

Nelson Bay River Licence EL41/2004: Literature Study Report

November 2005

Prepared for :

Zinco Resources NL



CONTENTS

	Page No.
1. INTRODUCTION	1
2. LOCATION	1
3. PHYSIOGRAPHY & VEGETATION	1
4. TENURE	5
5. GEOLOGICAL SETTING AND MINERALISATION	7
5.1 REGIONAL GEOLOGY	7
5.2 LOCAL GEOLOGY	7
5.3 MINERALISATION	15
6. PREVIOUS COMPETITOR ACTIVITY	19
7. EXPLORATION POTENTIAL	24
8. RECOMMENDED EXPLORATION PROGRAMME	26
9. CONCLUSIONS	27
10. EXPERT COMPETENCY	28
11. REFERENCES	30

TABLES

	Page No.
Table 1 Sectional Resource Interpretation for the Nelson River Iron Mineralisation	18
Table 2 Summary of Previous Competitor Activity for EL41/2004	19

FIGURES

	Page No.
Figure 1 Location Map	2
Figure 2 The Nelson Bay River	3
Figure 3 Low Heath Peneplain	4
Figure 4 Plantation Forestry	4
Figure 5 Land Tenure Map	6
Figure 6 Anomalies and 1981 Air Photo Interpretation	9
Figure 7 Radiometric Image & Temma Geology	10
Figure 8 Radiometric - Based Geology & Temma Geology	11
Figure 9 WTMRP TMI Image & Temma Geology	12
Figure 10 TMI -1VD Image & Temma Geology	13
Figure 11 Interpreted Geology	14
Figure 12 Cross Section 1 (Newnham 2000)	16
Figure 13 Cross Section 2 (Newnham 2000)	17
Figure 14 Work Done Map	20
Figure 15 Nelson River Iron Occurrence	23
Figure 16 Anomaly and Target Map	25



APPENDICES

- Appendix 1 Open File Listing of Competitor Reports**
- Appendix 2 Selected Extracts from Competitor Reports**
- Appendix 3 Selected Maps from CRAE Report TCR84_2096**
- Appendix 4 Figures Showing Results from the WTMRP Heli-borne EM Survey**



1. INTRODUCTION

The purpose of this report is to undertake a literature review of all relevant data for the Nelson Bay River area, held under licence by Zinico Resources NL as EL 41/2004. The review will include searching and summarising previous competitor activity in the general area from reports digitally available online from the Mineral Resources Tasmania (MRT) Library. In addition government data in the form of digital datasets will also be used to formulate a geological synthesis of the area. From the data synthesis a series of exploration targets and target types will be created, including the identification of drill targets.

2. LOCATION

The exploration licence EL 41/2004 measures 50km² and is located about 7km north east of the small township of Temma, and about 60kms southwest of Smithton, in North West Tasmania (Figure 1).

Main road access to the property is via the Temma and Heemskirk roads, whilst parts of the licence can be accessed by the Wuthering Heights forestry roads. Off-road access is potentially very difficult, possibly requiring helicopter-supported access. Previous explorers have created 4WD tracks, some of which require refurbishment for access to target areas. The access road from the coast to the Nelson River Iron prospect was last used by Geopeko in the early 1980's but even then it "soon became very boggy and eventually it became necessary to use a bombardier to provide daily transport to the grid".

The Nelson River Iron Prospect is accessible from the Wuthering Heights forestry track and then by foot using a previous explorer's track. This track has been environmentally rehabilitated but requires relatively minor works to reactivate it in order to allow for machine access.

3. PHYSIOGRAPHY & VEGETATION

The west of the property lies within a peneplained hinterland to the coast with fossil sand dunes locally. In the east the terrane becomes more undulating with incision by creeks (Figure 2). There are major rivers draining east to west, close to or through the property, including Sundown Creek, Sardine Creek and the Nelson Bay River.

Climate is temperate with substantial annual rainfall typical of Western Tasmania. Temperature ranges from just above freezing in winter to a likely maximum of 30°C in summer

Vegetation cover is a mixture of low level heath in the west of the licence and plantation forestry in the east of the area (Figure 3 & Figure 4).

Figure 1
Location Map

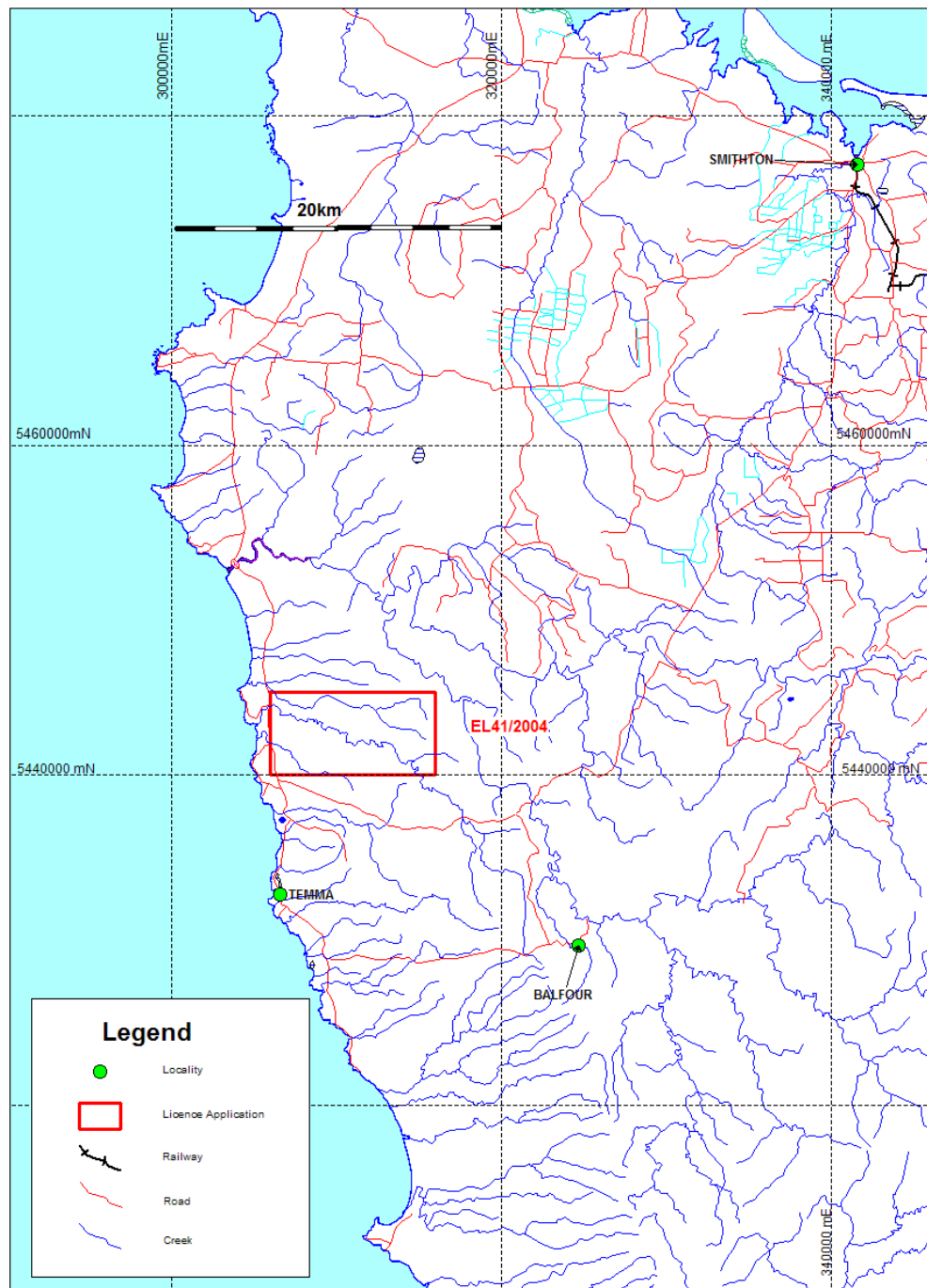


Figure 2
The Nelson Bay River



Figure 3
Low Heath Penneplain



Figure 4
Plantation Forestry



4. TENURE

The land tenure situation in Tasmania is based on a series of classifications that have resulted from the Regional Forestry Agreement (RFA). This act established, in conjunction with other stakeholders interests, which land is available for exploration and mining e.g. State Forest. Some of the main land use categories that are covered by the RFA, and which allow for mineral exploration and mining subject to a project activities review, are Nature Recreation Areas, Regional Reserves and Conservation Areas. These three categories can be regarded as the same for mineral exploration purposes; they have different objectives for other land users e.g. hunting, forestry etc. An exploration work programme that is planned within any of the above three categories triggers the Mineral Exploration Working Group (MEWG) which reviews the planned work programme, making recommendations and/or modifications to the plan. This group is convened by MRT on behalf of any applicant with the review process undertaken in a timely manner. Other land categories which allow mineral exploration/exploitation include a Forest Reserve which is not available for forestry use; an MDC Informal Reserve is a forestry-related category that has a very minor impact on mineral exploration. The main areas where mineral exploration is not permitted are Nature Reserves, State Reserves and National Parks.

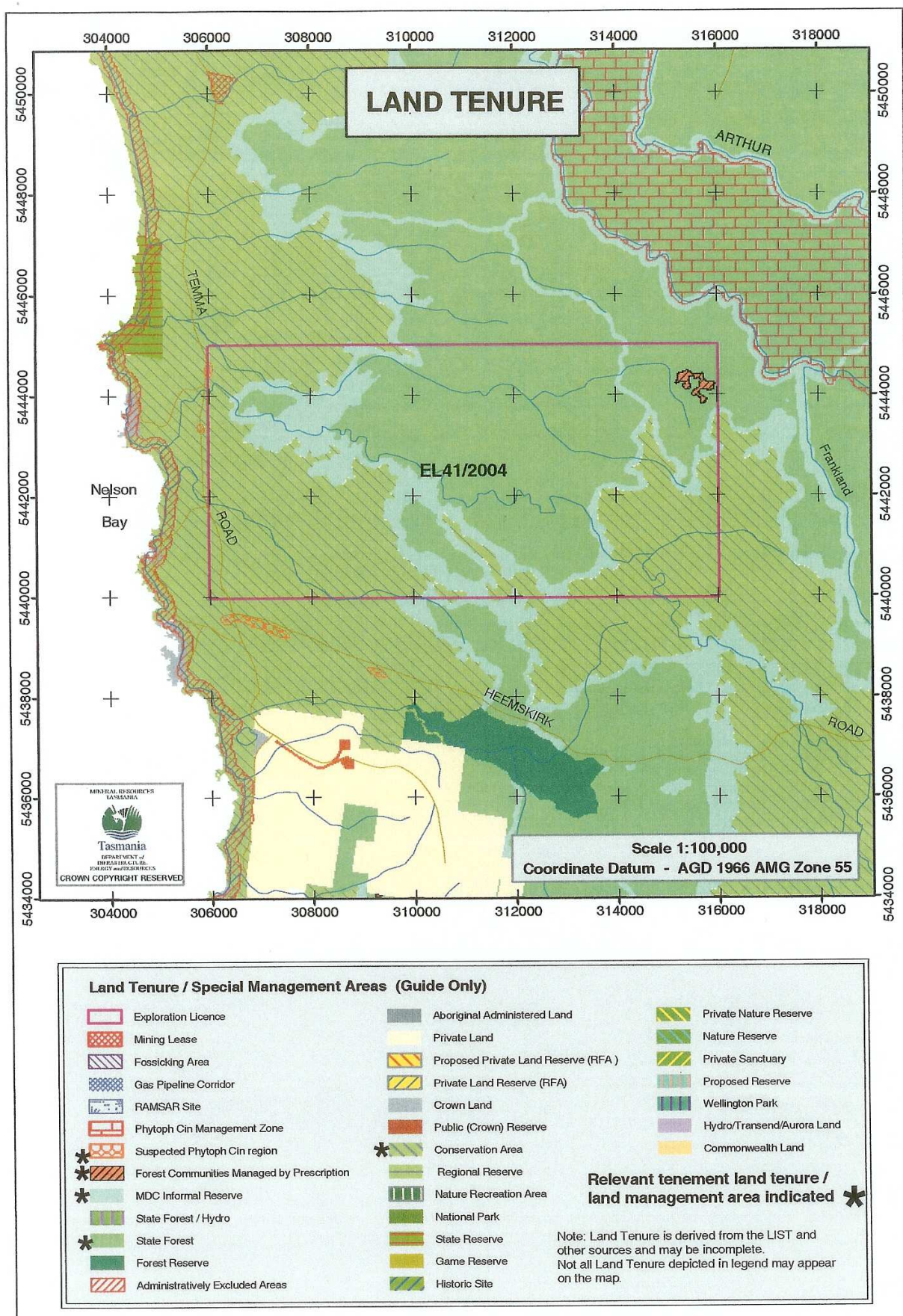
For the Nelson Bay River licence 55% of the tenement is State Forest with 40% classified as a Conservation Area with the remaining 5% as an MDC informal reserve. A small 'forest community managed by prescription' occurs in the northeast corner of the tenement but information supplied by MRT indicates that it is not likely to be an impediment to mineral exploration.

MRT have informed Zinico NL that there are no mining leases within the property.

A map detailing the tenure and land use situation is included as Figure 5.

Peripheral to the south west corner of the licence there are recorded areas of the plant disease *Phytophthora Cinnamoni*. Care must be exercised when working near these areas to avoid spreading the infestation. This generally refers to washing all field gear ranging from gumboots to heavy plant machinery when moving to new sites/locations.

Figure 5
Land Tenure Map



5. GEOLOGICAL SETTING AND MINERALISATION

5.1 REGIONAL GEOLOGY

The geology of the Nelson Bay River tenement consists of mixed siltstones, sandstones and carbonaceous mudstones of the Cowrie Siltstone, part of the Rocky Cape Stratotectonic Element. This element consists of Early Neoproterozoic autochthonous marine shelf clastic sequences, relatively unmetamorphosed to lower greenschist facies, overlain (outside the licence area) unconformably by various suites of younger Neoproterozoic rocks. There are suggestions, Leaman in Cromer 1988 and Tear & Russell 1998, that the Proterozoic rocks were thrust over the Cambrian sequence.

5.2 LOCAL GEOLOGY

Rocks in the Nelson Bay area comprise finely laminated, psammo-pelitic, Proterozoic-aged siltstones with medium grained sandstones/quartzites. The quartzites are clean, well sorted, and massive to thinly bedded and up to 200 m thick. Variable siltstones include finely laminated units to 'pyjama' siltstones, chloritic siltstones/schists and carbonaceous siltstones – similar to the rocks seen at Balfour. The rocks strike northwest and generally dip to the east between 55° and 65° and face east.

Carey's 1981 air photo interpretation divides the licence area into two sections using the Lagoon River Fault (Figure 6). Southwest of the fault he interprets finely bedded slates and silty greywackes with only minor amounts of quartzite (the Epsilon Unit). He has equated this unit to the Balfour Slates and the Interview Group. Northeast of the fault and much higher in the Proterozoic sequence lies the Phi and Sigma Units, the former has a lot of carbonate/dolomite within it, whilst the latter comprises a mixed sequence of dolomite, chert, volcanics and basalts. Recent field observations and local knowledge by the Author do not support this. However Carey's structural interpretation implies multiple fold hinges of varying orientations and is believed to be plausible by the Author. Carey also suggests that the Balfour Deep Fault passes through the northeast corner of the current licence. The Author believes that the Balfour line lies further to the east based on work reported by Tear 1996 and Tear & Russell 1998.

MRT have interpreted a series of sub-units within the Cowrie Siltstone on the Temma 1:25k geological mapsheet immediately south of the Nelson Bay River licence. The bulk of the interpretation is based on the West Tasmania Mineral Reconnaissance Programme (WTMRP) airborne radiometric data (Figure 7). The data can be extrapolated into the Nelson Bay River licence to create a coherent map of lithological sequences (Figure 8). However a site visit to the Nelson Bay area has indicated that some of the distinctive radiometric units mimic changes in vegetation type. Peat soil cover appears to be quite thick in large parts of the area and it is felt that this would mask any radiometric signature related to the underlying lithotype. Therefore it is uncertain how relevant the vegetation changes are to the underlying rocks. A review of the TMI and TMI-1VD images shows that there is not a lot of coincidence with the radiometric units. In addition reviewing the lithological descriptions of the radiometric units shows that there are many similar rock types within each sub-unit which also suggests a weakness in the strategy of compartmentalising units based on radiometric data.

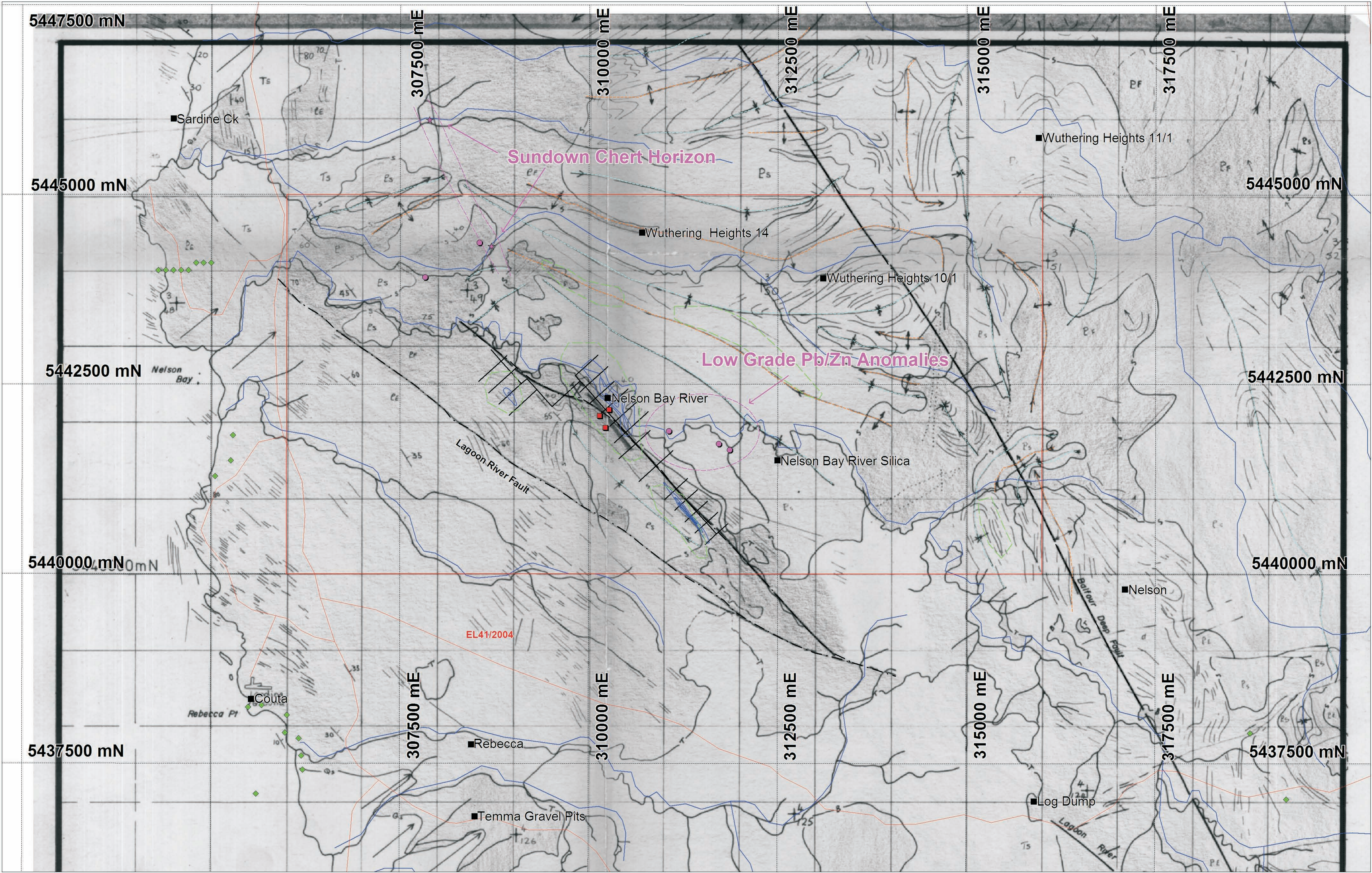
A geological map has been attempted for this report based on a combination of structure from the WTMRP 1VD image and delineated magnetic-related units from the TMI image (Figure 9, Figure 10 & Figure 11).

The key features of the new geology map for the general licence area are:

- a new set of geological units:
 - Unit A is a distinctly dappled unit in the 1VD image. It may correspond with the Wavy Laminar Unit at Balfour (Tear & Russell 1998).
 - Unit B corresponds to Carey's Epsilon Unit, interbedded siltstones. A distinctive unit in the 1VD image and this unit may be similar to Unit Q.
 - Unit C is the core of the proposed anticline and may be similar to Unit Q.
 - Unit D appears to be a distinctive unit in the 1VD image, belonging to no other unit.
 - Unit E part of a magnetically distinct unit in the TMI image linked to Unit F.
 - Unit F equates to the Scoured Channel Unit reported by Tear & Russell 1998, at Balfour. The unit corresponds to a discretely magnetic unit in the TMI image.
 - Unit Q is a large area of rocks with similar features in the 1VD image. It is believed to be a mixed quartzite and siltstone unit.
 - Magnetic Feature corresponds to a discrete magnetic feature that may be a folded part of the Ironstone, maybe a fault or some other unexplained unit.
- the possibility of a plunging anticline adjacent to the Nelson River Iron anomaly, with the anomaly lying in the southwest limb of the anticline, possibly as a fault structure and/or as a folded dyke(?),
- a series of N-S striking dykes from the north appear are truncated near the Nelson River prospect,
- the northern limb of the proposed anticline is visible as an approximately E-W to WNW-striking magnetic anomaly; and
- a major northwest to north-northwest striking fault is inferred to pass through the western third of the licence with a second parallel fault interpreted 5km to the east. The former could be Carey's Lagoon River Fault. In between the two faults lies the Nelson River Iron feature with the same orientation. This orientation is also parallel to the Balfour Copper Trend. A second set of faults striking roughly ENE (to E-W) is also interpreted.
- part of the Balfour sequence occurs in the far NE corner of the licence (based on magnetic correlation from Tear, 1996).

Prospect scale mapping of the Nelson River area by Australian & NZ Exploration Co (Brandt 1973) records a series of clean quartzites units on the south west side of the iron feature. Whilst the Geopeko mapping is confined to the magnetic grid, it details a series of interbedded quartzite and siltstone units. The Pacific Nevada drilling results (NBR001 and NBR002) confirm the northeast dip of the beds. The Geopeko work also indicates the oblique cross cutting nature of the iron formation, whilst the Pacific Nevada data confirms the steep (>60°) dip of the lode to the southwest.

The geological map indicates that the Balfour sequence of lithologies cuts across the northeast corner of the licence. Part of the sequence is in faulted contact with other units and this may be analogous to the Balfour situation and hence there is potential for structurally controlled copper mineralisation.



Legend

- EL41/2004 Licence Outline
- REBECCA Mineral Occurrence
- Creek
- Road
- WTRMP Magnetic Anomaly
- Pb/Zn Anomalous Stream Sediment Site
- Pb/Zn Anomalous Rock Sample
- Nelson River : Ground Magnetic Anomaly Contours
- Nelson River : Anticline Axis
- Nelson River : Syncline Axis
- NBR401 Competitor Drillhole - Nelson Prospect
- Competitor Drillhole

Lithologies from Carey's Air Photo Interpretation

- Ps Sigma Unit (Carbonates?)
- Pf Phi Unit (Dolomite, Chert, Volcanics and Basalts?)
- Pe Epsilon Unit (Siltstones, Silty Greywackes and minor Quartzites)
- Ts Tertiary Sands

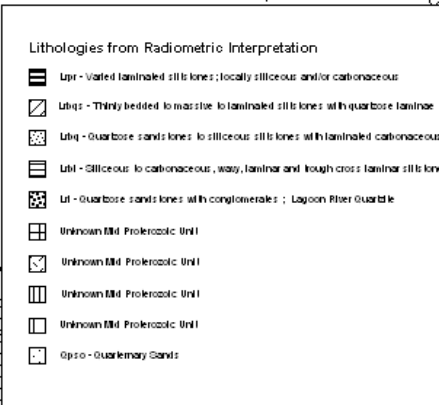
SMG Consultants Pty Limited

EL 41/2004 Nelson Bay Project

Anomalies & 1981 Air Photo Interp

Drawn by : S.J.Tear November 2005 Scale 1:20000

Figure 8



[illegible]

TMI -1VD Image & Temma Geology

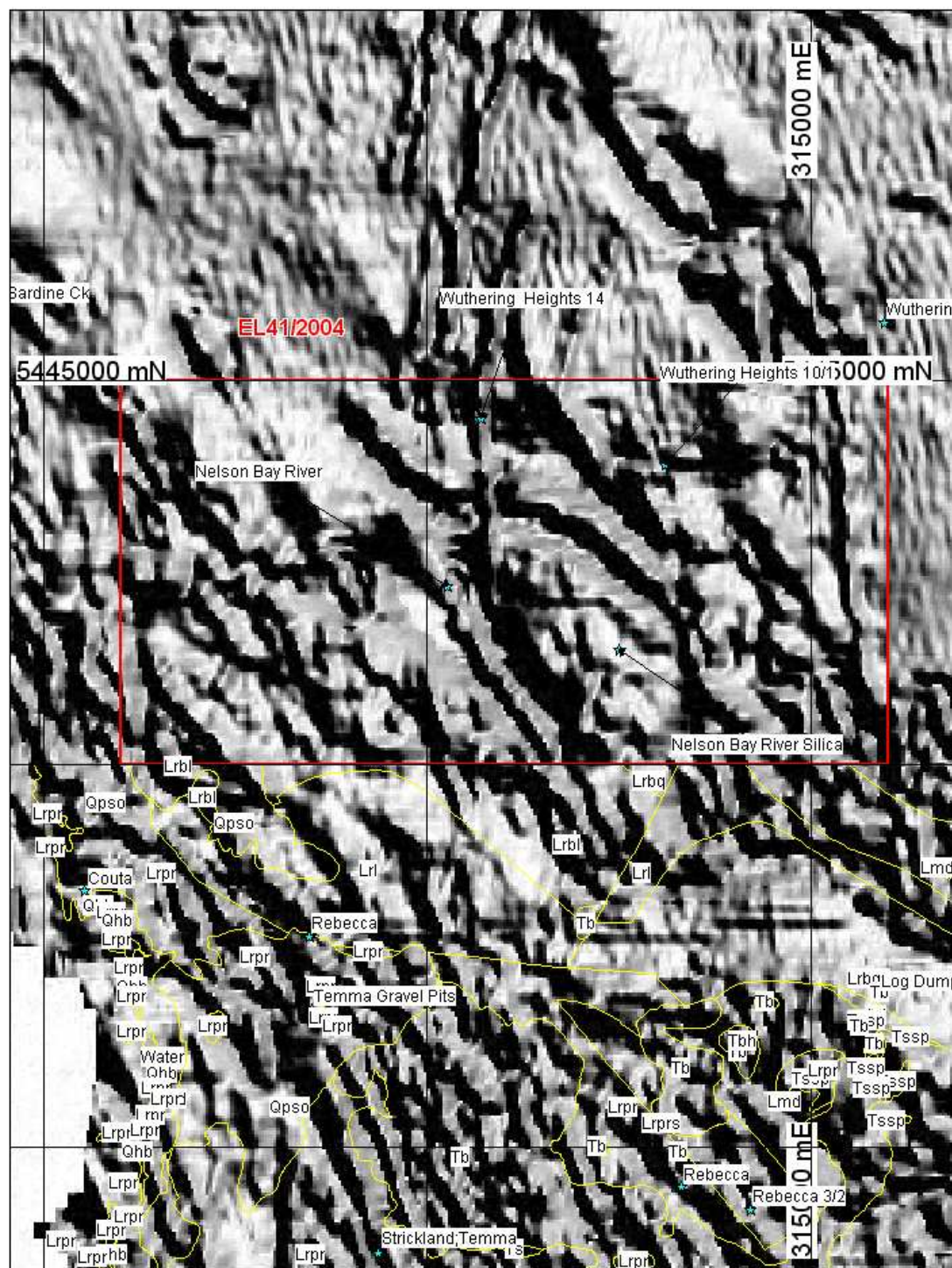
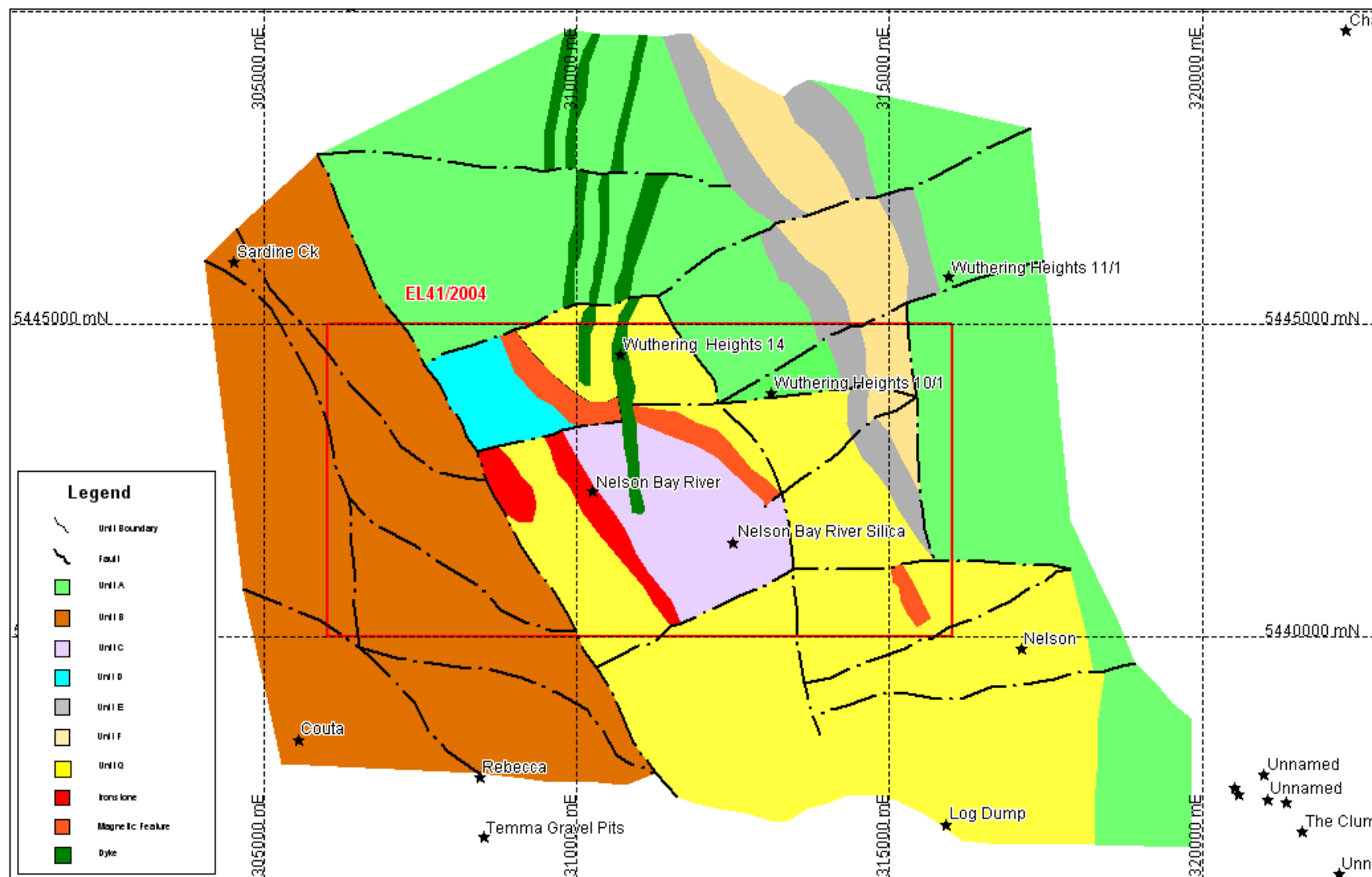


Figure 11
Interpreted Geology



5.3 MINERALISATION

Within the Nelson Bay River Licence there are four mineral occurrences listed in the MRT database. The main one of interest to Zinico is the Nelson River Iron occurrence, with the remaining three being recorded instances of sand and gravel.

The Nelson River Iron occurrence is a 4km long, stratabound airborne magnetic feature confirmed in the WTMRP airborne surveys. Follow up ground magnetic work by Geopeko in the 1980's has shown that the airborne feature splits into two anomalies, a northern one and a southern one. In the field, the northern anomaly comprises at surface of an 800m long lode of granular aggregates of hematite and magnetite in an iron clay and/or siliceous matrix. At depth it becomes up an "ultramafic dyke-like structure", up to 40m wide, containing a quartz-carbonate-magnetite-pyrite-garnet-chlorite-amphibole assemblage that dips 60° west and cross cuts stratigraphy at about 70° (Figure 12 - Newnham 2000). The dyke is sub-parallel to the lithological strike. Alteration associated with the dyke consists of a "white mineral and olive coloured silicate, fibrous amphibole and green silicates". In addition dense clusters of garnet are reported at the ultramafic's contact with the sediments. This mineral style has been linked in the past to Proterozoic iron formations similar to that which occurs at Tennant Creek (Newnham 2000).

Drill logs for NBR001, NBR002 and N401 show that there is a magnetite-rich footwall zone to the dyke, which in NBR001 has yielded a 7.3m zone at 46.5% iron from 221.1m, within an overall zone of 31m @35.8% iron from 199.5m. The geological description for this lode is "magnetite-actinolite/chlorite skarn and...sulphide-poor...". Core recoveries for this interval are 100% with the core being described as very competent. This footwall zone appears to be repeated in N401 (140m updip on the same section) and in NBR002 (200m to the south but appears to be more pyritic – Figure 13).

A resource outline can be based on the geological information in the drillholes combined with the surface magnetic work and the geological mapping. Interpolated strike and downdip lengths can be ascribed to the drillhole intercepts to create a coherent body. The resource shape is the inferred strike length multiplied by the inferred downdip length multiplied by the estimated true width for each drillhole intercept. A tonnage value was derived from an estimated density value of 4t/m³ (magnetite is 5.1 t/m³ - 5.2 t/m³).

A notional 30% Fe was used as a cut off for calculating the weighted averages for each drillhole intercept. Thus a simple sectional resource calculation is based on:

1. The weighted average intercepts for the magnetite zone from the three drillholes,
2. Assuming the iron assays represent magnetite,
3. The Geopeko mapping (for geological continuity),
4. The Geopeko ground magnetic survey (for geological continuity); and
5. Using a density of 4t/m³

Figure 12
Cross Section 1 (Newnham 2000)

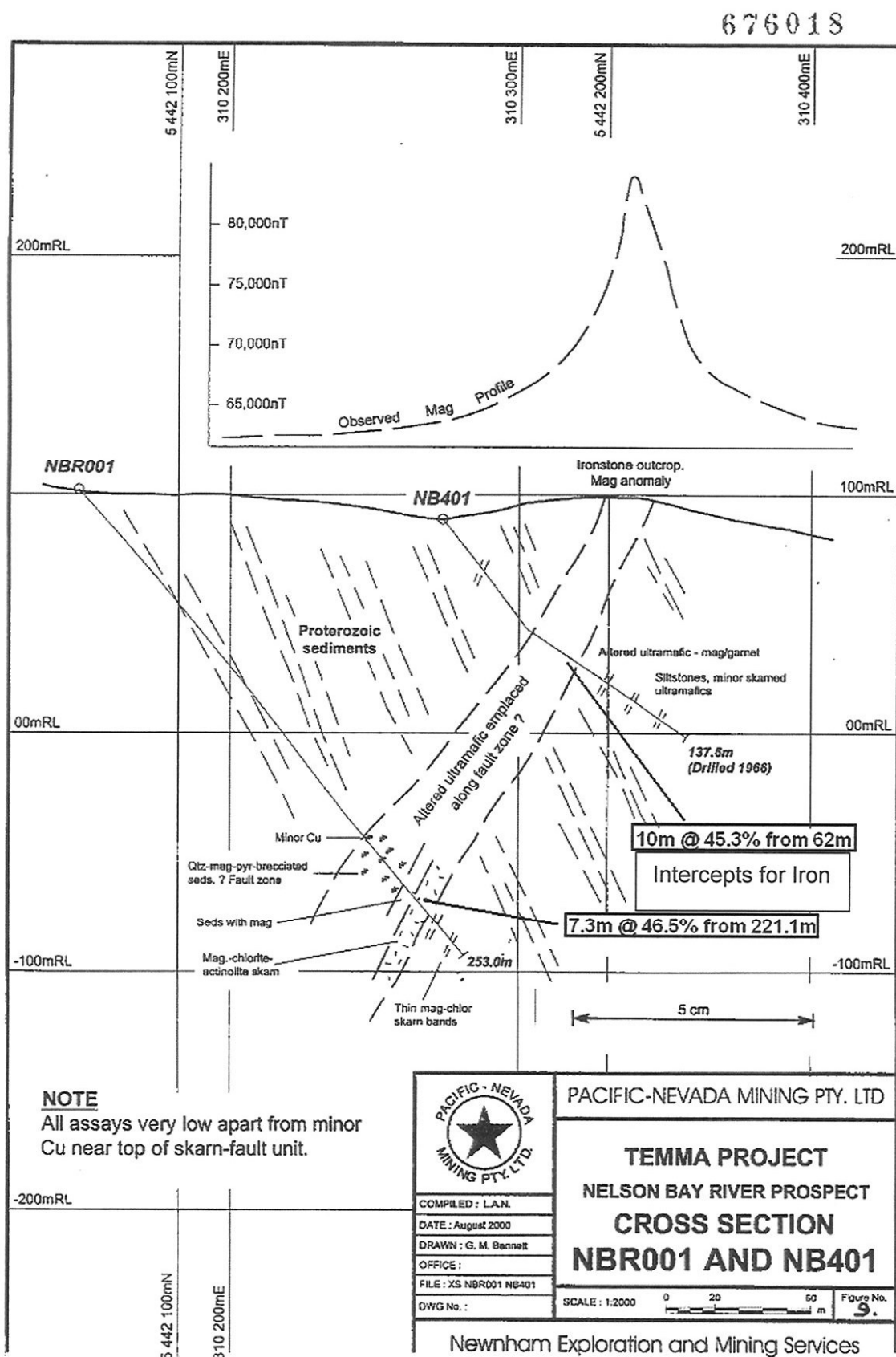


Figure 13
Cross Section 2 (Newnham 2000)

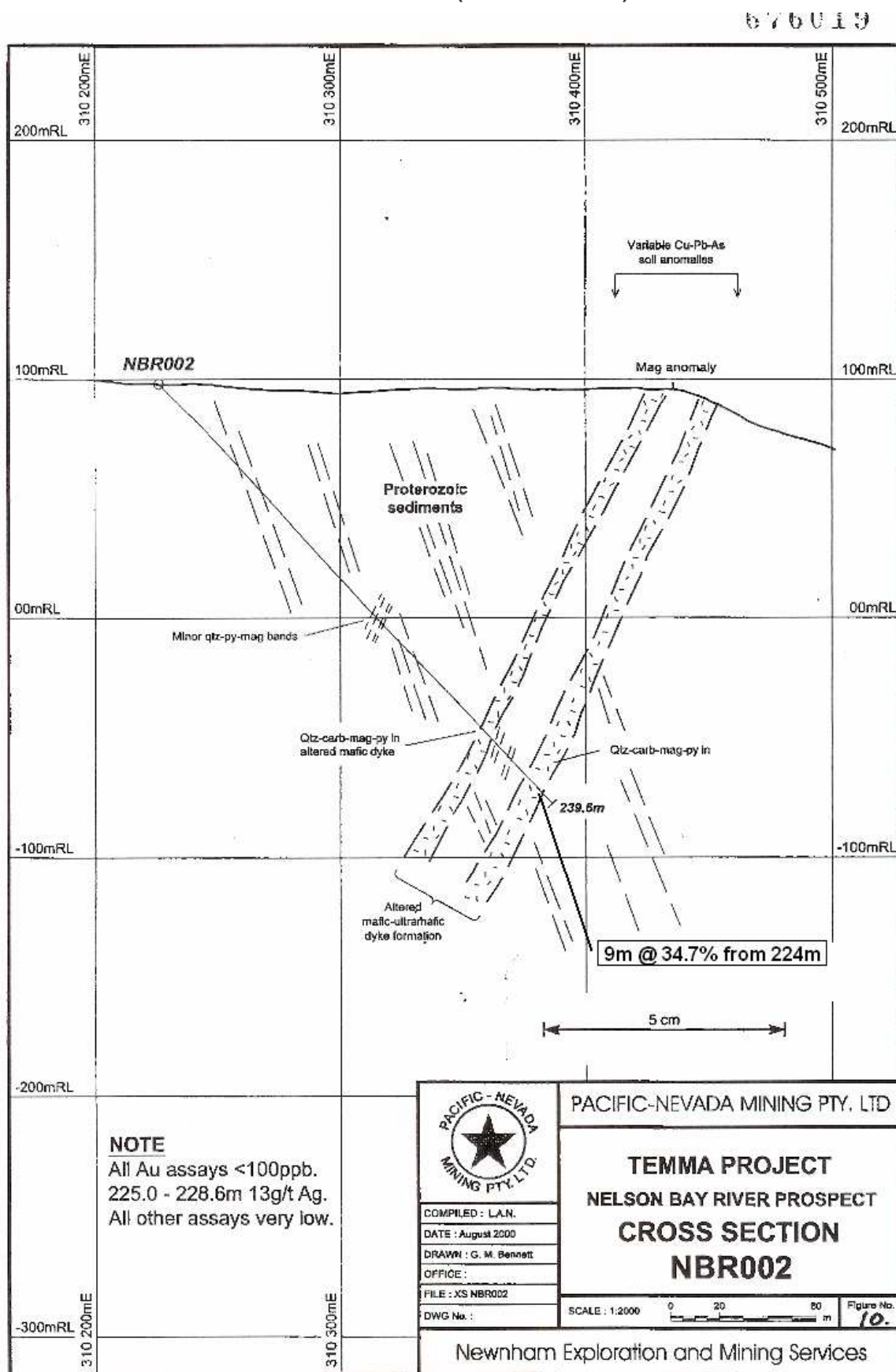


Table 1
Sectional Resource Interpretation for the Nelson River Iron Mineralisation

Drillhole	Width (m)	Estimated True Width (m)	Strike (m)	Dip (m)	Fe Grade %	Volume (m ³)	Tonnes (t)
N401	10	8.5	300	125	45.3	318750	1275000
NBR001	7.3	6	300	100	46.5	180000	720000
NBR002	9	7.5	300	225	34.7	506250	2025000
						Totals	4020000

The figures used in Table 1 generate a simple inferred resource figure of 4Mt @ 40% iron for 600m of strike length and 225m of dip length with an estimated true width of 7.5m.

A key assumption in the resource calculation is that all the iron in the assays is due to magnetite. This is perhaps unlikely as there are reports of other iron-bearing minerals present including actinolite, chlorite, pyrite and possibly siderite. It is recommended that some initial metallurgical/mineralogical testwork is completed on the core to assess the mineralogical compositions of the core. There are no indications in the logs as to the relative abundance percentages of the iron minerals present.

Potential for additional resource for the northern magnetic feature lies mainly downdip, although some minor potential exists along strike to the north and south (up to 100m each way). The 31m @ 35.8% Fe zone in NBR001 contains a second high grade zone within the main part of the dyke as “massive to semi-massive magnetite and fibrous dark green actinolite”. This zone contained 10.5m at 37.6% iron from 199.5m with bad core recoveries and at this stage is unreliable other than an indicator of potential resource.

Other potential exists with the second southern magnetic anomaly and a small magnetic anomaly 1km to the west of the main northern feature. No explanation is offered as to what happens to the footwall zone between the northern and southern magnetic anomalies.

There are additional magnetic features in the WTMRP data that could indicate mineralisation e.g. 1km north of Nelson River and an anomaly in the far south east of the licence.

Outside of the licence, the nearby Temma copper occurrence consists of disseminated chalcopyrite and pyrite in honeycombed quartz veins ranging from “1’ to 4’ wide”. The feature is reported as being 600’ long and strikes 330°.

The licence area has three other mineral occurrences listed in the MRT MIRLOC database. These are Wuthering Heights 10/1, Wuthering Heights 14 and Nelson Bay River Silica and all are sand and gravel alluvial occurrences.

6. PREVIOUS COMPETITOR ACTIVITY

The following table summarises work completed on the area represented by the current Nelson Bay River licence EL41/2004. The main target has been the Nelson River Iron occurrence. Other areas of interest include the Sundown Chert anomaly and other untested magnetic features from the WTMRP data. A Work Done map is included as Figure 14 and a full listing of previous explorer's reports relevant to the area is included in Appendix 1.

Table 2
Summary of Previous Competitor Activity for EL41/2004

Company	Year	Licence No	Drilling	Other Work
Pickands & Mather	1966-1972 approx	EL16/68	At least 1 hole for 137.6m	Mapping, ground mag and soil sampling Cu, Pb, Zn, As
Australian & NZ Exploration Co	1972-1973	EL8/72	None	Details the Nelson River Iron Prospect (& a tungsten search) as well as looking at the nearby clean quartzites for silica. Reconnaissance and local mapping completed
CRAE	1977-1984	EL1/77	None	Details the Sundown Prospect as a result of stream sediment sampling and prospecting. Thin section work identified tuffs (and a sinter?) with anomalous lead values
CRAE & Geopeko	1981-1982	EL1/77	None	Ground magnetics and vehicle mounted auger drilling delineate the Nelson River iron feature better.
Bach Holdings	1986-1990	EL33/86	Auger work	Tested various Quaternary sand deposits for heavy minerals.
Pacific Nevada	1997-2001	EL15/97	2 holes for 492m	Re-interpreted AGSO air magnetic data, re-logged and re-sampled Pickands 1967 drillhole. Drilled two hole on the northern anomaly

Extracts from some of the open file reports are included in Appendix 2.

The first exploration work undertaken in the licence area was Pickands Mather work in 1966 which began with identifying a distinct magnetic anomaly in airborne data known as the Nelson River anomaly (Davies 1969). Follow up ground work resulted in the drilling of one diamond drill hole, N401, which encountered magnetite (and poor recoveries) at about 70m below surface. Assaying for lead, zinc, silver, copper and arsenic yielded weakly anomalous zones associated with the 'lode'.

[Note: the MRT open file library report TCR 73-950 contains 2 large maps by Pickands Mather for the Blocks prospect (part of its Mt Balfour project) with coordinates showing the prospect being located mainly within EL 41/2004. The DORIS drillhole database features two holes (of a 3 hole set), which are located in the northeast corner of the same licence. In both instances the author believes these maps and drill hole locations to be in error. They both relate to the Blocks prospect which exists about 10km to the southeast in between The Clump and Murray's Reward copper prospects near Balfour. The accompanying text report for these maps confirms the Blocks position near Murray's Reward.]

In 1973 the Australian & New Zealand Exploration Company provided details of the Pickands Mather exploration work at the Nelson River prospect (Brandt 1973). Their main area of interest was the nearby clean quartzites for the potential production of silica.

CRAE Pty Ltd. in 1978 undertook exploration beginning with a major regional stream sediment and rock chip sampling programme (Weir 1981). This work was reported to have delineated a five anomalous value cluster for the Nelson River Iron feature with peak rock chip values to 105ppm Pb, 475ppm Cu, 130ppm Zn and 170ppm As. However an inspection of the maps with the creeks and the anomalies marked on seems to indicate that the anomalous creeks are not draining the main drill tested anomaly but appear to come from the southern magnetic anomaly area. No further work was undertaken by CRAE. Not all of the CRAE stream sediment sites are in the MRT stream sediment database.

Geopeko in 1983 (Herrmann & Sumpton) repeated the Pickands Mather work at Nelson River, by re-establishing the baseline and the grid. They then completed a ground magnetic survey that separated the airborne anomaly into two distinct anomalies, a southern and a northern one. In addition a geochemical survey was completed by collecting C-horizon soil samples using a bombardier mounted power auger (a Jackro), and portable motor driven auger (a 'Mate'). This work produced a very distinct soil anomaly over the northern magnetic feature with Cu to 350ppm and Pb to 725ppm. There was no anomaly over the southern magnetic feature but this may be a function of overburden thickness and type. Geopeko also re-assayed the Pickands Mather drillhole N401 recording 0.42% Cu over 1.22m from 85.2m. Gold assays indicated only low levels were present.

CRAE Pty. Ltd. undertook further mapping in 1983 (Weir 1984 and Appendix 3) for an area around Sundown Creek in the north of the current licence and just beyond. They identified a mixed sequence of northwest striking quartzites, black siltstones with cherts, chloritic siltstones (possibly tuffs) and black shales. Thin section work suggested that a pyrite-chalcedonic rock was a volcanic sinter hosted within the chloritic tuff units. Locally there are varying quantities of pyrite within the sediments and pyritic quartz veins developed in fault zones were observed. A black carbonaceous chert was found in Sundown Creek with anomalous levels of lead and arsenic. This package of rocks is very similar to rock sequences mapped by CRAE at Balfour in 1996 (Tear & Russell 1998) although no volcanics have been confirmed at Balfour. Interestingly this unit appears to be along strike from the Nelson River iron mineral occurrence although the geology map indicates a possible truncation of the chert unit by an ENE fault.

In 1989/1990 David Leaman, at the behest of Aureole Resources, produced a set of regional structural interpretations from geophysical data for a large area of northwest Tasmania. He identified a northwest trending 'anticlinal' residual Bouguer gravity anomaly roughly centred on the Nelson River Iron feature. He deduced a possible conjugate set of structures striking east-northeast and northwest. He also proposed that the Proterozoic was thrust over the Cambrian with the contact depth between 0.5 and 1km. A shallowing of this feature was thought to exist in the Nelson River area.

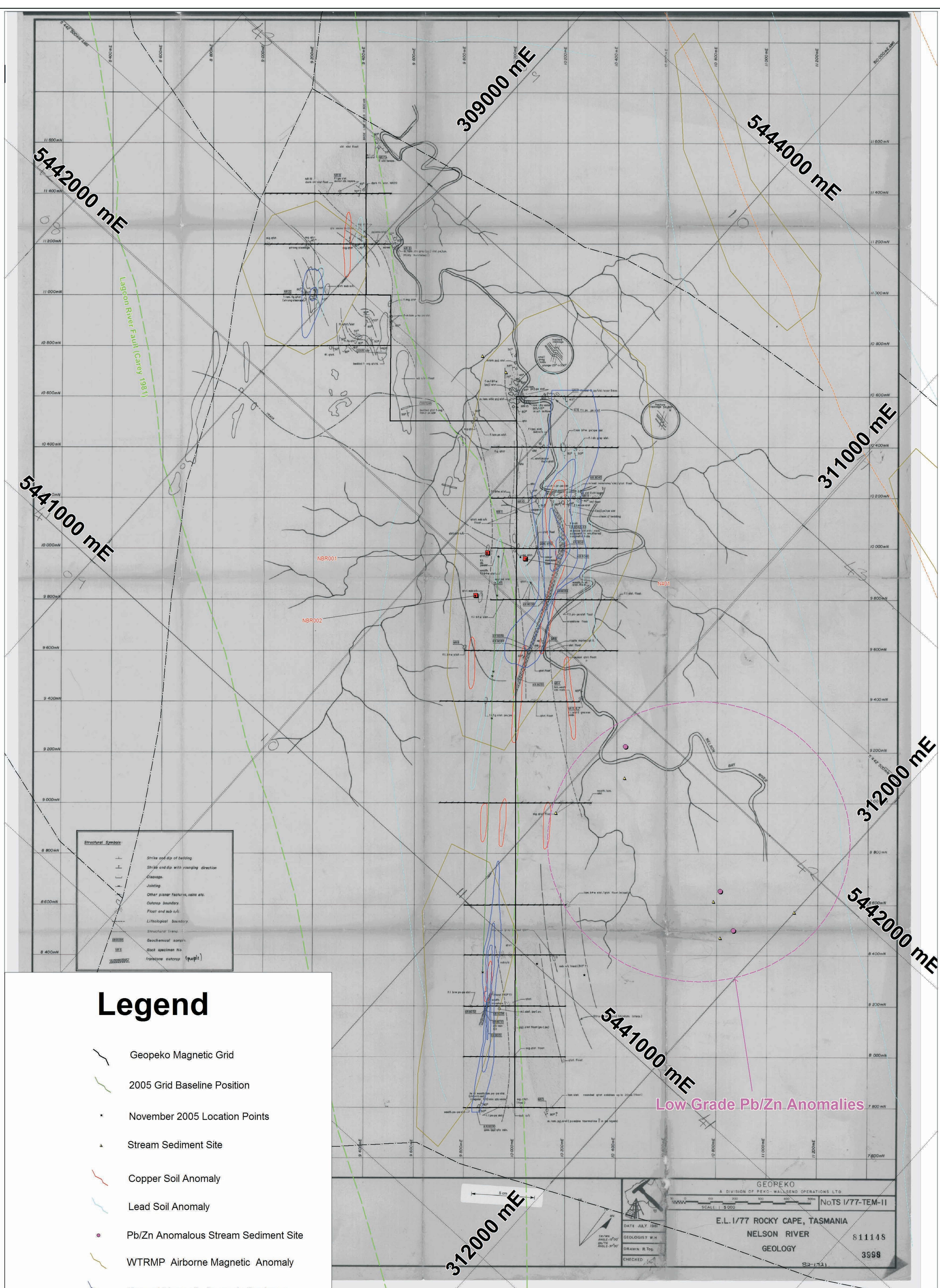
In 1998-2000 Pacific Nevada used a Tennant Creek model for gold and base metal mineralisation on the Nelson River Iron occurrence. Their work involved completing a magnetic re-interpretation of the AGSO airborne magnetic data (pre-WTMRP) which confirmed that the strong anomaly at Nelson River was due to a large amount of magnetite (Turner, 1999). Relogging and resampling of the Pickands Mather drillhole N401 was undertaken to be followed by diamond drilling, NBR001 and NBR002 (Newnham 2000). The drilling covered 200m of strike length of the main airborne magnetic anomaly and confirmed the geological nature of the anomaly i.e. a magnetite body dipping 60° west hosted by an ultramafic dyke within a fault zone. NBR001 recorded two main mineralised zones, 43m wide in total, consisting of an upper quartz-

magnetite-pyrite unit with brecciated sediments and a lower magnetite-chlorite-amphibole unit. The best base metal result from drilling was 5.5m @ 0.4% Cu from 192.7m but this zone was characterised by poor recoveries. NBR002 was drilled 200m to the south of the first hole and encountered a break up of the main ultramafic zone in to two 9m wide dykes with 22m of sediments in between. The second of these magnetite dykes is a high grade zone that appears to be present in the footwall of the magnetite/ultramafic body in NBR001 and N401. No resource figures were reported for the iron grades and nickel values for the ultramafic dyke were low, often below detection of 10ppm.

A recent site visit to the Nelson River iron occurrence has confirmed the location of the diamond drillholes (GPS to +/-5m) but has indicated a problem with the grid baseline used by Pacific Nevada. According to the Geopeko detailed mapping and using a GPS system rated to +/-5m the existing baseline is some 100m offset to the left (west) and slightly rotated to the right to that marked on the map (both AGD 66). Discussions with Lindsay Newnham from Pacific Nevada indicate that the baseline they marked in was the old Geopeko line and not a new one sub-parallel to it. Hence there appears to be a drafting/location error for the old maps (Figure 15). This offset can also be inferred from Figure 12 and Figure 13 where the magnetic anomaly sits over the oxidised surface outcrop rather than over the fresher, downdip and deeper magnetite material.

The Tasmanian Government through its MRT office initiated as part of the WTMRP a major airborne geophysical programme for the western half of the state. This included flying a 400m line spaced airborne magnetic and radiometric survey. This work confirmed the magnetic strength of the Nelson River anomaly and suggested one or two other areas of exploration interest. In addition a heli-borne EM survey was completed on selected sub-areas of the region. Unfortunately this survey stopped just south of the Nelson Bay River licence (Appendix 4).

The area has also been explored for mineral sands by Pickands Mather, the Australian and New Zealand Exploration Co. and by Bach Holdings (Dove 1988).



SMG Consultants Pty Limited

EL 41/2004 Nelson Bay Project

Nelson Prospect : Detailed Work

Drawn by : S.J.Tear November 2005 Scale 1:5000

7. EXPLORATION POTENTIAL

An Anomaly & Target Map is included as Figure 16.

The Nelson River Iron deposit represents a potential source of iron that needs more work to establish if there is any ore potential. A small scoping study is required to assess its economic potential and this may include additional drilling, metallurgical testwork and some preliminary mine planning research. In addition potential may exist with the other magnetic anomalies. The ground in between the northern and southern magnetic anomalies should be drill tested as during the site inspection it was noted that substantial amounts of haematitic material occurred at surface.

Potential gold and base metal mineralisation that may be targets for the property are:

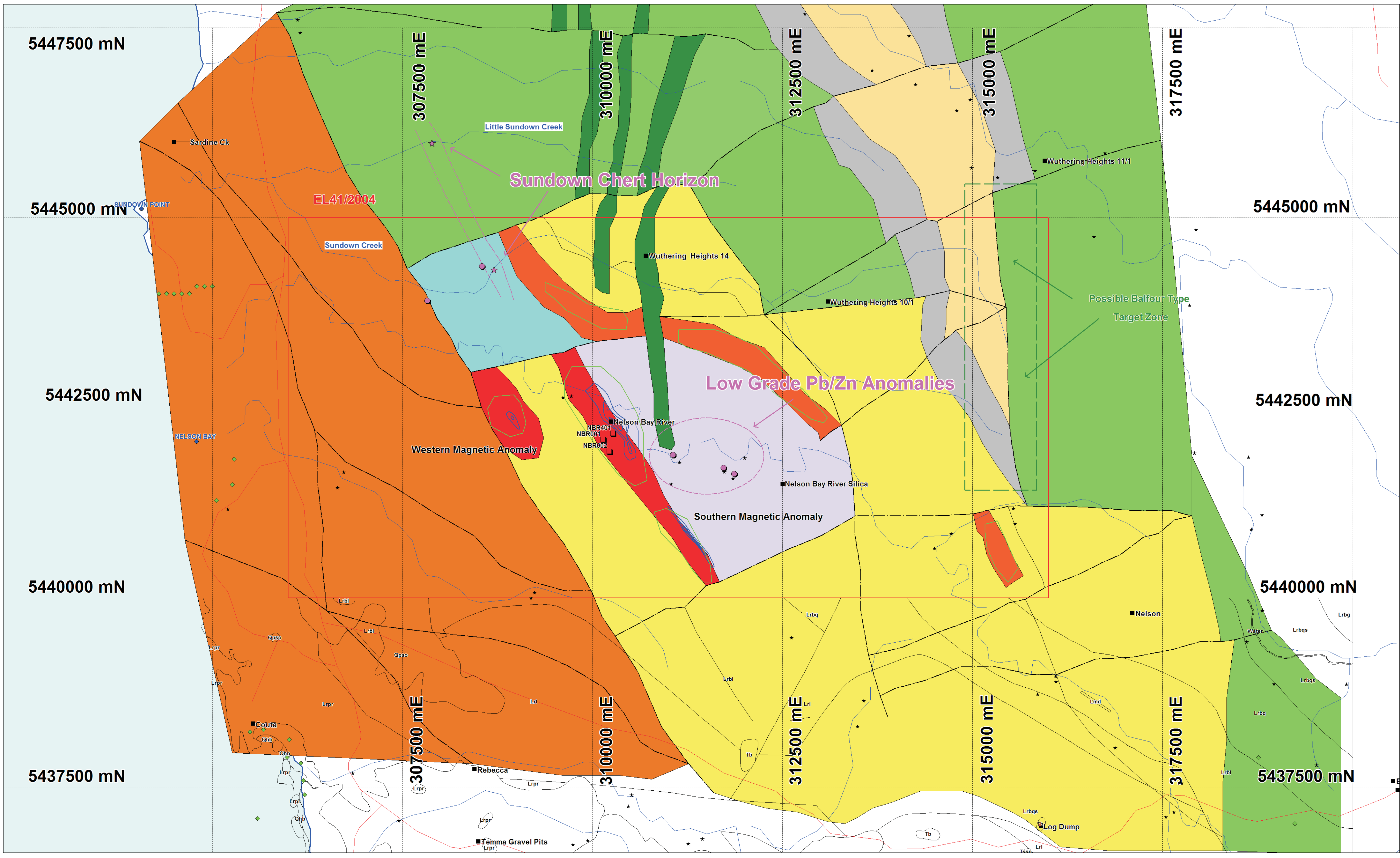
1. Iron oxide copper/gold type mineralisation associated with the small discrete magnetic anomalies e.g. at the Nelson River Iron occurrence and environs.
2. Structurally controlled copper mineralisation as breccia bodies, possibly similar to the Balfour area e.g. in the Sundown Creek area, northeast corner of the licence.
3. Volcanic hosted massive sulphide Pb/Zn (VHMS) and epithermal gold mineralisation related to the tuffs and volcanic sinter as suggested by the 1983 CRAE mapping e.g. in the Sundown Creek area.
4. The supposed ultramafic “skarn” nature of the host to the Nelson River Iron feature may allow for nickel mineralisation possibly similar to Avebury e.g. around the Nelson River Iron occurrence and the peripheral magnetic anomalies. Although low assays for the drillcore may count against this.
5. MRT has indicated that there is a potential for fine grained clastic hosted lead/zinc on account of the presence of pyritic and carbonaceous shales in the Cowrie Siltstones. This was also inferred from the nearby 1996 CRAE mapping at Balfour.

The primary target on the licence is the Nelson Bay Iron deposit and its lateral extensions. The main airborne magnetic anomaly is a discrete feature that is divided into two sections with ground follow up. Only one of these features, the northern one, was drilled, admittedly it is the magnetic anomaly that also has a discrete surface geochemical copper/lead C-horizon soil anomaly. However there are different soil and geomorphological profiles between the two ground magnetic features with the southern one appearing to be beneath deeper peat cover which may account for the lack of a soil anomaly. Therefore the southern magnetic anomaly represents an immediate drill target.

The nature of the discrete magnetic anomaly 1km to the west of the main anomaly needs ground truthing and an assessment of whether the overburden has sufficient impact to prevent a significant surface/C horizon being detected. If that is the case then this may also be considered a drill target.

The other main magnetic feature is the elongate west-northwest striking unit (an uncommon direction for the area). It may represent a folded dyke, or part a folded limb of a bedded unit or possibly a fault zone and may even be part of the Nelson River occurrence. This unit requires reconnaissance soil or ‘wacker’ sample lines to be undertaken in conjunction with a ground magnetic survey. If results are encouraging then follow up work should consist of IP geophysics and drilling.

The apparent stratigraphical line up between the Nelson River Iron feature and the position of the Sundown Chert is intriguing and requires follow up work on the ground between the two.



Legend

EL41/2004

Licence Outline

SUNDOWN POINT

Locality

REBECCA

Mineral Occurrence

Creek

Road

*

Stream Sediment Site

WTRMP Magnetic Anomaly

Pb/Zn Anomalous Stream Sediment Site

*

Pb/Zn Anomalous Rock Sample

Nelson River : Ground Magnetic Anomaly Contours

Nelson River : Soil Anomaly

Faults

NBR401

Competitor Drillhole - Nelson Prospect

Competitor Drillhole

Lithologies from TMI & 1VD Image Interpretation

Unit A (Wavy Laminar Unit at Balfour)

Unit B (Carey's Epsilon Unit - Siltstones)

Unit C Distinct unit on its own

Unit D Core unit to the proposed Nelson River Anticline

Unit E Distinct magnetic unit is association with Unit F

Unit F Distinct magnetic unit (Scoured Channel Unit at Balfour)

Unit Q Quartzite-rich member of Cowrie Siltstone

Magnetic Feature Fault, dyke or bedded unit?

Ironstone

Dolerite Dyke

SMG Consultants Pty Limited

EL 41/2004 Nelson Bay Project

Anomaly & Target Map

Drawn by : S.J.Tear November 2005 Scale 1:20000

8. RECOMMENDED EXPLORATION PROGRAMME

Following this literature search and digital data collection, the following field work is recommended:

1. Review the core from the 2000 Pacific Nevada drilling programme and establish the exact nature of the ultramafic/mafic host and the degree of magnetite/pyrite mineralisation. Use thin section analysis and whole rock analyses to help achieve this. Complete a small scoping study to assess the economic potential for the iron resource. If the survey is encouraging then look to undertake an infill diamond drilling programme.
2. Revamp the Nelson River Iron Prospect baseline and grid south of the 2000 Pacific Nevada work. This will allow for a mapping exercise, geochemical assessment and drill target delineation of the southern magnetic anomaly; not previously drill tested.
3. In addition re-open the grid to the west to allow ground truthing of the western magnetic anomaly. Conduct mapping and ground surveys for possible drill target.
4. Undertake a detailed stream sediment sampling programme, including panned concentrates, of the creeks draining this southern anomaly in order to confirm CRAE anomalism. Conduct multi-element ICP analysis on the samples. In addition digitise the remaining stream sediment sites from the CRAE work in the late 1970's and early 1980's.
5. Create access, possibly by line cutting, to the west-northwest-striking magnetic anomaly north and northeast of the Nelson River prospect. Undertake a detailed stream sediment sampling programme, including panned concentrates, of the creeks draining this anomalous feature. If stream sediment sampling is not considered suitable then look at the possibility of a reconnaissance programme of ground magnetics and soil sampling for the anomalous unit.
6. Locate the anomalous zones associated with the Little Sundown and Sundown creeks, i.e. the 'anomalous Sundown Chert' as identified by CRAE in 1983. Undertake a geochemical sampling programme using the most appropriate method.
7. Successful results in these early stages will result in follow-up drilling including diamond drillholes.
8. Current drill targets are the southern and western magnetic anomalies at the Nelson River Iron prospect. Additional targets are likely to emerge for the west-northwest-striking magnetic feature and the Sundown Chert extension.

9. CONCLUSIONS

The Nelson Bay River Exploration Licence 41/2004 is underlain by a series of Early Neoproterozoic shelf clastics comprising finely bedded and laminated siltstones and sandstones in conjunction with massively bedded quartzites. The area is complexly faulted and folded with metamorphic grade to lower greenschist facies.

Previous explorers have included Pickands Mather, CRAE Pty Ltd, Geopeko and Pacific Nevada. Previous work has included air photograph mapping, stream sediment sampling and airborne magnetic surveys for the whole licence. Whilst detailed work consisting of ground magnetics, C-horizon soil sampling and diamond drilling was completed at the Nelson River Iron prospect.

The licence has been studied for heavy mineral sand deposits with little success.

The main mineral occurrence on the licence is the Nelson River Iron feature, seen as a very strong 4km long magnetic anomaly in the regional airborne data. A ground magnetic survey shows the main anomaly to be split into two separate sections. The northern unit, which is exposed at surface, has been drilled with the iron occurrence being a cross cutting ultramafic dyke with a 7m to 9m wide magnetite-rich deposit in the footwall of the dyke. Combining the drilling results with the ground geophysics and the mapping, an inferred resource is estimated at 4Mt at 40% Fe (assuming all the Fe assay is from magnetite). A small scoping study is required to assess the economic potential of the current iron resource at Nelson River and to decide if more drilling is required. The unusual nature of the occurrence warrants further exploration, which includes assessment of the relative abundance of magnetite in the resource lode and possibly further diamond drilling.

There are two or three additional magnetic features that may be part of the same system that also require follow up drilling i.e. two exploration drill targets currently exist at the Nelson River prospect, the southern and western magnetic anomalies. Whilst additional geochemical (stream sediment, soil and deep overburden sampling) and geophysical (magnetics and IP) work is required for the other magnetic anomalies, the Sundown Chert anomalous package and the proposed Balfour-type target. This follow up work may also generate drill targets.

10. EXPERT COMPETENCY

The resource statement contained in this report was prepared in accordance with the JORC Code by Simon Tear of SMG Consultants (SMGC). Simon Tear is a member of the AusIMM and has a minimum of five years experience in the estimation, assessment and evaluation of mineral resources of this style and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the “Australasian Code for Reporting of Mineral Resources and Ore Reserves”. Simon Tear consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Simon Tear, a Senior Geologist with SMGC, has a BSc (Hons) in Mining Geology from The Royal School of Mines, London, U.K. and has over 22 years worldwide experience in the mineral exploration industry. He is a member of the IMM (19 years), the AusIMM (8 years) and the Institute of Geologists of Ireland (PGEO and EurGeol, both 11 years). He was Team Leader for CRAE Pty Limited’s Tasmanian exploration program from 1995-1997. That program successfully explored Western Tasmania, accounting for nickel and lead/zinc discoveries.

The Author’s Tasmanian experience consists of:

- resource statement and block model report for Oceania Tasmania’s Allison’s Lode Zinc Project including geological interpretation,
- geological interpretation for the Oceana Pb/Zn Lode for Zeehan Zinc Pty Ltd,
- led the CRAE field team in the discovery of the Avebury Nickel deposit (now with Allegiance Mining NL) (1996/7),
- devised and executed CRAE’s and Noranda Pacific’s carbonate hosted base metal programme in the Gordon Limestone near Zeehan (1995-6 and 2001 respectively),
- undertook exploration on CRAE’s Balfour copper licences in NW Tasmania (1996/7),
- project generation for sediment hosted gold targets for CRAE in Northern Tasmania (1996/7),
- consulting geologist for the Zeehan Zinc Comstock project (1999-2003); and
- Nickel project generation for Tasmania for Falconbridge (2002).

Other relevant experiences include:

- 3 years experience as a Senior Resource Geologist for base metals with the Birla Group’s Mt Gordon Operations,
- industry supervision of a MIRO sponsored research project into platinum group mineralisation in ultramafics,
- part of a resource evaluation team into vein-style gold mineralisation; and
- nine years exploration experience, mainly field related, in Scotland and Ireland in similar geological terranes to West Tasmania.

The above experiences and qualifications make Simon Tear adjudged to be a competent person under the JORC Code

11. LIMITATIONS AND CONSENT

The digital geological and geophysical information used in this report was supplied by the directors of Zinico. Additional open file information was sourced from the Mineral Resources Tasmania Library via its website and through personal communication. SMGC has relied upon and assumed without verification the accuracy and completeness of all information provided and cannot take any responsibility to guarantee its accuracy.

This assessment has been based on data, reports and other information made available by Zinico or otherwise obtained through publicly available sources. SMGC has no reason to believe that the information provided by Zinico is misleading or that any material facts have been withheld.

The opinions expressed herein are given in good faith and SMGC believes that any assumptions or interpretations are reasonable.

This report is provided to Zinico for the purpose of assessing exploration opportunities on the relevant licence and should not be used or relied upon for any other purpose. This report does not constitute a full technical audit but rather it seeks to provide an independent overview and technical appreciation of Zinico's exploration project. Neither the whole nor any part of this report, nor any reference thereto, may be included in, or with, or attached to any document or used for any purpose without SMGC's written consent to the form and context in which it appears.

12. REFERENCES

1. Brandt, R.T., 1973 EL8/72 – Summary Report on Exploration Licence 8/72, Tasmania; TCR73_0981
2. Carey, S. 1981 EL1/77 - Notes to accompany the Photo-Interpretation of the Country between the Arthur and Pieman Rivers; TCR82_1753
3. Cromer, W.C., 1988 EL21/87 – Balfour : Annual Report; TCR88_2900
4. Davies, H.G., 1969 EL16/68 : Progress Report R9039; TCR69_0599
5. Dove, A. 1988 EL7/87 – Annual Report on Exploration Completed in the Nelson River Area of Western Tasmania; TCR88_2823
6. Herrmann, W. & Sumpton, J. 1982 EL1/77 – Progress Report; TCR 82_1721
7. Newnham L.A., 2000; EL15/97 – Arthur River : Report on the Nelson Bay River Drilling Programme; TCR 00_4494
8. Tear, S.J. & Russell, S.J. 1998 EL18/92 - Mt Frankland: Fifth & Final Report; TCR98_1421
9. Tear, S.J. 1996 EL18/92 - Mt Frankland : Fourth Annual Report; TCR96_3931
10. Turner, N. 1999 EL15/97 – Arthur River : Annual Report to 5/11/99; TCR99_4385
11. Weir, D.J., 1982 EL1/77 - Rocky Cape : Lead/Zinc Computer Study - Stream Sediments; TCR82_1801
12. Weir, D.J., 1984 EL1/77 - Rocky Cape: Progress Report; TCR84_2096

Appendix 1
Open File Listing of Competitor Reports

MRT Library**Search Results for the Nelson Bay River Area**

Search for document		close
You searched for: Location: Spatial Criteria Used The Nelson Bay River Licence Coordinates		
Downloaded	Report Number, Name and Author	Comments
	49 0103 - Basalts of Tasmania	
	Edwards, A.B.	
	56 0124 - Preliminary Report of the Geology of North-Western Tasmania.	
	Rattigan, J.H.	
	58 0228 - The Davey and Carbine Groups of the Precambrian	
	Anon	
	58 0230 - Summary of Some Aspects of Precambrian Geology	
	Anon	
	64 0373 - Report on Balfour, Tasmania - Prospecting 1963-1964	
	Chesnut, W.S.	
	64 0374 - Petrological Report No. M. 19/64 Specimens from Balfour, Tasmania.	
	Apthorpe, M., Whitehead, S.	
	65 0383 - Ground Magnetic Survey Balfour, Tasmania.	
	Taylor, C.P.	
	65 0388 - Petrological Report No. M.9/65 Specimens from D.D.B.5 - Balfour, Tasmania	
	Whitehead, S.	
	65 0411 - Geological Plans Balfour	
	Kingston, G.C.	
	66 0438 - Report on Planet Mining Co Tasmanian Phosphate Leases	
	Watts, T.R.	

Downloaded	Report Number, Name and Author	Comments
	<u>66 0439 - Interim Report for the Northwest Tasmanian Exploration Project for A Period Ending April, 1#966</u>	
	Anon	
	<u>67 0457 - Northwest Tasmania, Proposed Program of Exploration (in Detail)</u>	
	Anon	
	<u>67 0488 - Memorandum Report, Reconnaissance Structural Evaluation, Coastal Tasmania.</u>	
	Barton, R.H.	
Yes	<u>69 0577 - El 16/68 Progress Report December 1968 - August 1969</u>	Initial report by Pickands Mather mainly for Balfour and includes location
	Davies, H.G.	of the Blocks Prospect; Heavy minerals in sand dunes also tested
Yes	<u>69 0599 - Progress Report R.9039 - Corporate Exploration of Tasmanian Mineral Resources</u>	References the 1967 work by Pickands Mather at Nelson River Iron Prospect
	Davies, H.G.	Also includes work on Balfour Copper and sand dunes
Yes	<u>70 0642 - Report on the Pending Exploration Licence, Northwest, Tasmania</u>	Details the Temma Cu Prospect
	Wood, B.L.	
Yes	<u>72 0869 - Report on the Geological Reconnaissance and Stream Sampling Programme, North-West Tasmania.</u>	No significant information or maps
	Kinnane, N.R.	
Yes	<u>73 0964 - Pieman River, Exploration Licence 2/73 - Tasmania, Progress Report for the Period January 31 - July 31, 1973</u>	No coverage of the Nelson Bay River licence
	Neale, R.C.	
Yes	<u>73 0981 - Summary Report on Exploration Licence 8/72, Tasmania.</u>	Details the work completed by Pickands Mather on the Nelson River Iron
	Brandt, R.T.	Prospect; Includes some new mapping and tests for silica in the quartzites
Yes	<u>80 1469 - E.L. 1/77 Rocky Cape, North West Tasmania, Progress Report, January 1 to December 31, 1979</u>	A major literature study for a large area in NW Tasmania
	Porter, T.M.	No useful maps; stratabound tin exploration model
Yes	<u>82-1721 - E.L. 1/77 Progress Report - Temma Area 1981</u>	Details work on the Nelson Bay River Iron Prospect, lots of maps
	Herrmann, W. & Sumpton, T.	Corresponds to the main Geopeko work on the anomaly

Downloaded	Report Number, Name and Author	Comments
Yes	<u>82 1753 - Notes to Accompany the Photo-Interpretation of the Country between the Arthur and Pieman Rivers, Tasmania.</u>	Major air photo interpretation exercise; maps cover Nelson anomaly
	Carey, S.W.	Page 11 is the main relevant map
Yes	<u>82 1801 - Rocky Cape E.L. 1/77 Lead Zinc Computer Study-Stream Sediments</u>	Selwyn Basin Model, Canada; reports on all regional work to date
	Weir, D.J.	Lots of maps covering stream sediment work, different elements
Yes	<u>82 1811 - Rocky Cape E.L. 1/77 Progress Report, July 1981-June 30th, 1982</u>	Stream sediment & rock sampling work but away from the Nelson Iron area
	Weir, D.J.	
Yes	<u>83 1958 - Rocky Cape E.L. 1/77 Progress Report on the Temma Area, January 1983</u>	Covers the Temma area south of the Nelson Bay River feature
	Weber, G.B.	
	<u>83 1960 - Rocky Cape E.L. 1/77, Geochemical Computer Study, Panned Concentrates.</u>	
	Weir, D.J.	
Yes	<u>84 2096 - Rocky Cape E.L. 1/77 Progress Report for Year Ending January 31st 1984</u>	Major compilation of stream sediment and rock sampling maps for whole
	Weir, D.J.	area; includes details of the Sundown Chert anomaly
Yes	<u>84 2151 - E.L. 1/77 Rocky Cape, Temma Area, Progress Report 1st August 1982 to 31st July 1983.</u>	Covers areas around Temma, south of Licence; Strickland & Possum Ck
	Perring, R.J.	
Yes	<u>85 2349 - The Lead Zinc Potential of the Younger Precambrian Rocks of North West Tasmania</u>	Broad-brush to general NW area; lots of regional geology detail
	Legge, P.J.	
Yes	<u>87 2649 - Exploration Licence 33/85. Annual Report to April 1987</u>	Dimension stone assessment at Bald Hills
	Harrison, B.R.	
Yes	<u>88 2786 - Combined Annual/Final Report for the Period Ended 24 February 1988, Exploration Licence 12/86, Montagu Area, Tasmania</u>	A chromite search, did not cover licence area
	Kosseris, W.C.	

Downloaded	Report Number, Name and Author	Comments
Yes	88 2796 - EL 33/86 Tasmania. Annual Report on Exploration Completed in Arthur River - Sandy Cape Area of Western Tasmania to 17/4/88.	Heavy mineral search immediately west of the licence - Nelson Bay Estuary
	Lee, G.	
Yes	88 2823 - E.L. 7/87 Annual Report on Exploration Completed in the Nelson River Area West Tasmania	A report detailing the Geopeko work and outcomes
	Dove, A.	
Yes	88 2866 - Exploration Licence 22/87 - Trowutta. Annual Report : Year 1 (15 November 1987 - 15 November 1988)	Not near Nelson Bay River licence
	Cromer, W.C.	
Yes	88 2900 - Exploration Licence 21/87 - Balfour. Annual Report: Year 1 (20 January, 1988 - 19 January, 1989)	Covers area immediately east of Nelson Bay River licence and features
	Cromer, W.C.	Dave Leaman's initial geophysical/structural report for the general area
Yes	88 2900A - Balfour - Trowutta Area. North West Tasmania. Evaluation of Regional Geophysics. Implications Specific to EL 21/87	Cannot be accessed from Library due to a letter in the report name
	Leaman, D.E.	
Yes	89 2978 - Annual Report Year 2 - E.L. 33/86	Not accepted by MRT as a work report
	Birkner, A.	
Yes	89 3057 - Exploration Licence 53/88 - Mount Frankland Annual Report : Year 1 (6 January, 1989 - 5 January, 1990)	Covers Balfour area, away from current licence
	Hofto, V., Morrison, K.C.	
Yes	89 3060 - Exploration Licence 21/87 - Balfour. Annual Report: Year 2 (20 January, 1989 - 19 January, 1990)	Covered Geopeko's licences just east of Zinico's licence
	Hofto, V., Morrison, K.C.	
Yes	91 3211 - EL 46/89 Julius River. Report on Exploration Activity January 1990 to November 1990 (Relinquishment Report)	Covered Geopeko's licences just east of Zinico's licence
	Mathison, I.J., Virgoe, K.J.	
Yes	91 3213 - Geophysical - Structural Review Rocky Cape Block NW Tasmania.	Covered Geopeko's licences just east of Zinico's licence
	Leaman, D.E.	
Yes	91 3229 - EL 52/89 Balfour Report on Exploration Activity March 1990 to February 1991 Relinquishment Report.	Outside current licence area
	Mathison, I.J., Virgoe, K.J.	

Downloaded	Report Number, Name and Author	Comments
	<u>94_3644A - Report on the Stratigraphic and Structural Setting of Rocks in EL 18/92, Balfour District, North-Western Tasmania.</u>	Not available to download
	Turner, N.J.	
Yes	<u>95_3802 - Third Annual Report October 1995. EL 18/92 Mt Frankland</u>	Covers work to the SE of the Licence (see other later reports for detail of
	Menpes, S.A.	geology to the south east)
Yes	<u>96_3931 - EL 18/92 Mt Frankland Fourth Annual report</u>	Details air magnetic interpretation that can pass onto current licence area
	Tear, S.J.	
Yes	<u>98_4121 - EL 18/92 Mt Frankland Fifth Annual and Final Report</u>	Details mapping of the area immediately SE of current licence area
	Tear, S.J. & Russell, S.J.	Newly defined stratigraphy for the general area.
Yes	<u>99_4387 - Annual Report to 12/11/99 - EL27/97 - Temma</u>	Covers magnetic anomalies south of licence e.g. Strickland, Little Eel and
	Turner, N.J.	Possum Creek; similar style of occurrence but with higher gold grades
Yes	<u>00_4494 - Nelson Bay River Drilling Program - August 2000 - EL15/97</u>	Details on diamond drilling and geophysical reprocessing of AGSO data
	Newnham, L.A.,	Includes resampling of Pickands Mather 1967 drill hole N401
Yes	<u>00_4500 - Strickland Drilling Program - July 2000 - EL 27/1997</u>	Details on diamond drilling and geophysical reprocessing of AGSO data
	Newnham, L.A.	for prospects just south of licence area
Yes	<u>EL08_2002_EL10_2002_Annual Report_2003 Balfour-Temma Area to 20/12/03</u>	Details geophysical reprocessing from the WTMRP airborne surveys
	Jenke, G.	
Yes	<u>EL08_2002_EL10_2002_Annual Report_2004 Balfour-Temma Area to 20/12/04</u>	Details geophysical reprocessing from the WTMRP airborne surveys
		Highlights a series of targets for follow up

Appendix 2
Selected Extracts from Competitor Reports

Appendix 3
Selected Maps from CRAE Report TCR84_2096

Appendix 4
Figures Showing Results
from the WTMRP Heli-borne EM Survey