



STELLAR RESOURCES LIMITED
Columbus Metals Ltd

RL 5/1997 ZEEHAN
ANNUAL REPORT FOR THE PERIOD
20 MAY 2013 – 19 MAY 2014

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ABSTRACT

This Annual Report for RL 5/1997, Zeehan, covers the period from 20 May 2013 to 19 May 2014.

Retention Licence 5/1997 encompasses an area of 6 km² on the western outskirts of Zeehan Township, in NW Tasmania. It covers the historic Queen Hill, Severn and Montana deposits, which form the Heemskirk Tin Project. The deposits are located under or adjacent to Queen Hill immediately northwest of Zeehan.

Exploration from the 1960's through until the mid 1980's identified significant tin mineralisation associated with, and under, old lead/silver deposits mined in the late 1800's and early 1900's. In 1983 the resource estimate for the three deposits, based on 23,000 metres of drilling, was 3 million tonnes of ore (>0.1%Sn cut off) grading 0.7%Sn and 10.9 g/t Ag. Due to depressed tin prices and corporate matters no significant work was undertaken on the project between 1990 and 2009.

Stellar Resources Ltd, through its subsidiary Columbus Metals Ltd, purchased a 60% interest in the 'Gippsland Joint Venture' from Western Metals Ltd early in 2008, thus forming a joint venture with the other party, Gippsland Limited. In Feb 2012 Stellar purchased Gippsland Ltd.'s 40% holding for cash and shares. Stellar now has 100% ownership of the licence, with Gippsland Ltd being entitled to a royalty on tin production when the LME tin price exceeds \$25,000/tonne.

During 2010 Stellar drilled 6 diamond drill holes, totalling 585m into the near surface portion of the Queen Hill Deposit. Core from this program provide material for on going metallurgical test work. The results from the drilling, together with historical drilling data, was used by consultants, Mining One, to calculate the first JORC compliant resources estimate for the Heemskirk Tin Project (refer to Table 1).

Drilling in 2011 comprised three diamond drill holes into the edges of the Queen Hill Deposit, two holes into the Stormsdown Prospect, three holes into the Montana Deposit and one hole with a wedged daughter hole under the Severn Deposit. Drilling was suspended during negotiation for the purchase of Gippsland's interest in the project but recommenced in March 2012 at the Severn Deposit.

During 2012/13 Stellar drilled 17 diamond drill holes, including 3 wedged daughter holes, at Zeehan, totalling 5,730m. 10 holes (including 2 wedged holes) were drilled into the Severn deposit, 3 holes (including 1 wedged hole) into the Queen Hill deposit and 4 holes targeted proximal geophysical targets.

In February 2013 T. Callaghan, of Resource and Exploration Geology, carried out revised computer modelling of the three deposits utilising all the drill data to that date. Based on this he completed a new JORC compliant resource estimate of the project (refer to Table 2).

In mid 2013 Stellar drilled 2 holes, comprising one parent (ZM-126) and one wedged daughter hole (ZM-126W) into the Montana deposit. Drilling was suspended in July 2013 and recommenced in March 2014. To date two holes (ZQ127 & ZQ128) have been completed and drilling is on going with another Queen Hill hole underway. Four holes are planned for the Severn Deposit and two for the Golf Course Prospect in the current program.

Metallurgical studies have continued throughout the year to define the optimum procedure to treat the various ore types at the project. These studies are on going and continue. Related mineralogical studies have been carried out by MODA and Ballarat University.

Consultants, GR Engineering Services and Mining One, completed a Pre-Feasibility Study of the project incorporating the latest resource model and metallurgical data late in 2013.

Several environmental / permitting related studies have been conducted during the year, including: rock geochemistry and flora & fauna surveys. Other environmental / permitting studies are underway or planned.

Stellar Resources exploration expenditure on RL 5/1997 during 2013/14 by totalled \$1,377,610.

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1. INTRODUCTION

1.1. EXPLORATION RATIONALE

RL 5/1997 covers the Heemskirk Tin Project, which comprises the structurally controlled cassiterite-sulphide Queen Hill and Severn lodes and stockworks, and the Montana massive sulphide carbonate replacement (Renison style) deposit. All the known tin deposits remain open at depth, with other exploration targets such as Golf Course remaining to be tested.

Mineralisation continues below the base of the existing drilling at all deposits. It has been demonstrated that cassiterite grain size increases with depth, as does pyrrhotite content, with both grade and metallurgical amenability expected to improve as a result.

All of the prospects are believed to be located above a deep-seated Devonian granite stock. It is likely that beneath the limit of existing drilling, which has reached 600m depth, there is a considerable amount of prospective host rocks and structures above, and/or adjacent to the granite.

During 2010/11 work focussed on infill drilling at Queen Hill to obtain samples for metallurgical testing and exploration for near surface extensions to the known mineralisation at Queen Hill, Stormsdown and Montana. During 2011/12/13 exploration activity focused on the Severn deposit, both infill drilling and testing extensions to the known mineralisation. Other targets defined by a detailed low level magnetics survey carried out in March 2012 were also drill tested.

Studies carried out during the 2013/14 year have included on-going metallurgical test work on the Queen Hill and Severn mineralisation, on-going environmental studies. GR Engineering Services and Mining One Consultants completed a prefeasibility study based on the resource revision completed in 2013 by Resource & Exploration Geology. The 2012/13 drilling program was completed in August 2013 with the drilling of 2 holes into the Montana Deposit. Drilling recommenced in March 2014 with 2 holes drilled adjacent to the Queen Hill Deposit. This drilling, designed to expand the known deposits, is on going. Some infill drilling of the Severn Deposit is planned for later in 2014.

1.2. GEOLOGICAL SETTING

The oldest rocks at RL 5/1997 are the Queen Hill Quartzites, a sequence of sediments and volcanics equivalent to the Neoproterozoic Oonah Formation, the oldest stratigraphy in the Zeehan area. These are predominantly quartzites with some interbedded arenaceous siltstones and shales. The upper part of the Oonah Formation is predominantly pelite and/or carbonate, including some evaporites, mafic volcanic rocks and conglomerate.

Overlying the Quartzites is a sequence of Precambrian dolomites, carbonaceous pyritic slates and minor volcanics equivalent to the Success Creek Group. This group comprises reddish brown siltstones with intercalated limestone's and dolomite being referred to locally as the Poverty Point Beds. These beds correlate to that part of the Success Creek Group, which hosts the Renison replacement tin deposits. The Success Creek Group rocks are overlain by the Cambrian Crimson Creek Formation, comprising basal pyroclastic volcanics overlain by a sequence of greywackes and argillites with minor tuffaceous slates and grits.

Ordovician Gordon Limestone crops out north east of Queen Hill while Siluro-Devonian Eldon Group sandstones and siltstones underlie most of the Zeehan town site. The Devonian Heemskirk Granite outcrops 7 kilometres west of Zeehan, forming Mt Agnew and Mt Heemskirk, with a ridge of granite believed to extend beneath Queen Hill at depth.

At Zeehan the Oonah Formation and the Success Creek Group both host vein and replacement tin deposits. Tin mineralisation within the dolomitic Poverty Point Beds at Montana is of cassiterite-sulphide replacement style. Mineralisation at Severn may be similar, being due to smeared-out Poverty Point carbonates along the Severn Fault. Refer to Figure 5.

1.2.1. Structure

The structure of the rocks at Queen Hill is complex with intense folding and faulting at all scales. The deformation is thought to be due to the Tabberabberan Orogeny. Broadly the Zeehan tin deposits are associated with the wide hinge zone of the northwest trending Heemskirk Anticlinorium, which is thought to have been the focus of the intrusion of the Heemskirk Granite at depth in this area.

Two major Devonian deformational events are recognised in the project area. The initial D₁ event is expressed as moderately doubly plunging NE-trending tight to isoclinal folds with weak fabric

development. The D_2 event produced upright, generally SE-plunging folds with moderate to strong fabric development. A third structural event D_{2L} is recognised and overall these events produced six sets of faults in the sequence. The southern end of a major D_2 fracture zone between the D_2 Zeehan Syncline and the Heemskirk Anticlinorium appears to be the locus for a late stage intrusive phase of the Heemskirk Granite. Hydrothermal fluids emanating from, or around, this intrusive have focused along faults, shears and zones of fracturing. Where fluids reached reactive stratigraphy (i.e. sulphide, carbonate or volcanoclastic horizons) cassiterite-bearing iron sulphide bodies have developed. Intersection of the more ductile S2 and S3 sets provided the best sites for mineralisation, as evidenced by the Severn and Queen Hill deposits.

1.2.2. Mineralisation

Tin mineralisation at the Heemskirk Tin Project occurs as cassiterite and minor stannite in the three main deposits: Severn, Queen Hill and Montana, and at minor outcropping occurrences at Golf Course, Stormsdown and Poverty Point. The deposits are Renison Bell / Cleveland-type tin deposits in which granite-derived hydrothermal fluids, carrying tin, sulphur and other base metals, intruded along structural conduits and reacted with suitable lithologies, such as dolomite and carbonate rich volcanoclastic horizons, to precipitate generally sulphide-rich lodes containing cassiterite. Typical associated gangue minerals include pyrite, pyrrhotite, quartz, tourmaline, carbonates and fluorides. The granite source of the hydrothermal fluids has not been intersected in drill holes in the immediate project area, however based on geophysical evidence and the presence of rare felsic porphyry intrusives a granite stock is interpreted to lie some 900m below the present surface.

The predominance of pyrite over pyrrhotite is a significant point of difference between the Zeehan and Renison Bell deposits, however, at depth pyrrhotite becomes more abundant at Zeehan. In addition to the main high temperature tin-mineralising event, a later stage, cooler fluid event appears to have resulted in the formation of Pb-Zn-Ag sulphide lodes (Taylor's and Clarke's Lodes), which are not significantly tin-bearing. These lodes were the focus of early 20th century silver-lead mining activity.

In all the Zeehan deposits cassiterite occurs as fine grained (20 - 70 microns) disseminations in stockworks and masses of fine-grained gangue comprising siderite, chlorite, silica, pyrite and pyrrhotite. At Queen Hill there is also variable accessory stannite and base metal sulphides. Pyrite now forms about 30% of the sulphides but microscopy indicates that an original major pyrrhotite content has been replaced by pyrite and marcasite. This has resulted in only the pyrrhotitic core of the Severn deposit remaining magnetic. It has recently been discovered that a large portion of the siderite is also slightly magnetic.

The **Queen Hill Deposit** comprises a high-grade lens within a single larger lower grade envelope. These lenses are an upper lens, "the hanging wall lens"; relatively narrow (3 to 8 metres), essentially massive sulphide (pyrite dominant), replacement-type mineralisation, dipping at 50° to 80° , and "the lower lens", a wide composite zone containing narrow high-grade mineralisation. Significant tin mineralisation occurs in volcanics, clastic sediments and evaporites. The hanging wall lens is adjacent to a fault zone, which is coincident with Clarke's Ag-Pb lode. The mineralisation does not appear to be closed off at depth. The Queen Hill deposit crops out weakly on the northwestern side of Queen Hill and is hosted by the Poverty Point Beds.

The **Severn deposit** occurs as several parallel pseudoconformable lenses of bedding slip sulphide replacements and stockworks within a 130m wide drag zone in the hanging wall of the Severn Fault. The fault zone has an en-echelon shape resulting from the intersection of northwest and northeast trending fracture sets. The Poverty Point Beds appear to be displaced 500m across the Severn Fault zone by substantial strike slip movement. The resultant geometry of the tin mineralisation at Severn is tabular and is located close to, or at, the apparent angular unconformity between the Oonah beds and the Success Creek and Crimson Creek sequence. At 0.5% Sn cut-off the upper part of Severn deposit is narrow and has a short strike length, but is high grade. Both thickness and strike length increase with depth with the deposit being open at depth.

Montana is a high grade, stratiform carbonate replacement tin deposit comprising cassiterite and massive sulphides hosted by the Poverty Point Bed equivalents of the Success Creek Group, the Montana Beds. Montana is narrow near surface (2.5 to 5.0 metres) and has a strike length of approximately 80m. The upper levels were accessed historically to a depth of approximately 150m. The deepest intersection, in drill hole ZM126, 400m below surface, is 0.7% Sn over a width of 8m. The deposit is open at depth.

1.3. LICENCE

Tenement number: RL 5/1997

Tenement name: Zeehan

Tenement location: Located over the western side, and immediately west, of Zeehan Township, with main road access from the Heemskirk Road, the Zeehan Highway and the Trial Harbour Road, which passes generally through the centre of the licence (Figure 1). Numerous town roads and tracks traverse the licence area. The licence covers an area of 6km², which extends west from the council depot on the Zeehan Rivulet for 3.5 kilometres, past the golf course, and north for 3 kilometres from Manganese Hill to Montana Hill. The RL area is a mix of Crown Land and freehold land, including a large portion of the Zeehan Township.

The area comprises both cleared urban or farm land and regrowth forest after logging or burning. Refer to Figure 2.

Reporting period: 20 May 2013 to 19 May 2014.

Tenement holder: Columbus Metals Ltd., a wholly owned subsidiary of Stellar Resources Ltd.

LOCATION OF LICENCE

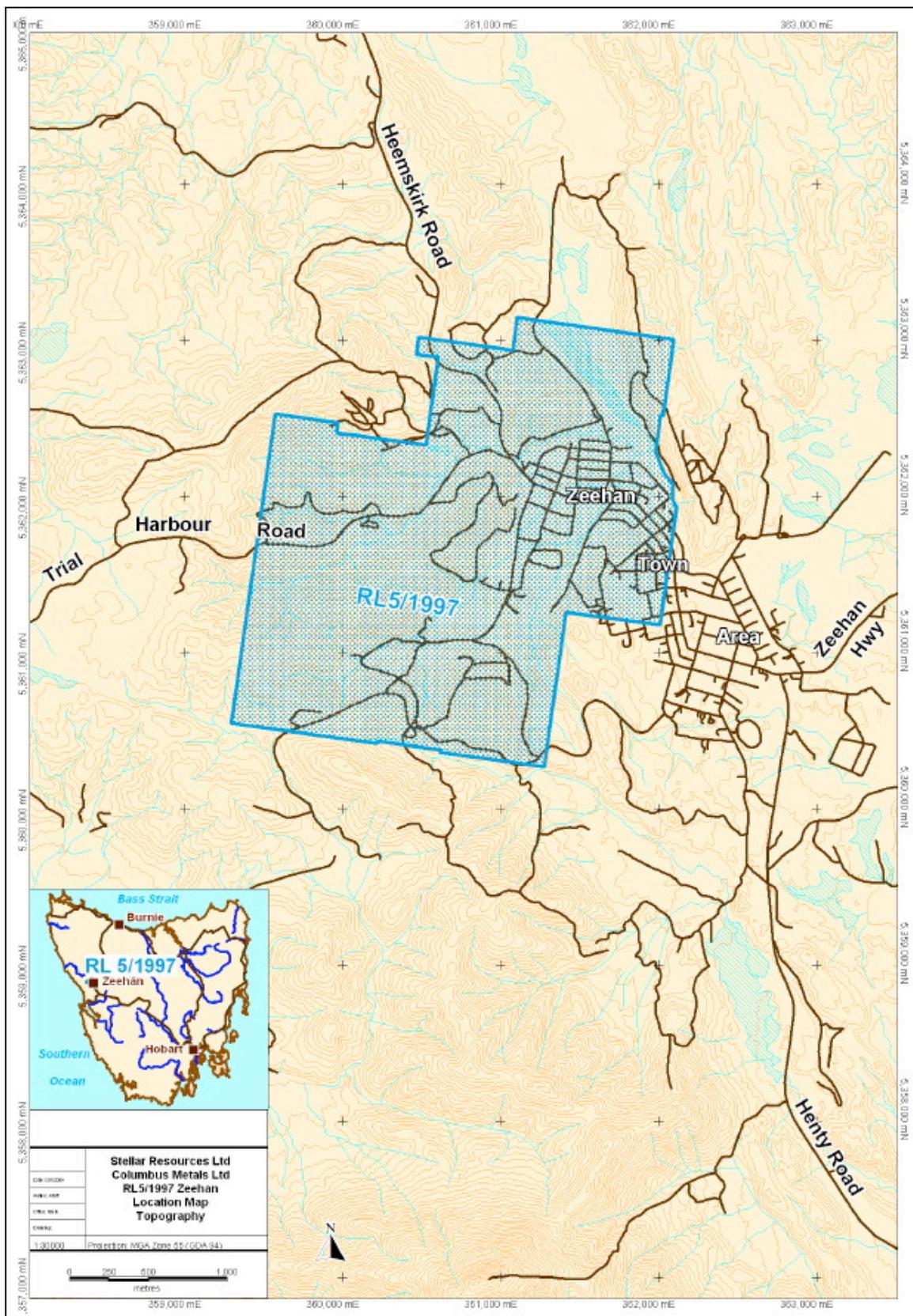


Figure 1. RL 5/1997, Heemskirk Tin Project: Location Map

1.4. LAND TENURE

1.4.1. Schedule

LAND DISTRICT OF MONTAGU
VICINITY OF ZEEHAN
MUNICIPALITY OF WEST COAST
RETENTION LICENCE 9705 6 SKM

COLUMBUS METALS

Datum: AGD66, Zone 55.

Commencing at the southwest corner at grid coordinates 359,180 metres E 5,360,366 metres N, thence northerly to 359,458 metres E 5,362,347 metres N, easterly to 359,857 metres E 5,362,291 metres N, southerly to 359,848 metres E 5,362,227 metres N, again easterly to 360,412 metres E 5,362,148 metres N, again northerly to 360,491 metres E 5,362,712 metres N, westerly to 360,352 metres E 5,362,731 metres N, again northerly to 360,368 metres E 5,362,840 metres N, again easterly to 360,962 metres E 5,362,757 metres N, again northerly to 360,991 metres E 5,362,965 metres N, again easterly to 361,981 metres E 5,362,825 metres N, again southerly to 361,913 metres E 5,362,335 metres N, again westerly to 361,898 metres E 5,362,337 metres N, again southerly to the Zeehan Rivulet at approximate grid coordinates 361,866 metres E 5,362,113 metres N, thence by that Rivulet in a general southeasterly direction to approximate grid coordinates 362,000 metres E 5,361,738 metres N, again southerly to 361,894 metres E 5,360,995 metres N, again westerly to 361,300 metres E 5,361,079 metres N, again southerly to 361,160 metres E 5,360,088 metres N, again westerly to 360,502 metres E 5,360,181 metres N, again northerly to 360,504 metres E 5,360,196 metres N, again westerly to 360,108 metres E 5,360,251 metres N, again southerly to 360,106 metres E 5,360,237 metres N, thence again westerly to the point of commencement.

The area excludes 4 ha of Crown Reserves. Refer to Figure 2.

1.4.2. Land Tenure

The area comprises: Crown Land and Private property.

NB: This land tenure table is a guide only.

EXCLUSIONS:

The area covered by this licence does not include:

- (a) All forms of mineral tenements including mining leases, retention licences and exploration licences, which were applied for or in force prior to the date of application for this licence.
- (b) Land exempt from the provisions of the *Mineral Resources Development Act 1995*.
- (c) Land reserved under the *National Parks and Wildlife Act 1970* including National Parks, Historic Sites, Nature Reserves, Game Reserves and State Reserves shown on the Schedule.
- (d) Crown reservations or other land set apart or dedicated for any public purposes such as public reserves, municipal reserves or roadways unless such areas have been brought under the provisions of the *Mineral Resources Development Act 1995*.

1.5. MINE GRID

Both the Queen Hill and the Severn deposit strike at approximately 67° relative to GDA 1994 (and AGD 66), which result in both cross sections and longitudinal sections of the deposits displaying with distorted grid line spacing. To remedy this situation, and following normal mine practice, the Zeehan Mine Grid (ZMG), oriented parallel to the deposits, has been established to cover the project area.

The base point for ZMG is survey station SPM9721 which has the following co-ordinates:

- AGD 66: 361,587.187mE, 5,361,806.945mN RL 174.667m AHD
- GDA 1994: 361,698.759mE, 5,361,989.755mN RL 174.667m AHD
- ZMG: 61,698.759mE 3,989.752mN RL 1,174.667m ML

The ZMG is a rotated planar grid oriented at 23 degrees to GDA94. Conversion factors are:

$$X \text{ ZMG} = ((0.92050485345244 * X_{\text{GDA}}) + (-0.390731128489274 * Y_{\text{GDA}})) + 1823849.603$$

$$Y \text{ ZMG} = ((0.390731128489274 * X_{\text{GDA}}) + (0.92050485345244 * Y_{\text{GDA}})) - 5073074.803$$

Levels in ZMG are recorded as MSL + 1000m.

An AMG : MGA : ZMG digital conversion spreadsheet is attached as Appendix 3

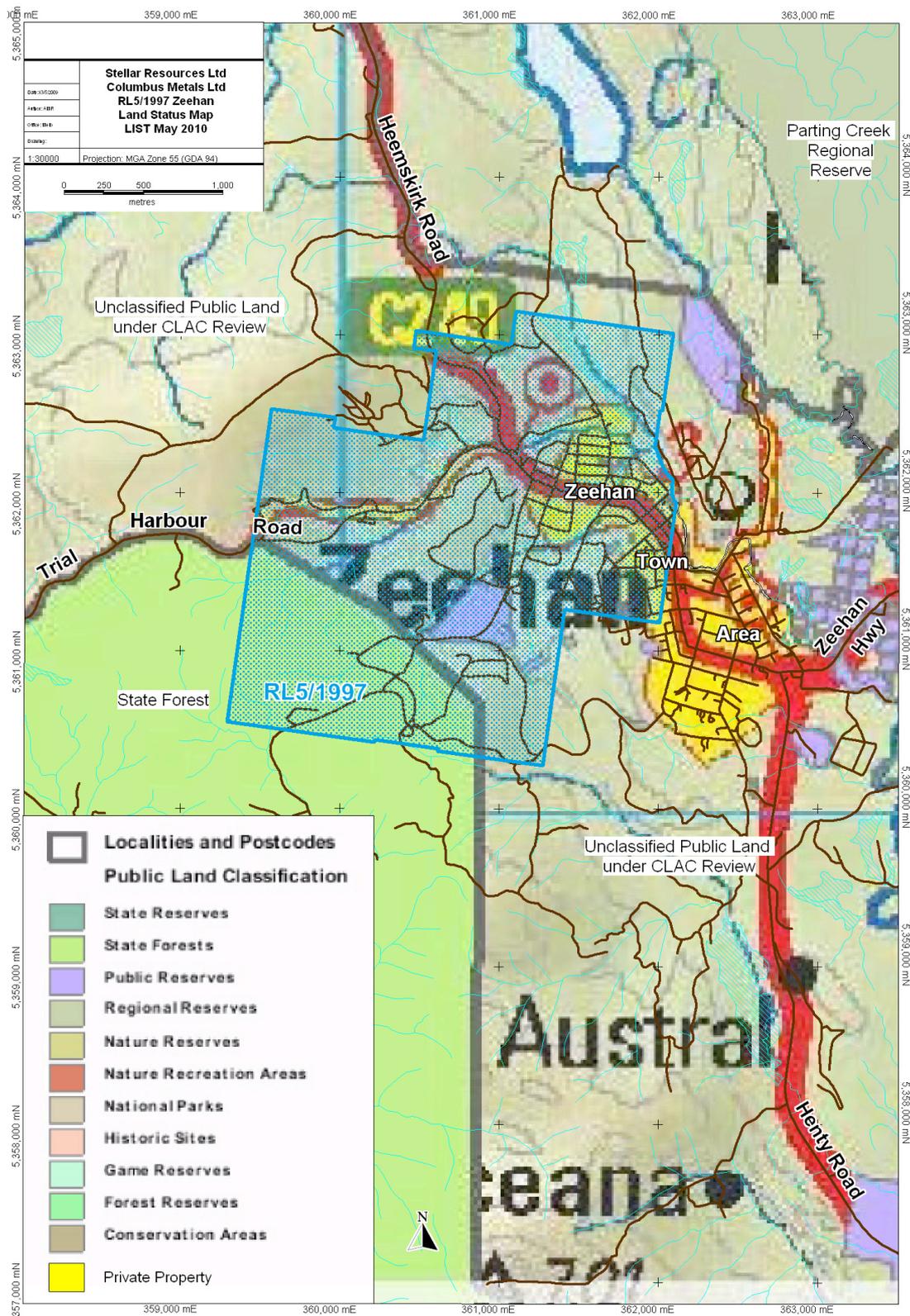


Figure 2. RL5/1997, Heemskirk Tin Project: Land Tenure Map (LIST)

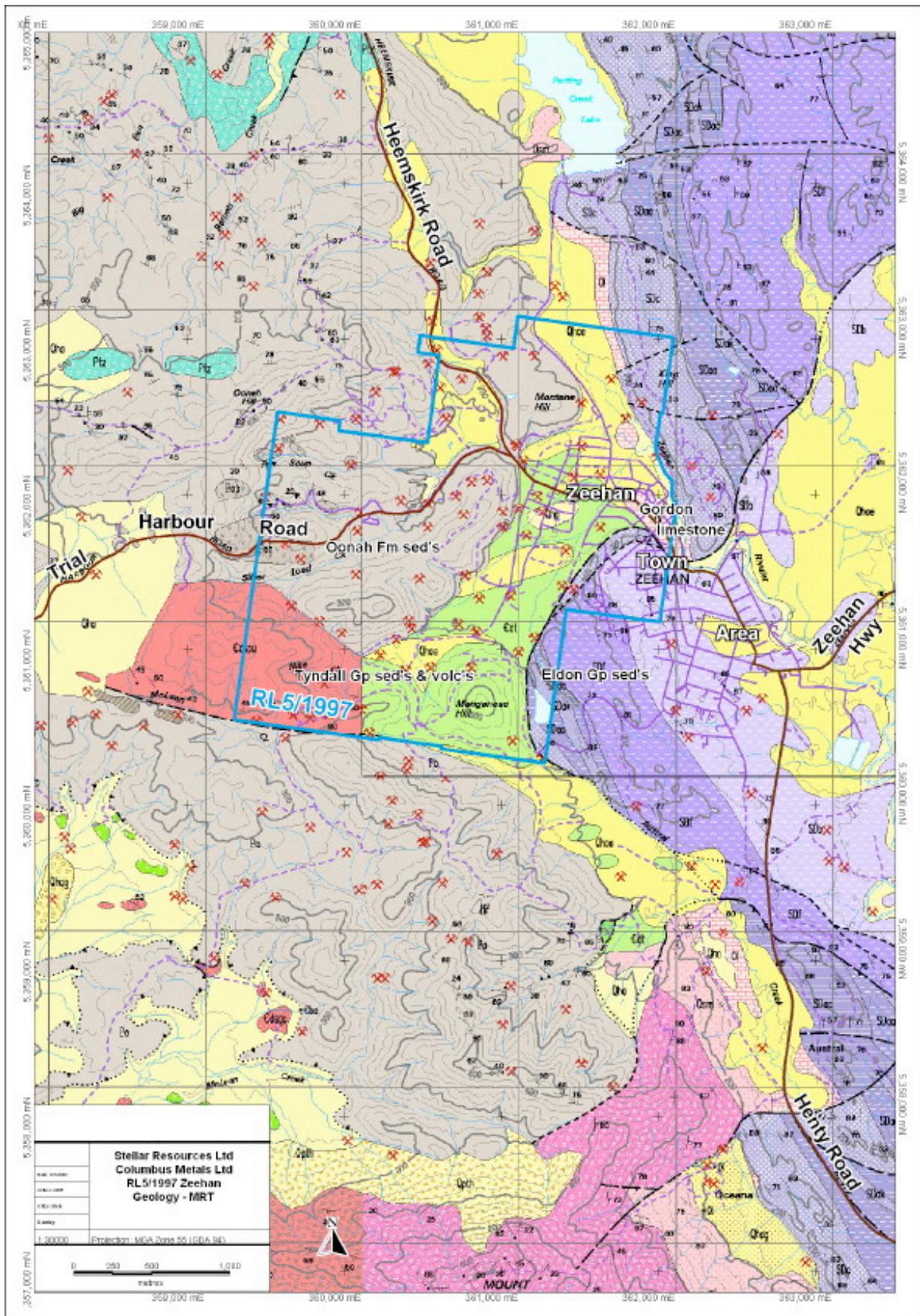


Figure 3. RL5/1997, Heemskirk Tin Project: MRT Geology Map.

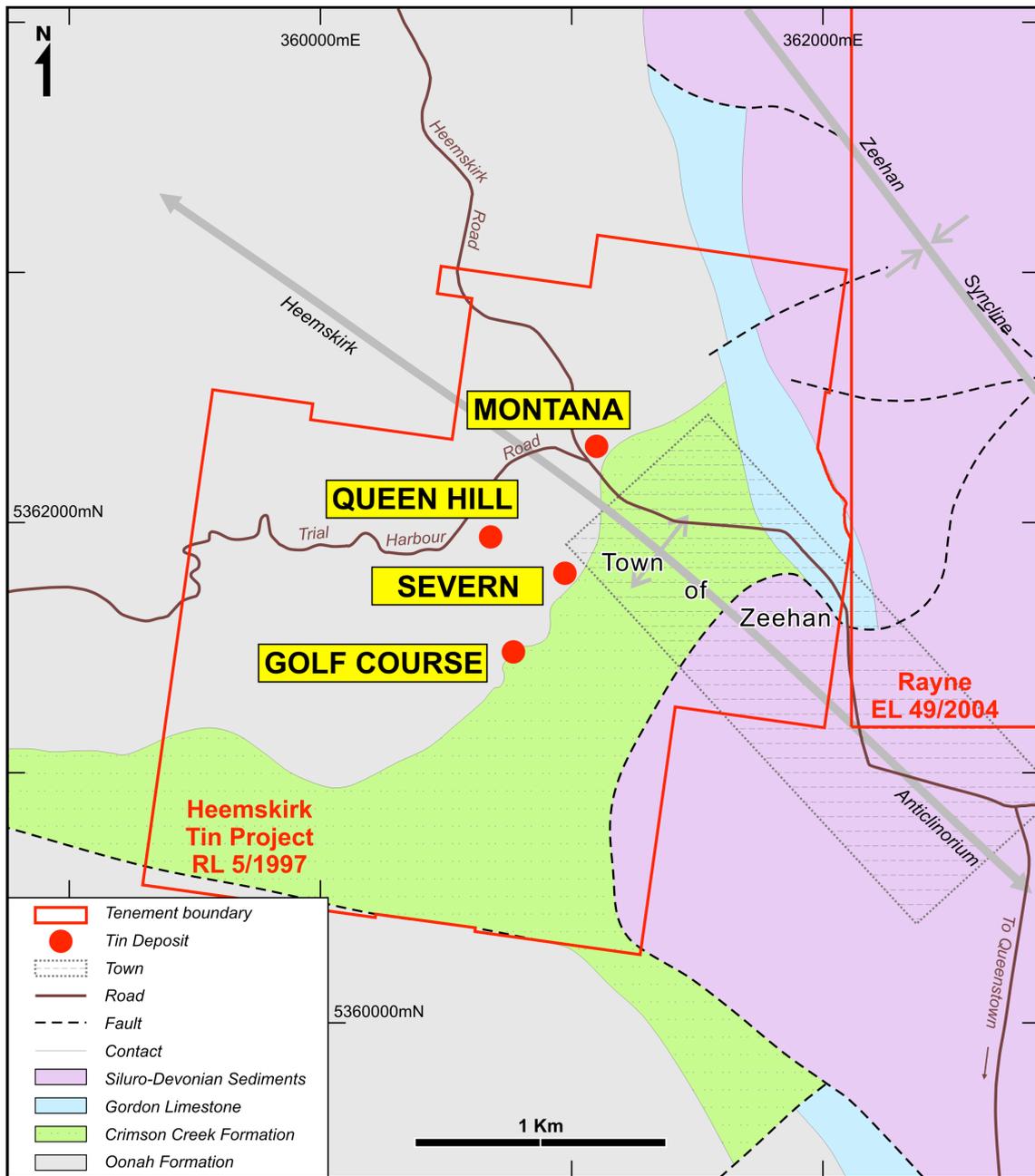


Figure 4. RL5/1997, Heemskirk Tin Project: Simplified Geology showing deposit locations

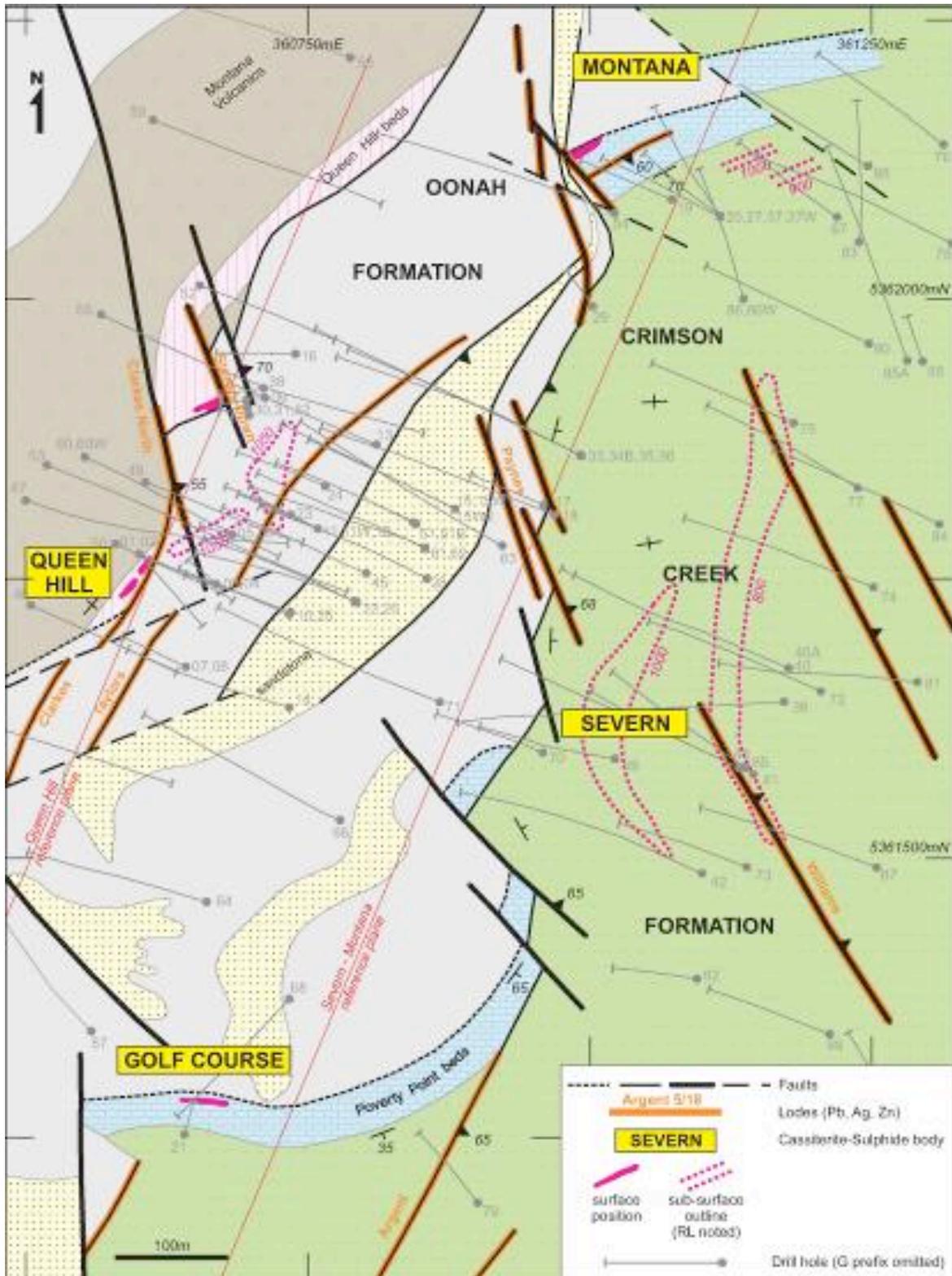


Figure 5. RL5/1997, Heemskirk Tin Project: Geology, Structure, Deposits & Historic Drilling

2. REVIEW OF PREVIOUS WORK

The majority of previous exploration work for tin at Zeehan was carried out by Aberfoyle in the 1970's and 1980's culminating in the delineation of 7.3 million tonnes of mineralisation at an average grade of 0.69% Sn together with 10.9 g/t Ag. Higher-grade zones within this mineralised envelope were reported as 3.61 million tonnes @ 1.21% Sn.

This work was undertaken in a Joint Venture first signed on 27 March 1972 between Cominco Exploration Pty Ltd (Aberfoyle) and Gippsland Oil and Minerals NL (Gippsland Limited). The JV saw Aberfoyle's interest confirmed at 60% with the right to 70% equity in the project by completing an acceptable feasibility study.

Queen Hill was discovered in the late 1960's, when cassiterite was recognised in massive pyrite mineralisation exposed in old silver-lead mines. The drilling of a magnetic anomaly, located some 300m eastwards from Queen Hill, led to the discovery of the larger Severn deposit in 1976. Early exploration focussed on Queen Hill and continued sporadically throughout the late 1970's and early 1980's. Characterisation of ore from the upper Queen Hill lode showed it to comprise sulphides (mainly pyrite), carbonates, fluorite and silicates. The tin mineral was mainly cassiterite, which occurred in extremely fine particles (15 microns) disseminated throughout the ore, 60% in sulphide and the remainder in other gangue. The most promising route for beneficiation seemed to be standard mineral dressing methods to gain acceptable recoveries of the cassiterite into low grade concentrate and then upgrading this by a pyro-metallurgical matte fuming. In June 1980 a bulk sample of ore from Queen Hill (2,892 tonnes) was excavated and sent to Aberfoyle's matte fuming pilot plant at the Kalgoorlie nickel smelter. Test work successfully produced a high-grade tin matte from this material. No further work was done due to the collapse in the tin price in 1985. The pilot plant and technology were subsequently sold to Mt Isa Mines Limited.

On 1 August 1981 an amalgamation of seven previous leases over the Queen Hill area was undertaken and CML 36/M/81 was granted over an area of 564ha for a period of 21 years. In 1997 this mining lease was converted into the 6km² retention licence RL 5/1997.

The exploration program at Queen Hill identified deeper mineralisation below Queen Hill and at Severn and Montana. Metallurgical characterisation test work on these deposits showed them to be more amenable to conventional mineral dressing than the Upper Queen Hill ore. Amenability was judged on cassiterite grain size, ease of liberation, and response to gravity and flotation separation. In particular the Severn ore responded better than some of the fine-grained ores at the Renison Bell Tin Mine when subjected to similar unit processes employed in the Renison Concentrator (Severn has an average grain size of 65 microns while some of the Renison Fault ores have an average grain size of 50 microns). This offers an option to process these ores by standard mineral dressing methods and produce a saleable gravity concentrate for a recovery estimated at 71.5%.

By 1982, Aberfoyle had completed 89 diamond drill holes totalling 23,000m and a comprehensive data compilation and resource estimation was undertaken which resulted in a Pre Feasibility Study report issued in May 1983. The report concluded that the Zeehan Tin Project had potential for profitable underground mining. The project was never taken through to a bankable feasibility study however, as work was halted in 1984 due to the imposition of export quotas on tin concentrates by the Association of Tin Producers.

Drilling ceased on the Heemskirk Tin Project in June 1982 but technical assessment by Aberfoyle geologists continued; in particular John Anderson undertook research studies towards a PhD degree. A number of new conceptual targets were generated and resulted in the completion of a series of EM geophysical surveys and two final drill holes for a total of 1,320m in 1989-90. The present conceptual model for the Zeehan Deposits, which illustrates the potential for significant additional resources, is based largely on John Anderson's research work.

Aberfoyle was taken over by Western Metals Limited (Western Metals) in 1998. Over the ensuing years, Western Metals remained heavily focused upon its base metals projects and no work was undertaken at Zeehan. Stellar purchased Western Metals interest in the Zeehan Project in 2008.

Commencing in 2010 Stellar Resources drilled 5 shallow diamond drill holes into the Queen Hill Deposit to both obtain fresh mineralised material for metallurgical testing and to better define the upper extent and nature of the Queen Hill mineralisation. This was followed in 2011 by 3 more holes into Queen Hill, 3 holes into the Stormsdown area, 3 holes into the upper portion of the Montana

Deposit and one hole and wedge below the Severn Deposit. Drilling was then suspended until Stellar acquired Gippsland Minerals 40% equity in the Heemskirk Project early in 2012.

During 2010 mining consultants, Mining One carried out a JORC compliant resource estimation of the Project. Both historic and the 2010 drill results were reviewed and used for this estimate. The results are tabulated below in Table 1.

Table 1. Heemskirk Tin Project: 2010 JORC Resource Estimate (Mining One Consultants)

Mineral Resources		
0.6% Sn cut-off grade		
Indicated Mineral Resources		
Queen Hill	1,600,000 tonnes	1.2% Sn
All Indicated Mineral Resources	1,600,000 tonnes	1.2% Sn
Inferred Mineral Resources		
Montana	360,000 tonnes	1.6% Sn
Severn	2,400,000 tonnes	0.9% Sn
All Inferred Mineral Resources	2,760,000 tonnes	1.0% Sn
Indicated + Inferred Mineral Resources		
All Mineral Resources	4,360,000 tonnes	1.1% Sn

- The estimates of mineral resources were made using diamond drill hole assays within the interpreted mineralisation. All samples were composited to 1metre lengths and no top-cuts were applied. Bulk densities were based on estimated sulphur grade, where this was available, or were set to 3.3 tonnes per cubic metre for Queen Hill, 3.9 tonnes per cubic metre for Zeehan Montana and 3.2 tonnes per cubic metre for Severn. The grade estimates of the Mineral Resources were made using an inverse distance squared algorithm.
- The Mineral Resources were based on a cut-off grade of 0.6% Sn which was based on a tin price of US\$30,000 per tonne and reasonable assumptions for exchange rate, costs and modifying factors including mining recovery, mining dilution and metallurgical recovery.

Stellar acquired Gippsland Ltd's interest in the project in early 2012 to gain 100% of the project.

Metallurgical testwork carried out by Burnie Research Laboratory tested Queen Hill core composites. Assessments included analytical, mineralogical and flotation assessments and was based on a Renison style flowsheet. This initial metallurgical test work showed that the process required to treat upper Queen Hill mineralisation is compatible with that operating 18 kilometres away at the Renison Bell mill.

During 2012/13 Stellar drilled 17 diamond drill holes, including 3 wedged daughter holes, at Zeehan, totalling 5,730m. 10 holes (including two wedged holes) were drilled into the Severn deposit, 2 holes, and one wedge, into the Queen Hill deposit and 4 holes targeted proximal geophysical targets.

In February 2013 T. Callaghan, of Resource and Exploration Geology, carried out revised computer modelling of the three deposits utilising all the drill data to that date. Based on this he completed a new resource estimate of the project. The results of this estimate are summarised below in Table 2.

Table 2. Heemskirk Tin Project: 2013 JORC Mineral Resource Estimate

Classification	Deposit	Tonnes millions	Grade % tin	Contained Tin tonnes
Indicated	All	1.41	1.26	17,790
Inferred	All	4.87	1.10	53,710
Total		6.28	1.14	71,500
Indicated	Queen Hill	1.41	1.26	17,790
Inferred	Queen Hill	0.19	1.63	3,090
	Severn	4.17	0.98	40,900
	Montana	0.51	1.91	9,710
Total		6.28	1.14	71,500

0.6% tin block cut-off grade

Tonnes rounded to reflect uncertainty of estimate

Estimates prepared by Resource and Exploration Geology

Metallurgical testwork has continued on composite drill core samples of both Lower Queen Hill and Severn ores.

3. EXPLORATION COMPLETED DURING THE REPORTING PERIOD

3.1. DRILLING

The 2012/13 Heemskirk Project drilling program continued until August 2013 with the drilling of ZM126 and wedged hole ZM126W into the Montana Deposit (refer to Figures 8 & 9). Due to budgetary constraints drilling was then suspended. Drilling recommenced in March 2014 with the drilling of ZQ127 and ZQ128 into the Queen Hill Deposit (refer to Figures 8 & 10). Results to date are summarized in Table 3 below.

The 2014 drilling program continues with ZQ129 currently drilling down plunge of Queen Hill and ZG130 testing the Golf Course Prospect. Depending upon results a further hole is planned for Golf Course and up to 5 holes for Severn.

Table 3. Heemskirk Tin Project: 2013/14 Drilling Assays*

Hole No.	From (m)	To (m)	Int. (m)	Sn %	AS Sn %	Cu %	Pb %	Zn %	Ag ppm	Comment
ZM126	455.0	463.0	8.0	0.74	0.2	0.41	0.14	0.1	13	452.0 – 435.7m HA Rock & Massive Sulphides
ZM126W	422.0	428.0	6.0	0.56	0.04	0.06	0.03	0.03	3	421.7 – 435.7m HA Rock & Massive Sulphides 435.7 – 599.0m Black Shale, Shale & Quartzite
	483.0	486.0	3.0	1.08	0.78	1.13	0.41	0.06	95	
ZQ127	32.0	33.0	1.0	0.02	0.01	0.01	4.30	0.57	104	21.0 – 252.3m Black Shale with Quartzite interbeds & pyrite vein zones
	35.0	36.0	1.0	0.05	0.01	0.01	6.14	3.08	156	
	82.0	85.0	3.0	0.12	0.02	0.00	4.82	0.01	135	
ZQ128	285.0	287.0	2.0	0.45	0.00	0.00	0.00	0.00	1	271.6 – 289.0m Black Shale with Qtz & Pyrite veins 395.5 – 397.8m Basalt with pyrite veins
	395.0	397.0	2.0	2.07	0.03	0.05	0.14	0.42	22	

* Fused beads XRF; **reported interval is down hole.

Refer to Figure 8 for hole locations and to Table 3 for significant intersection summary. Refer to Appendix 1 for drill hole summaries. All drill hole specifications, logs and core photos are appended in digital form (Appendices 5 & 6). A full set of cross sections and longitudinal sections are appended in digital form in Appendix 4.

3.2. STRUCTURAL GEOLOGY STUDY

During June 2013 Geological Consultants, PGN Geoscience, completed a brief structural modelling and reassessment exercise on the Heemskirk Project. The report on this work is presented in digital form as Appendix 7. PGN Geoscience suggested that a combination of fault intersections and fold axes in the host rocks provide the source fluid channelways and depositions sites for the tin mineralisations at Zeehan. This study was based largely on the modelling work carried out by Tim Callaghan.

3.3. METALLURGICAL TEST WORK

Four programs of metallurgical testing were undertaken on core intersections of Heemskirk ore types:

- A study of a Severn interval composite to assess heavy media, sulphide and tin float routines.
- A study of three Queen Hill Lower interval composites to assess heavy media, sulphide flotation, gravity separation and tin flotation.
- A study of a bulk Severn interval composite to assess heavy media, sulphide flotation, gravity and tin flotation.

These assessments form part of a longer term program of work to characterise and develop a compatible flow sheet for the processing of these ore types.

3.3.1. Heavy Media Separation

Heavy media separation results indicate a variable mass split to the floats product (the low grade tin product) with Severn ores yielding 36% and 42% of ore mass rejected to floats with 4% and 6% of tin respectively while Queen Hill Lower yielded on average 10% mass split to floats containing 10% of the tin. Results indicate that heavy media separation is not suitable for Queen Hill Lower ore.

3.3.2. Sulphide Flotation

Removal of sulphide minerals by flotation prior to gravity and tin flotation is necessary to allow clean gravity performance and tin flotation. The testing is performed to determine and minimise the loss of tin to the sulphide concentrate. Tests of Severn ores indicate losses between 8 and 10% of feed tin, further more recent assessments indicate that this can be reduced to around 4% with optimised primary and regrind grind sizes. Queen Hill Lower results indicate a similar tin loss of around 4% to the sulphide concentrate.

3.3.3. Sulphide Tails Gravity Separation

Sulphide tails are classified to size fractions for gravity separation (coarser sizes) and tin flotation (finer sizes). Queen Hill Lower gravity separation results indicate some 45% recovery of gravity feed tin to a grade of 35%. This product was upgraded by dressing stages (sulphide flotation and magnetic separation) to a final grade of >60% Sn at over 94% recovery. An important highlight of the dressing tests was the removal of a large proportion of the iron by magnetic separation; this was investigated in greater detail in later tests. No further gravity assessments of Severn were performed up to May 2014. This will be the subject of appraisal in the latter half of 2014.

3.3.4. WHIMS: Iron Carbonate Assessment

Tin flotation for both Queen Hill and Severn is strongly hampered by the free flotation of siderite (iron carbonate) into concentrates. This greatly dilutes the concentrate tin grade and renders the concentrate unsaleable. A great deal of research effort has been expended in defining new chemistry or routines to mitigate the flotation of siderite in tin flotation for this project. The discovery that the siderite at Zeehan may be removed by magnetic separation (siderite is not generally considered to be magnetically susceptible) opens the way for the use of high intensity magnetic separation for siderite removal prior to tin flotation. (Refer to Appendix 9). This will be fully developed in the latest Severn test program.

3.3.5. Tin Flotation

Tin flotation assessments were performed on classified products of Severn and Queen Hill Lower composites. Results were generally poor with best results for Severn of a 9.0 %Sn concentrate and 71% recovery and for Queen Hill Lower A 9.0% Sn concentrate at 40% recovery. Further progress in grade enhancement is expected with the use of WHIMS to remove contaminating siderite as indicated above.

3.4. PRE-FEASIBILITY STUDY

3.4.1. Mine Study

Mining consultants, Mining One Consultants, completed a preliminary mine design and cost estimate to pre-feasibility level for the Heemskirk Project in August 2013. This study was based upon Tim Callaghan's Mineral Resource estimate and model and assumed the use of a mining contractor at standard industry rates. The full report is appended as Appendix 10.

The mining study components are:

- A Geotechnical Study comprising ground support requirements and stope stability assessment. These studies were based on analysis of geotechnical data derived from Stellar's diamond drilling results. Based on these studies Mining One concluded that a combination of long hole stoping and drift and fill mining methods most suit the orebodies at Zeehan.
- A Mining Study based on the geotechnical study results and a production rate of 600,000 tonne/annum. It was concluded that Cemented Aggregate Fill (CAF) and Cemented Rock Fill (CRF) would maximize recovery of ore due to its width and location in the mine by providing high recovery in stopes and enabling mining in multiple areas to sustain the design production rate.
- Design Considerations based on the components above were determined using Datamine modeling software to generate economic mine shapes. Longhole stoping, geotechnical span recommendations, cut-off grade and equipment dimensions were contributing factors.
- A Mining Inventory was developed based of the February 2013 Mineral Resource Estimate and the design parameters. The design stopes were assigned dilution and recoveries appropriate to the mining method. The mining inventory is set out in Table 4 below.

Table 4. Heemskirk Tin Project: Pre-feasibility Study Mining Inventory

Mining Inventory		
Ore Type	Tonnes	% Sn
Development Ore	865,230	0.98
Stope Ore	3,085,760	1.08
Total Ore	3,951,000	1.06

- Mine Development design based on a single decline branching to each deposit with three return airways and two escapeways. Lateral development totals 31,820 metres and vertical development 1,817 metres. Refer to Figures 11 & 12.
- The Mine Schedule has been developed to achieve a production rate of 600,000tpa. The project is estimated to have a mine life of 9 years with a 17 month pre-production period.

The study estimates:

- **Mine Operating Costs at \$65.17/tonne of ROM Ore**
- **Mine Capital Cost at \$92.8M.**

3.4.2. Treatment Plant

GR Engineering Services Ltd (GRES) completed a pre-feasibility study (PFS) of the Heemskirk Tin Project in August 2013. The study is summarised below with the full report appended as Appendix 11.

GRES utilised testwork conducted by Stellar to define, along with Asther Pty Ltd (Stellar's metallurgist consultant), the process and plant design for the Heemskirk Tin Project.

The process took the metallurgical testwork, both historic and recent, and produced a project design criteria that represents the full-scale operation of a 600,000TPA, 7 day/week, processing plant. The study covered all aspects of ore processing from ore crushing to loading of mineral concentrate for shipment. It included the pumping of tailings to a tailings storage facility and the system for recovery of water back to the processing plant.

The proposed processing plant will comprise the following unit operations (Refer to Figure 13):

- Crushing & Screening;
- Ore Storage;
- Heavy Media Separation;
- Grinding & Classification;
- Lead/zinc/silver Flotation (possibly);
- Primary Sulphide Flotation;
- Sulphide Regrinding;
- Sulphide Cleaner Flotation;
- Primary Gravity Classification;
- Coarse Gravity separation & Re grind;
- Fine Gravity Separation;
- Gravity Concentrate Dressing;
- Tin Float De-slime;
- Sulphide Scavenger Flotation;
- Silica or Gangue Flotation (possibly);
- Tin Flotation;
- Tin Concentrate Thickening & Filtering;
- Tin concentrate Acid Leaching (if required);
- PAF & NAF tailings Thickening & Disposal;
- Reagent Mixing, Storage & Distribution;
- Water, Air & Electrical Services.

The following Infrastructure associated with the project were considered and costed in the report:

- Site access roads;
- Bulk earth pads;
- Site run-off dam;
- Tailings storage facility;
- Administration office, associated ablutions & sewerage system;
- Site security;
- Maintenance & security buildings;
- Metallurgical laboratory;
- Raw water pumping station & pipeline;
- Potable water supply;
- Excess water disposal system;
- Accommodation facilities;
- High voltage power supply.

The study estimated:

- The **Processing Plant capital cost** at approximately **\$90M**
- A **processing plant workforce of 45** (based on 2 x 12 hour shift, 7 day /week operation).
- **Operation costs** at approximately **\$34.00/Tonne Treated**.

3.5. ENVIRONMENTAL STUDIES

During the period, Stellar Resources consultant John Miedecke and Partners continued baseline environmental studies. The project element locations have been decided on in principle and are shown in Figure 14. The tailings dam site was chosen after a number of options were investigated.

The studies currently underway include:

- Surface water quality and hydrology;
- Groundwater hydrogeology (including mine inflows);
- Waste rock, ore and tailings geochemistry: and
- Flora and fauna.

Stellar (and consultants) have had discussions with the EPA and MRT regarding the project and land tenure. Stellar are preparing a Notice of Intent and commencing other environmental studies required for Project approvals.

3.5.1. Surface Waters

A review of the first 12 month monitoring results to quantify the main contaminants to Pea Creek have confirmed the major contaminants as acidity, sulphate, copper, lead, nickel and zinc (also cadmium).

The Queen Hill catchment loads (including existing adits, mine workings and shaft drainage), while significant are not the major source. This will be important for project planning. Figure 15 shows the sampling sites and the proportion of the catchments at these sites.

Table 5 shows a summary of the 12 months data and the average percentage load for each site within the Pea Soup catchment for the different parameters of interest are presented. The 'Pea at track Crossing', and 'Dene Creek' sample sites were only measured on the last two sample runs. The other sites were sampled 5 times.

Table 5. Heemskirk Tin Project: Proportion of the Pea Soup at Corinna Rd load (%) for the different sources within the catchment. Includes the percentage of load unquantified.

Parameter	Aberfoyle Dam	Dene Creek	Upper Pea Ck	QH Adit 6	QH Shaft 4	Silver Lead Ck	Stormsd own Pit	Winter Drain	% Unquantified
Acidity (CaCO3 eq)	1.1	6.4	21.1	0.18	20.0	10.4	0.03	0.18	40.5
Sulphate (Total)	0.6	4.7	8.6	0.09	11.4	8.4	0.01	0.08	66.0
Aluminium (Total)	1.7	8.8	30.2	0.29	11.1	10.8	0.02	0.19	36.8
Copper (Total)	1.4	19.4	63.0	0.01	3.9	10.8	0.01	0.09	1.5
Iron (Total)	1.5	4.8	24.2	0.39	40.9	16.6	0.03	0.14	11.4
Manganese (Total)	0.1	2.5	1.0	0.06	8.6	16.7	0.00	0.00	71.0
Lead (Total)	0.2	5.4	3.5	0.10	3.3	3.7	0.03	0.29	83.5
Zinc (Total)	0.1	5.3	1.2	0.17	11.1	7.3	0.02	0.11	74.6

The major pollutant loads in Pea Soup Creek have not been quantified but are believed to be in the catchment of Oonah Creek, which drains from the north to Pea Soup Creek. This consists of a marshy low-lying area where access is very difficult and possible drainage from the Oonah and Montana mine workings.

Water monitoring is continuing and now includes the proposed tailings dam site.

3.5.2. Groundwater

SKM have been engaged to review all available data and assess likely mine water inflows for project planning purposes.

Recent drill holes have been monitored for standing water levels. A few holes have been artesian. Select holes will be used for testing for groundwater inflows and water quality and standing water levels.

3.5.3. Waste Rock / Ore and Tailings Geochemistry

The deposit is sulphidic, with the primary sulphides present being pyrite and pyrrhotite, and therefore the project has a risk of producing acid generating materials. Geo-Environmental Management Pty Ltd (GEM) was commissioned to evaluate the geochemical characteristics of mine rock and tailings samples from the Heemskirk Tin Project.

The study (Appendix 12) tested ten samples as a preliminary program, including tailings samples and drill-hole samples representing the waste rock and ore from the various deposits.

Waste Rock

Figure 6 is a geochemical classification plot for these samples where the NAPP values are plotted against the NAGpH. The samples that plot in the upper left quadrante, being NAPP negative with a NAGpH ≥ 4.5 , are confirmed as NAF, while the samples that plot in the lower right quadrante, being NAPP positive with a NAGpH < 4.5 , are confirmed as PAF. Samples that plot in the upper right or lower left quadrates have conflicting NAPP and NAGpH values and therefore have an uncertain geochemical classification. This plot shows that the Queen Hill Black Shale, Quartzite and Quartzite-Shale samples, with NAGpH values ranging from 2.8 to 3.4, plot within the lower right quadrante and these samples are confirmed to be PAF. The Volcaniclastic and Dolomite samples, with NAGpH values ranging from 8.8 to 9.3, plot within the upper left quadrante and these samples are confirmed to be NAF.

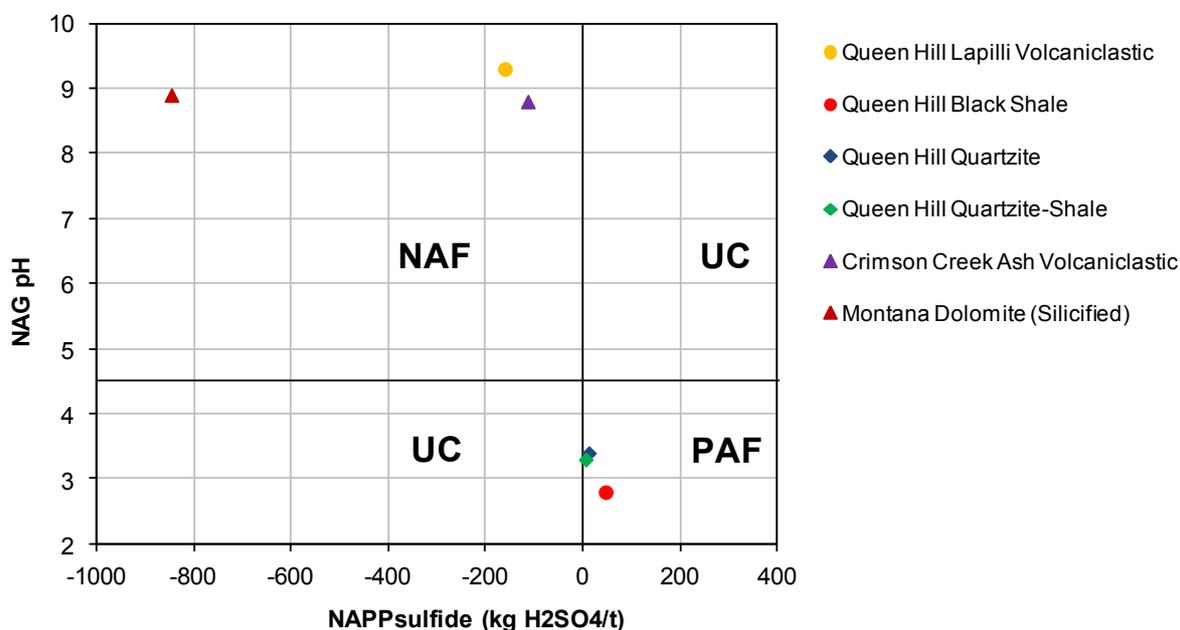


Figure 6. RL5/1997, Heemskirk Tin Project: Geochemical classification plot for the different mine rock samples.

A summary of the geochemical classification of the different rock types based on these results is presented on Table 6.

Table 6. Heemskirk Tin Project: Summary of geochemical classification for the different rock types.

Rock Type	Geochemical Classification	
Queen Hill Lapilli Volcaniclastic	NAF	Non-Acid Forming
Queen Hill Black Shale	PAF	Potentially Acid Forming
Queen Hill Quartzite	PAF/LC	PAF Low Capacity (<5 kg H ₂ SO ₄ /t)
Queen Hill Quartzite-Shale	PAF/LC	PAF Low Capacity (<5 kg H ₂ SO ₄ /t)
Crimson Creek Ash Volcaniclastic	NAF	Non-Acid Forming
Montana Dolomite (Silicified)	AC	Acid Consuming

The management strategy for this Project will therefore need to ensure that the identified PAF rock types are not allowed to develop acid conditions in order to ensure that acid metalliferous drainage (AMD) does not occur. However there are significant acid consuming materials in the waste rock.

Tailings

Both sulphide and non-sulphide tailings were tested. Figure 7 is the geochemical classification plot for these samples where the NAPP values are plotted against the NAGpH. This plot shows that sulphide tailings sample is PAF and the non-sulphide tailings sample is borderline PAF due to both the NAGpH of 4.4 and the NAPP of only 13 kg H₂SO₄/t.

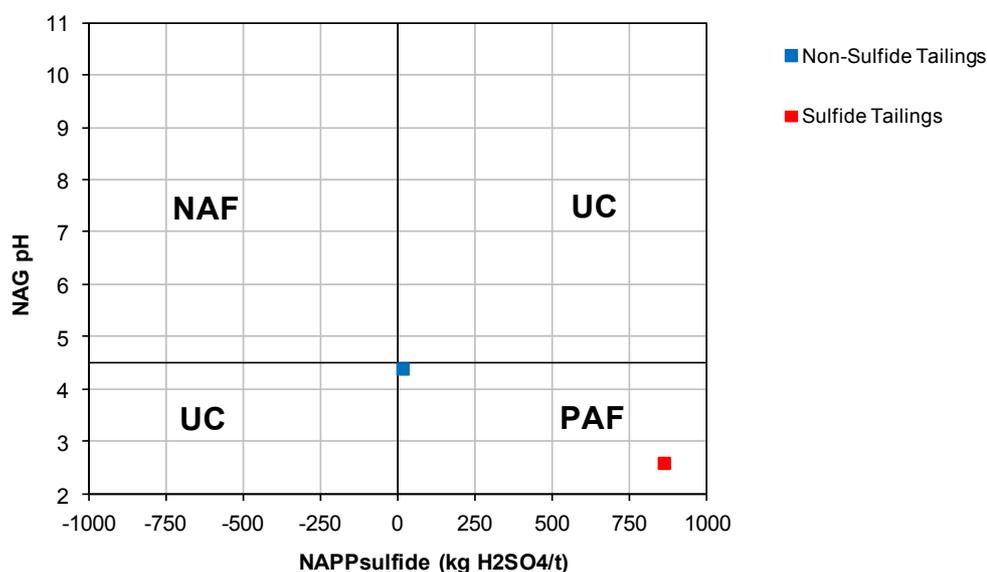


Figure 7. RL5/1997, Heemskirk Tin Project: Geochemical classification plot for the tailings samples.

As expected, the sulphide tailings have a high capacity to generate acid and are fast reacting. This material is predicted to develop acid conditions on first contact with oxygen and water. In order to ensure that acid conditions do not develop, this material will either need to be disposed directly under water or within pre-constructed impermeable encapsulation cells.

Based on the total sulphur content of the non-sulphide tailings sample (i.e. 0.84 %S), this material is expected to be PAF/LC (i.e. <5 kg H₂SO₄/t) and will need to be managed accordingly to ensure that acidic or low pH conditions do not develop.

3.5.4. Flora and Fauna

A desk top survey of both the Queen Hill areas, where the mine surface works and process plant will be located, and the selected tailings dam site was carried out in early 2014. A field survey of Queen Hill was also completed in May 2014 and the report by Philip Milner is included as Appendix 13.

Queen Hill

The vegetation on Queens Hill consisted of *Leptospermum scoparium* – *Acacia mucronata* Forest that has re-established in the area since the 1982 bushfires. No threatened vegetation communities were observed in the area and no threatened species of fauna are present in the location, although evidence of Tasmanian Devils was observed on the track around the foot of the hill. The absence of any old-growth trees with significant hollows limits potential habitat (den sites) for Devils and Spotted-tailed Quolls and for other species, which require tree hollows. No creek or streams are present in the area surveyed so there is no suitable habitat present for aquatic or riparian species. The lack of large old-growth trees also indicated that there is no suitable nesting habitat for the Wedge-tailed Eagle.

It is considered that the proposed project will have limited impact, if any, on threatened fauna habitat, and no direct impact on critical habitat for the Tasmanian Devil.

Weeds are widespread in the Queens Hill area will present management challenges for the project.

Tailings Dam (refer Figure 14)

A desktop survey has been completed and will be followed by a field survey later in the year. The desktop survey found that the main vegetation communities within the area proposed for the tailings dam are three formations of Buttongrass Moorland, Restionaceae sedge land and two forms of scrub all of which often characterize sites with impeded drainage conditions. Smaller patches of wooded and forest communities dominated mainly by *Eucalyptus nitida* and *E. obliqua* or rarely *Acacia melanoxylon* are mapped as occurring on the adjacent hill and rises.

Two localized patches of the threatened vegetation community *Eucalyptus ovata* Forest & Woodland that are mapped as occurring in the location may be impacted by the proposed development.

The location does not appear to have been heavily disturbed by mining or related activities in the past although the vegetation does appear to have been impacted by relatively frequent firing.

The two very small creeks which extend through the valley are at the upper-most end of the catchment of the Little Henty River and are unlikely to be impacted by acid mine drainage unless there are one or more old mine workings in close proximity. None are evident however.

Aside from the TASVEG mapping detailed above there are few other records or observations detailed on the "Natural Values Atlas" database from within the area proposed for the tailings dam, and those few records are all from the easily accessible roadsides. It can be presumed therefore that either there are no significant natural values present within the defined area or that it has never been subject to a field survey. A field survey of the area to be affected by the proposed tailings dam may therefore be warranted. TASVEG mapping is undertaken remotely by the interpretation of aerial photography and requires ground-truthing for confirmation of the vegetation communities actually present on a given site.

No species of flora, which are listed under the Tasmanian Threatened Species Protection Act 1995, and/or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* are recorded on the NVA in the vicinity of the proposed tailings dam site.

There are 13 species of non-threatened flora of conservation significance recorded from within 2,000 metres including Christmas Bells, *Blandfordia punicea*.

There are 20 records of the Tasmanian Devil however all are 2,000 metres or more from the tailings dam site, although it is likely that the area is utilized by Devils for hunting and foraging. The occurrence of any potential den sites would depend on the presence of old-growth trees with basal hollows in the location and this can only be confirmed by a ground survey. There are also 6 records of the Spotted-tailed Quoll although only one of those records is within 1,000 metres of the site. The comments made regarding the devil apply equally to the quoll particularly in regard to potential den sites.

The area does not appear to be preferred habitat and vegetation for the White (Grey) Goshawk as the species is usually found in heavier and denser forest but the species may periodically utilize the area

for hunting. The bird usually nests under heavy canopied trees such as Blackwoods and often along rivers and streams within enclosed valleys.

The two very small streams which extend through the study area are within the upper reaches of the catchment of the Little Henty River and appear to be remote from impacts of acid mine drainage. On this basis and with the proximity of the previous records of the two species of aquatic Hydrobiid Snail from the table drains of the adjacent roadsides it is highly probable that the tailings dam site provides potential habitat for one or both species of aquatic Hydrobiid Snails. A targeted survey may be required in order to confirm the presence or absence of one or both species.

There does not appear to be any potential habitat for the Azure Kingfisher or the Australian Grayling within the survey area.

The Swift Parrot is a highly mobile bird and is likely to utilize the two small patches of the *Eucalyptus ovata* Forest & Woodland community during the flowering season and particularly as there are other localized patches of this Eucalypt and its community in the wider area.

There are no weeds recorded within 500 metres of the reference point and few records within 1,000 metres so the actual site is likely to be relatively free of weeds. There is however 6 species of declared weeds which are widespread and common in the wider area, particularly along the nearby roadsides and therefore it can be anticipated that weed management will become an issue once the site is developed and disturbed.

The area proposed for the tailings dam is located within a Regional Reserve.

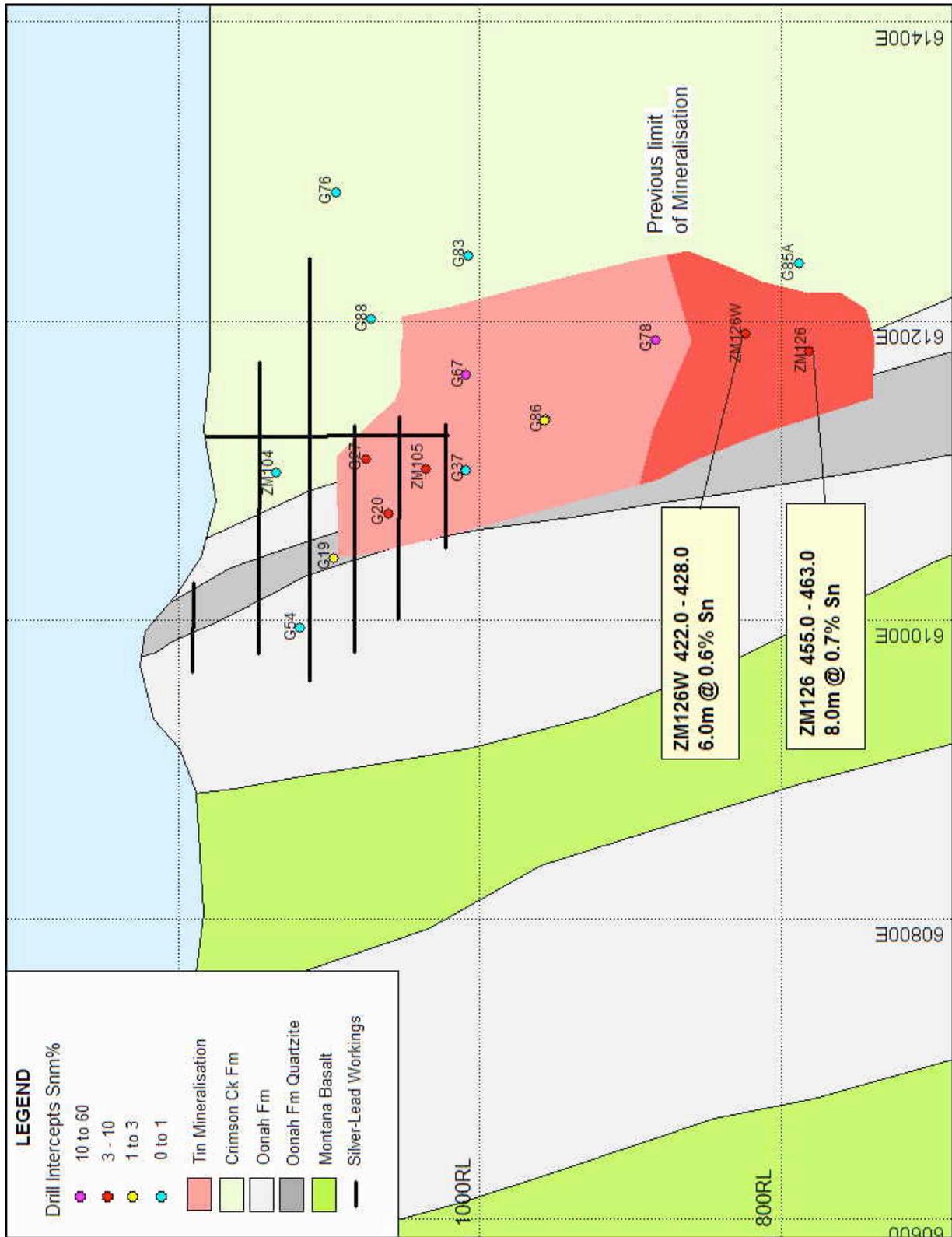


Figure 9. RL5/1997, Heemskirk Tin Project: Montana Deposit Longitudinal Section

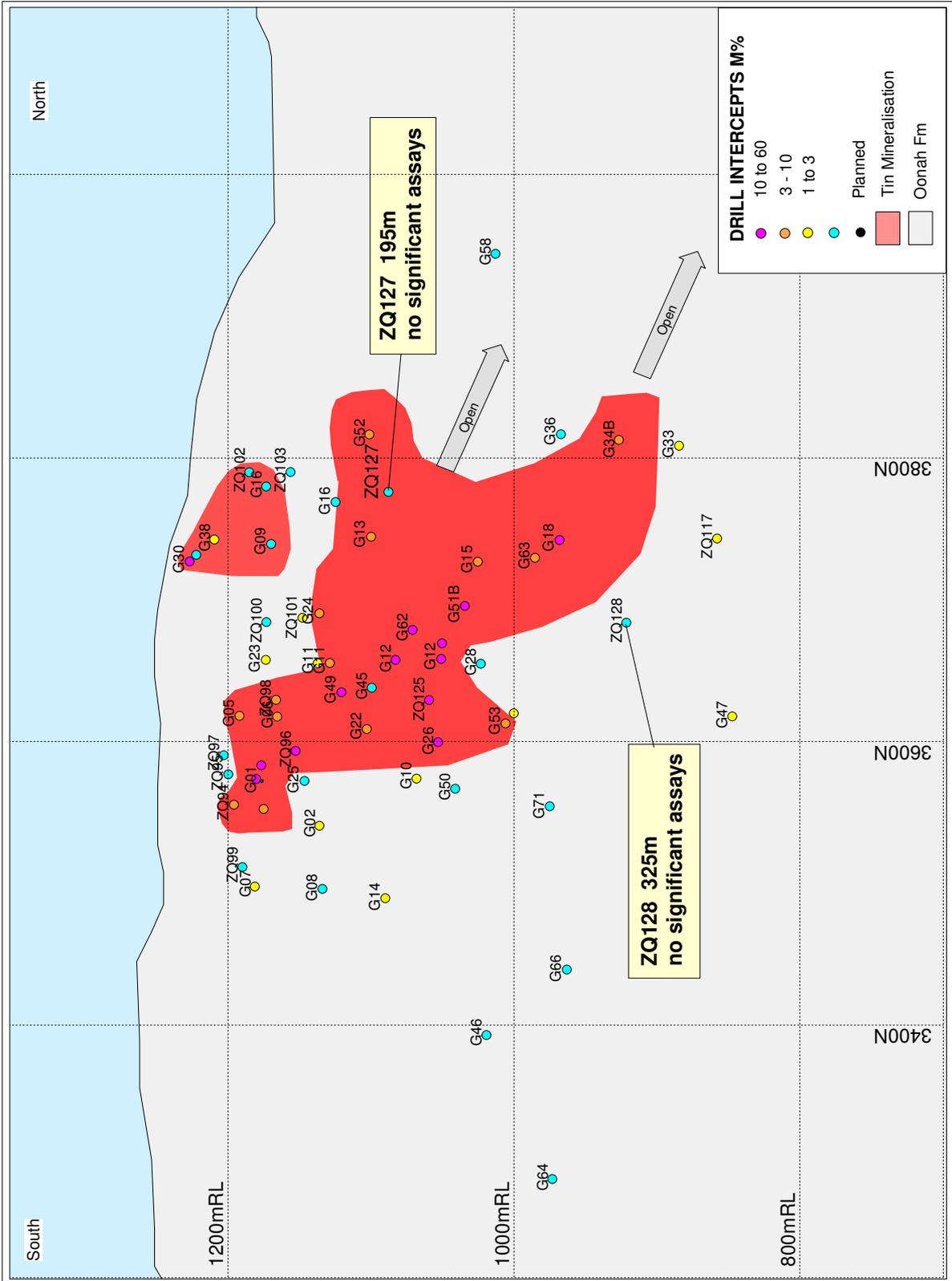


Figure 10. RL5/1997, Heemskirk Tin Project: Queen Hill Deposit Longitudinal Section

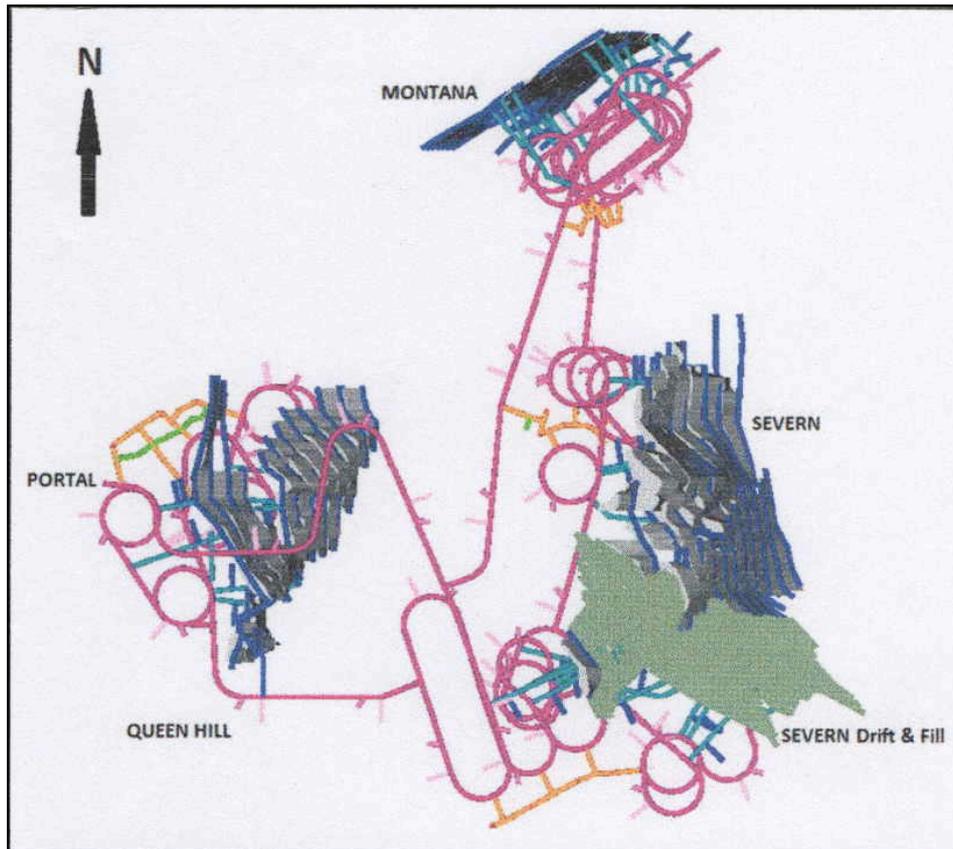


Figure 11. RL5/1997, Heemskirk Tin Project: Pre-Feasibility Study Plan View of Mine Development

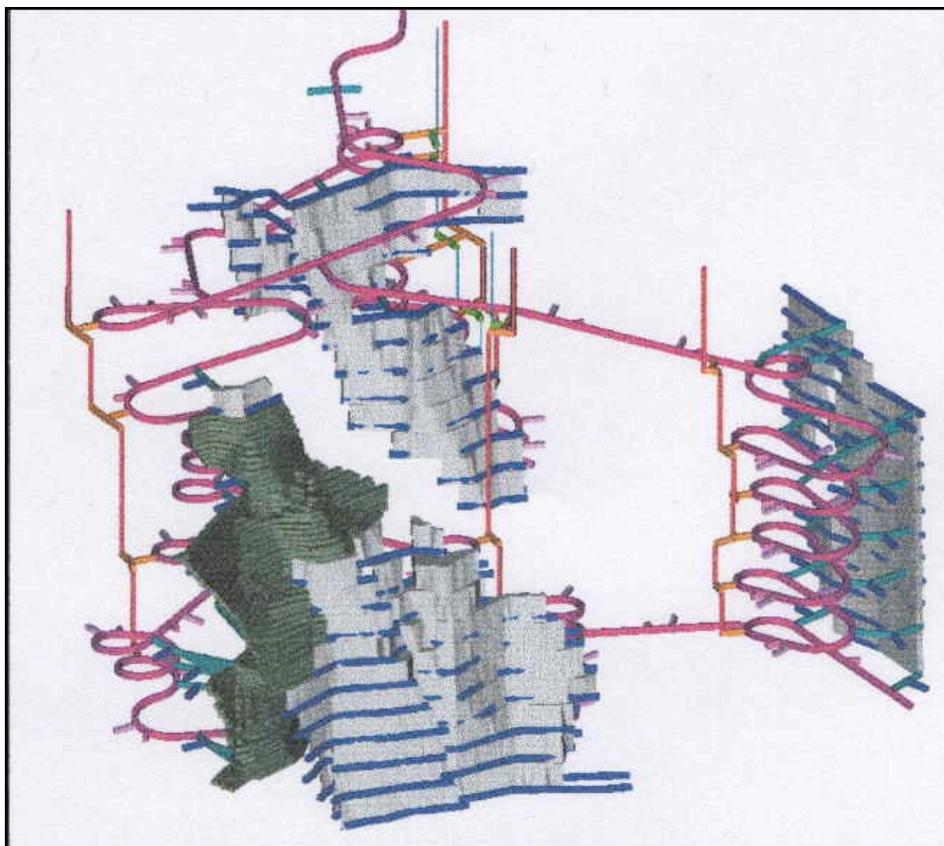


Figure 12. RL5/1997, Heemskirk Tin Project: Pre-Feasibility Study Isometric View of Mine Development

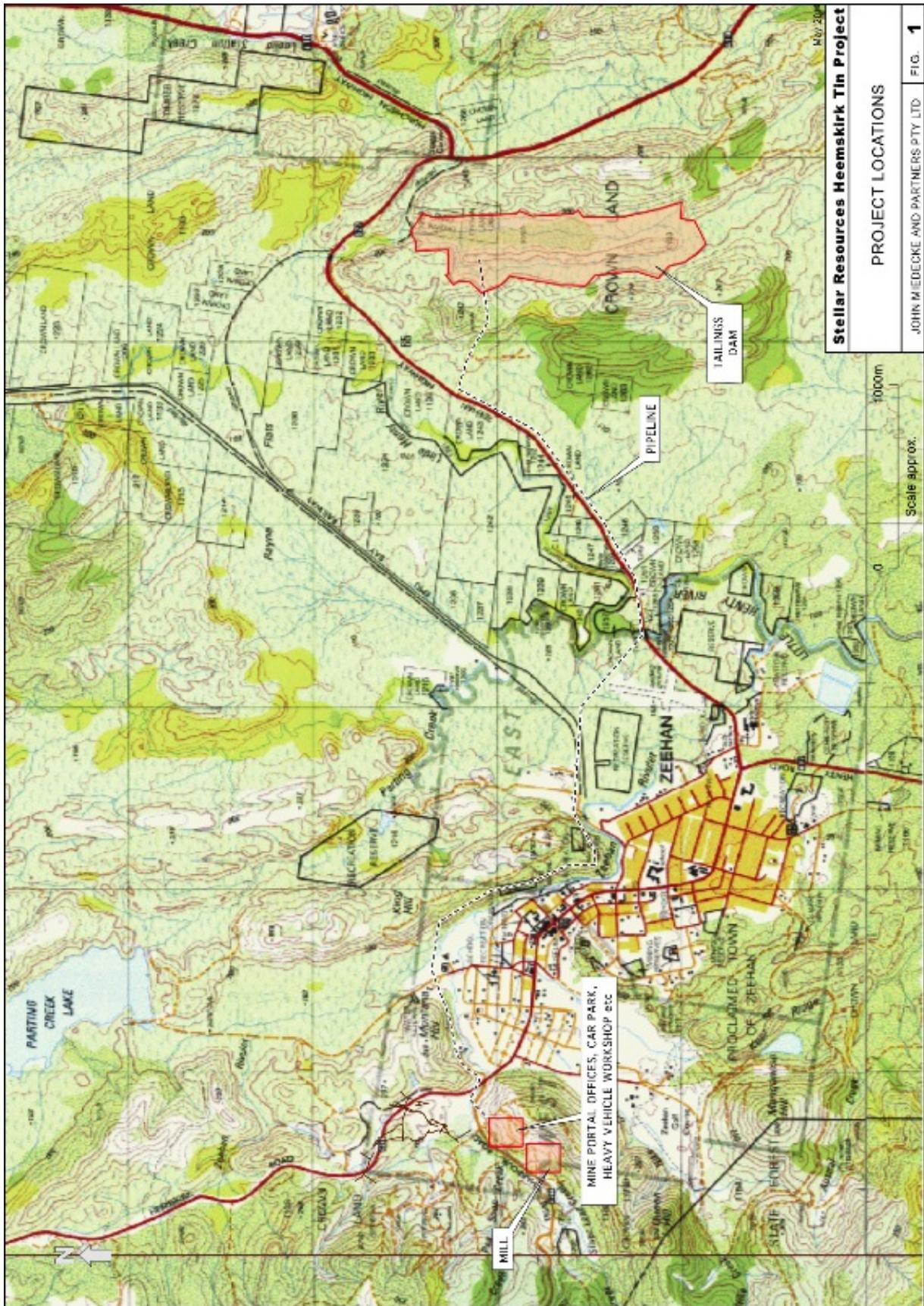


Figure 14. RL5/1997, Heemskirk Tin Project: Pre-feasibility Study Project Elements Location Plan

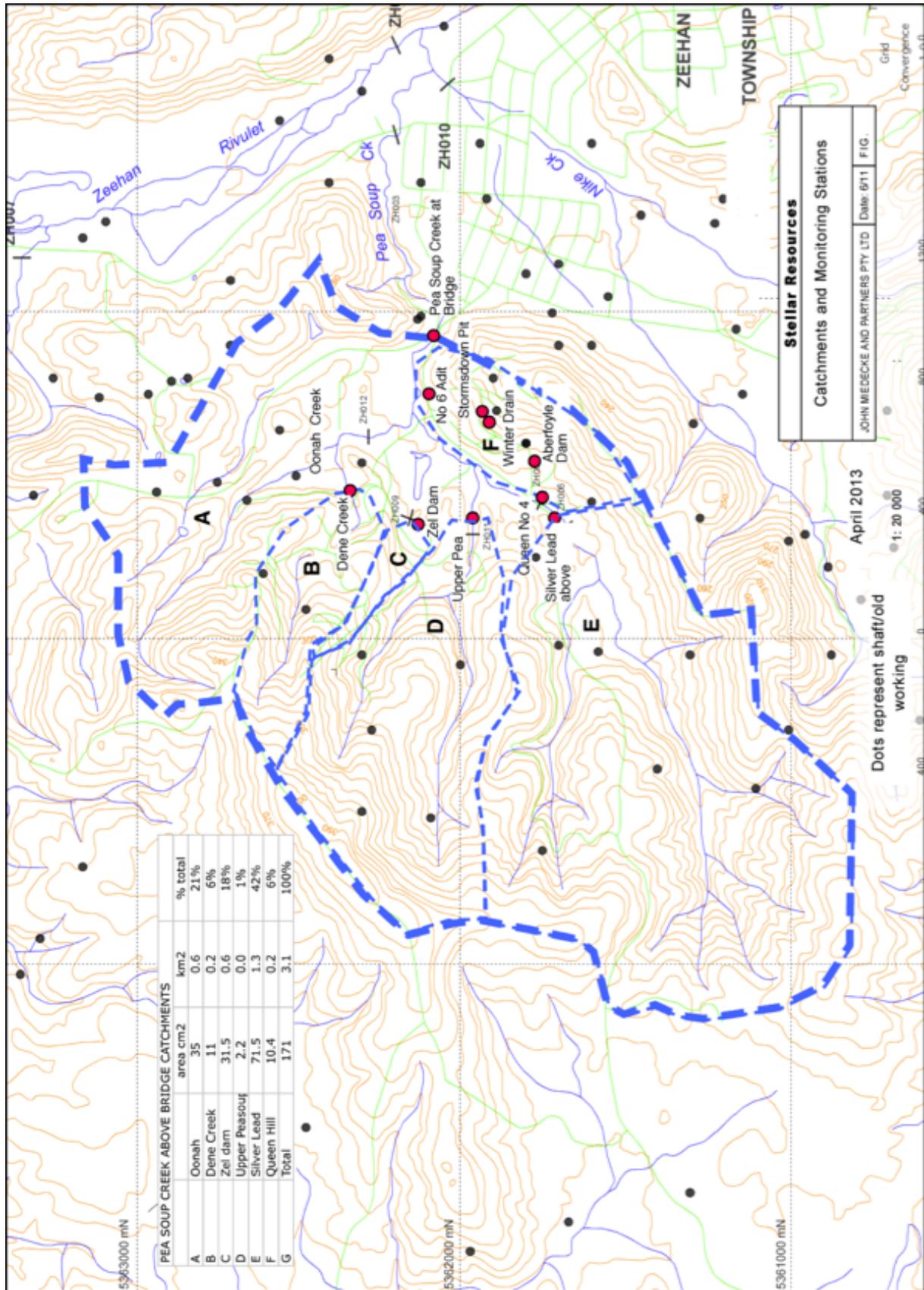


Figure 15. RL5/1997, Heemskirk Tin Project: Water Catchments & Monitoring Stations

4. DISCUSSION

4.1. DRILLING

ZM126 and wedged hole ZM126W were drilled across Section 4075mN (refer to Figures 8, 9, 16 & 17) to test the down plunge extent of the Montana Deposit at about 800m ML. They were drilled down plunge of the Aberfoyle holes G86 (4m @ 0.76% Sn) and G78 (14.85m @ 1.63% Sn). Both holes intersected mineralisation and extended the Montana Deposit down plunge about 150m. An unexpected intersection in ZM126W at 483.0 m depth is in the footwall of the deposit. This was not intersected in ZM126 although it may not have been drilled deep enough.

ZQ127 was drilled north of Section 3750mN (refer to Figures 8, 10, 16 & 18) to test the northern edge of the north plunging Queen Hill Deposit. It failed to intersect any significant mineralisation.

ZQ128 was drilled on Section 3700mN refer to Figures 8, 10, 16 & 19) to test the southern edge of the north plunging Queen Hill Deposit. It intersected minor mineralisation in black shale above the target zone of the black shale / Queen Hill Basalt contact. It also intersected some mineralisation in the basalt under the target zone.

Drill hole ZQ129 is currently being drilled down plunge of the Queen Hill Deposit, below the G33 and ZQ117 intercepts (refer to Figure 10). This will be the last hole targeting Queen Hill in the current program. Drilling will then focus of extension and infill drilling of the Severn Deposit.

Drill hole ZG130 is currently being drilled to test for a down plunge extension to the Golf Course Prospect mineralisation (refer to Figure 5).

4.2. STRUCTURAL GEOLOGY STUDY

The PGE Geoscience study recommended detailed surface structural mapping and structural logging of drill core to define new target areas.

4.3. METALLURGICAL TEST WORK

Ongoing metallurgical test work continues with the objective of optimizing the treatment processes. Modifications to the process flow sheet, which could improve metallurgical recovery beyond the 70% base case, has a significant impact as each additional percent increase in recovery adds \$4.9 million, or 8%, to the project NPV.

4.4. PRE-FEASIBILITY STUDY

A Mining Inventory of 3.95 million tonnes was developed from the Mineral Resource after applying stope and development shapes and taking into account dilution, ore recovery factors and optimising to maximise grade.

The optimised mining plans increased the grade of ore to be delivered to the processing plant from the scoping study estimate of 0.93% to 1.06% tin. Laboratory scale metallurgical test work demonstrated average recovery of 70% over three ore-types and an average concentrate grade of 48% tin. These developments increased the estimate of annual tin production by 11% over the scoping study number to 4,327 tonnes (see Table 7). The initial mine life is 7 years.

Table 7. Heemskirk Tin Project: PFS Technical and Cost Summary

Description	Units	Value
Mining inventory ¹	Mt	3.95
Mined ore tin grade	%Sn	1.06
Average mill throughput	Mtpa	0.6
Initial mine life ²	Years	6.75
Tin recovery	%	70
Average Concentrate grade	%	48
Average tin in concentrate production	tpa	4,327
Mine gate costs	US\$/t tin in concentrate	14,389
Pre-production capital expenditure	US\$M	114

¹ Mining inventory includes Indicated and Inferred Mineral Resources that have had mining dilution, recovery and economic factors applied to the mine design, creating an inventory of potential stope and development tonnes.

² There is potential to increase mine life within the current Mineral Resource if additional drilling of lower Severn results in an increase in average grade.

4.4.1. Operating Costs

Mining costs are based on current Australian contractor rates for an underground mine of similar size to Heemskirk. Some costs such as mine management, geology, engineering and supervision represent owner costs. Processing costs are based on current employee rates for owner operation on a 24/7 basis. Decline and stope development plus equipment replacement in the plant represent business sustaining costs.

Table 8. Heemskirk Tin Project: Life of Mine Cash Operating Costs

Item	US\$/t of tin in conc	AU\$/t of ore
Mining	8,137	65.2
Processing	4,131	33.1
Direct Cash Cost (mining plus processing)	12,268	98.3
Mine Sustaining	1,735	13.9
Site Sustaining	175	1.4
Corporate Overheads	212	1.7
Total Mine Gate Operating Cost	14,389	115.3

A\$/US\$ exchange rate assumption of 0.90

Direct mining and processing cash costs of US\$12,268/t of tin in concentrate are 4% lower than the scoping study estimate of US\$12,700/t. Adding mine and process plant sustaining expenditure and corporate overheads to these costs results in a competitive mine gate cost of US\$14,386/t (see Table 8).

4.4.2. Capital Costs

The capital costs shown in Table 9 were developed with assistance from contractors Mining One, GR Engineering and GHD and include 2013 costs to a +/- 25% accuracy. Mine costs of \$38 million include decline and stope development, ventilation rises and all other costs in the 18 months ahead of first ore delivery to the mill. Processing plant equipment is costed at current prices with EPC included in the total of \$76 million. Stage 1 of the tailings dam, with capacity for the first three years production, is costed at \$7 million. The total capital cost of \$127 million (US\$114 million) includes surface infrastructure and benefits from existing power, water and road infrastructure and close proximity to Zeehan for housing.

Table 9. Heemskirk Tin Project: Pre-Production Capital Expenditure

Item	US\$ Million	AU\$ Million
Mine	34.1	37.9
Process Facilities Including First Fills and Spares	68.0	75.5
Infrastructure Including Tailings Storage Facility	6.4	7.2
Owners Costs	1.4	1.5
Contingencies	4.0	4.5
Total Project Pre-Production Capital	113.9	126.6

A\$/US\$ exchange rate assumption of 0.90

4.4.3. Financial Summary

Under the base case, Heemskirk Tin generates a net present value of \$61 million or 27 cents per Stellar share, before corporate income tax, at a consensus tin price of US\$25,500/t and an A\$0.90 exchange rate (see Table 10).

Table 10. Heemskirk Tin Project: PFS – Tin Price Sensitivity

Description	Economic Outputs		
	-10%	Base Case	+10%
Tin price scenarios	-10%	Base Case	+10%
LME tin price US\$/t	22,950	25,500 ¹	28,050
NPV _{8%} A\$M ²	11	61	102
IRR %	10	19	26
Payback years	4.7	3.7	3.1
Operating margin A\$/t ore treated	51	70	86
Total cash surplus A\$M	77	152	214

¹ Base case LME tin price is the median of nine analyst estimates for 2016 and beyond. It is also the marginal cost of tin production according to International Tin Research Institute cost curve analysis.

² A\$/US\$ exchange rate assumption of 0.9 is the median of nine analyst estimates

4.5. ENVIRONMENTAL STUDIES

This work is being managed by John Meidecke and Associates and is directed to addressing all issues likely to be required for the permitting process. The results of preliminary discussions with the MRT and EPA are guiding the direction and extent of the program.

The existing studies (i.e. surface water, groundwater, waste geochemistry and flora and fauna) will continue and in some cases be expanded to include other areas which will form part of the project (i.e. tailings dam site, waste rock site etc.).

Groundwater studies will require the installation of piezometers and it is likely that some of the exploration drill holes can be used for this purpose on completion. Some of the flora and fauna studies require further ground truthing and survey.

Other surveys likely to commence in 2014 include heritage (european and indiginoues archaeology), noise and ground vibration studies.

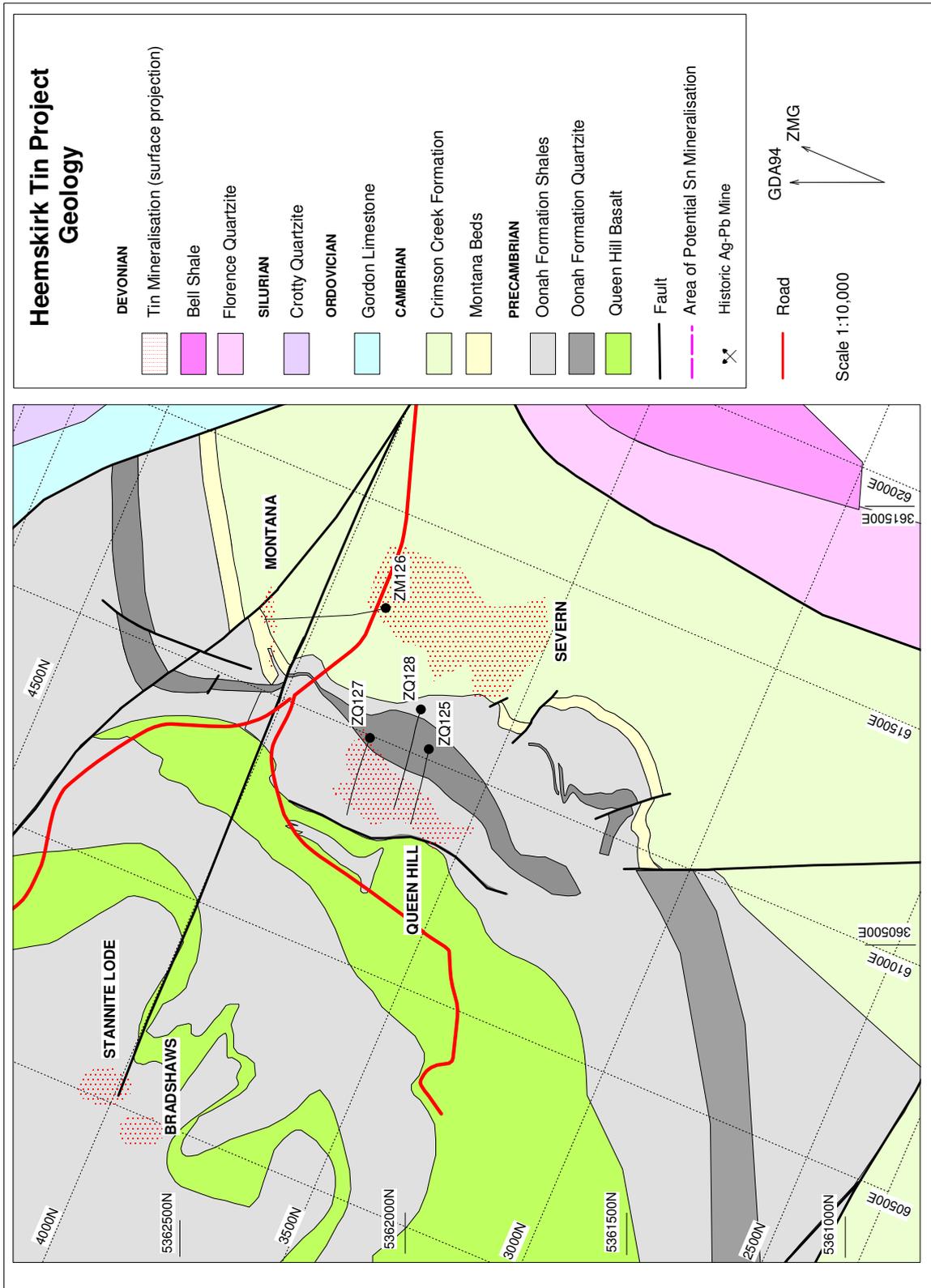


Figure 16. RL5/1997, Heemskirk Tin Project: Geology Plan showing deposits & drill hole traces on the ZMG grid with GDA grid tags.

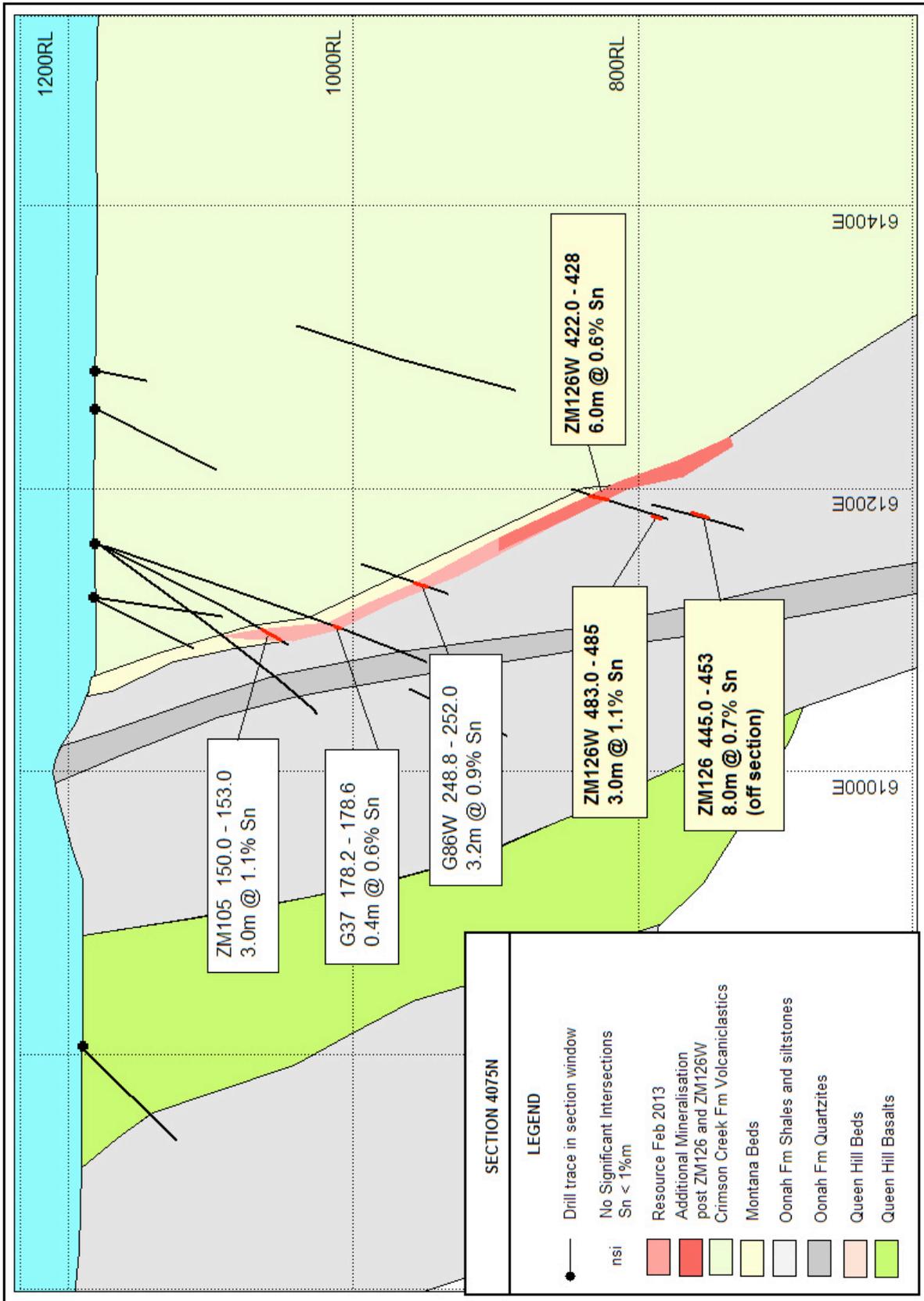


Figure 17. RL5/1997, Heemskirk Tin Project: 4075N Zeehan Mine Grid (ZMG) Geology Cross Section showing the part traces of ZM126 & ZM126W.

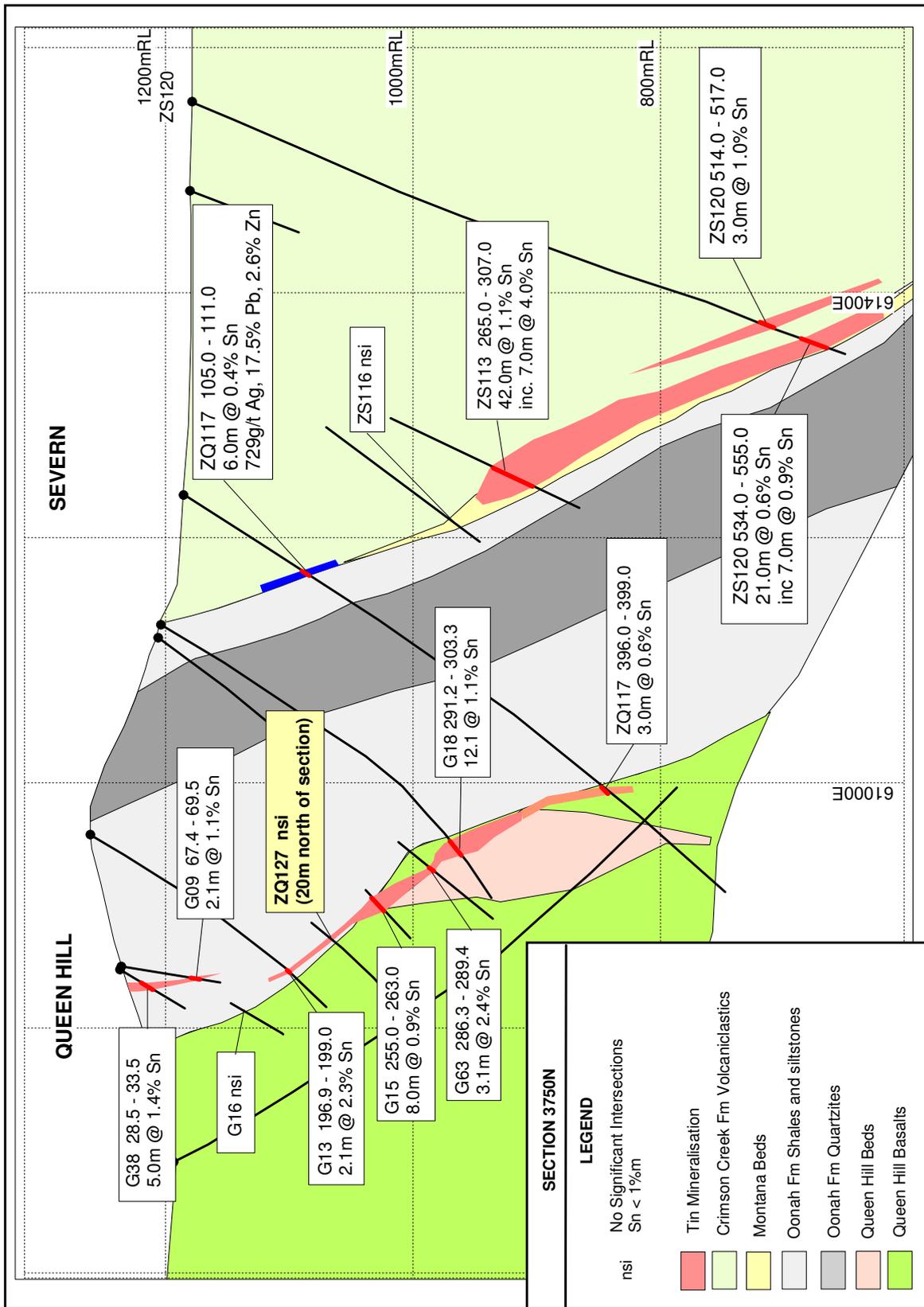


Figure 18. RL5/1997, Heemskirk Tin Project: 3750N Zeehan Mine Grid (ZMG) Geology Cross Section showing the partial trace of ZQ127.

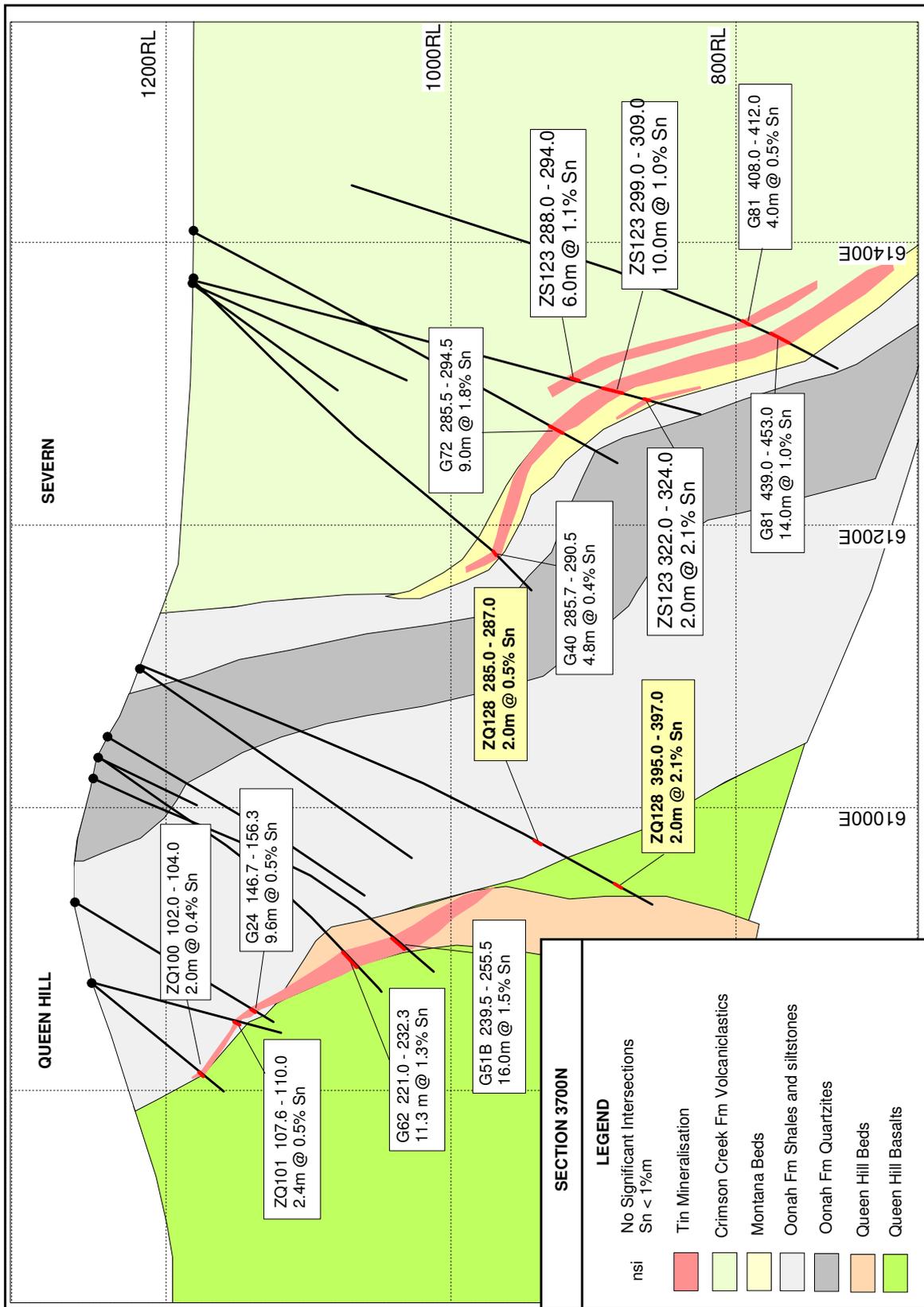


Figure 19. RL5/1997, Heemskirk Tin Project: 4075N Zeehan Mine Grid (ZMG) Geology Cross Section showing the ZQ128 drill hole trace.

5. CONCLUSIONS & PROPOSED WORK

The Heemskirk Tin Project comprises three structurally controlled and replacement tin deposits with substantial scope to both increase the size and quality of the known deposits and to add to this resource through the discovery of additional mineralisation at depth.

5.1. DEVELOPMENT TARGETS

Severn Deposit

The Severn Deposit will be subject to more infill drilling during the coming year to increase drill density and facilitate an increase in JORC resource status from inferred to indicated. More drilling will test the extremities of the known deposit, particularly down plunge.

Queen Hill Deposit

Recent results from drill hole ZQ129 indicate that there is significant depth potential at the Queen Hill Deposit. Ongoing metallurgical test work indicates that the deeper mineralization is also more amenable to mineral extraction than that near surface. The lower Queen Hill Deposit is considered highly prospective and will be drilled further in the coming year.

5.2. PROJECT STUDIES

Metallurgical test work continues with further testing of Severn, Lower Queen Hill and Montana mineralization as it becomes available from drilling.

Independent mining consultant Alan Fudge, of Polberro Consulting, has been commissioned to review and if possible optimize the Mining One Mining Study. This work is underway.

Stellar (and consultants) have had discussions with the EPA and MRT regarding the project and land tenure. Stellar are preparing a Notice of Intent and commencing other environmental studies required for project approvals. Environmental studies will continue throughout the year and be expanded to thoroughly evaluate rock (ore & waste) geochemistry and the groundwater regime.

6. ENVIRONMENT

None of the 2013/14 Queen Hill drill sites have been rehabilitated as most continue to be reused on a regular basis. Sumps are immediately filled in as individual holes are completed for safety reasons. When sites are reused sumps are re-excavated.

The three drill holes completed this year (ZM126, ZQ127 & ZS128) have been plugged.

Most of the drill holes have been plugged with Van Ruth plugs and concrete but due to groundwater monitoring and sampling requirements some of the later holes were cased with slotted PVC pipe and fitted with a grouted steel collar pipe and pressure valves where possible.

7. EXPENDITURE

Transaction Report Columbus Metals Limited

Printed At: 23/05/2014 15:09:04

Currency: AUD

Job No	Job Details	Department		Amount
Tran. Date		Doc Ref - Description		
Job Code: GIP901	ZeehanTin - RL 5/1997	D1	GIP	
	1053	Technical	Total	\$48,061.59
	1054	Labour	Total	\$54,680.52
Phase Total	105	STAFF COSTS		\$102,742.11
	1061	Professional Technical	Total	\$26,024.63
Phase Total	106	CONTRACT PERSONNEL		\$26,024.63
	1071	Administration & Computing	Total	\$170.00
	1072	Geoscientist	Total	\$392,071.33
	1073	Engineering	Total	\$134,993.38
	1074	Other	Total	\$4,760.50
	1075	Environmental	Total	\$13,700.00
Phase Total	107	CONSULTANT PERSONNEL		\$545,695.21
	1151	Site Preparation	Total	\$7,498.50
	1154	Diamond	Total	\$226,853.02
Phase Total	115	DRILLING		\$234,351.52
	1161	Assays	Total	\$77,349.96
Phase Total	116	ASSAYS		\$77,349.96
	1251	Vehicle Costs All	Total	\$35,125.52
	1252	Office Costs	Total	\$2,613.73
	1253	Field Operations Consumables	Total	\$4,026.28
	1254	Safety Equipment	Total	\$474.60
	1255	Equipment Hire	Total	\$2,060.00
Phase Total	125	SUPPORT COSTS		\$44,300.13
	1303	Computing	Total	\$7,851.97
Phase Total	130	DATA PROCESSING		\$7,851.97
	1551	Meals and Accomodation	Total	\$4,774.83
	1552	Airfares	Total	\$3,126.73
	1553	Vehicle Hire	Total	\$268.69
	1554	General Expense	Total	\$691.48
Phase Total	155	TRAVEL		\$8,861.73
	1651	Administration	Total	\$330,431.00
Phase Total	165	OVERHEADS		\$330,431.00
Job Total : GIP901				\$1,377,608.26
Class GIP				\$1,377,608.26
Report Total:				\$1,377,608.26

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Keywords

Location:	Zeehan
Mineralisation environment:	Sulphide Skarn
Minerals:	Cassiterite, Stannite, Pyrite, Pyrrhotite, Magnetite
Exploration methods:	Historic Research, Diamond Drilling, Metallurgical Testwork, Mining Studies, Environmental Studies
Mine/prospect name:	Heemskirk Tin Project, Queen Hill Deposit, Severn Deposit, Montana Deposit, Golf Course Prospect, Stormsdown Prospect
Stratigraphic name:	Oonah Formation, Success Creek Group, Crimson Creek Formation, Gordon Limestone, Eldon Group, Heemskirk Granite
Lithologic name:	quartzite, volcanoclastic, basalt, siltstone, shale, limestone, dolomite, granite
Geological Province:	Dundas Trough
Geological age:	Lower Neoproterozoic, Palaeozoic

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RL 5/1997 Zeehan – Report on 2014 program

APPENDICES

STELLAR RESOURCES LTD

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Appendix 1: Drilling Summary

Hole No.	Collar Co-ordinates (MGA)			ZMG Section No.	Azimuth (MGA)	Dip°	Start Date	End Date	Depth (m)	Core Size	Av. Rec	Geology & Mineralisation	Intercept Assay							Int. Rec.										
	Easting	Northing	R.L.										Interval (m)	Interval (m)	Width (m)	% Sn	ASSn (ppm)	% Cu	% Pb		% Zn	Ag (ppm)								
ZS112	361344.65	5361746.72	180.56	3650	300°	70°	31/5/2012	17/07/12	551.6	HQ/NQ3	96%	0 - 250.9	Rolled																	
												250.9 - 409.0	Black Shale, Shale & Ash Volcaniclastic																	
												326.9 - 412.0	Pyrite & Pyrrhotite Stockwork	329.0 - 332.0	3.00	1.46	<50	0.07	0.20	0.02	6	100%								
												409.0 - 450.0	Shale & Dolomite	344.0 - 345.0	1.00	1.95	<50	0.07	0.00	0.01	4	90%								
												412.0 - 466.3	Pyrite Stockwork	355.0 - 357.0	2.00	1.31	<50	0.04	0.00	0.00	2	100%								
												450.0 - 538.0	Silicified Shale, Dolomite & Quartzite	362.0 - 363.0	1.00	2.45	<50	0.02	0.00	0.00	1	100%								
												538.0 - 551.6	Silicified Shale & Quartzite	386.0 - 388.0	2.00	1.27	50	0.12	0.00	0.00	1	100%								
ZS112W	Wedged off ZS112 @ 313.4m			3650	305°	68°	18/7/2012	2/08/12	455.5	BQ	99%	313.4 - 367.5	Ash Volcaniclastic & Black Shale																	
	326.0 - 413.3	Pyrite & Pyrrhotite Stockwork	328.0 - 330.0									2.00	1.22	60	0.08	0.09	0.05	5	100%											
	367.5 - 392.0	Ash Volcaniclastic & Dolomite	339.0 - 344.0									5.00	0.81	82	0.04	0.01	0.01	2	100%											
	392.0 - 427.8	Ash Volcaniclastic, Black Shale & Shale	355.0 - 357.0									2.00	1.41	50	0.09	0.00	0.01	1	100%											
	413.3 - 455.5	Pyrite Stockwork	369.0 - 370.0									1.00	1.21	<50	0.03	0	0.01	<1	100%											
ZS113	361284.39	5361851.87	180.68	3750	310°	65°	7/6/2012	29/06/12	350.4	HQ/NQ3	99%	0 - 180	Rolled																	
												180.0 - 256.4	Ash Volcaniclastic & Shale																	
												256.4 - 279.7	Black Shale																	
												266.8 - 279.7	Pyrite Stockwork	276.0 - 288.0	12.00	0.74	172	0.07	0.07	0.01	8	100%								
												279.7 - 317.1	Volcaniclastic																	
												279.7 - 306.8	Pyrite & Pyrrhotite Stockwork	292.0 - 304.0	12.00	2.58	158	0.14	0.00	0.00	2	100%								
												317.1 - 340.6	Silicified Shale & Quartzite																	
ZS113W	Wedged off ZS113 @ 192.8m			3750	320°	61°	2/07/12	6/07/12	322.0	BQ	100%	192.8 - 250.0	Ash Volcaniclastic & Shale																	
	250.0 - 278.0	Black Shale																												
	250.0 - 285.3	Pyrite Stockwork	266.0 - 269.0									3.00	1.85	<50	0.08	0.00	0.01	2	100%											
	278.0 - 314.0	Ash Volcaniclastic & Dolomite	272.0 - 279.0									7.00	1.60	200	0.13	0.01	0.01	10	100%											
	285.3 - 317.5	Pyrite & Pyrrhotite Stockwork	282.0 - 288.0									7.00	1.78	160	0.07	0.00	0.01	2	100%											
ZM114	360934.25	5362464.77	190.50		000°	60°	4/07/12	17/07/12	143.3	HQ/NQ3	94%	0.0 - 5.0	Rolled																	
												5.0 - 119.2	Volcanics & Lapilli Volcaniclastic																	
												119.2 - 133.9	Black Shale																	
ZS115	361464.01	5361802.32	177.88	3800	300	55°	6/07/12	22/09/12	509.3	RC/HQ/NQ3	99%	0.0 - 223.8	Rolled																	
												223.8 - 331.7	Volcanic Shale & Ash Volcaniclastic																	
												331.7 - 492.4	Black Shale, Ash Volcaniclastic & Dolomite																	
												387.2 - 480.6	Pyrite Stockwork	465.0 - 472.0	7.00	0.79	<50	0.01	0.00	0.01	<1	100%								
				</																										

Hole No.	Collar Co-ordinates (MGA)			ZMG Section No.	Azimuth (MGA)	Dip°	Start Date	End Date	Depth (m)	Core Size	Av. Rec	Geology & Mineralisation		Intercept Assay							Int. Rec.								
	Easting	Northing	R.L.									Interval (m)		Interval (m)	Width (m)	% Sn	ASSn (ppm)	% Cu	% Pb	% Zn		Aq (ppm)							
ZS116	361283.98	5361852.15	180.72	3750	307°	52°	10/07/12	30/07/12	296.2	HQ / NQ3	87%	0.0 - 129.2	Rolled																
												129.2 - 209.8	Shale & Ash Volcaniclastics																
												209.8 - 256.0	Black Shale, Shale & Ash Volcaniclastics																
												229.0 - 266.0	Pyrite Stockwork																
												256.0 - 277.9	Ash Volcaniclastics, Black Shale & Dolomite																
												277.9 - 296.2	Quartzite & Siltstone																
ZQ117	361173.39	5361938.60	182.77	3750	290°	55°	17/07/12	21/09/12	545.2	RC/HQ/NQ3	96%	0.0 - 49.0	Rolled																
												49.0 - 129.85	Ash Volcaniclastics & Volcanic Shale																
												100.5 - 112.4	Breccia with Pyrite / Galena veins	105.0 - 111.0	6.00	0.39	227	0.00	16.71	2.19	729	97%							
												129.85 - 170.9	Black Shale, Dolomite & Ash Volcaniclastics																
												170.9 - 175.0	Shale																
												175.0 - 228.85	Quartzite																
												228.9 - 396.7	Black Shale with Quartzite interbeds																
												320.2 - 401.2	Pyrite Stockwork	384.0 - 386.0	2.00	1.16	1215	0.03	0.00	0.00	1	92%							
												396.7 - 465.5	Lapilli Volcaniclastics	396.0 - 399.0	3.00	0.56	<50	0.01	0.01	0.01	2	100%							
												465.5 - 480.9	Mudstone & Black Shale																
ZQ118	360632.48	5362029.43	203.49		293°	55°	18/07/12	25/07/12	103.0	HQ / NQ3	96%	0.0 - 3.0	Rolled																
												3.0 - 76.0	Spillitic Volcanics	22.0 - 24.0	2.00	0.01	80	0.02	0.19	1.14	11	100%							
												76.0 - 88.0	Lapilli Volcaniclastics																
												88.0 - 97.35	Spillitic Volcanics																
												97.35 - 103	Lapilli Volcaniclastics																
ZS119	361174.47	5361938.99	182.77	3700	270°	70°	21/09/12	9/10/12	179.8	HQ / NQ3	93%	0.0 - 59.0	Rolled																
												59.0 - 93.6	Sheared Black Shale & major Shear Zones																
												93.6 - 141.5	Black Shale, Ash Volcaniclastics & Volcanic Shale																
												103.0 - 115.0	Pyrite/minor Galena vein stockwork	103.0 - 105.0	2.00	0.23	50	0.02	1.77	2.58	43	86%							
												115.0 - 115.8	Massive Pyrite with minor Galena	115.0 - 116.0	1.00	0.44	70	0.02	0.68	0.44	22	100%							
141.5 - 179.8	Shale & Ash Volcaniclastic																												
ZS120	361467.49	5361800.34	177.94	3750	302°	67°	24/09/12	21/11/12	599.8	HQ / NQ3	96%	0.0 - 250.0	Rolled																
												250.0 - 323.8	Shale & Black Shale																
												323.8 - 395.0	Ash Volcaniclastic & Black Shale																
												395.0 - 514.0	Ash Volcaniclastic with minor Siltstone																
												476.5 - 487.4	Pyrrhotite veining																
												514.0 - 575.9	Highly Altered ash Volcaniclastic																
												514.0 - 535.25	Pyrite Stockwork	514.0 - 517.0	3.00	1.04	<50	0.06	0.00	0.00	<1	100%							
												535.25 - 575.9	Pyrrhotite / Pyrite Stockwork	535.0 - 543.0	8.00	0.82	<50	0.05	0.00	0.00	<1	100%							
												575.9 - 599.8	Quartzite (Pyritic)	548.0 - 555.0	7.00	0.65	<50	0.02	0.00	0.00	<1	100%							

Hole No.	Collar Co-ordinates (MGA)			ZMG Section No.	Azimuth (MGA)	Dip°	Start Date	End Date	Depth (m)	Core Size	Av. Rec	Geology & Mineralisation		Intercept Assay							Int. Rec.				
	Easting	Northing	R.L.									Interval (m)		Interval (m)	Width (m)	% Sn	ASSn (ppm)	% Cu	% Pb	% Zn		Ag (ppm)			
ZS121	361232.25	5361076.51	188.82	2900	283°	50°	10/10/12	15/11/12	495.8	HQ / NQ3	99%	0.0 - 25.0	Rolled												
												25.0 - 147.5	Ash Volcaniclastic with minor Dolomite												
												147.5 - 338.5	Black Shale & Ash Volcaniclastic (thin Basalt)												
												338.5 - 495.8	Ash Volcaniclastic with minor Dol & Shale												
												405.0 - 458.7	Minor Pyrite veining												
ZS122	361399.48	5361423.54	184.80	3500	303°	55°	20/11/12	20/12/12	407.0	HQ / NQ3	96%	0.0 - 67.70	Rolled												
												67.7 - 198.4	Ash Volcaniclastic & Black Shale												
												198.4 - 265.2	Black Sale, Dolomite & Ash Volcaniclastic												
												220.5 - 257.2	Weak Pyrite Stockwork												
												265.2 - 324.9	Dolomite & Shale												
												324.9 - 400.6	Black Shale												
												400.6 - 407.0	Quartzite												
ZS123	361288.12	5361848.87	180.65	3700	288°	75°	23/11/12	18/01/13	392.7	HQ / NQ3	95%	0.0 - 169.8	Rolled												
												169.8 - 221.0	Ash Volcaniclastic & Black Shale												
												221.0 - 288.2	Shale & Ash Volcaniclastic												
												288.2 - 348.5	Shale, Highly Altered Rock & Dolomite												
												288.2 - 298.8	Pyrite Stockwork & MS (cavity & lost core)	288.0 - 293.7	5.70	1.10	130	0.09	0.02	0.04	13	40%			
												298.8 - 308.7	Pyrite / Pyrrhotite Stockwork	299.0 - 309.0	10.00	1.01	<50	0.03	0.00	0.01	1	99%			
												308.7 - 374.7	Pyrite Stockwork (Cassiterite vein @ 323m)	322.0 - 324.0	2.00	2.13	50	0.10	0.00	0.01	1	95%			
												348.5 - 392.7	Silicified Shale & Quartzite												
ZS124	361338.43	5361745.50	180.10	3650	295°	62°	21/01/13	22/02/13	377.6	HQ / NQ3	79%	0 - 184.9	Rolled												
												184.9 - 298.3	Shale, Black Shale & Ash Volcaniclastic												
												251.7 - 286.6	Pyrite Stockwork	257.0 - 262.0	5.00	0.81	246	0.05	0.06	0.11	7	98%			
												286.6 - 290.1	Pyrite / Pyrrhotite Stockwork	268.0 - 272.0	4.00	1.20	165	0.06	0.01	0.02	3	100%			
												298.7 - 321.6	Shale, Ash Volcaniclastic & Dolomite												
												302.6 - 340.9	Pyrite Stockwork												
												321.6 - 365.0	Silicified Shale & Quartzite												
												365.0 - 377.6	Quartzite & Shale												
ZQ125	360942.92	5361942.43	256.40	3650	285°	55°	19/02/13	13/03/13	301.0	HQ / NQ3	96%	0 - 2.0	Rolled												
												2.0 - 48.2	Quartzite												
												48.2 - 201.7	Black Shale & Quartzite												
												201.7 - 257.3	Massive Sulphides & HA Rock	201.0 - 204.0	3.00	0.19	337	0.17	4.67	0.30	136	58%			
														211.0 - 221.0	10.00	0.01	261	0.06	3.11	2.56	58	99%			
														226.0 - 233.0	7.00	1.67	540	0.06	2.60	7.37	67	100%			
														238.0 - 248.0	10.00	2.54	150	0.02	0.11	0.12	109	100%			
														257.3 - 301.0	5.00	2.49	<50	0.01	0.02	0.00	4	100%			
ZQ125W	Wedged off ZQ125 @ 77.6m			3650	285°	52°	19/03/13	4/04/13	284.0	BQ	98%	77.6 - 199.9	Black Shale & Quartzite												
												199.9 - 263.0	HA Rock & Massive Sulphides	199.0 - 205.0	6.00	0.60	787	0.18	5.02	0.72	175	88%			
														212.0 - 230.0	18.00	0.24	302	0.28	1.13	2.91	28	100%			
														231.0 - 244.0	13.00	2.27	345	0.02	0.10	0.18	12	100%			
														263.0 - 284.0	10.00	0.73	135	0.02	0.05	0.02	10	100%			

STELLAR RESOURCES LTD

May 2014

RL 5/1997 Zeehan – Report on 2014 program

Appendix 2: Analytical Methods



ALS Minerals Burnie
39 River Rd, Wivenhoe, Tasmania, 7320, Australia
Phone: 61 3 6431 6333

PRIVATE & CONFIDENTIAL

29th May 2013

Mr. Ray Hazeldene
CI- Stellar Resources

Dear Ray,

RE: ALS Analysis Methods

Please find below a summary of analysis methods employed for the analysis of Stellar Resources samples.

ME-XRF15d (XRF fused bead analysis for Sn, WO₃, Fe & S)

The sample is mixed with a borate flux, pre-oxidised @ 700°C then fused @ 1200°C. The homogenous glass bead is presented to the Axios X-ray spectrometer for measurement against a calibration constructed from synthetic standards & verified using Certified Reference Materials.

ME-ICP41a (ICP analysis for Soluble Sn, Cu, Pb, Zn, Ag, Bi, Ni & As)

High Grade aqua-regia digestion and ICP-AES for 30 elements. Quantitatively dissolves base metals for the majority of geological materials. Major rock forming elements and more resistive metals are only partially dissolved.

QA-GRA08 (Specific Gravity)

Specific Gravity for bulk samples using the weight in air versus weight in water method.

Yours Sincerely,

Rocky Gelston
Chief Chemist
ALS Minerals Burnie