

PASMINCO EXPLORATION

MT SALE EL 14/98

**ANNUAL REPORT FOR THE PERIOD
ENDING 11th AUGUST 2001**

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1. SUMMARY

This report details exploration completed on the Mt Sale licence (EL 14/98) during the third year of tenure.

After discussion with Pasminco Mining it was agreed to voluntarily relinquish the 21 sq km, of the 39 sq km Mt Sale tenement, covering the least prospective CVC rocks above the Mt Black Fault, with the aim of reducing expenditure commitments for the tenement.

Work completed on the Mt Sale licence during the reporting period has included:

- A review of previous exploration over the eastern part of the tenement and digital compilation of exploration data.
- Interpretation of previous years Partial Leach Soil Sampling.
- A reconnaissance visit to known prospects in the northern part of the tenement and collection of samples for Pb-isotope analysis.

2. INTRODUCTION

This report details exploration activities completed by Pasminco Exploration on the Mt Sale (EL14/98) tenement during the third year of tenure.

The Mt Sale licence covers a portion of the Mount Read Volcanics to the north and east of the Rosebery Mine lease (28M/93) in Western Tasmania (Figures 1 and 2). The principal exploration targets sought within the licence area are Rosebery or Hellyer-type volcanogenic Pb-Zn-Cu-Ag-Au massive sulphide deposits. The area is heavily vegetated, rugged and poorly accessible. Access into the area is provided by 4WD tracks in the western portion, and by boat from lake Rosebery in the northern portion.

Exploration activities undertaken during the reporting period have focussed on:

- A review of previous exploration over the eastern part of the tenement and digital compilation of exploration data, leading to the decision to relinquish the eastern and northeastern part of the tenement (see section 3 for details).
- Interpretation of the previous years Partial Leach Soil Sampling.
- A reconnaissance visit to known prospects in the northern part of the tenement and collection of samples for Pb-isotope analysis.

2.1 Attribution

The following personnel were responsible for the work carried out by Pasminco Exploration on the Mt Sale EL 14/98 licence during the reporting period:

Senior Geologist: Andrew McNeill – Pasminco Exploration Rosebery

Report Compilation: Kirsten Simpson – Pasminco Exploration Melbourne

3. LAND TENURE

Mt Sale EL 14/98 covers an area of approximately 39 square kilometres overlapping with and immediately to the east and north of the Rosebery Mine Lease (28M/93), and with its eastern boundary abutting Goldfield's EL 3/2001 (previously Pasminco's Tullah EL [22/90]) Figure 1. The tenement was granted to Pasminco Australia Ltd. on 10th October 1998 for a period of five years and due to expire in September 2003. The Mt Sale tenement area has been previously held under a number of other exploration licences, which include Mt Black EL 1/62 and EL 12/88. Land tenure is a mixture of land vested in the HEC (Predominantly the area around the Bastyan Dam and power station), unallocated Crown Land, Informal Forestry Reserves, State Forest and Forest Reserves.

During the reporting period a decision to voluntarily relinquish 21 sq km of the tenement was made. Details of exploration completed on the relinquished portion of the tenement are included in McNeill and Simpson (2001). The area proposed for relinquishment is shown in Figure 2 and is defined by the following coordinates (in AGD66):

Commencing at 5381000mN, 380,000mE then south to 5379000mN, 380,000mE, then east to 5379000mN, 382000mE, then south to 5373000mN, 382000mE, then east to 5373000mN, 383000mE, then north to 5375000mN, 383000mE, then east to 5375000mN, 384000mE, then north to 5378000mN, 384000mE, then east to 5378000mN, 385000mE, then north to 5381000mN, 385000mE then grid west to the point of commencement.

4. GEOLOGY

The Mt Sale tenement covers an area of lower Cambrian Central Volcanic Sequence rocks, which form part of the central north-south trending axis of the Mt Read Volcanic belt (MRV), Figure 2. The western edge of the tenement is situated to the east the Rosebery mine sequence, while the eastern margin of the licence lies west of the NNE trending Henty Fault. The Mt Sale licence is centred on the Mt Black Volcanics which form the central axis of the MRV in the Rosebery area. The Henty Fault separates the Mt Black Volcanics from a sequence of west-dipping and facing fine interbedded sediments and black shales - the Farrell Slates which outcrop to the east of the fault. Stratigraphically below and east of the Farrell Slates are the rhyolitic to dacitic Murchison Volcanics, which form part of the Eastern Quartz-Phyric Sequence of McNeill & Corbett (1992). These rocks are comprised of felsic/intermediate lavas, sills and volcanoclastics and are intruded by the chemically similar Cambrian Murchison Granite. Unconformably overlying this Cambrian volcanic succession is the Cambro-ordovician Owen Conglomerate.

Geology of the Mt Sale licence is dominated by the Mt Black Volcanics, a thick sequence of mafic to intermediate dacite and andesite lavas, lava breccias and related intrusions which are separated by relatively minor horizons of fine to coarse grained volcanoclastic sediments (Gifkins, 2001). Lying along the eastern flank of Mt Black, in the Sterling Valley/Lake Rosebery area, there is an enigmatic wedge of west facing basaltic lavas, mass flow breccias, minor clastic sediments and basaltic to dacitic sills - collectively referred to as the Sterling Valley Volcanics (Allen 1995). This sequence is at least 500m to 1km thick and consists of medium to high K, high alumina arc suite mafic volcanics (Allen 1995). Allen interprets this succession of intrusive basaltic sills and transported volcanic debris flows, which make up the Sterling Valley Volcanics to be deposited sub-aqueously, as part of either a major mafic volcano or series of mafic volcanoes. The Sterling Valley Volcanics comprise a relatively minor portion of the Mt Sale Licence.

The Sterling Valley Volcanics and Mt Black Volcanics are interpreted to be in primary stratigraphic position, with the Sterling Valley Volcanics dipping and younging to the west under the Mt Black Volcanics Allen (1995). The regional significance of this relationship is that the Sterling Valley Volcanics probably represent a structural relic of a large marine mafic volcano, which was active in the early volcanic history of the MRV and is probably the lowest exposed stratigraphic level in this area.

The Mt Black Volcanics structurally overlie the Rosebery mine sequence, east of the Rosebery orebody. They have strong chemical similarities to the feldspar-phyric pumice breccias in the Rosebery Footwall sequence and have therefore have been correlated with them by a number of authors. The most significant difference between the Mt Black Volcanics/Rosebery mine Footwall sequence and Host/Hangingwall sequence is the absence of volcanic quartz in both the Footwall and Mt Black Volcanic sequences. The contact between the Rosebery Hangingwall and Mt Black Volcanics dips to the east at 45 degrees sub parallel to the Rosebery Fault. This contact is interpreted to be a thrust fault (the Mt Black Fault), which has emplaced the Mt Black Volcanics west over the Rosebery Mine sequence.

5. PREVIOUS EXPLORATION

Part of the current Mt Sale tenement area has been previously explored under the Mt Black EL 1/62 held by the Electrolytic Zinc Co. of Australasia and various JV partners between 1962-1988, and Mt Black EL 12/88 between 1988-1995 (Austmin Resources/Climax Mining JV and Austmin Resources/Pasminco Australia Ltd JV). Table 1 provides a summary of important work undertaken specifically within the Mt Sale area (Saxon, 1995). As a result of the review completed in the current reporting period, this table has been updated significantly from that presented in McNeill and Simpson (2000).

Table 1: Summary of Previous Exploration

YEAR	COMPANY	WORK COMPLETED	RESULTS
1971	EZ (Anon)	Stream sediments	On margins of tenement area
1974-75	EZ Williams (1975)	Gridding, IP, soil sampling – Bobadil area	Pb-Zn anomalism followed-up by infill sampling and pitting; no bedrock source
1979	EZ-Getty	Gradient array IP, magnetics Mt Black, Langdons, Mt Sale areas	Numerous IP responses recorded.
1979	EZ-Getty Howland-Rose (1979)	Dipole-dipole IP - Mt Black, Mt Sale areas	IP responses downgraded.
1979	EZ-Getty Mill (1980)	Aeromag, photogeol, INPUT EM, general IP, magnetics, soil geochem, mapping - Cutty Sark, Mt Sale areas	Soil anomalies, mag anomalies Cutty Sark area.
1979-80	EZ-Getty Mill et al. (1980)	Mapping, soil geochem, gradient array IP - Langdons, Mt Sale, Mt Black areas	Several anomalies outlined in Mt Sale area
1980-81	EZ-Getty McDonald (1981)	IP, soil geochem, pits - Mt Sale area	No significant anomalies recorded
1982-83	EZ-Getty Mathison and McDonald (1983)	Review of exploration over EL 1/62	Recommended follow-up Langdons and Cutty Sark for Au

Table 1: Summary of Previous Exploration (cont.)

YEAR	COMPANY	WORK COMPLETED	RESULTS
1983-1984	EZ-Getty Fitzgerald et al. (1984)	DIGHEM III survey Recce gridding, mapping, VLF-EM, rock and soil sampling at Mt Black DDHs CS1 (451.4m) and BD1 (283.2m), gridding, UTEM, mapping and rock-chip sampling at Cutty Sark - Bobadil	Highlighted area of interest at Mt Black Results provided encouragement for detailed follow-up in 1984-85 Drilling failed to intersect significant mineralisation or alteration. Recommended that Cutty Sark workings be investigated for Au-Cu
1984-1985	EZ-Getty McDonald (1985)	Drill core geochemistry and petrology and review of Au potential at Cutty Sark- Bastyan Dam Detailed gridding, mapping, VLF-EM, magnetics and soil and rock-chip sampling at Mt Black Grid cutting prior to UTEM surveys.	Work on DDH CS1 and HEC holes did not provide encouragement. Some potential for Au No significant mineralisation or anomalism located. No further work recommended
1986	EZ-Billiton Randell et al. (1986)	UTEM, mapping, rock-chip and soil sampling at Mt Black, Mt Sale and Langdons prospects. Regional BCL stream survey Mapping, rock-chip sampling, DHEM (in CS1), re-logging of core and CSAMT at Cutty Sark-Bastyan Dam	No anomalous base metal geochemistry associated with UTEM anomalies. No repeatable anomalies. Conclude that best target to north of EL; recommend extending DDH CS1
1987	EZ-Billiton Randell et al. (1987)	No further work at Cutty Sark. Tenement relinquished	N/A
1989	Austmin Hine and Scott (1989)	Diamond drillholes MBD1-4, targeting weak UTEM responses	Holes all intersected barren lavas

Table 1: Summary of Previous Exploration (cont.)

YEAR	COMPANY	WORK COMPLETED	RESULTS
1990-91	Pasminco-Austmin Purvis (1991)	Diamond drillhole BY1 (562.45m) near Bastyan Dam	No significant mineralisation or host rocks were intersected. Best intersections; 0.5m @ 2.1% Zn, 0.1% As & 13.5m @ 0.5% Zn.
1991-92	Pasminco-Austmin Purvis (1992)	Diamond drillhole BY2 (412.5m), nth shore of Lake Rosebery. DHEM Survey DDH BY1 Geological mapping, litho geochem and isotope sampling in Bastyan Dam area. Evaluate Cutty Sark magnetic anomaly and visit old workings Re-log MBD1-4	No sulphides or significant alteration zones were intersected. No off-hole conductors detected. N/A
1998-99	Pasminco Parfrey (1999)	Partial leach soil sampling, part of an orientation survey. Work Focused on the Mt Black Volcanics/Rosebery Mine host contact.	Eighty three (83) partial leach soil samples collected. No areas of significant anomalism identified.
1999-00	Pasminco McNeill & Simpson (2000)	Extended the partial leach soil sampling coverage over the prospective Rosebery and Mt Black Fault sequences.	167 PL soil samples collected. Interpretation not completed.

6. WORK COMPLETED 2000-2001 REPORTING PERIOD

6.1 Previous exploration compilation

In reviewing work completed on the eastern portion of the tenement, it became apparent that Pasminco's current digital compilation of exploration data was incomplete. To upgrade the database the following data has, or is the process of being entered into the GDB:

- Randell et al. (1986): Rock chip and soil data from Mt Black and Langdon's areas.
- Fitzgerald et al. (1984): Rock Chip and soil data from the Cutty Sark – Bobadil and Mt Black areas.
- Electrolytic Zinc Co: Results from the EL 1/62 Mt Black 1:5,000 Soil geochemistry plans.

A total of 2,459 soil samples and 290 rock-chip samples were captured during the year and are included as Appendix 1 (digital format only). Note that for samples where sample numbers were not shown on plans (all the EZ data and some data from Mt Black) dummy sample numbers have been allocated.

6.2 Partial Leach Soil Geochemistry

Partial leach soil sampling on ML 28M/93 located two anomalous trends (Edwards et al., 1999) extending north onto EL 14/98. The Bastyan Dam Survey, covering from the Rosebery Mine Lease Boundary north to Lake Rosebery (McNeill and Simpson, 2000) was designed to close off these anomalies to the north. Results from this survey were not received in time for interpretation in the last annual report (McNeill and Simpson, 2000) and an interpretation is presented below.

As noted in McNeill and Simpson (2000) 10 samples from the Bastyan Dam survey have low (<8.0) post-digest pH's and have been deleted from the data set. A plot of the raw data from the Bastyan Dam survey and lines 2750-3500N of the Mine lease survey indicates significant level shifts for Ag and Ni (Figures 3 and 4) and to a lesser extent Cd, Co, Mo, Zn and As. This level shift is a function of using two methods (DL42 and DL37) and necessitates the calculation of response ratios (using the median value for each method) to 'level' the data. Images of the leveled and girded data are presented as figures 4 to 12. It can be seen that the leveling process has not completely removed the shift between DL42 and DL37 results, but, significant anomalies are obvious in the Pb, Cu, Bi, Au and Zn data. The most prominent feature is anomaly 1 of Edwards et al. (1999), which extends south onto the Rosebery Mine Lease. One possible explanation for the elevated Cu is that it is related to the Hawkesbury Andesite in the immediate hangingwall

of the Mt Black Fault, however, the anomaly appears to straddle the fault and is not associated with the obviously elevated Ni or Co normally seen as part of a lithological signal. This anomaly is considered worthy of further follow-up, including an infill line (3250N, Rosebery mine grid) prior to a decision on drill testing.

6.3 Small Prospects

To further evaluate the potential of the tenement visits were made to three prospects on the southern shore of Lake Rosebery to locate them accurately, using DGPS, and to sample them for Pb-isotope analysis. Two samples from each of the Cutty Sark and Langdons workings were submitted for Pb analysis. No significant mineralisation was located at the Robbie Burns prospect, but, three samples were submitted for ore and pathfinder element assay. An attempt was made to re-locate the massive sulphide boulders in the Hangingwall mass-flows near the Bastyan Dam spillway, discovered by Getty in the 1980's, and although the lake was low (approx. 1.5m below normal) the boulders were still submerged and only a small Py-Gn-rich clast was sampled for analysis (Sample 274174; 378143mE, 5378857mN). Results had not been received at the time of writing and will be included in the next annual report.

7. CONCLUSIONS AND RECOMMENDATIONS

A review of exploration completed over the eastern part of the tenement has led to the decision to relinquish 21 sq km of EL 14/98 Mt Sale (see section 3). As a part of this review a considerable amount of geochemical data from past exploration was captured in a digital format and will be used to advance exploration elsewhere on the tenement.

The 1999/2000 Bastyan Dam partial leach soil sampling survey has been interpreted, in conjunction with some data from ML 28M/93, and confirms the continuation of a zone of Cu, Bi, Pb and Zn anomalism [Anomaly 1 of Edwards et al (1999)] to the southern shore of Lake Rosebery. One infill line (largely on ML 28M/93) is required to detail this anomaly prior to a decision on drilling.

Sampling for Pb-isotope characterisation of small prospects (Langdons, Cutty Sark, Bastyan sulphide boulders) has commenced. Further work will depend on results which had not been received at the time of writing.

8. EXPENDITURE

Expenditure on the Mt Sale Licence during the reporting period totalled \$13,976. A summary of the expenditure distribution is tabulated below:

Personnel	\$9,919
Travel and Accommodation	\$22
Geoscience Consultants	\$25
Geochemical Consultants & Assays	\$0.00
Drilling	\$0.00
Other Consultants	\$0.00
Stores & Supplies	\$6
Vehicles Plant & Equipment	\$270
Land	\$680
Computing	\$4
Office	\$1,780
Administration Fee 10%	\$1,270
Total Tenement Expenditure	\$13,976

9. KEYWORDS AND LOCALITY

Keywords

Mt Sale, Mt Black, Bastyan Dam, Langdons, Cutty Sark, Geochemistry - Partial Leach, Pb-isotopes, geochemistry-soil, geochemistry-rockchip

Locality

1:250K SK55-NW-SW

1:100K Sophia 8014

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