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TABLE OF CONTENTS

	<u>Page No:</u>
1.0 SUMMARY AND CONCLUSIONS	1
2.0 INTRODUCTION	2
3.0 PREVIOUS EXPLORATION	3
4.0 1990/91 EXPLORATION	4
4.1 RECONNAISSANCE MAPPING	4
4.2 STREAM SEDIMENT GEOCHEMISTRY	4
5.0 DISCUSSION AND RECOMMENDATIONS	5
6.0 REFERENCES	6

APPENDICES

1. Stream Sediment Locations and Results

LIST OF PLATES

BEUL 36 (in text)	Beulah EL 43/85 Locality Map	As Shown
BEUL 8 (in text)	Beulah EL 43/85 Location Plan	1:500,000
BEUL 24 (in text)	Summary of Exploration	As Shown
BEUL 12 a.1	Outcrop Geology	1:10,000
BEUL 39	Aberfoyle Stream Sediment Locations	1:25,000

1.0 SUMMARY AND CONCLUSIONS

Limited field work was undertaken on EL 43/85 Beulah due to priority funding of exploration elsewhere in Tasmania.

Work completed during 1990/91 comprised reconnaissance mapping and a stream sediment survey designed to check the efficacy of previous stream sediment surveys.

Potential still remains, however in Beulah Formation mafic lavas in the north west of the licence and in the Minnow Keratophyre felsic volcanic suite. Further work is warranted in these areas.

2.0 INTRODUCTION

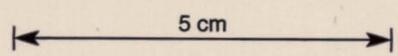
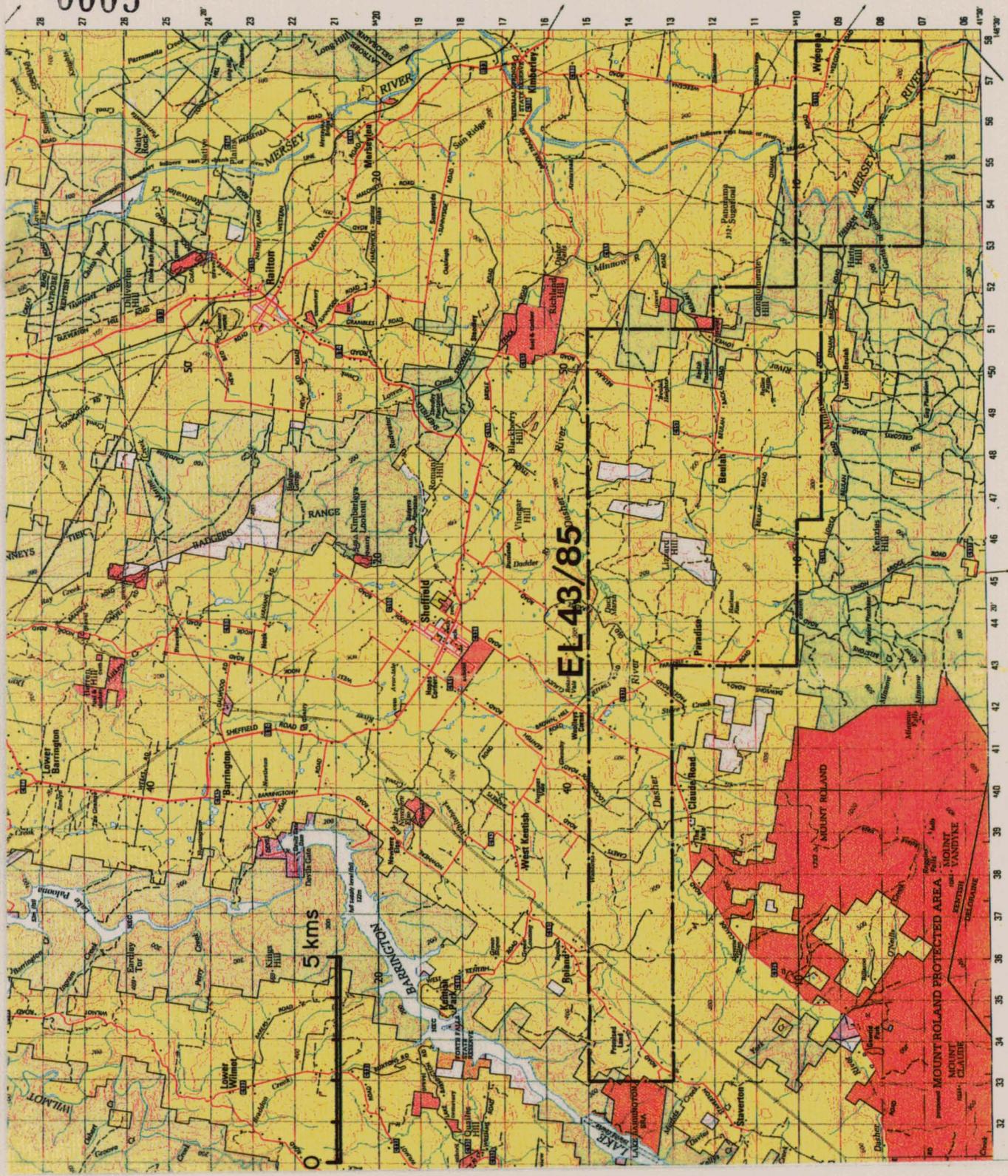
Exploration licence 43/85 Beulah covers an area of 80 square kilometres to the south of Sheffield and west of Deloraine (refer to Figure BEUL 36). The licence has been held by Aberfoyle Resources Limited since 29 May, 1986.

Aberfoyle's primary exploration target on the licence is volcanogenic massive sulphide mineralisation. Exploration has subsequently centred on the Cambrian volcanic rocks which form part of the northeastern extension of the Mount Read volcanic arc and which cover nearly half of the licence (refer to plate BEUL 8).

The Cambrian rocks on the licence have previously been subdivided into three general groupings (after Jennings, 1959). These are; the Beulah Formation, covering intermediate to mafic basaltic and andesitic rocks in the west and east of the licence; the Minnow Keratophyre, covering predominantly felsic quartz porphyries and minor volcanoclastics in the centre of the licence; and the Gog Range Greywacke which comprises a scattered mixture of greywackes and other sediments, with only a minor volcanic component (refer Plate BEUL 24).

Previous exploration within the licence has been undertaken by Asarco in 1973-76, Austamax in 1983-85 and Aberfoyle since 1986. No economic mineralisation has yet been discovered on the licence. Previous exploration programmes are summarised on Plate BEUL 24.

Aberfoyle's exploration programmes on the licence have involved the establishment of grids, mapping, petrography, geochemical sampling and geophysical surveys (refer to Plate BEUL 24). 1990/91 exploration was limited to reconnaissance mapping and stream sediment geochemistry.



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NORTH WEST TASMANIA
BEULAH E.L. 43/85
LOCALITY MAP

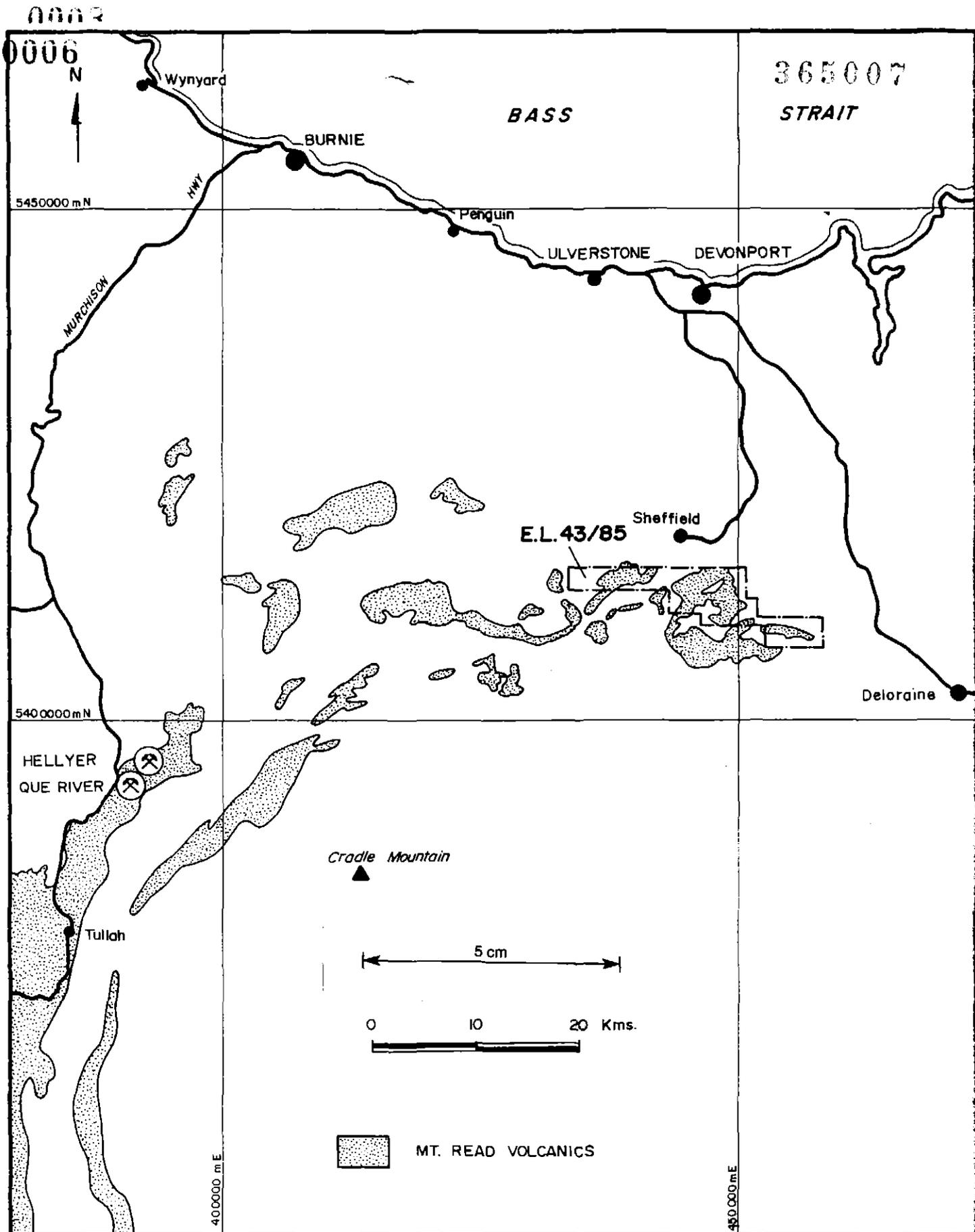
Compiled : Lands Dept.
Drawn :
Traced : RJE
Checked :
Plate No. : BEUL. 36

REVISIONS			
Init.	Date	Init.	Date

Location Code :

Scale : As shown

Date : May, 1990



Aberfoyle Resources Limited
EXPLORATION DIVISION

REVISIONS			
Init.	Date	Init.	Date

NORTH WEST TASMANIA
BEULAH E.L. 43/85
LOCATION PLAN

Compiled : RJE, DJJ
 Drawn : RJE
 Traced :
 Checked :
 Plate No. : BEUL. 8

Location Code : Scale : 1:500,000 Date : April, 1988

3.0 PREVIOUS EXPLORATION

Previous exploration within the licence is summarised on Plate BEUL 24 and is discussed briefly below.

Initial systematic exploration within the licence was undertaken by Asarco during the period 1973 to 1976. They conducted a regional stream sediment sampling programme with around 1 to 2 samples collected per square kilometre (refer to Plate BEUL 3 in Sise, 1987 for sample locations). This programme failed to produce any encouraging anomalies and the licence was subsequently relinquished.

Exploration by Austamax (Amax) initially involved a reassessment of the Asarco stream sediment data combined with additional sampling. This produced only one anomaly on the current licence which was considered worthwhile following-up. Limited rock chip sampling in the area, however, failed to provide any further encouragement.

A 1984 airborne EM survey, flown for Austamax by DIGHEM, produced 82 anomalies (Vivian, 1984). Follow-up of these also failed to produce any significant encouragement and the licence was relinquished in 1986.

Exploration by Aberfoyle since attaining the licence in 1986 has involved both regional exploration and detailed prospect scale evaluation in the Lower Beulah area (refer to Plate BEUL 24).

Detailed work in the Lower Beulah area initially involved rock chip sampling, which produced only limited encouragement (Sise, 1987). UTEM surveying in the area failed to detect any massive sulphide conductors (Jack, 1988).

Petrographic and geochemical study of selected Beulah Formation lavas, in 1988, indicated that they were calc-alkaline Mount Read volcanic rocks similar in many respects to the Que-Hellyer volcanic package (Jack, 1988). Lead isotope analysis indicated that lead isotope signatures from weakly mineralised rocks in the area were probably of a Cambrian hydrothermal origin and were distinctly different to that attributable to Devonian mineralising systems.

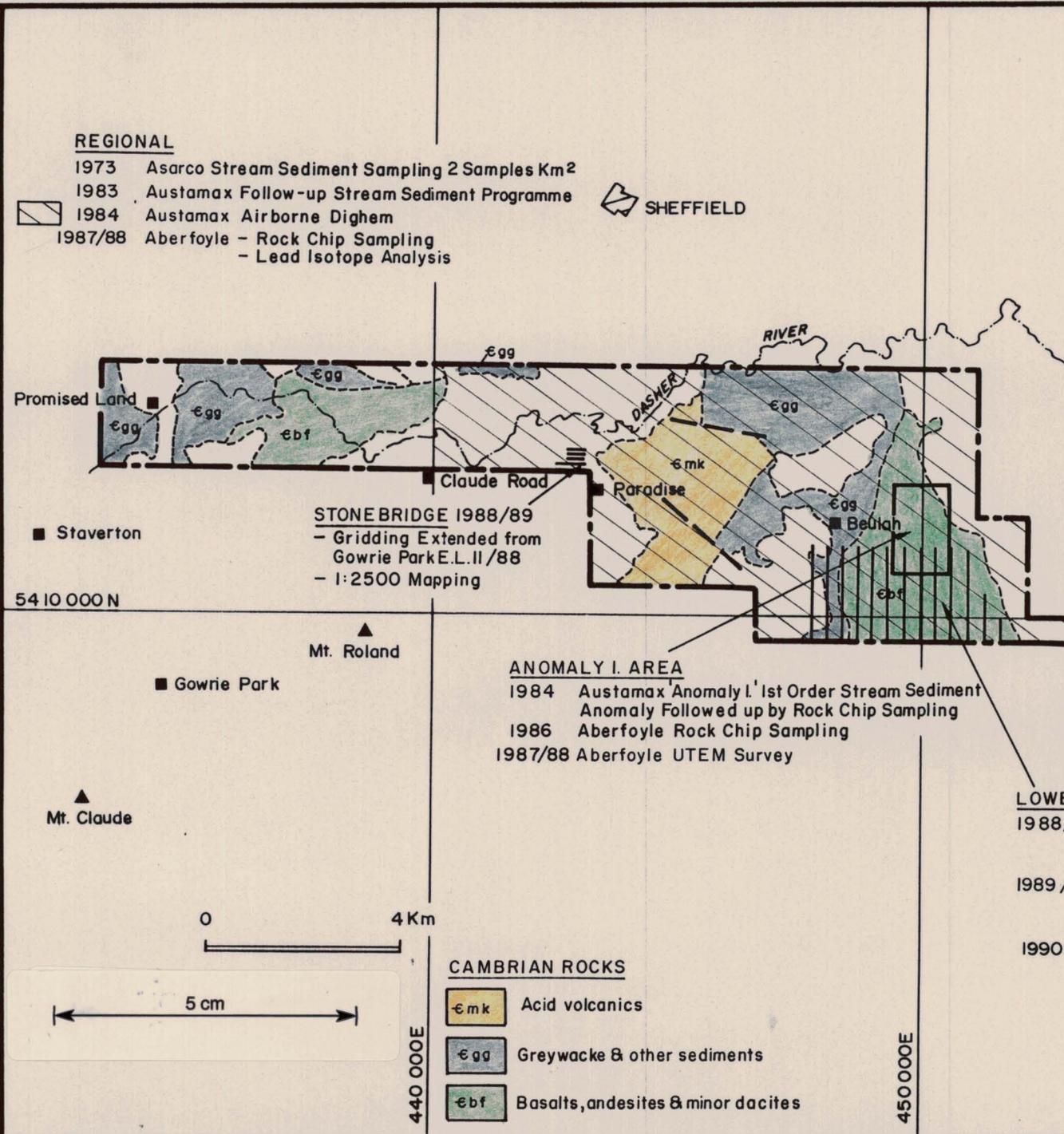
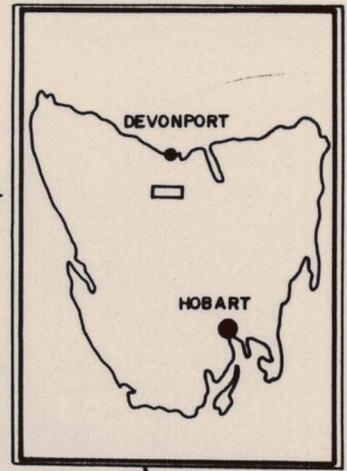
In 1989 a large grid was established over the Beulah Formation lavas in the Lower Beulah area to allow for accurate mapping and geochemical sampling (Rand, 1989). "C" horizon soil sampling and geological mapping located a large zone of massive basalts, with variable intensity hydrothermal alteration, that were strongly geochemically anomalous. The strong base metal soil anomalies occurred in a trend away from an area just south of the licence which contains outcropping barite mineralisation.

During 1990 further 1:2500 scale mapping was conducted over the Lower Beulah grid in addition to a ground magnetic survey. A three loop UTEM survey was also conducted over parts of the grid not previously covered (Rand, 1990).



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- REGIONAL**
- 1973 Asarco Stream Sediment Sampling 2 Samples Km²
 - 1983 Austamax Follow-up Stream Sediment Programme
 - 1984 Austamax Airborne Dighem
 - 1987/88 Aberfoyle - Rock Chip Sampling
- Lead Isotope Analysis
-  SHEFFIELD

STONE BRIDGE 1988/89
- Gridding Extended from Gowrie Park E.L.II/88
- 1:2500 Mapping

ANOMALY I. AREA
1984 Austamax Anomaly I. 1st Order Stream Sediment
Anomaly Followed up by Rock Chip Sampling
1986 Aberfoyle Rock Chip Sampling
1987/88 Aberfoyle UTEM Survey

LOWER BEULAH AREA
1988/89 Aberfoyle - Gridding
- Soil Geochemistry
- 1:2500 Mapping
1989/90 Aberfoyle - 1:2500 Mapping
- Ground Magnetics
- UTEM
1990/91 Aberfoyle - Check Stream Sediments

- CAMBRIAN ROCKS**
-  Acid volcanics
 -  Greywacke & other sediments
 -  Basalts, andesites & minor dacites

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NORTHERN TASMANIA

E.L.43/85 BEULAH
SUMMARY OF EXPLORATION

REVISIONS

Int.	Date	Init.	Date

Location Code : K55/3

Scale : As shown

Date : May 1990

Compiled : SWR
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Traced : JLR
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Plate No. : BEUL.24

4.0 1990/91 EXPLORATION

Exploration undertaken on the licence during the reporting period comprised:

1. Reconnaissance mapping in the Promised Land area.
2. Stream sediment sampling at Lower Beulah.

4.1 Reconnaissance Mapping

Reconnaissance mapping was undertaken in the north west corner of the licence along Smiths Road in the Promised Land area (refer to Plate Beul 12 a.1). This aimed to determine the geology and detect any possible alteration in an area close to a reported outcrop of barite (Temby, 1985). Rocks located comprise interbedded fine ash volcanoclastics and coarse volcanoclastic sandstones containing common quartz and feldspar phenocrysts plus moderately common felsic lava fragments. This area has previously been included in rocks classified as Gog Range Greywacke of Jennings (1959) and Bamford and Green (1988). No alteration was observed.

4.2 Stream Sediment Geochemistry

Four stream sediment samples were collected from the Lower Beulah area and the minus 80 mesh fraction analysed for Cu, Pb, Zn, Ag, Au, Ba and As. The results are attached as Appendix 1 and plotted on Plate Beul 39.

The purpose of this survey was to check stream sediment surveys conducted by previous explorers in light of their failure to detect the zone of significant "C" horizon Pb anomalism in soils at Lower Beulah (Rand, 1989). Results indicate that no significant accumulation of lead occurs in the stream sediment and that Pb levels actually decrease upstream.

It is apparent that the technique is incapable of detecting broad Pb anomalism in soils in this environment.

5.0 DISCUSSION AND RECOMMENDATIONS

Work on EL 43/85 Beulah has been at a low level due to priority funding of projects elsewhere in Tasmania.

Little potential is perceived in the Lower Beulah area as detailed by Rand, 1990.

Reconnaissance mapping of Beulah Formation mafic lavas in the north west of the licence and assessment of the Minnow Keratophyre felsic, volcanic suite is however warranted.

6.0 REFERENCES

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- Jack, D. J., 1988. Exploration Licence 43/85 Beulah, Tasmania. Progress Report for the year ended April 29, 1988. Unpub. Rep. for Aberfoyle Resources Limited.
- Jennings, I. B., 1959. Sheffield Sheet, Geological Survey of Tasmania. Published by Department of Mines, Hobart.
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- Temby, P. A., 1985. EL 7/73 Sheffield Area, Northern Tasmania. Report on Exploration for 12 months to 15 February, 1985. Unpub. Report to Tas. Dept. Mines (1822/85).
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APPENDIX 1

Stream Sediment Assays

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

Phone (09) 458 7999

52 Murray Road, Welshpool, W.A. 6106

Telex AA92560

FAX: 004 31 8890

ANALYTICAL REPORT No. 23.3.08.07290

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

Aberfoyle Resources Limited
 Exploration Division
 P.O. Box 952
 Burnie Tasmania 7320

ORDER No.	PROJECT
10049	
DATE RECEIVED	RESULTS REQUIRED
08/08/90	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
1	24/08/90	1	9

STATE OF SAMPLES REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT							ANALYSIS			
		DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD	
	<562,080/084,086/089	SS	Prep: 016							Cu, Pb, Zn, Ag/101		
	<562,080/084,086/089	SS								Au, AuChk/309		
	<562,080/084,086/089	SS								Ba, As/401		

RESULTS TO

R. de Bomford
 Aberfoyle Resources Limited
 Exploration Division
 P.O. Box 952
 Burnie Tasmania 7320

REMARKS

BEULAH
 lower BEULAH S/SEDS

RESULTS TO

STATE OF SAMPLES	ANALYSIS — PREPARATION	ANALYSIS — METHOD
whole core WC	perchloric acid A1	atomic absorption AAS
split core SC	hydrochloric acid A2	x-ray fluorescence XRF
cutting CU	nitric acid A3	spectrophotometry SPEC
rock Ro	aqua regia A4	colorimetry COL
soil SO	nitric-perchloric A5	chromatography CHR
pulp PU	HF mixture A6	titration TTN
water WA	HF under pressure A7	other chemicals means CHEM
sludge TI	fusion A8	miscellaneous MISC
stream sediment SS		fluorescence FLUOR
heavy mineral HM		inductively coupled plasma ICP

AUTHORISED OFFICER *R. de Bomford*

ANALABS

A Division of Inchcape Inspection and Testing Services, Australia Pty Ltd.

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

23.3.08.07290

24/08/90

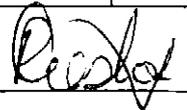
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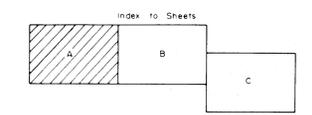
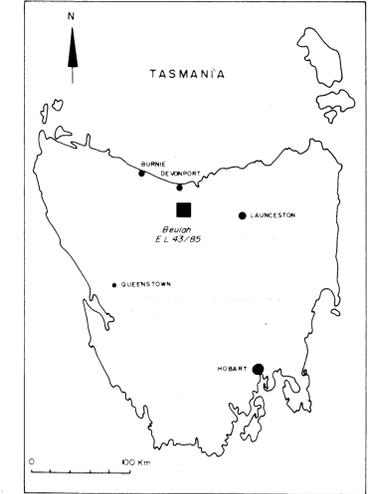
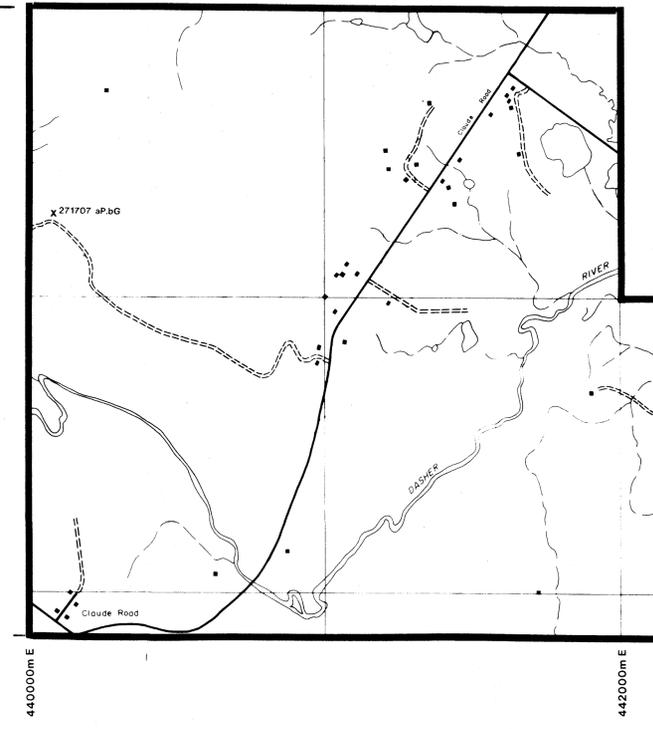
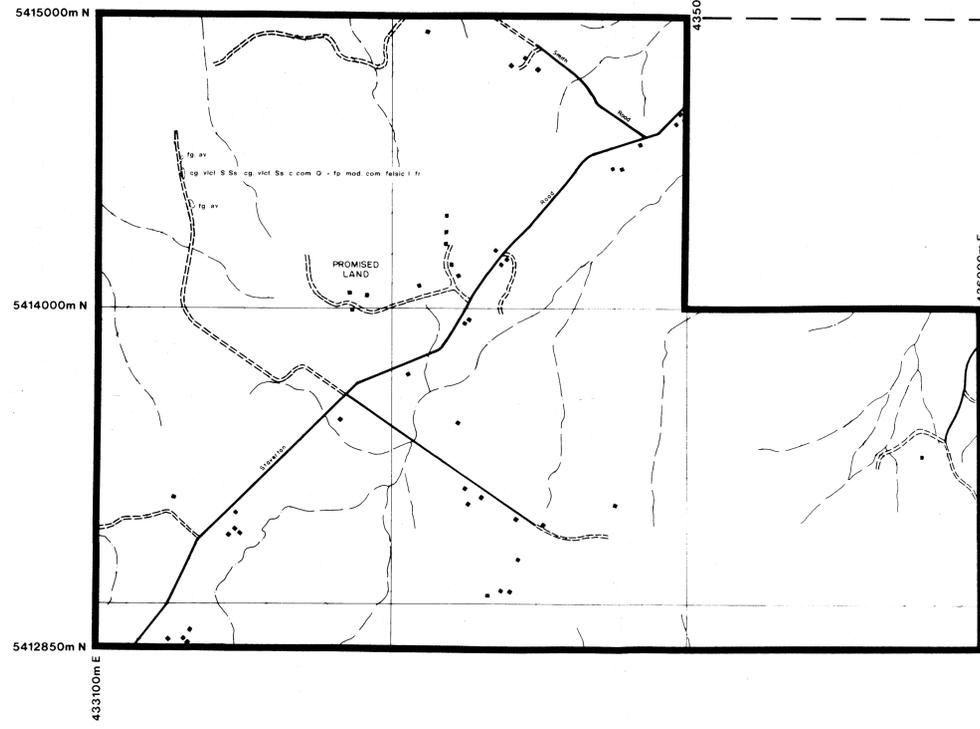
1 OF 1

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	AuChk	Ba	As	
6	562086	25	45	170	1.0	<0.008	--	610	7	
7	562087	25	55	205	1.0	<0.008	--	810	8	
8	562088	20	25	120	1.0	<0.008	--	850	6	
9	562089	15	10	65	<0.5	<0.008	--	380	5	
10										
11										
12										
13										
14										
15										
16										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	0.008	0.008	10	2	
24	UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	
25	METHOD	101	101	101	101	309	309	401	401	

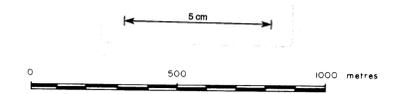
Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
-- = element not determined

AUTHORISED
OFFICER



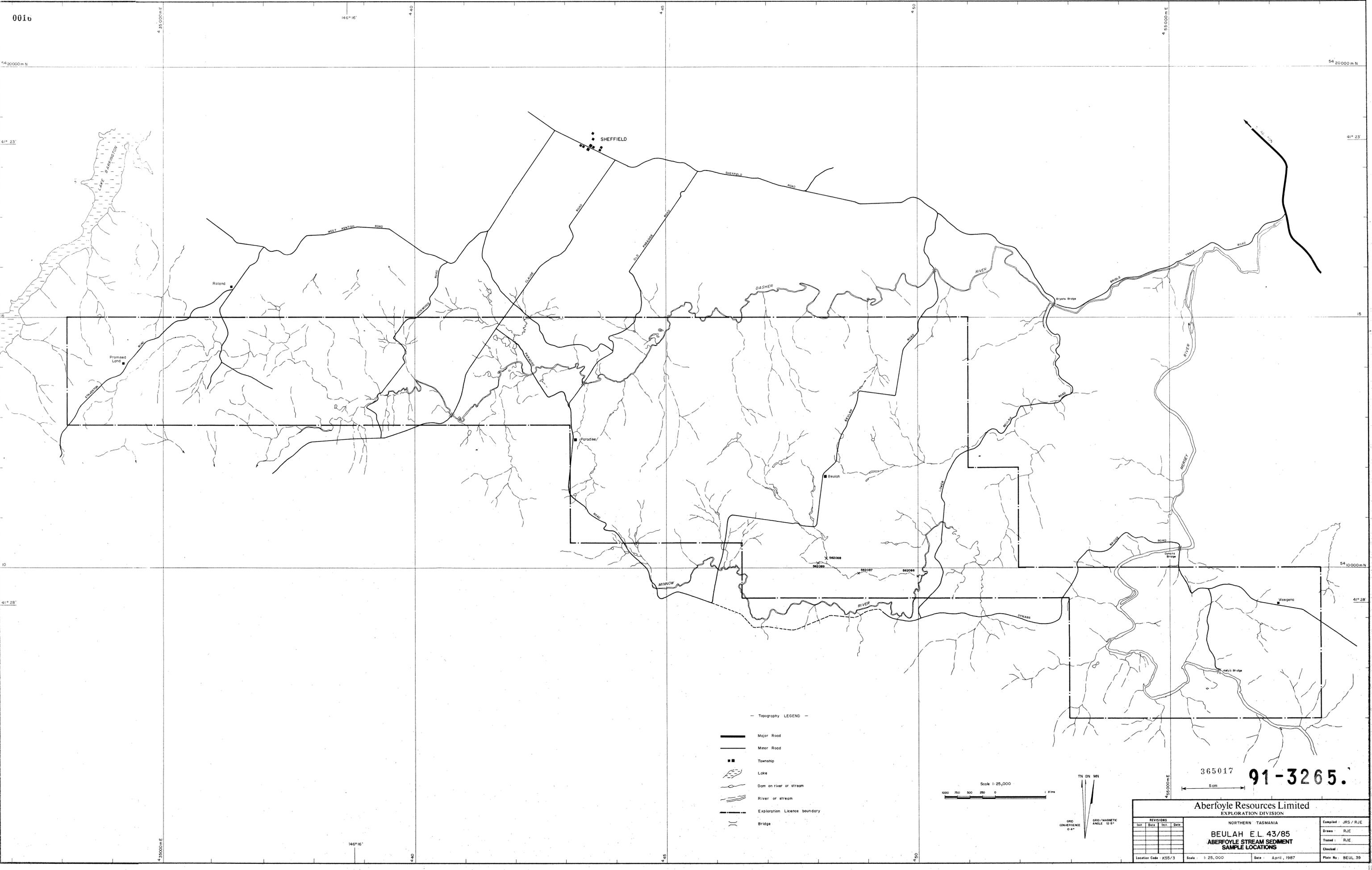


Boundary of area relinquished
 Boundary of area retained



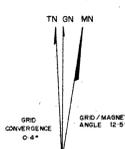
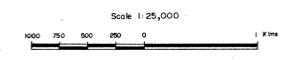
365016
91-3265.

Aberfoyle Resources Limited EXPLORATION DIVISION				Compiled: DBW
NORTHERN TASMANIA BEULAH EL43/85 OUTCROP GEOLOGY RELINQUISHED AREA				Drawn: MAR
REVISIONS				Traced:
Int.	Date	Int.	Date	Checked:
Location Code:	Scale: 1:10 000	Date: MAY 1991		Plate No: BEUL 12A/1



Topography LEGEND

- Major Road
- Minor Road
- Township
- Lake
- Dam on river or stream
- River or stream
- Exploration Licence boundary
- Bridge



365017 **91-3265.**
5cm

Aberfoyle Resources Limited
EXPLORATION DIVISION

NORTHERN TASMANIA
BEULAH E.L. 43/85
ABERFOYLE STREAM SEDIMENT
SAMPLE LOCATIONS

REVISIONS		Compiled	
Init	Date	Init	Date
		JRS	RJE
		Traced	RJE
		Checked	

Location Code: K55/3 Scale: 1:25,000 Date: April, 1987 Plate No: BEUL 39