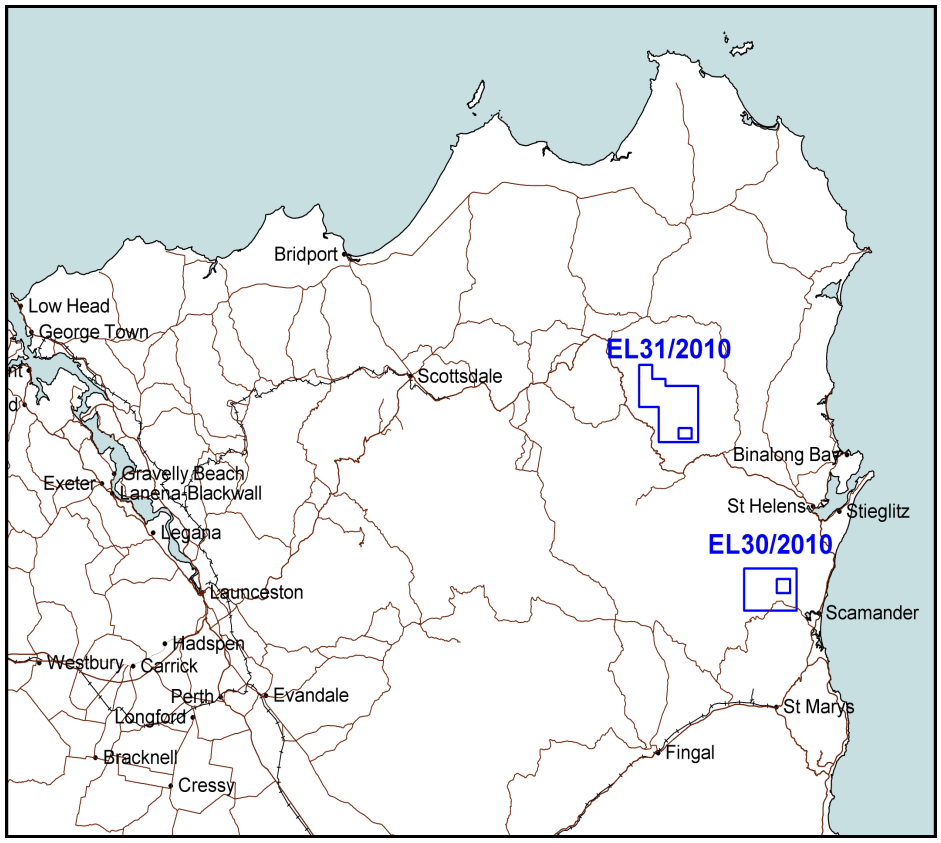
Review of Prospectivity and Exploration Potential

EL 30/2010 & EL 31/2010
Northeast Tasmania



For

Jiyuan Mining Pty Ltd

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J. Pemberton

October 2014

RON GREGORY
Prospecting

Contents

Introduction

Jiyuan Mining Pty Ltd (Jiyuan) hold two exploration licences (ELs) with a total area of 106 km^2 in northeast Tasmania, at Poimena and Upper Scamander. The geology underlying both ELs and the surrounding region, comprises a folded basement association of Devonian granitic intrusions hosted in Siluro-Devonian meta turbidites, locally overlain by erosional remnants of post orogenic, flat lying Permo-Triassic and Cenozoic sediments, and Tertiary basalts (Figures 1 & 2). All significant primary metallic mineralisation is genetically related to the Devonian granitic rocks and is hosted in either the granites or the overlying Mathinna Supergroup meta turbidites. Placer mineralisation derived from the granites is hosted in Tertiary-Quaternary fluvial sediments but only minor occurrences exist within the Jiyuan ELs.

Jiyuan is about to commence a substantial exploration program in northeast Tasmania. This report is intended to provide the Company with an overview of the economic geology within their ELs and to advise on the potential for cost effective exploration investment both within the ELs and also within the overall northeast Tasmanian region of mineralised granitic rocks. The report reviews previous exploration on the ground now held by Jiyuan and presents a compilation of references and maps showing the best available images of the geography, geology and airborne geophysics over both ELs.

Although the granite-sourced mineralising systems can be shown to be zoned and polymetallic, particularly around Upper Scamander where minor vein style copper, tungsten and silver–lead-zinc exists (Groves, 1972), tin is the only metal which has supported significant profitable mining previously in the region and, in the opinion of the authors of this report, tin is the one commodity with genuine potential to yield additional viable resources if well designed and executed exploration is applied to the best targets.

The reasoning behind these assertions and recommendations will be developed throughout the remainder of this report.

Regional Geology

EL 30/2010

The most recent geological mapping that covers the licence area was completed by Worthing and Woolward in 2010 and reported in the Mineral Resources Tasmania Explanatory Report for Dublin Town (5840), Brilliant (5841), Falmouth (6040) and Beaumaris (6041) 1:25 000 geological map sheets. This work aimed to provide structural and stratigraphic information from the Mathinna Supergroup to assist in the production of a 3D model for northeast Tasmania.

Prior to this work the 1:50 000 St Helens map sheet was the most detailed regional geological information available (see McCleneghan et al., 1992). Regional structural studies by Taylor (1992), Keele (1994) and Reed (2001) in combination with the geological mapping described by Seymour (2014) have resulted in a revised stratigraphy for the Mathinna Supergroup.

The geology of the licence area is dominated by the Mathinna Supergroup low grade meta sedimentary rocks as seen in the simplified map (Figure 1). The purple is the Mathinna Supergroup, a thin section of the Devonian Catos Creek Dyke outcrops in the southwest corner and is composed of granodiorite, quartz porphyry and adamellite (Dgrv). There is contact metamorphism along the northern boundary from the Devonian I-type Blue Tier Batholith (red cross over purple).

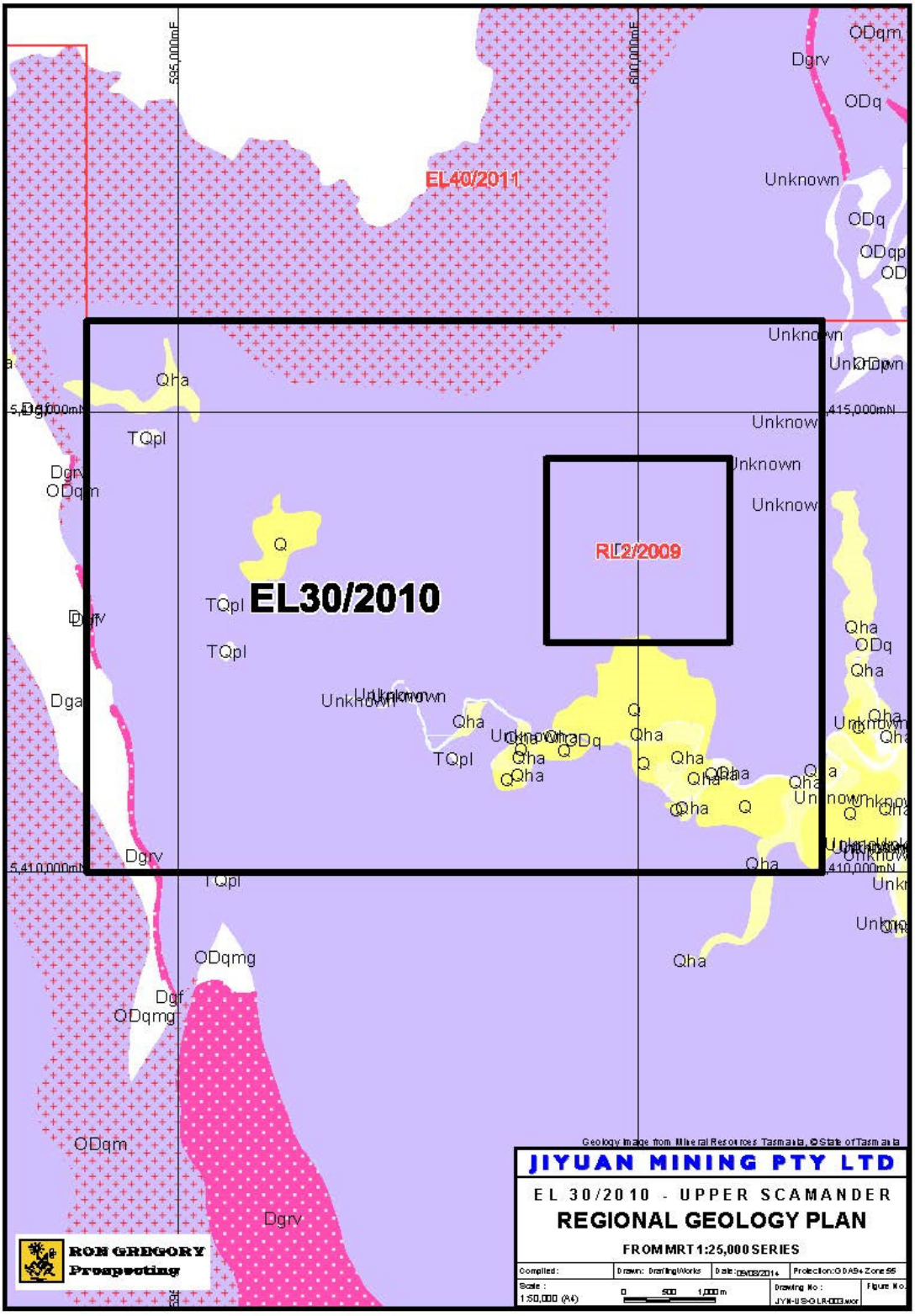


Figure 1 Regional geology EL 30/2010

EL31/2010

The Devonian granites of north east Tasmania intrude the Ordovician-Silurian Mathinna Supergroup sediments. The Blue Tier Batholith comprises early mafic granodiorites to late leucocratic granites (see Groves et al., 1977). The dominant type is the medium to coarse grained porphyritic I-Type Poimena Granite (pink with a cross on map below) intruded by the biotite-muscovite S-type Lottah Granite which carries the tin mineralisation (even coloured Dg_1 below).

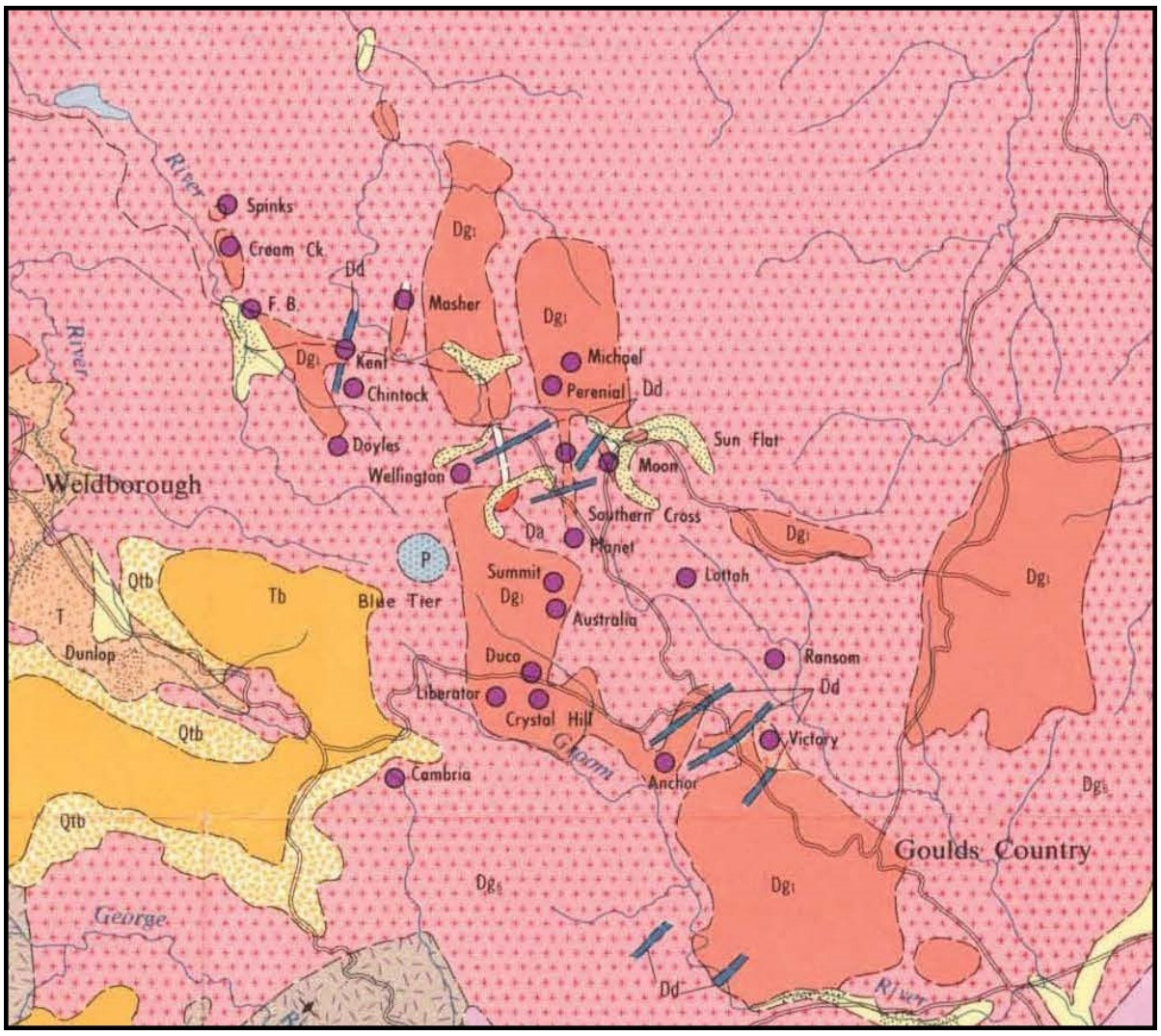


Figure 2 Regional Geology EL 31/2010 from Groves et al., 1977.

In the Blue Tier Batholith activity lasted for about 23 Ma with the initial intrusion of the Poimena at about 378 Ma and ending with the crystal fractionated Lottah Granite (McClenaghan, 2006).

Geography, Geology and Geophysics Map Set

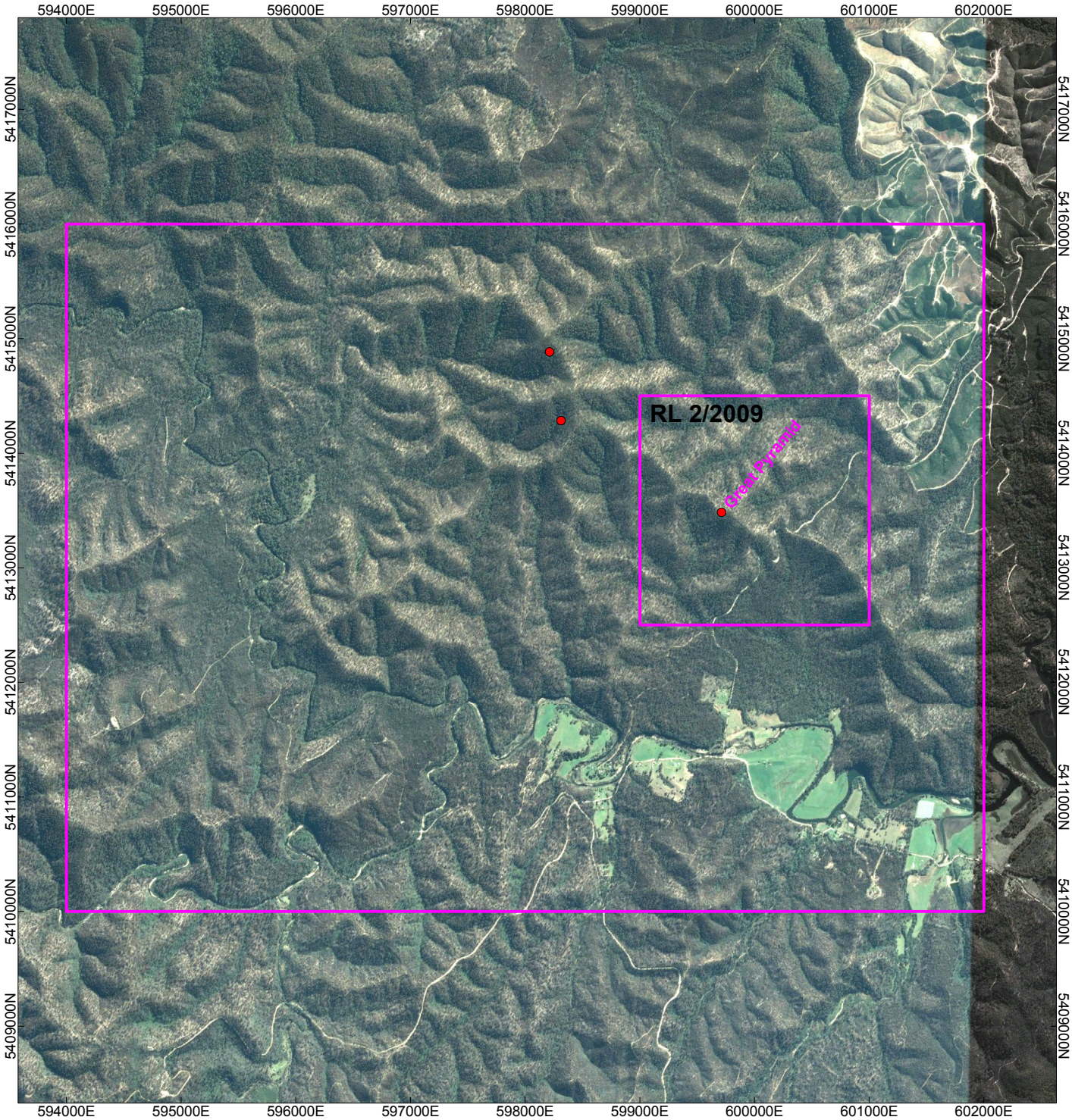
Figures 3 to 17 are an atlas-style coverage of the regional geography, geology and airborne geophysics over the two ELs. They consist of 14 maps and images and a legend for the granitic rocks on the two geology maps. Each EL is covered by; Google air photo, topographic map, digital terrain image (DTM), geology map, magnetics reduced-to-the-pole image (RTP), first vertical derivative enhancement of the RTP magnetics image (1VD-RTP) and total count radiometics image.

The geology maps are modified to highlight the granitic rocks, and the geophysical images chosen for inclusion in this report are considered by the authors to best present an overview of the most useful geophysics currently available.

All geophysical images are taken from the MRT 2007 Northeast Tasmania government airborne survey which was flown east-west with a 200 metre line separation over much of the northeast of the state. This survey provides full coverage over both EL30/2010 and EL31/2010. Although the data are the best available, this survey is considered ineffective at resolving the prospect scale detail needed to test for controls on mineralisation and the need for higher resolution geophysics will be discussed later in this report as part of the recommendations for prospect scale exploration.

Two other older airborne magnetic surveys cover EL30/2010 but data quality and resolution is significantly worse than the MRT 2007 survey. The only other known airborne survey was electromagnetics (Dighem II) flown in 1980 over the Great Pyramid – North Scamander area but it did not detect any significant conductive targets. None of these three surveys are described further in this report.

There has only been a small amount of ground-based geophysics surveyed by previous exploration companies, and most of these surveys are very localized at individual prospects. The majority of the data was surveyed in the late 1970's or early 1980's. The most extensive coverage appears to be induced polarization IP data which is limited to the Anchor area and surrounds. This IP data comprises late 1970's gradient array and vertical soundings but no dipole-dipole. The effectiveness of these IP surveys is questionable. Other geophysical surveys mentioned in old company reports include ground magnetics, as well as some electromagnetics, induces polarization, and downhole measurements; as a whole, these old data are poorly documented and most will be of little value in a modern exploration programme.



Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

1:50,000 when printed to scale

500 0 500 1000 1500

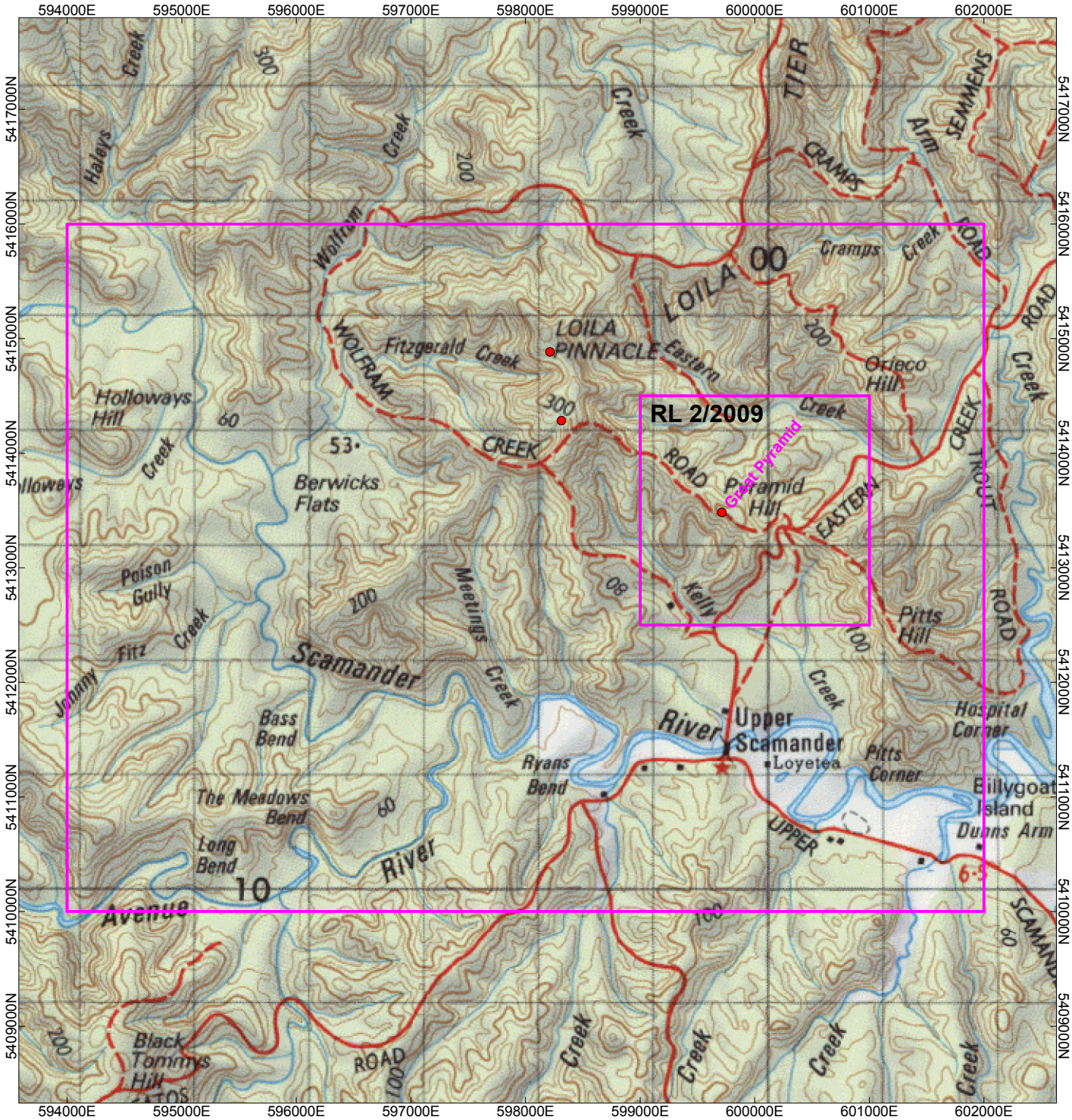
(meters)

GDA94 / MGA zone 55

Figure 3

EL 30/2010 - Upper Scamander

Google Earth



Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

1:50,000 when printed to scale

500 0 500 1000 1500

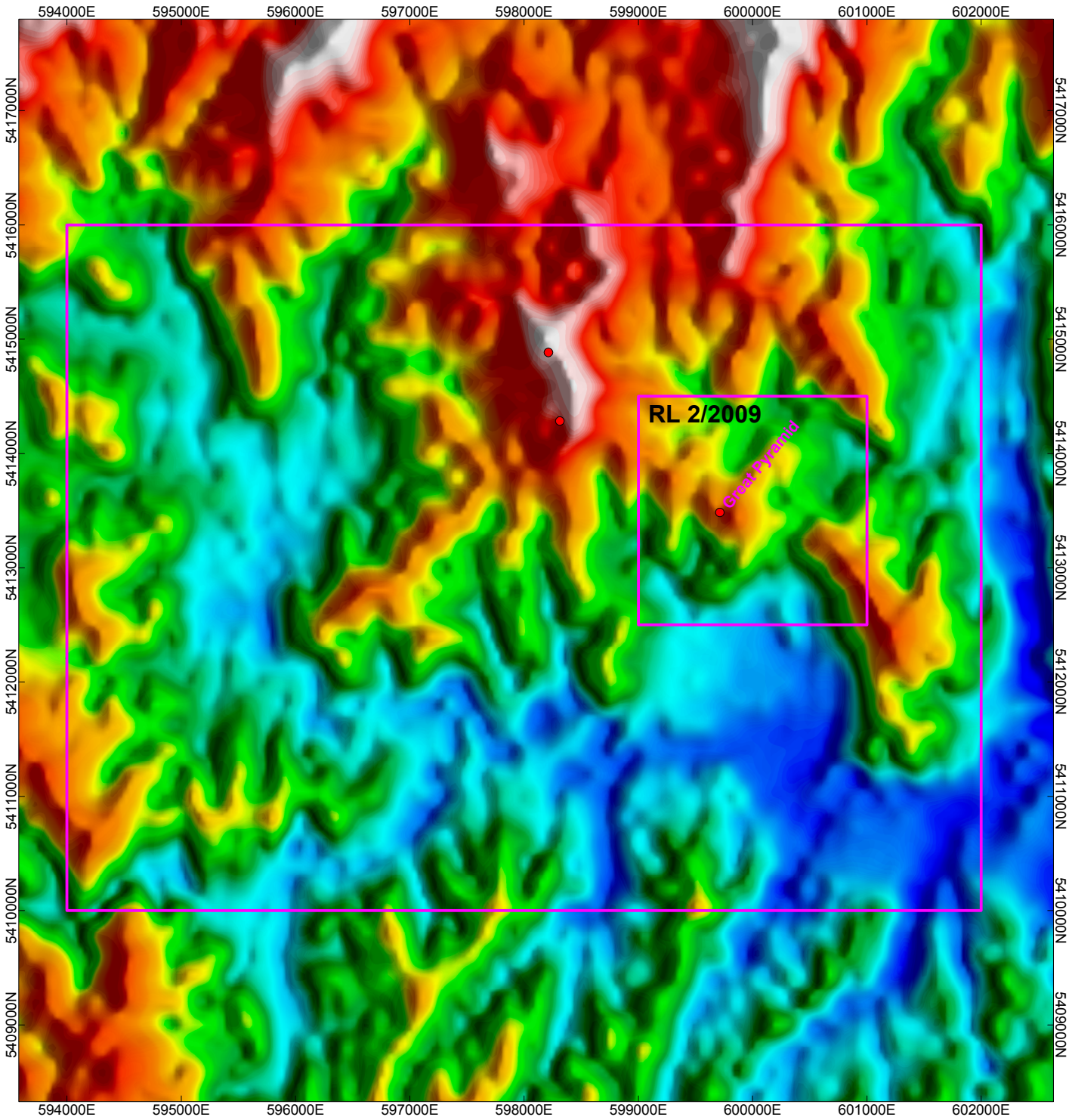
(meters)

GDA94 / MGA zone 55

Figure 4

EL 30/2010 - Upper Scamander

Topography



Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

1:50,000 when printed to scale

500 0 500 1000 1500

(meters)

GDA94 / MGA zone 55

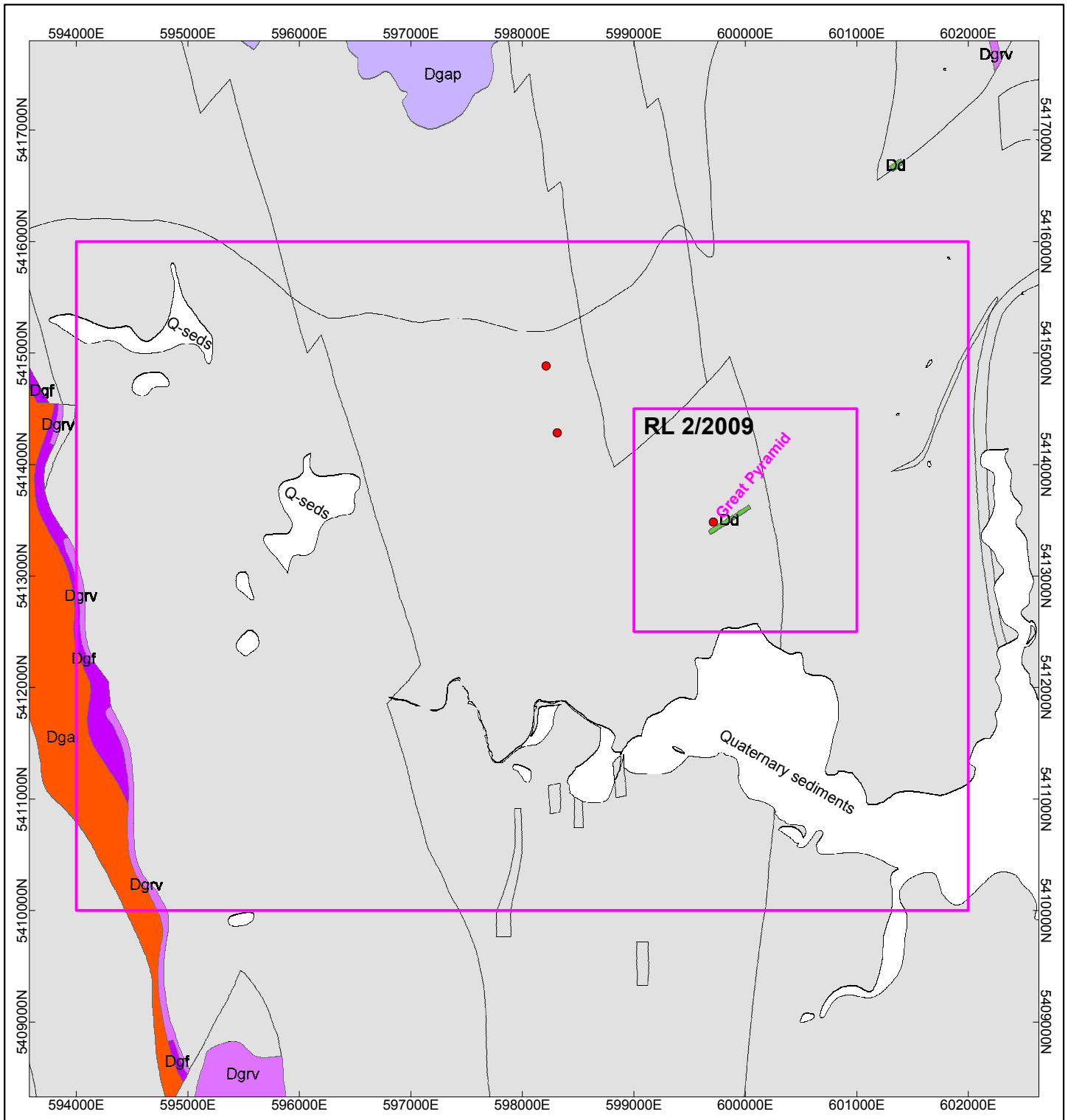
Figure 5

EL 30/2010 - Upper Scamander

Digital Terrain

293
218
175
143
121
103
88
74
58
42
18

DTM
(metres AHD)



Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

1:50,000 when printed to scale

500 0 500 1000 1500

(meters)

GDA94 / MGA zone 55

Figure 6

EL 30/2010 - Upper Scamander

Geology

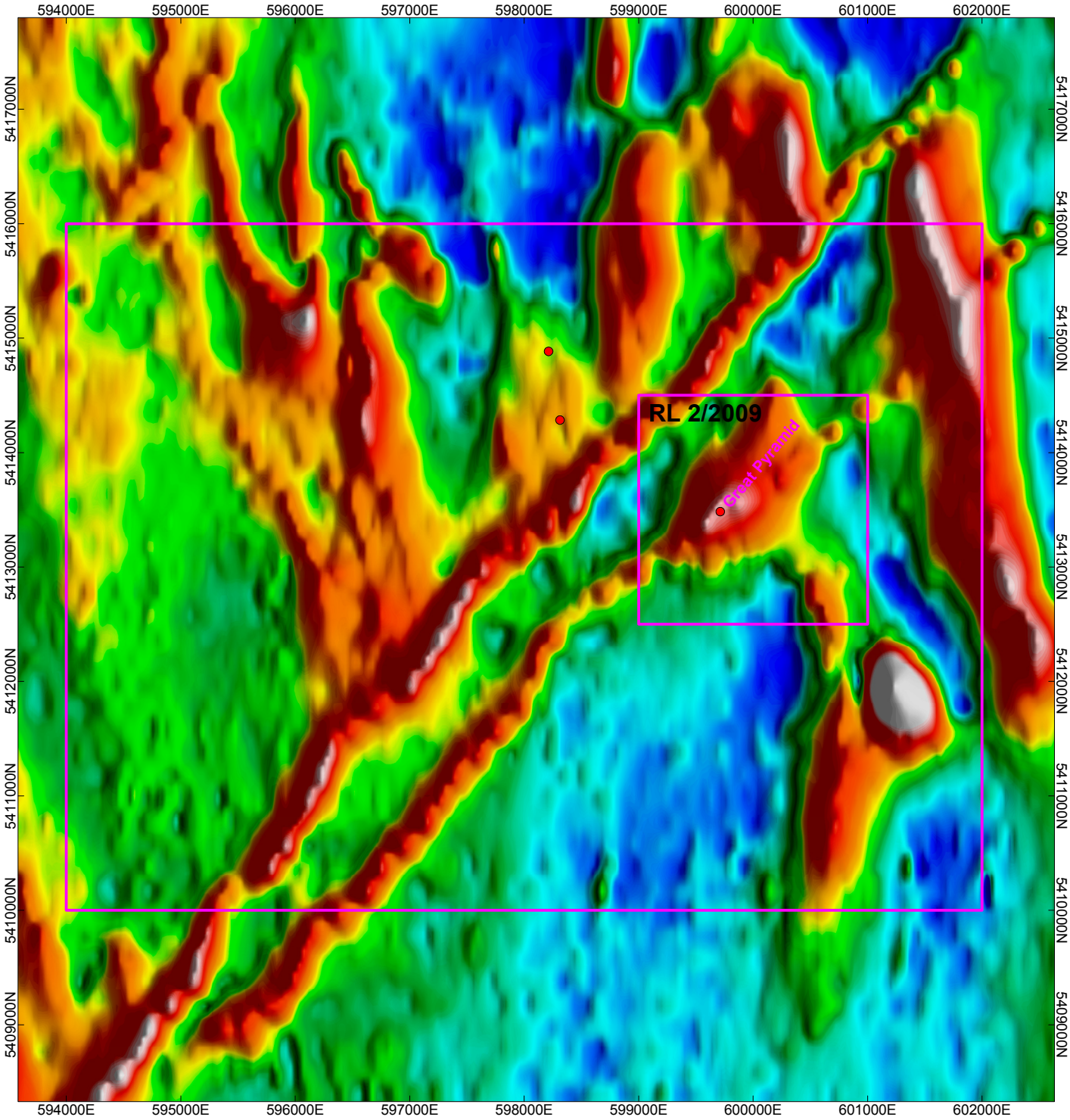
(MRT 25k mapping)

Granitic rock types

Dd Dgap Dgrv

Dgai Dgf

Siluro-Devonian
Mathinna Supergroup
Sedimentary Rocks



Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

1:50,000 when printed to scale

500 0 500 1000 1500

(meters)

GDA94 / MGA zone 55

Figure 7

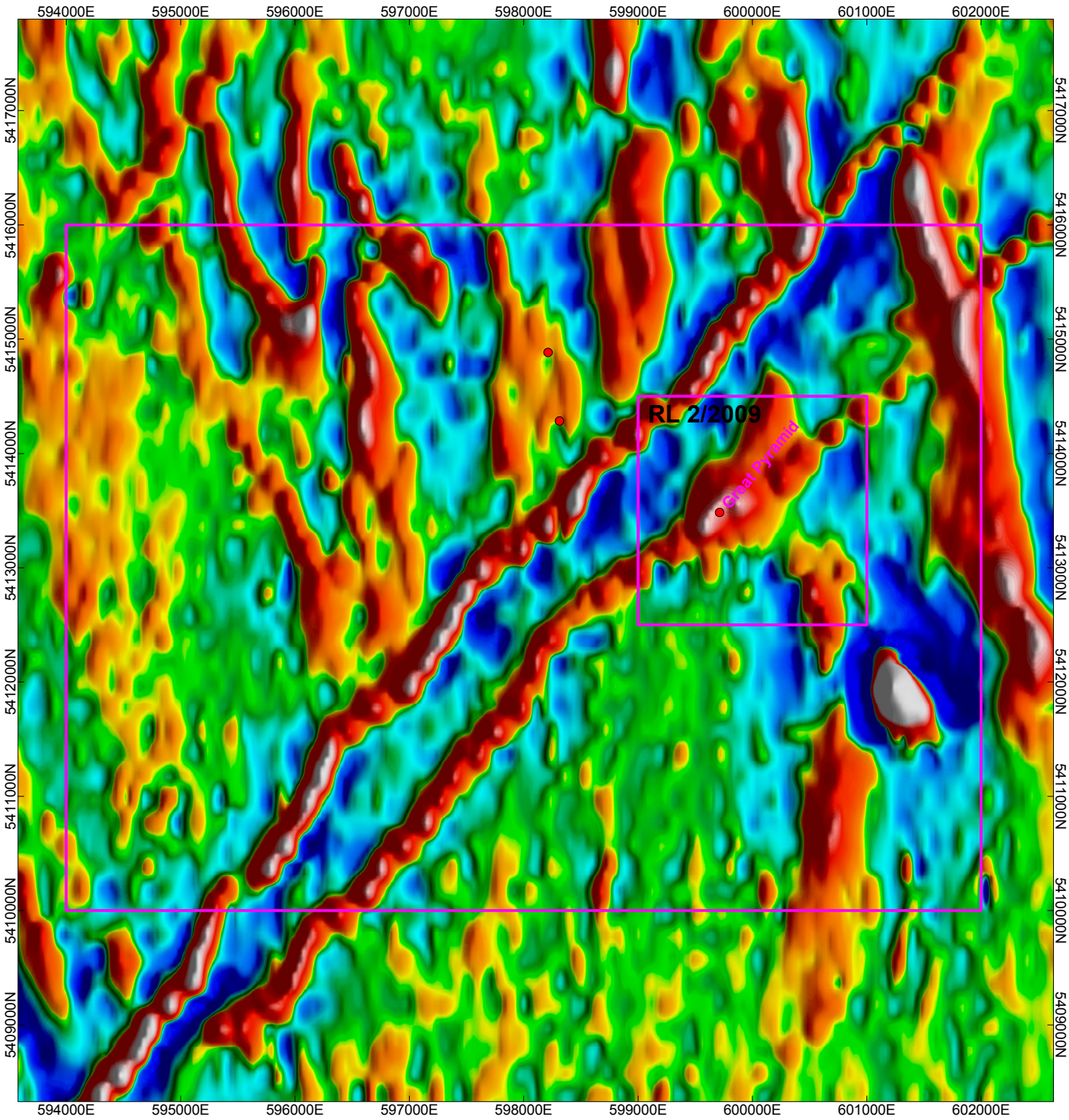
EL 30/2010 - Upper Scamander

Magnetics

Reduction to the Pole (RTP)

61282
61258
61251
61247
61245
61243
61241
61239
61237
61235
61233

RTP
(nT)



Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

1:50,000 when printed to scale

500 0 500 1000 1500

(meters)

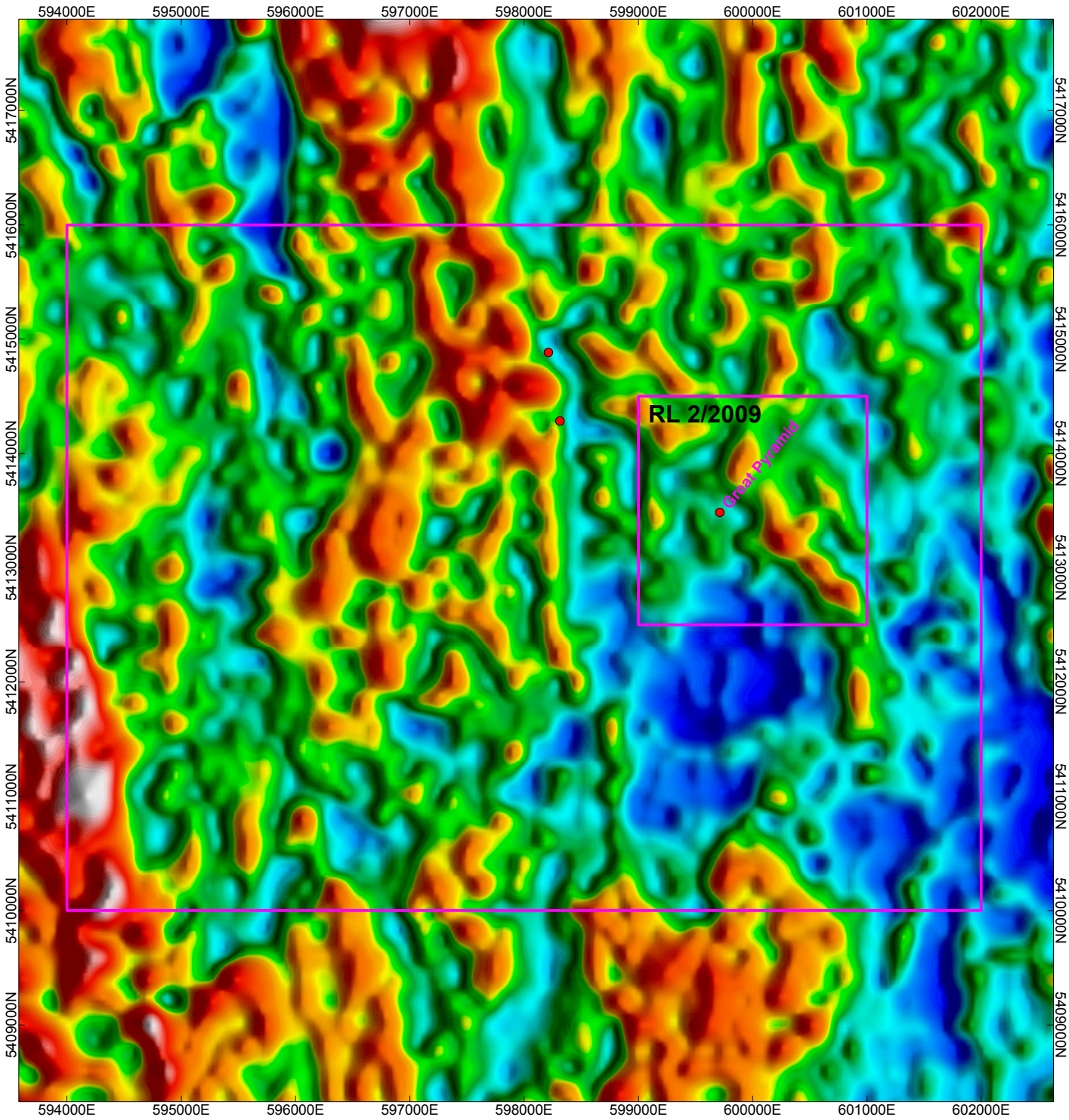
GDA94 / MGA zone 55

Figure 8

EL 30/2010 - Upper Scamander

Magnetics

First Vertical Derivative (1VD of RTP)



Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

1:50,000 when printed to scale

500 0 500 1000 1500

(meters)

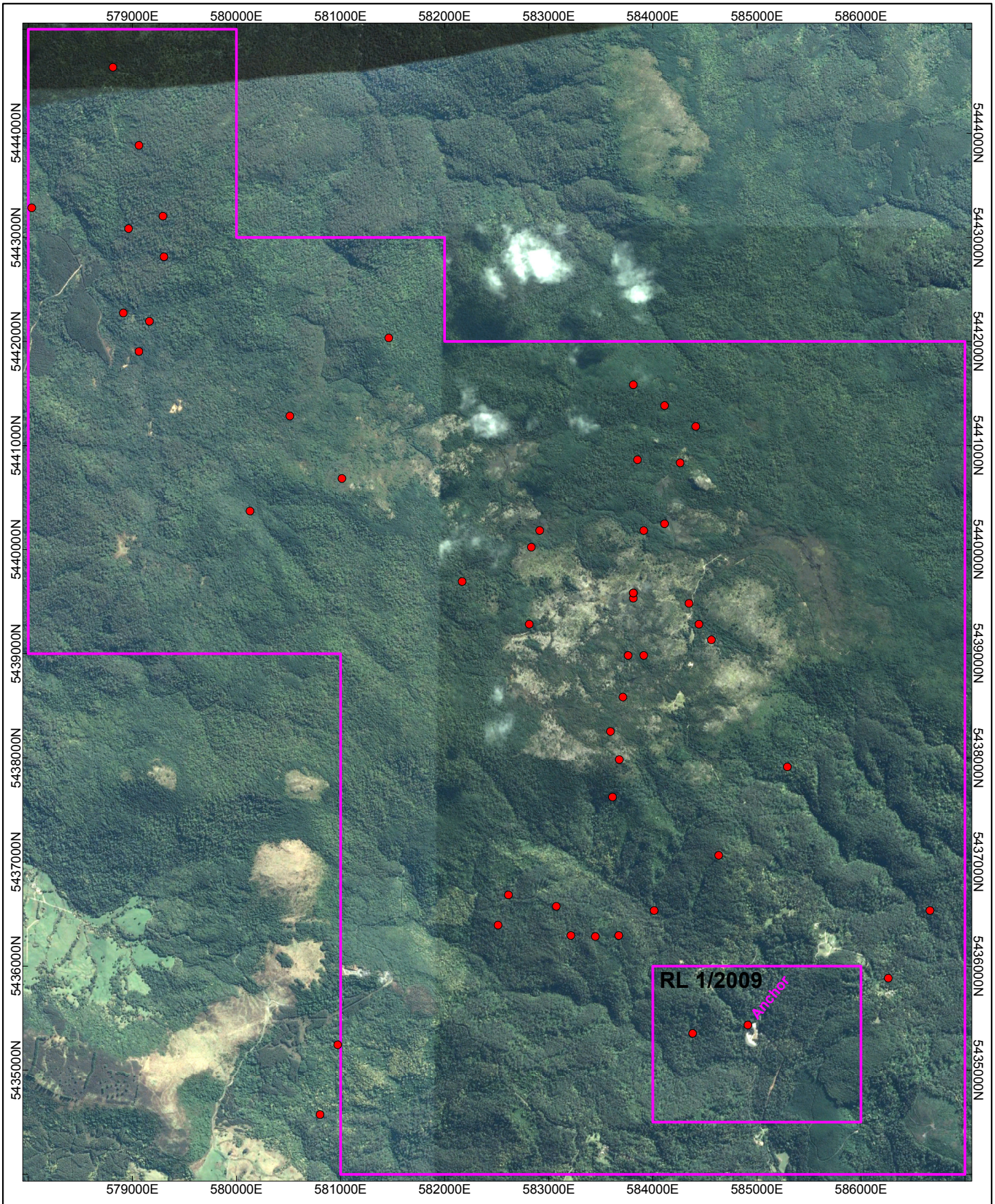
GDA94 / MGA zone 55

Figure 9

EL 30/2010 - Upper Scamander

Radiometrics

Total Count



Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

Figure 10

EL 31/2010 - Poimena

Google Earth

1:50,000 when printed to scale

500 0 500 1000 1500

(meters)

GDA94 / MGA zone 55

Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

Figure 11

EL 31/2010 - Poimena

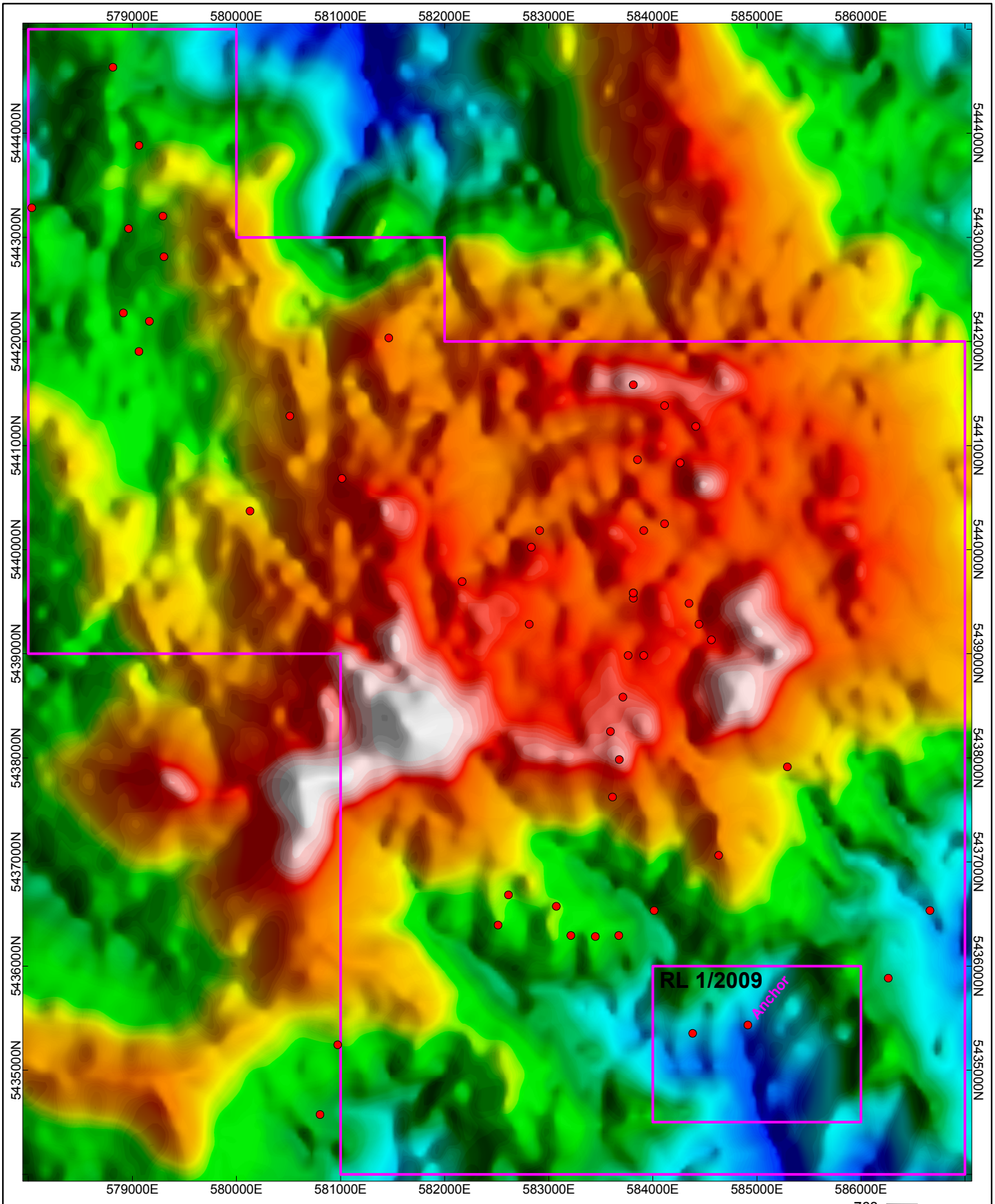
Topography

1:50,000 when printed to scale

500 0 500 1000 1500

(meters)

GDA94 / MGA zone 55



Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

Figure 12

EL 31/2010 - Poimena

Digital Terrain

763
719
660
594
541
494
456
419
378
322
244

DTM
(metres AHD)

1:50,000 when printed to scale

500 0 500 1000 1500

(meters)

GDA94 / MGA zone 55

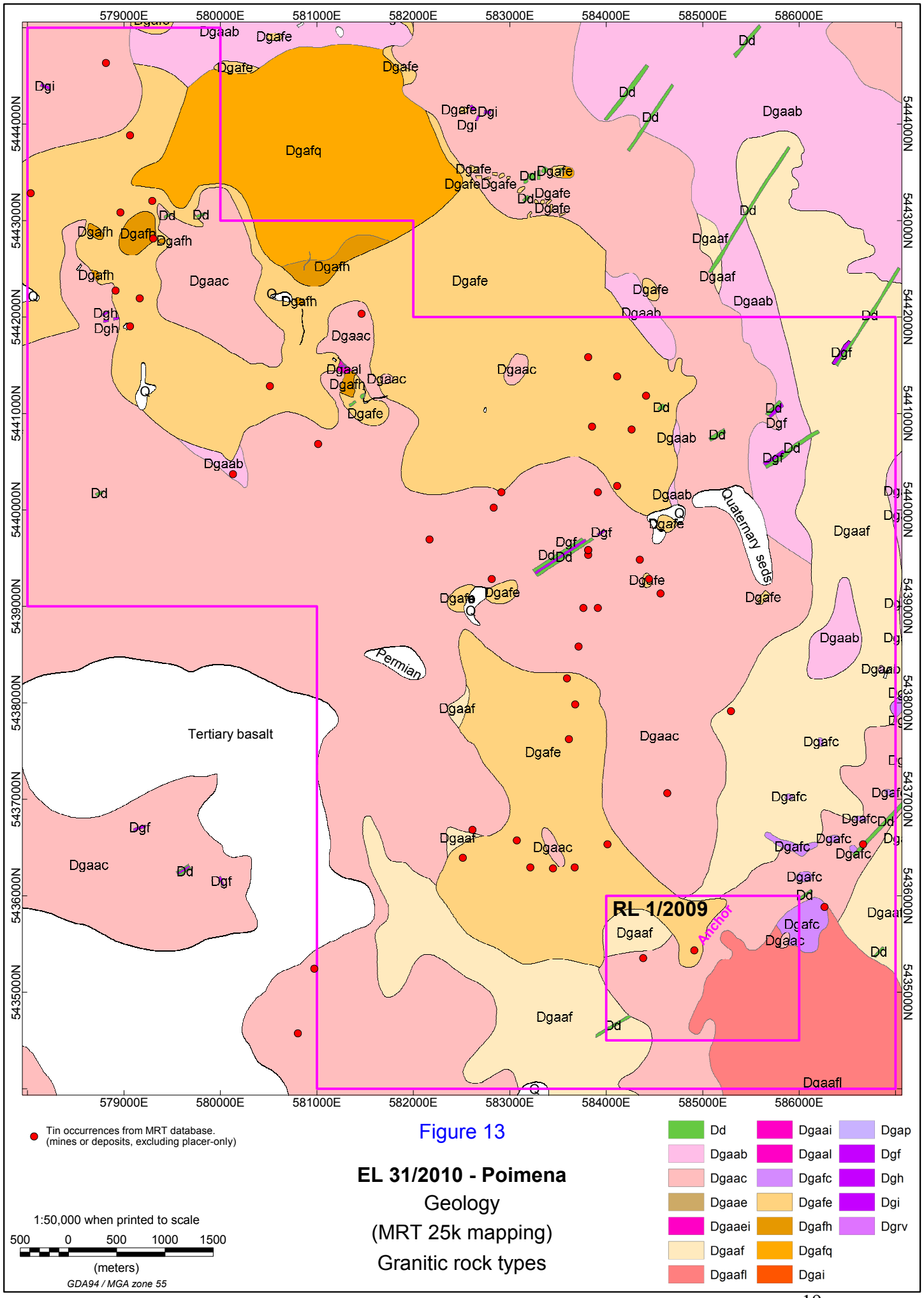


Figure 13

EL 31/2010 - Poimena

Geology

(MRT 25k mapping)

Granitic rock types

Key to Devonian granitoids and related rocks

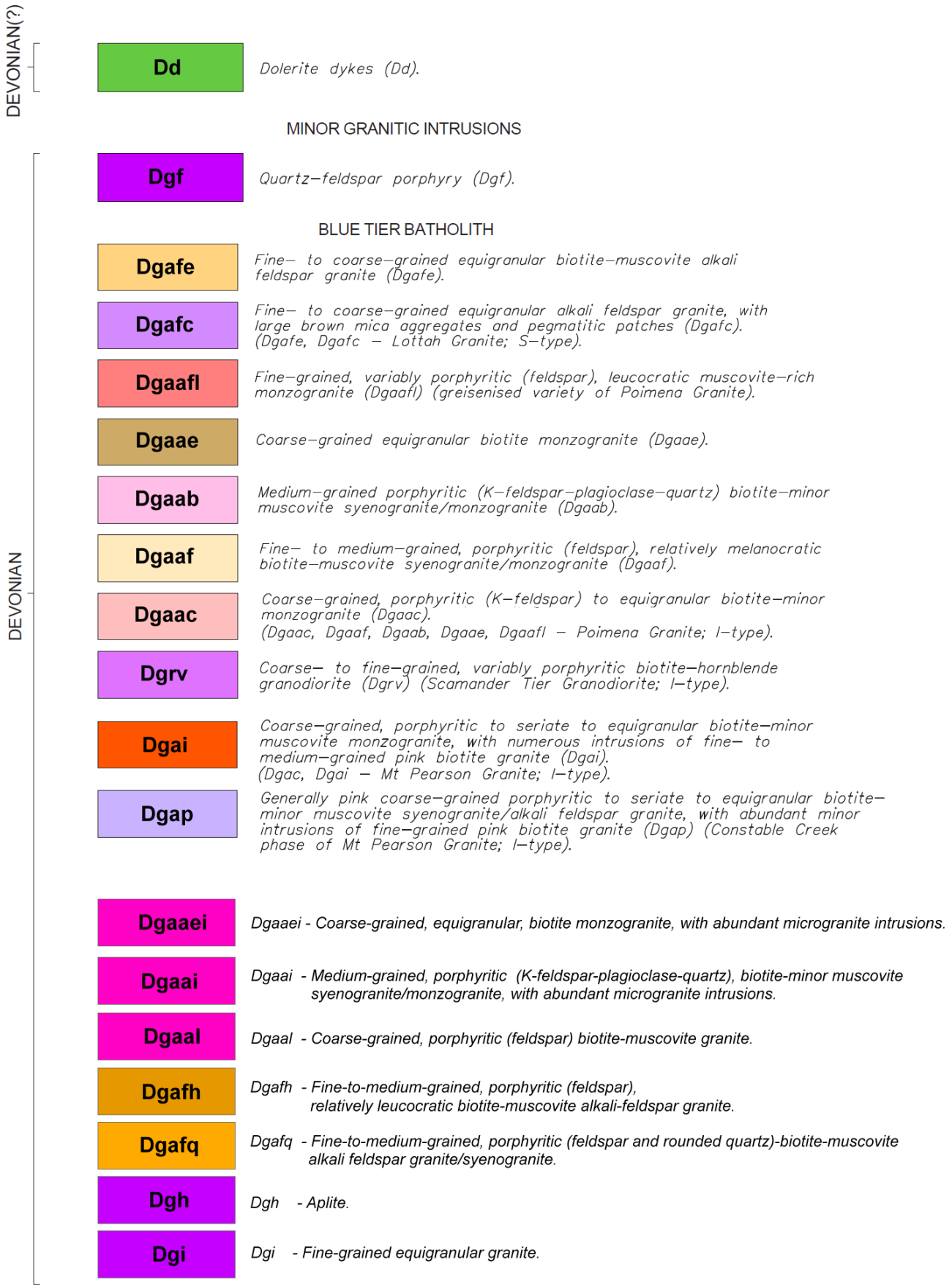


Figure 14

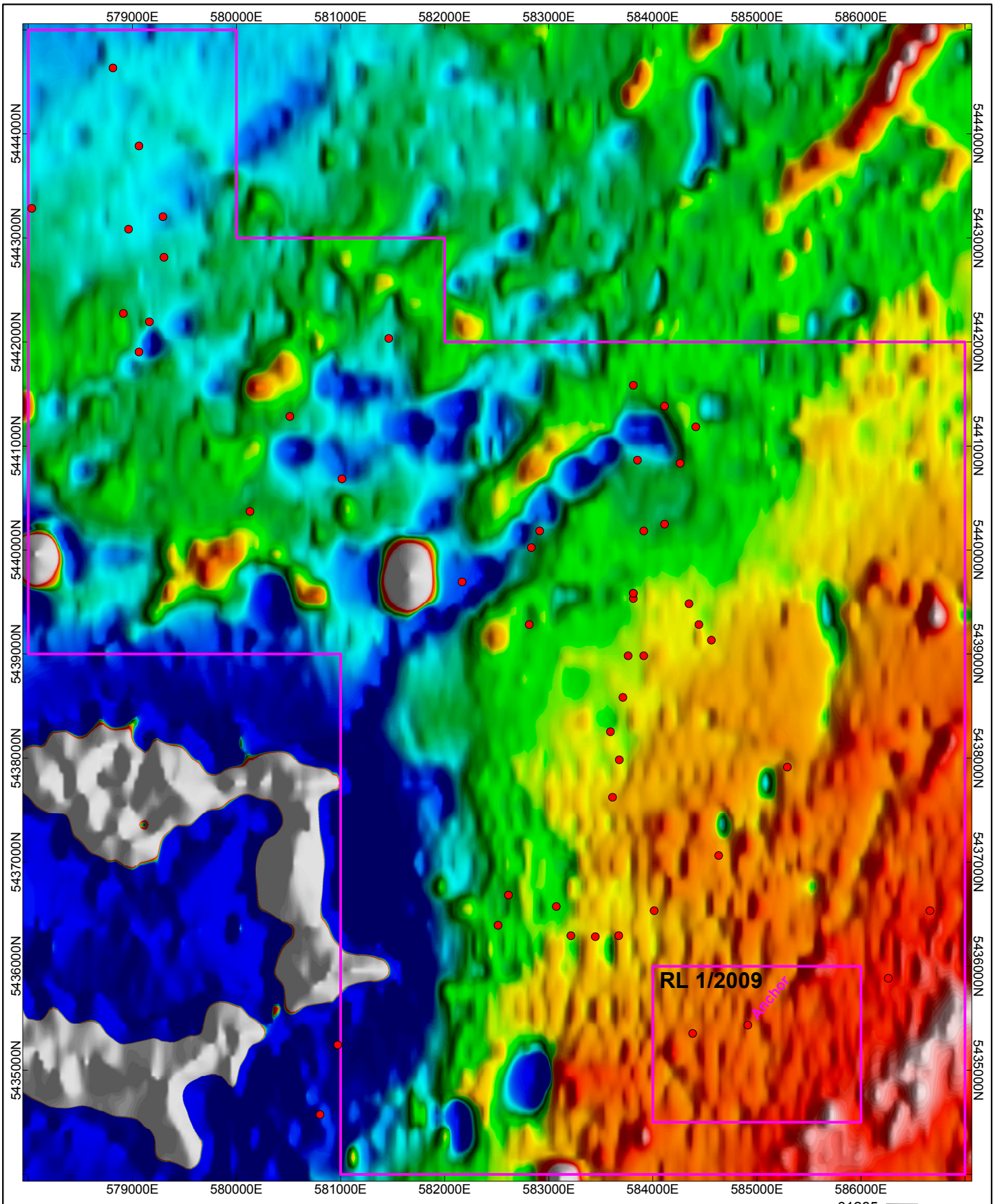
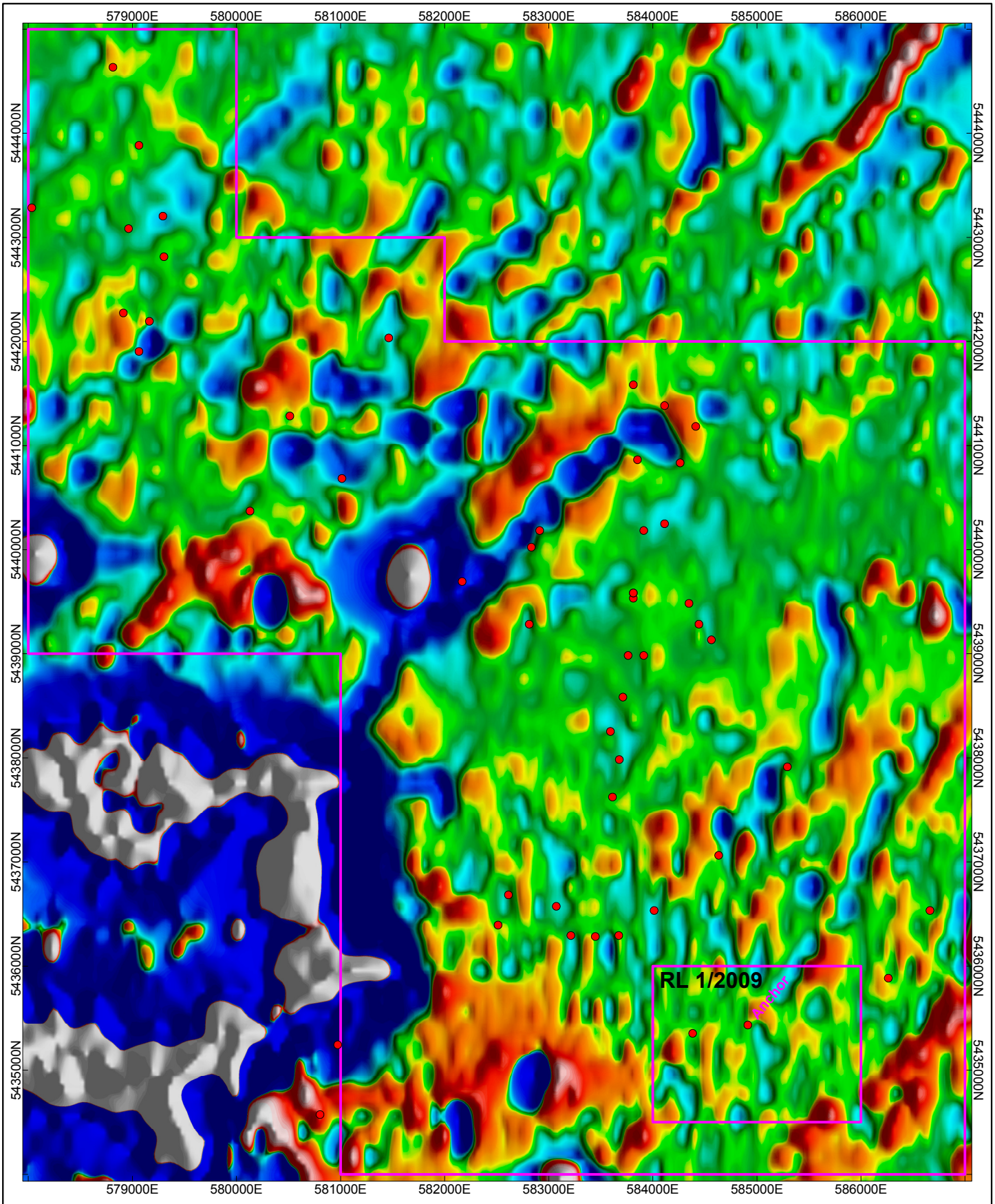


Figure 15

EL 31/2010 - Poimena

Magnetics

Reduction to the Pole (RTP)



Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

Figure 16

EL 31/2010 - Poimena

Magnetics

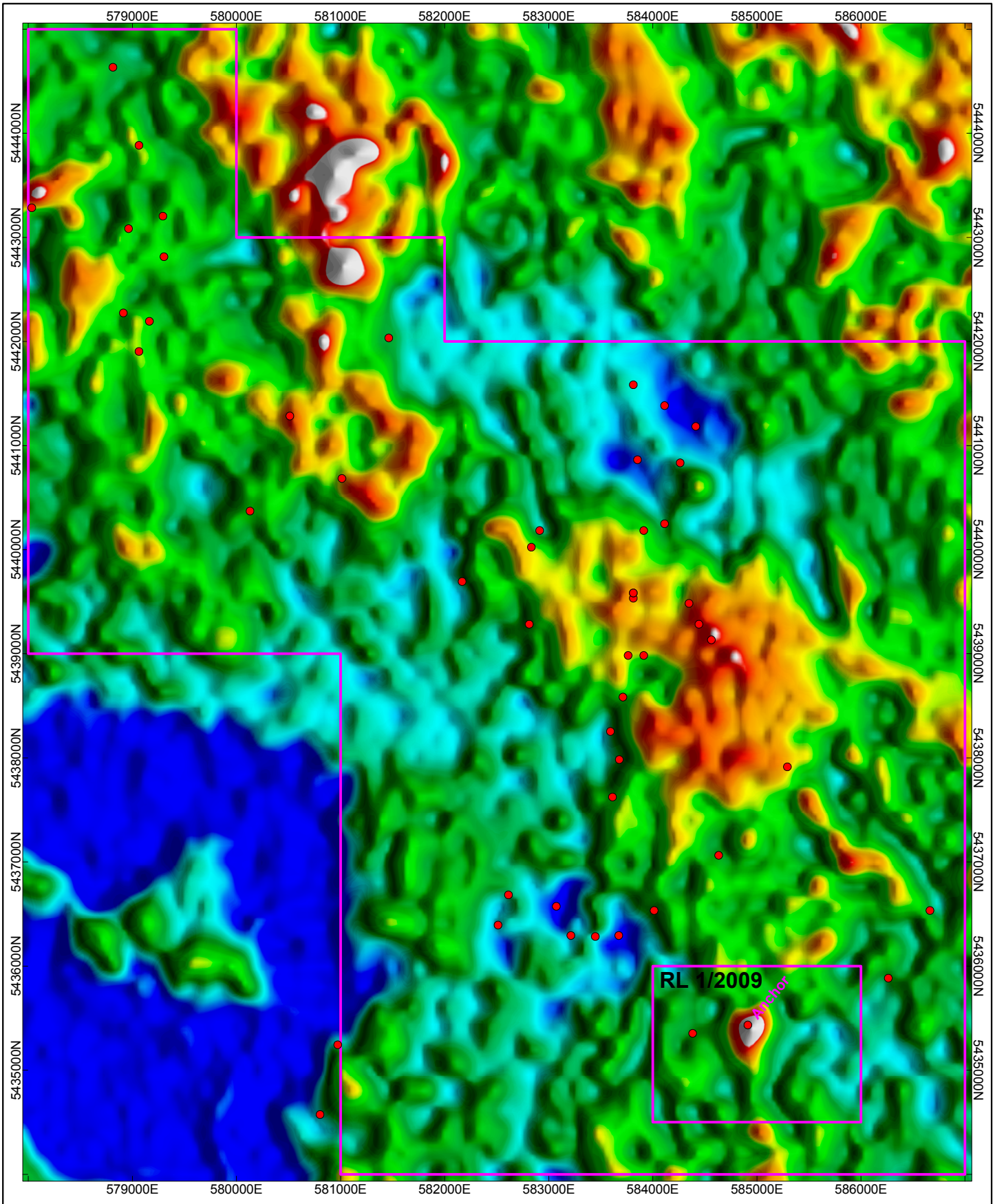
First Vertical Derivative (1VD of RTP)

1:50,000 when printed to scale

500 0 500 1000 1500

(meters)

GDA94 / MGA zone 55



Tin occurrences from MRT database.
(mines or deposits, excluding placer-only)

Figure 17

EL 31/2010 - Poimena

Radiometrics

Total Count

1:50,000 when printed to scale

500 0 500 1000 1500

(meters)

GDA94 / MGA zone 55

Review of Previous Exploration

EL 30/2010

Pre World War II exploration and mining

The first report on mineralisation in the Scamander area was by Thureau (1886). He assayed samples from the Scamander Mine (6000 g/t Ag and 15 g/t Au), and up to 60 g/t gold and "a considerable percentage of silver per ton" in the Yarmouth workings.

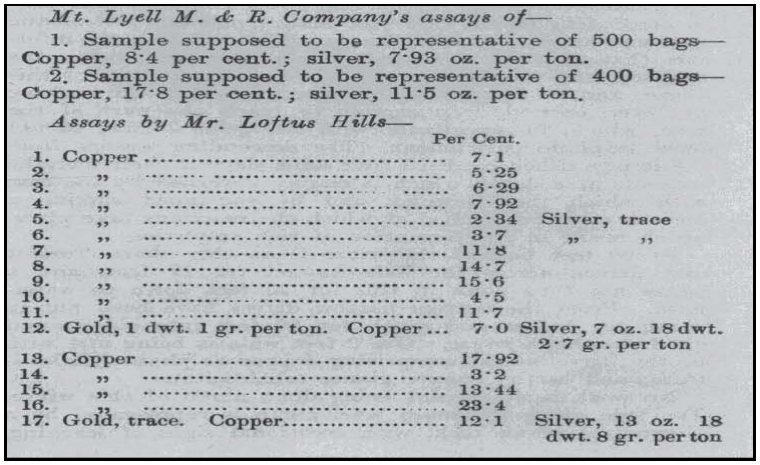
The silver mines were visited by Montgomery (1893) in October 1892. The main shafts of the Scamander mine were flooded and abandoned. Samples of quartz ore from the mine dumps gave assays of up to 1200 g/t silver, traces of gold and 6% lead. Montgomery recommended dewatering and further exploratory mining.

Harcourt-Smith (1897) visited workings to the west of Scamander, including the Orieco Mine and North Scamander prospect, and the Beulah silver mine.

Waller (1901) reported in detail on the mines in the area, including the copper and tungsten deposits, and alluvial tin in the Scamander River. He was not encouraged by the small reserves and low grades of alluvial tin in the Scamander River.

Twelvetrees (1911) published the then most definitive report on the Scamander Mineral District, describing in detail the regional geology (see figure 1), ore geology and mineralogy of all the major mines and prospects. The leases encompass the majority of the currently known deposits in the area. He recognised and subdivided the field according to the metallic zones – Wolframite Deposits, Tin ore Mines, Copper Ore Mines and Silver Ore Mines.

Twelvetrees (1911) gives a detailed description of Orieco and he noted assays as follows:



Mt. Lyell M. & R. Company's assays of—

1. Sample supposed to be representative of 500 bags—Copper, 8·4 per cent.; silver, 7·93 oz. per ton.
2. Sample supposed to be representative of 400 bags—Copper, 17·8 per cent.; silver, 11·5 oz. per ton.

Assays by Mr. Loftus Hills—

		Per Cent.	
1.	Copper	7·1	
2.	,,	5·25	
3.	,,	6·29	
4.	,,	7·92	
5.	,,	2·34	Silver, trace
6.	,,	3·7	,, ,,
7.	,,	11·8	
8.	,,	14·7	
9.	,,	15·6	
10.	,,	4·5	
11.	,,	11·7	
12.	Gold, 1 dwt. 1 gr. per ton. Copper ...	7·0	Silver, 7 oz. 18 dwt. 2·7 gr. per ton
13.	Copper	17·92	
14.	,,	3·2	
15.	,,	13·44	
16.	,,	23·4	
17.	Gold, trace. Copper	12·1	Silver, 13 oz. 18 dwt. 8 gr. per ton

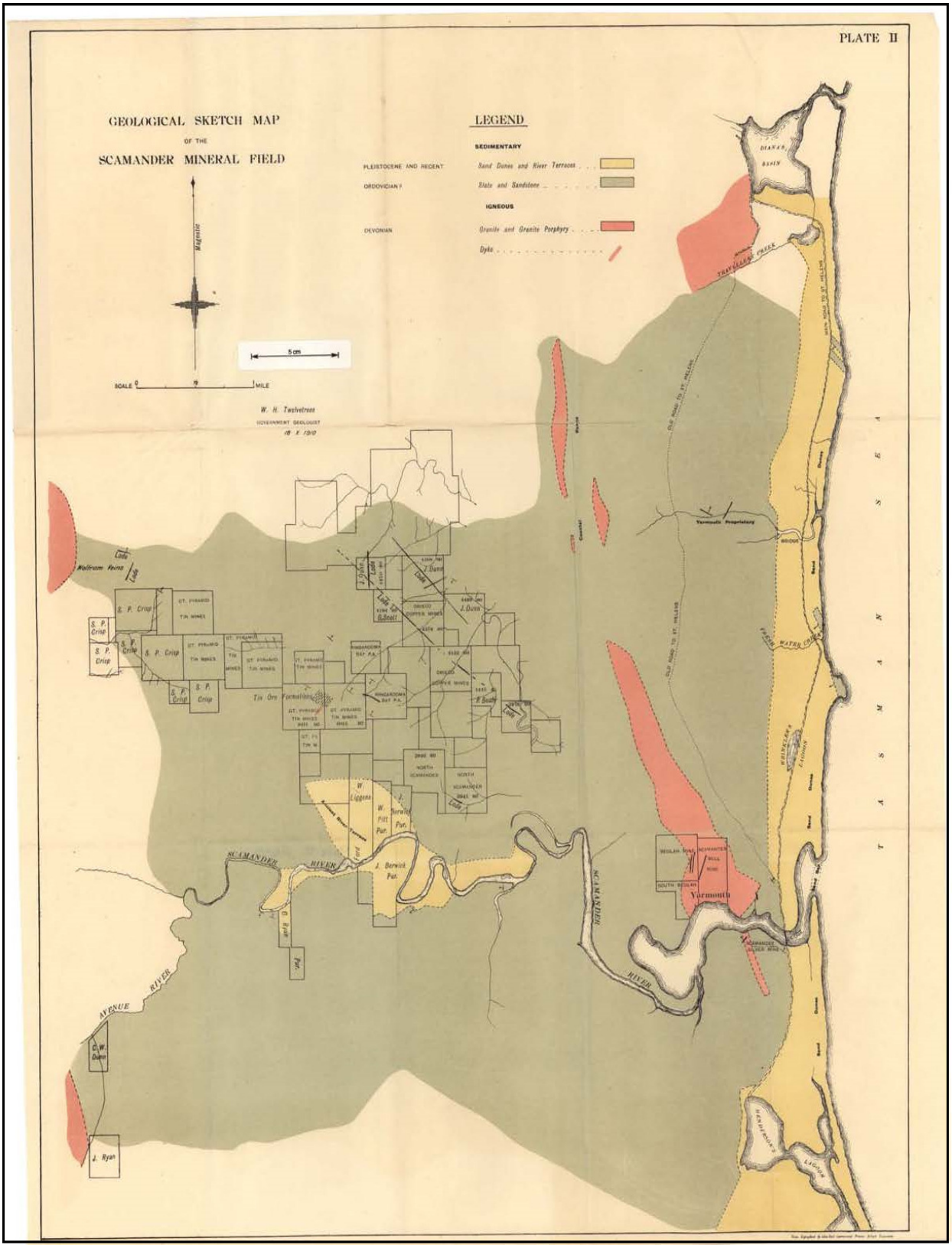


Figure 18 Geology-Scamander Mineral Field-Twelvetrees (1911)

He also summarises the style of mineralisation and the mine workings:

> The work hitherto done in this mine has revealed ore at intervals in the lode for a length of nearly 400 feet. At some of the points (where winzes have been sunk) the ore-concentration is heavier than elsewhere, and there are stretches in the lode where it has not been proved in any other way than driving the tunnel, so that a little uncertainty exists as to whether separate shoots of ore have been passed through or all the ore belongs to one shoot. The latter is the more probable view. This, conjoined with the extensive leaching which has gone on above the water-level, points to the existence of a lower zone of enrichment extending downwards. The usual vertical extension of the rich chalcocite zone in copper mines is not great, but the high backs above the adit in this mine support a belief that the secondary deposition products below water-level will prove well worth working.

The plan he produced of the Orieco is probably the most accurate record of the workings.

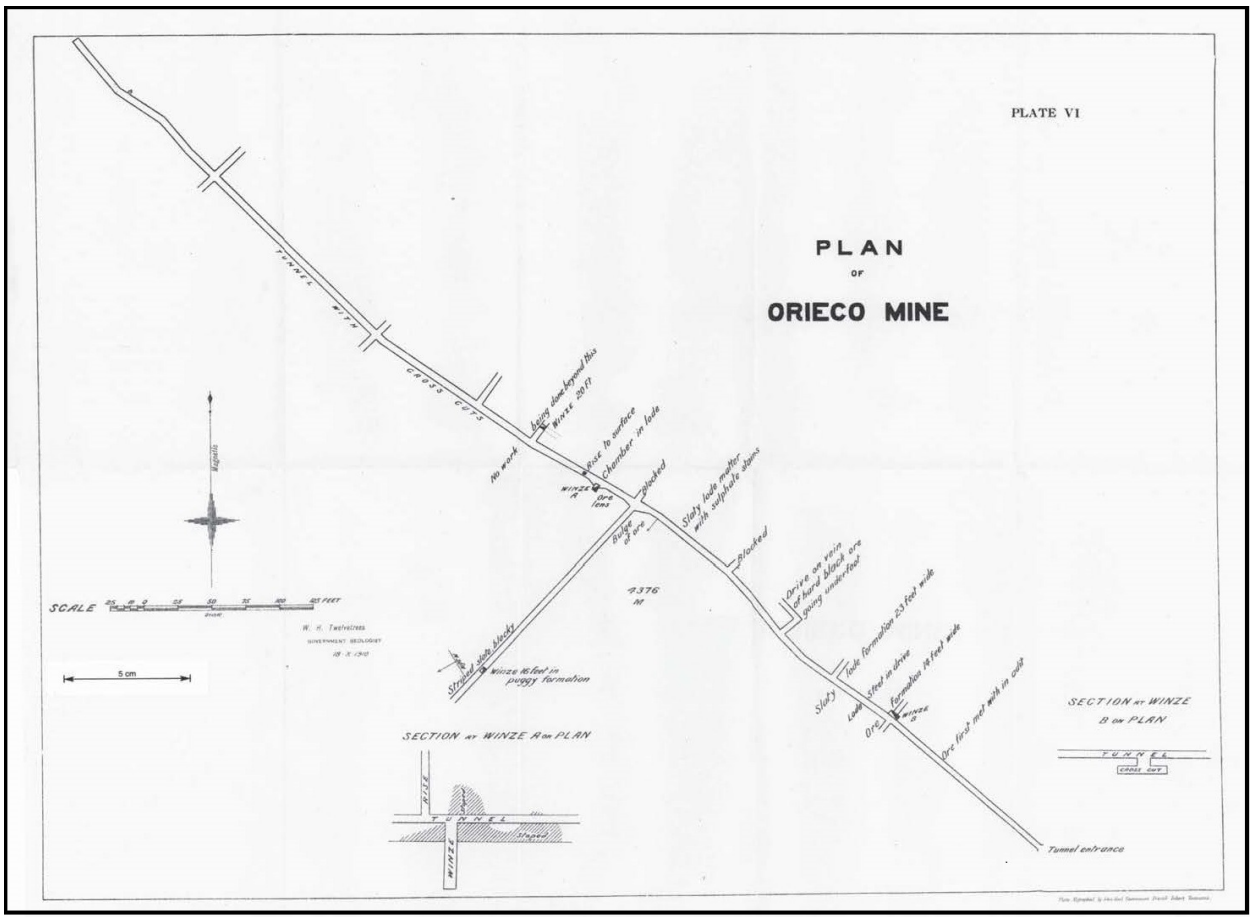


Figure 19 Plan of the Orieco Mines–Twelvetrees (1911)

Twelvetrees (1911) gives a detailed description of the discovery in 1909 and development history of the Great Pyramid Mine as follows;

Mr. Chas. Chesshire was the discoverer of tin here about two years ago. He first obtained tin ore from the wash in the creek at the foot of the hill, and concluded that there must be a vein formation higher up the hill. He then put in some surface trenches near the summit on the east side, and prospects from these confirmed his anticipations. The company which was subsequently formed took in hand the matter of prospecting the property.

The Pyramid Hill was found to consist of alternating bands of indurated sandstone or quartzite and slate, the direction of which is approximately N.W.-S.E. On the eastern side of the hill the dominant dip or underlay of these strata is to the north-east, and on the western side the prevailing dip is to the south-west. A natural supposition was that the beds on both sides were legs of an anticlinal arch, and that the strata on one flank were continuations of those on the other. This conclusion may or may not be correct. I think it more probable that we have here no continuous arching, but rather a rupture of folded strata, which when ruptured were disturbed and rendered discontinuous.

A series of adit levels has been driven into the hill on each side at from 90 to 130 feet below the summit, and a lower series between the 200 and 300 feet levels

His plan of the mine clearly demonstrates the extensive nature of the initial prospecting works (see figure 3 below).

The production summary by Turner (see below) from the notes for the St Helens Sheet (McClenaghan et al , 1992) clearly demonstrate the prospective nature of the works and that most mines operated pre World War II.

The first phase of mining in the area proved the widespread distribution of zoned sub economic copper, tin, tungsten, and silver. In this period the largest producer was the Great Pyramid Tin Mine which was worked intermittently until 1936 producing 2.96 tonnes of tin from 330 tonnes of ore at a grade of 0.88% Sn.

Table A1. PRODUCTION FROM THE SCAMANDER – ST HELENS ZONED MINERAL FIELD

Mine	Metal	Period	Quantity *(tonnes)*	Grade
Baden Powell	W	(1) pre-1901	1 (conc.)	-
		(2) pre-1916	0.5 (conc.)	-
		(3) pre-1938	5 (conc. – 70% WO_3)	1.4% WO_3 (estim.)
			2.5 (conc. – 70% WO_3)	1.2% WO_3 (estim.)
Carson de Beers (Prices)	W	(1) pre-1901	1 (conc.)	-
	-	(2) pre-1938	0.75 (conc. – 70% WO_3)	-
Jacobs (Lutwyche)	W	(1) pre-1941	minor	-
	-	(2) pre-1938	2 (conc. – 70% WO_3)	1.9% WO_3 (estim.)
Echo North	W	(1) 1918	minor	-
	-	(2) pre-1952	1	1% WO_3
Great Pyramid	Sn	1928-1936	2.96 (metal equiv.)	0.88% Sn (recov.)
Orieco	Cu, Ag	(1) 1895–1897	122 (picked ore)	28% Cu, 520.4 g/t Ag
		-	305 (stockpile)	10-15% Cu, 306.1 g/t Ag
		(2) 1900	199 (picked ore)	17% Cu, 398 g/t Ag
		(3) 1940–1942	4 (metal equiv.)	-
		(4) total production.	446 (picked ore)	15-28% Cu
Beulah	Ag	1896–1897	52 (picked ore)	2832 g/t Ag
Scamander River	Ag	pre-1893	51 (picked ore)	1010 g/t Ag

Source references: Orieco (1), Beulah - Smith, 1897; Baden Powell (1), Carson de Beers (1), Orieco (2) - Waller, 1901; Baden Powell (2) - Hills, 1916; Jacobs, Echo North (1) - Nye, 1941; Orieco (3) - Mines Dept. mine records; Orieco (4) - Groves, 1972; Scamander River-Montgomery 1893*b*; Jacobs (2), Carson de Beers (2), Baden Powell (3) - Schell, 1938; Echo North (2) - Walker, 1957.

Grade of tin at Great Pyramid is recovery grade. Quantity of production for Great Pyramid and Orieco (3) expressed as the calculated tonnes of metal in the ore produced. Henderson (1941) obtained 'in ground' copper grades ranging 1.82% to 7.51% at the Orieco mine.

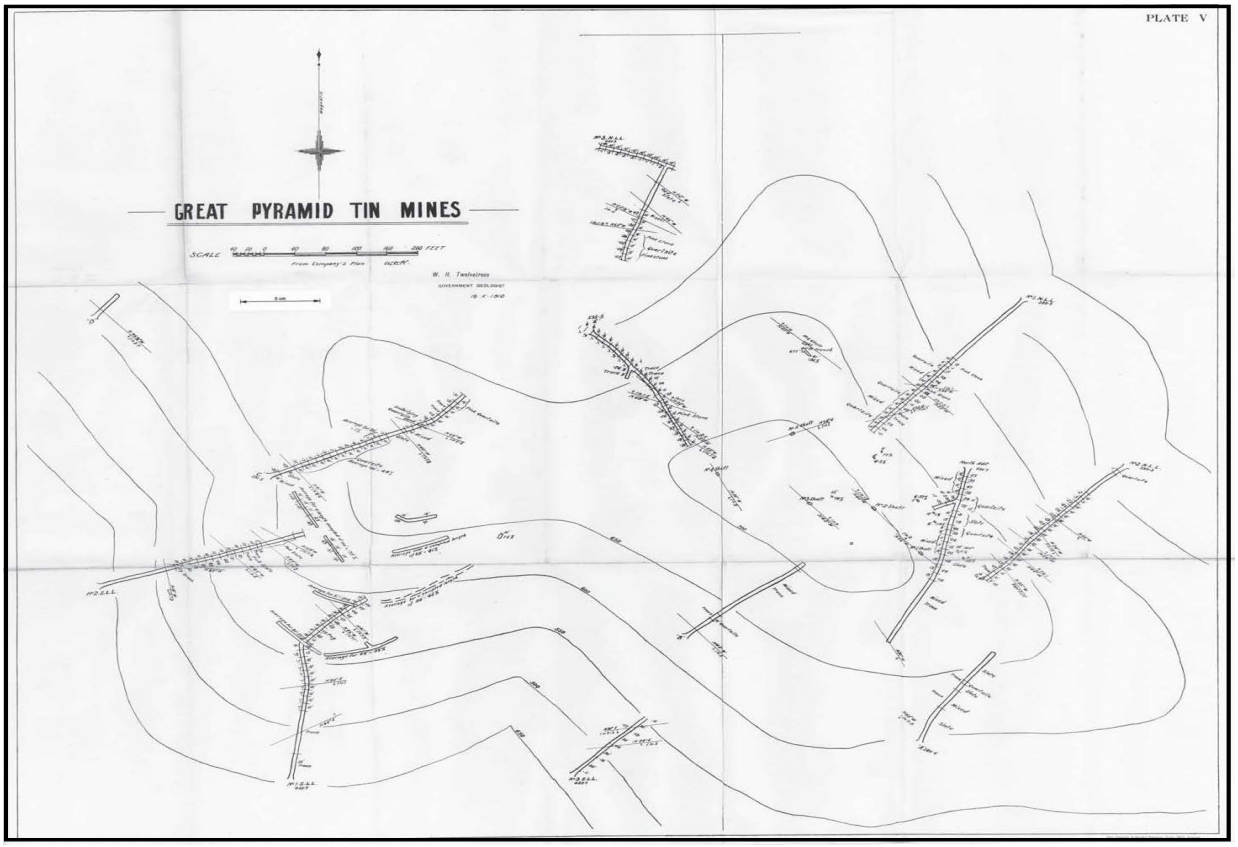


Figure 20 Great Pyramid Tin Mine–Twelvetrees (1911)

Modern era post WWII

Exploration in the modern era has used airborne geophysics, stream sediment geochemistry and prospect scale IP, EM, soil sampling and mapping. The prospects within EL 30/2010 that have been the focus of this work are presented below:

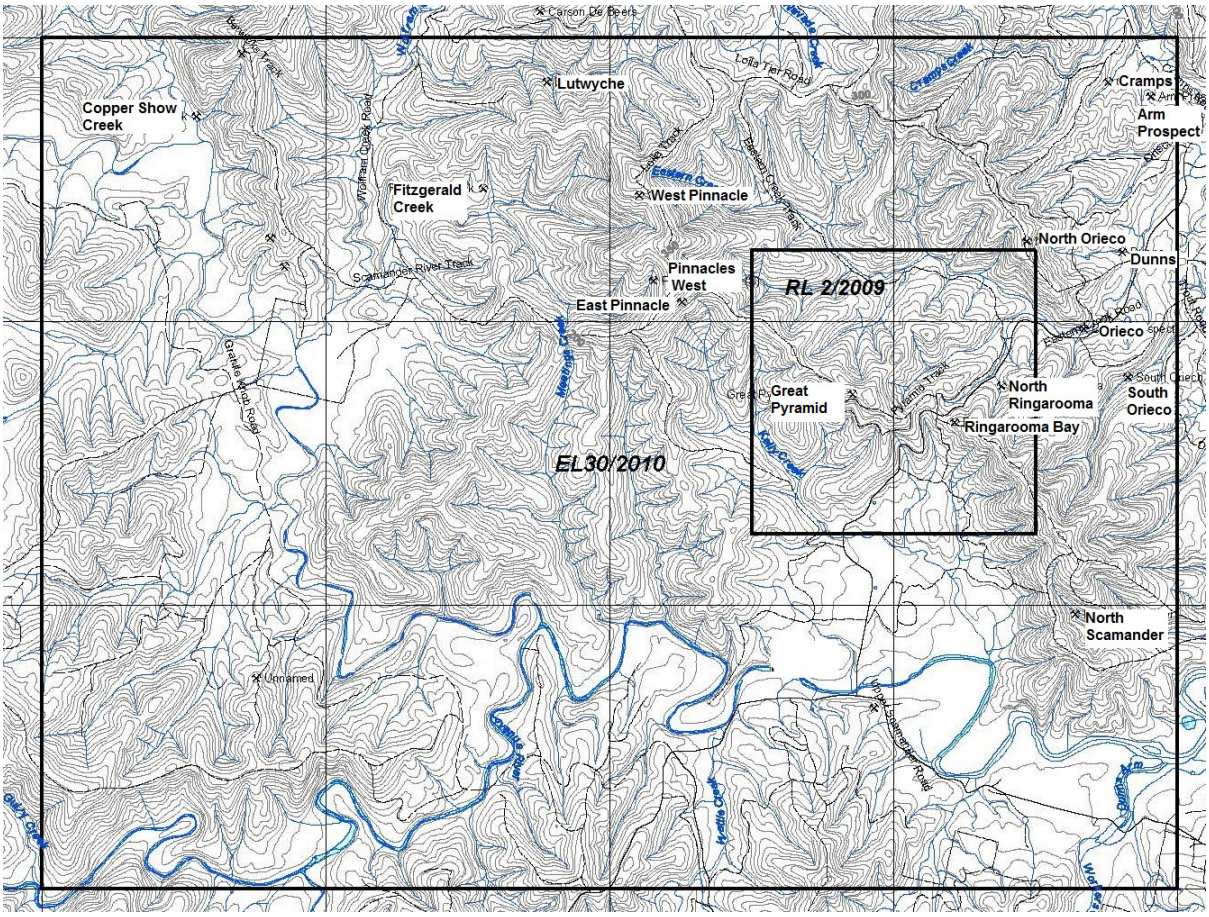


Figure 21 Prospects covered by EL30/2010

Ruxton (1984) summarised the work in the general Scamander area in Table 1 for the period up to the start of the The Shell Company of Australia JV with BHP in 1982.

TABLE 1

SCAMANDER AREA - SUMMARY OF PREVIOUS EXPLORATION

COMPANY	YEAR	PROSPECT/AREA	WORK COMPLETED	RESULTS/COMMENTS
Lyell-E.Z.	1959-1962	Fingal-Scamander	- airborne magnetics, E.M. - follow-up anomaly 3/6, North Scamander - I.P., ground magnetics, McPhar R.E.M. rock sampling, 1 DD hole of 150' at North Scamander	-hole FP102 North Scamander intersected 6' of 1.5% Pb, 4.4% Zn, 0.1% Cu, 30 ppm Ag 120' -no Sn analyses
B.H.P.	1965	North Scamander Pinnacles	- rock chip sampling, soil sampling - magnetics, soil sampling, 6 shallow percussion holes	-dump samples returned values less than 0.01% Sn
Austminex	1965	Scamander regional	- stream samples (Sn, Zn, cold ext. Cu, Mo, heavy metals)	-no significant anomalies outside known areas
Geophoto	1969	Scamander regional	- stream sampling (-20# Mo, Bi - 80# Cu, Pb, Zn, Ag) - airborne radiometric survey - digital fracture analysis	-digitized data for Tl^{208}, Bi^{214}, K^{40} Pb, Zn, Mo, Ag, Bi
Geophoto	1970-1971	Constables Creek/Echo	- soil sampling (Mo, Bi, W, Sn) - 5 DD holes - Cobra drill rock sampling	-narrow intersections low grade Sn (to 0.3%) W (to 0.2%), Bi (to 0.2%), to 70 ppm Mo
C.G.F.A.	1967	Loila Tier	- dug pits, costeans	-Sn, W mineralization similar to Pyramid
Rio Tinto	1957	Scamander Flats	- alluvial testing	
Geophoto	1971-1972	Lutwyche	- gridding, trenching, rock chip sampling (Mo, Bi, Sn, W) - 4 DD holes (Cu, Mo, Bi, W, Sn)	-some high grade patches tungsten -narrow quartz veins
Geophoto	1970	South Pyramid	- trenching, rock chip samples (78)	-Sn range 0.05-1.18% Sn
Geophoto	1972	Wolfram Creek (Baden Powell?)	- gridding, soil sampling (Sn, W, Mo, Bi) - Cobra drill sampling	-soils consistently going 0.14% Sn
Scamander Mining		Orieco Mine	- regional mapping - rock sampling (Cu, Pb, Zn) - 2 DD holes	-no Sn results; narrow massive sulphide intersections

Electrolytic Zinc Company Ltd - EL 2/59

The EZ Company flew a regional aeromagnetic survey over northeast Tasmania in the late 1950s. Follow up of the anomalies included North Scamander Prospect (anomaly 3/6) and Great Pyramid (anomaly 3/4).

Ground based IP and EM was conducted over North Scamander, two shafts were dewatered and FP102 was drilled to 149ft (see Gregory, 1962).

A mineralised zone was intersected from 120.5 ft to 126.5 ft and assayed 1.5% Pb, 4.4% Zn, 0.10% Cu and 1oz Ag (see figure below). It was concluded that the mineralisation adequately explained the EM and IP anomalies and did not justify further work. BHP subsequently did further drilling at North Scamander with some success (see BHP review below).

At Great Pyramid EZ confirmed that magnetite was associated with the sulphides and the recommended follow up dewatering and geophysics was not completed.

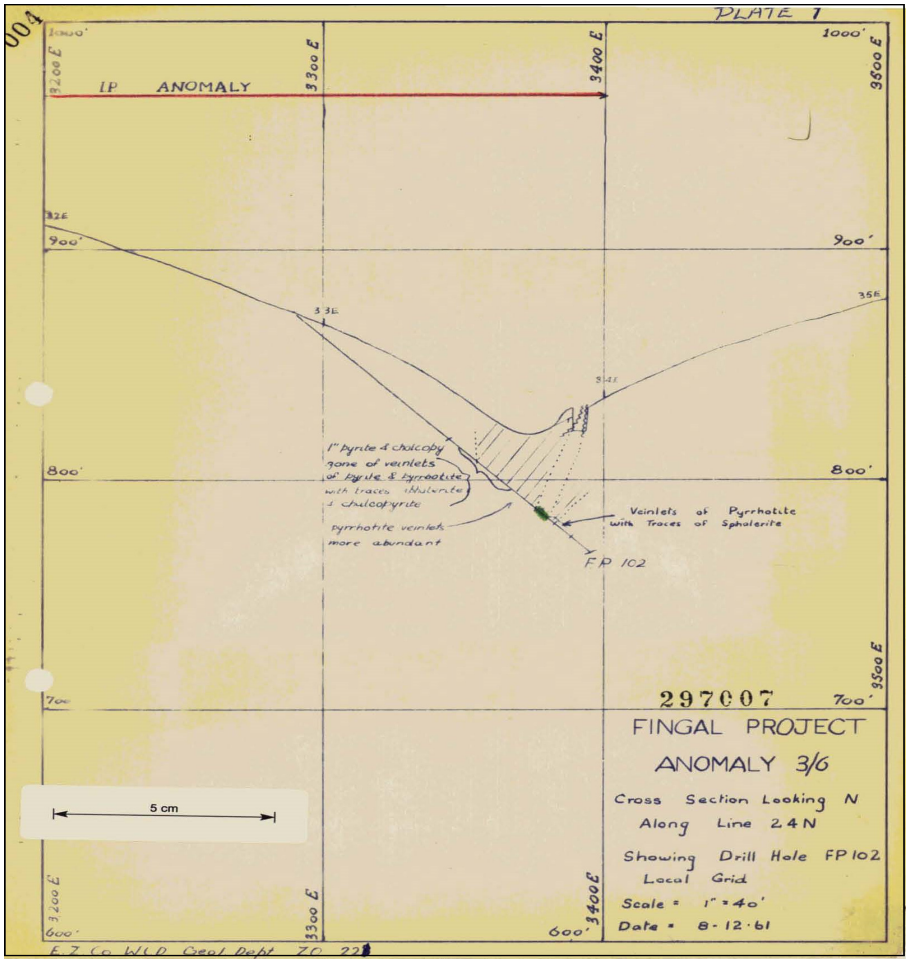


Figure 22 EZ drill hole FP102 at North Scamander Prospect

Texins Development Pty Ltd – EL6/68

EL 6/68 was granted to Texins Development in 1968. Geophoto Resources Consultant produced a series of reports on a number of prospects in the Scamander Field identified by Neuss (1969) for Texins. A regional stream sediment survey formed the basis for the follow up work and an airborne radiometrics survey was flown.

The first prospect investigated was Wolfram Creek (Mortimore, 1970). Quartz veins carrying varying amount of wolfram and minor molybdenite are described.

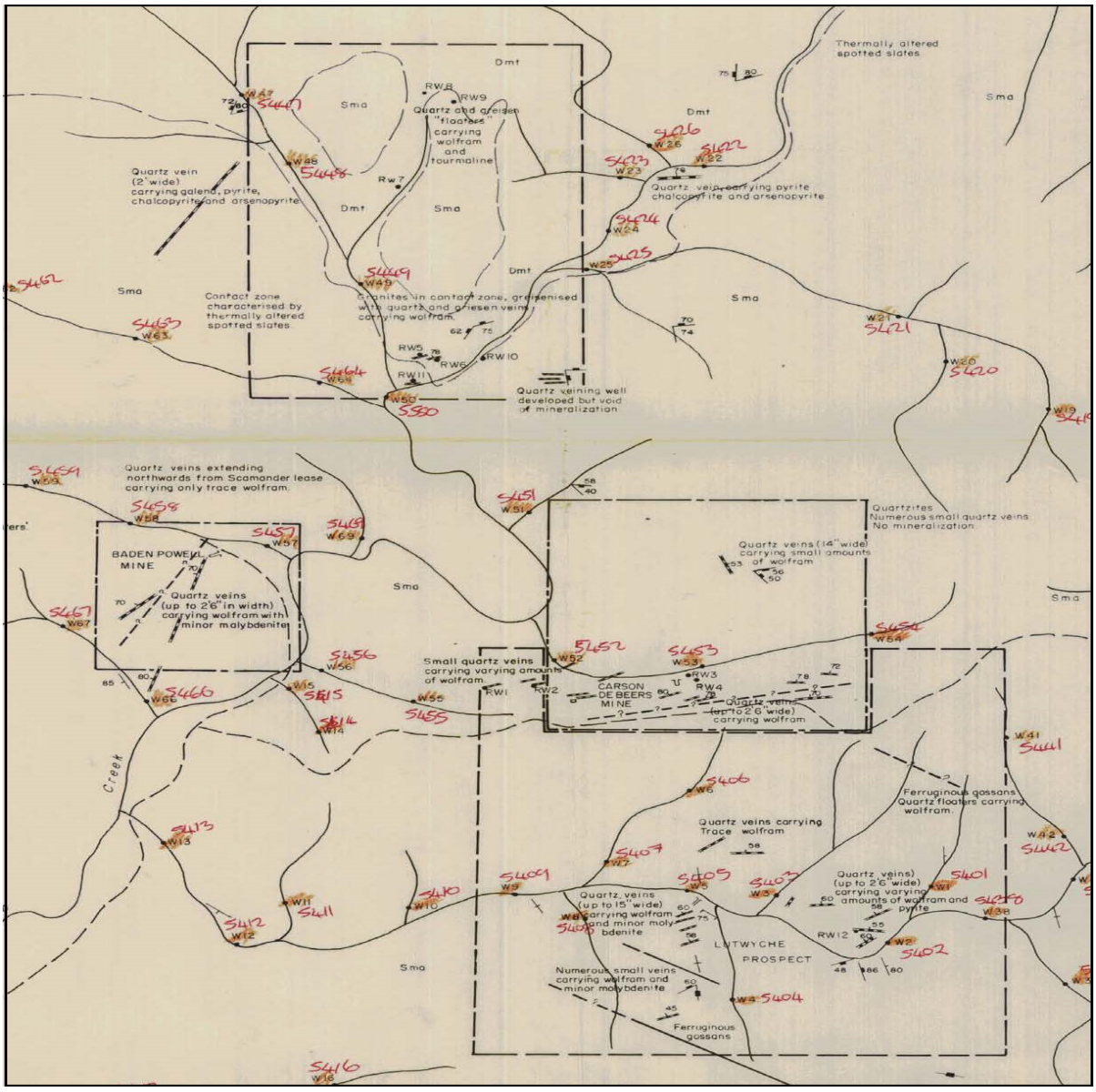


Figure 23 Geological map and stream sediment samples points

The conclusions from this work were as follows:

> The situation at Wolfram Creek is similar to that at the Aberfoyle and Storys' Creek Mines but on a much smaller scale. The veins at Wolfram Creek are generally inconsistent both in width and length, on the surface at least, but have not been tested at depth.
>
> However, wolfram bearing veins can be seen over an area covering nearly ½ square mile, and with the present high price of wolfram, cannot be ignored.
>
> Scout geological work has now been done and stream sampling, on a closer spacing than was used in the original regional geochemical program, has been completed. The enclosed map outlines areas of interest on which further work should be directed. Analysis results of the present stream geochemical program may provide further areas of interest.
>
> Future work should include the construction of grids over those areas of interest, followed by detailed mapping and soil geochemistry.

Further work was done on the Wolfram Creek Prospect to the north of EL 30/2010 and on the Lutwyche Prospect on this licence.

In 1972 four diamond holes were drilled on the Lutwyche Prospect (see figure 23b for collar positions).

Lutwyche 1 – EOH 646ft

Drilled in Mathinna Supergroup sediments with quartz veining within quartzites. Intersections of note were 93 to 95.5ft (3% W, 425ppm Bi), 140 to 145ft (0.35% W) and 190 to 192ft (0.12% Mo). This mineralisation was in hornfelsed shales and not confined to the quartzites.

Lutwyche 2 – EOH 700ft

Drilled in Mathinna Supergroup sediments with quartz veining within quartzites. Quartz veining extends to depth but only carried minor sulphides.

Lytwyche 5 – EOH 728ft

Drilled in Mathinna Supergroup sediments with quartz veining within quartzites. Up to 800ppm W, 80ppm Mo, 310ppm Bi and 50ppm Sn.

Lytwyche 6 – EOH 706ft

Hornfelsed Mathinna Supergroup. Mineralisation from 389ft 3 in to 399ft 3in (4.1% W, 830ppm Bi), 401ft 3in to 404ft 3in (0.20% W) and 611ft to 616ft (500ppm W and 0.107% Bi).

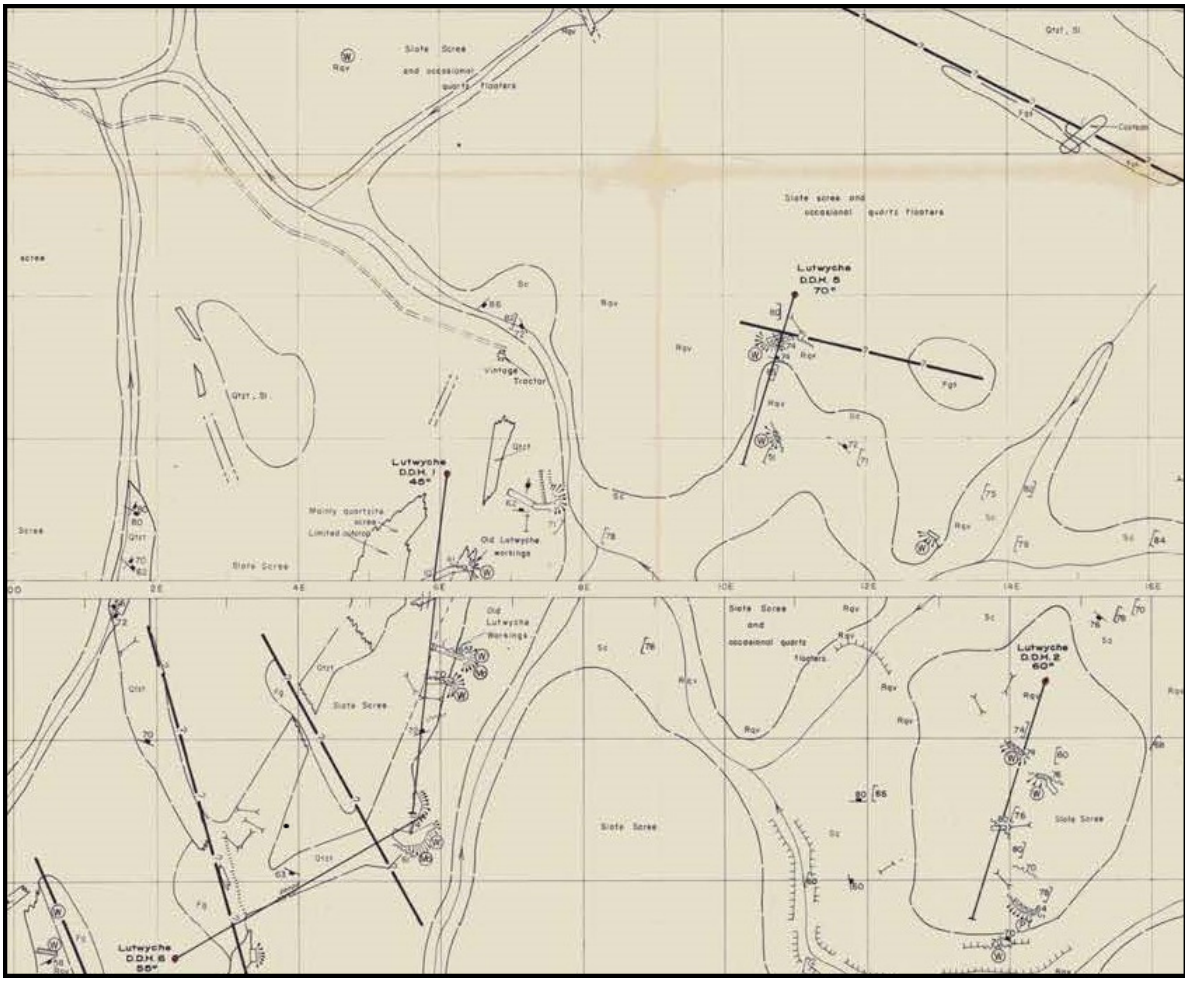


Figure 23b Collar positions for Lutwyche drill holes.

The conclusions from this drilling were as follows:

> Of the holes drilled, although it carried virtually no mineralisation, D.D.H. 2 is probably the most interesting in that it carried a number of distinct quartz veins which could be roughly correlated to surface indications and which in general either maintained their widths or substantially increased it to be of an economically mineable width at a depth of 350 feet below the surface.
>
> The holes Lutwyche D.D.H.1 and D.D.H.6 gave no encouragement on the potential of quartzitic formations to the S.W. of the Lutwyche area. Here a high ratio of quartz to country rock (quartzite) was required to give any resemblance of a possible economically viable bulk deposit. The vein density fell well short of that required for this to be a possibility. Furthermore, within the quartzites, no values of significance for W,Mo,Bi, or Sn were encountered. This was surprising when on the surface wolframite and molybdenite are easily distinguishable in the old prospect trenches and open cuts. Also tin values, characteristically associated with fracture planes in quartzites near by at the Pinnacle Tin Prospect and the Great Pyramid Mine, were expected but did not materialise.
>
> At this point of time, with the geological and geochemical data on hand to evaluate this prospect, it is difficult to put forward a case for further expenditure on drilling when the state of exploration on other prospects within EL6/68 is considered.

The Copper Show Creek Prospect was geochemically sampled on three lines of 2400ft cut in a southeast direction. Mortimore (1970b) described the prospect as having Mathinna Supergroup sediment with a well developed joint set. An adit, shaft and numerous prospecting trenches were found. The workings were opened on quartz veins with pyrite and minor chalcopyrite. The grid geochemistry showed a north north east trend of mineralisation from +100ppm Cu values. Representative mineralised vein material assayed up to 1.52% Cu, 40% As and 200ppm Pb.

No further work was proposed because the mineralisation was of the narrow fissure lode type with a limited amount of sulphide within the quartz veining.

In a memorandum written by Tucker (1970) a geological appraisal and rock chip sampling program was undertaken immediately to the south of Great Pyramid (which was being explored by the Paringa Mining Company). He describes the geology as being similar and that the tin mineralisation continues to the south of the mine area with assays of up to 1.8% Sn and a "large" anomalous area of +0.05% Sn. He recommends percussion drilling of this area.

BHP. Pinnacles 1965, EL 12/78 Scamander and EL 10/80 Great Pyramid

In 1964 BHP had an options agreement over a 50 acre Prospecting Licence 511 held by Price and Williams (see Chesnut, 1965). The area was mapped, sampled and a line of ground magnetics was run along the ridge. Based on the minor magnetic anomalies associated with the historic workings a line of six percussion holes was drilled along the ridge top road.

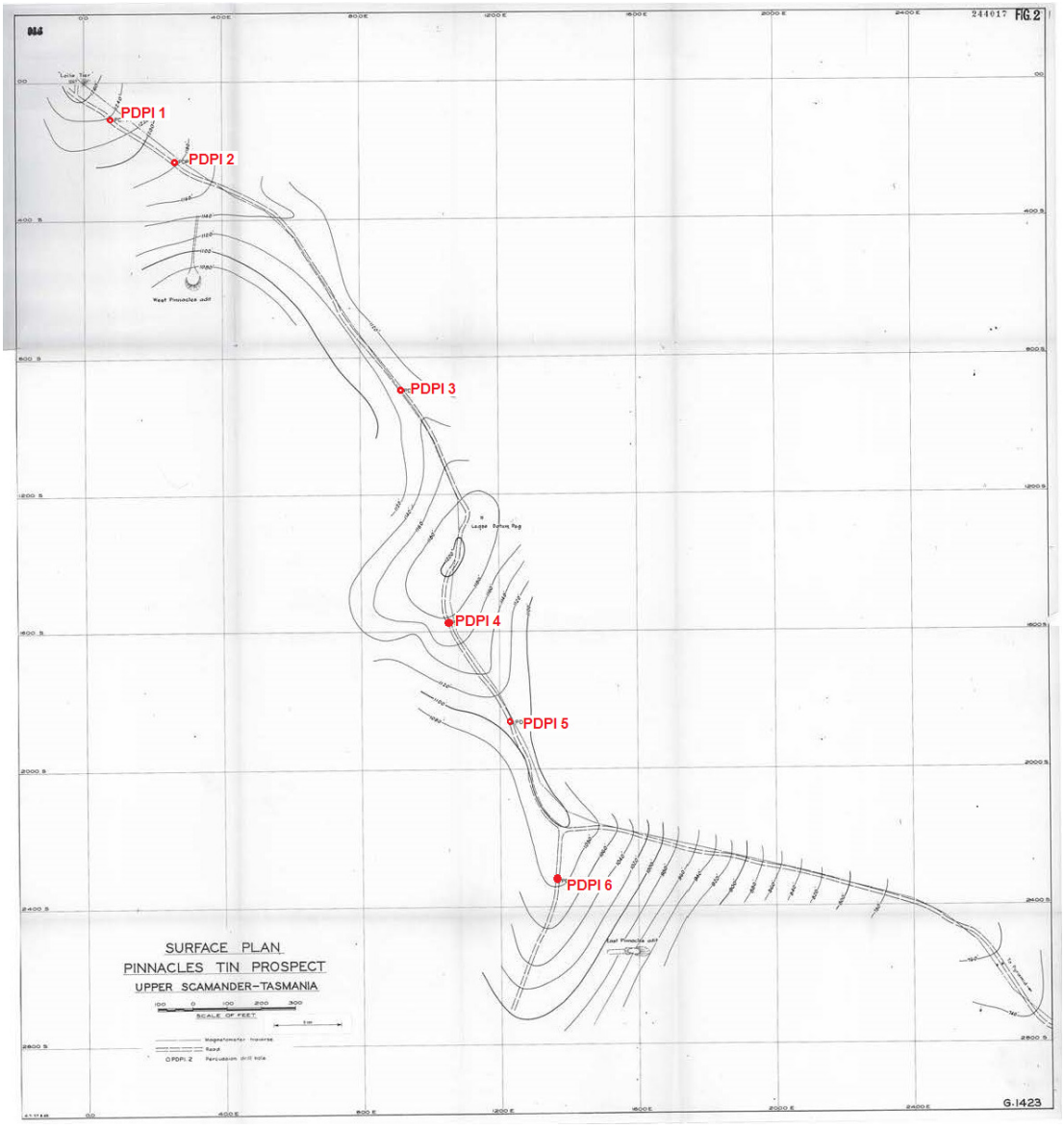


Figure 24 Pinnacles percussion holes collars

The result from this drilling are presented below:

Hole No.	Total Depth	Location	Grade Remarks
PDP1.1	104 ft.	Loila Tier trig - near tin bearing surface float	62-68' assayed 0.15% Sn
2	104	Magnetic high Z65 - West Pinnacles Adit	Barren
3	104	Magnetic high Z55, near old trenches	"
4	104	Magnetic high Z49	68-74' assayed 0.15% Sn
5	104	Magnetic high Z45	Barren
6	133	East Pinnacles Adit	"

It was concluded that the top 100 feet did not show any sign of large scale tin mineralisation and no further work was recommended.

BHP held EL 12/78 and EL 10/80 over the Scamander area until a JV with Shell – Billiton in 1983 saw Shell assume management of the exploration.

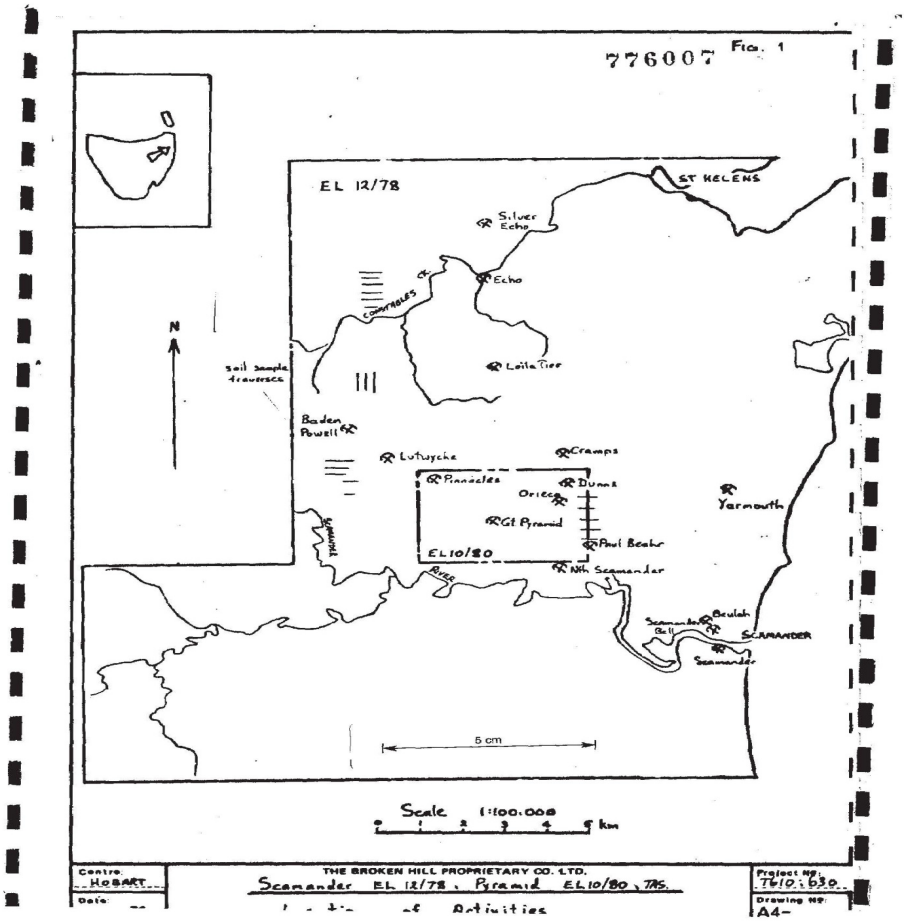


Figure 25 Locality map EL 12/78 and EL 10/80

In a report to the Mines Department in 1982 (see Anom, 1982) a brief summary of works included regional mapping at 1:10000, a 1979 helicopter borne magnetic survey of 1200 line kilometers, a DIGHEM helicopter borne survey in 1980 over the Great Pyramid – North Scamander areas and a regional stream sediment sampling programme.

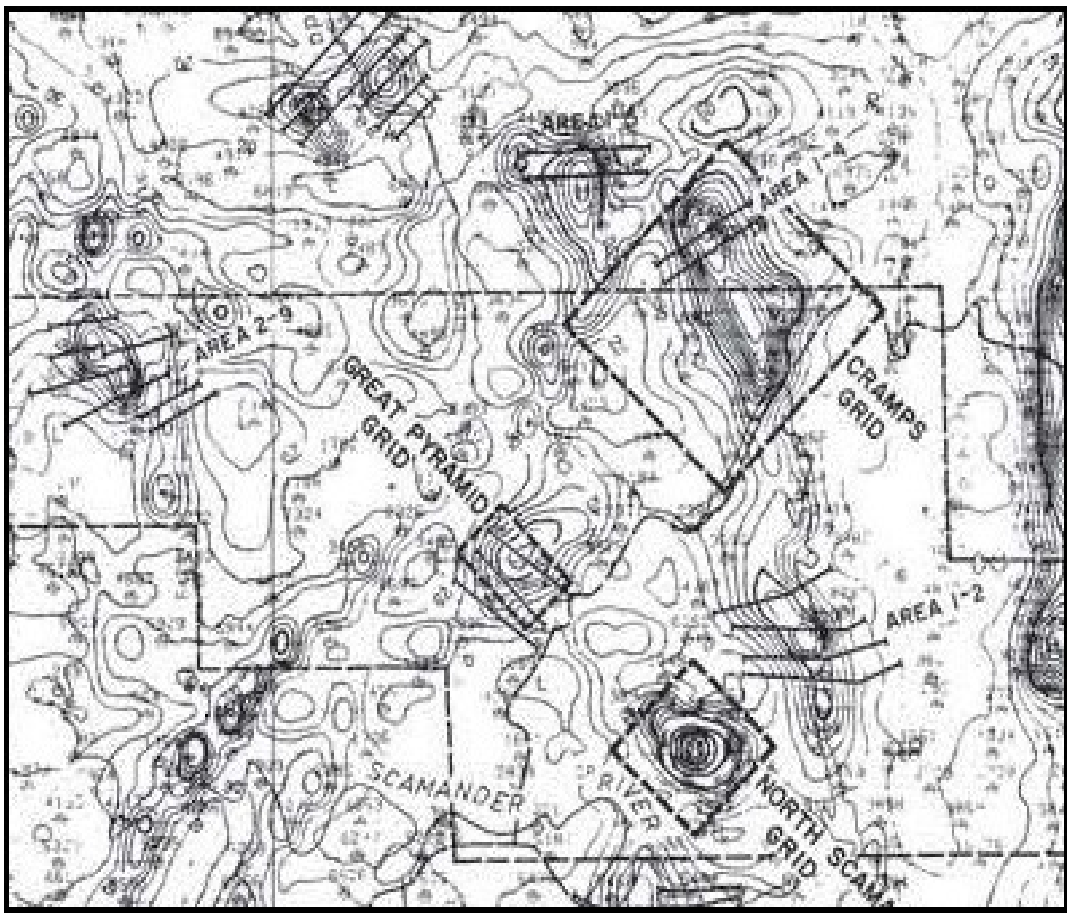


Figure 26 Magnetics and on-ground grids

Prospect scale exploration on the ground covered by EL 30/2010 focused on the North Scamander Prospect with gridding, soil sampling, mapping, ground magnetics, Sirotem IP, SP, Mise a la Masse, 3 diamond holes (600m) and 4 percussion holes (170m) and downhole geophysics.

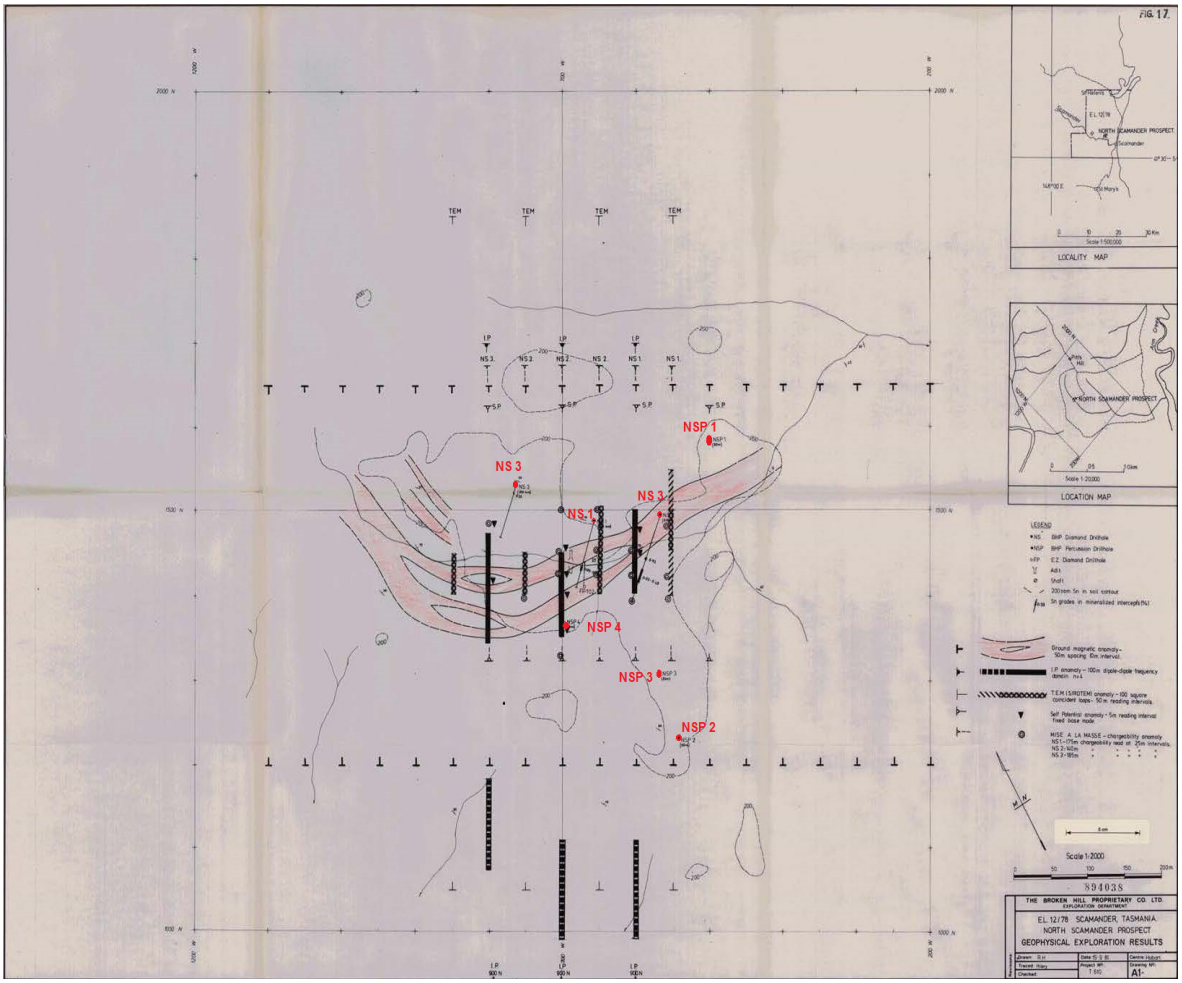


Figure 27 North Scamander-geophysics and drill holes

Hole NS 1 (201.6m) tested a magnetic, EM and tin soil anomaly coincident with two adits and a shaft in North Scamander Creek. The Mathinna Supergroup slates and quartzites had mineralised breccia zones and sulphide stringers. Pyrrhotite to pyrite content increased downhole from 120m. Tin values were from 0.055 to 0.2% from 164m in a brecciated zone with up to 2% Zn, 0.4% Cu, 0.3% Pb and 52ppm Ag.

Hole NS 2 (212m) was drilled on a soil anomaly (Sn) and magnetic gossan with up to 1% Sn. The hole had similar geology to NS 1. Assays are:

Summary of Results - NS2

Interval	Length (m)	Sn%	W%	Pb%	Zn%	Cu%	Ag (ppm)
42.4-44.3	1.9	0.17	0.014	0.16	2.86	0.02	14
108.14-117.5	9.36	0.22	<.01	0.38	1.54	0.05	12
137.79-142.42	4.63	0.09	0.049	0.95	8.24	0.06	20
148.90-158.05	9.15	0.20	<.01	0.63	1.99	0.10	37

Hole NS 3 (201.6m) tested a tin anomaly. It did not intersect the “massive” mineralisation as seen in NS 1 and NS 2. Alteration was not the chlorite/silicification as seen in the other holes with carbonate rich stringers

(ankerite-siderite). An intersection of 1.5m at 0.33% Sn from 22.95m was reported.

Four percussion holes of 50m were drilled (NSP 1 to 4). They were targeted on soil geochemistry to test the bed rock. The highest Sn was 785ppm with Ag to 13ppm. The soil anomalies were interpreted as dispersal from narrow veins rather than a stockwork or swarm of closely spaced veinlets.

In a second report in 1982 (Anom, 1982b) work at the Cramps – Dunns copper-silver prospect was described with ground magnetics (see figure 28 below), mapping and soil sampling. The magnetics defined a large (2km x 300m) north north west trending anomaly. A tin anomaly of +20ppm extended from Dunns to Cramps and had a high of 1300ppm. A low order base metal anomaly was coincident with the magnetic anomaly.

BHP entered into a JV with the Shell Company of Australia in late 1982 and they summarised the BHP work on EL 10/80 Great Pyramid in the following section.

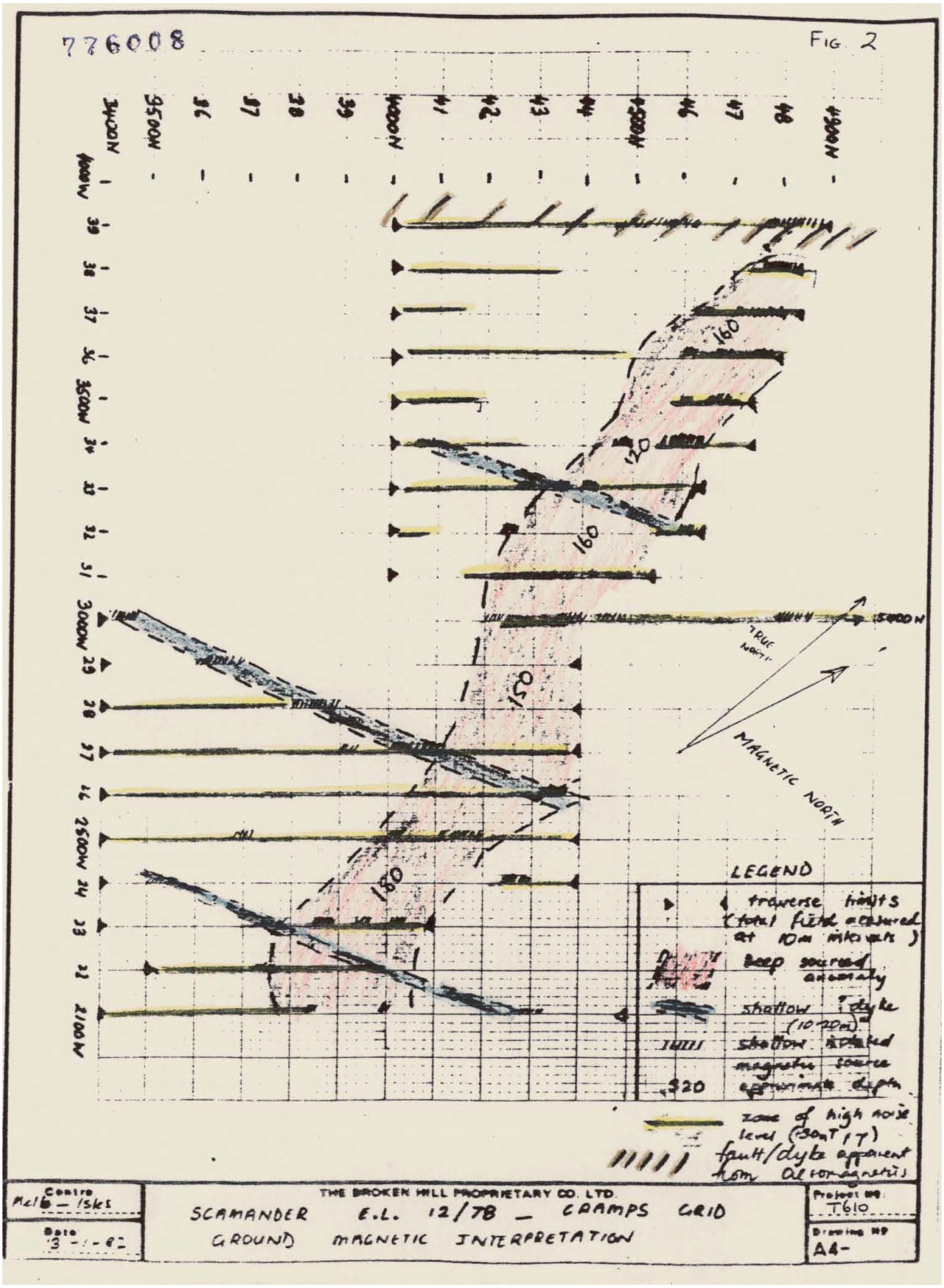


Figure 28 Cramps/Dunn ground magnetic anomaly

The Shell Company of Australia – EL 12/78 Scamander and EL 10/80 Great Pyramid

Ruxton (1983) summarised the work done by BHP and others on EL 10/80 in this report. The mineralisation is in open fractures in silicified quartzites of the Mathinna Supergroup. The cassiterite bearing veins are related to an underlying late stage differentiate of the Blue Tier Batholith.

GREAT PYRAMID - SUMMARY OF PREVIOUS EXPLORATION

COMPANY	YEAR	WORK COMPLETED	RESULTS/COMMENTS
Great Pyramid Tin Mines N.L.	1909-11	-Exploratory tunnelling and shaft sinking. -Adit sampling.	-Adit sampling sporadic/ incomplete. -Work halted due to low grades.
Troy Tin Syndicate	1914	-some driving of crosscuts. -sporadic resampling and sampling of adits.	-as above.
Mr H Aulich	1925-36	-minor mining and milling (from North adit and drive).	-production: 1928,-33,-34 and 1936 totalled 331 tons of ore, 5.379 tons of concentrate - equiv to .88%Sn recovery grade (poss 1.5%Sn feed grade).
Tas Mines Dept	1957 and 1963	-small bulk sampling from richer old workings.	-grades from larger samples consistently higher than previous samples.
BHP Co Ltd	1964-65	-geological mapping, surface and underground -ground magnetics -1 DD hole. -26 open holes	-discontinuous, narrow intersections of Sn to 0.56%. -narrow intersection of massive sulphides + 1.3% Sn in DDH. -concluded not economic
Paringa Mining and Exploration Co-Aberfoyle Management	1969-74	-soil sampling (Sn,Cu) -geological mapping -6 DD holes -137 open holes, grid drilled -ore reserve calculation	-incomplete soil data -concluded 4mT at .3%Sn, sub economic
Tas Mines Dept	1976-80	-4 DD holes	-Ministerial Reserve declared (1976) -holes drilled for stratigraphy - parallel to vein set. Sn up to 0.60%. -narrow intersection of massive sulphides + 2.8% Sn in MD3.

The geology map below outlines the blocks that have been used in the ore reserve calculations.

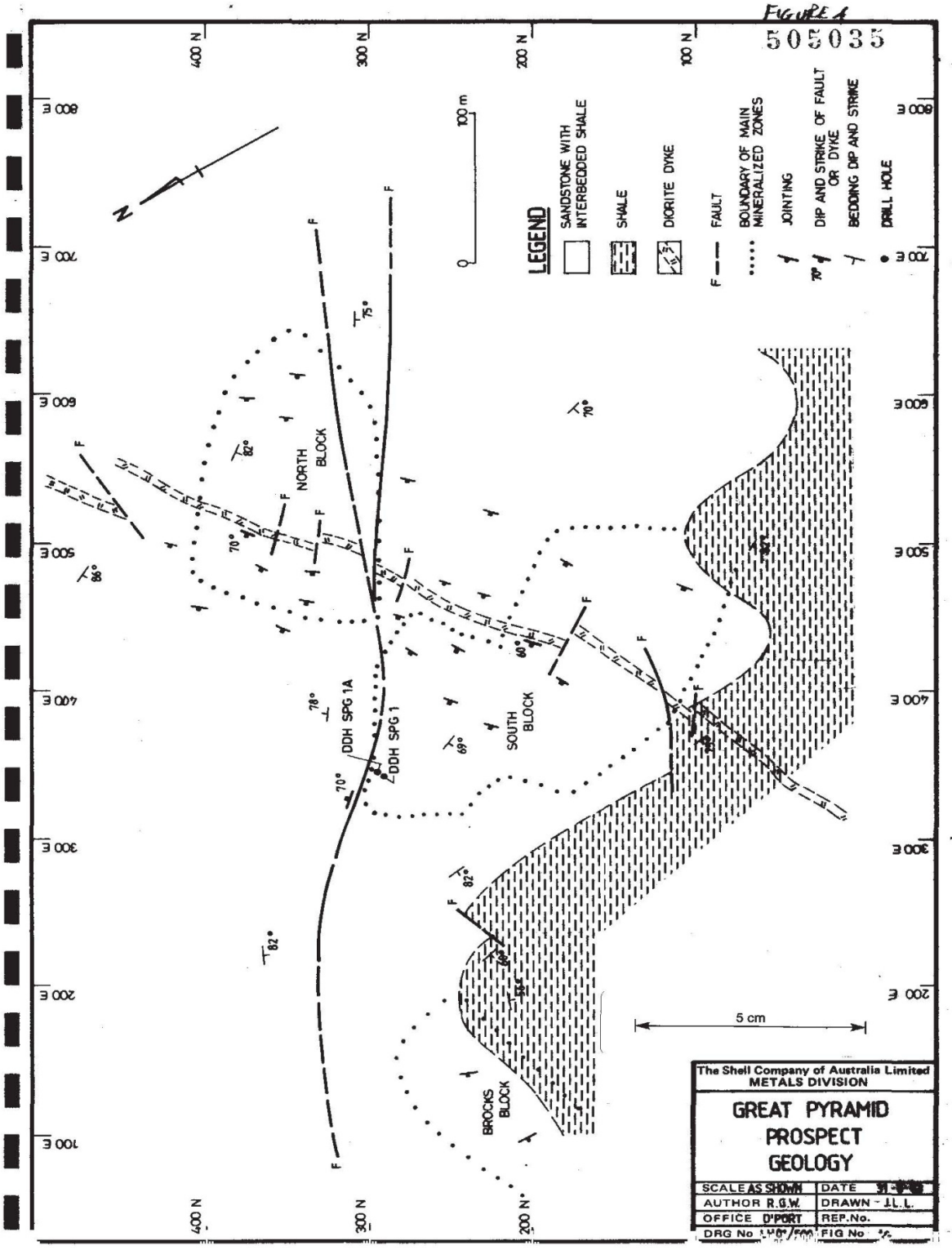


Figure 29 Great Pyramid geology and ore blocks

Ruxton (1983) reports the following ore reserve estimates:

a) 4.1mt @ 0.31% Sn (Aberfoyle, 1972 - based on cross-sections - percussion holes)

b) 4.1mt @ 0.22% Sn (BHP, 1981 - using a triangulation method - all data)

c) 3.3mt @ 0.26% Sn (BHP, 1981 - extrapolating a rectangular method used on 170m Level - all data)

d) 2.8mt @ 0.225% Sn (Shell, 1983 - Inverse distance squared method - Aberfoyle Percussion holes)

e) 2.9mT @ 0.212% Sn (Shell, 1983 - Inverse distance method - Aberfoyle percussion holes)

The deposit has neither been closed off laterally or at depth leading BHP (1982) to estimate a possible deposit of 10mt @ 0.2 to 0.3% Sn (20,000t and 30,000t of contained tin respectively).

He concludes that at this stage the deposit was a marginally economic open cut proposition. Further work was required to give an accurate ore resource estimate, bulk samples were needed to accurately define the grade and metallurgical work was needed to see what the recovery would be like during extraction. He recommended a drilling program to outline the limits of the deposit to allow a total reserve estimate to be calculated.

In 1984 EL 10/80 was amalgamated with EL 12/78. Ruxton (1984) reported that an ore resource estimate for Great Pyramid was completed with 3.3 mt @ 0.2% Sn with a potential for 6 to 6.5% mt within the deposit envelope. A high grade area of 0.4 mt @ 0.4% Sn was defined at the South Block.

Metallurgical test work on a 2 tonne sample had a tin recovery of 60 to 70% in a conventional plant. A deep drill hole under the North Block did not find granite but showed a zonation with depth from Sn-Cu to Sn-WO_3-Mo.

A tin soil anomaly at the Pinnacles Prospect was tested with 12 percussion/reverse circulation holes. A fence of 9 holes failed to find any significant mineralisation within 100m of surface (see figure 30 below).

This report has an excellent summary of all the prospects worked on in the appendix.

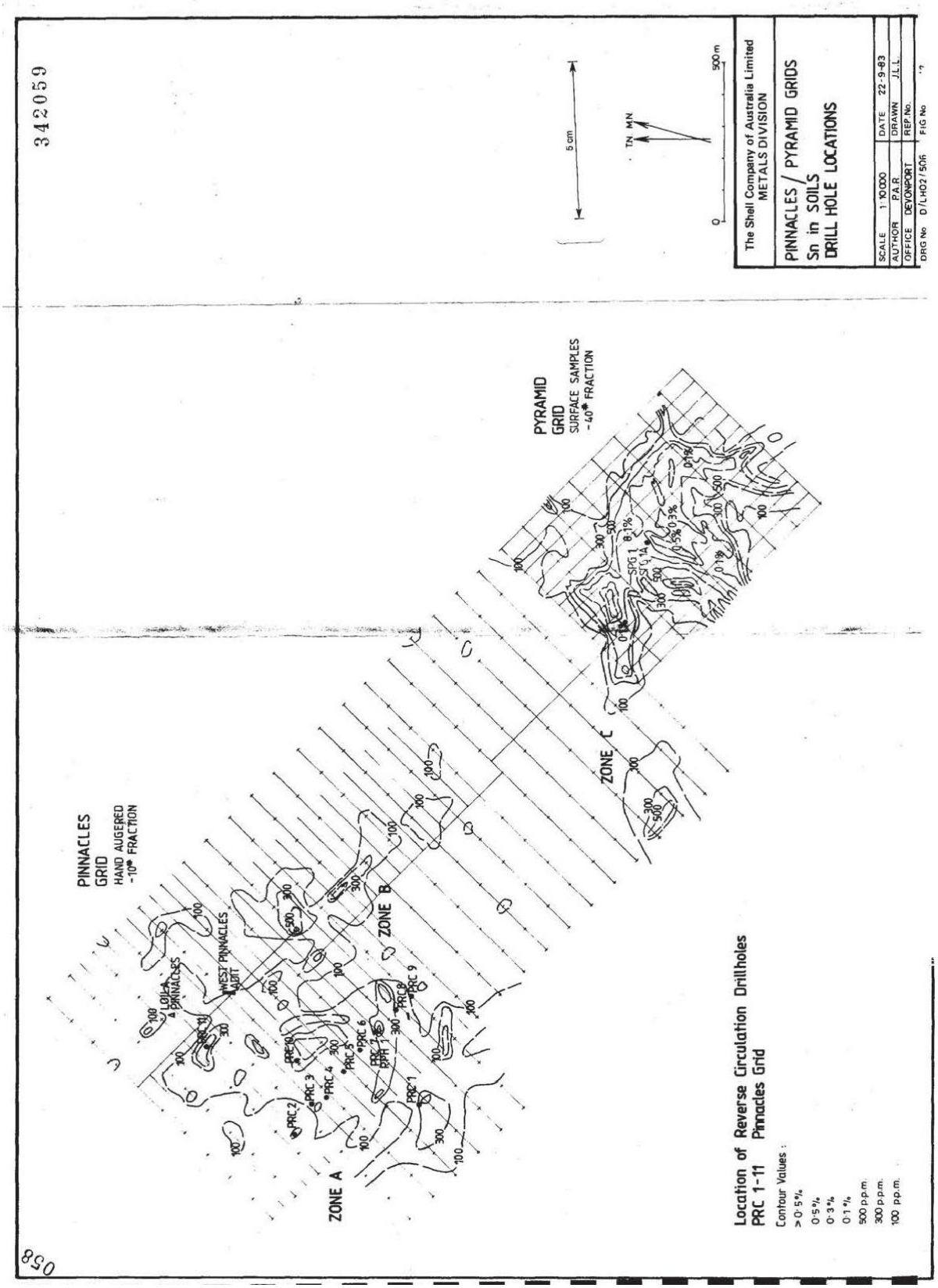


Figure 30 Pinnacles RC drill holes and tin soil geochemistry

In the final report on EL 12/78 Whitaker (1985) summarises the work of Shell and BHP. In the last year of the licence a deep drill hole at Cramps Prospect

was targeted on the large magnetic anomaly. A vertical 279.20m diamond hole was drilled. It showed that the magnetic anomaly at Cramps was from a broad zone of weakly pyrrhotitic veined sediments that carry low Sn. No further work was recommended.

Merrywood Coal Company Pty Ltd – EL6/95 Upper Scamander

In 1995 the Merrywood Coal Company was granted 16 sq km over the Great Pyramid area. The company's intention was to determine the feasibility of upgrading the South Block to reserve status with infill drilling and bulk sampling (Morrison and Knight, 1996). In this report a new resource assessment was presented:

> The modelling has confirmed Shell's previous (1986) observation that for higher grades the mineralisation appears as three distinct blocks These are referred to as North Block, South Block and Brock's Block, the names used by Shell. The total in-situ resource tonnages and grades can be summarised as follows
>
> | | |
> |---|---|
> | 0.1% Cut-off | 8,196,071 tonnes at 0.19% tin |
> | 0.2% Cut-off | 2,466,479 tonnes at 0.31% tin |
> | 0.3% Cut-off | 904,312 tonnes at 0.43% tin |
>
> This assessment investigates the possibility of mining the blocks with open pits, based on a 0.3% cut-off grade. The results are:
>
> | | | |
> |---|---|---|
> | North Block conceptual open pit: | 66,624 tonnes at 0.38% tin | 6.4 waste/ore ratio |
> | South Block conceptual open pit: | 325,226 tonnes at 0.42% tin | 2.7 waste/ore ratio |
>
> Several of the upper levels of the South Block pit include ore from the top of Brock's block. Brock's Block could provide a small amount of additional tonnage.

It was recommended that a bulk sample be taken from the South Block for metallurgical testing and treatment trials.

Griffith Geological Consultants Pty Ltd – EL 1/98 Scamander

Three diamond holes were drilled at Orieco. 98ORDD-1 (104.20m) was drilled under the main workings at Orieco to test for a small tonnage high grade copper resource (Griffiths, 2001). The hole intersected the mineralised fault-mylonite zone at 80m. The results provided some encouragement and two more holes were drilled.

Drill Hole 98ORDD-1 Significant Assay Results

From (m)	To (m)	Ag (ppm)	Cu (ppm)	Zn (ppm)
83.00	83.65	0	1350	6600
83.65	84.07	30	2450	15.50%
84.07	85.00	0	7800	4200
85.00	85.67	40	1.18%	3.80%
85.67	86.43	30	5200	4200
86.43	87.50	80	3.60%	1900
87.50	88.50	0	3000	580
88.50	89.50	0	1.35%	1900
89.50	90.00	0	3400	4.50%

Drill hole 99ORDD-2 (115.80m) was also drilled close to the main adit entrance in the same area. It also intersected the fault zone and returned similar grades to the first hole.

Drill Hole 99ORDD-2 Significant Assay Results

From (m)	To (m)	Ag (ppm)	Cu (ppm)	Zn (ppm)
102.50	103.60	70	3.05%	880
103.60	104.50	10	4100	320
104.50	105.55	10	4100	490
105.55	106.55	10	2950	580
106.55	107.55	0	2250	400
107.50	108.50	0	920	620
108.50	109.30	10	5600	490
109.30	110.00	10	110	520
110.00	111.10	90	1.35%	1.35%

The third hole was abandoned at 116.5m with no significant mineralisation being encountered.

Minemakers Ltd – EL 28/2004 Upper Scamander

Minemakers obtained the Great Pyramid area from Allstrong Investments Pty Ltd as a transfer on listing in late 2006 (Drummond, 2006). In this report Dr Tony Gifford gives a summary of all the previous work on Great Pyramid including details on the mining history, geology, previous exploration and ore resource estimates.

The estimates listed below are all pre-JORC except the last which is also not JORC compliant. They are in situ resource estimates that have not made allowances for dilution during mining and hauling. The drilling to date has not completely closed off the mineralization.

Aberfoyle 1970. 4.1Mt at 0.31% Sn

BHP 1981. 4.1Mt at 0.22% Sn (using triangulation method on all data – 0.1% Sn cut-off)

BHP 1981. 3.3Mt at 0.26% Sn (extrapolating a rectangular method on 170m Level)

Shell 1983. 2.8Mt at 0.225% Sn. (Inverse distance squared method - 0.1% Sn cut-off)

Shell 1983. 2.9Mt at 0.212% Sn (Inverse distance method – 0.1% Sn cut-off))

Shell 1984. 3.3Mt at 0.2% Sn (0.1% Sn cut-off)

Merrywood, 1996. 8Mt at 0.19% Sn using a 0.1% Sn cut off
2.5Mt at 0.31% Sn using a 0.2% Sn cut off
0.9Mt at 0.43% Sn using a 0.3% Sn cut off

These figures are basically in agreement and the most recent figures are considered by Featherstone to be to be the best. Featherstone therefore considers that a resource of 2.5Mt at 0.31% Sn is the preferred assessment and the best compromise between grade and tonnage but a feasibility study is necessary to properly assess the options."

This report concluded that the shallow drilling was relatively close spaced and adequately outlined the resource but that deeper drilling was required to confirm depth continuity of the mineralisation. It was noted that this would have the potential to significantly increase the tonnage.

Minemakers proposed the following exploration program to upgrade to a JORC compliant resource:

Minemakers proposed programme is :

- Assemble all historic data and construct a GIS database.
- Twin some old diamond holes with larger diameter RC drill holes in order to determine whether the narrow previous diamond holes have resulted in underestimation of tin grades.
- Follow up with bulk sampling as appropriate.
- Undertake a scoping study.
- Drill out the system, where required, especially at the shallow depths, to enable a JORC-compliant resource estimate to be made as part of a BFS.
- Complete BFS.
- Establish a mining and treatment operation.

Minemakers subsequently were granted Retention Licence 2/2009 and transferred the licence to TNT Mines Ltd.

Hellman and Schofield produced a mineral resource estimate in 2011 for TNT based on the existing historic drilling. An inferred resource of 5.2 Mt @ 0.18% using a 0.15% cut off was obtained (see Summons et al 2013).

EL 31/2010

Pre World War II exploration and mining.

Tin ore was discovered in Ruby Valley 4 miles west of St Helens in 1874. It was rapidly traced back up the Georges River to the Blue Tier where the alluvial deposits were soon found to be floored by tin bearing dykes and greisen in granite. Lode mining commenced in 1895 and it was estimated by Reid and Henderson (1928) that by 1928 1.75mt at 0.15% came from the Anchor Mine and 50 000t at up to 0.35% from the rest of the field.

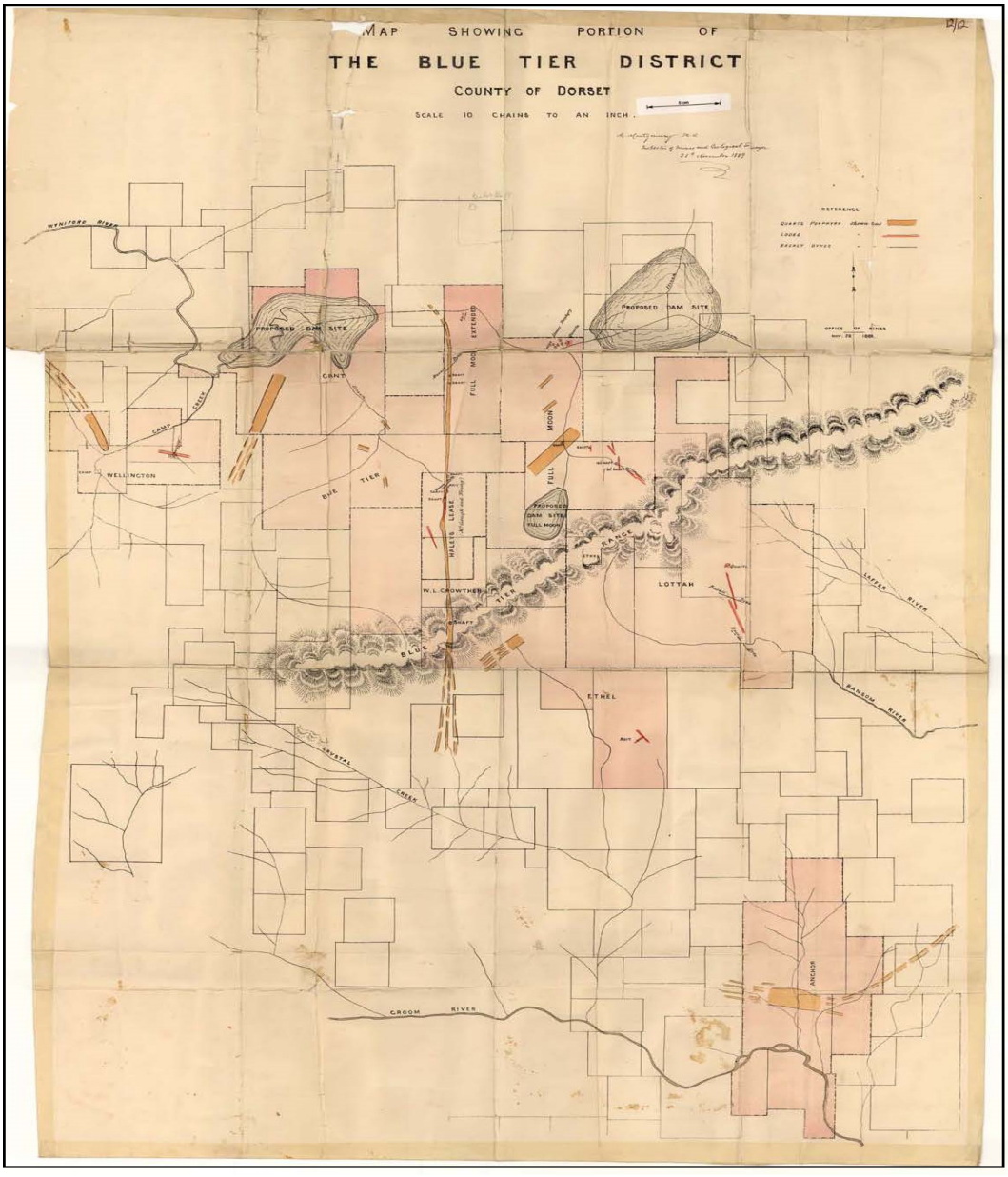


Figure 31 Blue Tier-leases and geology–Montgomery 1889

Initial work by Thureau (1885) and Montgomery (1889) described the mineralisation as being intrusive dykes while Twelvetrees (1901) disputes this with a well presented explanation of the irregular contacts and floor with altered tin granite merging into country rock.

The first systematic exploration of the Blue Tier was by the Mt Lyell Mining and Railway Company in 1904 (Thomas, 1943). A great majority of the known prospects and mines were investigated by drilling (7200ft of diamond drill holes) and trenching.

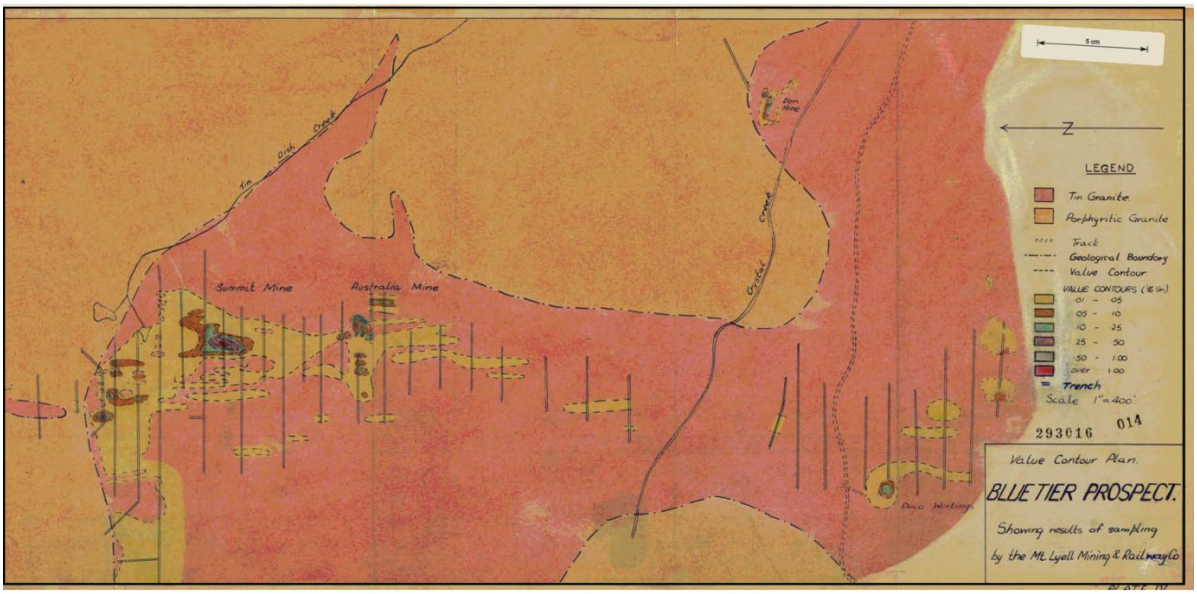


Figure 32 Mt Lyell geochemistry from 1904

Thomas (1943) gives a good summary account of the Blue Tier tin district which includes useful information on production. Anchor Mine was worked through to WW II by a combination of tributors, syndicates and small companies. Production figures are given below:

YEAR	ORE TONS	TIN OXIDE TONS	METALLIC TIN TONS	VALUE £	RECOVERY %	REMARKS
1934	1956	10.125	7.100	1,628	0.36	Anchor Tin Syndicate
1935	18121	100.700	71.428	16,294	0.39	do.
1936	17084	30.500	21.718	4,520	0.13	Tasman Tin N.L
1937	24982	45.150	31.230	7,633	0.125	do.
1938	24528	46.625	33.322	6,377	0.13	do(Tributors
1939	26204	34.123	24.317	5,581	0.09	do.
1940	20652	33.900	24.230	6,211	0.117	do.
1941	10942	35.405	26.110	6,823	0.24	do.
1942		20.210	14.480	3,758		do.

Modern era post WWII

Electrolytic Zinc Company of Australasia Ltd – EL 7/59 Blue Tier

This licence was granted in August 1959. In the final report Lavers (1962) estimates that the Blue Tier tin field produced 5000t from sluicing, 3000t from Anchor and 1000t from other hard rock mines. The aim of this exploration was:

a) To map geologically this intrusion in order to deduce its overall structure;

b) To examine the known occurrences of tin bearing areas in an effort to discover the ore controls;

c) If a) and b) were achieved, to use this knowledge in assessing the field, and in seeking possible new deposits.

The area was mapped using aerial photographs and ground traverses. Samples were collected along these lines and combined with the information from the Mt Lyell work in 1904. The three styles of tin deposit are described as alluvial, quartz fissure filling and pneumatoltic griesens within the tin granite. The griesens form in cupolas or as dyke offshoots from the tin granite. Lavers (1962) comments that the cross sections (see below) show that the cupolas on the main dome of the tin granite have been unroofed resulting in the loss of most of the tin to the alluvial fields.

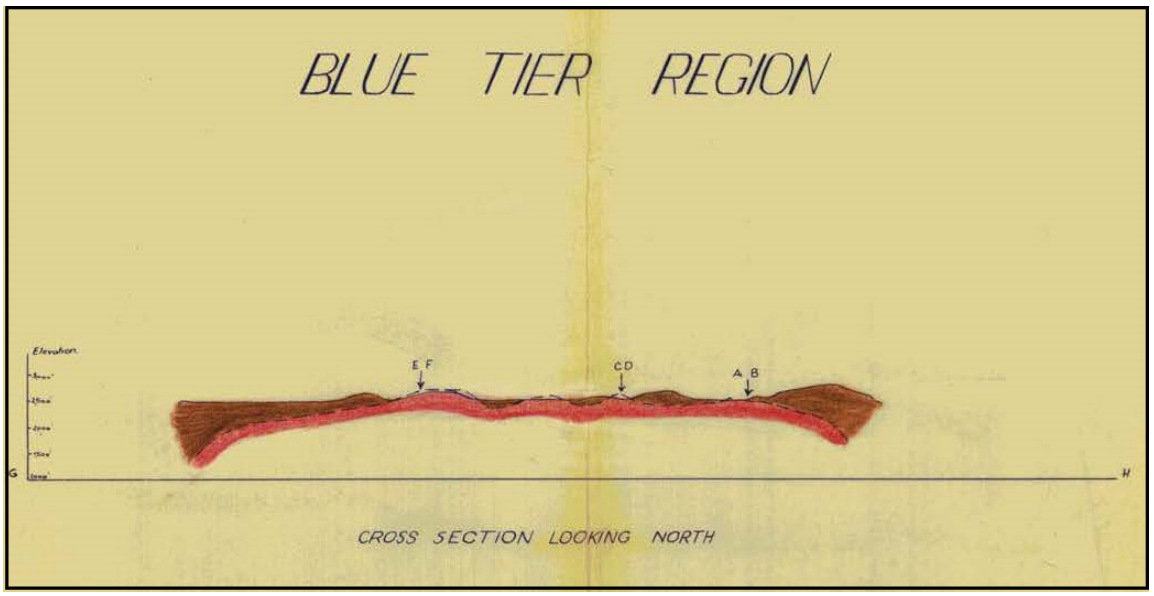


Figure 33 Cross section Blue Tier Region – EZ Co

4) Conclusions

In all, the total reserves of known mineralisation never exceeded 2,000,000 tons of 0.2% ore, occurring erratically throughout a number of favourable traps.

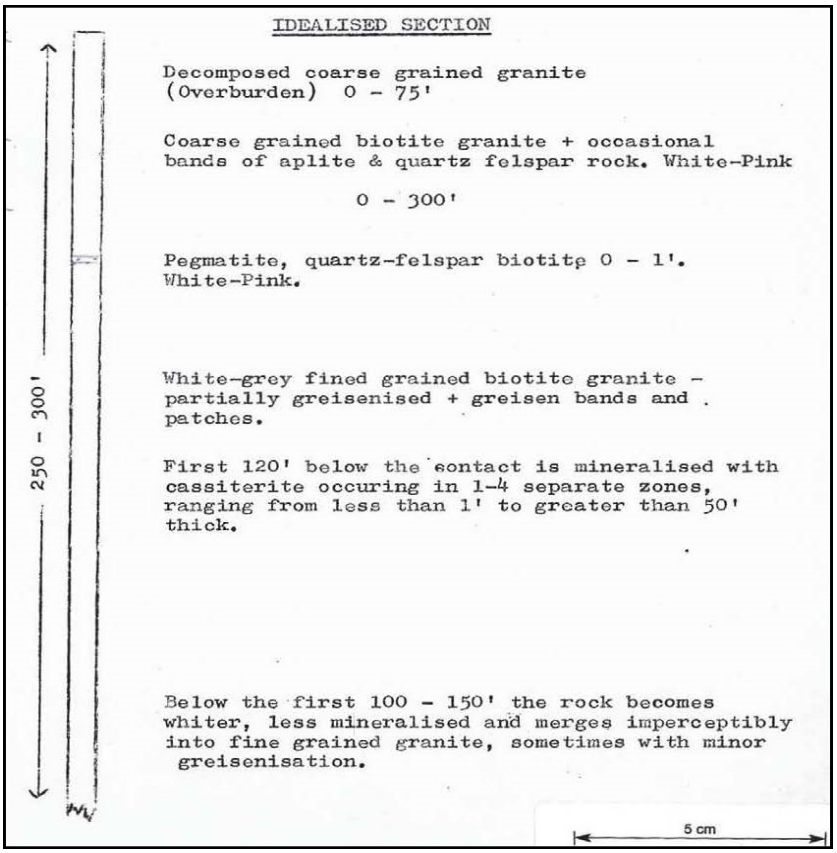
There is no reason to believe that the only remaining untested trap would contain reserves or grades of a greater order of magnitude, or that ore distribution would be more regular.

Any further exploration would have to be in the form of densely patterned drilling to counter the patchiness of the field. The nature and value of the target do not justify such a programme.

It was recommended that the licence be allowed to lapse.

Aberfoyle Tin Development Partnership - EL 3/63 Lottah

In a program at the Anchor Mine in 1965-1966 Aberfoyle drilled 27 holes for a total of 7649ft (Taylor, 1966). An idealised section from this work illustrates the relationship of the tin bearing Lottah Granite with the mineralisation and the Poimena Granite.



The mineralisation occurs in greisen and greisenised tin granite within close proximity to the overlying coarse granite. Cassiterite occurs in 4 to 5 flat lying zones up to 50ft thick. This exploration delineated 1,963,755t at 0.32% Sn. Taylor (1966) concluded that the easterly extension of the Anchor mineralisation had been systematically explored. The economics of extraction suffered from the erratic nature of the cassiterite distribution and it was not seen as being viable to either mine underground or with an open cut. It was recommended that further work should be done on the know orebodies on Blue Tier.

Texins Development Ltd. – EL6/68 NE Tasmania

Herd (1969) did a reconnaissance of the Blue Tier area covered by EL 6/68 and recommended targets for further work. He describes three deposits types as lenticular ("floor type") in the tin granite roof, dyke like bodies of pegmatite and quartz greisen veins.

The mines are described in detail and include the Anchor, Crystal Hill, Liberator, Australian, Don, Summit, Southern Cross, Mt Michael and Moon.

The five prospects he recommended for further investigation were the Liberator "fold', westerly extensions of the Australia Vein, the Southern Cross – Mt Marie Line, the Moon Deposit and the Hope Creek Vein. He also recommended that a study be made into the feasibility of mining several low grade deposits for central treatment and that these deposits should be drilled out.

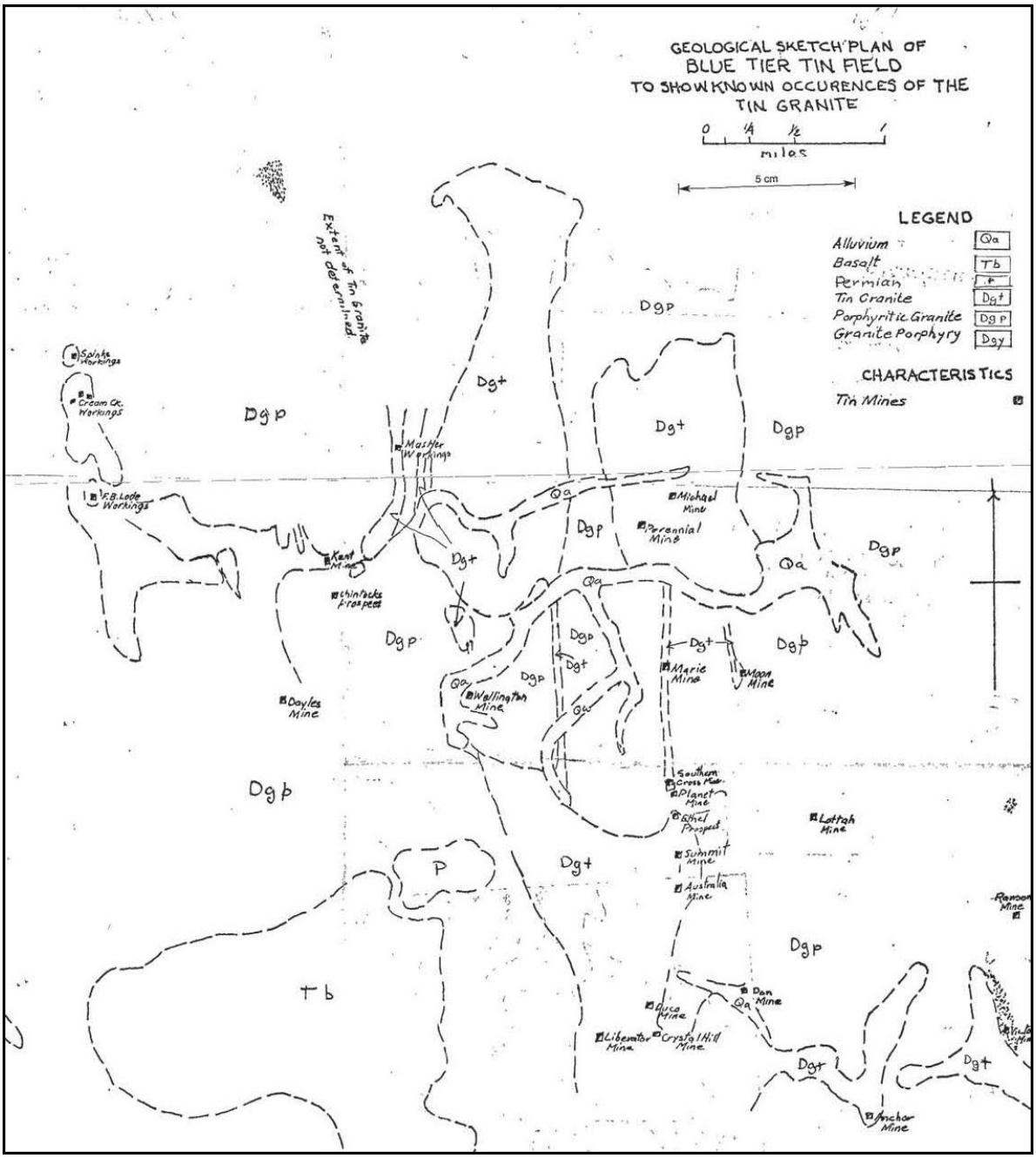


Figure 34 Geology, mines and prospects (Herd, 1969)

In late 1970 Mortimore (1970) reports on follow up geological and rock sampling at New Moon, Australia Mine through the Summit mine to the Ethel Prospect, Gough's Veins, Lottah Mine, Full moon and Hope Creek. He

concludes that “floor type” deposits showed patchy results with up to 5.6% Sn in a background of trace or no tin.

Further follow up work at the Australia – Summit Mine was reported on by Mortimore (1971). The Australia Mine produced approximately 4000t of ore for 35t of cassiterite. Two open cuts of 300ft x 100ft by 40ft deep and 230ft x 60ft by 40ft deep were mined at the Australia with grades from 0.08% to 0.8% Sn. The Summit Mine was a long open cut of 140ft ending in a quarry 30ft deep.

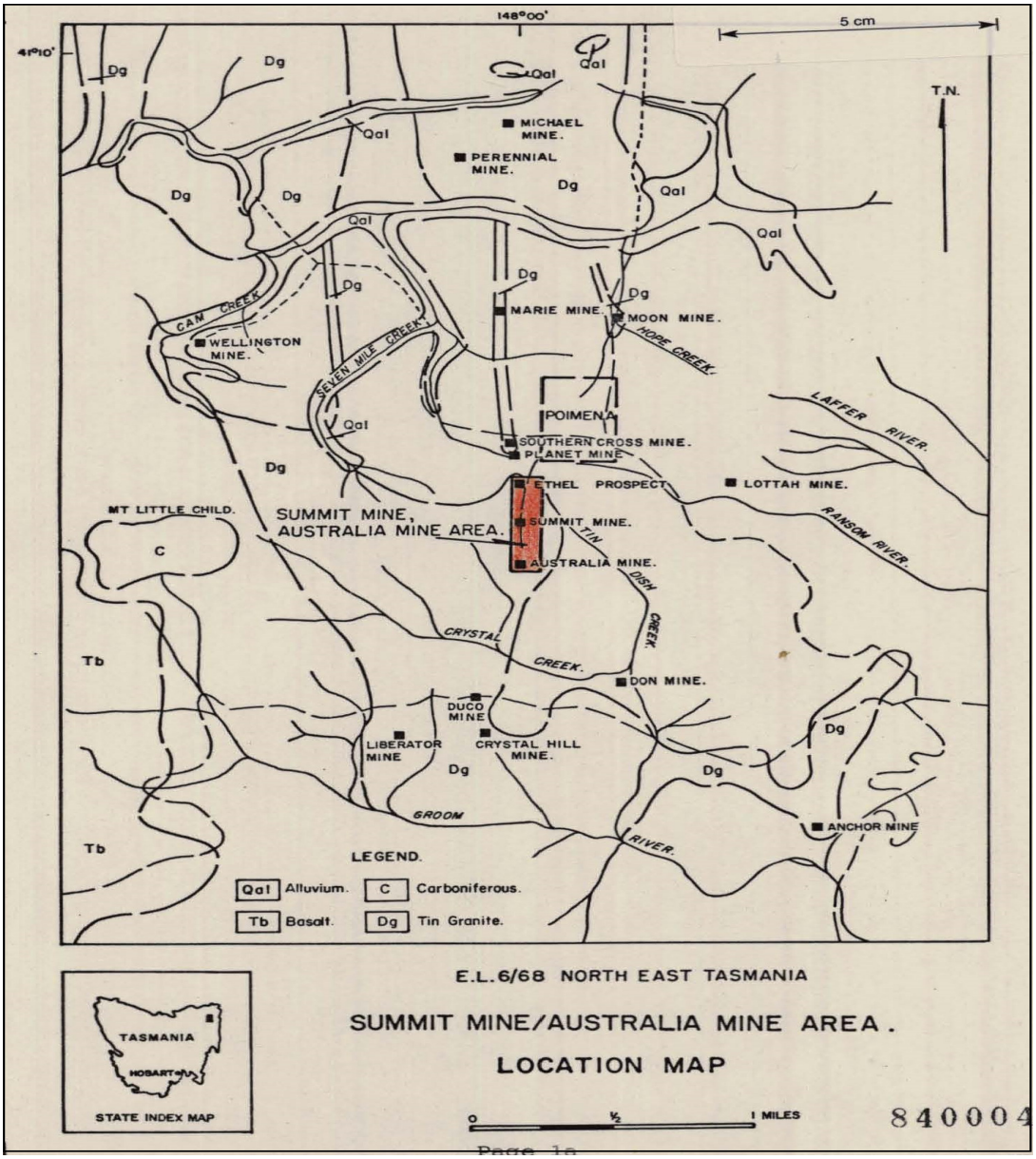


Figure 35 Australia–Summit Mines from Mortimore, 1971

The results were generally regarded as discouraging with wide tracts of tin bearing granite giving sub economic grades. He did recommend further work around the Ethel Mine in the north where a bulk grade of 0.12% Sn was obtained and around the Australia Mine where isolated values of 0.2% Sn

provided some encouragement for testing to the north north east and south south west.

In 1974 the Cream Creek Prospect was investigated by Geophoto Resources for Texins Development (Mortimore, 1974). This area was of interest because of extensive old workings and in the 1940's the Mines Department had drilled 9 holes on the FB Lode to the south of the Cream Creek workings. No report was found but drill logs from MRT indicate encouraging results for this drilling with up to 5ft at 0.40% Sn from 190ft in hole 3, and 5ft at 0.7% in hole 4 from 75ft. Other holes had numerous anomalous zones of tin.

The Cream Creek workings are regarded as being of the "floor" type deposit as seen at the Anchor Mine. A program of mapping, soil sampling and Cobra rock drill sampling was completed in 1972. Using the Anchor Mine work of Aberfoyle as guide as to what was a valid target the geochemistry at Cream Creek gave no indication of the required grades. No further work was recommended.

International Mining Corporation NL – EL12/69 Lottah Area

This licence covered the historic workings of the Don and Anchor Mines and was reported on by Krajnc, 1970.

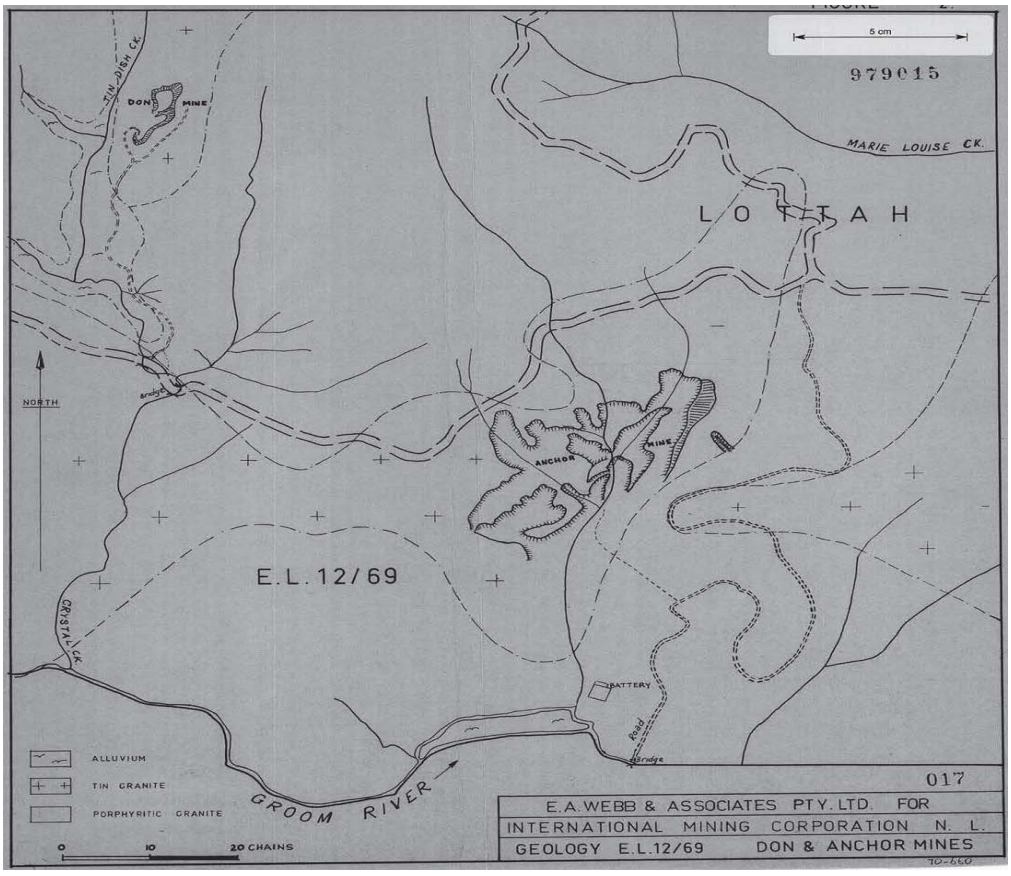


Figure 36 Locality map EL 12/69

A series of costeans (3500ft) was bulldozed in and sampled in a program that aimed to further explore the potential of these two areas following on from the earlier Aberfoyle work.

> Aberfoyle Tin N.L. concentrated their attention on the Anchor Mine, and a programme of pattern drilling was carried out in 1965-1966. Deposits totalling 1,963,755 tons at a grade of 0.33% Sn and an over-burden ratio of 3:1, were proven, with higher grade reserves of 425,434 tons at 0.64% Sn and an overburden ratio of 13.7:1 contained in several blocks. (From unpublished data in Tasmanian Mines Department files).

At the Anchor Mine 14 costeans were channel sampled. The results were low and described as “trace’. Two bulk samples from the mullock dumps did not return measurable quantities of tin.

The work at the Don Mine was restricted to taking a grab sample of rich ore which assayed 2.33% Sn. It was noted that the readily accessible ore had been mined and that any further potential ore would have a high strip ratio.

It was concluded that the deposits were small and low grade with occasional rich lenses. As most of the easily accessible had been mined out any new orebodies would have a high strip ratio. No further work was undertaken.

Gold Fields Exploration Pty Ltd – EL 9/76 Blue Tier Area

The area was explored in a JV with Hellyer Mining and Exploration Pty Ltd (Aberfoyle) from 1977 to late 1985. Cartwright (1985) summarises the work in a relinquishment report that resulted in the retention a 3sq km area around the Anchor Mine. The aim of the program was to explore and delineate the total resources of the Anchor deposit and to locate new greisen style deposits to allow the mining of the area to proceed.

The full summary of the work is presented below:

2. WORK COMPLETED ON THE RELINQUISHED AREA (Figure 2)

The exploration history of the relinquished area since the licence was granted is summarised below. More detailed information is available in the open file reports referenced with the appropriate period of exploration.

1976-1978 Two diamond drill holes (BT40 and 41) were completed in 1978 on the Southern Cross/Haley's workings, 500m northwest of Poimena. Low tin grades were obtained. An orientation gradient array IP survey was carried out over 3 lines northeast of the Anchor workings, but the results of this survey showed that gradient array IP was not a particularly effective technique for locating concealed mineralisation. A similar orientation programme using a radiometric technique also proved fruitless.

References:

78 - 1256 Howland-Rose, A.W., 1978: A Brief Report on a Gradient Array IP Test Survey over the Anchor Mine near St. Helens, NE Tasmania, on behalf of Renison Limited, February 1978 (TAS-053 Scintrex).

78 - 1204 Newnham, L.A., 1977: Summary Report on Blue Tier Tin Prospect, EL9/76, Renison Limited, April 1977.

78 - 1314 Ross, A.F., 1978: EL9/76 - Blue Tier Area, Annual Report 1977-78, Renison Limited, November 1978.

1978-1980 A regional photogeological interpretation of the licence was completed by Hunting Ltd. in 1979. The Lottah Grid was established in the vicinity of the Anchor Mine and mapping, soil sampling and IP surveys (electrical soundings and down hole EIP) were carried out over this grid. Two geophysical anomalies were drilled (BT70 and 78) with negative results.

References:

78 - 1269 Coupard, M., 1979: Photogeological Study of the Blue Tier Area, Hunting Geology and Geophysics (Aust.) Pty.Ltd., February 1979.

? Howland-Rose, A.W., 1978: Comments on Downhole EIP and Resistivity 'At Hole' logs, Anchor Mine, November 1978 (TAS-061 Scintrex).

80-1424 Howland-Rose, A.W., 1979: Comments on Electrical Soundings at the Anchor Mine, June 1979 (TAS-071 Scintrex).

80-1418 Ross, A.F., 1980: EL9/76 Blue Tier Area - Eastern Tasmania, 1979 Annual Report, Renison Limited, March 1980.

1980-1982 At the Moon Mine, situated north of Poimena, 5 drill holes were completed (BT 90, 95, and 112-114) under and around the workings. The first hole, BT 90, obtained 16m of 0.6% Sn in a mineralised zone beneath the coarse-grained granite contact. BT 95, drilled 80m south of BT 90, and BT 112-114 were barren.

Between August and November 1981, Poltock Bros. carried out a large gridding, geological mapping and soil sampling programme over the northern half of the licence area. As a result of this mapping, drilling targets were selected in a search for Anchor style mineralisation in concealed fine-grained granite cupolas.

References:

82-1792 Poltock, R., 1981: EL9/76 Blue Tier Grid; Report for Renison Limited, November 1981.

82-1792 Roberts, P.A., 1982: EL9/76 Blue Tier Area, Progress Report, Renison Limited, April 1982.

80-1488 Ross, A.F., 1980: EL9/76 Blue Tier Area, Progress Report, Renison Limited, October 1980.

1982-1984 In 1982, 20 drill holes (BT 146-165), part percussion and part diamond drill core, were completed at a number of different localities throughout the licence area. The results of the drilling which failed to find buried mineralised cupolas, showed that such targets might exist in certain areas.

The Moon Mine area was re-evaluated in 1982 and the following year 4 drill holes (BT 167-170) were completed there with disappointing results. Also in 1983, a further 8 holes (BT 166, 171-177) were drilled to follow up the buried cupola possibilities, but only unmineralised fine-grained granite was intersected.

In 1984, 3 holes (BT 178-180) were drilled near the Gough's Lode and North Liberator prospects west of Lottah. These holes were designed to complete the coverage of the remaining areas where adequately sized, buried cupolas were thought likely to occur. Unfortunately, only tin poor greisen was intersected.

References:

84-2143 Beddows, J.W., 1984: EL9/76 Blue Tier Area, Progress Report, Gold Fields Exploration Limited, May 1984.

82-1888 Cartwright, A.J., 1982: EL9/76 Blue Tier Area, Progress Report, Gold Fields Exploration Limited, December 1982.

84-2081 Cartwright, A.J., 1983: EL9/76 Blue Tier Area, Progress Report, Gold Fields Exploration Limited, December 1983.

Since 1984, no further work has been undertaken on EL9/76 as the probability of finding concealed greisen tin mineralisation is considered very slight. Consequently, early in 1985 a decision was made to relinquish the majority of EL9/76. A 3 sq. km area around the Anchor Mine was applied for as a retention licence (Figure 2), however it now appears that a 10 sq. km area will be granted.

The very useful interpretive geology and drill hole (BT series) locality plan is reproduced below. The MRT drill hole database also shows these drill holes and provides information on access to this data.

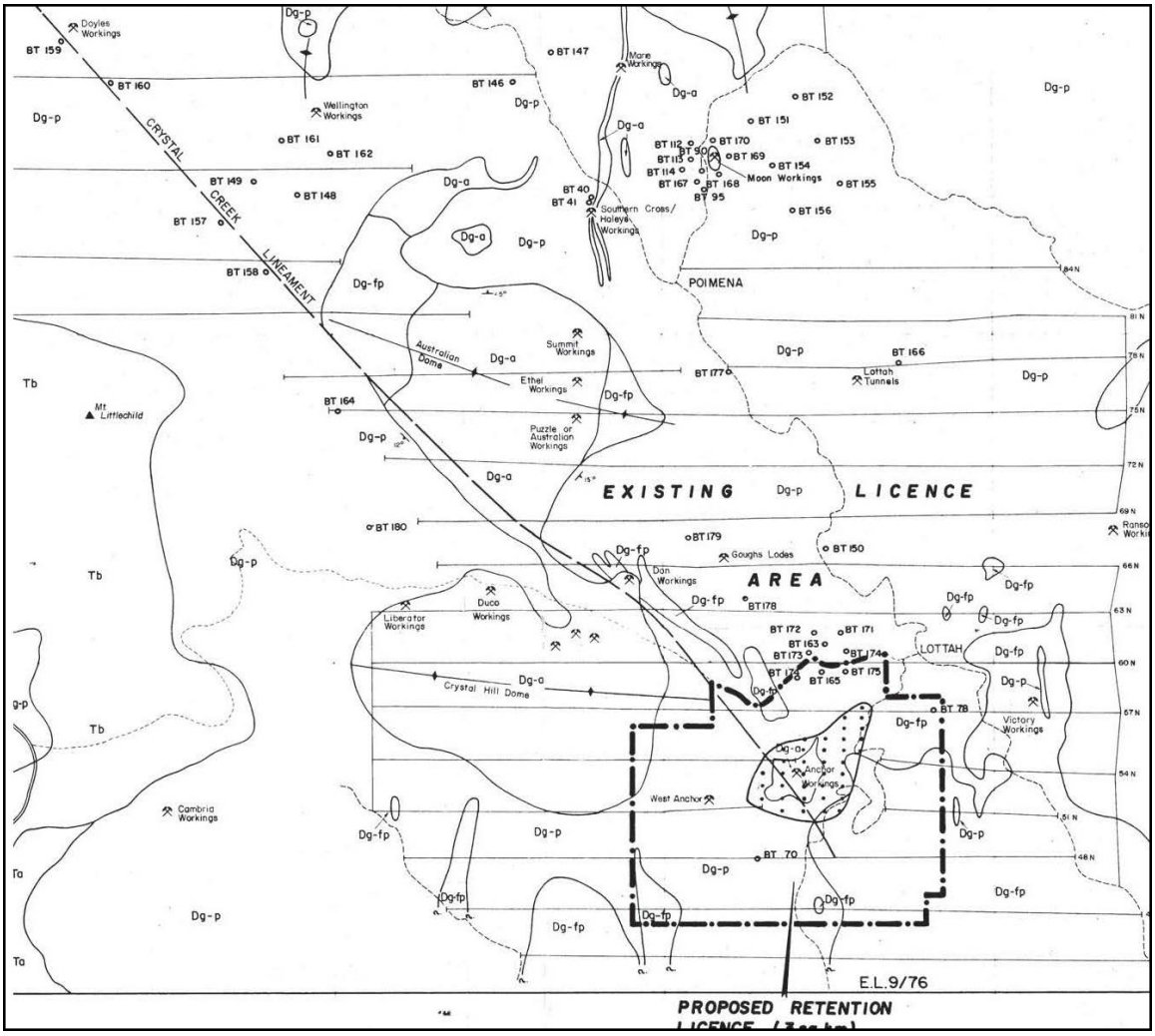


Figure 37 Geology and drill hole locality map (Cartwright, 1985)

Aberfoyle Exploration Pty Ltd – EL 19/78 Weldborough

Aberfoyle applied for this area following a review of the geology and mineral deposits of the Blue Tier Batholith (Young, 1979). The aim was to find a large tin bearing greisen sheet of the Anchor Mine style.

In 1980 a detailed mapping and sampling program over the FB – Cream Creek area demonstrated that the Cream Creek greisenised granite was overlain by unaltered tin and porphyritic granite.

A percussion drilling program of six holes was planned for late 1980. The program failed as the rig was unsuitable (could not drill granite or handle the water).

The licence was relinquished because of the unattractive nature of the prospective targets.

Amoco Minerals Australia Company – EL 32/82 Welborough

The aim of this exploration program was to locate large tonnage low grade sheeted tin greisens in the Lottah Granite in the north and western parts of the Blue Tier (Suppree, 1985). The licence was granted in 1983.

A regional stream sediment survey identified three areas with anomalous tin geochemistry. Soil geochemistry failed to further progress two of the prospect but the third at Spinks Prospect produced a bedrock high of 0.12% Sn.

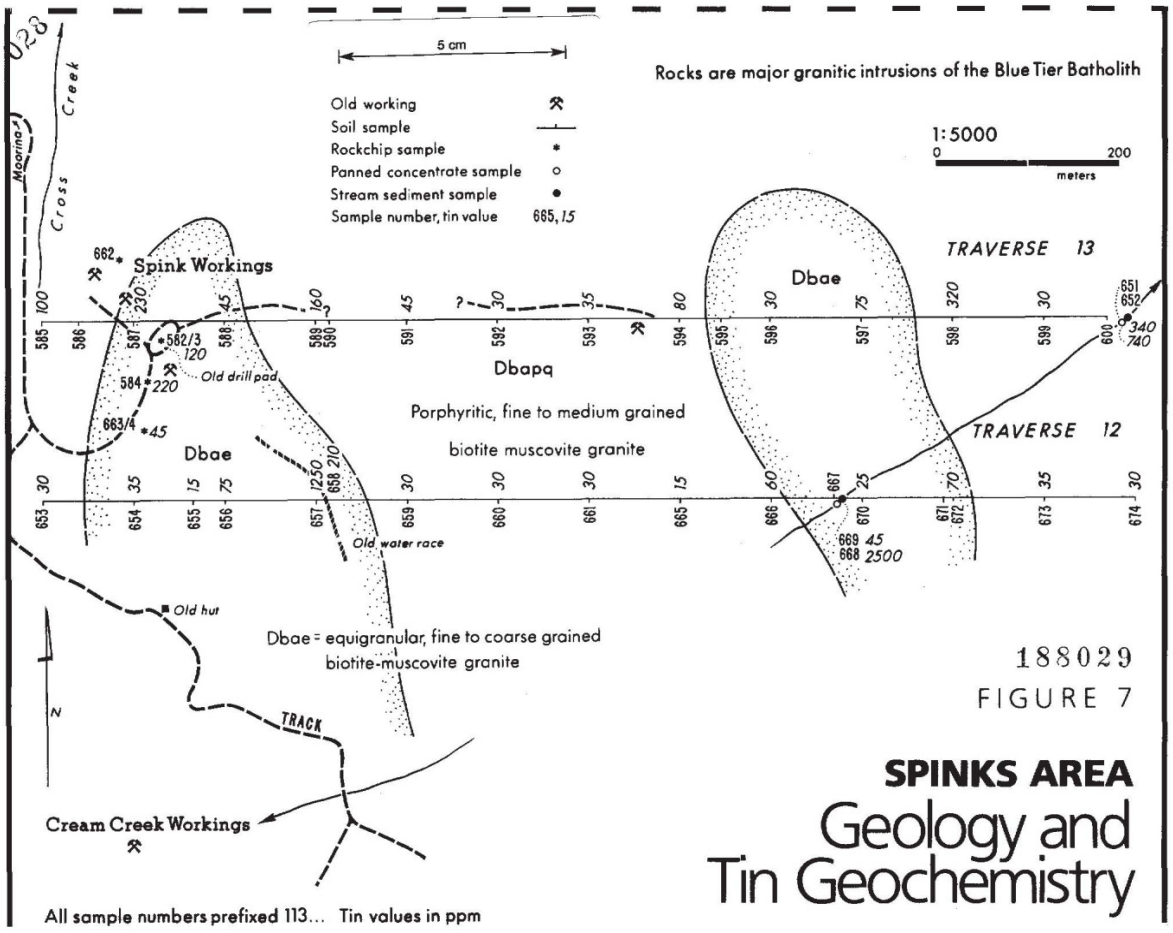


Figure 38 Spinks Prospect soil geochemistry

The Spinks Prospect is immediately to the north of the Cream Creek - FB workings and has evidence of Lottah Granite intruding the Poimena Granite and tin mineralisation.

The area was relinquished as the results were deemed to be disappointing.

Minemakers Ltd – EL 29/2004 Blue Tiers

Minemakers did not actively explore this tenement but rather concentrated on the enclosed ML 55M/1989 over the Anchor Mine. Drummond et al., 2008 have an excellent summary of the Anchor Mine resource and mining history:

> Hard rock tin mineralisation was discovered around 1881 by alluvial miners and the Anchor mine was established, producing tin until 1918 from a series of open pits.
>
> Modern exploration commenced in 1964 and was conducted by Aberfoyle Tin Development Partnership and then Renison Limited through the late 1970's to early 1980's. In 1981 a (pre-JORC) resource of 8.8Mt at 0.18% tin was calculated at a cut-off grade of 0.05%. This included 2.9Mt at 0.23% tin using a cut-off of 0.1% and 633,900 tonnes at 0.49% tin using a 0.2% cut-off grade. In 1983 Renison estimated a (pre-JORC) reserve of 3.5Mt at 0.27% tin at a 0.1% cut-off grade within the global resource. The deposit was considered uneconomic at that time.
>
> An underground mining operation was commenced in 1988 by Spectrum Resources on a high grade resource estimated at 795,000 tonnes at 0.52% tin at a 0.3% cut-off. The mine was put on care and maintenance in December 1991 due to low tin prices.
>
> Mining recommenced in January 1995 until production stopped again in December 1996 due to grade problems and low tin prices.
>
> An estimated total 215,000 tonnes at 0.52% tin was produced between 1988 and 1996. A sulphide concentrate grading at 30% copper and 2% bismuth was also produced during this period. Other potential co products are silver, zinc, copper and tungsten.
>
> A Minemakers Limited mining operation will be open cut and the co-product potential, particularly tungsten and base metals will be fully investigated.
>
> There are currently no JORC compliant resource estimates for Anchor.

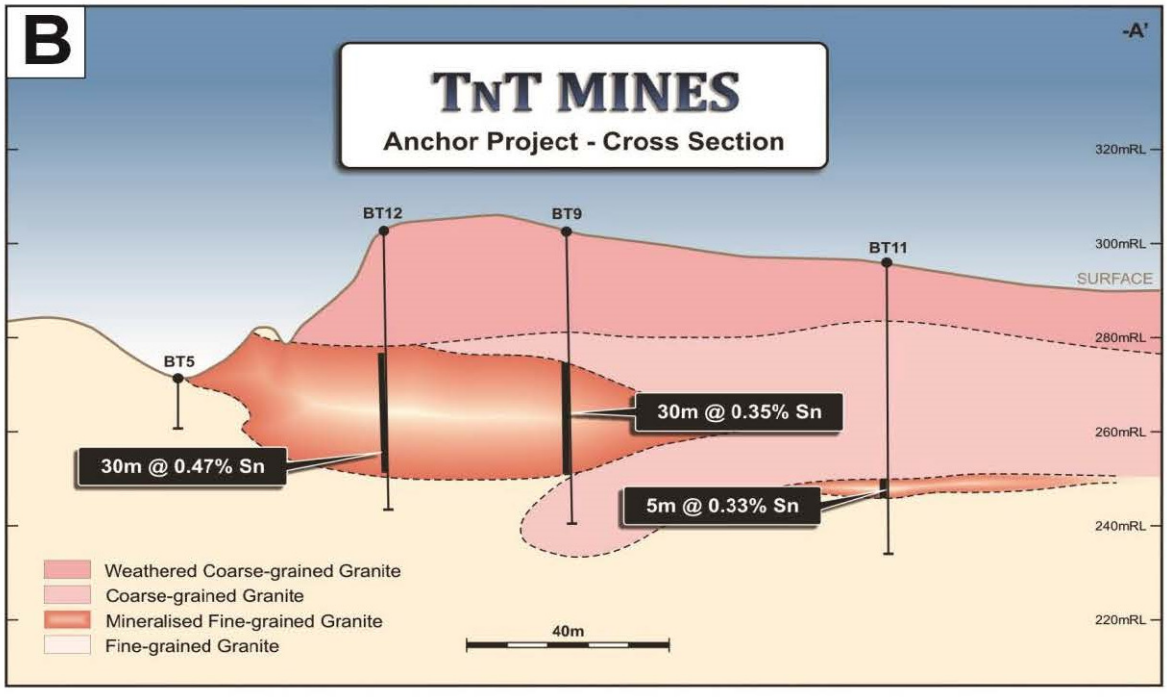


Figure 39 Cross section Anchor Mine from Summons et al., 2013

In a report on the valuation of the Minemaker/TNT/Niuminco assets Summons et al., 2013 summarised the modern exploration at Anchor as follows:

2.5.7 Prior exploration

The exploration summary below has been referenced from 2012 SRK Independent Technical Report.

Exploration and mining activities have been undertaking sporadically at the Anchor Tin Mine and nearby areas for more than a century. Small-scale mining activities are recorded to have taken place sporadically between 1895 and 1942. Systematic exploration appears not to have commenced until the 1970's and has been summarised below:

- 1976; 39 diamond drillholes completed by the Aberfoyle Tin Development Partnership.
- 1977–1985; a joint venture between Hellyer Mining and Exploration Ltd and Renison Ltd completed a 15 hole drilling programme, which was followed by metallurgical test work and feasibility studies. Further drilling at nearby prospects was also undertaken with the aim of identifying more areas of potential mineralisation. Based on the drilling data and using a length-weighted average grade and 0.05% Sn cut-off, Ross (1981) estimated that the Anchor Tin mine hosts 8.8 Mt @ 0.18% Sn of mineralisation (Pre-JORC).
- 1988–1989; Spectrum developed an underground mine and gravity concentrator with a capacity of 100,000 t/year. A total of 124,000t @ 0.61% Sn ore was exploited until the operation was suspended in 1991 (Ref 16).
- 1994; Mancala completed a feasibility study, additional metallurgical test work and modifications to the existing mill. Mining operations resumed in 1995 and produced 91,000t @ 0.40% Sn ore until the mine was suspended a year later (Ref 16).
- 2001; the mine was formally closed and rehabilitation work was undertaken throughout the year.
- 2007–2008; TNT (then Minemakers) conducted the following works:
  - Commissioned Lycopodium Engineering Pty Ltd to undertake a conceptual study on processing and economic viability of the Anchor Tin Mine.
  - Selected historic diamond drill cores were retrieved from the core library of MRT and analysed using a handheld XRF. A total of 3,752 measurements were made on 38 holes and returned an average grade of 0.33% Sn with eight 8 samples ranging between 1.00 and 2.85% Sn. Other significant averaged grades for other elements included 115ppm W, 621 ppm Cu and 785ppm Zn (Ref 16).
  - Acquired and re-processed the geophysical data collected by MRT.

2.5.8 Mineral Resources

The Anchor deposit has a pre-JORC resource estimate of remnant mineralisation of 5.585Mt @ 0.17% Sn predominately within Mining Lease 55M/1989. However, the transfer of this tenement to TNT Mines has not yet been finalized.

Controls on Tin Mineralisation

The distribution of known tin, combined with comprehensive recent research programs on the petrology of granites in northeast Tasmania, supports the views that almost all tin mineralisation in the province is sourced from highly fractionated ilmenite series S-type biotite granites. (Groves et al., 1977, McClenaghan, 2006, 2014, Black et al., 2010, Green et al., 2014).

Ilmenite series I-type granites are spatially associated with a minor number of tin occurrences but it is not clear whether they are the source of the tin, as prospective tin granites are known to intrude earlier granitic facies within the same batholiths and so the tin sources can be roofed by older non fertile granites, which can act as host rocks in the same way as Mathinna Supergroup sandstones do at Great Pyramid. There is evidence of this in the Lottah-Mt Paris granites. The main tin granite plutons in northeast Tasmania (Lottah, Mt Paris, Boobyalla, Royal George and Gipps Creek are relatively minor facies of much larger batholiths (Figure 40).

Regionally tin deposits occur as; granite-hosted greisen sheets, veins and stockworks, exocontact Mathinna Supergroup-hosted veins, stockworks and fault fill structures, and reworked detrital placer deposits in Tertiary and Quaternary fluvial gravels. An important part of the Lottah tin granite is covered by EL 31/2010 but no prospective granite outcrops on EL 30/2010, although aeromagnetic imagery suggests that there may be granite at relatively shallow depth beneath the Great Pyramid prospect.

The thrust of all recommendations in the current report, regarding exploration for new tin deposits, is to focus on the established tin granites and to apply modern geophysical and geochemical methods to generate drill targets testing for greisens and stockwork/sheeted vein systems in subsurface extensions of the tin granites. Almost no persistent modern exploration has so far been carried out on these tin targets.

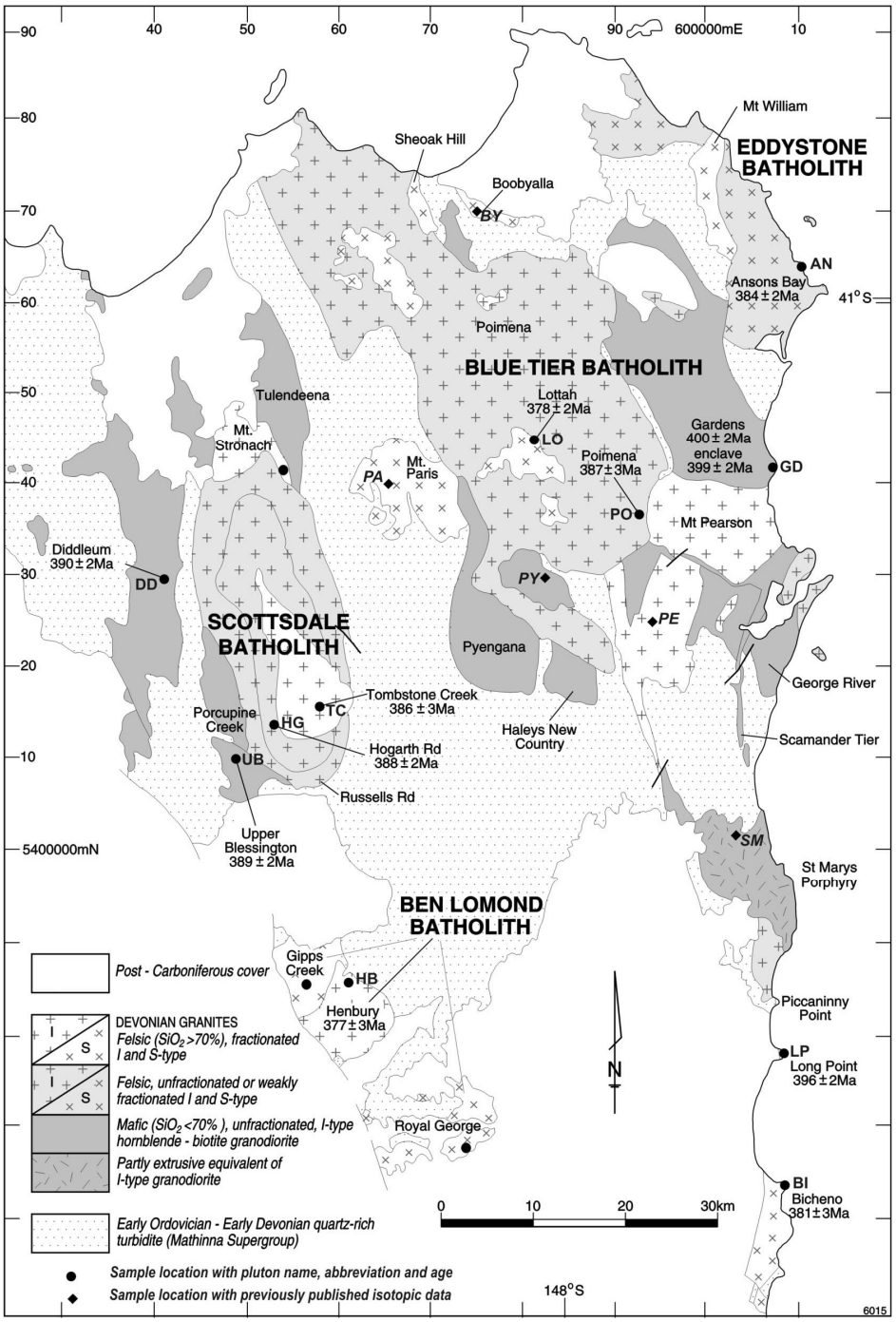


Figure 40 Granite batholiths in Northeast Tasmania (McClenaghan, 2006)

Conclusions and Exploration Recommendations

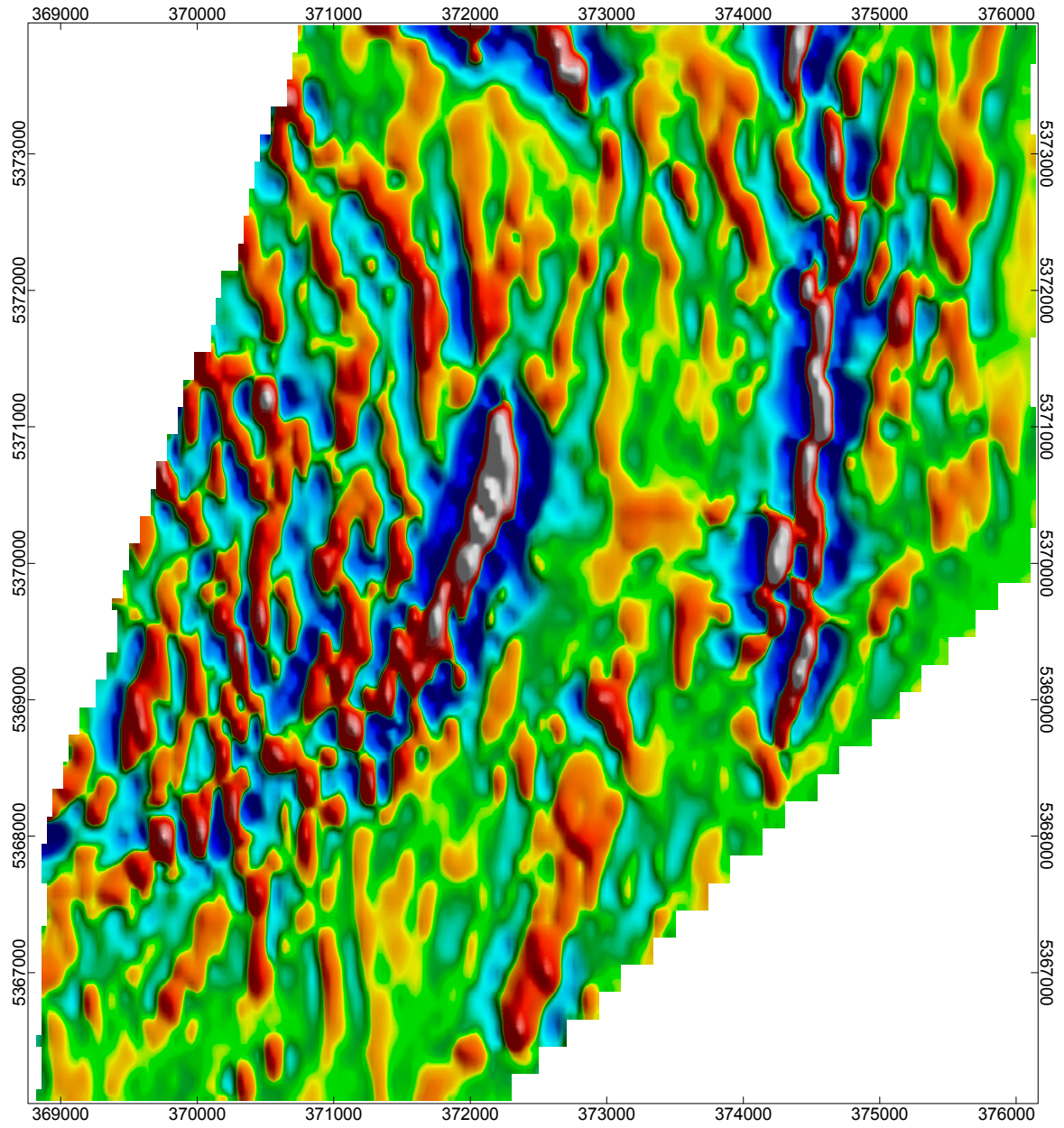
- All known tin, tungsten, copper and silver-lead-zinc mineralisation within ELs 30/2010 and 31/2010, and within the surrounding region, is sourced from highly fractionated late stage facies of the Devonian granite batholiths which outcrop in northeast Tasmania. The economic geology and the mining and exploration history of the region are well enough understood to conclude that future exploration should focus on hard rock greisen and stockwork vein style tin targets, hosted both within the granites and the Mathinna Supergroup host rocks.

- Prospect generation exploration within the two ELs will benefit from a new 50 metre line spaced aeromagnetics-radiometrics helicopter borne survey. Existing 200 metre line spaced data indicate that some of the known prospects are responding to magnetics and radiometrics but the resolution is ineffective in resolving the details needed to progress to ground-based exploration. An example of the extra structural detail achievable from a 50 metre line spaced survey, compared to a 200 metre line spacing, over a tin mineralised area at Renison in western Tasmania, is shown on Figures 41 and 42.

- The review of previous exploration on EL 30/2010 concludes that no significant prospects which warrant follow-up exploration can be identified on ground held by Jiyuan. Therefore generation of new drilling targets will require a greenfields exploration program comprising airborne and ground based geophysical, geological and geochemical surveys. In contrast, the Great Pyramid tin prospect which is held under the Niuminco Group Ltd retention licence RL 1/2009, within EL 30/2010, is rated as the best established prospect within the boundaries of either of the Jiyuan ELs. It is recommended that Jiyuan prioritise negotiations to gain access to Great Pyramid.

- The failed drilling of Aberfoyle at Cream Creek and the interesting results from the Mines Department drilling in the 1940s and Amoco exploration at Spinks Creek indicate that this area requires further work. It is recommended that a program of detailed data compilation to accurately locate the drill holes and on ground mapping, sampling and geophysics is undertaken to allow a drilling program to be planned in the coming summer. This is the highest ranking prospect within EL 31/2010, apart from Anchor which is held under the Niuminco Group Ltd retention licence RL 2/2009.

- Prospects for a successful tin mining project in northeast Tasmania would be substantially improved if Jiyuan could acquire further good quality exploration ground, additional to the Great Pyramid and Anchor RLs recommended previously, over mineralised areas of the Lottah, Mt Paris, Royal George and Gipps Creek granites.

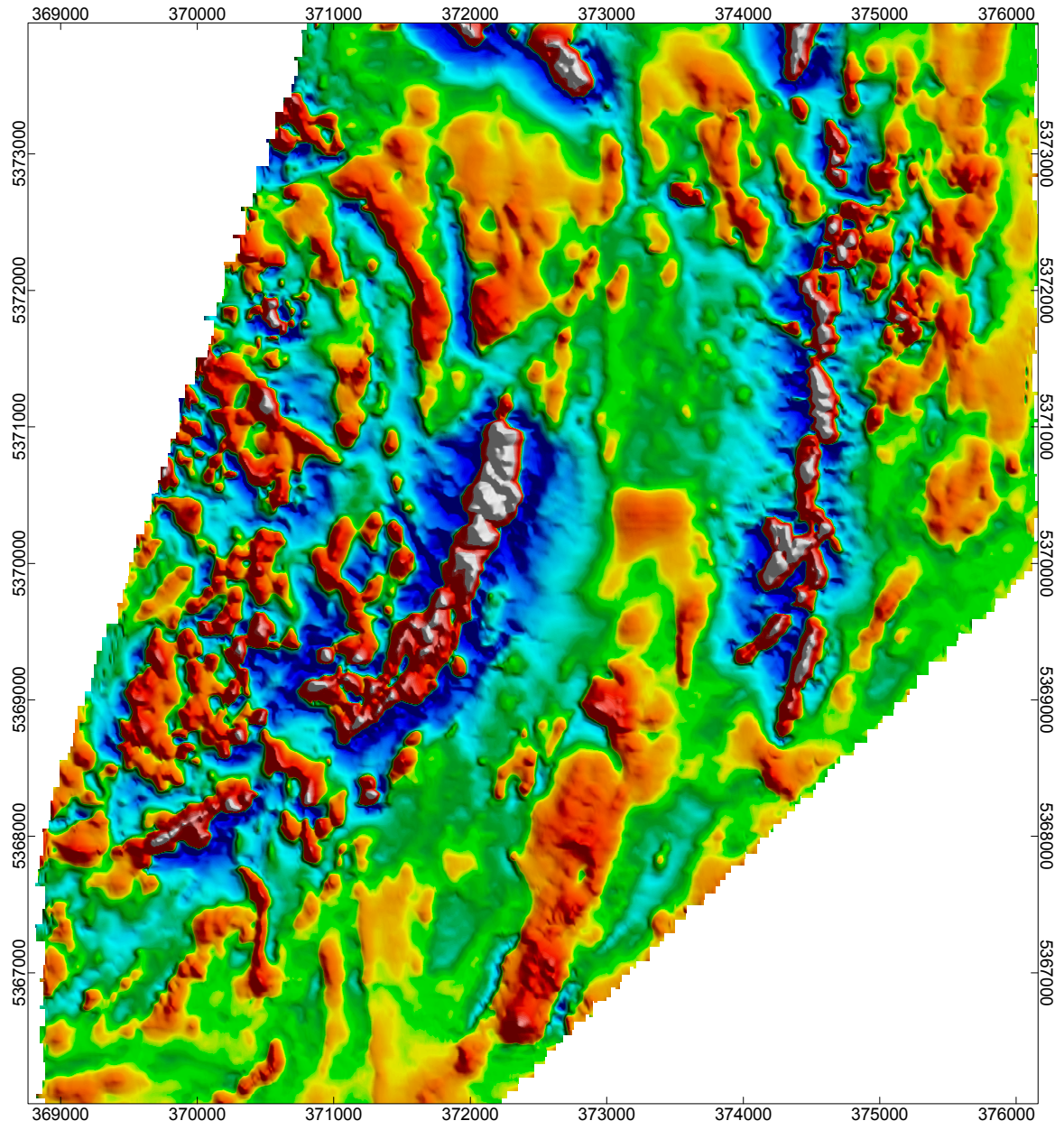


200m line spacing
80m height

Figure 41

Data Resolution Example
First vertical derivative of magnetics
MRT 2001 West Tas survey

1:50,000 when printed to scale
500 0 500 1000 1500
(meters)
GDA94 / MGA zone 55



50m line spacing
50m height

Figure 42

Data Resolution Example
First vertical derivative of magnetics
Renison 2004 detailed survey

1:50,000 when printed to scale
500 0 500 1000 1500
(meters)
GDA94 / MGA zone 55

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