EL23/2020
Whaleback Ridge

Property Summary

for

Georgina Resources

June 2021

Chris Allen B.Sc (Hons)

EL23/2020 Summary

EL23/2020 is a 228km^2 parcel located in the vicinity of Lake Pieman in NW Tasmania, centred approximately 19km NW of Zeehan and 27km W of Burnie (see Figure 1). The property is underlain primarily by quartzwacke turbidites of the Neoproterozoic Oonah Formation, with parts in the south of the licence overlain by Permian Lower Parmeener Supergroup which were subsequently intruded by Jurassic dolerite. To the west of the Oonah Formation rocks lies the Arthur Metamorphic Complex, while the NE part of the licence area is underlain by the Sn-rich Devonian Meredith Granite.

Only 6 mineral occurrences are known within the lease area, all located in the southern part of the property, two of which are alluvial Sn-Au workings. Of the remaining 4 occurrences, one former working targeting Pb is now flooded by Lake Pieman, and two were targeting pyrite. No extraction is known from the remaining working (McNamaras Prospect), whose location is reported as opposite the alluvial Eureka workings, and targeting Sn-Au mineralisation.

A short distance to the east of the property and immediately south of the Meredith Granite are many Sn prospects, including the Mt Lindsay Sn-WO_3-Cu skarn prospect (currently owned by Venture Minerals), hosted by Crimson Creek Formation volcaniclastics and sediments within the Dundas-Oonah trough.

Figure 1: Location of EL23/2020.

Access

Much of the southern part of the property can be accessed by boat from Lake Pieman and its' tributaries. Several roads also access parts of the property, with Heemskirk Road crossing the far south, and Pieman Road crossing the centre of the property, to the north of Lake Pieman. Service roads for powerlines extend trail access to the north of Pieman Road.

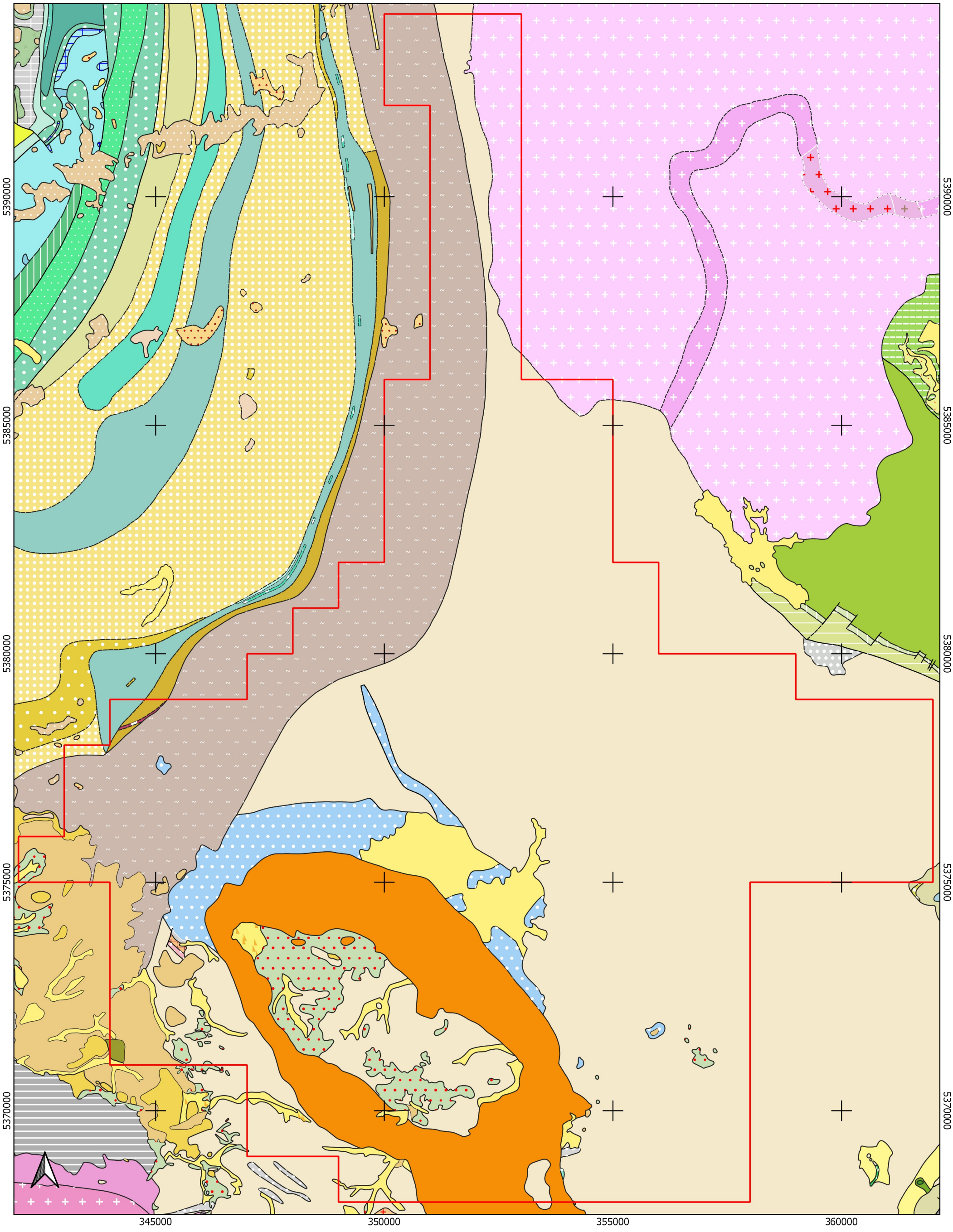
Access to the northern end of the property is more difficult, with Corinna Road coming within 1km of the NW corner, but separated by the Whyte River. In addition to the roads shown in Figure 1, several minor trails may provide access parts of the lease to the south of Rocky River, but the current condition of these trails is unknown. Either foot or helicopter access is required for areas to the north of Rocky River, with much of the area dominated by buttongrass.

Geology, Structure and Mineralisation

The geology of the property is shown in Figure 2, and is dominated by Precambrian quartzwacke turbidites and muscovitic schists and phyllites of the Oonah Formation, with the Precambrian Timbs Group (Keith Schist correlates) of the Arthur Metamorphic Complex forming the western boundary of the property. Oonah Formation rocks are strongly deformed, and apart from to the south of Lake Pieman, where bedding is generally oriented NNW-SSE to WNW-ESE, do not appear to have a highly consistent bedding or fold orientation. Deformation within the Arthur Metamorphic Complex (Arthur Lineament) is intense, with isoclinal folding generally dipping subvertically, and S_2 cleavage commonly dominant. Rocks in the lineament have generally undergone retrograde greenschist metamorphism, with relict amphibolite facies minerals preserved in some locations, particularly in the Bowry Formation (Turner, 1997), located just west of EL23/2020. A minimum age of 500Ma has been calculated from K-Ar hornblende dating as a minimum age for prograde metamorphism. The boundary between the Timbs Group (just outside EL23/2020) and the Oonah Formation is structurally complex, but appears to be transitional (Turner, 1997).

To the east of the Oonah Formation lies to Dundas-Oonah Trough, where Oonah Formation sediments are unconformably overlain by lower Cambrian rocks, including siltstones, mudstones, chert and conglomerate of the Success Creek Group, which are correlates of the mine sequence rocks of the Renison Mine (Newnham, 1999), located approximately 15km to the SE. Success Creek Group rocks are in turn conformably overlain by the Cambrian Crimson Creek Formation mafic volcaniclastic lithiwacke, siltstone, and carbonate beds.

Figure 2: EL23/2020 Geology



Legend

EL23/2020 Boundary

Geology

Quaternary alluvium, swamp and marsh deposits
Holocene talus of unspecified type
Quaternary dominantly silicified conglomerate talus
Quaternary older alluvium marsh deposits and elluvium
Quaternary fluvioglacial and lacustrine deposits
Tertiary quartz sand and clay with minor siliceous gravel
Tertiary interbedded siliceous gravel, quartz sand, and clay
Tertiary rounded and angular gravel, mainly vein quartz
Cretaceous conglomerate, gravel and grit
Tertiary basalt
Tertiary sediments
Jurassic Dolerite
Permian tillite and associated glaciogene rocks
Permian Parmeener Supergroup. Basal tillite
Devonian coarse grained equigranular, leucocractic, biotite-bearing, alkali feldspar granite. Quartz and tourmaline nodules
Devonian medium to fine grained equi-granular, leucocratic, biotite-bearing, alkali feldspar granite. Quartz and tourmaline nodules
Devonian fine to course grained, generally porphyritic, pink biotite-bearing alkali feldspar granite. Quartz and tourmaline nodules
Devonian Murchison Granite
Devonian grey to white, medium to coarse grained equi-granular variety of Dgaci
Devonian medium to coarse grained equigranular pink granite
Devonian fine to medium grained variably porphyritic grey granite
Silurian Eldon Group Correlate. Shallow marine sandstone, siltstone and shale
Silurian Eldon Group grey to green carbonaceous phyllite
Ordivician Gordon Group Limestone with minor sltstone and sandstone
Cambrian Owen Group white dominantly quartz pebble conglomerate, quartz sandstone and minor shale
Cambrian fine to coarse-grained gabbro
Cambrian serpentinised layered dunite and harzburgite
Cambrian layered peridotite, serpentinite and associated rocks
Neoproterozoic felsic unit containing shards within corelate of Crimson Creek Formation
Neoproterozoic mudstone and lithicwacke
Neoproterozoic mafic volcaniclastic lithicwacke and siltstone and carbonate beds
Neoproterozoic red chert and mudstone with minor conglomerate horizons
Neoproterozoic siltstone and mudstone undifferentiated units Lssc and Ldsu
Neoproterozoic felsic mafic volaniclastic lithicwacke and siltstone intercolations in unit Lsdf
Neoproterozoic quartz sandstone with laminated grey siltstone and mudstone and locally pebbly sandstone and conglomerate
Neoproterozoic Oonah Formation pale weathering siltstone and shale with black pyritic carbonaceous shale
Neoproterozoic Oonah Formation pale weathering siltstone and shale
Neoproterozoic Oonah Formation calcareous quartzite
Neoproterozoic Oonah Formation thinly bedded dark grey slate to relatively massive pelitic siltstone and mudstone
Neoproterozoic Oonah Formation mafic vesiculite lavas
Neoproterozoic Oonah Formation. Predominantly quartzwacke turbidites
Neoproterozoic Keith Schist and correlates. Quartz-mica schist, phyllite and rare dolomite
Neoproterozoic grey slaty pelitic siltstone with minor banded chert and thin interlayers of silicified litic carbonate
Neoproterozoic lag of silicification products of dolomite including silica flour
Neoproterozoic variably silicified dolomite
Neoproterozoic pale grey and cream massive fine grained dolomite
Neoproterozoic pale grey and cream massive fine grained dolomite locally oolitic or interbedded with carbonaceous siltstone
Neoproterozoic grey slaty pelitic siltstone with minor banded chert and thin interlayers of silicified dolomite
Neoproterozoic slaty or phyllitic to relatively massive green to grey tuffaceous and pellitic chloritic meta siltstone
Neoproterozoic massive meta basalt or fine grained meta dolorite
Neoproterozoic grey tuffaceous and pellitic meta siltstone with pebbly basaltic wacke
Neoproterozoic grey tuffaceous and pellitic meta siltstone
Neoproterozoic metabasalt with grey tuffaceous and pellitic siltstone
Neoproterozoic metamorphosed basalt, basaltic wacke, slaty to phyllitic siltstone quartz wacke and minor dolomite
Mesoproterozoic felsic albite schist with relict medium grained microcline-albite granitoid
Mesoproterozoic interbanded phyllite fine grained schist and minor actinolitic amphibolite with micaceous quartz schist
Mesoproterozoic grey phyllite common to dominant
Mesoproterozoic interbanded phyllite fine grained schist and minor actinolitic amphibolite. Minor boudinaged thin beds
Mesoproterozoic chloritic schist with minor phyllite, dolomite, and magnetite
Mesoproterozoic amphibolite with lenses of richly disseminated magnetite interlayered with chloritic phyllite and schist
Mesoproterozoic amphibolite with lenses of massive magnetite interlayered with chloritic phyllite and schist
Mesoproterozoic amphibolite with rare magnetite interlayered with chloritic phyllite and schist
Mesoproterozoic foliated coarse-grained gabbro
Mesoproterozoic amphibolite

Structures

----- Fault

Two small zones of Cambrian rocks also occur in the SW of the claim, with layered peridotite and serpentinite in the extreme SW corner, and a quartz to conglomerate sandstone correlate of the Mt Zeehan Conglomerate underlying also Ordivician Gordon Group limestone and Silurian shallow marine quartz sandstone (Eldon Group correlates) (Turner, 1997). These units are mapped as faulted on their western side, with no structures known on the other margins.

The Devonian Meredith Granite intrudes the Dundas-Oonah Trough in the northern part of the tenement, partially intruding the eastern part of the Neoproterozoic Oonah Formation, and truncating the Success Creek Group and Crimson Creek Formation rocks. The granite consists mostly of very coarse-grained equigranular biotite-bearing syenogranite with intrusion of fine to coarse-grained porphyritic (quartz K-feldspar and plagioclase) biotite granite, and abundant quartz-tourmaline nodules (Everard, 2001). A minor felsic phase to the granite is also noted, but has not been mapped within EL23/2020. Analysis of geophyscal data by MRT (2002) suggests later phases of the granite show negative magnetic resonance, with this possibly a useful tool for indicators of mineralisation, and a strong radiometric signal which may be useful in exploration to indicate the presence of buried intrusive rocks. Figure 3 shows an interpretive section across the Arthur Lineament to the Meredith Granite approximately 2km to the north of the lease area based on magnetics and radiometric data.

The granite has produced extensive and intense alteration of rocks along its contact margin, with this producing magnetite skarn within calcareous units of the lower Cambrian formations. Contact alteration has been mapped along the western margin of the granite where it intrudes the Oonah Formation, but no mineral occurrences have been reported (Newnham, 1999). The metamorphic aureole of the Meredith granite extends up to 2km into the country rock, containing hornfels of albite-epidote, hornblende, and pyroxene facies (MRT, 2002).

Minor tungsten veining has been mined in Cambrian sediments near the northern margin of the intrusive. A small Devonian(?) quartz porphyry body is also known at Timbs Creek, and is likely related to either the Meredith or Heemskirk granite.

Permian sediments on EL23/2020 unconformably overlie Oonah Formation rocks on the northern side of Lake Pieman, with bedding predominantly oriented NW-SE. Several additional minor outcrops of Permian tillite occur within the licence, all overlying Oonah Formation rocks. An elongate body of Jurassic dolerite intrudes the Oonah and Permian rocks in the vicinity of Lake Pieman down to the southern margin of the licence, oriented NW-SE, parallel to the bedding of the Permian sediments.

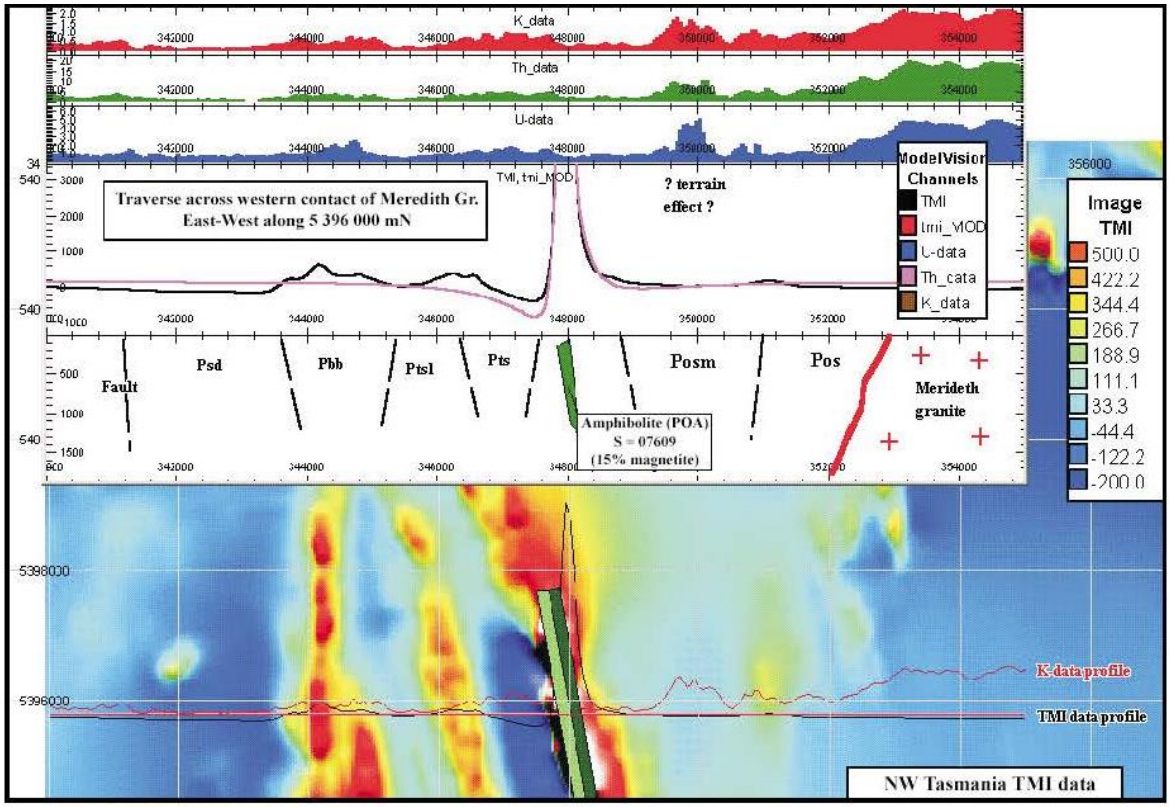


Figure 3: Radiometric and TMI profiles across the Arthur Lineament and Meredith Granite approximately 2km north of EL23/2020. Magnetite-rich amphibolites dip steeply to the east, while radiometric response greatly increases over the Meredith Granite. Taken from MRT (2002).

Tertiary conglomerate, gravel, grit and non-marine gravel, sand, silt, clay and regolith overlie large areas or presumably Permian sediment or Jurassic dolerite in the vicinity of Lake Pieman, with Quaternary and talus also overlying large areas of Permian and Jurassic rocks.

Previous Workings and Prospects

There are a total of 6 known prospects and previous workings on the property, of which 1 is now covered by Lake Pieman, and two are alluvial Sn-Au workings in close proximity to a hard-rock prospect. Known mineralisation in the area consists of Sn, Au and Pb, with two minor workings also targeting pyrite. There is no record of rock sampling at any of these sites. Prospecting work by previous parties located several other minor pits/shafts into Tertiary alluvials in the southern part of the property, but no material appears to have been removed from these.

Previous airborne geophysical surveys identified several additional targets in the southern and eastern parts of the property, but in-depth analysis of data and follow-up work has shown these to be mostly due to lithology or surficial materials.

Distribution of work across the property has been very uneven, with large areas completely unsampled, and other areas sampled by multiple parties. Locations of historic rock, soil and sediment surveys are shown in Figure 4.

Due to the sparse information available on large parts of the property, prospect zones in this summary have been grouped largely in terms of geological setting, with additional distinctions made where possible. Rocks of Permian age and younger are not considered prospective. Table 1 summarises prospect zone details, and Figure 5 shows locations of individual prospect zones overlying property geology.

Table 1: Grouping of prospects within prospect zones in EL23/2020.

PROSPECT ZONE	Prospects	Commodities	Prospectivity Rating
Eureka	McNamaras Prospect, Eureka, Eureka North	Sn, Au	MODERATE
Meredith		Sn, W, base metals	LOW-MODERATRE
Oonah		Pb, Ag	LOW
Keith Schist North		Cu, Au, Fe	LOW-MODERATRE
Keith Schist South			LOW
South-West zone		Sn, Pb	LOW-MODERATE
Piney Creek	Unnamed	Pb, Zn, Ag, Sn	MODERATE
Lake Pieman			VERY LOW

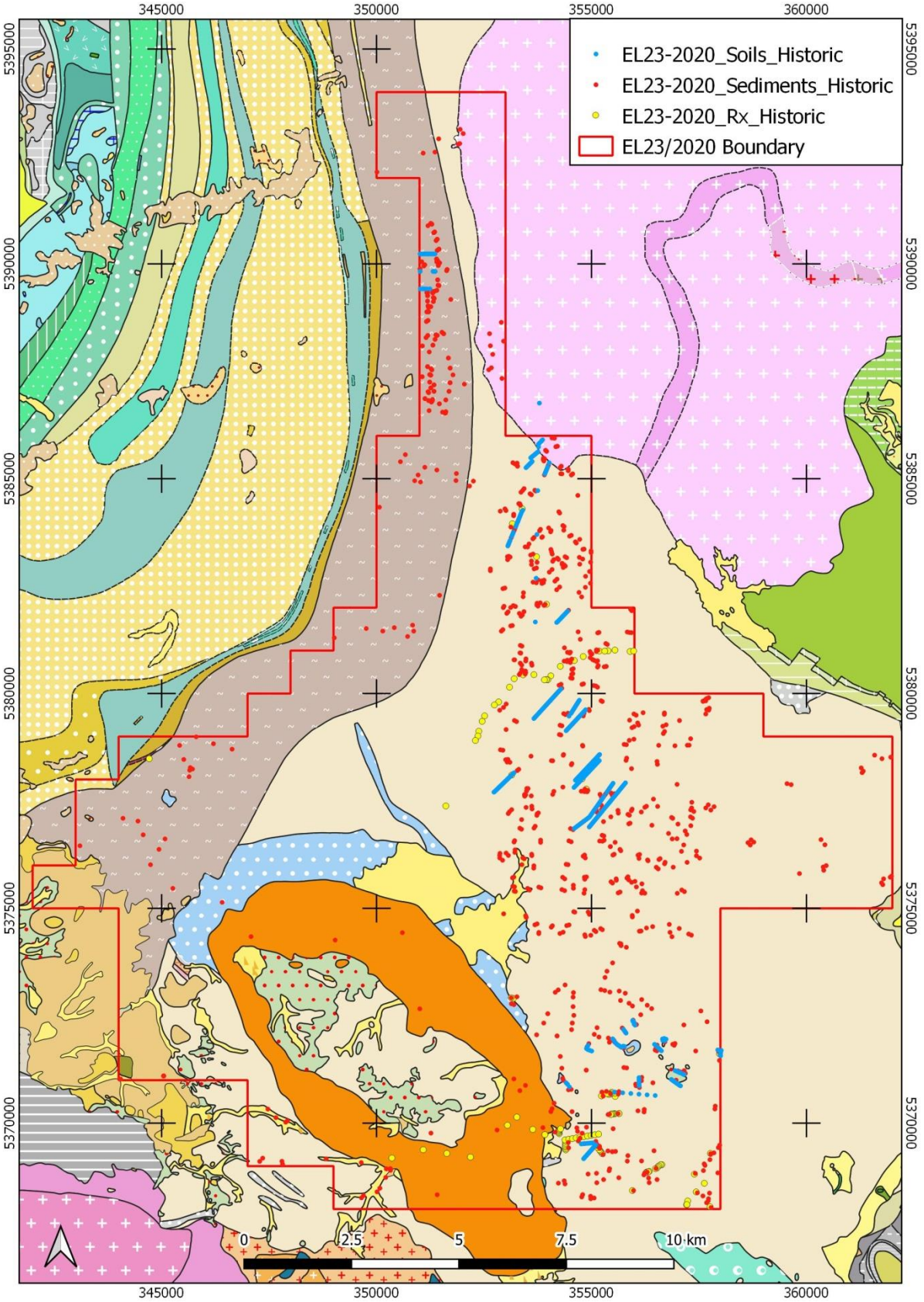


Figure 4: Location of historic rock, sediment and soil samples within EL23/2020. Rock samples with no known geochemical data have been removed.

Figure 4:

Figure 5: EL23/2020 Prospect Zones

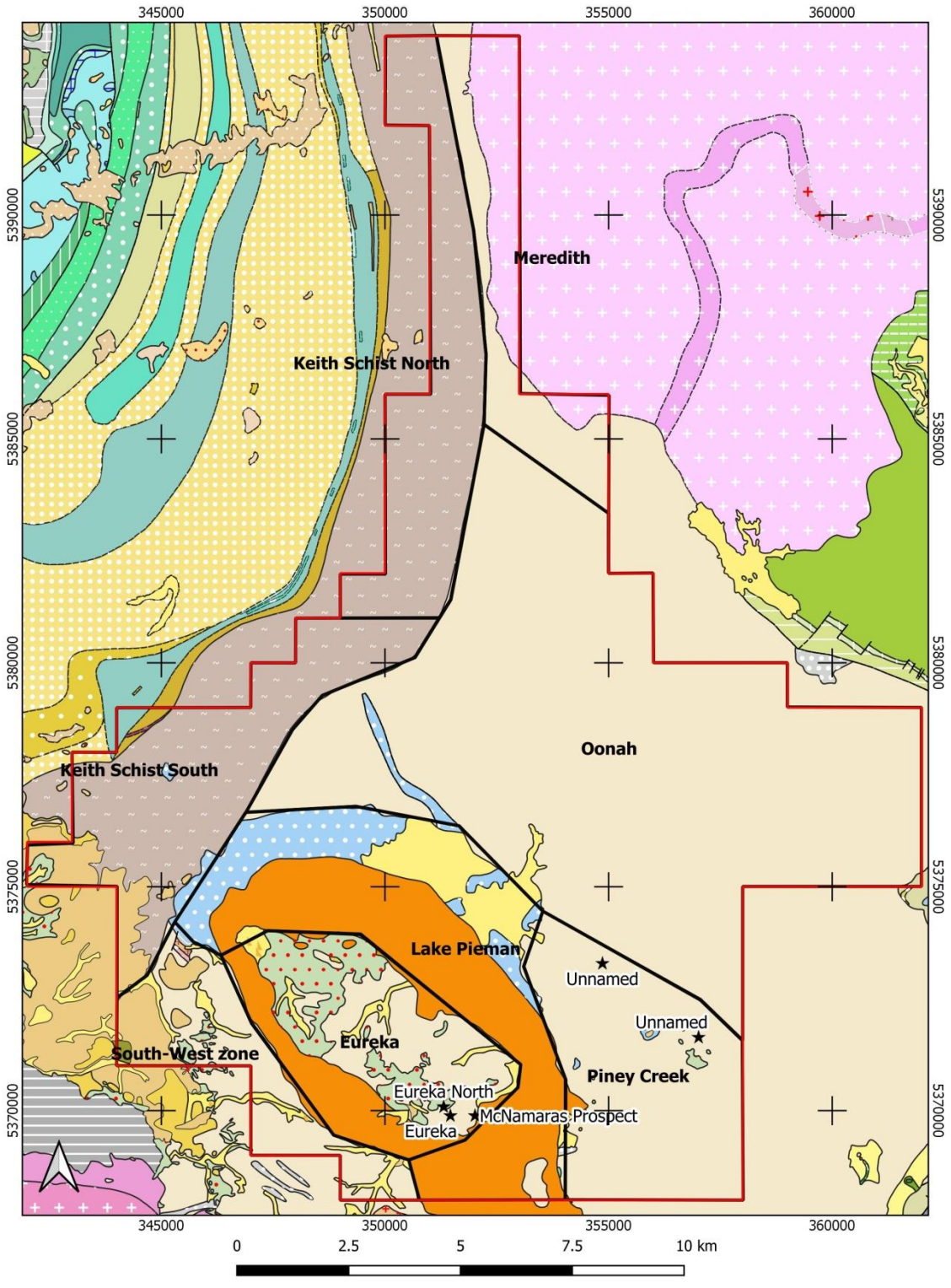


Figure 5: EL23/2020 prospect zones and known mineral occurences. All known mineral occurences located in SE corner of property, so division of prospects was based on geology.

General Comments

- Extensive stream sediment coverage in most areas of the lease, but does not always reflect mineralisation. Stream sediment sample taken in Piney Creek zone immediately downstream of quartz-siderite vein containing 14% Zn returned a value of 6ppm Zn.
- Poor standards for sampling negates all soil samples and casts doubts on usefulness of stream sediment data for all Pacminex work in area.
- Very few rock samples taken over entire property.
- Much of the area does not appear to have been visited at all by modern exploration activities. Very little detailed mapping of the area.
- The North Eureka workings were noted as an alluvial working, but reports from when the area was being worked suggest it was a hard rock mine, providing a previously unrecognized potential hard-rock source for highly anomalous Sn in pan concentrate samples taken in the N and NW.
- Geophysical anomalies mentioned in Keith Schist North zone are most likely caused by stratigraphy, but it should be noted that workings such as the Cape Copper Mine suggest high grade mineralisation may be found in these areas.

PROSPECT ZONE	**Eureka**
PROSPECTS	McNamaras Prospect, Eureka, Eureka North
LOCALITY	500m North of Heemskirk Road crossing Heemskirk River (approx. 352000E, 5369900N)
COMMODITY	Sn, Au
STYLE	Vein, Alluvial(?)
STATUS	Greenfields
PROSPECTIVITY RATING	MODERATE

SUMMARY:
The Eureka zone is located to the south of Lake Pieman in a zone of Oonah Formation turbidites and Tertiary sediments ringed by Jurassic dolerite. Although it contains three mineral occurrences and four of five pan concentrate samples have returned Sn assays over 0.1% (including 1.54% Sn) (see Figure 6), it has received extremely little attention, with no known recent exploration occurring within the zone. These results were dismissed on the assumption they were sourced from Sn-rich perched Tertiary sediments rather than hard rock. The possibility that additional quartz-?siderite-tourmaline- veins hosting cassiterite like that reported by Montgomery (1895) at the North Eureka occurrence may also occur in other locations within the Precambrian rocks does not seem to have occurred to previous tenement holders.
No assays of rocks for the purpose of exploration are known in the entire zone, and the possibility of additional Sn-rich veining within the drainage which assayed at 1.54% Sn is worth following up on, as is an investigation of veining around the North Eureka workings.

GEOLOGY:
Highly deformed Precambrian quartwacke turbidites of the Oonah Formation rocks form the basement of the Eureka zone, with these varying locally to clay altered schists, amphibolite, and rare mafic volcanics.
Oonah Formation rocks in the N and NW part of the area are unconformably overlain by Permian basal tillite which appears to be gently folded along a NNW axis. The Precambrian turbidites and Permian tillite have been intruded by a Jurassic dolerite sill, which forms a continuous rim around the zone, from low elevation in the north, to about 350m in the south. At this point it is unclear whether these form an angled sill or if they represent two separate sills, but magnetics data suggests the northern portion of the dolerite at least continues below Oonah Formation rocks within the zone, terminating the Oonah Formation rocks at a relatively shallow depth.
Tertiary conglomerate, gravel and grit cover about 30% of the zone, with these containing possible alluvial tin deposits within the area similar to those located a short distance to the S and SW.
Quaternary talus and sediments comprise the remainder of the mapped geology of the area, with dolerite talus in the NW corner of the zone, and stream alluvium, swamp and marsh deposits located around drainages with low relief.

MINERALISATION:
Known mineralisation is restricted to the SE part of the zone, and consists of tin with subsidiary gold hosted by Tertiary sediments, and tin in quartz-tourmaline-(?siderite) veining within Precambrian clay schist. In both cases the tin ore is assumed to be cassiterite and related to the intrusion of the nearby Heemskirk Granite.
The source of alluvial tin is not clear, as it may come locally from veining similar to that reported at North Eureka, or from a more distal source such as the Heemskirk granite. Gravels within the tertiary sediments are described as rounded, indicating significant movement, but the topographic high to the SW created by the dolerite could favour a more localised source for the tin.

SAMPLES:
No soil samples known in the area.
Four rock samples are known in the area, but three are dolerite, and the fourth is recorded as partly

uralitised gabbro. It appears these samples were taken for the purpose of research on the dolerite rather than for exploration purposes, and no samples are known from any of the former workings. One dolerite sample near the former workings returned an assay of 6ppm Ag, but below detection Sn. None were assayed for Au.

Four of five pan concentrate samples assayed in excess of 0.1% Sn, with a sample containing 1.54% Sn not followed up and instead attributed to alluvials upstream.

HISTORICAL MINING / PROSPECTING:

Three historical mineral occurrences are shown in the area: McNamaras Prospect, Eureka, and Eureka North. The Eureka North and Eureka occurrences are listed as alluvial, with McNamaras hard rock, but the only known reference to these workings suggests McNamaras is an alluvial working and the North Eureka is hard rock (Montgomery, 1895).

The Eureka North occurrence is referred to by Montgomery (1895) as Sections 34-93M and 35-93M, owned by the Electric Tin Mining Company. Tin lodes are reported as striking WSW, and hosted by 'quartz and brown silicified country rock in curiously wavy curly bands' within clay schists, likely corresponding to Oonah Formation rocks. Workings included a 30 metre shaft sunk by the Pieman Extended Company prior to the Electric Tin Mining Company, who excavated a tunnel approximately 150m in length below the shaft, intersecting the main lode at 120m, and drove about 25m along the lode, which varied from 5 to 90cm wide, and was apparently high grade in places, with sphalerite also reported. No amounts extracted are known, and it appears the workings were abandoned shortly after with no further work known. Montgomery noted tin ore was commonly associated with tourmaline, with another unworked quartz-tourmaline outcrop located a short distance to the north.

The Eureka Mine was an alluvial tin operation abandoned prior to 1895, with minor gold. Numerous shafts were sunk over the area to as deep as 13m and some areas were sluiced up to 10m deep, but Montgomery (1895) reports that although some very rich tin was obtained, the bottom of the lead was not reached, with difficulties encountered with large amounts of water.

At the time of Montgomery's visit, McNamaras Prospect consisted of a single shaft of 13m, which McNamara claimed to contain some tin and gold. No further details are known on this prospect.

PREVIOUS EXPLORATION:

Aside from stream sediment sampling on the northern boundary of the zone by CRAE, which obtained panned concentrate samples containing up to 1.54% Sn, no notable work is known in the area. CRAE did not follow up on the anomalous Sn results, concluding they were due to perched Tertiary alluvial deposits.

KEY RESULTS/FINDINGS:

- Panned concentrate samples containing up to 1.54% Sn from drainages on the northern margin of the zone attributed to perched Tertiary sediments.
- Eureka North workings hard rock rather than alluvial as reported in MRT Mineral Occurrences. Vice versa for McNamaras Prospect.

NOTES / RECOMMENDATIONS:

- No recent groundwork is known within the prospect zone.
- Eureka North occurrence should be visited to assess potential tin mineralisation, including possible mineralisation to the immediate north.
- Drainage upstream of panned concentrate with 1.54% Sn should be prospect mapped for possible hard rock tin mineralisation similar to that at Eureka North.
- Appears to be a good track network in the area to cover any areas of interest.
- Moderate prospectivity due to lack of previous work despite highly anomalous results, and possibility for vein mineralisation rather than previously assumed alluvial.

REFERENCES:

Montgomery, A.J. (1895): Report on the Progress of the Mineral Fields in the Neighbourhood of Zeehan; Vis.:-Mackintrosh River, Mount Black, Mount Read, Mount Dundas, Mount Zeehan, Stanley River, and Mount Heemskirk. Geological Surveyor's Office. MRT Report No. OS_118.

Purvis, J.G. (1984): Heemskirk Falls EL 30/79 Initial Geochemical Evaluation of 30 Aerial EM Anomalies. CRA Exploration Pty. Limited. MRT Report No. 85_2373.

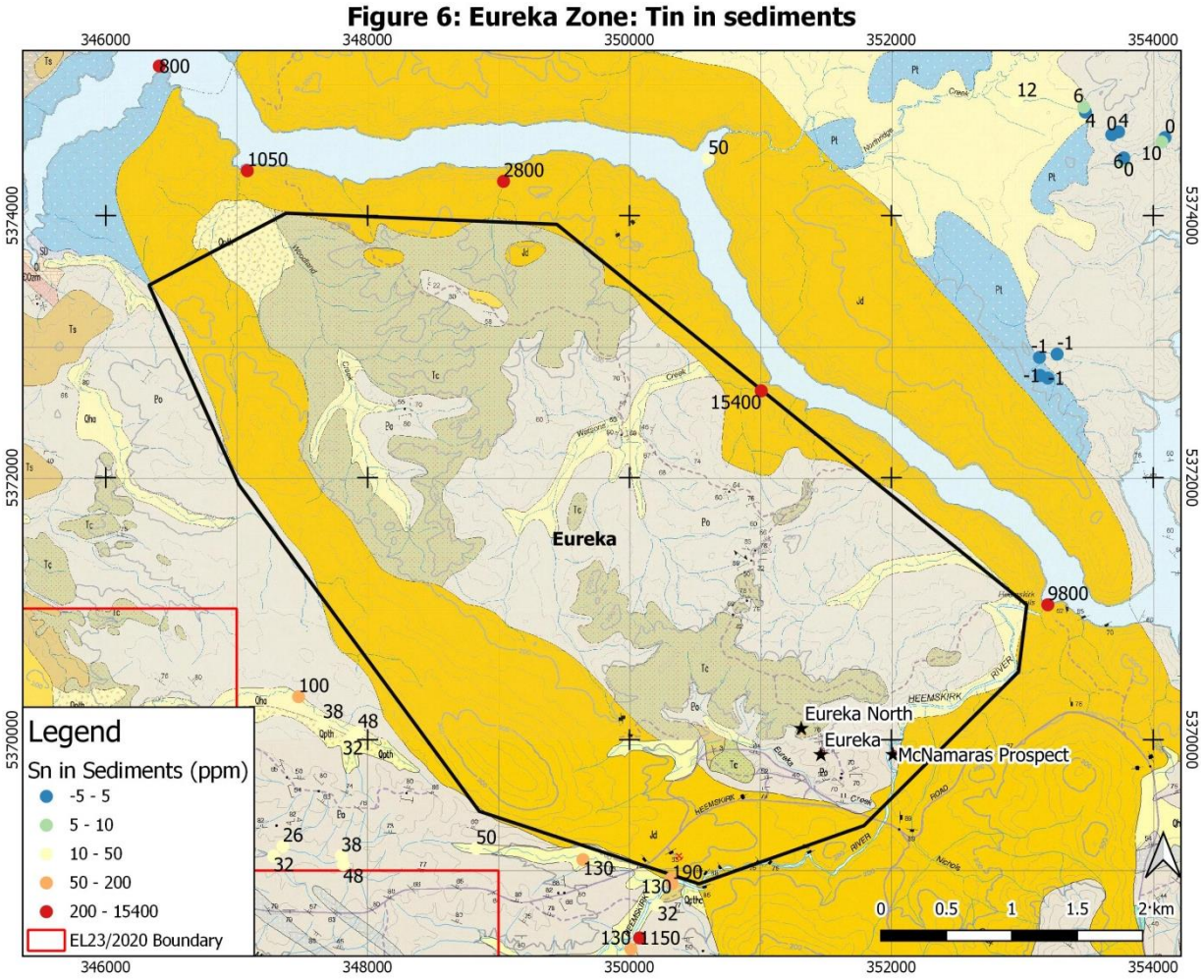


Figure 6: Tin in pan concentrate samples from areas surrounding Eureka zone. Previously interpreted as sourced from alluvials, but no follow-up was completed.

PROSPECT ZONE	**Meredith**
PROSPECTS	
LOCALITY	Approx. 13km E of Corinna and 28km NNW of Zeehan (352800E, 5387500N)
COMMODITY	Sn, W, base metals
STYLE	Vein
STATUS	Greenfields
PROSPECTIVITY RATING	LOW-MODERATE

SUMMARY:
The Meredith prospect zone is located in the NE portion of EL23/2020, and includes the western margin of the Meredith Granite and the adjacent band of Oonah Formation rocks, which have a hornfelsed contact with the granite. Turner (1998) mentions mafic metaigneous rocks within the Oonah Formation near the contact with the schistose rocks of the Kieth Schist to the west, with minor banded iron formation also present. Geochemical data show anomalous values in Au and As within the Oonah Formation, particularly within carbonaceous shale units.

GEOLOGY:
The geology of the Meredith zone consists of a basement of highly deformed Precambrian Oonah Formation quartzwacke turbidites and muscovitic schists and phyllites intruded to the east by the Devonian Meredith Granite. To the west of the Oonah Formation is a gradational contact with the highly sheared Keith Schist, which is effectively the lower portion of the Oonah Formation, consisting of quartz-mica schist, quartzite, phyllites and rare dolomite. Turner (1998) mentions mafic metaigneous rocks within the Oonah Formation near the contact with the schistose rocks of the Kieth Schist to the west, with minor banded iron formation also present.
The intrusive contact of the Meredith Granite Contact has produced alteration of the Oonah Formation, with the metamorphic aureole of the Meredith granite extends up to 2km into the country rock, containing hornfels of albite-epidote, hornblende, and pyroxene facies (MRT, 2002).
Shannon (1985) noted that veins within the metamorphosed host rocks were often twinned, with this and wall-rock replacement by tourmaline supporting the hypothesis of the batholith being a composite of two very similar plutons, but does not provide further details. He also suggests Sn-W mineralisation within the granite might be restricted to zones of 'gneissic' texture, resulting in small mineralised bodies that are not attractive exploration targets. The presence of gneiss is considered unlikely, and this gneissic texture is more likely related to either minor late-stage fractionation coincident with later stage aplitic dykes (possibly poorly developed greisen zones??), and/or tectonic activity shearing the cooling magma.

MINERALISATION:
No mineral occurrences have been reported in the area, but the Meredith Granite is known to host tin mineralisation, and quartz-tourmaline veins are noted within hornfelsed sediments, and may be a suitable host for mineralisation.
A sediment sample containing 730ppm As, 245ppm Cu, 410ppm Zn, and 222ppm Sn was taken from a tributary to the Rocky River within the granite, but follow-up work failed to repeat this result.

SAMPLES:
No soil samples known.
Seven rock samples are known within the area, but no analyses of these samples are known.
62 stream sediment samples have been collected within the Meredith zone, but most of these were collected by Pacminex, and should be disregarded due to doubtful quality.
The remaining sediment samples are summarised below, and show a very strong correlation between base metals, Sn and W, with Au only showing a very weak correlation with As. With the exception of Au results, the maximum values for elements shown below are from the same sediment sample within the Meredith Granite. Au was below detection in almost 80% of samples,

which may cause the poor correlation with other elements.

	As_ppm	Au_ppm	Cu_ppm	Sn_ppm	W_ppm	Zn_ppm
Samples	13	39	46	45	43	46
Max	730	0.05	245	222	222	410
Average	69.08	0.00	17.89	10.38	16.07	18.57
Anomalous Samples	1	3	1	1	1	1
As Corr. Coeff.	1.00	0.45	0.98	1.00	0.99	0.99
Au Corr. Coeff.	0.45	1.00	0.13	0.10	-0.26	0.04
Cu Corr. Coeff.	0.98	0.13	1.00	0.98	0.94	0.98
Sn Corr. Coeff.	1.00	0.10	0.98	1.00	0.97	0.98
Zn Corr. Coeff.	0.99	0.04	0.98	0.98	0.96	1.00

HISTORICAL MINING / PROSPECTING:

None known.

PREVIOUS EXPLORATION:

Industrial and Mining Investigations (IMI) held ground over the Meredith granite as part of EL5/84, with their ground partially overlapping EL23/2020. They conducted a small program of geological mapping and stream sediment sampling over the western part of their claim, and also conducted a small amount of mapping in the vicinity of the intrusive contact with the Oonah Formation sediments. Only one stream sediment sample taken from a tributary to the Rocky River within the Meredith granite produced highly anomalous assays, with 730ppm As, 245ppm Cu, 410ppm Zn, and 222ppm Sn, but subsequent sampling failed to repeat this result. A possible breccia pipe feature within the granite was also investigated a short distance from the anomalous sample, but this was found to host granite identical to the surrounding rocks. Shannon (1985) noted that veins within the Oonah Formation were often twinned, with tourmaline also replacing wallrock, and suggested the Meredith granite may be a composite of several plutons. Interpreting low potential for Sn and W deposits of any size within the granite, IMI relinquished the claim in 1985.

CSR held ground over the Meredith and Oonah zones as part of EL31/1982, mainly exploring Success Creek Group rocks to the east of EL23/2020 for mineralised skarn related to the intrusion of the Meredith Granite, and although comparisons were made to mineralisation at Renison, but the degree of hornfelsing of Oonah sediments suggested the temperature was too high for significant concentrations of tin, and the ground was relinquished (Ellis, 1986).

Cyprus Gold held ground over the Meredith Granite in 1988 as part of EL35/1987, assessing the area for potential to host gold skarn mineralisation, but this work concentrated on the Wilson River area, to the east of EL23/2020.

In 1998, Goldstream Mining reviewed the geology of the western margin of the Meredith Granite after work on their adjacent EL42/96 showed an extensive polymetallic stream sediments geochemical anomaly (named as the Goldstream Anomaly) within sediments downstream of the Meredith prospect zone but underlain by schistose Arthur Lineament rocks, speculating there may be potential for a base metal deposit in the poorly explored Precambrian rocks west of the Meredith granite. However, they undertook no exploration on the licence, with Newnham (1999) reasoning that the area of interest within EL22/98 was very narrow, and more detailed exploration should first be completed on the adjacent lease to better determine the source of the anomaly. No further work is known on the licence, and it was allowed to expire in 2003.

KEY RESULTS/FINDINGS:

- Exploration on margin of Meredith Granite to date has focused on Cambrian sediments to the east, with no geochemical rock samples taken within this part of EL23/2020.

- Stream sediment data suggests Au mineralisation is not related to Sn, W, or base metals, but this is probably due to Au being below detection in most samples.
- Stream sediment and mapping work has been constrained to specific locations, with no indication other areas have been visited at all.

NOTES / RECOMMENDATIONS:

- Reported field work in the granite and contact zone has consisted of 1-2 day trips to specific locations, with no real efforts to produce prospect scale maps.
- Recommended work would include:

  Visiting locations with quartz-tourmaline veining described by Shannon (1985) and collecting rock samples, in addition to prospect scale mapping of the surrounding area.

  Possibly 1-2 separate mapping/sampling traverses oriented E-W, crossing from the intrusive, through the Oonah, and into the Keith schist.
- Low-moderate prospectivity due to extensive sediment sampling within and downstream of the prospect zone returning low values with no success in replicating single highly anomalous sediment sample and lack of reports of significant veining, and the potential for mineralisation within metaigneous and carbonaceous rocks as highlighted by Turner (1998)

REFERENCES:

Ellis, P.D. (1986): Exploration Licence 31/82 Mt. Lindsay. Tasmania. Final Report – 1986. CSR Limited Minerals Exploration and Development Group. MRT Report 86_2550.

Mineral Resources Tasmania (2002): Quantitative interpretation of magnetic and gravity data for the Western Tasmanian Regional Minerals Program. Tasmanian Geological Survey Record 2002/15.

Newnham, L.A. (1999): EL22/98 Meredith Range Annual Report for Period Ending November 1999. Newnham Exploration and Mining Services. For Goldstream Mining NL. MRT Report No. 99-4406.

Poltock, R. (1989): Combined annual and relinquishment report. Twelve months to January 1989. Exploration Licence 35/87. Savage River, Tasmania. MRT Report No. 89-2913.

Shannon, C.H.C. (1985): Relinquishment Report on Exploration Licence 5/84, Mt Meredith. For Industrial and Mining Investigations Pty. Ltd. MRT Report No. 85-2410.

Turner , N.J. (1998): EL42/96 Rocky River, Western Tasmania. Annual Report to 29.10.98. Corinna Project. Volume 1 of 1. For Goldstream Mining NL and Titan Resources NL. MTR Report No. 99-4408.

PROSPECT ZONE	**Keith Schist North**
PROSPECTS	
LOCALITY	11.5km W of Corinna and 27.5km NNW of Zeehan (approx. 351600E, 5387000N)
COMMODITY	Cu, Au, Fe
STYLE	Vein
STATUS	Greenfields
PROSPECTIVITY RATING	LOW-MODERATE

SUMMARY:
The Keith Schist North zone is located on the northern half of the western margin of EL23/2020, and is located completely within the Keith Schist. The geology is dominated by quartz-mica-schist, quartzite, phyllite, and rare dolomite in a zone with strong shearing in a NNW direction. Little work has been completed in the area beyond stream sediment sampling and very limited soil sampling. There are no reports of mineral occurrences in the area, although several minor occurrences are located within the schist a short distance to the west, including the Cape Copper Mine, and work by Goldstream identified a polymetallic stream sediment anomaly which crosses into the area from Keith Schist rocks from the west, with a soil sample taken by IMI in this area assaying at 4ppm Au.
Aside from the polymetallic geochemical anomaly, the other areas warranting attention are a magnetic feature located on the eastern margin of the prospect, and in the NW part of the prospect, where a continuation of the chloritic schist hosting the Cape Copper Mine may exist. No mapping or rock sampling work is known in these areas, and stream sediment sample coverage downstream of the magnetic anomaly is incomplete.

GEOLOGY:
The geology of the area consists entirely of Precambrian Keith Schist rocks, including quartz-mica-schist, quartzite, phyllite, and rare dolomite. The Keith Schist forms the eastern side of the Arthur Lineament, and is a highly sheared lower part of the Oonah Formation, which is located to the east. To the west of the Keith Schist lies schist, amphibolite, phyllite, and occasional dolomite within the Arthur Lineament. While the rocks to the west of the Keith Schist are known to host significant mineralisation, particularly as magnetite with subsidiary Au and Cu, only three prospects are located within the Keith Schist a short distance to the west of the tenement. One of these is a historic alluvial working for which no information is available, and another is an area of anomalous As which was identified in the 1980s, and did not progress past exploration works. The third mineral occurrence is the Cape Copper Mine, which is mapped as located within a narrow band of chloritic schist within a deeply incised drainage overlain by quartzite schist, with a band of graphitic schist separating the two units, and strata dipping to the east. Mineralisation appears to be located immediately below and within the graphitic schist. The Cape Copper schist and graphitic schist show as a minor feature on magnetics data, with similar features repeated within the Keith Schist North zone. One such feature near the eastern margin of the schist becomes increasingly pronounced towards the south, and may represent a similar but larger fault feature near the upper part of the Keith Schist. A similar feature is located on the northern boundary of the property, on the transition from Keith Schist to Oonah Formation. Figure 7 shows these features on airborne TMI data.

MINERALISATION:
No mineralisation is known within the area, but a zone of anomalous As, Ag, Bi, Pb and Sb was identified by Goldstream as crossing onto EL23/2020, and mineralisation at the Cape Copper mine to the NW of the property was hosted by an E-dipping structure, and possibly continues onto/below EL23/2020.
A magnetic feature on the eastern margin of the prospect may be associated with a structure similar to the Cape Copper structure with potential to host mineralisation, or it may be related to the banded iron formations mentioned by Turner (1998).

SAMPLES:

No rock samples known in the area.

Soils: 25 samples taken by IMI as part of a larger survey to the west of the property. Samples were generally sub-anomalous, but a single sample assayed at 4ppm Au. This sample was not followed up on, with the assumption that this was caused by coarse gold.

Sediments: 168 sediment and panned concentrate samples taken in the area, with the 70 panned concentrate samples analysed for As only. Results for stream sediment samples are summarised in the table below. Few elements show strong correlations, with the exception of Cu-Zn and Cu-Mo. Ag, Au and Sn results were frequently below detection and producing unreliable result, hence are not shown in the table below.

	As_ppm	Ba_ppm	Cu_ppm	Mo_ppm	Ni_ppm_1	Pb_ppm	Sb_ppm	Zn_ppm
Samples	98	29	98	83	30	76	68	98
Max	31.5	255	30	2	25	45.5	6	60
Average	6.627551	91.82759	9.591837	0.720482	17.33333	12.03947	0.65	15.72449
# Anomalous Samples	10	2	8	14	1	2	1	5
As Corr. Coeff.	1	-0.14856	0.386379	0.310158	-0.01425	0.541691	0.554979	0.349694
Cu Corr. Coeff.	0.386379	0.207007	1	0.748393	0.571491	0.354671	0.399826	0.839925
Pb Corr. Coeff.	0.541691	-0.40323	0.354671	0.18152	-0.33567	1	0.639737	0.352684
Sb Corr. Coeff.	0.004004	-0.24747	0.043855	0.127403	0.166667	-0.13231	0.025167	-0.01575
Zn Corr. Coeff.	0.349694	0.541796	0.839925	0.665636	0.739172	0.352684	0.331694	1

HISTORICAL MINING / PROSPECTING:

None known.

PREVIOUS EXPLORATION:

IMI/Savage Resources conducted a soil survey in 1984 which covered part of the western margin of the area, targeting an arsenic stream sediment anomaly, returning assay values of up to 750ppm As from possibly inconsistent C-horizon samples (Turner, 1998). Only 25 of these soil samples were within EL23/2020, but this included a single sample assaying at 4ppm Au on a ridge. Nearby stream sediment sampling did not reflect these results, and it was concluded the gold was transported (Penny et al. 1984). Work in the Rocky River area continued in subsequent years, but does not appear to have ventured east onto EL23/2020 after this.

Titan Resources and Goldstream Exploration explored the area as part of EL42/1996, conducting detailed stream sediment sampling (panned concentrate and -80 mesh), geological mapping, and soil and rock chip sampling. Approximately half of the stream sediment samples were collected within the bounds of EL23/2020, with the overall stream sediment sampling program revealing a weak polymetallic geochemical anomaly approximately 1x2km in size which crosses partly onto EL23/2020(shown below in Figure 8) hosted by Keith Schist rocks. This was followed by a soil sampling program which was centred on ground to the west of the property, and did not did not return assays anomalous enough to warrant follow-up. They did not extend to the polymetallic anomaly detected by stream sediment sampling. Few rock samples were collected by Titan or Goldstream, with none of these collected from within the bounds of EL23/2020. Recommendations were made for follow-up, including geological mapping and rock chip sampling, especially in regards to carbonaceous shale units and carbonate rocks, with Newnham (1999) raising the possibility of Carlin style mineralisation within the Keith River schists. This follow-up was not completed, and the claim was relinquished in 2001. No further work is known in the area.

KEY RESULTS/FINDINGS:

- Polymetallic and Au stream sediment anomalies hosted by Keith River schist rocks crosses onto the western margin of property, with no specific sources identified. A single point soil Au anomaly of 4ppm Au is located within the polymetallic anomaly.
- Tenor of stream sediment samples within EL23/2020 generally weaker than area to immediate west.
- Most anomalous Au in stream sediments located at position of historical alluvial workings.
- Subsurface magnetic anomaly located on eastern margin of area, continuing at depth below Oonah Formation rocks. Insufficient geochemistry and no surface mapping in area to assess this feature.
- Mapping over the property is mostly regional, with a possibility for the structure hosting Cape Copper Mine mineralisation to continue onto EL23/2020.

NOTES / RECOMMENDATIONS:

- Stream sediment results may be affected by historical alluvial workings.
- Three areas of potential interest identified: 1. Magnetic features on E margin of area; 2. Southern continuation of Cape Copper Mine structure; 3. Polymetallic stream sediment anomaly in centre of area.
- Recommended work for all three areas includes prospect scale mapping, rock chip sampling, and stream sediment sampling.
- Additional analysis of geophysics may assist with interpretation of the magnetic anomalies. They are most likely stratigraphic features (ie. graphitic shear), but are worth some attention.
- Virtually no information available on ground in the southern part of this area between the Paradise and Meredith Rivers. As no historical works are known in the area and regional geophysics do not show any features of note, prospecting the area is recommended, but as a lower priority than the features noted above.

REFERENCES:

Luong, L. (2002): Relinquishment Report, EL42/96 "Rocky River" For The Period 30 November 1996 to 29 November 2001. For Goldstream Mining NL and Titan Resources NL. MRT Report No. E42_96_2001S.

Newnham (1999): EL42/96 Rocky River Area Annual Report for Year Ending 31 October 1999. For Goldstream Mining NL. MRT Report No. 99-4408.

Penny, B.G, Vanzino, L, Shannon, C.H.C. (1984): Report on Field Investigations within Exploration Licence 4/61 West Coast, Tasmania. Summer field season 1983-1984. Industrial and Mining Investigations Pty. Limited. MRT Report No. 84_2262.

Turner, N. J. (1997): Exploration Licence No. 42/96 Rocky River, Western Tasmania. Annual Report to 29.10.97. Corinna Project. Volume 1 of 1. For Goldstream Mining NL and Titan Resources NL. MTR Report No. 99-4408.

Turner, N.J. (1998): EL42/96 Rocky River, Western Tasmania. Annual Report to 29.10.98. Corinna Project. Volume 1 of 1. For Goldstream Mining NL and Titan Resources NL. MTR Report No. 99-4408.

Twelvetrees, W.H (1900): Report on the Mineral Fields between Waratah and Corinna. Secretary for Mines Rep. 1899 1900. Tas. Journals and Papers of Parliament 1900.

Figure 7: Airborne TMI, Keith Schist North

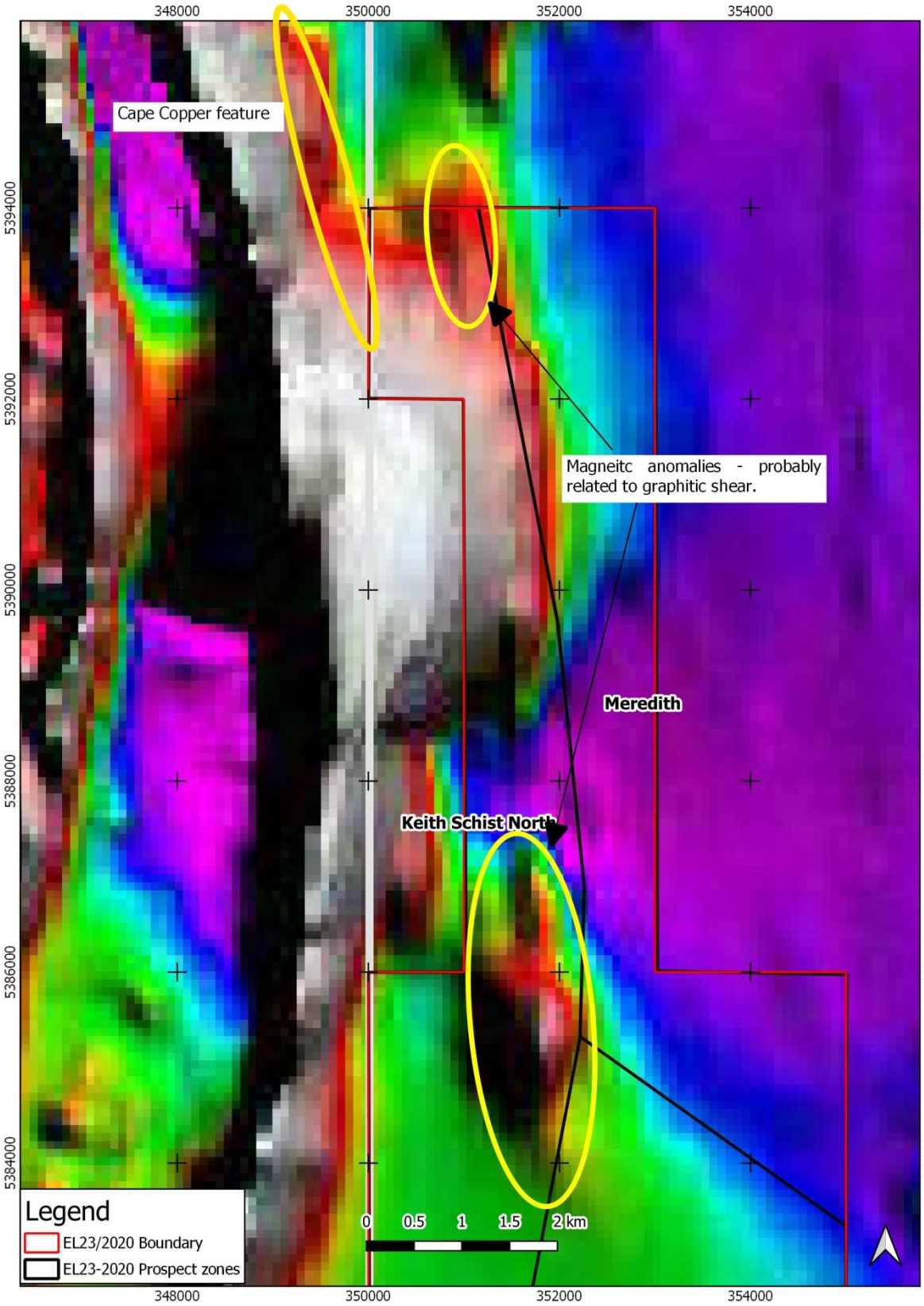
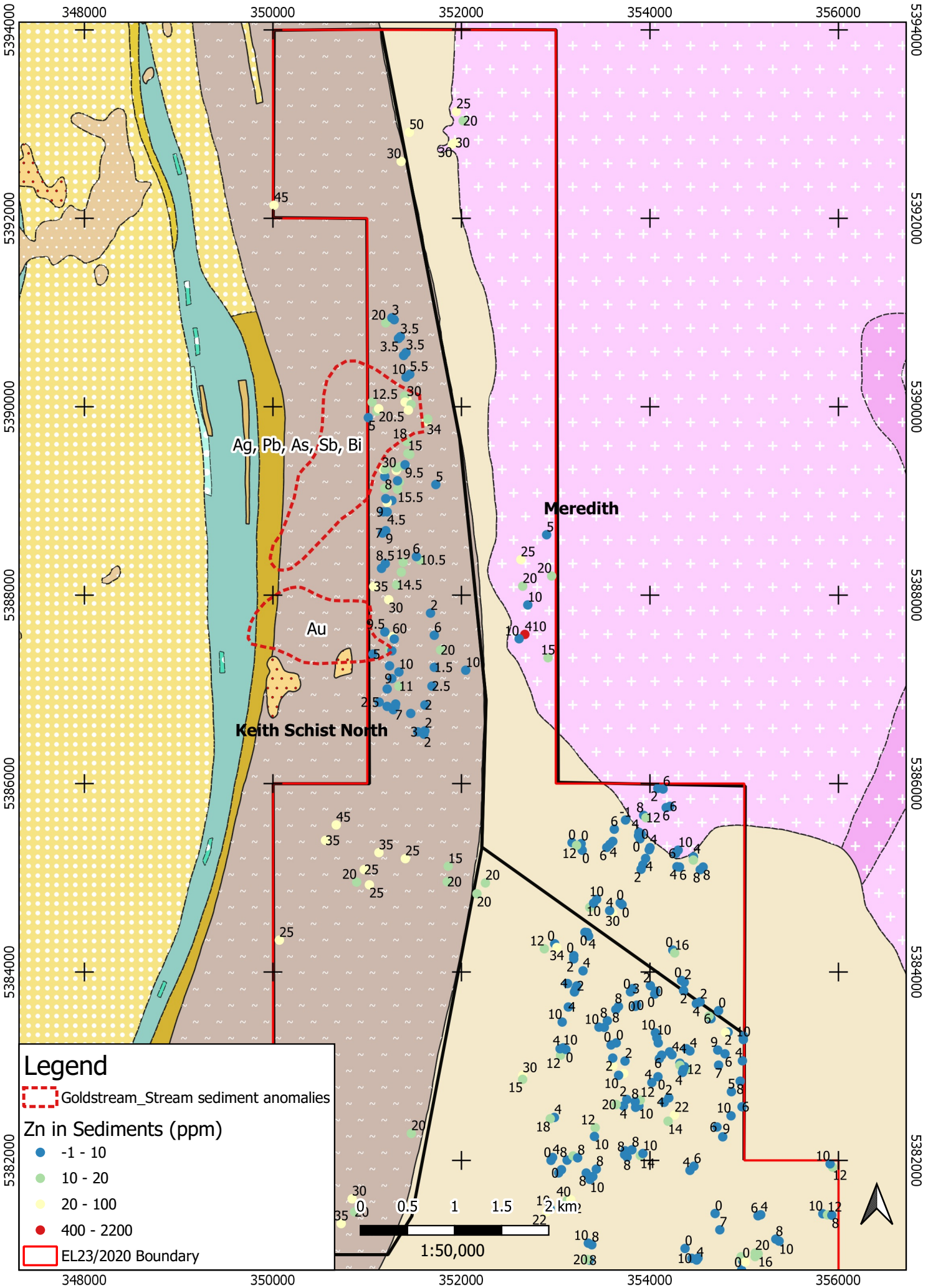


Figure 7: Airborne TMI data for the Keith Schist North and Meredith zones, showing magnetic highs near the transition from Keith Schist to Oonah Formation, and a subtle feature continuing to the south from the Cape Copper Mine. Image after Duffet et al. (2014).

Figure 8: Keith Schist North and Meredith zones.

Zn in sediments and stream sediment geochemical anomaly from Goldstream Exploration work.



PROSPECT ZONE	**Keith Schist South**
PROSPECTS	
LOCALITY	Immediately south and east of the Reece dam (approx. 346000E, 5377500N)
COMMODITY	
STYLE	
STATUS	Greenfields
PROSPECTIVITY RATING	LOW

SUMMARY:

The Keith Schist South prospect zone is a southern extension of the Northern prospect, and continues past the Reece Dam to the SW corner of EL23/2020, with schist in the south covered by Tertiary basalt and sediments. As mentioned by Turner (1997), the majority of ground in the area has only been subject to reconnaissance-level exploration, with no sample data in the northern part of the area. The only areas of interest are in the vicinity of the Reece Dam, and include a stream sediment sample highly anomalous in base metals and tin, a zone of iron mineralisation, and Arthur Metamorphic Complex rocks, all of which are now submerged below Lake Pieman except for narrow exposures of chloritic schist and amphibolite near the licence boundary on the edge of Lake Pieman.

GEOLOGY:

As with the Keith Schist North area, the geology is dominated by Precambrian Keith Schist rocks, including quartz-mica-schist, quartzite, phyllite, and rare dolomite. In the vicinity of the Reece Dam, these rocks overlie phyllite, amphibolite, chloritic schists, dolomite and gabbro of the Arthur Metamorphic Complex, although the majority of these rocks within EL23/2020 are now submerged below Lake Pieman. Foliations in these highly deformed rocks are highly variable, but generally trend NE, dipping moderate to steeply to the SE. The Precambrian Oonah Formation overlies the Keith Schist to the SE, with the margin being transitional in nature.

In the vicinity of the Reece Dam, Permian basal tillite unconformably overlies the Keith Schist. Tertiary basalt and sediments overlie older rocks on the southern end of the area.

Geophysics data do not show any specific areas of interest beyond a minor anomaly in Stringers Creek to the SE of Reece Dam. The cause of this feature is unknown, but coincides with a minor area of Permian tillite, and is in the catchment of a highly anomalous base metal and tin stream sediment sample. Other features area attributable to the Jurassic dolerite intrusion to the east of the zone, and Tertiary basalts in the southern part of the area.

MINERALISATION:

Single report of iron mineralisation outcropping on the western shore of the Pieman River approximately 2km south of the Reece Dam, but this area now submerged by Lake Pieman.

SAMPLES:

No rock or soil samples known in the area.

Sediments: 1 pan concentrate, and 16 stream sediment samples, including up to 620ppm Cu, 300ppm Pb, 2200ppm Zn, 650ppm As, and 2500ppm Sn. The anomalous sample area is now submerged below Lake Pieman, with no other anomalous samples in the area.

HISTORICAL MINING / PROSPECTING:

None known.

PREVIOUS EXPLORATION:

The HEC drilled 36 short drill holes inside the margin of EL23/2020 prior to constructing the Lake Pieman dam. The deepest of these was 77m, with drill logs suggesting rocks in the area consist predominantly of quartz-mica schist, amphibolite, phyllites, and greenschist, with mentions of laminated quartzite in some holes possibly indicating slightly more quartz-rich quartz-mica schist zones. No mention of mineralisation is made in any drill logs.

The NW corner of CRAE's EL30/1979 included part of the Keith Schist South zone, and follow-up of an aeromagnetic anomaly (Stringers Creek) returned highly anomalous results including 620ppm Cu, 300ppm Pb, 2200ppm Zn, 650ppm As, and 2500ppm Sn. A detailed follow-up program had been planned, but was abandoned due to the anomalous area being completely HEC Reserves, and is now flooded by Lake Pieman.

Geological mapping, soil and rock sampling were completed on Outukumpu's EL18/1989 and EL56/1989, which crossed onto the margins of EL23/2020, but although grid lines appear to have been cut onto EL23/2020 ground, no samples were taken in this area.

Goldstream Resources conducted work near the western margin of EL23/2020 as part of work on EL43/1994. This work focused on other zones within their tenement such as the Alpine prospect, with airborne geophysics collected in 2002 including magnetics and EM in addition to producing a digital terrain model. The extremes of these surveys are gridded over EL23/2020, but are of little use since the main overlap is over Lake Pieman. Goldstream/Titan did not complete any other work of note within the grounds of EL23/2020.

Exploring for base metal, skarn and greisen mineralisation, Stellar Resources Ltd held ground mostly to the SW of EL23/2020 under EL46/2003, with part of the licence continuing over the South-West and Arthur Lineament South zones. They reviewed 2001/2002 MRT helicopter EM data over their licence which showed 66 features of interest, with 3 of these within EL23/2020. Silic (2005) interpreted the data, reducing the number of anomalies to 15, of which none were within EL23/2020. In addition to reducing the number of areas of interest, Silic also concluded that the effective depth of investigation of the HEM survey was at most 75 metres. Stella completed no further work on this part of their property, relinquishing it in 2009.

Bass Metals held EL36/2005 from 2007-10, with the southern part of this licence crossing onto EL23/2020, but focused exploration efforts on potential IOCG mineralisation within Arthur Lineament rocks to the NW of EL23/2020 related to small Cambrian granitic intrusions. They did not complete any ground work within the bounds of EL23/2020.

China Coal Resources held the majority of ground in the Central, Stanley River, MacNamaras, Piney Creek and Keith Schist South zones, exploring for polymetallic mineralisation related to Renison Bell type and skarn mineralisation under EL15/2007. Work completed included carrying out a review and compilation of previous work, stream sediment, rock chip and soil sampling, trenching, and geological mapping. However, exploration efforts concentrated on the Success Creek Group rocks, with only 3 of 281 stream sediment samples lying within EL23/2020. The western portion of EL15/2007 was relinquished without any work being documented. Work in the eastern part of the licence failed to produce sufficiently encouraging results, and the remainder of the ground was relinquished in 2015.

KEY RESULTS/FINDINGS:

- Anomalous stream sediment results from CRAE received no follow-up due to being within HEC Reserve area. Area of anomalous sample now submerged under Lake Pieman.
- Fe mineralisation mapped by CRAE also now submerged by Lake Pieman.
- Unexplained magnetic anomaly located by CRAE roughly coincides with an area of Permian tillite – could be related?

NOTES / RECOMMENDATIONS:

- Pieman Road and HEC powerline access trails cross area, with these providing traverses roughly perpendicular to geology.
- Sediment sampling of the southern branches of the Meredith River would greatly improve stream sediment coverage.
- No detailed work recommended for area.

REFERENCES:

Bates, S. (2010): Paradise River Project (Pieman River Group) Tasmania. EL36/2005. Final Report. 27th February 2010 to 16th March 2010. For Bass Metals Ltd.

Dickson, T.W. (1982): Heemskirk Falls EL 30/79. Geological Report for the Year Ending 15th October,

1982. CRA Exploration Pty. Limited. MRT Report No. 82_1838.
Hazeldene, R.K. (2009): EL 46/2003 Heemskirk. Partial Relinquishment Report. MRT Report No. 09_5811.
Herrman, W. (1991): Annual Report to 26 May, 1991. EL14/89 – Corinna, Tasmania Volume 1 of 2. Outukumpu Exploration Australia Pty Limited. MRT Report No. 91-3256.
Silic, J. (2005): Interpretation of Mt Read 2001/2002 Tasmanian Geological Survey Helicopter EM Data. EL 46/2003 for Stellar Resources Ltd. MRT Report No. 08_5584D.
Turner, N. J. (1997): Corinna Project. Exploration Licence No. 43/94, Corinna, Western Tasmania. Annual Report to 4/1/97. Volume 1 of 3. For Goldstream Mining NL and Titan Resources NL. MRT Report No. 97-4074.

PROSPECT ZONE	**Oonah**
PROSPECTS	
LOCALITY	6km N of Pieman River and 18km NNW of Zeehan (approx. 355000E, 5378000N)
COMMODITY	Pb, Ag
STYLE	Lode
STATUS	Greenfields
PROSPECTIVITY RATING	LOW

SUMMARY:
The Oonah prospect zone is a large area covering the central and eastern part of EL23/2020 (approx. 105km^2), and is underlain by Precambrian Oonah Formation rocks, with the exception of a narrow zone of Permian basal tillite in the western part of the area, and minor Permian and Tertiary materials in the SE. The only known prospects in the zone are unnamed Pb and pyrite occurrences, both in the SE portion of the area. The Pb occurrence is now submerged below Lake Pieman.

GEOLOGY:
The geology of the Oonah zone comprises of Precambrian Oonah Formation rocks, consisting of quartzwacke turbidites, muscovitic schists and phyllites. To the west of the Oonah Formation is a gradational contact with the highly sheared Keith Schist, which is effectively the lower portion of the Oonah Formation, consisting of quartz-mica schist, quartzite, phyllites and rare dolomite. Mafic metaigneous rocks occur within the Oonah Formation near the contact with the schistose rocks of the Kieth Schist to the west, with minor banded iron formation also present (Turner, 1998).
In the SW corner of the zone, a narrow (~200m wide) fault-bound zone of Permian basal tillite trends NW. No information is known about these faults, but they are assumed here to be NE-dipping normal faults.
Magnetics data over the zone show a general decrease in susceptibility towards the NE, with this possibly related to the spilitic extrusives and/or mafic metaigneous rocks mentioned by King (1961) and Turner (1998). Upwards continued magnetic data shows a highly magnetic feature in the Keith Schist near the intersection of the Oonah, Arthur Lineament North, and Meredith zones, with this feature continuing to the SE at lower amplitude (see Figure 7). This feature is very subtle in surficial data, and is not apparent in data continued upwards beyond 500m. No work is known in regards to this feature, and it may represent a magnetic body intruding along the boundary of the Keith Schist and the Oonah Formation, and/or an intrusive within a NW-trending structure parallel to the faulting hosting Permian rocks about 5km to the south.

MINERALISATION:
King (1961) notes that over 85% of Pb-Ag ores known in the Zeehan area were hosted by Precambrian to Early Cambrian rocks, with almost all of these associated with spilitic extrusives, and commonly in proximity to large fault zones (within secondary fractures?). He also reasons any remaining deposits within Precambrian sediments in the vicinity of Zeehan are likely to be insufficient in size to warrant attention from modern companies, as the majority of lodes and ore shoots were less than 30cm in width and of limited length and depth.

SAMPLES:
Soils: Pacminex collected 246 soil samples from the area, but descriptions of samples suggest the program was deeply flawed, with many inappropriate samples taken. Due to these problems, these samples are not discussed any further. No other soil samples are known in the area.

Sediments: A total of 528 sediment samples have been collected from the area, with 130 of these collected by Pacminex and of dubious quality. The remaining 398 samples were generally of low tenor and are summarised in the table below. Ag, Au, Pb and Sn were frequently below detection, with this skewing correlation for these elements. The only strong correlation is between Cu and Zn,

with a moderate correlation between Cu and Ni.

	Ag_ppm	Au_ppm	Cu_ppm	Ni_ppm	Pb_ppm	Sn_ppm	W_ppm	Zn_ppm
Samples	351	309	392	367	388	370	362	392
Max	1	0.05	1400	55	80	400	65	700
Average	0.01	0.00	24.39	13.06	3.03	6.98	7.63	17.85
# Anomalous Samples	3	25	5	17	6	5	4	8
Ag Corr. Coeff.	1.00	0.05	0.01	0.05	-0.02	0.04	-0.06	-0.02
Au Corr. Coeff.	0.05	1.00	0.11	0.09	0.04	0.09	-0.09	0.11
Cu Corr. Coeff.	0.01	0.11	1.00	0.67	0.53	-0.04	-0.16	0.88
Sn Corr. Coeff.	0.04	0.09	-0.04	-0.07	-0.04	1.00	0.01	-0.04
Zn Corr. Coeff.	-0.02	0.11	0.88	0.60	0.76	-0.04	-0.16	1.00

Rocks: A total of 211 rock samples have been collected from the Oonah zone, including several from short drill holes on Pieman Road, but only 40 of these are known to have been submitted for geochemical analysis, with the primary focus on base metal mineralisation. No rock samples have been assayed for Au. Sample results are summarised in the table below. Correlations are generally fairly weak, with only Ni and Cr showing a strong correlation, while W has a very strong inverse correlation with Ni and Pb. Unlike sediment sample results, Cu and Zn do not show any correlation. The majority of assayed rocks were also tested for trace elements and whole rock analysis, which has not been analysed here.

	Cr_ppm	Cu_ppm	Mo_ppm	Ni_ppm	Pb_ppm	Sn_ppm	W_ppm	Zn_ppm
Samples	26	34	26	27	34	31	3	34
Max	330	337	4	160	343	20	410	160
Average	65.96	43.09	0.65	23.00	33.00	2.35	137.67	43.18
# Anomalous Samples	2	2	1	1	1	1	1	1
Cu Corr. Coeff.	0.10	1.00	0.67	0.25	0.34	0.21	-0.49	0.18
Ni Corr. Coeff.	0.84	0.25	0.35	1.00	0.16	0.61	-0.81	0.27
Pb Corr. Coeff.	-0.03	0.34	0.50	0.16	1.00	0.07	-0.91	0.57

HISTORICAL MINING / PROSPECTING:

Two unnamed mineral occurrences, likely from prospecting work in the 1900s. No known extraction of materials.

PREVIOUS EXPLORATION:

Pacminex conducted stream sediment and panned concentrate sampling over the eastern half of the prospect in 1975, also collecting rock samples in the vicinity of formed roads. This was followed by airborne magnetics and EM on 200m line spacing over the same area, with recommendations made for follow-up on specific anomalies interpreted to be produced by metallic sources. While the majority of high priority anomalies were located to the east of EL23/2020, on the margin of and within the Success Creek Formation rocks, multiple lower order anomalies are located within the licence area. The only anomaly classed as high priority for follow-up partly within EL23/2020 is on the NE margin, with 15 other anomalies classed as moderate to low priority. The majority of identified anomalies are oriented NW-SE, sub-parallel with the regional structure of the area.

Following up on geophysical targets in 1976, Pacminex checked 44 anomalies (23 within EL23/2020), conducting soil, stream sediment, and rock chip sampling. Most of the anomalies were very poorly sampled, likely due to a lack of outcrop. The majority of anomalies identified within the Oonah Formation were related to black shales and occasionally pyritic siltstones, but no strong mineralisation was located, and no recommendations were made for further work (McNamara, 1976). In reviewing Pacminex's work, Purvis (1984) notes that the majority of samples were either taken in poor locations or insufficient care was taken during processing, and that the EM anomalies identified by Pacminex should be regarded as untested.

Under EL53/1970, several companies held ground over the Meredith and Oonah zones. Valley Exploration, Pacminex, CSR, and Macleod Mining and Exploration conducted several reviews of the geology, and geochemical and geophysical surveys in regards to diamonds, tin and base metal mineralisation, and mineralisation within possible carbonitites. This work concentrated on the contact zone between the Meredith granite and Success Creek Formation, and proved strong skarn alteration within host sediments, but no detailed work continued onto ground included in EL23/2020 until Geo-Flite Research was contracted to perform a Fracture and Mineralization study in 1987. This work identified several zones with potential for mineralisation within Oonah Formation rocks, primarily on a NE-trending shear zone, continuing almost to the southern margin of the Oonah zone. A subsequent correlation study between the fracture study and previous exploration results was undertaken, but no follow-up ground work is known prior to relinquishment in 1990.

CSR held ground over the Oonah zone as part of EL31/1982 and EL53/1970, mainly exploring Success Creek Group rocks to the east of EL23/2020 for mineralised skarn related to the intrusion of the Meredith Granite, and although comparisons were made to mineralisation at Renison, but the degree of hornfelsing of Oonah sediments suggested the temperature was too high for significant concentrations of tin, and the ground was relinquished (Ellis, 1986).

China Coal Resources held the majority of ground in the Central, Stanley River, MacNamaras, Piney Creek and Arthur Lineament South zones, exploring for polymetallic mineralisation related to Renison Bell type and skarn mineralisation under EL15/2007. Work completed included carrying out a review and compilation of previous work, stream sediment, rock chip and soil sampling, trenching, and geological mapping. However, exploration efforts concentrated on the Success Creek Group rocks, with only 3 of 281 stream sediment samples taken just within the eastern margin of EL23/2020. The western portion of EL15/2007 was relinquished without any work being documented, and work in the eastern part of the licence failed to produce sufficiently encouraging results, with the ground relinquished in 2015.

KEY RESULTS/FINDINGS:

- Severely under-explored, with no information except for stream sediment data over the majority of the area, and rock sampling and mapping along Pieman Road.
- The western part of the area appears to be almost completely unexplored.
- Pb-Ag mineralisation within Precambrian rocks in the region is generally confined to narrow and discontinuous bodies, insufficient in size for modern exploration targets.
- Unexplained magnetic feature in NW corner, shallowing to the west.

NOTES / RECOMMENDATIONS:

- King (1961) suggests exploration for Pb-Ag within Precambrian sediments is unlikely to succeed in the vicinity of Zeehan. While it is unlikely that the Oonah Formation rocks present on EL23/2020 have been explored as intensely as those near Zeehan, the likelihood of finding significant mineralisation of this type without geophysics is minimal.
- The magnetic feature in the NW of the area is worth investigating, and may relate to a mineralised zone on the lower boundary of the Oonah. Stream sediment has not revealed any highly anomalous geochemistry, but coverage of the area is relatively poor. Prospecting, rock sampling and stream sediment sampling are recommended for this area.
- No references found of any exploration of the SW part of the area, with all sampling and geophysics located within the eastern and central parts of the area. Reconnaissance

mapping and rock and stream sediment sampling of this area within drainages or on E-W traverses (whichever has better exposure) is recommended.

REFERENCES:

Derriman, M. (2015): Final Report. Lake Pieman, China Coal Resources Pty. Ltd. EL15/2007. Reporting Period From: 23 July 2014 to 22 July 2015. MRT Report No. 15_7242.

Ellis, P.D. (1986): Exploration Licence 31/82 Mt. Lindsay. Tasmania. Final Report – 1986. CSR Limited Minerals Exploration and Development Group. MRT Report 86_2550.

Haigh, J.E. (1975): Report on the Helicopter-borne Combined Electromagnetic and Magnetic Survey in the Zeehan Area of Western Tasmania for Paxminex Pty. Ltd. Volume 1. MRT Report No. 75-1110.

King, D. (1961): A Statistical & Geological Review of the Zeehan Silver-Lead Mines, West Tasmania. MRT Report No. 61_335.

McNamara, P.M. (1976): Geochemical Traverses Across Airborne E.M./Magnetic Anomalies E.L. 18/74 Pieman River, Tasmania. Pacminex Pty. Limited. MRT Report No. 76-1183.

McNamara, P.M. (1976a): Geochemical Testing of Airborne E.M. Anomalies E.L. 53/70 Stanley River, Tasmania. Pacminex Pty. Limited. MRT Report No. 76-1186.

Moore, B. R. (1987): Fracture and Mineralization Study Mt Livingstne Area, Tasmania, Australia. Geo-Flite Research Pty. Ltd. For Macleod Mining and Exploration Pty. Ltd. MRT Report No. 87_2724.

Purvis, J.G. (1984): Heemskirk Falls EL 30/79 Initial Geochemical Evaluation of 30 Aerial EM Anomalies. CRA Exploration Pty. Limited. MRT Report No. 85_2373.

Turner , N.J. (1998): EL42/96 Rocky River, Western Tasmania. Annual Report to 29.10.98. Corinna Project. Volume 1 of 1. For Goldstream Mining NL and Titan Resources NL. MTR Report No. 99-4408.

PROSPECT ZONE	**Piney Creek**
PROSPECTS	Unnamed
LOCALITY	10km N of Zeehan (approx. 356200E, 5370000N).
COMMODITY	Pb, Zn, Ag, Sn
STYLE	Vein
STATUS	Greenfields
PROSPECTIVITY RATING	MODERATE

SUMMARY:
The Piney Creek area is located in the SE corner of EL23/2020. It is underlain by Precambrian Oonah Formation quartzitic turbidites and silts, with minor outcrops of Permian, Triassic and Quaternary sediments. Previous works have been mostly stream sediment sampling, airborne geophysics and geological mapping. Numerous conductors were detected during airborne geophysics, but follow-up on ground generally showed them to be unmineralised.
The only truly anomalous samples are from a minor tributary to Piney Creek, with 14% Zn, 0.33% Cu, and 0.27% Pb from a quartz-siderite vein within Oonah rocks. The extent of this vein is unknown, but is thought likely to be minor.

GEOLOGY:
The Pine Creek zone is underlain by mostly undifferentiated Precambrian Oonah Formation quartzwacke turbidite rocks, with a small zone of pale siltstone and shale with black pyritic carbonaceous shale located in the SW corner of the area. Permian basal tillite and Tertiary sediments occupy several elevated zones. The western margin of the area is intruded by Jurassic dolerite, with minor Quaternary materials located along this margin.
The northern margin of the area is formed by a NW-trending leg of the Pieman River, and this is interpreted as a large fault zone, expressed to the west by the margin of Permian sediments. This is paralleled approximately 2.5km to the south by another long straight in the Pieman River, which extends through the centre of the area via Piney Creek. Magnetics data suggests the dolerite may continue below Oonah Formation rocks for some distance to the south of this fault.

MINERALISATION:
Purvis (1984) suggests the possibility of epigenetic "Zeehan style" Sn-Ag-Pb-Zn mineralisation in the southern part of the area, with geochemical anomalies in the Big Ben and Piney Creeks, which are peripheral to two magnetic anomalies. This is supported by a 0.5m wide quartz-siderite vein assaying at 14% Zn, 0.33% Cu, 0.27% Pb, 0.07% Sn, and 37ppm Ag (see Figure 9).

SAMPLES:
Rocks: 69 rocks samples have been taken from the area by Pacminex and CRAE. Samples have mostly been assayed for base metals, with Ag, As, Au, Mn and Sn also frequently tested. A highlight of the sampling was a 0.5m wide quartz-siderite vein assaying at 14% Zn, 0.33% Cu, 0.27% Pb, 0.07% Sn, and 37ppm Ag. The table below summarises rock sample results for the area with highly anomalous samples removed from calculations. This shows a strong correlation between Pb and Zn, with no strong obvious correlations. The sample data includes three samples taken from a highly anomalous quartz-siderite vein in the southern part of the area.

	Ag_ppm	As_ppm	Cu_ppm	Mn_ppm	Pb_ppm	Sn_ppm	Zn_ppm
Samples	35	41	66	35	66	42	66
Max	3	870	165	7250	190	70	980
Average	1.17	40.51	14.76	286.14	17.70	4.90	39.11
# Anomalous Samples	6	2	4	3	5	4	4
Ag Corr. Coeff.	1.00	0.03	0.15	0.18	0.05	-0.01	0.10

As Corr. Coeff.	0.03	1.00	-0.07	-0.05	0.40	-0.09	-0.05
Cu Corr. Coeff.	0.15	-0.07	1.00	-0.06	0.31	-0.10	0.21
Zn Corr. Coeff.	0.10	-0.05	0.21	0.56	0.81	0.07	1.00

Soils: 101 soil samples are known from within the area, with these all collected by Pacminex. Results were generally low, with the exception of several Pb-Zn samples at a minor EM anomaly, where Pb and Zn assayed at 70 and 50ppm respectively. However, samples were taken from a variety of horizons, and are not considered reliable.

Sediments: A total of 169 stream sediment and 3 pan concentrate samples are known from the area, with maximum values from pan concentrates including 4900ppm Sn. The table below summarises sediment samples for the area minus pan concentrate samples. Pb and Zn share a very strong correlation, and As appears mostly as arsenopyrite, with a strong Fe-As relationship. No other strong correlations are apparent. Au is mostly below detection, and is hence not shown.

	Ag_ppm	As_ppm	Cu_ppm	Fe_ppm	Pb_ppm	Sn_ppm	Zn_ppm
Samples	29	35	160	34	166	38	167
Max	2	11	38	19800	800	35	440
Average	0.86	1.56	3.74	4314.71	21.21	3.13	12.92
# Anomalous Samples	0	2	3	3	3	2	2
As Corr Coeff.	-0.12	1.00	0.43	0.75	0.47	0.14	0.28
Cu Corr. Coeff.	-0.14	0.43	1.00	0.51	0.14	0.22	0.23
Sn Corr. Coeff.	-0.25	0.14	0.22	0.40	-0.02	1.00	0.35
W Corr. Coeff.	0.16	0.27	0.34	0.38	0.27	-0.08	0.18
Zn Corr. Coeff.	0.34	0.28	0.23	0.33	0.95	0.35	1.00

HISTORICAL MINING / PROSPECTING:

Two prospects in area, with northernmost Pb prospect now covered by Lake Pieman, while the second working is in a pyritic zone. No details on any extraction are known.

PREVIOUS EXPLORATION:

Pacminex conducted stream sediment and panned concentrate sampling over the eastern half of the prospect in 1975, also collecting rock samples in the vicinity of formed roads. This was followed by airborne magnetics and EM on 200m line spacing over the same area, with recommendations made for follow-up on specific anomalies interpreted to be produced by metallic sources. While the majority of high priority anomalies were located to the east of EL23/2020, on the margin of and within the Success Creek Formation rocks, many minor anomalies were located within EL23/2020. The majority of identified anomalies are oriented NW-SE, sub-parallel with the regional structure of the area.

Following up on geophysical targets in 1976, Pacminex checked 44 anomalies (23 within EL23/2020), conducting soil, stream sediment, and rock chip sampling. Most of the anomalies were very poorly sampled, likely due to a lack of outcrop or The majority of anomalies identified within the Oonah Formation were related to black shales and occasionally pyritic siltstones, but no strong mineralisation was located, and no recommendations were made for further work (McNamara, 1976).

In reviewing Pacminex's work, Purvis (1984) notes that the majority of samples were either taken in poor locations or insufficient care was taken during processing, and that the EM anomalies identified by Pacminex should be regarded as untested.

As part of EL30/1979, CRAE held ground over the southern half of EL23/2020 from 1980-85, exploring for base metals, Sn and Mo. In this time they identified several anomalous zones through aeromagnetic survey data, following up on individual anomalies with stream sediment surveys, ground magnetics, and geological mapping. These anomalies included the Piney Creek geochemical anomaly, where they found generally elevated geochemistry, including up to 14% Zn, 0.33% Cu, 0.27% Pb, 0.07% Sn, and 37ppm Ag in a quartz-siderite vein hosted by Oonah rocks in a small creek. Purvis (1984) also suggested that anomalous results in earlier stream sediment sampling work by Pacminex in the Big Ben drainage was due to contamination by tailings from the former Montana silver-lead mine, located upstream. Further work was recommended, but the tenement was relinquished due to a lack of sizeable targets.

China Coal Resources held the majority of ground over the southern half of EL23/2020, exploring for polymetallic mineralisation related to Renison Bell type and skarn mineralisation under EL15/2007. However, the majority of their work concentrated on ground to the east of EL23/2020, and no work is known within the Piney Creek area.

KEY RESULTS/FINDINGS:

- Sample of quartz-siderite vein assaying at 14% Zn, 0.33% Cu, 0.27% Pb, 0.07% Sn, and 37ppm Ag.
- Pacminex soils data of no use, with stream sediment data of limited use.
- CRAE and Pacminex only companies to complete any actual work on the area.
- Stream sediment sample immediately downstream of highly anomalous rock geochemistry did not detect any anomalous metals, but sample upstream in Piney Creek highly anomalous in Zn. Could this be a continuation of the same structure/vein?
- Individual mineralised zones likely to be small in size.

NOTES / RECOMMENDATIONS:

- Pacminex conducted majority of work in area, but quality of sampling very low/unreliable, with no references given to soil horizons of sample depths, and stream sediment samples mostly described as 'mud/sediment'. Disregard sampling results for the area.
- Although likely to be small, the highly anomalous polymetallic vein anomaly is worthy of follow-up work including mapping and geochemical sampling.
- No further work recommended for central and northern part of the area, with no anomalous geochemistry or reports of geology of interest.

REFERENCES:

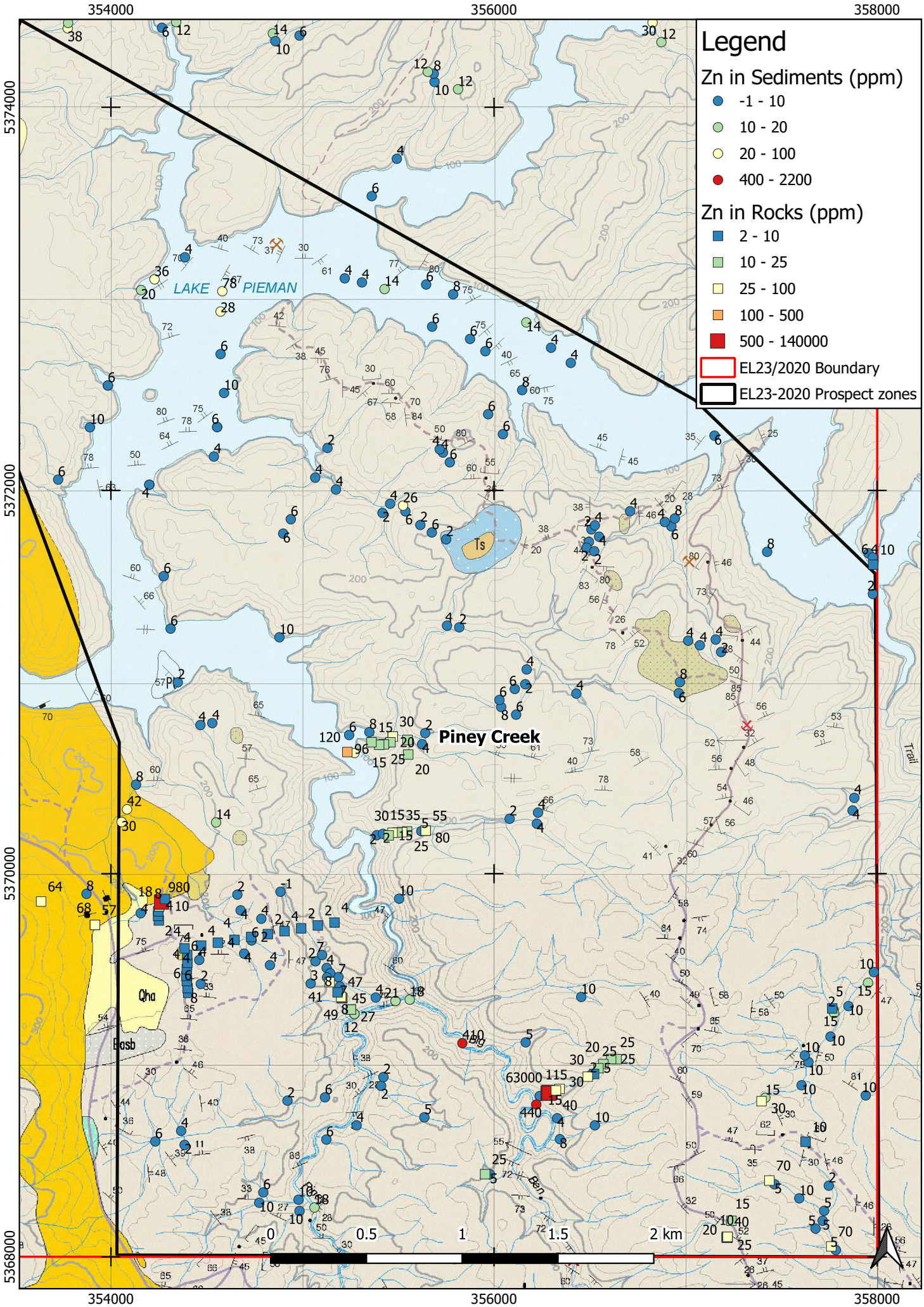
Dickson, T.W. (1982): Heemskirk Falls EL 30/79. Geological Report for the Year Ending 15th October, 1982. CRA Exploration Pty. Limited. MRT Report No. 82_1838.

Haigh, J.E. (1975): Report on the Helicopter-borne Combined Electromagnetic and Magnetic Survey in the Zeehan Area of Western Tasmania for Paxminex Pty. Ltd. Volume 1. MRT Report No. 75-1110.

McNamara, P.M. (1976): Geochemical Traverses Across Airborne E.M./Magnetic Anomalies E.L. 18/74 Pieman River, Tasmania. Pacminex Pty. Limited. MRT Report No. 76-1183.

Purvis, J.G. (1984): Heemskirk Falls EL 30/79 Initial Geochemical Evaluation of 30 Aerial EM Anomalies. CRA Exploration Pty. Limited. MRT Report No. 85_2373.

Figure 9: Piney Creek Zn in historic rocks and sediments



PROSPECT ZONE	South-West Zone
PROSPECTS	
LOCALITY	10km E of Granville Harbour, 8km SSE of Reece Dam (approx. 346700E, 5371500N)
COMMODITY	Sn, Pb
STYLE	Alluvial (Sn), Irish (Pb)
STATUS	Greenfields
PROSPECTIVITY RATING	LOW-MODERATE

SUMMARY:
The south-west zone is located to the south of the Keith schist South, Lake Pieman, and Eureka zones. It is dominated by Oonah Formation rocks, with large areas of Tertiary cover in the west of the zone. A small area of Cambro-Ordivician to Silurian sediments shows in the NW of the area, with potential to host base metal mineralisation, while Tertiary sediments near the southern margin of the area are known to host low grade Sn. Several groups have worked in the area, but little detailed work has been completed.
The eastern part of the area is considered low prospectivity. Ordivician sediments in the north are reported as anomalous in Pb, but no follow-up work was completed, and the extent of these sediments is uncertain. The extent and significance of an ultramafic unit outcropping in the SW corner of the area is unknown, with this possibly intersected at the base of Tertiary sediments approximately 800m to the east.
Recommended work consists of mapping and sampling of Ordivician sediments and contact relationships in the area.

GEOLOGY:
Precambrian Oonah Formation occupies the bulk of the area. The unit is not mapped in any detail, and is described as 'predominantly quartzwacke turbidite' in 1:25,000 mapping, and structural measurements indicate bedding and cleavage as striking NW-SE in the NW portion of the area, trending towards E-W further to the east, roughly following the margin of the dolerite intrusive to the north. Bedding dips moderate to steeply to the north and south, and it is unknown if bedding is overturned or folded. These rocks are underlain to the west by the Keith River Schist.
In the far SW of the property is a 350x450m exposure of layered ultramafic rocks reported as 'layered peridotite, serpentinite and associated rocks'. This outcrop is surrounded by Tertiary and Quaternary materials for almost 1km, and its distribution beneath these materials is unknown, but drilling 800m to the east intersected a 'highly decomposed 'gabbro' at the base of the Tertiary sediments, and it is possible this may have been the same unit. It is possible the unit is related to a major structure related to the deviation of the Arthur Lineament to the north, but any geophysical signature from this unit in existing data is obscured by Tertiary basalts.
A small, possibly fault-bound zone of Upper Cambrian to Silurian sediments occurs in the NW part of the zone, with these assumed to strike NW and dip towards the East. The oldest of these is a predominantly quartz-pebble conglomerate, quartz sandstone and shale of Cambro-Ordivician age (Owen correlate?). This is overlain by Ordivician Gordon Group limestone, which is in turn overlain by Silurian shallow marine quartz sandstone, siltstone and shale of the Eldon Group. A large area of Permian basal tillite occupies the ground to the north. No contact relationships are known in the area, but it is assumed the Precambrian-Cambrian contact is unconformable or faulted, with the same true for the Silurian-Permian contact. Contacts within the Cambro-Ordivician to Silurian units may be conformable. The western margin of these units has been mapped as faulted, but no fault is shown on the eastern margin, and it is not known if there is potential for a larger zone of these sediments than currently mapped. There is potential for these units to continue under cover of Permian, Triassic and Quaternary sediments to the north and east.

MINERALISATION:

Low grade alluvial tin mineralisation is noted within Tertiary sediments.

SAMPLES:

No soil or rock samples are known in the area. 22 stream sediment samples have been collected, 21 from the eastern part of the zone, and one from Tertiary sediments in the western part of the area.

13 samples of Tertiary sediments recovered from an exploratory drill hole in near the southern margin were also collected.

Of the sediment samples, only one contained anomalous Sn (1150ppm), located in a minor tributary draining from the Heemskirk Granite to the south of the property.

The maximum concentrate grade from 2m drillhole samples was 0.22% Sn from 20-22m, with the two samples below this averaging 0.125% Sn. Average concentrate values for above 20m depth were well below 0.1% Sn.

HISTORICAL MINING / PROSPECTING:

None known, but minor historic alluvial workings are likely.

PREVIOUS EXPLORATION:

As part of EL30/1979, CRAE held ground over the southern half of EL23/2020 from 1980-85, exploring for base metals, Sn and Mo. In this time they identified several anomalous zones through aeromagnetic survey data, following up on individual anomalies with stream sediment surveys, ground magnetics, and geological mapping. An aeromagnetic anomaly referred to as the south west anomaly was identified, but ground investigations suggested the feature was related to Tertiary basalts. An additional magnetic feature to the north was attributed to an edge effect of the Jurassic dolerite to the immediate east, and although an outcrop of Gordon Limestone in this area contained some anomalous Pb values, the strike extent is highly limited (Dickson, 1982). No record has been found to date of sample data in the limestone. With a lack of viable targets, CRAE relinquished the licence in 1985.

Cavenridge Pty. Ltd. briefly explored the area under EL23/1990 for ornamental red granite within the Heemskirk granite, located a short distance to the SW of EL23/2020. Factors such as joint spacing and access proved to discourage further work in the immediate area, with subsequent efforts directed to other parts of the Heemskirk granite in EL24/1992.

Renison Limited conducted a minor RC drill program over the Laffer's alluvial tin prospect in 1997, exploring for a large volume alluvial deposit, completing 16 holes over two lines. The northernmost of these holes (LAF14) was located within EL23/2020, and was drilled to a depth of 26.5m. 26m of sediments were drilled, with a highly decomposed gabbro basement intersected at the bottom of hole. Results showed there is a potential for a low grade resource in the area, but was of insufficient grade to warrant further work by Renison.

Exploring for base metal, skarn and greisen mineralisation, Stellar Resources Ltd held ground mostly to the SW of EL23/2020 under EL46/2003, with part of the licence continuing over the South-West and Arthur Lineament South zones. They reviewed 2001/2002 MRT helicopter EM data over their licence which showed 66 features of interest, with 3 of these within EL23/2020. Silic (2005) interpreted the data, reducing the number of anomalies to 15, of which none were within EL23/2020. In addition to reducing the number of areas of interest, Silic also concluded that the effective depth of investigation of the HEM survey was at most 75 metres. Stella completed no further work on this part of their property, relinquishing it in 2009.

McDermott Mining held EL21/2009 from 2009-12, exploring for alluvial Sn in deep leads as extensions to the North Heemskirk Deep Lead. Bulk sampling of material from the property produced 0.9kg/m^3 Sn, but the licence was relinquished due to uncertainties in regards to potential heritage status and new discoveries on another lease, with the stated intent of consolidating the area and other ground to the immediate south under a mine lease once the heritage status of the ground had been settled.

China Coal Resources held the majority of ground over the southern half of EL23/2020, exploring for polymetallic mineralisation related to Renison Bell type and skarn mineralisation under EL15/2007.

However, the majority of their work concentrated on ground to the east of EL23/2020, and no work is known within the South-West zone.

KEY RESULTS/FINDINGS:

- The most prospective rocks are the Ordivician limestones located in the NW corner of the area. The only report which mentions them notes their limited extent, but anomalous Pb content. No luck in locating geochemical sample data for this limestone.
- Most work in area related to exploration for alluvial tin.
- No rock or soil samples in the area.
- Tin within Tertiary sediments grading up to 0.9kg/m^3, but source of tin (Heemskirk granite) does not occur on property.
- RC drilling of sediments within EL23/2020 gave maximum concentrate values of 0.22% Sn at a depth of 20m.
- 2001/2 MRT HEM survey depth of investigation interpreted to be at most 75m.

NOTES / RECOMMENDATIONS:

- Main areas of alluvial exploration to immediate south, with DH LAF14 located near interpreted northern margin of paleochannel. Stream sediment sampling of drainages to north not completed, but ultramafic represents topographic high and probable northern limit of drainages sourced from Heemskirk.
- Not enough information to properly assess Ordivician rocks. Dickson (1982) reported anomalous Pb, but no sample data provided. Need to follow up with rock samples and mapping for extent of units.
- Stream sediment results in eastern part of area discouraging.

REFERENCES:

Dickson, T.W. (1982): Heemskirk Falls EL 30/79. Geological Report for the Year Ending 15th October, 1982. CRA Exploration Pty. Limited. MRT Report No. 82_1838.

Hazeldene, R.K. (2009): EL 46/2003 Heemskirk. Partial Relinquishment Report. MRT Report No. 09_5811.

McDermott, K. (2012): Relinquishment Report on EL21/2009. Healy Creek, Tasmania. McDermott Mining P/L.

Munro, R. (1997): North Heemskirk (Laffer's) Alluvial Tin Project. Exploration Licences 6/94 and 30/92. Report on Exploration Activity October 1996-January 1997. For Renison Limited. MRT Report N. 97-4042.

Purvis, J.G. (1984): Heemskirk Falls EL 30/79 Initial Geochemical Evaluation of 30 Aerial EM Anomalies. CRA Exploration Pty. Limited. MRT Report No. 85_2373.

Sharples, C. (1992): Red Granite Exploration in the Northern Heemskirk Granite, Western Tasmania EL23/90. For Cavenridge Pty. Ltd. MRT Report No. 92-3359.

Silic, J. (2005): Interpretation of Mt Read 2001/2002 Tasmanian Geological Survey Helicopter EM Data. EL 46/2003 for Stellar Resources Ltd. MRT Report No. 08_5584D.

PROSPECT ZONE	**Lake Pieman**
PROSPECTS	
LOCALITY	Lake Pieman surrounds (approx. 350500E, 5374350N)
COMMODITY	
STYLE	
STATUS	Greenfields
PROSPECTIVITY RATING	VERY LOW

SUMMARY:

The Lake Pieman zone covers an area over the central part of Lake Pieman, surrounding much of McNamaras zone, and is dominated by Jurassic dolerite which appears to have intruded largely along an unconformity between the Oonah Formation and Permian tillite.

The oldest rocks in the Lake Pieman zone are Permian in age, but mineralisation in the region is generally interpreted as occurring in the Cambrian and Devonian periods. The prospectivity of the area is considered very low due to this. Several panned concentrate samples in the area contain anomalous Sn, but these have been attributed to sources upstream in the Eureka zone.

GEOLOGY:

The geology of the Lake Pieman zone is dominated by a Jurassic dolerite sill which has intruded Precambrian Oonah Formation and Permian basal tillite. Oonah Formation rocks are located to the south and east, while Permian are located to the north and west of the dolerite. Quaternary sediments and talus covers large areas to the north and south of the dolerite.

As there is no known Permian tillite to the south of the sill, it is suggested the dolerite has intruded through a large structure within underlying Oonah Formation rocks and along the contact between the Precambrian and Permian sediments.

MINERALISATION:

None known

SAMPLES:

14 stream sediment samples and pan concentrate samples are known in the area, with three of these taken by Pacminex, and these described as “mud/sediment”, and are probably best ignored. Of the remaining samples, one stream sediment sample draining an area of dolerite in the east of the prospect is anomalous in Zn, Pb and Cu, and several pan concentrate samples returned highly anomalous Sn, but this was attributed to alluvial Sn located upstream in the Eureka zone, and were not followed up.

HISTORICAL MINING / PROSPECTING:

None known.

PREVIOUS EXPLORATION:

In addition to a statistical evaluation of existing sediment samples over their entire licence area in 1982, the Lake Pieman area saw a cursory evaluation for tin and base metal potential by CRAE under EL30/1979, but a combination of poor results and the HEC Pieman River Reserve (prior to flooding) downgraded the area. Elevated tin values of up to 1.54% in panned concentrate samples were from drainages containing Tertiary gravels within the dolerite sill and further upstream in the Eureka zone, with tin attributed to these rather than a hard rock source. CRAE completed no further work in the area, and relinquished the licence in 1985.

China Coal Resources held the majority of ground over the southern half of EL23/2020, exploring for polymetallic mineralisation related to Renison Bell type and skarn mineralisation under EL15/2007. However, the majority of their work concentrated on ground to the east of EL23/2020, and no work is known within the Lake Pieman zone.

KEY RESULTS/FINDINGS:

- Area underlain by unprospective rocks.
- Source of anomalous sediment samples interpreted as outside of zone.

NOTES / RECOMMENDATIONS:

- No work recommended.

REFERENCES:

Dickson, T.W. (1982): Heemskirk Falls EL 30/79. Geological Report for the Year Ending 15th October, 1982. CRA Exploration Pty. Limited. MRT Report No. 82_1838.

Dickson, T.W. (1984): Heemskirk Falls EL 30/79. Geological Report for the Year Ending 15th April, 1984. CRA Exploration Pty. Limited. MRT Report No. 84_2114.

Purvis, J.G. (1984): Heemskirk Falls EL 30/79 Initial Geochemical Evaluation of 30 Aerial EM Anomalies. CRA Exploration Pty. Limited. MRT Report No. 85_2373.

References:

Duffet, M. L. and Richardson, R.G. (compilers) (2014): Tasmania – Total Magnetic Intensity Scale 1:500000. Mineral Resources Tasmania.

Everard, J.L. (Compiler) (2001): Digital Geological Atlas 1:25 000 Scale Series. Sheet 3438. Livingstone. Mineral Resources Tasmania.

Mineral Resources Tasmania (2002): Quantitative interpretation of magnetic and gravity data for the Western Tasmanian Regional Minerals Program. Tasmanian Geological Survey Record 2002/15.

Newnham, L.A. (1999): EL22/98 Meredith Range Annual Report for Period Ending November 1999. Newnham Exploration and Mining Services. For Goldstream Mining NL. MRT Report No. 99-4406.

Turner, N. J. (1997): Corinna Project. Exploration Licence No. 43/94, Corinna, Western Tasmania. Annual Report to 4/1/97. Volume 1 of 3. For Goldstream Mining NL and Titan Resources NL. MRT Report No. 97-4074.