

MAGNETIC SURVEY REPORT

INTRODUCTION

The West Coast of Tasmania has been re flown by airborne Geophysical Surveys in recent years (circa 2000-2002) and this has been quite a stimulus and help to many junior (and other exploration/mining) companies, all of which are grateful for this Tasmanian Government initiative. As a result many magnetic (big and small) anomalies have been revisited and substantial work carried out on them.

Exploration predecessors of Shree Minerals Ltd looked at the Nelson Bay River anomaly in the year 2000 and drilled 2 diamond exploration drill holes, the target of which was gold and base metal mineralisation : often associated with magnetic anomalies : caused by association with magnetic minerals and magnetite in particular.

In 2005 the then owners of the EL visited the site and re looked at the Government Magnetic Map and the drill data of 2000 (and 1966 NB 401 by Pickands Mather) and with new computer modelling came up with a magnetite resource (not to JORC standard) of 4mt at 40% iron. This initial resource looked interesting and had/has substantial potential for a big increase in the size of the mineralised body as it had/has not yet been fully tested at length in both directions nor at depth. Hence scope for a larger minable resource.

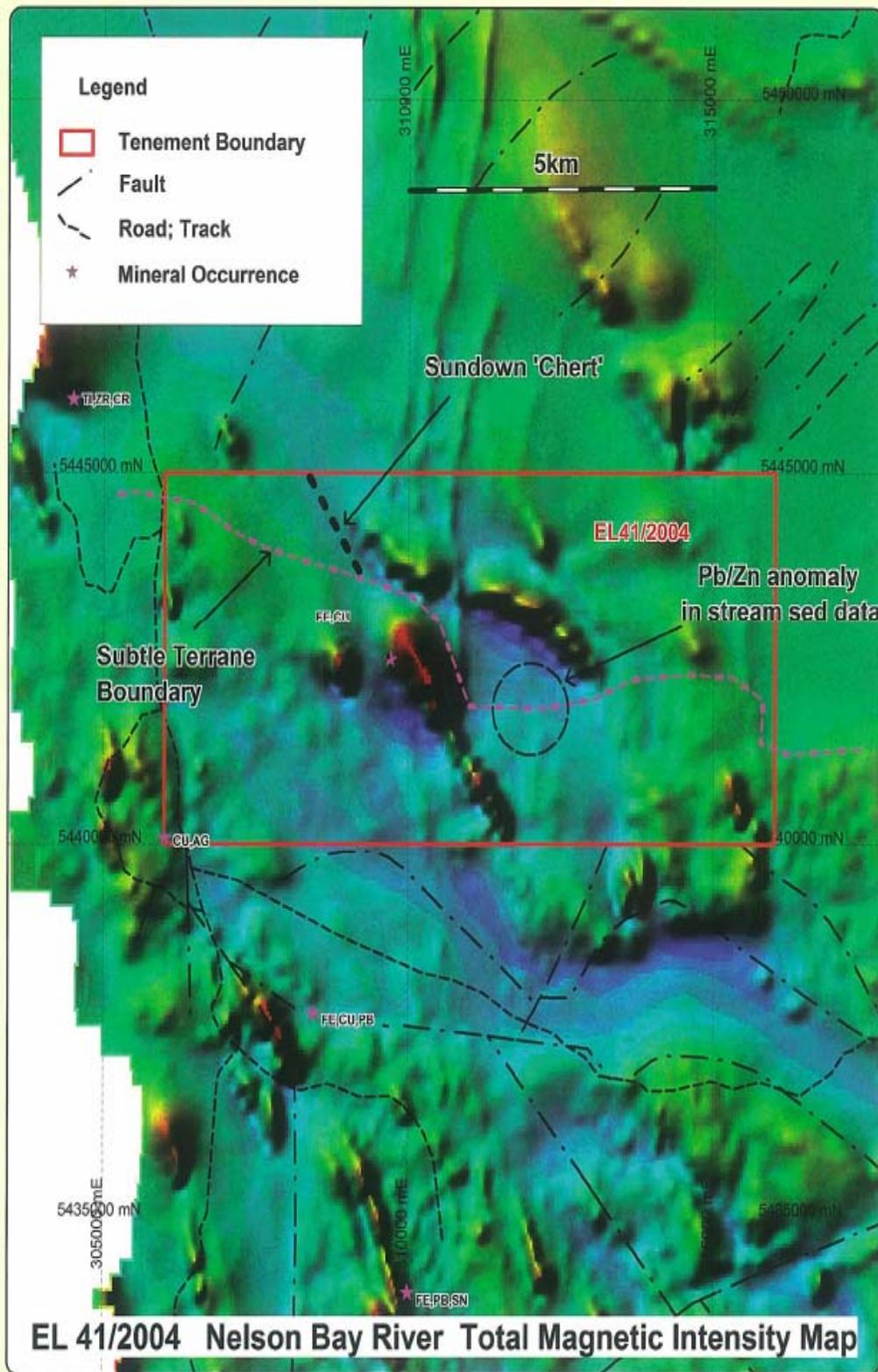
At Nelson Bay River there are three magnetic anomalies : the main magnetic anomaly area and its satellites being the supplementary weaker anomaly in a southerly direction and an other weaker westerly anomaly. All three are clearly visible on the magnetic map (p2).

In 2006 Zelos Resources NL conducted a small diamond drilling program consisting of 3 angled (-45 degrees) holes to further extend the resource. This was very successful as a revised ore resource was calculated as 6.9Mt at 38.2% magnetite using a 20% cut off and equating to 2.8Mt of magnetite. This orebody is in the Inferred Category under the JORC Code. The metallurgy testing of the magnetite indicated it being suitable for both the coal washery market (then favoured by Zelos) and the iron pelletizing market.

The Zelos company and its successor Gujarat NRE Resources NL both were keen to continue exploration with the view to enlarging the resource and in this regard were keen to do detailed ground magnetics and much more drilling to accurately define the resource and also test its satellites for their potential to contribute to the ore resource.

Shree Minerals Limited took over the EL in May 2008 and also was keen to advance the project. Shree contacted again the road contractor about upgrading the existing track into the prospect, line cutters to re establish the extensive grid put into the area by the Geopecko Ltd company in the early 1980s and the carrying out a ground magnetic survey to confirm the size and location of the magnetic orebodies.

This note describes this survey and its results.



METHOD

An initial approach was made to Dr Robert Richardson of the MRT for detailed copies of the MRT magnetic map covering the Nelson Bay River area. His response was to see the Tiger website and download data of the area required and contact a Geophysicist who has the right software to process the data and produce suitable maps etc.

Initially it was planned to borrow a magnetometer from the Gujarat company as used on the Illawarra Escarpment but this magnetometer proved to be unsuitable for this job as it had a calibration range the highest being 58 000 nT suitable for the Illawarra but not for Northwestern Tasmania where the ambient magnetic field is 61 700 nT +.

“I have put your location into the Geoscience Australia Australian Geomagnetic Reference Field calculator: (<http://www.ga.gov.au/oracle/geomag/agrfform.jsp>) and got the following results for 15 August 2008.

Magnetic Field Components

Declination = 12.575 degrees east

Total Field = 61 729 nT Bob Richardson “ personal communication.

It thus became necessary to hire a magnetometer and the Fugro Ground Geophysics Pty Ltd company in Sydney was contacted and a Geometrics Portable Cesium Magnetometer –Model G-859 was rented and used to carry out the field survey in September 2008.(p4)

The survey was carried out over the main magnetic anomaly area at NBR on Thursday 11th and over the southern magnetic anomaly area on Friday 12th September 2008.

After teething problems were overcome (calibration, flat battery etc) the machine proved to be quite useful. It takes readings at a rate of 2 per second (ie almost constantly) which became a further teething problem of too much information over retraced ground and the operators inexperience with the pause and other controls made for difficult interpretation of data later.

The track from the car park to the baseline elbow was the initial line surveyed and duly labelled line 1. Others followed namely Line 2 was along the baseline to the 10 000 n/ 10 000 e (local grid) base point (the green circle on the map below p5 (near the site of NBR# 1 drill hole of 2000).

Line 3 was also along this baseline and was the northern extension until the river. Then all the cross lines were surveyed starting at the baseline and heading easterly until the end of the cross line which was usually the Nelson Bay River. All data was downloaded and the following day the survey was carried out in the southerly anomalous areas where readings were west to east along each cross line and the baseline last. See table and maps below (p5, 6,7).



Portable Cesium Vapor Magnetometer

Model G-859SX Mineral Mag™

A Professional Magnetic Mapping System

For Minerals, Petroleum and Geologic Survey

2 Year Warranty!



- **Excellent Performance**
Low Noise/High Sensitivity, best in the industry – $0.02nT/\sqrt{Hz}$ RMS – and world wide operation
- **Very Fast** – Log mag and GPS at up to 5 samples per second for economic large area surveys at high sample density
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- **Easy-to-use** – Simple setup and rapid in-field map generation with free MagMap2000™ software
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- **Designed for large surveys**
Mining/Oil/Gas – This versatile tool is specially designed for large area surveys with 8 hr data storage capacity and two 6 hr battery packs

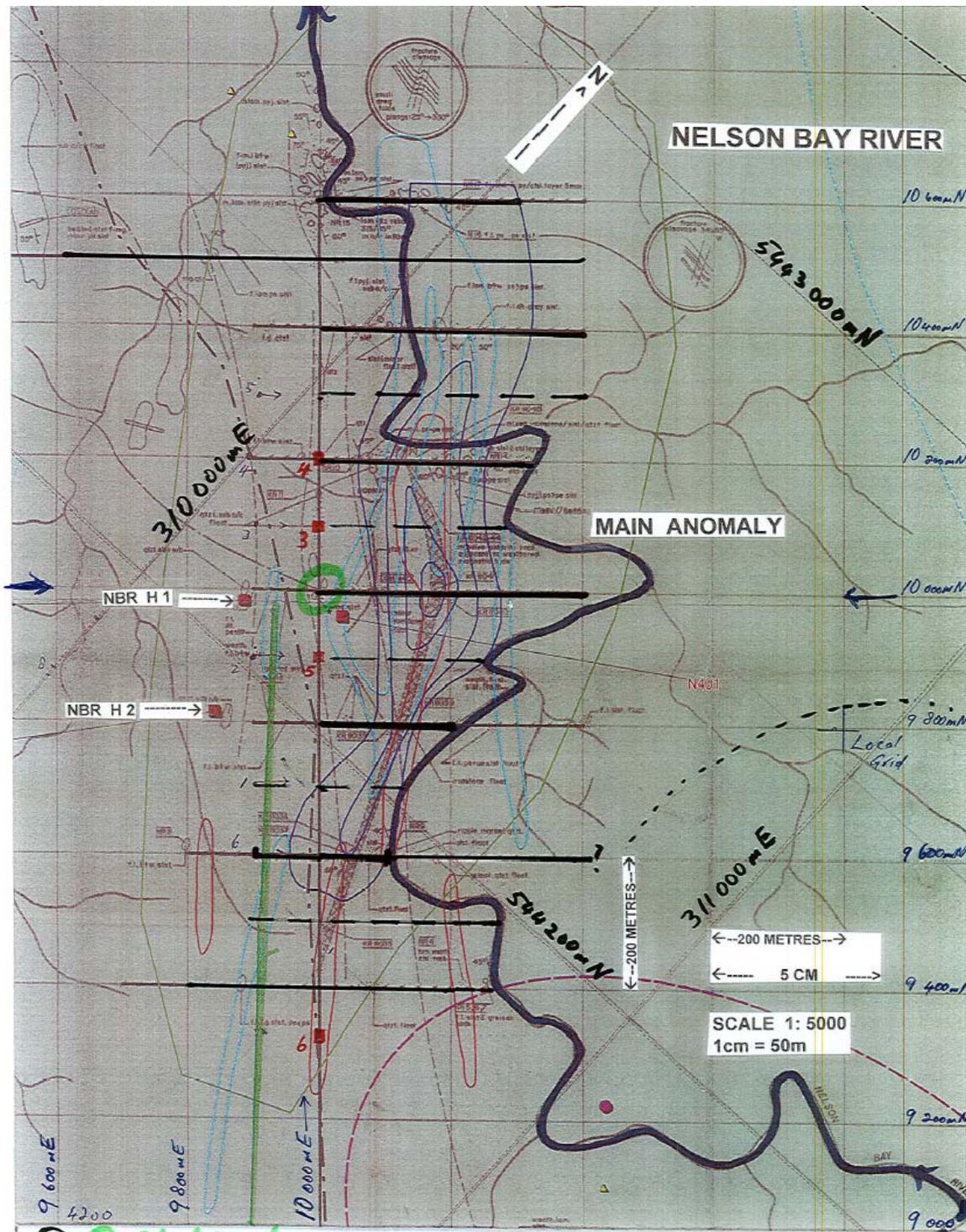
This new low-cost Cesium vapor magnetometer system offers the mining/oil/gas survey companies the best total field magnetic survey tool available. Based on our industry standard G-858 MagMapper system, the G-859 incorporates all of the reliability and proven performance in a lightweight survey package with integrated WAAS/EGNOS enabled Novate!™ GPS.

NELSON BAY RIVER MAGNETOMETER SURVEY SEPTEMBER 2008

Magnetometer : Geometrics Cesium G-859 & With built in GPS & continuous survey capability

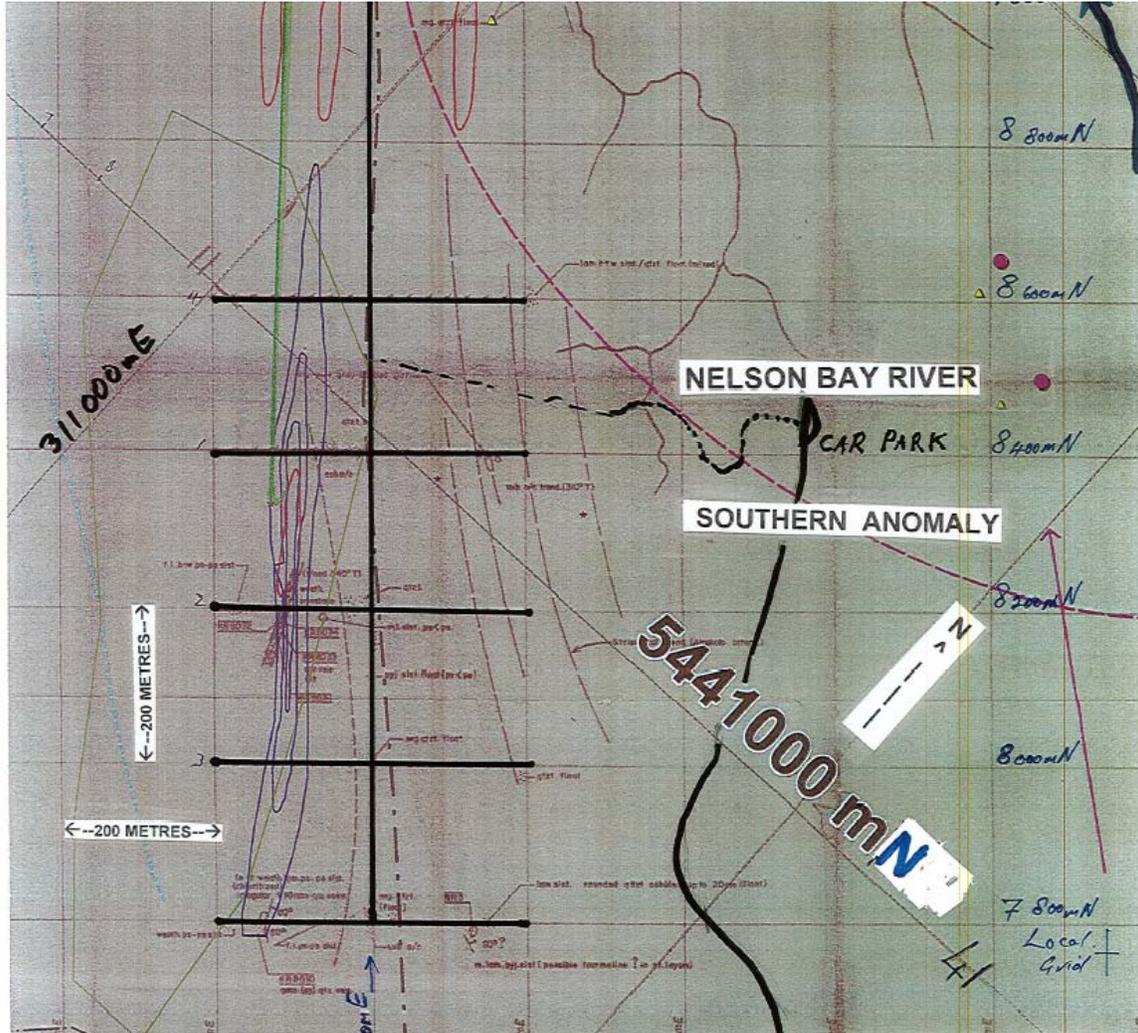
File 1 Other Files not used note file 3 previously used by an other operator

Line	DAY 1 Local Grid Northing	THURSD Local Grid Easting	11th September 2008 End of Line point	Dist (m)	Direction	Ambie Mag N
1	car park	boot tub	8400n elbow 10000n ground	700	south-west	
2	8400	10000	zero	1600	north-west	
3	10000	10000	10600n at river	600	north-west	
4	10500	10000	10150e at river	150	north-east	
5	10400	10000	10150e at river	150	north-east	
6	10300	10000	10160e at river	160	north-east	
7	10200	10000	10250e at river	250	north-east	of NBR4 //to river
8	10100	10000	10100e	100	north-east	of NBR3
9	10000	10000	10400e at river	400	north-east	longest line & over
10	9800	10000	10200e at river	200	north-east	
11	9600	10000	10100e at river	100	north-east	
12	9400	9900	10250e at river	350	north-east	started 100m wes
13	8400	10000	10110e at track	110	north-east	stopped where the
	DAY 2	FRIDAY	12th September 2008			
14	8600	9800	10100e	300	north-east	readings across b
15	8400	9800	10200e	400	north-east	readings across b
16	8300	9900	10100e	200	north-east	readings across b
17	8200	9800	10200e	400	north-east	readings across b
18	8000	9800	10200e	400	north-east	readings across b
19	7820	10000	8400n	580	north-west	readings along ba



Main Magnetic Anomaly Area

Lines 2 and 3 were along the baseline heading up (340 magnetic degrees) and lines 4 to 12 were surveyed west to east starting at 10 500mN (local grid) going south.



The Southern Anomaly Area .

This map abuts the map above.

The magnetic ground survey was carried out from west to east along each cross line of the map from the north to the south, then up north along the cut baseline itself until the track back to the elbow of the baseline.

All the data collected by the magnetometer was down loaded on a laptop computer and saved to a flash drive for analysis.

Upon return of the magnetometer to Fugro in Sydney , the flash stick with it s download was also presented for massaging and cleaning. Fugro helped in this regard but could not help with graphic print outs as AGD s had to be reconciled and Fugro did not have any Geophysical software for interpreting the data. A local geophysicist was contacted to use his ER Mapper but the data was still too raw, scrambled and over abundant to be useful. He suggested to go back to Fugro but they were once again of limited help.

The following maps were able to be produced with the data by the local Geophysicist. Although incomplete and very rough (unfiltered and in the wrong domain (ie latitudes/longitudes rather than GPS co ordinates) they still give a rough picture in plan of the southern area and the northern area was worse and not printed out.

However both areas showed that along the cross lines significant magnetic anomalies are present . In the case of the southern anomaly on the west side of the baseline on magnetic traverse line 17 which is on the local grid cross line 8 200 mN. This anomalous line was able to be modelled and the cross section resulting is shown below as figure .

This line thus becomes a potential target for drilling to test the cause of this magnetic anomalism which the Geophysicist Consultant regards as significant. (see below).

Similarly on Line 9 , which is the magnetic traverse run on cross line 10 000mN, the same cross sectional line as the drill holes N401 (1967) and NBR #01 (2000). This traverse shows a very strong peak when modelled on a cross sectional basis.

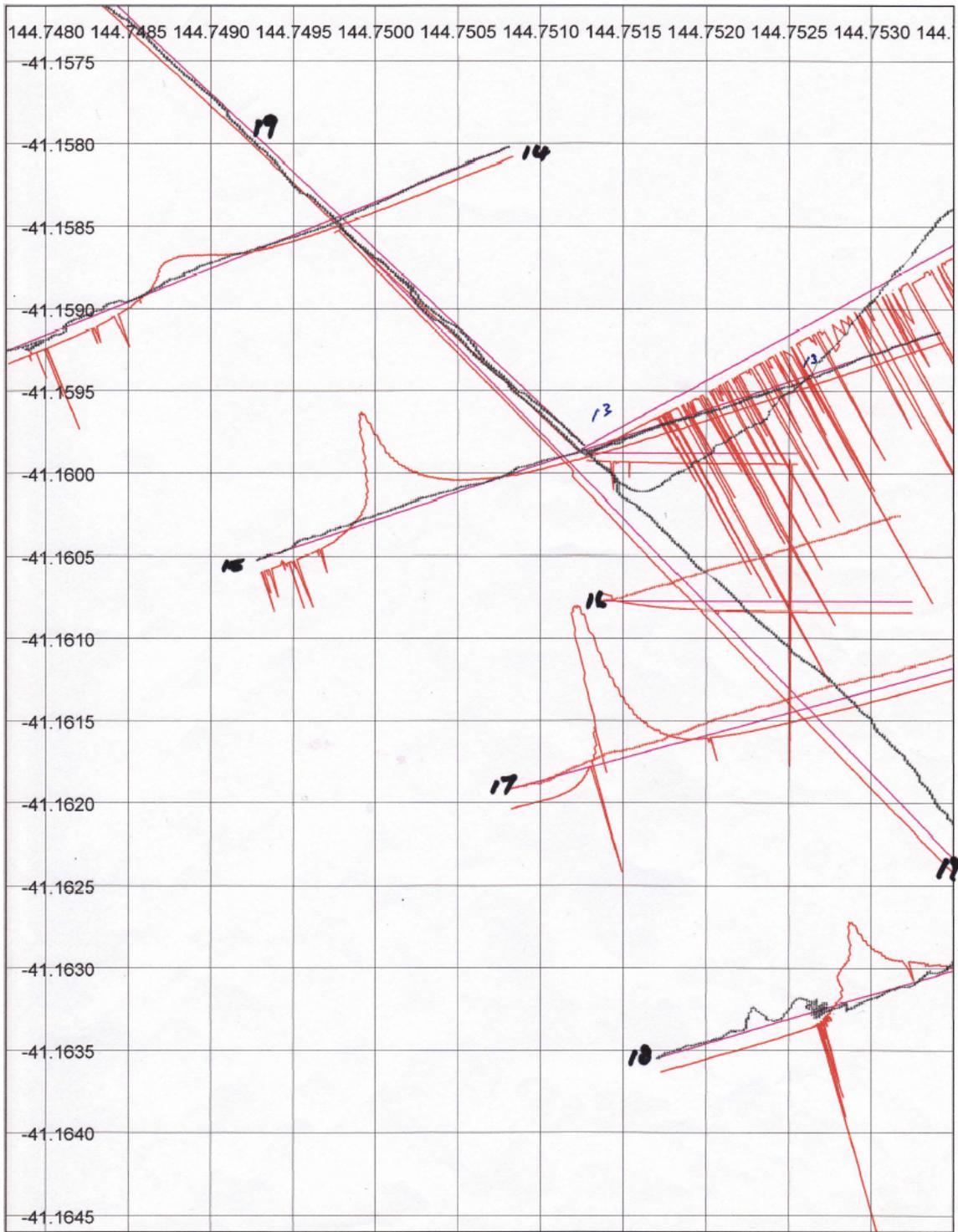
The disappointment here was that no overall plan view was printable by the local Geophysicist who was consulted on this project. However the modelling confirmed the presence of the significant magnetic feature extending as it does on the surface mapping and in past drilling.

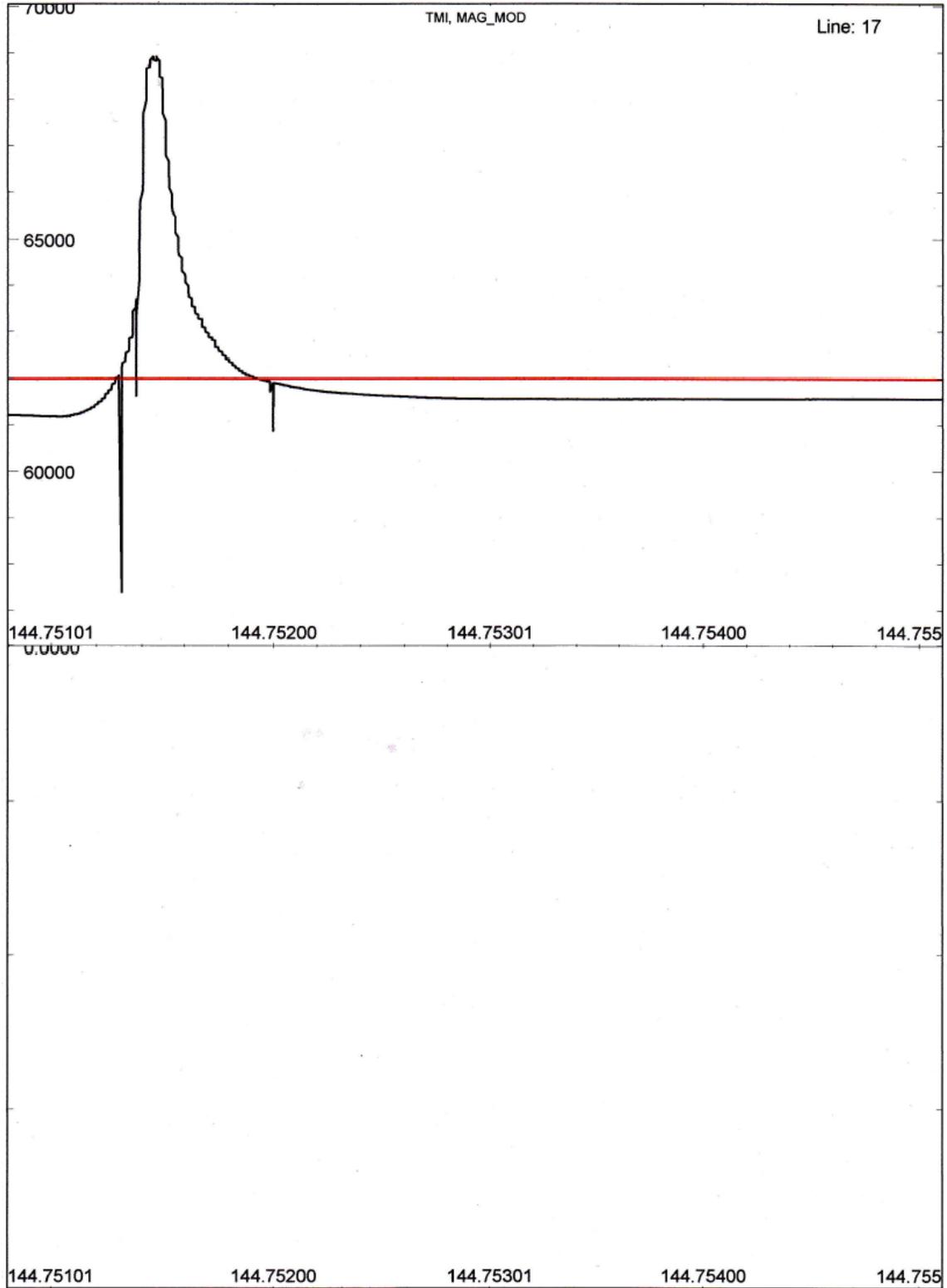
Below are the results of the two Geophysicists who were consulted on this project.

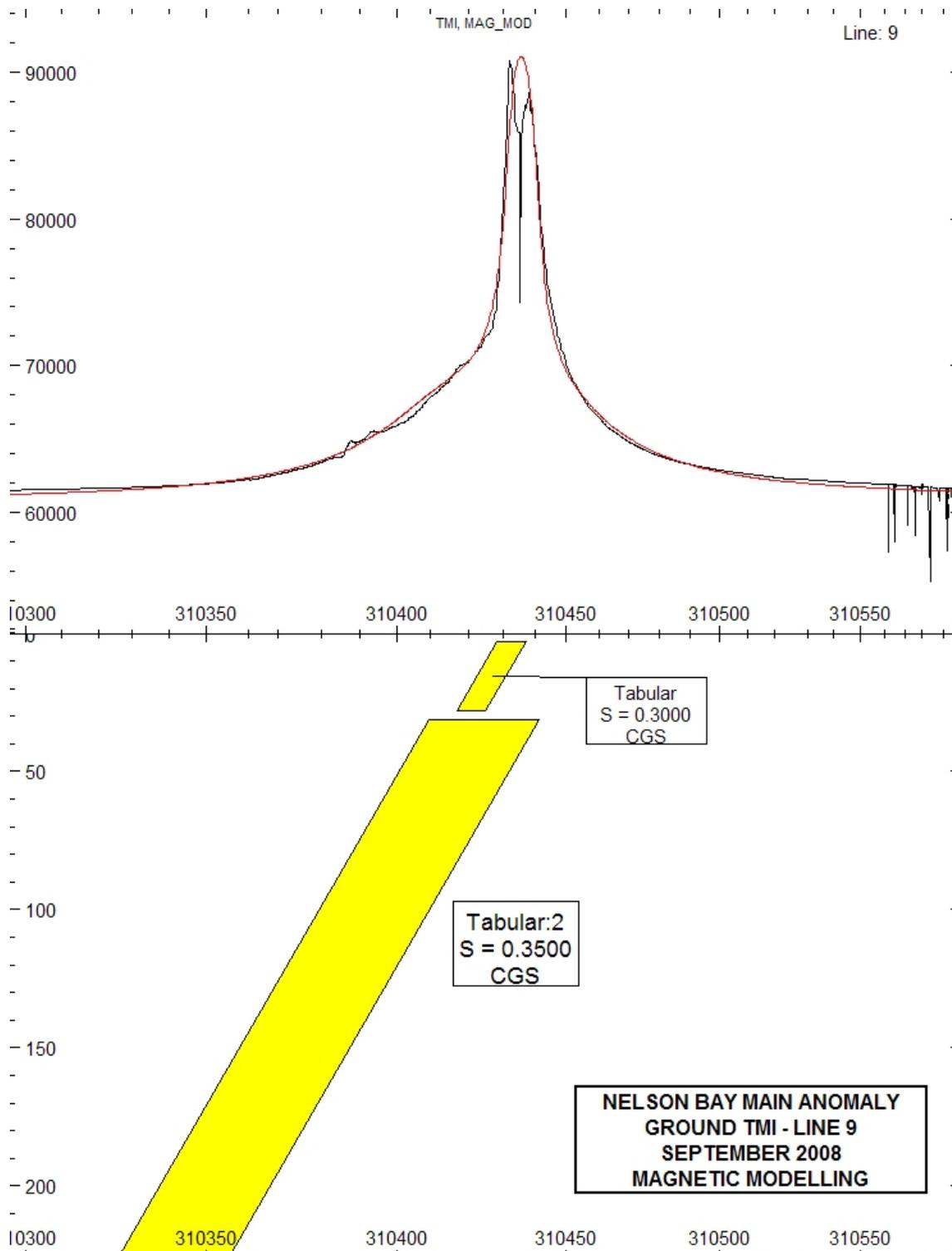
CONCLUSION

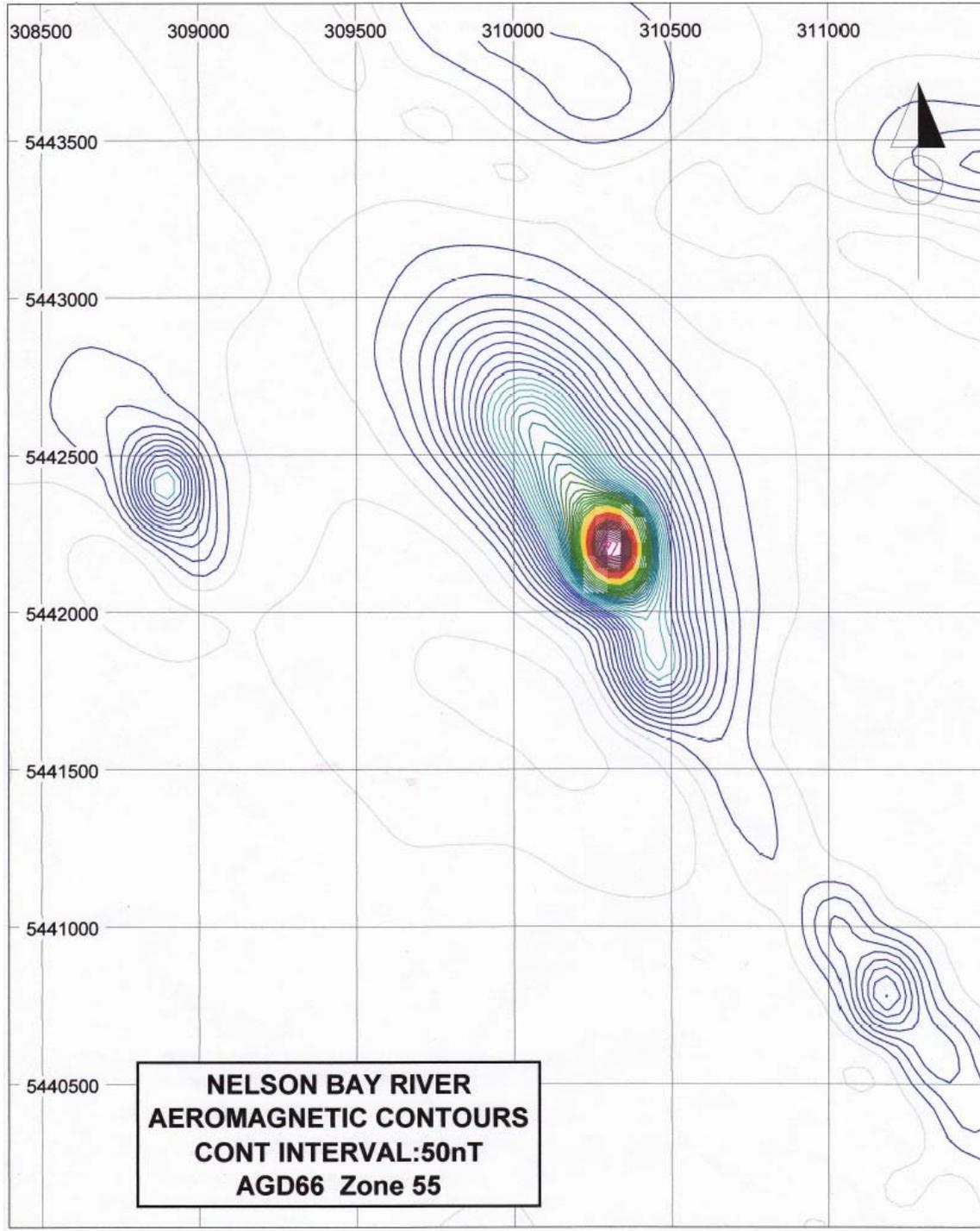
Despite some operational problems in the field then later with data download and analysis, it became apparent that the orbody (as known by the past years drilling results), is substantial and will require further drilling to properly quantify its size.

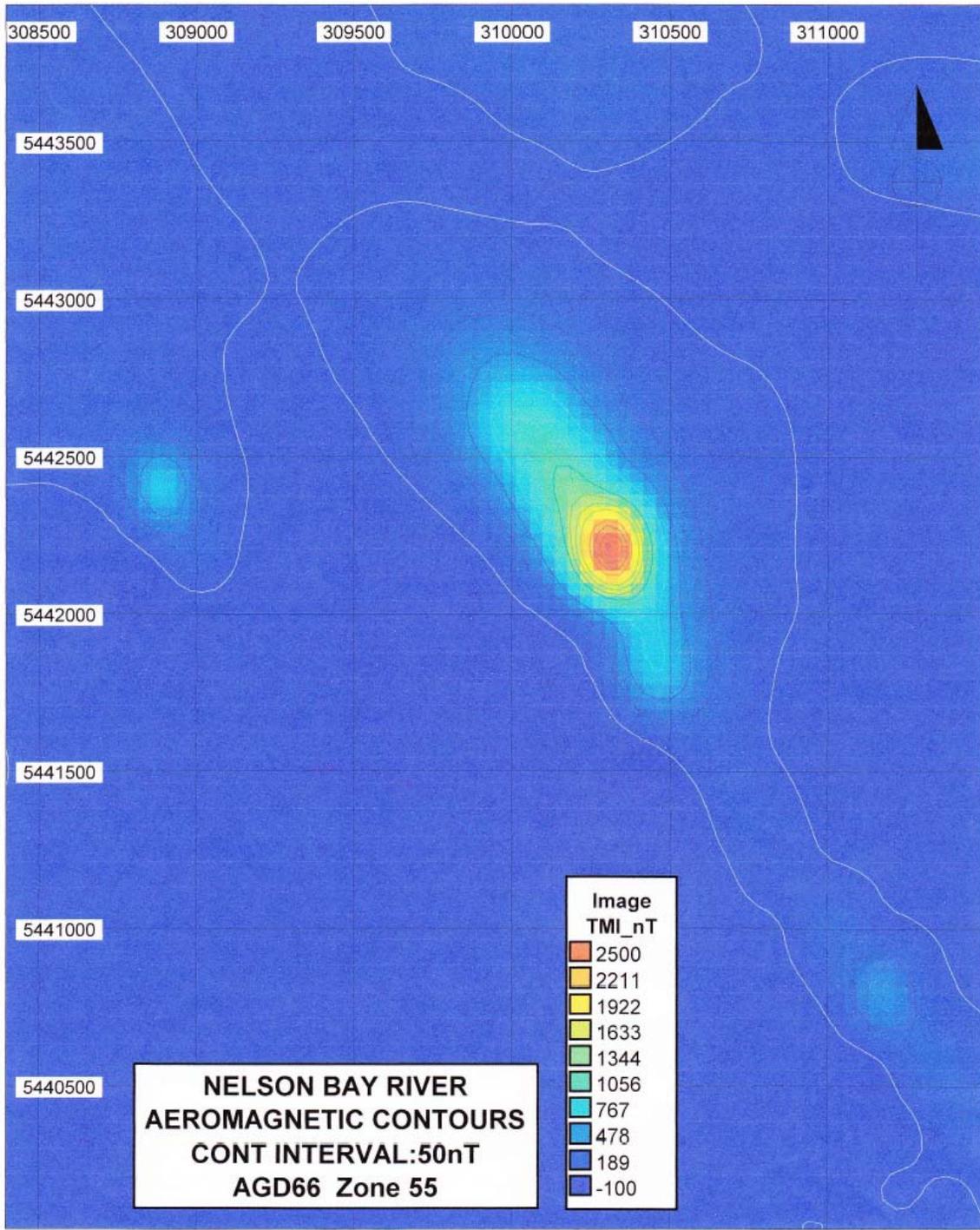
The anomaly in the southern area was also outline by the survey and this will help in siting the best location for a diamond drill test hole.











Not content with this incomplete information, it was decided to contact the retired geophysical consultant who contributed to Shree's projects elsewhere in the past and ask for his interpretation of the data which was transmitted to him for analysis.

His results and commentary are reproduced below and he prefixed his note with comments when he did this same work in 2000 fro Pacific Nevada prior to when they did the drilling in July 2000 on the magnetic target.

Page 1 of 2

 You replied on 13/10/2008 16:01.
Attachments can contain viruses that may harm your computer. Attachments may not display correctly.

Wes Harder

From: [nigel hungerford \[nhh@netspace.net.au\]](mailto:nigel.hungerford@netspace.net.au) **Sent:** Mon 13/10/2008 14:46
To: [Wes Harder](#)
Cc:
Subject: Nelson Bay River mag

Attachments:  [nelsonbay_nigels_old_report1.jpg\(427KB\)](#)  [nelsonbay_amag_model_fig4.jpg\(301KB\)](#)
 [nelsonbay_amag_model_fig5.jpg\(173KB\)](#)  [nelsonbay_gndmag_1vdrtpamag.jpg\(227KB\)](#)
 [nelsonbay_gndmag_amag.jpg\(242KB\)](#)  [nelsonbay_gndmag_line17.jpg\(95KB\)](#)

Hello Wes
attached is a map showing your ground mag lines over the MRT aeromag (that I have here from a while ago). One is the tmi and the other the 1st vertical derivative (reduced to the pole). The latter should give the best location of the magnetic sources. There is clearly a location problem, presumably relating to your GPS loactions.
As far as I know the aeromag is AGD66, AMG zone 55. I have assumed your projection is GDA94, MGA zone 55. Even if I assume your projection is the same as the aeromag, then the anomalies still don't match up.
I suggest you find out just what projection & datum was in the GPS when you used it. Otherwise there may be future problems siting drillholes in the correct place.

I have just realised that I did some work in 1999 for Pacific Nevada over what they called the Temma area. I don't have my report in digital format, but I've scanned the relevant pages and they are attached. As you can see I modelled the northern and strongest anomaly. As is usual with geophysical modelling there is ambiguity with any model unless there are constraints on the model. In this case the anomaly can be modelled to give variable mag susceptibility (i.e. magnetite content). The modelled dip fits with the drilled dip.

I've attached the profile of Line 17 as you requested. I will try and run the model before I head off.

By the way, what is the company name that I can invoice for this work?

cheers
Nigel

|

NH: Old Report

NELSON RIVER PROSPECT

The aeromagnetic model indicates a very magnetic unit at 310310mE, 5442203mN, with a dip of about 60° to the west, and a vertical depth to top of a few metres.

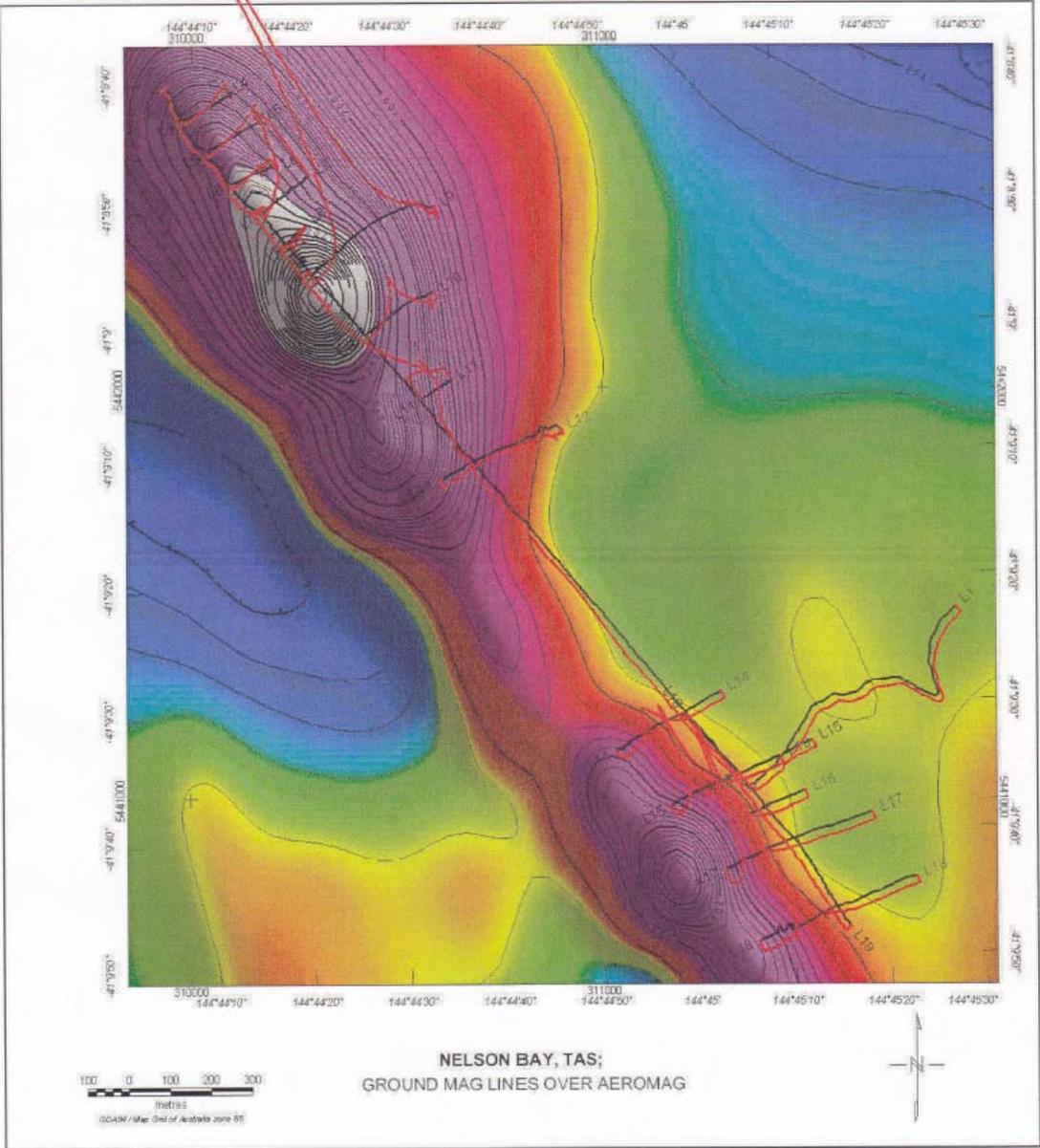
The collar of drill hole N-401 appears to be at this location also, which implies that the drill hole is collared too far east to fully intersect the magnetic source. (Fig 4a).

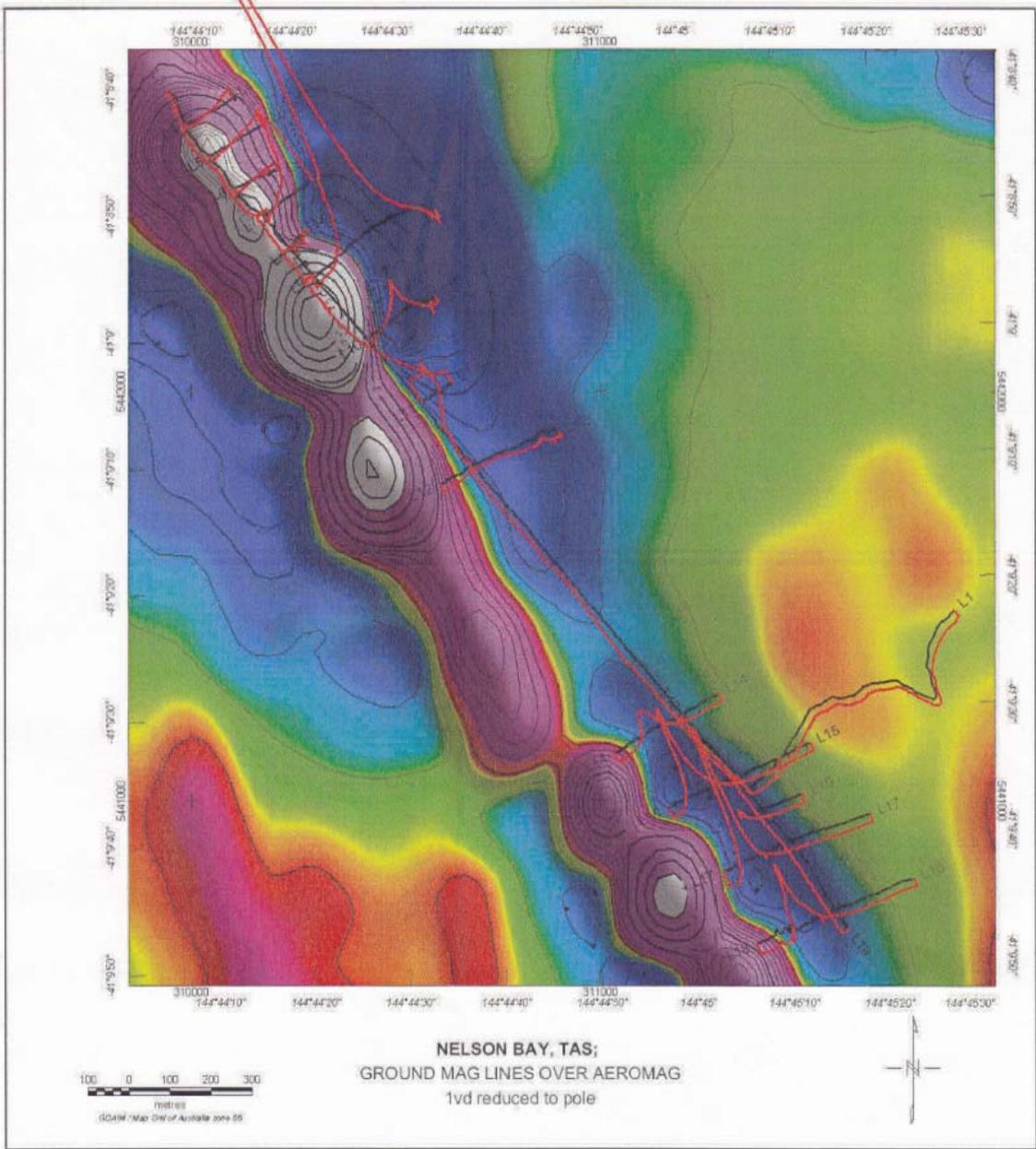
However the Geopeko ground magnetic data (1983) indicate that this hole should have intersected the magnetic target successfully, and this appears to be verified by the intersection of magnetite and ultramafic at about 30 metres vertical depth. The ground magnetic data suggest a dip to the west which agrees with that from the aeromagnetic modelling.

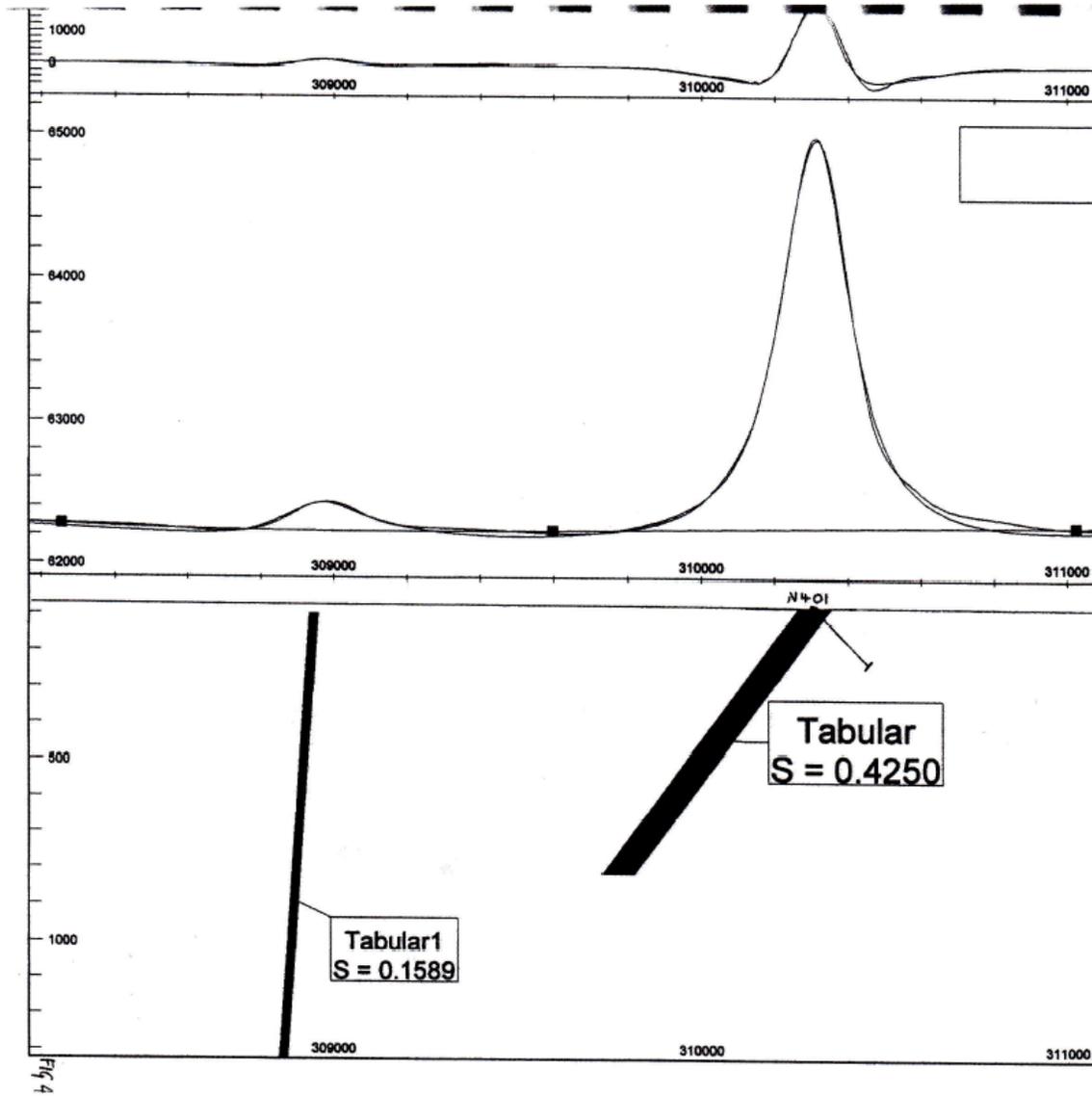
It would appear that the AMG coordinates of this drill hole are incorrect, or less likely that the hole has been collared incorrectly with respect to the ground and aeromagnetics.

The unconstrained modelled magnetic susceptibility of about $42,000 \times 10^{-5}$ SI indicates a magnetite content of about 10% over about 80 metres. Note that the magnetic anomaly amplitude is proportional to the product of the susceptibility and width, so that it is usually difficult to be accurate about either, without prior knowledge. The drilling indicates a main magnetite zone of width about 7 metres, with magnetite veins occurring above and below this intersection.

If the width of the magnetic body is fixed at 7 metres, then a susceptibility of about $420,000 \times 10^{-5}$ SI fits the observed profile equally well, as can be seen by comparing Fig 4 and Fig 5. This susceptibility implies a magnetite content of 70-80%.







This modelled picture is of Line 9 : the Cross Line 10 000mN local grid which had 2 drill holes on it in 1967 and 2000/

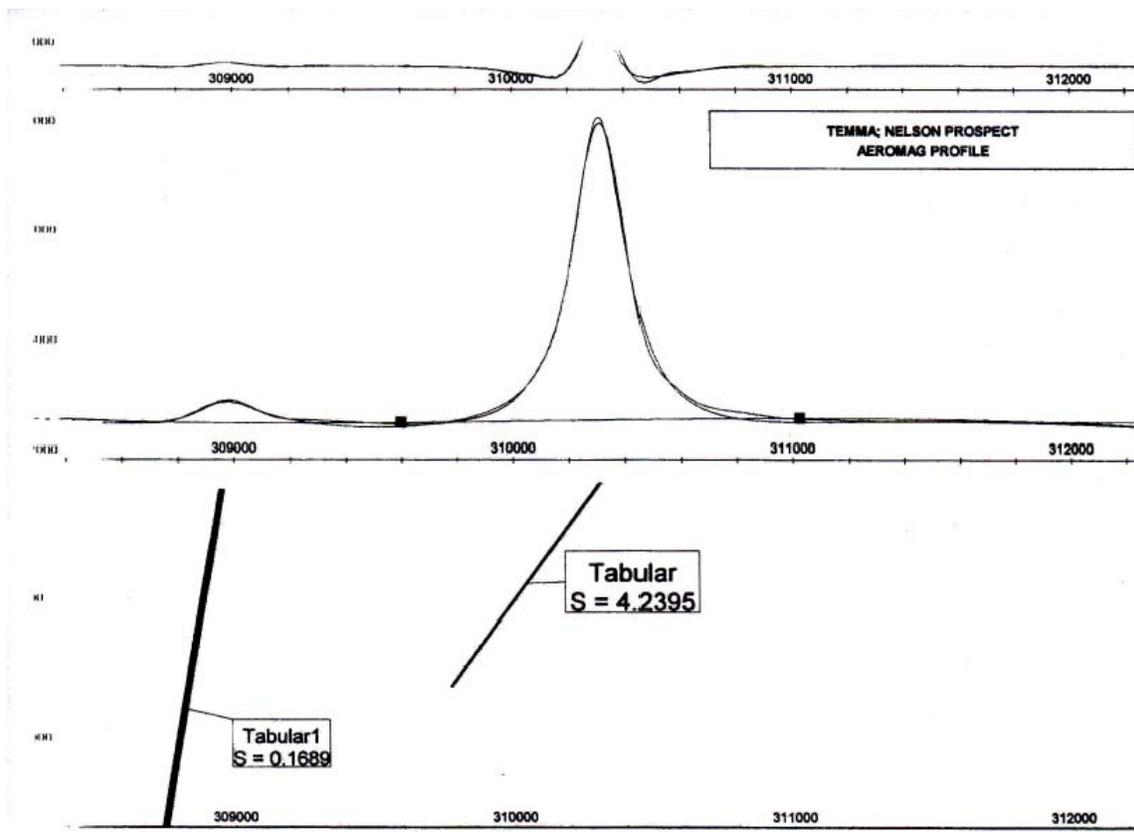
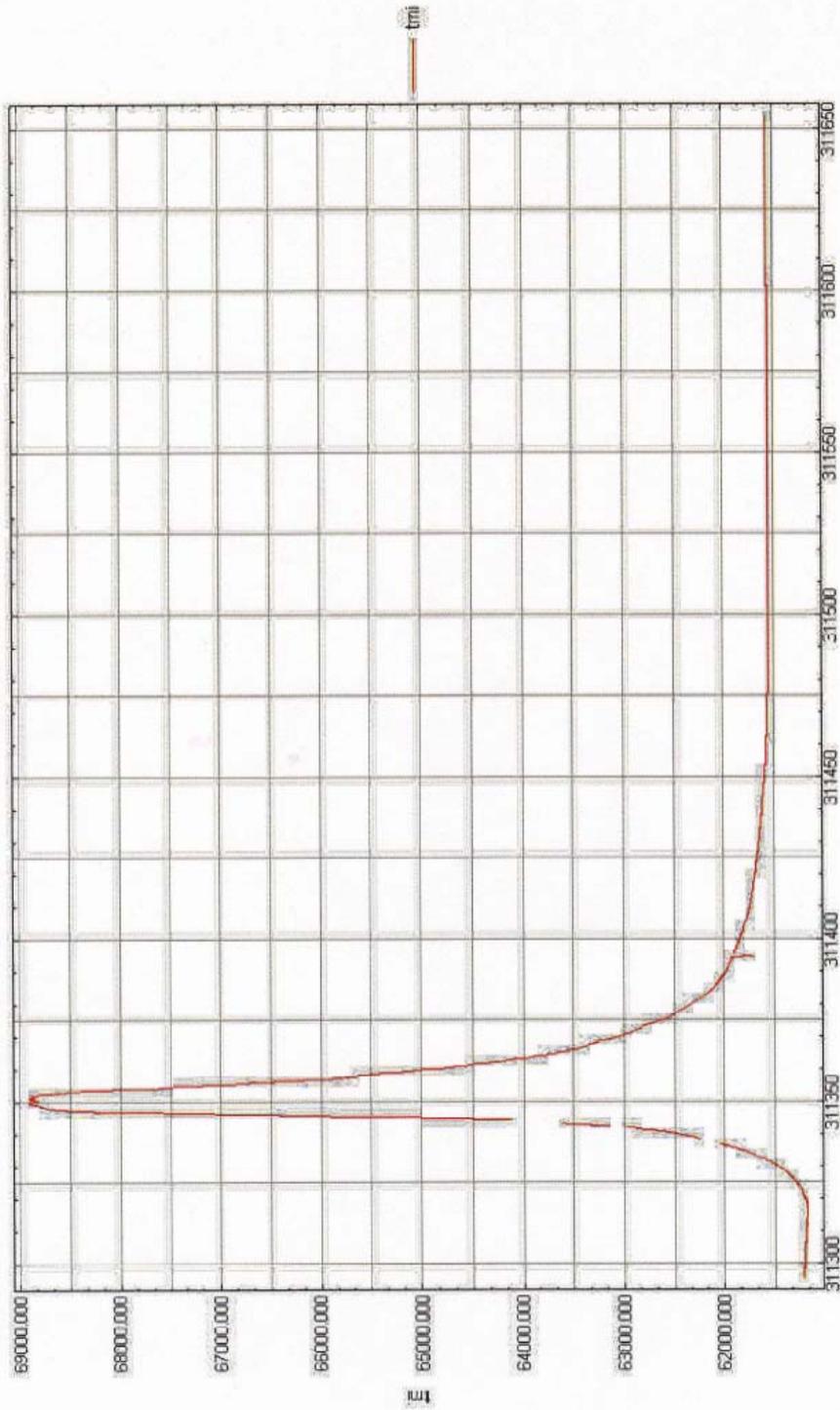


Fig 5.

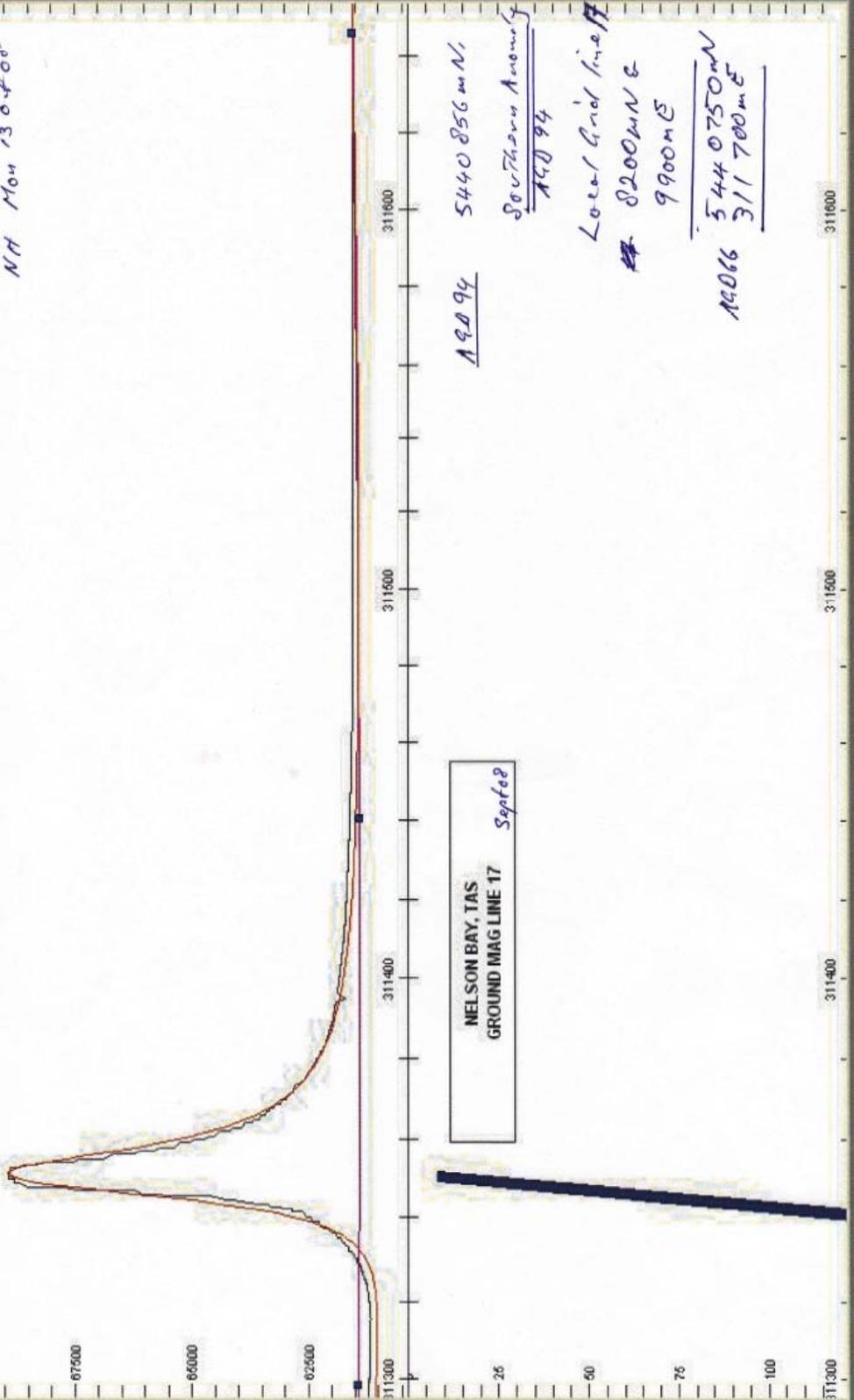
This cross sectional model is of Line 17 or 8 200 mN on the local grid and is on the westerly side of the baseline of the southern anomaly. Below are further supportive graphs.

NELSON BAY; GROUND MAG; LINE 17



Line 17 - 1456 points

NH Mon 13.0.408



NELSON BAY, TAS
GROUND MAG LINE 17
Sept 88

19094 5440856mN,
 Southern Anomaly
 19094
 Local Grid line
 8200mE
 9900mE
 19066 5440750mN
 311700mE

