# QUEEN No 4 MINE PROJECT

**Final Drilling Project Report for EDGI 2021 Round 5**

# Queen No 4 Mine Project

# ML 2023P/M

# Final Drilling Project Report for

# Exploration Drilling Grant Initiative

# Round 5, 2021

**Zeehan**

**Tasmania**

For

Mineral Resources Tasmania

Mark Dugmore & Gary Fietz

3 June 2022

**Title –Final Drilling Project Report EDGI Round 5 2022 – Queen No 4 Mine Project**

**Report type – EDGI Final Report**

**Tenement number – Mining Lease 2023P/M**

**Original grant date – 13th February 2017**

**Expiry date – 25th of November 2023**

**Reporting period – 29th April 2022 (extended to 3 July 2022)**

**Project name – Queen No 4 Mine Project**

**Project operator – Stellar Resources Ltd**

**Tenement Holder – Columbus Metals Ltd (a wholly owned subsidiary of Stellar Resources Ltd)**

**Date of the report – 3 June 2022**

**Author – Mark Dugmore & Gary Fietz**

**Verification signature –**

# EXECUTIVE SUMMARY

Stellar Resources Ltd ("Stellar") was awarded four Exploration Drilling Co-Funding grants totalling $185,000 under the Tasmanian Government's Exploration Drilling Grant Initiative (EDGI Round 5) in June 2021. The grants awarded to Stellar were for the drill testing of four exploration prospects: Montana No. 1 (2 holes) and Queen No. 4 (1 hole) in ML2023P/M plus Zeehan Western (2 holes) and Oonah (2 holes) in EL13/2018.

This report details the results of diamond drill hole ZQ146 drilled from December 2021 to February 2022 under the historic Queen No 4 Silver-Lead Mine. A single hole was originally planned to test for down dip transitional cassiterite mineralisation below the base metal mineralisation.

Metal zonation within granite related tin mineralising systems is well documented with proven examples within the Zeehan Mineral field. The Queen No 4 Mine is located the immediate west of the Queen Hill tin deposit and consists of several Ag-Pb-Zn fissure veins striking NW to NNE, dipping steep to moderately east.

Hole ZQ146 was drilled to a total depth of 329.35m and intersected three mineralised intersection, all of which are relatively narrow (1.4m to 3.8m in length) with low-mid tin grades (0.32% Sn to 0.47% Sn). The lower 203.0m to 206.9m mineralised intersection in ZQ146 aligns approximately with the down dip extension of the Zeehan Queen No. 4 mine stopes (approximately 100m above) suggesting possible down dip continuity of the Zeehan Queen No. 4 mineralisation.

Low base metal values and low stannite levels in the three ZQ146 mineralised intersections indicate the transition from base metal to pyrite-hosted cassiterite mineralisation has almost fully occurred at this depth.

Further study and analysis of the results will be undertaken by the company however at this stage it appears that the tenor of mineralisation (relatively narrow and low-mid Sn grade) intersected in ZQ146 does not support follow up drilling below the Queen No. 4 Silver-Lead mine as a priority.

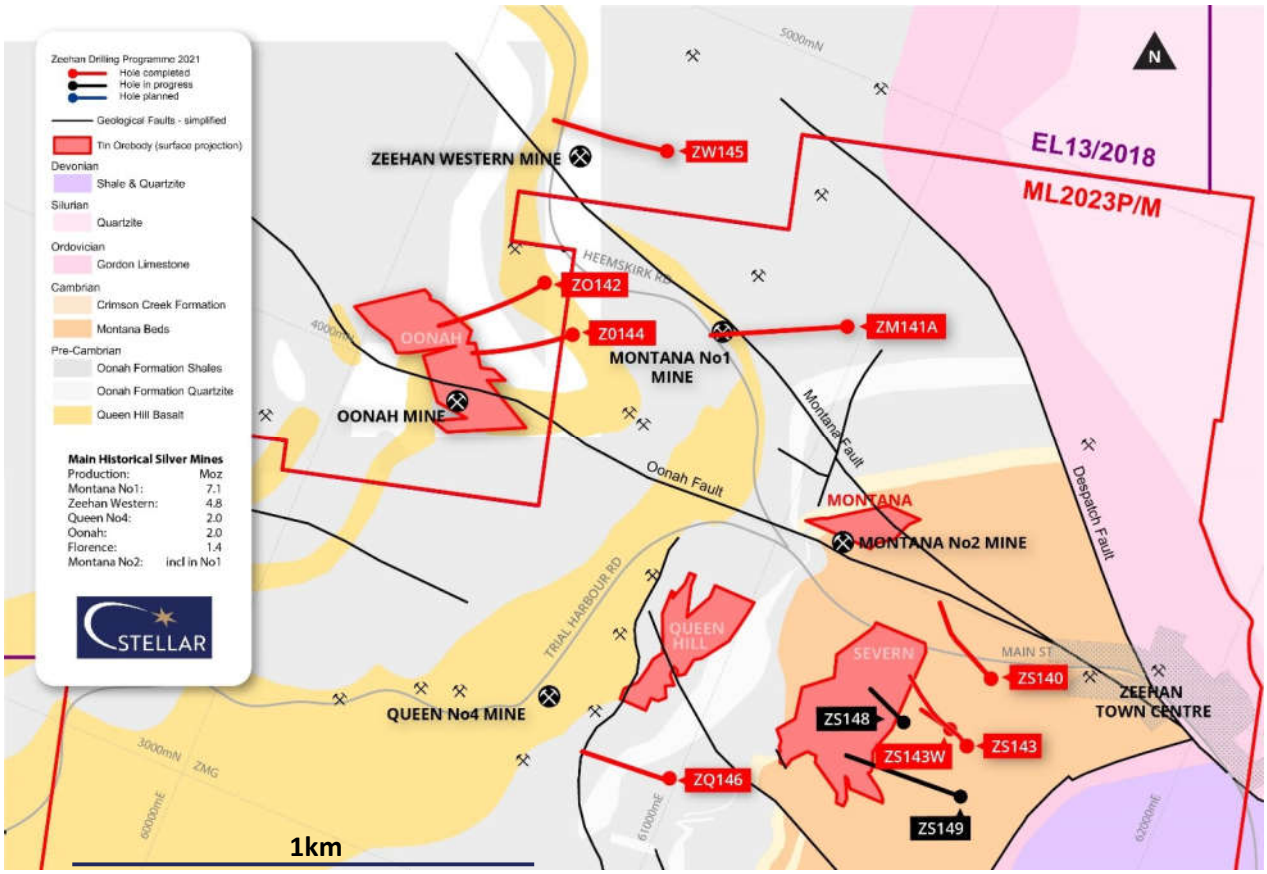


*Figure 1. Exploration Index Map*

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# 1. INTRODUCTION

## 1.1 Introduction

Stellar Resources Ltd ("Stellar") was awarded four Exploration Drilling Co-Funding grants totalling $185,000 under the Tasmanian Government's Exploration Drilling Grant Initiative (EDGI Round 5) in June 2021. The grants awarded to Stellar were for the drill testing of four exploration prospects: Montana No. 1 (2 holes) and Queen No. 4 (1 hole) in ML2023P/M plus Zeehan Western (2 holes) and Oonah (2 holes) in EL13/2018. Funding awarded to each of the project areas comprised $50,000 (Montana No 1), $35,000 (Queen No 4), $50,000 (Zeehan Western) and $50,000 (Oonah).

Stellar's Heemskirk Tin Project is located 18km to the southwest of the Renison tin mine and access to the port of Burnie 150km to the north via sealed highway (Figure 2). The Heemskirk Tin Project includes 4 nearby tin deposits: Severn, Queen Hill, Montana and Oonah. Stellar holds secure Mining Leases over the Heemskirk Tin Project including the tailings pipeline route and tailings storage site and over the St Dizier satellite tin deposit.

In addition to the Heemskirk Tin Project, Stellar owns a portfolio of nearby Exploration Licenses including the Montana Flats and Mount Razorback EL's which contain several historic silver-lead-zinc mines with associated tin mineralization, and the St Dizier and Mount Razorback satellite tin deposits.

This report details the work completed under the EDGI Round 5 2021 grant for the Queen No 4 Mine Project including drill testing of the Queen No 4 Mine target from December 2021 to February 2022.

## 1.2 Location and Access

EL13/2018 is located near Zeehan on the Queenstown (SK5505) 1:250,000 map sheet and Pieman (7914) 1:100,000 map sheet. The southeast boundary is 1.75 kilometres from the Zeehan PO. EL13/2018 adjoins the north and northwest boundary of Stellar Resources Mining Lease 2023P/M at Zeehan and extends north for seven kilometres. Main road access is from the Heemskirk Road which passes through the centre of EL13/2018 (Figure 3). Numerous unsealed tracks traverse the area.

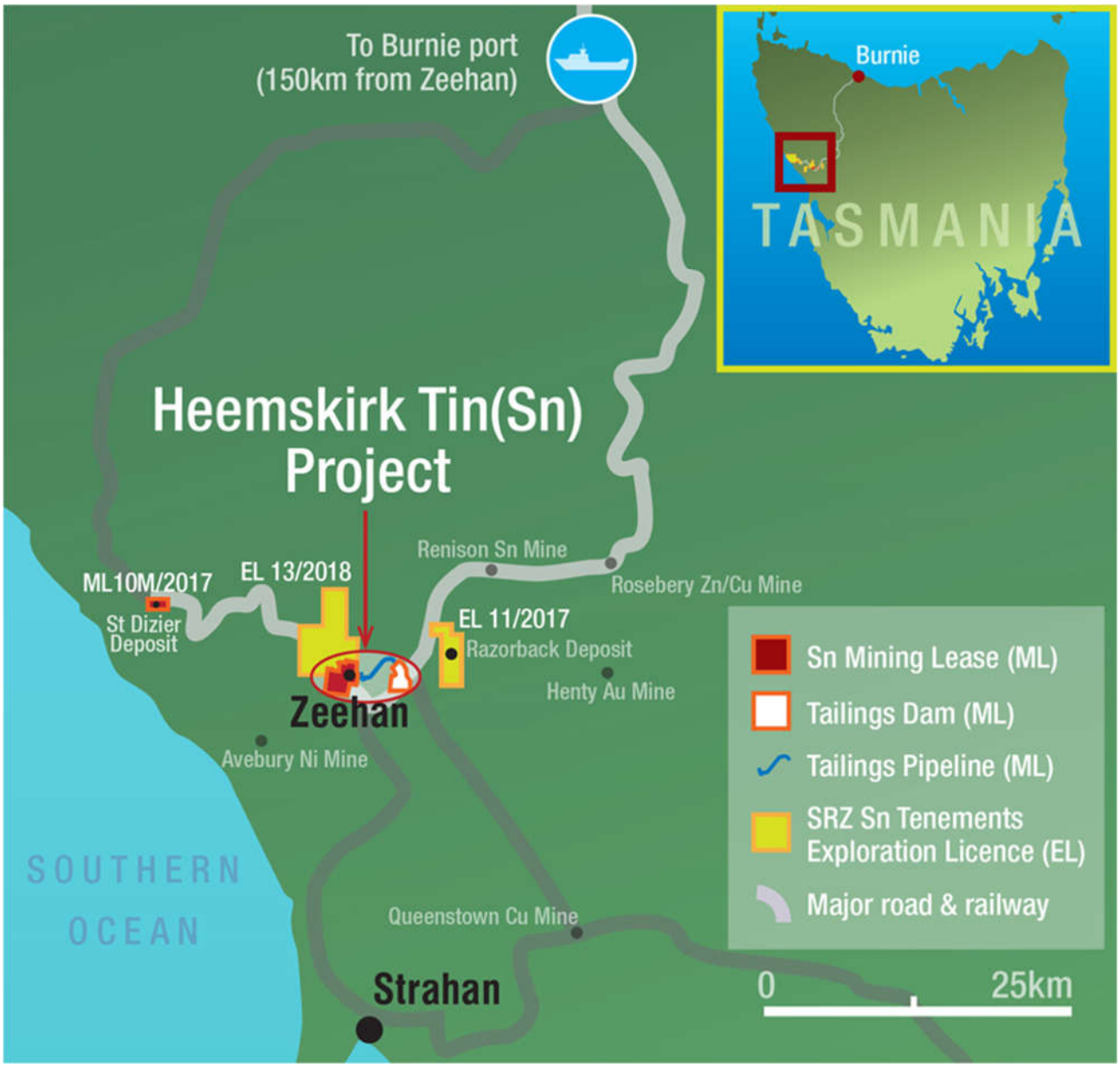


*Figure 2. Location of Stellar Resources Projects, West Coast Tasmania*

## 1.3 Tenement Details

ML2023P/M and EL13/2018 are 100% held by Columbus Metals Ltd, a wholly owned subsidiary of Stellar Resources Ltd. The mining lease was granted on 13 February 2017 for twelve years while the exploration licence was granted for five years on 26 November 2018 (see Table 1). The EL area is comprised entirely of crown land, with some coverage of the Mt Heemskirk Regional Reserve in the southwest, and the Parting Creek Regional Reserve in the northeast (Figure 3). The ML area comprises both cleared urban or farmland and regrowth forest after logging or burning (Figure 4). The operator of the tenements is Stellar Resources Ltd.

*Table 1. Tenure details.*

| Title | Name | Area ($km^2$) | Expiry Date |
|---|---|---|---|
| **ML2023P/M** | Zeehan | 6 | 1/2/2029 |
| **EL13/2018** | Montana Flats | 24 | 25/11/2023 |

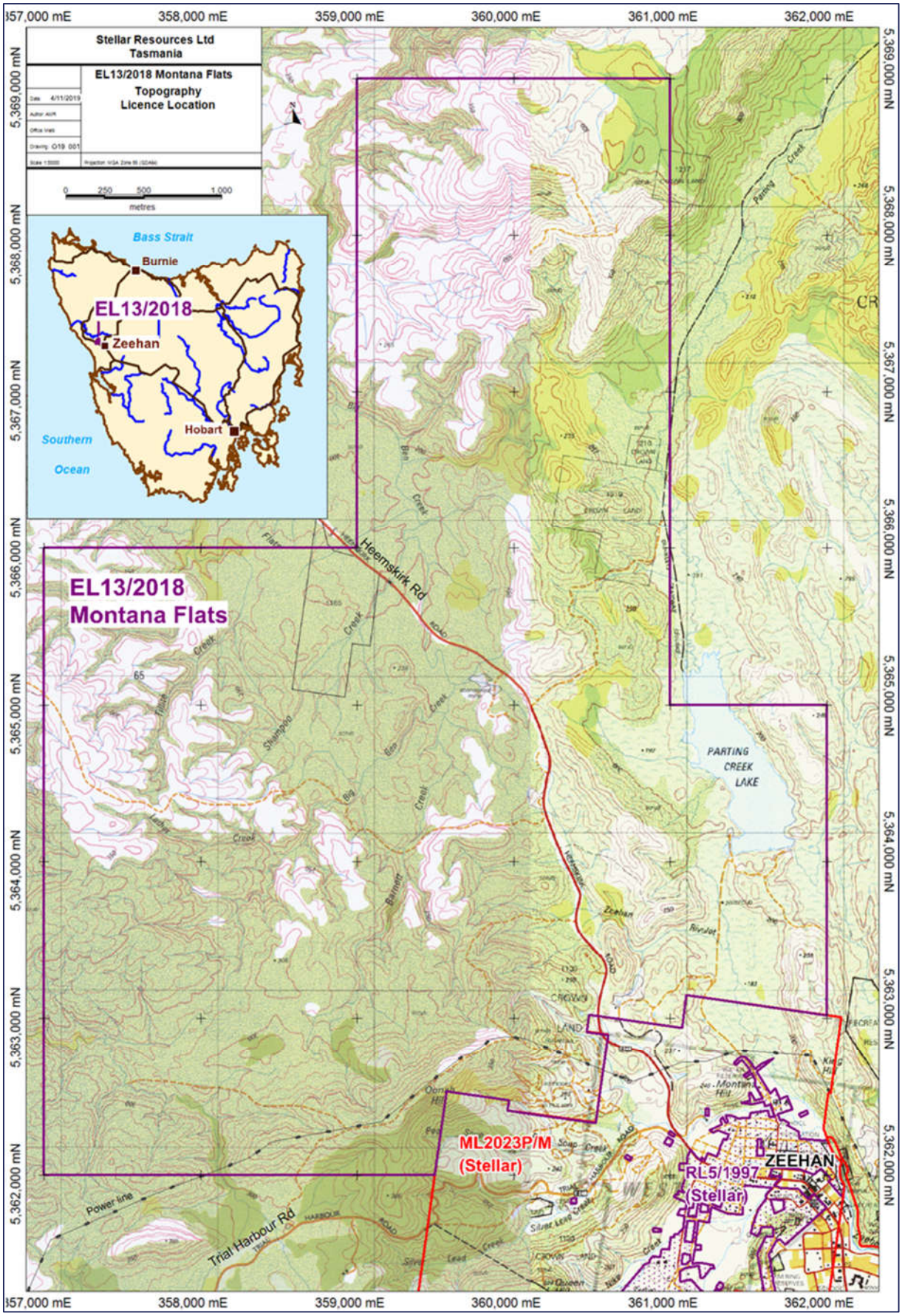


*Figure 3. EL13/2018 Location Plan*

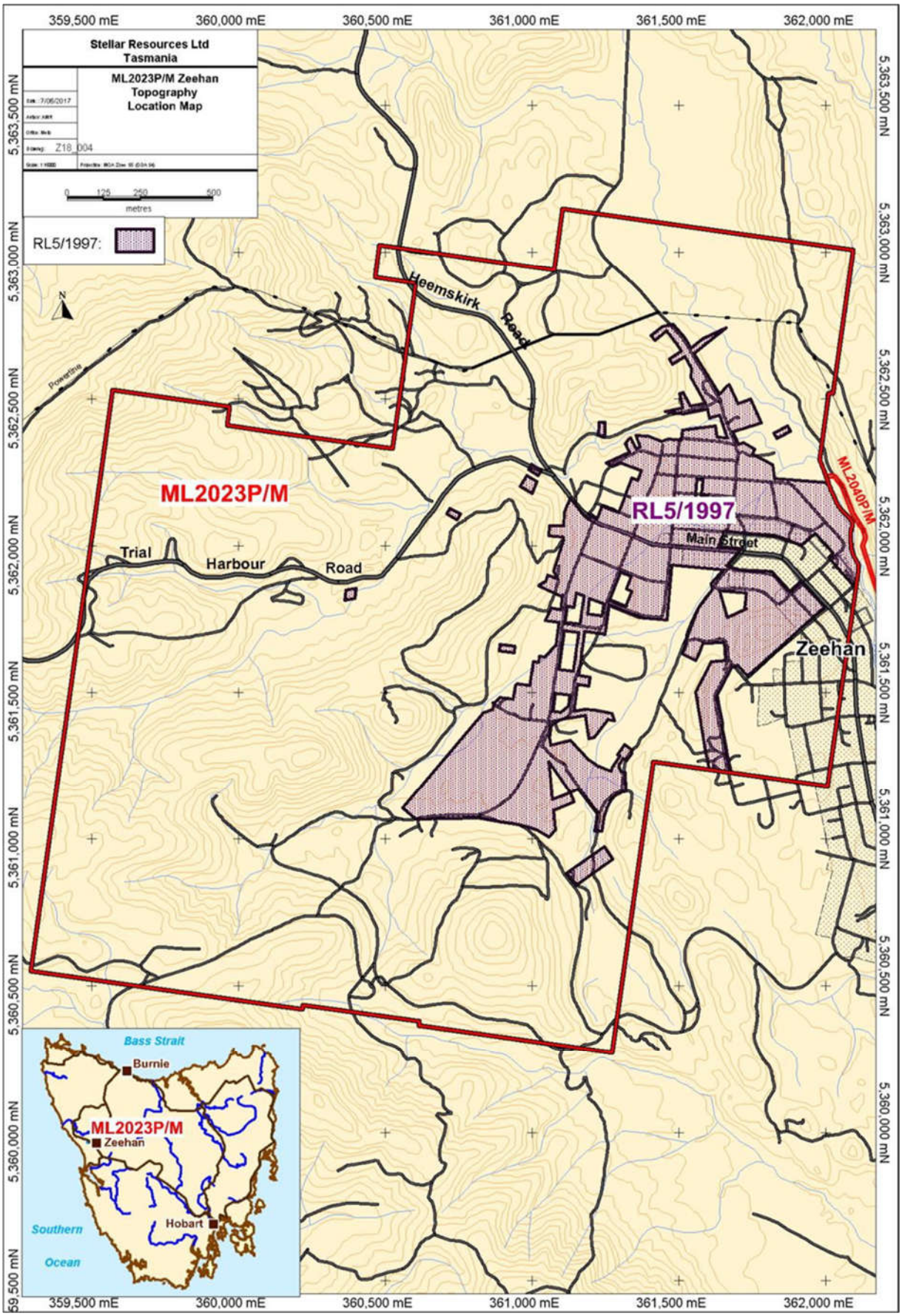


*Figure 4. ML2023P/M Location Plan*

## 1.4 Exploration Rationale

The principal objective of the program is to locate additional cassiterite mineralisation in proximity to the Queen Hill & Severn deposits to; (a) augment the current project resource base and extend the potential life of the Heemskirk Tin Project, and (b) potentially identify higher grade areas of tin mineralisation which may improve the project economics.

Subsidiary objectives are definition of project stratigraphy and structure and refinement of the geological model. Such information will assist further targeting and resource definition.

The (EDGI 2021 Round 5) holes were planned to test depth extensions below the historically significant Montana No. 1, Zeehan Western, Oonah and Zeehan Queen No. 4 mines (Figure 5 and Figure 6) which were amongst the largest silver-lead mines that made Zeehan one of the largest mining centres in Australia in the late 1800's. These mines had reported production grades of between 20 to more than 100 oz/t silver hosted in fissure veins ranging from a few cm up to 2.7m wide and mined over lengths of up to 300m.

None of these historic silver-lead mines have ever been drill tested, other than Oonah, where an Inferred Mineral Resource (0.59 Mt at 0.9% Sn, 0,8% Cu, 0.1% Pb, 0.1% Zn. Ag not included) has been defined above the depth of the planned holes. Drilling targeted depths below the historically mined silver-lead lodes where transition to tin mineralisation (cassiterite) is expected to have occurred.

Metal zonation from Sn-sulphide (stannite) to Ag-Pb-Zn within the Zeehan Mineral Field is well documented with proven examples at Montana No 2, Queen Hill and Oonah.

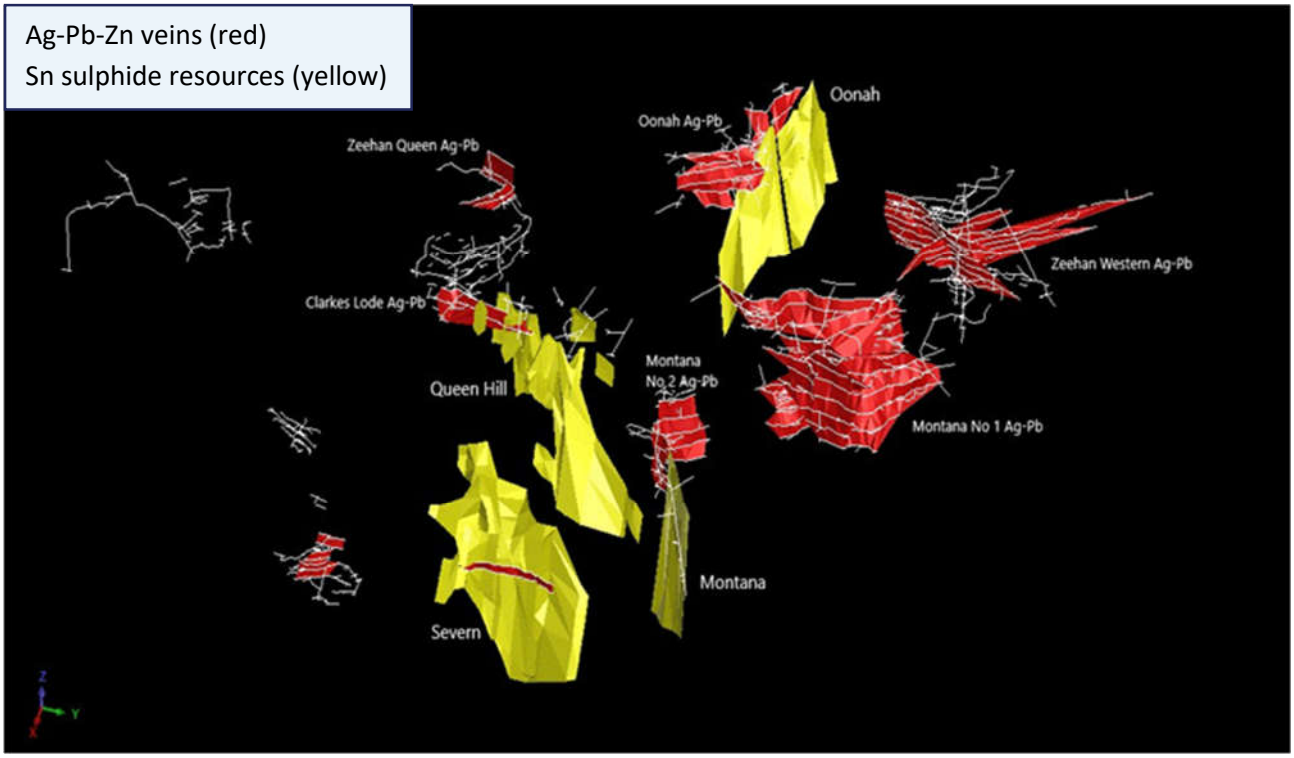


*Figure 5. Zeehan Mineral Field Oblique View*

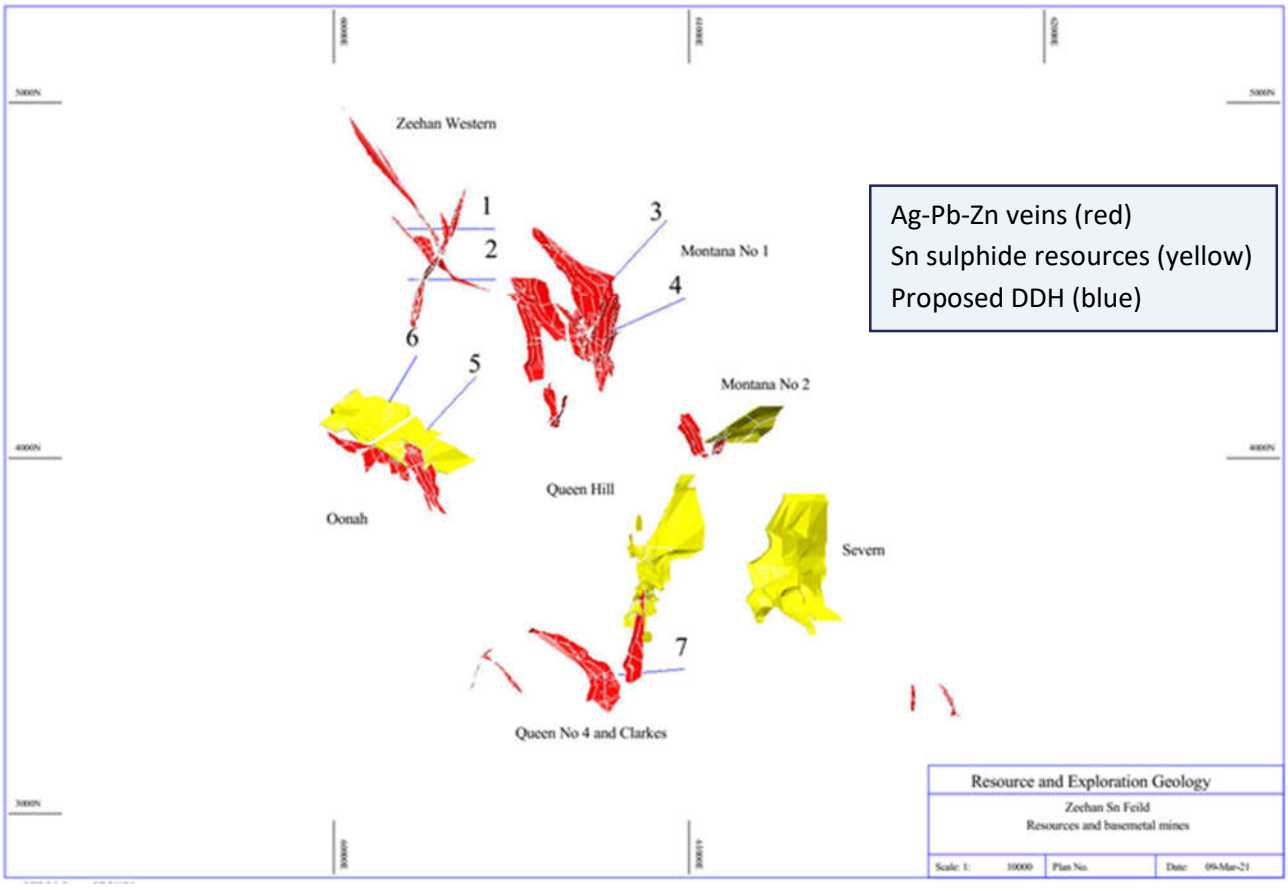


*Figure 6. Zeehan Mineral Field Plan View: proposed drillhole locations*

# 2. Previous Exploration

## 2.1 Prior to Stellar Resources

Previous exploration over ML2023P/M is described below.

**Gippsland Minerals & Aberfoyle (1970 – 1989)** completed mapping, sampling, geophysics, and geochemistry. Drilling comprised 89 diamond drill holes for 23,000m. This work culminated in the discovery & definition of the Queen Hill, Montana & Severn (tin) Deposits with resource delineation of 7.3 million tonnes @ 0.69% Sn & 10.9 g/t Ag. Subsequent work involved metallurgical testing & Pre-Feasibility Study.

Gippsland completed rock chip sampling of the Clarkes and Stormsdown deposits identifying Sn mineralisation associated with pyrite. Diamond drilling followed with most holes targeted below the Clarkes and Stormsdown mines. One hole, G46 was collared near the Queen Hill No 4 lode but was drilled parallel and did not intersect the lode (Figure 9).

Previous exploration over the adjoining EL13/2018 is described below.

**BMR (1963 – 1964)** geophysical surveys (IP, SP, Turam-EM & magnetic surveys)

**Placer Prospecting (1963 – 1965)** tested BMR anomalies via 7 dd holes. 4 holes at Oonah Mine intersected the Stannite Lode. 3 holes southwest of the Oonah Mine at Bradshaw's Lode were unsuccessful.

**Minops (1971)** drilled a further 10 dd holes, which tested along strike and down dip of the Stannite Lode. 5 holes intersected significant mineralisation.

**Aberfoyle-Gippsland Minerals JV (1974 – 1977)** drilled 1 dd hole at Bradshaw's Lode. It was unsuccessful.

**CRA Exploration (1979 – 1996)** joint ventured the project with Minops. They carried out detailed mapping, re-assayed core and drilled 12 more dd holes around the prospect.

**RGC Exploration (1987 – 1995)** were granted EL 42/1987, which surrounded the Queen Hill and Oonah Mine ML's. They carried out 1:10,000 scale mapping, rock chip sampling and a helicopter borne magnetic survey. In the 90's RGC drilled a 673m dd hole at Montana Hill, but it intersected nothing significant.

**Rio Tinto & Allegiance JV (1996 – 2002)** flew a high-resolution magnetic survey seeking nickel or shale hosted zinc deposits, with negative results.

**Mt Conqueror & Central West Gold (2002 – 2003)** reassessed the viability of the Stannite Lode but concluded it was "insufficient to support a stand-alone mining operation".

**Bass Metals (2004 – 2009)** took up EL 63/2004 because of the Despatch Fault and the juxtaposition of the Gordon limestone against the Oonah formation and the potential for carbonate-replacement mineralisation and sampled and drilled the Montana Silver Lead Mine: Insufficient economic mineralisation was encountered.

**TNT Mines (2009 – 2017)** drilled two diamond holes at the Oonah Mine and a 200m diamond hole under Anomaly 370 north of Parting Lake. A ground magnetic survey was also carried out over the Anomaly 370 area.

## 2.2 Exploration by Stellar Resources

Despite being a large Ag-Pb producers in the district, very little modern exploration has been completed and limited historic drilling has been completed to test the down dip extension of the silver-lead fissure veins mined in the Queen No 4 Mine.

Work completed by Stellar Resources to define the target at Queen No 4 Mine include the location of historic workings and the registration of old mine plans at Queen No 4 Mine. Diamond drilling (3 holes) completed by Gippsland Minerals was also collated. Data obtained from this work has been modelled in Surpac software. Digital models of registered workings and drilling from previous explorers have been used to construct a digital 3D model of the lodes.

Since 2010 Stellar has focussed on infill drilling and exploring for extensions to the Queen Hill, Severn, and Montana (tin) Deposits in ML2023P/M. Other nearby prospects (Stormsdown & Golf Course) have been drill tested together with several geophysical targets. Samples obtained from drilling have been used for extensive metallurgical testing. On-going resource estimation, metallurgical and mining studies resulted in completion of various mine scoping studies culminating in the 2019 scoping study. Environmental studies and permitting activities also commenced but were suspended in 2018.

# 3. GEOLOGICAL SETTING

## 3.1 Regional Geology

The oldest rocks in the project area are a sequence of volcanics and sediments equivalent to the Neoproterozic Oonah Formation (708 +/-6 to 690 +/- 10Ma), 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. Basalt in the vicinity of Queen Hill is highly vesicular and altered to sericite-chlorite-quartz-dolomite assemblages (Bottrill and Woolley, 2013)

Overlying the Oonah Formation rocks is a sequence of dolomites, carbonaceous pyritic slates and minor volcanics equivalent to the Neoproterozoic Success Creek Group (700 to 600Ma). This group comprises reddish brown siltstones with intercalated limestones and dolomite, referred to locally as the Poverty Point Beds, they 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. Basalt in the vicinity of Severn are MORB-type tholeiitic basalts and altered to albite-chlorite-calcite-quartz assemblages (Bottrill and Woolley, 2013)

Ordovician Gordon Limestone crops out northeast 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.

The structure of the rocks in the area 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.

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. Simplified geology is shown in Figure 1 and regional geology in Figure 7.

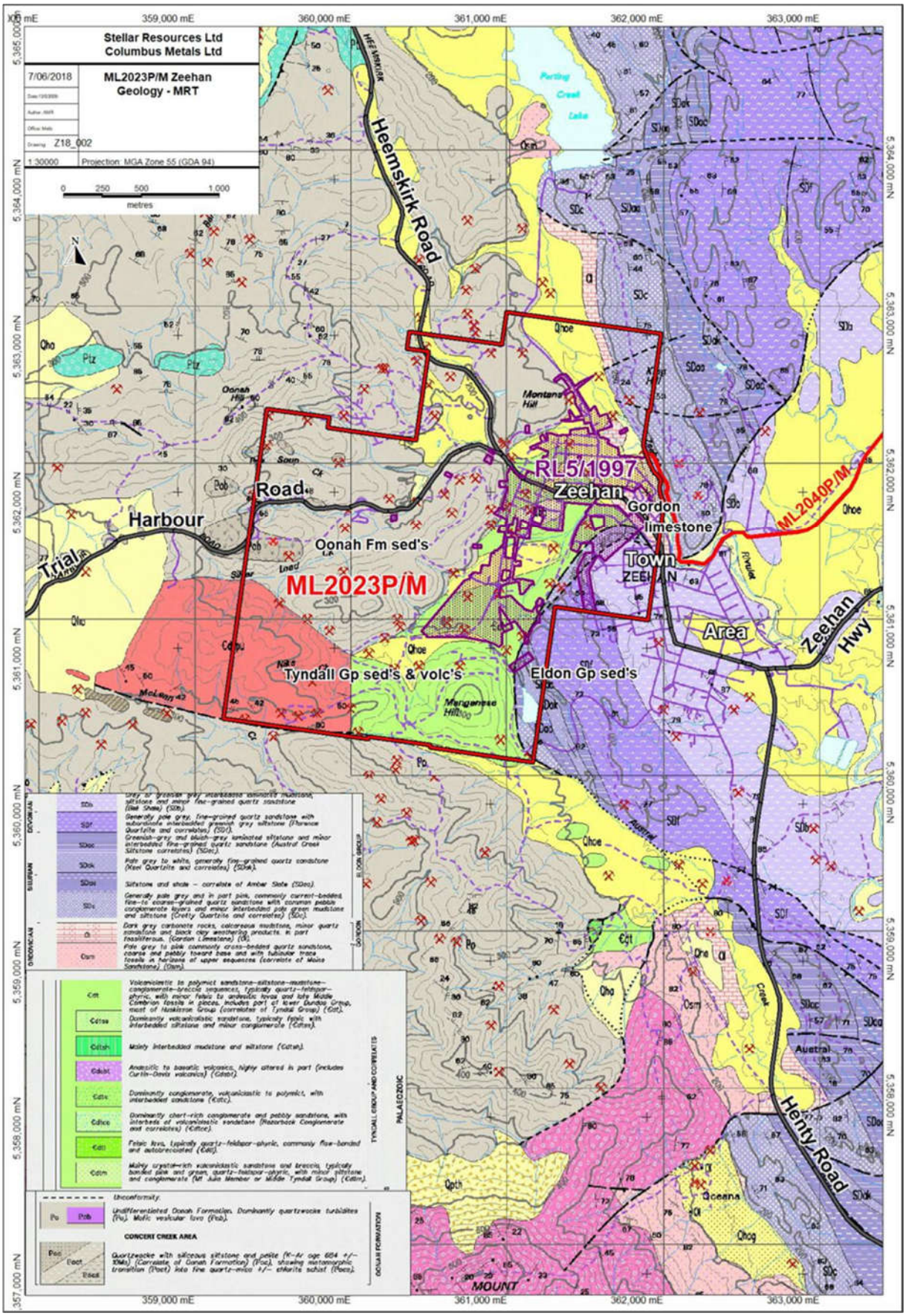


*Figure 7. Regional Geology (MRT) Map*

## 3.2 Mineralisation

Tin mineralisation at the Heemskirk Tin Project occurs as cassiterite in three main deposits: Severn, Queen Hill and Montana, with 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 volcaniclastic horizons, to precipitate generally sulphide-rich lodes containing cassiterite. Typical associated gangue minerals include pyrite, pyrrhotite, quartz, tourmaline, carbonates and fluorides.

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, which are not significantly tin-bearing. These lodes (Montana No 1, Queen Hill and Oonah) 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.

The four main lodes, including Queen Hill, Severn (Figure 8), Montana and Oonah deposits comprise a resource of 6.61Mt @ 1.1% Sn.

## 3.3 Historic Production

Between 1888 to 1925 the Oonah Mine produced 2.05 mill ozs Ag and 12,800 tonnes of Pb from 19,400t of high grade Pb-Ag ore (Galena Lode) and 20,000 of Cu-Sn-Ag ore (Stannite Lode).

Between 1892 to 1936 the Montana No 1 Mine produced 7.1mill ozs Ag and 49,580 tons of Pb from 8 levels to a depth of 253m, where the lode had diminished to a small uneconomic size.

Between 1901 to 1928 the Zeehan Western Mine produced 4.8mill ozs Ag and 26,300 tons of Pb from 13 levels to a depth of 330m, where the lode had diminished to a small uneconomic size.

Between 1902 to 1929 the Queen No 4 Mine produced 2mill ozs Ag and 16,530 tons of Pb from 4 levels to a depth of 70m.

In the 1920's several Pb/Ag prospects northwest of Zeehan were tested, and three small fissure style Pb/Ag mines (Barnett's, Quigley's and Big Ben) were operated sporadically.

From 1925 to 1954 the Oonah Mine was under lease but little production and from 1937 to 1950's the Montana Mine was worked for Ag-Pb-Zn.

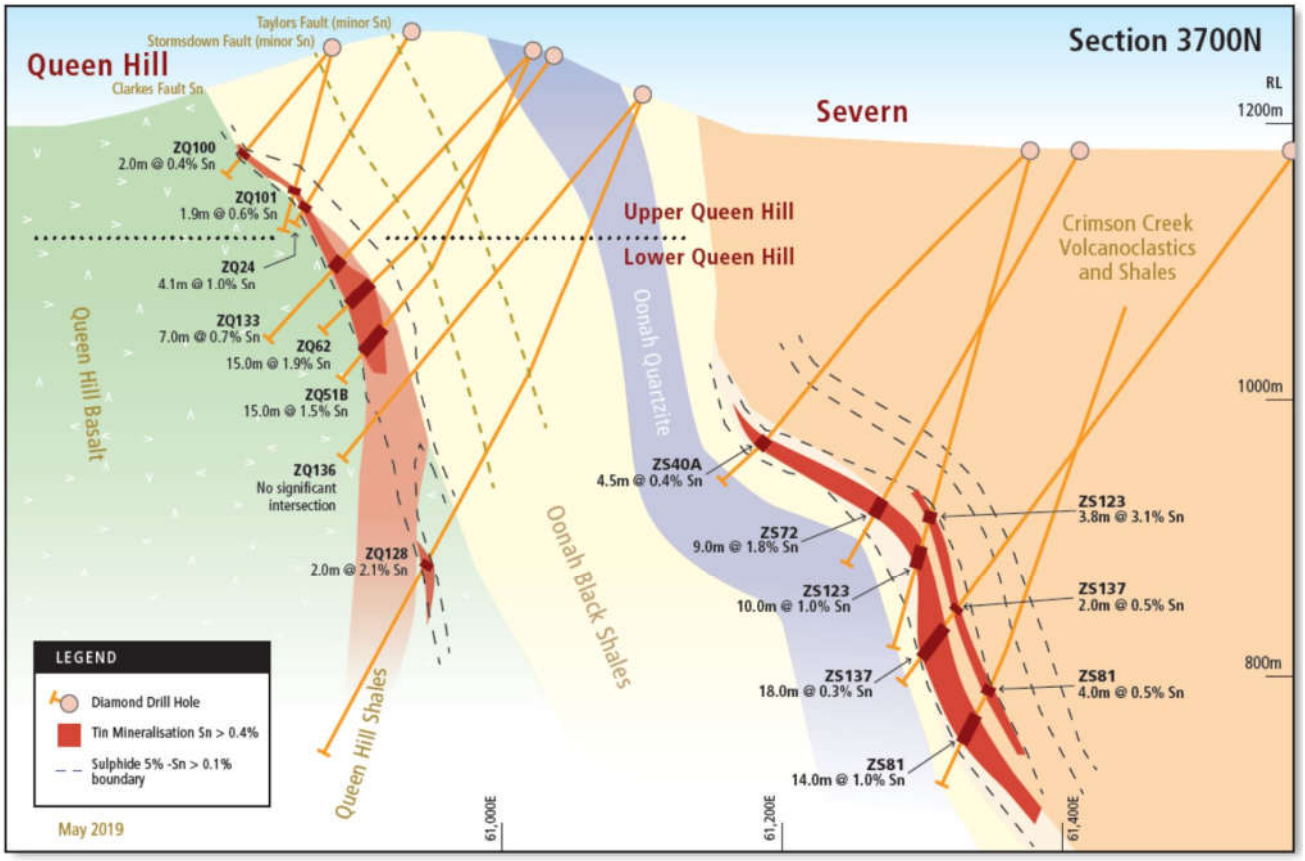


*Figure 8. Schematic W-E cross-section 3700N, Queen Hill and Severn tin deposits*

## 3.4 Geology of the Target

### 3.4.1 Zeehan Queen No 4 Mine Target

The historic Queen No 4 Mine is located to the immediate south and west of the Queen Hill Sn deposit (Figure 1). Historic mining extended to approximately 70m depth producing 2 Moz Ag and 16,532 tons Pb (Blissett, 1962). Together with the Zeehan Western Mine (4.8Moz Ag, 26,300 tons Pb) and Montana Mines (7.1Moz Ag, 49,580 tons Pb) the Queen No. 4 Mine was a large producing Pb-Ag Mine in the Zeehan field. The deposits are considered to have potential to transition to pyrite hosted Sn deposits at depth.

The Queen Hill Sn deposit (Figure 8) is located below the historic Clarkes and Stormsdown Ag-Pb-Zn mines with base metal mineralisation transitioning to stannite then cassiterite Sn mineralisation at depth. The Queen No 4 mine is a similar Ag-Pb-Zn mine. Like the Clarkes and Stormsdown mineralisation, the Queen No 4 mineralisation has potential to transition to pyrite hosted Sn deposits at depth.

The Queen No 4 deposit is a splay off Clarke's lode and was developed to over 300m strike length. Historic mine records indicate pyrite increasing over the base metal veins at depth. Limited exploration drilling has been completed in the vicinity of the historic mine and it is unsure if the pyrite is stanniferous.

The Queen No 4 deposit is reasonably well understood from historic workings including a 70m deep shaft. Several lodes were recorded striking between NW and NNE with dips varying from steep to 45 east. The lodes are irregular in thickness to 1.3m.

Queen No 4 is an attractive drilling target for depth extensions transitioning into tin mineralisation as it contains several silver-lead fissure vein lodes which transition to pyrite at depth. Mineralisation is localised within tightly folded sequence of slate, siltstone and pale quartzite, with interbedded flows of spilitic lava.

A single reconnaissance diamond drillhole was designed to test for down dip cassiterite mineralisation below the base metal veins and the mine workings (as modelled by Stellar Resources). The hole aimed to test approximately 100m below the lowest mine level (Figure 5, Figure 6 and Figure 9).

The proposed drillhole testing the depth extensions of the Queen No 4 deposit is displayed as a plan in Figure 6 and in oblique section in Figure 9.

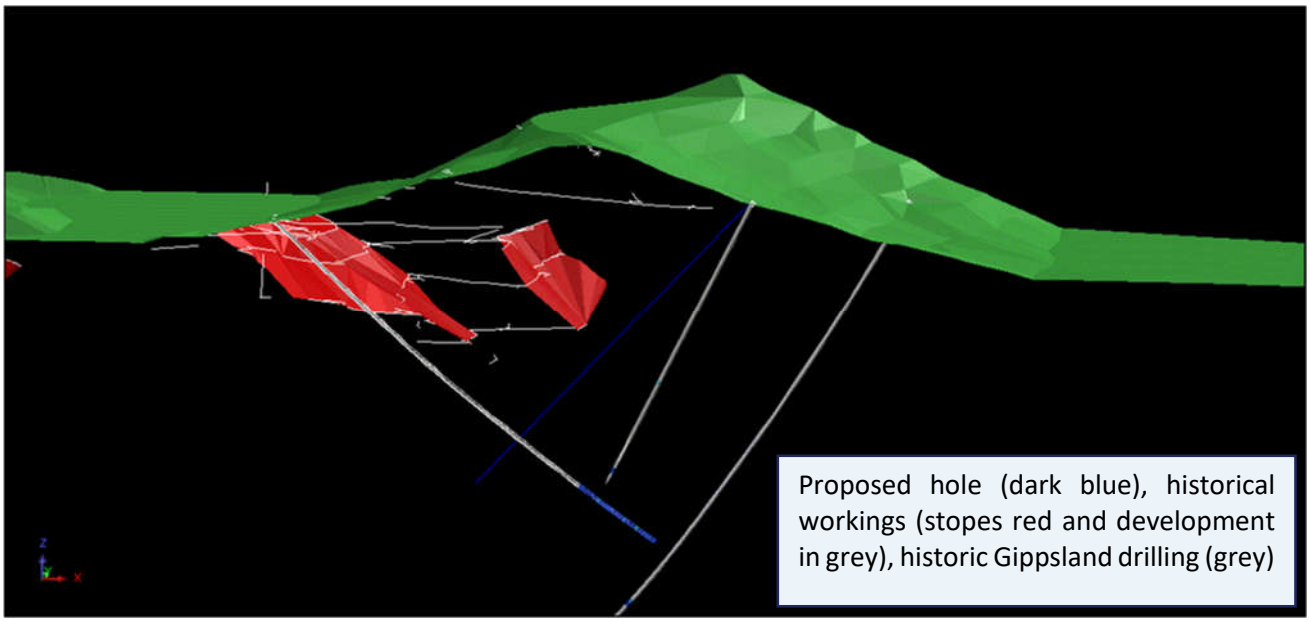


***Figure 9. Queen No 4 oblique N view with proposed drillhole***

# 4. WORK COMPLETED

In February 2022, a single diamond hole (ZQ146) was completed on ML2023P/M as part of Mineral Resources Tasmania's (MRT) Exploration Drilling Grant Initiative Program 2021 (Round 5) to test for down dip transitional cassiterite mineralisation below the base metal veins at the Queen No 4 Mine. The hole tested approximately 100m below the lowest Queen No. 4 silver-lead mine level.

## 4.1 Drilling

Between the 10th of December 2021 and the 15th of February 2022, Spaulding Drillers Pty Ltd of Devonport drilled one angled diamond hole, for a total of 329.35 metres within ML2023P/M. Drill hole ZQ146 is detailed in Table 2 and location shown in Figure 10.

The hole was drilled to the west-northwest at roughly right-angles to the NE trending/steep to moderate E dipping mineralisation in Queen No. 4 lode. The hole was drilled triple tube HQ diamond drilling to the end of hole at 329.35m. The original EDGI proposal was for the hole to be drilled to 300 however, it was drilled deeper as mineralisation was observed beyond the planned total depth of 300m.

***Table 2. Drillhole location – Queen No 4 Mine (GDA94 MGA 54 grid)***

| Hole | East | North | Elevation (mRL) | Azimuth | Inclination | Total Depth |
|---|---|---|---|---|---|---|
| **ZQ146** | 360,813.3 | 5,361,730.4 | 239.4 | 289.8 | -50.2 | **329.35m** |

## 4.2 Surveying

Collar coordinates (E & N) are recorded by GPS and are yet to be surveyed. The RL's have been determined by pressing collars onto Lidar topography surface due to inaccuracy in GPS Z values.

The collar azimuth and dip has been surveyed with a DeviAligner tool and the hole was surveyed with a DeviGyro digital gyro tool at approximately 3m intervals.

## 4.3 Logging and Photography

The hole was geologically logged in full for core recovery, RQD, weathering, oxidation, lithology, alteration, mineralisation, vein types and vein intensity. Primary data was collected digitally using a field laptop computer using in-house logging codes. The data was checked and verified prior to entering into a master database. Logging codes are provided in Appendix 2.

The drill core was photographed while wet and before cutting (full core). Photos of core trays are presented in Appendix 3.

Magnetic readings were collected and on 1m intervals over the core using a magnetic susceptibility meter.

pXRF readings were taken at irregular intervals down the hole.

Digital drilling data, including collar, survey, lithology, alteration, veining, mineralisation, recoveries and magnetic susceptibility are provided in Appendix 1.

## 4.4 Sampling and Analysis

HQ drill core was cut on site and ½ core samples collected. Core was sampled to mostly 1 metre lengths but also to geological boundaries where relevant.

A total of 125 samples for ZQ146 (plus 11 QA/QC samples) were sent to ALS in Burnie for sample preparation and total Fe, S, Sn and WO3 analysis using the ME-XRF15d fused disc XRF method before being on-sent to ALS Brisbane for acid soluble aqua regia digestion ICP-MS multi-element analysis (ME-ICP41a method), and, where required, overlimit Pb, Zn & Ag analysis by acid soluble aqua regia digestion (ME-OG46 method) and, where required, overlimit Pb analysis using the fused disc XRF technique (ME-XRF15d method) (see ***Table 3***).

Assay results are in are provided in Appendix 1.

***Table 3. Analytical Methods.***

| ALS Code | Digestion | Analysis | Elements |
|---|---|---|---|
| **ALS Code** | Digestion | Analysis | Elements |
| **ME-XRF15d** | NA | XRF fusion | Fe, S, Sn, WO3 |
| **ME-ICP41a** | Aqua Regia Digestion on 0.4g sample | ICP-MS | Ag, Al, As, Ba, Be, Bi, Ca, Co, Cr, Cu, Fe, Ga, K, La, Li, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sn Sr, Th, Ti, Tl, U, V, W, Zn. |
| **ME-OG46 (Overlimit Base Metals Method where over ME-ICP41a limits)** | Aqua Regia Digestion on 0.4g sample | ICP-MS | Pb, Zn, Ag |
| **ME-XRF15d (Pb Overlimit Method where Pb over ME-OG46 limits)** | NA | XRF fusion | Pb |

# 5. RESULTS

## 5.1 Summary of Results

A summary of the assay, lithology, alteration and veining results from drill hole ZQ146 is given below.

## 5.2 Hole ZQ146

Drillhole ZQ146 was designed to test the depth extensions of the steep to moderate E-dipping Ag-Pb-Zn vein mineralisation at Zeehan Queen No 4 Mine where the base metal mineralisation was inferred to transition down-dip to pyrite-hosted cassiterite mineralisation below the lowest mine level (70m from surface).

The hole intersected lithologies of the Oonah Formation including quartzite to 68m followed by pyritic, graphitic, quartz veined black shales to 206m and finally basalt to end of hole at 329m. Faulting and brecciation of the black shale occurs between 174m and 207m.

ZQ146 intersected three mineralised intersections as shown in Table 4 and in Figure 10.

***Table 4. ZQ146 Significant Intersections***

| Hole No | Easting (m) | Northing (m) | RL (m) | Azimuth (degrees) | Dip (degrees) | End of Hole (m) | From (m) | To (m) | Length (m) | Sn (%) | Cassiterite % of Total Sn | Cu (%) | Pb (%) | Zn (%) | Ag (g/t) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ZQ146 | 60,985 | 3,405 | 1,235 | 267 | -47 | 329 | 102.6 | 104.0 | 1.4 | 0.47 | 99.6% | 0.00 | 0.01 | 0.00 | 2.4 |
| | | | | | | | 186.0 | 189.0 | 2.7 | 0.34 | 90.6% | 0.07 | 0.25 | 0.05 | 18.7 |
| | | | | | | | 203.0 | 206.9 | 3.8 | 0.32 | 100.0% | 0.01 | 0.01 | 0.05 | 2.7 |

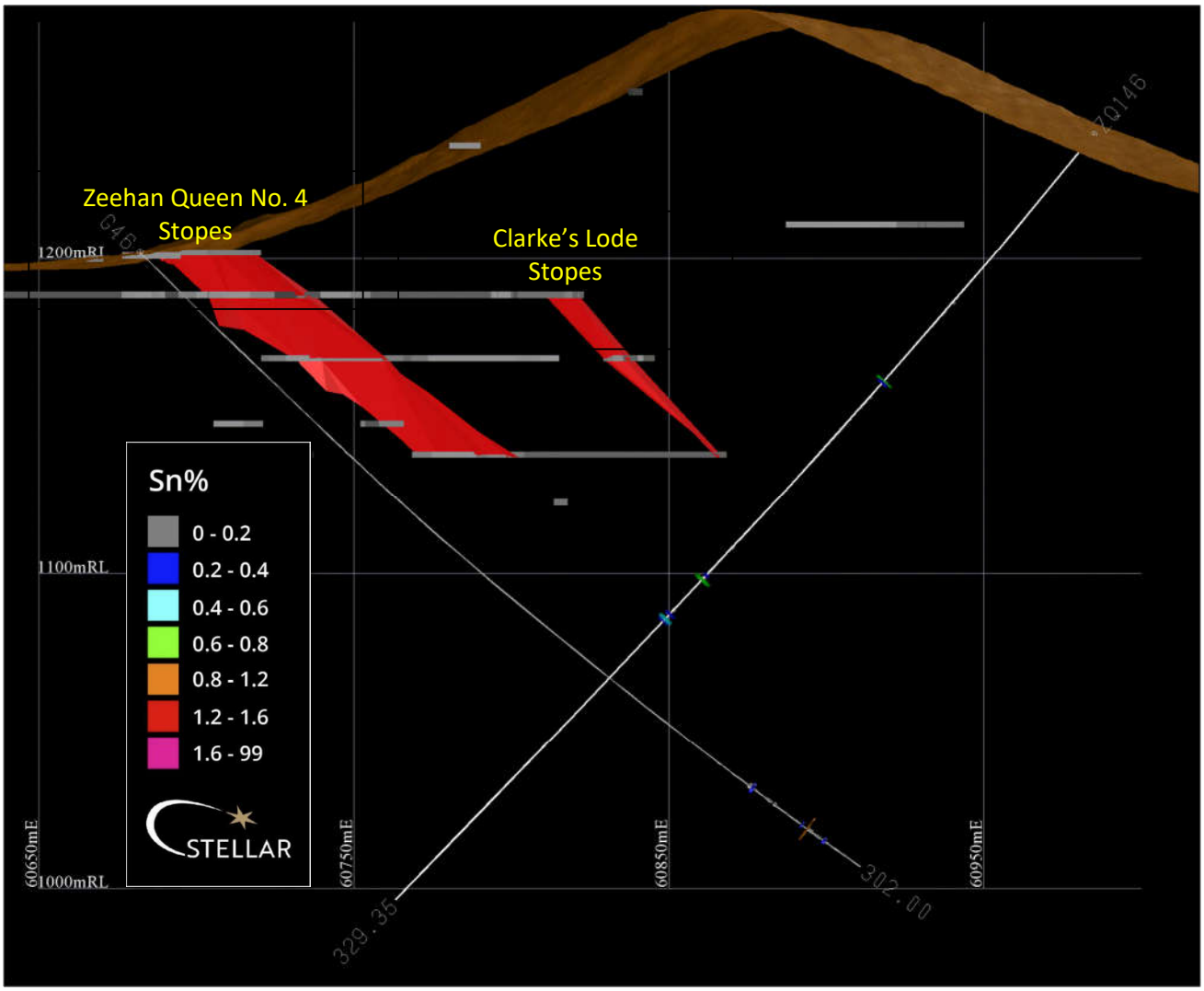


*Figure 10. Queen No. 4 West-East Cross-section 3,400N (ZMG) showing Hole ZQ146 (+-25m projection)*

All three mineralised intersections in ZQ146 are within the Oonah black shale with pyrite veining noted in all three intersections and siderite veining also noted in the middle intersection. The lower two mineralised intersections are within recorded fault zones and appear to be structurally controlled.

The three mineralised intersections in ZQ146 were relatively narrow (1.4m to 3.8m in length) and low-mid grade (0.32% Sn to 0.47% Sn) and contained only minor Pb (up to 0.25%) and Ag (up to 18.7 g/t) with very little Cu or Zn. Two of the mineralised intersections contained >99.6% cassiterite (<0.4% stannite) with the third mineralised intersection containing 90.6% cassiterite (9.4% stannite).

The relatively low stannite content and low base metal levels within the three mineralised intersections indicate that the transition from base metal mineralisation to pyrite-hosted cassiterite mineralisation has almost fully occurred at the depth of these intersections.

The lower 203.0m to 206.9m mineralised intersection in ZQ146 aligns approximately with the down dip extension of the Zeehan Queen No. 4 mine stopes (approximately 100m above) suggesting possible down dip continuity of the Zeehan Queen No. 4 mineralisation however the relatively narrow intersections (1.4m to 3.8m in length) and low-mid tin grades (0.32% Sn to 0.47% Sn) are unlikely to be economic at these depths. The other 2 mineralised intersections in ZQ146 do not appear to align well with the Clarkes's Lode stopes.

## 5.3 QA/QC

OREAS certified reference material standards are inserted approximately every 20 samples using Sn standards SZSt.1, SZSt.2 and SZSt.3 and Pb-Zn standard Std. 630b. One (1) OREAS_SZ_St.1 standard, one (1) OREAS_SZ_St.2 standard, one (1) OREAS_SZ_St.3 standard and one (1) OREAS 38 standard were submitted.

Course blanks and fine blanks are also inserted after mineralised zones. One (1) coarse blank was submitted. Duplicate samples are requested approximately every 20 samples for the lab to repeat the sample. Five (5) Pulp Duplicates were sampled.

Analyses for the certified reference material, blanks and duplicates returned values within acceptable limits for all standards and the duplicate assays showed very good precision.

# 6. DISCUSSION OF RESULTS

A single diamond drillhole (ZQ146) co-funded under EDGI 2021 Round 5 was unsuccessful in intersecting significant tin mineralisation below the base of the existing workings at the Queen No 4 Mine. The Queen No 4 Mine was historically known for Ag-Pb production as one of the large producers in the Zeehan field.

The lower 203.0m to 206.9m mineralised intersection in ZQ146 aligns approximately with the down dip extension of the Zeehan Queen No. 4 mine stopes (approximately 100m above) suggesting possible down dip continuity of the Zeehan Queen No. 4 mineralisation however the relatively narrow intersections (1.4m to 3.8m in length) and low-mid tin grades (0.32% Sn to 0.47% Sn) are unlikely to be economic at these depths. The other 2 mineralised intersections in ZQ146 do not appear to align well with the Clarkes's Lode stopes.

Low base metal values and low stannite levels in the three ZQ146 mineralised intersections indicate the transition from base metal to pyrite-hosted cassiterite mineralisation has almost fully occurred at this depth.

The drilling program at Queen No 4 Mine has added important geological information regarding the tin and silver-lead-zinc zonation together with stratigraphy, structure, alteration, and controls to mineralisation of the prospect area.

# 7. RECOMMENDATIONS FOR FURTHER WORK

Further study and analysis of the results will be undertaken by the company however at this stage it appears that the tenor of mineralisation (relatively narrow and low-mid Sn grade) intersected in ZQ146 does not support follow up drilling below the Queen No. 4 Silver-Lead mine as a priority.

# 8. ENVIRONMENTAL MANAGEMENT

One diamond hole was drilled at Queen No 4 Mine as part of EDGI 2021 Round 5 with hole ZQ146 collared on ML2023P/M. The Queen No 4 Mine drill site required the construction of a single drill pad.

Pad preparation, drilling and rehabilitation was conducted in accordance with the Mineral Exploration Code of Practice. The completed drill collar has yet to be capped, as it is awaiting a survey pickup for a measured collar location. The drill site has yet to be rehabilitated, with this activity scheduled to be undertaken once the collar survey has been completed.

# 9. EXPENDITURE

Stellar Resources Ltd (Stellar) was successful in its application for an Exploration Drilling Co-funding grant ($35,000) under the Tasmanian Government's Exploration Drilling Grant Initiative Program 2021, Round 5 for the Queen No 4 Mine Project.

The total direct drilling costs, excluding mobilisation, of the project were $93,726. The total eligible direct drilling costs (50%) were $46,863 (Table 5).

The final EDGI grant amount is therefore $35,000, the maximum grant amount.

The Approved Purpose is: Queen No 4 Mine Drilling Project - 1 x Exploration drillhole for 300m as specified in EDGI Proposal.

***Table 5. Expenditure (excl GST)***

| Drillhole | Total Direct Drilling Costs | Eligible Direct Drilling Costs |
|---|---|---|
| **ZQ146** | $93,726.00 | $46,863.00 |

An Excel spreadsheet which calculates the direct drilling cost for each hole from daily drill plod and invoice data has been provided along with this report. Copies of the drilling invoices and drill plods have also been provided.

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# 11. LIST OF FILES ACCOMPANYING THIS REPORT

| Exploration Work Type | Filename | File format |
|---|---|---|
| ***Report*** | ML2023PM_202204_EDGI_Queen_01_Report Body.pdf | *pdf* |
| **Drilling** | | |
| | Heemskirk_zq146.accdb | accdb |
| | ML2023PM_202204_EDGI_ 03_Appendix 2_Logging Codes.pdf | pdf |
| | ML2023PM_202204_EDGI_Queen_04_Appendix 3_Core Photos.jpg | jpg |
| | ML2023PM_202204_EDGI_Queen_05_ZQ146_Tabulated Core Photo Index.xls | xls |

# APPENDIX 1 - Digital Data

# APPENDIX 2 – Logging Codes

# APPENDIX 3 – Core Photos