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EXPLORATION LICENCE 8/79

MAYDNA, TASMANIA

FINAL REPORT

OPEN FILE

December, 1983.

CONTENTS

1. INTRODUCTION AND SUMMARY
2. EXPLORATION PHILOSOPHY
3. GEOLOGY
 - 3.1 Geology and Structure
 - 3.2 Mineralisation
4. GEOCHEMISTRY
 - 4.1 Stream Sampling
 - 4.2 Rock Chip and Soil Sampling
5. GEOPHYSICS
6. CONCLUSIONS
7. EXPENDITURE

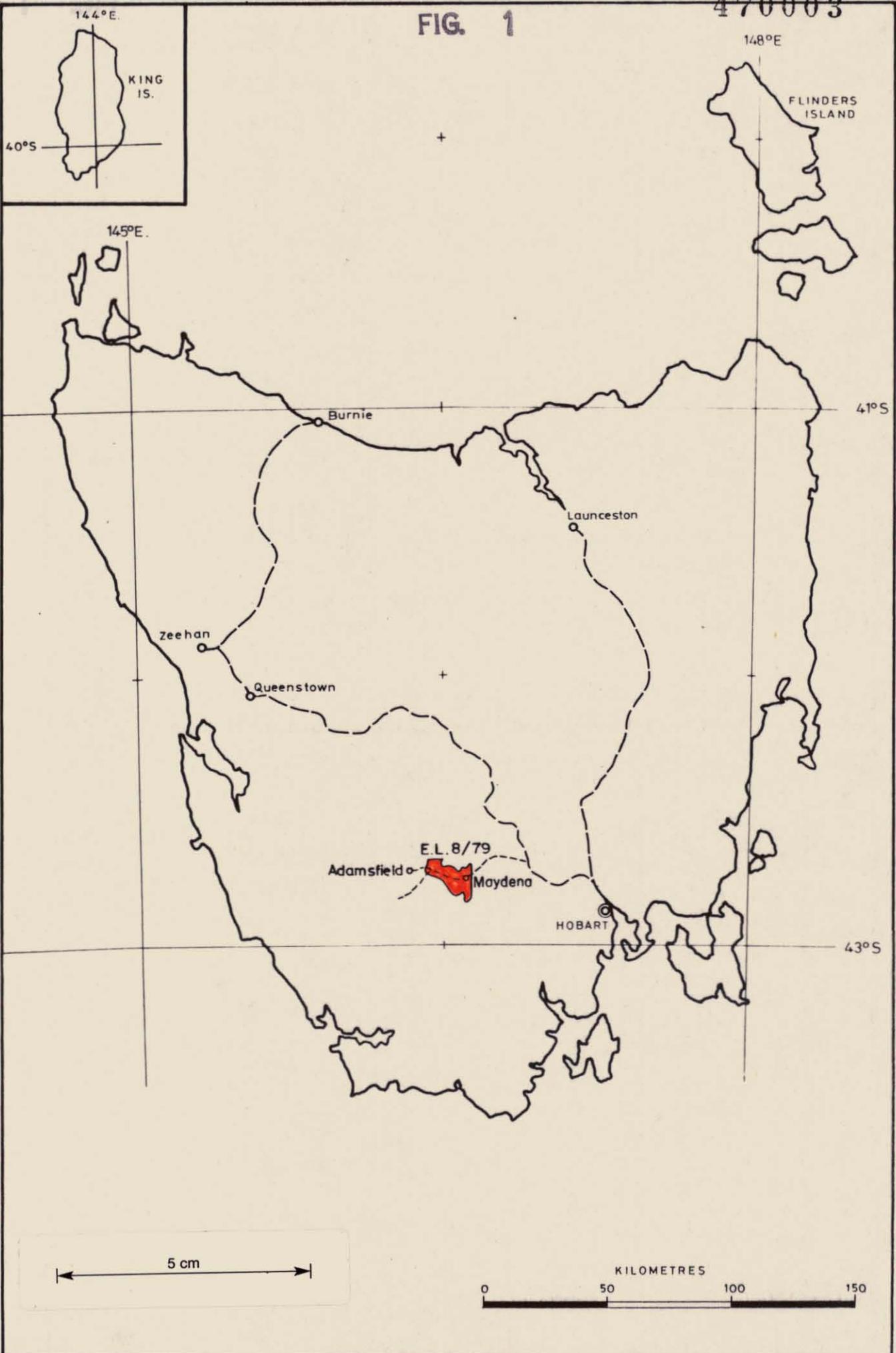
APPENDICES

1. Geochemical Analyses
2. Petrological Reports

FIGURES

1. E.L. 8/79 Maydena Location Map
2. Geology (1:50,000)
3. Geochemical Sample Locations (1:50,000)

FIG. 1



Centre
Melbourne

Date
17-11-80

THE BROKEN HILL PROPRIETARY CO. LTD.

E.L. 8/79 MAYDENA, TASMANIA

LOCALITY MAP

Project No.

Drawing No.
A4-2040

003

1. INTRODUCTION AND SUMMARY

Exploration Licence 8/79 of 176 square kilometres was first granted to The Broken Hill Proprietary Company Limited on 30th April, 1980. This area formed part of a much larger application area (ELA 8/79 of 97km² and ELA 12/79 of 725km²), most of which was not granted as it fell within the South West Conservation Area.

The work programme included reconnaissance geological mapping, stream sediment and pan concentrate geochemical sampling, and limited rock chip sampling. The old Mt. Mueller and Humboldt prospects were examined but no new evidence of mineralisation was located elsewhere within the licence area. An airborne Dighem EM survey was flown over an area of approximately 160km², overlapping westwards into the Conservation Area. All anomalies considered to be worthy of follow-up were located outside the boundary of E.L. 8/79.

Because of the lack of positive results, and the long delay in lifting the moratorium on exploration in the South West, most of Exploration Licence 8/79 was relinquished in October, 1982 (prior to the lifting of the moratorium). This report summarizes all work carried out in the relinquished area. The small retained portion of some 7km² has now been incorporated within Exploration Licence 19/83

2. EXPLORATION PHILOSOPHY

Research work was carried out early in 1979 and a proposal was put forward to apply for an Exploration Licence in the Adamsfield-Maydena region. This ground has previously been held by BHP as part of EL 13/65 until 1973/74.

The principal target was a massive sulphide hosted carbonate-replacement tin deposit and the area applied for was chosen for exploration on the following basis:-

1. There were unexplained arsenic anomalies in streams around Mt. Mueller.
2. There were unexplained magnetic anomalies in a sequence of rocks including dolomites.
3. Minor topaz and cassiterite were reported from the alluvial osmiridium concentrates at Adamsfield.
4. Old reports suggested trace tin was present in the Styx and Weld Rivers.

The area granted as Exploration Licence 8/79 consisted of just over 20 per cent of the original application area and this resulted in a scaled-down exploration approach. Work during the last two years of tenure was fairly minimal, the licence being retained in the hope that ELA 12/79 would be granted and a more unified exploration programme made possible. In the event most of EL 8/79 was relinquished prior to the lifting of the moratorium on exploration within the South West Conservation Area.

3. GEOLOGY

3.1 Geology and Structure

Sedimentary rocks in the licence area range in age from Precambrian to Permian (Figure 2). The Precambrian rocks include dolomite, dolomitic shale, black and chocolate shales and ortho-quartzite, which have been tightly folded around WNW to NW trending axes.

Brown to red lithicwackes with a tuffaceous component derived from basic volcanism crop out in the Maynes Hill - Fourteen Mile Creek area. These rocks are similar to those making up the Cambrian sequences in the Boyd River area. South of Mt. Mueller, similar Cambrian (?) sediments include dolomite and carbonaceous dolomite units.

Ordovician conglomerate, quartzite, shale and limestone crop out in the northern part of the licence area from Maydena to the Florentine valley. The Ordovician rocks are generally folded about open folds with NW to N-S axes.

The Permian rocks include a basal tillite or pebbly mudstone with minor varve units overlain in turn by dark grey mudstone and siltstone, limestone and fossiliferous yellow-brown mudstone and shale. The Permian rocks dip gently to the east.

The only intrusive rocks located to date in the area include minor Jurassic dolerite at Wherrett's Lookout and an alkaline dyke rock (porphyritic microsyenite) of presumed Cretaceous age in the Maynes Hill area. The latter is similar to alkaline dyke rocks exposed on the Gordon Road west of Frodsham's Pass.

3.2 Mineralisation

Two old prospects occur near the Gordon River road, some two kilometres east of The Needles.

The Mt. Mueller 'mine' was apparently discovered in 1891 and tested at several periods by small shafts, adits and trenches. It is clear that the veins exposed are too narrow and low grade to be of economic importance. Dump samples of quartz-carbonate vein material contain sulphides (pyrite, galena, chalcopyrite) as patches, disseminations and on microfractures. The host rock is a black shale. No tin or silver values were detected in association with the sparse copper/lead mineralisation.

The Humboldt prospect is located some 700 metres to the north east, on the north side of the road. Old workings are now largely collapsed and obscured and the only visible material of interest is an apparently transported 'gossan'. Analyses reveal high barium

values (to 0.84%) but with no significant associated base metals.

4. GEOCHEMISTRY

4.1 Stream Sampling

Some eighty stream sediment and pan concentrate samples were collected from the licence area. Most of the stream sample were sieved to minus 80 mesh and analysed for tin, tungsten, copper, lead, zinc, silver, arsenic, gold, antimony, nickel, cobalt and in some instances chromium. No confirmed significant anomalous values were obtained. Results are attached in Appendix 1 and are also shown in Figures 4-7 of the Progress Report to 31st October, 1981.

More recent pan concentrate sampling has indicated that tin is present in the drainage system, though absolute values are very low order. It is probable that any tin in these streams is being derived from the weathering of outcropping Permian tillite.

4.2 Rock Chip and Soil Sampling

Twenty-one soil samples (MA Series) were collected on a traverse along Mayne's Road, east of Fourteen Mile Creek. Analyses of the minus 80 mesh fraction revealed some higher copper, nickel and cobalt values but these are probably reflecting lithological variations in the presumed Cambrian sequence.

A total of 31 rock chip samples were collected from outcrops and from workings and dumps at the old Humboldt and Mt. Mueller mines. No significant tin or precious metal values were obtained.

5. GEOPHYSICS

A Dighem II survey was carried out in April, 1980 to aid the search for sulphide-cassiterite replacement type deposits of the Renison style. East-west flight lines were flown, with a line spacing of 250 metres and a mean bird terrain clearance of 30 metres. The area covered is shown in Figures 2 and 3.

A full report on the Dighem survey was attached as an Appendix to the Progress Report to 31st October, 1981. Interpretation of the results highlighted three main zones of interest characterised by an E.M. anomaly and an associated magnetic response. These areas are now covered by Exploration Licence 19/83. No anomalies worthy of follow up were located elsewhere within Exploration Licence 8/79.

6. CONCLUSIONS

A rationale was put forward in 1979 to explore for Renison-style tin mineralisation in the Adamsfield-Maydena region. Only part of the application area was granted and the basic exploration carried out failed to give positive evidence for the presence of tin in the licence area. Sparse copper-lead mineralisation occurs at the Mt. Mueller prospect but this is obviously very high in the vertical zoning system associated with a presumed underlying granite. There is no evidence of any outcropping granite in the region. Despite these negative factors an airborne Dighem geophysical survey was flown and this did locate anomalies to the west of EL 8/79 which we consider require further investigation.

Because of the obvious problems associated with the ban on exploration in the adjoining South West Conservation Area further work after 1980 was sporadic and the momentum of the exploration programme was lost. The licence area was retained for some time because one of the main zones of geophysical interest lay on the western boundary. By late

1982 however the Maydena area as a whole was low down on our list of priorities and it was therefore decided to relinquish the major part of the licence. A small portion in the west was retained and following the lifting of the moratorium in April, 1983 this has now been incorporated into Exploration Licence 19/83.

7. EXPENDITURE

Expenditure debited to E.L. 8/79 was:-

Wages and Salaries	13,293
Vehicles	2,677
Equipment	234
Geochemistry	5,381
Geophysics	22,438
Surveying	2,423
Tenement Fees	4,560
Consultants	115
Capital Purchases	2,412
Services	6,900
Administration and Overheads	6,078
	<hr/>
	\$66,867
	<hr/>

This report is submitted to the Mines Department as required by Schedule A of Exploration Licence 8/79.

APPENDIX 1

GEOCHEMICAL ANALYSES

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470011

Rock Chip Sample Results

	Sn	W	As	Cu	Pb	Zn	Ag	Ni	Co	Sb*	Au*	Cr
SWT B1	<5	<10	4	20	15	10	1	15	10	<50	30	30
2	"	"	4	10	20	5	1	15	10	250	30	35
3	"	"	2	30	20	5	1	10	10	200	10	25
4	"	"	3	10	15	5	1	10	10	250	15	10
8	"	"	16	160	30	10	<1	50	20	600	10	125
9	"	"	8	50	20	15	<1	50	20	400	3	45
10	"	"	470	560	30	20	<1	480	155	4400	30	1100
11	"	"	330	340	20	60	1	140	50	4900	25	3600
SWT 14A	<5	<10	30	15	60	25	3	NR	NR	<50	3	
15A	"	"	16	55	65	15	3	NR	NR	50	10	
16	"	"	2	25	40	10	2	NR	NR	100	5	
17	"	"	55	10	105	5	4	NR	NR	500	10	
18	"	"	25	20	60	5	2	NR	NR	150	5	
19	"	"	40	30	45	300	2	NR	NR	250	5	
20	"	"	20	50	45	210	1	NR	NR	300	5	
23	"	"	NR	35	45	20	1	25	20	NR	NR	300
MAR 1	<5	<10	12	25	25	115	2	100	55	50	<3	
2	"	"	8	20	30	80	3	55	95	50	<3	
3	"	"	6	165	20	105	3	115	330	<50	3	
4	5	"	8	20	15	65	1	40	20	100	<3	
5	<5	"	8	20	10	20	1	15	20	100	<3	
6	<5	"	8	220	15	170	2	45	45	100	3	

* ppb

Analyst: Aust. Lab. Services - Sn, W method XRFIA
 Cu, Pb, Zn, Ag, Ni, Co method 1
 Au method 120A
 Sb method 8A
 As method 5B

144 B

Rock Chip Sample Log

SWT B1 Black slate with minor pyrite and quartz veinlets
SWT B2 Black slate
SWT B3 Black slate
SWT B4 Black slate
SWT B8 Light grey fractured quartzite with minor disseminated pyrite
SWT B9 As above (Kallista Creek bridge)
SWT B10 Siliceous conglomerate with light green chromium stain
SWT B11 As above with minor pyrite. (Tim Shea quarry)

SWT 14A Black shale, no pyrite visible but sulphur present, minor goethite
SWT 15A As above
SWT 16 Grey-brown dolomite, massive, thin stringers calcite/siderite?
SWT 17 Black shale as for SWT 14A, minor limonite.
SWT 18 Black slate as above - hard
SWT 19 Porous orange-red ironstone, no boxworks, massive limonite
SWT 20 As above with quartz, siliceous matrix (19, 20 from Humboldt Mine)
SWT 23 Grey to black chert breccia with minor pyrite, locally leached

MAR 1 Yellow-brown slate (?), sheared siliceous, clay, goethite on joints
MAR 2 Weathered intrusive (?) minor goethite on fractures
MAR 3 Brown slate?, highly weathered (may be igneous), no bedding recognised.
MAR 4 Hornblende porphyry, trace disseminated pyrite, fine light grey siliceous matrix
MAR 5 Siliceous rock with limonite, leached, porous, Tertiary?
MAR 6 Green, fine grained weathered sediment or volcanic? (MA 7 site)

012



LABORATORY REPORT

OFFICE & LABORATORY
44 BALACLAVA ST., WOOLLOONGABBA 4102
Phone (07) 391 6986 A/H 355 0776
TELEX ALSEV 42344

R. W. YERBURY
DIRECTOR

470013

BATCH No.: 159 H CLIENT B.H.P. Company Ltd
ORDER No.: 791 AREA: Tasmania DATE RECEIVED: 20-8-71
SAMPLE TYPE: Rock No.: 32 DATE COMPLETED: 3-9-71
ATTENTION: Dr R. Hine

SAMPLE No.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Cr ppm	As ppm	Au ppb
SWT - 1	35	20	60	2	720	65	500	2	10
2	10	20	40	3	120	20	25	5	15
3	55	15	90	3	30	30	5	5	10
4	50	20	105	3	40	40	5	2	10
5	55	15	90	2	30	25	10	2	5
6	30	15	50	2	0.13%	80	290	2	10
7	45	20	50	2	0.10%	70	185	6	10
8	10	20	25	2	0.20%	105	220	2	25
9	20	15	45	2	0.30%	80	460	5	5
10	10	10	65	2	0.56%	145	560	2	3
11	35	15	35	1	0.18%	85	220	5	10
12	10	10	10	1	45	10	80	3	5
SWT B - 1	20	15	10	1	15	10	30	4	30
2	10	20	5	1	15	10	35	4	30
3	30	20	5	1	10	10	25	2	10
4	10	15	5	1	10	10	10	3	15
5	5	40	80	2	40	50	35	18	10
6	100*	110*	330*	2	30	30	80	480*	15
7	75*	10	40	1	20	20	10	50*	10
8	160*	30	10	-1	50	20	125	16*	10
9	50	20	15	-1	50	20	45	8	3
10	560*	30	20	-1	480	155	0.11%	470*	30
SWT B - 11	340*	20	60	1	140	50	0.36%	330*	25
NET - 1	840	600	0.16%	3	30	30	75	95	20
2	480	0.34%	330	20	25	35	80	60	15
NET - 3	560	0.18%	110	12	20	15	75	190	10
NWT - 1	200	95	0.11%	3	400	120	+1.0%	120	10
2	45	0.48%	+1.0%	23	560	50	0.10%	200	10
3	10	30	180	1	0.13%	55	400	5	3
4	0.32%	45	0.19%	4	0.18%	125	240	370	-3



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METHODS: Cu, Pb, Zn, Ni, Co, Cr, Ag by method 1; As by method 5-B; Sn, W, V by method 9-A (XRF); Au by method 120-A.

Signatory

G. Dean

013



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TELEX ALSEV 42344

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470014

R. W. YERBURY
DIRECTOR

BATCH No.: 159 H CLIENT B.H.P. Co. Ltd.

ORDER No.: _____ AREA: _____ DATE RECEIVED: _____

SAMPLE TYPE: _____ No.: _____ DATE COMPLETED: _____

ATTENTION: _____

SAMPLE No.	Sn ppm	W ppm	V ppm						
SWT - 1	5	-10	70						
2	10	-10	-10						
3	-5	-10	-10						
4	-5	-10	-10						
5	-5	-10	-10						
6	-5	-10	50						
7	-5	-10	50						
8	-5	-10	10						
9	-5	-10	30						
10	-5	-10	-10						
11	5	-10	20						
SWT - 12	-5	-10	10						
SWT B - 1	-5	-10	10						
2	-5	-10	-10						
3	-5	-10	10						
4	-5	-10	-10						
5	-5	-10	20						
6	-5	-10	-10						
7	-5	-10	-10						
8	-5	-10	-10						
9	-5	-10	-10						
10	-5	-10	-10						
SWT B - 11	-5	-10	10						
NET - 1	550	-10	40						
2	225	-10	120						
NET - 3	650	-10	140						
NWT - 1	10	-10	150						
2	0.10%	30	22						
3	5	-10	-10						
NWT - 4	1.04%	10	-10						



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METHODS:

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ALS

LABORATORY REPORT

Phone (07) 391 6986 A/H 355 07/6
TELEX ALSEV 42344

R. W. YERBURY
DIRECTOR

470016

BATCH No.: M039 CLIENT BHP CO LTD- EXPLORATION DEPT
ORDER No.: T620/500 AREA: TASMANIA DATE RECEIVED: 5.12.79
SAMPLE TYPE: ROCK STM SED, SOIL No.: 52 DATE COMPLETED: 23.1.80
ATTENTION: DR R HINE

SAMPLE No.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb	Sn ppm	W ppm	
NET 5	35	5	15	1	6		<5	<10	
6	30	10	15	1	10		<5	<10	
7	* 590	0.26%	175	>25	60		0.23%	<10	
8	80	820	30	11	6		440	<10	
9	* 370	0.30%	75	14	16		0.50%	<10	
10	* 510	0.54%	120	11	150		1.07%	<10	
NET11	0.11%	0.12%	>1.0%	23	7		715	60	
SWT13	30	80	350	5	115	25*	10	<10	
4	20	45	150	3	6	<3	<5	<10	
14A	15	60	25	3	30	3	<5	<10	
5	10	40	75	6	<1	5	<5	<10	
15A	55	65	15	3	16	10*	<5	<10	
16	25	40	10	2	2	5	<5	<10	
17	10	105	5	4	55	10*	<5	<10	
18	20	60	5	2	25	5	<5	<10	
19	30	45	300	2	40	5	<5	<10	
SWT20	50	45	210	1	20	5	<5	<10	
MKC 1	15	30	105	2	6	10	<5	<10	
2	10	20	20	1	2	10	<5	<10	
3	20	40	105	3	8	15	<5	<10	
4	50	40	145	3	10	10	<5	<10	
5	10	25	55	4	9	10	<5	<10	
6	20	35	60	3	8	10	<5	<10	
7	10	25	60	1	4	20	<5	<10	
8	10	20	45	2	3	15	<5	<10	
MKC 9	15	25	40	1	3	10	<5	<10	
MNS 1	15	35	45	2	3	10	<5	<10	
2	10	20	40	1	2	10	<5	<10	
3	10	20	10	<1	2	<3	Insufficient Sample		
MNS 4	10	10	15	<1	2	15	<5	<10	



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METHODS:

Cu Pb Zn Ag METHOD 1 As METHOD 5-B
Au METHOD 120A Sn W METHOD 9A XRF

Signatory

G. Quinn

R. W. YERBURY
DIRECTOR

- 2 -

470017

BATCH No.: M039 CLIENT BHP CO LTD
ORDER No.: _____ AREA: _____ DATE RECEIVED: _____
SAMPLE TYPE: _____ No.: _____ DATE COMPLETED: _____
ATTENTION: _____

SAMPLE No.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Au ppb	Sn ppm	W ppm		
MNS 5	10	5	<2	2	<1	<3	<5	<10		
6	30	40	50	1	6	<3	<5	<10		
7	35	25	35	1	5	3	<5	<10		
8	10	5	5	1	<1	5	<5	<10		
9	10	20	15	1	3	<3	<5	<10		
10	10	15	10	<1	6	<3	<5	<10		
11	10	15	15	<1	16	5	<5	<10		
12	10	25	180	1	25	<3	<5	<10		
13	10	30	125	1	25	<3	<5	<10		
14	10	15	25	2	2	5	<5	<10		
15	10	15	25	1	2	15	<5	<10		
16	10	15	15	1	2	5	<5	<10		
17	10	15	20	2	1	3	<5	<10		
18	10	15	10	1	<1	3	<5	<10		
19	20	25	30	3	2	3	<5	<10		
20	10	15	10	<1	2	5	<5	<10		
21	10	15	35	<1	3	5	<5	<10		
22	10	20	45	1	1	5	<5	<10		
MNS 23	10	20	30	<1	2	3	<5	<10		
MA 1	210	40	65	3	<1	3	Insufficient	Sample		
2	220	35	75	3	<1	3	<5	<10		
3	210	40	75	4	<1	3	<5	<10		



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METHODS:

Signatory *G. Quinn*

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44 BALACLAVA ST., WOOLLOONGABBA 4102
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TELEX ALSEV 42344

470018

R. W. YERBURY
DIRECTOR

BATCH No.: B 194 CLIENT B.H.P. COMPANY LIMITED
 ORDER No.: TELEX AREA: HOBART DATE RECEIVED: 29.2.80
 SAMPLE TYPE: X MC39, H159, K069 No.: 72 DATE COMPLETED: 16.4.80
 ATTENTION: DR. R. HINE

SAMPLE No.	Sb ppb								
SWT 13	950								
14	-50								
15	50								
16	100								
17	500								
18	150								
19	250								
SWT 20	300								
MKC 1	50								
2	150								
3	-50								
4	-50								
5	-50								
6	150								
7	-50								
8	4250								
9	1000								
MNS 1	-50								
2	-50								
3	-50								
4	-50								
5	-50								
6	-50								
7	-50								
8	-50								
9	-50								
MNS 10	50								
11	300								
12	-50								
MNS 13	-50								



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METHODS: Sb BY METHOD 8-A

Signatory *A. J. Finlayson*

470019

R. W. YERBURY
 DIRECTOR

BATCH No.: B 194 CLIENT B.H.P. COMPANY LIMITED

ORDER No.: _____ AREA: _____ DATE RECEIVED: _____

SAMPLE TYPE: _____ No.: _____ DATE COMPLETED: _____

ATTENTION: _____

SAMPLE No.	Sb ppb									
BATCH M 039										
MNS 14	250									
15	-50									
16	-50									
17	-50									
18	-50									
19	50									
MNS 20	-50									
21	50									
22	50									
23	-50									
MA 1	-50									
2	-50									
3	-50									
SWT 1 BATCH 159H	50									
2	-50									
3	50									
4	-50									
5	-50									
6	-50									
7	-50									
8	-50									
9	-50									
10	-50									
11	-50									
12	400									
SWTB 1	-50									
2	250									
3	200									
4	250									
5	50									



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METHODS:

Signatory *A. J. Finlayson*

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 TELEX ALSEV 42344

470020

R. W. YERBURY
 DIRECTOR

BATCH No.: B 157 CLIENT: B.H.P. COMPANY LIMITED
 ORDER No.: T620/500 AREA: HOBART DATE RECEIVED 26.2.80
 SAMPLE TYPE: S/S, SOIL, ROCK, CONC. No.: 65 DATE COMPLETED 10.4.80
 ATTENTION: DR. R. HINE

SAMPLE No.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Sn ppm	W ppm	As ppm	Sb ppb
MM/1	<2	10	10	2	5	5	10	<10	2	150
2	2	15	25	2	10	10	20	<10	14	<50
3	<2	15	50	1	15	15	<5	<10	6	<50
4	2	15	20	1	10	10	<5	<10	2	<50
5	<2	10	20	1	10	10	5	<10	<2	50
6	<2	10	10	<1	5	5	<5	<10	<2	300
7	<2	10	15	1	10	<5	<5	<10	<2	50
8	5	15	20	1	10	10	5	<10	<2	<50
9	5	15	60	2	40	15	<5	<10	4	<50
MM/10	2	10	10	1	10	10	5	<10	<2	<50
11	10	15	30	2	15	10	<5	<10	2	<50
12	10	15	20	1	15	10	<5	<10	2	<50
13	2	15	20	1	20	10	<5	<10	<2	100
14	<2	10	10	1	10	5	<5	<10	<2	400
F/1	5	15	60	2	45	15	<5	<10	4	50
2	5	20	65	2	70	20	<5	<10	2	<50
3	15	25	80	2	64	25	5	<10	2	7.6ppm
4	10	25	80	2	75	30	<5	<10	8	600
5	10	20	70	1	60	20	<5	<10	6	150
6	5	15	40	1	30	15	10	<10	<2	50
7	10	15	50	1	40	15	<5	<10	6	50
8	10	15	40	1	40	10	<5	<10	<2	<50
9	5	15	70	1	45	20	<5	<10	6	150
F/10	2	15	70	1	65	15	<5	<10	2	250
11	5	15	70	1	50	20	<5	<10	2	100
12	5	15	55	1	45	15	<5	<10	4	<50
13	2	15	75	1	45	20	<5	<10	2	50
14	2	10	25	1	25	10	<5	<10	2	<50
15	10	15	100	1	35	20	5	<10	6	<50
F/16	10	20	100	1	85	25	<5	<10	6	<50



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METHODS: Cu, Pb, Zn, Ag, Ni, Co BY METHOD 1
 Sn, W BY METHOD XRF 1-A
 As BY METHOD XRF 1-C

Sb BY METHOD 8-A

Signatory

020

ALS**LABORATORY REPORT**44 BALACLAVA ST., WOOLLOONGABBA 4102
Phone (07) 391 6986 A/H 355 0776
TELEX ALSEV 42344

- 1 A -

470021

R. W. YERBURY
DIRECTOR

BATCH No.: B 157-1 CLIENT B.H.P. COMPANY LIMITED
 ORDER No.: _____ AREA: _____ DATE RECEIVED: _____
 SAMPLE TYPE: _____ No.: _____ DATE COMPLETED: _____
 ATTENTION: _____

SAMPLE No.	Au ppb								
MM/1	3								
2	<3								
3	<3								
4	5								
5	<3								
6	3								
7	<3								
8	3								
9	5								
MM/10	3								
11	<3								
12	<3								
13	<3								
14	<3								
F/1	3								
2	3								
3	3								
4	10								
5	10								
6	10								
7	15								
8	10								
9	30								
F/10	10								
11	25								
12	10								
13	10								
14	10								
15	10								
F/16	10								



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METHODS:

Au BY METHOD 120-A

Signatory

LABORATORY REPORT

Phone (07) 391 6986 A/H 356 07/6
TELEX ALSEV 42344

R. W. YERBURY
DIRECTOR

470022

BATCH No.: B 157 CLIENT B.H.P. COMPANY LIMITED

ORDER No.: _____ AREA: _____ DATE RECEIVED: _____

SAMPLE TYPE: _____ No.: _____ DATE COMPLETED: _____

ATTENTION: _____

SAMPLE No.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Sn ppm	W ppm	As ppm	Sb ppb
F/17	10	15	70	<1	30	15	<5	<10	4	<50
18	5	10	15	<1	15	10	<5	<10	4	<50
S/1	10	10	55	1	35	15	<5	<10	6	<50
2	10	20	60	1	30	20	<5	<10	8	250
MNS/24	20	20	10	1	25	20	<5	<10	6	50
25	5	5	5	<1	10	5	<5	<10	4	<50
26	2	10	5	<1	10	15	5	<10	6	100
27	2	10	10	<1	10	10	<5	<10	6	<50
MA/4	20	25	60	2	35	50	<5	<10	2	<50
5	80	30	155	4	125	60	5	<10	8	50
6	30	35	80	4	90	30	<5	<10	8	50
7	25	30	120	4	70	105	<5	<10	6	<50
8	25	30	130	4	75	75	<5	<10	6	600
9	65	35	65	3	100	20	<5	<10	6	100
MA/10	145	25	105	3	175	50	<5	<10	6	50
11	120	30	110	3	180	40	<5	<10	6	<50
12A	140	25	80	3	145	55	<5	<10	6	<50
12B	180	30	110	4	190	70	<5	<10	6	50
12C	160	25	110	3	200	70	<5	<10	2	50
13	220	25	110	3	155	80	<5	<10	6	200
14	220	30	100	3	160	55	<5	<10	6	100
15	225	30	95	3	145	80	<5	<10	6	150
16	55	35	50	2	60	20	10	<10	10	50
17	5	5	2	<1	10	5	<5	<10	6	50
18	-----SAMPLE NOT RECEIVED-----									
19	<2	30	10	1	15	10	<5	<10	6	50
MAR/1	25	25	115	2	100	55	<5	<10	12	50
2	20	30	80	3	55	95	<5	<10	8	50
3	165	25	105	3	115	330	<5	<10	6	<50
4	20	15	65	1	40	20	5	<10	8	100
MAR/5	20	10	20	1	15	20	<5	<10	8	100



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METHODS:

Signatory *G. Deun*

022 **ALS**

LABORATORY REPORT

OFFICE & LABORATORY
 44 BALACLAVA ST., WOOLLOONGABBA 4102
 Phone (07) 391 6986 A/H 355 0776
 TELEX ALSEV 42344

- 2 A -

R. W. YERBURY
 DIRECTOR

470023

BATCH No.: B 157-1 CLIENT B.H.P. COMPANY LIMITED
 ORDER No.: _____ AREA: _____ DATE RECEIVED: _____
 SAMPLE TYPE: _____ No.: _____ DATE COMPLETED: _____
 ATTENTION: _____

SAMPLE No.	Au ppb									
F/17	15									
18	10									
S/1	10									
2	15									
MNS/24	10									
25	10									
26	10									
27	10									
MA/4	10									
5	5									
6	35									
7	5									
8	3									
9	3									
MA/10	10									
11	<3									
12A	10									
12B	<3									
12C	<3									
13	5									
14	3									
15	10									
16	<3									
17	3									
18	SAMPLE NOT RECEIVED									
19	<3									
MAR/1	<3									
2	<3									
3	3									
4	<3									
MAR/5	<3									



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METHODS:

Signatory

G. Quinn

R. W. YERBURY
 DIRECTOR

BATCH No.: B 157 CLIENT B.H.P. COMPANY LIMITED
 ORDER No.: _____ AREA: _____ DATE RECEIVED: _____
 SAMPLE TYPE: _____ No.: _____ DATE COMPLETED: _____
 ATTENTION: _____

SAMPLE No.	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Sn ppm	W ppm	As ppm	Sb ppb
MAR/6	220	15	170	2	45	45	<5	<10	8	100
WR/4A	20	40	165	4	290	130	<5	<10	168	1.4ppm
4B	10	20	90	4	135	40	5	<10	24	200
4C	15	20	80	1	150	40	<5	<10	10	50
WR/4D	10	20	100	1	200	50	<5	<10	14	150



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METHODS:

Signatory

02A **ALS**

LABORATORY REPORT

OFFICE & LABORATORY
44 BALACLAVA ST., WOOLLOONGABBA 4102
Phone (07) 391 6986 A/H 355 0776
TELEX ALSEV 42344

- 3 A -

470025

R. W. YERBURY
DIRECTOR

BATCH No.: B 157-1 CLIENT B.H.P. COMPANY LIMITED

ORDER No.: _____ AREA: _____ DATE RECEIVED: _____

SAMPLE TYPE: _____ No.: _____ DATE COMPLETED: _____

ATTENTION: _____

SAMPLE No.	Au ppb									
MAR/6	3									
WR/4A	3									
4B	5									
4C	5									
WR/4D	5									



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METHODS:

Signatory

LABORATORY REPORT

Ph 07 3916799
TELEX ALBEV 42344

025

Batch No.: D128 Client: BHP COMPANY LIMITED, Area Contact: DR. R. HINE
 Address: P.O. BOX 559 Address: G.P.O. BOX 1140 L,
 Date Received 21/04/81 CAMBERWELL HOBART TAS.
 Date Completed 08/05/81 VIC
 Order No.: ⁶²⁰ T620 - 000645 Sample Type: S/SED, SOIL, ROCK No. of Samples: 6

SAMPLE NO.	Cu	Pb	Zn	Ag	Ni	Co	Cr	As	Bb	Au	ELEM UNITI METH
	m	m	m	m	m	m	m	m	m	m	
	1	1	1	1	1	1	1	5-B	8	120	
M 1	10	20	95	2	20	20	200	4	30	<0.1	
M 2	10	30	50	2	20	15	280	3	30	<0.1	
M 3	15	30	60	1	20	20	170	2	20	<0.1	
M 4	10	20	50	1	20	20	390	2	30	<0.1	
M 5	10	20	35	1	35	15	150	2	20	<0.1	
M 6	10	20	35	1	20	10	280	2	20	<0.1	

470026

UNITS LEGEND ----- m - Parts per million b - Parts per billion % - percent
 n - Absorbance

ANALABS

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

470028

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

T62			14.4 00 2106C				18.8.83		5091		1 OF 2	
TUBE No.	SAMPLE No.	F	As	Sn	Ba	N		$\frac{S_A \times WT}{100}$				
1	500	-	-	4	-	X		2				
2	501	-	-	8	-	X		7				
3	502	-	-	10	-	X		9				
4	503	-	-	X	-	X		X				
5	504	-	-	6	-	X		5				
6	505	-	-	15	-	X		11				
7	506	-	-	3	-	X		4				
8	507	-	-	3	-	X		3				
9	508	-	-	4	-	X		5				
10	509	-	-	X	-	X		X				
11	510	-	-	4	-	X		4				
12	511	-	-	10	-	X		11				
13	512	-	-	3	-	X		4				
14	513	-	-	7	-	X		9				
15	514	-	-	4	-	X		5				
16	515	-	-	6	-	X		8				
17	516	-	-	15	-	X		17				
18	517	-	-	X	-	X		X				
19	1000	-	-	X	-	X						
20	1001	-	-	X	-	X						
21	1002	-	-	X	-	X						
22	1003	-	-	3	-	X						
23	1004	-	-	X	-	X						
24	MM1	X	50	X	30	X						
25	MM2	X	25	X	30	X						

CONCENTRATES

PAC

- 30 #

ROCK CHIP

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

[Signature]

028

ANALABS

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

470029

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

T62

14.4 08 21060

18.8.83

5091

2 OF

2

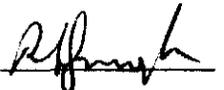
TUBE No.	SAMPLE No.	F	As	Sn	Ba	W				
1	MM3	100	15	X	25	X				
2	MM4	200	10	X	85	X				
3	MM5	300	10	X	95	X				
4	HT1	X	3	5	8400	X				
5	HT2	X	50	X	260	X				
6	HT3	X	7	X	6350	X				
7	HT4	X	2	X	6650	X				
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	100	2	3	20	10				
24	DIGESTION									
25	METHOD	129	401	402	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


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

470030

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

T62		14.4 08 2106				12.8.83	5091	1 of 3		
TUBE No.	SAMPLE No.	Cr	Cu	Pb	Zn	Pg	wt(g)			
1	500	195	-	-	-	-	62.38			
2	501	5500	-	-	-	-	87.83			
3	502	6150	-	-	-	-	89.02			
4	503	200	-	-	-	-	82.01			
5	504	1700	-	-	-	-	91.14			
6	505	1.70%	-	-	-	-	70.40			
7	506	945	-	-	-	-	133.92			
8	507	3150	-	-	-	-	87.71			
9	508	1.20%	-	-	-	-	128.18			
10	509	2.00%	-	-	-	-	84.36			
11	510	2.90%	-	-	-	-	108.69			
12	511	1.35%	-	-	-	-	108.38			
13	512	2550	-	-	-	-	136.50			
14	513	955	-	-	-	-	127.96			
15	514	2050	-	-	-	-	126.09			
16	515	1250	-	-	-	-	133.66			
17	516	5900	-	-	-	-	110.66			
18	517	1.20%	-	-	-	-	133.24			
19	MM1	-	5150	2850	30	X				
20	MM2	-	3150	1800	255	X				
21	MM3	-	6250	20	25	X				
22	MM4	-	500	X	10	X				
23	MM5	-	1850	20	25	X				
24	HT1	-	20	5	185	X				
25	HT2	-	15	10	140	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

ilfman

030

ANALABS

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

470031

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

T62

14.4 08 2106

12.8.83

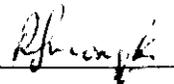
5091

2 Of 3

TUBE No.	SAMPLE No.	Cr	Cu	Pb	Zn	Pg	wt(g)			
1	HT3	-	20	5	150	X				
2	HT4	-	20	5	130	X				
3										
4										
5										
6										
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



031

ANALABS

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

470032

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

CLIENT ORDER No.

PAGE

T62			14.4 08 2106B			15.8.83		5091		1 OF 2	
TUBE No.	SAMPLE No.	RU									
1	500	X									
2	501	X									
3	502	X									
4	503	X									
5	504	X									
6	505	X									
7	506	X									
8	507	X									
9	508	X									
10	509	X									
11	510	X									
12	511	X									
13	512	X									
14	513	X									
15	514	X									
16	515	X									
17	516	X									
18	517	X									
19	MM1	X									
20	MM2	X									
21	MM3	X									
22	MM4	X									
23	MM5	X									
24	HT1	X									
25	HT2	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

Rafman

032

ANALABS

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

470033

ANALYTICAL DATA

SAMPLE PREFIX

REPORT NUMBER

REPORT DATE

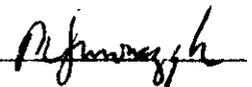
CLIENT ORDER No.

PAGE

T62			14.4 08 2106B			15.8.83		5091		2 OF 2	
TUBE No.	SAMPLE No.	RU									
1	HT3	X									
2	HT4	X									
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23	DETECTION	0.02									
24	DIGESTION										
25	METHOD	303									

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



Sheet

REGION: MAYDENA

SHEET: WEDGE 1:100,000

PROSPECT: OLD HUMBOLDT 'MINE'

PROJECT No: T62

Sample No	Grid Ref.	Local AMG	Description
HT 1	DN 580 686		Ferruginous breccia, limonite dominant but not a true gossan, weathered, no visible sulphides.
HT 2	"		Hematitic and siliceous 'pseudo-gossan', traces of pyrite visible.
HT 3	"		Siliceous ironstone breccia; secondary quartz in transported limonite, no boxworks, no sulphides, thoroughly leached.
HT 4	"		As for HT 3, orange limonite + black Fe-Mn oxide cemented breccia containing angular quartzose fragments, silicified shale and dolomitic shale.

ANALYSIS: Laboratory: ANALABS Batch No: ^{144 08} 2106 Date Submitted: 3/8/83 Date Analysed: 12-12/83

Element	Sn	W	As	Ag	Cu	Pb	Zn	Ba	Au	F						
Method	602	601	601	101	101	101	101	120	303	129						
Sample No																
HT 1	5	x	3	x	20	5	185	8400	x	x						
HT 2	x	x	50	x	15	10	140	260	x	x						
HT 3	x	x	7	x	20	5	150	6350	x	x						
HT 4	x	x	2	x	20	5	130	6650	x	x						

REMARKS:

Logged or : RH/AC
 Sampled by :
 Date: 21/7/83

ROCK CHIP SAMPLE DESCRIPTION THE BROKEN HILL PROPRIETARY CO. LTD.

Drawing No. Project No.

Box

Centre

REGION: MAYDENA

SHEET: WEDGE 1:100,000

PROSPECT: OLD MT. MUELLER MINE

PROJECT No: T62

ROCK CHIP SAMPLE DESCRIPTION

THE BROKEN HILL PROPRIETARY CO. LTD.

Sample No	Grid Ref.	Local AMG	Description
MM 1	DN 574 680		} Quartz-carbonate vein material with small patches and disseminated sulphides (pyrite + galena, chalcopyrite). Some minor sulphides on microfractures, local oxidised copper staining. Brecciated locally with small angular fragments of grey-black obolitic (?) shale wall-rock. Quartz vein with limonite, minor carbonate & shivers of grey shale, oxidised, no visible sulphides. Carbonate-rich vein material with disseminated pyrite/chalcopyrite and black shale fragments. Sulphides generally finer grained than MM1-3, no galena seen.
MM 2	"		
MM 3	"		
MM 4	"		
MM 5	"		

ANALYSIS: Laboratory: ANALABS Batch No: ^{14-4 08} 2106 Date Submitted: 3/8/83 Date Analysed: 12-13/8/83

Element	Sn	W	As	Ag	Cu	Pb	Zn	Ba	Au	F							
Method	402	401	401	101	101	101	101	120	303	129							
Sample No.																	
MM 1	x	x	50	x	5150	2350	30	30	x	x							
MM 2	x	x	25	x	3150	1800	255	30	x	x							
MM 3	x	x	15	x	6250	20	25	25	x	100							
MM 4	x	x	10	x	500	x	10	35	x	200							
MM 5	x	x	10	x	1350	20	25	95	x	300							

REMARKS:

Logged or : RH / AC
 Sampled by :
 Date: 21/7/83

Drawing No.

Project No.

035

470036

APPENDIX 2

PETROLOGICAL REPORTS

MST 20-4 : pyroxene basalt;
MRL 12,660 minor chlorite/uralite alteration interstitially,
and in fissures with deuteric silica.

This is a massive, fairly homogeneous, fine crystalline rock (about 0.25 mm) composed essentially of a groundmass of randomly interlocking plagioclase laths (40-50%), crowded with squat, euhedral crystals of clino-pyroxene (40-50%).

Ill-defined, fine chlorite and uralitic alteration materials are ubiquitous (10%), interstitial and apparently replacing primary glass, also locally invading the plagioclase.

Patches of uralite, also of deuteric cherty quartz fill several irregular fissures.

(Cambrian sequence 125m west of Tower 114 on St. Mueller Rd).

037

MST 20-5 : fine to coarse, rather unsorted, low-grade metamorphosed
MRL 12,661 (arkosic) lithic quartz sandstone;
minor matrix of quartz/biotite/muscovite.

This sample consists of a fairly homogeneous bedded aggregate of generally angular, but some subangular grains and lithic fragments ranging in size from 0.1 to 0.5 mm in maximum dimension.

A weakly limonitised, clay-sericite matrix forms about 15% of the rock.

The detrital components are:

- . single crystal quartz grains 25-30%
- . single crystal plagioclase grains (partly argillised) 10-15%
- . lithic fragments composed of variable amounts of clay/sericite/ultrafine quartz 30-35%
- . grains of chert 5%
- . detrital muscovite 2-3%
- . ? detrital biotite 5%
- . weathered opaque oxides 2-3%

The siliceous/clay/sericite lithic detritus may be derived from a meta pelitic terrain, or possibly represent altered volcanic groundmass material. (There is no evidence of volcanic derivation of the coarser quartz grains).

The matrix to these grains (20%) is a low-grade metamorphic, assemblage, slightly schistose, muscovite, biotite and very fine quartz, with scattered Fe and Ti granules.

(Cambrian sequence 25m west of MST 20-4)

MST 20-10 : fine basic (basaltic) sediment, probably a tuff;
MRL 12,662 extensively pervasively silicified + minor albite
and chlorite.

This rock consists largely of a fairly homogeneous, compact, bedded aggregate of uniformly very fine (0.15 mm) fragments of altered/turbid ? unaltered volcanic glass (35%), clino-pyroxene crystals (10-15%), and accessory plagioclase laths. These are all aggregated with, and/or contained within a matrix of cryptocrystalline quartz mixed with extremely fine chlorite and albite.

The rock is identified as a basic tuff (conceivably derived from the basalt MST 20-4), which has been pervasively silicified, + associated albite and chlorite.

(120m west of creek between Tower 114 ~ 113)

MST 30 : micro-dolerite (in which primary ? pyroxene is
MRL 12,663 completely chloritised);
minor titaniferous magnetite scattered.

This rock has a fine crystalline ophitic texture. Small laths (0.5 mm) of calcic-plagioclase are randomly interlocking to form about 50% of the rock.

Fine chlorite (40%) which completely replaces a former primary mafic-silicate phase fills between and thus moulds around single plagioclase laths, and groups of these.

Crystals of titaniferous magnetite (5-7%) are partly replaced by 'leucoxene', and trace laths of probable ilmenite are scattered.

Minor quartz grains cut the rock.

MST 2 : coarse leuco granite, extensively stressed,
MRL 12,664 incipiently recrystallised with associated
fairly widespread sericitic alteration.

This rock has an inequigranular, but generally coarse to very coarse allotriomorphic granular texture, which has been modified by extensive stress resulting in partial granulation of major grain boundaries, also incipient recrystallisation and microfissuring inside the component minerals.

These minerals are mainly quartz and orthoclase (incipiently perthitic), and somewhat subordinate plagioclase which is extensively sericitised. Minor muscovite, also biotite altered to chlorite (+ Fe and Ti granules).

Extremely fine sericite and lesser microcrystalline quartz, probably generated essentially in-situ, occur at randomly in microfissures and stringers within some coarser crystals.

(Pebble in tillite Sth. Mt. Mueller Rd)

MST 29 : completely serpentinised generally fine granular
MRL 12,665 pyroxenite (cumulate rock);
network of fine secondary magnetite;
accessory coarse chromite.

This rock consists essentially of a compact mass of extremely fine mesh-serpentine (antigorite).

A network of extremely fine secondary magnetite, defines a relict fine granular texture which indicates an original granular aggregate of mainly olivine, possibly a cumulate rock (in a differentiated sill); but several relicts of prismatic pyroxene are indicated by several coarse patches of serpentine with common orientation (possibly a post cumulate phase).

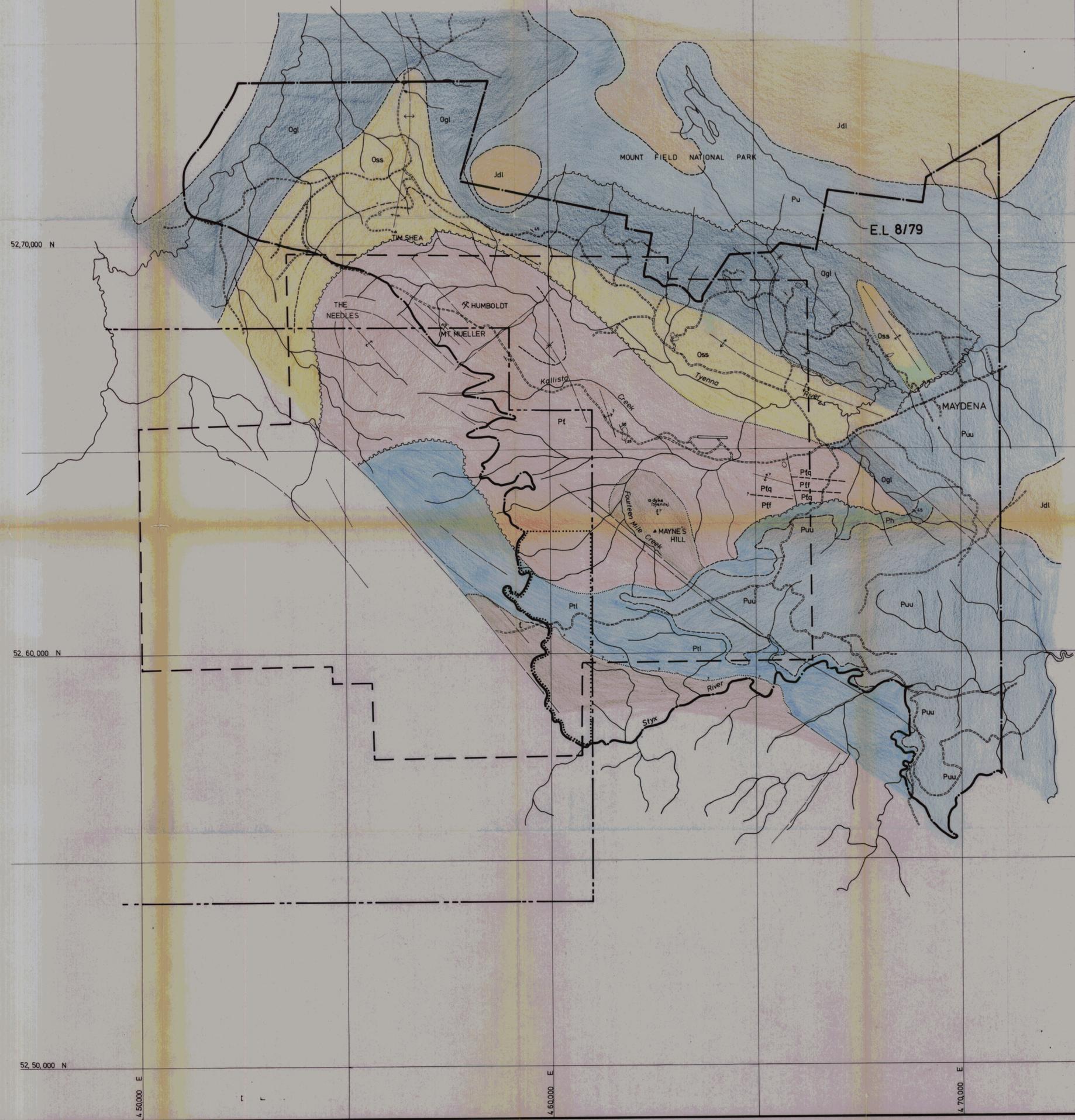
Stringers of secondary magnetite cut the rock.

Accessory coarse (1mm) subhedral, primary spinel crystals are scattered, identified in polished section as chromite. ?

Comments on possible comparisons between this MST Series and the HP Series are given together with descriptions of the HP rocks.

(Serpentinite road metal quarry sth Mt. Mucke)

				Central Mineralogical Services
	Classification - Composition	Fabric	Accessories	Comments
MAR 4 (MRL 11777) Dyke Maynes Rd	Porphyritic Microsyenite. Albite and albite-stilbite-pseudomorphed ?sanidine phenocrysts, chloritised ferromag. microphenocrysts in felsitic K-feldspar with albite microlites.	Phenocrysts to 2.5 mm (albite), ferromags (?amphibole) mean 300 μ , evenly disseminated.	Leucoxenised opaques. Traces pyrite associated with chloritised ferromags, rare amygdals.	Distinctly alkaline (sodi-potassic), but possibly a minor differentiate of the basics. Typical minor intrusive fabric.
GOR 1 (MRL 11781) Dyke on Gordon Rd	Biotite Trachyte. Random albite laths with interstitial K-feldspar. Disseminated Ti-phlogopitic biotite phenocrysts, fine accessory magnetite, semi-pervasive chlorite mesostasis.	Weak flow fabric/banding. Laths mean 20 μ . Phenocrysts mean 100 μ .	Rare pyroxene phenocrysts (altered, leached), traces apatite.	Fine-grained, but lacks definite extrusive features. Possibly core of flow or minor intrusive. Deuteric style of alteration.
GOS (MRL 11782) Pebble in fillite Styx Rd	Pyritic Biotite Adamellite. Sub- to prismatic zoned oligoclase, slightly subordinate orthoclase, micropertthite, quartz, disseminated biotite flakes, semi-pervasive microscopic sulphide films.	Granitic with sparse oligoclase and orthoclase phenocrysts (to 7.5 mm) in mean 1 mm	Minor chlorite (after biotite), sericite (after oligoclase), traces apatite.	Pyrite in films, fine-grained disseminations penetrating cleavages, microfractures in oligoclase, to a lesser extent biotite and orthoclase.
MA 7B (MRL 11771) Maynes Hill area	Altered Basalt. Saussuritised/albitised plagioclase and subordinate, variably serpentinised clinopyroxene laths. Semi-pervasive chloritic mesostasis with leucoxenised opaques.	Laths mean 50 μ . Pyroxene partly enclosed feldspar (subophitic) and is partly skeletal.	Minor traces magnetite. Rare interstitial quartz. Traces allitic tremolite-actinolite.	Deuterically altered core zone of flow or, conceivably, minor intrusive. Some chilled (slaggy) features. Incipiently sheared.
MKC 3 (MRL 11778) Upper Styx River	Carbonaceous Dolomite. Microcrystalline dolomite with bedded ultrafine carbonaceous matter. Frequent veins, aggregates of clear dolomite. Minor authigenic quartz, fine magnesite.	Contorted to brecciated dolomite-healed, submillimetric-scale bedding laminations.	Thinly disseminated fine silt-sized clastic quartz.	Texturally similar to WR 4, but distinctly carbonaceous, magnesian in part. Authigenic quartz crystals with zoned carbonate inclusions. No metasomatism.
WR 4 (MRL 11768)	Dolomite Breccia. Irregular clasts, lenses; relict laminated beds of microcrystalline dolomite; veined marginally, corroded, by coarser sparry carbonate.	Relict submillimetric bedding laminations in microcrystalline (mean 10 μ) dolomite. "Cement"	Minor traces carbonaceous matter.	A virtually pure sedimentary dolomite with pervasive diagenetic carbonate (dolomite) veining. Incipiently recrystallized; devoid of metasomatic effects.
WR 4A (MRL 11769)	"Laterite". Largely structureless limonite. Disseminated ovoid to spherical aggregates of granular to radiating quartz. Rare silicified feldspar microlaths, ferruginised rock fragments.	Essentially random, quartz aggregates, ferruginised clasts 100 μ to 4 mm.	Rare angular to subround quartz grains and heavily degraded leucoxenic semi-opaques.	Quartz ovoids are amygdale-like in part. Probably a ferruginised residual breccia over basic (basalt) facies. No gossanous features.
MA 7A (MRL 11770)	Dolomitic Chert. Microcrystalline quartz with disseminated to frequent limonitic quartz pseudomorphs of carbonate rhombs; patchy degraded/ferruginised ?sericite. Late cavity-filling quartz.	Variably fractured, locally brecciated/quartz-healed.	Minor ultrafine carbonate (inclusions in quartz).	Impure chert with crudely banded diagenetic carbonate rhombs (mean 50 μ) and fractured zones replaced by secondary quartz.
MST42/MRL12876 Anomaly Ck E 114 anomaly	Reworked Tuff. Framework of angular to sub-angular sericite-chlorite-stained alkali feldspar, similarly altered microcrystalline lava clasts, shard fragments. Sericitic chlorite	Weakly bedded, poorly to moderately sorted, silty fine sand/sandy silt. Incipiently sheared.	Clastic quartz, conspicuous leucoxenised clastic opaques. Carbonaceous matter, traces pyrrhotite.	Distinct, mildly reworked, felsic intermediate-acid, tuffaceous characteristics. ?Syngenetic Fe-sulphide. Sparse quartz veinlets.



LEGEND

— Approximate outline of area covered by Dighem EM survey

..... Portion of E.M.8179 retained after October 1982 (and later incorporated into E.L.19183)

--- EL 19183

- QUATERNARY Q Alluvium, scree.
- TERTIARY Tt Till, ferricrete (Fe), silcrete (Si).
- PERMIAN Pt Pebbly mudstone, (tillite)
- PERMIAN Pu Permian undifferentiated siltstone, sandstone, shale.
- PERMIAN Puu Upper Permian undifferentiated siltstone, sandstone, shale.
- ORDOVICIAN Ogl Limestone (Gordon Limestone) calcareous mudstone.
- ORDOVICIAN Oss Mudstone, siltstone, sandstone, conglomerate.
- CAMBRIAN t Shale, conglomerate, minor acid volcanics.
- CAMBRIAN ▲ Serpentinite, minor gabbro, pyroxenite (emplacement age).
- PRECAMBRIAN Pt Quartzite, slates, dolomite, dolomitic shales.
- JURASSIC Jdl Dolerite

— Lineament

--- Geological Boundary (approx)

..... Geological Boundary inferred

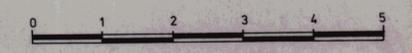
~ Unconformity

○ Outcrops.

↗ Dip and strike.

5 cm

Scale 1:50,000



84-2534

THE BROKEN HILL PROPRIETARY CO. LTD.
EXPLORATION DEPARTMENT

E.L. 8179, MAYDNA, TAS.

GEOLOGY 043

Drawn: RH	Date: 27-10-81	Centre: Hobart
Traced: Hilary J. [unclear]	Project No: T 620	Drawing No: A1-
Checked: 6/1/84		

52,70,000 N

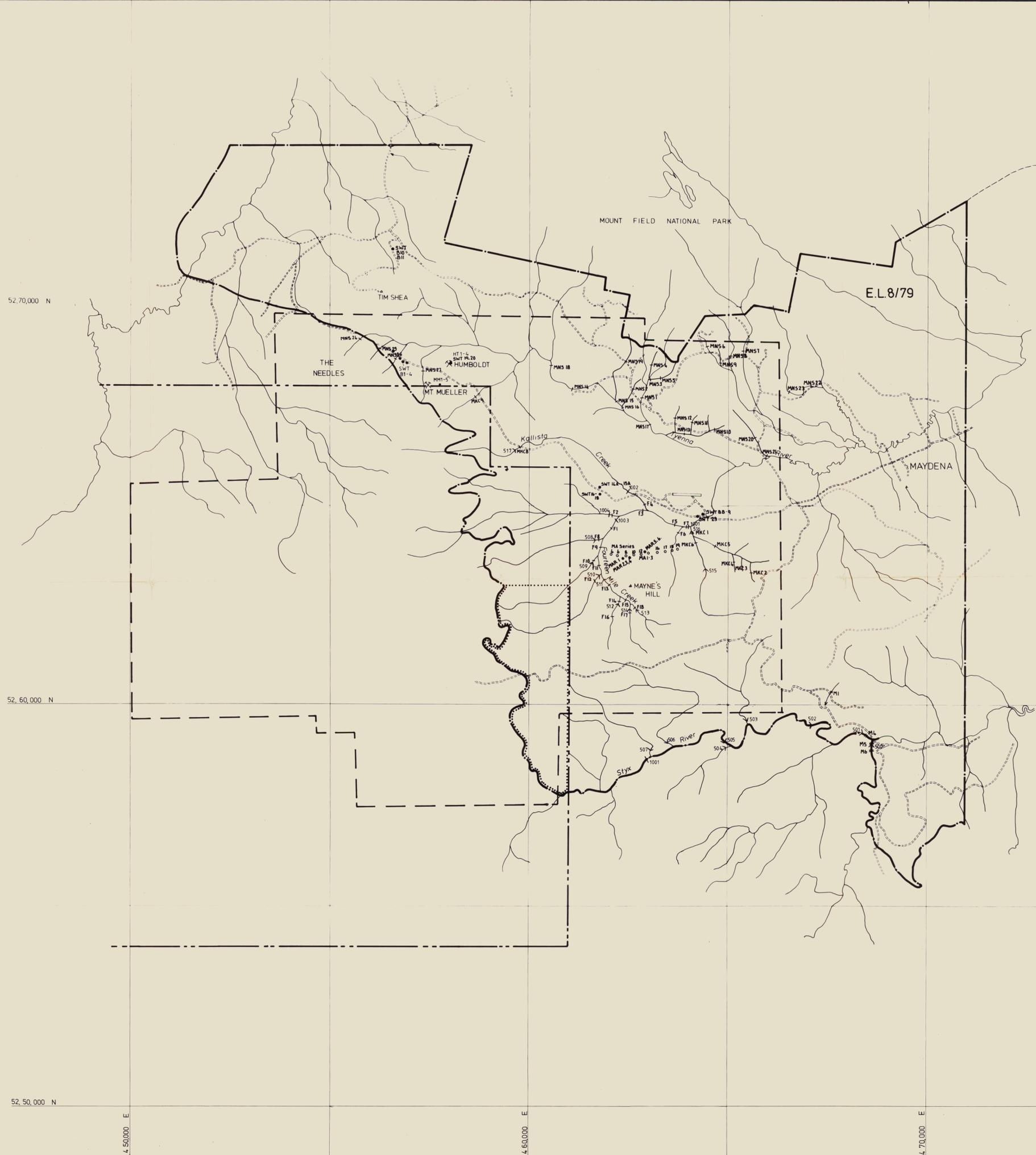
52,60,000 N

52,50,000 N

4,50,000 E

4,60,000 E

4,70,000 E



- LEGEND
- 80 Mesh Soil Sample Locations
 - Rock Chip Sample Locations
 - 80 Mesh Stream Sample Locations
 - - - 40 Mesh Stream Sample Locations
 - Pan concentrate Sample Locations
 - Approximate outline of area covered by Dighem EM survey
 - Portion of EL 8/79 retained after October 1982 (and later incorporated into EL 19/83)
 - - - EL 19/83

5 cm

Scale 1:50,000



34-2084

THE BROKEN HILL PROPRIETARY CO. LTD.
EXPLORATION DEPARTMENT

E.L. 8/79, MAYDENA, TAS.
044

GEOCHEMICAL SAMPLE LOCATIONS

Drawn: RH	Date: 30.10.81	Centre: Hobart
Traced: Hiley/A. Hiley/SGL	Project No: T 620	Drawing No: A1-
Checked: 6/1/82		