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711001

of M	A.O.	C.G.	E.O.	D.S.M.E
				Registrar
Received	20 SEP 1982			E & IL
Answered				
DEPT. OF MINES				
REF. No:				

MICROFILMED

EXPLORATION LICENCE 33/79

WARATAH, TASMANIA

REPORT FOR THE SIX MONTHS ENDED 14th JULY, 1982

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5. Total Magnetic Intensity Contours

360 000 m E

370 000 m E

380 000 m E

390 000 m E

5 420 000 m N

5 421 500 N

5 410 000 m N

NORTH VAL

5 414 000 N

5 412 500 m N

5 400 000 m N

MAGNET

5 410 000 N

5 406 700 N

5 406 500 N

5 403 200 N

5 402 800 N

5 390 000 m N

370 000 E

374 000 E

375 500 E

375 800 E

376 000 E

376 500 E

377 000 E

377 500 E

378 000 E

378 500 E

379 000 E

379 500 E

380 000 E

380 500 E

381 000 E

381 500 E

382 000 E

382 500 E

383 000 E

383 500 E

384 000 E

384 500 E

385 000 E

385 500 E

386 000 E

386 500 E

387 000 E

387 500 E

388 000 E

388 500 E

389 000 E

389 500 E

60 34 70 145°30' 80 36 90 38

5 cm

Scale 1:250 000

Photo copied from Geological Survey of Tasmania, Burnie, 1:250 000 Geological sheet.

0 5 10 15 Km

Centre Melbourne
Date 12-2-82

THE BROKEN HILL PROPRIETARY CO. LTD.

LOCATION MAP

E.L. 33/79 WARATAH, TASMANIA

Project No.
Drawing No. A4-2020/2

11003-002

EXPLORATION LICENCE 33/79WARATAH, TASMANIAREPORT FOR THE SIX MONTHS ENDED 14th JULY, 19821. GENERAL

Exploration Licence 33/79 of 150 square kilometres was granted to The Broken Hill Proprietary Company Limited on 11th January, 1980. The current expiry date is 14th January, 1983.

2. EXPLORATION PHILOSOPHY

The Exploration Licence lies within a mineralised belt which includes the Mt. Bischoff, Cleveland, Magnet and Godkin mines, as well as covering the northern extension of a sequence of sediments which include the host rocks for mineralisation at Renison Bell and Mt. Lindsay.

The principal target in the area is a massive sulphide or skarn hosted tin-tungsten deposit. Suitable host rocks for these styles of mineralisation are known to extend beneath the blanket of Tertiary basalt which covers most of the licence area.

In the past the basalt cover has prevented a concerted exploration effort and it was only in the period 1977 to 1979 that the area was first explored by modern techniques.

Our major exploration method is:

- (a) the generation of drill targets by geophysics.

Consideration has also been given to the use of:

- (b) geological methods - extrapolation of structure and lithology in surrounding terrain;
- (b) remote sensing and photogeological methods;
- (c) geochemical methods - including soil, humus seepage and spring water sampling.

3. SUMMARY OF WORK COMPLETED

- (a) Literature review and compilation of existing data.
- (b) Geological mapping at 1:50,000 scale.
- (c) Orientation stream sampling and pan concentrate sampling.
- (d) I.P. profiling and depth sounding in the Reservoir Grid area.

cont./..

- (e) A Dighem II helicopter-borne E.M. test survey consisting of 50 line kilometres over five east-west and two north-south lines.
- (f) Rock chip sampling of basalts for geochemical analysis and magnetic susceptibility measurements.
- (g) Twenty line kilometres of grid cutting and surveying.
- (h) Ground magnetic surveying on cut lines at 10 metre intervals and modelling of anomalies.
- (i) Soil sampling at 100 metre intervals on cut lines.
- (j) Interpretation of Landsat image at 1:250,000 scale.
- (k) A low level aeromagnetic survey.
- (l) Geochemical sampling for orientation purposes including water, seepage and humus sampling.
- (m) Soil sampling on tracks in granite terrain in the western part of the licence area.
- (n) Access track construction to 8 drill hole sites.
- (o) Drilling of 5 stratigraphic drill holes (totalling 503 metres).
- (p) Drilling of 10 oriented small core drill holes for magnetic susceptibility and magnetic field orientation measurements.

(h) to (p) were completed during the six months ended 14th July, 1982.

4. SUMMARY OF WORK IN PROGRESS

- (a) Interpretation of aeromagnetic survey data.
- (b) Interpretation of geochemical sampling data.
- (c) Evaluation of areas for further stratigraphic drilling.

5. RESULTS

5.1 Geochemistry

5.1.1 Soil Sampling

The ground magnetic survey of the cut lines on the Reservoir, Wombat, and Champion Grids showed areas of low noise which were thought

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to be due to basement rocks covered by a thin basalt soil. Auger soil samples were taken over these lines to test for geochemistry indicative of a non basaltic source. Highly anomalous tin and tungsten values were found in soils from line 2700N on the Reservoir Grid. Tin values are up to 0.19% and tungsten up to 2.79% (Figures 3, 4, Appendix 1). No anomalies were recorded for copper, lead, zinc, nickel, chromium, cobalt and arsenic. The samples were re-analysed and the tin and tungsten anomalies were not repeated. The anomalous values must be the result of an error in sample preparation or analytical technique. There were no anomalies on the Waratah and Champion Grids. (tin \leq 30 ppm, tungsten 20 ppm).

Two soil sample traverses were conducted alongside roads over the granite country in the west of the E.L. (Figure 4). Considerable alluvial tin is present in the creeks in the area probably produced by weathering of greisenised granite. The soil sampling was designed to test for the source of the alluvials and to determine background values in the granite. Both A and B horizon soils were sampled for orientation purposes.

Values for tin and tungsten in soils from along the Mount Ramsay track do not exceed 40 and 30 ppm respectively. Values for tin and tungsten from the South Bischoff track range up to 230 and 210 ppm respectively.

5.1.2 Humus Sampling

Most of the forested areas of the E.L. are covered by fairly deeply rooted trees, mainly Myrtle (*Nothofagus cunninghamii*) and Sassafras (*Atherosperma moschatum*). Because of the high water table in the area and the geophysical evidence for basalt or basement below thin basaltic soil, it was thought that the tree roots might absorb mobile elements from the basement rocks. Consequently an orientation survey of plant material was carried out.

Samples were taken over both forested and button grass covered areas and basalt and granite rock types.

These samples were taken over areas where A horizon soils had been sampled for comparison. These areas are:

..4..

Wombat Grid 750N 2000E - 2900E
(forested, basalt cover)

Reservoir Grid 2000N 1700E - 2100E
(button grass basalt cover)

Mt. Ramsay track 0 - 900 metres
(forested, granite)

South Bischoff track 100 - 600 metres
(button grass, granite)

Both total extractable and cold extractable metals were determined on humus from the South Bischoff track and the Reservoir Grid for orientation purposes.

The results are given in Appendix 1.

5.1.3 Seepage Sampling

Twenty-five (25) seepage samples were collected from within the exploration licence and from around Mt. Bischoff. The 18 samples from Mt. Bischoff were all anomalous with respect to tin while lower values were recorded from samples taken from within the exploration licence. The sample locations are shown on Figure 3 and the analyses are in Appendix 1.

Evaluation of the data is in progress.

5.1.4 Water Sampling

Twenty-five (25) water samples were collected from springs and streams around the base of the basalt. These were analysed for copper, lead, zinc, iron, arsenic, calcium, magnesium, sodium, potassium, fluorine, Cl^- , SO_4^{2-} , CO_3^{2-} , HCO_3^- , pH and conductivity.

The sample collected from Mt. Bischoff was high in copper, lead, zinc and iron with a high acidity and high conductivity. The samples collected from the exploration licence were not anomalous with respect to copper, lead and zinc. A separate report on the water sampling programme in E.L's 23/79 and 33/79 is attached.

5.2 Geophysics

The data from the aeromagnetic survey flown in January was partly processed during the six months. The total magnetic intensity contours are shown in Figure 5. At present power spectral analysis is

cont./..

being used in an attempt to remove the effects of the basalt.

A total of 10 small core oriented bores were drilled in order to measure the magnetic field direction, remanent magnetism and magnetic susceptibility of the basalt to aid in interpretation of the aeromagnetic survey. The results are shown in Appendix 2.

A ground magnetic survey was conducted over an aeromagnetic high in the far south of the lease area. The profile is shown in Appendix 3. Interpretation is in progress.

At present data from the 1977 - 78 and 1978 - 79 ground magnetic and RRMIP surveys conducted by Pennzoil are being re-evaluated.

5.3 Drilling

Six holes were drilled in the Wombat and Reservoir Grid areas to test the thickness of the basalt and examine the underlying lithologies. Of the six holes drilled only two penetrated the basalt. These are holes RW1 and RW2 on the Wombat Grid. They penetrated basalt to 64.6 and 84 metres respectively, then intersected unconsolidated Tertiary sediments below the basalt. Basement rocks were not reached. The four holes on the Reservoir Grid (RW3, 4, 6, 8) did not penetrate the basalt. The deepest hole RW4 finished in basalt at 110 metres and RW6 and RW8 both finished in basalt at 100 metres. Hole RW3 finished in basalt at 14 metres due to technical difficulties.

A report on the drilling programme is given in Appendix 4.

6. WORK PROPOSED

- (a) Interpretation of the aeromagnetic survey data.
- (b) Further stratigraphic drilling based on the aeromagnetic survey interpretation.

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APPENDIX 1

Geochemical Results

Humus Samples

ANALABS

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

Phone (09) 458 7999

52 Murray Road, Welshpool, W.A. 6106

Telex AA92560

ANALYTICAL REPORT No. 14.4 08 934

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

B.H.P. Company
GPO Box 1148L
Hobart
Tasmania 7001

ORDER No.	PROJECT
005084	T5
DATE RECEIVED	RESULTS REQUIRED
15.2.82	

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
	24.2.82	3	31

STATE OF SAMPLES	REF. BELC	SAMPLE NUMBERS	PRE-TREATMENT						ANALYSIS				
			DRY	CRUSH	SPLIT	PUL-VERISE	SIEVE	OTHER SEE REMARKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD	
		Various <i>Norfolk Homes</i>	1	2	3	4					Cu Pb Zn Fe Mn Ni Co	101 101	101 101

RESULTS

TO

As Above

RESULTS

TO

REMARKS

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 chemical means CHEM
tissue TI	fusion A8	miscellaneous MISC
stream sediment SS		fluorescence FLUOR
heavy mineral HM		inductively coupled plasma ICP

AUTHORISED OFFICER

B. Dan

ANALABS

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

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

			14.4 88 934	24.2.82			005084		1 OF 3	
TUBE No.	SAMPLE No.		Mn	Fe	Co	Ni	Cu	Zn	Pb	
1	RWL 750N	2000E	245	3.25%	X	45	15	40	30	
2	RWL 750N	2100E	485	1.95%	X	40	15	95	15	
3	RWL 750N	2200E	355	6950	X	20	15	35	20	
4	RWL 750N	2300E	175	4.90%	X	45	15	50	20	
5	RWL 750N	2400E	420	3.45%	5	30	20	45	20	
6	RWL 750N	2500E	645	5.45%	X	60	25	65	25	
7	RWL 750N	2600E	235	1.70%	X	25	10	35	10	
8	RWL 750N	2700E	305	2.55%	X	35	15	50	15	
9	RWL 750N	2800E	175	5350	5	20	15	40	40	
10	RWL 750N	2900E	930	5.00%	10	80	30	70	15	
11	MRL 00		390	6250	X	20	15	50	50	
12	MRL 100		240	1450	X	15	10	40	15	
13	MRL 200		200	4000	X	25	15	45	30	
14	MRL 300		355	6400	X	20	20	40	70	
15	MRL 400		185	1.35%	10	20	15	45	25	
16	MRL 500		350	6150	X	15	10	35	10	
17	MRL 600		95	3000	X	15	15	35	50	
18	MRL 700		165	6250	X	15	20	35	30	
19	MRL 800		230	5000	X	20	10	30	30	
20	MRL 900		160	2200	X	20	10	30	5	
21	RGL 2000N	1700E	195	8.00%	10	125	40	70	15	
22	RGL 2000N	1800E	1300	10.5%	55	145	55	100	15	
23	RGL 2000N	1900E	400	10.5%	20	175	50	65	15	
24	RGL 2000N	2000E	1450	13.5%	55	175	80	145	X	
25	RGL 2000N	2100E	345	6.25%	15	75	30	70	30	

Results in ppm unless otherwise specified

- † = element present, but concentration too low to measure
- X = element concentration is below detection limit
- = element not determined

AUTHORISED OFFICER



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711013

ANALABS

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ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

		14.4 88 934			24.2.82		005094		2 OF 3	
TUBE No.	SAMPLE No.		Mn	Fe	Co	Ni	Cu	Zn	Pb	
1	SBTL 100		105	6700	5	25	15	50	100	
2	SBTL 200		105	6850	X	30	20	55	150	
3	SBTL 300		65	6000	X	20	20	60	500	
4	SBTL 400		90	5400	X	25	15	55	100	
5	SBTL 500		N/S	N/S	N/S	N/S	N/S	N/S	N/S	
6	SBTL 600		85	7150	5	30	25	40	20	
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

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

B. Doe

013

711014

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ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

		14.4 08 94			24.2.62		685684		3 OF 3	
TUBE No.	SAMPLE No.		Mn	Fe	Co	Ni	Cu	Zn	Pb	
1	STD F64		710	8.65%	135	1700	310	820	95	
2	RPT RWL 750N 2000E		240	8.15%	5	45	15	40	15	
3	RPT NRL 500		150	2150	X	15	10	25	10	
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14	NOTE: N/S - Sample Not Submitted									
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION		5	50	5	5	5	5	5	
24	DIGESTION		100	100	100	100	100	100	100	
25	METHOD		101	101	101	101	101	101	101	

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

B. D. ...

CX Me

ANALABS

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

Cold extractable metals
in humus

ANALYTICAL DATA

SAMPLE PREFIX REPORT NUMBER REPORT DATE CLIENT ORDER No. PAGE

TUBE No.	SAMPLE No.		Mn	Fe	Co	Ni	Cu	Zn	Pb	
1	RGL 2000M 1700E	53	6750	3	12	5	18	X		
2	RGL 2000M 1800E	260	5200	5	20	8	13	X		
3	RGL 2000M 1900E	158	6300	2	4	6	9	X		
4	RGL 2000M 2000E	123	4550	5	11	7	12	X		
5	RGL 2000M 2100E	290	2.25%	3	11	5	18	11		
6	SBTL 100	24	3350	2	7	4	12	28		
7	SBTL 200	21	4050	3	12	4	7	15		
8	SBTL 300	7	3600	1	7	4	18	32		
9	SBTL 400	17	2750	1	9	3	4	18		
10	SBTL 500	10	2400	2	11	4	7	4		
11										
12										
13										
14										
15										
17										
18										
19										
20										
21										
22										
23	DETECTION	1	5	1	1	1	1	1		
24	DIGESTION	111	111	111	111	111	111	111	111	
25	METHOD	111	111	111	111	111	111	111	111	

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

B. D. ...

Seepage Samples

REGION: N.W. TAS

PROJECT NO.: T650

PROSPECT: WARATAH-general GRID CO-ORDS:

LOCAL A.M.G.

DESCRIPTION

Sample Type: Seepage

Rock Type:

Soil/Sediment Size Fraction: -40 mesh

WSS 1-13 seeps around Mt Bischoff.

WSS 1,2 damp seepage WINW face Mt Bischoff; WSS 3 Ferric sludge dep. from water draining adit at Silver Cliff mine
 WSS 4,5 " " NW " " ; WSS 6,7 SW side include Fe stained clay, mass.
 WSS 8,9,10 Fe rich deposit in pond centre fold workings (now drained); WSS 11 Fe rich deposit from seep draining workings south face; WSS 12 clayey deposit flowing creek/seep south face
 WSS 13 damp seep with Fe

ANALYSIS

Laboratory ANALABS

Batch No 14.4 08 836

Date Analysed 26-1-82

Element	Cu	Pb	Zn	Ag	As	Au	Sb	Bi	Sn	W	Fe%	Mn	Mo	Co	Ni	Cr	F	Rb.
Method Sample #	A1				A9	LG20	XRF	XRF	XRF	XRF	A1						A8/3	XRF
WSS 1	15	85	25	0.5	60	bld	15	35	1400	70	0.98	70	14	5	15	40	3480	280
2	10	205	75	0.5	79	"	120	160	160	170	0.89	45	43.5	5	15	15	1460	300
3	100	1250	215	2.0	3.70%	"	550	<10	700	50	28.0	50	24	20	25	70	1940	70
4	5	25	15	<0.5	23	"	15	"	50	20	0.30	20	1.5	5	10	50	1140	110
5	5	30	15	"	35	"	15	"	40	20	0.43	20	1.0	<5	10	85	490	100
6	35	115	40	0.5	250	"	20	30	440	80	0.92	105	5.5	5	10	55	3320	290
7	75	175	40	1.0	2600	0.032	75	10	620	40	16.0	60	3.5	15	20	150	240	120
8	245	1250	785	2.0	6100	bld	280	190	540	40	34.0	755	<0.5	25	25	20	680	360
9	75	1400	355	1.5	9400	"	240	200	180	<20	39.0	215	"	25	25	10	1430	120
10	60	950	315	1.5	6700	"	160	110	120	"	36.0	190	"	25	25	10	2880	120
11	40	95	1850	<0.5	170	"	5	15	200	40	6.1	9950	"	20	30	5	6.1%	1150
12	20	2150	65	1.5	1.3%	"	850	30	600	<20	16.5	30	"	10	15	60	1495	220
13	40	350	35	2.5	1300	"	230	15	650	"	10.5	60	"	15	15	60	1920	170

11d = 0.008 ppm

THE BROKEN HILL PROPRIETARY CO. LTD.

GENERAL SAMPLE DESCRIPTION

Date:

Date:

211012

REGION: N.W TAS

PROJECT NO.: T650

PROSPECT: WARATAH-general GRID CO-ORDS.:

LOCAL A.M.O.

DESCRIPTION

Sample Type: Seepage

Rock Type:

Soil/Sediment Size Fraction: - 40 mesh

See previous sheets

ANALYSIS

Laboratory ANALABS

Batch No 14.4 08 836

Date Analysed 26/1/82

Cold Extractable

Element Method Sample #	Cu	Pb	Zn	Ag	As												
	A9/1	A9/1	A9/1	A9/1	A9/3												
WSS 1	10	75	10	<0.5	50												
2	5	170	15	"	63												
3	95	1200	215	2.0	2.4%												
4	<5	20	5	<0.5	8												
5	"	25	<5	"	9												
6	25	115	30	"	270												
7	65	155	25	0.5	2100												
8	160	1250	720	2.0	4700												
9	65	1400	340	1.0	7000												
10	55	940	310	1.5	5800												
11	35	100	1600	<0.5	100												

Logged or Sampled by:

R.A.

Date:

Project No:

Drilling No:

AA-

THE BROKEN HILL PROPRIETARY CO. LTD.

GENERAL SAMPLE DESCRIPTION

Centre:

Site:

211019

REGION: N.W TMS

PROJECT NO.: T650

PROSPECT: WARATAH-general GRID CO-ORDS:

LOCAL A.M.O.

DESCRIPTION

Sample Type: Seepage

Rock Type:

Soil/Sediment Size Fraction: - 40 mesh

See previous sheets

ANALYSIS

Laboratory

Batch N°

Date Analysed

Cold Extractable

Element	Cu	Pb	Zn	Ag	As												
WSS-12	15	2150	70	1.5	8400												
13	30	280	30	2.0	1100												
14	60	95	70	1.0	190												
15	45	30	125	0.5	42												
16	50	10	115	<0.5	7												
17	90	80	85	1.0	1600												
18	105	125	215	1.0	1300												
19	45	<5	65	<0.5	5												
20	55	"	120	"	<1												
21	60	"	125	"	"												
22	35	"	105	0.5	3												
23	25	"	105	<0.5	<1												
24	20	15	55	"	34												
25	15	25	50	"	3												

Logged or Sampled by: R.A.

Date:

Project No:
Drawing No:
24-

THE BRICK HILL MINING CO. LTD.

GENERAL SAMPLE DESCRIPTION

Date:
Date:

211020

020

Soil Samples

ANALABS

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

Phone (09) 458 7999

52 Murray Road, Welshpool, W.A. 6106

Telex AA92560

ANALYTICAL REPORT No. 14.4 08 820

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

B.H.P. Company
GPO Box 1140L
Hobart
Tasmania 7001

ORDER No.	PROJECT
DATE RECEIVED	RESULTS REQUIRED
15.1.82	

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
	21.1.82	3	108

STATE OF SAMPLES	REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT						ANALYSIS				
			DRY	CRUSH	SPLIT	PUL-VERSE	SIEVE	OTHER SEE REMARKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD	
	5	Various	1			3	2				Cu Pb Zn Ag Ni Co Cr As Mo Sn W	A1 A1	AAS AAS XRF

RESULTS TO RESULTS TO	As Above	REMARKS
	Attention: A Clarke G.P.O. Box 1383 Brisbane	

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 TIT
water WA	HF under pressure A7	other chemical means CHEM
tissue TI	fusion A8	miscellaneous MISC
stream sediment SS		fluorescence FLUOR
heavy mineral HM		inductively coupled plasma ICP

AUTHORISED OFFICER B. Dave

022

ANALABS

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

ANALYTICAL DATA

SAMPLE PREFIX REPORT NUMBER REPORT DATE CLIENT ORDER No. PAGE

14.4 08 928 21.1.82 1 OF 12

TUBE No.	SAMPLE No.		Cr	Co	Ni	Cu	Zn	Pb	Mo
1	RW 1500N	500E	180	30	55	70	150	31	X
2	RW 1500N	600E	195	15	40	35	60	13	X
3	RW 1500N	700E	265	15	45	45	65	15	X
4	RW 1500N	800E	275	20	105	45	130	8	1.0
5	RW 1500N	900E	240	10	80	25	60	4	1.5
6	RW 1500N	1000E	275	15	110	30	85	5	1.5
7	RW 1500N	1100E	245	10	55	20	40	6	1.0
8	RW 1500N	1200E	470	85	115	70	90	5	1.5
9	RW 1500N	1300E	365	20	210	45	95	2	1.5
10	RW 1500N	1400E	230	15	70	30	60	4	1.0
11	RW 1500N	1500E	295	20	85	40	70	4	1.0
12	RW 1500N	1600E	240	10	65	40	85	6	0.5
13	RW 1500N	1700E	270	15	80	30	75	4	X
14	RW 1500N	1800E	245	15	70	30	65	5	0.5
15	RW 1500N	1900E	280	5	40	20	55	4	0.5
16	RW 1500N	2000E	280	20	70	35	60	5	X
17	RW 1500N	2100E	235	X	60	25	50	4	X
18	RW 1500N	2200E	440	X	15	10	15	2	0.5
19	RW 1500N	2300E	370	10	45	20	50	3	X
20	RW 1500N	2400E	305	25	70	30	70	4	1.0
21	RW 1500N	2500E	410	30	170	65	85	4	0.5
22	RW 1500N	2600E	370	20	140	40	70	5	1.0
23	RW 1500N	2700E	310	25	120	40	65	4	0.5
24	RW 1500N	2800E	215	10	60	25	40	3	X
25	RW 1500N	2900E	180	15	80	20	50	4	X

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

AUTHORISED OFFICER

B.D.

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

ANALYTICAL DATA

SAMPLE PREFIX REPORT NUMBER REPORT DATE CLIENT ORDER No. PAGE

 14.4 08 828 21.1.62 2 OF 12

TUBE No.	SAMPLE No.	Cr	Co	Ni	Cu	Zn	Pb	Mn
1	RW 1500N 3000E	230	20	70	30	65	4	X
2	RW 1500N 3100E	295	15	55	35	60	4	X
3	RW 1500N 3200E	370	20	50	25	60	4	X
4	RW 1500N 3300E	370	30	150	60	95	4	X
5	RW 1500N 3400E	485	20	75	85	95	4	1.0
6	RW 750N 500E	210	30	55	40	90	6	X
7	RW 750N 600E	255	20	40	35	60	7	0.5
8	RW 750N 700E	385	35	145	55	70	6	0.5
9	RW 750N 800E	265	20	165	30	100	3	X
10	RW 750N 900E	170	20	30	30	60	6	1.0
11	RW 750N 1000E	260	25	95	40	75	6	X
12	RW 750N 1100E	310	20	75	25	50	7	X
13	RW 750N 1200E	240	20	80	20	65	5	X
14	RW 750N 1300E	195	25	85	35	65	5	0.5
15	RW 750N 1400E	240	35	215	50	95	5	0.5
16	RW 750N 1500E	160	15	50	20	55	4	X
17	RW 750N 1600E	250	20	140	30	80	4	0.5
18	RW 750N 1700E	905	30	135	20	35	3	1.0
19	RW 750N 1800E	125	5	50	30	45	4	0.5
20	RW 750N 1900E	245	10	90	35	40	5	0.5
21	RW 750N 2000E	395	25	200	55	65	3	X
22	RW 750N 2100E	210	20	90	35	60	4	0.5
23	RW 750N 2200E	265	20	70	25	95	5	1.0
24	RW 750N 2300E	350	25	125	20	80	4	1.5
25	RW 750N 2400E	205	15	50	25	40	4	X

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

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ANALYTICAL DATA

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			14.4 00 820	21.1.82				3 OF	12
TUBE No.	SAMPLE No.		Cr	Co	Ni	Cu	Zn	Pb	Mo
1	RW 750N 2500E		265	20	80	25	50	7	X
2	RW 750N 2600E		165	10	50	15	35	4	X
3	RW 750N 2700E		335	20	95	30	50	5	X
4	RW 750N 2800E		215	15	75	20	40	4	0.5
5	RW 750N 2900E		310	25	140	40	75	3	1.0
6	RW 750N 3000E		185	15	60	25	45	7	X
7	RW 750N 3100E		265	30	150	20	85	1	X
8	RW 750N 3200E		240	40	180	55	80	2	0.5
9	RW 750N 3300E		265	25	95	35	70	3	X
10	RW 750N 3400E		205	20	65	35	55	5	1.0
11	RW 750N 3500E		N/S	N/S	N/S	N/S	N/S	N/S	N/S
12	RW 750N 3600E		140	55	135	40	145	2	X
13	RW 750N 3700E		125	85	125	55	160	2	X
14	RW 750N 3800E		190	40	120	55	90	2	X
15	RW 750N 3900E		230	35	140	60	75	2	X
16	RW 750N 4000E		205	30	135	70	65	3	X
17	RG 3430N 1000E		95	40	60	55	95	3	0.5
18	RG 3430N 1100E		140	45	65	45	85	4	X
19	RG 3430N 1200E		240	45	135	55	100	5	X
20	RG 3430N 1300E		180	70	240	70	115	2	X
21	RG 3430N 1400E		170	40	130	55	90	3	0.5
22	RG 3430N 1500E		205	50	185	60	85	3	X
23	RG 3430N 1600E		225	80	230	65	190	2	X
24	RG 3430N 1700E		295	90	225	65	180	5	X
25	RG 3430N 1800E		265	75	185	55	110	4	X

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

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ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

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PAGE

14.4 88 823

21.1.82

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TUBE No.	SAMPLE No.		Cr	Co	Ni	Cu	Zn	Pb	Mo
1	RG 3480N 1300E		55	60	80	30	100	1	X
2	C1 88E		910	55	235	50	55	4	X
3	C1 100E		240	35	120	40	70	6	X
4	C1 200E		340	65	285	65	175	3	X
5	C1 300E		250	105	275	60	195	4	0.5
6	C1 400E		320	30	180	60	75	5	0.5
7	C1 500E		190	30	95	40	80	5	0.5
8	C1 600E		180	25	70	35	65	7	X
9	C1 700E		230	50	115	60	90	5	X
10	L1 800E		235	30	125	60	70	5	X
11	C1 900E		100	15	35	30	55	10	X
12	C1 1000E		125	45	65	40	75	2	X
13	C1 1100E		210	20	80	40	60	3	X
14	C1 1200E		210	40	75	45	70	3	X
15	C1 1300E		160	30	120	55	70	6	X
16	C1 1400E		215	80	165	65	145	4	X
17	C1 1500E		260	55	170	65	250	3	X
18	C2 88E		180	30	125	70	435	1	X
19	C2 100E		310	20	65	30	70	3	X
20	C2 200E		235	15	60	40	85	3	X
21	C2 300E		235	25	65	30	105	3	X
22	C2 400E		190	15	55	25	55	4	X
23	C2 500E		180	15	80	15	50	5	X
24	C2 600E		190	20	50	30	60	3	X
25	C2 700E		80	65	45	35	130	1	X

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

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B. D.

026

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711027

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

		14.4 86 828			21.1.82				5 OF 12	
TUBE No.	SAMPLE No.		Cr	Co	Ni	Cu	Zn	Pb	Mo	
1	C2 800E		185	55	70	20	145	1	X	
2	C2 900E		275	20	50	15	50	2	X	
3	C2 1000E		325	20	120	40	60	2	X	
4	C2 1100E		145	140	120	45	100	2	X	
5	C2 1200E		50	10	10	5	20	2	X	
6	C2 1300E		55	5	25	10	30	2	X	
7	C2 1400E		270	25	130	35	65	2	X	
8	C2 1500E		225	15	90	20	40	2	X	
9	RW 1500 3500E		185	10	65	20	40	2	X	
10										
11										
12										
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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

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B. D.

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711028

ANALYTICAL DATA

SAMPLE PREFIX

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REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX		REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE			
		14.4 88 828	21.1.82		6 OF 13			
TUBE No.	SAMPLE No.	Cr	Co	Ni	Cu	Zn	Pb	Mo
1	STD FS4	1200	120	1650	295	735	24	0.5
2	RPT RW 1500N 500E	175	30	60	70	200	33	X
3	RPT RW 1500N 2400E	305	25	70	30	70	5	1.0
4	STD FS4	1200	120	1650	300	680	25	0.5
5	RPT RW 750N 1500E	170	20	50	25	60	4	0.5
6	RPT RW 750N 3400E	200	25	65	30	60	4	0.5
7	STD FS4	1450	105	1700	290	670	25	0.5
8	RPT C1 400E	340	30	105	50	65	4	X
9	RPT C2 700E	100	60	50	35	125	2	X
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23	DETECTION	S	S	S	S	S	1	0.5
24	DIGESTION	R1	R1	R1	R1	R1	R1	R1
25	METHOD	R1/1	R1/1	R1/1	R1/1	R1/1	R1/3	R1/6

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

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B. Dora

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711029

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX			REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
			14.4 06 828	21.1.82		7 OF 12
TUBE No.	SAMPLE No.		Hg	Pb		
1	RW 1500N 500E		0.5	225 ⁴		
2	RW 1500N 600E		X	30		
3	RW 1500N 700E		X	30		
4	RW 1500N 800E		X	15		
5	RW 1500N 900E		X	5		
6	RW 1500N 1000E		X	5		
7	RW 1500N 1100E		X	10		
8	RW 1500N 1200E		0.5	5		
9	RW 1500N 1300E		0.5	20		
10	RW 1500N 1400E		X	X		
11	RW 1500N 1500E		X	X		
12	RW 1500N 1600E		X	X		
13	RW 1500N 1700E		X	X		
14	RW 1500N 1800E		X	X		
15	RW 1500N 1900E		X	5		
16	RW 1500N 2000E		X	X		
17	RW 1500N 2100E		X	5		
18	RW 1500N 2200E		X	X		
19	RW 1500N 2300E		X	5		
20	RW 1500N 2400E		X	10		
21	RW 1500N 2500E		X	X		
22	RW 1500N 2600E		X	5		
23	RW 1500N 2700E		X	X		
24	RW 1500N 2800E		X	X		
25	RW 1500N 2900E		X	X		

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

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711030

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

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CLIENT ORDER No.

PAGE

TUBE No.	SAMPLE No.		Pb	Pb					
			14.4 06 828	21.1.82				8 OF	12
1	RW 1500N 3000E		X	10					
2	RW 1500N 3100E		X	10					
3	RW 1500N 3200E		X	10					
4	RW 1500N 3300E		X	10					
5	RW 1500N 3400E		X	5					
6	RW 750N 500E		X	60					
7	RW 750N 600E		X	45					
8	RW 750N 700E		X	X					
9	RW 750N 800E		X	5					
10	RW 750N 900E		X	5					
11	RW 750N 1000E		X	10					
12	RW 750N 1100E		X	5					
13	RW 750N 1200E		X	5					
14	RW 750N 1300E		X	5					
15	RW 750N 1400E		X	X					
16	RW 750N 1500E		X	5					
17	RW 750N 1600E		X	X					
18	RW 750N 1700E		X	X					
19	RW 750N 1800E		X	X					
20	RW 750N 1900E		X	X					
21	RW 750N 2000E		X	10					
22	RW 750N 2100E		X	10					
23	RW 750N 2200E		X	10					
24	RW 750N 2300E		X	X					
25	RW 750N 2400E		X	X					

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

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B. Doe

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711031

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

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PAGE

			14.4 88 828	21.1.82		9 OF 12
TUBE No.	SAMPLE No.		Pb	Pb		
1	RW 750N 2500E		X	10		
2	RW 750N 2600E		X	X		
3	RW 750N 2700E		X	5		
4	RW 750N 2800E		X	X		
5	RW 750N 2900E		X	X		
6	RW 750N 3000E		X	15		
7	RW 750N 3100E		X	X		
8	RW 750N 3200E		X	X		
9	RW 750N 3300E		X	X		
10	RW 750N 3400E		X	10		
11	RW 750N 3500E		N/S	N/S		
12	RW 750N 3600E		X	5		
13	RW 750N 3700E		X	X		
14	RW 750N 3800E		X	X		
15	RW 750N 3900E		X	5		
16	RW 750N 4000E		X	10		
17	RG 3430N 1000E		X	X		
18	RG 3430N 1100E		X	X		
19	RG 3430N 1200E		X	X		
20	RG 3430N 1300E		X	X		
21	RG 3430N 1400E		X	X		
22	RG 3430N 1500E		X	X		
23	RG 3430N 1600E		X	X		
24	RG 3430N 1700E		X	40		
25	RG 3430N 1800E		X	X		

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

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711032

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX		REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
		14.4 88 828	21.1.82		10 OF 12
TUBE No.	SAMPLE No.		Hg	Pb	
1	RG 3430N 2900 & 1500E		X	X	
2	C1 00E		X	X	
3	C1 100E		X	10	
4	C1 200E		X	X	
5	C1 300E		X	5	
6	C1 400E		X	15	
7	C1 500E		X	5	
8	C1 600E		X	15	
9	C1 700E		X	15	
10	C1 800E		X	15	
11	C1 900E		X	15	
12	C1 1000E		X	10	
13	C1 1100E		X	10	
14	C1 1200E		X	5	
15	C1 1300E		X	10	
16	C1 1400E		X	10	
17	C1 1500E		X	10	
18	C2 00E		X	5	
19	C2 100E		X	10	
20	C2 200E		X	10	
21	C2 300E		X	5	
22	C2 400E		X	15	
23	C2 500E		X	10	
24	C2 600E		X	5	
25	C2 700E		X	5	

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

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ANALYTICAL DATA

SAMPLE PREFIX

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PAGE

		14.4 08 826		21.1.82				11 OF 12	
TUBE No.	SAMPLE No.			Hg	Pb				
1	C2 800E			X	5				
2	C2 900E			X	5				
3	C2 1000E			X	10				
4	C2 1100E			X	5				
5	C2 1200E			X	X				
6	C2 1300E			X	10				
7	C2 1400E			X	10				
8	C2 1500E			X	X				
9	RW 1500 3500E			X	20				
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
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25									

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

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ANALYTICAL DATA

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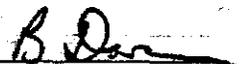
		14.4 08 828		21.1.82				12 OF 12	
TUBE No.	SAMPLE No.		Hg	Pb					
1	STD FS4		0.5	100					
2	RPT RW 1500N 500E		0.5	225					
3	RPT RW 1500N 2400E		X	10					
4	STD FS4		0.5	80					
5	RPT RW 750N 1500E		X	X					
6	RPT RW 750N 3400E		X	5					
7	STD FS4		0.5	90					
8	RPT C1 400E		X	15					
9	RPT C2 700E		X	X					
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23	DETECTION		0.5	5					
24	DIGESTION		A1	A1					
25	METHOD		A1/1	A1/1					

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

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ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

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PAGE

			14.4 00 820	29.1.82		1 OF 5
TUBE No.	SAMPLE No.		Sn	W		
1	RW 1500N	500E	15	X		
2	RW 1500N	500E	9	X		
3	RW 1500N	700E	15	X		
4	RW 1500N	800E	7	X		
5	RW 1500N	900E	7	X		
6	RW 1500N	1000E	7	X		
7	RW 1500N	1100E	9	X		
8	RW 1500N	1200E	9	X		
9	RW 1500N	1300E	20	X		
10	RW 1500N	1400E	6	X		
11	RW 1500N	1500E	X	X		
12	RW 1500N	1600E	8	X		
13	RW 1500N	1700E	9	X		
14	RW 1500N	1800E	X	X		
15	RW 1500N	1900E	9	X		
16	RW 1500N	2000E	4	X		
17	RW 1500N	2100E	7	X		
18	RW 1500N	2200E	4	X		
19	RW 1500N	2300E	7	X		
20	RW 1500N	2400E	6	X		
21	RW 1500N	2500E	5	X		
22	RW 1500N	2600E	10	X		
23	RW 1500N	2700E	5	10		
24	RW 1500N	2800E	5	X		
25	RW 1500N	2900E	9	X		

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

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035

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ANALYTICAL DATA

SAMPLE PREFIX REPORT NUMBER REPORT DATE CLIENT ORDER No. PAGE

		14.4 08 828		29.1.82				2 OF 5	
TUBE No.	SAMPLE No.		Sn	W					
1	RW 1500N 3000E		10	X					
2	RW 1500N 3100E		8	15					
3	RW 1500N 3200E		7	X					
4	RW 1500N 3300E		7	X					
5	RW 1500N 3400E		8	X					
6	RW 1500N 3500E		9	X					
7	RW 750N 500E		7	X					
8	RW 750N 600E		8	20					
9	RW 750N 700E		9	X					
10	RW 750N 800E		30	X					
11	RW 750N 900E		8	10					
12	RW 750N 1000E		7	X					
13	RW 750N 1100E		15	X					
14	RW 750N 1200E		9	15					
15	RW 750N 1300E		7	X					
16	RW 750N 1400E		4	X					
17	RW 750N 1500E		6	X					
18	RW 750N 1600E		4	X					
19	RW 750N 1700E		6	X					
20	RW 750N 1800E		5	X					
21	RW 750N 1900E		8	X					
22	RW 750N 2000E		7	X					
23	RW 750N 2100E		5	X					
24	RW 750N 2200E		7	X					
25	RW 750N 2300E		10	X					

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

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ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

		14.4 08 828		29.1.82				3 OF 5	
TUBE No.	SAMPLE No.	Sn	W						
1	RW 750N 2400E	6	X						
2	RW 750N 2500E	6	X						
3	RW 750N 2500E	4	X						
4	RW 750N 2700E	7	X						
5	RW 750N 2800E	9	X						
6	RW 750N 2900E	8	X						
7	RW 750N 3000E	7	X						
8	RW 750N 3100E	7	X						
9	RW 750N 3200E	5	X						
10	RW 750N 3300E	7	X						
11	RW 750N 3400E	6	X						
12	RW 750N 3500E	N/S	N/S						
13	RW 750N 3500E	5	X						
14	RW 750N 3700E	5	X						
15	RW 750N 3800E	15	X						
16	RW 750N 3800E	7	X						
17	RW 750N 4000E	5	X						
18	RG 3430N 1000E	8	X						
19	RG 3430N 1100E	9	X						
20	RG 3430N 1200E	9	X						
21	RG 3430N 1300E	5	X						
22	RG 3430N 1400E	5	X						
23	RG 3430N 1500E	X	10						
24	RG 3430N 1600E	4	10						
25	RG 3430N 1700E	6	X						

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

B. Doe

AUTHORISED OFFICER

T. Doe

037

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711038

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX			REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
			14.4 00 828	29.1.82		4 OF 5
TUBE No.	SAMPLE No.		Sn	W		
1	RG 3430H	1800E	6	X		
2	RG 3430H	1900E	9	10		
3	C1 00E		6	X		
4	C1 100E		10	X		
5	C1 200E		9	15		
6	C1 300E		4	X		
7	C1 400E		7	X		
8	C1 500E		X	10		
9	C1 600E		8	X		
10	C1 700E		5	X		
11	C1 800E		4	10		
12	C1 900E		10	X		
13	C1 1000E		5	X		
14	C1 1100E		6	X		
15	C1 1200E		X	10		
16	C1 1300E		5	X		
17	C1 1400E		4	X		
18	C1 1500E		4	10		
19	C2 00E		9	X		
20	C2 100E		7	X		
21	C2 200E		9	X		
22	C2 300E		8	X		
23	C2 400E		6	X		
24	C2 500E		8	X		
25	C2 600E		4	X		

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 B. Dora

AUTHORISED OFFICER B. Dora

038

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ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

SAMPLE PREFIX		REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
		14.4 08 828	29.1.82		5 OF 5
TUBE No.	SAMPLE No.	Sn	W		
1	C2 700E	6	X		
2	C2 800E	X	X		
3	C2 900E	7	X		
4	C2 1000E	9	X		
5	C2 1100E	4	X		
6	C2 1200E	4	X		
7	C2 1300E	4	X		
8	C2 1400E	X	X		
9	C2 1500E	5	X		
10					
11					
12					
13					
14					
15					
16					
17					
18	NOTE: N/S means Sample Not Submitted				
19					
20					
21					
22					
23	DETECTION	3	10		
24	DIGESTION				
25	METHOD	XRF	XRF		

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

B. D.

AUTHORISED OFFICER

B. D.

CONSULTING CHEMISTS & ANALYSTS

OFFICE & LABORATORY

P.O. BOX 66
EVERTON PARK QLD 4053

LABORATORY REPORT

PH 07 3525577
TELEX ALSEV 42344

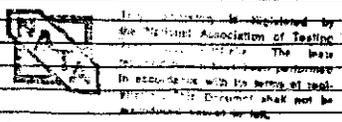
Batch No.: B079 Client: BHP COMPANY LIMITED, Area Contact: MR. KEVIN KUYSS
Address: P.O. BOX 559 CAMBERWELL Address: G.P.O. BOX 1140L,
Date Received 12/02/82 HOBART TAS. 7001
Date Completed 25/02/82 VIC 3124

Order No.: T650-5085; T660-5086 Sample Type: SOIL No. of Samples: 150 *INERRAR - REASSAYED*

SAMPLE NO.	Cu	Pb	Zn	Ni	Cr	Co	As	Sn	W	ELEMENTS UNITS METHODS
	ppm	ppm								
	G001	G001	G001	G001	G001	G001	G004	XRF 1A	XRF 1A	
RG 2700N/E2000	50	40	90	155	240	130	2	10	<10	<i>W outside</i>
RG 2700N/E2100	45	35	80	140	200	50	2	<5	<10	
RG 2700N/E2200	60	35	60	200	270	40	2	5	<10	
RG 2700N/E2300	45	40	80	125	300	75	4	5	<10	
RG 2700N/E2400	35	55	65	115	230	40	2	50	50	
RG 2700N/E2500	45	40	80	160	260	60	2	<5	<10	
RG 2700N/E2600	125	100	60	115	240	45	35	0.19	% 2.79 %	
RG 2700N/E2700	40	45	85	145	260	55	4	10	30	
RG 2700N/E2800	50	45	60	115	310	45	4	145	0.23 %	
RG 2700N/E2900	50	40	100	190	200	60	1	<5	<10	
RG 2700N/E3000	40	35	80	85	210	50	1	5	<10	
RG 2700N/E3100	75	40	70	190	370	40	3	70	915	
RG 2700N/E3200	50	40	75	160	75	30	1	30	340	
RG 2700N/E3300	50	45	70	140	300	45	2	<5	<10	
RG 2700N/E3400	70	45	90	190	330	60	3	60	690	
RG 2700N/E3500	55	35	85	155	390	80	2	5	<10	
RG 2700N/E3600	45	35	65	135	300	30	3	50	490	
RG 2700N/E3700	40	30	130	165	440	50	1	5	<10	
RG 2700N/E3800	40	30	45	160	240	25	2	10	110	
RG 2700N/E3950	50	35	70	170	300	50	2	<5	<10	
RG 2700N/E4000	60	35	70	190	290	50	2	15	90	
RG 2000N/E1100	60	30	120	170	170	75	1	5	<10	
RG 2000N/E1200	60	30	70	160	200	60	1	30	200	
RG 2000N/E1300	30	35	40	95	210	30	1	5	<10	
RG 2000N/E1400	35	30	40	105	180	30	1	10	80	
RG 2000N/E1500	65	25	65	175	260	50	2	5	<10	
RG 2000N/E1600	70	25	60	230	130	50	1	10	40	
RG 2000N/E1700	45	25	55	180	190	35	2	5	<10	
RG 2000N/E1800	65	25	125	195	180	65	2	10	40	
RG 2000N/E1900	75	20	70	300	125	60	<1	<5	<10	

UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent
g - Grams a - Absorbance

Signature: *A. J. H. Layton*



711040

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 TELEX ALSEV 42344

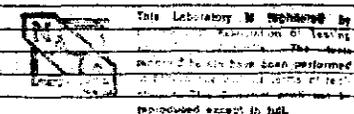
LABORATORY REPORT

Batch No.: B079 Client: BHP COMPANY LIMITED, Area Contact: MR. KEVIN KUYSS
 Address: P.O. BOX 559 Address: G.P.O. BOX 1140L,
 Date Received 12/02/82 CAMBERWELL HOBART TAS. 7001
 Date Completed 25/02/82 VIC 3124
 Order No.: 1650-5085; 1660-5086 Sample Type: SOIL (-40 mesh) No. of Samples: 150

SAMPLE NO.	Cu	Pb	Zn	Ni	Cr	Co	As	Sn	W	ELEMENTS UNITS METHODS
	g001	g001	g001	g001	g001	g001	g004	XRF 1A	XRF 1A	
RG 1200N/E1200	65	35	90	160	260	50	1	10	80	
RG 1200N/E1300	75	35	80	165	240	65	1	5	<10	
RG 1200N/E1400	60	35	65	140	190	35	<1	<5	20	
RG 1200N/E1500	75	35	100	185	230	75	1	10	<10	
RG 1200N/E1600	60	35	85	140	260	55	2	<5	<10	
RG 1200N/E1700	50	35	70	75	230	40	2	<5	<10	
RG 1200N/E1800	55	40	70	130	490	45	2	5	<10	
RG 1200N/E1900	75	40	65	145	470	65	1	10	10	
RG 1200N/E2000	55	40	115	130	390	70	1	<5	<10	
RG 1200N/E2100	55	40	110	90	330	50	2	10	<10	
RG 1200N/E2200	55	40	95	105	260	45	3	25	90	
RG 1200N/E2300	60	35	80	180	310	70	2	<5	<10	
RG 1200N/E2400	55	35	105	150	340	75	1	5	50	
RG 1200N/E2500	40	35	90	70	290	50	3	5	<10	
RG 1200N/E2600	45	35	80	135	340	60	2	5	20	
RG 1200N/E2700	40	30	65	150	240	35	1	<5	<10	
RG 1200N/E2800	65	30	95	250	130	75	1	<5	<10	
RG 1200N/E2900	65	50	100	155	500	75	2	<5	<10	
RG 1200N/E3000	55	35	90	140	350	60	3	<5	<10	
SBT 00m	50	60	230	75	30	25	2	45	<10	
SBT 100m	10	270	25	15	<5	5	3	30	80	
SBT 200m	60	210	65	15	15	10	140	95	40	
SBT 300m	30	175	120	20	5	10	90	35	210	
SBT 400m A	5	155	40	10	125	5	20	145	20	
SBT 400m B	35	260	110	15	15	10	70	85	70	
SBT 500m A	2	240	45	10	270	10	14	145	60	
SBT 500m B	30	150	35	10	5	10	180	100	110	
SBT 600m A	2	35	20	10	400	<5	5	20	40	
SBT 600m B	15	230	25	10	<5	10	160	230	80	
SBT 700m A	5	75	30	10	320	10	12	80	40	

UNITS LEGEND ----- a - Parts per million b - Parts per billion % - percent
 g - Grams a - Absorbance

Signature: *A. J. Finlayson*



This Laboratory is approved by the Department of Science and Technology for the performance of the following tests: (List of tests follows, partially obscured)

7114042

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LABORATORY REPORT

Batch No.: B079 Client: BHP COMPANY LIMITED, Area Contact: MR. KEVIN KUYS
Address: P.O. BOX 559 Address: G.P.O. BOX 1140L,
Date Received 12/02/82 CAMBERWELL HOBART TAS. 7001
Date Completed 25/02/82 VIC 3124
Order No.: 1650-5085; 1660-5086 Sample type: SOIL No. of Samples: 150

SAMPLE NO.	CU	Pb	Zn	Ni	Cr	Co	As	Sn	W	ELEMENTS UNITS METHODS
	g/100g	XRF 1A	XRF 1A							
SBT 700m B	75	175	280	15	10	10	80	45	80	
SBT 800m A	5	35	15	5	250	5	2	95	30	
SBT 800m B	10	250	45	10	25	5	35	145	40	
SBT 900m A	5	20	15	10	500	5	1	35	50	
SBT 1000m A	10	30	35	5	135	5	20	40	120	
SBT 1100m A	10	35	60	10	155	10	9	20	30	
SBT 1200m A	10	45	20	5	200	5	5	110	130	
SBT 1300m A	10	35	15	5	360	25	2	35	40	
SBT 1400m A	5	45	15	5	145	25	6	70	130	
SBT 1500m A	5	25	15	10	285	25	1	65	40	
SBT 1600m A	5	35	15	5	215	5	1	80	100	
SBT 1700m A	5	40	20	10	125	10	5	15	20	
SBT 1800m A	5	35	25	10	180	10	9	35	110	
SBT 1900m A	5	35	15	5	290	10	7	35	50	
SBT 2000m A	20	55	45	15	15	15	16	20	30	
SBT 2100m A	2	20	10	5	260	5	1	10	30	
SBT 2200m A	5	35	40	10	45	20	3	20	40	
SBT 2300m A	5	20	10	5	250	25	1	10	30	
SBT 2400m A/B	5	20	15	5	185	5	2	25	40	
SBT 2500m B	5	25	15	10	290	5	2	45	50	
SBT 2600m B	5	30	35	10	25	15	7	15	20	
SBT 2700m B	10	40	30	15	95	15	10	15	90	
SBT 2800m B	10	20	25	10	100	10	2	10	50	
SBT 2900m B	10	35	35	15	40	15	3	20	50	
MR 00m	30	230	250	15	35	20	60	20	30	
MR 100m	10	105	155	15	35	10	2	70	40	
MR 200m	10	60	35	10	60	10	8	15	30	
MR 300m A	45	130	95	10	35	15	2	10	20	
MR 300m B	30	400	130	15	15	15	3	15	20	
MR 400m	25	85	175	20	65	10	12	5	30	

UNITS LEGEND ----- a - Parts per million b - Parts per billion % - percent
g - Grams a - Absorbance

Signature: *A. Finlayson*



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711043

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L A B O R A T O R Y R E P O R T

Batch No. 8079 Client: BHP COMPANY LIMITED, Area Contact: MR. KEVIN KUYS
 Address: P.O. BOX 559 Address: G.P.O. BOX 1140L,
 Date Received 12/02/82 CAMBERWELL HOBART TAS. 7001
 Date Completed 25/02/82 VIC 3124

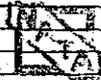
Order No. 1 1650-5085; 1650-5086 Sample Type: SOIL No. of Samples: 150

SAMPLE NO.	Cu	Pb	Zn	Ni	Cr	Co	As	Sn	U	ELEMENTS UNITS METHODS
	g	g	g	g	g	g	g	g	g	
	G001	G001	G001	G001	G001	G001	G004	RRF 1A	RRF 1A	
MR 500a	5	105	25	10	160	5	2	45	50	
MR 600a	20	240	180	10	35	10	14	15	10	
MR 700a	5	85	75	10	10	10	8	50	30	
MR 800a	5	35	25	10	230	<5	2	20	30	
MR 900a	5	35	60	10	65	10	6	25	40	
MR 1000a	15	125	280	15	25	10	12	10	20	

RG 2700N/E4100	65	30	65	155	480	70	1	<5	<10
RG 2700N/E4200	50	25	60	165	410	35	1	<5	<10
RG 2700N/E4300	60	25	70	230	340	30	2	5	<10
RG 2700N/E4400	50	20	70	145	380	45	1	5	<10
RG 2600N/E3900	45	15	100	175	250	40	1	<5	<10

UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent
 g - GRAMS a - Absorbance

Signature: *D. J. Finlayson*



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711044

044



SFF:ln

Australian Laboratory Services

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& ANALYSTS

OFFICE & LABORATORIES
32 SHAND STREET,
STAFFORD, BRISBANE
QUEENSLAND, AUSTRALIA 4053

P.O. BOX 66,
EVERTON PARK, Q. 4053

TELEPHONE: (07) 352 5577

A/H.: 353 2830

TELEX: ALSEV 42344

25th March, 1982

The B.H.P. COMPANY LTD.,
G.P.O. Box 1140L,
HOBART TAS. 7001

Attention: Dr. R. HINE

Dear Rick,

Enclosed is our amended report B079A covering re-analysis of samples for Tin and Tungsten (sample submission number 5089).

All samples were re-sieved to -20# and pulverised. Original assays were done on -40# material.

Assay results for the SBT and MR sequence of samples (-20#) definitely confirm the presence of Tin and Tungsten, while the RG series is virtually barren.

I have investigated the possibility of the use of the Tungsten Carbide grinding barrell for your samples, but our preparation staff have assured me that it was not used. I have also checked for other possible sources of contamination and can find no logical explanation for the grossly anomolous Tin/Tungsten values in the -40 mesh fraction of the RG series. No other samples containing Tin/Tungsten mineralisation were prepared on the same day as your samples.

ORES AND
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711045

...../2

045

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25/3/82



The B.H.P. Co.Ltd.
Attn: Dr. R. Hine

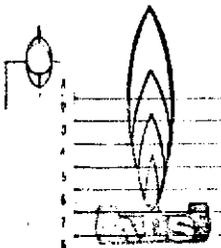
I'm sorry to leave this one in the air, Rick, but I can only assure you that the utmost care is taken through the entire preparation procedure to minimise the possibility of contamination.

Yours sincerely,

S.F. Finlayson
.....
S.F. FINLAYSON
CHIEF CHEMIST

711046

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LABORATORY REPORT

OFFICE & LABORATORY
 P.O. BOX 66
 EVERTON PARK QLD 4053
 Ph 07 3525577
 TELEX ALSEV 42344

Batch No.: B079A Client: BHP COMPANY LIMITED, Area Contact: DR. R. HINE
 Address: P.O. BOX 559 Address: 152 MACQUARIE STREET
 Date Received 23/03/82 CAMBERWELL HOBART TAS. 7001
 Date Completed 24/03/82 VIC 3124
 Order No.: T650-5085; T660-5086 Sample Type: SOIL No. of Samples: 150

SAMPLE NO.	Sn		M		ELEMENTS UNITS METHODS
	m	b	m	b	
	XRF 1A	XRF 1A	XRF 1A	XRF 1A	
21 RG 2000N/E2000	<5	<10	<5	<10	
22 RG 2000N/E2100	<5	<10	<5	<10	
23 RG 2000N/E2200	<5	<10	<5	<10	
24 RG 2000N/E2300	5	<10	5	<10	
25 RG 2000N/E2400	<5	<10	<5	<10	
26 RG 2000N/E2500	5	<10	5	<10	
27 RG 2000N/E2600	5	<10	5	<10	
28 RG 2000N/E2700	<5	<10	<5	<10	
29 RG 2000N/E2800	5	<10	5	<10	
30 RG 2000N/E2900	<5	<10	<5	<10	
31 RG 2000N/E3000	<5	<10	<5	<10	
32 RG 2000N/E3100	<5	<10	<5	<10	
33 RG 2000N/E3200	5	<10	5	<10	
34 RG 2000N/E3300	<5	<10	<5	<10	
35 RG 2000N/E3400	<5	<10	<5	<10	
36 RG 2000N/E3500	5	<10	5	<10	
37 RG 2000N/E3600	5	<10	5	<10	
38 RG 2000N/E3700	5	<10	5	<10	
39 RG 2000N/E3800	5	<10	5	<10	
40 RG 2000N/E3950	<5	<10	<5	<10	
41 RG 2000N/E250	<5	<10	<5	<10	
42 RG 1200N/E 300	<5	<10	<5	<10	
43 RG 1200N/E 400	<5	<10	<5	<10	
44 RG 1200N/E 500	<5	<10	<5	<10	
45 RG 1200N/E 600	<5	<10	<5	<10	
46 RG 1200N/E 700	<5	<10	<5	<10	
47 RG 1200N/E 800	<5	<10	<5	<10	
48 RG 1200N/E 900	<5	<10	<5	<10	
49 RG 1200N/E1000	<5	<10	<5	<10	
50 RG 1200N/E1100	<5	<10	<5	<10	

UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent
 g - Grams a - Absorbance

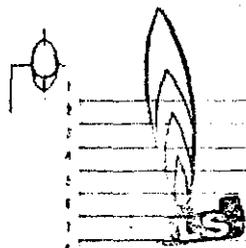
Signature: *A. J. Finlayson*



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711048

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 TELEX ALSEV 42344

LABORATORY REPORT

Batch No.: B079A Client: BHP COMPANY LIMITED Area Contact: DR. R. HINE
 Address: P.O. BOX 559 Address: 152 MACQUARIE STREET
 Date Received 23/03/82 CAMBERWELL HOBART TAS 7001
 Date Completed 24/03/82 VIC 3124
 Order No.: 7650-5085; 1660-5086 Sample Type: SOIL No. of Samples: 150

SAMPLE NO.	Sn		W		ELEMENTS UNITS METHODS
	m	μ	m	μ	
	XRF 1A	XRF 1A	XRF 1A	XRF 1A	
21	RG 1200N/E1200	<5	<10		
22	RG 1200N/E1300	<5	<10		
23	RG 1200N/E1400	5	<10		
24	RG 1200N/E1500	<5	<10		
25	RG 1200N/E1600	<5	<10		
26	RG 1200N/E1700	<5	<10		
27	RG 1200N/E1800	<5	<10		
28	RG 1200N/E1900	<5	<10		
29	RG 1200N/E2000	<5	<10		
30	RG 1200N/E2100	<5	<10		
31	RG 1200N/E2200	<5	<10		
32	RG 1200N/E2300	<5	<10		
33	RG 1200N/E2400	<5	<10		
34	RG 1200N/E2500	<5	<10		
35	RG 1200N/E2600	<5	<10		
36	RG 1200N/E2700	<5	<10		
37	RG 1200N/E2800	<5	<10		
38	RG 1200N/E2900	<5	<10		
39	RG 1200N/E3000	<5	<10		
40	SBT 00m	60	10		
41	SBT 100m	5	<10		
42	SBT 200m	80	30		
43	SBT 300m	5	10		
44	SBT 400m A	80	40		
45	SBT 400m B	40	10		
46	SBT 500m A	105	50		
47	SBT 500m B	65	20		
48	SBT 600m A	10	50		
49	SBT 600m B	150	30		
50	SBT 700m A	70	40		

UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent
 g - Grams a - Absorbance

Signature: *A. J. Ferguson*



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 the National Association of Testing
 Authorities, Australia, T/A NATA.
 All tests have been performed
 in accordance with the NATA
 Code of Practice. Details shall not be
 given without the consent of the
 Association.

711049

CONSULTING CHEMISTS & ANALYSTS

OFFICE & LABORATORY
 P.O. BOX 66
 EVERTON PARK QLD 4053
 Ph 07 3525577
 TELEX ALSEV 42344

LABORATORY REPORT

Batch No.: B079A Client: BHP COMPANY LIMITED, Area Contact: DR. R. HINE
 Address: P.O. BOX 559 Address: 152 MACQUARIE STREET
 Date Received 23/03/82 CAMBERWELL HOBART TAS. 7001
 Date Completed 24/03/82 VIC 3124

Order No.: T650-5085; T660-5086 Sample Type: SOIL No. of Samples: 150

Customer Reference Number

SAMPLE NO.	Sn		M		ELEMENTS
	m	a	m	a	
	XRF 1A		XRF 1A		METHODS
MR 500m	20		30		
MR 600m	15		<10		
MR 700m	30		30		
MR 800m	30		30		
MR 900m	<5		10		
MR 1000m	5		10		

RG 2700N/E4100	<5	<10
RG 2700N/E4200	<5	<10
RG 2700N/E4300	<5	<10
RG 2700N/E4400	5	<10
RG 2000N/E3900	<5	<10

UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent
 g - Grams a - Absorbance

Signature: *A. J. Finlayson*



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APPENDIX 2

Magnetic Property Measurements on
Basalt Cores

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BHP Lot 2(a): WMR Cores Basalt North Tasmania

Orientation information on cores can only be regarded as approximate. declinations are w.r.t. magnetic north which presumably is $\sim 13^\circ$ east of true north. Induced magnetization $/J/$ is calculated as $JIND = kF$ where F , the earth inducing field, is assumed to be 0.625 gauss (62500 gammas, nT) and k is the cgs susceptibility ($/J/$: one (1) cgs emu $\times 10^{-6} = 1$ microgauss = 1 m A/m S.I.). All $/J/$'s are in microgauss.

Sample	JNRM	Decl.	Incl.	$k(\text{cgs} \times 10^{-6})$ whole core	JIND (kF)	Average JNRM	Q (JNRM/ JIND)	Comments
WMR-1	3563	152°	-36°	210	131	3563	27	strong magnetism due to remanence
WMR-2 top	420	337°	+42°	80	50	446	9	weakly magnetic
bottom	452	320°	+65°					
WMR-3	1878	50°	-77°	100	63	1878	30	strong magnetism due to remanence
WMR-4	1374	11°	-67°	170	106	1374	13	strong magnetism due to remanence
WMR-5	11599	156°	+72°	240	150	11599	77	strong magnetism due to remanence
WMR-6 top	1754	39°	-74	500	313	1556	5	strong magnetism due to remanence
bottom	1358	44°	-74					
WMR-7	7908	116°	+76°	130	81	7908	98	strong magnetism due to remanence
WMR-8 top	5215	102°	-70°	120	75	5093	68	strong magnetism due to remanence
bottom	4917	104°	-72°					
WMR-9 top	817	2°	+75°	120	75	1071	14	strong magnetism due to remanence
bottom	1324	2°	+75°					
WMR-10 top	6699	344°	-79°	180	113	7017	62	strong magnetism due to remanence
bottom	7334	343°	-78°					

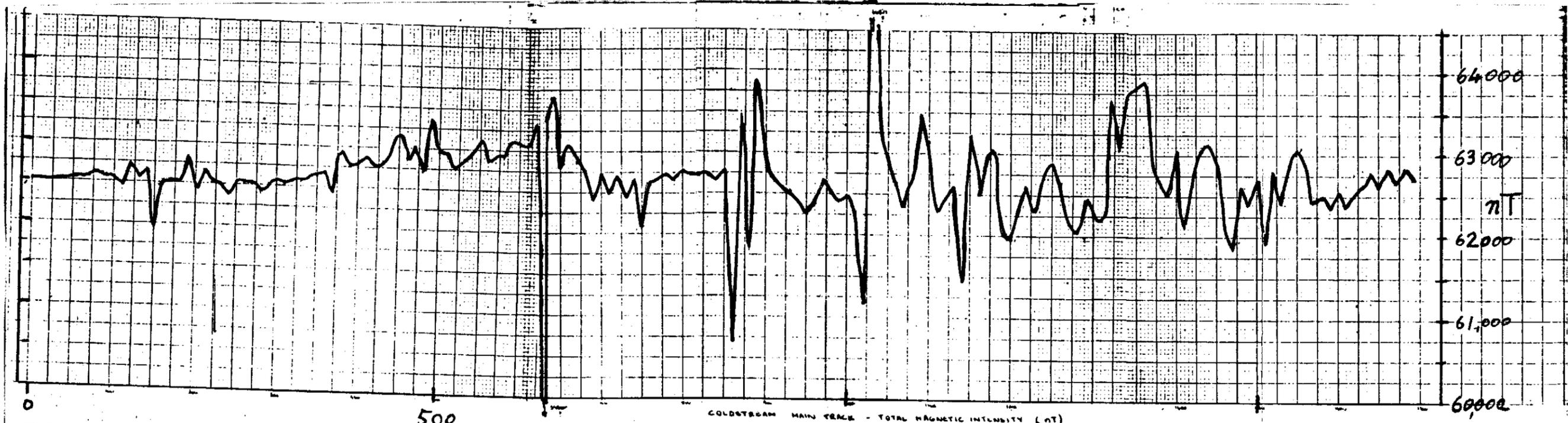
General Comments

- 1) These rocks are quite magnetic due to their remanence: $Q \gg 1$ usually.
- 2) The NRM vectors are scattered but generally steep.
- 3) The magnetization in each case appears to be homogeneous.
- 4) The mix of positive and negative inclinations is puzzling unless drill siting, structure or rock age can account for it. Also viscous and isothermal components will contribute to the scatter of directions observed. A magnetic cleaning study, by AF demagnetization, would be needed to sort this out.

053

APPENDIX 3

Ground Magnetic Profile



COLDSTREAM MAIN TRACK - GROUND MAG. PROFILE

APPENDIX 4

Drilling Report

EXPLORATION LICENCE 33/79

WARATAH, TASMANIA

REPORT ON THE DRILLING PROGRAMME

FEBRUARY-MARCH, 1982

CONTENTS

	<u>Page</u>
1. Introduction	1
2. Objectives/Technical	1
3. Results	1
4. Conclusions	2

APPENDICES

- 1 - Drillhole Logs
- 2 - Magnetic Susceptibility Measurements

Figure: E.L. 33/79 Waratah Drillhole Locations

056

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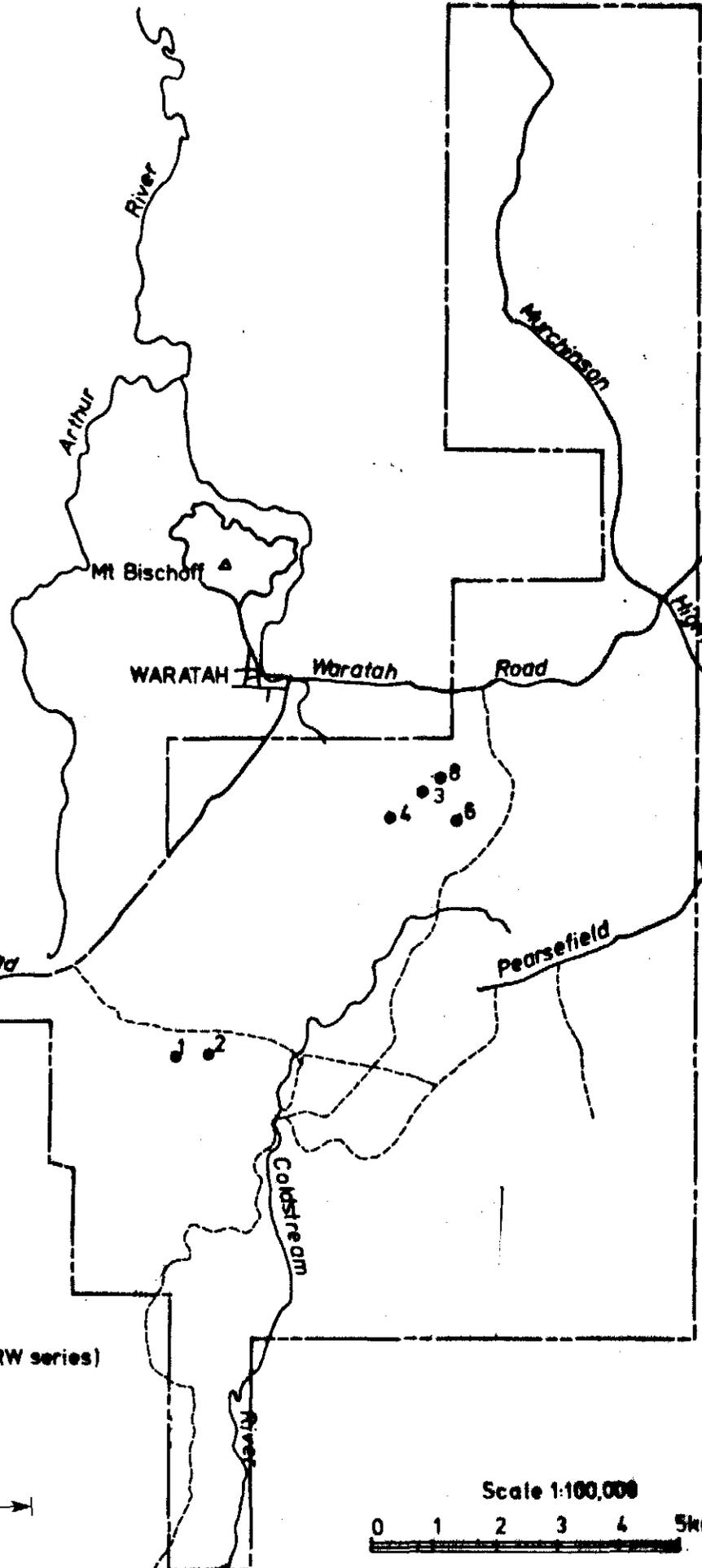
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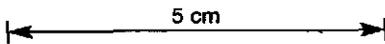
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00



Drillhole (RW series)
Road.
Track.



5 cm

Scale 1:100,000



Centre
Hobart.....

THE BROKEN HILL PROPRIETARY CO. LTD.
E.L.33/79 WARATAH
DRILLHOLE LOCATIONS

Project No.
T650.....

Date
2.8.82.....

Boring No.

1.

1. INTRODUCTION

This report covers data obtained from a programme of six percussion holes drilled in the Waratah area between 9 February 1982 and 8 March 1982.

2. OBJECTIVES/TECHNICAL

The programme was designed to provide stratigraphic information regarding the thickness of the Tertiary basalt cover and the nature of the underlying lithologies.

Drillhole locations were selected to test basalt thicknesses on the basis of aeromagnetic data and aeromagnetic/photogeological features. Six holes (RW1-4,6,8) were drilled for a total of 505 metres, 469 metres of percussion and 36 metres of NQ diamond drilling. Drilling progress was generally slow due to the large volumes of water entering all of the holes below a depth of approximately five metres. This factor also significantly reduced sample recovery in the deeper holes. It was found that a low pressure down the hole hammer could not handle the volume of water and was eventually flooded. A high pressure hammer proved more successful, but even this was extremely slow below a depth of about 80 metres.

3. RESULTS

Of the holes drilled, only RW1 and RW2 on the Wombat grid penetrated through the basalt into Tertiary(?) basal sediments at depths of 64.6 and 84 metres respectively. No Precambrian basement or Permian sediments were intersected. The basal sediments consist of interbeds of grey clay with clay cemented gravels, gravel fragments comprising shale, chert and occasional mafic volcanics. Narrow bands of wood were also penetrated. Analyses of these sediments (samples WDD 1-3) indicate the absence of mineralization in this horizon.

All of the holes drilled on the Reservoir grid (RW3, 4, 6, 8) failed to penetrate through the basalt. The deepest intersection was 110 metres recorded in RW4, with RW6 and 8 each recording a minimum basalt thickness of 100 metres. The basalt is massive to vesicular or amygdaloidal, locally scoriaceous, and varies in colour from red-brown (weathered) to black. Amygdales are commonly filled with blue/green or white chalcedonic quartz or epidote or rarely zeolites. Inclusions of brown-green shale/hornfels are common. Up to four flows have been indicated by drilling in the Reservoir grid area. Individual thicknesses of the flows appear to be 30-40 metres. Interflow sediments, up to one metre thick, comprising grey, green and brown shales with occasional white quartz sand, have been intersected. Flows appear to possess a very shallow east to north-easterly dip suggesting the presence of a "pre-Tertiary"

2.

basin to the east, and inferring increasing basalt thickness progressively eastwards.

Magnetic susceptibility measurements performed on each sample from the programme fall in a range of 10-1100SI units. Drillhole chip logs are in Appendix 1 and magnetic susceptibility readings are in Appendix 2.

4. CONCLUSIONS

No information was obtained regarding the lithological/structural nature of the basement below the basalt cover.

Drilling has established the existence of at least four basalt flows in the central portion of the licence area with a minimum total thickness in excess of 100-110 metres, and probably increasing further to the east and north-east. Eastward thickening of the basalt pile is also indicated by drillhole intersections on the western margin of the area. Basalt thickness varies from 65 to 84 metres over a distance of approximately 600 metres progressively eastwards.

The sources of the aeromagnetic features drilled have not been established but could be partly attributed to the presence of multiple basalt flows with highly variable magnetic susceptibilities.

APPENDIX I

DRILLHOLE LOGS

BROKEN HILL PROPRIETARY CO. LTD.

Exploration Department

DRILL HOLE LOG HEADER SHEET

Project:	Tas Tin	Hole No.:	RW1
Prospect:	Waratah, EL33/79	Total Depth:	75.0 metres
Local Grid co-ords:	3000E 750S (Wombat)	Bearing:	-
AMG co-ords:	375625mE 5404300mN	Depression:	vertical
Drilling Co.:	H J Stacpoole	R.L. Collar:	605m (approx)
Drill Type:	Foxmobile B80		
Core Size:	NQ	Commenced:	9.2.82
Driller:	W Bald	Completed:	19.2.82
		Logged by:	D Steele
		Sampled by:	

Technical Data:

- 0-40m open hole, 45-75 m NQ core; cased to 3 m, casing removed
- water flooding hammer at 45 m

Reason for Drilling:

- hole drilled to test magnetic anomaly with depth modelled in range 40-60 m.

063

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<u>Hole</u>	RW1	Chip/Core Log
<u>Metres</u>		
0-5.0		Dark green/black basalt, occasional weathered chips; vesicles not common.
5.0 - 8.5		Not sampled.
8.5 - 40		Dark green vesicular basalt, occasional pale green filling (chalcedony?) in vesicles.
40 - 45		Not sampled.
45.0		NQ core to 75.0 metres.
45.0 - 46.8		Medium fine to fine grained black basalt with small amygdale 1 - 1 mm filled with yellow/gn epidote (+zeolite?). Rare 2 mm plag laths, euhedral. Unit becomes slightly vesicular towards base. Fine grained chill margin present at base, ~50-55° LCA with underlying seds.
46.8 - 53.6		Interflow seds comprising light to mid-brown massive, featureless shale, locally slst. Unit is very carbonaceous - occasional carbon films along fissility planes. Top 35 cms of unit is black fine-grained hornfels, broken and irregular fractured. Extremely carbon rich band of slst, grading to sst between 52.0 and 52.4 m. ~800 LCA. No obvious bedding. Band of shale below carbonaceous horizon is grey in colour, generally featureless except some very minor soft sediment deformation.
53.6 - 64.6		Extremely vesicular basalt, locally scoriaceous. Glassy texture observable in places though generally fine grained. Basal portion appears brecciated and is fractured, infilled by a pale cream/bn mineral with a botryoidal habit - too soft for quartz (wrong habit for a carbonate?). Basal contact is sharp, ~50° LCA.
64.6 - 75.0		Basal sediments comprising 10-100 cm beds of massive grey shale, with 30-60 cm interbeds of clay cemented gravels. Bedding is generally 75-90° to LCA. Clasts in gravels range 2-20 mm and vary from shale, chert, sandstone to green mafic volcanics. Gravels are poorly sorted and not graded. Bands of wood, ranging from 1 to 7 cm, occur sporadically in the shales and gravels. Horizon appears to be mega brecciated btm 69.5 and 72.0 metres. Sediments are extremely friable.

EOH 75.0 metres

064

Hole RW1 Core Recoveries

<u>Run From</u>	<u>To</u>	<u>Length</u>	<u>Core Recovered</u>	<u>%</u>
45.0	48.0	3.0	1.85	61.7
48.0	51.0	3.0	0.99	33.0
51.0	54.0	3.0	2.58	86.0
54.0	57.0	3.0	2.15	71.7
57.0	60.0	3.0	1.48	49.3
60.0	63.0	3.0	1.54	51.3
63.0	66.0	3.0	2.67	89.0
66.0	69.0	3.0	0.87	29.0
69.0	72.0	3.0	2.08	69.3
72.0	75.0	3.0	2.14	71.3
		<u>30.0</u>	<u>18.35</u>	<u>61.2</u>

Hole Not Surveyed 0 - 40 m open hole
 45 - 75 m NQ core

Samples: WDD1 72.0-75.0 m loosely compacted pebble conglomerate; qzite
 pebbles up to 2 cm gen less 1½; white shaly frags.

 WDD2 69.0-72.0 m lithic, light grey, soft sandstone, conglomerate
 and tuff (?); some woody fragments present.

 WDD3 64.0-69.0 m light grey shale, pebble conglomerate, some minor
 scoriaceous basalt, grey tuff and lithic sandstone

REGION: NW TAS PROJECT NO.: T650 PROSPECT: WAKATAM (RW1 Wombat) GRID CO-ORDS: $\frac{3000E \ 750S}{375625E \ 5401300N}$ LOCAL A.M.U.

DESCRIPTION Sample Type: Half core Rock Type: Tertiary sediments Soil/Sediment Size Fraction:

WDD1 72-75m loosely compacted qzite pebble conglomerate; max pebble size 3cm, average 1/2-1cm;
 .. 2. 69-72m soft, H grey lithic sandstone, cgl, and silt(?) some woody fragments;
 .. 3. 64-69m shale, pebble conglomerate as above with minor scoriae/basalt at top of section.

ANALYSIS Laboratory ANALABS Batch No Date Analysed

Element	Sn	W	Cu	Pb	Zn	Ag	As	Sb	Au	Mo	Co	Ni	Cr	(all ppm)			
Method Sample #																	
WDD1	*	*	50	35	90	*	*	*	*	*	20	100	340				
WDD2	*	*	45	20	135	*	2	*	*	*	50	175	225				
WDD3	*	4	45	30	105	*	3	2	*	*	35	145	275				

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REMARKS: half core samples from cored section of hole RW1

* = below level of detection

Logged or Sampled by: R. Hine Date: 29/3/82

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DRILL HOLE LOG HEADER SHEET

Project:	Tasmania, Tin	Hole No.:	RW2
Prospect:	Waratah EL 33/79	Total Depth:	92 metres
Local Grid co-ords:	3600E 750S(Wombat)	Bearing:	-
AMG co-ords:	376300 m E 5404300 m N	Depression:	vertical
Drilling Co.:	H J Stacpoolle	R.L. Collar:	605 m (approx)
Drill Type:	Fox B80		
Core Size:	NQ	Commenced:	20.2.82
Driller:	W Bald	Completed:	22.2.82
		Logged by:	D Steele
		Sampled by:	

Technical Data:

- 0-85 m open hole, 85-92 m NQ core
- no core recovered in very soft sediments at base of hole; contact about 84 m
- cased to 3 m, casing removed
- water table 5.5 m, overburden less than 3 m

Reason for Drilling

- stratigraphic hole in area of low magnetic noise initially thought to be sedimentary window in basalt

067
290

<u>Hole</u>	RW2	Chip Log
<u>Metres</u>		
0 - 4		Red/brown soil and extremely weathered basalt (Not sampled).
4 - 6		Dark green/black basalt, with a few weathered basalt chips.
6 - 14		Black, locally vesicular basalt, with weathered basaltic material, abundance of weathered basalt decreasing with depth.
14 - 16		Dominantly black basalt with black, green and brown shale chips (interflow sediment?) and approximately 10% red/brown clay/very weathered basalt (top of flow?).
16 - 22		Yellow to brown weathered vesicular basalt. Shale chips becoming rarer with depth. Proportion of weathered material decreasing with increasing depth, antipathetic increase in abundance of fresher green/black basalt.
22 - 30		Amygdaloidal dark green/black basalt with rare shaley inclusions. Green and white chalcedonic amygdale filling.
30 - 36		Dark grey/black amygdaloidal basalt with occasional shale chips. Basalt locally vesicular, rare weathered basalt/clay chips in recovered material.
36 - 54		Black/dark grey amygdaloidal basalt with rare shale chips. Chalcedonic amygdale filling varies from white to yellow or green, abundance amygdaloidal material increasing with depth.
54 - 62		Black amygdaloidal basalt with white, green, cream and blue-green chalcedony. Occasional shale chips in samples from base of interval.
62 - 70		Grey, locally black, amygdaloidal basalt. Low proportion of amygdales.
70 - 82		Grey to black amygdaloidal basalt with cream or brown amygdale filling, proportion of amygdales increasing with depth. Occasional weathered basalt chips towards base of interval.
82 - 84		Grey to black basalt with abundant white, brown and grey shale/siltstone chips; probably base of basalt.
84 - 86		White, brown and grey shale chips with "residual" basalt chips.
86.		NQ core to 92 metres.

068

Hole RW2 Chip Log

Metres

86 - 92 Coring attempted (2 x 3m runs). No core recovered, very soft unconsolidated sediments penetrated. Clean fine white quartz sand recovered (Tertiary basal sediment).

EOH 92 metres

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DRILL HOLE LOG HEADER SHEET

Project:	Tasmania, Tin	Hole No.:	RW3 a, b
Prospect:	Waratah	Total Depth:	14 metres
Local Grid co-ords:	2850E 2700N (Reservoir)	Bearing:	
AMG co-ords:	379550 m E. 5408800 m N	Depression:	vertical
Drilling Co.:	H J Stacpoole	R.L. Collar:	620 m (approx)
Drill Type:	Fox B80		
Core Size:	-	Commenced:	4/3/82
Driller:	W Bald	Completed:	5/3/82
		Logged by:	D Steele
		Sampled by:	

Technical Data:

See log - two holes attempted

Reason for Drilling

- stratigraphic hole; broad magnetic high on flank of low

070
Hole RW3(b) Chip Log

Metres

6 - 14 Brown to green/black vesicular basalt, locally amygdaloidal with white or blue/green filling (chalcedony)

EOH 14 metres

Hole abandoned. This log is of chips from RW3(b). RW3(a) was commenced and drilled to ~12 metres with no sample return. Air was seen seeping from the ground up to 30 metres from the collar. A large cavity/fissure was believed to be responsible.

RW3(b) was commenced approximately 40 metres east of the collar of RW3(a) and penetrated to 14 metres before a soft clay horizon and small cavity was intersected. The hammer wouldn't work in the soft clay and only partial air return was achieved. It is quite probable that the two cavities penetrated in each hole (plus the clay horizon) are part of the same structure.

Water table: approximately 3 metres

Overburden : 2 - 3 metres

Hole cased to 3 metres. Casing removed.

No air return below 12 metres (RW3a)

Partial air return to 14 metres (RW3b)

Hole not cored; not surveyed.

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Exploration Department

DRILL HOLE LOG HEADER SHEET

Project:	Tasmania, Tin	Hole No.:	RW4
Prospect:	Waratah	Total Depth:	110 metres
Local Grid co-ords:	2200E 2700N(Reservoir)	Bearing:	-
AMG co-ords:	379,000mE;5408375mN	Depression:	vertical
Drilling Co.:	H J Stacpoole	R.L. Collar:	615 m (approx)
Drill Type:	Fox B80		
Core Size:	-	Commenced:	23.2.82
Driller:	W Bald	Completed:	26.2.82
		Logged by:	D Steele
		Sampled by:	

Technical Data:

- cased to 4 m, casing removed
- water table 5 m
- overburden 8-10 m
- no significant problems with air/water return
- hole finished in basalt

Reason for drilling:

- stratigraphic hole on broad magnetic low initially thought to be thin basalt cover only

<u>Hole</u>	RW4	Chip Log
<u>Metres</u>		
4 - 8		Yellow/brown clay and extremely weathered vesicular basalt chips.
8 - 10		Weathered basalt chips with abundant shale and vesicular basalt chips - possibly flow base?
10 - 20		Weathered red/brown and grey/brown vesicular basalt with occasional shale chips. Fresher (black) basalt increasing in abundance with depth.
20 - 24		Brown to black vesicular/amygdaloidal basalt.
24 - 42		Black vesicular basalt with rare amygdaloidal quartz and rare shale chips.
42 - 44		Black vesicular basalt.
44 - 46		Black vesicular basalt with abundant red/brown weathered basalt and black or green shale (interflow sediment?) - probably top/base of flows.
46 - 50		Black vesicular and red/brown basalt with green shale chips. Basalt locally amygdaloidal.
50 - 66		Black vesicular and amygdaloidal basalt. Vesicular material almost non existent from 52 to 58 metres. Weathered basalt decreasing in proportion with depth. Abundance of amygdales decreasing with depth, white or blue/green chalcedony common amygdale filling. Rare shale chips throughout interval.
66 - 80		Black vesicular basalt, locally amygdaloidal with white chalcedony filling.
80 - 82		Black vesicular/amygdaloidal basalt with abundant weathered basaltic material and red/brown shale chips - probably flow top/base.
82 - 98		Black vesicular/amygdaloidal basalt with weathered material, proportion of weathered basalt and shale decreasing with depth. Rare chips of grey basalt and low abundance amygdales.
98 - 110		Black and weathered red/brown vesicular and amygdaloidal basalt with rare shale chips. White amygdale filling common.

EOH 110 metres

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DRILL HOLE LOG HEADER SHEET

Project:	Tasmania, Tin	Hole No.:	RW6
Prospect:	Waratah	Total Depth:	100 m
Local Grid co-ords:	3050E 200N(Reservoir)	Bearing:	-
AMG co-ords:	381025mE; 540835m N	Depression:	vertical
Drilling Co.:	H J Stacpoole	R.L. Collar:	630 m (approx)
Drill Type:	Fox B80	Commenced:	6.3.82
Core Size:	-	Completed:	7.3.82
Driller:	W Bald	Logged by:	D Steele
		Sampled by:	

Technical Data:

- hole cased to 2 m, casing removed
- water table 3 m
- less than 1 m overburden
- no significant loss of pressure

Reason for Drilling

- stratigraphic hole sited to test magnetic low near centre of circular photogeological feature

<u>Hole</u>	RW6	Chip Log
<u>Metres</u>		
6 - 12		Black basalt, locally amygdaloidal, blue/green amygdale filling, Rare shale chips towards base of interval.
12 - 30		Black amygdaloidal basalt, filling comprises white, blue/green or pale green chalcedony.
30 - 48		Black amygdaloidal basalt with white or green chalcedonic amygdale filling and common red/brown shale chips (inclusions?).
48 - 56		Black, occasionally grey, amygdaloidal basalt, locally vesicular, Green or cream amygdale filling.
56 - 58		Black and grey amygdaloidal basalt with abundant red/brown weathered basalt and brown/grey shale chips - top/base of flows.
58 - 76		Dominantly weathered basalt, non amygdaloidal, with grey/black amygdaloidal basalt and shale chips. Proportion of weathered basalt and shale decreasing with depth.
76 - 94		Black amygdaloidal and vesicular basalt, rare weathered material, occasional shale chips. Basalt dominantly vesicular below 84 metres.
94 - 96		Abundant red/brown weathered vesicular basalt with minor fresh black basalt. Brown and green shale chips common - top/base of flows.
96 - 100		Weathered basalt, decreasing in abundance, "fresh" material increasing. Basalt locally amygdaloidal, green or white chalcedony in filling.

EOH 100 metres

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Exploration Department

DRILL HOLE LOG HEADER SHEET

Project:	Tasmania, Tin	Hole No.:	RWB
Prospect:	Waratah	Total Depth:	100 metres
Local Grid co-ords:	3250E, 2700N(Reserv.)	Bearing:	-
AMG co-ords:	379850mE; 5409000m N	Depression:	vertical
Drilling Co.:	H J Stacpoole	R.L. Collar:	625 m (Approx)
Drill Type:	Fox B80		
Core Size:	-	Commenced:	7.3.82
Driller:	W Bald	Completed:	8.3.83
		Logged by:	D Steele
		Sampled by:	

Technical Data:

- cased to 2 m, casing removed
- water table 2 m
- overburden 5 m

Reason for Drilling

- stratigraphic hole to test broad complex magnetic high near centre of circular photogeological feature.

076

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Hole RW8 Chip Log

Metres

- 4 - 8 Black vesicular basalt with abundant red/brown shale and weathered red/yellow/brown basalt. Shale abundance decreasing with depth.
- 8 - 14 Black, vesicular basalt.
- 14 - 26 Black amygdaloidal basalt, blue green chalcedony common, proportion of amygdales increasing with depth. Minor occurrences of brown shale chips.
- 26 - 28 Black amygdaloidal basalt with common weathered vesicular basalt, white and blue/green chalcedonic amygdale filling. (Top/base of flow (?)).
- 28 - 50 As for 26-28 with decreasing abundance of weathered material. Rare shale chips (inclusions?) at depth.
- 50 - 58 Black basalt with rare shale chips. Non amygdaloidal.
- 58 - 62 Black amygdaloidal basalt with abundant shale and occasional white quartz. High proportion of red/brown weathered basalt. (Top/base of flows?)
- 62 - 78 Black and red/brown amygdaloidal basalt. Amygdales commonly filled with blue green chalcedony. Proportion of weathered material decreasing with depth. Basalt locally vesicular.
- 78 - 86 Black amygdaloidal basalt, blue/green and white chalcedonic amygdale filling. Weathered red brown vesicular/amygdaloidal material not common.
- 86 - 88 Black and red/brown amygdaloidal basalt with common black, brown and green shale chips (Top/base of flow?).
- 88 - 100 Black basalt, locally vesicular with occasional blue green chalcedony in amygdales. Minor weathered basalt chips encountered throughout interval. Rare brown/grey shale chips at base of interval.

EOH 100 metres

420

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Magnetic Susceptibility Measurements on Basalt Chips From Waratah PercussionDrill Holes

<u>Hole RW1</u>		<u>Hole RW2</u>	
Meterage	Mag. Sus. (SI Units)	Meterage	Mag. Sus. (SI Units)
0.0- 5.0	72	4- 6	50
8.5-13.5	72	6- 8	56
13.5-18.5	60	8-10	58
18.5-23.5	55	10-12	60
23.5-28.5	62	12-14	130
28.5-33.5	75	14-16	42
33.5-38.5	100	16-18	32
38.5-40.0	100	18-20	35
		20-22	120
		22-24	100
		24-26	120
		26-28	93
		28-30	33
		30-32	22
		32-34	15
		34-36	18
		36-38	130
		38-40	150
		40-42	220
		42-44	150
		44-46	100
		46-48	47
		48-50	42
		50-52	25
		52-54	22
		54-56	20
		56-58	15
		58-60	20
		60-62	20
		62-64	47
		64-66	13

820

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Magnetic Susceptibility Measurements on Basalt Chips From Waratah Percussion
Drill Holes

<u>Hole RW2</u>	
<u>Meterage</u>	<u>Mag. Sus.</u> <u>(SI Units)</u>
66-68	8
68-70	15
70-72	90
72-74	15
74-76	12
76-78	18
78-80	10
80-82	15
82-84	27
84-86	12

Magnetic Susceptibility Measurements on Basalt Chips From Waratah Percussion
Drill Holes

<u>Hole RW3a</u>		<u>Hole RW4</u>	
Meterage	Mag. Sus. (SI Units)	Meterage	Mag. Sus. (SI Units)
6- 8	30	4- 6	350
8-10	85	6- 8	500
10-12	150	8-10	520
12-14	170	10-12	620
		12-14	550
		14-16	250
		16-18	340
		18-20	430
		20-22	630
		22-24	630
		24-26	370
		26-28	250
		28-30	350
		30-32	300
		32-34	300
		34-36	220
		36-38	280
		38-40	340
		40-42	770
		42-44	360
		44-46	320
		46-48	140
		48-50	200
		50-52	170
		52-54	150
		54-56	150
		56-58	140
		58-60	200
		60-62	170
		62-64	250
		64-66	150

<u>Hole RW3b</u>	
Meberage	Mag. Sus. (SI Units)
10-12	100
12-14	70

Magnetic Susceptibility Measurements on Basalt Chips From Waratah PercussionDrill Holes

	<u>Hole RW4</u>
Meterage	Mag. Sus. (SI Units)
66-68	500
68-70	350
70-72	330
72-74	400
74-76	350
76-78	
78-80	1000
80-82	1100
82-84	270
84-86	220
86-88	250
88-90	180
90-92	200
92-94	300
94-96	340
96-98	520
98-100	320
100-102	230
102-104	100
104-106	220
106-108	220
108-110	150

031

Magnetic Susceptibility Measurements on Basalt Chips From Waratah Percussion
Drill Holes

<u>Hole RW6</u>			
Meterage	Mag. Sus. (SI Units)		
6- 8	130	66-68	470
8-10	300	68-70	400
10-12	380	70-72	220
12-14	380	72-74	300
14-16	300	74-76	280
16-18	370	76-78	140
18-20	400	78-80	350
20-22	220	80-82	200
22-24	180	82-84	330
24-26	150	84-86	150
26-28	200	86-88	220
28-30	150	88-90	330
30-32	140	90-92	180
32-34	160	92-94	500
34-36	250	94-96	150
36-38	230	96-98	220
38-40	150	98-100	200
40-42	100		
42-44	220		
44-46	250		
46-48	230		
48-50	300		
50-52	45		
52-54	330		
54-56	670		
56-58	400		
58-60	350		
60-62	170		
62-64	230		
64-66	170		

082

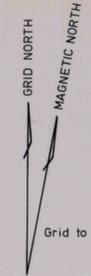
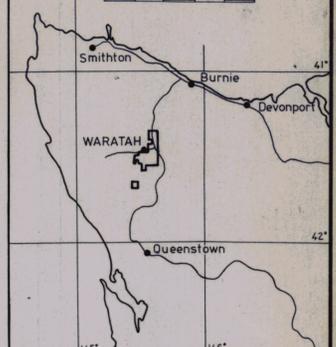
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Magnetic Susceptibility Measurements on Basalt Chips From Waratah Percussion
Drill Holes

<u>Hole RW8</u>			
<u>Meterage</u>	<u>Mag. Sus. (SI Units)</u>		
4- 6	250	64-66	100
6- 8	120	66-68	120
8-10	370	68-70	250
10-12	450	70-72	100
12-14	450	72-74	300
14-16	320	74-76	120
16-18	180	76-78	150
18-20	320	78-80	170
20-22	110	80-82	100
22-24	100	82-84	700
24-26	110	84-86	850
26-28	200	86-88	140
28-30	220	88-90	390
30-32	80	90-92	470
32-34	110	92-94	170
34-36	150	94-96	950
36-38	150	96-98	850
38-40	300	98-100	850
40-47	250		
42-44	260		
44-46	230		
46-48	200		
48-50	130		
50-52	220		
52-54	150		
54-56	120		
56-58	150		
58-60	350		
60-62	530		
62-64	80		

LOCALITY MAP
EL 33/79

0 20 40 60 80 100 Kms



Grid to Magnetic North 10.8°

LEGEND

- QUATERNARY
 - Qts Sand, gravel, basalt talus
- TERTIARY
 - Ts Interflow sediments, silcrete, laterite
- PERMIAN
 - Ptl Mainly tillite, some varves and related sediments
- ORDOVICIAN
 - Oos Quartz sandstone - correlate of Owen Conglomerate

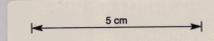
- Ems Mudstone, slate, minor sandstone
 - Emq Mudstone, quartzite, greywacke
 - Ehg Greywacke, mudstone (Hatfield River)
 - Egc Greywacke-conglomerate, sandstone, mudstone
- CAMBRIAN
 - Clst Limestone / dolomite
 - Clc Limestone / dolomitic conglomerate, interbedded greywacke / mudstone
 - Ecm Mudstone and greywacke sequence (Coldstream River)
 - Eam Red mudstone and sandstone (Arthur River)
 - Ewg Greywacke sandstone and mudstone (Waratah River)
 - Eu Undifferentiated

- PRECAMBRIAN
 - pEb Quartzite, mudstone, minor dolomite (Mt. Bischoff)

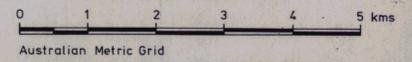
- IGNEOUS ROCKS
- TERTIARY
 - Tb Olivine basalt
- DEVONIAN
 - Dp Felsic porphyries
 - Dmg Biotite (± hornblende) microadamellite and porphyritic microadamellite
 - Dcg Coarse grained biotite adamellite
- CAMBRIAN
 - Cp Predominantly quartz-feldspar porphyries
 - Cbi Predominantly basic lavas
 - Cub Ultrabasic and basic rocks

- Prominent photo lineaments
- Strike, dip of strata
- Minor fold orientation
- Strike of joints
- Veins: quartz (q), tourmaline (tm), arsenopyrite (As), molybdenite
- Mine or prospect

711084



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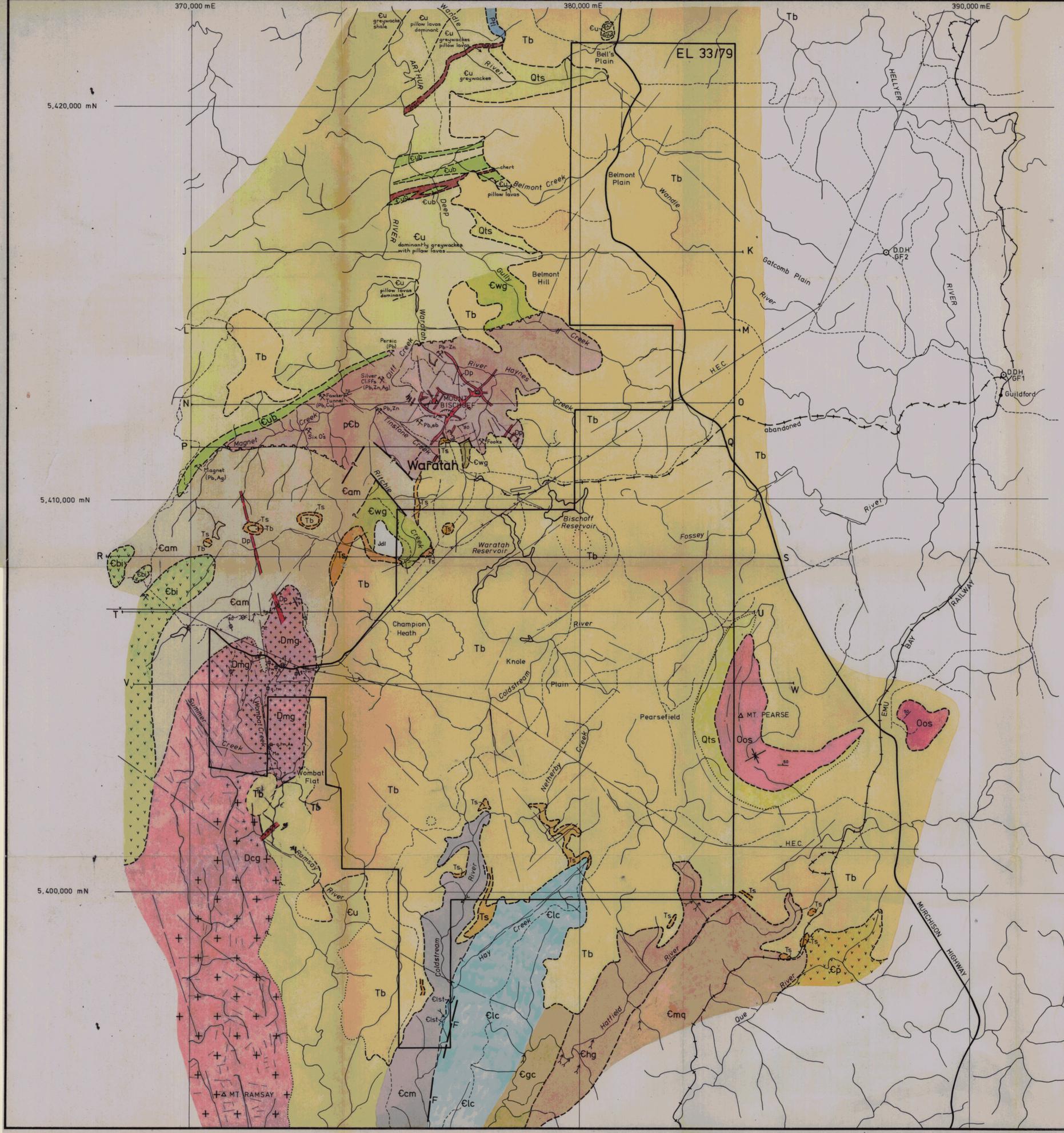


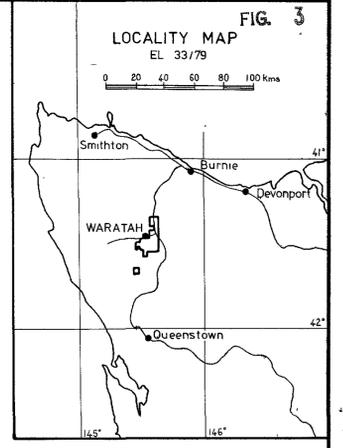
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EXPLORATION DEPARTMENT

WARATAH EL 33/79
GEOLOGY

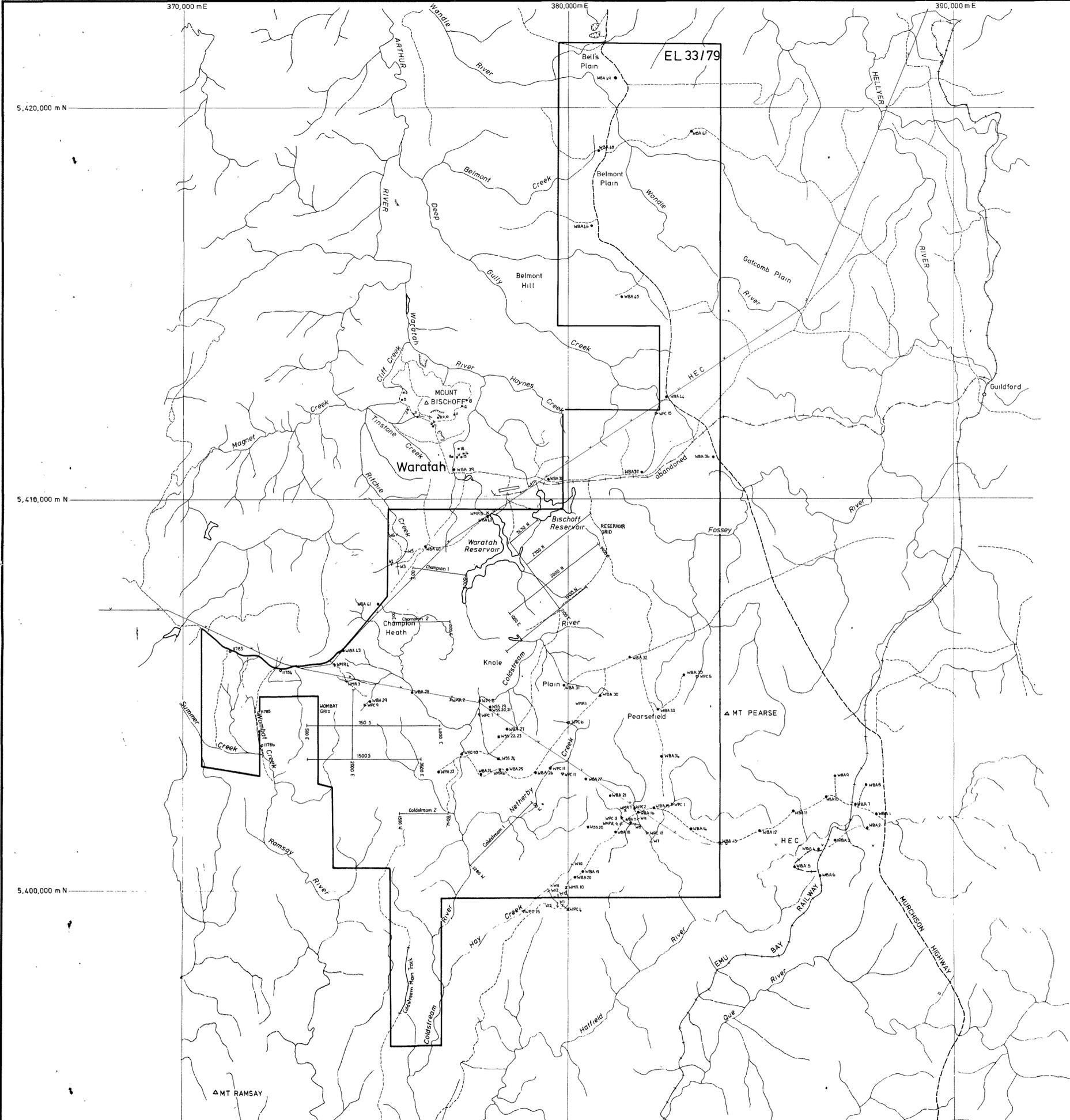
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Traced: J.E.H.	Project No:	Drawing No:
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Acknowledgements:
Geology outside EL 33/79 compiled from:
Tasmanian Dept. of Mines Mackintosh Sheet (1:63,360)
and unpublished survey maps;
Geological Survey Bulletin 54 (Groves *et al* 1972);
and Open File Reports by Pennzoil and North Prospecting.





GRID NORTH
MAGNETIC NORTH
Grid to Magnetic North 10 8'



- Rock chip sample locations
- Petrological sample locations (MRL Nos)
- Stream sample locations - 80 Mesh
- ✕ Pan concentrate sample locations
- × Orientated core sample locations
- Seepage sample locations

711085

5 cm

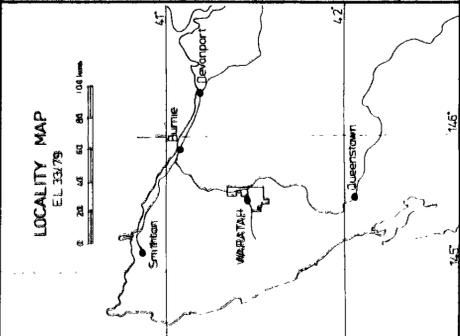
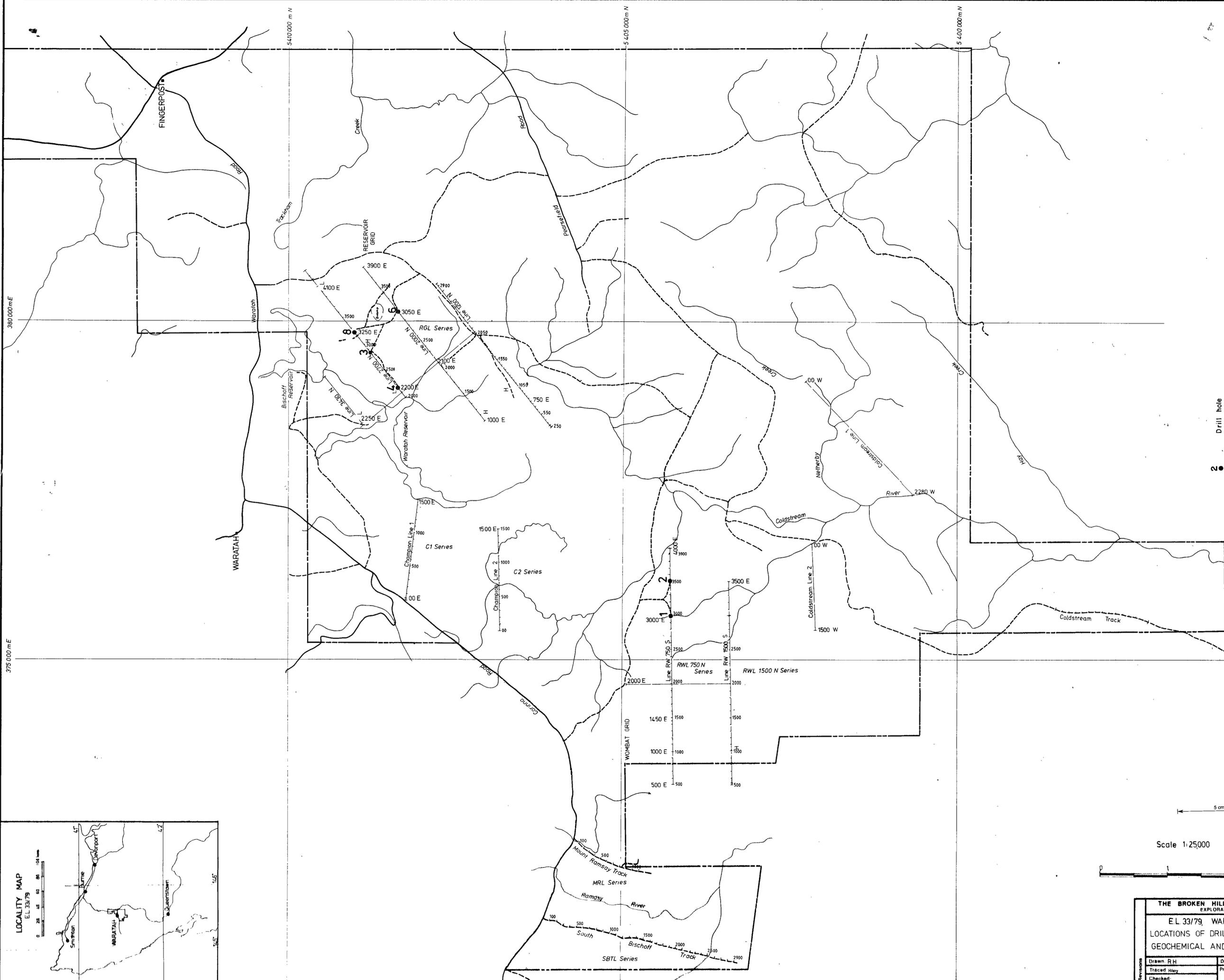
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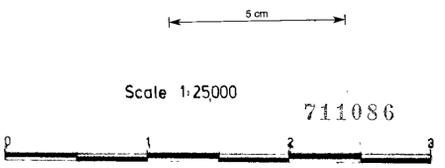
Australian Metric Grid

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WARATAH EL 33/79 GEOCHEMICAL AND GEOPHYSICAL SAMPLE LOCATIONS		
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EL.33/79 WARATAH TASMANIA
LOCATIONS OF DRILL HOLES, ACCESS TRACKS
GEOCHEMICAL AND GEOPHYSICAL TRAVERSES



● Drill hole
 — Soil sample traverse



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E.L. 33/79, WARATAH, TASMANIA		
LOCATIONS OF DRILL HOLES, ACCESS TRACKS GEOCHEMICAL AND GEOPHYSICAL TRAVERSES		
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Traced: Hiley	Project No:	Drawing No:
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