GEOTECH

Geotech International Pty Ltd

Annual Report

for EL2/2016 Royal George

for the Period 25 October 2017 to 24 October 2018

Date: November 2018

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OutSide InSight

CHARTERED PROFESSIONAL
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GEOLOGY

ABSTRACT

This report describes the investigations and activities completed within EL2/2016 during the period 25 October 2017 to 24 October 2018.

The Tenement is located 90km SE by road from Launceston.

The Tenement covers many occurrences of tin in quartz veins and greisen systems prospective for lithium.

Work done by Geotech International Pty Ltd during the period consisted of

- Assemble and organise and assess past exploration data.
- Review and correct data for past stream sediment sampling.
- Review mineral deposits of the area
- Review various remote sensed datasets
- Establish structural controls on mineralisation
- Assess prospectivity for tin.
- Generate exploration targets.

KEYWORDS

NE Tasmania
Geology
Mineralisation
Structure
Remote Sensing
Tin
Lithium
Production
Prospectivity
Targets
Exploration Licence

SUMMARY OF ACTIVITIES for EL2/2016 Royal George
for the Period 25 October 2017 to 24 October 2018

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CO-ORDINATES
All lat/long co-ordinates in this report refer to the GDA94 Datum, unless stated otherwise.
All AMG co-ordinates in this report refer to the GDA94 - Zone55, unless stated otherwise.

FILE SUMMARY LIST

File name	Format	Contents
EL2-2016_2018_report.pdf	pdf	Annual/ Final Report
EL2-2016_2018 data.zip	zip	Mapinfo and excel files Stream sed geochem

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1.0 INTRODUCTION

This report describes the investigations and activities completed within EL2/2016 during the period 25 October 2017 to 24 October 2018.

The Tenement is located 90km SE by road from Launceston, in north-east Tasmania.

Table 1 - Tenement Details

Tenement	Holder	Date Granted	For	Size
EL2/2016 Royal George	Geotech International Pty Ltd 100%	25 October 2016	All Minerals	60km^2

The bulk of the underlying land is Private Land or Reserves unrestricted for exploration.

The project lies within the Tasmania 1:25,000 map sheets of Roys and St Pauls Dome. Much of the area lies in the Municipality of Northern Midlands.

Access is via sealed roads, formed local roads and other rough tracks.

The Tenement covers a number of quartz cassiterite vein systems, and tin bearing greisens. The Royal George deposit lies outside the licence, to the south-east.

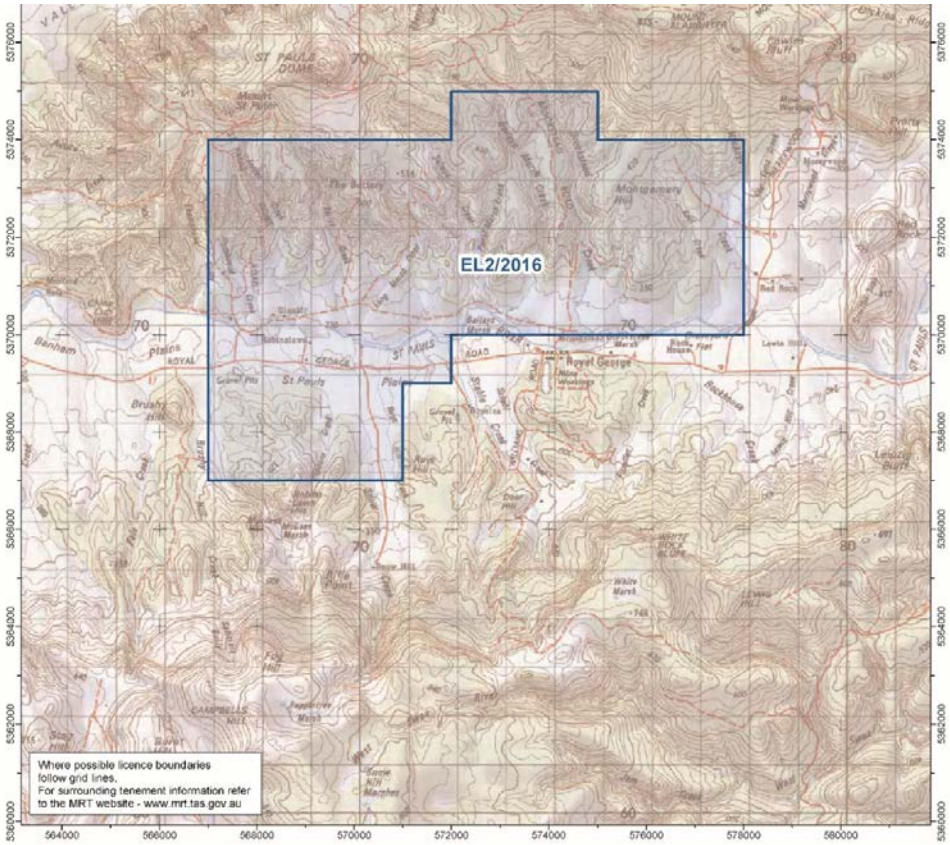


Fig. 1 Tenement Location.

2.0 GEOLOGICAL SETTING and MINERALISATION

The Tenement covers part of the Devonian Ben Lomond Batholith, where specialised fractionated granites occur. These granites were the source of fluids responsible for known tin deposits including the greisen hosted Roy's Hill deposit and the Brookstead quartz vein systems.

All mineralisation occurs in the apical parts of the granite bodies and in the overlying Silurian Mathinna Bed clastic metasedimentary rocks. Contact metamorphic effects are mapped over a large area of the tenement, suggesting that granite lies beneath those metasedimentary rocks at shallow depths of less than 150m.

Unconformably overlying the Devonian and Silurian rocks is a flat lying unmineralised Permian and Triassic clastic/coalseam sequence.

In the Tenement area along the St Paul's River Valley the Permian and Triassic sequence has largely been eroded away. Because for example at Roy's Hill only a thin veneer of Permian is present less than 20m above the valley floor, much of the present land surface must be inherited from the Permian unconformity land surface.

Minor Tertiary basalt, with other unconsolidated Tertiary and Quaternary colluvium and alluvium, occupies part of the valley.

Sand, being a possible paleochannel of unknown but perhaps Paleogene or Neogene age, is in the east of the tenement along the Montgomery Hill ridge. This is more than 150m above the present St Paul's River.

Fig 2 shows the distribution of known deposits, from the MRT Mirloch database. There are extra deposits plotted, or corrected positions of some deposits, plotted on MRT's Roys and St Pauls Dome 1:25 000 scale geological maps. Fig 3 shows the tenement position on MRT's 1:250 000 geology map and Fig 5 shows MRT's mapped geology at 1:25 000 scale.

Note that there is an almost complete lack of tungsten in the area.

Past production of tin from the area is modest and most has come from the Royal George deposit, located in competitor ground about 2km SE of the Tenement. Past production is poorly recorded but it is likely that the biggest production from lodes within the Tenement was probably from the Brookstead vein set, though production from several placer operations may have exceeded that.

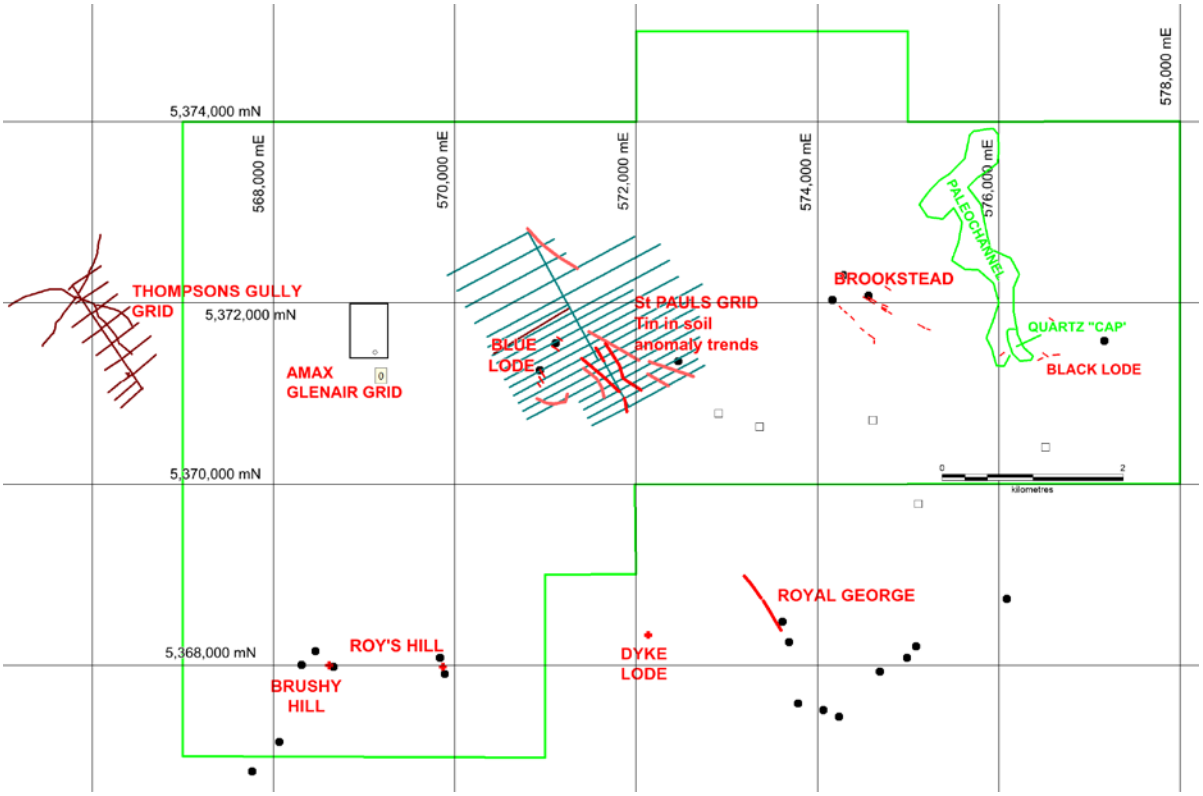


Fig 2. Distribution of known mineralisation and grids. Black dots are hard-rock tin deposits and small open squares are alluvial deposits, both from the Mirloch database.

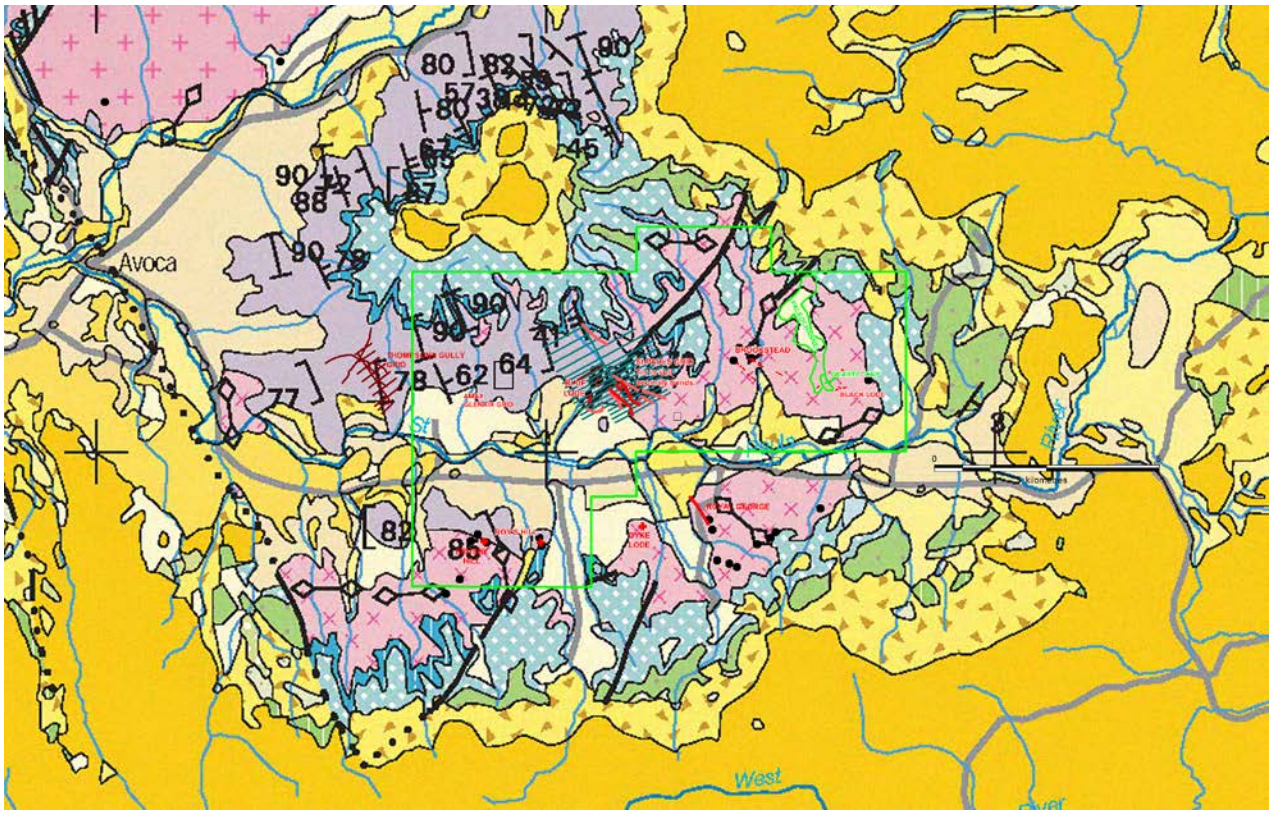


Fig 3 Geology. Part of MRT's 1:250 000 geology plan for SE Tasmania.[Mathinna Beds-mauve, Granite-pink]

3.0 REVIEW OF PREVIOUS WORK

In 2017 Geotech carried out a review of prospectivity for lithium.

Past work by other organisations has been assembled. A summary of the work is compiled into a spreadsheet, Table 2.

Documented past work has included:

(a) Mines Department:- publications from 1892 to 1929, covering (especially) Roys Hill and Brookstead workings.
(b) Hitchcock:- 1937 description of workings and sampling at Brookstead.
(c) R. D Beattie:- BSc Honours thesis on geology of the Royal George area, including descriptions of workings and mineralisation at Roy's Hill and Brookstead.
(d) CRA:- analyses, especially of samples collected previously by the Cornwall Coal Co at Brookstead, (there are no open file reports of Cornwall Coal's work), but also including analyses from Roy's Hill; assessment of prospectivity of Brookstead and Roy's Hill.
(e) Amax:- regional rock chip sampling; regional stream sediment sampling; gridded soil sampling mapping and rock chip sampling and petrology at Glenair; detailed description of mineralised system at Blue Lode.
(f) Shell:- regional rock chip sampling; regional stream sediment sampling; gridded soil sampling, mapping and rock chip sampling and percussion drilling at "St Pauls Grid"; mapping and rock chip sampling at Roy's Hill and Brookstead.
(g) Seltrust:- regional stream sediment sampling; mapping and rock chip sampling at Roy's Hill and Brushy Hill.

TABLE 2

MRT Open File	When	Who	Author	EL	What									Nearby EL2/2016			Notes
					Regional drainage geochem	Regional Rock Chip	Roys Hill	Brookstead	St Pauls Grid	Glenair	Blue Lode	Brushy Hill	Placers	Thompsons Gully	Dyke Lode	River Valley	
86-2556	1985	Shell	Whitaker	30/1984	X		X							X			
86-2549	1985	Shell	Whitaker	7/1978	X			X	X 2 p holes						X		
85-2408	84-85	Shell	Whitaker	7/1978				X	X 4 p holes								
85-2407	84-85	Shell	Whitaker	30/1984	X		X										
82-1701	1981	CRA	Dunn	7/1978												X 6 p holes	
84-2125	1984	Seltrust	Dunbar	48/1981	X		X					X		X			
84-2080	1983	Seltrust	Dunbar	48/1981	X		X					X		X			
84-2195	1984	Seltrust	Brady	48/1981	X		X					X		X			
81-1662	1981	CRA	Purvis	7/1978			X	X							X		
84-2088	1983	Shell	deGraff			X											
82-2062	1983	Shell	deGraff			X											
83-1994	1983	Amax	Vivian	7/1978						X							monthly reports only
83-2032	1983	Amax	Vivian?	7/1978	X	X				X	X				X		
	1967	Hons Thesis	Beattie				X	X					X				
37-0069	1937		Hitchcock					X									
0243-001	1895	Roys Hill Tin Mining Co					X										
GSB40	1929	Mines Dept	MacIntosh Reid				X	X					X				
UR1923_125-136	1923	Mines Dept	MacIntosh Reid					X									
UR1928A_004-9	1928	Mines Dept	Anon				X								X		
OS_170	1901	Mines Dept	Waller				X										
OS_143	1899	Mines Dept	Twelvetrees				X										
OS_098	1892	Mines Dept	Montgomery					X									
OS_109	1893	Mines Dept	Montgomery				X										
OS_110	1893	Mines Dept	Montgomery					X									

4.0 EXPLORATION COMPLETED DURING THE REPORT PERIOD

4.1 Field visit.

In the previous annual report possible lithium-mineralised areas were documented. In this reporting period it was planned to field visit and sample these targets but family illness prevented this.

4.2 Assemble and Organize and Review Past Mining and Exploration Reports.

All available relevant open file data, Mineral Resources Tasmania reports and one available University thesis were assembled and a review was completed. Table 2 shows the relevant reports and their coverage of the main prospects.

The work done by Seltrust on Thompson's Gully was reviewed because of its proximity to the Tenement. The grid was digitised; its position is plotted on Fig 2. The entire grid and sampling lie outside the Tenement in Mathinna Bed metasedimentary rocks.

AMAX completed a grid based soil sampling and rock chip sampling and geological mapping exercise on the Glenair grid. This was based on a local grid and the position could not be accurately enough determined to digitise it, so only the rough position of the grid is shown on Fig 2. This work was entirely within Mathinna Bed metasedimentary rocks.

Shell conducted a large program on their St Paul's Grid. This straddled the contact of Mathinna Beds and granite. Their program included geological mapping, soil sampling, an Induced Polarisation geophysical survey, and percussion drilling. The position of the grid is shown on Fig 2. A discussion on their program is in Section 4.4 below.

R D Beattie, in 1967, for an Honours BSc thesis, conducted detailed field mapping of the area, assisted with laboratory petrology, and some of the mineral deposits were visited, described and discussed.

More details of the work done by various explorers on particular deposits is in Section 4.4.

4.3 Review of Past Stream Sediment Sampling.

Stream sediment sampling was done by Shell, Seltrust, and AMAX, with differing methods of sample preparation, and differing elements analysed. The most useful analyses for the purposes of this review are for Sn, with W being almost absent in the area. Other elements such as Cu, Pb, Zn were checked to see if they were useful pathfinders to mineralisation, but are not.

MRT has digitised the location and analyses of most of the samples collected by Shell, Seltrust, and AMAX as part of their state-wide database; no samples from the area that are particularly relevant have been left out except for a few south of Brushy Hill. However the database has significant errors with the locations of Shell's samples in the Brookstead area. This includes samples east of 147.885 degrees E, and north of 41.808 degrees S. The effect is to position many samples too far north. To attend to those errors Shell's plan in [86_2549] was registered in mapinfo and the samples locations

and Sn analyses were digitised into an excel file, appended to this report.

Note that only Sn values are recorded on this Shell plan and the method of sampling and analysis are not stated in their report. It is possible other elements were analysed but these are not mentioned or plotted.

A plot of Sn values including the incorrect ones is shown on Fig 4, and the corrected Sn plot is shown on Fig 5.

There are very anomalous Sn values exceeding 200ppm in many places, not all directly related to known deposits, thereby attesting to the general prospectivity of the area. Many samples from drainages only in Mathinna beds contain values in the range 50 to 100 ppm; these are significant anomalous areas supporting the presence of leakage/minor veinlets which could reflect major mineralisation around the granite contact at reasonable depths.

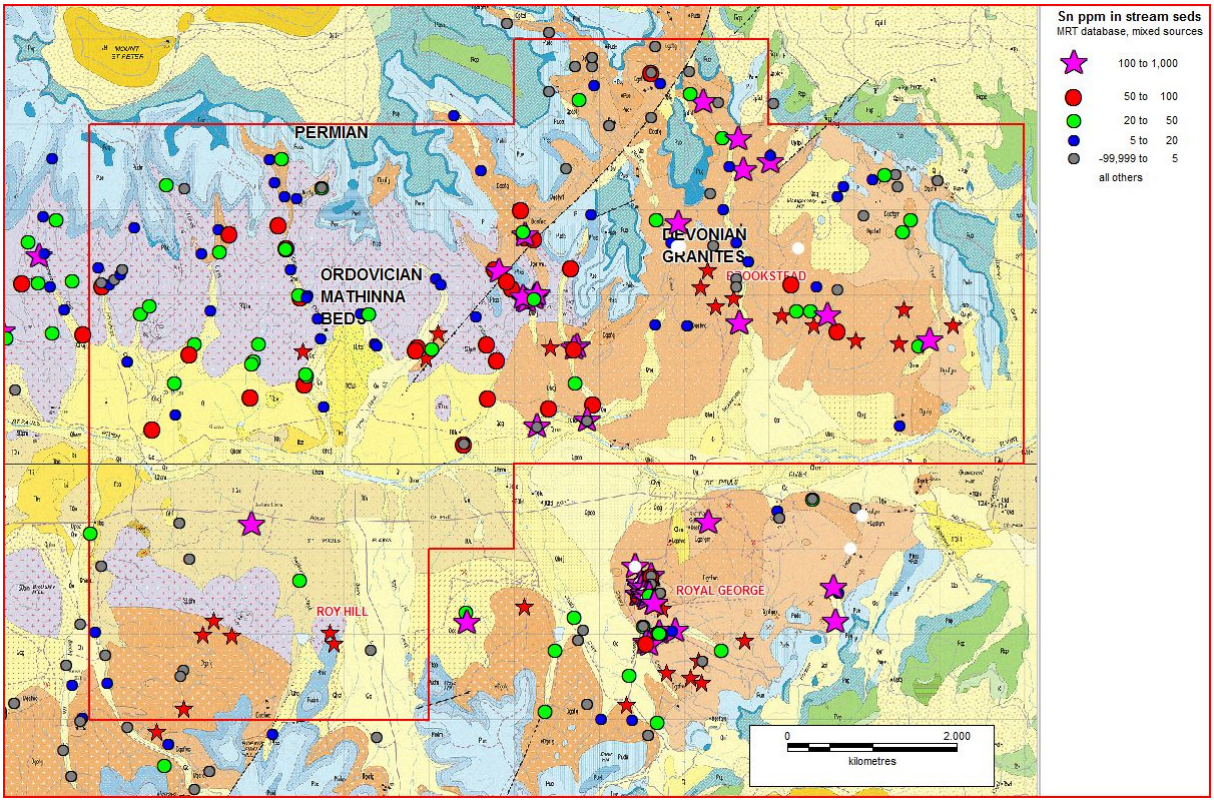


Fig 4. Sn, ppm, in stream sediment plotted from MRT database. This has errors in plotting of location of samples north of Brookstead. [Note that in this plot the small red stars are locations of Sn deposits, not geochem samples].

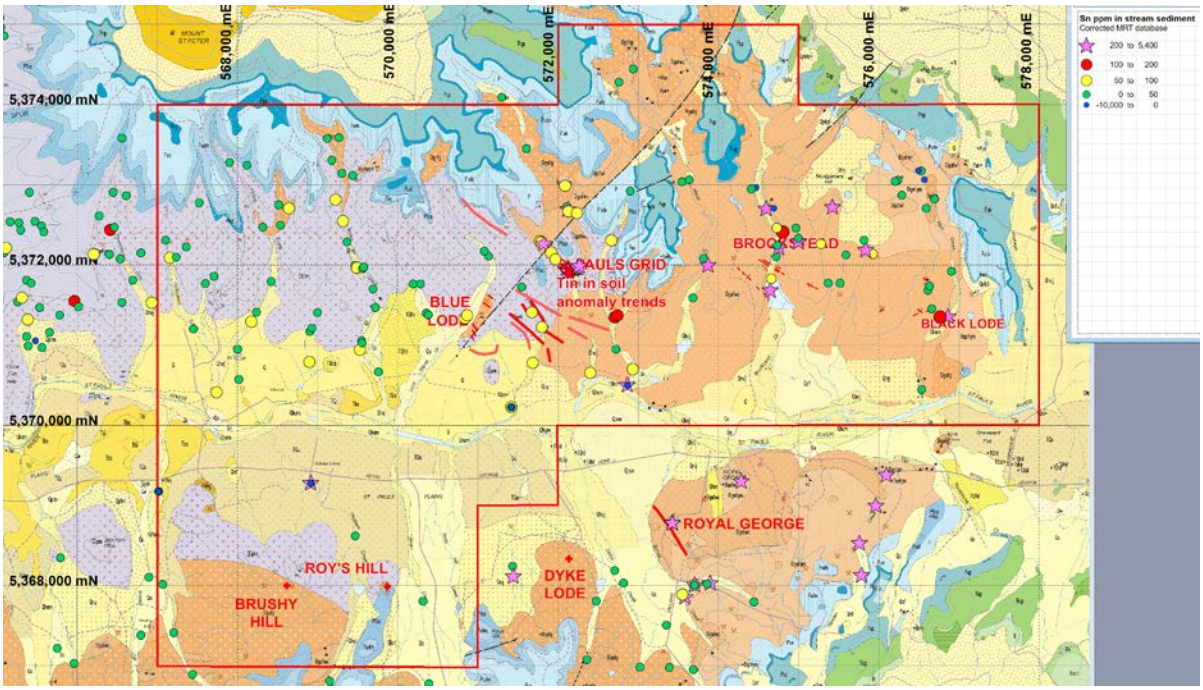


Fig 5. Sn, ppm, in stream sediments, corrected positions. [Note that the class intervals are different to those in Fig 4.]

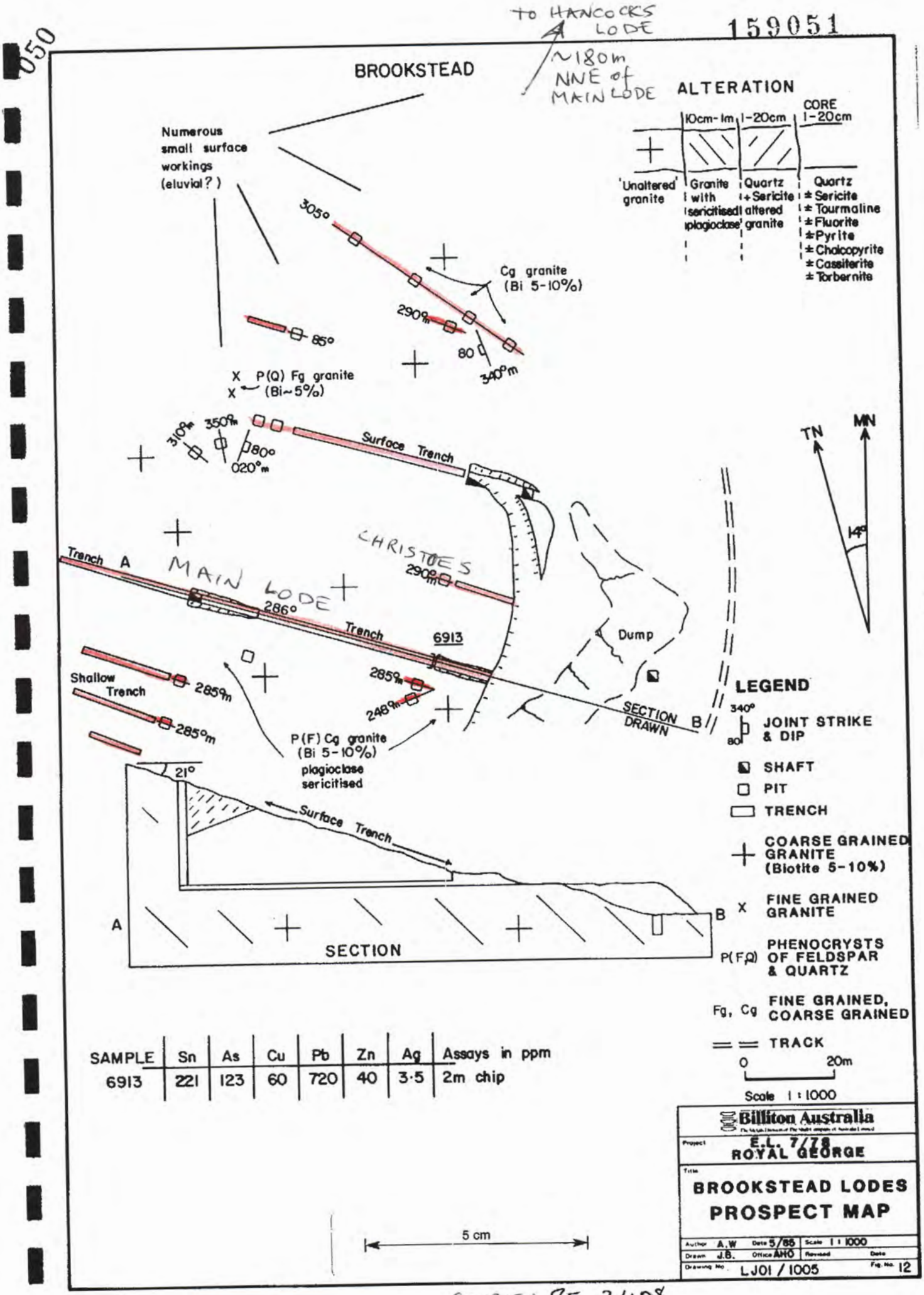
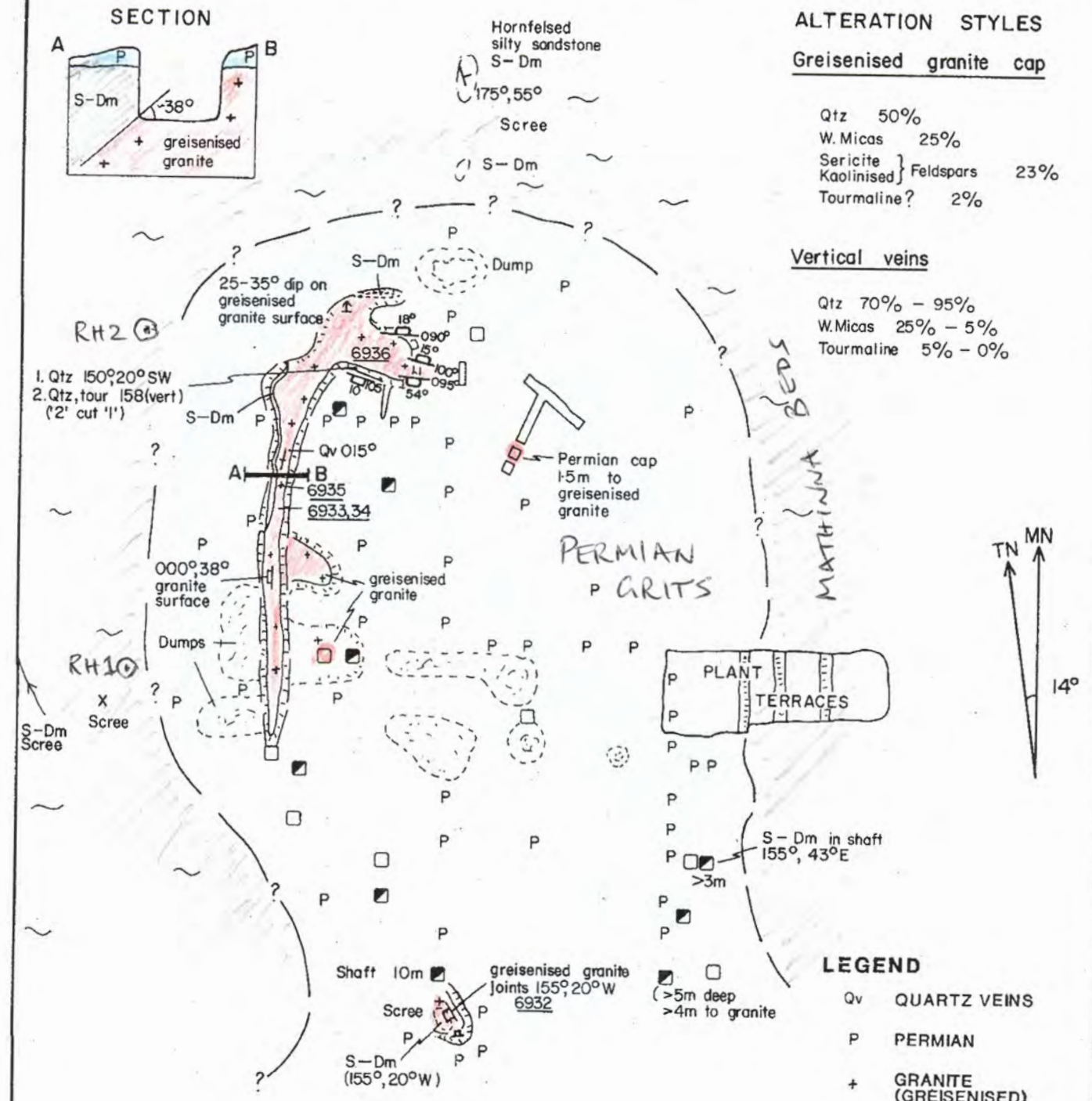


Fig 6.

SOURCE: 85 2408

014

023019



Samples	Sn	As	Cu	Pb	Zn	Ag	Description
6932							Chip of GREISEN
6933							Chip of GREISEN
6934							Chip of BASAL PERMIAN
6935							Chip of VERTICAL QUARTZ VEINS
6936							Chip of GREISEN

HOLES RH1 + 2 approx plots by P. ASKINS from MRT plan 3124

86-2556

0 25m

Scale 1:250

Billiton Australia

E.L. 30/84
AVOCA

ROYS HILL
PROSPECT MAP

Author A.W. Date 5/85
Drawn J.B. AHO
Drawing No. LD03/1002 Fig No. 6

Fig 7.

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4.4 Review of mineral deposit sampling and descriptions.

A first pass read of the reports on all deposits visited by Mines Department personnel was done. All reports are prior to 1929, and although rich in description each is annoyingly deficient in maps, especially of location of described deposits. Mines Department geologists at that time collectively seem to have been on steroids because all reports dealing with the Avoca Tinfield have glowing very exaggerated descriptions of the number, extent and continuity of lodes. For example the plan in GSB40 shows a very fanciful incorrect sheeted vein system over a vast area. Future more detailed re-reads of these reports will doubtless be required to glean valuable information. This will probably be helped by downloading historical newspaper articles from the TROVE website.

Modern explorers have not found any new lodes, though I believe Shell has outlined a major new system on the St Paul's Grid.

A summary of assessments, particularly by the modern explorers, for each major deposit is below:-

Brookstead.

Source, especially [CRA 81_1662], map [Shell 85_2408] Fig 6 ; I have yet to review the detailed individual Mines Dept reports; and checking the TROVE website for old newspaper reports should help.

Worked especially 1891 to 1900 for 1300t of 'ore'. It seems work was also done sporadically until 1939 when a flood and World War II intervened and no production has happened since.

Main Lode: Strike 285 degrees magnetic, 120m long 0.5 – 1.8m wide but average less than 1m. Adit 115m along the lode, sampled by Cornwall Coal Co in 1967 to 1970 { I can find no records of this work on MRT open file or in the MRT maps register}. CRA analysed those samples:- Average 0.25% Sn, but there is an 85m strike of 0.5% Sn. Consists of quartz-dark green tourmaline-sericite-fluorite, with a narrow greisen selvage of <100ppm Sn, then unaltered granite northwards for 27m to the adjacent parallel Christoes lode. Lodes rapidly die out along strike to wispy tourmaline bearing zones.

Christoes Lode: Adit collapsed but CRA stated that Cornwall Coal's data suggested that mineralisation was much weaker than the Main lode.

Hancock Lode: not yet reviewed; plan 0346_001 shows that the lode is 230m north of the Main Lode.

Fig 6 shows the distribution and rough strike lengths of lodes in the area. Clearly there is a sheeted vein system here, but the distance between lodes of essentially barren granite would preclude any grand scale low grade open pit operation.

Both CRA and Shell concluded that there is no remaining economic potential.

Roy's Hill

Reviewed for its lithium potential in the 2017 Annual report.

The whole prospect lies only about 20m above the general valley. The Permian cap is almost eroded away, suggesting that the current topography to the north is an only just exhumed Permian land surface.

Waller way back in 1901 [OS_170] drew an analogy of the greisen cupola with that at Zinnwald. I failed to note this in my 2017 Annual Report where I used that analogy for the possible presence of lithium micas at Roy's Hill.

Shell [86_2556] presents the best geological map, reproduced here as Fig 7. There is a greisen occurring in a granite cupola measuring 200m by 50-70m dipping to the west, north, and east, overlain by a thin cap of Permian grits 1 to 4m thick. Minor quartz veins are mapped.

Shell [86_2556]:- Two diamond holes were drilled in 1967 by Cornwall Coal Co west of the open pit to examine the granite contact. On the MRT drill interactive webpage, the hole collars are sited incorrectly far to the east of Roy's Hill. Logs of the holes are in the MRT database, and plan 3124 in the MRT map database shows the location of the holes, which I transcribed onto Fig 7. RH1 was drilled to 92m passing through unaltered hornfels into unaltered granite. RH2 was abandoned at 46m before reaching the granite contact, also with no altered rocks.

The deposit was mined in 1893 to 1895 [Beattie 1967]. The New Roy's Hill Tin Mining Company mined the deposit again, unsuccessfully, in 1911, [Trove Newspaper reports].

CRA [81_1662] state production to be less than 100t Sn. There exists a shallow open cut yet opinion is that miners worked high grade veins and tin rich greisen patches, not a bulk mining of greisen. There are shafts and an unknown degree of subsurface workings. Some production was from the basal part of the Permian grits, which contain cassiterite.

The greisen was sampled and analysed for tin by Shell, by CRA and by Seltrust [84_2195], recording values from 4 to 513 ppm.

Blue Lode

The location is mapped in [Shell 86_2556]. See Fig 8.

[AMAX, 83_2032, page 49], records a collapsed shaft and several 2m wide trenches at 200m intervals oriented E-W, within a granite body 650m by 30 to 100m. They state the lode is a fissure less than 0.5m wide, surrounded by blue-hued quartz tourmaline rock.

Black Lode

[Shell 86_2556] has mapped the general area, so the location is shown in the plan in that report.

Apart from early Mines Department skeletal descriptions explaining that Black Lode was named after the abundance of black tourmaline, CRA [81_1662] records work done in 1969 to 1970 by Cornwall Coal {not on open file!} of channel samples in two 1.8 to 3m wide vertical greisen lodes in granite; all samples analysed less than 0.4% Sn.

AMAX [83_2032, page 50] collected channel samples (or are these actually Cornwall Coal Co samples?) carrying “only low Sn values”.

Glenair

AMAX [83_2032] expended a lot of effort in detailed descriptions and petrology of quite minor mineralisation which they found following regional stream sediment sampling program. There is a general presence in the area of tourmaline in fractures, minor sheeted quartz veining, quartz tourmaline veins and breccias in Mathinna Beds.

Three costeans were placed across a vein which seems to have a strike of less than 50m, with a best sampled analysis of 0.38% Sn over a 1m width.

Brushy Hill

In this area MRT’s Roy Hill 1:25 000 geological map shows mineral occurrences where Mathinna beds are in contact with granite, and AMAX [83_2032] records stream sediment anomalies in this general area. AMAX cursorily followed up these anomalies but could not locate the sample sites nor find mineralisation. More work is needed here.

Quartz “cap” north of Black Lode

A large body of quartz, about 300m by 150m, occurs along a ridge north of Black Lode; its position is shown on the Shell map in [86_2556]. Mines Department descriptions refer to it as unmineralized but consisting of a “cap” below which mineralisation can be expected. It contains sporadic tourmaline. It is described variously as massive quartz, and as quartzite. I speculate that it may be greybilly at the side and at the base of the postulated paleochannel occurring here; or possibly it is a (rather large!) pipe body which may indeed be mineralised sub-surface. It needs a field visit and sampling if warranted.

St Paul’s Grid

On this grid Shell [86_2556] generated a very large (1100 x 1100m) significant Sn anomaly in soils, commencing at Blue Lode, progressing eastwards through Mathinna beds and into granite. There are distinct NNW oriented high zones in the overall anomaly, suggesting that these high anomaly trends neatly outline zones of subtle veining and alteration. A 10 mesh fraction of soil was analysed by XRF for Sn, and for other elements such as W As Cu pb Zn, all of which had low tenor. Shell’s soil geochemistry plan I have reproduced as Fig 9. I digitised it in mapinfo registering the local grid in GDA94 Zone 55 projection.

The geology was mapped, and I have reproduced it here as Fig 8. Noteable features are the fault running NE, juxtaposing granite next to Mathinna Beds in the Blue Lode area, and the widespread tourmaline alteration.

Rock chips were collected in places. The maximum recorded analysis was 0.77% Sn from a Mathinna metasediment.

An induced polarisation geophysical survey was conducted because it was thought that mineralisation could carry disseminated sulfides as at the Royal George deposit. Some rather weak chargeability responses were recorded, and these showed no correlation to the soil anomalies. The resistivity responses were consistent with a granite occurring at

shallow depth. Two holes (SP4 and SP6) were drilled (see below) to specifically test two weak chargeability zones, but failed to explain the source. Note that CRA's IP at Royal George produced only a weak response despite the sulfides present, so a lack of IP response here is not indicative of lack of mineralisation.

Percussion drilling was conducted in two phases, the first phase before the IP survey. All holes were collared in hornfels (Mathinna beds) and oriented 60 degrees westwards. All intersected granite. Results were:-

SP1. Fig 13. Depth 152m, granite intersected at 119m. The hornfels contains broad zones of low tenor tin associated with quartz (veinlets?) with much tourmaline alteration. Interval 0-12m averaged 250ppm Sn; interval 28-119m averaged 230 ppm ranging from 10 to 1800ppm.

The granite is slightly argillic-altered, carrying lesser Sn values with a maximum of 210ppm.

SP2 and SP2A. Depths about 100m, granite intersected around 30m, but most analyses around 50ppm Sn with a maximum of 130ppm.

SP3. Depth 106m, granite intersected at 6m; from 56-106m a zone of argillic and chlorite-sericite-muscovite-weak pyrite alteration with 50m@670ppmSn, including 2m intervals of 1550, 1100, 1030, and 3400ppm Sn.

SP4. Testing an IP target. Depth 110m, granite at 88m.Best intercept in Mathinna bed quartzite was 32-36m, 4m@345ppm, with most Mathinna carrying less than 50ppm. Granite is unmineralized, with less than 22ppm Sn.

SP6. Testing an IP target, but not anomalous soils. Depth 100m, granite at 32m. Some weak alteration but no analyses exceeded 42ppm Sn.

After conducting this program Shell believed that little economic potential remained.

4.5 Review of Airmagnetic data

Airborne TMI data was downloaded from GA's repository, imported into ERMapper and an enhancement of vertical sun was produced. I also possess and used a TMI image with NE sun, produced by MRT.

The aim was to determine if mineralisation had a magnetic expression which could be used for targeting. Unfortunately the known mineralisation such as Royal George and Brookstead has no magnetic expression.

However the TMI has proved useful to map:

(a) subsurface extent of Tertiary basalt in the St Paul's River valley floor. This is negatively polarized in the west and positively polarised in the east, suggesting that two flows exist.

(b) subtle low tenor responses in alluvial areas, possibly due to concentrations of ilmenite and magnetite, thus outlining the subsurface position of drainages,

(c) the structural architecture.

Fig 10 shows TMI with NE sun, showing these features.

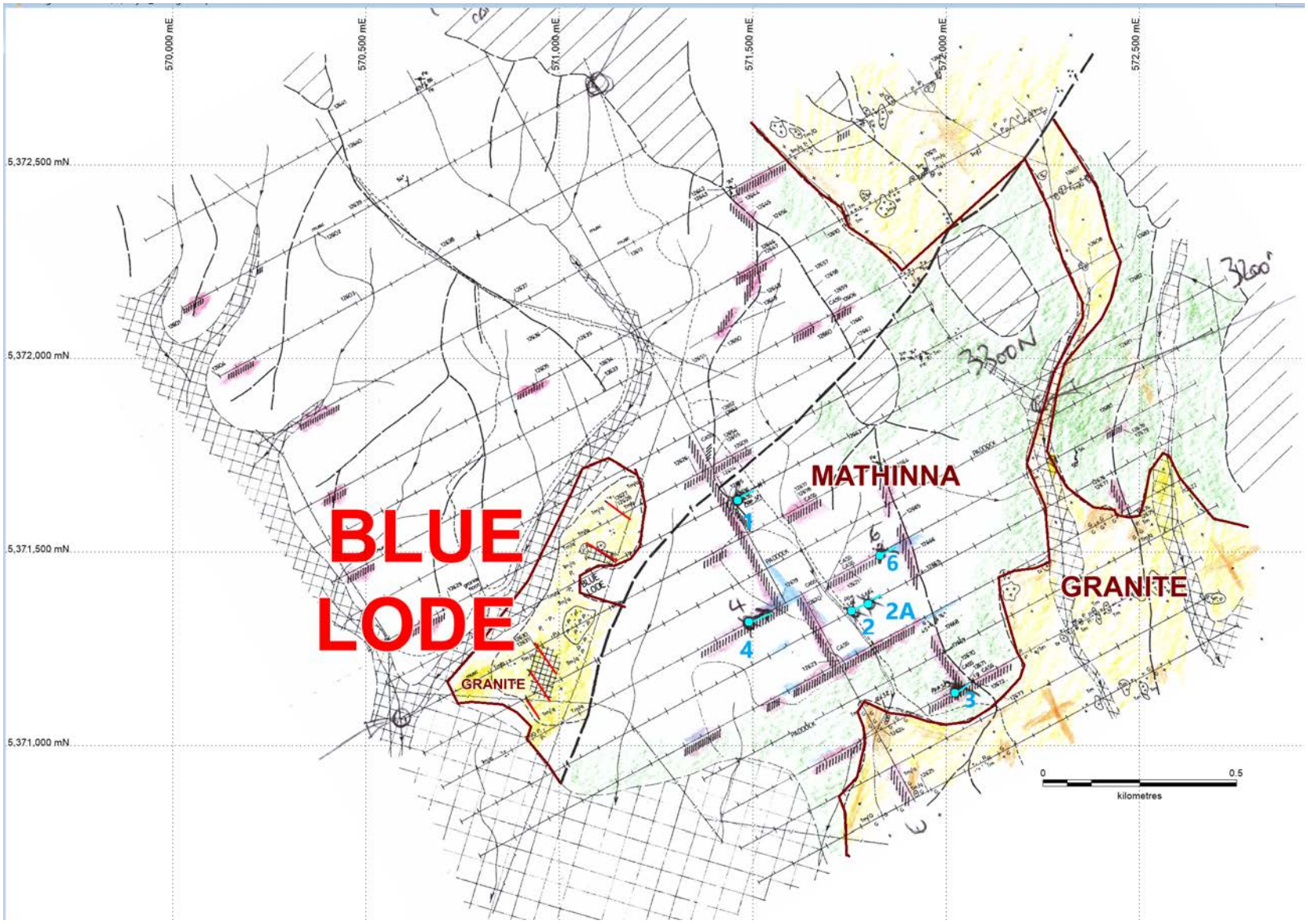

Fig 8. St Paul's Grid. Geology, reproduced from Shell [86_2549], showing tourmaline-altered zones in mauve, some IP anomalous zones in blue, and location of drill holes. The plan is now oriented on a GDA94 Zone 55 projection.

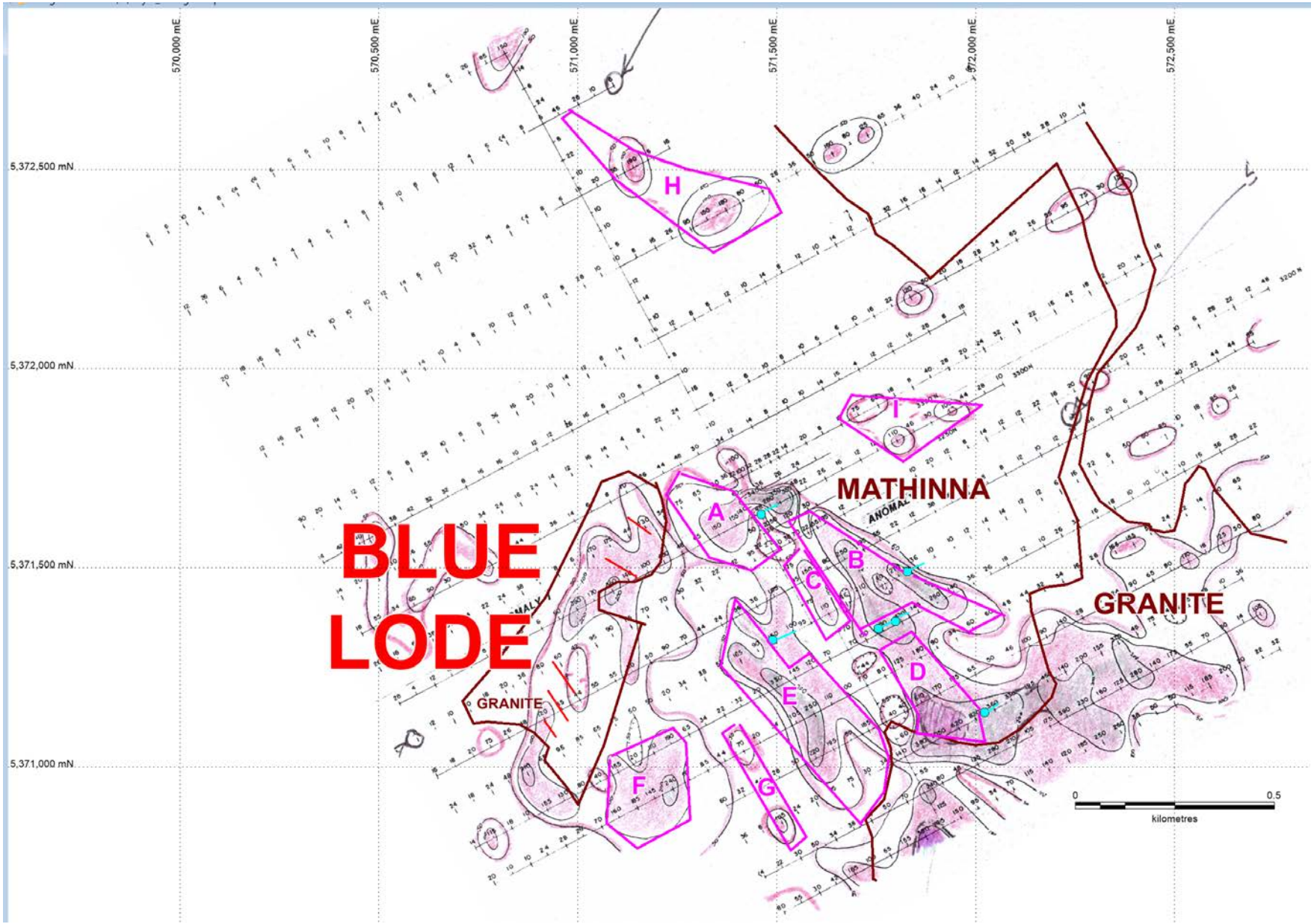

Fig 9. St Paul's Grid. Tin (ppm) in soils, reproduced from Shell [86_2549]. Polygons are untested targets discussed in the text.

4.6 Review of Airborne radiometric data

Airborne K U Th data was downloaded from GA's repository, imported into ERMapper and exponential enhancements with vertical sun were produced.

Results of note are:-

(a) all granites are enriched in K, U and Th, thus confirming their specialised fractionated nature.

(b) Elevated anomalous K occurs in much of the Mathinna beds in an east-west zone, Fig 11, but such anomalism is not a universal feature of the Mathinna beds, suggesting that here K anomalism is caused by K-mica alteration formed during metasomatism from fluids derived from granite below.

(c) There is a tendency for K Th and U anomalism to also concentrate in drainages,

(d) The postulated paleochannel has no radiometric response.

4.7 Review of gravity data

A significant study by Leaman of ground gravity was done covering this area and the eastern coalfields and is in GSB60. A study of this has commenced.

4.8 Review of ASTER data

The MRT report and associated files assessing ASTER in NE Tasmania (Nunn et al 2007) was consulted. No features in the plots in that study 9 (231 and 468 stretches, TM 741 simulation) correspond to known mineralisation and so cannot aid in the targeting of mineralisation.

All processed ASTER "products" for Tasmania were downloaded from the CSIRO website. These included CSIRO Landsat TM Regolith Ratios ; Green vegetation content ; Ferric oxide content ; Ferric oxide composition ; Ferrous iron index ; Opaque index ; AlOH group content ; Aluminium hydroxide group content ; AlOH group composition ; Aluminium hydroxide group composition ; Kaolin group index ; FeOH group content ; Ferric hydroxide group content ; MgOH group content ; Magnesium hydroxide group content ; MgOH group composition ; Magnesium hydroxide group composition ; Ferrous iron content in MgOH/carbonate ; Ferrous iron content in Magnesium hydroxide/carbonate ; Silica index ; Quartz index ; Gypsum index.

Disappointingly, for all products, no anomalies corresponding to mineralisation nor to the paleochannel were identified.

However both the silica index and quartz index show distinct responses corresponding to the Royal George tailings and to areas south of Brookstead. These latter areas seem to be rehabilitated early alluvial tin workings and/or unworked placer deposits on elevated river terraces. They will be further investigated.

4.9 Review of Landsat, Google and State Air photo Imagery

All these datasets were examined to aid targeting.

4.10 Review of DEM imagery

Airborne DEM data was downloaded from GA's repository, imported into ERMapper and an enhancements of vertical sun were produced.

Also 10m contours of topography for the N Midlands Municipality were downloaded from the web.

The data was studied especially to establish faults and joint sets for the area.

4.11 Review of Structural controls on mineralisation

Mineralisation in the area is dominated by lodes occupying tensional fractures, so a study to determine the structural setting in the area was made. All the various datasets reviewed above were used to interpret where structures occur.

There are two mapped faults trending NE through the Tenement and these obviously displace Silurian to Triassic rocks, but not Jurassic Dolerite. The granite displacement suggests a vertical throw.

Using DEM imagery, but also other datasets such as topographic contours, mapped geology, magnetics and radiometrics, an interpreted fault-fracture-joint pattern for the area was produced. The structures are dominantly NE but are displaced by a NW set. Some of these structures are shown on Fig 12.

It seems likely that this fault system has been active over a long period. Not only has it been active in post-Triassic times, but I suggest it was active during vein formation in the Devonian. A sinistral movement on the NE structures will explain the tensional vein lode fractures which dominantly trend east-west in both granite and Mathinna beds. Under this hypothesis, in order to be able to fracture, the particular granite we see exposed at surface must have been solid, and fluids responsible for mineralisation in all the veins must be derived from another granite phase, still molten, at depth. Presumably this lower granite phase is still not exposed. If this model is correct the style of mineralisation seen at Roy's Hill, namely greisen alteration of the granite carapace, may have formed at the time of cooling of the earlier phase of the granite, and be separated in time from the later vein lode deposits.

4.12 Review of Prospectivity

See below, Section 5.

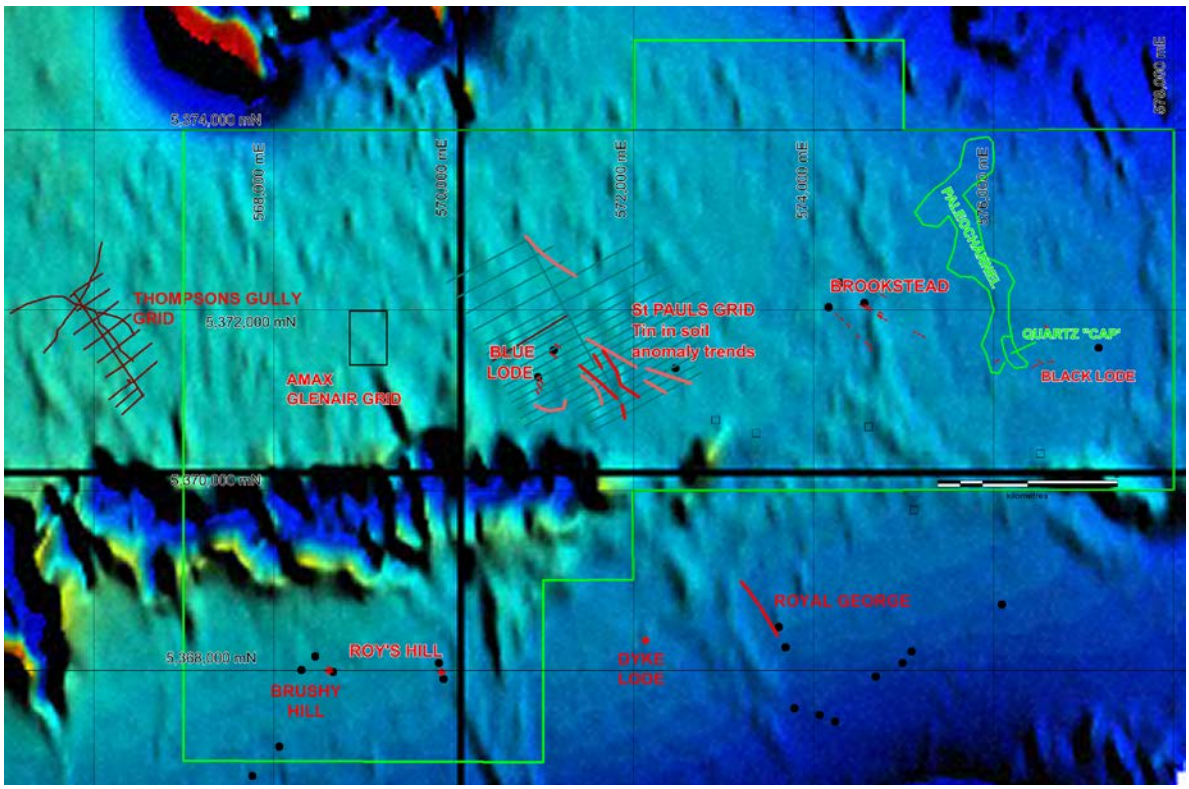

Fig 10. TMI imaged with NE sun, showing lack of any response by greisen or vein mineralisation.

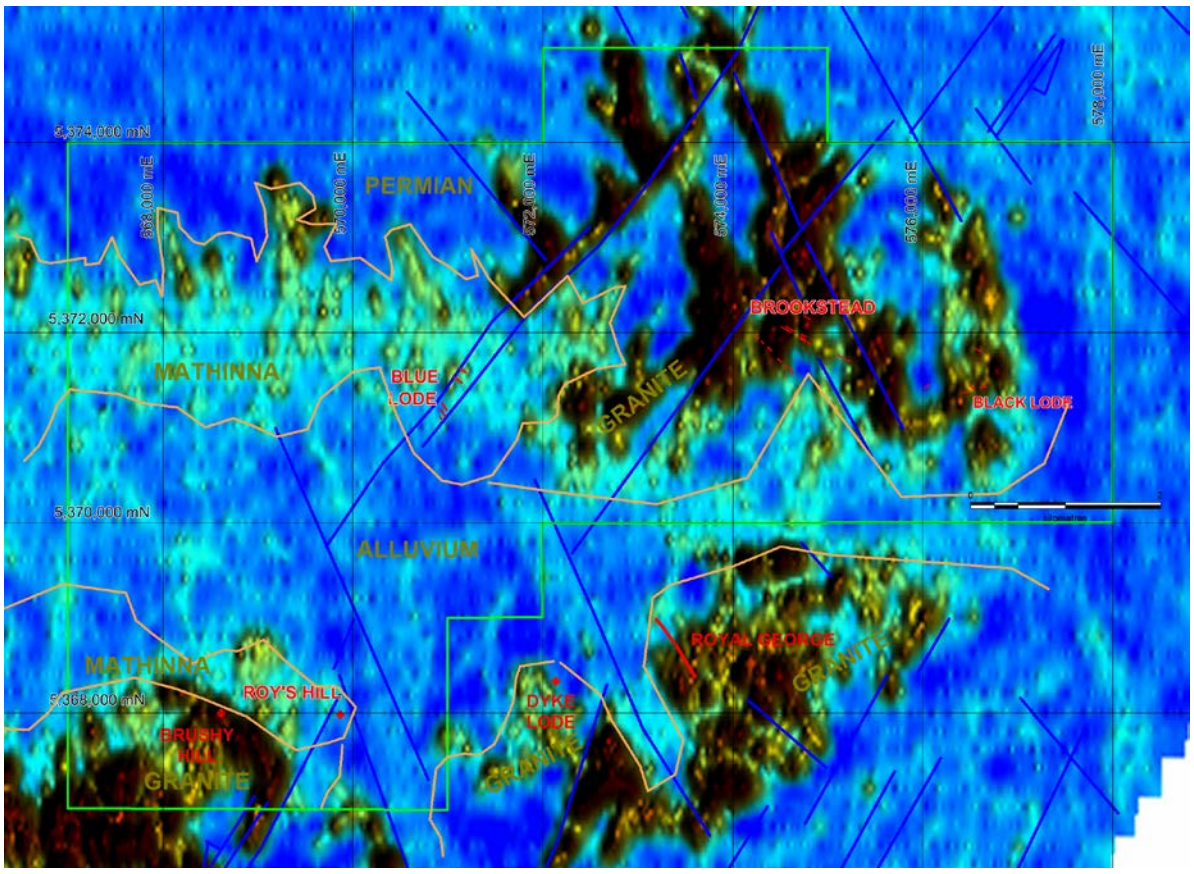

Fig 11. K channel airborne radiometrics, exponential stretchvertical sun, showing Mathinna bed anomalism.

5.0 Assessment of Prospectivity and generated targets

5.1 General

If there are two phases of mineralisation as discussed in Section 4.11, there may be early greisens in the granite carapace and later vein systems quite separate from one another. The vein systems may extend to greater depths than might be normally expected because the source granite is lower than the host exposed granite.

In this area I believe that all exposed significant tin mineralisation will have already been discovered by prospectors, and only subsurface mineralisation, even if under only thin cover, is to be found. However prospectors would not have located or recognized zinnwaldite rich lithium mineralisation. Thus all future activity for tin should be directed at finding something new sub-surface.

The styles of mineralisation of possible economic significance are

(a) Single large veins in granite similar to the Royal George deposit. {This is the largest known deposit in the area, the available rubbery production and remaining resource calculations indicate that the pre mining deposit was about 1.5Mt@0.5%Sn, based on: past production about 170 000 t@0.65%, add the unrecovered tin in tailings @0.25%, and add the remaining resource estimate of about 1.2Mt@0.4%}. Based on the mining and prospecting history of the area, small veins are unlikely to be viable for company mining. Thus anything smaller than Brookstead would, standalone, be unattractive.

(b) Sheeted vein systems. If smaller veins were grouped close together they could constitute a viable bulk mining target. There is little evidence that a viable sheeted vein system exists at Brookstead, the most obvious known target, nevertheless a field visit will be necessary to confirm that assessment. The best potential for a sheeted system is at St Paul's Grid as discussed below.

(c) Greisens, especially at a granite carapace. Roy's Hill is the obvious candidate as discussed below.

(d) Pipes. None are known in the area but is the Quartz "Cap" a candidate?

(e) Placer deposits. These have been worked in the past especially downstream from Brookstead but they have not been reviewed. A review of past placer production and prospecting, and an assessment of placer potential, is yet to be done.

5.2 Roy's Hill

There is every indication that the known greisen here has overall a very low Sn tenor. It is possible that lithium tenor is high, making the tin content relatively irrelevant. There presumably is potential for the greisen to continue south where tin grades could be more attractive, but that entire prospective area is beneath Permian cover, making exploration difficult. It seems the near-future appraisal of the viability of Roy's Hill mineralisation depends on field sampling for lithium.

5.3 St Paul's Grid

The Sn anomaly in soil is large, about 1km by 1km, much of it in Mathinna beds. It does not in my view result from any mineable mineralisation at surface, but represents

currently the best place in the area to find at depth a major vein of Royal George type and/or a sheeted vein system.

The Royal George model hypothesises that, prior to erosion, there were weakly mineralised metasediments- like those at St Paul's grid- sitting atop the Royal George vein; the model requires the metasediments to form a reasonably impermeable cap for mineralising fluids and the granite to be more reactive than the overlying metasediments, thus concentrating mineralisation below the contact.

The drilling to date found very elevated tin in tourmaline altered zones and quartz veinlet systems, but because there are only 5 holes in the soil anomaly there are large areas untested as shown in the target polygons on Fig 9.

Fig 13 is a cross section through hole SP1 showing where a possible Royal George lode could occur in granite below a mineralised intercept in Mathinna beds.

The best way to now assess this target zone is systematic fences of RAB drilling.

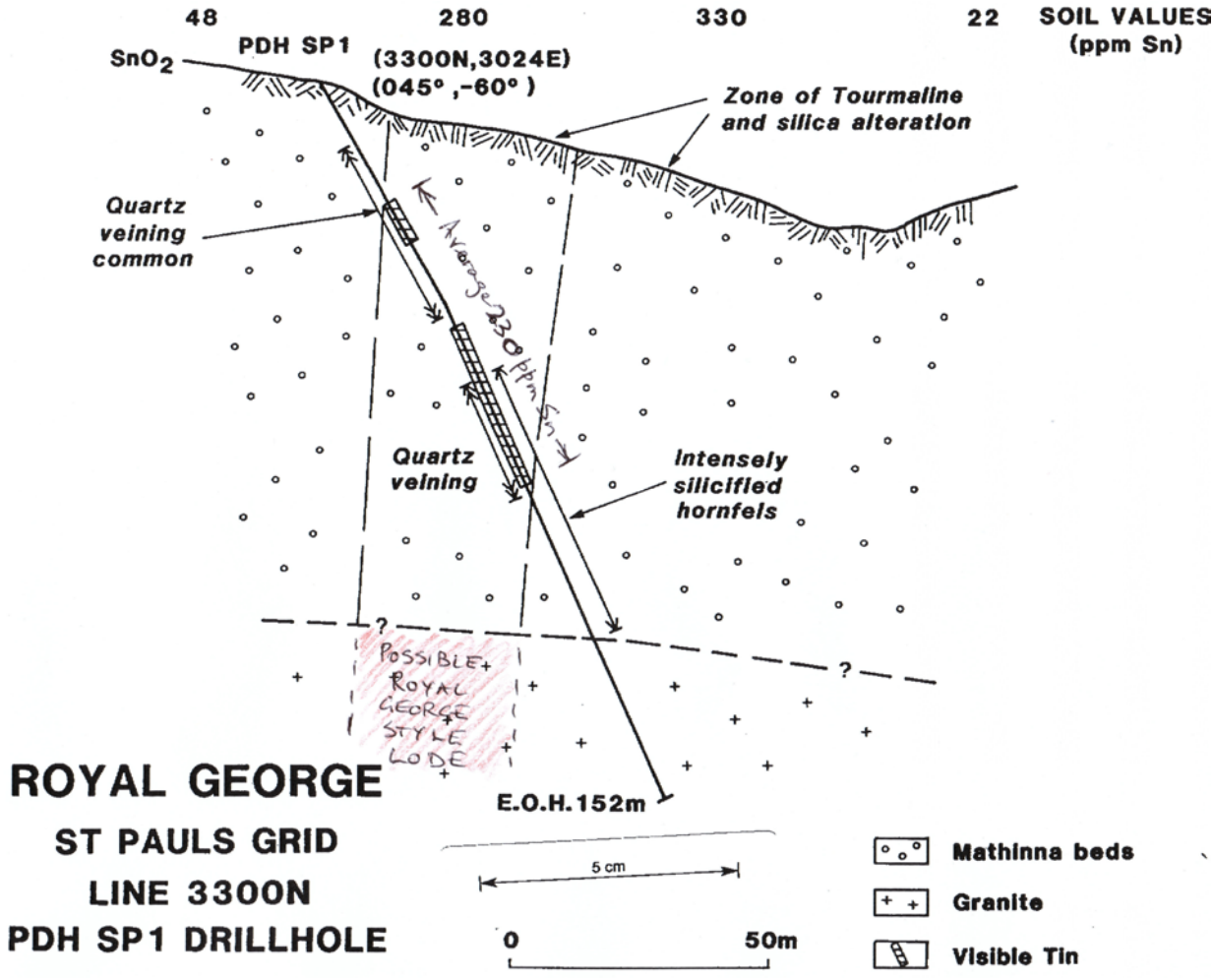

Fig 13.

6.0 PROPOSED FUTURE WORK

This proposed to be

- Field investigation and sampling of identified lithium targets at Roy's Hill and Brookstead.
- Field evaluation of Brookstead for open pittable sheeted vein system.
- Field reconnaissance to evaluate the St Paul's system
- Attempt to attract JV partner to conduct drill testing at St Paul's Grid
- Evaluate placer tin potential.

7.0 EXPENDITURE

Expenditure in the Annual Return was $ 17 601

8.0 REFERENCES

{not including Open File or MRT reports listed in Table 2}

Beatie, RD., 1967. The geology of the Royal George area. B.Sc. (Hons) thesis, University of Tasmania.

Nunn, D et al, 2007., ASTER processing and interpretation of NE Tasmania. Global Ore Discovery for Mineral Resources Tasmania.