



STONEHENGE METALS  
LIMITED

**Stonehenge Metals Limited**

ABN 81 119 267 391

Unit 3, Level 3 1292 Hay Street, West Perth 6005.

PO Box 255, West Perth, 6872.

**Relinquishment Report**

**Interview River**

**EL 12/2007**

7 November 2007 to 7 November 2009

D Hamlyn  
November 2009

## **Abstract**

This report details all exploration activities by Stonehenge Metals Limited within EL 12/2007 during the period 7/11/2007 – 7/11/2009.

Exploration Licence 12/2007 – Interview River is prospective for tungsten and copper mineralisation within the Interview Granite and the Copper Reward and Pinnacle anomalies are worthy of further work to potentially identify economic base metal mineralization.

A desktop literature and GIS review was completed. Options to advance the project were considered however given the remote location of much of the tenement and the area's environmental value Stonehenge Metals has elected to surrender the tenement.

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## Introduction

This report details exploration activities by Stonehenge Metals Limited (Stonehenge Metals) within EL 12/2007 during the term of the licence from 7 November 2007 to relinquishment in November 2009.

Exploration Lease EL 12/2007 covers an area of 80km<sup>2</sup> and is located approximately 42 kilometres north-west of Zeehan or 14 kilometres north-west of Corinna on the Tasmanian west coast. (Figure 1)

The tenement is roughly rectangular in shape and is bounded by the following Latitude and Longitude decimal degrees: -

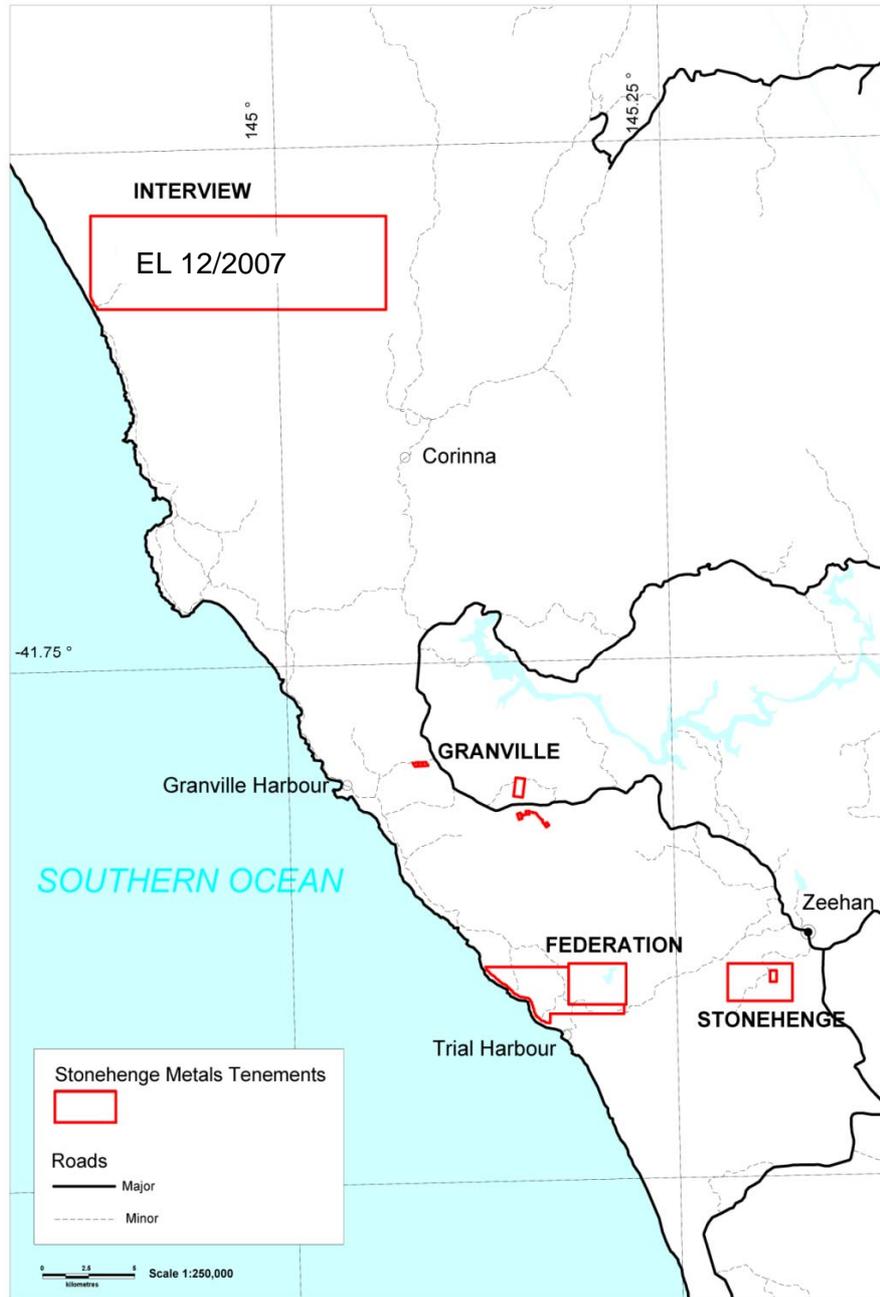
north-west	-41.5305°, 144.8798°;
south-west	-41.5754°, 144.8808°;
south-east	-41.5789°, 145.0700°;
north-east	-41.5340°, 145.0716°.

Access to the western area of the tenement is possible via coastal tracks from the north and south. Gouge and Brink 1982, reported that during the winter months from June to September, there is no reliable means of access due to wet conditions and flooding of the rivers and creeks which intersect the beaches. On ground access to the eastern area of the tenement is more difficult, helicopter access being the most practical method given the conditions placed on the lease and the nature of the area.

The area is mostly open button grass plains. A strip parallel to the coast is moderately vegetated. The creeks of the area are more heavily vegetated along with some of the hills in the east of the tenement and the Donaldson River valley.

The area comprises part of the Donaldson River Recreation Area and part of the Arthur-Pieman Conservation Area.

All map co-ordinates in this report are relative to the GDA94 datum and located in UTM Zone 55 and use MGA co-ordinates.



**Figure 1.** Map showing the location of the Interview River Lease EL12/2007.

## 1.1 Exploration Rationale

Stonehenge Metals Limited acquired the lease to access the potential of the high grade tungsten deposits and elevated copper results that had been reported by previous explorers.

Previous work on the Interview River tungsten project identified several high grade tungsten lodes with a combined strike length of 2.5 kilometres. Samples taken from Kenny's lode assayed up to 10.7% tungsten trioxide (WO<sub>3</sub>) while bulk sampling results averaged 2.8% WO<sub>3</sub>. The average grade of samples taken from the underground exploration drive along Kenny's lode averaged 5% over a strike length of 100 metres. The known strike extent of Kenny's lode is 460 metres. The lodes outcrop at surface and ranges between 0.3 and 1 metre wide. Results Include:

<b>Sample No.</b>	IRKA 106	IRKA 109	IRKA 110	IRKA 111	IRKA 112	IRKA 113	IRKA 115	IRKA 117	IRKA 124
<b>WO<sub>3</sub> (%)</b>	6.7	3.7	5.0	2.1	5.0	5.4	0.2	5.7	10.7

**Table 1. Kenny's Lode Rock Chip Sampling Results**  
(main vein exploration drive)

Further South, the Cooney's lode has been identified over a strike length of 100 metres. Mineralisation has been identified at surface and along strike from historical trenches and shafts and the remainder of the system remains to be identified. Bulk samples from the shaft at Cooney's had an average grade of 2.4% WO<sub>3</sub> and samples from the waste dumps ranged between 8 and 10% WO<sub>3</sub>.

## 1.2 Regional Geology

The tenement is covered by the Interview 1:25,000 scale Mineral Resources, Tasmania digital geological series (sheet 3239).

Broadly the geology of the tenement consists of two areas; in the west the Devonian Interview Granite occurs and in the east the Proterozoic Interview Siltstone Formation.

The granite is covered in most places by a one metre thick horizon of residual soil derived from the granite and having a high humus content. This peat-like horizon obscures the underlying rocks and makes detailed mapping difficult. (Gouge and Brink 1982).

McClenaghan 2006, described the Interview Granite as an elongate body occupying an area of 87km<sup>2</sup> from the Pieman River to near Sandy Cape. It intruded a faulted anticline in Precambrian rocks (Spry and Ford, 1957). The granite is generally equigranular and medium to coarse grained, consisting of K-feldspar, plagioclase,

quartz, biotite and muscovite with accessory tourmaline, zircon, apatite and ilmenite. Small amounts (<1%) of subhedral cordierite less than 1 mm across, mostly altered to chlorite, together with rare re-sorbed almandine-rich garnet are also present (Wyborn and Chappell, 1998). Aligned K-feldspar megacrysts are locally common. A number of intrusive phases are present at Sandy Cape, with a coarse-grained, equigranular, muscovite leucogranite being dominant (Wyborn and Chappell, 1998). The Interview and Sandy Cape granites range in composition from adamellite to alkali-feldspar granite. The very high Rb values of the Interview suites indicate very strong crystal fractionation.

The Interview Siltstone formation crops out in the eastern area of EL12/2007 and consists of quartzite and banded siltstones which have been intruded locally by dolerite dykes. The whole sequence, including the dykes, has undergone regional metamorphism close to the contact with the granite. (Gouge and Brink 1982)

### 1.3 Local geology and mineralisation

The lodes of the Interview River tungsten deposits are located within equigranular, fine to medium-grained biotite granite/adamellite of the Devonian Pieman Granite (Gee *et al.*, 1969). The lodes occur as a series of quartz veins filling fractures along a linear zone two kilometres in length and trending approximately north-south.

At Kenny's workings (Figure 2) the lode trends 025° magnetic (M) with individual veins striking 030°-050° magnetic and dipping 75°-85° south-east. The veins are generally 20-30cm thick, and crop out over a strike length of more than 200m. The granite is greisenised adjacent to the veins. In addition to milky grey quartz, the veins contain abundant muscovite and tourmaline with wolframite and scheelite and minor sulphide minerals (pyrite, arsenopyrite, and chalcopyrite) and feldspar (Waller, 1902; Henderson, 1943). Wolframite occurs either as isolated blades up to 100mm long, or as rich aggregates or bunches distributed sporadically throughout the veins. Scheelite is generally associated with wolframite aggregates, but also occurs as aggregates in quartz. (Collins 1982)

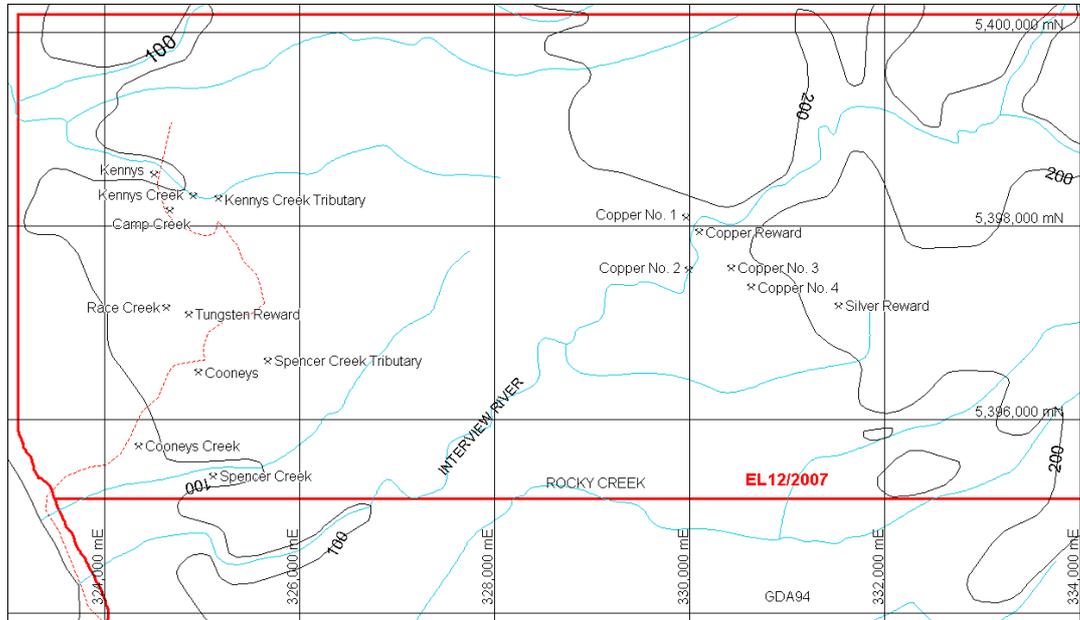
The Copper Reward No. 1 shaft lies on the western bank of the Interview River (Figure 2). A quartz vein containing pyrite and chalcopyrite (with subordinate covellite, azurite and malachite) occupies a shear/fracture zone which intersects banded siltstones which strike around 330° and dip 60° to the north-east. The observed outcrop width is 10cm at the surface, but the Copper Reward shaft revealed that the vein width increased to 0.6m at a depth of 6m. A representative sample of ore obtained from the bottom of the shaft assayed 10.5% copper. The vein at the shaft strikes at 275° and dips at 70° south.

An inclined shaft 16m to the west of the Reward Shaft intersects the continuation of the shear zone 3m below the surface, with some quartz showing pyrite and traces of chalcopyrite. From this shaft the strike of the shear zone changes to 250° and marks the contact between a meta-dolerite dyke and banded siltstones. There are no surface indications of quartz or sulphide mineralization to the west of the inclined shaft, but a surface expression of the shear zone does exist.

From the Copper Reward Shaft the quartz-chalcopyrite-pyrite vein can be traced east for a distance of 15m along strike (275°) to the bed of the Interview River. The

vein has a surface width of 10cm. On the eastern bank of the Interview River extensive alluvial flats, up to 5m thick obscure possible extensions of the vein.

Mapping has shown five other quartz-pyrite-haematite veins which occupy major fracture zones striking between 270° and 300° magnetic.



**Figure 2.** Map showing major historical workings of the Interview River Lease EL12/2007. Elevation contours in meters above sea level shown in black.

## 2 Previous Exploration Prior to Current Tenement

### 2.1 Interview River Tungsten

This section (in part after Bacon 1992) describes the previous exploration over the Interview granite tungsten and tin deposits which cover the west of EL12/2007.

#### Early Prospecting 1890s-1950s

Small quantities of alluvial tin were discovered in the area in the 1890s. Wolfram, was discovered in 1891.

A Reward Lease for wolfram of 32.4 hectares at Interview River was granted to Alfred Foster on 7 July 1891. This lease was transferred to Adolphus Oppelheimer on 31 July 1893, for a short time small quantities of ore were won from trenches cut to expose the thin mineralised veins. The position of this initial Reward Lease is shown in Figure 3 as 5119M.

The first Government inspection of the field was by G. Waller in 1901 (Waller 1902), who reported that while a little activity had taken place on the Reward Lease and both to the north and south of it, the field was not at the time of his visit being worked. However leases were held and marked out indicating some interest in the area. On the northern most lease (4943-93M) Waller noted a good deal of vein quartz had been obtained about ten years earlier (i.e. around 1890). This area is now known as "Kenny's Prospect".

South of this, Waller saw that "an old shaft had been sunk" (this is on the Reward Lease, shown as Lease 5119 (Figure 3). The mullock heap around this old shaft had been picked over and the greater part of the wolfram had been taken away.

South of this again were some 1.5m deep trenches (on 5121) and to the northeast of these trenches one 15m long trench - filled in at the time of Waller's visit, from which one ton of ore had been won. Nearby was a shaft, 2.7m deep and full of water, dug on a vein containing wolframite following the discovery of this particular vein in March. This shaft had been deepened by 1943 to 4.3m and had a 15cm wide vein at the bottom. This work is in the area known as "Cooney's Workings".

The field was visited by the Assistant Government Geologist, L. Keith Ward, in 1910. Little work had been carried out since Waller's 1901 visit.

Shortly after Ward's return a fresh discovery of wolfram in the western portion of Lease 5120M was reported. This is in the area now known as Kenny's Prospect.

The field then received little attention for many years. Quentin Henderson visited the site in 1935 and noted nothing has been done since Ward's 1910 visit.

During the Second World War the area attracted attention due to the strategic importance of tungsten. Henderson visited Kenny's and Cooney's in 1943. Kenny's workings had some 120m in total of trenches exposing veins of about 25cm wide bearing wolfram. A 15m long trench was dug south of the creek and a shaft 6 to 7.5m deep was found just to the north of the creek along with a few more trenches. Two shafts were found on the Reward Lease (5119M) and a number of trenches. Henderson also located two shafts on the Reward Lease (5119M) and a number of trenches.

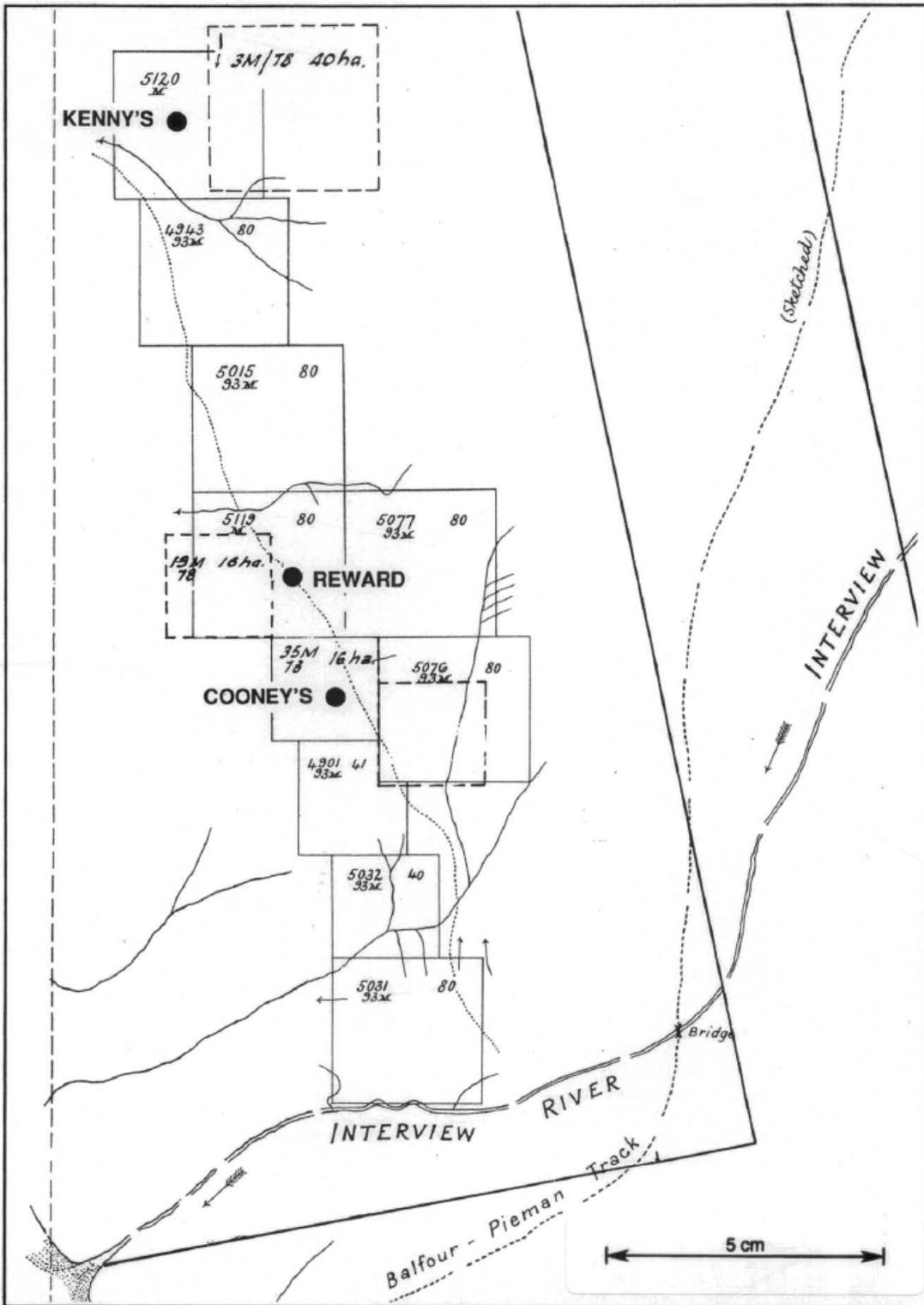
By 1937, the southern workings – Cooney's located on 5121M—included three shafts, six parallel wolfram veins (10-30cm wide) which had been exposed in a series of hand cut trenches. A trial parcel of ore was reported to be dispatched but did not fetch a favourable price.

Henderson concluded that small scale mining would be possible and recommended trenches be dug every 15m to establish the position of the narrow ore veins.

### **1953 – 1954 - Interview River Wolfram Syndicate**

The Interview River Wolfram Syndicate was formed in 1953 to undertake work in the area. A track was put in from Pieman Heads to the Interview River and bridges were built crossing the Rocky, Ford and Interview Rivers.

Exploratory work over a period of about two years consisted of sinking a 12m deep shaft and digging more trenches. The price of tungsten crashed in 1954 and work stopped.



**Figure 3.** Location Map showing the location of the historical Interview River leases (from Bacon 1982).

### **1970 – 1972 - ACI - Renison - Mt Lyell Joint Venture**

In September 1970, ACI Ltd and Renison Ltd simultaneously applied for a 700 km<sup>2</sup> exploration licence over an area extending from Sandy Cape to Granville Harbour. Each company was awarded half the area, and exploration proceeded over both licences (EL49/70, EL48/70) by a joint venture partnership between ACI Ltd, Renison Ltd, Mt Lyell and Consolidated Goldfields Australia.

An aeromagnetic survey was completed over most of the licence, the Interview River region grids were laid out, soil and stream sediment samples taken, and the old dumps sampled. The aeromagnetic survey was flown at 2700 feet on 0.4 mile line spacing. A considerable number of anomalies were outlined but for reasons of access and cost only those nearest the coast were followed up on the ground. Overall results were discouraging, leading the companies to conclude that the possibility of developing an economic open cut mining operation for tin and tungsten very unlikely. Floodwaters destroyed the camp in April 1971 and both licences were given up in November 1972 after EL48/70 was reduced to 39 square miles around the Pieman Heads area.

### **1973 – 1980 - Interview River Mining and Associates Pty Ltd**

In 1973, Mr M. P. Munday pegged exploration licence EL1/73 which was eventually held by Interview River Mining and Associates Pty Ltd. Dozer cuts were made near Cooney's Workings and some drilling was undertaken. The area was examined by Geopeko in 1976 who concluded that the prospect had little economic potential as the tungsten was too irregular and too sparse.

In 1978, Mr M. P. Munday, his son, and two other men, camped in the Kenny's Prospect area. They uncovered various veins and opened an adit 35m south of Kenny's Shaft, following a 40cm wide vein for ten metres. Work initially stopped when the adit reached a fracture plane striking 320°. The mineralised vein was offset and although the adit was extended to 25.5m the vein was not rediscovered. Some three tonnes of wolfram ore was produced. Mining equipment was acquired and taken to the site, including a compressor, a jaw crusher, roll table and a magnetic separator.

Later in 1978, M. P. Munday and D. Holness applied for three mining leases (3M/78, 35M/78 and 19M/78). These were granted and transferred to Interview River Mining Associates Pty Ltd.

In November 1978, the Syndicate made application to the Tasmanian Department of Planning and Development for a Government guarantee over a proposed bank loan to facilitate working the deposit. To assist in assessing this request, Department of Mines geologist PLF Collins visited the workings in January 1979. Collins reported that the major prospect was at Kenny's Workings and old trenches and a shaft could be seen at Cooney's and trenching had been done at two places in between. However each of these four prospects had an entirely different small vein system and there was no evidence to indicate continuity between the four sets. At Kenny's Workings a number of trenches up to 2.5m deep, 5m long and 1.5m wide were seen along with the adit (25.5m in length). Collins concluded that underground mining would not be feasible because of the irregular nature of the veins, the lack of proven depth extensions of the veins and the capital expense involved in such a remote

area. The Syndicate was contemplating crushing the ore and sluicing to obtain a concentrate but Collins envisaged problems with a water supply during dry periods.

Transporting the ore would also have been problematical. Air transport, both light plane and helicopter was considered. Road transport was difficult, the coastal route was unsuited to any regular access, and the cost of constructing an access road from Corinna would be prohibitive. Production from this phase of activity was confined to two parcels of ore sent for assay. Exploration Licence EL1/73 expired on 11 July 1980.

### **1981-1989 - Abignano Constructions**

EL1/73 was transferred to Abignano Constructions in 1981 and a new exploration licence, EL 13/81, was taken out surrounding the leases. Access to the site was still a problem therefore a study into a route (Stephenson Maunsell & Partners 1981) to the workings was completed however the road was never constructed.

In 1981, a series of backhoe trenches was dug at intervals of 40m from Kenny's Workings in the north to Cooney's Workings in the south. All occurrences of mineralised veins were mapped. An adit at Kenny's Workings was re-timbered and extended. Numerous samples were taken and assayed. The vein system was estimated (by Gouge and Brink 1982) to extend over a distance of 2.5km and assumed to have depth extents of 200m. On this basis the area was estimated to contain, 1.6 million tonnes of ore, at a grade of 1.4%  $WO_3$ , giving (in 1982 dollars) a potential worth of \$125M, with \$1.7M estimated to prove (or otherwise) the target.

Collins also made a rough calculation of the reserves of wolframite at Kenny's Prospect, his assumptions were:

- the vein (0.32 m thick) to be continuous over the full 215m exposed in the trenches, not proven at the time;
- grade of the vein assumed to be 3.8 mass% wolframite (2.9 mass%  $WO_3$ );
- a mining thickness of 1.20m (0.32m vein, 0.88m granite waste);
- density of the vein 2.88t/m<sup>3</sup> and granite 2.67t/m<sup>3</sup>

It was estimated that Kenny's Prospect could yield 1473t of ore (416t vein, 1057t granite). At the forecast extraction rate of 10t of  $WO_3$  per month.

Exploration licence EL 13/81 was relinquished in November 1982. Another licence EL64/83 was taken out over the same ground in 1983 by Abignano Constructions P/L.

Metalurgical test work (Lanyon 1983) commissioned by Abignano concluded;

- The sample contained 0.74%  $WO_3$ , 0.06% As and less than 0.01% tin.
- The tungsten was present as wolframite and also scheelite.
- Heavy liquid separation produced a concentrate containing 93.7% of the tungsten at a grade of 42.2%  $WO_3$ .
- The tungsten minerals present were coarse and well-suited to primary concentration by gravity means.

- The upgrading of a primary concentrate to sales grade is likely to be a complex process. The presence of scheelite limits the extent to which high intensity magnetic separation can be used.

In December 1984, two diamond drill holes were completed (Brink 1985a). Three drill sites were prepared at 200m intervals at the Kenny's Adit vein. Diamond drill holes (NQ) were drilled at 45° declination at right angles to the vein strike and aimed at intersecting the veins between 40m and 50m vertically below the surface. Only two holes were completed; serious breakdown of the rig prevented drilling of the third. INT001 was drilled to 71.0m and INT002 to 72.52m.

<b>Hole No.</b>	<b>Max Depth</b>	<b>Easting AMG</b>	<b>Northing AMG</b>	<b>Dip</b>	<b>Azimuth</b>	<b>Orginal Hole No.</b>
INT001	71	324605	5398605	-45	330	DDH1
INT002	72.52	324659	5398791	-45	335	DDH2

**Table 2. Kenny's Lode Drilling.**

Brink 1985b concluded most of the sampled and analysed core can be regarded as being mineralised but apart from sample 2 of INT002 (DDH 2) all must be considered as sub-economic given current (1985) commodity prices. The overall low order of the assays resulted in the decision to defer further exploration activities. The drilling indicated the continuation of the mineralised quartz reef at depth as well as a pervasive mineralisation over considerable width. Brink also commented that, if and when tungsten prices attain more favourable levels, serious consideration may be given to investigating the prospect as a potential low grade, large volume open-cut target (Mt. Carbine tungsten ore grades about 0.1% W03 and is being mined commercially).

Brink continued saying "some of the gold values are in the significant category and also deserve further attention. Two drill holes are insufficient to appraise a prospect especially a vein type where pinching and swelling may be expected as well as zones of "ore shoots" and structural elements which may affect ore grade locally. However, the results obtained to date do not warrant short term expenditure in this remote and therefore expensive area." Table 3 shows the assay results.

The lease lapsed in January 1987 and the three mining leases were forfeited in April 1989.

<b>Sample</b>	<b>From</b>	<b>To</b>	<b>Sn%</b>	<b>WO3%</b>	<b>Mo%</b>	<b>Cu%</b>	<b>Au g/t</b>
INT001-001	43	44.15	0.04	0.04	0.02	0.01	0.08
INT001-002	44.15	46.63	0.03	0.08	0.02	0.003	0.13
INT001-003	46.63	48.63	0.02	0.04	0.02	0.002	0.07
INT001-004	59	59.8	0.04	0.07	0.01	0.098	0.04
INT001-005	59.8	61.4	0.03	0.06	0.02	0.002	0.04
INT001-006	61.4	63.66	0.03	0.08	0.01	0.005	0.01
INT001-007	63.66	64.8	0.03	0.02	0.01	0.003	-0.01
INT001-008	64.8	67.34	0.03	0.07	0.02	0.003	0.06
INT001-009	67.34	69.17	0.03	0.08	0.03	0.003	0.06
INT001-010	69.17	71	0.03	0.08	0.04	0.004	0.03
INT001-011	48.63	50		0.08			
INT001-012	50	52		0.07			
INT001-013	52	54		0.06			
INT001-014	54	56		0.04			
INT001-015	56	58		0.05			
INT001-016	58	59		0.05			
INT002-001	51.31	52.1	0.05	0.05	0.01	0.07	0.02
INT002-002	58.6	59.33	0.03	0.42	0.01	0.03	0.02
INT002-003	59.33	61.25	0.04	0.06	0.02	0.01	0.03
INT002-004	53	53.3	0.03	0.03	0.02	0.006	-0.01
INT002-005	53.3	53.8	0.04	0.09	0.01	0.52	0.04
INT002-006	53.8	54.83	0.05	0.05	0.02	0.03	0.01
INT002-007	54.83	55.77	0.09	0.09	0.02	0.05	0.01
INT002-008	55.77	56.71	0.05	0.06	0.02	0.08	0.02
INT002-009	56.71	58.6	0.03	0.11	0.02	0.01	0.06

**Table 3. Kenny's Lode Drilling Assay results**

## 2.2 Eastern Area including Copper and Silver Reward

### 1973 - 1974 Esso Mineral Enterprises Australia Inc

EL 2/73 was granted to Esso Mineral Enterprises Australia Inc. on January 31 1973, and renewed for a further six month period on July 31 1973. It covered the eastern area of EL12/2007.

A regional geological survey (helicopter supported) to outline potential massive sulphide deposits of base metals was completed. And an airborne geophysical survey was completed. It was recommended that the lease be relinquished in February 1974 as it was considered the results were insufficient to continue exploration. (Neale 1973 and 1974).

## **1979 Mount Lyell Mining**

EL 27/78, Donaldson, was granted on 22 January, 1979, as an exploration lease for all minerals to The Mount Lyell Mining And Railway Company Limited. The lease covered 172 square kilometres in the vicinity of the Donaldson River, which covers the eastern edge of EL 12/2007. Data compilation involved a review of past exploration by Renison and Esso, University of Tasmania mapping and air photo interpretation. A total of 71 stream sediment, soil and rock chip samples were collected from the Toner River and Sabbath Creek - Corinna areas, and assayed for Cu, Pb, Zn, Co, Mn,  $\pm$ Ag, Fe, Sn,  $W_3O_8$ , Mo, Au and S. The stream sediment sampling was outside of the current EL12/2007 lease.(Hutton 1981)

## **1977-1979 CRA Exploration - Geopeko EL 1/77 Rocky Cape**

Exploration Licence EL 1/77 was granted on the 28th March 1977 over an area of 5,200km<sup>2</sup> which in part covered the eastern and to the south of EL 12/2007. The area was joint ventured with Geopeko Limited and CRA Exploration in April 1979.

An aeromagnetic survey commissioned during 1981 by the Tasmanian Department of Mines outlined a number of magnetic anomalies within the licence area. Three anomalies were selected for exploration work and ground magnetic traverses to enable computer modelling were completed. Mapping, rock and soil sampling follow-up work was completed where warranted.

CRA Exploration identified the Interview Granite magnetic anomaly, CRA Exploration recommended further work. The ground magnetic anomaly has low order geochemical base-metal values associated with it. A zone of anomalous tungsten values was located on the edge of the Interview Granite.

The joint venture concluded there was little likelihood of economic ore within the granite area to the south of EL12/2007. (Porter 1980 and Weber 1983)

## **1980 - 1981 Geopeko**

By early 1981 Carey (Carey 1981) had produced a photo-interpretation for Geopeko of the area between Arthur and Pieman Rivers. Two areas of interest were noted that fall within EL12/2007 one related to known mineralisation and one geophysical anomaly.

Carey noted "a cluster [of mineralisation] occurs on the Interview River about 330000E 5398000N. This area is interesting because the trend of the veins is nearly east-west, with some north-east and some north-west, and the photo-interpretation shows this area to be strongly disturbed, with many faults dykes and quartz veins, extending eastwards as far as 336000E 5398000N." This is in the area of the Copper Reward workings.

A prominent anomaly which Carey called the Interview anomaly occurs in the Interview valley some 2km south-west of Interview Pinnacle. Carey noted "it could perhaps be caused by an intrusion or by a Tertiary basalt plug. However it occurs in an area of structural complexity where the Lagoon River fault system (which is a significant mineralization locus) terminates against the NE trends of the Arthur

lineament. A lot of quartz-veining and dyking and cross-faulting occurs in this area. Therefore I consider that this anomaly warrants further investigation.”

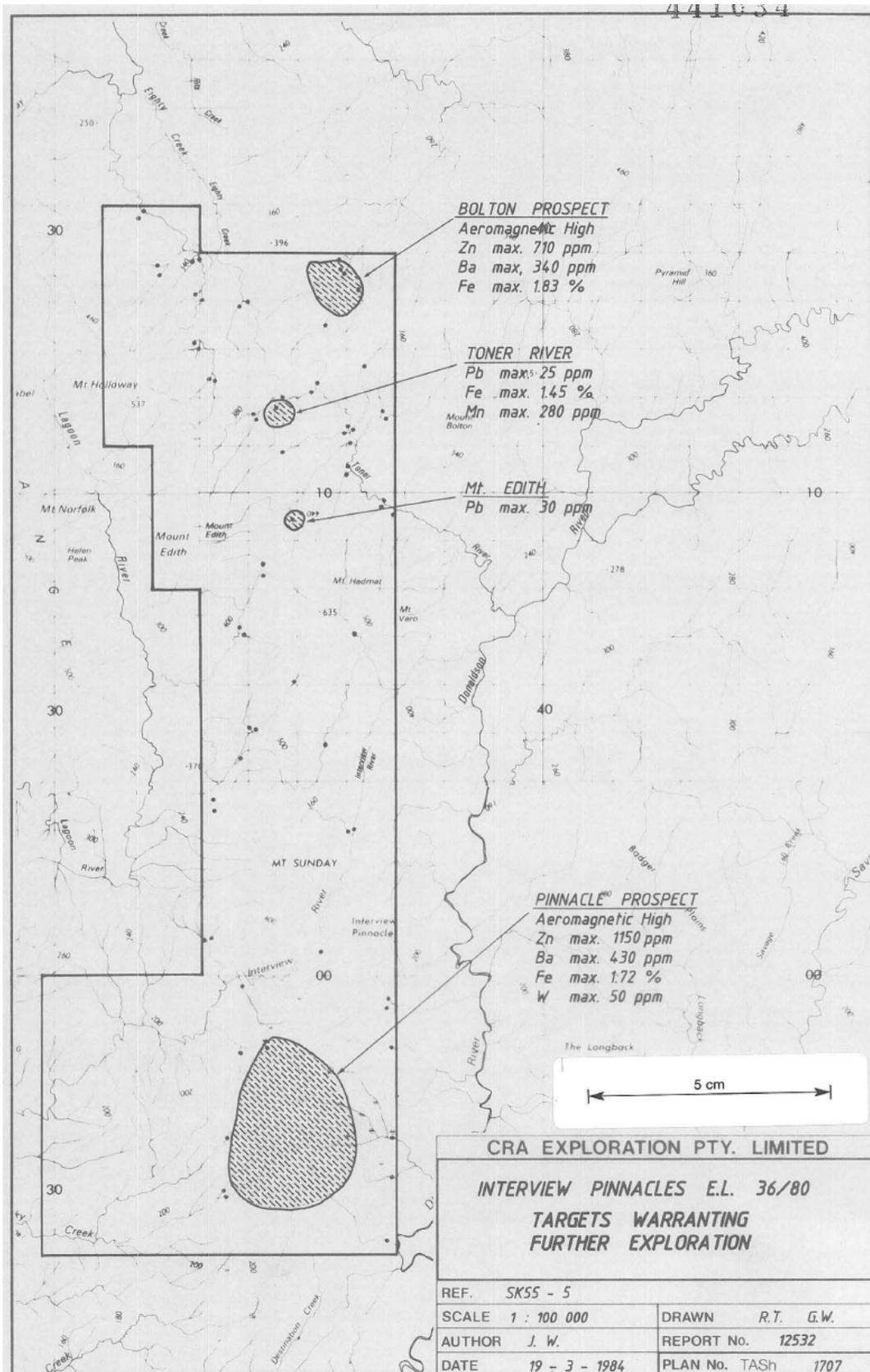
### **1981- 1984 CRA Exploration EL 36/80**

Exploration Licence EL 36/80 was granted on the 29<sup>th</sup> May 1981. The licence was subject to a joint venture agreement with Geopeko Limited. The EL 36/80 was applied for to cover the southern extensions of the Balfour - Norfolk magnetic trend and also the eastern side of the Interview Copper workings and minor galena mineralisation. An aeromagnetic survey commissioned during 1981 by the Tasmanian Department of Mines outlined a number of anomalies. Several of these anomalies were followed up by CRA Exploration.

By 1983 CRA (Weber 1983) had identified that the anomaly at Interview Copper corresponds to a wide gossanous quartz-magnetite lode, and this area warrants intensive follow-up.

In 1984 CRA had reported (Weir 1984) that a stream sediment survey had identified the Pinnacle anomaly which drains an area of approximately 6km<sup>2</sup> and shows anomalous zinc (maximum 1150 parts per million (ppm)), iron (maximum 1.72%) , barium (maximum 430ppm) and tungsten (maximum 50ppm) geochemistry in a number of creeks. The drainage area is overlain by an aeromagnetic high. A dolerite dyke swarm had been mapped in this vicinity though it does not appear to be the cause of the geochemical anomaly owing to the lack of elevated nickel and copper geochemistry.

Weir recommended that the Pinnacle anomaly be gridded, soil sampled, and a ground magnetic survey be conducted to establish the cause of the aeromagnetic high and stream geochemical anomalies.



**Figure 4.** Map showing the location of the Pinnacles Anomaly/Prospect. (Weir 1984)

### **1984 – 1988 - EL 57/83 Mt Donaldson**

EL 57/83 known as Mt Donaldson which covers the eastern edge of EL 12/2007 was initially issued to Geopeko in January 1984 and transferred to H. D. Nolan in November of 1984. Geopeko investigated two airborne detected magnetic anomalies DON 1 and DON 2. DON 2 lies in the extreme north-west of EL 12/2007. On ground reconnaissance grid lines, ground magnetics, geological mapping and selected soil sampling was completed. Geopeko attributed the magnetic anomalies to magnetite bearing siltstone. The results were not encouraging and no further work was conducted. The area covering EL 12/2007 was relinquished in 1988. (Pemberton 1984 and Nolan 1988).

### **1987 – 1988 - EL 27/87 New Holland Mining**

In March 1988, New Holland Mining was granted EL 27/87 over the eastern area of EL12/2007. The reported work (Cromer 1989) included a review of all previous exploration and the compilation of a prospectively report on the tenement and the preparation of a regional geophysical interpretation of licence area based on existing gravity and magnetic data (Leaman 1988). No further reports have been located regarding EL 27/87.

## **3 Exploration by Stonehenge Metals Limited**

### **3.1 Literature and data review**

A search for historic data from the MRT website covering EL 12/2007 was completed. The historical reports have been subjected to optical character recognition with Adobe Acrobat software to allow much of the text in the reports to be searchable.

Digital and paper based geological mapping was acquired for the area. Digital orthophotos of the area were also acquired.

The data was reviewed and compiled and documented in this report. Options for accessing the area were considered.

## **4 Environment**

No field work was done.

## **5 Expenditure**

The total estimated expenditure on EL12/2007 for the period from November 2007 to November 2009 was \$13,800. This was spent on acquisition of current and historic data and a review, compilation of the data and report preparation with a \$600 allowance for administration costs.

## **6 Recommendations and further work**

Previous work over the area has identified the area to be prospective for tungsten and base metal mineralisation.

Limited drilling to date has down-graded the potential for high grade tungsten mineralisation but this could not be considered conclusive.

The Copper Reward area and CRA's Pinnacle prospect are area's of interest for copper, lead, zinc and silver mineralisation.

Historical data indicates mineralisation in the area of geological interest but of limited economic potential. This combined with access difficulties and the environmental sensitivity of the area render the Interview tenement as a low priority exploration target for Stonehenge Metals and no further work is recommended. The licence was surrendered in November 2009.

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