AURIONGOLD

Annual Report

2001 - 2002

EL 13/2001
Langdon

Vol 1 of 1

HELD BY: AURIONGOLD EXPLORATION PTY LTD

MANAGER & OPERATOR: AURIONGOLD EXPLORATION PTY LTD

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PROSPECTS:

MAP SHEETS: **1:250,000:** **1:100,000:**

GEOGRAPHIC COORDS **Min East:** **Max East:**
Min North: **Max North:**

COMMODITY(s): Au, Cu, Pb, Zn

KEY WORDS:

Distribution:

- **AurionGold Exploration Information Centre Reference:**
- **AurionGold Exploration - Zeehan**
- **Mineral Resources Tasmania**

SUMMARY

The exploration completed within EL 13/2001 – was centred on the exploration of the southern extension of the Bradshaws Road Alteration Zone. Detailed investigation included re-establishment of a grid over the IP anomaly, mapping, and soil and rock chip geochemistry. There were no significant results from this work.

Several small alteration zones along the western end of the Anthony Road were also investigated.

The proposed exploration program for 2002 – 2003 should include mapping in the Langdon River area and additional processing of geophysical data.

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1 INTRODUCTION

EL 13/2001 - Langdon is held and explored by AurionGold Exploration Pty Ltd (formerly Goldfields Exploration Pty Ltd). It was granted on 05 October 2001 for a period of 5 years. The EL has an area of 10 square kilometres.

1.1 Location and Access

The Langdon EL is located about 10 kilometres south of the Henty Mine in western Tasmania (Figure 1). The major access to the EL is via the sealed Anthony Road. A series of 4wd tracks (Bradshaws Road, Langdon Dam road, and Leech Hill track) branch off Anthony Road and provide access to the northern part of the tenement. Access to the eastern side of the tenement is provided by a gravel vehicular track that follows a HEC power line close to the eastern EL boundary. A series of grid lines provide additional feet access within the tenement.

1.2 Topography and Vegetation

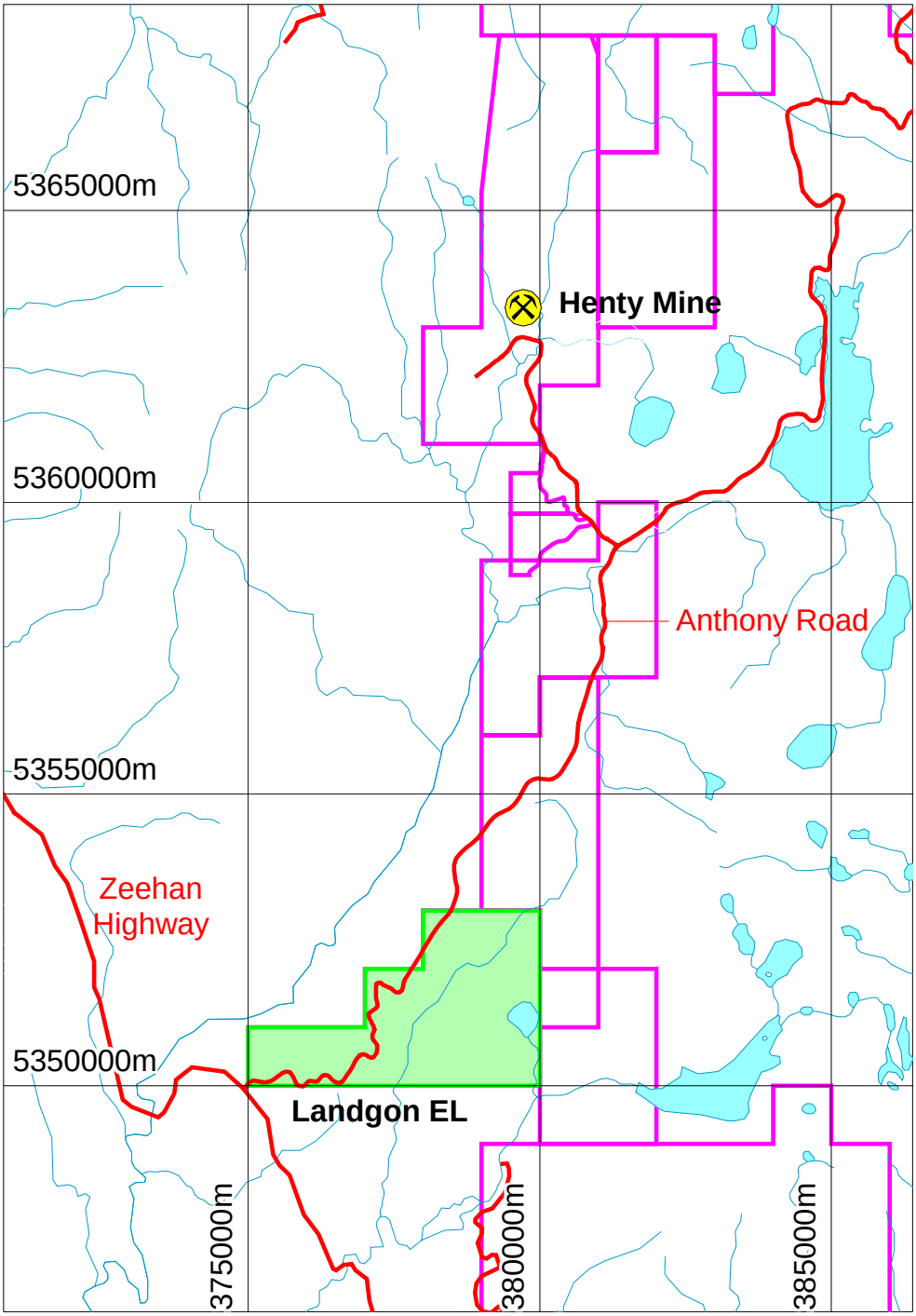
The Anthony EL lies along the peneplain between the steep, north - south trending Tyndall Range (1000m high) in the east and the 300m deep Henty Gorge to the west. The peneplain is between 450m and 550m ASL. The Langdon River cuts a steep gorge in the central portion of the EL. The vegetation consists of a mosaic of button grass plains, light tea tree scrub, medium eucalypt forest and rainforest. The area has been extensively glaciated.

1.3 Tenure

The EL comprises:
- Crown Land
- Stae / Multiple Use Forest
- Land Vested in HEC.
- Mt Dundas Regional Reserve
- Tyndall Range Regional Reserve

The licence area contains areas which are listed on the Registrar of the National Estate kept under the Australian Heritage Commission Act 1975.

Figure 1. Langdon EL - Location Map.



1.4 Aims

The AurionGold Tasmanian exploration program is targeted at the discovery of a Henty style gold mineralisation and polymetallic gold rich base metal mineral deposit in the Cambrian Mount Read Volcanics. The principal aim of the exploration program is to find additional Au resources to supplement production at the AurionGold owned Henty Mine or to define a resource that could be developed as a stand alone operation.

AurionGold has been actively exploring the southern Mount Read Volcanics for several years and has developed an integrated exploration model for Henty and Mt Lyell style mineralisation. Such deposits are considered to represent the submarine equivalents to porphyry copper - high sulphidation - epithermal deposits. Henty style deposits form in the highest levels and margins of the system and have the best potential for gold mineralisation. The high sulphidation - porphyry copper deposits general form at a deeper level and although generally base metal rich can still host significant Au resources.

The Langdon EL is located in Mount Read Volcanics to the south of the Henty Mine. Apart from soil and IP surveys conducted by Mt Lyell in the 1970's the area has had little modern exploration. Recent exploration in the adjacent Anthony and Basin Lake EL's has highlighted the Langdon EL has having a high potential to host Lyell style Cu - Au mineralisation.

1.5 Exploration Model

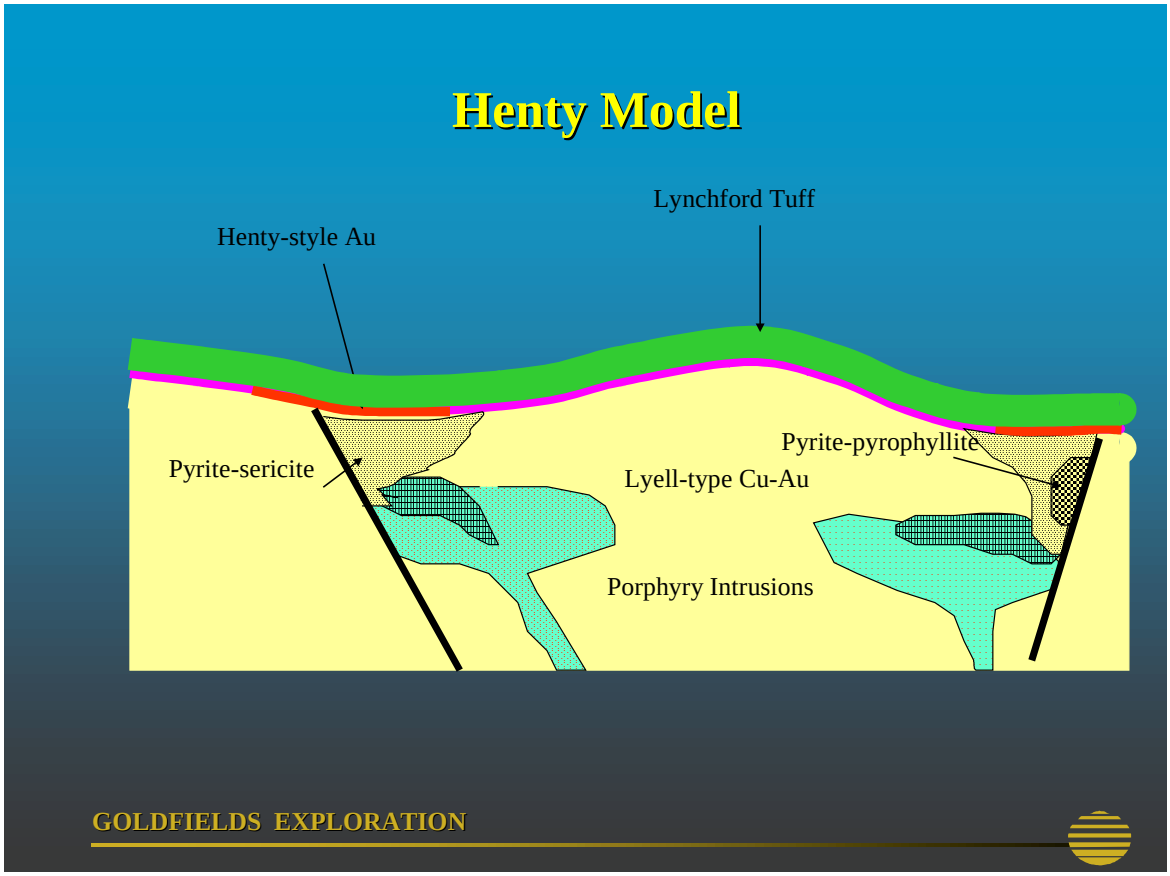
The Mount Read Volcanics are host to several world class gold rich base metal mineral deposits at Rosebery, Hellyer, Que River, Hercules, and Mount Lyell and to gold mineralisation at the Henty Mine. The Henty Mine is the only gold only producer in Western Tasmania, all the other deposits produce gold as a by-product of base metal treatment. In June 2000, the Henty Mine had an inferred Resource of 1,373,000 tonnes @ 10.3 g/t Au (452,900 ounces).

AurionGold Exploration is actively exploring the southern portion of the Mount Read Volcanics in the Henty, South Henty, Basin Lake and Red Hills areas. Exploration to date has focused on systematic drill testing the Henty Horizon, which is defined as a zone of mineralisation, alteration and carbonate developed at the contact between the basal Tyndall Group and the underlying Central Volcanic Sequence. The exploration program has been highly successful and an inferred gold resource of 731000 tonnes @ 7.6 g/t Au at Mount Julia in the south of the Henty Mine Lease has recently been delineated.

An integrated exploration model for Henty and Mt Lyell style mineralisation has been developed. Such deposits are considered to represent the submarine equivalents to porphyry copper - high sulphidation - epithermal deposits. Henty style deposits form in the highest levels and margins of the system and have the best potential for gold mineralisation. The high sulphidation - porphyry copper deposits general form at a deeper level and although generally base metal rich can still host significant Au resources.

An integrated exploration model for the genesis of Henty style Au and Mt Lyell style Cu - Au mineralisation is shown on Figure 2.

Figure 2 Henty Model



The critical components of the model are outlined below:-

A. Position underlying the Lynchford Tuff

The Lynchford Tuff (or Lynchford Formation) is the basal unit of the Tyndall Group. The dominant facies is a feldspar rich volcaniclastic sandstone with subordinate basalt, carbonate horizons and quartz feldspar phyric intrusives / lavas. It overlies and can be interbedded with dacitic pumice breccias and lavas of the Central Volcanic Sequence.

The base of the Lynchford Tuff represents a major exhalite horizon (the Henty Horizon) as indicated by mineralisation at Henty, Comstock, Lynchford, Red Hills, Howards Anomaly and Beatrice.

B. Proximity to major faults

There is a close spatial association between exhalitive mineralisation at the Henty Horizons and major faults. The Henty, Howards Anomaly and Comstock deposits are located near the intersection of the Henty Horizon with the regional (N-S) Henty and Great Lyell Faults. The intersection of second order (E-W) faults with the Henty Horizon is a primary control on mineralisation at Lynchford and Comstock.

The regional (N-S) and second order (E-W) faults were active growth structures during Cambrian volcanism and mineralisation and focused the accent of deep seated hydrothermal fluids to the inferred seafloor position at the Henty Horizon.

C. Proximity to "Suite 2" porphyries and other related rock types.

Exploration at Mt Lyell, Garfield, Basin Lake, Anthony and South Henty has highlighted the close spatial association of "Suite 2" quartz feldspar porphyry intrusives and feldspar hornblende phyric andesites. These subvolcanic intrusives and their eruptive equivalents are considered to be the source of the magmatic dominated fluids which characterise Henty and Mt Lyell type deposits (Halley, 1996, Callaghan, 1998, Street, 1999 and Willliams, 2000).

They range in composition from medium to high calc-alkaline to highly evolved shoshonitic and tholeiitic compositions (Crawford, Corbett and Everard, 1992).

There is good field evidence in the Henty - South Henty area that intrusion of the Suite 2 rock types is synchronous with the deposition of the Lynchford Tuff.

D. Associated Footwall Style Alteration.

Sub-seafloor alteration in the Central Volcanic Sequence is wide spread in the southern Mount Read Volcanics and hosts mineralisation at Mt Lyell, Basin Lake, Anthony and South Henty. There are two principal types:- pyrite-sericite and pyrite-pyrophyllite. The latter forming under more acid conditions.

These alteration zones represent the feeder zones to the overlying exhalitive mineralisation at the Henty Horizons or seafloor position.

Deposits of this type commonly display features that are typically associated with High Sulphidation porphyry style mineralisation (Low δ34S values, pyrophyllite-kaolinite-alunite, enargite-tennantite etc). They are usually Cu rich in contrast to mineralisation forming at the overlying seafloor position, which generally have epithermal characteristics (Au and Ag rich).

2 PREVIOUS EXPLORATION

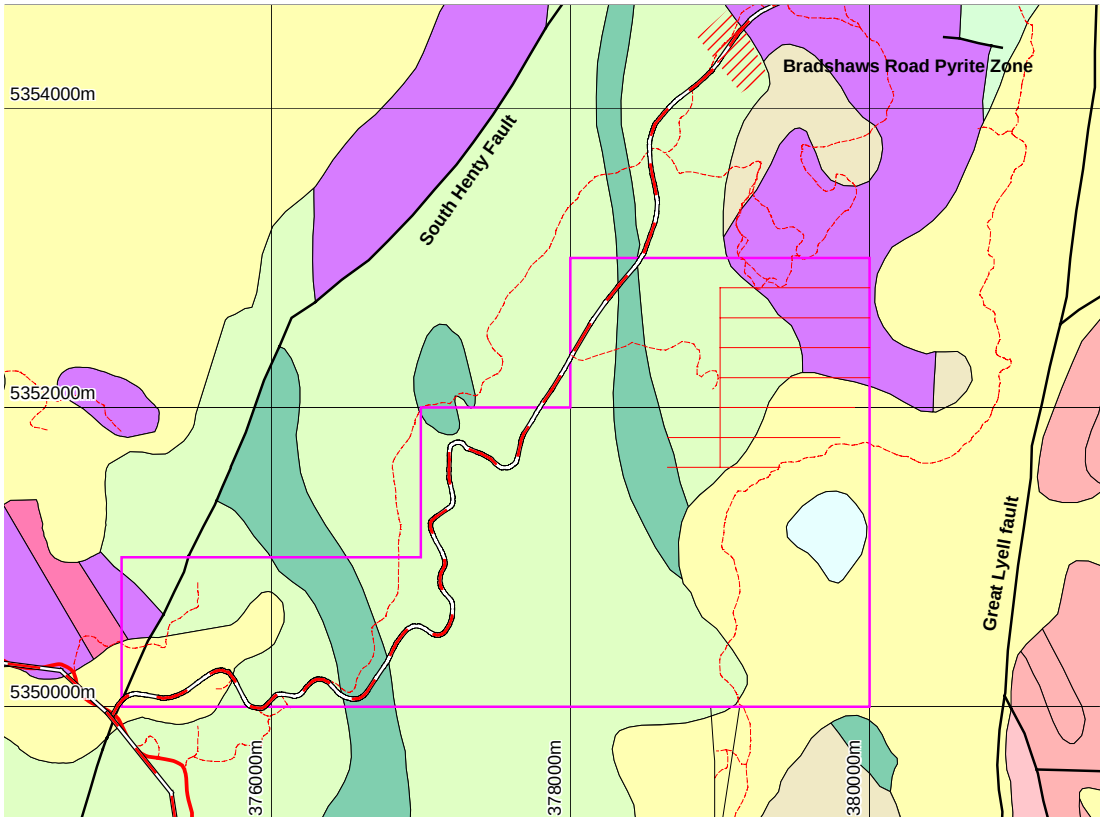
The Langon EL has had little modern exploration. Reconnaissance mapping, stream sediment sampling (Cu, Pb, Zn) and rock chip sampling (Cu, Pb, Zn) was performed by Mt Lyell in the early to mid 1970's (Sheppard, 1974 and 1975, Brophy and Stevens-Hoare, 1976). In 1978 Mt Lyell completed grid based soil sampling and gradient array IP in the northern corner of the EL (Meares, 1978).

The area was mapped at 1:25000 as part of the MRV Project (Corbett, 1986). The exposures along the Anthony Road were examined as part of a BSc(hons) project by Hutton, 1989.

A simplified geological map of the Langdon EL is presented in Figure 3.

The Langdon EL is mainly covered by Yolande River Sequence rocks (pale green) with NS trending rhyolitic to andesitic porphyry bodies (dark green). The contact between the Yolande River Sequence and the Anthony Road Andesite (purple) and Central Volcanics Sequence (pale orange) occurs in the NE corner of the tenement. Glacial deposits (yellow) predominate in the southeast corner of the tenement. Andesitic to gabbroic rocks (purple and magenta) of the Henty Fault Wedge occur to the north west of the South Henty Fault

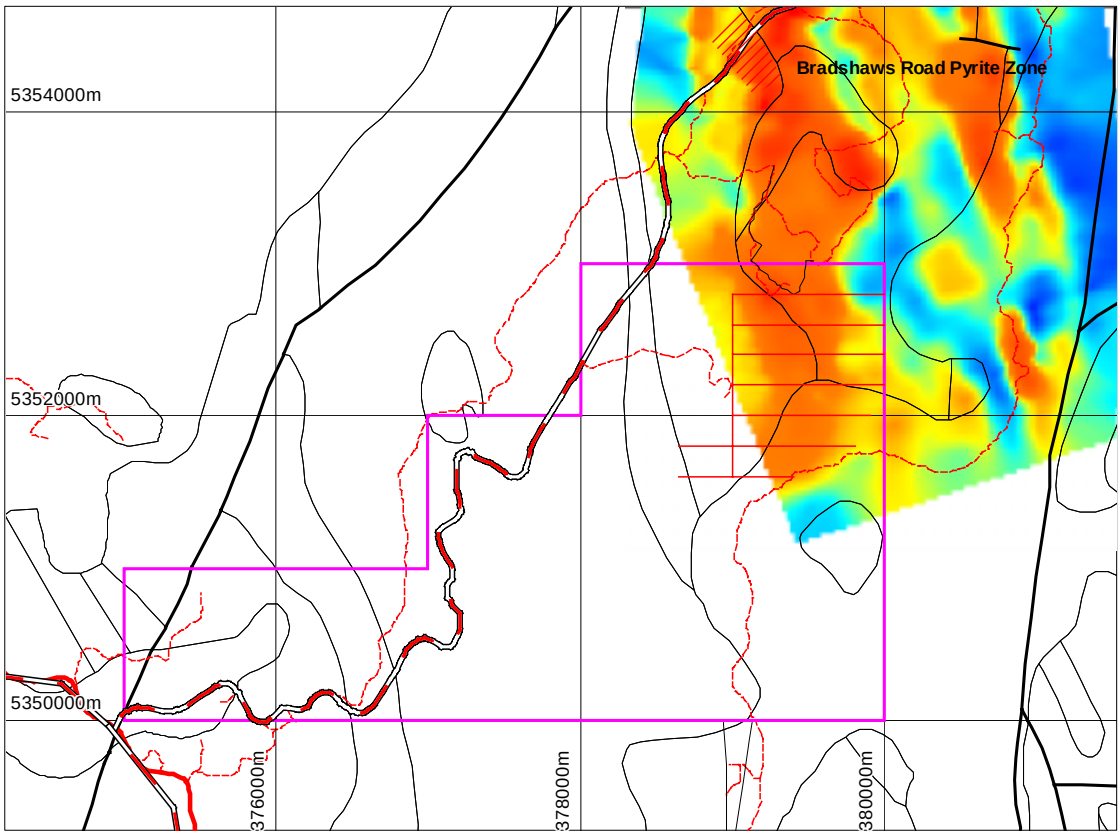
Figure 3. Regional Geology (from MRT 1:250K Digital Geology)



Recent exploration on the adjacent Anthony and Basin Lake EL's by Goldfields Exploration has located two distinct zones of high sulphidation sericite-pyrite-pyrophyllite-Cu mineralisation (Langdon Prospect and Basin Lake Prospect). A third zone (Bradshaws Road Pyrite Zone) is located at the contact between the Yolande River Sequence and Anthony Road Andesite / Central Volcanics Sequence. This

contact strikes into the NE corner of the EL. Figure 4 shows that the southern continuation of the IP anomaly, which defines the Bradshaws Road Alteration zone strikes south into the Langdon EL.

Figure 4. Chargeability Image



3 WORK COMPLETED

The primary target investigated in 2001 –2002 was the southern extension of the Bradshaws Road Alteration Zone. Detailed investigation included re-establishment of a grid over the IP anomaly, mapping, and soil and rock chip geochemistry.

Several small alteration zones along the western end of the Anthony Road were also investigated.

In summary:-

Gridding	8.1 line kilometres
Mapping	1:5000 geological mapping
Geochemistry	154 C horizon soils (Au, Cu, Pb, Zn, Ag, As) 14 Rock chips (Various elements)
Geophysics	Assessment of the WTRMP HEM data

4 RESULTS

4.1 Gridding

8.1 line kilometres of grid was cut by Ian Rogers of Rogers Exploration Services in December 2001. The grid consists of a 1.2 line kilometre base line at 379000mE and seven east west lines 200m apart from 5351600mN to 5352800mN. The east west grid lines were pegged at 25m intervals (Figure 3). A Magellan 310 GPS was used to survey the grid. There is road access to the grid from several points.

4.2 Mapping

The Langdon Grid and exposures along the Anthony and Bradshaws Road were mapped at 1:5000 scale using base maps prepared from digital topographic data obtained from the Lands Department. Outcrop geology is presented on Plans 1 and 2. In general, the geological interpretation of the Langdon area varies little from that presented on existing MRT geological mapping and no new interpretation is presented. Logging codes are presented in Appendix 1.

4.3 Geochemistry

4.3.1 Soil Sampling Program

154 C horizon samples were collected from the Langdon Grid by Ian Rogers of Rogers Exploration Services. A power-auger was used to ensure that the effects of glacial overburden were minimised, however in some cases sampling of the C horizon may not have been achieved. The samples were analysed by Analabs in Cooee for Au, Cu, Pb, Zn, Ag and As. The results are tabulated in Appendix 2. There were no significant results.

4.3.2 Rock Chips

14 rock chip samples were collected during the mapping program. The samples were analyses by Analabs in Cooee for a variable suite of elements for lithogeochemical and economic assessment. The results are tabulated in Appendix 3. There were no significant results**.**

4.4 Geophysics (by Chris Dauth, Senior Geophysicist)

Helicopter-borne electromagnetic data (HEM) were acquired over the Mount Read Volcanics by Mineral Resources Tasmania (MRT) during 2001-2002. The data was collected as part of the Commonwealth Government sponsored Western Tasmanian Regional Minerals Program and supplements previously release high resolution helimag and radiometric data sets. AurionGold Exploration Pty Ltd have acquired these data and are about to embark on data analysis for the purpose of:

i) geological mapping and
ii) identification of discrete conductive targets associated with sulphide mineralisation.

HEM Survey Specifications

Survey flown: January 2001 - April 2002
Traverse line spacing: 200 metres
Traverse line direction: 090 / 270 degrees

Tie line spacing: 2000 metres approx
Tie line direction: 000 / 180 degrees
Survey height: EM towed Bird at 30m agl
Electromagnetic System: Hummingbird 5 frequency EM system
Resolution: 1ppm
Recording Interval: 0.1 sec (approx. 3.5 metres sampling)
Data acquisition: Geo Instruments Model G2002 system
Aircraft: AeroSpatiale Squirrel helicopter AS350BA

Technical Considerations

Data were acquired in the frequency domain which can be generalised to say that the survey has a relatively shallow depth of investigation (effectively 0-100m). Some references will quote several hundred metres as a depth of penetration but this should not be confused with depth of effective investigation.

Data at 5 frequencies were supplied. The lower the frequency the deeper the exploration depth. Anomalies from data at the higher frequencies tend to correspond with glacial cover and surface lithological features. Data at the lowest frequencies (880 and 980 Hz) are best viewed for the purposes of both geological mapping and target identification.

Data are provided from both horizontal EM coils (co-planer) and vertical EM coils (co-axial). The co-axial data are better for identification of vertical conductors (vertical sulphide bodies). The co-planer coils are better for delineation of flat lying bodies (hence show glacial deposits quite well).

Resistivity computations on the raw EM data are provided by the contractor. These are the best first stop for a view of the data and delineation of obvious anomalies. The computation is based upon a homogenous earth hence is not valid for discrete conductors but nonetheless will produce a red blob where a sizeable anomaly occurs.

For target discrimination data from all frequencies and coil orientations need to be carefully viewed in profile format. This is beyond the scope of this data analysis and will be conducted in the future.

Figure 5 shows the apparent resistivity computation using the 990Hz co-axial coil configuration. There are no significant anomalies within the Langdon EL. A series of linear discontinuous highs in the east of the EL are most likely associated with the HEC powerline. A broad high in the centre of the EL is coincident with an area mapped as glacial deposits in the Langdon River valley. Although no follow-up work on these anomalies is recommended and more thorough evaluation should be made.

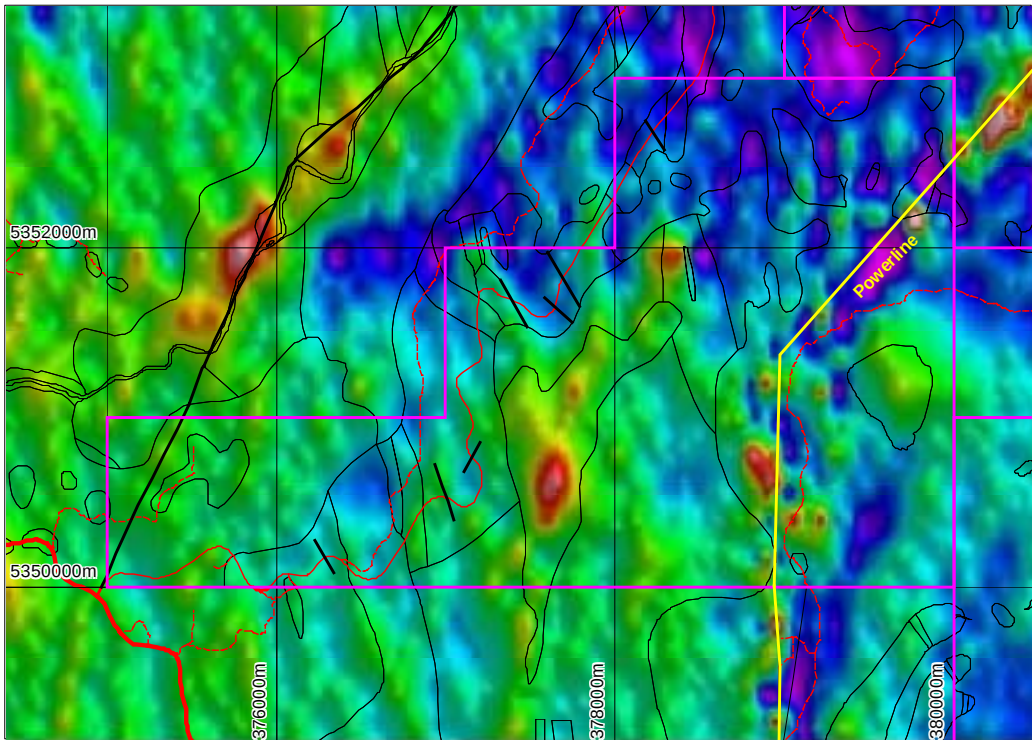


Figure 5. HEM 990Hz co-axial coil configuration image. Geological information based on MRT 1:25000 digital data.

5 DISCUSSION and RECOMMENDATIONS

The exploration completed within EL 13/2001 – was centred on the exploration of the southern extension of the Bradshaws Road Alteration Zone. Detailed investigation included re-establishment of a grid over the IP anomaly, mapping, and soil and rock chip geochemistry. There were no significant results from this work. The IP response is probably due to chargeable siltstones within the Yolande River Sequence. No rock types typical of the Central Volcanics Sequence were mapped on the grid.

Several small sericite – pyrite alteration zones along the western end of the Anthony Road were also investigated. These represent local zone of weak to moderate alteration developed along possible fault zones. They are not anomalous in gold or base metals.

The proposed exploration program for 2002 – 2003 should include mapping of rhyolitic to andesitic porphyry bodies in the Langdon River area. These bodies have a highly variable magnetic response and are cross cut by several linear trending magnetic features. Sampling should target areas where the linear features intersect the porphyry bodies.

Additional processing of geophysical data, particularly the new HEM data should be made to assist target identification is the poorly accessed regions of the EL.

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6 REFERENCES

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APPENDIX 1

Symbols and Codes used in Logging and Mapping

APPENDIX 2

C Horizon Soil Analyses

Appendix 3

Rock Chip Analyses

Appendix 4

Digital Report

Langdon EL 13/2001 Annual Report 2001 - 2002

Index of Digital Data accompanying this report:-

132001_200210_02_Report Main body of Text (This Report)
132001_200210_03_Appendix 1_Symbols and Codes used in Logging and Mapping.pdf
132001_200210_04_Appendix 2_Soil Sample Analyses.txt
132001_200210_05_Appendix 3_Rock Chip Analyses.txt

Plans