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Aberfoyle Resources Limited

EXPLORATION DIVISION

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EXPLORATION LICENCE 39/85

BULGOBAC RIVER

TASMANIA

MINES		
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PROGRESS REPORT

MARCH 1992 TO APRIL 1993

VOLUME 1 OF 1

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Manager

Distribution

- Aberfoyle - Burnie (1/4)
- Aberfoyle - Hawthorn (2/4)
- Placer - Sydney (3/4)
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CONTENTS

Page No:

1.0	SUMMARY	1
2.0	INTRODUCTION	2
3.0	PREVIOUS EXPLORATION	3
4.0	WORK COMPLETED MARCH 1992 TO APRIL 1993	6
	4.1 Introduction	6
	4.2 Geology	6
	4.3 Geophysics	7
	4.4 Geochemistry	8
5.0	FUTURE PROGRAMME	10
6.0	REFERENCES	11

LIST OF PLATES

Plate No:	Title	Scale
BR1	Bulgobac River EL 39/85 Summary Plan	1:25,000
BR5	Bulgobac River EL 39/85 Locality Map	1:100,000
XBR2	Bulgobac River, East-West Section	As Shown
XBR3	Bulgobac River, North South Section	As Shown

1.0 SUMMARY

Exploration has been at a low level on EL 39/85 Bulgobac River during the reporting period pending a major review of the structural and stratigraphic setting of the Que Hellyer Volcanic Basin.

Geological models suggest that the Que Hellyer host horizon has only been tested by diamond drill holes BRD01 and 03. The host horizon has not been surveyed with down hole EM in BRD01. It is now evident that a large area of potential host horizon remains untested at Bulgobac River.

Interpretation of large geophysical data sets from the Que Hellyer Volcanics has shown good potential to identify syn-volcanic Cambrian structures to aid targetting of deep drill holes.

Further integration, compilation and interpretation of large data sets is planned prior to deep drilling.

2.0 INTRODUCTION

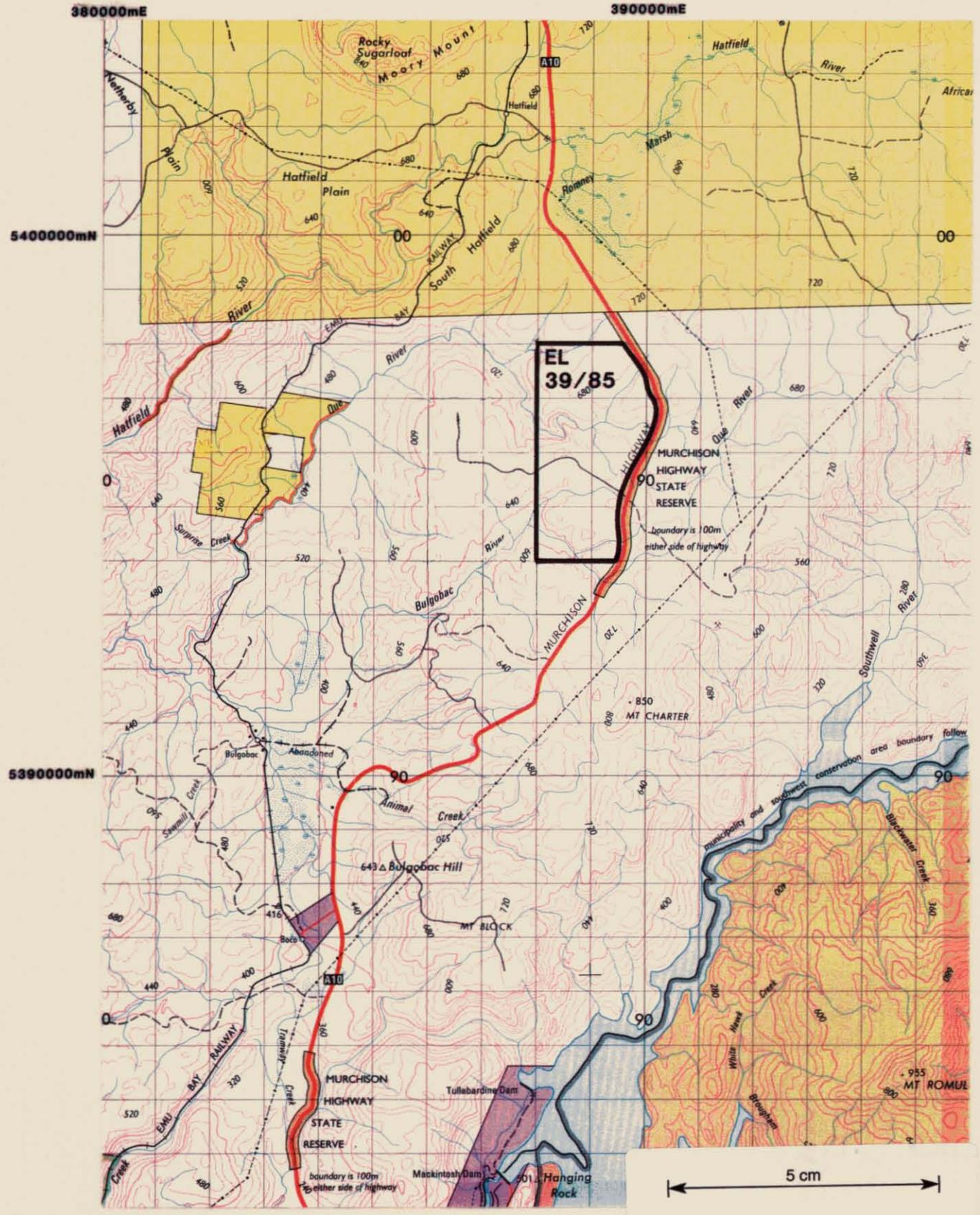
Exploration Licence 39/85, Bulgobac River, is located 60 km south south west of Burnie and 3 km west of the Que River and Hellyer Mines (Plate BR5).

The licence was granted to CSR Ltd on 14 February, 1986. In mid 1988 CSR's Mineral Group was purchased by Placer Exploration Ltd. At about that time the Department of Mines increased the original area of 11 sq km to 16 sq km, to adjust the EL boundaries to AMG kilometre graticules.

In February, 1991 Aberfoyle Resources Ltd concluded a joint venture agreement with Placer to fund and manage exploration on EL 39/85.

A reduction in the area of EL 39/85 to 8 sq km was made in accordance with statutory requirements in February, 1992.

This report records exploration during the period March 1992 to April 1993.



Aberfoyle Resources Limited
EXPLORATION DIVISION

NORTH WEST TASMANIA
BULGOBAC RIVER E.L. 39/85
LOCALITY MAP

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Compiled : Lands Dept.
Drawn :
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Plate No. : BR 5

Location Code :

Scale : **1:100 000**

Date : **January 1992**

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3.0 PREVIOUS EXPLORATION

The Gold Hill prospect, immediately north of the Que River Mine, was located by prospecting activity in the 1920's. Prospectors followed panned gold upstream from the Que River to locate the source at Gold Hill. It is probable that prospecting activity extended into EL 39/85, however no mineral occurrences are recorded and exploration to date has not located any evidence of early prospecting.

Geological mapping of the area was undertaken on a limited basis by Rio Tinto as part of a joint venture with EZ in the 1950's.

Comstaff Pty Ltd undertook substantial exploration in the area during the period 1963 to 1985. This work was carried out within the much larger EL 5/63 which covered a substantial part of the Mount Read Volcanics in western Tasmania.

During 1969 to 1971 Comstaff completed stream sediment and geological mapping surveys as part of a reconnaissance programme on EL 5/63 (Comstaff, 1985). Results of the stream sediment sampling are available on open file reports at the Division of Mines. The programme consisted of detailed -80 mesh and limited heavy mineral concentrate stream sediment sampling.

Two areas in and adjacent to EL 39/85 were followed up. At Debussey Creek an anomalous gold result in a heavy mineral concentrate sample could not be repeated by follow up surveys. One kilometre southwest of EL 39/85 follow up of anomalous -80 mesh samples led to the discovery of the Sock Creek vein type Ag-Pb-Zn mineralisation.

As part of a larger programme on EL 5/63 an INPUT EM and magnetics survey was flown over the Bulgobac area in 1975. Major conductive zones within the current EL were interpreted to be due to surficial or stratigraphic conductors (Butt et al, 1975).

EL 39/85 was granted to CSR in February, 1986 who commenced exploration for a volcanogenic massive sulphide deposit of the Que River/Hellyer type.

An initial programme of geological mapping and geophysical surveys involving aeromagnetics, grid based VLF-EM, induced polarisation, CSAMT and gravity, resulted in the drilling of two diamond drill holes. These two vertical holes BRD01 to 860.5m and BRD02 to 676m tested CSAMT anomalies with some supporting gravity anomalies. Weak mineralisation in the hangingwall Hellyer Basalt was intersected in BRD01. The greatly increased thicknesses of Que River Shale and Hellyer Basalt intersected in these holes, suggests the mineralised host horizons are deeper than the effective depth penetration of electrical geophysics. Downhole EM was successfully completed to the full depth of BRD02, but reached only 700m in BRD01. No anomalies were detected (Williams 1987a, 1987b).

Two further stratigraphic holes were drilled in 1988. BRD03 near the Que River showed the Que/Hellyer volcanic sequence thinned dramatically to the north (north of Que Road) while BRD04 near Mutter Creek showed the Tertiary Basalt to the west was underlain by Animal Creek Greywacke. Mutter Creek was thought to be on or near the Mount Charter Fault.

A programme of gridding, geological mapping and 50m spaced gravity surveying covered most of the Licence area. This work suggested the most prospective area of the Licence was a 1.5 km square block between BRD02 and BRD04 and extending from between Que Road and BRD01 to the Licence boundary in the south. This area contains an abnormal thickness of Que River Shale and Hellyer Basalt and is bounded by faults interpreted to be active during the deposition of these rocks.

Diamond drill hole BRD05 was drilled to 1181m during 1990 to test the area of thick Que River Shale and Hellyer Basalt (Ellis, 1991). Drilling showed Hellyer Basalt and the underlying dacitic rocks dipping to the south with the base of the Hellyer Basalt being at 1045.9m. A down hole EM survey of BRD05 did not detect any significant conductors.

Aberfoyle undertook management of the property in February, 1991 and completed a 17 line km UTEM survey over the Sock Creek Volcanics. No significant conductors were detected (Richardson, 1992).

4.0 WORK COMPLETED MARCH 1992 TO APRIL 1993

4.1 Introduction

Work on EL 39/85 has been at a low level during the reporting period. A major review of the structural and stratigraphic setting of the Que-Hellyer Volcanics has been undertaken by Aberfoyle on the adjacent Lake Mackintosh EL 106/87. Planned deep drilling on EL 39/85 was postponed pending results of the review which were likely to have implications for exploration at Bulgobac. This review is substantially complete but prioritised drill targets cannot be nominated at Bulgobac until integration of the detailed helimag data from Mackintosh is completed.

This report discusses in general terms the results of the review as they affect the Bulgobac property.

4.2 Geology

The so called Mixed Sequence of Komysan, 1986, is the host to massive sulphide mineralisation within the Que Hellyer Volcanics. At Hellyer the unit comprises both a poorly sorted volcanic mass flow breccia and a well sorted, often finely laminated ash volcanoclastic. The lithologies comprising these volcanoclastics are andesitic and basaltic in character. At Que River however, the unit is dominated by dacitic lavas and volcanoclastics with lesser polymict volcanoclastics.

At Hellyer the ore position has been defined as the Hellyer Basalt/Feldspar Phyrlic Andesite contact while at Que River it has been the Dacite/Feldspar Phyrlic Andesite contact. Where Dacite occurs in the stratigraphy, then by definition the Hellyer and Que River positions are respectively above and below the Dacite. It is now apparent from exploration undertaken by Aberfoyle at Lake Mackintosh that Dacite is simply absent from the stratigraphy at Hellyer and that the ore positions are essentially common, that is, above Feldspar Phyrlic Andesite in all cases and below Dacite where it occurs in the stratigraphy.

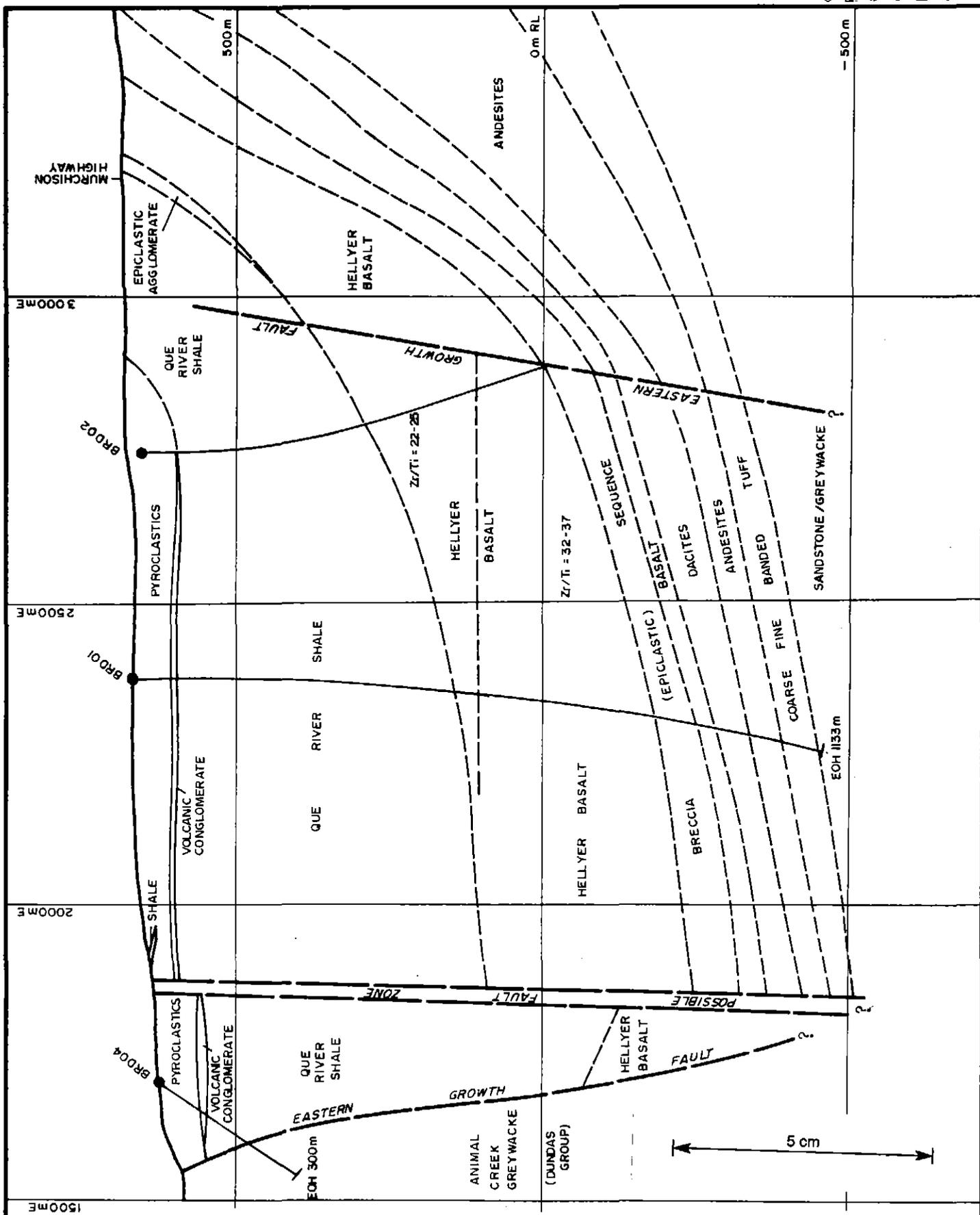
The implications for Bulgobac of this model, is that of the five diamond drill holes, only BRD01 and 03 have tested the ore position, in that they have penetrated dacite (BRD03) or intersected footwall rock where dacite is absent (BRD 01), (Plate XBR2 and 3).

*Other
way
around*

This now opens up a significant area of potential host rock at Bulgobac not tested by drilling (Plate BR1). It should also be noted that BRD01 has only been read with down hole EM to a depth of 700m, still within the Hellyer Basalt and has not tested the potential ore horizon.

4.3 Geophysics

Completion of a helimag survey over EL 106/87 Lake Mackintosh, now means that the entire Que-Hellyer Volcanic basin has been covered by airborne magnetics. An arrangement has been entered into with Pasmaenco Exploration in regard to the exchange of geological, geochemical and geophysical data pertinent to the south western portion of the Que Hellyer Volcanics. Included in this data



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NORTH WEST TASMANIA

BULGOBAC EL39/85 - PLACER

BULGOBAC RIVER EAST-WEST SECTION

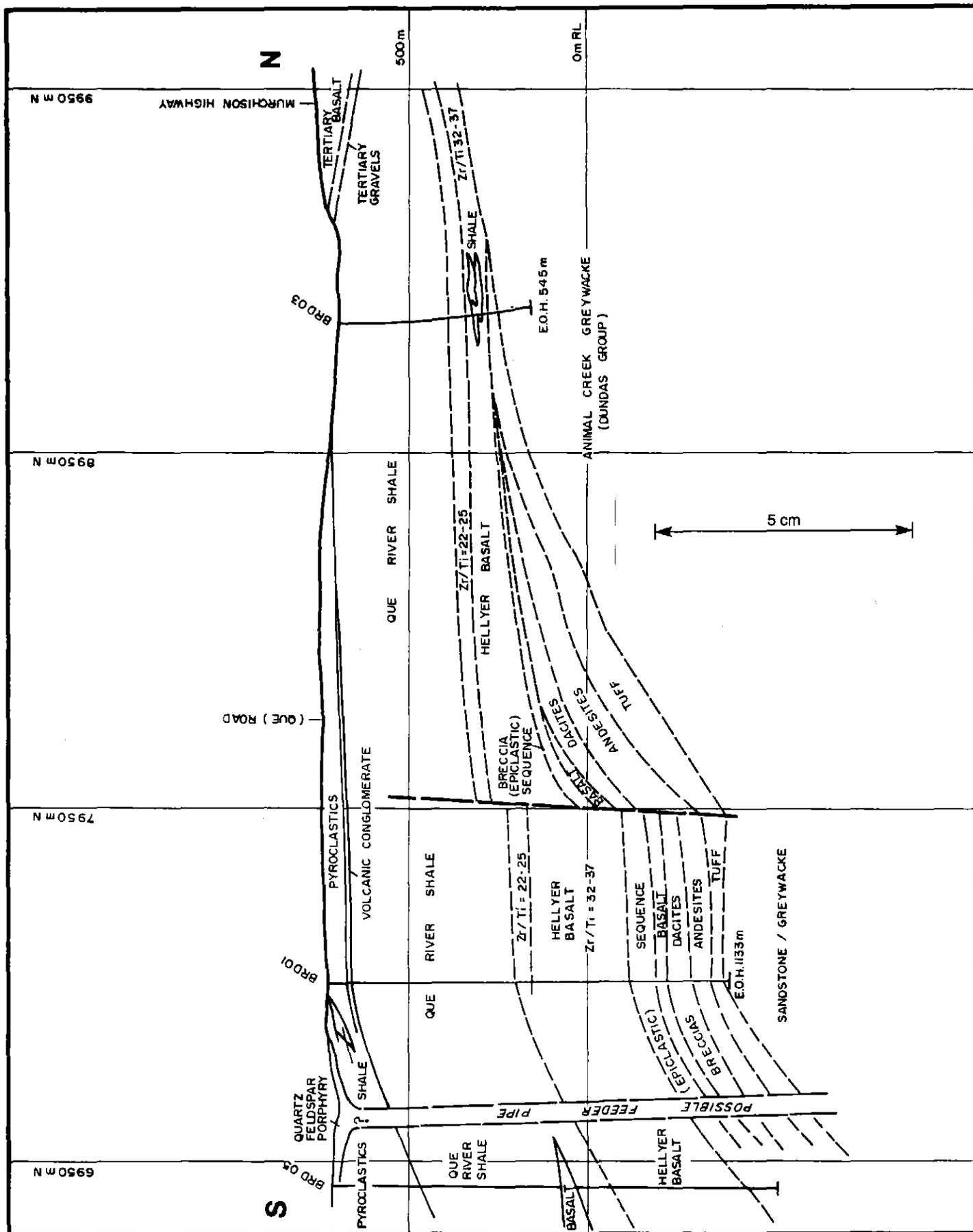
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Init.	Date	Init.	Date

Location Code :

Scale : As shown

Date : August, 1990

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Drawn :	PLACER
Traced :	RJE
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Plate No. :	XBR 2



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NORTH WEST TASMANIA

BULGOBAC EL39/85 - PLACER

BULGOBAC RIVER NORTH-SOUTH SECT.

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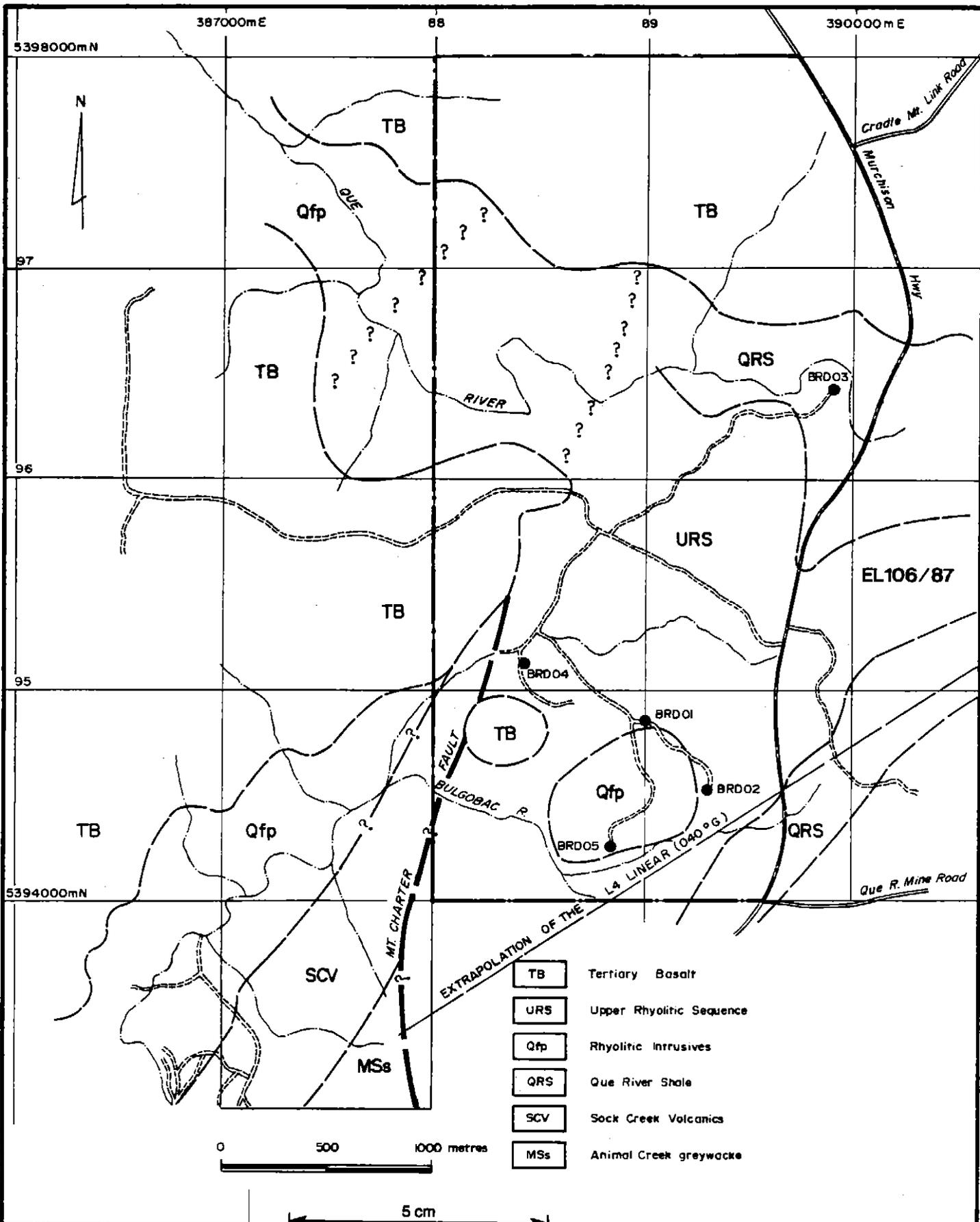
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Plate No. :	XBR 3

Location Code :

Scale : As shown

Date : August, 1990

Plate No. : XBR 3



- TB Tertiary Basalt
- URS Upper Rhyolitic Sequence
- Qfp Rhyolitic Intrusives
- QRS Que River Shale
- SCV Sock Creek Volcanics
- MSs Animal Creek greywacke

0 500 1000 metres

5 cm

Bulberr Limited
EXPLORATION DIVISION

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NORTH WEST TASMANIA
BULGOBAC RIVER EL39/85 - PLACER
SUMMARY PLAN

Compiled : RJE , AMcN
 Drawn : Placer, April '87
 Traced : RJE
 Checked : DBW
 Plate No. : BR 1

Location Code :

Scale : 1:25,000

Date : August, 1990

Assessment of the entire airborne magnetic data set (Aberfoyle, Placer, Pasminco) was undertaken by Aberfoyle. Unfortunately levelling problems in the Placer data were highlighted by the stretch used to image the total set. Further processing is required to eliminate this problem and integrate the Placer data more effectively. Despite this, a Cambrian structure trending north west from Mount Charter is interpreted to extend into the Bulgobac property. Named the Murchison Structure the trend conforms with a Cambrian structure set recognised as significant in the Que-Hellyer basin.

The Bulgobac gravity data set has been integrated with the regional and detailed gravity data from Mackintosh, Que River and Hellyer. A gravity feature is evident in colour images which is analogous to significant gravity features near Que River and Hellyer and is thought to represent a thickening of mafic volcanics.

Interpretation is continuing and a full discussion of results will be included in the next report.

4.4 Geochemistry

A collaborative research project (CODES/CSIRO) funded by Aberfoyle is investigating aspects of Pb isotope applications to exploration in western Tasmania. One objective of this project is to investigate the Pb isotope signatures of potential source rocks to Cambrian Volcanic Hosted Massive Sulphide mineralisation. Samples have been collected from selected drill core at Bulgobac to determine the Pb isotope ratios of unaltered Que Hellyer volcanic stratigraphy.

Results are not yet available and will be reported in the next annual report.

5.0 FUTURE PROGRAMME

Evaluation of large geophysical data sets from the Que-Hellyer Volcanics has indicated potential structural sites for drill testing in EL 39/85 Bulgobac. Further interpretation of these data sets is required to better define targets prior to drilling.

Work ongoing and planned for 1993 is summarised below:

- Complete integration of Bulgobac airborne magnetic data into Que-Hellyer Volcanic Basin data set and complete interpretation.
- Complete gravity integration and interpretation. Awaits Mackintosh survey.
- Diamond drill test structurally modelled target. 1 x DDH (1200m).
- Pb isotope study.

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