



PASMINCO MINING ROSEBERY

SOCK CREEK EL 30/2000

**ANNUAL REPORT
FOR THE PERIOD ENDING 23rd JANUARY 2003**

Author: A.W.McNeill

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Submitted To: Geology Superintendent

Copies To: Pasma Mining Rosebery
Mineral Resources Tasmania, Hobart

Submitted By:

Accepted By:

Rosebery Report No: BH79

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1. SUMMARY

This report details work undertaken on exploration licence 30/2000 Sock Creek (Bulgobac) during the second year of the licence. The principal exploration targets sought within the licence area are Hellyer- or Rosebery-type volcanogenic Pb-Zn-Cu-Ag-Au massive sulphide deposits.

Work completed during the reporting period has comprised cutting of 3 line km of grid and the partial leach soil sampling and surveying of this grid. Two anomalous zones, requiring some follow-up work, have been located.

2. INTRODUCTION

This report details work undertaken on exploration licence 30/2000 Sock Creek (Bulgobac) [Figure 1], between 23 January 2002 and 23 January 2003, the second year of the licence.

The Sock Creek licence covers a portion of the Cambrian Mount Read Volcanics to the Southwest of the Que River and Hellyer Mines in Western Tasmania (Figure 2). The principal exploration targets sought within the licence area are Hellyer- or Rosebery-type volcanogenic Pb-Zn-Cu-Ag-Au massive sulphide deposits. Correlates (the Sock Creek Volcanics) of the Que-Hellyer Volcanics, which host the Que River and Hellyer mines, extend across the licence area. Access into the tenement is provided by forestry tracks extending west and then Southwest from the High Point on the Murchison Highway (A10). These tracks are currently open for 4WD vehicles to approximately 5392000mN, 385800mE (AGD66) after which access is by foot or motor bike-only. Access to the southern part of the tenement is via overgrown logging tracks and an old tramway extending northwest from the Murchison Highway near Animal Creek.

Exploration activities undertaken during this reporting period have focused on partial leach soil sampling over the Sock Creek sequence, interpreted to be time-equivalents of the Que-Hellyer Volcanics west of the Mt Charter Fault.

2.1 Attribution

The following personnel were responsible for the work carried out by Pasminco Rosebery Mine on the Sock Creek licence, EL 30/2000, area during the reporting period:

Senior Geologist: Andrew McNeill – Pasminco Rosebery Mine.

3. LAND TENURE

Sock Creek EL 30/2000, covering 14 sq. km, was granted to Pasminco Australia Limited on 23rd February 2001 for a period of 5 years (Figure 1). EL 30/2000 covers ground that fell vacant on the relinquishment of EL 37/89 (Pasminco) on 2nd September 2000. Land covered by EL30/2000 is all Crown Land designated as State/Multiple Use Forest and MDC (Forestry Commission) Informal Reserves, all of which are available for exploration under the Mineral Resources Development Act 1995.

4. GEOLOGY

EL 30/2000 covers two main groups of the Cambrian Mt Read Volcanics - the Central Volcanic Complex (CVC), and correlates of the Dundas Group, including the Que-Hellyer Volcanics (Komysan, 1986; Corbett and McNeill, 1986; Figure 2).

The CVC outcrop in the far South-eastern part of the EL and comprise rhyodacitic lavas and volcanoclastics. These rocks are called the Mt Block Volcanics.

The Dundas Group and correlates conformably overly the CVC on a gradational west facing and dipping contact, and are shown as Cycle 2 (Tyndall Group) rocks on Figure 2. The lower part of the Dundas Group comprises the Black Harry Beds and Animal Creek Greywacke; sediment dominated sequences that pass up into the Sock Creek Volcanics, a complex of shales, intrusive quartz-feldspar porphyries and dacitic to basaltic lavas with minor volcanoclastics. The sock creek Volcanics are geochemically distinct to the Que-Hellyer Volcanics, but, are considered to be their time equivalents south and west of the Mt Charter Fault. Overlying the Sock Creek Volcanics are equivalents of the Southwell Subgroup (felsic volcanoclastics and sediments).

The Palaeozoic rocks are unconformably overlain by Tertiary basalt, in the north of the tenement, and(or) Quaternary glacials, to the west and south.

Major structures on the EL include the N-S trending Mt Charter Fault, in the Northeast corner of the tenement. The regional magnetic and gravity data highlight the presence of several major, apparently deep-seated, unmapped or poorly mapped structures trending broadly E-W.

Two ?Cambrian zinc-dominated and gold/silver-poor sulphide occurrences are known on the EL. These are:

- 1) Sphalerite with lesser pyrite-galena-chalcopyrite in net-veins on the contact between quartz-feldspar porphyry and black shale at Sock Creek (best intersection of 1.7m @10% Zn, with a general tenor around 2-5% Zn over 5-10m.).
- 2) Weak disseminated sphalerite in black shale at Sock Creek South (best intersection of 1m @ 2.5% Zn).

No other sulphide occurrences of note are known anywhere on the EL.

5. PREVIOUS EXPLORATION

The area of EL 30/2000 Sock Creek has a long history of ‘modern’ exploration. From 1963 until 1989 the current tenement area was part of Comstaff’s EL 5/63. Exploration undertaken by Comstaff and JV partners Preussag (post-1977) and BHP (post-1985) is summarised in Table 1 and resulted in the discovery and subsequent drilling of two zinc-dominated, volcanic-hosted mineralised prospects at sock Creek (14 Drill holes) and Sock Creek South (4 drill holes).

After the statutory relinquishment of EL 5/63, Pasminco were granted EL 37/89 Bulgobac Hill and commenced exploration in the area in 1990. Work undertaken by Pasminco between 1990 and 2000 is detailed in Table 2. No further significant zones of mineralisation were located, but, a further three drill holes were completed at the Sock Creek prospect. Work completed by Pasminco since the granting of EL 30/2000 is summarised in Table 3.

Note that the North eastern part of EL 30/2000 overlaps with the western part of the High Point Prospect. However, the majority of this prospect is on vacant ground to the east and previous exploration will not be discussed in this report (see McNeill and Simpson (2000) for a summary).

Table 1: Exploration on the area of EL 30/2000 prior to 1990

Reporting Period	Work Completed
1970-1971 (Chisholm, 1971)	-80# stream sediment sampling on 150m intervals, minor soil sampling on access roads; weak anomalies located.
1971-1974	- costeaning on imperial grid; geological mapping, soil sampling – poorly documented and primary data not located.
1974-1976 (Keane and Orr, 1976)	- Diamond drilling on metric grid; 14 holes total for 2326m; intersected Sp-Gn-Cpy vein mineralisation; best intersection 1.7m@ 10.19% Zn in SK1
1975 (Butt et al., 1976)	- Area flown with INPUT airborne EM. No significant anomalies in the current licence area.
1977 (Hopwood, 1977)	- Drill core re-logged (SK1-6, 10 and 11), prospect geology reviewed and concluded that low potential for large tonnage deposit.
1978 (Orr, 1978)	- Reviewed previous work on the Sock Creek area and recommended further stream sediment and soil sampling and EM.
1979 (Hall, 1979a, b)	- Further review of Sock Creek prospect; concluded that mineralisation does not represent a major prospect and no further work was recommended.
1985-1986 (Anon, 1986)	- Bulk Cyanide leach and –80# stream sediment samples collected over licence area. No significant anomalies located.
1986-1987 (Anon, 1987)	- Cutting of grid for UTEM survey; Drill holes re-logged; summary drill logs and cross sections are presented.
1987-1988 (Anon, 1988)	- UTEM survey located Zone G – Sock Creek South; followed-up by a fixed loop SIROTEM and IP surveys and Drilling of DDH SCS1-3

Table 1: Exploration on the area of EL 30/2000 prior to 1990 cont...

Reporting Period	Work Completed
1987-1988 cont.	- (352m) intersecting weak Zn mineralisation (best: 1m @ 2.55% Zn). DHEM completed in SCS2 and 3.
1988-1989 (Wilde and Kerr, 1989)	- UTEM completed over the Southern extent of Sock Creek South; extended anomaly G and DDH SCS4 (201.4m) was drilled to test this anomaly; DHEM completed. Petrology on samples from SCS3 presented.

Table 2: Exploration on the area of EL 30/2000 after 1990

Reporting Period	Work Completed
1990-91 (Lorrigan, 1991)	- Photogrammetry to produce accurate base maps, high resolution aeromagnetic survey, collection of physical properties data from existing drill core (SK1-12), Relogging of Sock Creek South drill core and volcanological/lithogeochemical review of the prospect.
1991-92 (Purvis, 1992)	- Geological mapping, additional gravity data were collected. An Honours thesis entitled "Geology and mineralisation of the Sock Creek and High Point Areas, Western Tasmania" (Barwick, 1991) was completed.
1992-93 (Purvis, 1993)	- At Sock Creek Previous drilling, UTEM data and the Geology of the prospect were reviewed and new geological cross-sections compiled, infill gravity data was collected and a diamond drill hole (BHD4, 617m) completed as a deep test of the mineralised zone.
1993-94 (Purvis, 1994)	DHEM survey of BHD4 (Sock Creek); review of previous work indicated potential for low grade/ tonnage mineralisation at Sock Creek.
1994-95 (Purvis, 1995)	- Completion of analysis of stratigraphy & volcanic facies in western part of Que-Hellyer Basin, using lithogeochem & petrological data from 19 drill holes.
1995-96 (McGunnigle, 1996; Purvis, 1996)	- ML application (depth limited to 100m) over Sock Creek prospect by J.G. Purvis resulting in drilling of two holes (SC1 & SC2) with minor Pb -Zn intersections.
1996-97 (Basford and Murphy, 1997)	- Geological & geochemical data review. Minor grid cutting (4.4 line km) and soil sampling on northern section of licence as part of a program on EL 19/94.

Table 3: Exploration on EL 30/2000

Reporting Period	Work Completed
2001-02 (McNeill, 2002)	- Previous exploration data reviewed and digitally compiled; old DDH collars surveyed in AMG coordinates; 5 km line cutting completed at Sock Creek prospect for soil sampling program.

6. WORK COMPLETED 2002-2003 REPORTING PERIOD

Work completed during the second year of tenure focussed on a partial leach soil sampling survey of the Sock Creek area.

6.1 Partial leach Soil Survey

Work on a planned partial leach soil survey of the Sock Creek Volcanics was progressed by cutting, and surveying with DGPS, of 3 line km of grid and partial leach soil sampling of 8 line km of grid (5 km of which was cut during 2001-2002 [McNeill, 2002]).

Randomised sample numbers were used in partial leach sampling to reduce the effect of analytical variations. The partial leach soil samples were collected at 25m intervals, at or near a grid peg, and involved digging a hole with a pick, removing the organic rich A-horizon and collecting approximately 500g of sample from the nominal B horizon. The samples were then placed in ziplock plastic bags and, once returned to the field office, the bags were stored open to prevent anaerobic reactions. When a batch of 200 samples was collected, the sample bags were sealed and the samples despatched to Amdel in South Australia for analysis by partial leach technique DL42. Elements determined were Ag, As, Au, Ba, Bi, Cd, Cu, Co, Mo, Ni, Pb, Ni, Y, Zn, Zr and the rare earth elements Ce, Eu, Gd, La and Sm. The pH of the leachate, after digestion, was also determined. Results are included as Appendices 1 and 2 and sample locations are shown on Plan 1.

Three duplicate and two standard samples were collected per 100 samples. The field duplicates were also analysed in duplicate to allow assessment of both the sample and laboratory variance. Additionally at each sample site a small amount of soil was collected and stored in a chip tray for reference and to allow soil colour to be recorded. Soil colour was assigned from a Munsell Colour chart with 19 colours and was then assigned to one of 6 colour groups.

The 338 samples (including duplicates) collected for this program were analysed as part of four batches (SDS 4516, 4517, 4518 and 4524).

No samples are obviously contaminated, however, 33 samples, 9.8% of the data set, have a low (pH<8.0) post-digest pH. At these 'low' pHs the speciation of reagents in DL42 may change and the resulting assays may be unreliable. These 33 samples would previously not have been considered in the analysis of the data set. However, Test work at Amdel indicated that decreasing the sample:liquid from 10:1 (method DL42) to 5:1 (method DL43) could buffer the solution to a higher, acceptable, final pH (for samples with a post-digest pH of >7.2) and not significantly affect the precision of the analysis. Accordingly all 33 samples, with low post-digest pH, were re-assayed with the new protocol with the result that 32 had post-digest pHs of >8.0. In the preliminary interpretation discussed below the low (pH 6.7-8.05) samples from the original dataset have had their assay results replaced by the re-assayed data and those samples with low pHs after analysis by DL43 have been deleted, giving a dataset of 337 samples.

Gridded images of the raw partial leach soil data are presented as Figures 3-10. Also shown on these figures are the approximate boundaries of anomalous Cu, Pb and Zn C-Horizon total digest soil data collected by Comstaff. Note that the total digest soil coverage only extends as far west as approximately 2350E on the partial leach soil grid. Two significant anomalous areas, not coincident with total digest anomalies, are evident:

1. A linear zone of Ag-As-Bi, with weak Au, Cu and Pb, anomalism immediately east of the main access track on lines 6200N-6600N. The geology in this area is mapped as shale (Barwick, 1991) and the northern end of the anomaly lies beneath the collar of DDH BHD4. This hole failed to intersect any significant mineralisation and a DHEM survey (using the Crone system) failed to locate and off-hole conductors (Purvis, 1994). These results may downgrade the significance of this anomaly.
2. The western ends of lines 7000-7600N are variably anomalous in Cu, Pb, Zn and Ag, with weakly anomalous Bi and As. As with anomaly 1 the underlying geology is mapped as shale. However, the possibility that the anomalism results from down slope dispersion from the base of the Tertiary Basalt, on the ridge to the west, needs to be considered in the light of the anomaly located on EL 19/94 to the north (Murphy, 1997).

Further follow-up work is required to determine whether either of these anomalies represents a drill viable target.

7. CONCLUSIONS & RECOMMENDATIONS

A partial leach soil sampling program has commenced over the prospective Sock Creek Volcanics on EL 30/2000 Sock Creek, with 8 line km of sampling completed at the time of writing. Two multi-element anomalous zones have been located by the survey to date and it is recommended that in the next 12 months:

- The existing grid be geologically mapped to aid in interpreting the partial leach soil anomalies.
- The grid be extended to the south to assess the southern strike extension of anomaly 1 (see section 6.1). Depending on the results of the mapping, it may also be necessary to extend the northern lines (7000-7600N) of the grid further to the west to detail anomaly 2.
- Previous UTEM and DHEM data be reviewed to assess its effectiveness and whether any targets have been missed.

8. EXPENDITURE

Total expenditure for all work undertaken by Pasminco Rosebery Mine within Sock Creek EL 30/2000, for the period ending 31/12/03 was **\$33,240**. A detailed expenditure statement is given below.

Computing	\$539
Drilling	\$0
Geochemical Assays	\$7,860
Geoscience Consultants	\$0
Land & Environment	\$323
Depreciation, Office, Sundry	\$649
Other Contractors	\$4,509
Personnel Costs	\$13,692
Stores & Supplies	\$841
Travel & Accommodation	\$0
Vehicles, Plant & Maintenance	\$1,806
Administration Fee 10%	\$3,021
Total	\$33,240

9. KEYWORDS & LOCALITY

Keywords

SOCK CREEK, SOCK CREEK SOUTH, GEOCHEMISTRY, SOIL GEOCHEMISTRY, PARTIAL LEACH, ZINC, MAFIC, VOLCANICS, QUEHELLYER VOLCANICS, MOUNT READ VOLCANICS

Locality

1:250,000 BURNIE SK55-3
1:100,000 SOPHIA 8014
1:25,000 CHARTER 3839, BLOCK 3838

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