Pacifico Minerals Ltd

ACN 107 159 713

Wilson River Project

Exploration Licence 23/2003

Annual Report for the Period
28/11/2012 – 28/11/2013
FINAL REPORT

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MAP SHEETS: SK55-3 BURNIE
Map 1:50/100,000: Macintosh.
Map 1:25,000, Luina 3640

EXECUTIVE SUMMARY

The Wilson River Project is located in NW Tasmania about 65 kilometres SW of Burnie and 10 kilometres SW of Waratah. The geology of the Wilson River area contains a central band of allochthonous Cambrian serpentinised ultramafic rocks, porphyritic bonninitic basalts and andesites of the Heazelwood Ultramafic Complex. Siltstones, greywackes, mudstones and tholeiitic basalts of the Early Cambrian turbiditic Cleveland-Waratah association occur to the west of the allochthonous terrain. The Devonian Meredith Granite intrudes the sequence to the south and east of the tenement area.

During the period covered by this report nine diamond holes (WRD05-WRD13) were drilled for a total of 1406m. The drill program evaluated a 2.8km zinc lead soil geochemical anomaly. The anomaly straddles the contact between the Cambrian Heazelwood Ultramafic Complex and the Meredith Granite. Holes were sited to test the strike and dip potential of the mineralisation within WRD03 and also several positions of higher order geochemistry within the soil geochemical anomaly. Positive assay results were received from WRD08, WRD12 and WRD13. WRD13 intersected 4.2m @ 6.28% zinc, 2.82% lead, 35.5 g/t silver from 161.8 -166m. WRD12 intersected 5.4m @ 4.3% zinc, 0.84% lead, 108 g/t silver from 108m - 113.4m. WRD08 intersected 6m @ 3.15% Zn and 1.13% Pb from 149m-155m.

Mineralisation is hosted by a highly altered and brecciated contact zone between the ultramafic and granite rocks. The dominant alteration mineral assemblages in the ultramafic are an earlier silicification, and a later overprinting carbonate (dolomite) alteration. Both vein and massive style sphalerite, galena and minor chalcopyrite mineralisation is present close to the granite within the more intensely altered and brecciated rock types. Accompanying pervasive skarn-like silica-actinolite-biotite (chlorite) alteration assemblages in the granite are quartz carbonate veins containing sphalerite and galena.

In 2013, Pacifico announced it had acquired West Rock Resources, repositioning the Company as a Colombian-focused copper and precious metals explorer. To maintain a cash conservative approach, it was decided to reduce the company's interests in its Australian projects, and for this reason it was decided to relinquish the Wilson River tenement.

TABLE OF CONTENTS

List of Figures

List of Tables

List of Appendices

1. INTRODUCTION

The Wilson River Project is located in NW Tasmania about 65km SW of Burnie and 5km SE of Luina, the township for the historical Cleveland tin-copper mines. The area lies within the Meredith Range Regional Reserve and is overlain by high quality wilderness.

Exploration completed during the period of tenure includes:

- The cutting of walking tracks through the thick vegetation to provide access to the drill sites and soil sampling surveys.
- Clearing and later rehabilitation of seventeen drill pads.
- Nine Diamond holes (WRD05-WRD13) were drilled for a total of 1406m, using a helicopter portable drill rig.
- Geological logging and recording of down hole lithologies and structural data.
- Cutting and assaying of selected intervals within the 9 diamond holes.
- 125m spaced infill soil sampling of the previously sampled 250m spaced soil traverses.
- Petrological descriptions of 13 selected samples from the diamond core.
- Transportation of the remaining diamond core to the MRT core storage facility in Hobart, Tasmania.
- A botanical threatened species survey completed along the access route.
- A further four Diamond holes (WRD14-WRD17) were drilled for a total of 1150m, using a track mounted drill rig.
- Geological logging and recording of downhole lithologies, structural data, and other physical properties of the core.
- Cutting and assaying of selected intervals within the four diamond holes.
- Induced Polarisation Survey
- 125m spaced infill soil sampling of the previously sampled 250m spaced soil traverses.
- Local geological mapping survey.
- The cutting of walking tracks through the thick vegetation to provide access for the Induced Polarisation surveys, Down Hole Electromagnetic surveys, and soil sampling surveys.
- Construction of a four wheel drive access track.
- Clearing and later rehabilitation of four drill pads.
- Compilation, processing, interpreting and reporting of results.

2. LOCATION

EL 23/2003, Wilson River, NW Tasmania, is located, 10 kilometres south west of Waratah, Figures 1 and 2. Access is gained from Betts Track, an old logging track that comes off the Waratah – Savage River bitumen road, for a distance of 4.5 km (Figure 2). Betts Track is marked on the Luina 1:25K topographic map (3640).

All coordinates used in this report use the AGD_1966 AMG Zone_55 Map Datum.

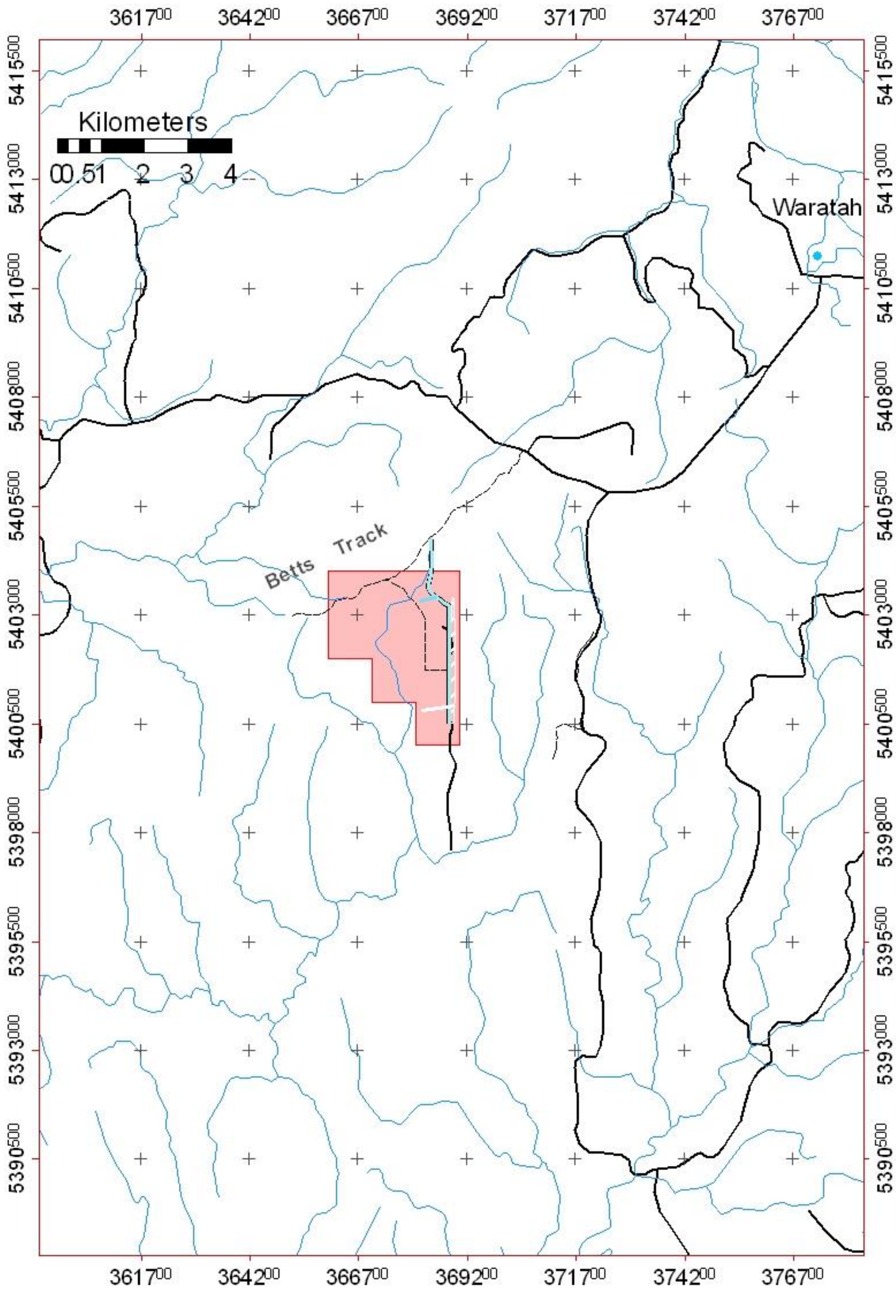

Figure 1. Location map showing Waratah and EL23/2003.

3. TENEMENT SUMMARY

The Wilson River project consists of ELA 23/2003 with an area of 9 km2.
Pacifico Minerals obtained the tenement from Herald Resources who had an option to purchase agreement with the tenement holder, New Challenge Resources Pty Ltd. Land tenure within EL 23/2003 is of the Meredith Range Regional Reserve with a very small area on the extreme eastern boundary managed as a Forest Community.

4. GEOLOGY

4. 1 Regional Geology

The oldest rocks in the area consist of Proterozoic and Early Cambrian porphyritic andesitic lavas, serpentinised ultramafics, gabbro and minor sedimentary rocks. Proterozoic turbidites and early Palaeozoic rocks may be entirely allochthonous (i.e. over-thrust) though there is general agreement that only the Early Cambrian assemblage of ultramafics, sediments and basalts is allochthonous. Allochthon emplacement was from the east and occurred at much the same time as metamorphism and deformation in the Arthur Lineament and in the terrane that lies east of the Mt Read Volcanics. Collectively, these events marked the initial phase of the Tyennan Orogeny (≅ Delamerian Orogeny). Volcanism and unstable clastic sedimentation occurred during the remainder of the Tyennan Orogeny, which persisted to the end of Cambrian times. The orogeny was followed by stable conditions in the Ordovician, when shelf carbonates were deposited, and these stable conditions continued into Siluro-Devonian times with the accompanying deposition of clastic sediments and minor carbonates.

Another period of folding called the Tabberabberan Orogeny took place in the Devonian and was a prelude to widespread granitoid intrusion that continued into the Carboniferous. Relatively undeformed cover rocks of Carboniferous to Cainozoic age overly the granitoids. Granite and adamellite are more abundant than granodiorite in the granitoid intrusions, which were emplaced at high crustal levels and have narrow contact aureoles. Both I-type and S-type granitoids are present and some phases have been grouped as magnetite-series, others as ilmenite-series. Tourmaline may be common either in nodules or as quartz-tourmaline greisen. Fluorite, topaz, cassiterite and sulfides may also be present. The chemical and isotopic characteristics of the granitoids indicate that they were derived by partial melting of a range of different igneous and sedimentary source rocks of mostly Palaeoproterozoic to Mesoproterozoic age. Some of the melts subsequently underwent crystal fractionation.

Northwestern Tasmania is a richly mineralised region that is a significant province for tin-tungsten deposits, which are associated with the Devonian to Carboniferous granitoids. Polymetallic silver lead zinc deposits form haloes around centres of Devonian tin mineralisation. Major tin deposits of the iron sulphide replacement type fall within the 4 km granite isobath, many near the 1 km contour, as do the more significant silver lead zinc vein deposits, for example Magnet mine situated 7km North of EL23/2003. The Avebury nickel deposit is a newly recognised style of granitoid-related mineralisation that has extended the prospectivity of the Cambrian ultramafic complexes beyond the previously known, small occurrences of nickel sulfides, chromite and platinoids. The Avebury deposit is hosted in ultramafic rocks near the contact of the Heemskirk Granite. Sulfur-bearing hydrothermal fluids emanating from the granite are thought to have mobilised nickel in the ultramafics and to have facilitated the concentration of the metal. Northwestern Tasmania is also a significant province for polymetallic base metal and gold deposits of middle to late Cambrian age, which occur in the Mount Read Volcanics. Substantial mineral deposits of apparently older age (?Neoproterozoic) occur in the Arthur Lineament. These include magnetite-pyrite and magnesite-dolomite.

4. 2 Local Geology

In EL23/2003 the Devonian Meredith Granite has intrusive contacts with part of the Early Cambrian, allochthonous suite of ultramafics, sedimentary rocks and basalts. The Early Cambrian rocks in the tenement consist of porphyritic volcanics, an ultramafic succesion, gabbro, and minor sedimentary rocks. Boninitic compositions characterise the lavas, which include basalt and high magnesium andesite and interlayered breccia. Two phases of the Meredith Granite are present. A less felsic phase in the east that is called the Wombat Creek phase, and a more felsic phase in the west that makes up a large part of the Meredith Granite outside of EL23/2003. The Wombat Creek phase is an equigranular to sparsely porphyritic, biotite adamellite with minor hornblende, while the western phase consists of very coarse grained biotite granite with numerous intrusions of porphyritic biotite granite (McClenaghan, in prep.). The Wombat Creek phase is I-type whereas the western, felsic phase is S-type. Quartz-tourmaline greisen is common in the felsic phase on a regional basis.

4. 3 Structure and mineralisation

Regional geophysical interpretation indicates that the Meredith Granite dips north beneath the Early Cambrian rocks in EL23/2003 Wilson River (Leaman and Richardson, 2003), drilling programs conducted in EL23/2003 suggest the Meredith granite also dips West underneath the Cambrian units. There are no reported historical prospects within the tenement, although a shallow scraping has been recorded by Pacifico Minerals in the north east of the tenement, The old workings of the Cleveland tin-copper mine (carbonate replacement) are located some 4 km to the North West while the old South Bischoff tin field is located 3 km to the east in the Wombat Creek adamellite. Tin greisen was mined in the South Bischoff field. Scattered, fracture related lead-zinc-silver prospects are present in Early Cambrian rocks a few kilometres to the north.

5. WORK COMPLETED

5. 1 Historical mineral exploration

It appears that the only significant round of previous work in EL23/2003 Wilson River was by Aberfoyle whose focus was tin (Joyce 1980a,b; 1981). The company gridded the area after obtaining elevated tin and zinc values in stream sediments and after unusual circular features were identified by air photo interpretation. They had also flown a Dighem survey. Apparently results from the grid-based work were not sufficient to encourage further exploration though elevated tin was found in outcropping magnetite (?skarn). Rock and soil samples were analysed for tin (Sn) , wolfram (W), copper (Cu), lead (Pb), zinc (Zn), rubidium (Rb), strontium (Sr), bismuth (Bi), molybdenum (Mo) and arsenic (As), but not for nickel (Ni).

Past exploration in the Luina area, especially between Cleveland tin-copper mine and the Magnet lead-silver (Ag)-zinc mine, both now closed, was undertaken by Aberfoyle Exploration in the period 1963 to 1993. EZ, Cleveland Tin, Comstaff, BHP, Placer Exploration, Pasminco/MPI Gold investigated the Magnet Mine and Environs for a range of lead-zinc, copper, tin and gold (Au) targets. Details and references for these past investigations are described in the bibliography.

5. 2 Previous Exploration by Pacifico Minerals within EL23/2003.

In June 2005, Pacifico Minerals sampled 15 soil sample lines on a 250m x 50m sample grid. (Busbridge, 2005). A total of 228 soil samples and 27 rock chip samples were collected. These samples were submitted to ALS laboratories in Perth for 36 element analysis by ICPMS (ALS method ME-MS81). Assays are located in (Busbridge, 2005).

Following leveling, re-processing and re-interpretation of the soil geochemistry database, a 2.8-kilometre long zinc-lead-silver anomaly was identified. The anomaly straddles the contact between the Cambrian Heazelwood Ultramafic Complex and the Meredith Granite.

Four helicopter supported diamond holes (WRD01-WRD04) were drilled for a total of 405.2m in 2005-2006. Their locations, with respect to the regional aeromagnetics, are shown on Figure 2.

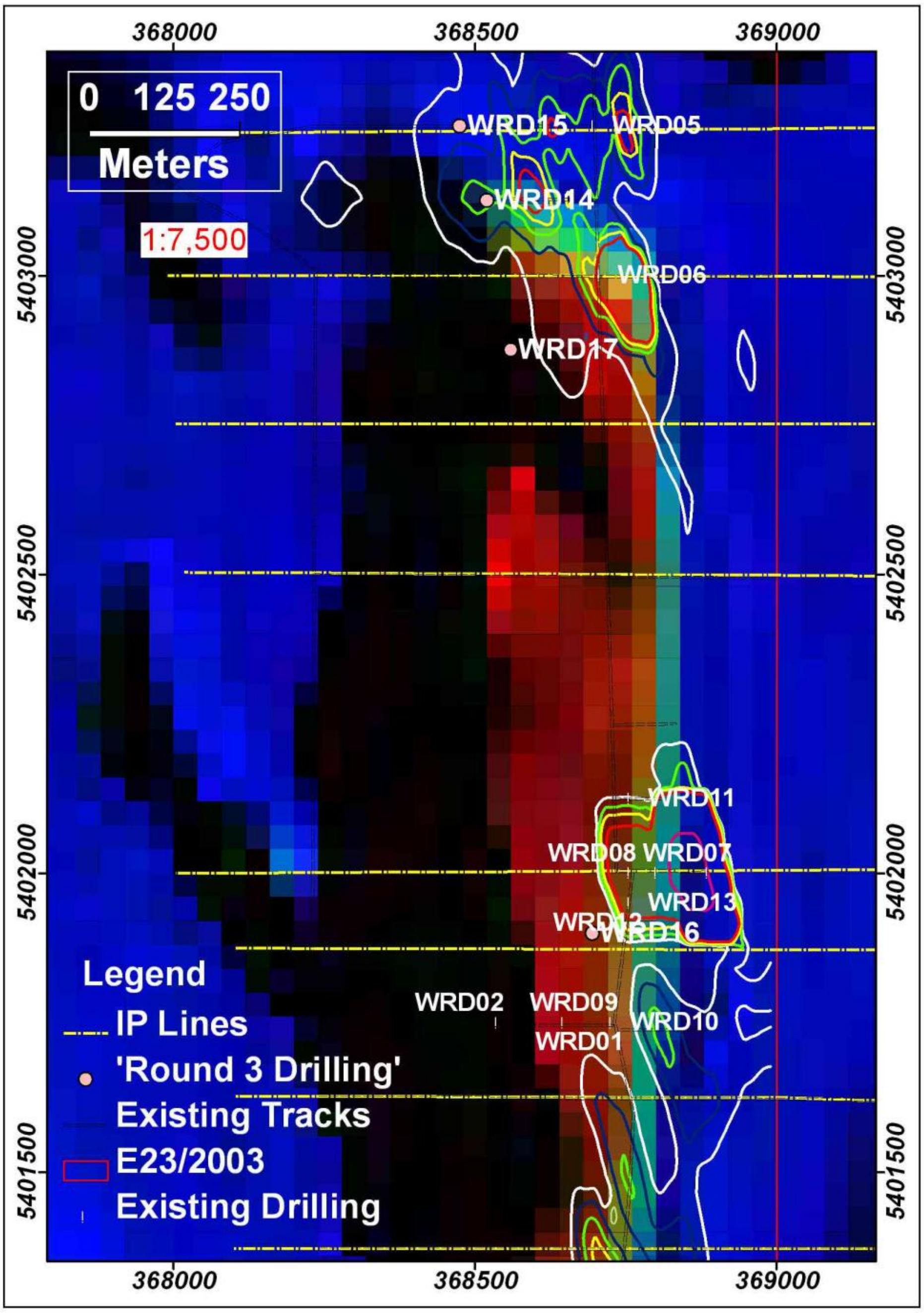

Figure 2. Diamond Drill Hole Locations on the aeromagnetic image, with Pb in soil anomalies.

WRD03 intersected 5 separate intervals assaying more than 1% zinc and each displaying visible coarse grained sphalerite and galena. Chalcopyrite is rare and occurs as free euhedral grains associated with galena. The mineralisation occurs within 10m of the ultramafic granite contact and is hosted within a dolomite and quartz rich series of veins. Textures vary from cherty to brecciated vein style. Host is a skarniferous and brecciated ultramafic and granite shear zone. WRD04 also intersected anomalous zinc and lead in a pervasively potassium altered porphyritic to equigranular phase of the Meredith Granite. Significant assays are listed in Table 2 of Busbridge, 2006.

In the 2006-2007 field season nine diamond drill holes (WRD05-WRD13) were drilled for a total of 1406m, targeting previously intercepted mineralization and geochemical anomalies defined in the previous year. The locations of the holes with respect to regional aeromagnetics are displayed in Figure 3. One hundred and seventy soil samples were collected on 125m spaced infill lines within EL23/2003, with sample spacing at 50m, and fifteen rock chip samples were taken. All samples were despatched to Genalysis Laboratories in Adelaide for analysis. Elements Ag, As, Bi, Mo, Pb, Sn were analysed via Genalysis method BT/MS (aqua regia digest with an Inductively Coupled Plasma Mass Spectrometry) while Ca, Cr, Cu, Fe, Mn, Ni, S, Zn were analysed via BT/OES (aqua regia digest with an Inductively Coupled Plasma Optical Emission Spectrometry), (Busbridge, 2007).

In the 2007-2008 field season four diamond drill holes (WRD14-WRD17) were drilled for a total of 1150m. A four wheeled drive access track was prepared by for a total of six kilometres, which gave access to the drill pads. The core was subjected to the following process:

- The core was marked up and joined where possible.
- Core recovery was calculated.
- Lithologically and structurally logged.
- Each core tray was digitally photographed and catalogued.
- Magnetic susceptibility readings taken at one-metre intervals.
- Selected core was cut into half core for sampling in one-meter intervals.

Holes evaluated the strike and dip potential of the mineralisation encountered within the previously drilled WRD05-WRD13. Several positions of higher order geochemistry within the soil geochemical anomaly were also drilled. Collar coordinates and hole depths are shown in Appendix 1 and illustrated in Figure 2. Significant intersections are listed in Table 1.

Drill section 5401950N Figure 3, illustrates the relationship between the mineralisation and the alteration zone hosted at the ultramafic and granite contact. These rocks include the two major original rock types,

- A strongly silica-chlorite-sericite-epidote-biotite altered granite,
- A strongly actinolite-altered ultramafic rock.

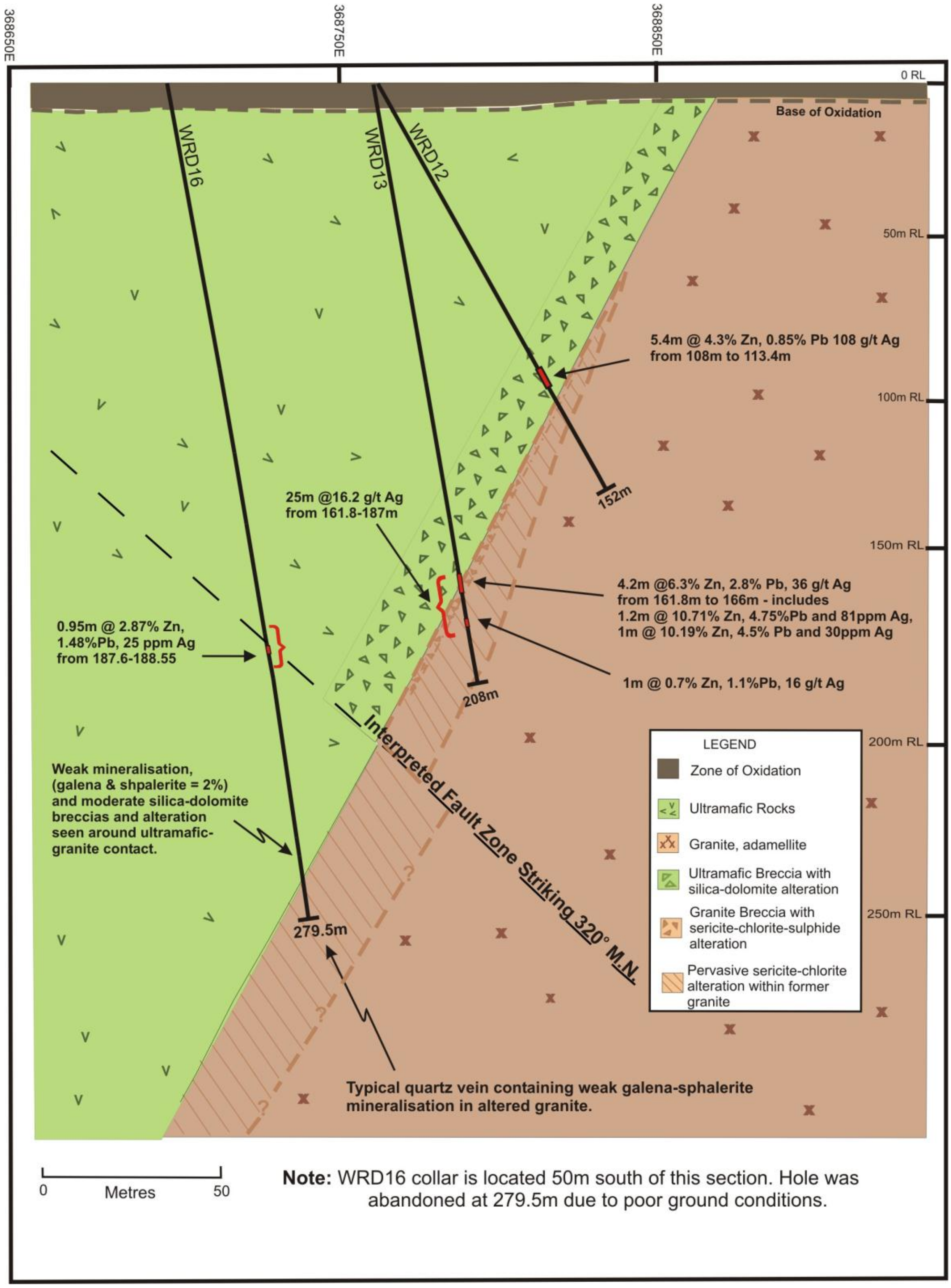

Figure 3. Cross section 5402000N, showing the relationship of the mineralisation to the ultramafic – granite contact zone.

Table 1. Significant assays from WRD14 to WRD17 at Wilson River, Tasmania

Hole ID	From (m)	To (m)	Width (m)	Significant Assays, Zinc %	Significant Assays, Lead %	Significant Assays, Silver ppm	Significant Assays, Copper %
WRD14	**137**	**140**	**3**	**0.93**		**27.3**	**0.93**
	284.7	**285.5**	**0.8**	**3.74**	**2.88**	**43**	
WRD15	**229**	**235**	**6**	**1.31**	**1.22**	**11.8**	
WRD16	**187.6**	**188.55**	**0.95**	**2.87**	**1.48**	**25**	
WRD17	**268**	**270**	**2**	**2.16**	**1.37**	**13**	

The dominant alteration mineral assemblages in the ultramafic in the mineralisation zone are an earlier silicification, and a later overprinting carbonate (dolomite) alteration. Accompanying this alteration is a pervasive brecciation and veining of the rocks. Both vein and massive style sphalerite, galena and minor chalcopyrite fuchsite mineralisation is present close to the granite within the more intensely altered and brecciated rock types Figure 4. Accompanying pervasive propylitic alteration assemblages in the granite are quartz carbonate veins containing sphalerite and galena.

Figure 4. Semi massive galena sphalerite mineralisation within hole WRD13.

Observed and mapped North West trending faults are interpreted to have faulted out mineralisation in WRD16 (located 50m south of previously drilled WRD 13 which reported 4.2m of 10% combined Zn and Pb), in which mineralisation at the ultramafic granite contact zone was weak. It should be noted however that minor mineralisation was reported in the cross cutting north west fault, located 100m up-hole of the ultramafic granite contact, this was reported in WRD17 also.

All downhole assay, survey and lithological data is provided in Appendix 1. Digital photographs of all core trays is located in Appendix 2.

In January 2008 a Resistivity/Induced Polarisation (IP) survey was conducted over Wilson River in order to delineate further conductive sulphide bodies at depth. Ten lines were prepared on a spacing of 250 meters for a total of 15 line kilometres using chainsaws. The IP data was collected using a pole-dipole method. Electrodes constituted a pit dug every 50m along the IP line, occupying an area of 1m2 and to a depth of 50cm, with foil placed at the bottom which in turn was connected to a central 10kV generator. After use all electrode sites were back filled and levelled. Figure 5 displays the prepared IP lines.

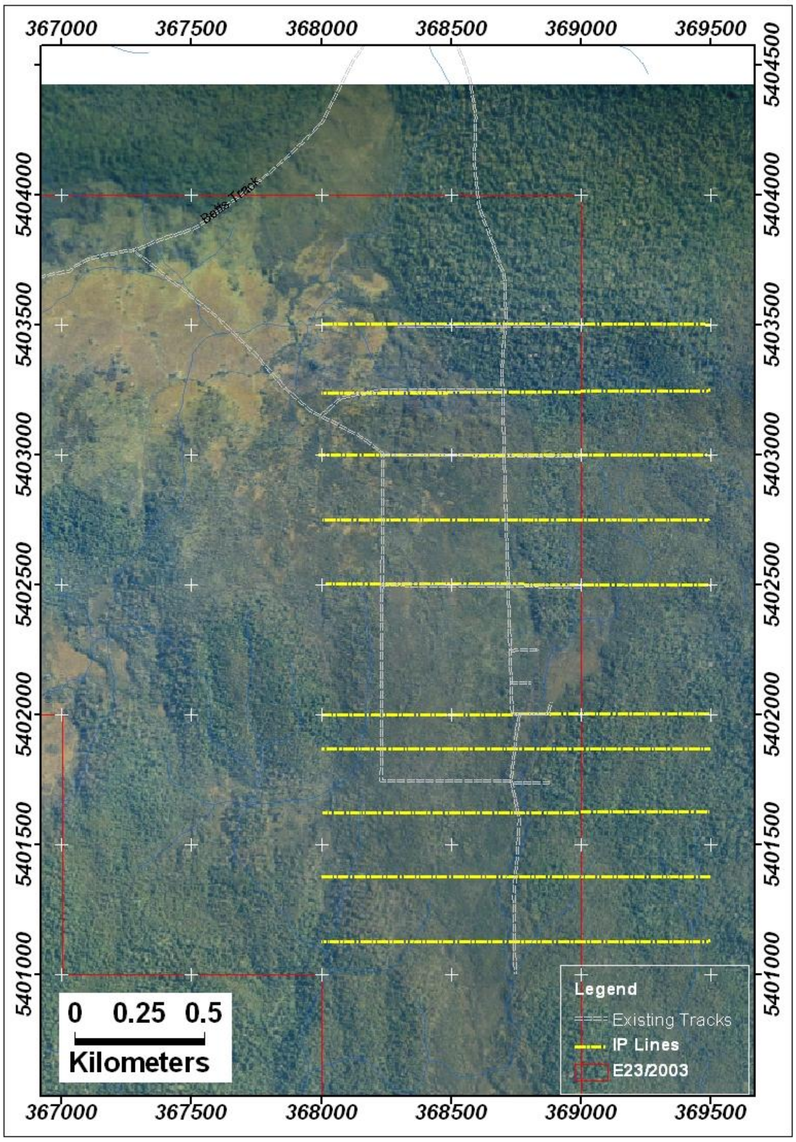

Figure 5. IP lines displayed on aerial photograph.

Results of the IP survey did not delineate any potential targets at depth due most likely to the highly conductive nature of the ultramafic host rock (illustrated as the large red body in the Conductivity Section in Figure 6), and the narrow mineralisation zones, which the IP survey may not have been able to delineate. Full processed data is available in Appendix 3.

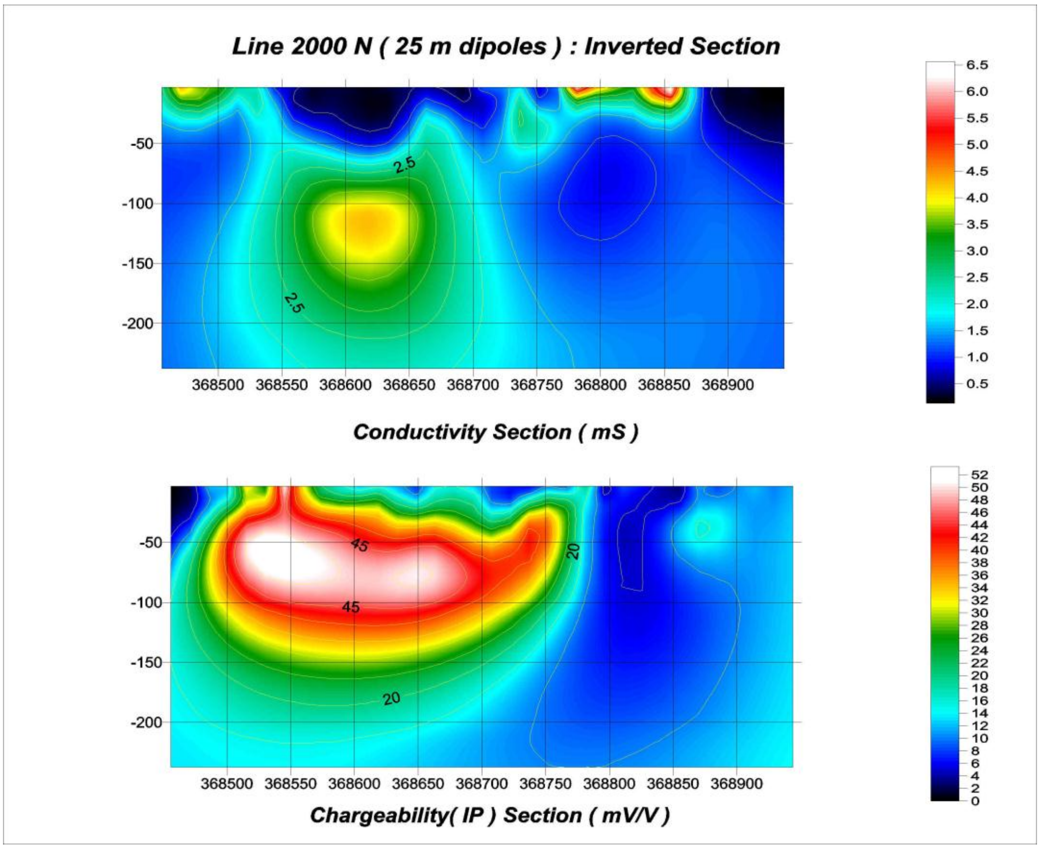

Figure 6. Resistivity/ Induced Polarisation image from Line 54032000 North at Wilson River showing highly chargeable ultramafic body to the west.

In June 2008 a two week local mapping program was conducted in order to gain a better understanding of the local geology. Results of the mapping are displayed below in Figure 7.

Mapping units within the ultramafic-mafic succession were split into "orthopyroxene dominant", and "harzburgite-dominant", both successions having undergone severe metamorphism. Coarse orthopyroxene mesocumulates have been recorded from Wilson River with single orthopyroxene crystals occurring up to 5cm in length.

The main features observed from the local mapping program were a series of North West striking faults offsetting stratigraphy within the Cambrian ultramafic-mafic succession. These North West striking faults have become obvious structures observed within the diamond drill hole core, and it is proposed that one of the faults is responsible for offsetting the southerly plunging mineralisation seen at Wilson River, hosted on the contact between the Devonian Meredith granite, and the Cambrian ultramafic-mafic succession.

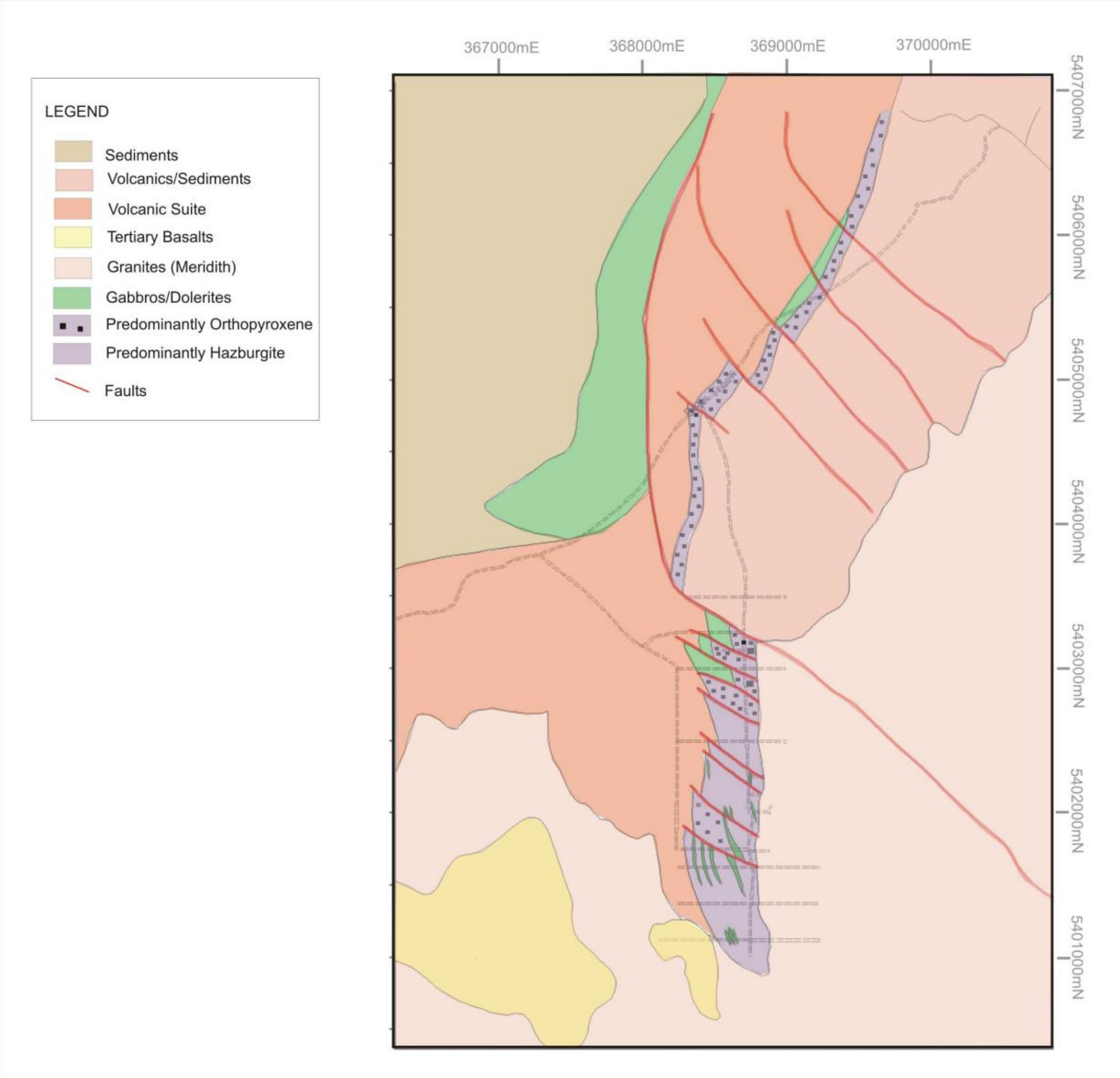

Figure 8. Geological mapping of the area highlights a number of cross cutting structures within the tenement.

One hundred and fifty two soil samples were collected on 125m spaced infill lines within EL23/2003 Figure 9. Sample spacing was 50m and 25m over target horizons. Lines were planned to cover the prospective ultramafic – granite contact. Samples weighing 200 – 300 grams were collected from 10-20 cm deep holes dug with a pelican pick. As the samples were very wet, no sieving was employed. Holes were back filled when the sample was taken. All samples were despatched to Genalysis Laboratories in Adelaide for analysis. Elements Ag, As, Bi, Mo, Pb, Sn were analysed via Genalysis method BT/MS (aqua regia digest with an Inductively Coupled Plasma Mass Spectrometry) while Ca, Cr, Cu, Fe, Mn, Ni, S, Zn were analysed via BT/OES (aqua regia digest with an Inductively Coupled Plasma Optical Emission Spectrometry). Assays and spatial data for the soils and rock chips are located in Appendix 9.

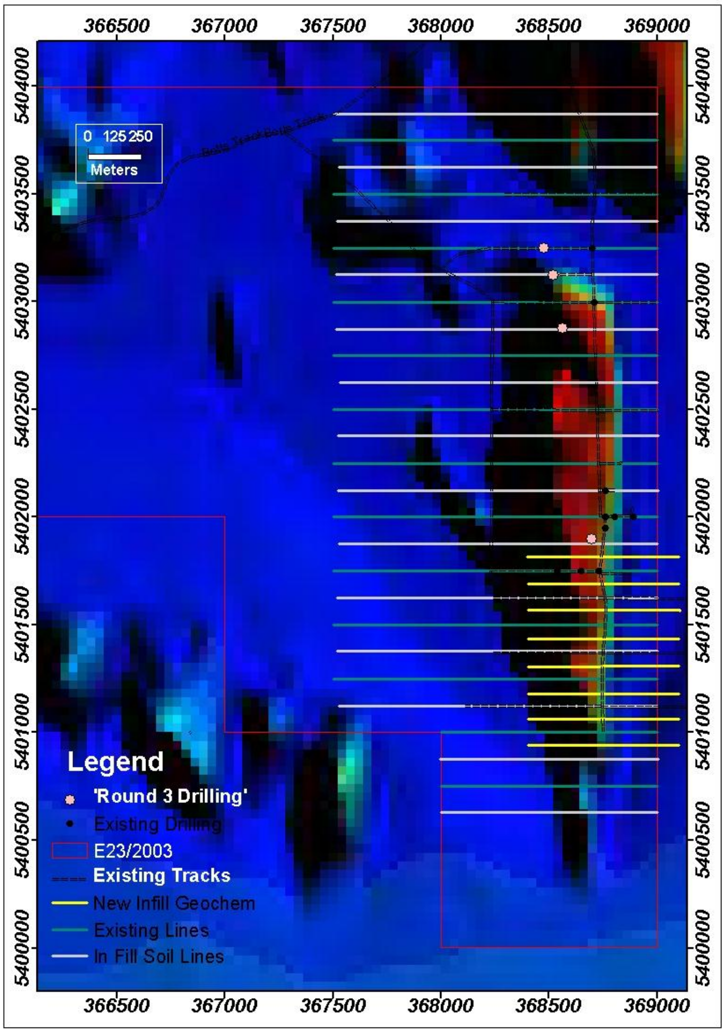

***Figure 9**. Infill Soil Traverses on the aeromagnetic image.*

Zinc and lead soil geochemical contours for the total soil sampling database (infill and original 250m lines) are illustrated in Figures 10 and 11 respectively.

Fifty three rock chip assays were also collected, assays and spatial data are located in Appendix 9.

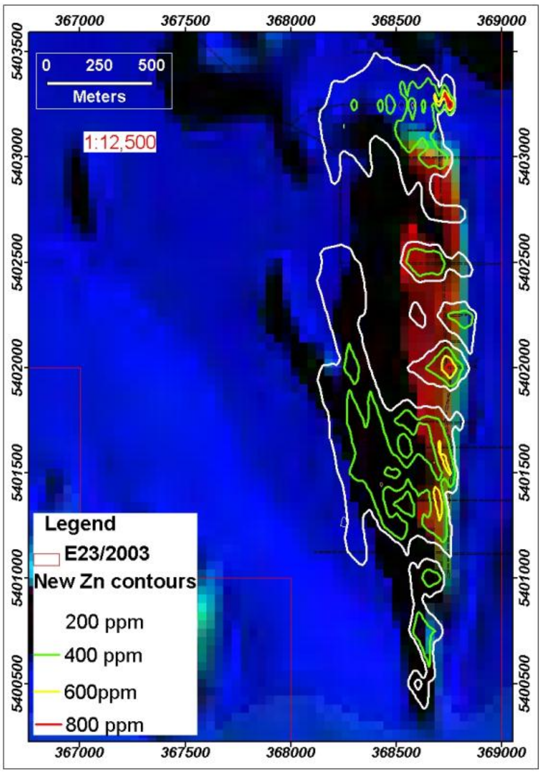

Figure 10. *Zn soil geochemistry.*

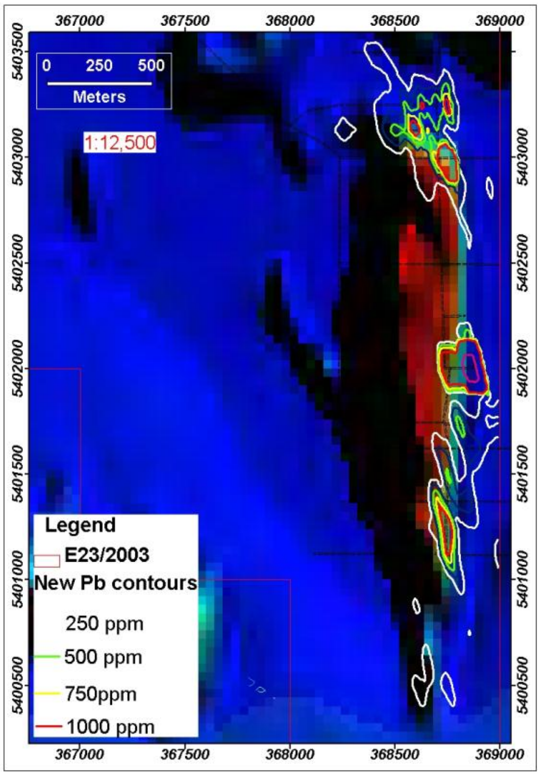

Figure 11. *Pb soil geochemistry.*

5. 3 Review of past work

5.3.1. Circular Feature, south of Betts Track

An unusual Circular Feature, with a diameter of 600m exists some 5km SE of Cleveland tin mine, at AMG AGD66 E367 500 N54 01 700 (Young, 1979). This feature is within Wilson River EL 23/2003. It lies within the headwaters of the Wilson River. The Circular Feature is not a geological boundary but is a topographic feature that is highly transgressive, and straddles the contact between the granite and Cambrian volcanics/sediments .

The feature coincides with a mapped embayment of the Meredith Granite (Late Devonian, K/Ar 350Ma) and mafic/ultramafic rocks and some DIGHEM anomalies. The granitic rocks vary from aplites to equigranular phenocryst rich granite and appears to be biotite depleted near the ultramafic contact; the granites are magnetically noisy. The basic volcanic in the area is altered into pale to dark grey-green chloritic rocks with common disseminated ilmenite and clasts. The serpentinite is dark green-black, magnetite rich and silicified. Derivation from peridotite is indicated by petrography (Young, 1979).

The Circular Feature was originally interpreted using aerial photos by Aberfoyle Limited and the contact of the Meredith Granite was explored in 1978-1981 (Young, 1979, Joyce, 1980a,b, expired EL 16/78). Stream sediment samples with up to 480ppm Sn and 1,700ppm Zn were considered to be encouraging and to perhaps reflect a Cleveland style tin deposit (Young, 1979).

Aberfoyle then explored for Sn/W using stream sediment sampling, base of slope sampling, gridding, soils and rock sampling (Joyce, 1980a,b). The stream sediments with up to 1,700ppm Zn were attributed to an ultramafic source.

In 1980, DIGHEM was flown by Aberfoyle across the Circular Feature along the northern contact of the Meredith Granite in EL 16/78. The small survey, of 90 line kilometres, generated bedrock anomalies in the east described below.

After interpreting the DIGHEM, magnetics and rock sample data, Aberfoyle constructed, across the Circular Feature area, a grid (base line from Betts track) with 5 cross lines spaced at 200m and 400m long. These were soil sampled at 20m intervals, with random rock chip sampling.

Although Aberfoyle assayed rock and soil samples for a range of elements (Sn, W, Cu, Pb, Zn, Rb, Sr, Bi, Mo, As) they did not analyse for Ni or Cr.

Ground Proton magnetometer survey indicates that the granite underlying the Circular Feature is noisy and stands out from the bulk of the Meredith Granite (Joyce, 1980a); this probably reflects absorbed mafics/serpentinite with refractory un-reactive magnetite becoming disseminated (compare Laverton, WA) (PJL). The ground magnetics also showed that about 1km east of the Circular Feature, is a strong magnetic response 500m wide. Soil geochemistry is weak with max Sn 24ppm but rock samples from a ridge of silicified, magnetite bearing, ultramafic are up to 2,100ppm; the area may contain skarn. (Joyce, 1980). The linear magnetic anomaly is related to outcropping magnetite and an air-photo lineament. Although rock samples gave a few encouraging results (max 2,100ppm Sn), grid soils were barely above background. Aberfoyle planned to undertake ground EM and geological mapping (Joyce, 1980).

5.3.2. DIGHEM Anomalies

Surveys by Aberfoyle of the DIGHEM anomalies, with key A4 maps, are reported in Joyce, 1980b, 1981.

DIGHEM 10A: 1km north of Circular Feature, DIGHEM anomaly in open button grass plain in mafic ultramafic complex. Most outcrop is of microgabbro that is weakly magnetic. Serpentinite occurs in the east with 4,500nT magnetic anomaly (Joyce, 1981). Sn values are low. Zn is higher over the ultramafic (EL 16/78, Young 1979, Joyce, 1981)

DIGHEM 12A: Within magnetic anomaly, serpentinite with magnetite and asbestos veins occurs in the area of a circular feature in a button grass plain within a mafic/ultramafic sequence. Tin results are low.

Grid based geological observations and rock samples were collected in 1981 across EM anomaly 12A. On new grid lines N10 400, 10,300 and 10,200 between E10,950 and 11,350 ultrabasic rocks with serpentine and asbestos, gabbro, etc with various sillicification/ chalcedony are reported. Sn, W, Cu, Pb, Zn, Rb Sr were assayed but not Ni, Cr (Joyce, 1981). One rock sample, on grid line N10,200 of chalcedonic silicified ultramafic at the granite contact contained 1,200ppm Pb, 1,300ppm Zn. One line of ground EM across DIGHEM anomaly 12A failed to show an anomaly (Joyce, 1981).

DIGHEM 14: Located 250m east of 14A. single line anomaly, very weak conductor, weak magnetic anomaly (Circular Feature), near granite/ultramafic contact, weak Sn max 60ppm in soils. (Joyce, 1980 7 1981)

***DIGHEM 14A east*:** Centre of Circular Feature, 1 line anomaly, weak EM conductor, probably at granite/ultramafic contact, weak soil max 44ppm Sn, probably a "geology" anomaly. No encouragement (Joyce, 1980, 1981).

DIGHEM 15A*:* 1km WSW of Circular feature, single line anomaly, medium strength conductor, probably a contact between low/high resistivity at edge of swamp, or raft in granite. Appears to be of steep dip, 10m wide. The conductor extended south to the EM survey boundary (EL 16/78, Joyce, 1980, 1981). This is outside EL 23/2003 and warrants investigation as an embayment of ultramafic in granite with sulphide (PJL).

Rock sample results and grid are shown on Randell (1987) and Joyce (1981). None of the DIGHEM anomalies have been assessed as nickel targets.

5.3.3. Review of Tasmanian nickel deposits

In Tasmania several nickel sulphide deposits are hosted by ultramafic rocks and some have been intermittently mined. The nickel deposits occur in several areas, including Heazlewood, Zeehan, and Trial Harbour (Botrill & Brown, 2003).

These deposits can be divided into five distinct types of primary mineralisation;

- Avebury, Zeehan, high sulphidation Ni (pentlandite-pyrrhotite) ores
- Cuni-type, Zeehan, high sulphidation Ni-Cu-Pt (millerite–chalcopyrite–pyrite) ore
- Lord Brassy, low sulphidation Ni (heazlewoodite–pentlandite) ore
- Nickel Arsenide (gersdorffite–niccolite) ores
- Medium sulphidation Ni-Cu-Pt (pentlandite–pyrrhotite–chalcopyrite
- Nickel laterites also formed due to the weathering of some primary deposits and ultramafic rocks.

Allegiance Mining NL has recently discovered the *Avebury* nickel deposit, six kms west of Zeehan, with some 4Mt @ 1.54% Ni containing +60,000t Ni. The ore is unique in that it is almost wholly composed of coarse-grained pentlandite which, when treated in a simple mill will produce a high-grade concentrate (22%Ni). There are indications, some 800m east of Avebury, of a second body of similar composition. A number of look-a-like prospects have been defined including Burbank, 4km W of Avebury, which has given similar geological, geochemical and geophysical signatures.

The Avebury deposits occur in concealed ultramafic associated with early Cambrian mafic rocks and sediments and volcanics (Crimson Creek Formation). The Heemskirk Granite, an S-type of Devonian (359Ma) age, outcrops about 1km east of the deposit. The granite also underlies the Avebury deposit and has probably caused remobilisation and concentration of nickel sulphide in the "pendant" rocks that it has intruded. The Zeehan area is complexly faulted and the Avebury deposit appears to coincide with an ENE-trend fault. The ultramafic rocks are probably a SW-part of the Serpentine Hill ultramafics that contain the Cuni nickel-copper deposit in gabbro.

In addition, at *Melba Flats,* Allegiance has discovered a deposit of more conventional mineralogy. Intersections of 5% nickel are accompanied by copper, cobalt, platinum, palladium and gold. Melba Flats deposit has a series of remobilised nickel-copper-cobalt zones at five locations over a strike length of about 3.5km. At *Nickel Reward* at the southern end where most work has been carried out to date, a pipe like massive sulphide body has assays typically of +6% Ni, +3% Cu plus cobalt and 2 g/t combined platinum, paladium and gold.

5.3.4. Past exploration in the Luina Wilson River district

1953-66 BMR (AGSO now GA) ran self-potential and ground magnetic surveys; these were reviewed BMR (1963), Falvey (1966). The conclusions of the day that SP over Cleveland mineralisation was unhelpful was later shown to be incorrect. Rio Tinto also took an interest in the Cleveland mine area but details have not been researched.

1963 EZ, 1963-1989, EL 5/63, EL 1/68, EL 11/75, Cleveland/Waratah district
Comstaff (Anglo American, Preussag, BHP joint venture) and ANZECO ran stream sediment sampling, maping, soils sampling around the northern and eastern Meredith Granite contact (Shaw and Everrett, 1985a,b). Various EM surveys and magnetic surveys were run. In 1981/83 they investigated the Deep Gully Creek anomaly and ran DIGHEM regionally that identified anomalies in Deep Gully Creek that were not further investigated (north of Wilson River ELA). Comstaff drilled two holes at Magnet MAG 1 -60/82, 278m; MAG 1 -60/82.5, 284m (Doris). BHP drilled BR1, on EL 5/63 in 1985 testing a DIGHEM anomaly at Butlers Road.1963-195, Aberfoyle, Cleveland & Meredith Granite north contact. *It appears that no work was undertaken on the Circular Feature at Wilson River.*

1963-1968 EL16/78 (A$376,064 historic), EL 34/1982, EL 1/63, ML 27M/1971, ML 84M/1984: Exploration and evaluation of the Cleveland tin & copper operation commenced in 1968; it became Australia's second largest tin operation after Renison Tin mine. Aberfoyle/Cleveland Tin reconnaissance geology, gridding 42km, ground magnetics 21km, SP 8km, soil sampling, stream sediment sampling, 13 areas selected for more work.

- An SP anomaly 225m long, some 300m north of the mine was untested; and
- that an SP anomaly of the Henry's type located north and west of the mine was untested;
- SP trend in *Deep Creek* is coincident with a Cu-Zn anomaly and this was developed as 9Cnorth (Ransom & Hunt, 1972). The review by Ransom and Hunt (1972) is definitive for the time. *It appears that no work was undertaken on the Circular Feature at Wilson River.*

1968-76 Cominco-Aberfoyle JV diamond drilling (Cox 1969). No mineralisation was found outside the Cleveland mine lease. Assay data indicated that the Halls Formation and the Eastern Sediments are most prospective for Sn-Cu targets. *It appears that no work was undertaken on the Circular Feature at Wilson River.*

1971 Hiatus in exploration with the Mineral Securtities debacle. Cominco acquired 54% of Aberfoyle.

1974: Aberfoyle aeromagnetic helimag survey, 52m line spacing (Palmer 1975a,b)

1975: In 1975, Aberfoyle Exploration and Cominco, stream sediment geochemistry and geological mapping. This resulted in a focus on two areas, the *South Magnet Dam area* (Wombat Flat?) and the *Washington Hay* area. Initial reconnaissance soil sampling suggested good potential in the South Magnet Dam area (Palmer, 1975). Zinc anomalies south of Arthur Dam. Low copper values coincide with weakly higher Zn values along the strike of the serpentinised pyroxenite extending south from Arthur Dam. Major Cu (>1000ppm)-Zn (>1000ppm) and fluorine (max 2,400ppm) anomalies are associated with Cleveland Mine; Cleveland lodes have 5-10%CaF_2. This resulted in a focus on two areas, the *South Magnet Dam area* (Wombat Hill) and the *Washington Hay/Cleveland* area (Stuart Smith, 1974; Palmer, 1975). *It appears that no work was undertaken on the Circular Feature at Wilson River.*

1976: Soil geochemical follow-up of weak stream geochemical anomalies in *the Washington Hay, South Magnet Dam and Wombat areas* (Ransom, 1976). Mapping in the *Magnet* area indicated moderate-hornfels arenaceous sediments with up to 10% magnetite (thin sections indicate primary?); tourmaline is present.
Exploration was conducted at Washington Hay: cleared lines, South Magnet Dam, cleared lines; Wombat area, cleared lines, soil geochem Pb, Sn (max 500ppm) (Fig)

1977 EL1/63 was reduced into 2-parts; hiatus in regional exploration with most effort on the mine.

1978-79: Aberfoyle compiled previous work across the northern parts of the Meredith Granite (Comstaff and ANZECO) and then collected 360 stream sediment samples (6/sqkm) and assayed for Cu, Pb, Zn, Mo, As; Ni and Cr were not analysed. They outlined three Sn-W anomalies-*Contact Creek-Scheelite Creek* (WSW of Cleveland), Upper *Castray River*, and *Betts track circular features* (White, Taylor & Young, 1979; Joyce 1981; Sise, 1985). *This included the Circular Feature of the Wilson River.*

1978 South of the mine two long diamond drill holes, and UTEM survey NE and S of mine (repeated in 1983); north of the mine UTEM 4 loops showed Halls Formation continued (Tulip and Eadie, 1979); weak conductors defined Webster (1979).

1979 *Washington Hay prospect*, 2 DDH, revealed weak mineralisation in breccia; DIGHEM II flow across granite contact areas one anomaly defined and concluded as being due to gravel below Tertiary basalt. Stream sediment sampling. New grid in the *Magnet Range*, mapping of ultramafic, sandstone, chert and volcanics. Minor soil geochemistry (Ellis, 1980).

1978-79: Aberfoyle compiled previous work across the northern parts of the Meredith Granite (Comstaff and ANZECO) and then collected 360 stream sediment samples (6/sqkm) and assayed for Cu, Pb, Zn, Mo, As; Ni and Cr were not analysed. They outlined three Sn-W anomalies-*Contact Creek-Scheelite Creek* (WSW of Cleveland), Upper *Castray River*, and *Betts track circular features* (White, Taylor & Young, 1979; Joyce 1981; Sise, 1985)

1979-80: Aberfoyle then collected a further 236 stream sediment samples, 833 base of slope samples and 150 rock chip samples on EL16/78 (Ellis, 1980; Joyce, 1980, Sise, 1985). In January 1980, a DIGHEM II survey was conducted in two areas and anomalies generated on the northern contact of the Meredith Granite- in the *Betts Track area* and *the Contact Creek-Scheelite Creek/Mt Youngbuck area*. A range of DIGHEM anomalies were selected for follow-up (Joyce, 1980b). Magnetic and soil anomalies are present in both areas (Joyce, 1980). SIROTEM, ground mag, geochem at Mt Youngback. Soil geochem Sn, Cu, Zn, Pb and costeans RA4, RA6

1981 New colour photos 1:15,000 and 1:30,000 were flown; DDH (397m length) located 500m south of Cleveland mine, cut barren limestone in Eastern Sediments. Petrography confirmed picrite and peridotite serpentinised (Ellis, 1981; McArthur 1981). In 1981, an EM-survey using DIGHEM II showed that the environment was generally resistive and magnetically active. Several EM anomalies were detected as conductive bedrock and overburden features, as well as due to culture. The resistivity technique delineated several low resistivity zones in bedrock that appear to warrant ground follow-up work (Dvorak & Vergos 1981)

1981 Government West Coast aeromagnetic survey (MRT)

1982: DIGHEM over entire Aberfoyle licence but little of significance was detected. The survey failed to detect remnant mineralisation in the crown pillar of Cleveland that extends to surface. A new interpretation of the geology at 1:10,000 was produced (McArthur 1982). Upper Castray River and Mt Youngback surveys (Sise, 1985).

1982-84: UTEM survey to NE and S of mine (repeated) and confirmed conductors at the contact of the Crescent Spur Sandstone and Halls Formation; best anomaly near South Falls Creek prospect (Randell, 1987). Focus was on the Foley Zone in the footwall of the Central mine sequence; minor gridding, mapping and sampling. Also Whyte River alluvials, Eastern Sediments and southern Halls Formation. *It appears that no work was undertaken on the Circular Feature at Wilson River.*
1983: MRT survey of the Luina and Wombat Flat areas after excision from EL 1/63 (Collins, 1983). The area of the Arthur Dam prospect is not within the ELA Wilson River of NCR.
On EL34/1982, south of Cleveland, BHP drilled the Luina Godkin deposit with one hole (?) of 342m -55/139 (Doris). Aberfoyle and Billiton JV is reported in Randell (1987)

1984: Aberfoyle was distracted by discovery of Hellyer.

1985: Aberfoyle collated past work onto 1:10,000 plans including stream sediment geochemistry (according to Cox, 1987), reviewed DIGHEM and aeromag on EL 16/78 (Staltari) and reviewed Mt Stewart basemetal mineralisation. Around Cleveland mine, they reassessed 1979 UTEM and defined 2-trends south of the mine. This was confirmed by Dronseika (1985) Drilling recommended. *It appears that no work was undertaken on the Circular Feature at Wilson River.*

1986: re-gridded EL34/82, magnetics.

1987 Review of past work and identification of exploration target areas at Washington Hay-Confidence-Godkin, and Anomaly G12 by Cox (1986) for Aberfoyle. *It appears that no work was undertaken on the Circular Feature at Wilson River.*

1986-90: Exploration to the south west and south east of Cleveland. **Billiton**/Aberfoyle EL 46/88, 34/82, gridded the Comstaff DIGHEM anomaly, mapping, ground mag, auger, rock chip and costeans at South Falls Creek, Falls Creek. Drilling returned poor Sn and basemetals. Relogging core and sampling Foleys Zone massive limestones (Randell, 1987). *It appears that no work was undertaken on the Circular Feature at Wilson River.*

1989 Placer investigated areas around Betts Track and north to Magnet Creek on EL 47/88 that replaced Comstaff's EL5/63. Emphasis was on gold search in the volcanics (Ellis 1989). Aerial photo interpretation of geology. Stream sediment sampling for 5kg, -6mm active sediment for BLEG cyanide extractable Au, with also Ag, Cu and 1kg conventional stream sediment -80#, Cu, Pb, Zn, Bi, Sb, Sn, Ag. Anomalous sites were resampled and then detailed sampled. Anomalous areas included

- on Magnet Creek BLEG 32ppbAu, 0.5%Cu, supported by -80# basemetals (outside of Wilson River ELA)
- Arthur River BLEG 0.2ppbAu, 240ppbCu, 32ppbAg (Ellis, 1989).

1990-93: Renison EL 12/90, EL 15/90 investigated the area and discovered a new skarn at Whyte River. They undertook a regional gravity survey, and soil geochemistry at Deep Gully Grid discovering an anomaly near the Waratah River. *It appears that no work was undertaken on the Circular Feature at Wilson River.*

1995 Data review, stream sediment survey, rock geochemistry at Magnet and Arthur Dam. MPI Gold undertook -80# and -16#BLEG stream sediment survey over mafic and ultramafic lithologies in the aureole of the Meredith Granite. They detected a geochemical anomaly SW of Arthur Dam with best values of 8ppb Au, 7ppb Sb associated with mafic to andesitic volcanics; analysed Cu, Pb, Zn, Au, Sb (no Ni) (Poltock, 1995). *It appears that no work was undertaken on the Circular Feature at Wilson River.*

1996-97, on ELs 48/94 (Waratah/Mt Bischoff), 49/94 (Whyte River, SW of Cleveland) &17/93 (Luina), Pasminco Limited flew an aeromagnetic survey on 100m line spacing over the entire area (digital, UTS Geophysics). Ground magnetic surveys were conducted along Butlers Rd (3.5km) and Betts Track (0.8km) and geological mapping along Butlers Rd and Corinna Rd including 12 thin section petrographic descriptions. Regional stream sediment sampling. Mapping near Magnet Creek; petrographic descriptions Follow up ground mapping, ground magnetics (10.5km), stream sediment, and soil sampling and rock chip sampling of two costeans was undertaken (McGunnigle, 1996; McGunnigle & Basford, 1997). *It appears that no work was undertaken on the Circular Feature at Wilson River.*
Two drill holes at the Arthur Dam geochemical anomaly south of Mt Magnet where Pb-As anomalies were coincident. A single diamond drill tested a magnetic anomaly north of the Magnet mine and intersected magnetite. (McGunnigle, 1996; McGunnigle & Basford, 1997).

A GIS (MapInfo) study of previous stream sediment, rock chip and soil geochemistry was undertaken for Cu, Pb and Zn anomalies around Magnet Creek and Arthur Dam. The West Magnet magnetic anomaly was considered shallow with no strong base metal association. (Weber, 1998). MPI concluded that the Magnet lode could be traced for 900m along strike but that of this only 69m had been mined. A large (1800m x 400m) alteration zone of propylitic minerals encompasses the lode.

1996-2000 Mineral Resources Tasmania flew in-fill fixed wing aeromagnetic regional surveys across NW Tasmania (Kevron Geophysics) and stitched these into previous quality surveys by private companies; terrain clearance was a nominal 80m with line spacing 200m. The results are available in ER Mapper format.

2001 NASA's Shuttle flew high-altitude Side Look Radar in a swath 80km by 18km from the Balfour area to Renison Bell. (NCR has not been able to access this data.)

2002 In early 2002, MRT commissioned Geo Instruments to fly a helicopter-borne Hummingbird **EM survey** of several areas in western Tasmania. EM digital acquisition specs are:

Line spacing: 200m, orientation 90^0true
Nominal flying height: 60m, 30m for the bird
Data output: every 0.1 seconds or less, flying speed 40m/s
Coplanar coil frequencies: 875, 6,606 and 34,133Hz

EL23/2003 is covered by the Meredith survey.

6. REHABILITATION

All drill pads and camp sites from the WRD1-WRD13 drilling campaigns were rehabilitated by re-seeding and covering with the original vegetation cuttings. Rubbish was removed from drilling operations while water traps and drainage channels used in the drilling process were scarified and leveled.

All gravel pits dug for the four wheel drive access track were back filled with the exception of a few left for emergency purposes. Rubbish was removed from drilling operations while the rehabilitation of water traps and drainage channels used in the drilling process were left until the drill pads were finished with. All soil sample locations have been back filled and covered over.

A site inspection was undertaken by John Pemberton from MRT in September 2011. Following his recommendations Jaguar sought a suitable drill rig to seal WRD16 which had been making water. A fishing tool was inserted to retrieve the PVC pipe, before parting at 39m. A Van Ruth Plug was then inserted to stop the water flow and the hole topped off with Fondu cement. All infrastructure deemed to be obsolete or not required in the immediate future was removed from site, as well as several trees which had fallen over the access track.

Rehabilitation of the track involved removing road base and then reusing to fill borrow pits, access tracks to WRD 14, 16, 15 & 17 were ripped and spread with original vegetation, in addition topsoil was brought in to WRD16.

7. EXPENDITURE

Table of expenditure 2012-2013

Track Rehab	$32,250.00
Sample Storage	127.87
Tenement Costs	$1,216.36
Total	$33,594.23
+10% Admin	3,359
	36,953.65

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Photo 1.
Betts track, main access route to the Wilson River Tenement

Photo 2.
Wilson River tenement; aspect looking east along a small tributary of the Wilson River with button grass plain in the foreground and forest covered ultramafic ridge in the background

Photo 3.
Dense vegetation over the ultramafic sub outcrop.

Appendix 1. **Rock and Soil Geochem Data.**

EL232003_201311_Geochem_RC & Soils 2005

Appendix 2. **Vegetation survey and assessment.**

Appendix 3. Jaguar Minerals, Logging Codes.

Appendix 4. **Drilling & Soil Geochem Data WRD1-WRD4**

EL232003_201311_appendix4A
EL232003_201311_appendix4B
EL232003_201311_appendix4C
EL232003_201311_appendix4D
EL232003_201311_appendix4E

Appendix 5. **Drilling & Soil Geochem Data WRD5-WRD13**

EL232003_201311_dhassay_appendix 5A
EL232003_201311_dhcollar_appendix_5B
EL232003_201311_dhgeology_appendix 5C
EL232003_201311_dhsurvey_appendix_5D
EL232003_201311_rocks_appendix_5E
EL232003_201311_soils_appendix_5F

Appendix 6. Petrology of Assorted Rock Samples

Appendix 7. Diamond Core Photographs – WRD5-WRD13

Appendix 8. **Appendix 8_Wilson_River_IP_Report_2008**

Appendix 9. **Infill Soil Sampling**

EL232003_201311_infill_soil_appendix_9A
EL232003_201311_rocks_appendix_9B
EL232003_201311_soils_appendix_9C
EL232003_201311_soils_rockchips_appendix_9D

Appendix 10. **Drilling Data WRD1-WRD17**

EL232003_201311_WRD1-WRD17_dhassay_Appendix_10A
EL232003_201311_WRD1-WRD17_dhcollar_Appendix_10B
EL232003_201311_WRD1-WRD17_dhsurvey_appendix_10C
EL232003_201311_WRD1-WRD17_txtsurveys_appendix_10D

Appendix 11. SGC DHTEM Report WRD14-16

Appendix 12. Appendix 12 Borehole PEM Survey

Appendix 10. **Drilling Data WRD1-WRD17**

EL232003_201311_WRD1-WRD17_dhassay_Appendix_10A
EL232003_201311_WRD1-WRD17_dhcollar_Appendix_10B
EL232003_201311_WRD1-WRD17_dhsurvey_appendix_10C
EL232003_201311_WRD1-WRD17_txtsurveys_appendix_10D