

WALFORD PEAK EL 24/96

FINAL REPORT

FOR THE PERIOD ENDING 8th NOVEMBER 2001

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1 SUMMARY

This report summarises exploration completed on the Walford Peak exploration licence (EL 24/96) during the two years of tenure of the licence and presents results from the last three years of tenure, during which time the tenement formed part of the Queenstown North Project for both expenditure and technical reporting purposes.

Work completed on the Walford Peak licence during the reporting period (the last three years of tenure) has included:

- Detailed geological mapping, rock-chip sampling and a Pb-isotope study of the Dora-Spicer area.

Results from previous work and a review of Pasmaenco's ground holdings in Western Tasmania has led to the conclusion that the Walford Peak area is of low-prospectivity for Rosebery or Hellyer type VHMS deposits. There remains some potential for Cu-Au mineralisation, however, Pasmaenco are no longer exploring for this style of mineralisation and the tenement is therefore being relinquished.

2 INTRODUCTION

This report details exploration activities completed by Pasminco Exploration on the Walford Peak (EL24/96) tenement during the five-year life of the tenement.

The Walford Peak licence covers a portion of the Mount Read Volcanics to the north and east of Queenstown in Western Tasmania (Figures 1 and 2). The Licence forms a narrow strip along the eastern margin of the Mount read Volcanics extending south from the Anthony River Valley, over Mt Selina and the western Flanks of the Sticht Range to Walford Peak and the high Plateau from Lake Dora to Lake Spicer, with a total range in altitude from approximately 250m to 1000m ASL. The area varies from being open buttongrass and moorland to heavily vegetated forest and scrub, and is poorly accessible.

Access to the tenement is provided by the Anthony Road, a sealed all weather road linking Queenstown and Tullah. The northern part of the tenement is accessible via old cut lines running east from the Anthony Rd or on foot via the Lake Plimsoll dam wall and spillway. Access can be gained to Lakes Dora and Spicer, in the south, via a rough vehicular track, commencing at the Anthony Road west of Newton Peak. It is about 16 km from Anthony Road to the Lake Dora Prospect, and the track passes directly through the centre of the prospect. Pasminco Exploration refurbished this track in 1998.

The principal exploration targets sought within the licence area were Rosebery or Hellyer-type volcanogenic Pb-Zn-Cu-Ag-Au massive sulphide deposits and large tonnage disseminated or vein Cu-Au deposits.

Work completed on the Walford Peak licence during the reporting period (the last three years of tenure) has included:

- Detailed geological mapping, rock-chip sampling and a Pb-isotope study of the Dora-Spicer area.

This report summarises the results of all work done on this tenement since granting in 1996 and previously included in the Queenstown North Project Annual reports (Denwer et al., 2000a and 2000b).

3 TENURE

Walford Peak (EL 24/96) covers an area of approximately 44 square kilometres immediately north of Pasmaenco's Lake Beatrice (EL 20/98) and south of Pasmaenco's Tullah (EL 22/90; relinquished in October 2000 and now Goldfield's EL 3/2001) tenements; Figures 1 and 2. The tenement was granted to Pasmaenco Australia Ltd. on 8 November 1996 for a period of five years and is due to expire in November 2001.

EL 24/96 Walford Peak has formed part of Pasmaenco's Queenstown North Project (Table 1). The project was initially formed by the amalgamation of reporting and expenditure commitments of EL 24/96 with EL 6/98 Queenstown and EL 20/98 Lake Beatrice on 23rd March 1999. EL's 10/99 Lake Margaret and EL 13/99 Linda were subsequently amalgamated after their granting on 27th July 1999 and 12th July 1999 respectively.

The Walford Peak tenement area has been previously held under a number of exploration licences, which include MLMRC/RGC's EL 9/66 (1966-1985), Aberfoyle/ CRAE's EL 5/85 (1985-1995) and Billiton/Aberfoyle's EL 103/87 (1987-1993). Land tenure (post-RFA) includes part of the Mount Murchison Regional Reserve, the Lake Beatrice Conservation Area, the Tyndall Range Regional Reserve (yet to be proclaimed) and un-allocated Crown Land. Much of the area is classified as High Quality Wilderness (as defined in the Regional Forest Agreement); all these classifications are available for mineral exploration. Some land in the NW part of the tenement, associated with the Henty-Anthony Scheme, is vested in the HEC.

Table 1. Queenstown North Project; constituent Tenements.

Licence Number	Licence name	Date Granted	Area (Sq km)
EL 24/96	Walford Peak	26 th November 1996	44
EL 6/98	Queenstown	30 th January 1998	33
EL 20/98	Lake Beatrice	4 th November 1998	10.47
EL 10/99	Lake Margaret	27 th July 1999	5
EL 13/99	Linda	12 th July 1999	6.5

4 REGIONAL GEOLOGY

Weber et al. (1997) and Corbett and Jackson (1987) describe the regional geology of this area in detail. The eastern edge of the Walford Peak area comprises Precambrian Tyennan basement, a metamorphic terrane described as mainly lower greenschist facies phyllites and quartzites. This basement is unconformably overlain by elements of the Cambrian Mt Read Belt comprising the Sticht Range Beds and correlates of the Tyndall Group. To the west, and overlying the Tyndall Group correlates, are the siliciclastic Cambro-Ordovician Owen Conglomerates. The contact between the Tyndall Group and Owen Conglomerate is variable and may be conformable and gradational, unconformable or faulted. Immediately to the east of the tenement outliers of Owen Conglomerate unconformably overlie the Precambrian basement.

The middle Cambrian Sticht Range Beds comprises sediments from pebble-cobble conglomerates to siltstones and minor black shales (with a largely metasedimentary provenance) and minor volcanoclastic units. There is an apparent gradational relationship between the Sticht Range Beds and the overlying Tyndall Group.

The Tyndall Group comprises a volcanic conglomerate unit (the Dora and Selina conglomerates) underlain by quartz-phyric lavas, intrusives and volcanoclastics. In the northern part of the area the Tyndall Group volcanics are intruded by the Murchison granite, a Cambrian intrusive complex about 7.5 km long and 3 km wide. Cambrian Granites (the southern continuation of the Murchison Granite?) have also been intersected by drilling at the Mt Selina prospect and outcrop around 386100mE, 5360100mN.

Much of the central part of the licence is covered by a variable thickness of undifferentiated Quaternary (Pleistocene) glacial deposits.

5 PREVIOUS EXPLORATION

For a comprehensive review of previous exploration in the Walford Peak area, prior to the granting of EL 24/96, the reader is referred to Weber et al. (1997) and Denwer et al. (2000a).

Work completed by Pasminco during the term of the tenement is summarised in Table 2

Table 2: Summary of Previous Exploration

YEAR	WORK COMPLETED	RESULTS
1996-1997 Weber et al. (1997)	Licence scale review of previous exploration	Identified prospective areas; similarities between Selina Conglomerate and Leyshon vent breccia (Qld) interpreted; some re-assaying of core for Au with negative results.
1997-1998 Denwer (1998)	Reconnaissance scale field work	Sampling of Selina conglomerate with negative results, refurbish track to Dora prospect, recce mapping and rockchip sampling
1998-1999 Denwer et al (2000a)	Geological mapping and rockchip sampling at the Dora prospect	Many old workings re-located; significant Cu, Pb, Zn, Ag, Au and Co analyses from narrow veins
1999-2000 Denwer et al (2000b))	No field work	
2000-2001 this report	Pb Isotope analysis of two samples	Results indicate affinities with Cambrian Elliot Bay mineralisation and are not consistent with a large base metal system

6 WORK COMPLETED

Work Completed prior to the formation of the Queenstown North Project is reported in Weber et al. (1997) and Denwer (1998). Work completed since the formation of the Queenstown North Project is presented below.

6.1 1998-1999 (Denwer et al., 2000a)

Since the tenement was granted to Pasminco Exploration a full literature review and data analysis have been completed (Weber, et al., 1997). Pasminco's initial interest in the area was for intrusive related Cu-Au systems, possibly associated with magnetic and gravity highs (Weber et al., 1997), and for Au in a "Leyshon" style breccias in the Dora Conglomerate, similar to that interpreted in the Selina conglomerate to the north (Aliano, in Weber, et al., 1997). As an initial step in exploring the area, it was recommended that the area be mapped, to define alteration types and possible breccia units in the Dora Conglomerate, and that old workings be mapped and rock-chip sampled in detail to elucidate the style of mineralisation (Denwer, 1998).

6.1.1 Mapping

Access can be gained to the Lake Dora area via a vehicular track, commencing at the Anthony Road west of Newton Peak. It is about 16 km from Anthony Road to the Lake Dora Prospect, and the track passes directly through the centre of the prospect.

During 1997/98 the access track was refurbished, the old Goldfields grid was relocated and mapping and sampling commenced. However, during particularly heavy rainfall the track was washed out and the work program was delayed, whilst repairs to the track were completed. Mapping was only at an early stage, with five days spent on the ground, and results from this preliminary work were not included in the 1998 report (Denwer, 1998).

Detailed mapping and rock-chip sampling of the Lake Dora area was completed by A. McNeill and K. Denwer (intermittently) during January to June 1999. A rectified orthophoto, at 1:5,000 scale, was used as a base map (a digital copy of the orthophoto is appended to this report), and as the country is relatively open, geology could be plotted directly onto the orthophoto. Mapping was completed over the area from Lake Spicer to approximately 1 km north of Lake Dora. It was initially planned to continue mapping to the Sticht Range – Walford Peak saddle, however, a change in exploration focus resulted in the planned mapping and sampling programs not being completed.

Mapping (Plan 1) has confirmed the overall stratigraphy as described by previous workers; a generally west facing sequence with the Sticht Range Beds at the base overlain by a wedge of Rhyolitic lavas, intrusives and volcanoclastics, which thickens to the north, and which in turn are overlain by the Dora Conglomerate (volcanoclastic conglomerate and sandstone) and the Siliciclastic Owen Conglomerate.

It has not been possible to confidently sub-divide the main volcanic package which has, however, been sub-divided into 6 lithofacies ranging from obviously coherent and flow-banded in part (type

qfp; Plan 1) to obviously clastic (types v1, v2 and v4). Intruding into this package are at least seven small (<140x40m) bodies of feldspar-hornblende-pyritic ?Andesite (two of these bodies were located previously; Lewis [1994]) that appear to be late stage intrusives (they are less altered than their hosts and appear to intrude the base of the Dora Conglomerate at 387870mE 5353540mN). The overlying Dora Conglomerate appears to have an extremely irregular contact with the volcanics, this is in part structurally related but, also appears to be partly a primary sedimentary feature. Our mapping indicates that the Dora Conglomerate extends further to the north, immediately west of Michael Tarn and on the slopes of Walford Peak (around 386660mE 5355680mN), than shown on previous maps and forms a probably continuous unit beneath the Owen Conglomerate. The contact between the Dora and the Owen Conglomerate appears to be conformable, and in one locality, gradational over <1m.

The major alteration type in the Dora-Spicer area is chlorite±silica. This alteration assemblage is restricted to the volcanic package between the Sticht Range Beds and the, essentially unaltered, Dora Conglomerate. In the field the strongly chlorite altered rocks are mainly volcanoclastic lithofacies which are covered in a conspicuous orange lichen, which highlights the presence of this alteration. Previous workers have indicated a close association between the pervasive silica-chlorite alteration and magnetite/hematite veining and(or) pyrite/chalcopyrite mineralisation, and this is supported by our mapping. It has been assumed that the chloritic alteration represents an extensive alteration zone, however, when Aberfoyle sent samples to Tony Crawford at the University of Tasmania for petrology, he described the alteration as compatible with regional burial metamorphism.

Narrow restricted zones of intense silica-sericite-pyrite alteration, between zones of strong sulphide veining, and pervasive, but restricted, zones of Silica+k-feldspar/hematite are the two other main types of alteration (see Plan 1). Variable Hematite alteration occurs at the top of the Dora Conglomerate, immediately below the Owen Conglomerate, in the southern part of the area and a zone of jaspery hematite alteration of a rhyolitic ?lava margin was recorded near 387150mE 5354500mN.

Mineralisation ranges in style from disseminated pyrite ± chalcopyrite to vein chalcopyrite + magnetite (± malachite and azurite) ± sphalerite/galena and disseminated pyrite + galena + fluorite. The host chloritic alteration zone appears to narrow to the north, beneath Walford Peak, and mineralisation becomes dominated by magnetite + chalcopyrite/pyrite veins and narrow (to 0.3m width) zones of strong (30-60%) sulphide development dominated by pyrite, with lesser galena, chalcopyrite and sphalerite. Cobalt-rich minerals are known to occur in association with strong pyrite veining (see below).

6.1.2 Rock chip Geochemistry

During the reconnaissance mapping eleven samples were collected from old workings in the Lake Dora area (Appendix 1). The mineralisation in these old working occurs as pyritic and sheared volcanic within chlorite altered rocks. The samples have quite wide ranges in all elements detected. Samples have low to moderately elevated Cu (87- 7008 ppm), gold (<0.01 to 0.39 g/t Au), Pb (41-1962 ppm) and Zn (338-2074 ppm) and all have anomalous silver (2-12 ppm).

During the detailed mapping phase a further 54 rock-chip samples were collected, largely from the dumps at old workings, and were analysed at Analabs for Ag, As, Bi, Cd, Cu, Co, Fe, Mn, Ni, Pb, Sb, Sn and Zn using ICPMS, Au by 50g fire assay and Ba by XRF. Results are included in Appendix 2 and sample locations are shown on Plan 2.

The most interesting results are from old workings on the SE slopes of Walford Peak, in the central-northern part of the mapped area. Three zones of interest were located:

1. A cluster of workings and outcropping vein (sulphides +/- magnetite) and breccia-matrix style mineralisation, hosted by chlorite-silica altered volcanics, in a zone approx. 50m wide with a strike length of >200m (commencing at 387030mE, 5355535mN and not closed off to north). The best result from this zone was from the southernmost working which returned 9.65% Zn, 2.1% Pb, 0.5% Cu, 0.5 g/t Au and 58 g/t Ag (331941). However, mineralisation is patchy with other dump samples from the same working returning 0.2-0.9% Zn, 0.5-0.9% Pb, 0.3-0.5% Cu, 0.1-0.4 g/t Au and 54-88 g/t Ag. Other significant results from this trend include:

Sample 331938 (dump sample from a >10m deep shaft) 1.74% Zn, 0.85% Pb, 3.25% Cu, 1.1 g/t Au and 48 g/t Ag.

Sample 331933 (outcropping pyritic veining) 1.9 g/t Au, 16 g/t Ag, 0.2% Cu, 110 ppm Zn and 430 ppm Pb.

2. A single small pit on a ridge of strongly chlorite-silica altered quartz-eye volcanics at 386845mE, 5355385mN. Sulphide-rich vein mineralisation from this pit returned (331931) 48.8 g/t Au, 250 g/t Ag, 3.85% Cu, 0.1% Zn, 0.46% Pb, 6.2% As and 2.25% Co (the high As and Co resulting from the presence of erythrite (a CoAs oxide) first noted by Harcourt Smith [1898]). The host rocks to these veins (with disseminated sulphides) returned 0.3 g/t Au, 4 g/t Ag, 0.1% Cu, 0.2% Zn and 0.14% Pb. Sampling of an adit at the foot of this ridge did not return significantly anomalous results, apart for 0.2% Zn (sample 331960). However, previous sampling of this adit returned significantly higher results (6.3% Cu, 2 g/t Au, 0.5% Pb, 0.4% Zn and 152 g/t Ag; sample 1167 from Purvis et al., 1983).

3. A 25m long trench with up to 0.3m wide zones of sulphide-rich mineralisation at 386735mE, 5355215mN. The mineralisation returned 0.04 g/t Au, 14 g/t Ag, 1.1% Pb, 1.2% Zn and 0.14% Cu (Sample 331927), whilst mineralised host returned 0.19 g/t Au, 63 g/t Ag, 0.37% Pb, 1.2% Zn and 0.3% Cu (Sample 331928). This trench occurs at the northern end of a 150m long zone of magnetite (\pm sulphide) veined and chlorite altered volcanics (best assay; 0.3 g/t Au, 19 g/t Ag, 0.32% Pb, 0.4% Zn and 0.04% Cu). Previous sampling by RGC (Purvis et al., 1983) from a trench at the southern end of this trend (not re-located in the current survey) returned 0.5% Cu, 2.3% Pb, 5.5% Zn, 0.8 g/t Au and 115 g/t Ag.

Elsewhere in the mapped area strongly anomalous base metals (Pb-Zn) are restricted to dump samples from the Lake Dora Mine (magnetite \pm sulphide veining at 387965mE, 5353555mN) and samples from a pit above this adit (best sample; 0.14 g/t Au, 89 g/t Ag, 1.8% Pb, 4% Zn and 0.18% Cu) and to the isolated outcropping galena-fluorite mineralisation in quartz-phyric lava/intrusive at 387720mE, 5355425mN (three samples ranging from 0.3% - 1.1% Pb). Elevated Cu values are more widespread with values of up to 1.4% Cu (from 387900mE, 5354030mN), but, more commonly 0.1-0.4% Cu.

6.1.3 Conclusions and Recommendations

Mapping and rock chip sampling over this zone have largely confirmed the interpretations and results of previous workers. The overall geology, with no obvious host horizon and mainly Tyndall Group lithologies, the style of alteration, a narrow zone of pervasive, but variable intensity, chlorite±magnetite with minor sulfides, and the nature of the mineralisation, narrow sulphide±magnetite veins, are not consistent with the presence of a large tonnage VHMS orebody of the type Pasminco is targeting in Western Tasmania. No further work can be recommended in the Lake Dora – Lake Spicer area at this time.

6.2 1999-2000 (Denwer et al., 2000b)

No fieldwork was completed.

6.3 2000-2001

Work during the current year has been restricted to Pb-isotope analysis of two samples to determine the affinities of mineralisation in the Dora-Spicer area (a search of the literature had indicated that no previous samples from the Dora-Spicer area had been analysed for Pb-isotopes). Two samples were submitted to CSIRO at North Ryde, NSW for analysis. Sample locations and descriptions are:

Sample	Location	Description
331904	387940mE, 5353545mN	Gn vein in Chl-qtz alt. volcanic
331942	388045mE, 5353220mN	Gn separate of vein in Chl-qtz altered volcanic

Results are included as Appendix 3 and indicate that the mineralisation has Cambrian Granitoid or Elliott Bay type affinities. It is not believed that the Pb-isotopic results are consistent with the presence of a large Cambrian Base metal system and no further work is therefore warranted on the prospect.

7 CONCLUSIONS & RECOMMENDATIONS

Pasminco Exploration have completed a low key exploration program over the Walford Peak tenement, concentrating on the Dora-Spicer and Lake Selina Prospects. The work completed indicates that there is a very low probability of the target Rosebery - Hellyer style VHMS or large tonnage Cu-Au Mt Lyell or vein style mineralisation being present at the Lake Selina or Dora-Spicer prospects. However, several lower priority target areas identified by Weber et al. (1997) have not been followed-up and there remains the possibility of Cu-Au mineralisation in the North Selina or Lake Rolleston areas.

8 EXPENDITURE

Total expenditure for work undertaken by Pasminco Exploration on EL 24/96 Walford Peak for the eleven-month period to the end of August 2001 was \$1,886. A summary of the expenditure breakdown is given below:

Personnel	\$722
Travel and Accommodation	\$0
Geological Consultants	\$0
Geochemical Consultants & Assays	\$564
Geophysical Surveys & Contractors	\$0
Other Contractors	\$0
Drilling Contractors	\$0
Stores & Supplies	\$0
Vehicles Plant & Equipment	\$7
Land	\$382
Computing	\$0
Office	\$40
Administration Fee 10%	\$171
<hr/>	
Total Project Expenditure	\$1,886

9 KEYWORDS & LOCALITY

Keywords

ZINC, LEAD, COPPER, GOLD, MOUNT READ VOLCANICS, GEOCHEMISTRY, PB-ISOTOPES, ROCK-CHIPS, MAPPING, TYNDALL GROUP, STICHT RANGE BEDS, DORA CONGLOMERATE

Location

1:250K QUEENSTOWN SK55-5

1:100K SOPHIA 8014

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