COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

RECORDS:

1964/179

PROGRESS REPORT ON DIAMOND DRILLING, RUM JUNGLE AREA 1964

by

C.E. Prichard

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CONTENTS

SUMMARY

Seven diamond drill holes were drilled between June and October, 1964. Six of these holes tested electromagnetic (Slingram) anomalies and one was sited on a geochemical (copper) anomaly. The first six holes penetrated amphibolite dolerite or carbonaceous sediments containing pyrite and pyrrhotite but no economic mineralization. Radioactivity was low. The hole sited on the geochemical anomaly of Mt Fitch encountered cavernous dolomite and was abandoned before reaching the target zone.

INTRODUCTION

The electromagnetic surveys carried out in the Rum Jungle Area have delineated a number of anomalies between Dolerite Ridge and Mt Fitch. (Ashley 1963, Page 4). Six dill holes were sited on these anomalies to determine their cause and see if they reflected economic mineralization.

The copper anomalies resulting from the geochemical survey in 1963 in the Mt. Fitch Area had been tested by diamond and percussion-rotary drilling (Pritchard 1964) but a reinterpretation suggested an alternative form for some of the anomalies and one drill hole was sited to test this interpretation.

Atlantic Drillers Sydney were engaged to drill these holes under contract. One Sullivan 12B diamond drill fitted with a Perkins diesel engine was used. Drilling commenced in mid-June, 1964, and was completed on 13th October, 1964. Seven holes totalling 2106 feet were drilled and core recovery averaged 95%.

Table 1 summarises information about the holes drilled.

TABLE 1

SUMMARY OF DIAMOND DRILL HOLES

RUM JUNGLE AREA, 1964

No.	Collar Co-ordinates	Azimuth	Depression	Length	Target
B.M.R. 64-1	382.75N 135.70E Mt. Fitch No.2 Grid.	-	Vertical	300 feet	Geophysical Anomaly
B.M.R. 64-2	383N 129.5E Mt. Fitch No.1 Grid.	-	Vertical	254'6"	Geophysical Anomaly
B.M.R. 64-3	370N 127E Mt. Fitch No.1 Grid.	-	Vertical	290'6"	Geophysical Anomaly
B.M.R. 64-4	370.75N 143.50E Mt. Fitch No.2 Grid.	-	Vertical	324'9"	Geophysical Anomaly
B.M.R. 64-5	432N 116.5E Mt. Fitch No.1 Grid.	145° (Mag.)	70°	229 feet	Geochemical (Cu) Anomaly
B.M.R. 64-6	318N 133E Mt. Fitch No.1 Grid.	Grid E. (87°Mag.)	55°	354 feet	Geophysical Anomaly
B.M.R. 64-7	66N 168W Dolerite Ridge Grid.	Grid E. (50° Mag.)	55°	354 feet	Geophysical Anomaly.

B.M.R. 64-1. (Plates 2 and 3)

The first hole to be drilled is sited on an alluvial flat immediately south of the East Finniss River. The only outcropping rocks form a ridge of Acacia Gap quartz greywacke about 200 feet west of the site. These beds strike 340° and dip 55° west. Auger drilling during 1963 (Pritchard 196-. Ref) provides information on the distribution of Golden Dyke Formation and Coomalie Dolomite.

The hole is sited on the axis of a clearly defined Slingram anomaly and is within the limits of a magnetic anomaly (Ref. Ashley 1963 Page 5). Immediately below alluvium it entered amphibolite and continued in this rock for full depth of 300 feet. The amphibolite is strongly pyritic throughout (average about 10%); possibly pyrrhotite and chalcopyrite are also present. (Assay results not yet available).

The pyritic amphibolite is probably the cause for the electromagnetic anomaly. If it is of sufficient extent it could also account for the magnetic anomaly. The anomalies are not associated with economic mineralization.

B.M.R. 64-2. (Plates 2 and 3)

This hole is also collared on alluvium south of the East Finniss River but is located about 200 feet west of the ridge of Acacia Gap quartz greywacke, i.e. 600 feet west of B.M.R. 64-1. Apart from the ridge, there is no outcrop and no geological information from auger drilling. Golden Dyke Formation would be expected here.

Again the hole is sited on the axis of a slingram anomaly, and is within a magnetic anomaly.

Black slates of the Golden Dyke Formation were penetrated from below the soil to 81 feet, then amphibolite to 211 feet, then black slate and dolomitic calcilutite to full depth of 254'6". All the rocks are pyritic but the amphibolite is richly pyritic (over 20%) from a depth of 135 feet to 211 feet. This is the likely cause for the electro-magnetic anomaly.

There is no indication of economic mineralization.

B.M.R. 64-3. (Plates 2 and 3)

Thirteen hundred feet south of B.M.R. 64-2 and almost one thousand feet west of the ridge of Acacia Gap is B.M.R. 64-3. This hole is sited on an electromagnetic anomaly west of and roughly parallel to that tested by B.M.R. 64-2. It is also within a magnetic anomaly. There is no outcrop nor is sub-surface geological information available in the vicinity. Golden Dyke Formation would be expected.

Carbonaceous and chloritic beds were penetrated to 272'6" and then calcareous beds to full depth of 290'6". Amphibolite was present from 246' to 246'6" & 265'6" to 269'. Pyrite is present throughout up to 15% and is usually accompanied by pyrrhotite.

The sulphide minerals present probably cause the electromagnetic anomaly. If pyrrhotite becomes more common at depth it could cause the magnetic anomaly.

B.M.R. 64-4. (Plates 2 and 3)

B.M.R. 64-4 is collared about 1400 feet south-east of B.M.R. 64-1. It is sited on the axis of the same electromagnetic anomaly which has been displaced by a south-westerly striking fault between the two holes. It is close to the axis of a magnetic anomaly about three times the intensity of those at B.M.R. 64-1, 2 and 3. Amphibolite was penetrated from under the soil to full depth of 324 feet 9 inches. Pyrrhotite is more common then pyrite and these two minerals exceed 10% throughout the amphibolite. No economic mineralization was apparent.

The pyrrhotite probably accounts for the magnetic anomaly and together with pyrite would cause the Slingram anomaly.

B.M.R. 64-5. (Plate 4)

This hole is sited to test at a vertical depth of 400 feet a copper anomaly located by the 1963 Geochemical Party.

The hole is collared at 432N 116.5E (Mt. Fitch No.1 Grid) and depressed at 70° on a bearing of 145° magnetic.

Incohesive sandy soil was drilled to 160 feet when the Coomalie Dolomite was entered. From 160 feet to 229 feet where drilling was stopped cavernous dolomite was present. Cavities intersected totalled almost half the total distance advanced and rendered further drilling uneconomic.

The target zone was not tested; no copper mineralization was recognized in the core recovered.

B.M.R. 64-6. (Plate 5)

Hole B.M.R. 64-6 is collared on the edge of a paper bark swamp in an area of no outcrop about 3000 feet south-west of Mt. Burton opencut. It is sited on the axis of an electromagnetic anomaly and was designed to test it at a vertical depth of about 150 feet. The target zone is within a magnetic anomaly of moderate intensity.

After penetrating 60 feet of alluvium the hole was in Golden Dyke Formation sediments to 122 feet, dolerite to 160 feet, Golden Dyke to 188 feet, dolerite to 200 feet and Golden Dyke sediments to full depth of 354 feet. The rocks are pyritic throughout but not exceeding 5% in the first 200 feet and ranging to 10% in the deeper part of the hole. Pyrrhotite exceed 5% in parts of the core. No copper or other economic mineralization was present.

The electromagnetic anomaly is possibly caused by carbonaceous black slate carrying some pyrite which occurs between 160 and 188 feet and again between 200 and 236 feet. The magnetic anomaly may be due to the dolerite (122-160 feet and 188-200 feet) or to pyrrhotite which occurs from 280 feet to the end of the hole, particularly if the percentage of this mineral increases in depth.

B.M.R. 64-7. (Plate 6)

Hole B.M.R. 64-7 is sited on an area of alluvium east of the Finniss River about 3500 feet south of Mt. Burton opencut. It is north of the end of Dolerite Ridge but there is no outcrop in the immediate vicinity. The hole was designed to test an electromagnetic anomaly at a vertical depth of about 200 feet. This area is again within a magnetic anomaly of moderate intensity.

After penetrating 68 feet of alluvium the hole was in dolerite to 155 feet then Golden Dyke Formation sediments chiefly black slate to 290 feet and then in dolerite to completed depth of 354 feet. The dolerite is pyritic up to 5% and the sediments to 10%. Pyrrhotite is present but subsidiary. No economic mineralization was present.

The pyritic black slate is a possible cause for the electromagnetic anomaly. The magnetic anomaly at this site appears to be caused by the dolerite or a body at greater depth than penetrated by the drill.

CONCLUSIONS

Radioactivity was low in all holes probed, except for B.M.R. 64-6 where values exceeding 0.06 mR/Hr were recorded. (Core from this hole will be split and tested for radioactivity and fraction sent to Canberra for spectrographic check for economic mineralization).

In general there is good correlation between Resistance, Radioactivity, and lithological logs. Dolerite and black slate both have low resistance but the black slate has higher radioactivity. Calcareous sediments have high resistance and low radioactivity. Amphibolite generally tends to be more variable than any of the other lithologies.

In general sulphides mineralization is present in sufficient concentration to cause the electromagnetic anomalies. The magnetic anomalies are deeper seated and have not been adequately investigated. The presence of pyrrhotite and its greater concentration in B.M.R. 64-4 above the most intense magnetic anomaly suggest it is a major contributing factor but it may not be the sole cause of the magnetic anomalies.

Mineralization of economic grade was not recognized in the core.

REFERENCES

ASHLEY, J., 1963 - Geophysical Survey in the Rum Jungle District N.T. (B.M.R. Record - being edited).

PRITCHARD, P.W., (For auger based geology around B.M.R. 64-1 and 64-4 - Title not available).

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GEOLOGICAL LOG OF DRILL HOLE

PROJECT Rum Jungle — REMARKS Testing EM & Magnetic Anomaly

HOLE No. BMR 64-1 — CO-ORDINATES 382·75N 135·70E (Mt Fitch No.2 Grid) — R.L. GROUND

LOCATION Between Mt. Fitch & Mt. Burton — ANGLE FROM HORIZONTAL Vertical — DIRECTION —

DESCRIPTION OF CORE	R.L. CASING / DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
0 Black Soil Sandy black soil m.g. Alluvial Sand coarse Alluvial Sand. Quartz Gravel 2" to 10"	Soil & Alluvium		50		Split Core Samples every 5' from 35'	
30' Amphibolite 30-33' weathered Pyritic 5% Hornblende Amphibolite minor Actinolite occasional small calcite veins Pyrite 5-10%	Amphibolite		50 100	196232 196233 196234 196235 196236 196237 196238 196239 196240		
86' ..... Base of Weathering ..... Amphibolite as above Pyrite 10%				196241 196242 196243 196244 196245 196246 196247 196248 196249 196250 196251 196252 196253		
137' ?bedding 60° to axis ?bedding 60° to core axis 148'9" Actinolite Amphibolite 150'6" Calcite 30% Pyrite 20% Hornblende Amphibolite minor Actinolite & Calcite.			100 100	196254 196255 196256 196257 196258 196259 196260 196261 196262 196263 196264		
174' Calcite vein 1" 177' Banding of core partly by calcite. ?bedding 50°-60° to axis. 187' 188' Calcite vein 3"						

DRILL NO. — TYPE Sullivan — DRILLER Atlantic (McArthy) — COMMENCED — COMPLETED

EXPLANATION — CASING IN HOLE DURING DRILLING

REFERENCES — 20'=1"

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GEOLOGICAL LOG OF DRILL HOLE

PROJECT RUM JUNGLE REMARKS

HOLE No. BMR 64-1 CO-ORDINATES R.L. GROUND

LOCATION ANGLE FROM HORIZONTAL Vertical DIRECTION

DESCRIPTION OF CORE	R.L. CASING / DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
200' Hornblende Amphibolite minor Actinolite Pyrite 10%. 214'9" Calcite vein 2" 40° to core	Amphibolite.			196265		
				196266		
				196267		
				196268		
				196269		
				196270		
			100	196271		
				196272		
244' Calcite vein 2" 40° to core				196273		
				196274		
				196275		
				196276		
				196277		
				196278		
				196279		
				196280		
281' Hornblende Amphibolite more Actinolite than before Pyrite 10%				196281		
				196282		
			100	196283		
				196284		
300' END of HOLE 300'						

DRILL NO.

TYPE

DRILLER

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COMPLETED

EXPLANATION

CASING IN HOLE DURING DRILLING

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GEOLOGICAL LOG OF DRILL HOLE

PROJECT Rum Jungle — REMARKS Testing EM & Magnetic Anomaly

HOLE No. BMR 64-2 — CO-ORDINATES 383N 1295E (Mt Fitch No.1 Grid) — R.L. GROUND

LOCATION Between Mt Fitch & Mt Burton — ANGLE FROM HORIZONTAL Vertical — DIRECTION —

DESCRIPTION OF CORE	R.L. CASING / DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
00 Core disintegrated Fragments of black shale Probably all black shale below soil.	Soil ..... Golden Dyke Formation		30			
26'6" Black Slate, weathered & broken. Pyrite present from 40'			60			
50' Black Slate closely & irregularly jointed 45°, 20°-25°, & 70° to core axis preferred directions Pyrite in very fine veinlets 2%.			96			
81' Amphibolite. Dark fibrous hornblende, irregular close jointing. Pyrite ≈ 10%	Amphibolite & Golden Dyke		96			
92'6" Weathered porous dark grey ? Slate Massive F.g. Pyrite 40-50%			73			
99' Gradational change Pyrite decreases to ≤ 10%			73			
106' Amphibolite, massive, white calcite in flecks & veinlets. Pyrite disseminated in lenticles ≈ 5%	Amphibolite		90			
118'9" Amphibolite, lighter colour due to increased calcite. Pyrite ≈ 5%			NIL 90		113'-116' Cavity - no core	
135'6" Amphibolite, more calcitic irregular calcite veins to ½" thick Pyrite disseminated & in veinlets & aggregates 30-40%			85			
			98			
200						

DRILL NO. Sullivan — TYPE —

DRILLER AHantic CMcArthy — COMMENCED — COMPLETED —

EXPLANATION — CASING IN HOLE DURING DRILLING

REFERENCES

20'=1"

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GEOLOGICAL LOG OF DRILL HOLE

PROJECT: RUM JUNGLE — REMARKS:

HOLE No.: BMR 64-2 — CO-ORDINATES: — R.L. GROUND:

LOCATION: — ANGLE FROM HORIZONTAL: Vertical — DIRECTION:

DESCRIPTION OF CORE	R.L. CASING	DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
202' Amphibolite - actinolitic - weathered Pyrite 20%.	Amphibolite			90			
207' Amphibolite, calcite veins 40% Pyrite 20%.				95			
211' Black Slate, closely & irregularly jointed Pyrite 2%	Golden Dyke F.			99			
225' 226' Argillite, sericitic, grey, hard, splintery fracturing. Pyrite 2%	? Coomalie Dolomite			96		225'-226' Gradation	
238' Transition							
244' Dolomitic Calcilutite. Hard, compact, blue-grey. Pyrite 2%	Coomalie Dolomite			98			
254'6" END OF HOLE 254'6"							

DRILL NO.:
TYPE:
DRILLER:
COMMENCED:
COMPLETED:

EXPLANATION

CASING IN HOLE DURING DRILLING

REFERENCES

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GEOLOGICAL LOG OF DRILL HOLE

PROJECT: RUM JUNGLE — REMARKS: Testing EM & Magnetic Anomaly

HOLE No.: BMR 64-3 — CO-ORDINATES: 370N 127E (Mt Fitch No1 GRID) — R.L. GROUND:

LOCATION: Between Mt Fitch & Mt Burton — ANGLE FROM HORIZONTAL: Vertical — DIRECTION: —

DESCRIPTION OF CORE	R.L. CASING	DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
0 "Core" incohesive fine to medium grained well rounded QUARTZ SAND Pale red-brown	ALLUVIUM			?50			
23' as above, grey							
28' mostly incohesive, rest is weathered & fragmentary dark grey SHALE Pyritic throughout	GOLDEN DYKE			?60			
66' deeply weathered - often incohesive - grey, porous Schist (weathered & partly bleached carbonaceous Shale) Pyrite throughout richly pyritic 72', 85-90', 104' Brecciated 114'6"-116'	FORMATION			90			
120' dk. grey carbonaceous Slate weathered, incohesive in part. Pyritic 2% Pyrrhotite Trace				95			
142 Grey chloritic Greywacke irregular Quartz 20% between 144' & 148' Pyrite 2-5%				95			
160 Breccia; Quartz 50% & chloritic greywacke Pyrite 10-30%				95			
170'3" Chloritic Greywacke grading into Carbonaceous Slate Pyritic 5%				95			
183'6" Brecciated blk Slate & 10% Quartz Pyritic 10-20%				95			
190' gradational for 2' carbonaceous Slate with few irregular, indefinitely				100			

DRILL NO.:
TYPE: Sullivan
DRILLER: Atlantic
COMMENCED: July 1964
COMPLETED: August 1964

EXPLANATION

CASING IN HOLE DURING DRILLING

REFERENCES

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GEOLOGICAL LOG OF DRILL HOLE

PROJECT RUM JUNGLE REMARKS

HOLE No. BMR 64-3 CO-ORDINATES R.L. GROUND

LOCATION ANGLE FROM HORIZONTAL Vertical DIRECTION

DESCRIPTION OF CORE	R.L. / CASING	DEPTH / SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
200							
bounded Quartz blebs Pyrite 5-10 % ?Chalcopyrite Trace				100			
217' dark grey Slate with scattered Quartz blebs Calcareous in part Pyrite 10-15 % Amphibolite 231'6"-232' 3" coarse Calcite 245' Pyrrhotite 1" 240'6" ½" 241'				100			
246' pale grey Amphibolite			100 →				
246'6" Chloritic GW & blk Slate				100			
252' black Slate Pyrrhotite + Pyrite 5% Calcareous in part				100			
265'6" Amphibolite, calcareous from 266'6"				100			
269' Pyrrhotite - Pyrite 5-20%							
Schistose dk grey Siltstone Py 1-2%				100			
272'6" tremolitic Limestone Pr+Py 2%	COOMALIE DOLOMITE			100			
277'6" Siltstone Pr+Py 1-2%				100			
283' tremolitic Limestone Pr+Py Trace				100			
290'6" END of HOLE							

DRILL NO.

TYPE

DRILLER

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EXPLANATION

CASING IN HOLE DURING DRILLING

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GEOLOGICAL LOG OF DRILL HOLE

PROJECT RUM JUNGLE REMARKS To test EM & Magnetic Anomaly

HOLE No. BMR 64-4 CO-ORDINATES 370·75N 143·50E (Mt Fitch No 2 Grid) R.L. GROUND

LOCATION Between Mt Fitch & Mt Burton ANGLE FROM HORIZONTAL Vertical DIRECTION —

DESCRIPTION OF CORE	R.L. CASING	DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
Red clayey SOIL							
15' Yellow SUBSOIL				60			
28' Grey sandy incohesive WEATHERED ROCK (? Amphibolite)				60			
48' Grey weathered AMPHIBOLITE core very broken				75			
56'6" Hard pale grey (? Actinolitic) AMPHIBOLITE disseminated sulphide Pr > Py 5-15 %				90			
78' Dark grey (? Hornblendic) AMPHIBOLITE flecked with Calcite (to 15 %) Calcareous throughout Pr ≫ Py 10-25 % disseminated & in irregular aggregates. Pr aggregates often associated with calcite				98			
151' Pr vein 3"							
154' Pale blue-grey & white AMPHIBOLITE – LIMESTONE Pr ≫ Py 10-15 %				100			
174' Gradational Pr ≫ Py 10-20 %				100			
195' Calcareous AMPHIBOLITE				100			

DRILL NO.

TYPE

DRILLER Atlantic

COMMENCED

COMPLETED Aug. 1964

EXPLANATION

CASING IN HOLE DURING DRILLING

REFERENCES 20'-1"

Pr Pyrrhotite

Py Pyrite

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GEOLOGICAL LOG OF DRILL HOLE

PROJECT: RUM JUNGLE — REMARKS:
HOLE No.: BMR 64-4 — CO-ORDINATES: 370·75N 143·50E (Mt Fitch N62 Grid) — R.L. GROUND:
LOCATION: Between Mt. Fitch & Mt. Burton — ANGLE FROM HORIZONTAL: Vertical — DIRECTION: —

DESCRIPTION OF CORE	R.L. CASING	DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
200 Calcareous AMPHIBOLITE Pr ≫ Py 10-20 %				100			
233' Calcareous AMPHIBOLITE & irregular CALCITE (237-240' & 246'-251' 50% Calcite) Pr aggregates in calcite Pr ≫ Py 10-20 %				100			
253' Dark grey calcareous AMPHIBOLITE Pr ≫ Py 10-20 %				100			
311' Paler grey calcareous AMPHIBOLITE Pr ≫ Py 10-20 %				100			
324'9" END of HOLE							

DRILL NO.
TYPE
DRILLER
COMMENCED
COMPLETED

EXPLANATION
CASING IN HOLE DURING DRILLING

REFERENCES

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GEOLOGICAL LOG OF DRILL HOLE

PROJECT: RUM JUNGLE — REMARKS: Testing Geochemical (Cu) Anomaly

HOLE No: BMR G4-5 — CO-ORDINATES: 432N 116.50E (Mt Fitch No 1 Grid) — R.L. GROUND:

LOCATION: Near Mt. Fitch — ANGLE FROM HORIZONTAL: 70° — DIRECTION: 145 (Mag)

DESCRIPTION OF CORE	R.L. CASING	DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
0' Incohesive sandy Soil with well rounded quartz grains to 160'				±70			
160' Hard white tremolotic DOLOMITE MARBLE Final 9" yellow-brown limonitic				100			
174'9" CAVITY							
182' Broken, weathered, pale grey sandy TREMOLITE SCHIST				66			
185' 12" of DOLOMITE MARBLE then weathered broken MARBLE & TREMOLITE SCHIST				92			
189' CAVITY							
196' RUBBLE tremolitic & silicified schist & quartz fragments				88			
198' CAVITY.							
205' QUARTZ RUBBLE				88			
207' CAVITY							
219' Fragmentary & broken. Quartz fragments, silicified & weathered sericitic SCHIST				91			
229' END of HOLE.							

DRILL NO.....
TYPE: SULLIVAN

DRILLER: ATLANTIC
COMMENCED.....
COMPLETED.....

EXPLANATION
CASING IN HOLE DURING DRILLING

REFERENCES
10'=1"

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GEOLOGICAL LOG OF DRILL HOLE

PROJECT: RUM JUNGLE — REMARKS: Testing EM Anomaly

HOLE No.: BMR 64-6 — CO-ORDINATES: 318N. 133E. (Mt Fitch No. 1 Grid) — R.L. GROUND:

LOCATION: West of Mt. BURTON across Finniss River — ANGLE FROM HORIZONTAL: 55° — DIRECTION: 87° (Mag)

DESCRIPTION OF CORE	R.L. CASING	DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
00							
Soil on ALLUVIUM incohesive sand.				50			
60' Banded SLATE & SCHIST Very broken 65' – bedding 45° to core						60'–122' Dip 80° West	
82'–83' Quartz Vein			Py 1%				
94' – bedding 45° to core				86			
103' – bedding 50° to core							
109'6"–110'6" Quartz vein Py 3%							
118'–118'9" Quartz vein Py 5%							
122' DOLERITE			Py 1-2% Po Tr				
				88			
157'6" SHEAR 10° to core DOLERITE & BLACK SLATE			Py 1-2% Po Tr	75			
162'6" BLACK SLATE bedding 45° ± 10° to core			Py 1-5%			Dip about 80° West	
				75			
185'–185'6" irregular Quartz Py 1%			188'–188'6" Py + ?Cp 10%				
188'6" DOLERITE.			Py + Po 1-5%	95			
200							

DRILL NO.

TYPE: SULLIVAN

DRILLER: ATLANTIC

COMMENCED

COMPLETED

CASING IN HOLE DURING DRILLING

EXPLANATION: Regional Strike N Dip West

REFERENCES: 20' = 1"

Py Pyrite
Po Pyrrhotite
Cp Chalcopyrite

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GEOLOGICAL LOG OF DRILL HOLE

PROJECT. RUM JUNGLE ..... REMARKS. Testing EM Anomaly .....

HOLE No. BMR 64-6 ..... CO-ORDINATES 318N 133E (Mt. Fitch No. 1 Grid) ..... R.L. GROUND .....

LOCATION .. .. ANGLE FROM HORIZONTAL .. 55° ..... DIRECTION 87° (Mag)

DESCRIPTION OF CORE	R.L. CASING	DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
200'							
BLACK SLATE Part brecciated with inclusions of Quartz ? after chert. 215' – bedding approx 45° to core 228'-228'4" – Quartz vein Py + Pr 5%			Py 10% Pr Tr.	95		Dip about 80°W.	
236'							
CALCILUTITE most calcareous, some dolomitic. 242'-242'4" Quartz +20% black SLATE Py 2% Pr Trace 245' bedding 45° to core 261' bedding 60°-70° to core 278' – 1" Quartz			Py Tr.	95		245 Dip 80°W. 261' Dip 55°-65°W.	
278'							
BLACK SLATE			Pr > Py 5-10%	100			
285'							
287' TRANSITION			Pr > Py 15%	95			
CALCILUTITE most calcareous to 296' dolomitic 296'-318' 295' bedding 45° to core 311'6"-312' Quartz Py + Pr 5%			Py + Pr 5%	95		Dip 80° West.	
318'							
BLACK SLATE 321' bedding 65° to core 327'-328' Quartz Pr 5% Py 1%			Py 2%	100		Dip 60° West.	
328'							
CALCILUTITE Calcareous & dolomitic			Pr > Py 5%	100			
338'							
BLACK SLATE 341' & 350' bedding 70° to core			Pr 7% Py 3%	99		Dip 55° West.	
354'							
END of HOLE.							

DRILL NO. .....
TYPE .....
DRILLER .....
COMMENCED .....
COMPLETED .....

EXPLANATION

CASING IN HOLE DURING DRILLING

REFERENCES

HEAD OFFICE

LOGGED BY ... CEP ...
DRAWN BY ... CEP ...
CHECKED BY .....
SHEET ... 2 ... OF ... 2 ...
DRAWING NO. .....

GD130

EJ

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

GEOLOGICAL LOG OF DRILL HOLE

PROJECT: RUM JUNGLE AREA — REMARKS: Testing E.M. Anomaly

HOLE No.: BMR 64-7 — CO-ORDINATES: 66N/16W (Dolerite Ridge Grid) — R.L. GROUND:

LOCATION: Dolerite Ridge North — ANGLE FROM HORIZONTAL: 55° — DIRECTION: 50 (Mag)

DESCRIPTION OF CORE	R.L. CASING / DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
0 — Friable, fine, sandy ALLUVIUM			75			
Waterworn Quartz pebbles at base						
68' — DOLERITE weathered at top 75'-82' open joint along core 86'-88' compound shear along core; Quartz, Py 3% 96'-102' joint along core with $CaCO_3$. 131'-133' ¼" compound shear Quartz, chlorite, trace Py. Py & subsidiary Pr disseminated & on joints in dolerite 5%			100			
150'6" — Dolerite SCHIST, minor inclusion carb. slate Py 5-20% Pr tr-5%			100			
157' — Black SLATE 75% Medium grained silty GREYWACKE 25% Irregular contacts, slumping, micro-breccia. Bedding variable about 70° to core Py 2-5% Pr Trace			95		Tropari Survey 175' Bearing 52° Depression 51°	
195' — Black SLATE						
200'						

DRILL NO.:

TYPE: SULLIVAN

DRILLER: ATLANTIC

COMMENCED:

COMPLETED:

EXPLANATION

CASING IN HOLE DURING DRILLING

REFERENCES

20' = 1"

Py Pyrite

Pr Pyrrhotite

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SHEET 1 OF 2

DRAWING NO.:

GD130

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BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

GEOLOGICAL LOG OF DRILL HOLE

PROJECT Rum Jungle Area REMARKS Testing EM Anomaly

HOLE No. BMR 64-7 CO-ORDINATES 66N 168W (Dolerite Ridge Grid) R.L. GROUND

LOCATION Dolerite Ridge North ANGLE FROM HORIZONTAL 55° DIRECTION 50°(Mag)

DESCRIPTION OF CORE	R.L. CASING / DEPTH SIZE OF CORE	LOG	LIFT & CORE RECOVERY %	SAMPLES	REMARKS	ASSAYS
200' Black SLATE Py 2-5%			97			
230' Black SLATE with Quartz blebs (? ex chert) & slumping. Limestone ($CaCO_3$) 255'-256' & 252'-254'. Py 5-10% Pr Trace to 3% Bedding variable about 70° to core.			97			
280' Schistose sediments with Quartz blebs. ? Altered dolomitic siltstone Py>Pr 5-10% 291' 1' Limestone at base			95			
DOLERITE Py 2-5%.			100			
354' END of HOLE.						

DRILL NO. ..... TYPE .....

DRILLER ..... COMMENCED ..... COMPLETED .....

EXPLANATION

CASING IN HOLE DURING DRILLING

REFERENCES

HEAD OFFICE

LOGGED BY CEP

DRAWN BY CEP

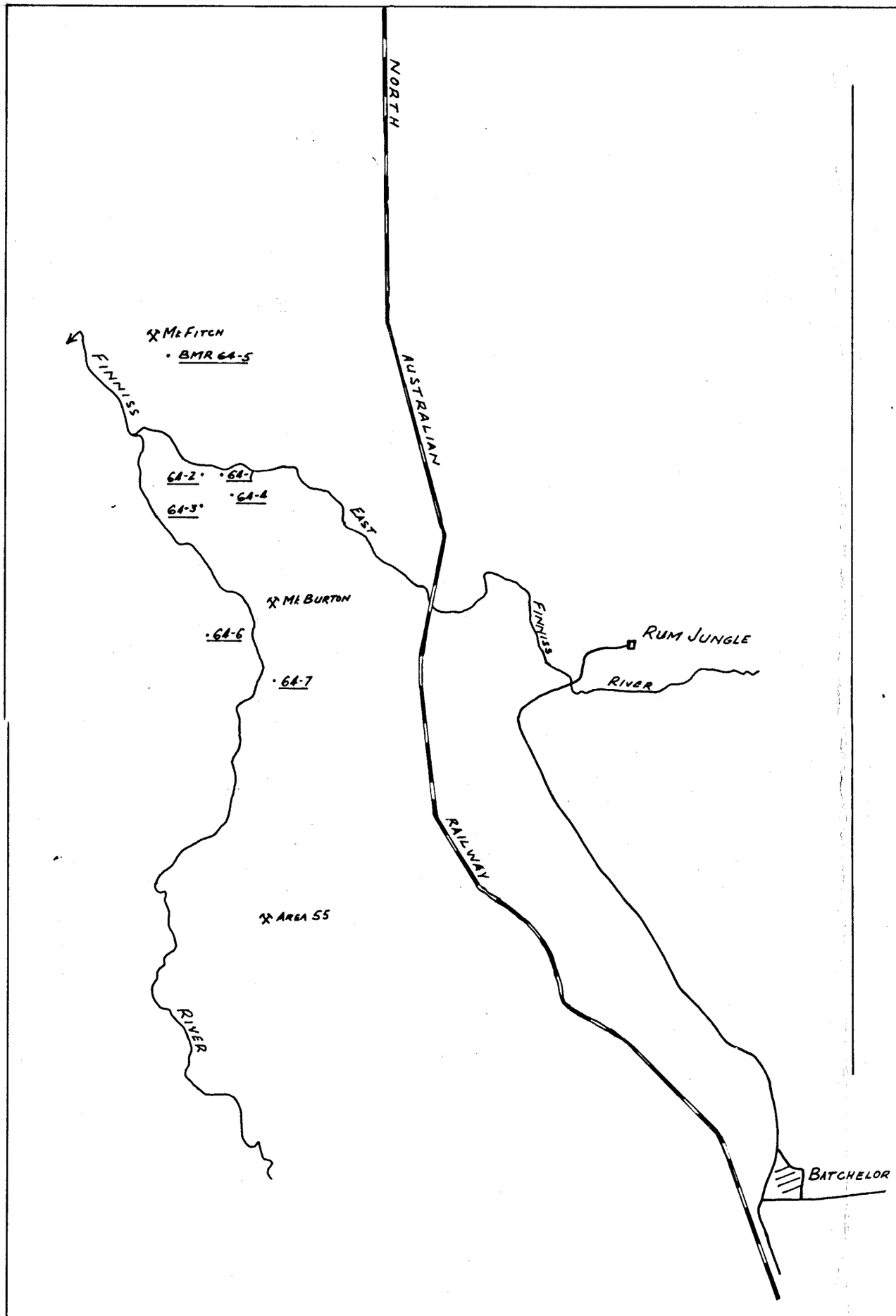
CHECKED BY .....

SHEET ..... OF .....

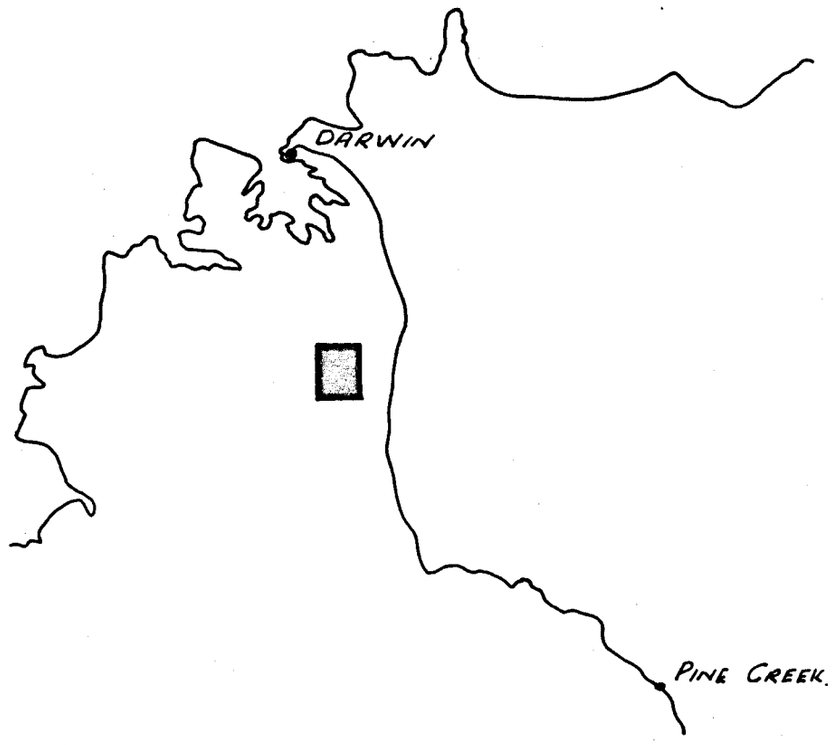
DRAWING NO. .....

GD130 EJ

PLATE 1



Scale 1" = 1 MILE

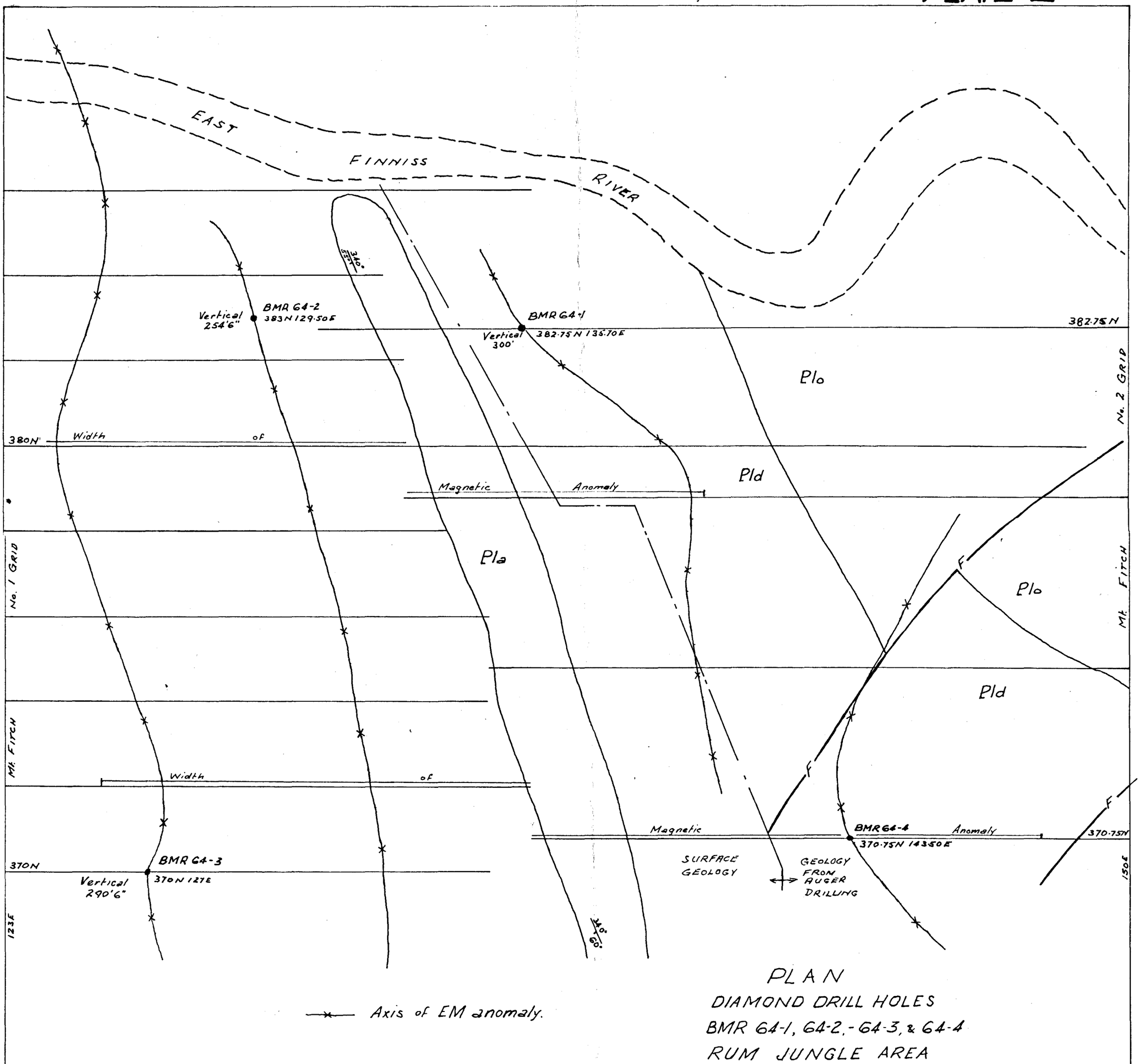


LOCALITY SKETCH

DIAMOND DRILLING IN RUM JUNGLE AREA 1964

SHOWING POSITIONS OF BMR DIAMOND DRILL HOLES NOS. 64-1, 64-2, 64-3, 64-4, 64-5, 64-6, & 64-7.

PLATE 2

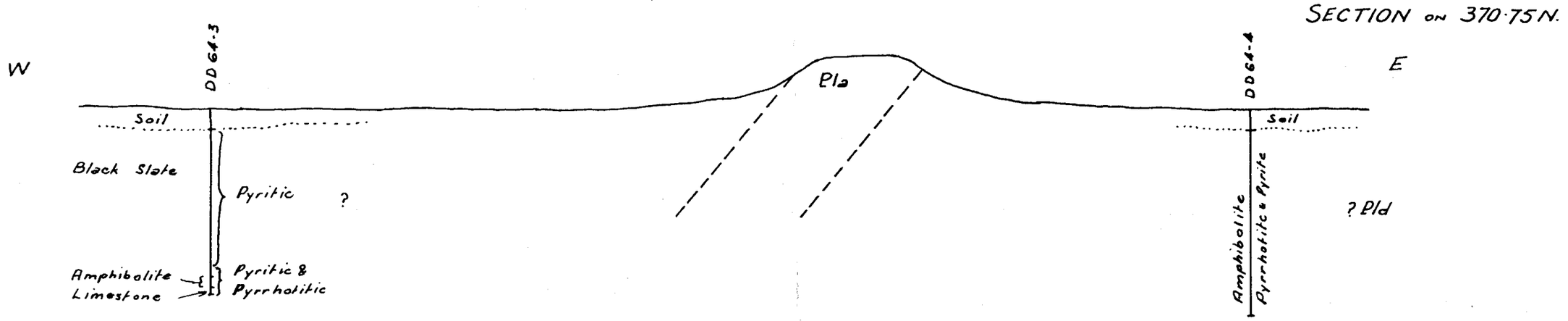


Axis of EM anomaly.

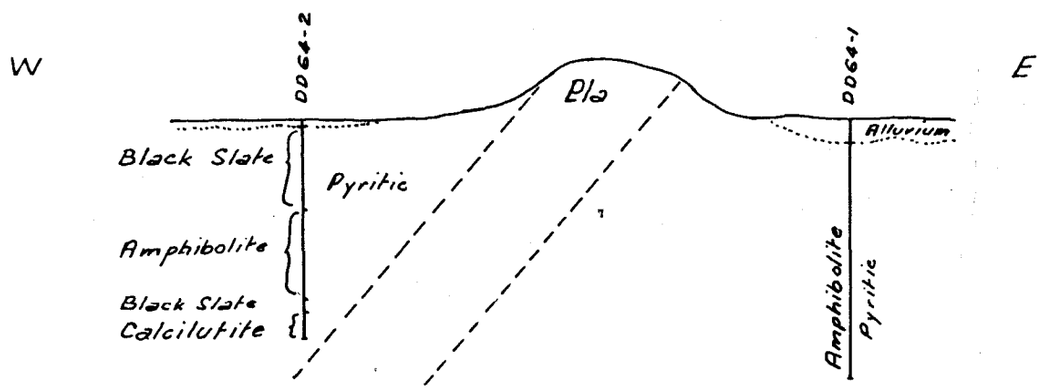
PLAN
DIAMOND DRILL HOLES
BMR 64-1, 64-2, -64-3, & 64-4
RUM JUNGLE AREA

PLATE 3.

SECTION ON 370·75N.



SECTION ON 382·75N



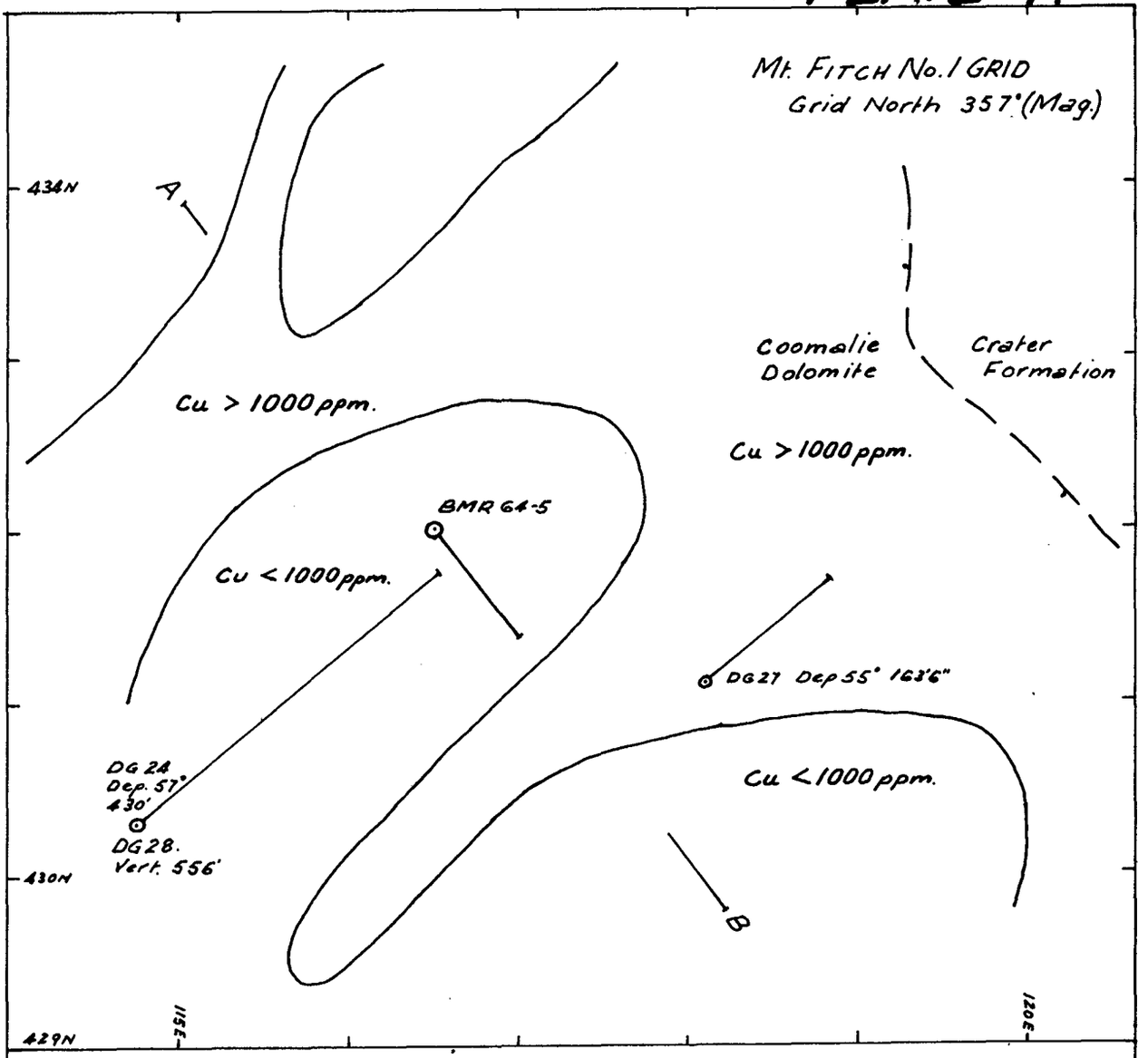
SECTIONS

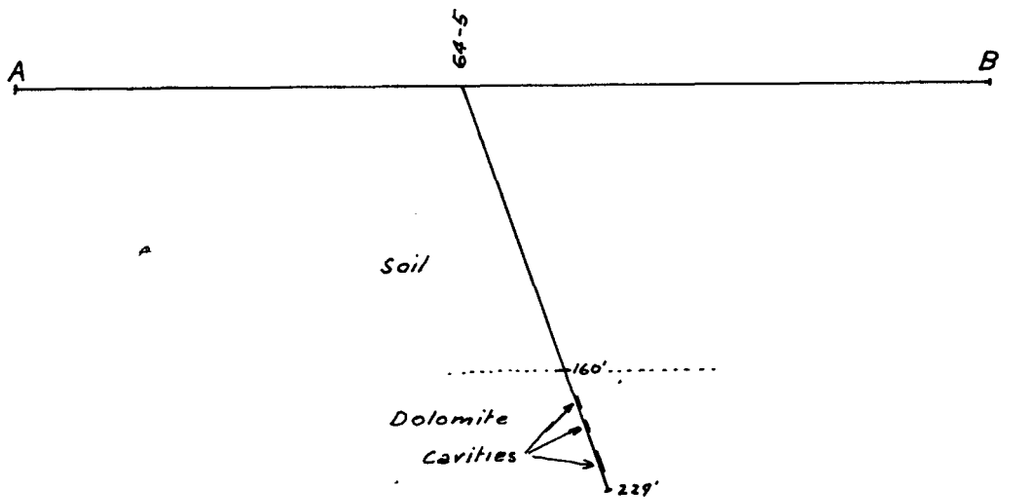
DIAMOND DRILL HOLES BMR 64-1, 64-2, 64-3, & 64-4

RUM JUNGLE AREA

Scale 200'=1"

PLATE 4.





BMR 64-5
Collar 432N 116·5E.
Azimuth 145° (Mag.)
Depression 70°
Depth 229 ft.

PLAN & SECTION
DIAMOND DRILL HOLE BMR 64-5
RUM JUNGLE AREA

Scale 100' = 1"

PLATE 5.

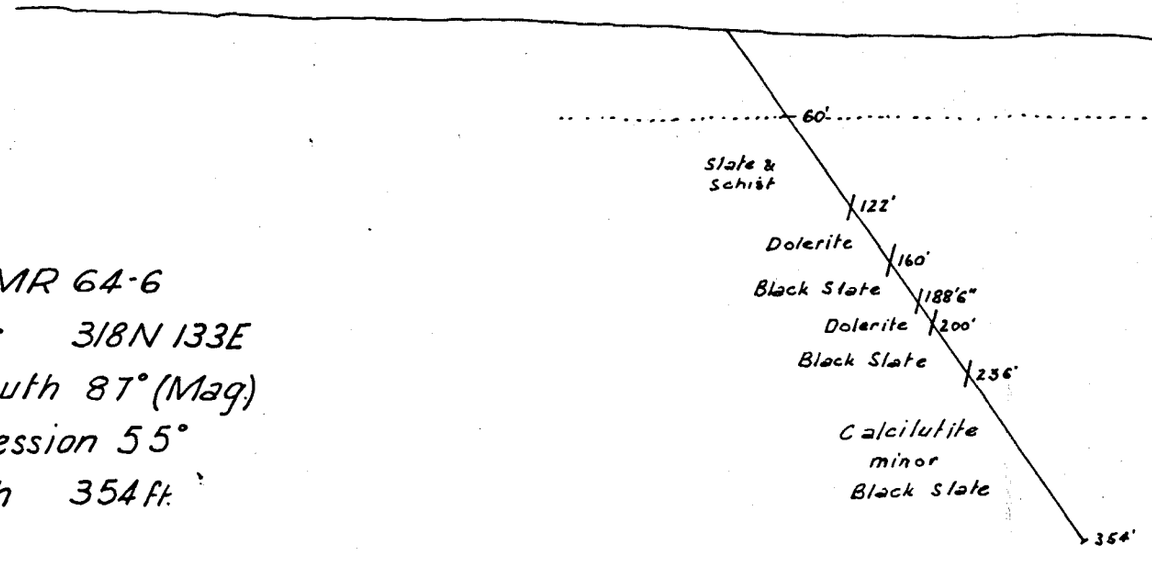
Mt. FITCH No. 1 GRID
Grid North 357°(Mag.)

320N
318N
315N
130E
135E
135E
140E

Alluvium
Alluvium
Alluvium

BMR 64-6
318N 133E
Dep. 55° 354'

Margin of swamp (approx.)



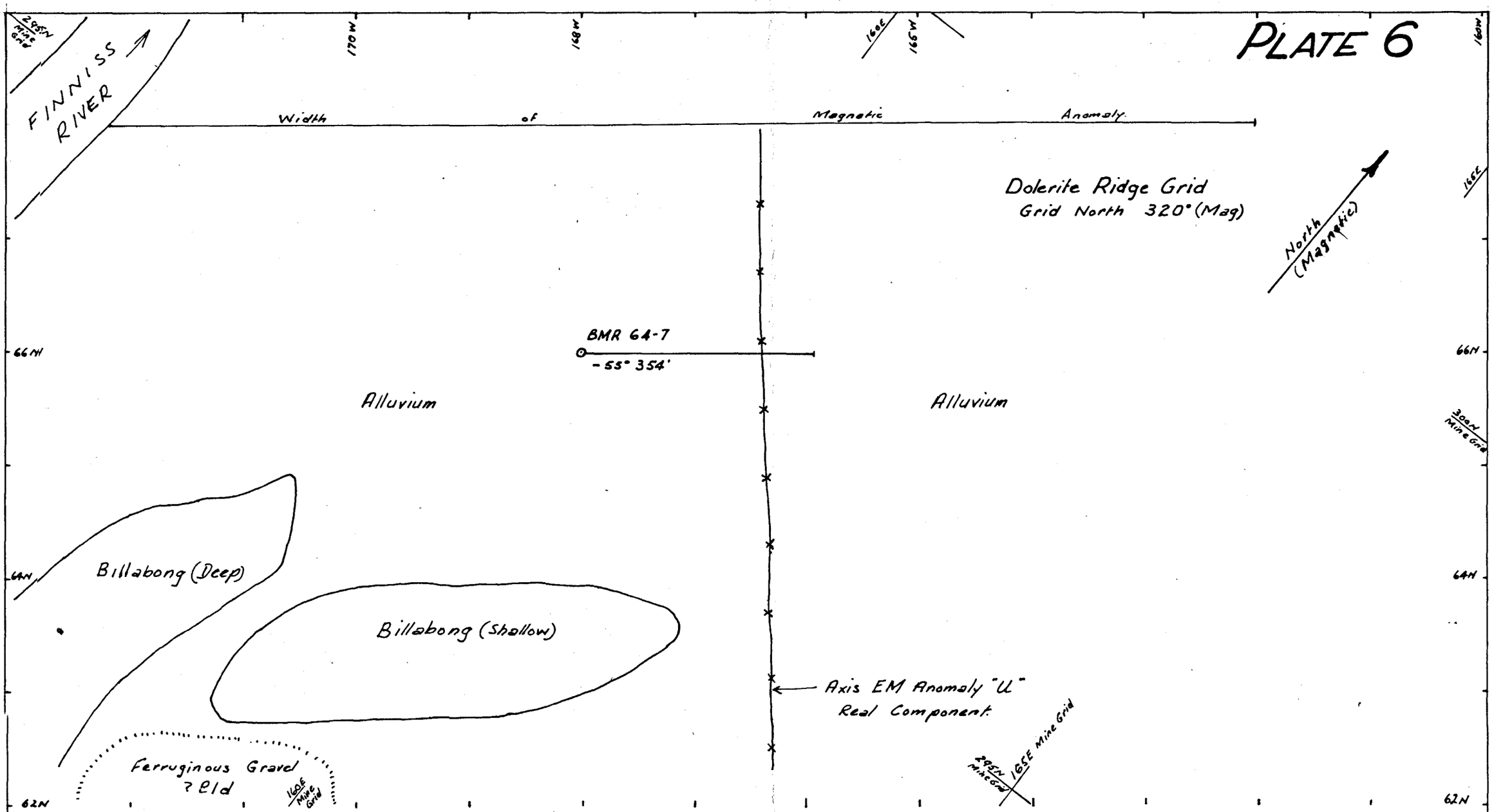
BMR 64-6
Collar 318N 133E
Azimuth 87°(Mag)
Depression 55°
Depth 354 ft.

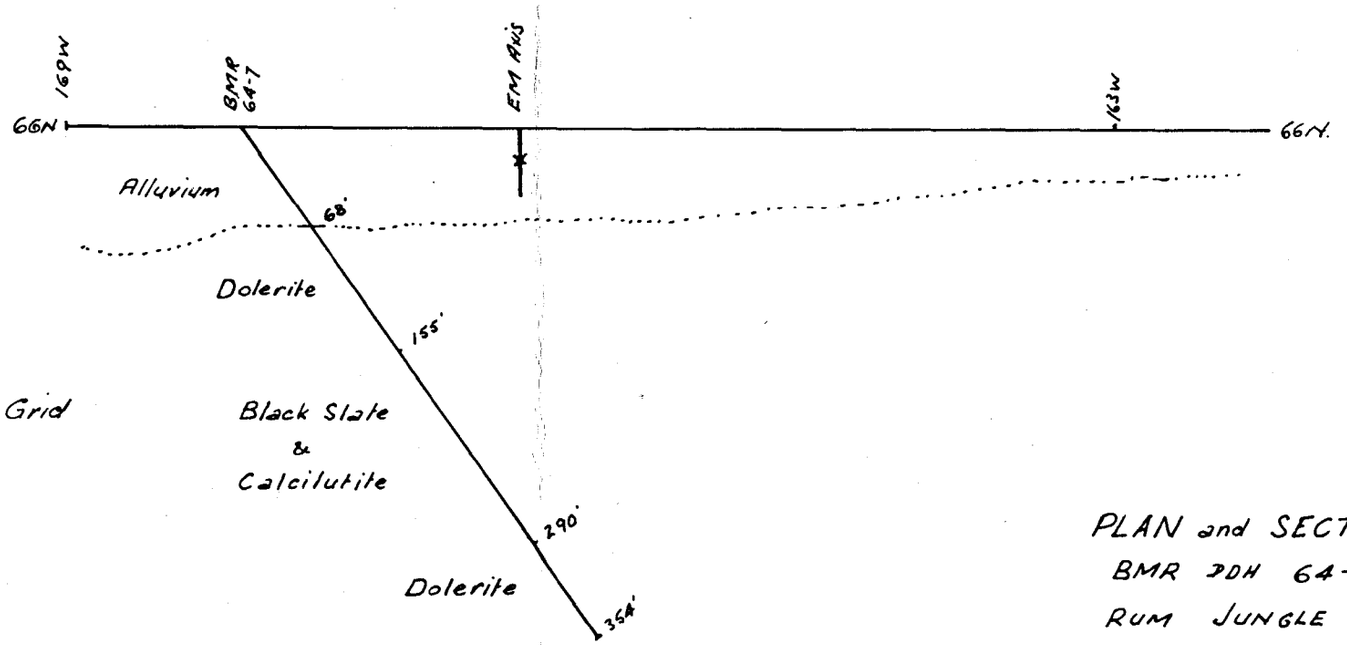
PLAN & SECTION

DIAMOND DRILL HOLE BMR 64-6
RUM JUNGLE AREA

Scale 100'=1"

PLATE 6





BMR DDH 64-7

Collar 66N 168W Dolerite Ridge Grid
Azimuth Grid East (50° Mag).
Depression 55°
Length 354'

PLAN and SECTION
BMR DDH 64-7
RUM JUNGLE AREA

Scale 100'=1"