

PASMINCO EXPLORATION

BULGOBAC RIVER EL 19/94

ANNUAL REPORT
FOR THE PERIOD ENDING DECEMBER 6TH 2001

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1. SUMMARY

The main focus of work carried out within EL 19/94 Bulgobac River was continued Partial leach soil sampling to complete coverage of the buried Que-Hellyer Volcanics and the Sock Creek Volcanics where the mixed sequence and its equivalents (the host to the Hellyer and Que River orebodies) is interpreted to be within 500m of the surface and the position has not been tested by diamond drilling.

During the year results from the North Sock grid were received and interpreted; no significant anomalies worthy of follow-up were located.

3. LAND TENURE

Bulgobac River EL 19/94, originally covering 21 km², was granted to Pasmaenco Australia Limited in January 1995 (Figure 1). The licence is renewable annually on the 6th January and is situated on unallocated Crown Land, designated as multiple use forest. At the end of the last reporting period Pasmaenco relinquished 11 sq km of EL 19/94 (Simpson and McNeill, 2000b), as required for a statutory 50% reduction in area. The reduced area of tenure is shown in Figure 2.

4. GEOLOGY

Two major groups of rocks occur within EL 19/94 (Komyshan, 1986). The first consists entirely of Tertiary basalt flows which are considered to have low prospectivity to host base metal mineralisation. The second group consists of Cambrian rocks belonging to the Mt Read Volcanics. This group can be divided into distinct packages occurring on either side of the major structure within the EL, the NNW-SSE trending Mt Charter Fault.

The Que and Hellyer ore bodies occur within the Mixed Sequence, which is found on the eastern side of the Mt Charter Fault. The fault itself is a highly significant structure, characterised by a zone of shearing, fracture, vein and pug development up to 10m wide in places. The difference in thickness and type of Cambrian units either side of the fault may indicate that it was active as a growth fault during Cambrian times.

The dips on either side of the fault are low angle (5-45°) and are mostly towards the northwest. Open folds and considerable faulting disrupt the stratigraphy on the eastern side of the fault. The thickness of the Southwell Subgroup and Que River Shale, coupled with the low angle dips on the eastern side of the fault prevent the Que Hellyer Volcanics from outcropping within the EL. They are observed at surface beyond the eastern boundary.

Volcanic units do outcrop on the western side of the Mt Charter Fault. Although these are believed to be time equivalents of the Que-Hellyer Volcanics, they are not thought to be geochemical correlates (A Crawford, pers. comm. to Purvis JG, 1995).

No significant alteration or mineralisation has been identified within the EL boundaries (Lorrigan, 1995).

5. PREVIOUS EXPLORATION

Previous work undertaken by other companies on EL 19/94 has included geological mapping, VFL-EM, IP, CSAMT and gravity surveys conducted by CSR and DHEM, UTEM and magnetic surveys conducted by Aberfoyle. Recent work by a Placer-Aberfoyle Joint Venture included the completion of five diamond drill holes, all of which intersected the Que-Hellyer Volcanics at depth (Ellis, 1990; Richardson, 1994). None of these holes intersected significant mineralisation or alteration.

Pasminco began exploration on EL 19/94 in 1995. Table 2 details work undertaken by Pasminco between 1995 and 2000:

Table 1: - Exploration Undertaken By Pasminco within EL 19/94 - 1995 to 2000

Reporting Period	Work Completed
1994-95 Lorrigan (1995)	-Lithogeochemical study (Dr Tony Crawford) to define depth at which the Mixed Sequence occurs in drill holes on eastern side of Mt Charter Fault (>900m)
1995-96 Dibben (1996)	-Regional aeromag interpretation to try & locate large alteration zones associated with Rosebery-style mineralisation
1996-97 Murphy (1997)	-Refurbishment, mapping, rock chip & soil sampling of Bulgobac River grid; major data compilation as part of Western Tasmania Prospectivity Review; results from both the Bulgobac sampling and data review identified both soil and stream sediment Zn-Pb anomalies within the NW part of the grid (peripheral to and within Tertiary Basalt areas).
1997-98 Parfrey (1998)	- Minor C-horizon soil, stream sediment & rock chip sampling.
1998-99 Parfrey and McNeill (2000)	-Partial Leach Soil Sampling over the Mt Charter Fault from High Point to Que Road. Results not encouraging - Although there is a multi-element anomaly on line 6400N, this target does not warrant further follow-up on Pasminco's current criteria.
1999-2000 Simpson and McNeill (2000a, 2000b)	- 734 partial leach soil samples were collected on three grids; High Point, Que Road and North Sock Creek. This work necessitated clearing of 14.1 line km of grid and a total of 18.2 line km of surveying with differential GPS (DGPS). No significant anomalies were located on the High Point or Que Road grids; the North Sock Creek data remained to be interpreted. A 50% reduction of the tenement was completed.

6. WORK COMPLETED 2000-2001 REPORTING PERIOD

During the 2000-2001 reporting period Pasmaenco Exploration's work has focused on completing interpretation of Partial Leach soil sampling in surveys completed in previous years.

6.1 North Sock Creek

The North Sock Creek area covers the northern part of the Sock Creek sequence, time equivalents of the Que Hellyer Volcanics immediately west of the Mt Charter Fault, in the central southern part of the EL. Previous work by Pasmaenco in this area has included gridding, rock-chip and conventional soil sampling and geological mapping (the western part of the Bulgobac River Grid; Murphy, 1997; Parfrey, 1998).

Sample locations and supporting data were included [Plate 1 and Appendix 3] in Simpson and McNeill (2000b), however, assay results were not available at the time of compilation of the report and are therefore included as Appendix 1.

B-horizon soil samples were collected at 25m intervals on an east-west grid (grid orientation based on that of Aberfoyle's Que River and Hellyer grids). Samples were collected at or near the 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 placed in clip lock plastic bags and once returned to the field office the bags were stored open to prevent anaerobic reduction reactions. The bags were stored until a batch of 300 samples was collected, the bags were then sealed and despatched to Amdel in South Australia for analysis by partial leach technique DL42 followed by ICP-MS. Elements analysed were Ag, As, Au, Ba, Bi, Cd, Cu, Co, Mo, Ni, Pb, Ni, Zn, Zr and the rare earth elements Ce, Eu, Gd, La and Sm. The pH of the leachate, after leaching, was also determined.

Randomised sample numbers were used in partial leach sampling to reduce the effect of analytical variations. Three duplicate and two standard samples were collected per 100 samples. The field duplicates were 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.

In total 294 samples (including standards and duplicates) were collected and analysed as part of a single batch (SDS 3886).

No samples are obviously contaminated, however, 17 samples, 6% of the data set, have a low (pH<8.0) post-digest pH. Note that all these samples are 'black' organic-rich soils. At these 'low' pH's the speciation of reagents in DL42 may change and the resulting assays may be unreliable. 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 14 samples, with post-digest pH of >7.2 and <8.0, were re-assayed with the new protocol (as part of SDS3899) with the result that all had post-digest pH's of >8.0. In the interpretation discussed below the low (pH 7.15-7.95) samples from the original dataset have had their assay results replaced by the re-assayed data. Three samples with pH<7.15 were not re-assayed and are therefore not considered in the interpretation of the results, resulting in a dataset of 285 samples.

A correlation matrix for the dataset is presented as Table 2. It can be seen that there are strong correlations between the lithological indicator elements (the REE, Y and Zr) and less strong correlations with Cu, Co and Ni. This correlation reflects the presence of tertiary basalt in the NW part of the grid (see Figures 3 and 4), although scattered highs are located to the south and east of the mapped basalt. Pb, Zn, Ag, and As (Figs. 5-7 and 9) define anomalies that seem to be associated with the margins of the Tertiary Basalt, although not entirely coincident with the anomalous total digest soils and rock chip samples collected previously (Murphy, 1997). Au is most anomalous in the southern part of the grid and does not correlate well with other elements (Fig. 8) and Bi shows scattered spiky highs.

The raw data was levelled to the median of colour group (using the EL 37/89 and 19/94 DL 42 dataset to provide a local background) and two response ratios calculated:

1. Cu+Pb+Zn+Ag+Au+Bi (Figure 11)
2. Cu+Bi+Ba+Au (Figure 12)

The first response ratio includes most VHMS indicator elements, whereas the second includes those elements shown by Briggs (in Edwards et al., 2001) to best indicate the presence of deeply buried mineralisation at Rosebery. Despite spiky high individual response ratios (up to 35x and 22x background [median] for Zn and Ag respectively) there are no coherent, multi-line anomalies (Fig. 11 and 12) that satisfy Pasminco's current criteria for detailed follow-up.

6.2 Orthophotos

During 1998 Pasminco Exploration commissioned HECEC Australia Pty Ltd. to compile rectified orthophotos of its western Tasmanian tenements. This data has not been included in previous reports and is included here in a digital format only (Mapinfo and ER-mapper formats) as Appendix 3

Table 2: Correlation matrix for Sock Creek North soil data

	Ag_ppm	As_ppm	Au_ppm	Ba_ppm	Bi_ppm	Cd_ppm	Ce_ppm	Co_ppm	Cu_ppm	Eu_ppm	Gd_ppm	La_ppm	Mo_ppm	Ni_ppm	Pb_ppm	Sm_ppm	Y_ppm	Zn_ppm	Zr_ppm	
Ag_ppm	1.000																			
As_ppm	0.488	1.000																		
Au_ppm	-0.112	0.001	1.000																	
Ba_ppm	0.166	0.209	0.002	1.000																
Bi_ppm	0.245	0.601	0.083	0.089	1.000															
Cd_ppm	0.178	0.351	-0.028	0.641	0.146	1.000														
Ce_ppm	-0.052	0.191	-0.021	0.272	0.052	0.282	1.000													
Co_ppm	0.054	0.235	-0.063	0.362	0.044	0.451	0.750	1.000												
Cu_ppm	0.348	0.309	-0.099	0.408	0.172	0.462	0.574	0.628	1.000											
Eu_ppm	-0.028	0.127	-0.055	0.219	0.007	0.221	0.877	0.830	0.594	1.000										
Gd_ppm	-0.011	0.158	-0.062	0.247	0.030	0.268	0.884	0.831	0.607	0.991	1.000									
La_ppm	0.006	0.277	-0.076	0.391	0.113	0.446	0.828	0.759	0.549	0.828	0.876	1.000								
Mo_ppm	0.283	0.059	0.117	-0.055	0.554	0.017	0.182	0.134	0.186	0.147	0.152	0.123	1.000							
Ni_ppm	0.043	0.042	-0.131	0.249	-0.038	0.230	0.566	0.783	0.551	0.702	0.669	0.563	0.069	1.000						
Pb_ppm	0.200	0.536	0.020	0.591	0.330	0.798	0.321	0.421	0.415	0.186	0.246	0.469	0.190	0.090	1.000					
Sm_ppm	-0.005	0.166	-0.062	0.258	0.037	0.278	0.888	0.832	0.605	0.990	0.998	0.887	0.151	0.684	0.260	1.000				
Y_ppm	0.003	0.144	-0.085	0.209	0.015	0.293	0.814	0.859	0.582	0.957	0.975	0.857	0.126	0.768	0.235	0.971	1.000			
Zn_ppm	0.203	0.188	-0.155	0.589	0.017	0.722	0.264	0.398	0.506	0.267	0.318	0.430	-0.044	0.357	0.521	0.319	0.363	1.000		
Zr_ppm	-0.121	0.030	0.001	-0.119	0.029	-0.125	0.557	0.408	0.327	0.513	0.465	0.244	0.396	0.437	-0.088	0.463	0.409	-0.093	1.000	

No Selector

7. CONCLUSIONS & RECOMMENDATIONS

During the current reporting year results from the North Sock Creek program (294 samples including standards and duplicates) were received and interpreted. No significant anomalies worthy of follow-up (using our current criteria) were located on the grid.

The work done has largely completed coverage of the buried Que-Hellyer Volcanics where the mixed sequence (the host to the Hellyer and Que River orebodies) is within 500m of the surface and the position has not been tested by diamond drilling. The major remaining step in this program is to complete a semi-regional interpretation of all partial leach soil data collected on EL's 19/94, 30/2000 (previously EL 37/89) and 10/98. Sampling, planned to be completed in January 2002, from the Sock Creek area on EL 30/2000 [immediately adjacent to the Sock Creek North survey described in this report] should also be included in any interpretation. An attempt was made to start this interpretation however, problems have arisen with attempting to integrate the earlier Mt Charter Fault (EL 37/89 and EL 19/94) and Amoeba Zone (EL10/98) data collected using different sampling parameters (such as composite samples), and Partial leach methods (including un-controlled post-digest pH). Attempts to level the data have not been entirely successful (e.g., McNeill and Simpson, 2000a and 2000b) and re-sampling of some areas using current methods is under consideration

It is planned to complete this interpretation, and possible re-sampling, within the next 6 months and a decision on further follow-up will be made on the basis of recommendations resulting from this work.

8. EXPENDITURE

Total expenditure for all work undertaken by Pasminco Exploration within Bulgobac River EL 19/94, for the 12-month period ending 30/11/01 was \$17,262. A detailed expenditure statement is given below.

Computing	\$115
Drilling	\$0
Geochemical Assays	\$6180
Geoscience Consultants	\$694
Land Environment	\$725
Depreciation Office Sundry	\$721
Other Contractors	\$0
Personnel Costs	\$6,891
Stores & Supplies	\$0
Travel & Accommodation	\$190
Vehicles, Plant & Maintenance	\$87
Administration Fee 10%	\$1569
Total	\$17,262

9. KEYWORDS & LOCALITY

Keywords

BULGOBAC RIVER, QUE RIVER, HELLYER, GEOCHEMISTRY, PARTIAL LEACH, SOILS, ZINC, MAFIC, VOLCANICS

Locality

1:250,000 BURNIE SK55-3

1:100,000 SOPHIA 8014

1:25,000 CHARTER 3839

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