

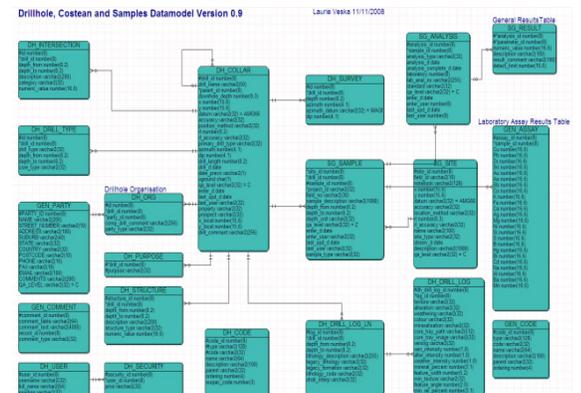
ZZ EXPLORATION Pty Ltd

EXPLORATION LICENCE 20/2002 ANNUAL REPORT

DECEMBER 2007 – DECEMBER 2008

Prepared by

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Geologist



FOREWORD

Function of the Annual Report

This Annual Report has been prepared as a public document for submission to Mineral Resources Tasmania (MRT). The report provides a summary of the exploration activities undertaken by ZZ Exploration Pty Ltd (ZZE) over Exploration Licence 20/2002 (EL 20/2002) during December 2007 - December 2008.

Role in the Regulation Process

This document fulfils the role of an Annual Report for EL 20/2002 during December 2007- December 2008, as required under Section 28 of the *Mineral Resources Development Act 1995*.

ABSTRACT

ZZ Exploration Pty Ltd (ZZE) currently holds exploration licence 20/2002 (EL20/2002), which is primarily of interest to the company for the potential to host economic Irish-Style lead-zinc deposits in the Gordon Limestone areas, and for gabbro-hosted nickel-PGE deposits of the Cuni-Melba Flats style in the north of the licence area.

During the period December 2007 – December 2008 Zeehan Zinc has seen much corporate change. During this challenging time, the exploration focus of the company has shifted almost entirely to the nickel potential of its licences. Accordingly, geological field work has centred on the Melba Flats region to the west of Mount Razorback.

Encouraging field nickel analyses of outcrop and float to a maximum of 0.28% Ni (+/- 0.02%) were obtained using a Thermo Niton hand-held XRF unit within what was interpreted as a gossanous mafic intrusive body at Melba Flats. These results will be followed up in 2009 with a planned airborne geophysics program, ground magnetics, soil geochemistry and geological mapping over the area of interest.

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1 INTRODUCTION

1.1 Purpose of This Document

This document fulfils the role of an Annual Report for EL 20/2002 during December 2007–December 2008 as required under Section 28 of the Mineral Resources Development Act 1995.

1.2 The Proponent

ZZ Exploration Pty Ltd is a wholly owned subsidiary of Zeehan Zinc Ltd (Zeehan Zinc). ZZE currently holds Exploration Licence 20/2002, which includes several known mineral deposits, including the Oceana and Mariposa deposits. Zeehan Zinc's long term objective is to grow through success in nickel exploration within the Zeehan area, and through mineral acquisition opportunities both in Australia and overseas.

1.3 Exploration Licence Location and Operations

1.3.1 Site Location and Mineral Exploration Area

EL 20/2002 covers approximately 71km², and is located 1km southeast from Zeehan, Western Tasmania (Figure. 1). The Murchison Hwy, Zeehan Hwy, and Henty Rd provide road access to EL 20/2002. The Emu Bay Railway and the Murchison Highway connect the township of Zeehan with the Port of Burnie, located approximately 140km to the north.

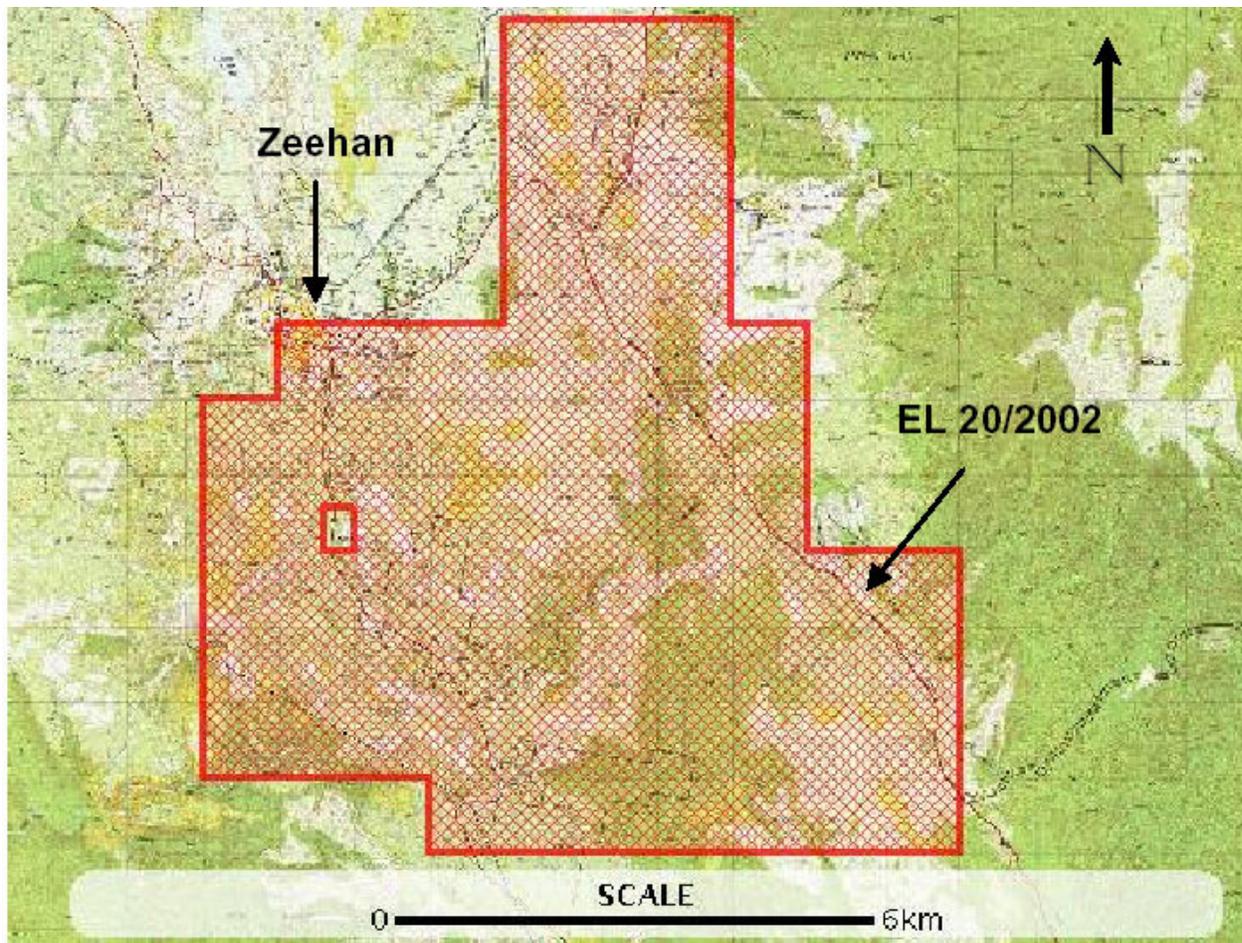


Figure 1 Location of EL 20/2002

Vegetation cover is generally sparse over EL 20/2002, dominated by button grass on ridges and in valleys, with dense tea-tree and eucalypt scrub occurring along creek lines.

1.3.2 Exploration Licence Tenure

EL 20/2002 was granted to ZZ Exploration on February 7, 2003 for a period of 5 years, and applies to all Category 1 minerals. The licence covers approximately 71km², with excluded areas including:

- Retention Licence 3/1996;
- Any land owned or leased by the Commonwealth of Australia;
- Mining Leases; and
- Crown reservations.

The current land tenure in and around EL 20/2002 is provided in Figure 2.

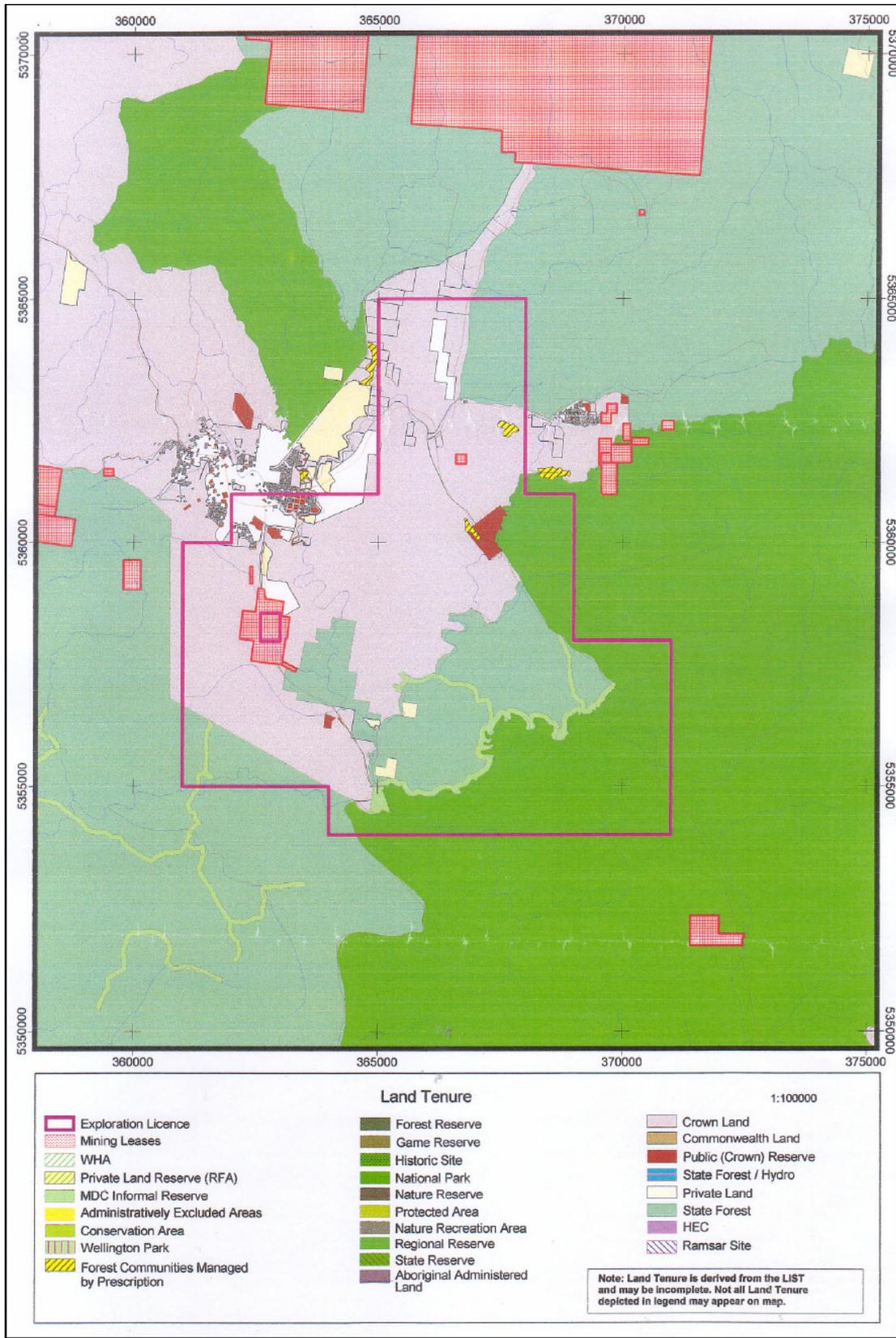


Figure 2 Land tenure for EL20/2002

1.3.3 Retention Licence Application

In February 2008 a Retention Licence of 2 sq/km was applied for (RL 1/2008) Mariposa Creek, 6km SE of Zeehan. This application was processed during the year and was recommended to the Minister that the licence be granted. The licence has been granted however it is understood that an administrative problem in the tenement management section at Mineral Resources Tasmania has prevented the final granted licence document from being supplied to the company (or any company I believe).

Details for Licence RL1/2008

Holder	ZZ Exploratory Proprietary Limited, 199 Macquarie Street, Hobart, TAS, AUS, 7000
Operator	ZZ Exploratory Proprietary Limited, 199 Macquarie Street, Hobart, TAS, AUS, 7000
Reports	
Status	Application
Final Date	
Product Category	Category 1 - Metallic Minerals, Atomic Substances
Current Area	3 sq km/blocks
Issue Area	3 sq km/blocks
Reduction Area	unknown sq km/blocks
Land Tenure	CLAC, Crown Land, Informal Reserve, National Estate, Public Reserve, Regional Reserve, State Forest
Locality	Mariposa Creek - (6km SE of Zeehan)
Parts	1



Figure 3 Location of Mariposa Creek Retention Licence

2 SUMMARY OF PREVIOUS WORK

2.1 Previous Mining and Exploration within EL 20/2002

A series of limestone-hosted base metal prospects are located around Zeehan and have been subjected to substantial previous mineral exploration. The Oceana lead/zinc deposit provided much of the impetus for such exploration to be undertaken over all the outcropping areas of the Gordon Limestone in the general Zeehan area (SMG Consultants, 2005).

The known mineral deposits within EL 20/2002 have been subjected to various phases of mineral exploration which date back to the 19th century (Appendix B). The regional geology of the area has been described in Blissett (1962), Taylor (1983), Jones (1988), and McGilvray (2003), and also provided in previous Zeehan Zinc Annual Reports for EL 20/2002.

3 EXPLORATION UNDERTAKEN DURING 2008

A summary of exploration activities undertaken is presented below.

- Ground magnetics survey completed in the northern area of EL 20/2002
- Development and implementation of Oracle RDBMS and web application for managing Zeehan Zinc's geoscientific data
- Handheld XRF study of selected drill holes and outcrop
- Soil survey completed in the northern area of EL 20/2002 (assays in progress)
- Literature review of nickel potential (given the shift in exploration focus during 2008).

A regional literature review of nickel prospectivity in EL20/2002 has been performed by internal geologists, and by consultant geologist Simon Tear (Appendix A).

3.1 Melba Flats Literature Review

The following section outlines the key features that Zeehan Zinc geologists have used to base their nickel exploration approach during the year, and likewise for 2009.

3.1.1 Historical Mining and Exploration

The Cuni (Cu=copper, Ni=Nickel) or Melba Flats deposits were first pegged out at the Nickel Reward prospect in 1893, with the first ore being extracted from the region in 1909. The field was then worked intermittently between 1909 and 1943 when production ceased. In that time 6500 tonnes of Cu-Ni ore was extracted at an average grade of 9.7% Ni and 4.7% Cu (Williams 1958; Blissett, 1962; and Greenhill, 1995). For a more detailed description of the history of the Melba Flats/Cuni field refer to Blissett, 1962; and Greenhill, 1995.

Further exploration for Ni in the region was undertaken in the area during the early to mid-1990's by CRA, including and honours thesis by Greenhill and at the same time as exploring the Avebury area. They reported that despite an 800m long soil geochemistry survey identified and significant Ni-Cu anomaly around the North Cuni/Genets Winze area (See Fig 5), the potential for Ni sulphides was downgraded due to the lack of response from the geophysical surveys completed (CRAE 1995 Annual report).

In recent years Allegiance Mining NL and now OZ Minerals have been granted a mining lease over large areas of the Melba Flats region, directly to the north of Zeehan Zinc's EL20, due to good drilling intercepts.

3.1.2 Geology and Structure

The Cu-Ni mineralisation at Melba Flats is typically hosted within the footwall of the Cambrian aged gabbroic (also described by Blissett, 1962 as a pyroxenite) dykes and sills (Greenhill, 1995). The emplacement of the dykes are believed to be structurally controlled along a major north-south fault zone, essentially parallel to the strike of their host rocks, striking slightly to the west of north, dipping vertically or steeply to the east. Further to the north of the known mineralisation the beds and dykes bend to the northeast with steep southeast dips (Blissett, 1962).

Despite the fact that that in the areas around the North Cuni and Genets Winze several gabbroic bodies are recognised (Ellis 1987; Maher 1995; Greenhill 1996 and Allegiance reports) only two have been shown to be mineralised and extend south along strike of the North Cuni/Genets Winze area (see Fig 6). These 2 mineralised bodies are known as the Eastern and Western Gabbros, they are compositionally similar, and have both been intensely hydrothermally altered and metamorphosed, but the mineralisation differs between the two with the eastern body hosting the majority of the massive sulphide mineralisation and the western body hosting lower-grade disseminated mineralisation. The gabbros are also discontinuous over more than 2kms, and varying in thickness along strike, with the eastern body up to 10m thick and the western body up to 12m (Greenhill, 1995)

The gabbro dykes are hosted within interbedded mudstones, siltstones, volcaniclastics, lithic-wackes, quartz-wackes and green to purplish shale (CRAE, 1995 Annual Report and Blissett 1962) that have been both attributed to the Cambrian aged Crimson Creek Formation (CCF) (i.e. Blissett, 1962) and also as correlates but a distinct suite from the CCF (Greenhill, 1995), but either way as at Avebury the Cambrian aged, ultramafic intrusive hosts have been intruded into slightly older early to mid-Cambrian sediments.

Melba Region - Geology and Aero-Magnetics

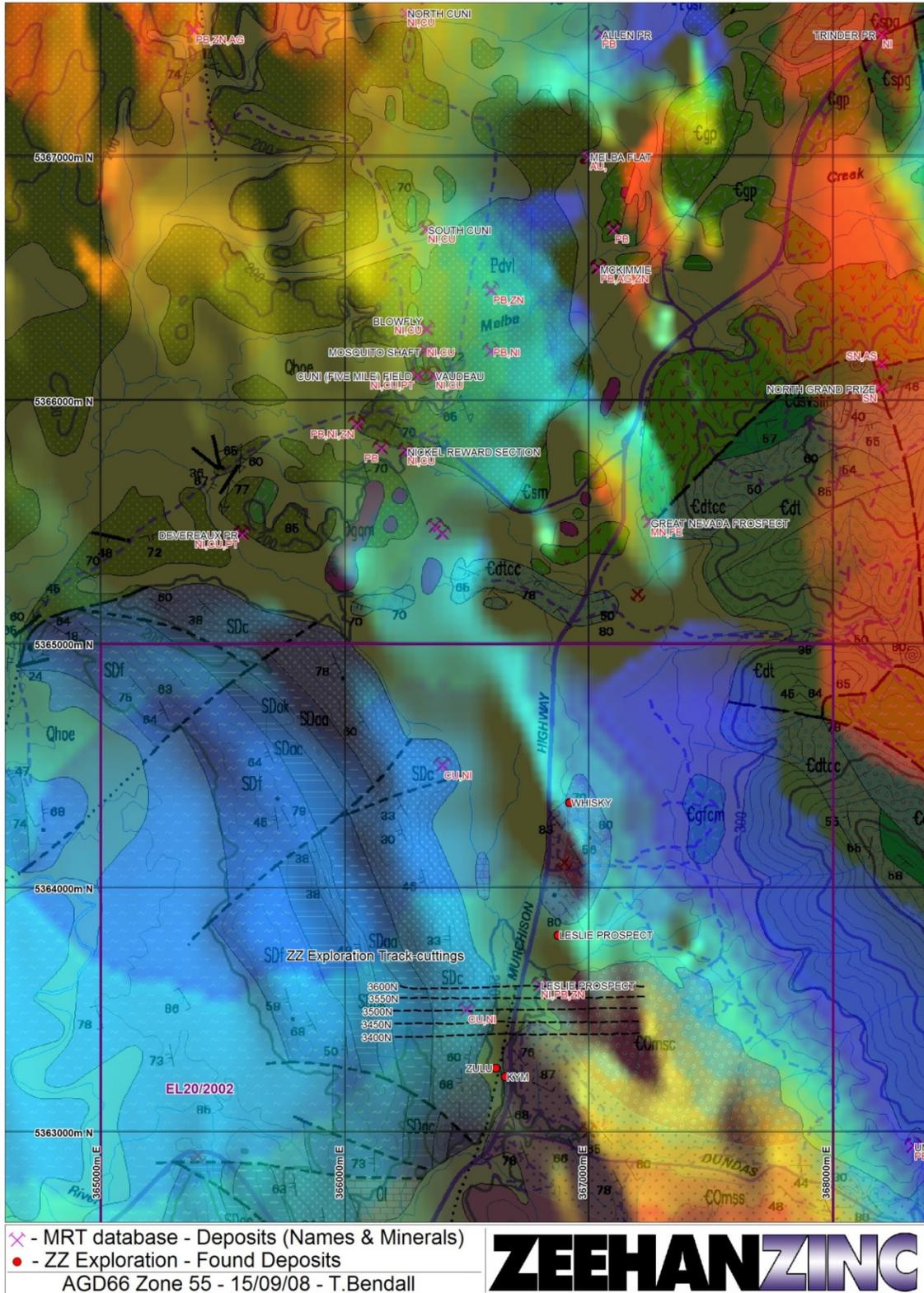


Figure 4 Melba Flats region, geology and aero-magnetics showing location of gridlines

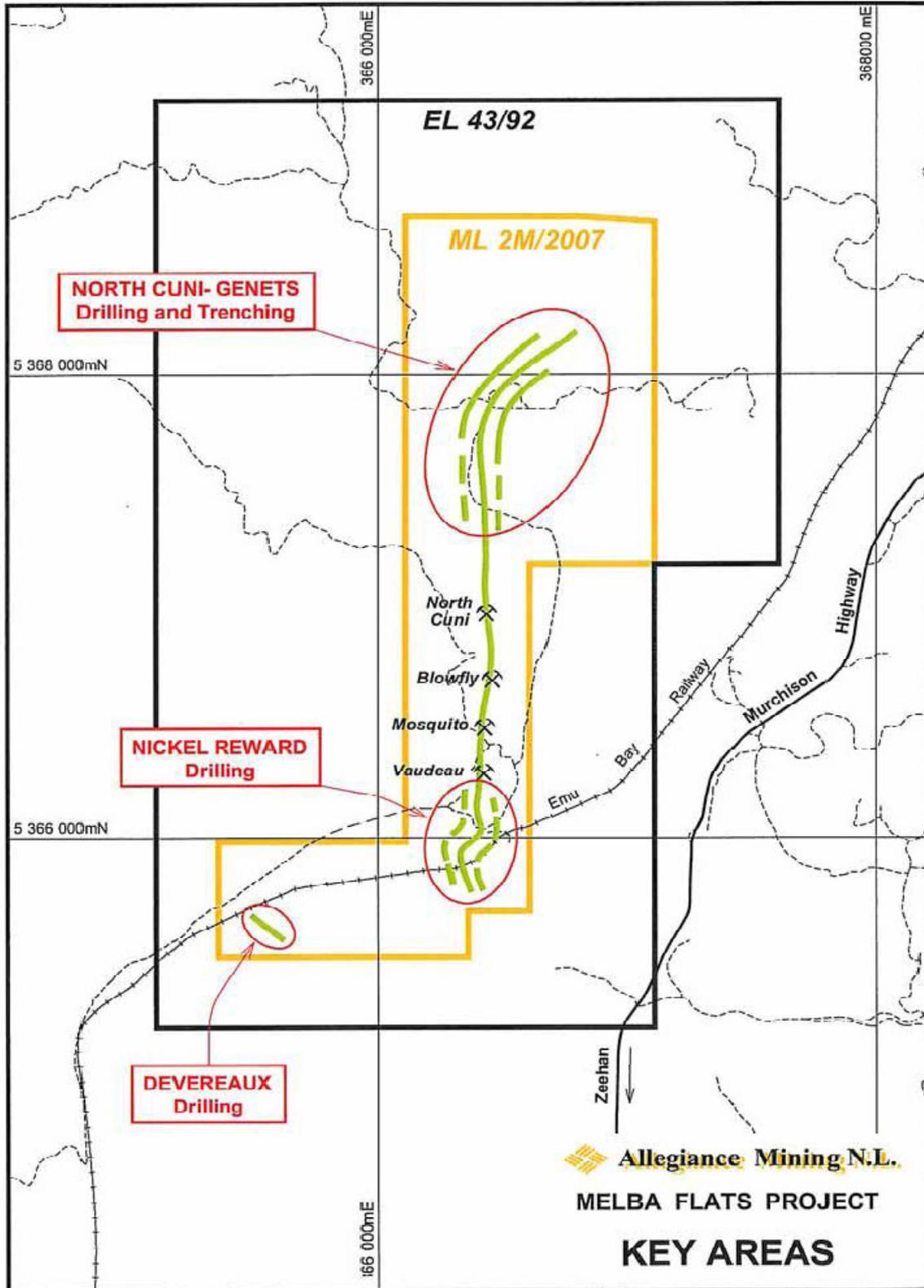


Figure 5 Simplified geology depicting trend of gabbroic bodies (borrowed from Allegiance Mining report)

3.1.3 Mineralisation

The Nickel and Copper mineralisation in the Melba Flats area has been reported by Allegiance Mining NL as “Melba Flats is rated as a highly prospective target” with their North Cuni-Genets prospects being estimated with an open-cuttable resource of 95,000 tonnes at 0.8% Ni and 1.0% Cu to a depth of 100m (17th Jan 2008 Targets statement by Allegiance NL). Unlike Avebury, the mineralisation is considered to consist of small, high grade pods of sulphides, rather than Ni-skarn type mineralisation, suggesting a separate, although possible syn-genetic deposition model to Avebury. The Melba Flats deposits, whilst also having a more extensive history of mining and exploration, also contains much higher copper contents in relation to the fairly high grade but low tonnages reported so far, along with the presence of anomalously high gold and platinum-group element (PGE) enrichment within the ore zones. For example at OZ Minerals’ Devereaux Prospect (their most southerly prospect, and closest to Zeehan Zinc EL20/2002) Cu actually exceeds the Ni content in some instances with historical mining reporting average grades of the ore produced there averaging 18% Cu, 5-9% Ni and 0.03 oz/t Au, and 0.13 oz/t PGE’s.

The mineralisation is typically found in the immediate footwall side of the gabbroic dykes, that can be traced for over 2000m, (Taylor and Burger, 1952; Maher, 1995) with the higher grade intercepts typically occurring close to the thicker sections of the intrusive bodies (Greenhill, 1995). Like the gabbro bodies themselves, the mineralised sections have been reported in the past as also being discontinuous with the massive sulphide lenses in the Eastern Gabbro ranging in size from 0.5-2m thick, 6.5-60m wide and 10-75m in length along strike (CRAE Annual Report, 1995; Greenhill, 1995) and regularly >15% combined Ni +Cu content. However recent drilling in the Melba Flats area by Allegiance Mining NL has suggested that the mineralisation extends to at least 220 vertical metres depth, twice as much as previous estimates, and are also expected to maintain the elevated gold and PGE concentrations seen in past mining and shallow drill hole intercepts. Allegiance has also uncovered the presence at depth of a second (eastern) mineralised dike which is important as it significantly increases the available tonnes of mineralisation per vertical metre and thus enhances the project economies. (Allegiance ASX release 10-01-08).

In the northern areas of Melba Flats there are several gabbro dykes over ~200m, however historically there are only two main dykes that are mineralised and extend along strike for more than a couple of hundred meters and are termed the Western and Eastern Gabbros, although as above there has been a recent discovery of a second mineralised eastern dyke in the North Cuni area. Of these two main dykes only the eastern dyke, containing high-grade massive sulphides has been exploited in the past, with the western dyke, consisting of lower grade disseminated sulphides, has in the past being considered uneconomic.

There is also variation within the mineralisation of the deposits in the northern area to those closer to Zeehan Zinc’s licences. In the northern areas around Genets Winze, North Cuni, South Cuni and Vaudeau deposits the sulphide mineralogy has been reported as high-grade pentlandite-pyrrhotite with pyrite consisting of up to 20% of total sulphides and the presence of chalcopyrite (CuFeS₂) (Williams 1958). This

makes pentlandite the main Ni-producing ore mineral, although this is most often supergene altered along with the pyrrhotite to form violarite ($\text{Fe Ni}_2\text{S}_4$) along with iron sulphides. The pyrrhotite content was also reported by Williams, 1958; and Blissett, 1962 as being elevated at the Vaudeau Prospect.

In the southern areas of the Melba Flats region the Cu content of the sulphides as well as that of gold and PGE's also have been reported both historically and in recent drilling by Allegiance as being elevated at both the Nickel Reward and Devereaux prospects, with the copper content at Devereaux outstripping the nickel content in past workings (Blissett, 1962). The sulphide mineralogy at these two prospects also varies from those to the north, with elevated chalcopyrite and pyrite (25-60% of total sulphides) and millerite (NiS) being the primary Ni-bearing sulphide in the area, and is often intergrown with chalcopyrite.

Allegiance Mining NL, and now OZ minerals recent drilling and exploration at both Nickel Reward and Devereaux has produced very promising results for the further exploration, and definition of extractable resources. At Nickel Reward prospect Allegiance reported that whilst their resources were initially rated at 30,000 tonnes of ore @3% Ni to a depth of 100m, recent drilling has uncovered intercepts as high as 10.8% Ni and 3.81% Cu at up to 220m depth, twice the depth that had been previously drill tested, and assay results also returning average grades of 1-2g/t Au and 2-3g/t combined Pt and Pd (Allegiance ASX announcement 10-01-2008). Two recent drill holes in the area (DDHMF90 and DDHMF91) were completed to show the depth extension of the Ni-Cu mineralisation at the Nickel reward prospect, and "the results suggest mineralisation extends to at least 250m depth, with a dip length of 300m" (Allegiance Mining NL exploration and development update to ASX)

The Devereaux prospect, 800m to the west due to being offset by a fault, also shows substantial promise with historic working reporting past grades of 0.1-0.16oz/t PGE's, 0.02-0.04oz/t Au, 1-1.4oz/t Ag, 13-18% Cu and 5-9% Ni (Blissett, 1962, Greenhill, 1996). 2 recent drill holes completed at Devereaux by Allegiance also "identified a significant new zone of Ni-Cu mineralisation" with one intercept reporting 4.7m @ 0.94% Cu and 1.3% Ni (Allegiance ASX release 10-01-2008).

3.1.4 Geophysics

Unlike at Avebury, Allegiance has reported no significant airborne magnetic signature associated with the mineralisation in the Melba Flats region. The trend of the magnetic signatures seen in Figure 3 can be seen to extend into the northern extensions of EL20 however, suggesting the trend of the mineralised host units also continues in this area. Also no detailed magnetic surveys have been undertaken in the region, either in Zeehan Zinc's tenements or OZ Minerals' tenements, providing the opportunity for further, more detailed work in the region to help delineate both the geological and mineralisation patterns at Melba Flats.

3.1.5 Mineralisation Model and Relevance To EL20/2002

The whole rock geochemistry analysis of the host gabbro bodies at Melba Flats suggests that the intrusive suite correlates to the mafic Henty Dyke swarm and Henty fault wedge in the surrounding area, with their emplacement being as a result of extension related, tholeiitic magmatism during the late Cambrian, late in the volcanic history of the Mt Read volcanic magmatic event (CRAE Annual Report, 1995)

The preserved primary sulphide mineral textures suggest an epigenetic origin for mineralisation (CRAE), however mineralogy in gabbros suggests a hydrous parental magma, incompatible with significant sulphide formation (CRA), along with allegiance suggesting that the underlying granite ridge has remobilised the mineralisation from a source or sources at depth.

There is no indication of structural concentration of the nickel mineralisation by later tectonic events and the host intrusive body is not considered the intrusion-type normally associated with a classical magmatic sulphide body (Tear, 2007).

Blissett, 1962 also reported that “Mineralisation has been historically reported as typically small (<50m) in strike length and down dip with mineral continuity observed but at lower grades, with suggestions made that coalescence could produce larger ore bodies at depth”. Other models for the production of the mineralisation at Melba flats include:

The mineralisation type bears similarity to that recorded from large magmatic nickel, copper, cobalt, platinum and palladium deposits (such as Voisey Bay), with OZ Minerals committing to two distinct, but related economic targets of mineralization at Melba Flats:

- shallow high to medium grade nickel, copper, cobalt, platinum and palladium remobilised from depth and the subject of the present mining lease;
- Substantial deposits akin to Voisey Bay at depth.

Greenhill, 1995 proposed a model similar to other mafic-hosted Cu-Ni deposits, known as Gabbroid-type deposits, which include intrusive mafic/ultramafic complexes and large layered intrusions. This model was suggested largely on the basis of the low Ni:Cu ratio of the Melba Flats deposits, and their increased PGE concentrations, as witnessed at the gabbro-hosted Ni-Cu deposits at Jinchuan, China; and the Vammala Nickel belt in Finland. Conversely there has been no record of Ni-Cu deposits forming within a gabbro body that is not related to an associated large scale mafic/ultramafic intrusive, suggesting a link between the Avebury and Melba Flats deposits. The low-tonnage but high-grade mineralisation within such small gabbro dykes also makes the deposits somewhat unique, and suggesting a secondary source of the Ni, as the small gabbro bodies could not have been the only source for such large amounts of Ni.

Whatever the true genetic model for the Ni mineralisation at Melba Flats may be, the close proximity of the known deposits, and historical reports of Ni-occurrences with EL20 makes the area highly prospective for nickel. This statement is backed by anomalous nickel handheld XRF analyses of up to 0.27% Ni being recorded by Zeehan Zinc geologists (see section 3.2.2). The north-south striking line of the Melba Flats mines has previously been reported as terminating just north of EL20; however the reported nickel occurrences within the licence area and the known existence of related mafic units within the same geological trends as the mineralised gabbros to the north defy this theory. There has also been very little modern exploration for any form of nickel mineralisation in the northern area of EL20.

3.2 Geophysics and Geochemistry In 2008

3.2.1 Ground Magnetism Survey and Geochemical Soil Sampling

In August 2008, ZZ Exploration began work on a ground magnetism survey and soil sampling program at the Melba Flats region on their EL 20/2002 exploration lease (Figure 6).

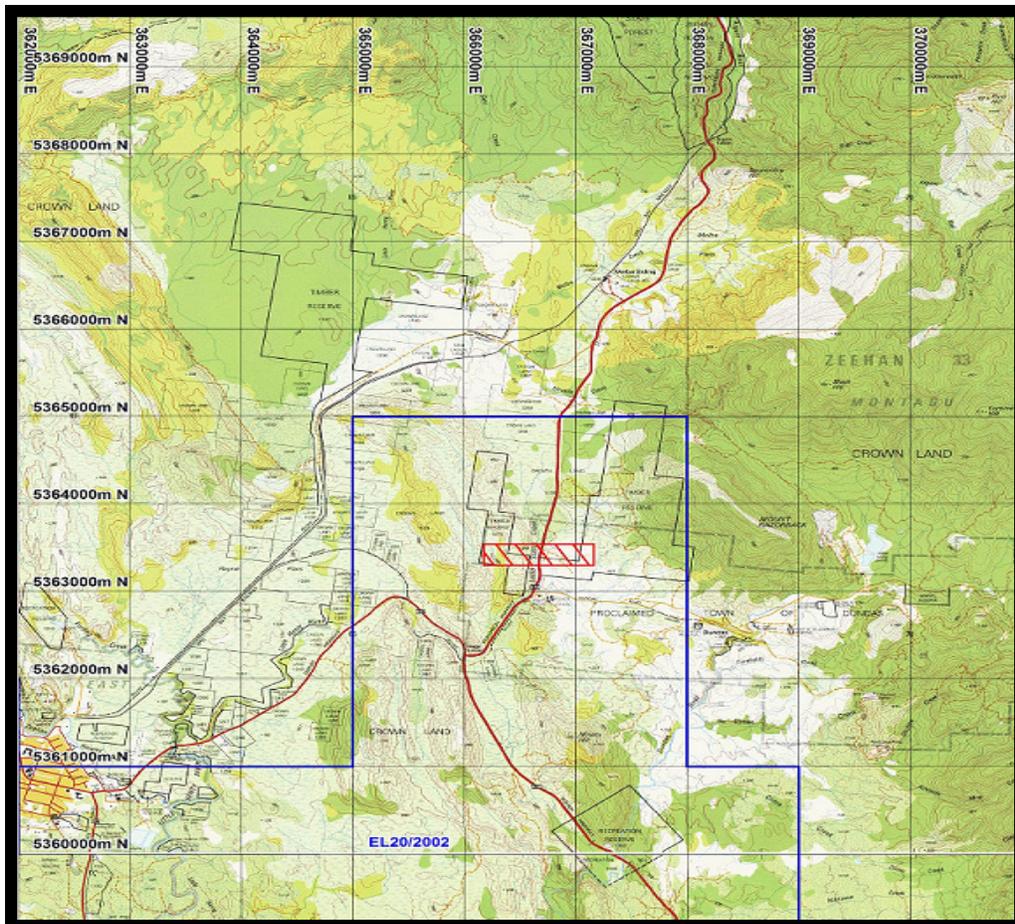


Figure 6 Map showing the northern section of EL20/2002. Red shading is the location of the magnetic and soil sampling survey locations

Grid cutters were brought into the South Melba Flats area to cut a grid as most of the ground was inaccessible to the ground crew undertaking the survey. Five 1000 metre east-west lines were cut with a spacing of 50m. Magnetometer readings were taken continuously and soil samples were taken every 20 meters. A marker was placed every 20 meters with the corresponding GPS coordinate and a soil sampling number. For each line there were 51 soil samples taken.

A two metre long auger was used in conjunction with a 75mm head-piece to collect the soil samples. The auger was wound down as far as possible and the sample was brought to the surface and bagged for later interpretation. Depths the auger would pick up from were variable due to the inconsistency of the underlying ground, whether it would be hitting solid rock at shallow depth or large quantities of water. There were many occasions where 5 or 6 attempts were made in the general radius. Where the ground was too hard to auger, appropriate rock chip samples were taken of the nearby area. Samples were brought back to the exploration shed, checked and put aside to be dried before being retagged and shipped for in-house (Hand-held XRF) and laboratory assaying.

A Geometrics G859 magnetometer with built in GPS functionality was used for the survey, which allowed easier interpretation due to the ability to tag GPS coordinates to any magnetic intensity area that the survey acquired and thus pin pointing areas to be revisited. Every magnetic reading and GPS reading was stored in the magnetometer and then both downloaded to computer for processing. From this information we were able to come up with a basic magnetic intensity plot which will be analysed by a geophysics company at a later date.

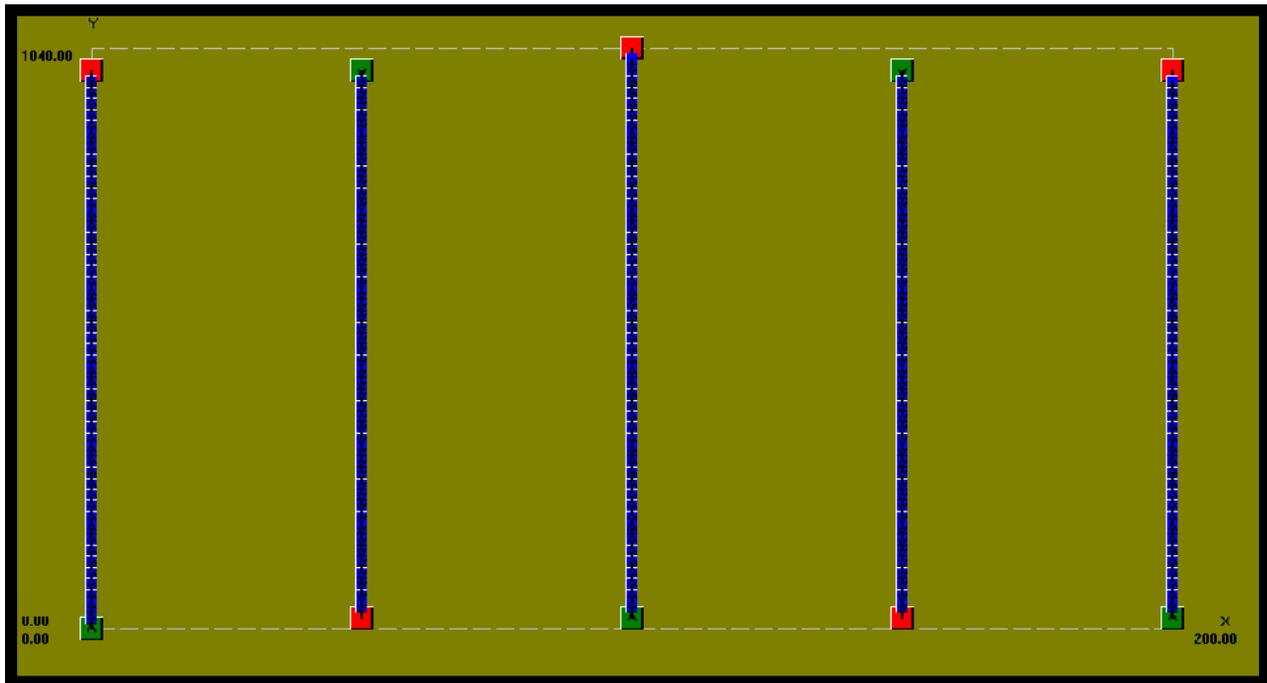


Figure 7 Plot showing the basic grid set up, direction walked (Y direction being west and X direction being north), with markers set up every 20m

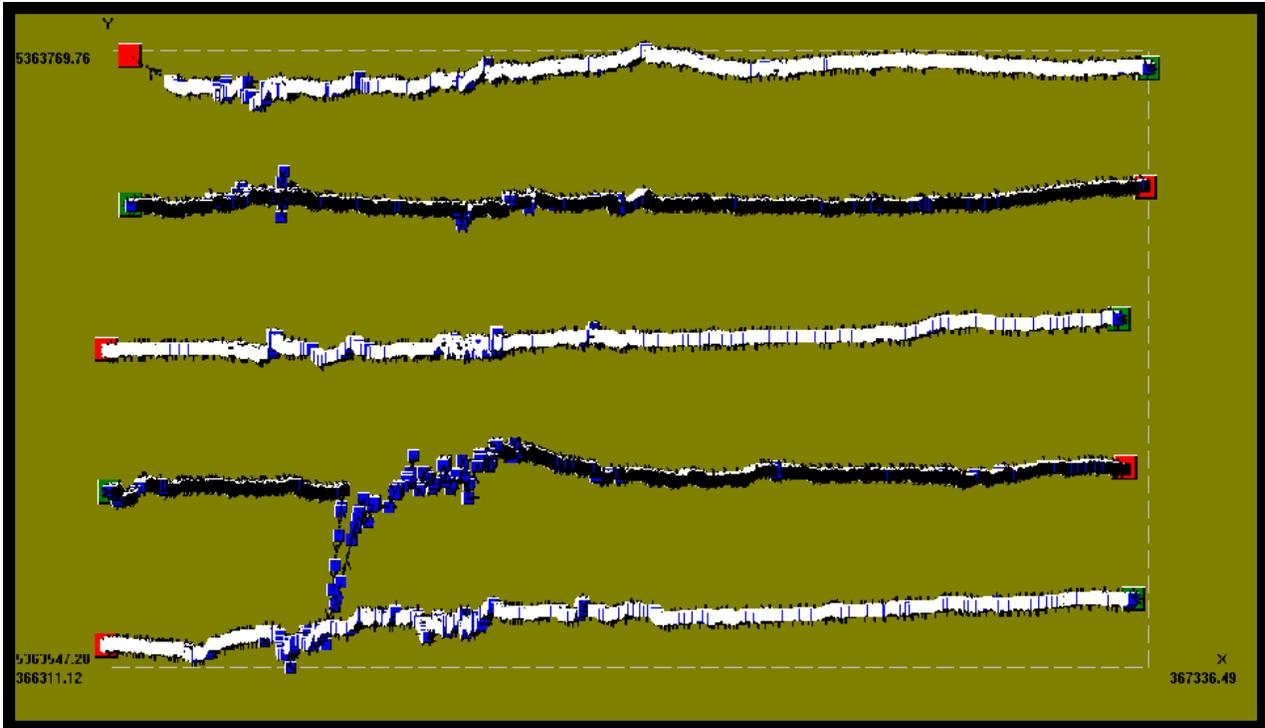


Figure 8 Plot showing the same grid as above but with all the GPS coordinates overlaid and the easting and northing' attached.



Figure 9 Soil augering at Melba Flats

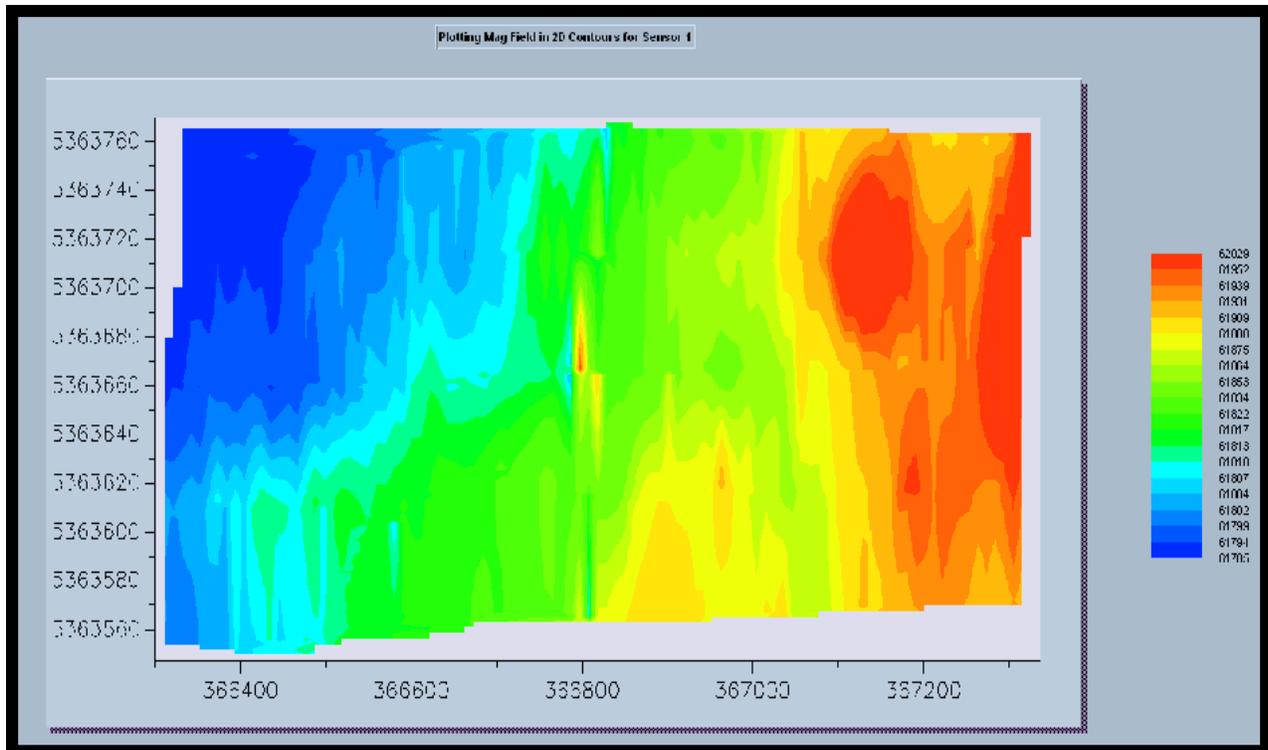


Figure 10 Plot showing the intensities in a two dimensional view, also with the easting and northing attached

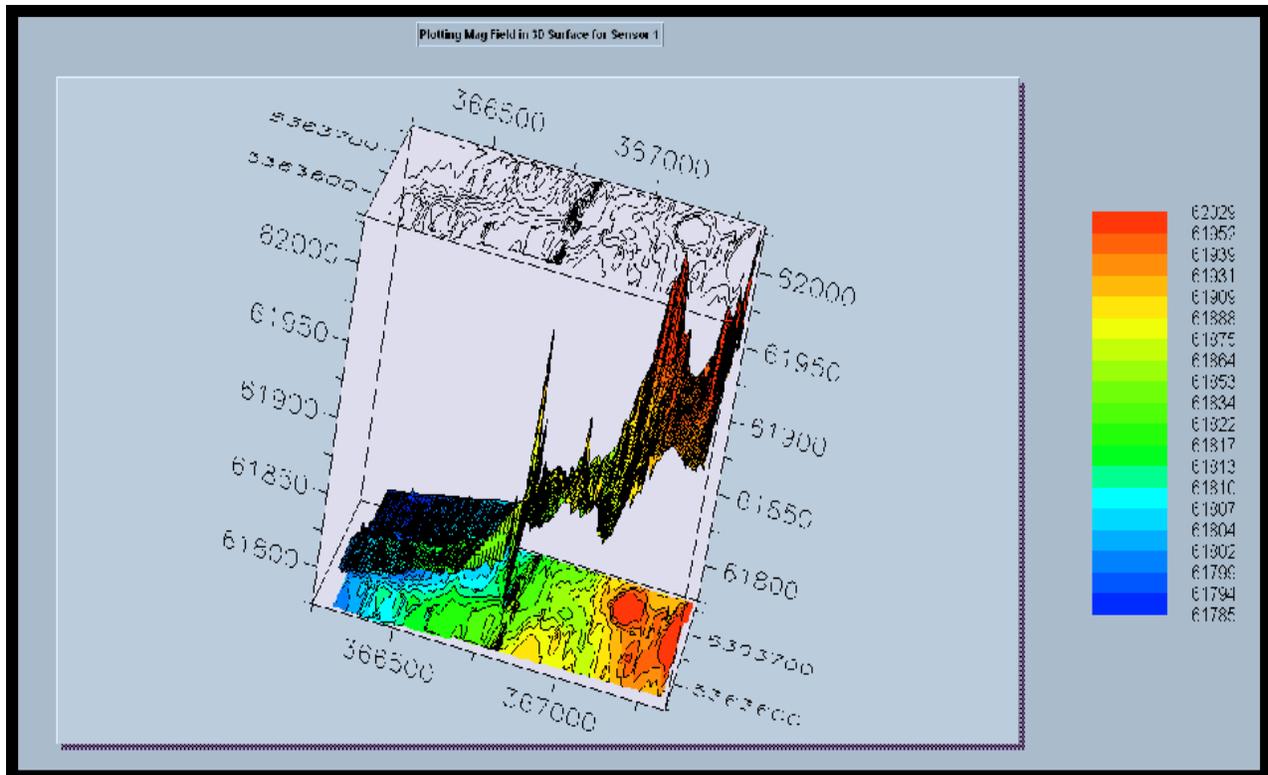


Figure 11 Plot showing the intensities in a three-dimensional view, also with the Easting and Northing attached.

From the above plots there are two distinct sides which represent the two sides of the Murchison Highway. The western side of the highway represents virtually no intensities which is not surprising considering that 90 percent of the soil samples on the western side were primarily sandstone derived. On the eastern side of the road the intensities start to climb considerably.

Combining soil samples geochemistry with geological mapping and overlaying of base station magnetic results and airborne magnetics/EM will be used for target generation. It is expected that the grid will be extended to the east of the Murchison Highway to cover areas of mapped gabbroic intrusives in 2009.

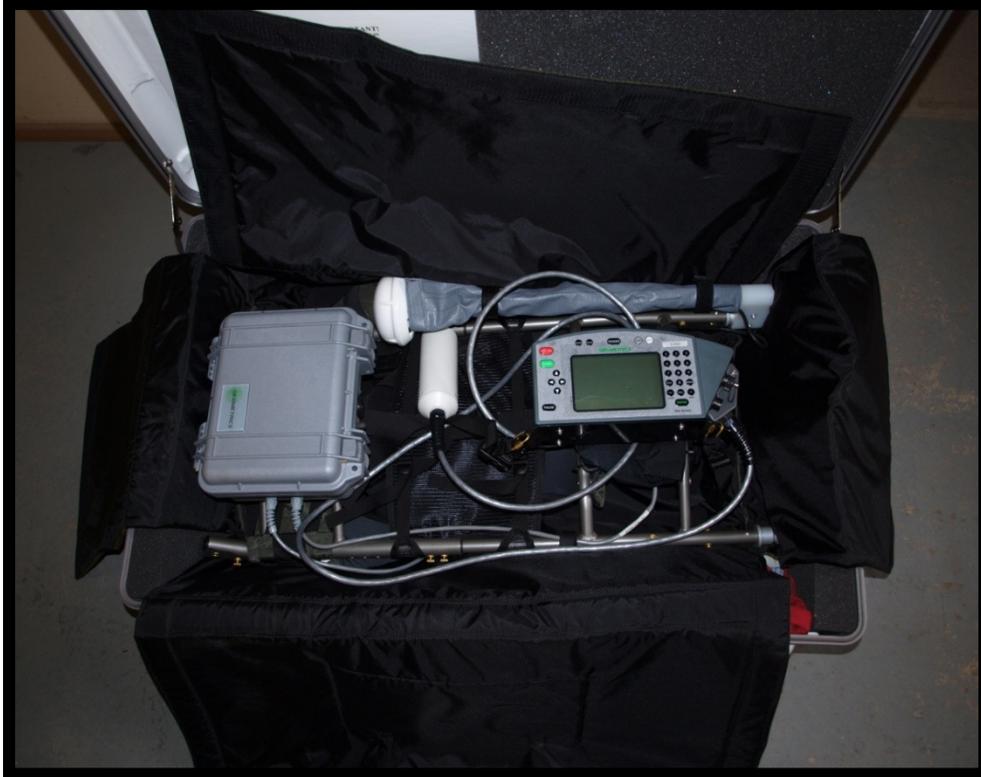


Figure 12 Zeehan Zinc's Geometrics G859 Magnetometer in transport mode



Figure 13 Aaron Day sporting a slinky number, the company's Geometrics G859 Magnetometer in acquisition mode.

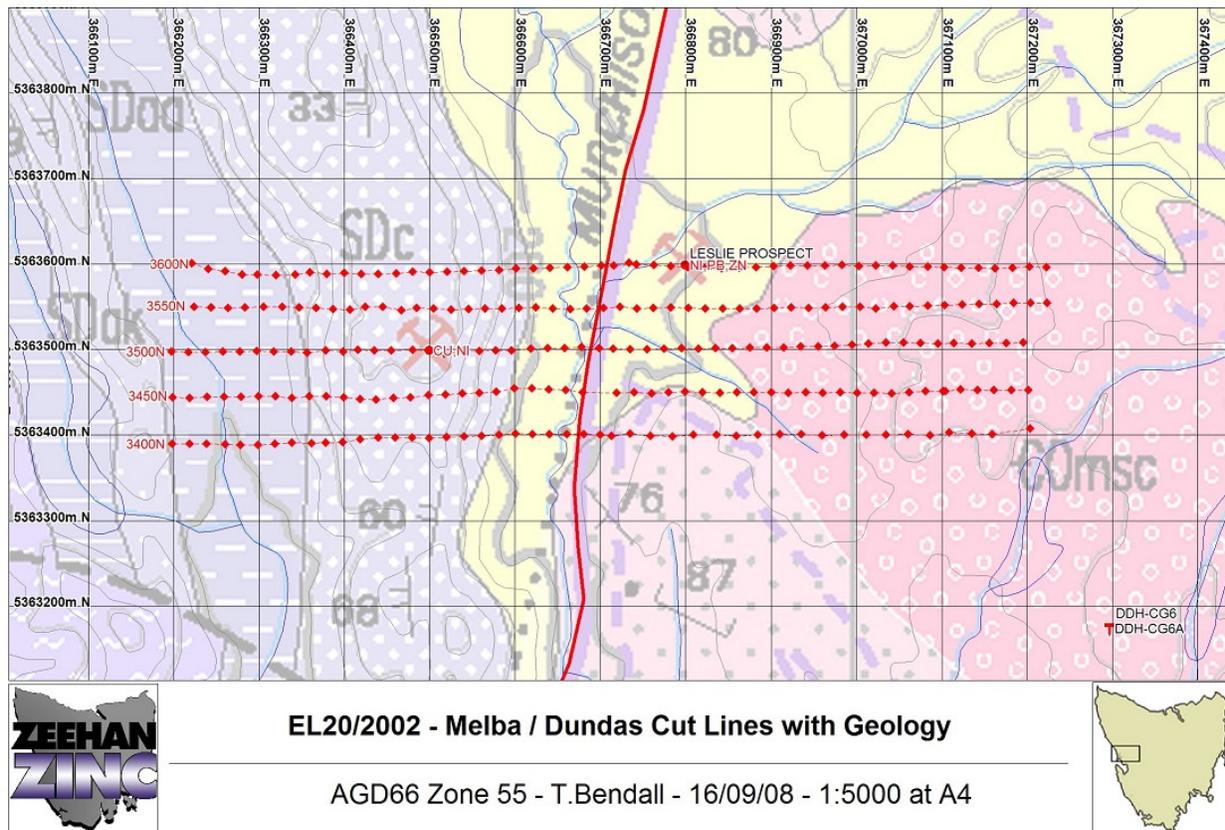


Figure 14 Map showing the northern end of the EL20/2002 licence. Red lines show the location for the magnetic survey and soil sampling.

3.2.2 Surface Exploration and Hand-Held XRF Analysis

Two CSR Limited (1986) diamond holes analysed by Niton hand-held XRF were located in the Dundas / Melba Flats area namely CG6 and CG6A. These drill holes were scanned at the MRT Mornington Core Shed using the Niton unit, looking for anomalous Ni, Co or Cu (see Appendix C).

In diamond drill hole CG6A an anomalous nickel reading of 0.25% nickel was measured using the hand-held XRF from 25.7 – 25.8m. The analysed material was an earthy-looking 2-3mm wide, strongly-weathered manganiferous veinlet with no visible sulphides, although it is quite likely that any original sulphides have been oxidized. The host rock was a narrow bed of lithic-wacke within purple-grey/brown shale.

During a reconnaissance mapping trip in the area using GPS and hand-held XRF a number of samples were collected and/or analysed. Outcrop was very poor in this low-lying pine plantation area, float being the main rock material present. Anomalous nickel (0.23% +/- 0.01%) was recorded at coordinates 367500E, 5364279N, with coincident high manganese (25% +/- 0.25%) and high iron (47% +/- 0.29%).

The sample site was at the root base of a large plantation conifer which was lying horizontal. The depression previously occupied by the root-stock held a collection of strongly weathered rock fragments of large hand specimen size. Similar float material was observed immediately to the south and east of this location. The samples were interpreted as a highly ferruginous leached and vuggy mafic intrusive rock. The sample site lies within an area mapped as Cambrian gabbro, which was our original sample target, given the association between gabbro dykes and nickel mineralisation at Cuni to the north of EL20.

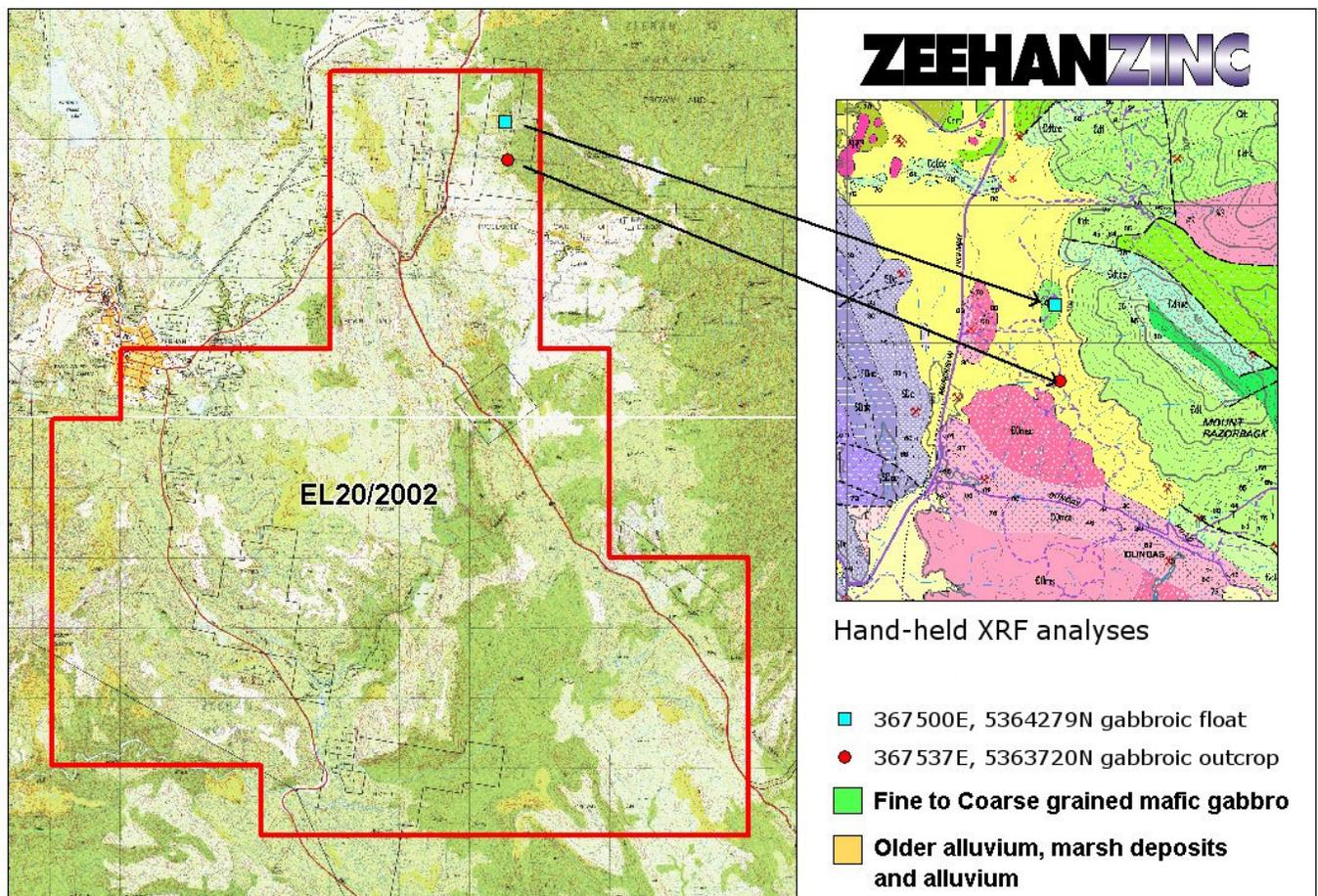


Figure 15 Hand-held XRF nickeliferous sample location sites – Melba Flats

A series of readings were also taken about 0.5 km to the south of the first area along a track with exposed Telstra cabling. A small ridge with abundant goethite-limonite gossanous outcrop occurs at 367537E, 5363720N. XRF readings of ten samples of this material, interpreted as strongly weathered gabbroic rock, averaged 0.16% Ni with a highest individual field reading of 0.28% +/- 0.02% Ni. See

Tables 1 and 2 below and Appendices F and G for the full reading dataset. This location also yielded samples with associated high lead readings and anomalous zinc, which may indicate later mineralisation overprinting with granite-related Pb/Zn veining events. Another possible explanation for this metallic association may lie with a remobilisation event – (Avebury-style?) although this is purely speculative at this stage.



Figure 16 Thermo Niton hand-held XRF unit with accessory lead-lined analysis table for mounting unit vertically

Nickel XRF Readings 367537E 5363720N
1587.65 +/- 149.03 ppm
2556.75 +/- 202.71 ppm
1759.97 +/- 163.46 ppm
875.11 +/- 111.98 ppm
1652.26 +/- 141.38 ppm
1235.21 +/- 121.28 ppm
2774.70 +/- 150.90 ppm

Nickel XRF Readings 367500E 5364279N
1218.89 +/- 115.05 ppm
2289.77 +/- 137.72 ppm
1138.91 +/- 113.95 ppm
1338.41 +/- 93.96 ppm
618.7 +/- 89.59 ppm

Tables 1 & 2 Handheld XRF field readings



Figure 17 Nickeliferous Melba Flats gabbroic rock from EL20/2002 367537E, 5363720N



Figure 18 Nickeliferous gossanous gabbroic rock from Melba Flats EL20/2002 367537E, 5363720N

4 DATABASE AND APPLICATION DEVELOPMENT

4.1 Introduction

Zeehan Zinc has a custom, internally developed database web application to manage its geoscientific information known as [CoreStore](http://code.google.com/p/corestore) (<http://code.google.com/p/corestore>).

Zeehan Zinc previously stored its geo-scientific data in a combination of MS Excel spreadsheets and MS Access file-based databases. There were separate MS Access databases for each major prospect e.g. Oceana, Comstock and Mariposa. There is other related spatial data such as GIS layers (MapInfo tab files, ESRI Shape files) stored on the server file system.

The scope of the work undertaken covered the storage, management and access to non-GIS data held by Zeehan Zinc and its subsidiaries, and also the management of third-party historic geo-scientific data including drilling and other.

4.2 Discussion

A recent Zeehan Zinc internal report, the AMC Consultants *Zeehan Zinc Resource Review 2007* (herewith to be known as the **AMC Report**) recommended merging all data held in separate MS Access databases relating to the company's prospects into one central repository.

The AMC Report also recommended that data validation be incorporated into any solution, and that an approval or QA ability be built into the system.

Considering that Zeehan Zinc has personnel located in various locations in Tasmania, Australia (and the world) it would be logical that any solution include the ability for a worker or authorised third-party to access the company's corporate data directly and concurrently.

AMC recommend that the following outstanding information be included in the central repository:

- Detailed logging, lithology, weathering, textures and mineralogy
- QA/QC information
- Geotechnical logging
- Bulk density
- Geochemical soil sample data
- Magnetometer data
- Storage location of samples and drill core

For Zeehan Zinc to securely manage its geo-scientific data in a multi-user environment, a relational database management system (RDBMS) was chosen. This solution included the development of a custom web-based application (CoreStore) using Oracle Application Express

4.2.1 Software Rationale

Another potential software product, Microsoft SQL Server 2005 Express Edition, is a free, easy-to-use, lightweight, and embeddable version of SQL Server 2005. This product does not have a web-based management tool, or an integrated web-application development capability.

Oracle Database 10g Express Edition is Oracle Corporations equivalent solution to SQL Server Express Edition. This software is free to download and use, the key differences with Oracle's commercial database software is:

- Oracle Database XE is free for runtime usage with the following limitations:
- Supports up to 4GB of user data (in addition to Oracle system data)
- Single instance only of Oracle Database XE on any server
- May be installed on a multiple CPU server, but only executes on one processor in any server
- May be installed on a server with any amount of memory, but will only use up to 1GB RAM of available memory

Zeehan Zinc is unlikely to ever come anywhere near to the maximum user-data limit of 4GB. If this was ever a concern in the future, there is a straight-forward path for scaling up to one of Oracle's other database products. The Oracle XE product is particularly attractive because it is simple to install and administer, support is available from a number of free discussion forums, and it is a powerful and reliable software product.

The database may be administered using a web-based tool, so the company's personnel may browse, edit, import and export data from the RDBMS wherever they are in the world as long as they have browser access to the internet, and have been granted the appropriate database permissions.

The Oracle XE solution also allows various third-party applications to connect to the database via ODBC. Surpac, MS Access, MS Word, MapInfo and even MS Excel can directly connect to the database. Any software that can connect to an ODBC source should be able to connect to and interrogate the XE database.

4.2.2 Relational Model

A relational model was developed to encompass Zeehan Zinc’s drilling information, historic drilling by other companies, plus other sample data such as rock-chip, soils etc. A data model diagram is included. This data-model diagram was created using the free Blueprint CASE Modelling Tool from Geometry P/L, Hobart (See Appendix H and I).

4.2.3 Data Migration

All data currently stored in MS Access databases and MS Excel spreadsheets was migrated into the new data structure. Any missing data, or data not stored in a digital form was located and loaded into the new tables. Data migration was done by importing the existing MS Access tables via .csv text files into Oracle XE using the inbuilt web-based tools, and by using Oracle SQL Developer inbuilt migration tools. SQL scripts and PL/SQL procedures performed any translation required of the data between old and new data-models.

4.2.4 Application Development

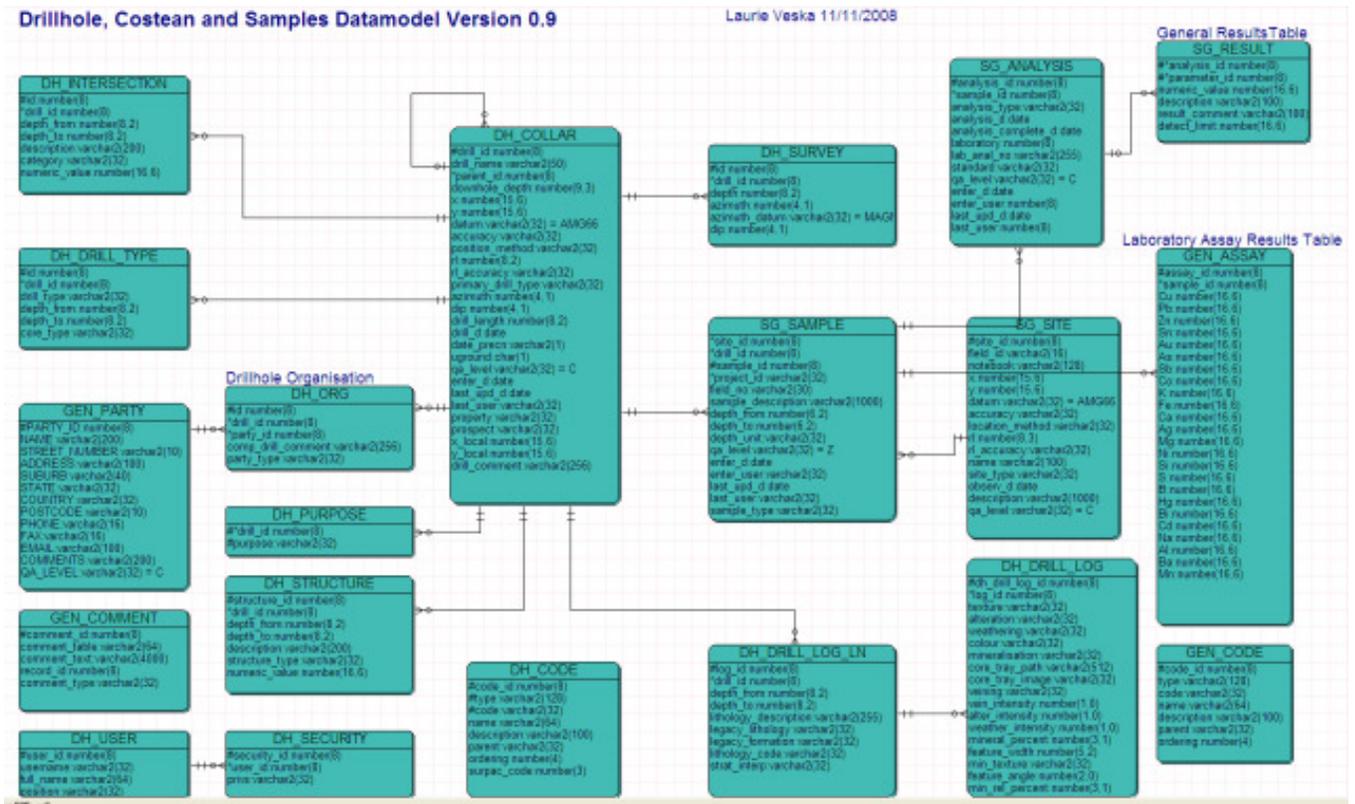


Figure 19 CoreStore Blueprint data model

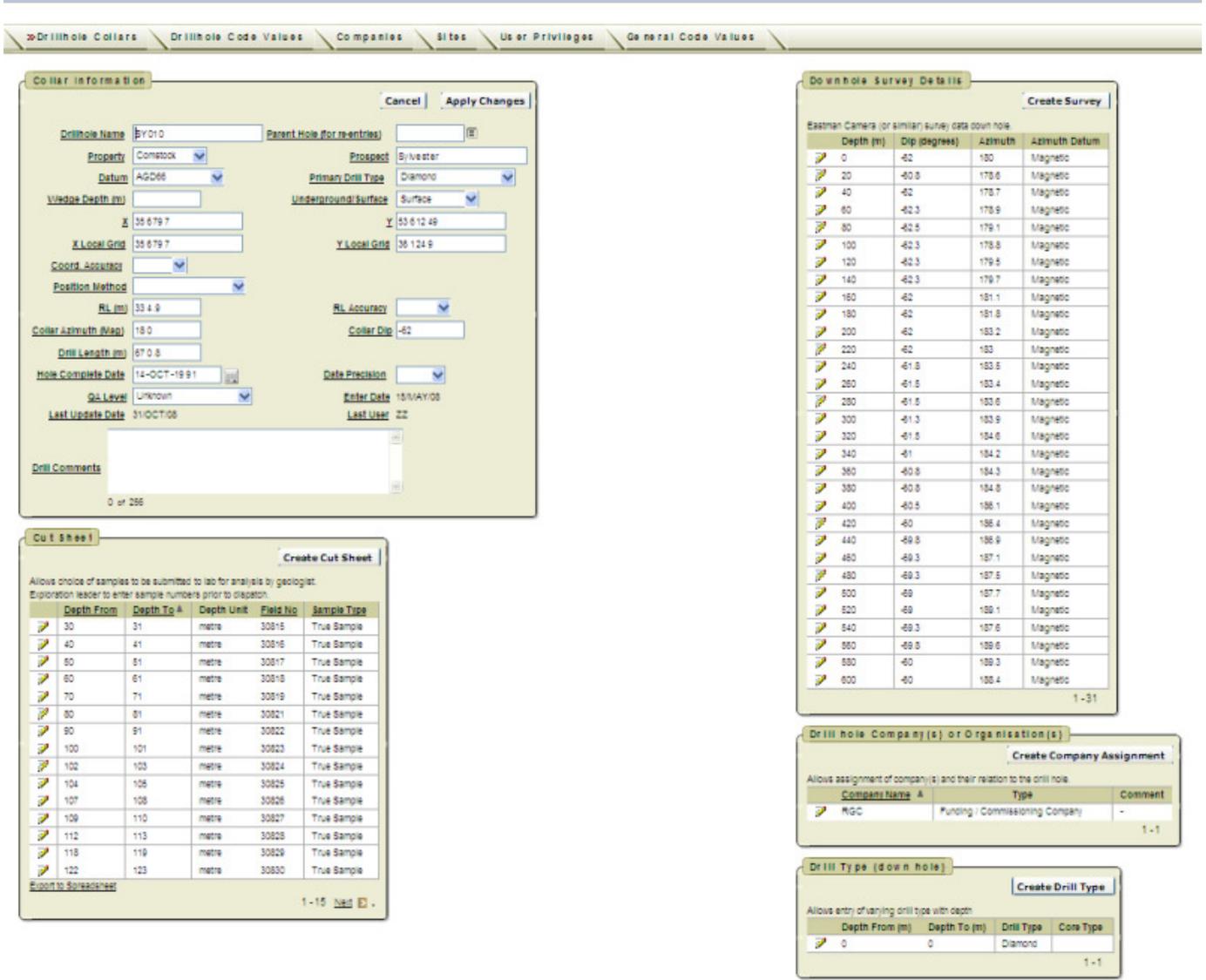


Figure 20 Screen capture of CoreStore Drill-hole application

» Drillhole Collars Drillhole Code Values Companies Sites User Privileges General Code Values

Drillhole and Costean Collars

Enter some search criteria below, then click Filter. Click to the left of the record to see a detailed report, or edit the drillhole.

Create New Drillhole

Search: Display: 20

X Min: X Max: Filter by Drill Type: Diamond

Y Min: Y Max:

Drill Name	X	Y	Primary Drill Type	Datum	Drill Length (m)	Azimuth	Dip	Drill Date	X Local	Y Local	Position Method	RL	Property	Prospect	Underground?	QA Level	Enter Date	Last Update Date	Last User
Abx WC	357547.9	536055.13	Diamond	AGD66	1	76	80				Differential GPS	207.3	Comstock	Allisons	Surface		25/JUL/08	01/AUG/08	
CG6	367295	5363170	Diamond	AGD66	187.2	52.3	-45	12/APR/86				216	Melba Flats	Dundas	Surface	Incomplete	17/NOV/08	17/NOV/08	Administrator
CG6A	367294	5363175	Diamond	AGD66	31	52.6	-45	22/APR/86				216	Melba Flats	Dundas	Surface	Incomplete	17/NOV/08	17/NOV/08	Administrator
CG7	368898	5364960	Diamond	AGD66	8	0	-90	25/MAY/86				195	Melba Flats	Dundas	Surface	Incomplete	17/NOV/08	17/NOV/08	Administrator
CP25	357609	5360517	Diamond	AGD66	11.6	32	32		357609	5360517		267.84	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
CP26	357610	5360521	Diamond	AGD66	15.2	32	0		357610	5360521		266.65	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
CP27	357605	5360504	Diamond	AGD66	23.42	212	-45		357605	5360504		265.74	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
CP47	357605	5360545	Diamond	AGD66	58.5	250	-1		357605	360545		265.7	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
CP48	357608	5360545	Diamond	AGD66	71	212	-13		357608	360545		265.7	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
CP58	357506	5360545	Diamond	AGD66	72.5	278	-11		357506	360545		265.7	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
CP60	357405	5360382	Diamond	AGD66	16.2	19	0		357405	360382		268.4	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
CP64	357399	5360408	Diamond	AGD66	16.2	42	0		357399	360408		268.4	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
CP65	357398	5360424	Diamond	AGD66	30.5	11	0		357398	360424		258.4	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
CP66	357394	5360352	Diamond	AGD66	41.5	0	0		357394	360352		258	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
CP67	357578	5360606	Diamond	AGD66	52.7	258	0		357578	360606		255	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
CP68	357558	5360583	Diamond	AGD66	22.8	260	0		357558	360583		255	Comstock	Allisons	Underground	Unknown	15/MAY/08	15/MAY/08	
DM208	357617	5358963	Diamond	AGD66	49.2		-90		67319	58847		180	Mariposa		Surface	Unknown	15/MAY/08	15/MAY/08	
DM209	357645	5358975	Diamond	AGD66	141.7	253	-79		67350	59848		180	Mariposa		Surface	Unknown	15/MAY/08	15/MAY/08	
DM210	357463	5359482	Diamond	AGD66	62.0	252	-79		67345	59388		170.25	Mariposa		Surface	Unknown	15/MAY/08	15/MAY/08	
DM211	357494	5359508	Diamond	AGD66	150.6	252	-45		67380	59403		172.82	Mariposa		Surface	Unknown	15/MAY/08	15/MAY/08	

[Export to Spreadsheet](#)

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Figure 21 Screen capture of CoreStore Drill-hole application

5 CONCLUSIONS

The potential for Cuni/Melba Flats-style nickel mineralisation towards the northern extremities of the licence is increased given the encouraging hand-held XRF nickel readings and presence of gossan-like outcrop.

It is expected that the current Melba Flats grid will be extended to the east of the Murchison Highway to cover areas of interpreted Cambrian gabbroic intrusives in 2009. This focus is more in line with the EL20/2002 nickel exploration model employed by the company.

5.1 Proposed Work Program

ZZ Exploration has prepared a detailed proposed work program and budget for exploration during 2009. For complete details see Appendix B.

6 ENVIRONMENT

Minimal environmental disturbance was made during the reporting period, a total of 5 gridlines (Figure 13) were cut at Melba Flats, these lines will regenerate naturally within approximately 2 years, and in fact the regeneration process is already visible in places.

7 EXPENDITURE

Expenditure for the four quarters for 2008 is presented below.

2008	Q1	\$	72,605.00
	Q2	\$	12,835.00
	Q3	\$	42,947.00
	Q4	\$	*

*The figures for EL20/2002 Q4 are currently being collated and will be presented in the next report.

8 REFERENCES

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9 APPENDICES

Appendix A: *Simon Tear Nickel Report*

Appendix B: *Exploration Plan and Budget Proposal 2009*

Appendix C: *Hand-held XRF readings from diamond core at MRT core shed (various holes)*

Appendix D: *Hand-held XRF readings from diamond core at MRT core shed (RGC Hole SY010 only)*

Appendix E: *Melba Flats Hand-held XRF readings 367500E_5364279N*

Appendix F: *Melba Flats Hand-held XRF readings 367537E_5363720N, trip 1*

Appendix G: *Melba Flats Hand-held XRF readings 367537E_5363720N, trip 2*

Appendix H: *CoreStore Blueprint data-model diagram*

Appendix I: *CoreStore Data Dictionary*

Appendix J: *Simon Tear Irish-Style Exploration Model Internal Report*

Appendix K on CDROM: *MRT Drill core XRF Program spreadsheet of results Part A*

Appendix L on CDROM: *MRT Drill core XRF Program spreadsheet of results Part B*

*“With time and patience
the mulberry leaf becomes a silk gown “*

Old Chinese Proverb