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F1 SEP 1982

MICROFILMED

EXPLORATION LICENCE 32/79

HUSKISSON RIVER, TASMANIA

REPORT FOR THE SIX MONTHS ENDED 31st JULY, 1982

OPEN FILE

MICROFILMED

001

CONTENTS

APPENDICES

FIGURES

FIG. 1

002

731003

Scale 1 : 500,000

5 cm

0 10 20 30 40 Km

Centre Melbourne	THE BROKEN HILL PROPRIETARY CO. LTD.	Project Nº: T.660-2
Date 1-3-82	E.L. 32/79, HUSKISSON RIVER, TAS. LOCATION MAP	Drawing Nº: A4-2299

003

731004

EXPLORATION LICENCE 32/79

HUSKISSON RIVER, TASMANIA

REPORT FOR THE SIX MONTHS ENDED 31st JULY, 1982

1. GENERAL

Exploration Licence 32/79 of 17 square kilometres was granted to The Broken Hill Proprietary Company Limited on 16th July, 1980. The current expiry date is 16th January, 1983.

2. EXPLORATION PHILOSOPHY

The principal target within the exploration licence area is a massive sulphide or skarn hosted tin-tungsten deposit. E.L. 32/79 covers prospective ground adjacent to the Meredith Granite and includes part of a belt of dolomite bearing sediments which form hosts to mineralisation at Mt. Lindsay and Renison Bell.

3. SUMMARY OF WORK COMPLETED

a) Literature study and evaluation of available data.

b) Stream sampling and 1:10,000 geological mapping programme (under contract).

c) Petrological study.

d) Airborne E.M. - magnetics programme (Dighem II).

e) Follow up of stream sediment anomalies.

f) Interpretation of Landsat image.

g) Line cutting, soil sampling and ground magnetic surveying to follow-up Dighem anomalies.

f) Regional stream sediment, rockchip and soil sampling.

g) Reconnaissance geological mapping.

4. SUMMARY OF WORK IN PROGRESS

Evaluation of geochemical and geophysical data.

cont./..

5. RESULTS

5.1 Geology

The area covers a portion of the eastern limb of the N.N.W. trending Huskisson Syncline. The sediments present range in age from Siluro Devonian to Precambrian (?) and young to the west.

Siluro Devonian quartz sandstone and Ordovician limestone (Gordon Limestone equivalent (?)) and conglomerate are present in the lower reaches of Webbs Creek in the south western part of the licence area. To the north the limestone is covered by recent gravels.

A 1½ kilometre wide belt of Cambrian sediments, that are probably Crimson Creek Formation equivalents, occupies the central portion of the licence area. These sediments include lithic wacke, tuffaceous siltstone, chert and carbonate bearing sandstones and breccias.

The eastern segment of the area is occupied by a sequence of grey-black slates and quartzites of probable Lower Cambrian to Precambrian age. These rocks are extensively sheared and tightly folded. They form the western limb of a major northward trending anticline which runs along the eastern boundary of the licence area.

Recent reconnaissance mapping in the south west of the lease found an extension of the Cambrian North Huskisson serpentinite into the south west of the area. Gabbro and dolerite dykes presumably related to the ultramafics are also present in the lease. Altered felsic dykes have been reported in exposures on the Huskisson Road to the north east.

5.2 Geochemistry

5.2.1 Stream Sampling

Thirty five stream sediment samples were collected from the area to follow up anomalous tin found in stream sediments in the reconnaissance stream sampling programme. Samples were sieved to -80 mesh and analysed for tin, tungsten, copper, lead, zinc, cobalt, chromium, nickel, silver, gold, arsenic and antimony.

The sample sites are shown in Figure 3 and the results in Appendix 1.

cont./..

005 Note: sample #145 65ppm Sn / 30W SnO2 in sample HS146C anomaly repeated from earlier survey & apparently not followed up by BHP or Getty [illegible] 20/3/85

None of the samples are anomalous with respect to tin, tungsten or base metals. Several high chromium and nickel values were recorded in stream sediments from creeks draining the North Huskisson serpentinite. None of the samples are anomalous with respect to cobalt, silver, gold, arsenic and antimony.

5.2.2 Soil Sampling

A ridge soil sample traverse was conducted to try to find the source of the previously found tin anomalies in the creeks in the south east of the area. The location of the soil traverse is shown in Figure 3. Results are in Appendix 1. None of the samples are anomalous with respect to tin or tungsten. Low order anomalies were recorded for gold but the samples are not anomalous with respect to copper, lead, zinc, cobalt, chromium, nickel, silver, arsenic and antimony.

A second major ridge soil sampling programme was conducted in the south west of the licence area to trace the source of the anomalous tin values in the Webbs Creek drainage system. The ridge was off-set from a magnetic anomaly in an area mapped as limestone overlain by recent gravels.

The area was thought to be prospective for skarn type mineralisation; however reconnaissance mapping showed the magnetic anomaly to be due to serpentinite at the base of the ridge. This is reflected by the high nickel and chromium values in some of the soil samples. The location of the soil traverse is shown in Figure 3 and results are in Appendix 1. None of the samples were anomalous with respect to tin or tungsten. No anomalies were reported for copper, lead, zinc, cobalt, silver, arsenic and antimony.

A third soil traverse was made alongside the Huskisson Drive road in the north east of the E.L. to test an aeromagnetic anomaly. The location of the soil traverse is shown in Figure 3 and results are in Appendix 1. None of the samples were anomalous with respect to tin or tungsten. No anomalies were reported for copper, lead, zinc, cobalt, chromium, nickel and arsenic.

cont./..

5.2.3 Rock Chip Sampling

Nine rock chip samples from the E.L. were sent for analysis. The sample locations are shown in Figure 3 and descriptions and results are in Appendix 1.

5.3 Geophysics

A total of 3.3 kilometres of ground magnetic surveying was completed over roads and cut lines to follow-up Dighem magnetic anomalies in the N.E. of the E.L.

The sites of the traverses are shown in Figure 3. The profiles are shown in Appendix 3. A highly magnetic mafic dyke was found outcropping on the road traverse and the magnetic anomalies are probably caused by these mafic dyke rocks at a shallow depth.

5.4 Petrology

Three panned concentrates from streams in the S.E. of the E.L. previously found to contain anomalous tin were submitted for mineralogical examination. Minor cassiterite was found in only one of the three concentrates.

The heavy mineral present in the samples are consistent with a dominantly ultramafic source. The complete petrological reports are given in Appendix 2.

6. SUMMARY OF WORK PROPOSED

Evaluations of geochemical and geophysical data will be continued.

This report is submitted to the Mines Department as required by Schedule A of Exploration Licence 32/79.

731008 FIG. 2

371E.

373E

EL 32/79

Ross Creek

Webb's Creek

LIMESTONE COVERED BY RECENT GRAVELS

Gabbro

Red chert blocks close to outcrop

BASAL ORDOVICIAN UNCONFORMITY

5388N

CAMBRIAN TUFFACEOUS GREYWACKES AND SILTSTONES

Chert outcrop

PRE-CAMBRIAN — CAMBRIAN SILTSTONE AND MICACEOUS QUARTZITE

HUSKISSON RIVER

Foliated pyritic siltstone with quartz veinlets

NORTH HUSKISSON SERPENTINITE

5386N

Gabbro

Chert fragments

pC-C SILTSTONE - MICACEOUS QUARTZITE

RECENT

Gravels

ORDOVICIAN SILURIAN

Sandstone minor carbonate horizons

Limestone

Sandstone conglomerate

CAMBRIAN

Tuffaceous greywackes siltstones minor cherts and gabbros.

Serpentinite

PRE CAMBRIAN CAMBRIAN

Siltstone micaceous quartzite

Geological boundary

Unconformity

Dip and strike

Dip and strike of overturned strata

Foliation

5 cm

True North

SCALE 1:10,000

0 100 200 300 400 500 metres

007

THE BROKEN HILL PROPRIETARY CO. LTD.
EXPLORATION DEPARTMENT

EL 32/79 HUSKISSON RIVER AREA

GEOLOGY

Geology by R. Poltock.

Revisions:	Drawn: Poltock Bros, K.K	Date: 17·6·82	Centre: Hobart
	Traced: Hilary	Project No: T660	Drawing No: A2-32/79-
	Checked:		

371E

373E

5388N

5386N

Constant Road

Ross Creek

EL 32/79

MAGNETIC TRAVERSE NH1

MAGNETIC TRAVERSE NH2

SOIL TRAVERSE 3
HD Series

SOIL TRAVERSE 2
HUS Series

SOIL TRAVERSE 1
HUS Series

Webb's Creek

HUSKISSON RIVER

Huskisson Drive Road

Road

Creek

Lynch Creek

Stream sample locations. (Hus series)

Soil sample locations.

Rock chip sample locations

5 cm

True North

SCALE 1:10,000

0 100 200 300 400 500 metres

THE BROKEN HILL PROPRIETARY CO. LTD.
EXPLORATION DEPARTMENT

EL 32/79 HUSKISSON RIVER AREA

GEOCHEMICAL SAMPLE LOCATIONS

008

Drawn: K.J.K	Date: 22·6·82	Centre: Hobart
Traced: Hilary	Project No: T660	Drawing No: A2-32/79-
Checked:		

Revisions:

009

731010

APPENDIX 1

Geochemical Results

AUSTRALIAN LABORATORY SERVICES PTY. LTD.

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OFFICE & LABORATORY
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010.

LABORATORY REPORT

Batch No.: C160 Client: BHP COMPANY LIMITED, Area Contact: DR. R. HINE
Address: P.O. BOX 559 Address: G.P.O. BOX 1140L
Date Received 25/03/82 CAMBERWELL HOBART TAS. 7001
Date Completed 08/04/82 VIC 3124

Order No.: T660/005088 Sample Type: SOIL/SEDS/ROCK No. of Samples: 93

SAMPLE NO.	Cu	Pb	Zn	Ag	Cr	Co	Ni	As	Sb	Au	ELEMENTS
	a	a	a	a	a	a	a	a	a	b	UNITS
	G001	G001	G001	G001	G001	G001	G001	A105	G013	PM204	METHODS
T660/HUS 64	5	10	10	<1	170	5	5	<50	1	25	
T660/HUS 65	60	65	160	2	10	75	100	<50	1	10	
T660/HUS 66	50	45	160	2	85	55	60	<50	1	10	
T660/HUS 67	100	40	310	4	520	80	230	<50	1	10	
T660/HUS 68	50	40	185	2	130	50	80	<50	1	5	
T660/HUS 69	60	50	85	2	30	20	45	<50	1	25	
T660/HUS 70	65	50	260	2	85	65	120	<50	<1	20	
T660/HUS 71	85	45	250	3	480	75	185	<50	1	35	
T660/HUS 72	65	30	190	2	310	60	110	<50	<1	5	
T660/HUS 73	70	40	260	2	175	50	120	<50	1	5	
T660/HUS 74	80	50	320	2	210	70	160	<50	1	10	
T660/HUS 75	70	50	260	2	240	75	130	<50	1	5	
T660/HUS 76	60	45	260	2	350	55	125	<50	1	5	
T660/HUS 77	65	50	200	1	320	70	110	<50	1	<3	
T660/HUS 78	70	50	260	2	480	60	120	<50	1	3	
T660/HUS 87	100	40	210	2	380	60	145	<50	1	5	
T660/HUS 88	55	50	220	2	80	60	100	<50	1	<3	
T660/HUS 89	60	60	200	2	310	45	110	<50	<1	3	
T660/HUS 90	60	55	140	2	920	50	65	<50	<1	3	
T660/HUS 91	60	40	250	1	310	55	120	<50	<1	25	
T660/HUS 92	50	55	280	2	920	60	165	<50	<1	5	
T660/HUS 93	75	60	370	2	120	85	250	<50	<1	5	
T660/HUS 94	40	40	190	<1	700	40	170	<50	1	<3	
T660/HUS 95	80	65	400	1	200	80	210	<50	1	<3	
T660/HUS 96	100	45	320	3	390	105	280	<50	1	10	
T660/HUS 97	75	60	115	3	280	95	85	<50	1	5	
T660/HUS 100	135	45	270	3	500	105	200	<50	<1	<3	
T660/HUS 104	65	50	195	2	80	65	85	<50	1	<3	
T660/HUS 120	70	40	60	2	105	20	55	<50	1	60	
T660/HUS 121	55	40	50	2	150	30	45	<50	1	25	

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

Signature: A Finlayson

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Batch No.: C160 Client: BHP COMPANY LIMITED, Area Contact: DR. R. HINE
Address: P.O. BOX 559 Address: G.P.O. BOX 1140L
Date Received 25/03/82 CAMBERWELL HOBART TAS. 7001
Date Completed 08/04/82 VIC 3124

Order No.: T660/005088 Sample Type: SOIL/SEDS/ROCK No. of Samples: 93

SAMPLE NO.	Cu a G001	Pb a G001	Zn a G001	Ag a G001	Cr a G001	Co a G001	Ni a G001	As a A105	Sb a G013	Au b PM204	ELEMENTS UNITS METHODS
T660/HUS 122	70	30	50	3	330	35	45	<50	1	<3	
T660/HUS 123	100	35	120	2	90	45	70	<50	<1	<3	
T660/HUS 124	125	150	75	3	90	40	40	<50	1	15	
T660/HUS 125	80	50	50	3	300	30	70	<50	<1	3	
T660/HUS 126	55	40	35	3	70	25	45	<50	1	25	
T660/HUS 127	90	40	60	3	230	35	70	<50	<1	160	
T660/HUS 128	100	100	115	3	150	50	70	<50	1	10	
T660/HUS 129	120	55	100	3	230	115	80	<50	1	60	
T660/HUS 130	95	35	70	3	150	40	55	<50	1	10	
T660/HUS 131	85	40	70	2	140	40	45	<50	1	30	
T660/HUS 132	55	60	50	2	120	35	40	<50	<1	10	
T660/HUS 133	15	40	20	2	270	10	15	<50	1	5	
T660/HUS 134	10	45	15	2	45	10	10	<50	1	10	
T660/HUS 135	10	80	30	1	200	10	20	<50	1	10	
T660/HUS 136	10	20	10	<1	0.10	% 10	20	<50	1	10	
T660/HUS 138 +	45	50	200	2	0.30	% 70	100	<50	1	<3	
T660/HUS 139 +	40	50	105	2	0.18	% 65	85	<50	1	<3	
T660/HUS 140 +	65	60	190	1	160	50	55	<50	1	<3	
T660/HUS 141 +	30	35	125	1	0.26	% 40	60	<50	1	<3	
T660/HUS 142 +	20	35	125	<1	540	35	40	<50	1	<3	
T660/HUS 143 +	30	30	110	1	0.44	% 45	70	<50	1	<3	
T660/HUS 144 +	25	30	95	2	0.84	% 45	60	<50	1	5	
T660/HUS 145 +	15	25	60	<1	0.24	% 25	35	<50	1	5	
T660/HUS 150	60	50	40	2	250	25	30	<50	1	10	
T660/HUS 151	10	20	15	<1	150	10	10	<50	1	5	
T660/HUS 152	25	35	20	1	270	15	20	<50	1	70	
T660/HUS 153	40	35	30	1	290	10	20	<50	1	25	
T660/HUS 154	30	45	40	2	190	20	35	<50	<1	35	
T660/HUS 155	50	40	50	2	220	25	45	<50	1	45	
T660/HUS 156	65	60	55	2	200	15	40	<50	1	25	

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Date Completed 09/04/92 VIC 3124

Order No.: T660/005088 Sample Type: SOIL/SEDS/ROCK No. of Samples: 93

SAMPLE NO.	Cu	Pb	Zn	Ag	Cr	Co	Ni	As	Sb	Au	ELEMENTS
	p	p	p	p	p	p	p	p	p	b	UNITS
	G001	G001	G001	G001	G001	G001	G001	A105	G013	PM204	METHODS
T660/HUS 157	70	50	50	2	210	20	30	<50	1	3	
T660/HUS 158	60	50	50	2	125	30	45	<50	<1	3	
T660/HUS 159	50	50	55	2	190	30	50	<50	1	15	
T660/HUS 164	5	30	140	2	>1.0	% 100	600	<50	<1	3	
T660/HUS 165 *	5	30	100	1	>1.0	% 65	380	<50	<1	10	
T660/HUS 166	10	30	40	2	800	25	150	<50	<1	10	
T660/HUS 167	5	20	110	<1	0.96	% 65	200	<50	<1	10	
T660/HUS 168	5	30	50	<1	0.20	% 30	90	<50	1	10	
T660/HUS 169	5	20	105	2	>1.0	% 65	175	<50	1	5	
T660/HUS 170	10	40	125	1	0.74	% 100	260	<50	<1	30	
T660/HUS 171	80	40	100	2	80	60	55	<50	1	30	
T660/HUS 172	5	20	80	<1	0.78	% 35	95	<50	1	10	
T660/HUS 173	45	30	20	2	45	10	20	<50	1	15	
T660/HUS 174	45	80	140	2	0.60	% 110	170	<50	1	20	
T660/HUS 175	80	45	80	2	85	50	165	<50	1	15	
T660/HUS 176	30	30	25	1	50	10	20	<50	1	15	
T660/HUS 177	25	40	25	1	90	10	20	<50	1	25	

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LABORATORY REPORT

Batch No.: C160-1 Client: BHP COMPANY LIMITED. Area Contact: DR. R. HINE
Address: P.O. BOX 559 Address: G.P.O. BOX 1140L
Date Received 25/03/82 CAMBERWELL HOBART TAS. 7001
Date Completed 09/04/82 VIC 3124

Order No.: T660/005088 Sample Type: SOIL/SEDS/ROCK No. of Samples: 92

SAMPLE NO.	Sn	U	ELEMENTS
	ppm	ppm	UNITS
	XRF 1A	XRF 1A	METHODS
T660/HUS 64	<5	10	
T660/HUS 65	<5	<10	
T660/HUS 66	<5	<10	
T660/HUS 67	<5	<10	
T660/HUS 68	<5	<10	
T660/HUS 69	<5	<10	
T660/HUS 70	5	<10	
T660/HUS 71	<5	<10	
T660/HUS 72	5	<10	
T660/HUS 73	<5	<10	
T660/HUS 74	<5	<10	
T660/HUS 75	<5	<10	
T660/HUS 76	<5	<10	
T660/HUS 77	5	<10	
T660/HUS 78	5	<10	
T660/HUS 87	<5	<10	
T660/HUS 88	<5	<10	
T660/HUS 89	<5	<10	
T660/HUS 90	10	<10	
T660/HUS 91	10	<10	
T660/HUS 92	10	<10	
T660/HUS 93	<5	<10	
T660/HUS 94	<5	<10	
T660/HUS 95	<5	<10	
T660/HUS 96	<5	<10	
T660/HUS 97	<5	<10	
T660/HUS 100	<5	<10	
T660/HUS 104	<5	<10	
T660/HUS 120	<5	<10	
T660/HUS 121	<5	10	

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g - Grams a - Absorbance

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LABORATORY REPORT

Batch No.: C160-1 Client: BHP COMPANY LIMITED, Area Contact: DR. R. HINE
Address: P.O. BOX 559 Address: G.P.O. BOX 1140L
Date Received 25/03/82 CAMBERWELL HOBART TAS. 7001
Date Completed 08/04/82 VIC 3124

Order No.: T660/005088 Sample Type: SOIL/SEDS/ROCK No. of Samples: 92

SAMPLE NO.	Sn	U	ELEMENTS
	a	a	UNITS
	XRF 1A	XRF 1A	METHODS
T660/HUS 122	<5	20	
T660/HUS 123	<5	<10	
T660/HUS 124	5	<10	
T660/HUS 125	<5	<10	
T660/HUS 126	25	<10	
T660/HUS 127	10	10	
T660/HUS 128	5	<10	
T660/HUS 129	5	<10	
T660/HUS 130	<5	<10	
T660/HUS 131	5	10	
T660/HUS 132	<5	10	
T660/HUS 133	<5	30	
T660/HUS 134	<5	20	
T660/HUS 135	<5	20	
T660/HUS 136	5	90	
T660/HUS 138	30	10	
T660/HUS 139	5	30	
T660/HUS 140	5	<10	
T660/HUS 141	10	30	
T660/HUS 142	5	30	
T660/HUS 143	10	10	
T660/HUS 144	<5	20	
T660/HUS 145	65	30	
T660/HUS 150	5	10	
T660/HUS 151	<5	<10	
T660/HUS 152	<5	10	
T660/HUS 153	5	<10	
T660/HUS 154	5	<10	
T660/HUS 155	<5	<10	
T660/HUS 156	<5	<10	

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g - Grams e - Absorbance

Signature:

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7310 15

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015

LABORATORY REPORT

Batch No.: C160-1 Client: BHP COMPANY LIMITED, Area Contact: DR. R. MINE
Address: P.O. BOX 559 Address: G.P.O. BOX 1140L
Date Received 25/03/82 CAMBERWELL HOBART TAS. 7001
Date Completed 09/04/82 VIC 3124

Order No.: T660/005088 Sample Type: SOIL/SEDS/ROCK No. of Samples: 92

SAMPLE NO.	Sn ppm XRF 1A	W ppm XRF 1A
		ELEMENTS / UNITS / METHODS
T660/HUS 157	<5	<10
T660/HUS 158	<5	<10
T660/HUS 159	<5	<10
T660/HUS 164	<5	<10
T660/HUS 165	<5	<10
T660/HUS 166	<5	<10
T660/HUS 167	<5	10
T660/HUS 168	<5	<10
T660/HUS 169	<5	10
T660/HUS 170	<5	<10
T660/HUS 171	<5	<10
T660/HUS 172	<5	20
T660/HUS 173	<5	10
T660/HUS 174	<5	<10
T660/HUS 175	<5	<10
T660/HUS 176	<5	20
T660/HUS 177	<5	20

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

Signature: A Hunlayson

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731016

[redacted] A [redacted] R [redacted] A [redacted] L A [redacted] R A [redacted] R Y [redacted] E R [redacted] C E [redacted] PTY. [redacted]

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EVERTON PARK QLD 4053
Ph 07 3525577
TELEX ALSEV 42344

016

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

SAMPLE NO.	Cu	Pb	Zn	Ni	Cr	Co	As	Sn	W	ELEMENTS
	m	m	m	m	m	m	m	m	m	UNITS
										METHODS
HD 00 M	90	65	50	45	75	20	3	10	<10	
HD 100 M	35	30	85	35	10	10	1	<5	<10	
HD 200 M	115	60	40	45	90	40	2	15	10	
HD 300 M	200*	130*	90	55	35	45	1	<5	<10	
HD 400 M	115	90	100	65	65	35	1	5	<10	
HD 500 M	90	30	40	65	35	40	<1	5	<10	
HD 600 M	75	35	55	60	25	110	1	5	<10	
HD 700 M	125	50	100	80	95	95	5	5	<10	
HD 800 M	120	40	75	85	50	100	2	5	10	
HD 900 M	110	25	115	90	50	75	<1	<5	<10	
HD 1000 M	110	90	180	65	90	65	1	<5	<10	
HD 1100 M	95	25	55	50	15	50	2	10	<10	
HD 1200 M	15	20	15	10	70	10	1	<5	20	
HD 1300 M	45	40	40	30	55	15	1	<5	<10	
HD 1400 M	145	65	140	100	40	190*	10	5	<10	
HD 1500 M	95	50	60	45	85	30	3	5	<10	
HD 1600 M	75	25	55	45	10	30	7	5	<10	
HD 1700 M	85	30	45	45	60	20	1	5	<10	
HD 1800 M	145	50	100	75	70	100	1	10	<10	

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

Signature: D.J. Finlayson

NATA
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AUSTRALIAN LABORATORY SERVICES PTY. LTD.
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,
Address: P.O. BOX 559
CAMBERWELL
VIC 3124

Area Contact: DR. R. HINE
Address: 152 MACQUARIE STREET
HOBART TAS. 7001

Date Received 23/03/82
Date Completed 24/03/82

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

SAMPLE NO.	Sn	W
	m	m
		ELEMENTS
		UNITS
		METHODS
HD 00 M	<5	<10
HD 100 M	<5	<10
HD 200 M	<5	<10
HD 300 M	<5	<10
HD 400 M	<5	<10
HD 500 M	<5	<10
HD 600 M	<5	<10
HD 700 M	<5	<10
HD 800 M	<5	<10
HD 900 M	<5	<10
HD 1000 M	<5	<10
HD 1100 M	<5	<10
HD 1200 M	<5	10
HD 1300 M	<5	60
HD 1400 M	5	<10
HD 1500 M	<5	<10
HD 1600 M	<5	<10
HD 1700 M	<5	<10
HD 1800 M	5	<10

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

Signature:

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REGION: HUSKISSON RIVER PROJECT Nº.: T660 PROSPECT: GRID CO-ORDS.: LOCAL A.M.G.

DESCRIPTION Sample Type: ROCK Rock Type: Soil/Sediment Size Fraction:

HUS 81 Possible gabbro with pyrite veins
HUS 98A Ironstone with calcite (?) veins - containing hematite + magnetite
HUS 98B Glassy flow banded rock associated with 98A (ignimbrite?)
HUS 99 Iron rich volcanoclastic sediment
HUS 102 Quartzite with pyrite and qtz veins (channels?)
HUS 103 Iron rich breccia (ferricrete?)

ANALYSIS Laboratory ALS Batch Nº C106-1 Date Analysed 8-4-82

Element / Method / Sample Nº	Sn XRF1A	W XRF1A	Cu G001	Pb G001	Zn G001	Ni G001	Cr G001	Co G001	Au* PM204	Ag G001	As A105	Sb G013					
HUS 81	<5	<10	60	30	140	100	50	35	3	1	<50	1					
HUS 98A	<5	<10	60	55	175	640	0.28%	150	5	1	<50	1					
HUS 98B	<5	<10	45	40	185	780	0.40%	145	5	1	<50	1					
HUS 99	<5	<10	80	90	270	240	>1.00%	300	3	2	<50	2					
HUS 102	<5	<10	75	40	250	120	130	70	5	2	<50	1					
HUS 103	<5	<10	135	45	200	150	70	185	5	3	<50	1					

REMARKS: FOR SAMPLE LOCATIONS SEE GEOCHEMICAL SAMPLE LOCATION MAP

* All elements in ppm except gold which is in ppb.

Logged or Sampled by: Sabrina Kerber, Kelvin King Date:

2310119

REGION: HUSKISSON RIVER | PROJECT Nº.: T660 | PROSPECT: | GRID CO-ORDS.: | LOCAL A.M.G.

DESCRIPTION | Sample Type: ROCK | Rock Type: | Soil/Sediment Size Fraction:

HUS 137 - pyrite rich mafic dyke
HUS 147 - gabbro

ANALYSIS | Laboratory ALS | Batch Nº C 106-1 | Date Analysed 8-4-82

Element / Method / Sample #	Sn	W	Cu	Pb	Zn	Ni	Cr	Co	*Au	Ag	As	Sb					
	XRF1A	XRF1A	G001	G001	G001	G001	G001	G001	PM22	G001	A105	G013					
	<5	<10	95	45	220	135	90	75	3	2	<50	1					
	<5	<10	160	30	150	105	35	120	3	2	<50	1					

REMARKS: For sample locations see geochemical sample location map

* All elements in ppm except for gold which is in ppb

Logged or Sampled by: Sabrina Kerber, Kelvin Kinga | Date:

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APPENDIX 2

Petrological Report

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731022

REPORT CMS 82/4/29

Panned Concentrates MRL 13.648-13.650

Three panned concentrates were received for mineralogical examination with special reference to tin minerals.

A preliminary examination showed that the concentrates were composed dominantly of light minerals and required further concentration for examinations to be effective. Each sample was screened on 18 mesh B.S.S., and the -18# fraction was separated in TBE (S.G. = 2.95) and the heavy fractions were examined optically; they are briefly described below.

HUS 74A (MRL 13.648) HF = 6.8 % (weight)

The heavy minerals consist dominantly of goethite-limonite fragments (including oxidised pyrite), with accessory magnetite, chromite, ilmenite and augite, and rare grains of garnet, monazite, zircon and tourmaline.

No cassiterite was detected, and the mineral assemblage indicates principally mafic-ultramafic source rocks. If Sn is present, it must be associated with the goethite-limonite, which would suggest a silicate- or sulphide-Sn situation.

HUS 138C (MRL 13.649) HF = 9.7 %

This heavy fraction is dominantly composed of chromite, with accessory limonite, a trace of augite, and isolated grains of tourmaline, zircon, monazite, hornblende, sphene, ?sillimanite and ?kyanite.

Much of the chromite is euhedral or only incipiently abraded, indicating a nearby source. Other minerals are very scarce and may be of metamorphic derivation. No Sn minerals were seen.

HUS 146C (MRL 13.650) HF = 1.1 %

The major minerals are chromite and goethite, with minor ilmenite and leucoxene, accessory zircon, tourmaline, augite and hornblende, traces of monazite, rutile and anatase, and isolated angular to incipiently abraded cassiterite (only about three grains were detected in the entire heavy fraction).

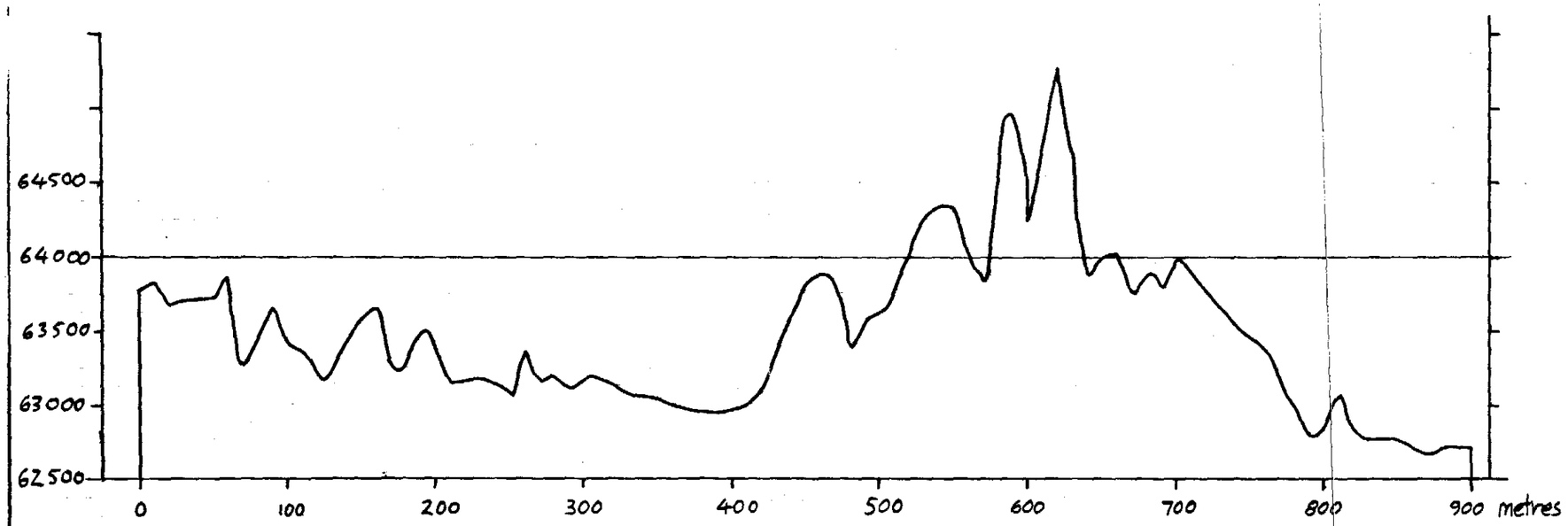
The mineral assemblage in this sample differs from that of the other two, being much more varied and containing more tourmaline and zircon, and less chromite. Some Sn could be associated with goethite, and could be checked (as in HUS 74A) by carrying out an assay for soluble Sn.

H.W. Fander, M. Sc.

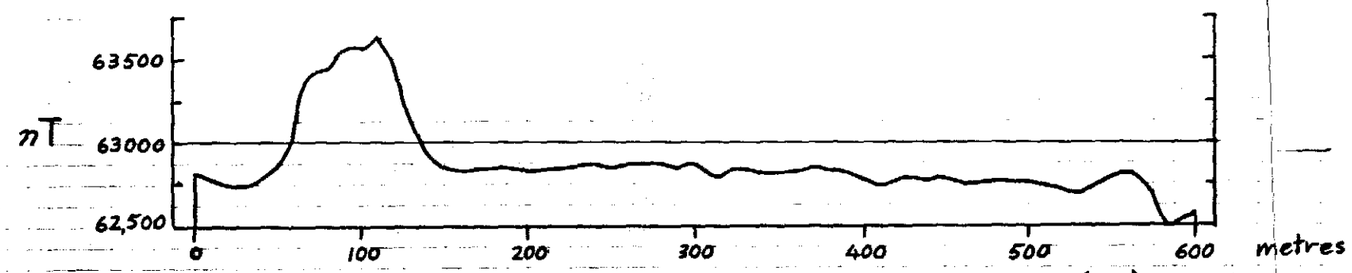
APPENDIX 3

Ground Magnetic Profiles

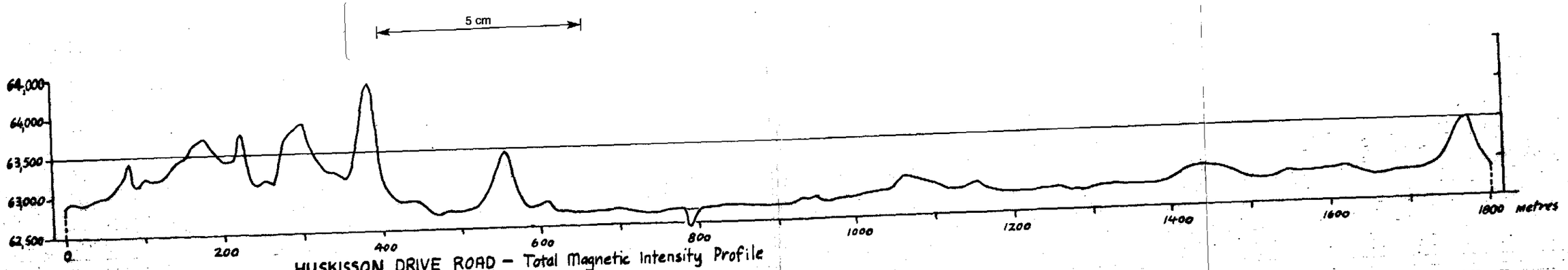
023



NORTH HUSKISSON LINE 1 – Total Magnetic Intensity (nT)



NORTH HUSKISSON LINE 2 – Total Magnetic Intensity (nT)



HUSKISSON DRIVE ROAD – Total Magnetic Intensity Profile