Open File Envelope No. 2035

SML 705

PARABARANA

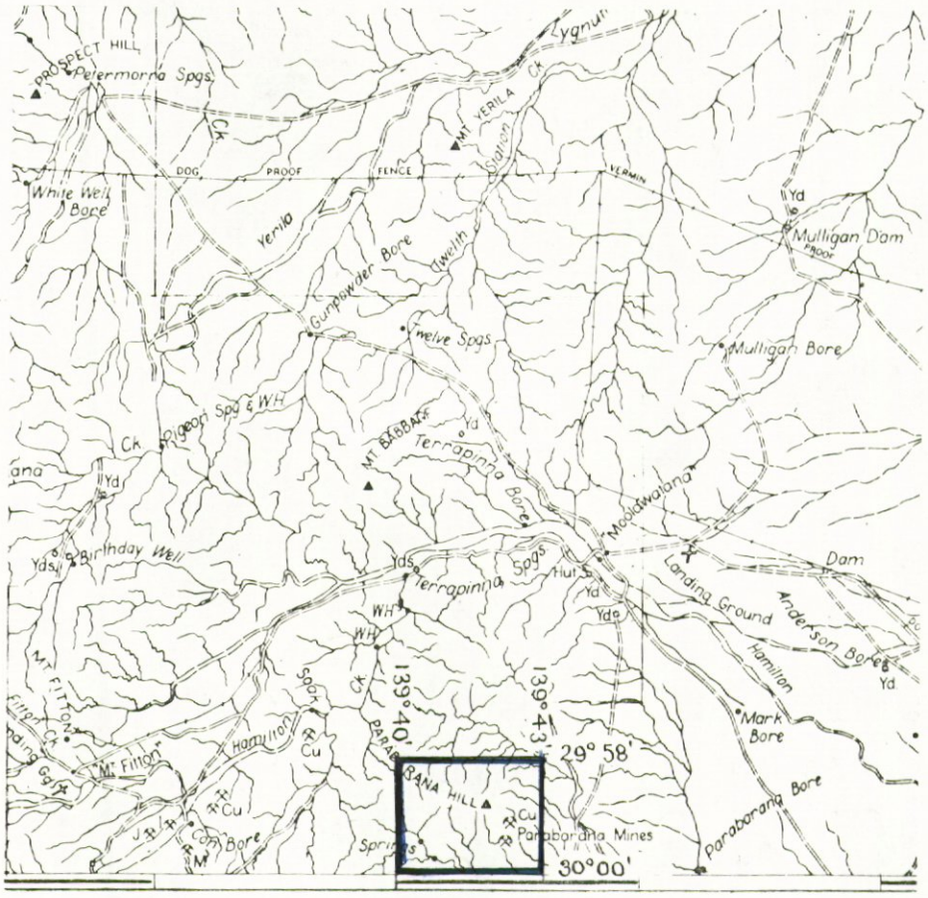
PROGRESS AND TECHNICAL REPORTS TO LICENCE EXPIRY/SURRENDER, FOR THE PERIOD 18/5/1972 TO 17/5/1974

Submitted by
North Flinders Mines NL and Dampier Mining Co. Ltd
1974

Enquiries: Customer Services Branch
Minerals and Energy Resources
7th Floor
101 Grenfell Street, Adelaide 5000

Telephone: (08) 8463 3000
Facsimile: (08) 8204 1880

Government of South Australia
Primary Industries and Resources SA



SCALE 1:250000

NORTH FLINDERS MINES LTD.

DOCKET DM 462/72 AREA 7 SQ MILES

1:250000 PLANS CALLABONNA

LOCALITY PARABARANA AREA

S.M.L. No. 705 EXPIRY DATE 17·5·74

~~762~~ ~~792~~

orig

~~fo~~

CONTENTS ENVELOPE 2035

TENEMENT: S.M.L. 705 - Parabarana.

TENEMENT HOLDER: North Flinders Mines Limited.

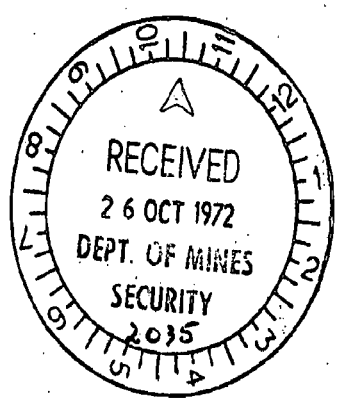
NORTH FLINDERS MINES LIMITED

QUARTERLY REPORT

S.M.L. 705

SOUTH AUSTRALIA

PERIOD 1st JULY to 30th SEPTEMBER, 1972



R.B. WILSON

Chief Geologist

C O N T E N T S :

A C C O M P A N Y I N G M A P S :

Drwg. No. 705-9 'Parabarana Copper Prospect - Regional Geology' by R.E. Read (Scale 1 in. = 400 ft. approx.)

I INTRODUCTION

Special Mining Lease 705 of approximately 7 square miles in the far northeastern Flinders Ranges was withdrawn from former S.M.L. 558 and re-issued as S.M.L. 705 on 18th May, 1972 for a 2-year term.

II SUMMARY OF OPERATIONS

Mr. I.B. Freytag (Senior Geologist) finalized map-compilation, re-logging of diamond drill cores and re-calculation of assays in the early part of this Quarter. Drafting and editing of a report entitled 'Detailed Mapping and a Reviewed Geological Interpretation of the Parabarana Copper Prospect' was completed and the report was forwarded to the Director of Mines as an Appendix to the previous interim lease-report (for period April-June, 1972).

Thermal and radiometric logging of diamond drill hole PDD 6 was carried out by Dr. Sass as part of a research project. Results will be supplied when available.

Further discussions have been held with Officers of the Geological Survey of South Australia regarding the proposed programme of diamond drilling to be undertaken by the South Australian Department of Mines.

..../2

Advice has been received from the Director of Mines (11th October, 1972) that Ministerial approval has been given for the Department of Mines to undertake a programme of drilling at Parabarana Copper Prospect, involving 8000 feet of drilling to be conducted in two phases.

No further active exploratory work has been conducted during this period.

A copy of a map entitled 'Parabarana Copper Prospect - Regional Geology' at a scale of approx. 1 in. = 400 ft, the results of a mapping programme carried out by geologist R. Read in the previous quarterly period is appended herewith.

..../3

III FUTURE PROGRAMMES

The first phase of the above mentioned drilling programme comprises 3 holes totalling some 3,400 feet, in the area between 500N and 700N and between 600W and 1000W (referred to established N.F.M. grid).

The initial hole, sited at coordinates 500N; 800W, is a vertical hole programmed to intersect the mineralized zone approximately midway down-dip, between intersections in previous holes NFP 22 and PDD 3. Total depth of the hole is not expected to exceed 950 feet and open-hole drilling techniques will be used to the maximum practicable depths prior to commencement of coring.

Siting of the remaining two holes to complete the first phase of drilling will remain in abeyance until completion of the initial hole.

R.B. Wilson

R.B.WILSON
Chief Geologist

0 8

North Flinders Mines Limited

25 GREENHILL ROAD WAYVILLE, S.A. 5034
PHONE 72 2463

25th October, 1972.

Secretary,
Stock Exchange of Adelaide,
Exchange Place,
ADELAIDE. 5000.

QUARTERLY REPORT

Dear Sir,

The Chairman's Report to shareholders delivered at the Annual General Meeting of the Company held on the 6th of October, covers events of the September quarter (copy attached). Since that time drilling has commenced on the Gunsight Uranium/Copper Prospect in the Northern Flinders Ranges under the management of Dampier Mining Company Limited, a wholly owned subsidiary of Broken Hill Proprietary Limited.

The Department of Mines has advised that Ministerial approval has been given to undertake a programme of drilling on the Parabarana Hill Copper Prospect and that operations are planned to commence druing the week of the 16th of October.

Tenders for drilling of the Old Knoll in the Yudnamutana Group have been called and drilling is planned to commence during November.

Yours faithfully,
NORTH FLINDERS MINES LIMITED.

Chairman.

461
462/72

0 9

North Flinders Mines Limited

25 GREENHILL ROAD WAYVILLE S.A. 5034
PHONE 72 3200

The Director,
Department of Mines,
Box 38 Rundle Street Post Office,
ADELAIDE. S.A. 5000

26th January, 1973.

Dear Sir,

S.M.L. 705

Re: LETTER IN LIEU OF QUARTERLY REPORT PERIOD ENDING 31st DECEMBER, 1972

Because of the fact that North Flinders Mines have not conducted any major exploration programmes within S.M.L. 705 during the September-December (1972) Quarterly Period, this letter is submitted in lieu of a formal quarterly report.

The S.A. Department of Mines moved equipment and personnel into the Parabarana Copper Prospect and commenced drilling on the initial hole (co-ordinates 500N ; 800W) in early November.

It is understood that the hole was suspended at a depth of 167.5 metres on 10th December, 1972 and that drilling is scheduled to recommence on about 24th January, 1973.

Work carried-out by North Flinders Mines Limited personnel, for the period, was restricted to preparation of drill-site, maintenance of water-bore, maintenance of roads etc., for an expenditure of

Yours faithfully,

R.B. WILSON.
Chief Geologist

0 10

North Flinders Mines Limited

27 GREENHILL ROAD WAYVILLE, S.A. 5034
PHONE 72 3200

14th May, 1973.

Director of Mines,
South Australian Department of Mines,
P.O. Box 38,
Rundle Street,
ADELAIDE. 5001

S.M.L. 705
QUARTERLY REPORT

Dear Sir,

Work on this lease for the quarter ended 30th April, comprised of cutting platforms and access roads for the proposed drill sites and provision of water for drilling.

The South Australian Mines Department completed dimaond drill hole No. 8, assays and results are not yet to hand.

Yours faithfully,
NORTH FLINDERS MINES LIMITED.

G. H. Stewart.
Managing Director.

CHIEF CLERK
16 MAY 1973
DEPT. OF MINES
ADELAIDE

RECEIVED
17 MAY 1973
2035

462/72

0 11

North Flinders Mines Limited

25 SUTTON ROAD
PHONE 72 3200

31st July, 1973.

Director of Mines,
South Australian Department of Mines,
Box 38, P.O.,
Rundle Street,
ADELAIDE.

S.M.L. 705

Letter in Lieu of Quarterly Report Period Ending 30.6.73

Dear Sir,

Work on this lease for the quarter ended 30/6/73 has comprised road-maintenance and provision of drilling water.

In late March, early April pre-collar percussion drilling was carried out by Boring Enterprises Pty. Ltd. to a depth of 600 feet on the site of the current DDH10A.

Expenditure by North Flinders Mines for the period was $4,589.

Yours faithfully,
NORTH FLINDERS MINES LIMITED.

Managing Director

QUARTERLY REPORT - S.M.L. 705.

PERIOD ENDED 31ST DECEMBER, 1973.

R. B. Wilson.
Chief Geologist.

C O N T E N T S

A P P E N D I C E S

APPENDIX I

"Report of Work on Behalf of Dampier Mining Co. Ltd. During the Quarter Ended 31st December, 1973"

Dampier Mining Co.Ltd.

I. INTRODUCTION

Special Mining Lease 705 in the Northern Flinders Ranges of South Australia covers an area of approximately seven square miles surrounding the Parabarana Copper Prospect. The area forms portion of a joint-venture agreement (Gunsight-Parabarana Area) with Dampier Mining Co. Ltd.. The area is also subject to a further agreement with the S.A. Department of Mines whereby that Department may earn an interest in the Property by carrying out of certain diamond drilling programmes.

II. SUMMARY OF OPERATIONS

The main operations carried out during this period comprise road maintenance, water-supply maintenance, access and drillsite preparation, diamond-drilling by both S.A. Department of Mines and Dampier Mining Co. and detailed geological mapping.

A. Drilling by S.A. Department of Mines

Hole No. 11 was completed at a total depth of 757.2 metres (2484 ft.) during the period. The interval 731.1 metre to 747.45 metres (16.3 metres or 53.6 ft.) averaged 0.27% Cu, while from 729.4 metres to 749.6 metres (20.1 metres or 66.2 ft.) averaged 0.68% As.

A final report on the hole by S.A. Department of Mines personnel is in the course of preparation.

B. Work by Dampier Mining Co. Ltd.

A programme of five diamond drillholes (including pre-collar percussion holes), PDD's 12, 13, 13A, 14 and 15 was drilled in the period 28th October, 1973, to 14th December, 1973. Total footage for the programme was 5041 ft. 6 ins. Diamond drilling was carried out by Longyear and pre-collar percussion drilling by Boring Enterprises Pty. Ltd. under contract to Dampier Mining Co. Ltd.

Sampling and assaying of some holes is completed and the remainder is in progress. No detailed assay results have yet been supplied by Dampier Mining Co.

Structural mapping of the Prospect was completed and map-drafting is in progress.

A ground magnetic survey on 50 ft. and 100 ft. spacings covering the area bounded by 1500W to 800E and 600S to 1000N was completed by North Flinders Mines personnel under contract to Dampier Mining Co.. Magnetic maps are presently being drafted.

A copy of a "Report of Work on Behalf of Dampier Mining Co. Ltd. During the Quarter Ended 31st December, 1973" is attached herewith as Appendix I.

III. FUTURE PROGRAMMES

Future programmes will depend largely on assessment of results of recently-completed drilling programmes combined with a reassessment of earlier drill-results. Detailed assay information for the Dampier Mining Co. drilling programme is not yet available.

IV. EXPENDITURE

Expenditure incurred by North Flinders Mines Ltd. for the period was $ [redacted]

R. B. Wilson
Chief Geologist.

APPENDIX 1

EXPLORATION LICENCE 705.

Report of work on behalf
of Dampier Mining Company Limited.
During the quarter ended
31st December, 1973.

SUMMARY

Under the Parabarana Gunsight Agreement between Dampier Mining Company and North Flinders Mines Ltd. on E.L. 705 in North Flinders Ranges S.A., a total of five diamond (including precollared percussion) drill holes, PDD's 12, 13, 13A, 14, and 15, were drilled in the period 28/10/73 to 14/12/73.

Total footage for the programme was 5041'6". Holes PDD's 12, 13A, and 14 were deepened by diamond coring methods. Maximum depth reached was 1908'6" in PDD14.

Sampling and assaying of percussion chips from three holes, PDD's 12, 13, and 15, is completed. Maximum values are 240 ppm Cu and 8 ppm Mo, occurring in PDD13 in intervals 430-440 feet and 460-470 feet respectively. Sampling and assaying of core from PDD12 is completed. Maximum values are o.31% Cu in the interval 316-318'6" and 300 ppm Mo in 271-273'6".

Assaying of percussion chips from PDD14 is in progress. Percussion chips from PDD13A were not sampled. Sampling of core from PDD13A and PDD14 is in progress. Assaying will proceed as soon as possible.

Structural mapping of the prospect has been completed and the resulting map is being drafted.

Ground magnetic surveying on 50 ft. and 100 ft. spacings over the area bounded by 1500W to 800E and 600S and 1000N is completed and the resulting map is being drawn up by N.F.M. Ltd.

1. EXPLORATION PROGRAMME

The following programme of work was carried out or commenced during the period 21st October to 31st December, 1973.

1.1. Drilling

Diamond drilling (including precollar percussion) was completed in five vertical holes giving a total footage drilled of 5041'6". Boring Enterprises Pty. Ltd. of Adelaide S.A. were contracted for the percussion drilling and Longyear (Australia) of Mitchell Park S.A. were contracted to do the diamond drilling.

Percussion drilling commenced on 28th October and was completed on 15th November for a total footage of 2200'0" in five holes.

Diamond drilling commenced on 4th November and was completed on 12th December for a total footage of 2841'6" in three holes.

The following table contains the footages for individual holes

DRILLING DETAILS		FOOTAGE		DEPTH
Drill hole	Coordinates	Percussion	Diamond	Total Depth
PDD 12	800E/ 800N	100'0"	390'0" HQ 152'0" NQ 238'0"	490'0"
PDD 13	000E/ 600N	600'0"	-	600'0"
PDD 13A	025E/ 600N	300'0"	1143'0" HQ 822'10" NQ 320'2"	1443'0"
PDD 14	1150W/1020N	600'0"	1308'6" HQ 999'0" NQ 309'6"	1908'6"
PDD 15	000E/1000N	600'0"	-	600'0"

PDD 13 was abandoned after a collapse.

The locations of drill-holes PDD 12, 13, 13A, 14, and 15 are shown on the attached plan.

1.2 Sampling

Percussion chips from each hole except PDD 13A were collected at 5 ft. intervals from a cyclone with a 1/16" splitter. One hundred (100) gram subsamples were taken of 10 ft. bulked samples and sent for analysis. A total of 190 samples were collected, representing 1900 feet of percussion drilling sampled at 10 ft. intervals over the following depths.

PERCUSSION SAMPLING DETAILS

Hole	Interval		Sampled	No. Samples
PDD 12	0'0"	-	100'0"	10
PDD 13	0'0"	-	600'0"	60
PDD 13A	not sampled			
PDD 14	0'0"	-	600'0"	60
PDD 15	0'0"	-	600'0"	60
TOTAL	1900'0"			190

Diamond core of HQ and NQ size from PDD 12, PDD 13A and PDD 14 was halved and quartered in 2'6" intervals over mineralized zones in each hole.

DIAMOND SAMPLING DETAILS

Hole	Interval		Sampled	No. Samples
PDD 12	236'0"	-	433'6"	79
PDD 13A	757'6"	-	1443'0"	265
	checks			32
PDD 14	1126'6"	-	1153'0"	11
	1520'6"	-	1908'6"	142
	checks			40
	duplicates			13
TOTAl	1297'6"			582

Sampling of PDD 13A and PDD 14 is still in progress (21st December, 1973).

1.3 Assaying

Both percussion and diamond core samples were assayed by Atomic Absorption Spectroscopy by AMDEL in Adelaide S.A. for copper and molybdenum.

Only PDD 12 had been completed at 21st December, 1973.

Check assays will be made by Geomin (Perth) of selected intervals of core in PDDs 13A and 14. Gold assays will be carried out on samples containing 2000 ppm Cu.

1.4 Hole Surveying

Hole surveys were made in PDD 13A and 14 using Longyear Tropari Survey instruments and acid etch tests.

Hole	Depth	Method	Depression	Bearing (Grid)
PDD 13A	1350	Acid	85	-
PDD 13A	1418	Tropari 1	83	150
PDD 14	650	Tropari 1	84	?
	650	Tropari 2	84	119
	800	Tropari 2	82	122
	849	Tropari 1	79?	?
	890	Acid	83	-
	1210	Tropari 1	79	?
	1210	Tropari 2	80	153
	1410	Tropari 1	76?	?
	1410	Tropari 2	79	149
	1500	Tropari 2	79	150
	1700	Tropari 2	80	155
	1900	Tropari 2	81	160

Tropari 1 was considered unreliable and readings from Tropari 2 were used.

1.5. Structural Mapping

Structural mapping commenced on 27th November and was completed on 4th December in an area bounded by 3000W to 1000E and 2000S to 1000N approximately.

The structural map is being drafted.

1.6. Ground Magnetic Survey

A ground magnetic survey was conducted between 2nd and 9th December over an area bounded by 1500W to 800E and 600S to 1000N. Both 50 ft. and 100 ft. spacings were used. This plan is being drafted by N.F.M.

QUARTERLY REPORT - SML 705, S.A.

Period-ended 31st March, 1974

R. B. Wilson

CONTENTS

I. INTRODUCTION

Special Mining Lease 705 in the Northern Flinders Ranges of South Australia covers an area of approximately 7 square miles surrounding the Parabarana Copper Prospect. The area forms portion of a joint-venture agreement (Gunsight - Parabarana Area) with Dampier Mining Co. Ltd. The area is also subject to a further agreement with the S.A. Department of Mines, whereby that Department may earn an interest in the Property by carrying-out of certain drilling programmes.

II. SUMMARY OF OPERATIONS

The main operations carried out during this period, comprise road and water-supply maintenance and detailed geological surveys. Unusual heavy rainfall during the period delayed and curtailed some field-operations.

A. S.A. Department of Mines

A final report on diamond drillhole No. 11 by S.A. Department of Mines personnel, is in course of preparation.

B. Dampier Mining Co. Ltd.

Detailed assay results of holes PDD13A and PDD14 were received during the period and are included herewith as Appendix I. Results were generally disappointing, the best intersection being from 1753 ft. to 1775'6" in PDD14 (drillcore - length 22'6") which averaged 0.8% Copper (Amdel Assays). This section is included within a wider-interval of mineralization from 1753 ft. to 1795'6" (core-length 42'6") which averaged 0.49% copper.

A combined visit to inspect the drill-cores at Whyalla and also the site at Parabarana was arranged to include personnel from S.A. Department of Mines, Dampier Mining Co. Ltd. and North Flinders Mines Limited. This was designed to discuss and summarize

the ideas and/or differences in interpretation between the people involved, with a view to a more logical future exploration approach. The inspection of cores at Whyalla and Adelaide and comprehensive discussions took place, but the site-visit to Parabarana had to be cancelled due to almost 3 inches of rain.

In the latter part of this period, Dampier continued detailed mapping of the area between Parabarana and Gunsight Prospects. Results of this work are not yet to hand.

C. North Flinders Mines Ltd.

An area around the Windy Creek workings toward the western boundary of SML 705 was mapped in detail by S.J.Carthew (Student Geologist). Some rock-sampling and a ground-magnetometer survey were also carried-out in this area.

This work is reported as portion of Appendix III to the "Quarterly Report - SML 704 S.A. Period ending 31/3/74" ("Geological Mapping & Geochemical Appraisal of an area extending from Brindana Gorge to Parabarana Hill SML's 704 - 705" by S.J. Carthew).

III. FUTURE PROGRAMMES

Appraisal of drilling results together with compilation and appraisal of recent detailed geological surveys will continue during the coming period. Further work will depend on results of current appraisals.

R. B. Wilson

APPENDIX I

RESULTS OF PARABARANA CORE ANALYSIS

PDD 14 - COORD. 1020N/1150W

0 31 1 ppm = 0.7 dwt/long ton

*Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.		Au on Geomin Samples with >2000 p.p.m. Cu	Lab.
	From	To	Int.	Cu	Mo		
AN 7989	1126.5	1129.0	2.5	2400	7	-	Amdel
AN 8143	"	"	"	3900	2		Geomin
AN 7990	1129.0	1131.5	2.5	<100	5		Amdel
91	1131.5	1134.0	2.5	<100	12		"
92	1134.0	1136.5	2.5	<100	6		"
93	1136.5	1139.0	2.5	<100	8		"
94	1139.0	1141.5	2.5	<100	5		"
95	1141.5	1144.0	2.5	<100	60		"
96	1144.0	1146.5	2.5	<100	6		"
97	1146.5	1149.0	2.5	<100	80		"
7998	1149.0	1151.5	2.5	<100	5		"
*AN 8157	"	"	"				
7999	1151.5	1153.0	2.5	100	5		"
AN 8001	1520.5	1523.0	2.5	<100	3		"
2	1523.0	1525.5	2.5	<100	3		"
3	1525.5	1528.0	2.5	<100	7		"
4	1528.0	1530.5	2.5	<100	5		"
5	1530.5	1533.0	2.5	<100	7		"
6	1533.0	1535.5	2.5	<100	8		"
7	1535.5	1538.0	2.5	<100	4		
AN 8008	1538.0	1540.5	2.5	<100	5		Amdel
AN 8144	"	"	"	24	3	-	Geomin
AN 8009	1540.5	1543.0	2.5	<100	6		Amdel
10	1543.0	1545.5	2.5	<100	6		"
11	1545.5	1548.0	2.5	<100	4		"
12	1548.0	1550.5	2.5	<100	6		"
13	1550.5	1553/0	2.5	<100	8		"
14	1553/0	1555/5	2.5	<100	7		"
15	1555.5	1558.0	2.5	<100	4		"
AN 8016	1558.0	1560.5	2.5	<100	4		Amdel
AN 8145	"	"	"	6	3		Geomin

RESULTS OF PARABARANA CORE ANALYSIS

PDD 14 - COORD. 1020N/1150W

*Duplicate Sample

Sample No.	Footage Sampled From	To	Int.	Results in p.p.m. Cu	Mo	Au on Geomin Samples with >2000 p.p.m. Cu	Lab.
AN 8017	1560.5	1563.0	2.5	<100	10		Amdel
AN 8146	"	"	"	4	8	-	Geomin
AN 8018	1563.0	1565.5	2.5	<100	5		"
*AN 8159	"	"	"				
AN 8019	1565.5	1568.0	2.5	<100	<3		"
20	1568.0	1570.5	2.5	<100	3		"
AN 8021	1570.5	1573.0	2.5	<100	5		"
AN 8147	"	"	"	4	2	-	"
AN 8022	1573.0	1575.5	2.5	<100	<3		"
AN 8148	"	"	"	12	9	-	"
AN 8023	1575.5	1578.0	2.5	<100	3		"
24	1578.0	1580.5	2.5	<100	3		"
25	1580.5	1583.0	2.5	<100	3		"
26	1583.0	1585.5	2.5	<100	3		"
27	1585.5	1588.0	2.5	<100	9		"
AN 8028	1588.0	1590.5	2.5	<100	6		"
*AN 8160	"	"	"				
AN 8029	1590.5	1593.0	2.5	<100	10		"
30	1593.0	1595.5	2.5	<100	5		"
31	1595.5	1598.0	2.5	<100	3		"
32	1598.0	1600.5	2.5	<100	5		"
33	1600.5	1603.0	2.5	<100	5		"
34	1603.0	1605.5	2.5	<100	5		"
AN 8035	1605.5	1608.0	2.5	<100	3		"
36	1608.0	1610.5	2.5	<100	5		"
37	1610.5	1613.0	2.5	<100	5		"
AN 8038	1613.0	1615.5	2.5	<100	<3		"
*AN 8161	"	"	"				
AN 8039	1615.5	1618.0	2.5	<100	3		"
AN 8040	1618.0	1620.5	2.5	<100	13		"
41	1620.5	1623.0	2.5	<100	15		"
42	1623.0	1625.5	2.5	<100	3		"
43	1625.5	1628.0	2.5	<100	4		"
44	1628.0	1630.5	2.5	<100	5		"
AN 8045	1630.5	1633.0	2.5	<100	5		"

RESULTS OF PARABARANA CORE ANALYSIS

PDD 14 - COORD. 1020N/1150W

* Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			Lab.
	From	To	Int.	Cu	Mo	Au on Geomin Samples with >2000 p.p.m. Cu	
AN 8046	1633.0	1635.5	2.5	<100	3		Geomin
47	1635.5	1638.0	2.5	<100	3		
AN 8048	1638.0	1640.5	2.5	<100	4		
*AN 8162	"	"	"				
AN 8049	1640.5	1643.0	2.5	<100	4		
AN 8050	1643.0	1645.5	2.5	<100	5		
51	1645.5	1648.0	2.5	<100	3		
52	1648.0	1650.5	2.5	<100	4		
53	1650.5	1653.0	2.5	<100	4		
54	1653.0	1655.5	2.5	<100	3		
AN 8055	1655.5	1658.0	2.5	<100	4		
56	1658.0	1660.5	2.5	<100	5		
57	1660.5	1663.0	2.5	<100	4		
AN 8058	1663.0	1665.5	2.5	<100	3		
*AN 8163	"	"	"				
AN 8059	1665.5	1668.0	2.5	<100	4		
AN 8060	1668.0	1670.5	2.5	<100	5		
61	1670.5	1673.0	2.5	<100	8		
62	1673.0	1675.5	2.5	<100	3		
63	1675.5	1678.0	2.5	<100	3		
64	1678.0	1680.5	2.5	<100	3		
AN 8065	1680.5	1683.0	2.5	<100	3		
66	1683.0	1685.5	2.5	<100	7		
67	1685.5	1688.0	2.5	<100	7		
AN 8068	1688.0	1690.5	2.5	<100	8		
*AN 8164	1 "	"	"				
AN 8069	1690.5	1693.0	2.5	<100	5		
AN 8070	1693.0	1695.5	2.5	<100	4		
71	1695.5	1698.0	2.5	<100	3		
72	1698.0	1700.5	2.5	<100	4		
73	1700.5	1703.0	2.5	<100	3		
74	1703.0	1705.5	2.5	<100	3		
AN 8075	1705.5	1708.0	2.5	<100	<3		

0 34

RESULTS OF PARABARANA CORE ANALYSIS

PDD 14 - COORD. 1020N/1150W

*Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			
	From	To	Int.	Cu	Mo	Au on Geomin Samples with >2000 p.p.m. Cu	Lab.
AN 8076	1708.0	1710.5	2.5	<100	<3		Geomin
77	1710.5	1713.0	2.5	<100	3		
AN 8078	1713.0	1715.5	2.5	<100	4		
*AN 8165	"	"	"				
AN 8079	1715.5	1718.0	2.5	<100	3		
AN 8080	1718.0	1720.5	2.5	<100	3		
81	1720.5	1723.0	2.5	100	3		
82	1723.0	1725.5	2.5	<100	3		
83	1725.5	1728.0	2.5	<100	3		
84	1728.0	1730.5	2.5	<100	3		
AN 8085	1730.5	1733.0	2.5	<100	<3		
86	1733.0	1735.5	2.5	<100	3		
87	1735.5	1738.0	2.5	<100	3		
AN 8088	1738.0	1740.5	2.8	200	4		
*AN 8166	"	"	"				
AN 8089	1740.5	1743.0	2.5	1300	4		
AN 8090	1743.0	1745.5	2.5	100	4		
91	1745.5	1748.0	2.5	300	3		
AN 8092	1748.0	1750.5	2.5	<100	25		Amdel
AN 8149	"	"	"	84	8	-	Geomin
AN 8093	1750.5	1753.0	2.5	1000	12		Amdel
AN 8150	"	"	"	350	2	-	Geomin
AN 8094	1753.0	1755.5	2.5	4800	5		Amdel
AN 8151	"	"	"	3500	3	0.08	Geomin
AN 8095	1755.5	1758.0	2.5	1200	4		Amdel
AN 8152	"	"	"	200	2	0.16	Geomin
AN 8096	1758.0	1760.5	2.5	1300	5		Amdel
AN 8153	"	"	"	2200	2	0.06	Geomin
AN 8097	1760.5	1763.0	2.5	1700	5		Amdel
AN 8154	"	"	"	9500	1	0.30	Geomin
AN 8098	1763.0	1765.5	2.5	28000	5		Amdel
AN 8155	"	"	"	>10000	8	0.14	Geomin

RESULTS OF PARABARANA CORE ANALYSIS

PDD 14 - COORD. 1020N/1150W

* Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			Lab.
	From	To	Int.	Cu	Mo	Au on Geomin Samples with >2000 p.p.m. Cu	
AN 8099	1765.5	1768.0	2.5	6300	5		Amdel
AN 8188	"	"	"	3500	3	0.08	Geomin
AN 8100	1768.0	1770.5	2.5	9300	25		Amdel
AN 8189	"	"	"	~10000	25	0.14	Geomin
AN 8101	1770.5	1773.0	2.5	15000	28		Amdel
AN 8190	"	"	"	>10000	12	0.22	Geomin
AN 8102	1773.0	1775.5	2.5	4300	45		Amdel
AN 8191	"	"	"	3700	23	X	Geomin
AN 8103	1775.5	1778.0	2.5	200	40		Amdel
AN 8192	"	"	"	250	22	-	Geomin
AN 8104	1778.0	1780.5	2.5	2200	35		Amdel
AN 8193	"	"	"	4000	23	X	Geomin
AN 8105	1780.5	1783.0	2.5	1400	30		Amdel
AN 8194	"	"	"	1200	30	-	Geomin
AN 8106	1783.0	1785.5	2.5	1900	20		Amdel
AN 8195	"	"	"	1650	19	-	Geomin
AN 8107	1785.5	1788.0	2.5	1800	35		Amdel
AN 8196	"	"	"	1700	30	-	Geomin
AN 8108	1788.0	1790.5	2.5	1400	10		Amdel
AN 8197	"	"	"	1350	8	-	Geomin
AN 8109	1790.5	1793.0	2.5	600	7		Amdel
AN 8198	"	"	"	1050	7	-	Geomin
AN 8110	1793.0	1795.5	2.5	2300	12		Amdel
AN 8199	"	"	"	3100	10	X	Geomin
AN 8111	1795.5	1798.0	2.5	600	50		Amdel
AN 8200	"	"	"	700	38	-	Geomin
AN 8112	1798.0	1800.5	2.5	300	25		Amdel
AN 8201	"	"	"	210	26	-	Geomin
AN 8113	1800.5	1803.0	2.5	700	15		Amdel
AN 8202	"	"	"	1000	19	-	Geomin
AN 8114	1803.0	1805.5	2.5	600	12		Amdel
AN 8203	"	"	"	800	7	-	Geomin

RESULTS OF PARABARANA CORE ANALYSIS

0 36

PDD 14 - COORD. 1020N/1150W.

* Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			Lab.
	From	To	Int.	Cu	Mo	Au on Geomin Samples with >2000 p.p.m. Cu	
AN 8115	1805.5	1808.0	2.5	400	12		Amdel
AN 8204	"	"	"	300	7	X	Geomin
AN 8116	1808.0	1810.5	2.5	200	8		Amdel
AN 8205	"	"	"	52	3	-	Geomin
AN 8117	1810.5	1813.0	2.5	300	10		Amdel
AN 8206	"	"	"	140	10	-	Geomin
AN 8118	1813.0	1815.5	2.5	400	18		Amdel
AN 8207	"	"	"	290	35	-	Geomin
AN 8119	1815.5	1818.0	2.5	500	30		Amdel
AN 8208	"	"	"	170	75	-	Geomin
AN 8120	1818.0	1820.5	2.5	500	50		Amdel
AN 8209	"	"	"	350	50	-	Geomin
AN 8121	1820.5	1823.0	2.5	200	35		Amdel
AN 8210	"	"	"	60	8	-	Geomin
AN 8122	1823.0	1825.5	2.5	100	45		Amdel
AN 8211	"	"	"	60	35	-	Geomin
AN 8123	1825.5	1828.0	2.5	100	25		Amdel
AN 8212	"	"	"	24	7	-	Geomin
AN 8124	1828.0	1830.5	2.5	1900	120		Amdel
AN 8213	"	"	"	1400	85	-	Geomin
AN 8125	1830.5	1833.0	2.5	1600	18	-	Amdel
AN 8214	"	"	"	2500	34	-	Geomin
AN 8126	1833.0	1835.5	2.5	200	20		Amdel
AN 8127	1835.5	1838.0	2.5	500	18		"
AN 8128	1838.0	1840.5	2.5	500	25		"
*AN 8170	"	"	"				
AN 8129	1840.5	1845.5	5.0	200	30		"
AN 8130	1845.5	1850.5	5.0	1100	45		"
31	1850.5	1855.5	5.0	700	45		"
32	1855.5	1860.5	5.0	100	22		"

RESULTS OF PARABARANA CORE ANALYSIS

PDD 14 - COORD. 1020N/1150W

* Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			Lab.
	From	To	Int.	Cu	Mo	Au on Geomin Samples with >2000 p.p.m. Cu	
AN 8133	1860.5	1865.5	5.0	<100	60		Amdel
*AN 8171	"	"	"				
AN 8134	1865.5	1870.5	5.0	100	15		"
AN 8135	1870.5	1875.5	5.0	200	90		"
36	1875.5	1880.5	5.0	200	190		"
37	1880.5	1885.5	5.0	500	22		"
AN 8138	1885.5	1890,5	5.0	200	12		"
*AN 8172	"	"	"				
AN 8139	1890.5	1895.5	5.0	<100	45		"
40	1895.5	1900.5	5.0	<100	35		"
41	1900.5	1905.5	5.0	<100	15		"
AN 8142	1905.5	1908.5	3.0	<100	48		"
*AN 8173	"	"	"	"			

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 3872	300.00	757.50				
3	757.50	760.00	2.5	< 100	4	
4	760.00	762.50	2.5	< 100	3	
5	762.50	765.00	2.5	< 100	< 3	
6	765.00	767.60	2.5	< 100	< 3	
7	767.50	770.00	2.5	< 100	< 3	
8	770.00	772.50	2.5	< 100	< 3	
9	772.50	775.00	2.5	< 100	< 3	
80	775.00	777.00	2.5	< 100	< 3	
1	777.50	780.00	2.5	< 100	10	
2	780.00	782.50	2.5	< 100	3	
3	782.50	785.00	2.5	< 100	15	
4	785.00	787.50	2.5	< 100	5	
5	787.50	790.00	2.5	< 100	8	
6	790.00	792.50	2.5	< 100	3	
7	792.50	795.00	2.5	< 100	4	
8	795.00	797.50	2.5	< 100	10	
9	797.50	800.00	2.5	< 100	3	
90	800.00	802.50	2.5	< 100	3	
1	802.50	805.00	2.5	< 100	4	
2	805.00	807.50	2.5	< 100	< 3	
3	807.50	810.00	2.5	< 100	< 3	
4	810.00	812.50	2.5	< 100	3	
5	812.50	815.00	2.5	< 100	< 3	
6	815.00	817.50	2.5	< 100	3	
7	817.50	820.00	2.5	< 100	3	
8	820.00	822.50	2.5	< 100	6	
9	822.50	825.00	2.5	< 100	12	
3900	825.00	827.50	2.5	< 100	6	
1	827.50	830.00	2.5	< 100	3	
2	830.00	832.50	2.5	< 100	3	
3	832.50	835.00	2.5	< 100	3	

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 3904	835.00	837.50	2.5	< 100	5	
5	837.50	840.00	2.5	< 100	4	
6	840.00	842.50	2.5	< 100	5	
7	842.50	845.00	2.5	< 100	7	
8	845.00	847.50	2.5	< 100	5	
9	847.50	850.00	2.5	< 100	8	
10	850.00	852.50	2.5	< 100	3	
1	852.50	855.00	2.5	< 100	110	
2	855.00	857.50	2.5	< 100	25	
3	857.50	860.00	2.5	< 100	5	
4	860.00	862.50	2.5	< 100	5	
5	862.50	865.00	2.5	< 100	8	
6	865.00	867.50	2.5	< 100	10	
7	867.50	870.00	2.5	< 100	5	
8	870.00	872.50	2.5	< 100	8	
9	872.50	875.00	2.5	< 100	10	
20	875.00	877.50	2.5	< 100	4	
1	877.50	880.00	2.5	< 100	5	
2	880.00	882.50	2.5	< 100	8	
3	882.50	885.00	2.5	< 100	22	
4	885.00	887.50	2.5	< 100	10	
5	887.50	890.00	2.5	< 100	6	
6	890.00	892.50	2.5	< 100	8	
7	892.50	895.00	2.5	< 100	4	
8	895.00	897.50	2.5	< 100	4	
9	897.50	900.00	2.5	< 100	5	
30	900.00	902.50	2.5	< 100	8	
1	902.50	905.00	2.5	< 100	7	
2	905.00	907.50	2.5	< 100	9	
3	907.50	910.00	2.5	< 100	8	
4	910.00	912.50	2.5	< 100	7	
5	912.50	915.00	2.5	< 100	7	

RESULTS OF PARADARMA CORE ANALYSIS

0 40

PDD 13A - COORD. 6837/025E.

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 3936	915.00	917.50	2.5	< 100	5	
7	917.50	920.00	2.5	< 100	5	
8	920.00	922.50	2.5	< 100	4	
9	922.50	925.00	2.5	< 100	5	
40	925.00	927.50	2.5	200	5	
1	927.50	930.00	2.5	200	6	
2	930.00	932.50	2.5	< 100	8	
3	932.50	935.00	2.5	< 100	9	
4	935.00	937.50	2.5	< 100	12	
5	937.50	940.00	2.5	< 100	5	
6	940.00	942.50	2.5	< 100	4	
7	942.50	945.00	2.5	< 100	5	
8	945.00	947.50	2.5	< 100	6	
9	947.50	950.00	2.5	< 100	5	
50	950.00	952.50	2.5	< 100	8	
1	952.50	955.00	2.5	< 100	10	
2	955.00	957.50	2.5	< 100	8	
3	957.50	960.00	2.5	< 100	6	
4	960.00	962.50	2.5	< 100	6	
5	962.50	965.00	2.5	< 100	5	
6	965.00	967.50	2.5	< 100	5	
7	967.50	970.00	2.5	< 100	5	
8	970.00	972.50	2.5	< 100	[illegible]	
9	972.50	975.00	2.5	< 100	[illegible]	
60	975.00	977.50	2.5	< 100	[illegible]	
1	977.50	980.00	2.5	< 100	13	
2	980.00	982.50	2.5	< 100	5	
3	982.50	985.00	2.5	< 100	5	
4	985.00	987.50	2.5	< 100	5	
5	987.50	990.00	2.5	< 100	12	
6	990.00	992.50	2.5	< 100	28	

0 41

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 3967	992.50	995.00	2.5	< 100	12	
8	995.00	997.50	2.5	< 100	17	
9	997.50	1000.00	2.5	< 100	5	
70	1000.00	1002.50	2.5	< 100	5	
1	1002.50	1005.00	2.5	< 100	15	
2	1005.00	1007.50	2.5	< 100	12	
3	1007.50	1010.00	2.5	< 100	15	
4	1010.00	1012.50	2.5	< 100	12	
5	1012.50	1015.00	2.5	< 100	15	
6	1015.00	1017.50	2.5	< 100	12	
7	1017.50	1020.00	2.5	< 100	10	
8	1020.00	1022.50	2.5	< 100	10	
9	1022.50	1025.00	2.5	< 100	12	
80	1025.00	1027.50	2.5	< 100	30	
1	1027.50	1030.00	2.5	100	65	
2	1030.00	1032.50	2.5	< 100	5	
3	1032.50	1035.00	2.5	< 100	6	
4	1035.00	1037.50	2.5	< 100	8	
5	1037.50	1040.00	2.5	< 100	15	
6	1040.00	1042.50	2.5	600	12	
7	1042.50	1045.00	2.5	10000	10	
8	1045.00	1047.50	2.5	600	15	
9	1047.50	1050.00	2.5	200	30	
90	1050.00	1052.50	2.5	100	210	
1	1052.50	1055.00	2.5	< 100	20	
2	1055.00	1057.50	2.5	< 100	8	
3	1057.50	1060.00	2.5	< 100	6	
4	1060.00	1062.50	2.5	< 100	9	
5	1062.50	1065.00	2.5	< 100	10	
6	1065.00	1067.50	2.5	< 100	8	
7	1067.50	1070.00	2.5	< 100	25	
8	1070.00	1072.50	2.5	100	8	
9	1072.50	1085.00	2.5	100	8	

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E

0 42

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 4000	1075.00	1077.50	2.5	-	-	
1	1077.50	1080.00	2.5	< 100	7	
2	1080.00	1082.5	2.5	< 100	5	
3	1082.50	1085.00	2.5	100	8	
4	1085.00	1087.50	2.5	100	12	
5	1087.50	1090.00	2.5	100	6	
6	1090.00	1092.50	2.5	200	8	
7	1092.50	1095.00	2.5	< 100	5	
8	1095.00	1097.50	2.5	< 100	10	
9	1097.50	1100.00	2.5	300	25	
10	1100.00	1102.50	2.5	100Ø	10	
1	1102.50	1105.00	2.5	100	30	
2	1105.00	1107.50	2.5	< 100	25	
3	1107.50	1110.00	2.5	< 100	18	
4	1110.00	1112.60	2.5	< 100	25	
5	1112.80	1115.00	2.5	200	25	
6	1115.00	1117.50	2.5	< 100	22	
7	1117.50	1120.00	2.5	< 100	20	
8	1120.00	1122.50	2.5	< 100	8	
9	1122.50	1125.00	2.5	< 100	3	
20	1125.00	1127.50	2.5	< 100	7	
1	1127.50	1130.00	2.5	< 100	3	
2	1130.00	1132.50	2.5	200	7	
3	1132.50	1135.00	2.5	< 100	8	
4	1135.00	1137.50	2.5	< 100	4	
5	1137.50	1140.00	2.5	200	4	
6	1140.00	1142.50	2.5	< 100	9	
7	1142.50	1145.00	2.5	< 100	10	
8	1145.00	1147.50	2.5	100	5	
9	1147.50	1150.00	2.5	< 100	6	
30	1150.00	1152.50	2.5	100	6	
1	1152.50	1155.00	2.5	200	5	

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E.

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 4032	1155.00	1157.50	2.5	100	5	
3	1157.50	1160.00	2.5	< 100	5	
4	1160.00	1162.50	2.5	< 100	5	
5	1162.50	1165.00	2.5	< 100	8	
6	1165.00	1167.50	2.5	< 100	8	
7	1167.50	1170.00	2.5	< 100	6	
8	1170.00	1172.50	2.5	< 100	6	
9	1172.50	1175.00	2.5	< 100	6	
40	1175.00	1177.50	2.5	< 100	5	
1	1177.50	1180.00	2.5	< 100	6	
2	1180.00	1182.50	2.5	200	6	
3	1182.50	1185.00	2.5	< 100	6	
4	1185.00	1187.50	2.5	< 100	5	
5	1187.50	1190.00	2.5	< 100	5	
6	1190.00	1192.50	2.5	< 100	9	
7	1192.50	1195.00	2.5	< 100	35	
8	1195.00	1197.50	2.5	< 100	28	
9	1197.50	1200.00	2.5	< 100	15	
50	1200.00	1202.50	2.5	< 100	8	
3401	1202.50	1205.00	2.5	< 100	12	
2	1205.00	1207.50	2.5	< 100	8	
3	1207.50	1210.00	2.5	< 100	8	
4	1210.00	1212.50	2.5	< 100	4	
5	1212.50	1215.00	2.5	< 100	6	
6	1215.00	1217.50	2.5	< 100	5	
7	1217.50	1220.00	2.5	< 100	8	
8	1220.00	1222.50	2.5	< 100	6	
9	1222.50	1225.00	2.5	< 100	8	
10	1225.00	1227.50	2.5	< 100	6	
1	1227.50	1230.00	2.5	< 100	7	
2	1230.00	1232.50	2.5	< 100	8	
3	1232.50	1235.00	2.5	< 100	7	
4	1235.00	1237.50	2.5	< 100	8	

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E.

0 44

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 3415	1237.50	1240.00	2.5	< 100	6	
6	1240.00	1242.50	2.5	< 100	8	
7	1242.50	1245.00	2.5	< 100	7	
8	1245.00	1247.50	2.5	< 100	8	
9	1247.50	1250.00	2.5	< 100	7	
20	1250.00	1252.50	2.5	< 100	7	
1	1252.50	1255.00	2.5	< 100	10	
2	1255.00	1257.50	2.5	100	6	
3	1257.50	1260.00	2.5	300	7	
4	1260.00	1262.50	2.5	200	7	
5	1262.50	1265.00	2.5	3000	6	
6	1265.00	1267.50	2.5	< 100	6	
7	1267.50	1270.00	2.5	< 100	5	
8	1270.00	1272.50	2.5	< 100	5	
9	1272.50	1275.00	2.5	< 100	8	
30	1275.00	1277.50	2.5	< 100	7	
1	1277.50	1280.00	2.5	300	5	
2	1280.00	1282.50	2.5	100	5	
3	1282.50	1285.00	2.5	< 100	6	
4	1285.00	1287.50	2.5	< 100	7	
5	1287.50	1290.00	2.5	< 100	10	
6	1290.00	1292.50	2.5	< 100	10	
7	1292.50	1295.00	2.5	200	8	
8	1295.00	1297.50	2.5	100	10	
9	1297.50	1300.00	2.5	200	7	
40	1300.00	1302.50	2.5	< 100	12	
1	1302.50	1305.00	2.5	< 100	12	
2	1305.00	1307.50	2.5	200	4	
3	1307.50	1310.00	2.5	200	7	
4	1310.00	1312.50	2.5	700	8	
5	1312.50	1315.00	2.5	300	8	

RESULTS OF PARABARANA CORE ANALYSIS.

PDD 13A - COORD. 600N/025E

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 3446	1315.00	1317.50	2.5	200	7	
7	1317.50	1320.00	2.5	< 100	5	
8	1320.00	1322.50	2.5	< 100	6	
9	1322.50	1325.00	2.5	< 100	5	
3450	1325.00	1327.50	2.5	< 100	10	
AN 7941	1327.50	1330.00	2.5	200	15	
2	1330.00	1332.50	2.5	100	15	
3	1332.50	1335.00	2.5	< 100	6	
4	1335.00	1337.50	2.5	100	7	
5	1337.50	1340.00	2.5	200	6	
6	1340.00	1342.50	2.5	< 100	4	
7	1342.50	1345.00	2.5	200	4	
8	1345.00	1347.50	2.5	< 100	5	
9	1347.50	1350.00	2.5	200	8	
50	1350.00	1352.50	2.5	100	4	
1	1352.50	1355.00	2.5	100	5	
2	1355.00	1357.50	2.5	< 100	12	
3	1357.50	1360.00	2.5	< 100	8	
4	1360.00	1362.50	2.5	< 100	8	
5	1362.50	1365.00	2.5	< 100	5	
6	1365.00	1367.50	2.5	< 100	4	
7	1367.50	1370.00	2.5	< 100	7	
8	1370.00	1372.50	2.5	< 100	4	
9	1372.50	1375.00	2.5	< 100	4	
60	1375.00	1377.50	2.5	< 100	8	
1	1377.50	1380.00	2.5	< 100	6	
2	1380.00	1382.50	2.5	< 100	5	
3	1382.50	1385.00	2.5	100	8	
4	1385.00	1387.50	2.5	300	8	
5	1387.50	1390.00	2.5	200	7	
6	1390.00	1392.50	2.5	< 100	20	
7	1392.50	1395.00	2.5	< 100	5	
8	1395.00	1400.00	5.0	< 100	4	

RESULTS OF PARABARANA CORE ANALYSIS

0 46

PDD 13A - COORD. 600N/025E

Sample No	Footage Sampled			Results in p.p.m.	
	From	To	Mnt.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
AN 7969	1400.00	1405.00	5.0	< 100	7	
70	1405.00	1410.00	5.0	< 100	5	
1	1410.00	1415.00	5.0	< 100	5	
2	1415.00	1420.00	5.0	< 100	5	
3	1420.00	1425.00	5.0	< 100	5	
4	1425.00	1430.00	5.0	< 100	5	
5	1430.00	1435.00	5.0	< 100	6	
6	1435.00	1440.00	5.0	< 100	4	
7	1440.00	1443.60	3.0	< 100	5	

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
AN 7979	757.50	760.00	2.5	16	3	-
80	852.50	855.00	2.5	12	195	-
1	910.00	912.50	2.5	8	6	-
2	970.00	972.50	2.5	2	4	-
3	1015.00	1017.50	2.5	72	7	-
4	1017.50	1020.00	2.5	44	7	-
5	1027.50	1030.00	2.5	150	10	-
6	1040.00	1042.50	2.5	390	9	-
7	1042.50	1045.00	2.5	540	6	-
7988	1045.00	1047.50	2.5	2350	8	x
8174	1082.50	1085.00	2.5	130	5	-
5	1112.50	1115.00	2.5	72	18	-
6	1147.50	1150.00	2.5	84	3	-
7	1185.00	1187.50	2.5	6	3	-
8	1215.00	1217.50	2.5	4	3	-
9	1242.50	1245.00	2.5	4	4	-
80	1265.00	1267.50	2.5	20	4	-
1	1292.50	1295.00	2.5	120	5	-
2	1317.50	1320.00	2.5	60	3	-
3	1342.50	1345.00	2.5	170	4	-
4	1367.50	1370.00	2.5	16	4	-
5	1395.00	1400.00	5.0	10	2	-
6	1415.00	1420.00	5.0	10	3	-
8215	1222.50	1225.00	2.5	4	5	-
6	1247.50	1250.00	2.5	6	5	-
7	1270.00	1272.50	2.5	4	4	-
8	1300.00	1302.50	2.5	28	34	-
9	1322.50	1325.00	2.5	26	3	-
20	1350.00	1352.50	2.5	120	4	-
1	1372.50	1375.00	2.5	4	3	-
2	1425.00	1430.00	5.0	6	2	-
3	1435.00	1440.00	5.0	10	2	-

x - Below detection limit

HOLE - P.D.D. 12

INTERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
0 - 10	MEL 3661	granite	12	3
10 - 20	3662	"	22	3
20 - 30	3663	"	32	3
30 - 40	3664	"	10	< 3
40 - 50	3665	"	10	< 3
50 - 60	3666	"	10	3
60 - 70	3667	"	12	3
70 - 80	3668	"	8	4
80 - 90	3669	schist	5	6
90 - 100	3670	"	5	5
100 - 236	3791	N O T	A S S A Y E D	
236 - 238.5	3792	microadamellite	0.01%	10
238.5 - 241	3793	"	0.03	12
241 - 243.5	3794	"	0.05	18
243.5 - 246	3795	"	0.06	10
246 - 248.5	3796	"	0.13	8
248.5 - 251	3797	"	0.13	8
251 - 253.5	3798	"	0.13	10
253.5 - 256	3799	"	0.11	8
256 - 258.5	3800	"	0.07	10
258.5 - 261	3801	"	0.16	10
261 - 263.5	3802	"	0.12	25
263.5 - 266	3803	"	0.19	25
266 - 268.5	3804	"	0.12	18
268.5 - 271	3805	"	0.22	50
271 - 273.5	3806	"	0.11	300
273.5 - 276	3807	"	< 0.01	25
276 - 278.5	3808	"	< 0.01	10
278.5 - 281	3809	"	< 0.01	5
281 - 283.5	3810	"	< 0.01	8
283.5 - 286	3811	"	0.02	6
286 - 288.5	3812	"	< 0.01	10
288.5 - 291	3813	"	0.09	50
291 - 293.5	3814	"	0.22	12
293.5 - 296	3815	"	0.15	15
296 - 298.5	3816	"	0.19	35
298.5 - 301	3817	"	0.02	15
301 - 303.5	3818	"	0.04	15
303.5 - 306	3819	"	0.11	10
306 - 308.5	3820	"	0.02	30
308.5 - 311	3821	"	0.13	15
311 - 313.5	3822	"	0.22	10
313.5 - 316	3823	"	0.05	10
316 - 318.5	3824	"	0.31	5
318.5 - 321	3825	"	0.11	25
321 - 323.5	3826	"	0.01	10

INTERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
323.5 - 326	MEL 3827	microadamellite	0.14%	10
326 - 328.5	3828	"	0.21	6
328.5 - 331	3829	"	0.11	4
331 - 333.5	3830	"	0.12	18
333.5 - 336	3831	"	0.15	130
336 - 338.5	3832	"	0.16	40
338.5 - 341	3833	breccia	0.03	15
341 - 343.5	3834	"	0.02	3
343.5 - 346	3835	"	<0.01	5
346 - 348.5	3836	hornfels	0.01	5
348.5 - 351	3837	"	<0.01	5
351 - 353.5	3838	"	0.01	5
353.5 - 356	3839	"	<0.01	3
356 - 358.5	3840	hornfels/ microadamellite	0.02	5
358.5 - 361	3841	microadamellite	<0.01	12
361 - 363.5	3842	"	<0.01	5
363.5 - 366	3843	microadamellite/ hornfels	<0.01	15
366 - 368.5	3844	hornfels	0.07	7
368.5 - 371	3845	"	0.08	5
371 - 373.5	3846	"	0.04	5
373.5 - 376	3847	"	0.08	6
376 - 378.5	3848	"	<0.01	4
378.5 - 381	3849	"	<0.01	8
381 - 383.5	3850	"	<0.01	7
383.5 - 386	3851	"	<0.01	6
386 - 388.5	3852	"	0.08	5
388.5 - 391	3853	"	0.11	3
391 - 393.5	3854	"	0.09	4
393.5 - 396	3855	"	0.04	8
396 - 398.5	3856	"	0.05	5
398.5 - 401	3857	"	0.06	7
401 - 403.5	3858	"	0.08	8
403.5 - 406	3859	"	0.13	8
406 - 408.5	3860	"	0.11	8
408.5 - 411	3861	"	0.07	10
411 - 413.5	3862	"	0.05	8
413.5 - 416	3863	"	0.10	10
416 - 418.5	3864	"	0.10	8
418.5 - 421	3865	"	0.12	6
421 - 423.5	3866	"	0.04	8
423.5 - 426	3867	"	0.02	8
426 - 428.5	3868	"	0.04	12
428.5 - 431	3869	microadamellite	<0.01	10
431 - 433.5	3870	microadamellite/ hornfels	0.02	12
433.5 - 490	3871	microadamellite/ schist/hornfels/ granite	NOT ASSAYED	

		Cu	Mo
Weighted Averages	0 - 100	13	<4
	236 - 433.5	<0.08%	17

HOLE - P.D.D. 13

INTERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
0 - 10	MEL 3601	granite	5	3
10 - 20	3602	"	2	3
20 - 30	3603	"	2	3
30 - 40	3604	"	2	3
40 - 50	3605	"	2	3
50 - 60	3606	granite/schist	5	5
60 - 70	3607	"	2	5
70 - 80	3608	schist	5	5
80 - 90	3609	"	2	4
90 - 100	3610	"	5	3
100 - 110	3611	granite	2	3
110 - 120	3612	granite/schist	2	3
120 - 130	3613	"	5	5
130 - 140	3614	schist	2	6
140 - 150	3615	"	2	5
150 - 160	3616	granite/schist	2	6
160 - 170	3617	schist/granite	2	4
170 - 180	3618	granite	2	5
180 - 190	3619	"	2	3
190 - 200	3620	schist/granite	5	< 3
200 - 210	3621	"	10	4
210 - 220	3622	schist	10	4
220 - 230	3623	schist/granite	8	3
230 - 240	3624	granite/schist	32	4
240 - 250	3625	"	12	< 3
250 - 260	3626	"	5	< 3
260 - 270	3627	"	5	4
270 - 280	3628	schist/granite	12	4
280 - 290	3629	"	10	3
290 - 300	3630	granite/schist	5	3
300 - 310	3631	"	5	5
310 - 320	3632	"	2	7
320 - 330	3633	"	2	5
330 - 340	3634	"	2	4
340 - 350	3635	"	5	4
350 - 360	3636	"	10	4
360 - 370	3637	schist/granite	12	5
370 - 380	3638	"	22	4
380 - 390	3639	"	48	6
390 - 400	3640	"	200	4
400 - 410	3641	"	48	3
410 - 420	3642	"	45	3
420 - 430	3643	"	65	4
430 - 440	3644	"	240	4
440 - 450	3645	"	190	7
450 - 460	3646	granite/schist	55	5
460 - 470	3647	"	18	8
470 - 480	3648	"	25	5

0 51

INTERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
480 - 490	MEL 3649	granite/schist	15	4
490 - 500	3650	"	32	5
500 - 510	3651	"	38	3
510 - 520	3652	granite	35	5
520 - 530	3653	"	45	4
530 - 540	3654	"	75	4
540 - 550	3655	"	65	3
550 - 560	3656	"	28	4
560 - 570	3657	"	20	< 3
570 - 580	3658	"	20	< 3
580 - 590	3659	"	18	3
590 - 600	3660	"	15	< 3

		Cu	Mo
Weighted Average	0 - 600	26	< 4

HOLE - P.D.D. 13A

INTERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
0 - 300	AN 7978	granite gneiss/ schist	NOT	SAMPLED
300 - 757.5	MEL 3872	granite gneiss	NOT	ASSAYED
757.5 - 1202.5	MEL 3873-4050	microadamellite	ASSAYING IN PROGRESS	
1202.5 - 1327.5	MEL 3401-3450	"		
1327.5 - 1443	AN 7941-7977	microadamellite granite		

HOLE - P.D.D. 14

INTERVAL (FT.)	SAMPLE NO.	LITHOLOTY	Cu (ppm)	Mo (ppm)
0 - 600	MEL 3731 - 3790	granite gneiss schist	ASSAYING IN PROGRESS	
600 - 1908.5	Numbers being allocated	microadamellite/ granite/ hornfels	SAMPLING IN PROGRESS	

HOLE - P.D.D. 15

INTERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
0 - 10	MEL 3671	granite/gneiss	2	4
10 - 20	3672	"	5	3
20 - 30	3673	"	2	4
30 - 40	3674	"	2	3
40 - 50	3675	"	2	4
50 - 60	3676	"	2	4
60 - 70	3677	"	2	5
70 - 80	3678	"	2	4
80 - 90	3679	"	2	3
90 - 100	3680	"	2	3
100 - 110	3681	"	2	3
110 - 120	3682	"	2	3
120 - 130	3683	"	2	3
130 - 140	3684	"	2	4
140 - 150	3685	"	2	5
150 - 160	3686	"	2	5
160 - 170	3687	schist	2	5
170 - 180	3688	"	2	6
180 - 190	3689	"	5	3
190 - 200	3690	"	5	3
200 - 210	3691	"	2	3
210 - 220	3692	granite/schist	2	4
220 - 230	3693	"	5	<3
230 - 240	3694	granite gneiss	2	4
240 - 250	3695	"	5	3
250 - 260	3696	"	2	4
260 - 270	3697	"	5	5
270 - 280	3698	granite	5	5
280 - 290	3699	"	8	3
290 - 300	3700	"	8	3
300 - 310	3701	"	8	3
310 - 320	3702	"	8	3
320 - 330	3703	"	8	<3
330 - 340	3704	"	8	3
340 - 350	3705	granite/schist	5	3
350 - 360	3706	granite gneiss	5	3
360 - 370	3707	"	10	<3
370 - 380	3708	"	5	<3
380 - 390	3709	"	5	3
390 - 400	3710	"	12	3
400 - 410	3711	"	5	<3
410 - 420	3712	"	5	3
420 - 430	3713	"	5	3
430 - 440	3714	"	8	<3
440 - 450	3715	"	5	4
450 - 460	3716	"	5	<3

INTERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
460 - 470	MEL 3717	granite gneiss	35	<3
470 - 480	3718	"	15	3
480 - 490	3719	"	8	3
490 - 500	3720	"	10	4
500 - 510	3721	"	10	3
510 - 520	3722	"	15	3
520 - 530	3723	"	28	4
530 - 540	3724	"	15	6
540 - 550	3725	"	10	3
550 - 560	3726	"	8	5
560 - 570	3727	"	5	<3
570 - 580	3728	"	5	<3
580 - 590	3729	"	5	3
590 - 600	3730	"	5	<3
			Cu	Mo
Weighted Average 0 - 600			6	<4

Fig.

2000W 1000W. 00

2000N

1000N

14 15 12 13 13A

00

1000S

2000S

True North
Magnetic North

SCALE OF FEET
0 500 1000

- Soil and scree.
- Shale, siltstone, sandstone, mudstone.
- Alkaline pegmatite.
- Mt. Neill Granite Porphyry.
- Microadamellite.
- Granite, muscovite, amphibolite, gneiss.
- Chloritized porphyritic microgranite.
- Roads.
- Quartz veins.
- BHP drill holes.
- North Flinders drill holes.

Based on North Flinders Mines Ltd., Geological Map

2035-1

Fig No
To accompany
Dated

THE BROKEN HILL PROPRIETARY CO. LTD.
EXPLORATION DEPARTMENT

PARABARANA COPPER PROSPECT S.A.
GEOLOGY AND DRILLING

Prepared by: N.F.M. N.L.	Centre: Melbourne	
Date: 14-12-73	Project No:	Drawing No: A3-
Drawn: A.S. Czigler		

Revisions:

REFERENCE
139°40'
41'
42'
43'
44'
139°45'
29°55'
56'
57'
58'
59'
30°00'
PARABARANA COPPER PROSPECT
ALTERNATE ROUTE
PROPOSED ROAD
TO CONSIGHT.
SCALE
FEET
SHEET INDEX
A B C D E F G H I
BILLY SPRING
UNION TRIG.
SML 558
PARABARANA HILL
MT. SHANAHAN
MT. ADAMS
MT. PAINTER
ARKAROOLA H.S.
SML 575
MT. METAGGART
RECEIVED
2 NOV 1972
DEPT. OF MINES
North Flinders Mines N. L.
PHOTOGEOLOGICAL MAP
UNCONTROLLED COMPILATION
FROM
SURVEY BY TAMAIR PTY. LTD.
SHEET H4
2035-2
INTERPRETATION BY R.B.WILSON
DRN:-
DATE:- MAR. '71
SCALE:- 1" rep. 1000'
N.F.M. Sheet H4

STRUCTURAL GEOLOGY AND ECONOMIC ASSESSMENT OF THE PARABARANA PROSPECT NORTHERN FLINDERS RANGES, SOUTH AUSTRALIA

by

Michael Hall
Ron Johnson

Melbourne April, 1974.

C O N T E N T S

F I G U R E S

SUMMARY

Detailed geological mapping at the Parabarana Cu Prospect, and between Parabarana and the Gunsight Cu/U Prospect of North Flinders Mines Ltd., in the Northern Flinders Ranges of South Australia, has been completed.

A major ENE trending fault, the Paralana Fault, separates Terrapinna gneiss to the north from acid volcanics and intrusive granite of the Mt. Neill area to the south. The Gunsight Prospect occurs in a narrow band of semi-pelitic schist within the Terrapinna gneiss and is structurally unrelated to the copper mineralization of Parabarana.

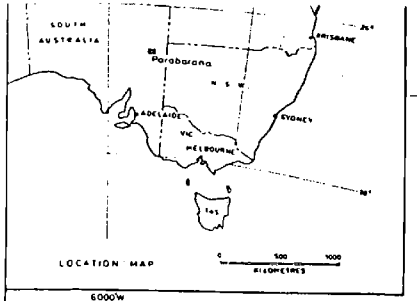
Disseminated copper mineralization at the Parabarana Prospect is associated with the intrusion of the porphyritic Mt. Neill Granite, and has been remobilized so that it is now largely confined to intensely fractured granite and chloritic shear zones south of and parallel to the Paralana Fault.

From a detailed study of the surface geology, re-examination of drill cores and a compilation of assay results, we consider that further testing of this prospect is unwarranted because:

1. The known mineralization is of small size and relatively low grade, and is unlikely to be substantially extended by further drilling.

2. The irregular localization of disseminated mineralization in shear zones does not provide adequate drilling targets.

3. I.P. surveys have outlined the zone of most intense shearing, and anomalies have been adequately tested thereby eliminating further drilling targets west of the main Parabarana Prospect.



6000'W

2000'N

0

2000'S

PARALANA FAULT

COPPER HILL

Windy Creek

Waterfall Creek

TERRAPINA "BLOCK"

- pCtg — Granite gneiss
- pCts — Semi-pelitic schist
- pCtm — Hornblende schist
- Mylonite

MT. NEILL "BLOCK"

- pCn — Porphyritic granite brecciated, intensely sheared and mylonitic
- pCnv — Rhyolitic volcanics
- pCns — Pelitic metasediments
- Marble bands and/or large carbonate veins
- Chlorite shear zones, locally chlorite-sericite schist
- Amphibolite
- K — Cretaceous sediments

- PDD13 — B.H.P. drillholes
- Faults showing dip of fault plane
- Thrusts
- Boundaries of main shear zones
- Lithological boundaries
- Schistosity and gneissosity
- Lineation
- Shear planes
- Banding (volcanics) and bedding (metasediments)
- Unconformity
- Copper occurrences

Scale 1: 6,600

FEET 0 500 1000

METRES 0 100 200 300 400 500

Detail surface mapping by M. Hall and B. Johnson

Fig. No.
To accompany
Dated

THE BROKEN HILL PROPRIETARY CO. LTD.
EXPLORATION DEPARTMENT

GEOLOGICAL MAP-PARABARANA PROSPECT
NORTH FLINDERS RANGES, S.A.

Drawn M. H.	Date 1-5-72	Centre Melbourne	
Traced E. O.		Project No.	Drawing No. A3-1284
Checked			
O.I.C.			

Remarks

000059

60

1. INTRODUCTION

Copper mineralization in the vicinity of Parabarana Hill ($29^{o}58.8'5$, $139^{o}41.9'E$), approximately 330 miles (550 km) north of Adelaide, South Australia, at the extreme NE end of the Flinders Ranges was worked intermittently between 1899 and 1917 for the return of small tonnages of high grade secondary ore.

In the past decade exploration in the area was carried out by Anaconda (Aust.) Inc. in 1966, and subsequently by North Flinders Mines who secured tenure to the area in 1969 in the form of EL704 and EL705. Exploration methods used included stream sediment and rock chip geochemistry, a helicopter radiometric survey and ground magnetometer survey, semi-detailed geological mapping and petrology, and an IP survey followed by the drilling of 32 rotary percussion and 7 diamond drill holes.

Agreement on the 17 square km EL705 between Dampier Mining Company and North Flinders Mines Ltd. was approved by the South Australia Minister of Mines on 14/9/73. Under this agreement part of Dampier Mining Company's obligations were to carry out 3,500 feet of diamond drilling prior to 14/3/74. This portion of the agreement was completed on 15/12/73, a total of 5,042 feet having been drilled.

Sampling and assaying of drill core samples, reinterpretation of drill core and a detailed, 1:6,000 structurally oriented geological map of the area between Gunsight and Parabarana, were completed on 24/3/74.

To date 26,426 feet of percussion and diamond drilling have been carried out at the Parabarana Prospect by Dampier Mining Company, North Flinders Mines Ltd., and the South Australia Department of Mines.

2. GEOLOGY

2.1. Area North of the Paralana Fault

An extensive area of Terrapinna gneiss is exposed north of the Paralana Fault. This is a fairly uniform, pink and white, coarse grained quartz-microcline-biotite (chlorite) granite gneiss with a powerful planar fabric. Augen texture is often well developed.

Within the gneiss are bands of finely foliated, silvery quartz-muscovite semi-pelitic schist and dark green amphibolitic hornblende-plagioclase-biotite (chlorite) schist up to 100 feet thick. These bands are generally parallel to the planar fabric in the gneiss. The semi-pelitic schist is probably derived from metasediments, but at 400 W/1,000 N the semi-pelitic schist grades into a leucocratic phase of the gneiss and may have developed as a shear zone. The "Gunsight schist" is a typical example of this semi-pelitic rock.

The amphibolitic schist is probably derived from a swarm of dolerite dykes intruding the geniss.

The Terrapinna gneiss is an excellent example of a strongly deformed granitic body. The planar fabric strikes generally NE and is sub-vertical. Close to 500E/1,000N there is a complex intercalation of gneiss and schist in which the foliation in the gneiss passes undeviated into that of the schist, giving force to the suggestion that prior to deformation the granitic body included some irregularly oriented pods of metasediments.

A moderately developed lineation, particularly in the schist, plunges NW to WNW, and ellipsoidal augen in the gneiss often show a preferred elongation in this direction. East of 600E a thrust-bound block of Terrapinna gneiss has a NE plunging lineation, suggesting that the block was rotated during thrusting. In this area the planar fabric is locally deformed into small crenulation folds overturned southwards and plunging gently WSW, sub-parallel to the trend of the thrusts. It is clear that these folds developed during the southward directed movement of the thrust blocks.

2.2. Area South of the Paralana Fault

South of the Paralana Fault porphyritic Mt. Neill Granite intrudes a thick sequence of recrystallized, flow banded rhyolitic volcanics. These volcanics consist of alternating pink and yellow-green bands up to one inch thick. The pink bands are composed dominantly of K feldspar while the yellow-green bands are composed of epidote and chlorite. Cross banding is relatively common, and its irregular, undulatory nature distinguishes it from the cross stratification common in sediments.

The banding is commonly blurred close to granite contracts, and the relative abundance of epidote increases as the volcanics assume a hornfelsic appearance. These poorly banded volcanics become moderately fractured and veined with epidote, chlorite, magnetite and calcite.

The volcanics occupy an irregularly shaped body, 3,000 feet by 600 feet, elongated E-W and completely surrounded by granite, with a number of smaller bodies west of 3,000 W. The banding strikes NNW and is sub-vertical, but is locally folded on a small scale immediately adjacent to the granite.

Narrow slivers of metasedimentary rocks appear to lie along ENE trending faults in the poorly exposed area west of Windy Creek (5,200 W). These metasediments are grey-black to green-grey and largely finely banded siliceous pelites. They are locally intruded by granite and altered to fine grained quartz-biotite hornfels.

The Mt. Neill granite is generally a coarse grained porphyritic rock with distinctive K feldspar phenocrysts up to one inch across in a dark groundmass. Within the area mapped as granite both the grain size and phenocryst content vary considerably, although the variations appear to be gradational and related to original variations within the intrusive body and partly to subsequent deformation. Varieties include light coloured, medium to fine equigranular adamellite and porphyritic hornblende granodiorite.

Intrusive contacts are steep and irregular with granite apophyses sometimes following the banding in the volcanics and surrounding small blocks of epidotized chloritic volcanics. Epidote is often concentrated in the granite margins giving the intrusive rock a mottled pink and yellow-green appearance.

Fine to medium grained amphibolite is associated with the granite on the 1,200 W line and south of 1,500S. The amphibolite is a mottled dark green-black and white rock, and its contacts with the granite are usually chloritic and slightly sheared, so that no clear intrusive relationships are preserved.

Bands of carbonate, generally coarsely crystalline calcite and up to 20 feet thick, occur both within the volcanics and the granite,and commonly lie along chloritic shear zones or tail out into shear zones. The thicker bands, just SW of Copper Hill and on the 500 W line, have an internal compositional banding and may be recrystallized sediments. In general, however, there is clear evidence that the carbonate bands are vein fillings in shear zones or fractured rocks.

2.3. Structural Geology

The Paralana Fault extends NE from south of the Gunsight Prospect to Windy Creek, and then trends ENE to just north of Copper Hill. It forms a major structural boundary between the "Terrapinna Block" to the north and "Mt. Neill Block" to the south.

Immediately north of the fault is a vertical band up to 200 feet thick of finely foliated, gently crenulated, silvery quartz-muscovite schist which is probable intensely mylonitized gneiss. This grades north into very finely banded pink and white gneiss and eventually into typical augen gneiss. The muscovite schist thins eastward and was not observed east of Waterfall Creek, where an ESE trending, north dipping thrust joins the older fault line and follows it to the east.

Immediately to the south of the Paralana Fault there is often a band of chlorite rock up to 6 feet thick which grades south into mylonitic granite which is locally incipiently banded and commonly brecciated and pervassively veined with chlorite.

North of approximately 400 S the granite and volcanics are extremely sheared and chloritized to such an extent that only small, irregular patches retain typical porphyritic texture and flow banding. Individual shear zones dip about 60^{o} N to NW, and it is often difficult to determine whether they have developed within granite or volcanics or along their contacts. Unfortunately much of this intensely sheared zone is covered by scree, and interpretation is made even more difficult by outcrops in road cuts and adjacent land surfaces having different appearances. Surface outcrops are usually more massive and exhibit better preservation of original textures than the more sheared road cut exposures.

Drill cores from this zone are dominated by chloritic and brecciated rocks which are usually extremely difficult to relate to an original rock type. However, there is undoubtedly a greater area of sheared chloritic volcanics within this zone than shown on the geological map.

East of 1,000 W an ESE trending, north dipping normal fault cuts off the zone of intensely sheared granite and volcanics, bringing it into contact with Terrapinna gneiss. The dislocated continuation of this fault lies immediately to the west of Copper Hill.

A particularly important zone of intense shearing has been traced east for 5,000 feet along the northern margin of the volcanics from Windy Creek to north of Copper Hill. East of 2,000 W the zone bifurcates around large slivers of volcanics and changes slightly to an ENE orientation. In the immediate vicinity of the Parabarana Prospect (1,200 W to 400 E) this shear zone is up to 60 feet wide and consists of finely foliated chlorite-sericite schist with minor graphite, and grades out into fine grained chloritic rocks, broken into flattened ellipsoidal fragments lying parallel to the main shear zone.

South of the shear zone, smaller and less extensive shear zones up to 20 feet wide are common in both the granite and volcanics. In one of these, at 1,900 W/800 S, over a distance of 6 feet the granite becomes finer grained, increasingly foliated and more chlorite rich until in the centre of the shear zone it has been entirely altered to massive chlorite.

At another locality, 500 W/700 S, the granite becomes increasingly fractured and finer grained over a distance of 6 feet, until in the centre of the shear zone the intensely fractured, fine grained rock is identical to that which forms Copper Hill.

The structural history is thus dominated by brittle and semi-brittle deformation, and can be summarized as follows:-

1. Development of the major ENE trending Paralana Fault and a number of subsidiary faults to the south. This system was probably the site of wrench faulting, judged from the steep nature of the broad mylonitic zone, with a sinistral (anti-clockwise) displacement sense, judged from the manner in which two large amphibolite bodies in the Mt. Neill granite have been dislocated.

2. Development of WNW trending normal faults with a north-side-down displacement sense.

3. Development of generally E-W trending, north dipping thrusts accompanied by considerable reshearing along earlier faults, particularly those parallel to the Paralana Fault.

3. MINERALIZATION

3.1 Introduction

The outstanding feature of mineralization along the 6,000 feet between Windy Creek and Parabarana and at Parabarana is its scattered nature and intimate association with chloritic shear zones, which are often filled with fractured, gossanous quartz and carbonate veins. Numerous small pits have been dug on the shear zones in which malachite commonly coats the fracture planes. Malachite coated fractures were also observed in the comparatively non chloritic, but intensely fractured granite as, for example, at Copper Hill and 500 W/700 S.

The greatest concentration of prospect pits is along the main shear zone between the granite and volcanics between 400W and 1,000W, and drilling has shown that this zone contains the only significant mineralization in the area. The distribution of mineralization on the 800E,00 and 1200W lines is shown in figures 2, 3 and 4.

3.2 Probable Genesis of Mineralization

The marginal portions of the intrusive Mt. Neill Granite appear to have contained a high background copper concentration, consistent with the obviously high volatile concentrations illustrated by the common occurrence of epidote, chlorite, pyrite, magnetite and associated molybdenite and fluorite. During the main shearing, associated with movement on the Paralana Fault, disseminated copper was remobilized and locally concentrated with chlorite in shear zones and intensely fractured granite.

Normal faulting locally dislocated the main mineralized shear zone in the Copper Hill area, but later thrusting and reshearing along older fault zones probably caused further remobilization of copper along shear zones and into small fracture fillings.

At Parabarana the southern boundary of the mineralized area lies at a NE trending thrust along which granite overrides pyritic Cretaceous sandstones and shales. East of about 1,200 E this thrust converges with that at the base of the Terrapinna gneiss, thus wedging out the granite.

4. CONCLUSIONS

Consistent with the probable genesis of copper mineralization and drilling results at the Parabarana Prospect, it is considered unlikely that readily definable drilling targets exist which could be expected to indicate a large tonnage of high grade copper ore. We also consider that sufficient drilling has been carried out in the immediate vicinity of the Copper Hill mineralized zone to suggest that there is little likelihood of increasing the ore reserves, considering the amount of drilling between 800 E and 2,000 W and the patchy distribution of mineralization along the main shear zone.

These conclusions have been reached from detailed, economically oriented geological mapping and re-examination of drilling data, including relogging of core. This work has also enabled an objective assessment of the IP results, and it is now clear that the zone of anomalies is related to the main shear zone between the granite and volcanics from Copper Hill to Windy Creek. The main anomalies along this zone, west of 2,000 W, have been tested by NFM drilling with negative results.

GEOLOGICAL DRILL HOLE LOG -- MINERALS S.A.

000069

No. Site C - PDD 12 — Location Parabarana

dinates 800E/800N — R.L. at Collar 4910' approx.

Depth 100' — R.L. at Bottom

tors Boring Interprises — Rig Ingersoll Rand TRUCM-3

Started 2nd November, 1973 — Sampling Tools

Completed 2nd November, 1973 — Drilling Type Percussion

l Intersection To	Interval	GEOLOGICAL DESCRIPTION
5	5	Granite/gneiss. Quartz, feldspar, mica, grey brown, fine grained.
10	5	" " grey
15	5	" " "
20	5	" " "
25	5	" " "
30	5	" " pink brown
35	5	" " grey
40	5	" " "
45	5	" " "
50	5	" " "
55	5	" " "
60	5	" " mafics more abundant
65	5	" " "
70	5	" " sparse mafics
75	5	" " "
80	5	" " "
85	5	Schist. Muscovite, quartz, clay, pale grey/green
90	5	" " "
95	5	" " "
100	5	" " "

DATE: 2/11/73 — LOGGED BY: R.D. JOHNSON

G. TAHAN

GEOLOGICAL DRILL HOLE LOG -- MINERALS S.A.

000070

e No.	Site C - PDD 12	Location	Parabarana
Ordinates	800E/800N	R.L. at Collar	4910 approx.
l Depth	490'	R.L. at Bottom	
ators	Longyear Pty. Ltd.	Rig	Longyear 44
e Started	4th November, 1973	Sampling Tools	
e Completed	8th November, 1973	Drilling Type	Diamond HQ/NQ

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
111'5"	11'5"	Schist, muscovite, quartz, chlorite; contorted, steeply dipping fractures, grey and pale grey.
150'0"	38'7"	Granitic? microgneiss foliated, K-feldspar, quartz, biotite and chlorite; chlorite and limonite in steeply dipping fractures, strongly brecciated and fractured. Some thin schistose bands as above over lower 6'0" together with chloritized zones over lower 2'0", pink.
152'6"	2'6"	Schist, biotite, chlorite, muscovite, hematite; foliated and brecciated; steep angled fracture planes; light grey.
166'4"	13'10"	Granitic? microgneiss foliated, K-feldspar, quartz, biotite, chlorite; chlorite and limonite in steeply dipping fractures, strongly brecciated; pink, red-brown.
168'0"	1'8"	Amphibolite?, biotite, hornblende; fine grained green rock; calcite veins; pyrite in low angled fractures.
173'0"	5'0"	Granitic? microgneiss, clayey and chloritic; very fractured; steeply dipping joints; brecciated; pink, cream, and light brown.
174'5"	1'5"	Granitic? microgneiss, chloritic and biotitic, deformed and brecciated; thin bands of quartz; pyrite occurs in thin zones associated with epidote and is sometimes oxidized to limonite; green-brown.
176'0"	1'7"	Granitic? microgneiss, epidote, chloritic, clayey; very brecciated and distorted; pink-red; sheared.
180'10"	4'10"	Schist, chlorite, muscovite, biotite; foliated at 60° with some high angled joints; sheared.

DATE: 13/11/73

LOGGED BY: R.D. JOHNSON
G. TAHAN

GEOLOGICAL DRILL HOLE LOG - MINERALS S.A.

000071

No. Site C - PDD 12 Location

Ordinates R.L. at Collar

l Depth R.L. at Bottom

ators Rig

Started Sampling Tools

Completed Drilling Type Diamond HQ/NQ

ill Intersection To	Interval	GEOLOGICAL DESCRIPTION
197'0"	16'2"	Granitic? microgneiss, fractured and sheared with schist layers "interbedded". Some granite layers are very clayey and hematitic and some clay is of the "swelling" variety; schist is chloritic and biotitic and sheared at high angles: steep joint planes coated with talc and chlorite; hematite often altered to limonite.
215'6"	18'6"	Schist, biotite, muscovite, chlorite, amphibole, consisting of sheared, fractured, and brecciated fault gouge containing possible Cretaceous? muddy sedimentary material of dark colour; some calcite and chlorite veins occur; schist is grey to dark green and brown.
227'0"	11'10"	Schist, biotite, muscovite, chlorite; sheared and deformed; contains chlorite and epidote veins.
230'8"	3'8"	Granitic? microgneiss, K-feldspar veins; fractured and brecciated: calcite veins, some chlorite.
236'0"	6'0"	Schist as above 215'2" to 227'0", probable shear.
338'6"	102'6"	"Microadamellite"? consisting of K-feldspar and plagioclase of fine grainsize, mafics usually biotite? chlorite with some quartz?; foliated, extremely brecciated and rehealed; calcite and chlorite fill fractures with some quartz and feldspar; between 236'6" and 269'3" a kaolin clay occurs, representing a fault gouge?; pyrite and chalcopyrite occur in vein fillings associated with chlorite, occasionaly as minute hair-like veinlets less than 0' 0¼" in length; pyrite altered to limonite; difficult to distinguish between pyrite and chalcopyrite;

DATE: 13/11/73 LOGGED BY: R.D. JOHNSON
G. TAHAN

GEOLOGICAL DRILL HOLE LOG - MINERALS S.A.

000072

No. Site C - PDD 12 Location

Ordinates R.L. at Collar

l Depth R.L. at Bottom

ators Rig

Started Sampling Tools

Completed Drilling Type Diamond HQ/NQ

ill Intersection To	Interval	GEOLOGICAL DESCRIPTION
338'6"	102'6"	fluroite occurs in high angled fractures; small quantities of molybdenite also present; green grey.
346'0"	7'6"	Breccia consisting of chlorite-biotite rich clay: dark grey to black; soft, crumbly, probably represents a mylonite caused by shearing, as the rock is highly deformed and altered.
357'4"	11'4"	Hornfels? rock, grey and very fine grained, spotted in places; contains calcite and is highly fractured; faults at 349'3" and 353'0"
364'6"	7'2"	"Microadamellite " as above although containing some epidote; pyrite occurs with chlorite
428'6"	64'0"	Hornfels? green; chlorite, epidote? calcite, in a felted texture; pyrite, chalcopyrite scattered in fracture fillings throughout core; possibly metamorphosed basic igneous rock; analcite occurs in joints; some plagioclase porphyroblasts occur; pyrite observed in some cases to alter to limonite; sulphides decrease from 411'11" onwards
431'7"	3'1"	"Microadamellite" as above; traces of pyrite
439'3"	7'8"	Hornfels as above; no sulphides visible; dark grey-green
441'5"	2'2"	Schist, clay rich, chlorite and biotite rich also; fault? gouge as it is broken and deformed
452'9"	11'4"	"Microadamellite?" as above? alghough of coarser grainsize; sulphide not visible; pink-brown
468'0"	15'3"	Hornfels? chlorite and biotite? rich, also contains quartz veins; very fractured; faults? at 453'2", 456'0"; sulphides not visible; dark green

DATE: 13/11/73 LOGGED BY: R.D. JOHNSON

G. TAHAN

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000073

e No. Site C - PDD 12 Location

Ordinates R.L. at Collar

l Depth R.L. at Bottom

ators Rig

Started Sampling Tools

Completed Drilling Type Diamond HQ/NQ

ill Intersection To	Interval	GEOLOGICAL DESCRIPTION
473'0"	5'0"	"Microadamellite?" as above; no sulphides visible; pink-brown
483'0"	10'0"	Hornfels? chlorite rich quartz veins, green; sulphides not visible
490'0"	7'0"	Granitic? microgneiss? coarser grained and massive: chloritic, broken, some traces of pyrite

DATE: 13/11/73

LOGGED BY: R.D. JOHNSON

G. TAHAN

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000074

e No. Site A - PDD 13 | Location PARABARANA

Ordinates 00E/600N | R.L. at Collar 4925' Approx.

al Depth 600 feet percussion | R.L. at Bottom

rators BORING ENTERPRISES | Rig Ingersoll Rand TRUCM-3

e Started 28th October 1973 | Sampling Tools

e Completed 1st November 1973 | Drilling Type Percussion

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
5	5	Granite. K-Felspar, quartz, clay, pink-red-brown
10	5	gneiss "
15	5	"
20	5	
25	5	Granite. K-felspar, quartz, clay, mafics, grey-green
30	5	gneiss "
35	5	"
40	5	Granite. K-felspar, quartz, clay, pink-red-brown
45	5	gneiss "
50	5	"
55	5	gneiss "
60	5	Granite/schist. K-felspar, quartz, clay, muscovite, pink grey
65	5	"
70	5	"
75	5	Schist. Muscovite, quartz, clay, green-grey
80	5	"
85	5	"
90	5	"
95	5	"
100	5	"
105	5	Granite. K-felspar, quartz, clay, light, brown-red
110	5	gneiss "
115	5	gneiss "
120	5	Granite/schist. K-felspar, quartz, clay, muscovite, grey brown
125	5	"
130	5	"
135	5	Schist. Felspar, quartz, mafics, chlorite, grey-green
140	5	"
145	5	"
150	5	"

DATE: 1/11/73 LOGGED BY: R. D. JOHNSON

G. TAHAN

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000075

No. Site A - PDD 13 Location

Ordinates R.L. at Collar

l Depth R.L. at Bottom

ators Rig

Started Sampling Tools

Completed Drilling Type

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
		gneiss
155	5	Granite.Felspar, quartz, chlorite epidotes, red-green
160	5	Schist. Muscovite, clay, green-grey
165	5	"
		gneiss
170	5	Granite/schist. K-felspar, quartz, clay, chlorite green-red
175	5	Granite. K-felspar clay, quartz, pink-red
180	5	gneiss "
185	5	"
190	5	"
195	5	"
		gneiss
200	5	Schist/granite. Chlorite/biotite, mafics, felspar, brown
205	5	"
210	5	"
215	5	"
220	5	Schist. Chlorite, mafics, blue-green
225	5	"
		gneiss
230	5	Granite. Felspar, quartz, clay, red-brown
235	5	Granite/schist. K-felspar, quartz, clay, chlorite, gneiss green-grey
240	5	"
245	5	"
250	5	"
		gneiss
255	5	Granite/schist. clay, rich biotite, green-brown
260	5	"
265	5	Granite. K-felspar, quartz, clay, mafics, brown
270	5	gneiss "
275	5	Schist/granite. Felspar, quartz, mafics, dark brown
280	5	"
285	5	"
290	5	Granite/schist. Felspar, quartz, mafics, light brown
295	5	gneiss "
300	5	"

DATE: 1/11/73 LOGGED BY: R. JOHNSON

G. TAHAN

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000076

Site No. Site A - PDD 13 — Location

Co-Ordinates — R.L. at Collar

Total Depth — R.L. at Bottom

Operators — Rig

Date Started — Sampling Tools

Date Completed — Drilling Type

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
305	5	gneiss Granite/schist. Felspar, quartz, mafics, light brown
310	5	"
315	5	"
320	5	"
325	5	"
330	5	"
335	5	"
340	5	"
345	5	"
350	5	gneiss Granite/schist. Felspar, quartz, clay, mafics light brown
355	5	"
360	5	"
365	5	gneiss Schist/Granite. K-felspar, quartz, clay, mafics, chlorite, blue-grey.
370	5	"
375	5	"
380	5	"
385	5	"
390	5	"
395	5	"
405	5	"
410	5	"
415	5	"
420	5	"
425	5	"
430	5	"
435	5	"
440	5	"
445	5	"
455	5	gneiss Granite/schist. Felspar, quartz, clay, mafics, light brown
460	5	"

DATE: 1/11/73

LOGGED BY: R. JOHNSON

G. TAHAN

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000077

Hole No. Site A - PDD 13 — Location

Co-Ordinates — R.L. at Collar

Total Depth — R.L. at Bottom

Operators — Rig

Date Started — Sampling Tools

Date Completed — Drilling Type

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
465	5	gneiss Granite/schist. Feldspar, quartz, clay, mafics, light brown
470	5	"
475	5	"
480	5	"
485	5	"
490	5	"
495	5	"
500	5	"
505	5	"
510	5	gneiss Granite. Felspar , quartz, clay, coarse brown/grey
515	5	mafics "
520	5	"
525	5	"
530	5	"
535	5	"
540	5	"
545	5	"
550	5	"
555	5	"
560	5	"
565	5	"
570	5	"
575	5	"
580	5	"
585	5	"
590	5	"
595	5	"
600	5	"

DATE: 1/11/73

LOGGED BY: R.D. JOHNSON

G. TAHAN

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000078

Hole No. Site A1 - PDD 13A
Co-Ordinates 025E/600N
Total Depth 1443'
Operators Longyear Pty. Ltd.
Date Started 10th November, 1973
Date Completed 22nd November, 1973

Location Parabarana
R.L. at Collar 4925 approx.
R.L. at Bottom
Rig Longyear 44
Sampling Tools
Drilling Type Diamond HQ/NQ

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
328'	28'	Granite-schist, pink-greenish grey medium to fine grained rock, strongly shattered and rehealed. There are K-feldspar rich pink to brick red patches and chlorite, epidote, green/grey patches, making the rock very soft and crumbly. Calcite and quartz veins are also present with biotite and muscovite. Some small veinlets and occasional specks of pyrite between 317' and 327'4".
398'	70'	Granite, light grey-olive green to dark green, rich in chlorite epidote and ferromagnesians with clayey patches; it is lightly fractured with rehealed veins of quartz, calcite, and feldspar. Hematite staining in some fractures. Pyrite appears in specks and in fracture fillings but only in trace quantities.
417'	19'	Granitic gneiss, clay, breccia, consisting of chlorite, kaolin, hematite staining and ferromagnesians? fault gouge.
424'6"	7'6"	Amphibolite, dark grey, very fine grained, shattered and rehealed in places, consisting of amphibole, ferromagnesians - giving schistose bands and high angle quartz veins filling fractures. It is brecciated in places and contains traces of pyrite.
430'7"	6'1"	As above, shattered zone
443'8"	13'1"	Amphibolite as above
495'	51'4"	Granitic gneiss?, grey to brick red, medium grained fractured and rehealed consisting of K-feldspar, biotite, chlorite, quartz, and clay patches probably after chlorite and feldspar. Hematite stains the clay and in fractures the section has epidote rich patches.

DATE: 14/11/73

LOGGED BY: R.D. JOHNSON
G. TAHAN

GEOLOGICAL DRILL HOLE LOG - MINERALS S.A.

000079

Hole No. Site A1 - PDD 13A
Co-Ordinates
Total Depth
Operators
Date Started
Date Completed

Location
R.L. at Collar
R.L. at Bottom
Rig
Sampling Tools
Drilling Type Diamond HQ/NQ

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
498'9"	3'9"	Schist?/amphibolite, green-grey, very fine grained. Sheared and fractured, soft and crumbly. Predominantly chlorite biotite and some epidote.
622'0"	123'3"	Granitic gneiss?, brick red, greeny grey, medium grained, fractured and rehealed with hematite staining in fractures, consists of K-feldspar, chlorite epidote, ferromagnesians and quartz, occasional specks of pyrite and fluorite are seen.
637'0"	15'0"	Schist/amphibolite? chlorite biotite rich. Epidote also present, contorted. Calcite and quartz veins present, green.
645'7"	8'7"	"Microadamellite". altered chlorite and biotite rich. Calcite, quartz, chlorite veins, grey, red and green. Very fractured and also rehealed.
675'6"	29'11"	Schist/amphibolite? chlorite biotite rich as above. Calcite veins, some up to 0'2" thick occur. Iron oxide staining occurs on joint planes.
693'6"	18'0"	"Microadamellite?" light grey/green and pinkish. Fine to medium grained, fractured. Epidote rich. K-feldspar, plagioclase? and quartz form groundmass. Orange clay occurs at 682'9". Possible fault gouge and broken over lower 14'0", sheared calcite veins.
716'4"	22'10"	Schist/amphibolite? as above. Occasional specks of pyrite, dark green. Calcite veins. Becomes epidote rick over lower 4'0".
727'0"	10'8"	"Microadamellite" light grey green and pink. K-feldspar, plagioclase in a chlorite/epidote groundmass cut by chlorite and epidote veins. Hematite? staining. Calcite veins fractured.

DATE: 16/11/73

LOGGED BY: R.D. JOHNSON
G. TAHAN

000080

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

Hole No. Site A1 – PDD 13A Location

Co-Ordinates R.L. at Collar

Total Depth R.L. at Bottom

Operators Rig

Date Started Sampling Tools

Date Completed Drilling Type Diamond HQ/NQ

Drill Intersection From	To	Interval	GEOLOGICAL DESCRIPTION
	729'6"	2'6"	Clay? black, very soft. "Fissile?" layered.
	1393'0"	663'6"	"Microadamellite". green, grey as above fractured. Chlorite blebs and epidote throughout coarser grainsize around 750'0". Occasional specks of pyrite in fracture planes. Calcite veins throughout fault at 763'0". Crush zone at 778'0". Pyrite and some chalcopyrite? become visible from 757'6" onwards. Broken and crushed fault? zone at 879'6" to 886'7". Some high angled fractures present. Medium grainsize igneous texture. K-feldspar and plagioclase with chlorite groundmass. Fluorite and a little marcasite? occur over 958' to 970'. Steep compound fault zone between 1102'10" and 1117'3". "Microadamellite" continued as above, Faults at 1152'0" 1152'6" 1194'0" to 1199'0" 1296'7" 1300'2" Epidote rich from 1300'0" to 1365'0" Faults at 1330'7" 1355'4" 1390'7" to 1392'9"

DATE: 21/11/73 LOGGED BY: R.D. JOHNSON

G. TAHAN

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000081

Hole No. Site A1 - PDD 13A
Co-Ordinates
Total Depth
Operators
Date Started
Date Completed

Location
R.L. at Collar
R.L. at Bottom
Rig
Sampling Tools
Drilling Type Diamond HQ/NQ

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
0" 1403'4"	10'4"	Hornfels, biotite, chlorite, schistose, brecciated. Traces pyrite. Fault zone occurs between 1396'6" and 1403'4".
4" 1427'4"	24'0"	Granite and "microadamellite", brecciated. Transition zone. Chlorite and epidote abundant. Pyrite on fractures planes in well formed crystals.
4" 1443'	15'8"	Granite. porphyritic in K-feldspar, quartz. Epidote and pyrite in fractures. "Mt. Neill Porphyry"

DATE: 24/11/73

LOGGED BY: R.D. JOHNSON
C. TAUBN

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000082

Hole No. Site B - PDD 14
Co-Ordinates 1150W/1020N
Total Depth 600' percussion
Operators Boring Enterprises
Date Started 13th November, 1973
Date Completed 15th November, 1973

Location Parabarana
R.L. at Collar 5270 approx.
R.L. at Bottom
Rig Ingersoll Rand TRUCM-3
Sampling Tools
Drilling Type Percussion

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
110'	110'	Granite-gneissic, pink-brick red, coarse grained. Consisting of K-feldspar, quartz, and ferromagnesians.
175'	65'	Schist/granite, cream-light brown, coarse grained. Consisting of feldspar, quartz, clay and muscovite.
220'	45'	As above - darker brown
325'	105'	Granite, gneissic, pink-brick red, coarse grained. Consisting of K-feldspar, quartz and ferromagnesians.
345'	20'	Schist, grey-dark grey, fine grained. Consisting of biotite, chlorite, schist.
460'	115'	Granite gneissic, brick red-pink, coarse grained. Consisting of K-feldspar, quartz, and ferromagnesians.
495'	35'	Granite, gneissic, grey-dark grey, coarse grained. Predominantly ferromagnesians, K-feldspar, and quartz.
585'	90'	Granite, gneissic, pink-brick red, coarse grained. Consisting of K-feldspar, quartz and ferromagnesians.
600'	15'	Granite, gneissic, grey, coarse grained. Consisting of muscovite, biotite, K-feldspar, and quartz.

DATE: 15/11/73

LOGGED BY: R.D. JOHNSON
G. TAHAN

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000083

Hole No. Site B - PDD 14 | Location Parabarana

Co-Ordinates 1150W/1020N approx. | R.L. at Collar 5270' approx.

Total Depth 1908'6" | R.L. at Bottom

Operators Longyear Pty. Ltd. | Rig Longyear 44

Date Started 24th November, 1973 | Sampling Tools

Date Completed 12th December, 1973 | Drilling Type Diamond HQ/NQ

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
852'7"	252'7"	Gneiss, coarsely banded, K-feldspar and quartz layers occasionally becoming a flaser-gneiss. Biotitization of mafics, epidotization of feldspars, and chloritization are common. Chloritization occurs along veins intersecting the steeply dipping gneissosity at high angles, yellow grey. Sheared and broken gneiss with clays occur between 611'6" and 624'0". Also broken and shattered core at 628'10" to 630'0". From 630'0" down gneiss becomes pink as fresh K-feldspar is encountered. Occasional specks of pyrite from 778'5" to 800'0" approx.
864'0"	11'5"	Granite, foliated, grey. Quartz, chlorite, biotite. Quartz occurs in veins as well as groundmass. Calcite on joints, hematite staining.
876'5"	12'5"	Amphibolite?, chlorite, biotite rich. Quartz veins, calcite on joints, green-grey.
907'5"	31'0"	Granite, chloritized, high angled chlorite veins, pink. Fault at 909', graphite shear?
931'4"	23'11"	Amphibolite, chlorite, biotite rich, dark green. Calcite veins and joint coatings 45° fault at 931'4".
951'0"	19'8"	Granite, gneissic, chloritized brecciated, rehealed. Quartz veins. Fault at 938'9", pink-red.
958'9"	7'9"	Amphibolite, chlorite, biotite, schist. Muscovite bands common as are thin bands of granite as above. A chloritized granite almost completely dark green.

DATE: 2/12/73 LOGGED BY: R.D. JOHNSON

GEOLOGICAL DRILL HOLE LOG - MINERALS S.A.

000084

Hole No.: Site B - PDD 14 — Location: _____

Co-Ordinates: _____ — R.L. at Collar: _____

Total Depth: _____ — R.L. at Bottom: _____

Operators: _____ — Rig: _____

Date Started: _____ — Sampling Tools: _____

Date Completed: _____ — Drilling Type: Diamond HQ/NQ

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
1315'6"	103'6"	Granite, porphyritic in K-feldspar, green (pink). Definite intrusive contact of younger? porphyritic granite at 1217'6". Small fault at 1249'. Chloritized and epidotized granite, iron oxide joint coatings. Quartz veins become a microgranite below about 1260'. More chlorite veins. Mt. Neill Porphyry.
1319'7"	4'1"	"Microadamellite?", volcanics metamorphosed? Actually a fine grained alteration feature of epidote/chlorite possibly representing metavolcanics?
1480'0"	160'5"	Granite and microgranite, porphyritic as above, chloritized. Mt. Neill Porphyry. Where chloritized often contains pyrite in trace amounts at 1328, 1358, 1410 ft. Becomes less porphyritic and finer grained below 1416 ft., brick red in colour. Numerous thin chlorite, schist bands.
1538'0"	58'0"	Granite, fine grained, chloritized, becoming richer in plagioclase and grading to a "microadamellite?" grey/green. Shear joints at steep angles, calcite and quartz on joint planes, brick red, intrusive granite at 1525' to 1530'. Very chloritized. Probable faulting 1520'0" to 1524'0" and 1536'0" to 1538'0"
1543'6"	5'6"	Schist, chlorite, biotite-rich, veined with quartz and containing disseminated pyrite, green.
1555'0"	11'6"	"Microadamellite?", metavolcanic? quartz K-feldspar and grey/cream plagioclase with pink K-feldspar. Internally brecciated and rehealed, very fine grained, grey.

DATE: 8/12/73

LOGGED BY: R.D. JOHNSON

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000085

Hole No. Site B - PDD 14 — Location

Co-Ordinates — R.L. at Collar

Total Depth — R.L. at Bottom

Operators — Rig

Date Started — Sampling Tools

Date Completed — Drilling Type Diamond HQ/NQ

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
1622'0"	72'0"	"Microadamellite?" metavolcanic? K-feldspar and quartz, very fine grained, plagioclase, brick red. Less chloritized than above. Chloritized in places. Some traces of pyrite. Hematite veins occur where rock chloritized.
1644'0"	22'0"	Schist, chlorite, biotite, finely banded. Quartz veins and calcite joint coatings very common, veins deformed. Contains patches of brick red "micro-adamellite" metavolcanic? Schist is almost completely chloritized "microadamellite"?
1648'0"	4'0"	"Microadamellite?" metavolcanic? brick red as above.
1655'3"	7'3"	Schist, as above, some small patches of micro-adamellite.
1656'9"	1'6"	"Microadamellite?" as above, chloritized and containing deformed calcite and quartz veins.
1697'3"	40'6"	Schist, as above, epidote rich in part. Small breccias associated with calcite veins.
1702'3"	5'0"	"Microadamellite?" metavolcanic? as above, with calcite veins, brick red, chloritized and epidotized.
1718'6"	16'3"	Schist, as above, steeply banded and sheared over interval 1712'-1716'8". Patches of "microadamellite?"
1748'6'	30'0"	"Microadamellite?" metavolcanic? as above, chloritized and epidotized. Hematite on joint planes, brecciated and rehealed. Traces of pyrite and rare chalcopyrite, calcite veins, light green red.

DATE: 8/12/73

LOGGED BY: R.D. JOHNSON

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000086

Hole No. Site B - PDD 14 | Location

Co-Ordinates | R.L. at Collar

Total Depth | R.L. at Bottom

Operators | Rig

Date Started | Sampling Tools

Date Completed | Drilling Type Diamond HQ/NQ

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
1763'0"	14'6"	Schist, chlorite, biotite, epidote, calcite. Contains traces of pyrite and chalcopyrite, dark green. Foliated in places. Sulphides conformable with banding and cross cutting in places. Between 1752'8" and 1757'0" scattered chalcopyrite 1%. At 1758'3" small 0'0½" veins of massive chalcopyrite.
1773'6"	10'6"	"Microadamellite?" metavolcanic?, finely brecciated, rehealed. Calcite and hematite joint coatings. Disseminated chalcopyrite/pyrite up to 2% approx. throughout. Large phenocrysts of plagioclase, grey overall, some epidotization, pyrite common.
1781'6"	8'0"	Schist, chlorite? graphite? biotite, muscovite? clay fault gouge containing little pyrite/chalcopyrite. Some patches of "microadamellite?" very fractured and broken.
1793'0"	11'6"	"Microadamellite" as above, some pyrite joint coatings fractured, grey, broken over lower 3'0".
1830'11"	37'11"	Quartz—calc, silicate? rock containing pyrite in trace amounts, together with graphitic schist as above clay rich. Fault gouge. Traces of chalcopyrite occur throughout, deformed, brecciated and fractured.
1865'8"	34'9"	"Microadamellite?" metavolcanic?, as above, finely flow banded? in places especially between 1840'7" and 1842'5" as per rhyolite. Chloritized and epidotized slightly, grey to pale pink, sparse sulphides, folded in places.

DATE: 8/12/73 LOGGED BY: R.D. JOHNSON

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000087

Hole No. Site B - PDD 14 | Location

Co-Ordinates | R.L. at Collar

Total Depth | R.L. at Bottom

Operators | Rig

Date Started | Sampling Tools

Date Completed | Drilling Type Diamond HQ/NQ

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
1892'0"	26'4"	Schist, chlorite, biotite, many calcite veins. Occasional bands of microadamellite?, dark green, epidotized. Almost completely altered micro-adamellite?
1908'6"	16'6"	Hornfels, chlorite, epidote, calcite, very dark green, fractured and rehealed. No visible sulphides.

DATE: 8/12/73

LOGGED BY: R.D. JOHNSON

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000088

Hole No. Site D - PDD 15 | Location Parabarana

Co-ordinates 00E/1000N | R.L. at Collar 4980 ft. approx.

Total Depth 600' | R.L. at Bottom

Operators Boring Enterprises | Rig Ingersoll Rand TRUCM-3

Date Started 5th November, 1973 | Sampling Tools

Date Completed 5th November, 1973 | Drilling Type Percussion

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
5'	5'	Granite-gneiss. K-feldspar, quartz, pink-red
10'	5'	" " "
15'	5'	" " "
20'	5'	" " mica "
25'	5'	" " "
30'	5'	" " "
35'	5'	" " "
40'	5'	" " "
45'	5'	" " "
50'	5'	" " "
55'	5'	" " "
60'	5'	" " "
65'	5'	" " "
70'	5'	" " "
75'	5'	" " "
80'	5'	" " "
85'	5'	" " "
90'	5'	" " "
95'	5'	" " "
100'	5'	" " "
105'	5'	" " "
110'	5'	" " "
115'	5'	" " "
120'	5'	" " purple-red
125'	5'	" " "
130'	5'	" " "
135'	5'	" " "
140'	5'	" " "
145'	5'	" " "
150'	5'	" " grey-red
155'	5'	" " pink-red
160'	5'	" " "
165'	5'	" " grey-red
170'	5'	Schist, muscovite " grey

DATE: 7/11/73 LOGGED BY: R.D. JOHNSON

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000089

Hole No. Site D – PDD 15 | Location

Co-Ordinates | R.L. at Collar

Final Depth | R.L. at Bottom

Operators | Rig

Date Started | Sampling Tools

Date Completed | Drilling Type Percussion

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION	
175'	5'	Schist, muscovite	grey
180'	5'	" "	"
185'	5'	" "	"
190'	5'	" "	"
195'	5'	" "	"
200'	5'	" "	"
205'	5'	" "	"
210'	5'	" "	"
215'	5'	" "	"
220'	5'	Granite, K-feldspar, quartz, clay	red-brown
225'	5'	" "	"
230'	5'	" "	"
235'	5'	Granite-gneiss, K-feldspar, quartz clay	red-brown
240'	5'	" "	"
245'	5'	" "	"
250'	5'	" "	"
255'	5'	" "	"
260'	5'	" "	"
265'	5'	" "	"
270'	5'	" "	"
275'	5'	" "	"
280'	5'	Granite, chloritized clay	blue-green
285'	5'	" "	"
290'	5'	" "	"
295'	5'	Granite, K-feldspar, quartz, clay	grey
300'	5'	" "	"
305'	5'	" "	"
310'	5'	" "	"
315'	5'	" "	"
320'	5'	" "	"
325'	5'	" "	"
330'	5'	" "	"
335'	5'	" "	"

DATE: 7/11/73

LOGGED BY: R.D. JOHNSON

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

000090

Hole No. Site D – PDD 15 Location

Co-Ordinates R.L. at Collar

Total Depth R.L. at Bottom

Operators Rig

Date Started Sampling Tools

Date Completed Drilling Type Percussion

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
340'	5'	Granite, K-feldspar, quartz, clay, grey
345'	5'	" " " "
350'	5'	Schist, muscovite, clayey grey
355'	5'	" " "
360'	5'	Granite-gneiss, clayey, K-feldspar, quartz brown
365'	5'	" " "
370'	5'	" " "
375'	5'	" " "
380'	5'	" " "
385'	5'	" " "
390'	5'	" " "
395'	5'	" " "
400'	5'	" " "
410'	5'	" " "
415'	5'	" " "
420'	5'	" " "
425'	5'	" " "
430'	5'	" " "
435'	5'	" " "
440'	5'	" " "
445'	5'	" " "
450'	5'	" " "
455'	5'	" " "
460'	5'	" " "
465'	5'	" " "
470'	5'	" " "
475'	5'	" " "
480'	5'	" " "
485'	5'	" " "
490'	5'	" " "
495'	5'	" " "
500'	5'	" " "
505'	5'	" " "

DATE: 7/11/73 LOGGED BY: R.D. JOHNSON

GEOLOGICAL DRILL HOLE LOG – MINERALS S.A.

030091

e No. Site D - PDD 15 | Location

-Ordinates | R.L. at Collar

al Depth | R.L. at Bottom

erators | Rig

e Started | Sampling Tools

e Completed | Drilling Type Percussion

Drill Intersection To	Interval	GEOLOGICAL DESCRIPTION
510'	5'	Granite-gneiss. clayey, K-feldspar quartz brown
515'	5'	" " "
520'	5'	" " "
525'	5'	" " "
530'	5'	" " "
535'	5'	" " "
540'	5'	" " "
545'	5'	" " "
550'	5'	" " "
555'	5'	" " "
560'	5'	" " "
565'	5'	" " "
570'	5'	" " "
575'	5'	" " "
580'	5'	" " "
585'	5'	" " "
590'	5'	" " "
595'	5'	" " "
600	5'	" " "

DATE: 7/11/73

LOGGED BY: R.D. JOHNSON

HOLE - P.D.D. 12

RVAL	(FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
0 -	10	MEL 3661	granite	12	3
0 -	20	3662	"	22	3
0 -	30	3663	"	32	3
0 -	40	3664	"	10	< 3
0 -	50	3665	"	10	< 3
0 -	60	3666	"	10	3
0 -	70	3667	"	12	3
0 -	80	3668	"	8	4
0 -	90	3669	schist	5	6
0 -	100	3670	"	5	5
0 -	236	3791	N O T	A S S A Y E D	
6 -	238.5	3792	microadamellite	0.01%	10
8.5 -	241	3793	"	0.03	12
1 -	243.5	3794	"	0.05	18
3.5 -	246	3795	"	0.06	10
6 -	248.5	3796	"	0.13	8
8.5 -	251	3797	"	0.13	8
1 -	253.5	3798	"	0.13	10
3.5 -	256	3799	"	0.11	8
6 -	258.5	3800	"	0.07	10
8.5 -	261	3801	"	0.16	10
1 -	263.5	3802	"	0.12	25
3.5 -	266	3803	"	0.19	25
6 -	268.5	3804	"	0.12	18
8.5 -	271	3805	"	0.22	50
1 -	273.5	3806	"	0.11	300
3.5 -	276	3807	"	< 0.01	25
6 -	278.5	3808	"	< 0.01	10
8.5 -	281	3809	"	< 0.01	5
1 -	283.5	3810	"	< 0.01	8
3.5 -	286	3811	"	0.02	6
6 -	288.5	3812	"	< 0.01	10
8.5 -	291	3813	"	0.09	50
1 -	293.5	3814	"	0.22	12
3.5 -	296	3815	"	0.15	15
6 -	298.5	3816	"	0.19	35
8.5 -	301	3817	"	0.02	15
1 -	303.5	3818	"	0.04	15
3.5 -	306	3819	"	0.11	10
6 -	308.5	3820	"	0.02	30
8.5 -	311	3821	"	0.13	15
1 -	313.5	3822	"	0.22	10
3.5 -	316	3823	"	0.05	10
6 -	318.5	3824	"	0.31	5
8.5 -	321	3825	"	0.11	25
1 -	323.5	3826	"	0.01	10

ERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
3.5 - 326	MEL 3827	microadamellite	0.14%	10
6 - 328.5	3828	"	0.21	6
8.5 - 331	3829	"	0.11	4
1 - 333.5	3830	"	0.12	18
3.5 - 336	3831	"	0.15	130
6 - 338.5	3832	"	0.16	40
8.5 - 341	3833	breccia	0.03	15
1 - 343.5	3834	"	0.02	3
3.5 - 346	3835	"	<0.01	5
6 - 348.5	3836	hornfels	0.01	5
8.5 - 351	3837	"	<0.01	5
1 - 353.5	3838	"	0.01	5
3.5 - 356	3839	"	<0.01	3
6 - 358.5	3840	hornfels/ microadamellite	0.02	5
8.5 - 361	3841	microadamellite	<0.01	12
1 - 363.5	3842	"	<0.01	5
3.5 - 366	3843	microadamellite/ hornfels	<0.01	15
6 - 368.5	3844	hornfels	0.07	7
8.5 - 371	3845	"	0.08	5
1 - 373.5	3846	"	0.04	5
3.5 - 376	3847	"	0.08	6
6 - 378.5	3848	"	<0.01	4
8.5 - 381	3849	"	<0.01	8
1 - 383.5	3850	"	<0.01	7
3.5 - 386	3851	"	<0.01	6
6 - 388.5	3852	"	0.08	5
8.5 - 391	3853	"	0.11	3
1 - 393.5	3854	"	0.09	4
3.5 - 396	3855	"	0.04	8
6 - 398.5	3856	"	0.05	5
8.5 - 401	3857	"	0.06	7
1 - 403.5	3858	"	0.08	8
3.5 - 406	3859	"	0.13	8
6 - 408.5	3860	"	0.11	8
8.5 - 411	3861	"	0.07	10
1 - 413.5	3862	"	0.05	8
3.5 - 416	3863	"	0.10	10
6 - 418.5	3864	"	0.10	8
8.5 - 421	3865	"	0.12	6
1 - 423.5	3866	"	0.04	8
3.5 - 426	3867	"	0.02	8
6 - 428.5	3868	"	0.04	12
8.5 - 431	3869	microadamellite	<0.01	10
1 - 433.5	3870	microadamellite/ hornfels	0.02	12
3.5 - 490	3871	microadamellite/ schist/hornfels/ granite	NOT ASSAYED	

		Cu	Mo
Weighted Averages	0 - 100	13	<4
	236 - 433.5	<0.08%	17

HOLE - P.D.D. 13

INTERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
0 - 10	MEL 3601	granite	5	3
10 - 20	3602	"	2	3
20 - 30	3603	"	2	3
30 - 40	3604	"	2	3
40 - 50	3605	"	2	3
50 - 60	3606	granite/schist	5	5
60 - 70	3607	"	2	5
70 - 80	3608	schist	5	5
80 - 90	3609	"	2	4
90 - 100	3610	"	5	3
100 - 110	3611	granite	2	3
110 - 120	3612	granite/schist	2	3
120 - 130	3613	"	5	5
130 - 140	3614	schist	2	6
140 - 150	3615	"	2	5
150 - 160	3616	granite/schist	2	6
160 - 170	3617	schist/granite	2	4
170 - 180	3618	granite	2	5
180 - 190	3619	"	2	3
190 - 200	3620	schist/granite	5	< 3
200 - 210	3621	"	10	4
210 - 220	3622	schist	10	4
220 - 230	3623	schist/granite	8	3
230 - 240	3624	granite/schist	32	4
240 - 250	3625	"	12	< 3
250 - 260	3626	"	5	< 3
260 - 270	3627	"	5	4
270 - 280	3628	schist/granite	12	4
280 - 290	3629	"	10	3
290 - 300	3630	granite/schist	5	3
300 - 310	3631	"	5	5
310 - 320	3632	"	2	7
320 - 330	3633	"	2	5
330 - 340	3634	"	2	4
340 - 350	3635	"	5	4
350 - 360	3636	"	10	4
360 - 370	3637	schist/granite	12	5
370 - 380	3638	"	22	4
380 - 390	3639	"	48	6
390 - 400	3640	"	200	4
400 - 410	3641	"	48	3
410 - 420	3642	"	45	3
420 - 430	3643	"	65	4
430 - 440	3644	"	240	4
440 - 450	3645	"	190	7
450 - 460	3646	granite/schist	55	5
460 - 470	3647	"	18	8
470 - 480	3648	"	25	5

INTERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
480 - 490	MEL 3649	granite/schist	15	4
490 - 500	3650	"	32	5
500 - 510	3651	"	38	3
510 - 520	3652	granite	35	5
520 - 530	3653	"	45	4
530 - 540	3654	"	75	4
540 - 550	3655	"	65	3
550 - 560	3656	"	28	4
560 - 570	3657	"	20	< 3
570 - 580	3658	"	20	< 3
580 - 590	3659	"	18	3
590 - 600	3660	"	15	< 3

		Cu	Mo
Weighted Average	0 - 600	26	< 4

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E

000096

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 3872	300.00	757.50				
3	757.50	760.00	2.5	< 100	4	
4	760.00	762.50	2.5	< 100	3	
5	762.50	765.00	2.5	< 100	< 3	
6	765.00	767.50	2.5	< 100	< 3	
7	767.50	770.00	2.5	< 100	< 3	
8	770.00	772.50	2.5	< 100	< 3	
9	772.50	775.00	2.5	< 100	< 3	
80	775.00	777.00	2.5	< 100	< 3	
1	777.50	780.00	2.5	< 100	10	
2	780.00	782.50	2.5	< 100	3	
3	782.50	785.00	2.5	< 100	15	
4	785.00	787.50	2.5	< 100	5	
5	787.50	790.00	2.5	< 100	8	
6	790.00	792.50	2.5	< 100	3	
7	792.50	795.00	2.5	< 100	4	
8	795.00	797.50	2.5	< 100	10	
9	797.50	800.00	2.5	< 100	3	
90	800.00	802.50	2.5	< 100	3	
1	802.50	805.00	2.5	< 100	4	
2	805.00	807.50	2.5	< 100	<3	
3	807.50	810.00	2.5	< 100	<3	
4	810.00	812.50	2.5	< 100	3	
5	812.50	815.00	2.5	< 100	<3	
6	815.00	817.50	2.5	< 100	3	
7	817.50	820.00	2.5	< 100	3	
8	820.00	822.50	2.5	< 100	6	
9	822.50	825.00	2.5	< 100	12	
3900	825.00	827.50	2.5	< 100	6	
1	827.50	830.00	2.5	< 100	3	
2	830.00	832.50	2.5	< 100	3	
3	832.50	835.00	2.5	< 100	3	

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 3904	835.00	837.50	2.5	< 100	5	
5	837.50	840.00	2.5	< 100	4	
6	840.00	842.50	2.5	< 100	5	
7	842.50	845.00	2.5	< 100	7	
8	845.00	847.50	2.5	< 100	5	
9	847.50	850.00	2.5	< 100	8	
10	850.00	852.50	2.5	< 100	3	
1	852.50	855.00	2.5	< 100	110	
2	855.00	857.50	2.5	< 100	25	
3	857.50	860.00	2.5	< 100	5	
4	860.00	862.50	2.5	< 100	5	
5	862.50	865.00	2.5	< 100	8	
6	865.00	867.50	2.5	< 100	10	
7	867.50	870.00	2.5	< 100	5	
8	870.00	872.50	2.5	< 100	8	
9	872.50	875.00	2.5	< 100	10	
20	875.00	877.50	2.5	< 100	4	
1	877.50	880.00	2.5	< 100	5	
2	880.00	882.50	2.5	< 100	8	
3	882.50	885.00	2.5	< 100	22	
4	885.00	887.50	2.5	< 100	10	
5	887.50	890.00	2.5	< 100	6	
6	890.00	892.50	2.5	< 100	8	
7	892.50	895.00	2.5	< 100	4	
8	895.00	897.50	2.5	< 100	4	
9	897.50	900.00	2.5	< 100	5	
30	900.00	902.50	2.5	< 100	8	
1	902.50	905.00	2.5	< 100	7	
2	905.00	907.50	2.5	< 100	9	
3	907.50	910.00	2.5	< 100	8	
4	910.00	912.50	2.5	< 100	7	
5	912.50	915.00	2.5	< 100	7	

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E.

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 3936	915.00	917.50	2.5	< 100	5	
7	917.50	920.00	2.5	< 100	5	
8	920.00	922.50	2.5	< 100	4	
9	922.50	925.00	2.5	< 100	5	
40	925.00	927.50	2.5	200	5	
1	927.50	930.00	2.5	200	6	
2	930.00	932.50	2.5	< 100	8	
3	932.50	935.00	2.5	< 100	9	
4	935.00	937.50	2.5	< 100	12	
5	937.50	940.00	2.5	< 100	5	
6	940.00	942.50	2.5	< 100	4	
7	942.50	945.00	2.5	< 100	5	
8	945.00	947.50	2.5	< 100	6	
9	947.50	950.00	2.5	< 100	5	
50	950.00	952.50	2.5	< 100	8	
1	952.50	955.00	2.5	< 100	10	
2	955.00	957.50	2.5	< 100	8	
3	957.50	960.00	2.5	< 100	6	
4	960.00	962.50	2.5	< 100	6	
5	962.50	965.00	2.5	< 100	5	
6	965.00	967.50	2.5	< 100	5	
7	967.50	970.00	2.5	< 100	5	
8	970.00	972.50	2.5	< 100	7	
9	972.50	975.00	2.5	< 100	5	
60	975.00	977.50	2.5	< 100	15	
1	977.50	980.00	2.5	< 100	15	
2	980.00	982.50	2.5	< 100	5	
3	982.50	985.00	2.5	< 100	5	
4	985.00	987.50	2.5	< 100	5	
5	987.50	990.00	2.5	< 100	12	
6	990.00	992.50	2.5	< 100	28	

000099

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 3967	992.50	995.00	2.5	< 100	12	
8	995.00	997.50	2.5	< 100	7	
9	997.50	1000.00	2.5	< 100	5	
70	1000.00	1002.50	2.5	< 100	5	
1	1002.50	1005.00	2.5	< 100	15	
2	1005.00	1007.50	2.5	< 100	12	
3	1007.50	1010.00	2.5	< 100	15	
4	1010.00	1012.50	2.5	< 100	12	
5	1012.50	1015.00	2.5	< 100	15	
6	1015.00	1017.50	2.5	< 100	12	
7	1017.50	1020.00	2.5	< 100	10	
8	1020.00	1022.50	2.5	< 100	10	
9	1022.50	1025.00	2.5	< 100	12	
80	1025.00	1027.50	2.5	< 100	30	
1	1027.50	1030.00	2.5	100	65	
2	1030.00	1032.50	2.5	< 100	5	
3	1032.50	1035.00	2.5	< 100	6	
4	1035.00	1037.50	2.5	< 100	8	
5	1037.50	1040.00	2.5	< 100	15	
6	1040.00	1042.50	2.5	600	12	
7	1042.50	1045.00	2.5	1000	10	
8	1045.00	1047.50	2.5	600	15	
9	1047.50	1050.00	2.5	200	30	
90	1050.00	1052.50	2.5	100	210	
1	1052.50	1055.00	2.5	< 100	20	
2	1055.00	1057.50	2.5	< 100	8	
3	1057.50	1060.00	2.5	< 100	6	
4	1060.00	1062.50	2.5	< 100	9	
5	1062.50	1065.00	2.5	< 100	10	
6	1065.00	1067.50	2.5	< 100	8	
7	1067.50	1070.00	2.5	< 100	25	
8	1070.00	1072.50	2.5	100	8	
9	1072.50	1075.00	2.5	100	8	

000100

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 4000	1075.00	1077.50	2.5	-	-	
1	1077.50	1080.00	2.5	< 100	7	
2	1080.00	1082.5	2.5	< 100	5	
3	1082.50	1085.00	2.5	100	8	
4	1085.00	1087.50	2.5	100	12	
5	1087.50	1090.00	2.5	100	6	
6	1090.00	1092.50	2.5	200	8	
7	1092.50	1095.00	2.5	< 100	5	
8	1095.00	1097.50	2.5	< 100	10	
9	1097.50	1100.00	2.5	300	25	
10	1100.00	1102.50	2.5	100	10	
1	1102.50	1105.00	2.5	100	30	
2	1105.00	1107.50	2.5	< 100	25	
3	1107.50	1110.00	2.5	< 100	18	
4	1110.00	1112.50	2.5	< 100	25	
5	1112.50	1115.00	2.5	200	25	
6	1115.00	1117.50	2.5	< 100	22	
7	1117.50	1120.00	2.5	< 100	20	
8	1120.00	1122.50	2.5	< 100	8	
9	1122.50	1125.00	2.5	< 100	3	
20	1125.00	1127.50	2.5	< 100	7	
1	1127.50	1130.00	2.5	< 100	3	
2	1130.00	1132.50	2.5	200	7	
3	1132.50	1135.00	2.5	< 100	8	
4	1135.00	1137.50	2.5	< 100	4	
5	1137.50	1140.00	2.5	200	4	
6	1140.00	1142.50	2.5	< 100	9	
7	1142.50	1145.00	2.5	< 100	10	
8	1145.00	1147.50	2.5	100	5	
9	1147.50	1150.00	2.5	< 100	6	
30	1150.00	1152.50	2.5	100	6	
1	1152.50	1155.00	2.5	200	5	

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E.

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 4032	1155.00	1157.50	2.5	100	5	
3	1157.50	1160.00	2.5	< 100	5	
4	1160.00	1162.50	2.5	< 100	5	
5	1162.50	1165.00	2.5	< 100	8	
6	1165.00	1167.50	2.5	< 100	8	
7	1167.50	1170.00	2.5	< 100	6	
8	1170.00	1172.50	2.5	< 100	6	
9	1172.50	1175.00	2.5	< 100	6	
40	1175.00	1177.50	2.5	< 100	5	
1	1177.50	1180.00	2.5	< 100	6	
2	1180.00	1182.50	2.5	200	6	
3	1182.50	1185.00	2.5	< 100	6	
4	1185.00	1187.50	2.5	< 100	5	
5	1187.50	1190.00	2.5	< 100	5	
6	1190.00	1192.50	2.5	< 100	9	
7	1192.50	1195.00	2.5	< 100	35	
8	1195.00	1197.50	2.5	< 100	28	
9	1197.50	1200.00	2.5	< 100	15	
50	1200.00	1202.50	2.5	< 100	8	
3401	1202.50	1205.00	2.5	< 100	12	
2	1205.00	1207.50	2.5	< 100	8	
3	1207.50	1210.00	2.5	< 100	8	
4	1210.00	1212.50	2.5	< 100	4	
5	1212.50	1215.00	2.5	< 100	6	
6	1215.00	1217.50	2.5	< 100	5	
7	1217.50	1220.00	2.5	< 100	8	
8	1220.00	1222.50	2.5	< 100	6	
9	1222.50	1225.00	2.5	< 100	8	
10	1225.00	1227.50	2.5	< 100	6	
1	1227.50	1230.00	2.5	< 100	7	
2	1230.00	1232.50	2.5	< 100	8	
3	1232.50	1235.00	2.5	< 100	7	
4	1235.00	1237.50	2.5	< 100	8	

000102

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E.

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
MEL 3415	1237.50	1240.00	2.5	< 100	6	
-6	1240.00	1242.50	2.5	< 100	8	
7	1242.50	1245.00	2.5	< 100	7	
8	1245.00	1247.50	2.5	< 100	8	
9	1247.50	1250.00	2.5	< 100	7	
20	1250.00	1252.50	2.5	< 100	7	
1	1252.50	1255.00	2.5	< 100	10	
2	1255.00	1257.50	2.5	100	6	
3	1257.50	1260.00	2.5	300	7	
4	1260.00	1262.50	2.5	200	7	
5	1262.50	1265.00	2.5	3000	6	
6	1265.00	1267.50	2.5	< 100	6	
7	1267.50	1270.00	2.5	< 100	5	
8	1270.00	1272.50	2.5	< 100	5	
9	1272.50	1275.00	2.5	< 100	8	
30	1275.00	1277.50	2.5	< 100	7	
1	1277.50	1280.00	2.5	300	5	
2	1280.00	1282.50	2.5	100	5	
3	1282.50	1285.00	2.5	< 100	6	
4	1285.00	1287.50	2.5	< 100	7	
5	1287.50	1290.00	2.5	< 100	10	
6	1290.00	1292.50	2.5	< 100	10	
7	1292.50	1295.00	2.5	200	8	
8	1295.00	1297.50	2.5	100	10	
9	1297.50	1300.00	2.5	200	7	
40	1300.00	1302.50	2.5	< 100	12	
1	1302.50	1305.00	2.5	< 100	12	
2	1305.00	1307.50	2.5	200	4	
3	1307.50	1310.00	2.5	200	7	
4	1310.00	1312.50	2.5	700	8	
5	1312.50	1315.00	2.5	300	8	

000103

RESULTS OF PARABARANA CORE ANALYSIS.

PDD 13A - COORD. 600N/025E

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
NEL 3446	1315.00	1317.50	2.5	200	7	
7	1317.50	1320.00	2.5	< 100	5	
8	1320.00	1322.50	2.5	< 100	6	
9	1322.50	1325.00	2.5	< 100	5	
3450	1325.00	1327.50	2.5	< 100	10	
AN 7941	1327.50	1330.00	2.5	200	15	
2	1330.00	1332.50	2.5	100	15	
3	1332.50	1335.00	2.5	< 100	6	
4	1335.00	1337.50	2.5	100	7	
5	1337.50	1340.00	2.5	200	6	
6	1340.00	1342.50	2.5	< 100	4	
7	1342.50	1345.00	2.5	200	4	
8	1345.00	1347.50	2.5	< 100	5	
9	1347.50	1350.00	2.5	200	8	
50	1350.00	1352.50	2.5	100	4	
1	1352.50	1355.00	2.5	100	5	
2	1355.00	1357.50	2.5	< 100	12	
3	1357.50	1360.00	2.5	< 100	8	
4	1360.00	1362.50	2.5	< 100	8	
5	1362.50	1365.00	2.5	< 100	5	
6	1365.00	1367.50	2.5	< 100	4	
7	1367.50	1370.00	2.5	< 100	7	
8	1370.00	1372.50	2.5	< 100	4	
9	1372.50	1375.00	2.5	< 100	4	
60	1375.00	1377.50	2.5	< 100	8	
1	1377.50	1380.00	2.5	< 100	6	
2	1380.00	1382.50	2.5	< 100	5	
3	1382.50	1385.00	2.5	100	8	
4	1385.00	1387.50	2.5	300	8	
5	1387.50	1390.00	2.5	200	7	
6	1390.00	1392.50	2.5	< 100	20	
7	1392.50	1395.00	2.5	< 100	5	
8	1395.00	1400.00	5.0	< 100	4	

RESULTS OF PARABARANA CORE ANALYSIS

PDD 13A - COORD. 600N/025E

Sample No.	Footage Sampled			Results in p.p.m.		
	From	To	Int.	Cu	Mo	Au on Samples with 2000 p.p.m. Cu
AN 7969	1400.00	1405.00	5.0	< 100	7	
70	1405.00	1410.00	5.0	< 100	5	
1	1410.00	1415.00	5.0	< 100	5	
2	1415.00	1420.00	5.0	< 100	5	
3	1420.00	1425.00	5.0	< 100	5	
4	1425.00	1430.00	5.0	< 100	5	
5	1430.00	1435.00	5.0	< 100	6	
6	1435.00	1440.00	5.0	< 100	4	
7	1440.00	1443.00	3.0	< 100	5	

RESULTS OF PARABARANA CORE ANALYSIS

PDD 14 - COORD. 1020N/1150W

*Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			Lab.
	From	To	Int.	Cu	Mo	Au on Geomin Samples with > 2000 p.p.m. Cu	
AN 7989	1126.5	1129.0	2.5	2400	7	-	Amdel
AN 8143	"	"	"	3900	2		Geomin
AN 7990	1129.0	1131.5	2.5	<100	5		Amdel
91	1131.5	1134.0	2.5	<100	12		"
92	1134.0	1136.5	2.5	<100	6		"
93	1136.5	1139.0	2.5	<100	8		"
94	1139.0	1141.5	2.5	<100	5		"
95	1141.5	1144.0	2.5	<100	6		"
96	1144.0	1146.5	2.5	<100	6		"
97	1146.5	1149.0	2.5	<100	80		"
7998	1149.0	1151.5	2.5	<100	5		"
*AN 8157	"	"	"				
7999	1151.5	1153.0	2.5	100	5		"
AN 8001	1520.5	1523.0	2.5	<100	3		"
2	1523.0	1525.5	2.5	<100	3		"
3	1525.5	1528.0	2.5	<100	7		"
4	1528.0	1530.5	2.5	<100	5		"
5	1530.5	1533.0	2.5	<100	7		"
6	1533.0	1535.5	2.5	<100	4		"
7	1535.5	1538.0	2.5	<100	4		
AN 8008	1538.0	1540.5	2.5	<100	5		Amdel
AN 8144	"	"	"	24	3	-	Geomin
AN 8009	1540.5	1543.0	2.5	<100	6		Amdel
10	1543.0	1545.5	2.5	<100	6		"
11	1545.5	1548.0	2.5	<100	4		"
12	1548.0	1550.5	2.5	<100	6		"
13	1550.5	1553.0	2.5	<100	8		"
14	1553.0	1555.5	2.5	<100	7		"
15	1555.5	1558.0	2.5	<100	4		"
AN 8016	1558.0	1560.5	2.5	<100	4		Amdel
AN 8145	"	"	"	6	3	-	Geomi

RESULTS OF PARABARANA CORE ANALYSIS

PDD 14 - COORD. 1020N/1150W

*Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			Lab.
	From	To	Int.	Cu	Mo	Au on Geomin Samples with > 2000 p.p.m. Cu	
AN 8017	1560.5	1563.0	2.5	<100	10		Amdel
AN 8146	"	"	"	4	8	-	Geomin
AN 8018	1563.0	1565.5	2.5	<100	5		"
*AN 8159	"	"	"				
AN 8019	1565.5	1568.0	2.5	<100	<3		"
20	1568.0	1570.5	2.5	<100	3		"
AN 8021	1570.5	1573.0	2.5	<100	5		"
AN 8147	"	"	"	4	2	-	"
AN 8022	1573.0	1575.5	2.5	<100	<3		"
AN 8148	"	"	"	12	9	-	"
AN 8023	1575.5	1578.0	2.5	<100	3		"
24	1578.0	1580.5	2.5	<100	3		"
25	1580.5	1583.0	2.5	<100	3		"
26	1583.0	1585.5	2.5	<100	3		"
27	1585.5	1588.0	2.5	<100	9		"
AN 8028	1588.0	1590.5	2.5	<100	6		"
*AN 8160	"	"	"				
AN 8029	1590.5	1593.0	2.5	<100	10		"
30	1593.0	1595.5	2.5	<100	5		"
31	1595.5	1598.0	2.5	<100	3		"
32	1598.0	1600.5	2.5	<100	5		"
33	1600.5	1603.0	2.5	<100	5		"
34	1603.0	1605.5	2.5	<100	5		"
AN 8035	1605.5	1608.0	2.5	<100	3		"
36	1608.0	1610.5	2.5	<100	5		"
37	1610.5	1613.0	2.5	<100	5		"
AN 8038	1613.0	1615.5	2.5	<100	<3		"
*AN 8161	"	"	"				
AN 8039	1615.5	1618.0	2.5	<100	3		"
AN 8040	1618.0	1620.5	2.5	<100	3		"
41	1620.5	1623.0	2.5	<100	15		"
42	1623.0	1625.5	2.5	<100	3		"
43	1625.5	1628.0	2.5	<100	4		"
44	1628.0	1630.5	2.5	<100	5		"
AN 8045	1630.5	1633.0	2.5	<100	5		"

RESULTS OF PARABARANA CORE ANALYSIS

000107

PDD 14 - COORD. 1020N/1150W

* Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			Lab.
	From	To	Int.	Cu	Mo	Au on Geomin Samples with >2000 p.p.m. Cu	
AN 8046	1633.0	1635.5	2.5	<100	3		Geomi
47	1635.5	1638.0	2.5	<100	3		
AN 8048	1638.0	1640.5	2.5	<100	4		
*AN 8162	"	"	"				
AN 8049	1640.5	1643.0	2.5	<100	4		
AN 8050	1643.0	1645.5	2.5	<100	5		
51	1645.5	1648.0	2.5	<100	3		
52	1648,0	1650.5	2.5	<100	4		
53	1650.5	1653.0	2.5	<100	4		
54	1653.0	1655.5	2.5	<100	3		
AN 8055	1655.5	1658.0	2.5	<100	4		
56	1658.0	1660.5	2.5	<100	5		
57	1660.5	1663.0	2.5	<100	4		
AN 8058	1663.0	1665.5	2.5	<100	3		
*AN 8163	"	"	"				
AN 8059	1665.5	1668.0	2.5	<100	4		
AN 8060	1668.0	1670.5	2.5	<100	5		
61	1670.5	1673.0	2.5	<100	8		
62	1673.0	1675.5	2.5	<100	3		
63	1675.5	1678.0	2.5	<100	3		
64	1678.0	1680.5	2.5	<100	3		
AN 8065	1680.5	1683.0	2.5	<100	3		
66	1683.0	1685.5	2.5	<100	7		
67	1685.5	1688.0	2.5	<100	7		
AN 8068	1688.0	1690.5	2.5	<100	8		
*AN 8164	"	"	"				
AN 8069	1690.5	1693.0	2.5	<100	5		
AN 8070	1693.0	1695.5	2.5	<100	4		
71	1695.5	1698.0	2.5	<100	3		
72	1698.0	1700.5	2.5	<100	4		
73	1700.5	1703.0	2.5	<100	3		
74	1703.0	1705.5	2.5	<100	3		
AN 8075	1705.5	1708.0	2.5	<100	<3		

RESULTS OF PARABARANA CORE ANALYSIS

000108

PDD 14 - COORD. 1020N/1150W

*Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			Lab
	From	To	Int.	Cu	Mo	Au on Geomin Samples with >2000 p.p.m. Cu	
AN 8076	1708.0	1710.5	2.5	<100	<3		
77	1710.5	1713.0	2.5	<100	3		
AN 8078	1713.0	1715.5	2.5	<100	4		
*AN 8165	"	"	"				
AN 8079	1715.5	1718.0	2.5	<100	3		
AN 8080	1718.0	1720.5	2.5	<100	3		
81	1720.5	1723.0	2.5	100	3		
82	1723.0	1725.5	2.5	<100	3		
83	1725.5	1728.0	2.5	<100	3		
84	1728.0	1730.5	2.5	<100	3		
AN 8085	1730.5	1733.0	2.5	<100	<3		
86	1733.0	1735.5	2.5	<100	3		
87	1735.5	1738.0	2.5	<100	3		
AN 8088	1738.0	1740.5	2.5	200	4		
*AN 8166	"	"	"				
AN 8089	1740.5	1743.0	2.5	1300	4		
AN 8090	1743.0	1745.5	2.5	100	4		
91	1745.5	1748.0	2.5	300	3		
AN 8092	1748.0	1750.5	2.5	<100	25		Amdel
AN 8149	"	"	"	84	8	-	Geomin
AN 8093	1750.5	1753.0	2.5	1000	12		Amdel
AN 8150	"	"	"	350	2	-	Geomin
AN 8094	1753.0	1755.5	2.5	4800	5		Amdel
AN 8151	"	"	"	3500	3	0.08	Geomin
AN 8095	1755.5	1758.0	2.5	1200	4		Amdel
AN 8152	"	"	"	200	2	0.16	Geomin
AN 8096	1758.0	1760.5	2.5	1300	5		Amdel
AN 8153	"	"	"	2200	2	0.06	Geomin
AN 8097	1760.5	1763.0	2.5	1700	5		Amdel
AN 8154	"	"	"	9500	1	0.30	Geomin
AN 8098	1763.0	1765.5	2.5	28000	5		Amdel
AN 8155	"	"	"	>10000	8	0.14	Geomin

RESULTS OF PARABARANA CORE ANALYSIS

PDD 14 - COORD. 1020N/1150W

000109.

* Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			Lab.
	From	To	Int.	Cu	Mo	Au on Geomin Samples with >2000 p.p.m. Cu	
AN 8099	1765.5	1768.0	2.5	6300	5		Amdel
AN 8188	"	"	"	3500	3	0.08	Geomin
AN 8100	1768.0	1770.5	2.5	9300	25		Amdel
AN 8189	"	"	"	~10000	25	0.14	Geomin
AN 8101	1770.5	1773.0	2.5	15000	28		Amdel
AN 8190	"	"	"	>10000	12	0.22	Geomin
AN 8102	1773.0	1775.5	2.5	4300	45		Amdel
AN 8191	"	"	"	3700	23	X	Geomin
AN 8103	1775.5	1778.0	2.5	200	40		Amdel
AN 8192	"	"	"	250	22	-	Geomin
AN 8104	1778.0	1780.5	2.5	2200	35		Amdel
AN 8193	"	"	"	4000	23	X	Geomin
AN 8105	1780.5	1783.0	2.5	1400	30		Amdel
AN 8194	"	"	"	1200	30	-	Geomin
AN 8106	1783.0	1785.5	2.5	1900	20		Amdel
AN 8195	"	"	"	1650	19	-	Geomin
AN 8107	1785.5	1788.0	2.5	1800	35		Amdel
AN 8196	"	"	"	1700	30	-	Geomin
AN 8108	1788.0	1790.5	2.5	1400	10		Amdel
AN 8197	"	"	"	1350	8	-	Geomin
AN 8109	1790.5	1793.0	2.5	600	7		Amdel
AN 8198	"	"	"	1050	7	-	Geomin
AN 8110	1793.0	1795.5	2.5	2300	12		Amdel
AN 8199	"	"	"	3100	10	X	Geomin
AN 8111	1795.5	1798.0	2.5	600	50		Amdel
AN 8200	"	"	"	700	38	-	Geomin
AN 8112	1798.0	1800.5	2.5	300	25		Amdel
AN 8201	"	"	"	210	26	-	Geomin
AN 8113	1800.5	1803.0	2.5	700	15		Amdel
AN 8202	"	"	"	1000	19	-	Geomin
AN 8114	1803.0	1805.5	2.5	600	12		Amdel
AN 8203	"	"	"	800	7	-	Geomin

000110

RESULTS OF PARABARANA CORE ANALYSIS

PDD 14 - COORD. 1020N/1150W.

* Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			Lab.
	From	To	Int.	Cu	Mo	Au on Geomin Samples with >2000 p.p.m. Cu	
AN 8115	1805.5	1808.0	2.5	400	12		Amdel
AN 8204	"	"	"	300	7	X	Geomin
AN 8116	1808.0	1810.5	2.5	200	8		Amdel
AN 8205	"	"	"	52	3	-	Geomin
AN 8117	1810.5	1813.0	2.5	300	10		Amdel
AN 8206	"	"	"	140	10	-	Geomin
AN 8118	1813.0	1815.5	2.5	400	18		Amdel
AN 8207	"	"	"	290	35	-	Geomin
AN 8119	1815.5	1818.0	2.5	500	30		Amdel
AN 8208	"	"	"	170	75	-	Geomin
AN 8120	1818.0	1820.5	2.5	500	50		Amdel
AN 8209	"	"	"	350	50	-	Geomin
AN 8121	1820.5	1823.0	2.5	200	35		Amdel
AN 8210	"	"	"	60	8	-	Geomin
AN 8122	1823.0	1825.5	2.5	100	45		Amdel
AN 8211	"	"	"	60	35	-	Geomin
AN 8123	1825.5	1828.0	2.5	100	25		Amdel
AN 8212	"	"	"	24	7	-	Geomin
AN 8124	1828.0	1830.5	2.5	1900	120		Amdel
AN 8213	"	"	"	1400	85	-	Geomin
AN 8125	1830.5	1833.0	2.5	1600	18		Amdel
AN 8214	"	"	"	2500	34	-	Geomin
AN 8126	1833.0	1835.5	2.5	200	20		Amdel
AN 8127	1835.5	1838.0	2.5	500	18		"
AN 8128	1838.0	1840.5	2.5	500	25		"
AN 8170	"	"	"				
AN 8129	1840.5	1845.5	5.0	200	30		"
AN 8130	1845.5	1850.5	5.0	1100	45		"
31	1850.5	1855.5	5.0	700	45		"
32	1855.5	1860.5	5.0	100	22		"

RESULTS OF PARABARANA CORE ANALYSIS

PDD 14 - COORD. 1020N/1150W

* Duplicate Sample

Sample No.	Footage Sampled			Results in p.p.m.			Lab.
	From	To	Int.	Cu	Mo	Au on Geomin Samples with > 2000 p.p.m. Cu	
AN 8133	1860.5	1865.5	5.0	<100	60		Amdel
*AN 8171	"	"	"				
AN 8134	1865.5	1870.5	5.0	100	15		"
AN 8135	1870.5	1875.5	5.0	200	90		"
36	1875.5	1880.5	5.0	200	190		"
37	1880.5	1885.5	5.0	500	22		"
AN 8138	1885.5	1890,5	5.0	200	12		"
*AN 8172	"	"	"				
AN 8139	1890.5	1895.5	5.0	<100	45		"
40	1895.5	1900.5	5.0	<100	35		"
41	1900.5	1905.5	5.0	<100	15		"
AN 8142	1905.5	1908.5	3.0	<100	48		"
*AN 8173	"	"	"				

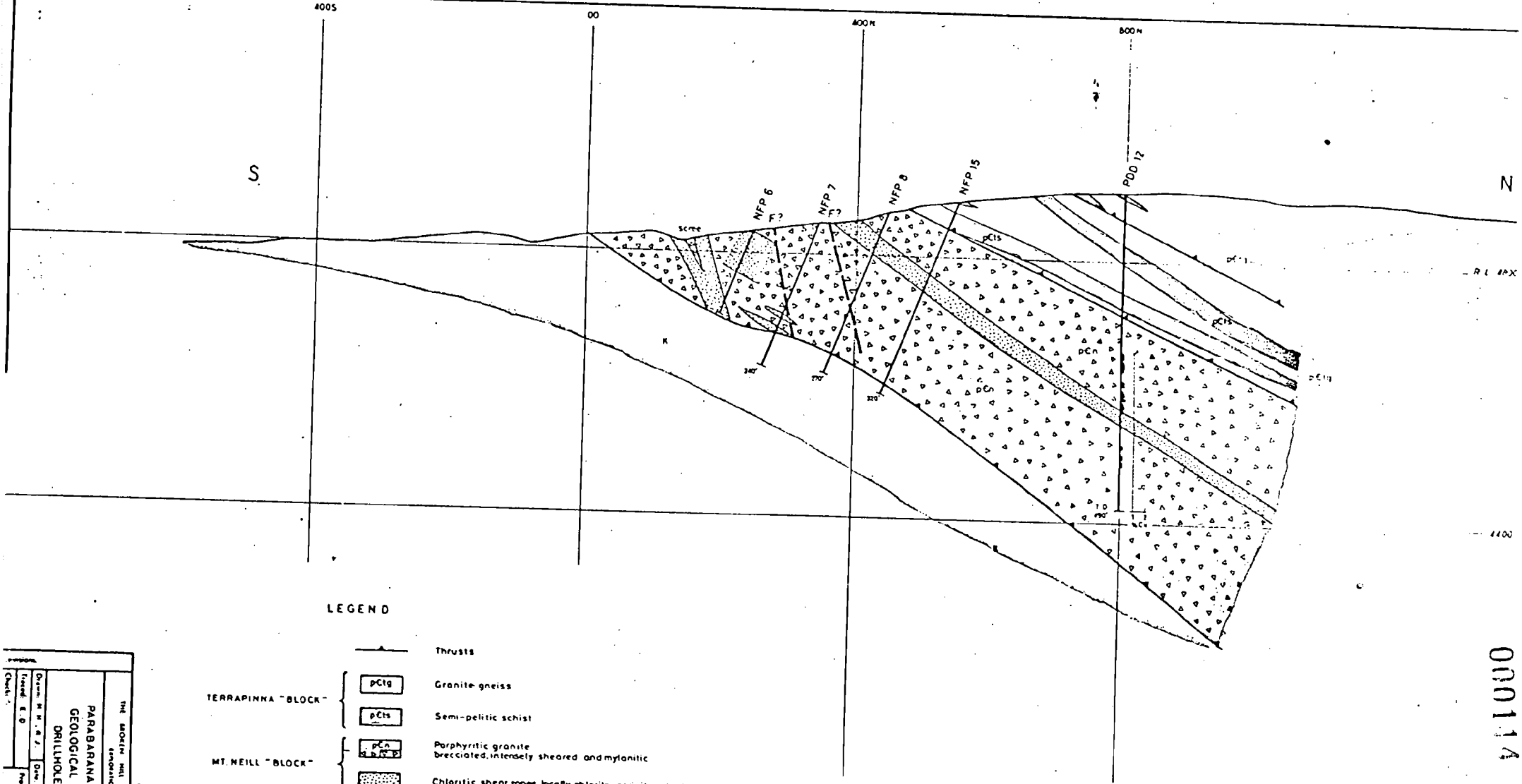
HOLE - P.D.D. 15

000112

INTERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu. (ppm)	Mo (ppm)
0 - 10	MEL 3671	granite/gneiss	2	4
10 - 20	3672	"	5	3
20 - 30	3673	"	2	4
30 - 40	3674	"	2	3
40 - 50	3675	"	2	4
50 - 60	3676	"	2	4
60 - 70	3677	"	2	5
70 - 80	3678	"	2	4
80 - 90	3679	"	2	3
90 - 100	3680	"	2	3
100 - 110	3681	"	2	3
110 - 120	3682	"	2	3
120 - 130	3683	"	2	3
130 - 140	3684	"	2	4
140 - 150	3685	"	2	5
150 - 160	3686	"	2	5
160 - 170	3687	schist	2	5
170 - 180	3688	"	2	6
180 - 190	3689	"	5	3
190 - 200	3690	"	5	3
200 - 210	3691	"	2	3
210 - 220	3692	granite/schist	2	4
220 - 230	3693	"	5	<3
230 - 240	3694	granite gneiss	2	4
240 - 250	3695	"	5	3
250 - 260	3696	"	2	4
260 - 270	3697	"	5	5
270 - 280	3698	granite	5	5
280 - 290	3699	"	8	3
290 - 300	3700	"	8	3
300 - 310	3701	"	8	3
310 - 320	3702	"	8	3
320 - 330	3703	"	8	<3
330 - 340	3704	"	8	3
340 - 350	3705	granite/schist	5	3
350 - 360	3706	granite gneiss	5	3
360 - 370	3707	"	10	<3
370 - 380	3708	"	5	<3
380 - 390	3709	"	5	3
390 - 400	3710	"	12	3
400 - 410	3711	"	5	<3
410 - 420	3712	"	5	3
420 - 430	3713	"	5	3
430 - 440	3714	"	8	<3
440 - 450	3715	"	5	4
450 - 460	3716	"	5	<3

INTERVAL (FT.)	SAMPLE NO.	LITHOLOGY	Cu (ppm)	Mo (ppm)
460 - 470	MEL 3717	granite gneiss	35	<3
470 - 480	3718	"	15	3
480 - 490	3719	"	8	3
490 - 500	3720	"	10	4
500 - 510	3721	"	10	3
510 - 520	3722	"	15	3
520 - 530	3723	"	28	4
530 - 540	3724	"	15	6
540 - 550	3725	"	10	3
550 - 560	3726	"	8	5
560 - 570	3727	"	5	<3
570 - 580	3728	"	5	<3
580 - 590	3729	"	5	3
590 - 600	3730	"	5	<3

	Cu	Mo
Weighted Average 0 - 600	6	<4



LEGEND

- Thrusts
- TERRAPINNA "BLOCK" — pCtg — Granite gneiss
- TERRAPINNA "BLOCK" — pCts — Semi-pelitic schist
- MT. NEILL "BLOCK" — pCn — Porphyritic granite brecciated, intensely sheared and mylonitic
- Chloritic shear zones, locally chlorite - sericite schist
- R — Cretaceous sediments
- Copper assay values over 2'6" intervals

Scale 1:2,400

0 100 200 300 400 FEET

THE BROKEN HILL PROPRIETARY CO LTD
EXPLORATION DEPARTMENT

PARABARANA PROSPECT, S.A.
GEOLOGICAL CROSS SECTION
DRILLHOLES 800E LINE

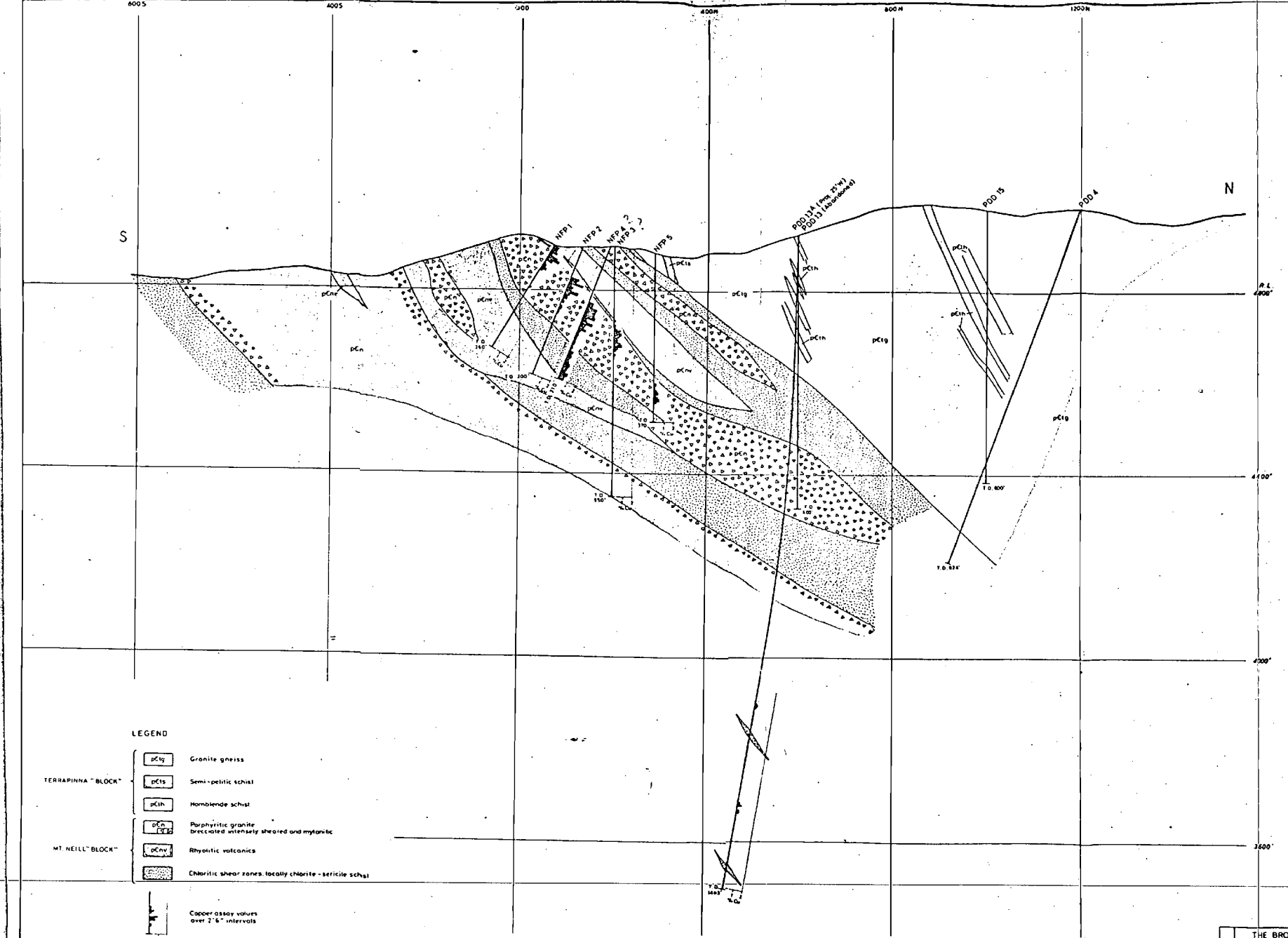
Drawn: M.W.R./J.
Date: 10-1-78
Traced: E.D
Checked:
Project No.:
Drawing No: A + 1C 0

Fig. No
To accompany
Dated

000114

Fig. 2

Fig. 3



LEGEND

TERRAPINNA "BLOCK"

- pCtg — Granite gneiss
- pCts — Semi-pelitic schist
- pCth — Hornblende schist

MT. NEILL "BLOCK"

- pCn — Porphyritic granite, brecciated, intensely sheared and mylonitic
- pCnv — Rhyolitic volcanics
- Chloritic shear zones, locally chlorite - sericite schist

Copper assay values over 2'6" intervals

Scale 1:2,400

0 100 200 300 400 FEET

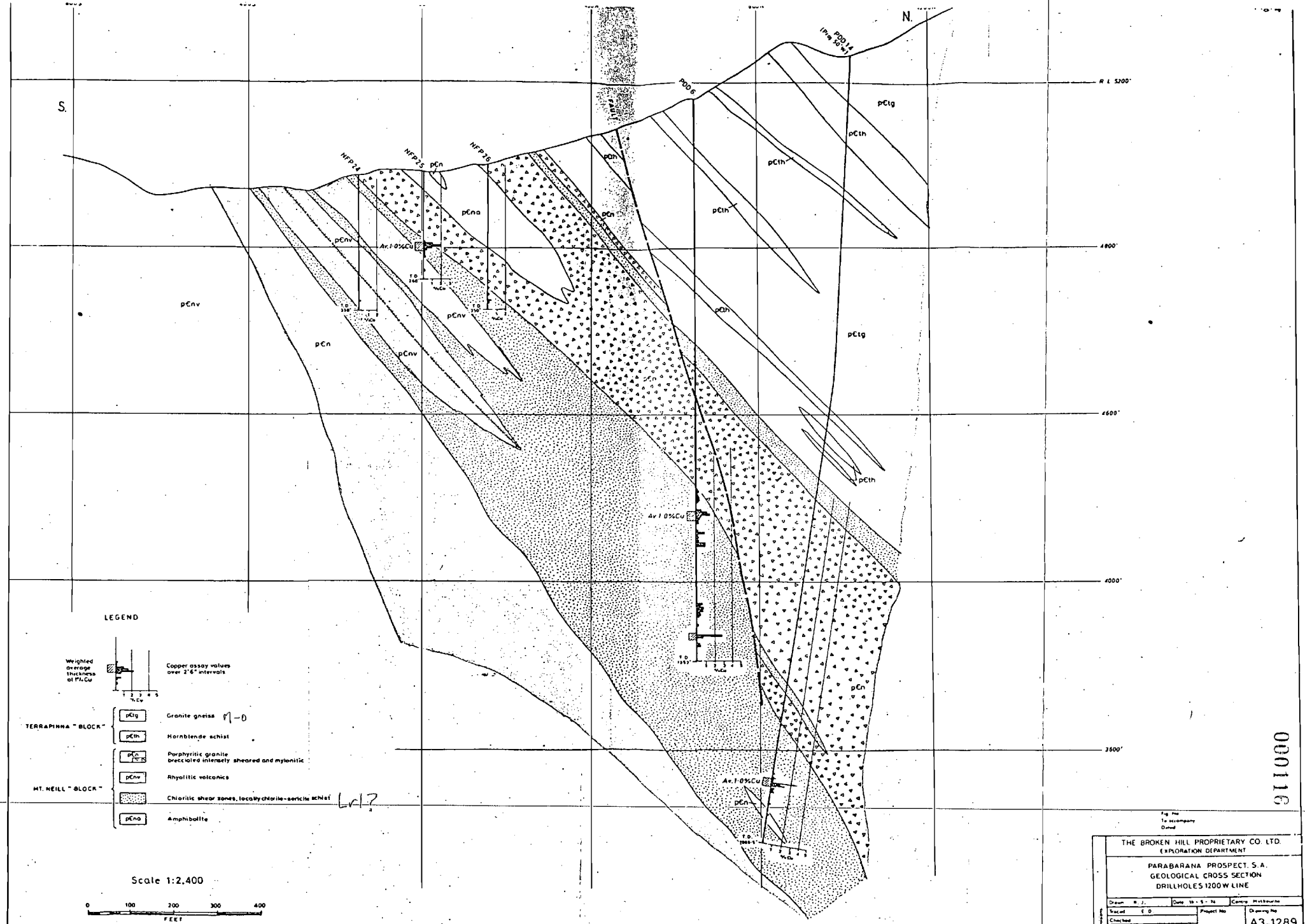
Fig. No. To accompany Dated

THE BROKEN HILL PROPRIETARY CO. LTD.
EXPLORATION DEPARTMENT

PARABARANA PROSPECT, S.A.
GEOLOGICAL CROSS SECTION
DRILLHOLES 00 LINE

Drawn R.J.	Date 29-5-74	Country Photo-setter	
Traced E.D.		Project No.	Drawing No. A3-1288
Checked			

000117



THE BROKEN HILL PROPRIETARY CO. LTD.
EXPLORATION DEPARTMENT

PARABARANA PROSPECT, S.A.
GEOLOGICAL CROSS SECTION
DRILLHOLES 1200 W LINE

Drawn R. J.	Date 10-5-76	Centre Melbourne	
Traced E.D.		Project No.	Drawing No. A3-1289
Checked			
O.I.C.			

Fig. No. To accompany Quarl

911000