COPPER STRIKE LTD

Annual Report for EL 35/2004

LAKE MARGARET PROJECT

for the year ending 24th of December 2005

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INTRODUCTION

The Lake Margaret Project (EL 35/2004) is located along the faulted contact between the Mount Read Volcanics and Owen Conglomerate in western Tasmania. The Copper Strike tenement is situated immediately north of the Mount Lyell Copper (gold) mining district. Since 1893 the Mount Lyell mines have produced over 1.2 million tonnes of copper and 45 tonnes of gold, plus smaller amounts of lead and zinc, from around 20 separate orebodies, the largest of which are as follows (from Corbett, 2001):

	Mt	% Cu	g/t Au	g/t Ag
West Lyell	58.3	0.72	0.24	1.7
Prince Lyell	30.9	1.35	0.42	2.9
Iron Blow (Mount Lyell)	5.1	1.36	2.03	68.7
North Lyell	4.9	5.43	0.43	34.4
Cape Horn	4.1	1.43	0.42	3.3
Crown Lyell 3	3.1	1.34	0.35	4.3

The bulk of the Mount Lyell copper production has come from large disseminated pyrite-chalcopyrite orebodies (eg West Lyell, Prince Lyell), but a significant proportion (~30%) has been derived from smaller, but richer, bornite-chalcopyrite deposits (eg North Lyell).

Copper Strike has acquired the Lake Margaret property for its Mt Lyell-style copper (gold) potential based on the following:

- The property contains Mount Read Volcanics rocks equivalent to those south of the tenement which host the Mount Lyell orebodies, namely andesitic volcanics in the upper part of the Central Volcanic Complex, at or close to the contact with the overlying Lynchford Member of the Tyndall Group.
- There has been extensive geophysical coverage, but limited follow-up drilling, of this prospective stratigraphy in the property.
- Lower in the Mount Read Volcanics stratigraphy are a number of pyritic alteration zones which have not been drill tested in any detail.
- Previous exploration of the property appears to have been directed more towards stratiform massive sulphide mineralisation rather than discordant Mt Lyell-type copper-gold orebodies.

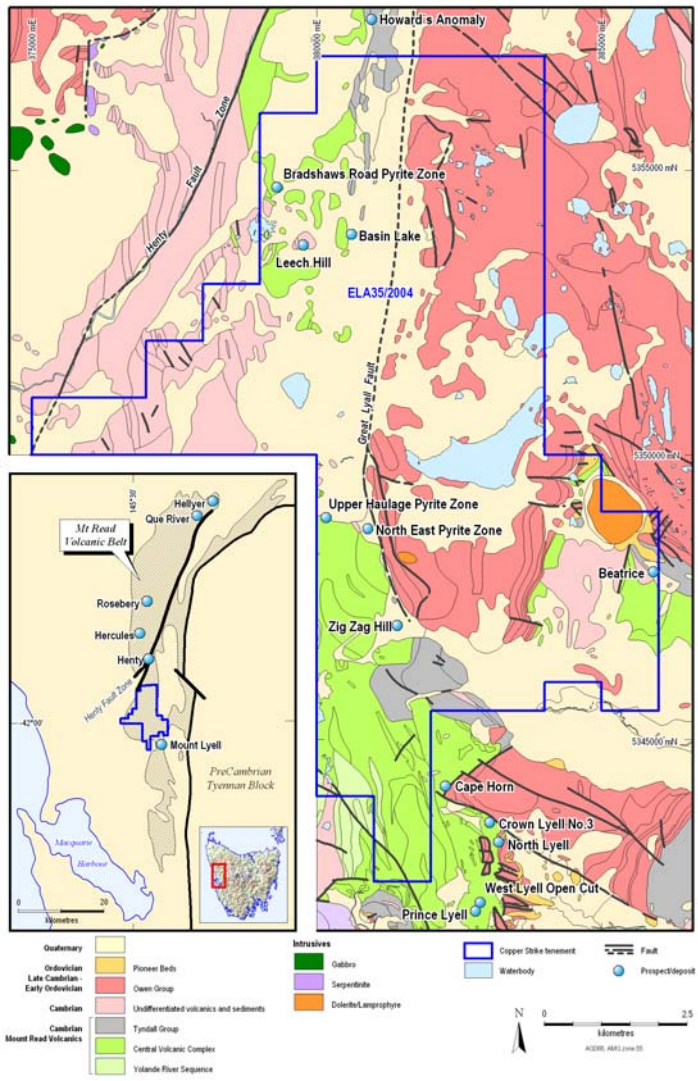

Figure 1: Lake Margaret: Regional geological setting and simplified geology of Copper Strike's tenement showing the principal deposits and prospects.

1 TENEMENT DETAILS

EL 35/2004 comprises approx 69 km^2 in area and was granted to Copper Strike Limited Ltd on 22nd February 2005, until 24th December 2009 (subject to conditions). The Mt Lyell Mining Lease overlaps (and takes precedence over) the southern boundary of the tenement; at least one other small Mining Lease is present.

2 PREVIOUS WORK

2.1 Summary of previous work

The main focus in previous exploration at Lake Margaret has been for stratabound "VHMS" Pb-Zn-Ag mineralisation, and "Mt Lyell type" Cu-Au associated with massive pyrite. The main phases of modern exploration comprise:

- **1966-1986 Mount Lyell - Goldfields.**
  - In the 1966-1986 period, under ELs 41/71, EL 9/66 and EL 10/69, the Mount Lyell Mining Company and its related group, Goldfields Exploration, undertook systematic mapping and stream sediment sampling followed by soil sampling, IP and EM surveys over several grids. Specific targets generated in this work were drilled at the Zig Zag Hill, Beatrice, Basin Lake and Leech Hill prospects.

- **1988-1990 BHP.**
  - In 1988-1990, in the southern half of the Lake Margaret property, BHP Minerals (EL 102/87) conducted a blanket UTEM survey of the Mount Read Volcanics designed to test for volcanogenic massive sulphides to 200-300m depth. No significant conductors deemed worthy of drilling were detected.

- **1992 RGC.**
  - In 1992, RGC Ltd (the successor to Goldfields Exploration) entered into a farm-in agreement with BHP in EL 102/87. Detailed mapping identified alteration zones and prospective horizons which were drill-tested at the Beatrice, Penghana and Zig Zag Hill prospects.

- **1988-1998 Billiton - Aberfoyle - Resolute.**
  - In the 1988-1998, the northern half of the Lake Margaret tenement was explored by Billiton then farm-in partners Aberfoyle and Resolute. Their combined work included an airborne magnetic-radiometric survey, ground magnetics, gravity, CSAMT, IP and EM over various targets, and drill testing of geochemical and geophysical anomalies at Basin Lake and Leech Hill etc.

- **1998-2000 Pasminco Exploration.**
  - Pasminco's Queenstown North project comprised ELs 24/96, EL 6/98, EL 20/98, EL 10/99 and EL 13/99. Work included helimag, partial leach of soils, and drilling at Beatrice.

- **1998-2002 Goldfields – Aurion Gold – Placer Dome.**
  - EL 6/1998 was held by Goldfields Exploration and its successors AurionGold and Placer Dome. Work led up to a drilling proposal but it not drilled.

The following prospects have been investigated by drilling.

<u>Beatrice</u>

The Beatrice prospect is located in the southeast portion of the Lake Margaret property on the flank of Mt Sedgwick. It comprises a 2km x 5km window of Central Volcanics Sequence overlain by black shales/siltstones, which are thought to be equivalent to the Lynchford Member of the Tyndall Group.

In 1979/80, under EL 9/66, the Mt Lyell Mining Company drilled four holes (MS1-4) along a 600m portion of a 1.2km long Pb-Zn soil anomaly at Itat Creek, and also tested an IP chargeability anomaly to the northwest with hole MS5. All the holes intersected subeconomic disseminated and veinlet galena-sphalerite in the black shales, the best intervals being 6m @ 1.2% Pb, 1.9% Zn and 2m @ 2.7% Pb, 5.1% Zn in hole MS1. In 1996, RGC Ltd, in joint venture with BHP in EL 102/87, intersected sporadic, weak Pb-Zn mineralisation in hole MS6 which tested the prospective shale horizon under glacial cover, some 500m south of the previous drilling. Pasminco drilled several holes, with a best intersection of 6.5m @ 1% Zn, 1% Pb, 23 g/t Ag and 1.8 g/t Au, in hole MS11.

Penghana

In 1994, RGC drilled one hole into the Penghana prospect to test the possibility that a magnetic anomaly with associated weak soil geochemistry was sourced by magnetite-copper sulphide mineralisation. The hole intersected a weakly altered andesite sill with no significant mineralisation.

Zig Zag Hill

In 1987, under EL 9/66, Goldfields Exploration drilled hole WS4 to test a SIROTEM anomaly at Zig Zag Hill, but found it to be due to an unmineralised fault zone. In 1992, the group, renamed RGC Ltd, renewed its interest in the area with the recognition of lithologies thought to be equivalent to the regionally prospective Lynchford Member near the bottom of hole WS4. Four holes, WS5-8, were drilled to test this horizon and the underlying stratigraphy but no significant mineralisation was intersected. Two broad 50-100m zones of strong quartz-sericite-pyrite alteration, with pyrite content up to 30% in places, were intersected in one of the holes, but subsequent drilling and downhole EM showed it to be of limited extent.

Basin Lake Area

In the eastern portion of the Basin Lake area in the northwest portion of the property, selected geophysical anomalies at the prospective Mount Read Volcanics/Lynchford Member contact zone have been drill tested by the Mount Lyell Company, Billiton, Aberfoyle and Resolute, at the Basin Lake prospect and strike extensions of the stratigraphy to the north and south. An 11m interval of massive pyrite with weak Cu-Pb-Zn values was intersected in the Lynchford Member by Mount Lyell hole BL4 in 1981, but the other holes failed to intersect alteration or mineralisation of any significance.

In the western part of the area, the limited drill testing of geophysical anomalies in the vicinity of the Leech Hill and Bradshaws Road pyrite alteration zones intersected nothing of interest.

Copper Strike identified a number of opportunities on the tenement:

- Very limited prior exploration in the Comstock Valley, partly as a consequence of the glacial till cover;
- Possible extension of Pb-Zn mineralisation at the Tasman Crown from the Mine Lease northwards;
- Several pyritic alteration zones lying along the Great Lyell Fault (eg “North East Pyrite Zone”) have been inadequately tested.

3 WORK COMPLETED

3.1 Compilation and review of all previous mineral exploration

A compilation and review of all previous exploration for the Lake Margaret Project area, including geochemical (surface and drill hole), geophysical and geological data was completed. A list of reports reviewed and with brief summaries is included as **Appendix 1**.

3.2 Geophysical Review

A review of the geophysics, particularly airborne EM, was completed and is included as **Appendix 2**.

4 PROPOSED WORK PROGRAM FOR 2006-2007

A drill hole is planned for the Lake Margaret area, following the work and proposal of Vicary (2003) for Aurion Gold (appendix 1). A small IP survey may be required to better define the target.

5 EXPENDITURE

Expenditure on EL 35/2004 to 31 December 2005 is $18,176.01, comprising:

- Geology $10,983.92
- Geophysical data reviews $6,357.27
- Administration and office $834.82.

6 REFERENCES

Corbett, K. D., 2001. New mapping and interpretations of the Mt Lyell mining district, Tasmania: a large hybrid Cu-Au system with an exhalative Pb-Zn top; Economic Geology, 96, 1089-1123.

APPENDIX 1

Exploration Reports Relevant to EL 35/2004

Brook, W, 1984A. Exploration for gold deposits at Mount Lyell within the Mine Lease and Buffer Zone; Gold Fields Exploration Pty Ltd (unpub); TCR **85-2471**.

- Mainly exploration concepts in buffer zone.

Brook, W, 1984B. Mineralisation at Mount Lyell and Exploration of the Buffer Zone, Mine Lease and EL 9/66; Gold Fields Exploration Pty Ltd (unpub); TCR **85-2473**.

- Mainly Mine Lease; little on Comstock Valley, shows largely underlain by Gordon Limestone;
- Sillitoe article with genetic model.

Brophy P, 1975. Annual Report EL 10/69 (Dora-Huxley) 1974-75; MLMRC (unpub); TCR 75-1117.

- No work reported in relevant area.

Cameron J and Read J, 1991. Joint Report on ELs 102/87 Queenstown and 55/89 Mt Darwin, N.W. Tasmania for the year ending 21st March 1991; BHP (unpub); TCR 91-3252.

- Nothing reported in relevant area; mainly Garfield and Clark Valley.

Cartwright, A J, 1986. EL 9/66 Tyndall area, Tasmania – Annual Report 1985/86; Gold Fields Exploration Pty Ltd (unpub); TCR 86-2566.

- EM anomaly re-defined over old Rio EM north of Zig Zag Hill, drill target proposed;
- West Sedgewick Sirotem and gradient IP;
- Basin Lake geochem, TEM gradient IP and magnetics;
- Reports on mapping (Komyshan) TEM (Staltari) and IP (Bishop).

Corbett K D, 2002. Updating the geology of the Mount Read Volcanics belt; Tas Geol. Survey Record 2002/19.

Creagh, C J and Hungerford N, 1989. EL 103/87 – Basin Lake (Volume 1) Progress Report on Exploration for the period ending 21st April 1989; Billiton Australia (unpub); TCR 89-2928.

- Basin Lake – various geophysics; minor Ba-Ag in hole BL4 re-assay.

Denwer, K., McNeill, A., Simpson, K. and Dauth, C., 2000. Queenstown North Project comprising Walford Peak EL 24/96 Queenstown EL 6/98 Beatrice EL 20/98 Lake Margaret EL 10/99 Linda EL 13/99. Annual Report for the period ending October 2000, Pasminco Exploration (unpub) TCR 00-4511.

- West Sedgewick partial leach – no anomalies
    - Image of helimag over west Sedgewick.
- Beatrice drilling MS 11-13 incl MS 11 with 6.5m @ 1%Zn, 1%Pb, 23 g/t Ag, 1.8 g/t Au. (check other results near this).

FitzGerald F G, 1987. Authority to Prospect, Queenstown Relinquishment Report for 1,956 Acres; Gold Fields Exploration Pty Ltd (unpub); TCR 87-2677.

- "buffer zone" but nothing of interest, except;
- Location of a Comstock Valley grid (but no co-ords).

Halley, S., 1994. Partial Relinquishment Report, ELs 102/87, 55/89 and 12/92. RGC Exploration (unpubl); TCR 94-3549.

- Mainly summary; not much done.

Halley, S., Vicary, M., Corlett, S. and Wyman, B., 1996. Tasmanian Base Metals ELs 102/87, 55/89 and 12/92. Annual Report 1995/96, RGC Exploration (unpubl); TCR 96-3834.

- Largely work elsewhere - not relevant

Howland-Rose A W, 1973. Final Report on a Gradient Array IP Survey over the West Sedgewick (Lake Margaret) grid on behalf of the MLMRC Ltd (unpub); TCR 84-2227.

- Appears done in 1973-4, reported much later.

Howland-Rose A W, 1974. Final Report on a Schlumberger Array IP Survey over the Comstock grid on behalf of the MLMRC Ltd (unpub); TCR 84-2229.

- Appears done in 1973, reported much later;
- This Comstock grid still not located (it is in feet!).

Howland-Rose A W, 1975. A Report on extension Electrical IP Surveys over the West Sedgewick, Little Owen and Tyndall grids on behalf of the MLMRC Ltd (unpub); TCR 84-2234.

- Appears done in 1974, reported much later;
- Includes Howards Anomaly.

Hutton M J, 1978. EL 10/69 Dora-Huxley Annual Report 1977-78; MLMRC (unpub); TCR 78-1287.

- Beatrice grid geology and geochem.

Jenkins G W, 1990. EL 11/85 Yolande J.V. Annual Report to 20th July 1990; Pasminco Mining Rosebery (unpub); TCR 90-3159.

- Little work, and west down CVCs.

Kerr T L and Wilde A R, 1989. EL 102/87 Report for the year ended 21st April 1989; BHP (unpub), TCR 89-2927.

- Extensive UTEM down volcanics from Queenstown to West Sedgewick,
- Links to Wilde and Kerr 1990.

Meares, M D, 1977. Annual Report 1976/77 EL 41/71 (Henty-Yolande); MLMRC (unpub); TCR 77-1228.

- West Sedgewick grid location, gradient IP mapss, geochem;
- Basin Lake grid location, gradient IP mapss, geochem.

Meares, M D, 1978. EL 41/71 Henty-Yolande Annual Report 1977/78; MLMRC (unpub); TCR 78-1296.

- West Sedgewick – DDHs 1, 2, 3 sections
- Basin Lake IP, soils, 2 DDH
- Henty discovery.

Meares, R M D, Walter A C and Hutton, M J, 1980. EL 9/66 Annual Report 1979-80; MLMRC (unpub); TCR 81-1519.

- Work on White Spur, Selina-Dora, Howards Anomaly, Henty, Beatrice;
- Howards with 10m @ 110 Ag incl 2m @ 410 Ag;
- Beatrice stream geochem, soils, 2 x DDH plus down hole geophysics.

Meares, M D, Hutton, M J and Komyshan, P, 1981. EL 9/66 Tasmania Annual Report 1980-81; MLMRC, TCR 81-1660.

- Mainly work elsewhere: Howards Anomaly, Selina-Dora, East Tyndall, Spicer, Henty River;
- A little on Basin Lake and Beatrice.

Meats G, 1972. The Mt Sedgewick grid and the Geology of the Mt Sedgewick grid area; unpubl report; TCR 73-0983.

- A little geology; not much use.

Morrison, K C, 2002. Report of field investigations Mt Darwin – Mt Murchison Region; Tas Geol Survey Report 2002/18.

Newnham, L A., Mineral Resource Potential Assessment of Mining Leases held by Mt. Lyell Mining and Rail Company Ltd, Tasmania; TCR 97-3995.

- Discussion of various deposit on the lease and resource potential.

Noonan, D J, 1990. EL 5/85 Lake Margaret Tasmania; Report on Exploration in areas to be relinquished 20th October, 1990; Aberfoyle Resources Ltd (unpub); TCR 90-3176.

- Nothing relevant.

Purvis J G, Jones, M, FitzGerald F and Poltock R A, 1983. A geological Review of the Tyndall EL 9/66 Western Tasmania; Gold Fields Exploration P/L (unpub); TCR 83-1995.

- Historical document.

Sheppard N W, 1972. Annual Report on Henty-Yolande EL 41/71 1971-72; Mt. Lyell Mining and Rail Company Ltd (unpubl); TCR 72-0880.

- Largely useless.

Sheppard N W, 1974. Annual Report on EL 41/71 (Henty-Yolande) 1973-74; Mt. Lyell Mining and Rail Company Ltd (unpubl); TCR 74-1054.

- Maps and grid locations (not Comstock however);
- West Sedgewick IP, also geology and geochem;
- Lake Margaret Tram pyrite – up to 1 g/t Au.

Sheppard N W, 1975. Annual Report on EL 41/71 (Henty-Yolande) 1974-75; Mt. Lyell Mining and Rail Company Ltd (unpubl); TCR 75-1093.

- West Sedgewick – 3 ddh targets defined on geophys and geochem (later WS 1, 2, 3);
- Basin Lake IP and grid map;
- Madame Howard Ba

Sheppard W A, 1986. Lake Margaret EL 5/85 Progress Report for the 12 months to 20 September 1986; CRA Exploration Pty Ltd (unpub); TCR 86-2586.

- Howards Anomaly – UTEM;
- Red Hills
- Selina

Street G J, 1980. A Report on EIP detail and magnetic surveys over the Beatrice grid near Queenstown, on behalf of the MLMRC Ltd (unpub); TCR 84-2252.

Vicary M, 1998. Relinquishment report Dec 1998; Tasmanian Base Metals Project EL 14/93 Basin Lake; RGC Exploration (unpubl); TCR 98-4257.

- Helimag only

Vicary M, 2003. Final Report EL 6/98 Beatrice/Moxon Saddle; Aurion Gold P/L (unpubl) TCR 03-4882.

- Good summary, little new work; covers old West Sedgewick grid;
- New DDH proposal for north-west pyrite zone.

Vicary M. and Boyd D, 1995. ELs 102/87, 55/89 and 12/92. Annual Report 1994-95. RGC Exploration (unpubl); TCR 95-3721.

- West Sedgewick DDH WS 8 (top hole assays only)
- Beatrice – review by Boyd

Walter A C, 1977. Annual Report EL 10/69; MLMRC (unpub); TCR 77-1225.

- Beatrice grid, mapping, IP, magnetics.

Weurch H V, 1971. Basin Lake Prospect – Tasmania – EL 12/65 History and recommendations for further work; Pickands Mather and Co – International (unpubl); TCR 71-0729.

Wilde A R and Kerr T L, 1990. EL 102/87 Report for the year ended 21st April 1990; BHP (unpub), TCR 90-3102.

- Extensive UTEM and Sirotem over Comstock Valley
    - Follow up with DDH CV1 in Gordon Limestone

APPENDIX 2

Interpretation of Mt Read 2001/2002 Tasmanian Geological Survey Helicopter EM data EL 35/2004

For

COPPER STRIKE LTD

By

Jovan Silic Ph. D.

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(JSA Pty Ltd)

February 2005

or indirectly, or items discussed, opinions rendered or recommendations made in this report, except for statutory liability which may not be excluded.

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Summary

Analysis of 42 responses in the Mt Read 2001/2002 helicopter EM data set over EL 35/2004 has identified one target as potentially representing conductors that require further follow up. This target is in the southern part of the exploration licence and is in close proximity to the known mineralized system in the Mt Lyell area.

Analysis of the HEM system noise levels has also demonstrated that even in very clean EM backgrounds the maximum penetration of the system for 3D EM targets was between 50 – 75 meters, and well below the depth of penetration on some of the recently developed helicopter TDEM systems.

Introduction

A total of 15600 line kilometres of regional helicopter electromagnetic (HEM) data were acquired in four separate areas during 2001 and 2002, as part of the Western Tasmanian Regional minerals Program (Reid 2003). The survey areas are prospective for a wide range of mineralization styles; including Palaeozoic VHMS replacement tin skarns, vein lead-zinc silver, gold, nickel and copper.

The purpose of this report however is to give the results of the analysis of the HEM data from one of the four flown areas, namely the Mt Read survey which encompasses the exploration licences EL 35/2004 for Copper Strike (Figure 1).

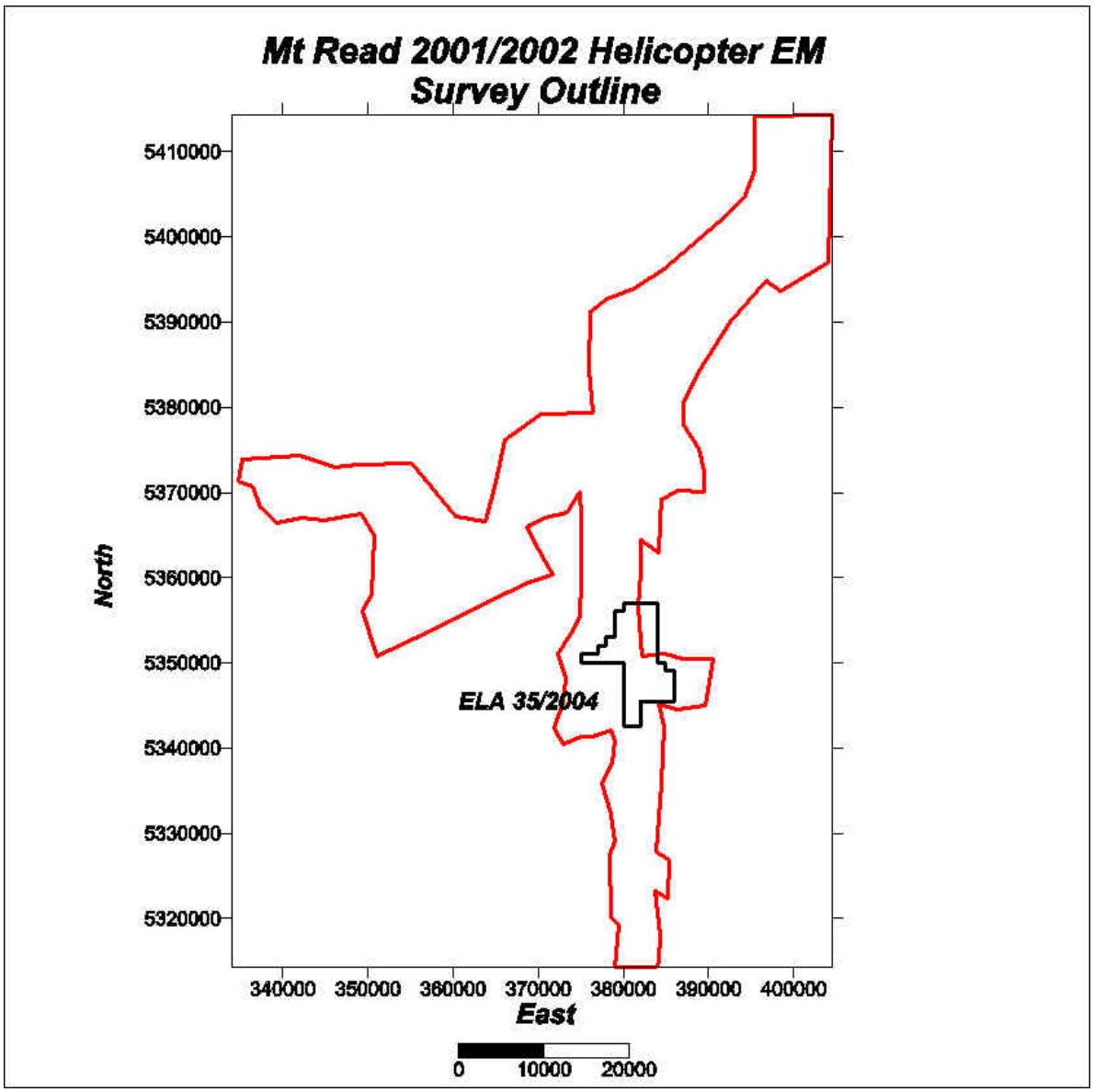


Figure1: Mt Read 2001/2002 Helicopter EM Survey Outline.

Data Acquisition

Data were acquired using the Geotech Hummingbird HEM system. The survey contractors were Geo Instruments Ltd (January 2001) and Fugro Airborne Surveys (Late 2001 – 2002).

The Hummingbird HEM system employs both horizontal coplanar (HCP) and vertical coaxial (VCX) transmitter receiver geometries. Typical system parameters are listed in table 1.

Table 1.

HUMMINGBIRD SYSTEM PARAMETER

FREQUENCY (HZ)	COIL SEPARATION (IN)	ORIENTATION
34111	5.10	HCP
7004	6.29	VCX
6600	6.29	VCP
985	6.03	VCX
880	6.03	VCP

Nominal bird height for the survey was 30 m, although actual heights were often greater than this due to the rugged and heavily forested terrain. Flight lines at 200 meter line spacing were directed east-west in the Mt Read survey area.

HEM response over conductive targets

To illustrate the nature of HEM responses of the Hummingbird system a number of theoretical models were generated for a 200 x 200 meters plate (thin) like conductor with a conductivity thickness product of 50 siemens and variable depth to top and dip. This target was set within a relatively resistive basement of 500 ohm-meters. The target's conductivity-controls the ratio of in-phase to out-phase response; larger values better the conductor.

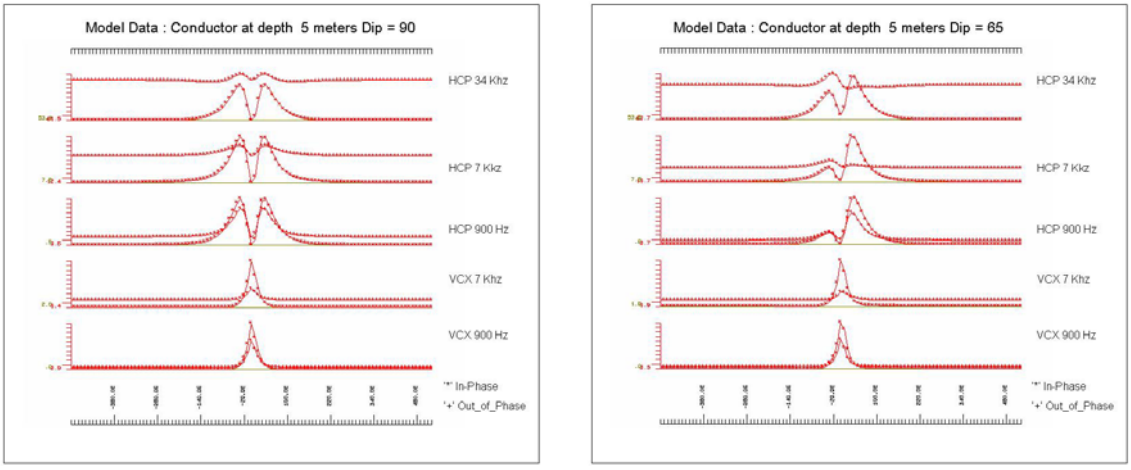


Figure 2 & 2a: Model Data: Conductor at depth 5 meters Dip 90 and 65

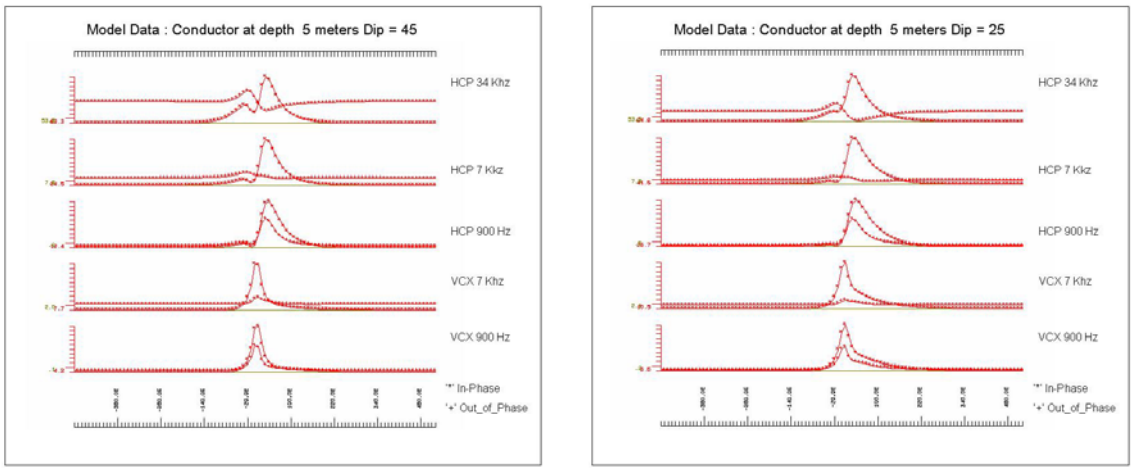


Figure 2b & 2c: Model Data: Conductor at depth 5 meters Dip 45 and 25

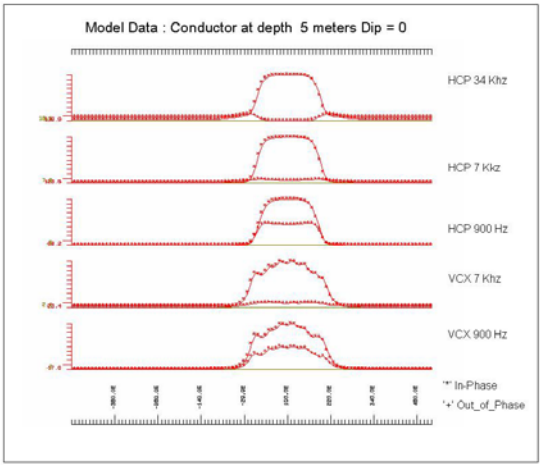
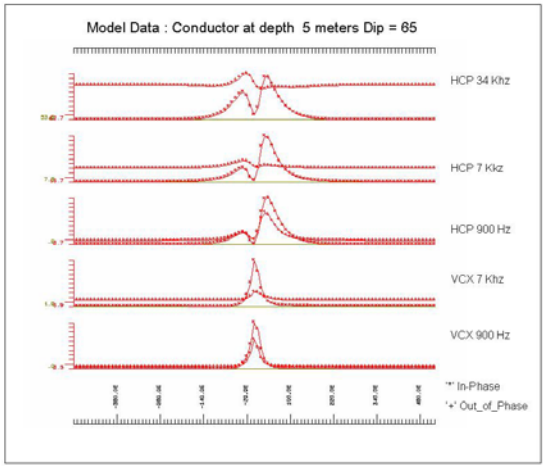


Figure 2d: Model Data: Conductor at depth 5 meters Dip 0

As is evident from profiles in the Figure 2 to 2d, the response over plate like targets are invariable characterised by a localised minimum in the coplanar (HCP) response over the top of the target and a peak in the coaxial (VCX) anomaly at the target location. The peak in the coplanar anomaly generally does not correspond or coincide to the maximum in the coaxial response. This offset between the coplanar and coaxial anomaly peak is related to the dip of the target (Figures 2 – 2c). These is true for all the conductors with dips significantly greater than zero (or flat) and as is evident in Figure 2d, over the relatively flat laying targets the profile shapes of the coaxial and coplanar anomalies are indeed similar. These modelling results than essentially illustrate that the analysis of the relationship between the coaxial and coplanar responses can be used to determine or at least estimate the geometry of the conductor causing the response.



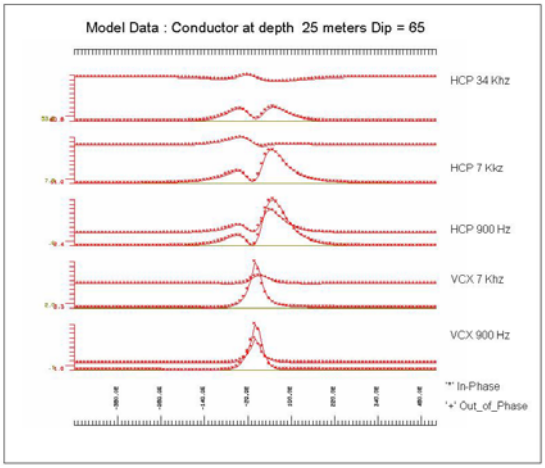
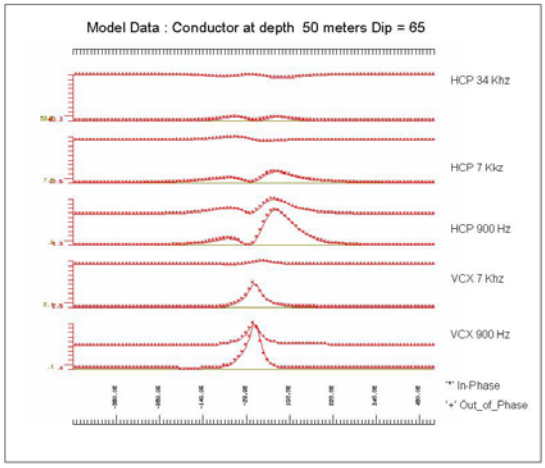


Figure 3 & 3a: Model Data: Conductor at depth 5 and 25 meters Dip 65



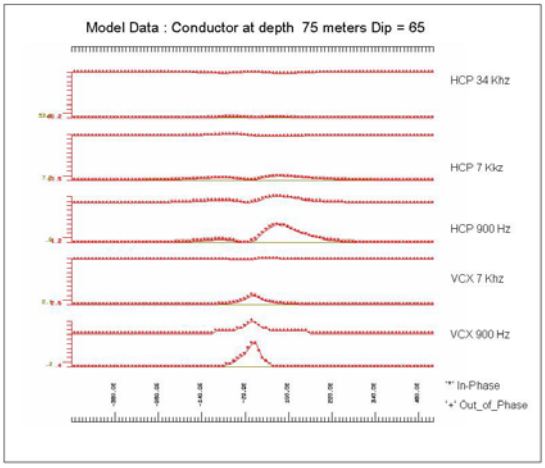


Figure 3b & 3c: Model Data: Conductor at depth 50 and 75 meters Dip 65

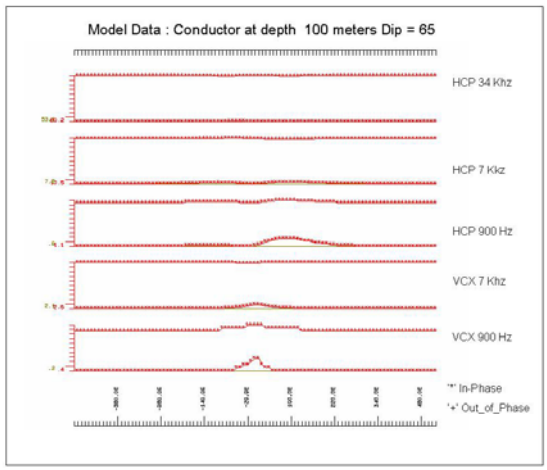


Figure 3d: Model Data: Conductor at depth 100 meters Dip 65

Profiles of modelled data as shown in Figures 3 to 3c, however illustrate the “dramatic” decrease in the target response with target depth. In fact considering the noise levels for the

Mt Read survey and using these results it can be estimated that the penetration of the Hummingbird HEM system for isolated 3D conductive targets was not more than 75 meters, and in some cases not more than 50 meters.

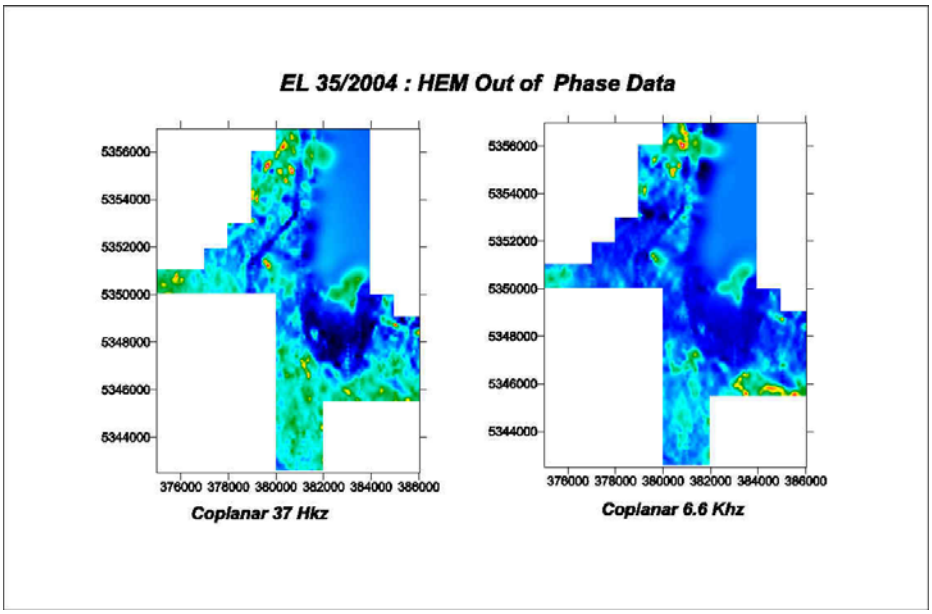


Figure 4: EL 35/2004: HEM Out of Phase Data

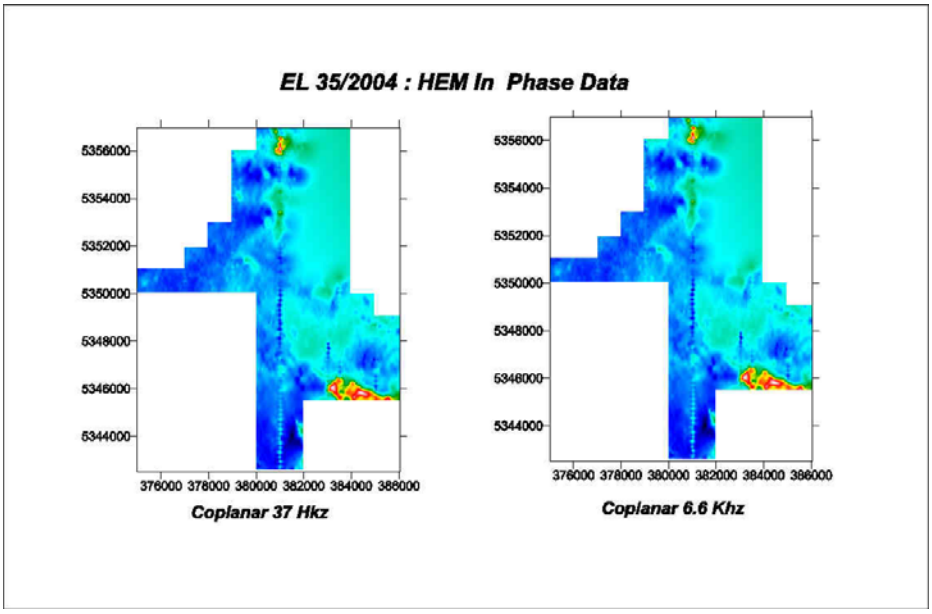


Figure 4a: EL 35/2004: HEM in Phase Data

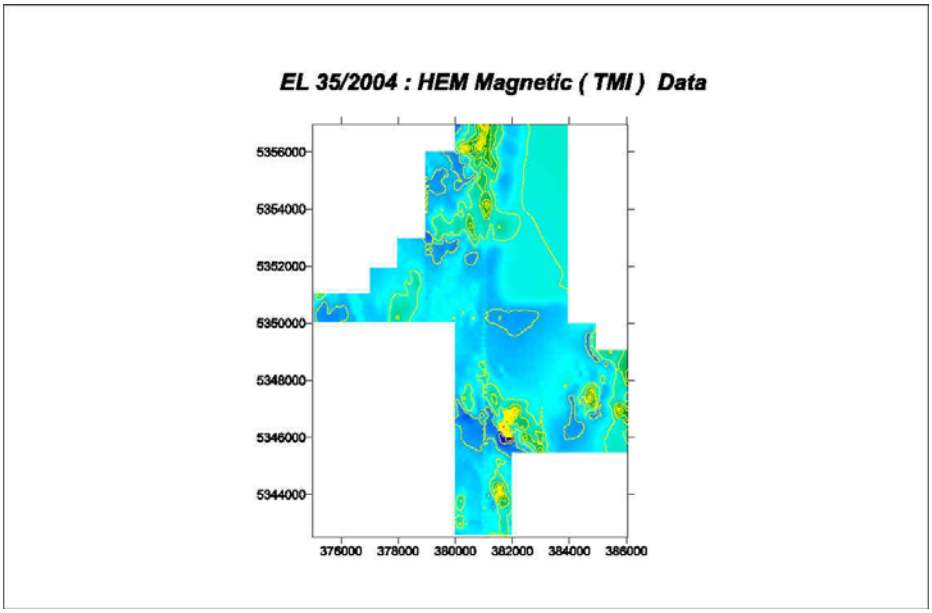


Figure 4b: EL 35/2004: HEM Magnetic (TMI) Data

Interpretation of Mt Read HEM over EL 35/2004 .

Interpretation of Mt Read data essentially consisted of carefull analysis of some 42 responses listed in Table2 and as shown in Figures 5 . Target coordinates are in **ADG 66 / TMAMG55** projection.

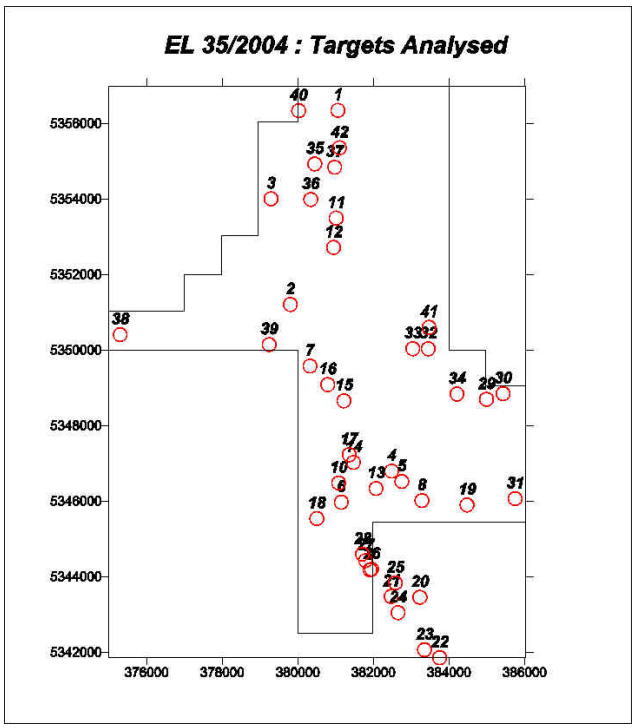


Figure 5: EL 35/2004 Targets Analysed

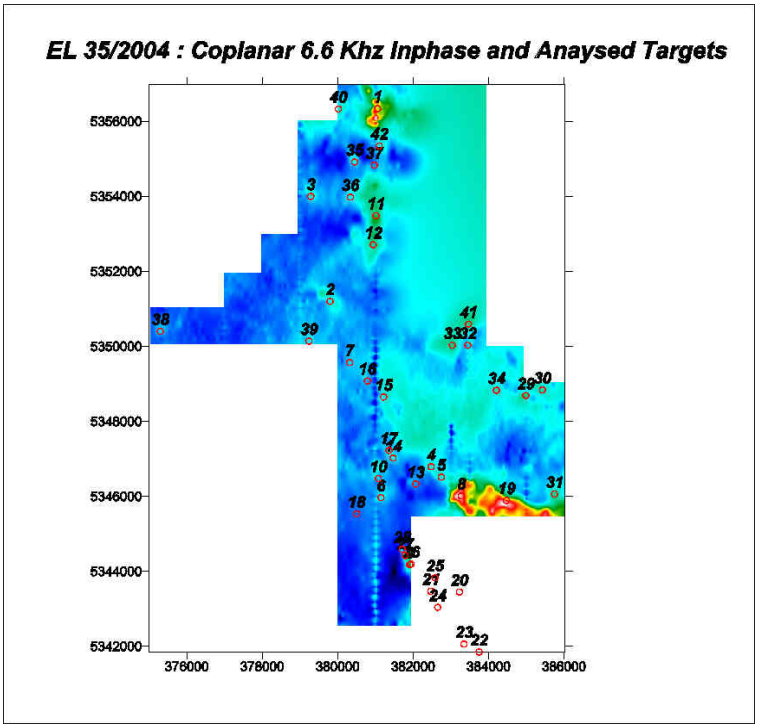


Figure 5a: El 35/2004: Coplanar 6.6 Khz Inphase and Analyzed Targets

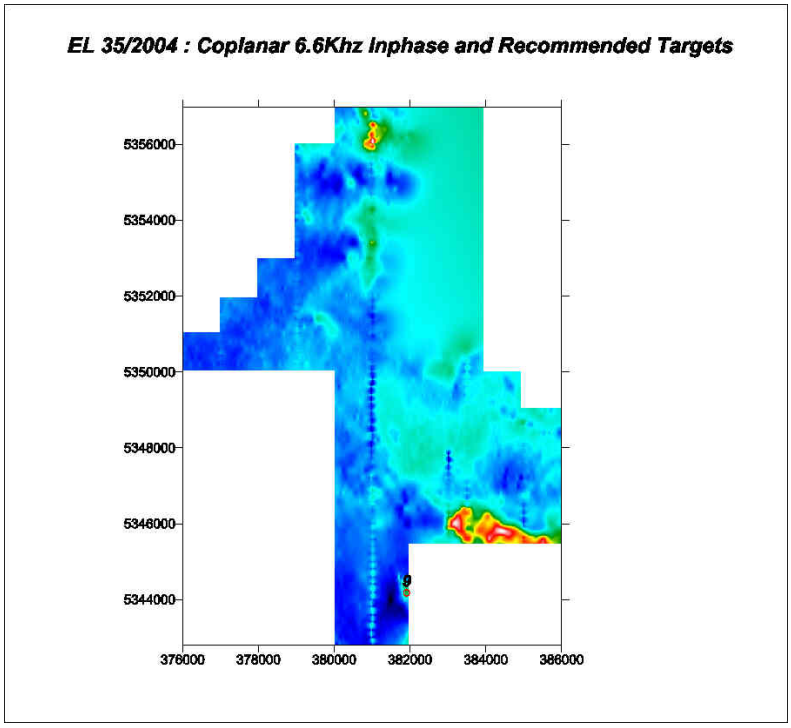


Figure 6: EL 35/2004: CP 6.6 Khz in Phase and Recommended Targets

These locations were essentially chosen on the basis of analysing the imaged data (Figures 4) and decomposition of the HEM responses into its anomalous constituents as for example described in Silic 2004 (Appendix II). For the purpose to illustrate the numerous HEM responses that within the Mt Read data set, Figure 4 to 4b shows the imaged data over EL 35/2004.

Of the 42 responses analysed most were rejected on the bases that they most likely represent overburden, transported cover or broad litho logical units. Analysis of the relationship between the coplanar and coaxial anomalies as briefly discussed in the previous section was an important factor in this decision or elimination process. The amplitude of the in-phase signal also played a crucial role in the selection process .The targets kept using these selection criteria are listed in Table 3 .

As Table 3 shows only one target is recommended and which appears to be along strike from the known Mt Lyell mineralized systems. This target is discussed in Appendix I where images and profiles of EM and magnetic data are over the target are also shown. In-phase responses at all frequencies in the profiles shown correspond to the “thin lines “.

Table 2: EL35/2004 HEM Analysed targets

Number	East	North
1	381060	5356340
2	379800	5351200
3	379290	5354000
4	382480	5346790
5	382750	5346515
6	381150	5345965
7	380320	5349570
8	383280	5346011
9	381910	5344175
10	381080	5346475
11	381015	5353490
12	380945	5352710
13	382070	5346330
14	381470	5347020
15	381220	5348650
16	380790	5349080
17	381360	5347225
18	380500	5345535
19	384475	5345890
20	383230	5343450
21	382470	5343470
22	383750	5341850
23	383350	5342060
24	382650	5343040
25	382580	5343830
26	381950	5344195
27	381790	5344420
28	381710	5344590
29	384990	5348690
30	385430	5348840
31	385750	5346060
32	383450	5350030
33	383040	5350030
34	384210	5348830
35	380450	5354920
36	380340	5353980
37	380975	5354835

Number	East	North
38	375300	5350400
39	379240	5350140
40	380020	5356330
41	383470	5350595
42	381103	5355350

Table 3: EL35/2004 HEM Recommended targets

Number	East	North
9	381910	5344175

Conclusion

Analysis of 42 responses in the Mt Read 2001/2002 helicopter EM data set over EL 35/2004 has identified one target as potentially representing conductors that require further follow up. This target is in the southern part of the exploration licence and is in close proximity to the known mineralized system in the Mt Lyell area.

Analysis of the HEM system noise levels has also demonstrated that even in very clean EM backgrounds the maximum penetration of the system for 3D EM targets was between 50 – 75 meters, and well below the depth of penetration on some of the recently developed helicopter TDEM systems.

Appendix I

EL 35/2004 Targets

LM 09

Target LM 09 extends over a strike length of some 400 meters and more , between lines 5344150 N – 534450 N (Figures LM_09_1 – 2c) . Its definition although implied by imaged data in Figure LM_09_1, is best understood through the analysis of the profile data shown in Figures LM_09_2 – 2c.

The sharp negative peaks in both the in-phase (thin line) and out of phase data (thick lines) in the coaxial (CX) transmitter – receiver pairs (Figures LM_09_2 – 2b) , mark the location of the top of this target . These peaks in the coaxial data are coincident in with the troughs (or local minimum) in the coplanar response and as a result a “thin “conductor dipping to the east in interpreted as the source of the response. (see modelling data in the main text) . Ratios with values greater than one, of in-phase to out of phase data suggest this conductor to have conductivity – thickness product of about 50 siemens.

LM 09 conductor is set within an area of moderate conductivity. However it is distinguishable from the other conductors in the area as the other conductive features do not have a similar significant in phase response at frequencies of 7 KHz and below. (Figure LM-09-2 – 2c) . The target response is not obvious on line 533950 N (Figure LM-09 -2 c), although other conductive features and which head towards the direction of known Mt Lyell mineralised systems to the south are still evident.

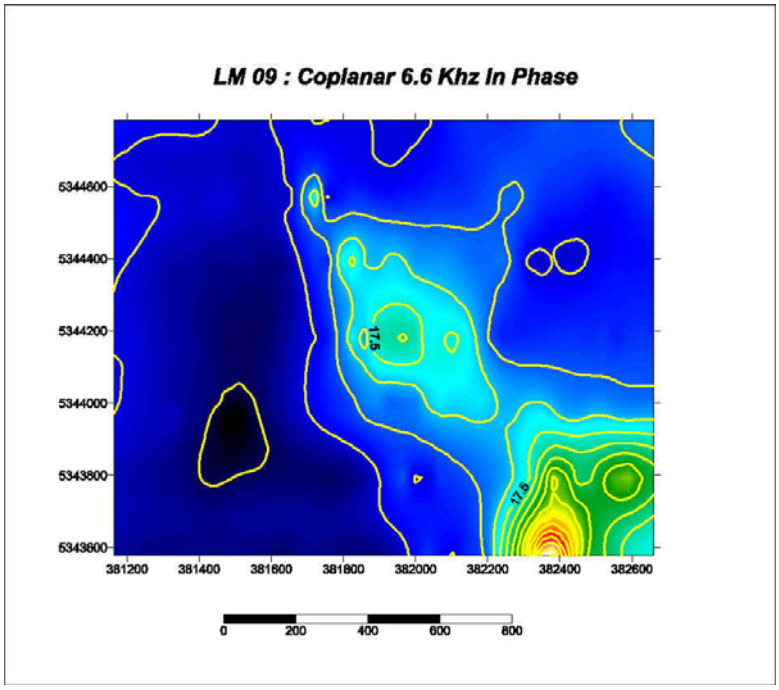


Fig LM 09_01: LM 09: Coplanar 6.6 Khz in Phase

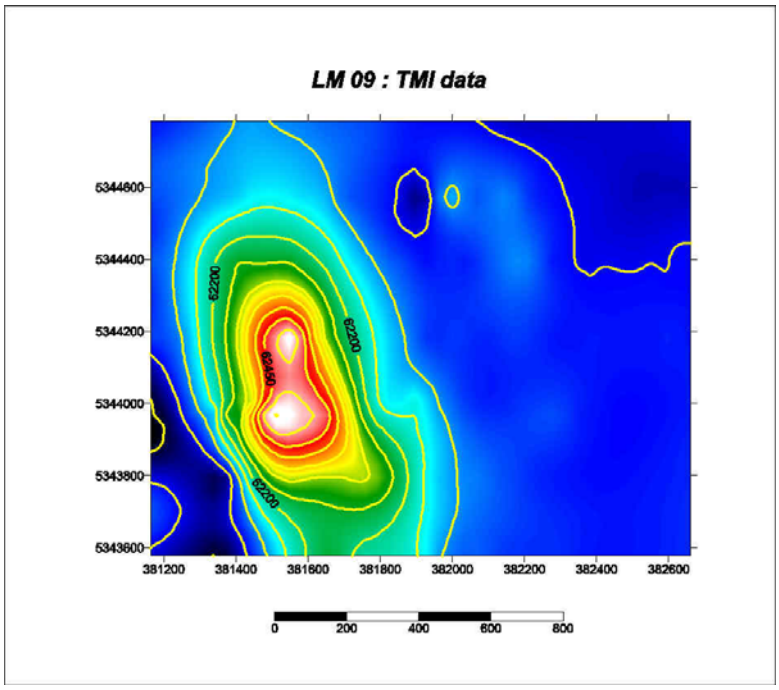


Fig LM 09_01a: LM 09: TMI Data

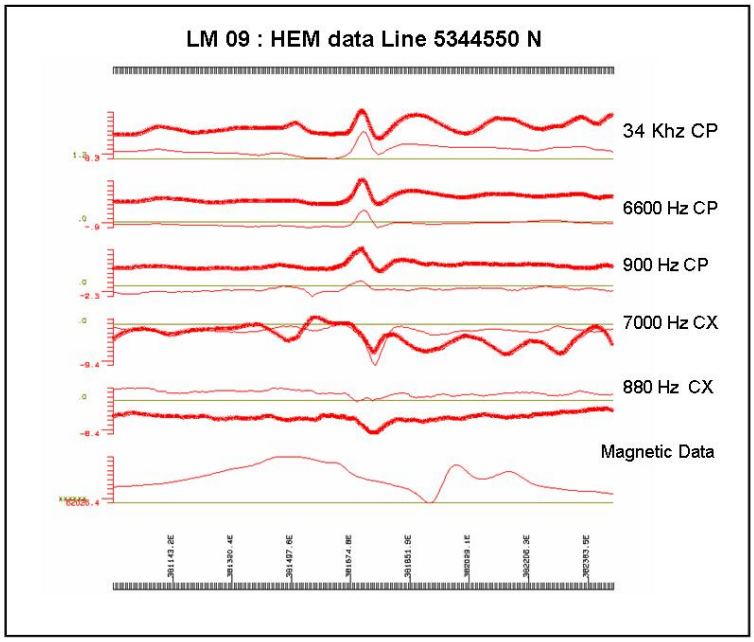


Fig LM 09_02: LM 09: HEM data line 5344550 N

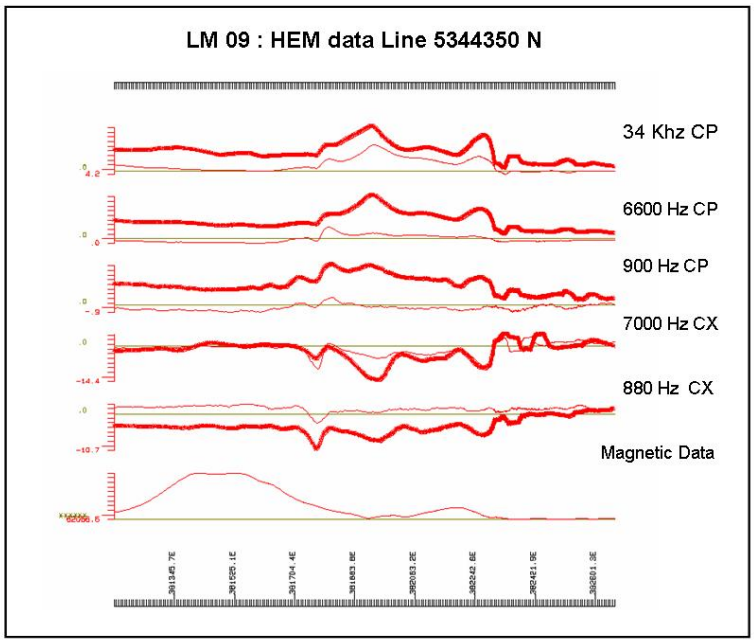


Fig LM 09_02a: LM 09: HEM data line 5344350 N

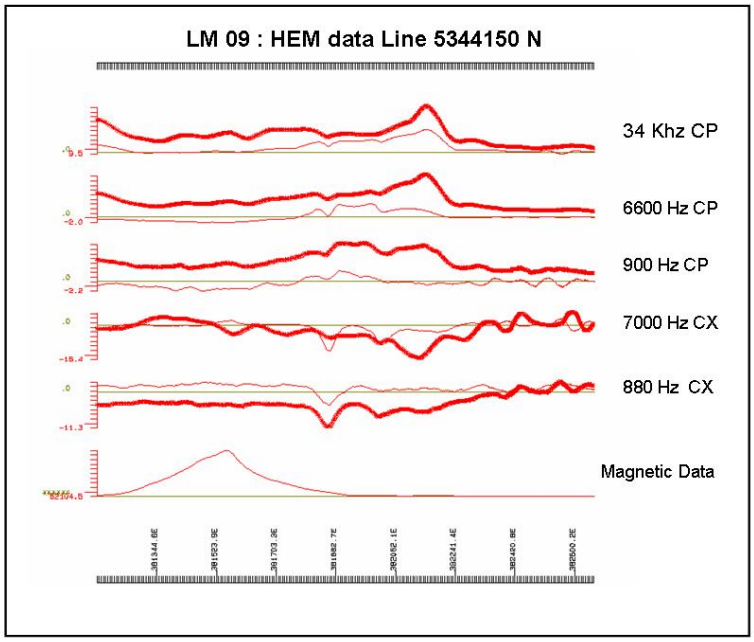


Fig LM 09_02b: *LM 09: HEM data line 5344150 N*

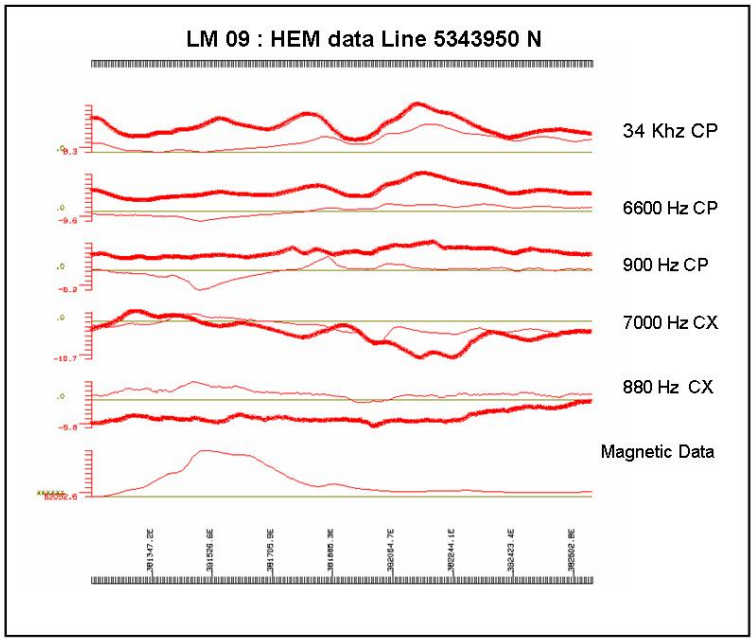


Fig LM 09_02c: *LM 09: HEM data line 5343950 N*