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HENTY GOLD LIMITED

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Final Report

2003

EL 13/2001

Langdon

HELD BY: AURIONGOLD EXPLORATION PTY LTD

MANAGER & OPERATOR: AURIONGOLD EXPLORATION PTY LTD

AUTHOR(s): Michael Vicary

24 March 2003

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

This report documents the work completed on EL 13/2001 – Langdon by AurionGold Exploration.

In late 2002, AurionGold Exploration was acquired by Placer Dome Asia Pacific and a detailed review of Tasmanian exploration program completed. As a result of the review all non-mine lease exploration was suspended and several exploration tenements (including the Langdon EL) were recommended to be relinquished.

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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

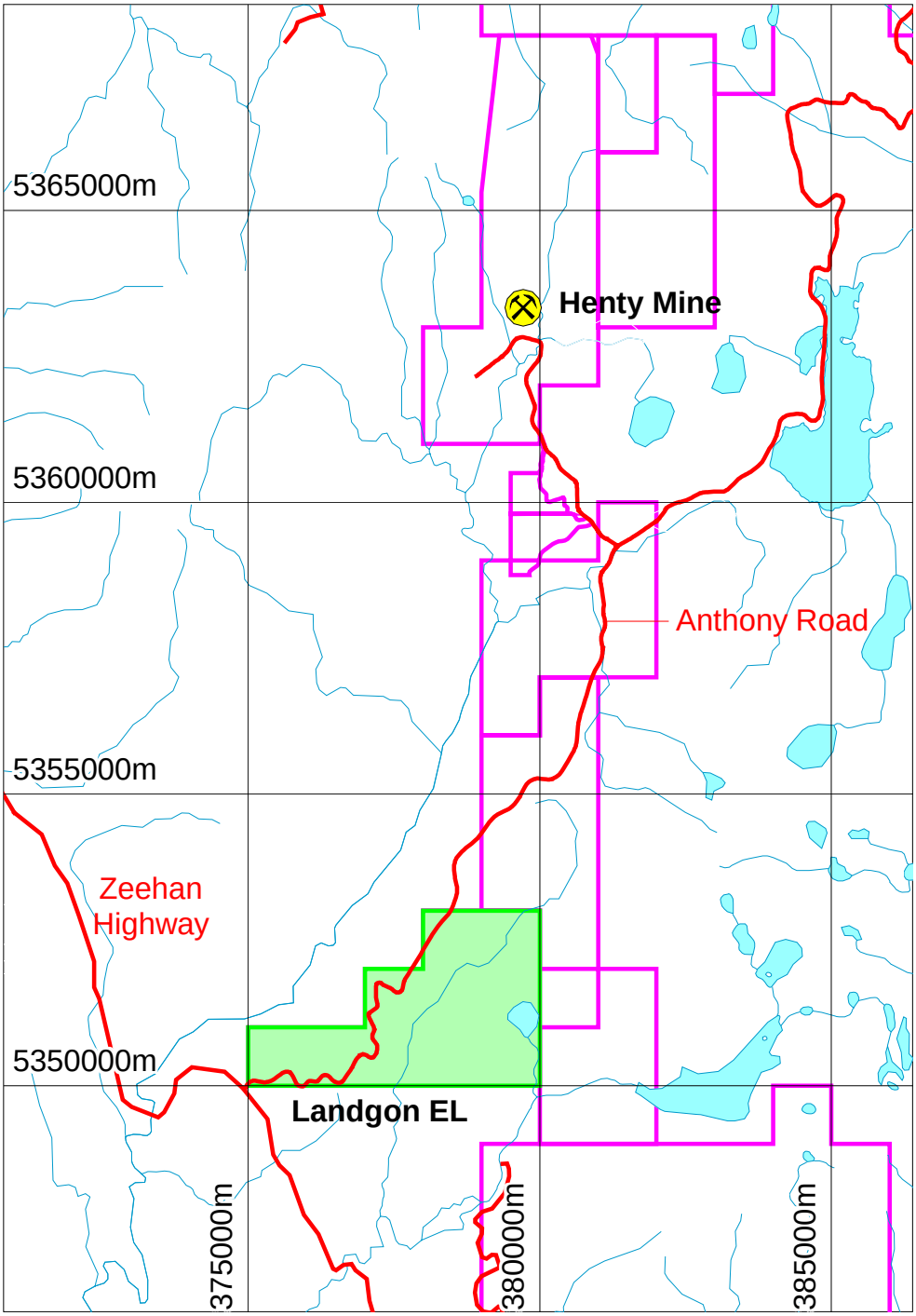
The Langdon EL lies along the peneplain between the steep, north - south trending Tyndall Range (1000m high) in the east and the 300m deep Henty Gorge to the west. The peneplain is between 450m and 550m ASL. The Langdon River cuts a steep gorge in the central portion of the EL. The vegetation consists 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

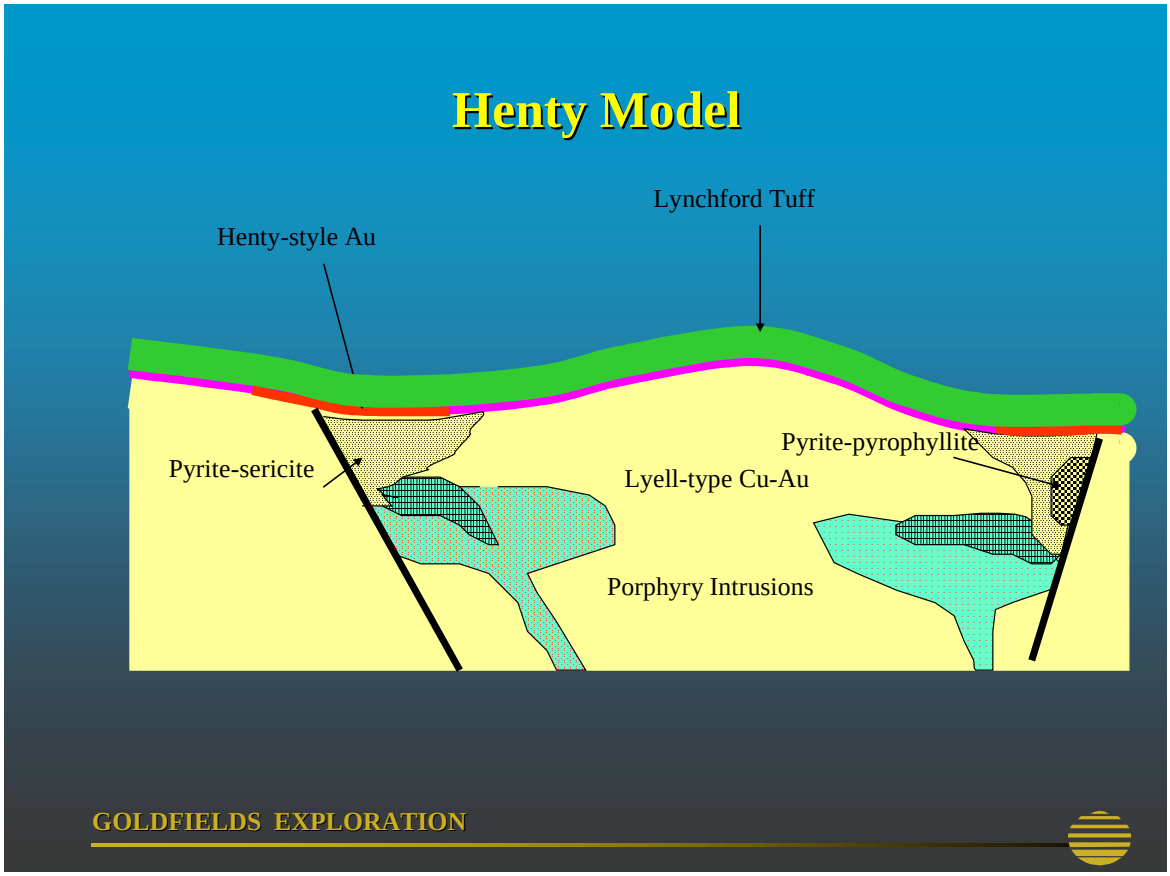
The Mount Read Volcanics are host to several world class gold rich base metal mineral deposits at Rosebery, Hellyer, Que River, Hercules, and Mount Lyell and to gold mineralisation at the Henty Mine. The Henty Mine is the only gold only producer in Western Tasmania, all the other deposits produce gold 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

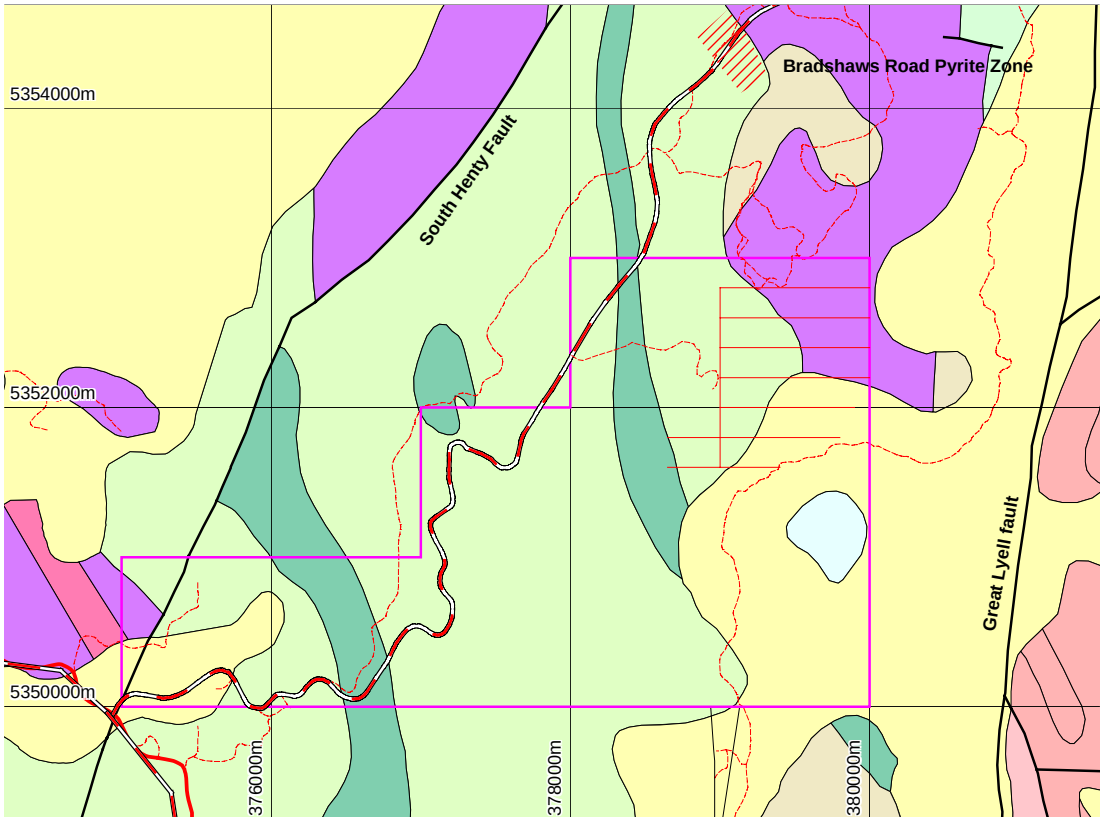
The Langon EL has had little modern exploration. Reconnaissance mapping, stream sediment sampling (Cu, Pb, Zn) and rock chip sampling (Cu, Pb, Zn) was performed by Mt Lyell in the early to mid 1970's (Sheppard, 1974 and 1975, Brophy and Stevens-Hoare, 1976). In 1978 Mt Lyell completed grid based soil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

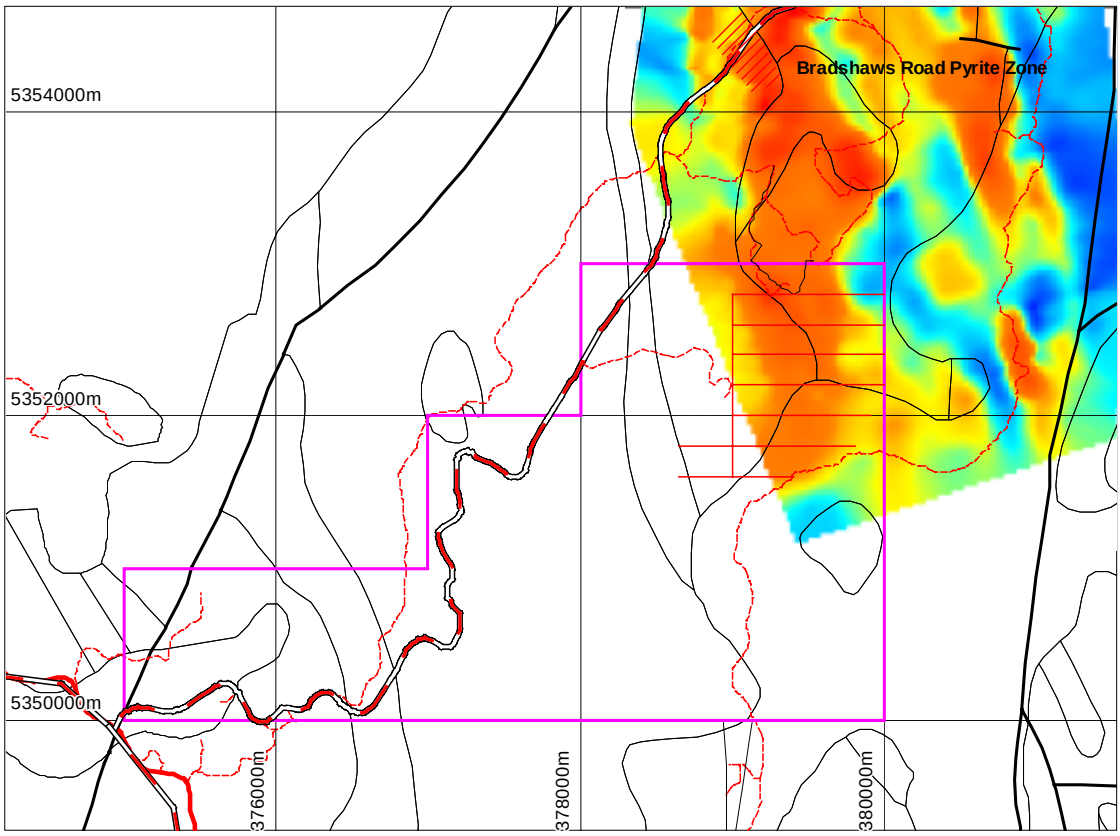
Figure 3. Regional Geology (from MRT 1:250K Digital Geology)



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 (Vicary, 2002).

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

There was no additional exploration completed on the EL since October 2002.

4 REHABILITATION

The exploration activities caused only low levels of environmental disturbance. Natural regeneration along cut lines will occur.

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.

Additional exploration within the EL, should include mapping of rhyolitic to andesitic porphyry bodies in the Langdon River area and examination of new HEM data (Vicary, 2002). This work was not completed at the time of relinquishment.

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6 REFERENCES

Brophy, J., and Stevens-Hoare, N.P., 1976 Annual report on EL 41/71 (Henty Yolande area) 1975-76. The Mount Lyell Mining and Railway Company Limited.

Callaghan, T., 1998. Geology and Alteration of the Mt Julia Deposit, Henty Gold Mine, Tasmania. M.Econ.Geol.Thesis, University of Tasmania.

Corbett, K.D., 1986 Map 3. Geology of the Henty River – Mt Read Area. Mt Read Volcanics Project. Department of Mines Tasmania.

Crawford, A.J, Corbett, K.D, and Everard, J.L, 1992. Geochemistry of the Cambrian Volcanic-Hosted Massive Sulfide-Rich Mount Read Volcanics, Tasmania, and some Tectonic Implications. Econ Geol, V87, pp 597-619.

Halley, S.W., 1996 Geochemistry and genesis of the Garfield Prospect*. In Halley, Vicary, Corlett and Wyman, 1996. Annual Report 1995/96 Els 102/87, 55/89 and 12/92. RGC Exploration.*

Hutton, D.J., 1989 The structure, stratigraphy and palaeo-volcanology of the Cambrian Mount Read Volcanics, Anthony Road Traverse, Queenstown, Tasmania. BSC (hons) thesis. Monash University

Meares, R.M.D., 1978 EL 41/71 Annual report 1977/78. The Mount Lyell Mining and Railway Company Limited.

Sheppard, N.W., 1974 Annual report on EL 41/71 (Henty Yolande area) 1973-74. The Mount Lyell Mining and Railway Company Limited.

Sheppard, N.W., 1975 Annual report on EL 41/71 (Henty Yolande area) 1974-75. The Mount Lyell Mining and Railway Company Limited.

Street, M., 1999 Alteration of the South Henty Prospect. BSc(hons) thesis. University of Tasmania.

Vicary, M, 2002 Annual Report 2001 – 2002 EL 13/2001 Landgon. AurionGold Exploration Pty Ltd

Williams, N., 2000 The Basin Lake High Sulphidation Alteration System, Western Tasmania. BSc(hons) thesis. University of Tasmania