Zinc values have a wider distribution than the lead of similar magnitude; whether this is due to primary or secondary dispersion is not known.

The orientation geochemical data is to be closely evaluated in an effort to decide on the applicability of geochemical methods in further tin exploration at Zeehan.

WORK PLANNED

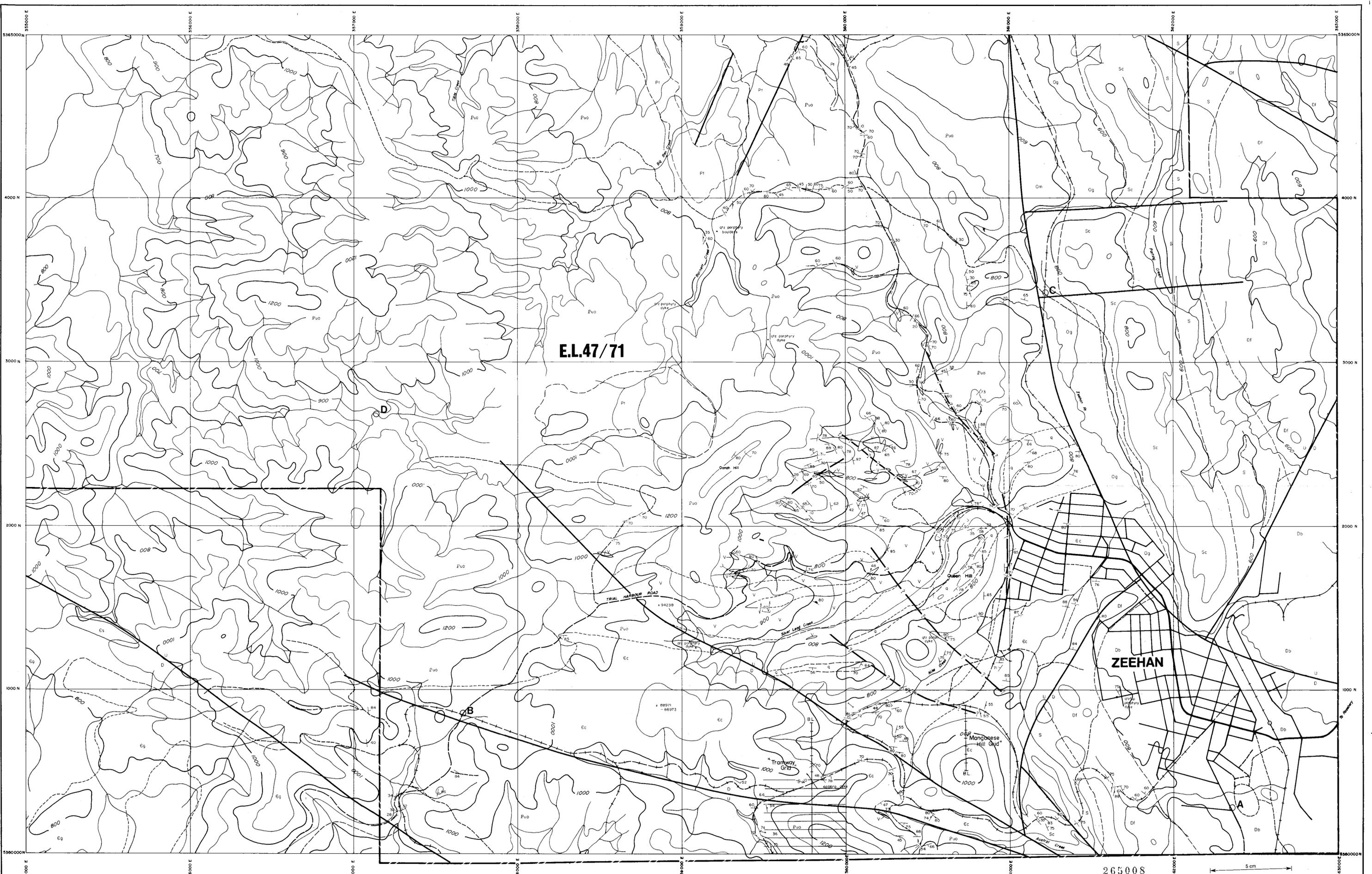
- . Ground proton precession magnetometer survey and geological mapping at 1:1,000 scale on the Tramway and Manganese Hill grids.
- . Evaluation of orientation geochemistry
- . Reconnaissance ground magnetic traverses over the North West and Junction anomalies in the western part of the licence.
- . Detailed 1:500 scale mapping on Queen Hill oriented towards establishing ore control.
- . Re-appraisal of the geology of Queen Hill and Severn mineralisation.

REFERENCES

Simpson, D.C. (1977) Progress Report on Queen Hill Area. Consolidated Lease 43M/73 and surrounding E.L. 47/71, Tasmania. for six months ending 30.6.77.
Rept. Abminco Exploration Division 77/42

Signed: D.C. Simpson
D.C. Simpson *per J.*
Geologist

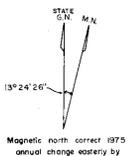
Endorsed: _____
K.R. Yates
Chief Geologist



E.L.47/71

ZEEHAN

Manganese Hill and Tramway Grids
as at 13th March, 1978

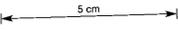


Contour interval 100 feet

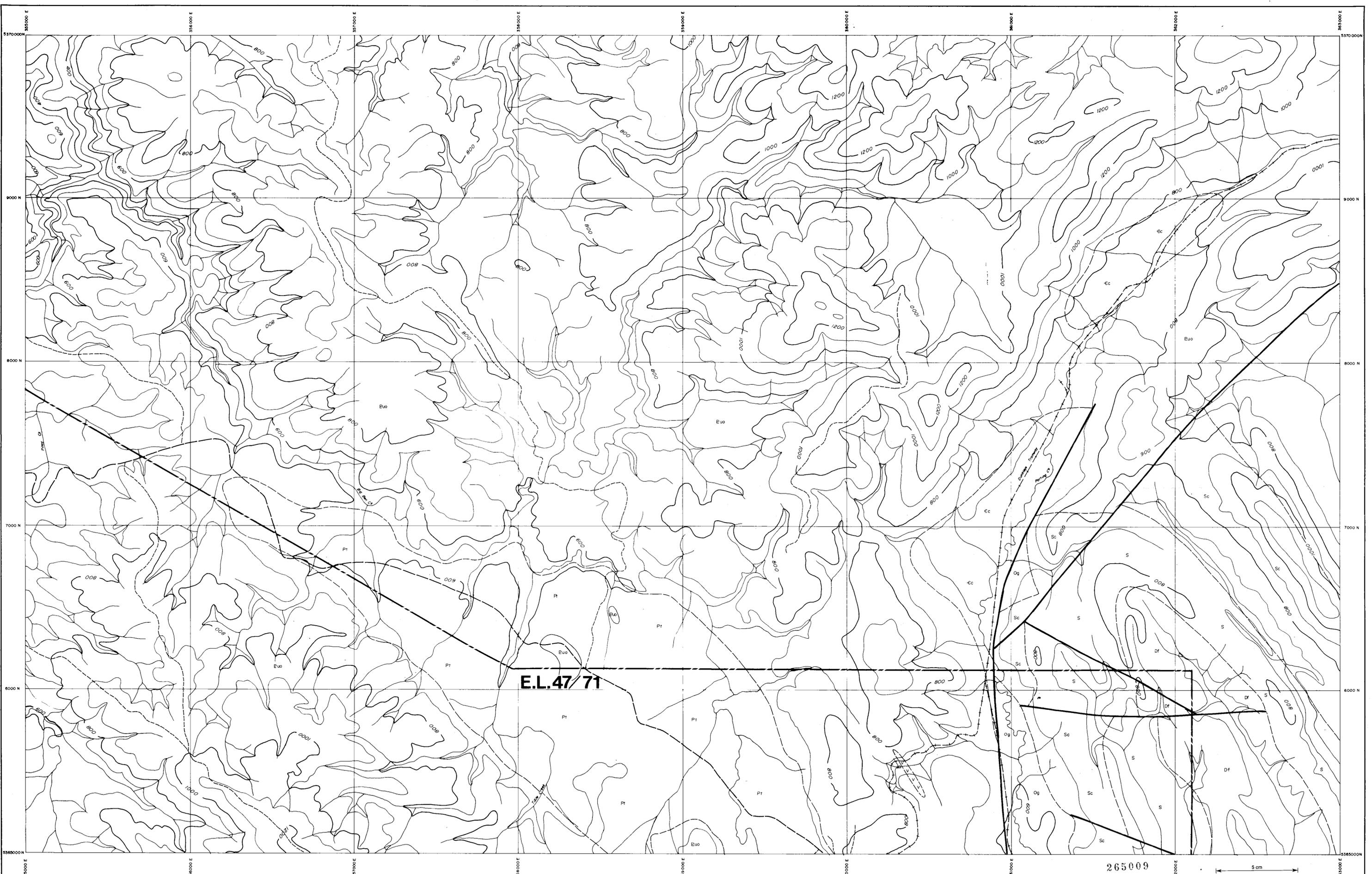
For geological legend
see Plate QH 88

347/370	355/370	363/370
347/365	355/365	363/365
347/360	355/360	363/360

265008

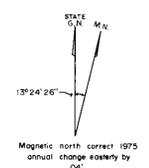


		73-1261	
		Location code: K55/5/50	
NORTH WEST TASMANIA QUEEN HILL, E.L. 47/71		Date: Feb 1978	
GEOLOGICAL MAP		Scale: 1:10,000	
3305		Plate No: QH 86 A	
Geology: AE Drawn: AE Traced: RKY/JJB Checked: Revised by:	Date:		



E.L. 47/71

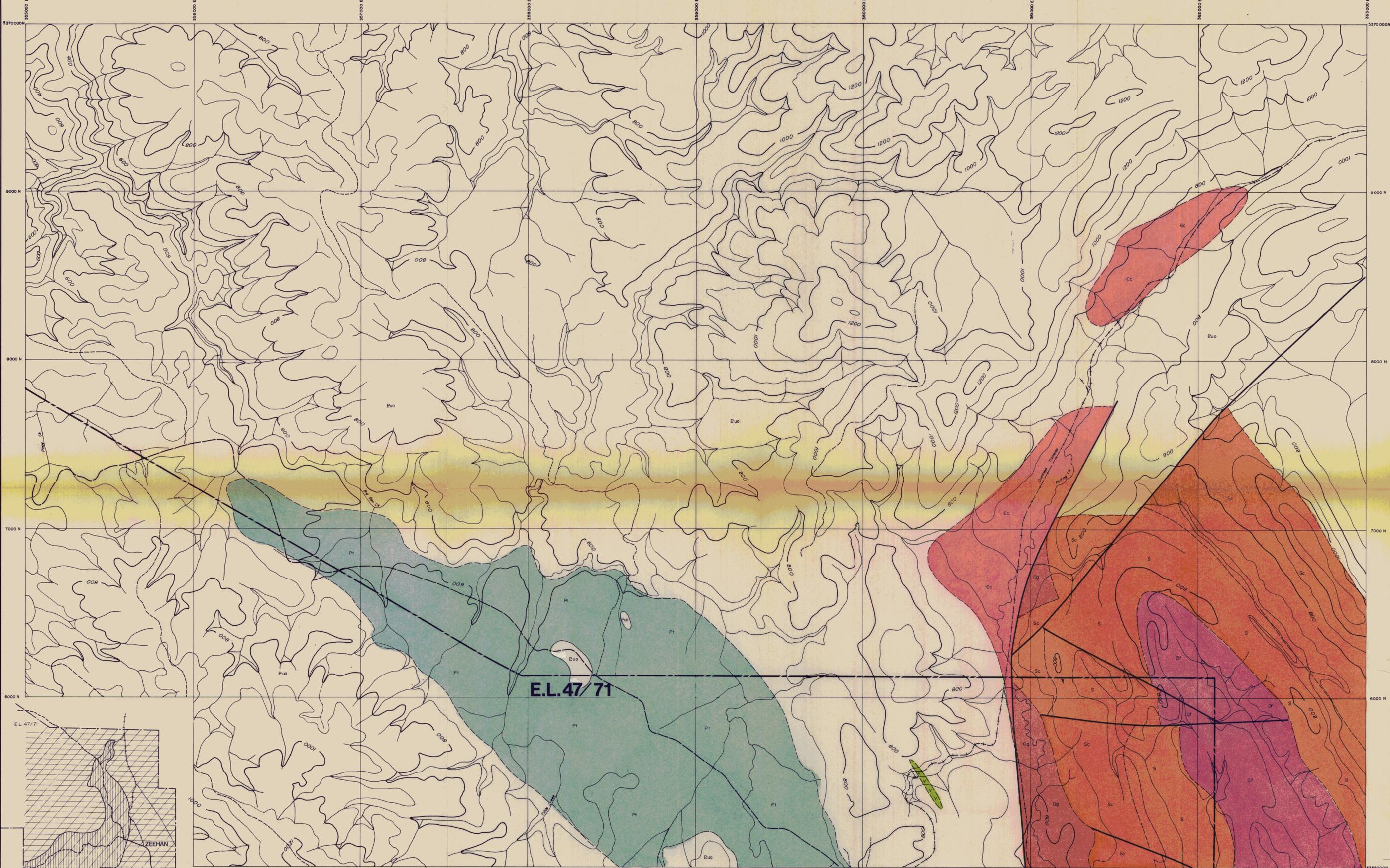
265009 5 cm



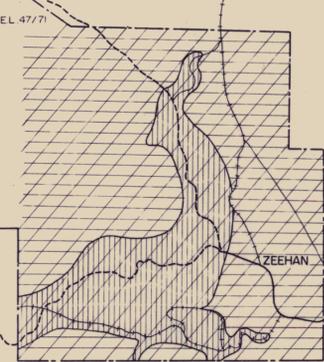
Contour interval 100 feet
For geological legend
see Plate QH 88

347/370	355/370	363/370
347/365	355/365	363/365
347/360	355/360	363/360

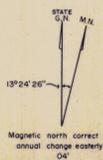
Abminco Exploration		79-1261
NORTH WEST TASMANIA QUEEN HILL, E.L. 47/71 3306		Location code: K55/5/50
Geology: AE		Date: Feb 1978
Drawn: AE		Scale: 1:10,000
Traced: JJB		Plate No: QH 86 B
Checked:		
Revised by:	Date:	



E.L. 47/71



- 1:10,000 mapping & compilation from previous CEPL work.
- Compilation of work by Walter 1903, Twitvelres & Ward 1910, Bissett 1962
- Aerial photograph interpretation and reconnaissance traverse



Contour interval 100 feet

For Geological Legend
See Plate QHBB

347/370	355/370	363/370
347/365	355/365	363/365
347/360	355/360	363/360

265010



Abminco Exploration		78-1261.
NORTH WEST TASMANIA 3307		Location code: K55/5/50
QUEEN HILL, E.L. 47/71		Date: Feb 1978
GEOLOGICAL COMPILATION MAP		Scale: 1:10,000
Geology: A E	Drawn: A E	Traced: JUB RJE
Checked:	Revised by:	Date:
		Plate No: QH87a

LEGEND

PERMIAN	32	Pt	Zeehan Glacial Formation
	23	Db	Bell Shale
DEVONIAN	23	Df	Florence Quartzite
	59	S	Undifferentiated Formations Austral Creek Siltstone Keel Quartzite Amber Slate
SILURIAN	59	Sc	Crotty Quartzite
	63	Og	Gordon Limestone
ORDOVICIAN	63	Om	Moina Sandstone
	21	Ec	Crimson Creek Formation
PROTEROZOIC	68	Puo	Oonah Quartzite and Slate
	6	q	Queen Hill Quartzite
	47	v	Basic Volcanics

IGNEOUS ROCKS

	Quartz feldspar porphyry, quartz porphyry	
49	Eg	Gabbro
49	Es	Serpentinite

SYMBOLS

	Open cut
	Adit
	Shaft
	Old mine workings
	Unsealed roads
	Major roads - sealed
	Tramways
	Tracks
	Reference point for flight lines and magnetic overlay, XQH 21 a,b,c.

	Geological boundary - position accurate
	Geological boundary - position approximate
	Geological trend lines
	Strike and dip of beds
	Strike and dip of cleavage
	Strike and dip of schistosity
	Strike and dip of shearing
	Strike and dip of flow banding
	Strike and dip of joints
	Plunge of fold axis
	Plunge of drag fold
	Plunge of anticline
	Plunge of syncline
	Established fault with relative movement
	Interpreted fault, air photo linear
	Lodes with relevant mineralisation and dip direction. Pb, Zn, Ag
	Interpreted underground extension of lode
	C.E.P.L. and Abminco diamond drill hole location
	Placer diamond drill hole location
	BDI Bradshaws Drill hole
	Abminco E.L. boundary
	Mineral claim boundary

NOTE: Zeehan South Comstock Ltd. - Company operating the old mining leases.

NOTE: The shafts, adits and old workings in the Queen Hill area have been omitted for the sake of clarity.

NOTE: Quaternary deposits were not distinguished during mapping.

NOTE: THIS LEGEND REFERS TO PLATES QH 86a,b and QH87a,b.

Abminco Exploration		265012
Geology:	QUEEN HILL AREA - TASMANIA 3303 GEOLOGICAL LEGEND	
Drawn: A.E.		
Traced: A.E.R.		
Checked:		
Revised by: Date:		
Location code:		QH 88
Date: February 1978		
Scale:		
Plate No:		

78-1261

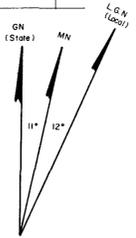
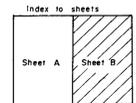


265013

A Abminco Exploration		78-123
NORTH WEST TASMANIA Queen Hill Joint Venture 3310		Location code
Geology	Drawn D.C.S.	Date Feb 1978
Traced J.B.	Checked J.B.	Scale 1:500
Revised by	Date	Plate No.
Bedrock Geochemistry		QH 85A



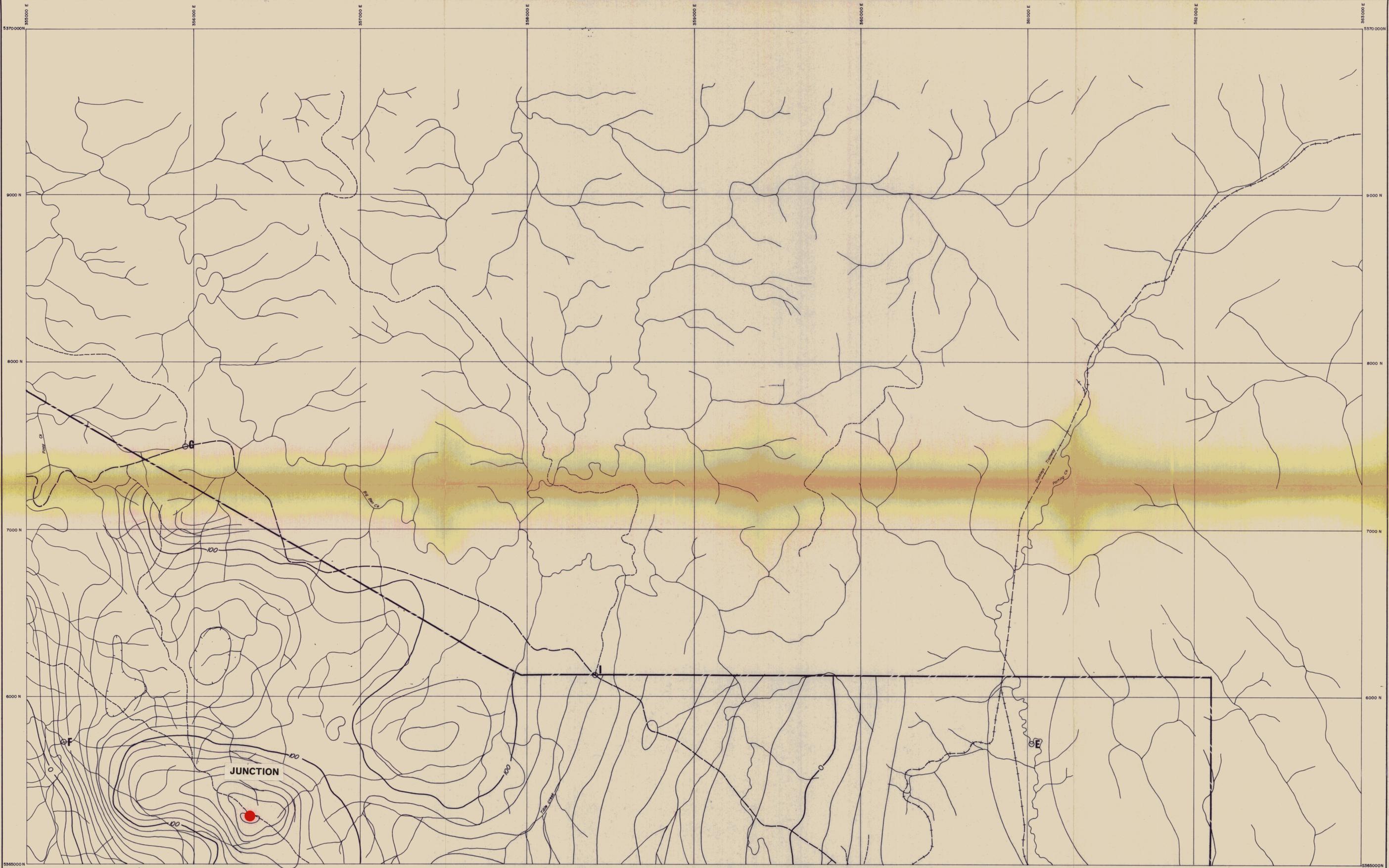
211694 Sample Number
6,100,100,125 Sn, Cu, Pb, Zn in p.p.m



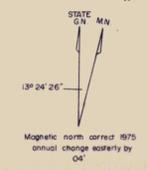
1250 E
5 cm

265014

Abminco Exploration NORTH WEST TASMANIA Queen Hill Joint Venture 3311 SEVERN AREA Bedrock Geochemistry		Location code
		Date Feb 1978
Geology Drawn D C S Traced R J E Checked Revised by Date		Scale 1:500 Plate No QH89 B



- Main Road
- Minor Road or track
- Railway
- River or creek



Magnetic north correct 1975
annual change approximately
04'

347/370	355/370	363/370
347/365	355/365	363/365
347/360	355/360	363/360

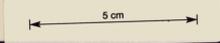
AEROMAGNETIC ANOMALY

Contour interval 10 gammas

Reference point for flight paths

Flown by Geox Pty. Ltd., December, 1977
Line Spacing = 150 metres
Altitude flown = 60 metres
Readings taken every 0.8 Secs
Instrument used was a Geometrics G803 proton precession magnetometer

265015

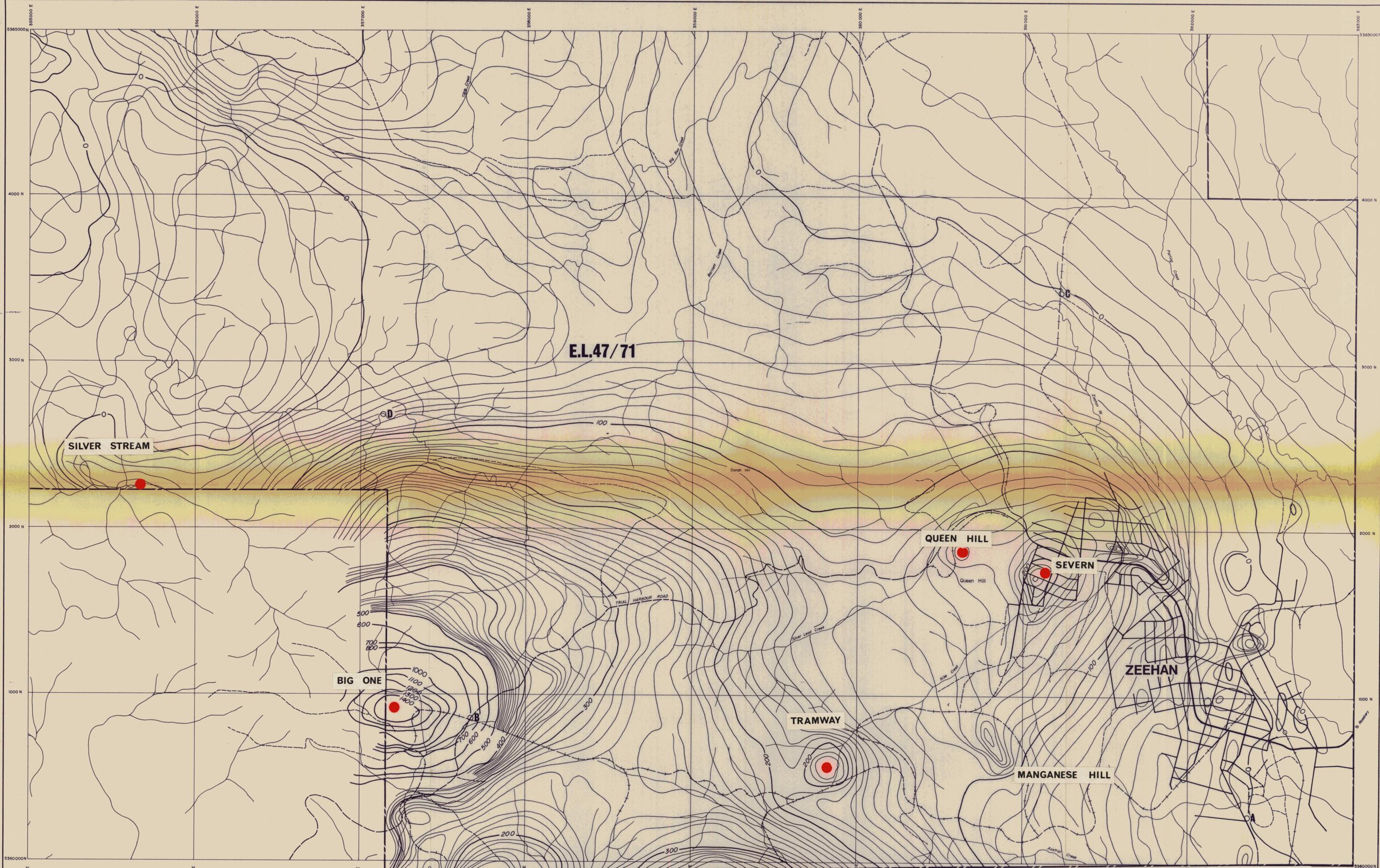


Abminco Exploration

NORTH WEST TASMANIA 3312
QUEEN HILL E.L. 47/71
AEROMAGNETIC CONTOURS

78-1261
Location code: K55/5/50
Date: March, 1978
Scale: 1:10,000
Plate No: QH90a

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



E.L.47/71

SILVER STREAM

BIG ONE

TRAMWAY

MANGANESE HILL

ZEEHAN

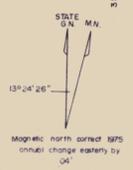
SEVERN

QUEEN HILL

265016



- Main Road
- Minor Road or track
- Railway
- River or creek



347/365	355/365	363/365
347/360	355/360	363/360
347/355	355/355	363/355

AEROMAGNETIC ANOMALY
Contour interval: 10 gammas

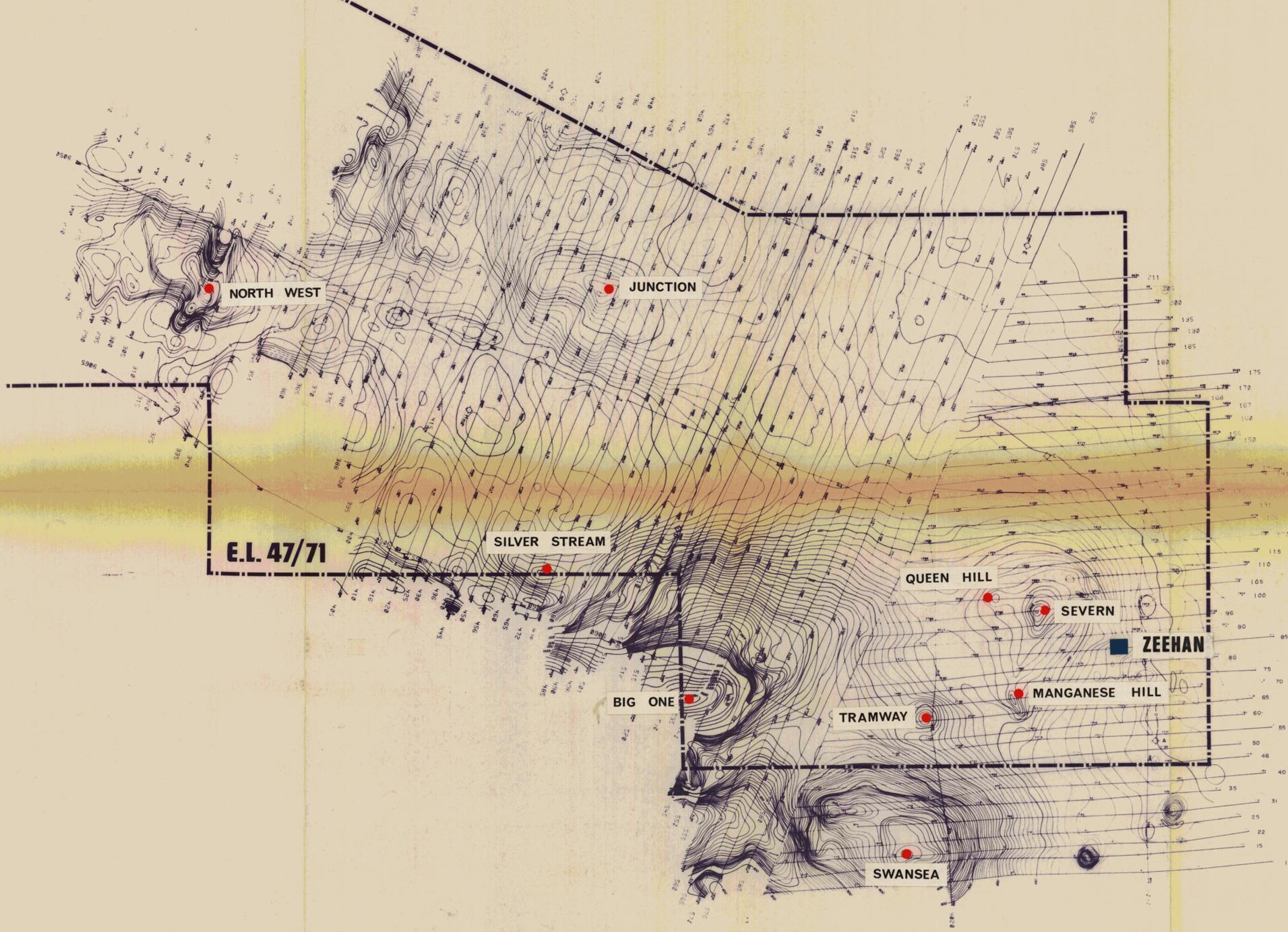
Reference point for flight paths

Flown by Geox Pty Ltd., December, 1977
Line Spacing: 50 metres
Altitude flown: 60 metres
Readings taken every 0.8 Secs.
Instrument used was a Geometrics G803 proton precession magnetometer

Abminco Exploration		Location code: K55/5/50	
		Date: March, 1978	
NORTH WEST TASMANIA 3313		Scale: 1:10,000	
QUEEN HILL E.L. 47/71		Plate No	
AEROMAGNETIC CONTOURS		QH 90 b	
Geology:		Drawn:	S.S.W.
Traced:	R.J.E.	Checked:	
Revised by:		Date:	



LICENCE BOUNDARY



E.L. 47/71

5 cm

Kms 0 1 2 Kilometres

LEGEND: 15 — Flight line and number
 E O Reference point for flight path

NOTE: Contour interval is 10 gammas

Flown by Geox Pty Ltd, December 1977

Line Spacing = 150 metres
 Altitude flown = 60 metres
 Readings taken every 0.8 Secs.
 Instrument used was a Geometrics G803 proton precession magnetometer.

AEROMAGNETIC ANOMALY 265017

Abminco Exploration

Drawn by Geox P/L	TASMANIA 3314	Location Code
Traced by A.E.R.	QUEEN HILL E.L. 47/71	Date March 1978
Geology by	Aeromagnetic Contour Compilation	Scale 1:25,000
Checked by		Plate no. QH 91
Revised by		