ABERFOYLE MEMORANDUM

Date	21st July, 1988	Ref	djj.jmc
To	E. T. Eadie	From	D. J. Jack
At	Hawthorn	At	Burnie
Copies to	EHS, RGP, JS, DBW, AMcN, IRR, JWH, GJMcA, CD	Keep	

Subject DIAMOND DRILL PROPOSAL - MAC19 - PORTAL ROAD

It is proposed to drill a 1000 metre hole down Hellyer hangingwall type fuchsite calcite alteration in the Portal Road - Mill Site area.

Previous Drilling

Previous drill holes are shown on geological map MAC198 (attached). HL80 was aimed at the Hellyer ore position below calcite fuchsite that occurs at surface and at the bottom of the pre-Hellyer HL2 hole. MAC11 was drilled close to this alteration below the proposed Mill site to intersect the Hellyer ore position below UTEM coverage and clear the area prior to Mill site operations commencing. While no ore body was intersected in MAC11, strong calcite fuchsite alteration occurred in the top 230 metres of the Hellyer hangingwall basalt.

Geometry of the Alteration

The strong fuchsite carbonate at surface extends downwards in a pipe or chimney shape through HL80, HL2, and into the MAC11 Mill site hole. A section C-D looking northwest through the adit, MAC11, HL2 and MAC4 is attached (MAC196a, 196b, 196c, 196d). A north-south section looking east is attached as MAC197, as are level plans at 400RL and -100RL (MAC198a, MAC198b).

The interpreted shape is constrained by the round section through the "chimney" at surface showing that it is not slab shaped. It is clearly not connected to the Hellyer hangingwall plume and while it does occur at the shale contact this is not the only constraint on its position.

Petrography and Geochemistry of the Alteration

Macroscopically the alteration is bright chrome green, is pervasive and also concentrated in interpillow areas. Interpillow areas have increased pyrite content. Typical blanket replacement of minerals by calcite and sericite-fuchsite is visible microscopically.

Levels of S and As in MAC11 are equivalent to those in the plume above Hellyer while CaO and Ba are slightly lower. As and Ba reflect increased intensity of alteration in MAC11 compared with the still highly altered HL80, HL2. Contours of S, Ba, CaO and As, all elements which show increased concentration in the Hellyer hangingwall plume are shown on MAC196a, b, c, d respectively.

Previous E.M.

Downhole EM in MAC11 and HL80 have sterilized an area approximately 150 metres from the holes and similarly EM in the adit has sterilised say 200+ metres around it. Examination of the sections shows that there is ample room below the adit and behind MAC11 for a Hellyer sized ore body, out of reach of EM, in the area from which the alteration appears to be coming.

The Target

Previous drilling in the area aimed at the Hellyer ore position directly below the surface alteration. Rather than trying to predict where this ore position and the alteration intersect, it is considered safer to directly follow the hangingwall alteration in a "smoke from fire" analogy. Present information is that the chimney shape to the alteration is straight enough to drill down. This approach overcomes the problems of not knowing the RL of the target ore body.

Proposed hole

It is proposed to drill due north from the MAC11 site (see cross section A-B, MAC197 attached). Drilling at -74^{o}, as shown, it is expected that the hole will increase in dip azimuth in HQ. The first 200 metres will be drilled in HQ to maintain control. A danger zone exists at the shale where drilling will be nearly parallel to strike. Shale in MAC11 was massive with no bedding visible macroscopically. Assuming the hole hits this shale at $>15^{o}$ deviation W and further increase in dip azimuth is predicted, while $<15^{o}$ is likely to cause the hole to deviate parallel to strike having the opposite effect. Because of these uncertainties no allowance in drill set up will be made and the situation will be carefully monitored on site. Any likely increase in hole dip in the 0-300 interval should be roughly equivalent to the shallowing of the hole at depth causing the drill hole trace to closely follow the interpreted path of the alteration.

Proposed Hole

Collar	-	MAC11 site	10380N 6396E
Azimuth	-		0° Mine Grid (due north)
Dip	-	-74°	
Length	-	1000 metres	
Target	-	-100RL 10615N, 6395E	

Drilling Contractor

Longyear (Trevor Sadler) and Diamond Drillers of Tasmania (Peter Sharp) have been asked to quote. A minimum of 800 metres has been guaranteed with the possibility of a further deep hole (North Hellyer hole). A comparison of costs follows :

Longyear		Tasmanian Drillers	
200 HQ 0-200 @ $81.90	16380	HQ 0-150 @ $64	9600
NQ 200-600 @ $76.50	30600	150-200 @ $66	3300
600-800 @ $80.20	16040	200-300 @ $58	5800
800-1000 @ $83.30	16660	300-450 @ $62	9300
	$79680	450-600 @ $65	9750
		600-750 @ $69	10350
		750-900 @ $73	10950
		900-1000 @ $77	7700
			$66750
+$3/m for chrome barrel		+$2000 for chrome barrel.	

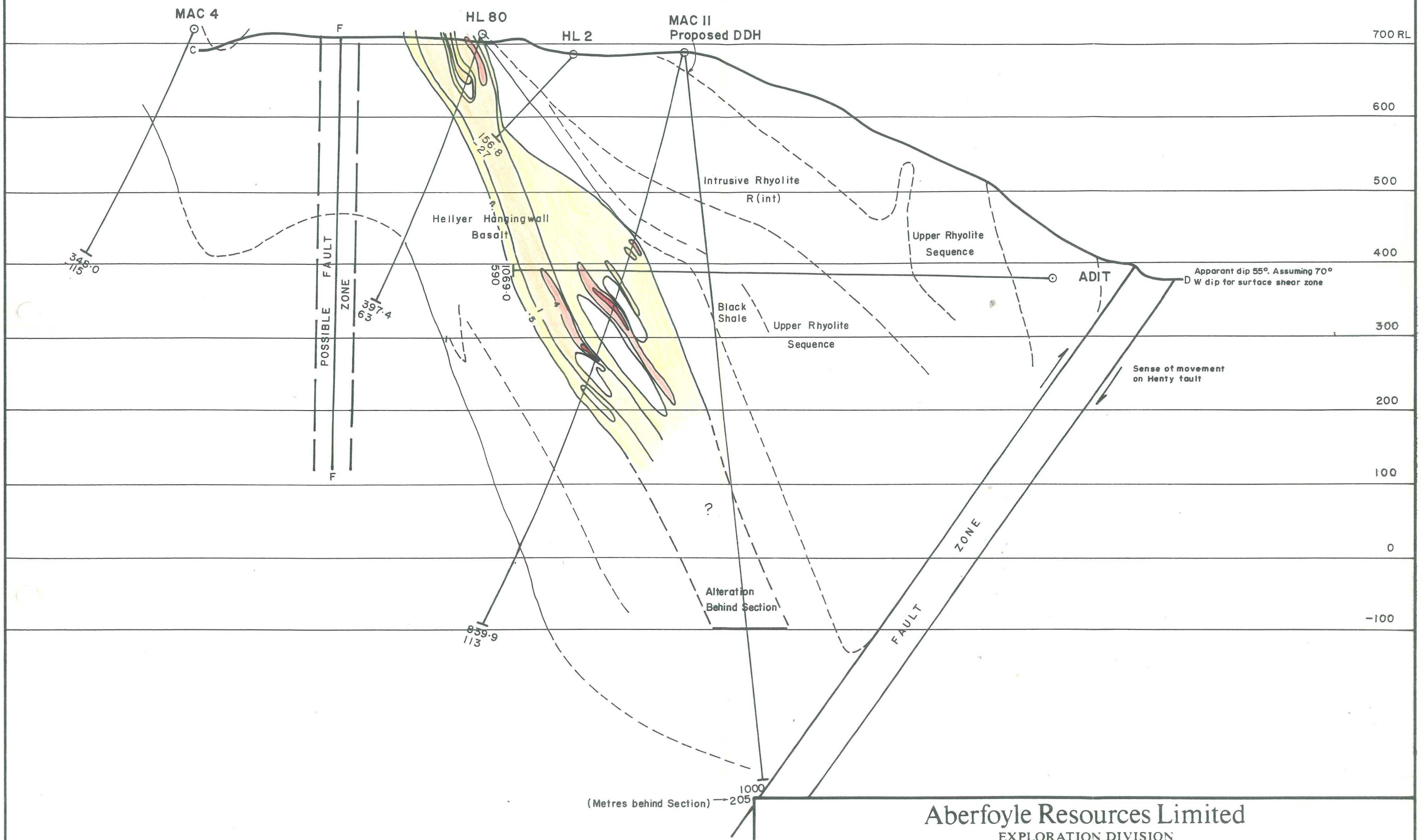
Longyear are slightly more expensive on other costs. They have put up their prices compared with the Que River hole by approx. $10/metre. Peter Sharp has a heavy duty Longyear 44 that has drilled NQWL to 927 metres then to 1260 metres in BQWL. The question to be considered is whether this rig has the depth capacity should the area of interest turn out to be slightly deeper than 1000 metre. Longyears DHS44 has drilled >1200 metres at Que River without difficulty.

Attachments

MAC196a	Cross Section Looking NW S contours
196b	Cross Section Looking NW Ba contours
196c	Cross Section Looking NW CaO contours
196d	Cross Section Looking NW As contours
197	Cross Section Looking E and Proposed Drill Hole
198	Geological Map
198a	400RL Level Plan
198b	-100RL Level Plan

D. J. Jack

D. J. JACK.



MAC 4
HL 80
HL 2
MAC II
Proposed DDH
700 RL
600
500
400
300
200
100
0
-100
C
F
F
POSSIBLE FAULT ZONE
156.8
27
348.0
115
397.4
63
1069.0
590
839.9
113
1000
205
(Metres behind Section)
Intrusive Rhyolite
R(int)
Hellyer Hangingwall
Basalt
Upper Rhyolite
Sequence
Black
Shale
Upper Rhyolite
Sequence
ADIT
D
Apparant dip 55°. Assuming 70°
W dip for surface shear zone
Sense of movement
on Henty fault
?
Alteration
Behind Section
FAULT ZONE

Aberfoyle Resources Limited

EXPLORATION DIVISION

REVISIONS			
Init.	Date	Init.	Date

NORTH WEST TASMANIA

PORTAL ROAD ALTERATION-CROSS SECTION

S CONTOURS

LOOKING NORTHWEST

Compiled : DJJ

Drawn :

Traced : JLR

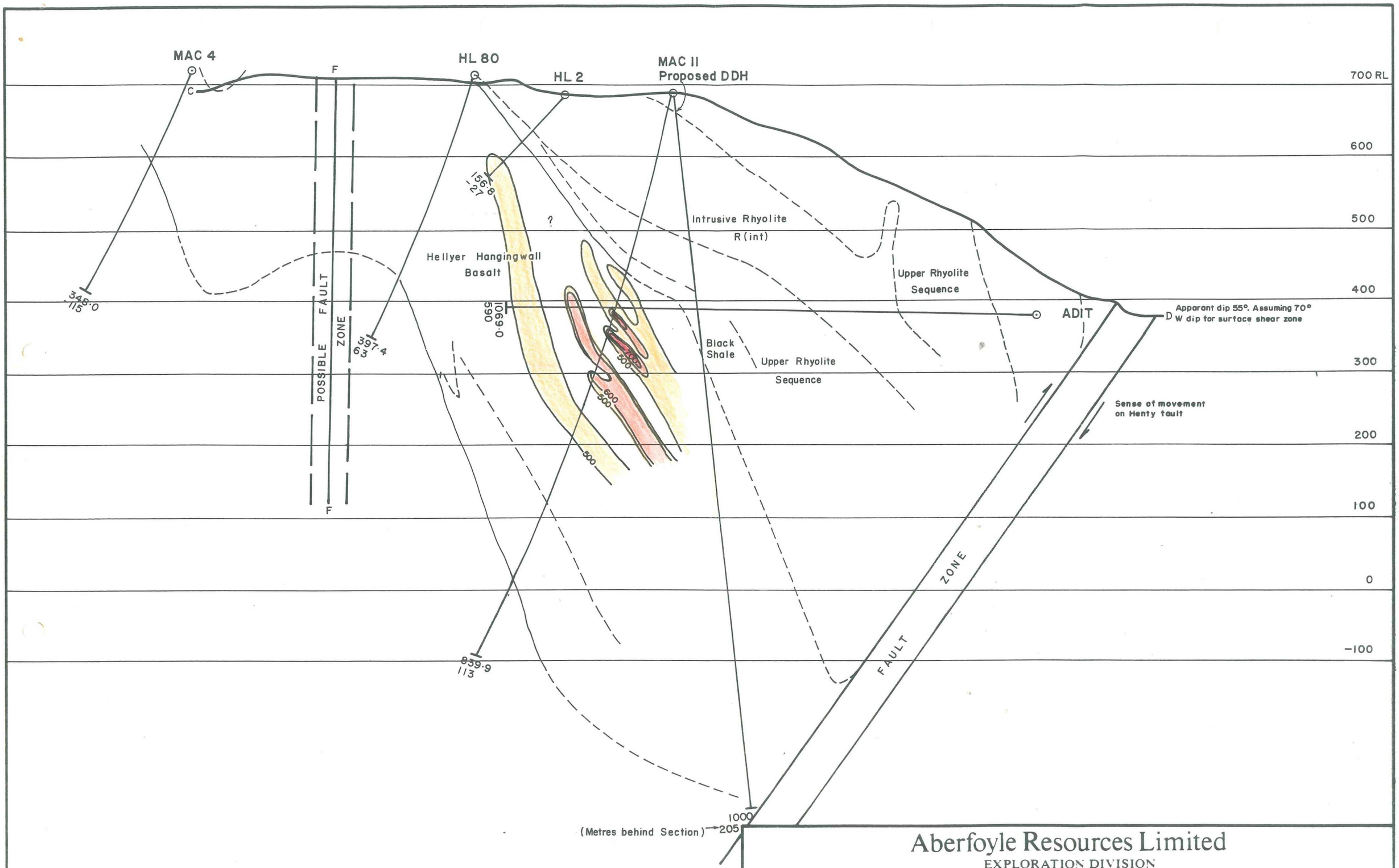
Checked

Location Code :

Scale : 1:5000

Date July, 1988

Plate No. MAC 196a



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Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

PORTAL ROAD ALTERATION-CROSS SECTION

Ba CONTOURS

LOOKING NORTHWEST

Scale 1 : 5000 Date July, 1988

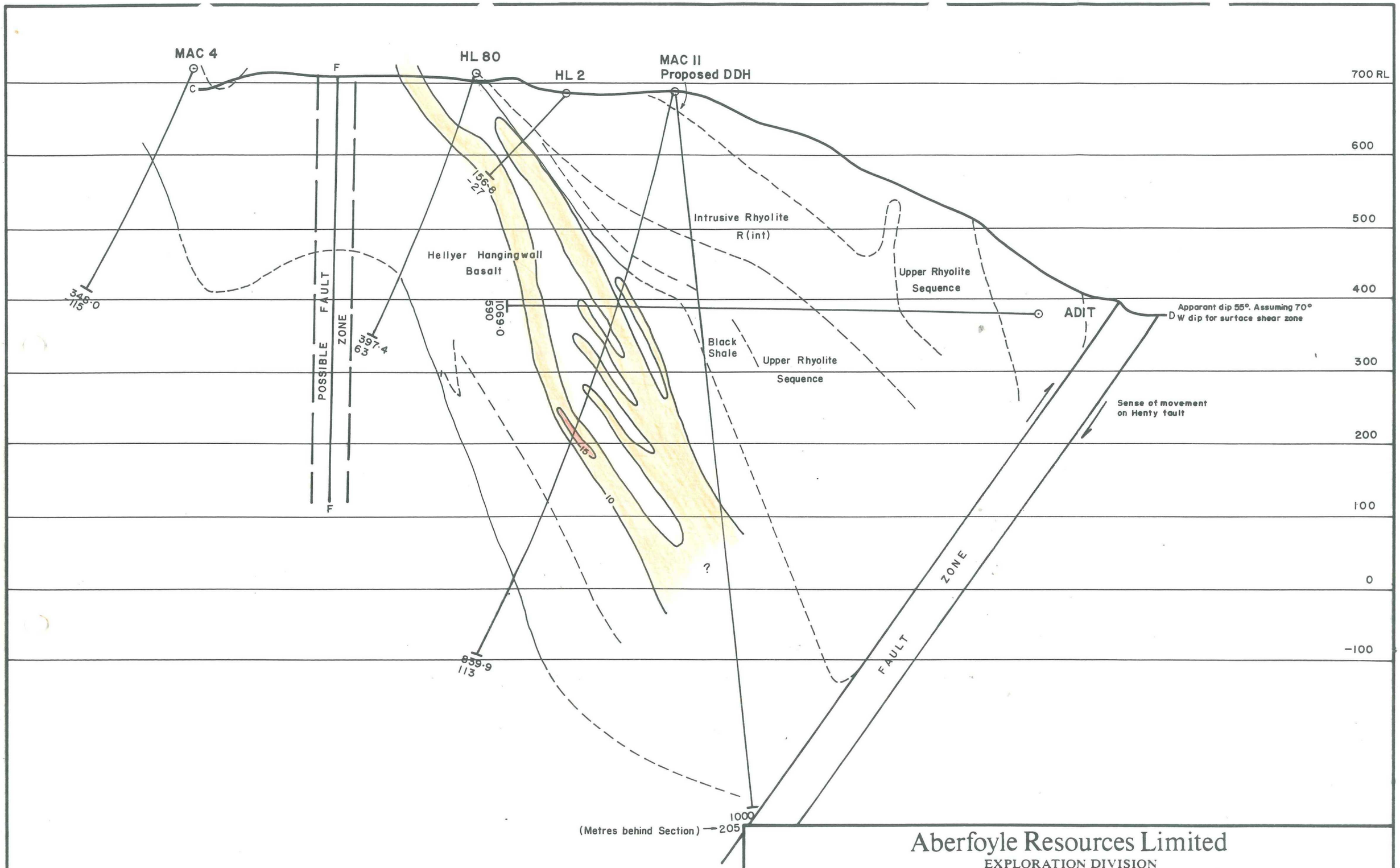
Compiled : DJJ

Drawn :

Traced JLR

Checked

Plate No MAC 196b



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Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

PORTAL ROAD ALTERATION-CROSS SECTION

CaO CONTOURS

LOOKING NORTHWEST

Scale : 1 : 5000

Date July, 1988

Compiled : DJJ

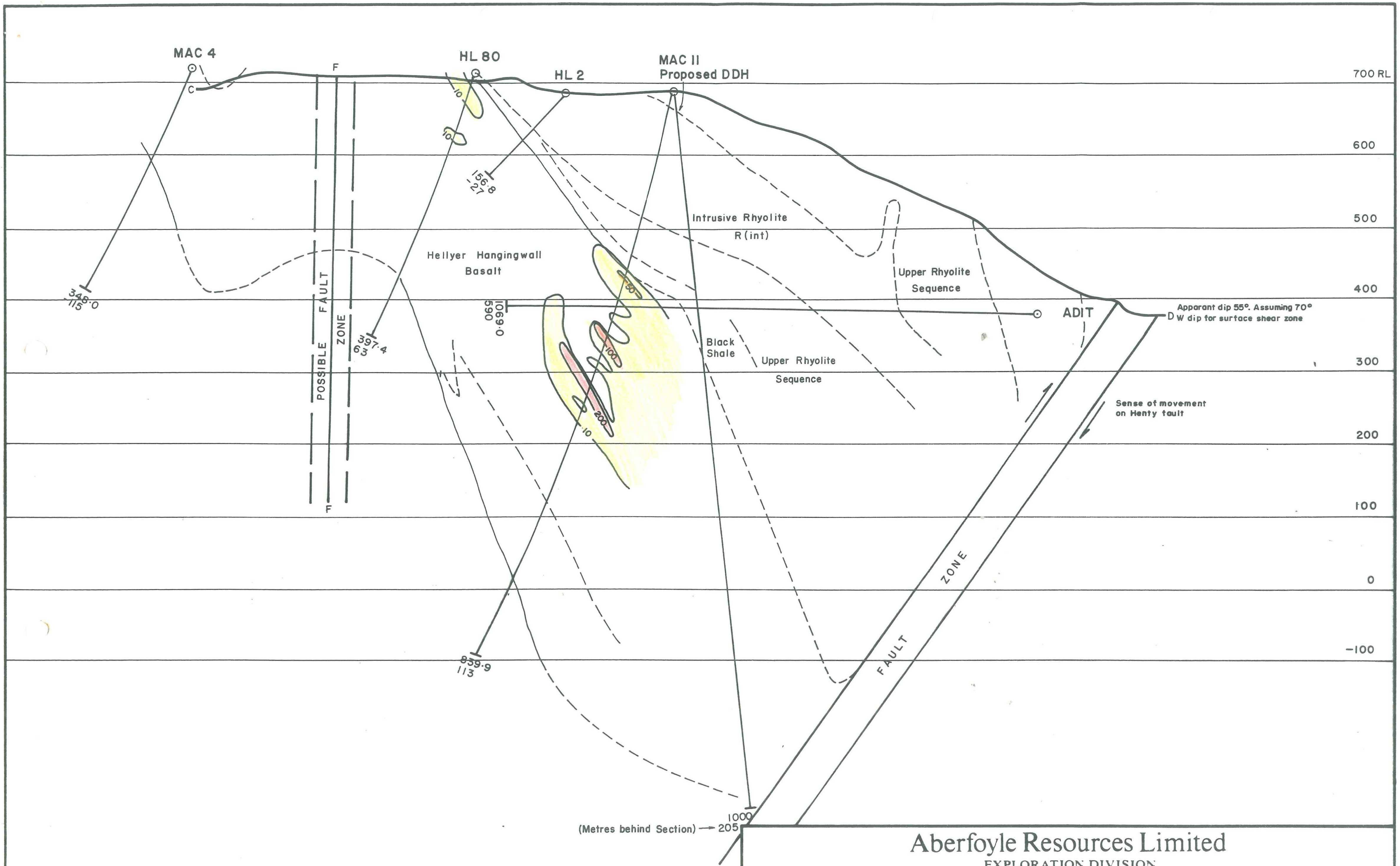
Drawn :

Traced : JLR

Checked :

Plate No : MAC 196c

1511


MAC 4
HL 80
HL 2
MAC II
Proposed DDH
700 RL
600
500
400
300
200
100
0
-100
F
C
POSSIBLE FAULT ZONE
156.8
-27
348.0
-115
397.4
63
1069.0
590
Hellyer Hangingwall
Basalt
Intrusive Rhyolite
R(int)
Upper Rhyolite
Sequence
ADIT
Apparent dip 55°. Assuming 70°
D W dip for surface shear zone
Black
Shale
Upper Rhyolite
Sequence
Sense of movement
on Henty fault
FAULT ZONE
10
50
100
200
839.9
113
1000
(Metres behind Section) → 205

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REVISIONS			
Init	Date	Init	Date

NORTH WEST TASMANIA

PORTAL ROAD ALTERATION-CROSS SECTION

As CONTOURS

LOOKING NORTHWEST

Compiled : DJJ

Drawn :

Traced : JLR

Checked :

Location Code

Scale 1:5000

Date July, 1988

Plate No MAC 196d

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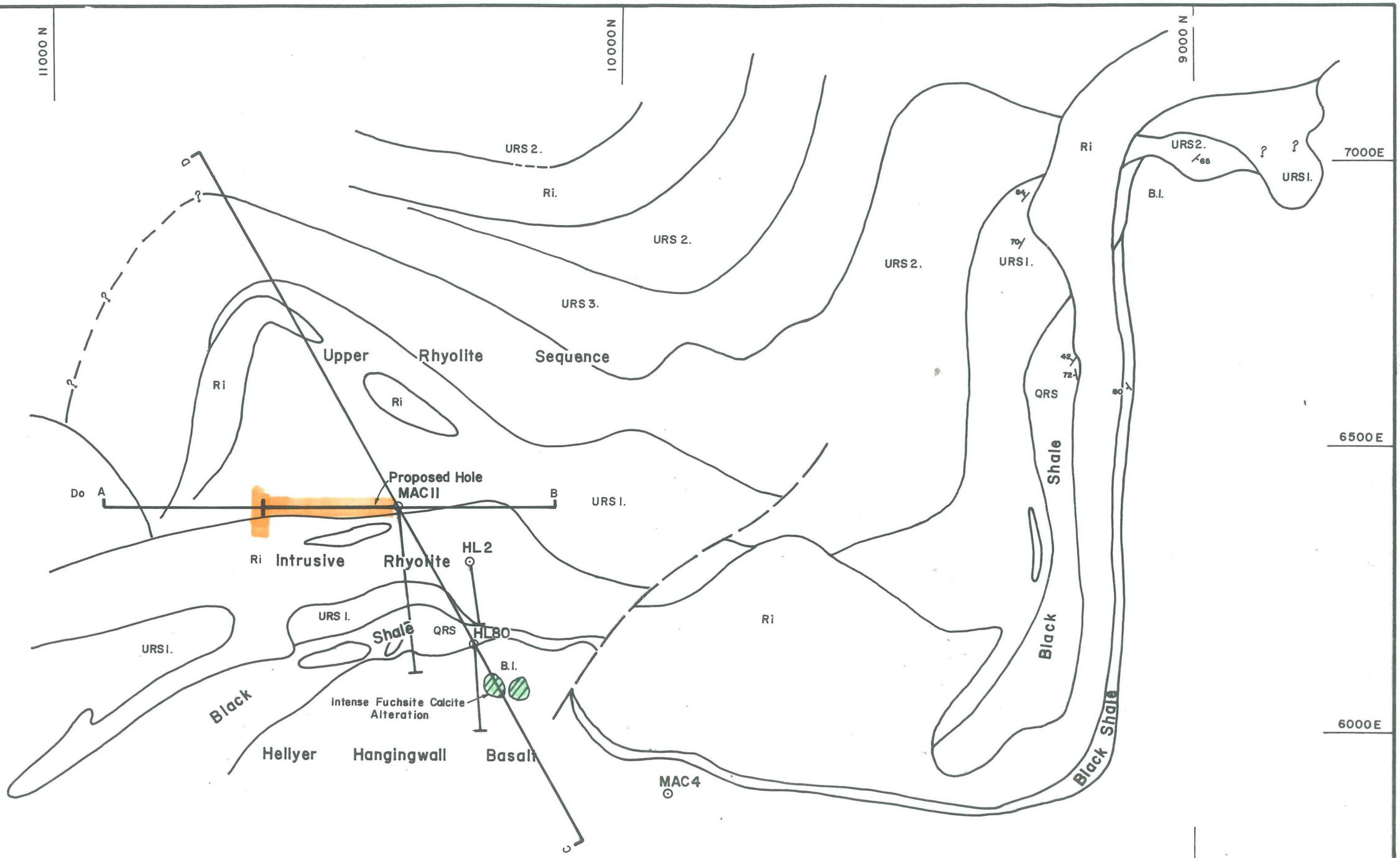
REVISIONS				NORTH WEST TASMANIA	Compiled : DJJ
Init.	Date	Init.	Date	**PORTAL ROAD ALTERATION-CROSS SECTION**	Drawn :
					Traced : JLR
				LOOKING EAST	Checked :
Location Code :				Scale : 1:5000 / Date : July, 1988	Plate No. : MAC 197

1511



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Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

GEOLOGICAL INTERPRETIVE MAP PORTAL ROAD

Scale : As shown

Date : July, 1988

Compiled : DJJ AMH

Drawn :

Traced : JLR

Checked :

Plate No. : MAC 198

11000 N

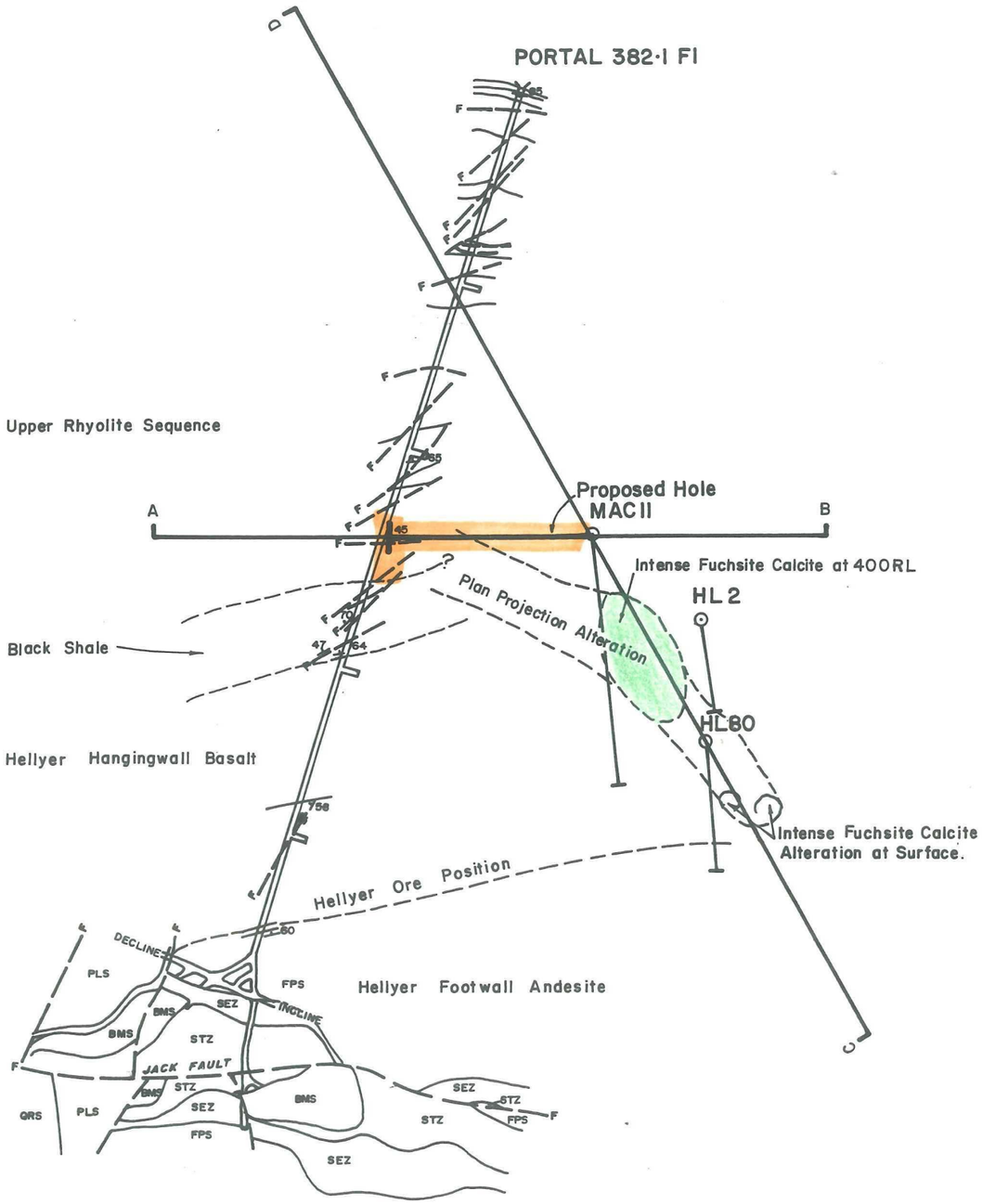
10000 N

9000 N

7000E

6500E

6000E



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Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

400 RL LEVEL PLAN
PORTAL ROAD

Scale : As shown

Date : July, 1988

Compiled : DJJ

Drawn :

Traced : JLR

Checked :

Plate No. : MAC 198a

151

11000 N

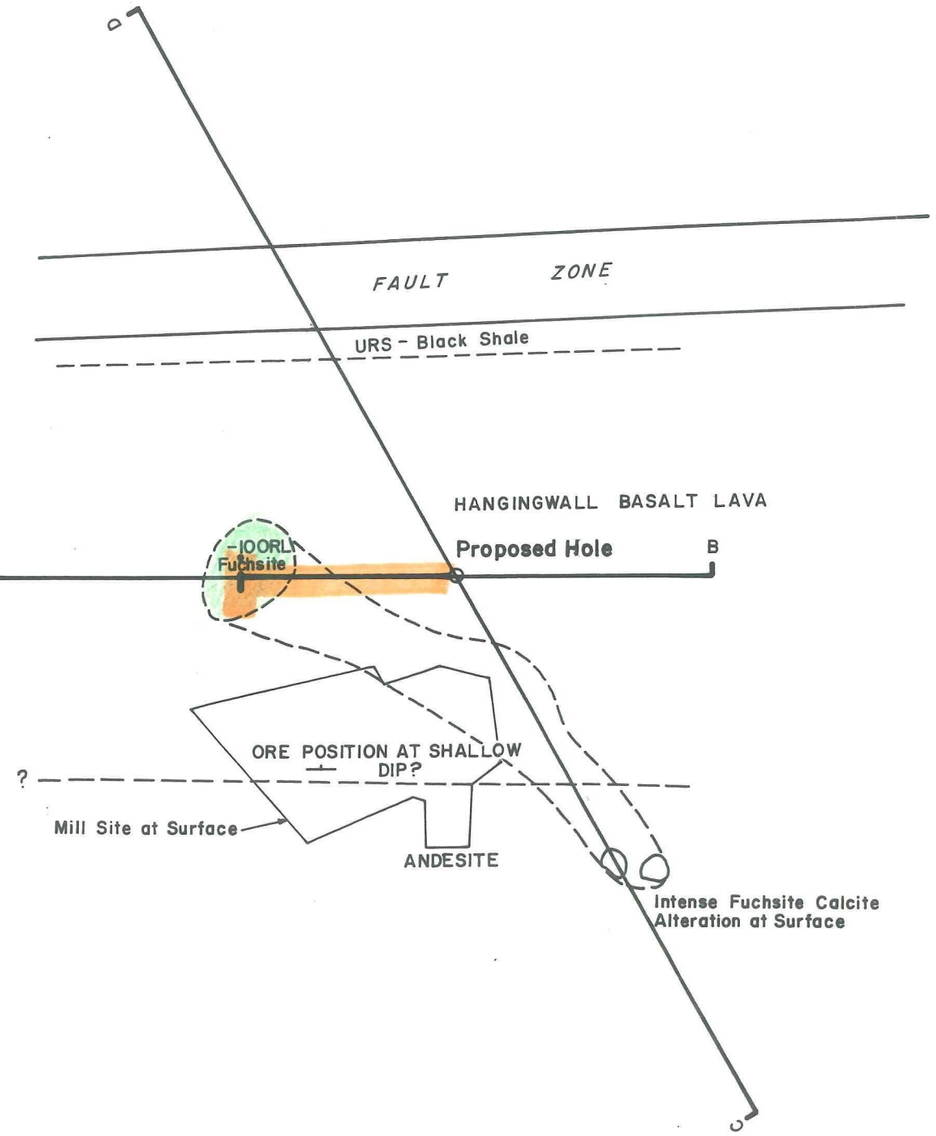
10000 N

9000 N

7000 E

6500 E

6000 E



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REVISIONS			
Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

-100 RL LEVEL PLAN
PORTAL ROAD

Scale : As shown

Date : July, 1988

Compiled : DJJ

Drawn :

Traced : JLR

Checked :

Plate No. : MAC 198b

151

FILE NOTE: 1st August, 1988

c.c. EHS, ETE, RGP, GJMcA, AMcN, DBW

NORTH HELLYER DRILL HOLE

GJMcA and DJJ discussed this hole last week.

The Target

Strong stringer zone alteration persists in the north at Hellyer. In addition the stringer system appears to swing or is faulted to the northwest (Figure 1). Mackintosh Mining plan to drill a 150 metre step out hole on 11400N. Following this it is proposed to drill a vertical hole through Tertiary Basalt in the area shown on Figure 1. The Mackintosh hole and the seismic survey (presently being interpreted) will aid the siting of this hole.

The hole will :

1. Establish whether the stringer system which is still very well developed in the north at Hellyer, (as opposed to the south where it appears to taper and fade) continues along the projection of the northwest swing it appears to have taken.

2. Establish whether the Hellyer ore position continues to remain horizontal as is indicated by drilling in the north at Hellyer. Is the ore position really out of reach of UTEM as has been assumed? The area has not been covered by UTEM.

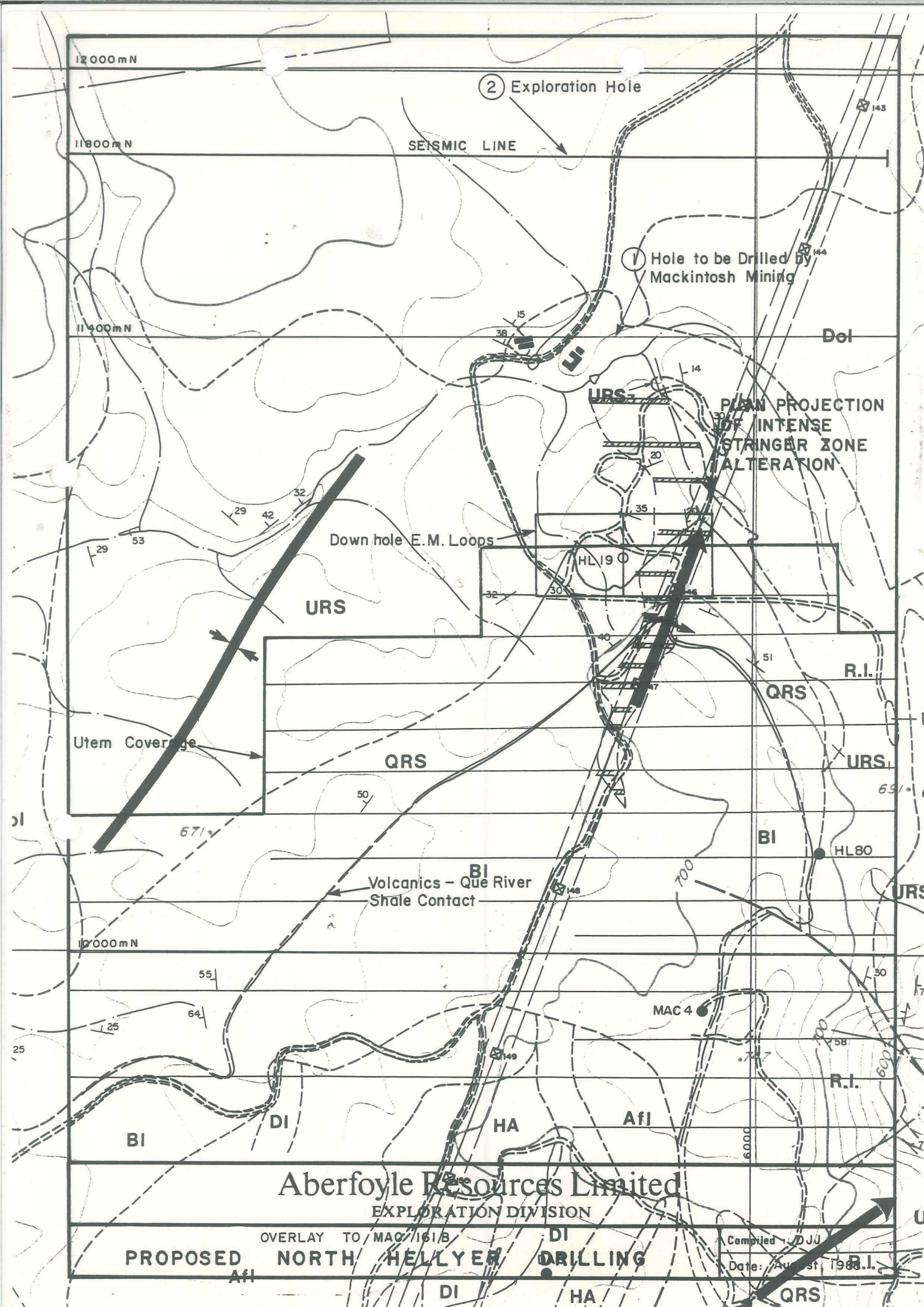
3. A lucky hole may intersect VMS and considering the strong development of stringer in the north at Hellyer this hole is well within the gambit of reasonable exploration risk. Is Hellyer as drilled at present only half of a larger system?

4. It is proposed that exploration drill this hole but GJMcA has suggested that the hole be logged by Mackintosh Mining.

Attachments: 1:10,000 Geological Map
1:10,000 Overlay showing Plan Projection of Strong Stringer Alteration and site of proposed drilling.

D. J. Jack

D. J. JACK.


12000mN
11800mN
11400mN
10000mN
2 Exploration Hole
SEISMIC LINE
1 Hole to be Drilled by Mackintosh Mining
PLAN PROJECTION OF INTENSE STRINGER ZONE ALTERATION
Down hole E.M. Loops
HL 19
HL80
MAC 4
Utem Coverage
Volcanics – Que River Shale Contact
URS
QRS
BI
DI
HA
AfI
Dol
R.I.
Aberfoyle Resources Limited
EXPLORATION DIVISION
OVERLAY TO MAC 161B
PROPOSED NORTH HELLYER DRILLING
Compiled: DJJ
Date: August, 1988

ABERFOYLE MEMORANDUM

Date	5th August, 1988	Ref	djj.jmc
To	E. T. Eadie	From	D. J. Jack
At	Hawthorn	At	Burnie
Copies to	EHS, RGP, DBW, AMcN, IRR, JWH, GJMcA, CD	Keep	

Subject DRILL PROPOSAL MAC 19 - PORTAL ROAD (REVISED)

Following on discussion at Que River I have drawn the cross sections 10600N, 10400N and 10200N (figures 2,3,4). From these the following factors are apparent.

1. The alteration is pencil or pipe shaped. This may be an accumulation in the antiformal fold flexure that has been mapped north of the adit and is highlighted on figure 1. AMcN and myself have checked the shale basalt content and confirmed that while there are small patches of fuchsite calcite along the contact, most areas are unaltered and the bulk of the alteration at surface is in the area shown on figure 1.

2. HL2 confirms that calcite fuchsite does not hug the shale contact in a blanket like fashion.

3. There is no point drilling directly under MAC 11 as downhole EM has sterilised the possible target area. Any ore body must be further north.

A hole is proposed to aim at -100 to -200 RL. This hole will be drilled from the portal site from as far north as practicable. The hole is drawn slightly north of grid west on figure 4.

With all the sediments in the Upper Rhyolite Sequence considerable flattening is expected.

If the hole does not intersect an ore body wedging upwards and possibly north or south will be proposed before the hole is completed.

Drill hole:

Collar	:	10500N 6500E
Azimuth	:	290.5° Mine Grid
Dip	:	-68°
Length	:	1000m approx.
Target	:	10770N 6300 to 6400E.

D. J. Jack

D. J. JACK.

11000 N

10000 N

9000 N

7000E

6500 E

6000E

D

K

M

Proposed Hole

Ri.

URS 2.

URS 3.

Upper Rhyolite Sequence

Ri

Antiformal Flexure

Do A

MAC II

B

URS I.

Ri Intrusive Rhyolite

HL 2

URS I.

Shale

QRS

HL80

B.I.

Intense Fuchsite Calcite Alteration

Black

H

Hellyer

Hangingwall

Basalt

C

URS 2.

Ri

URS 2.

URS I.

B.I.

URS I.

QRS

Shale

Black

Black Shale

Ri

MAC4

0 500m

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Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

GEOLOGICAL INTERPRETIVE MAP PORTAL ROAD

Scale : As shown

Date : July, 1988

Compiled : DJJ AMH

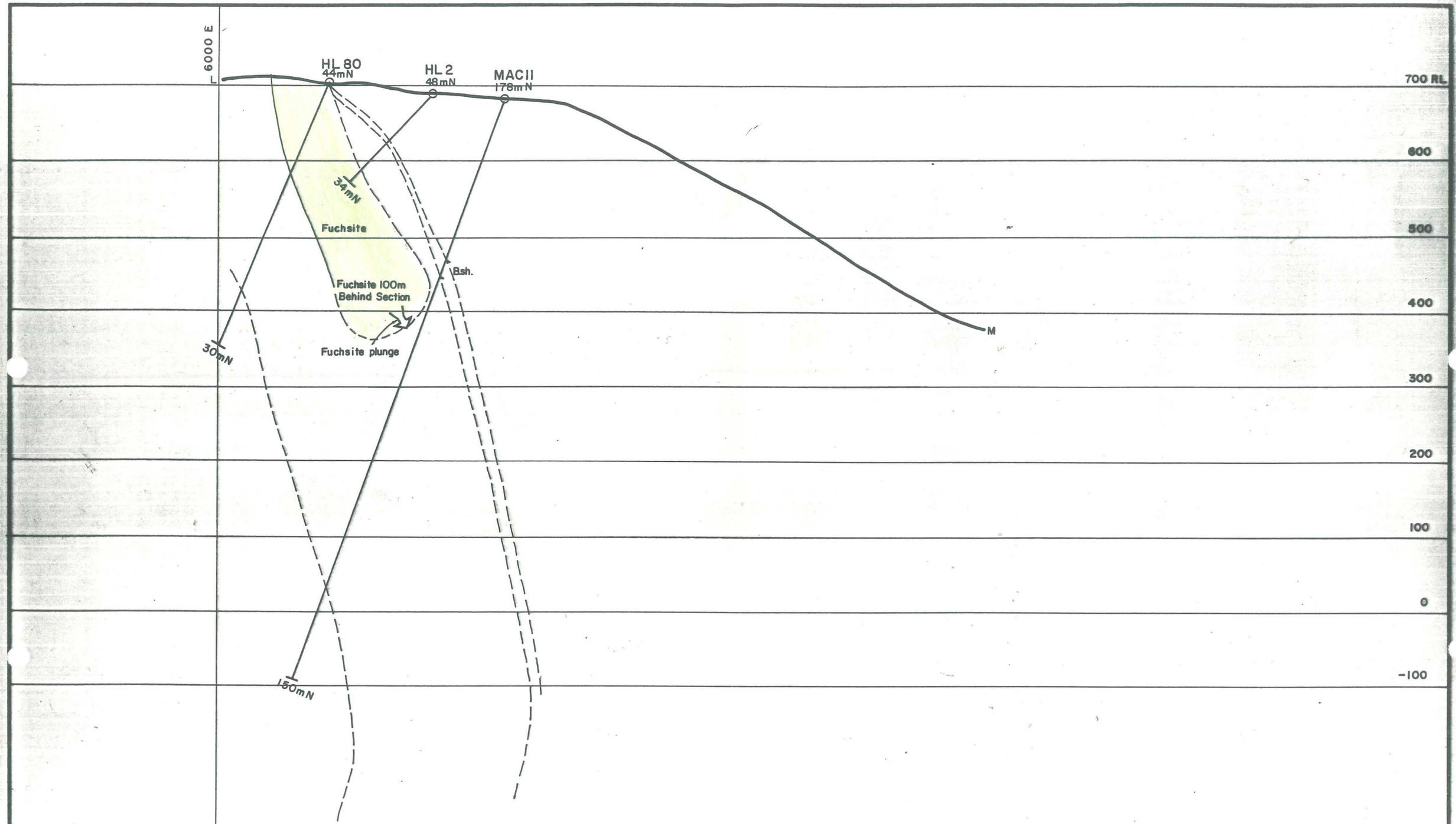
Drawn :

Traced : JLR

Checked :

Plate No. : MAC 198

151



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Location Code :

NORTH WEST TASMANIA

PORTAL ROAD HOLE

SECTION 10200N (L-M)

Scale : 1:5 000

Date : Aug, 1988

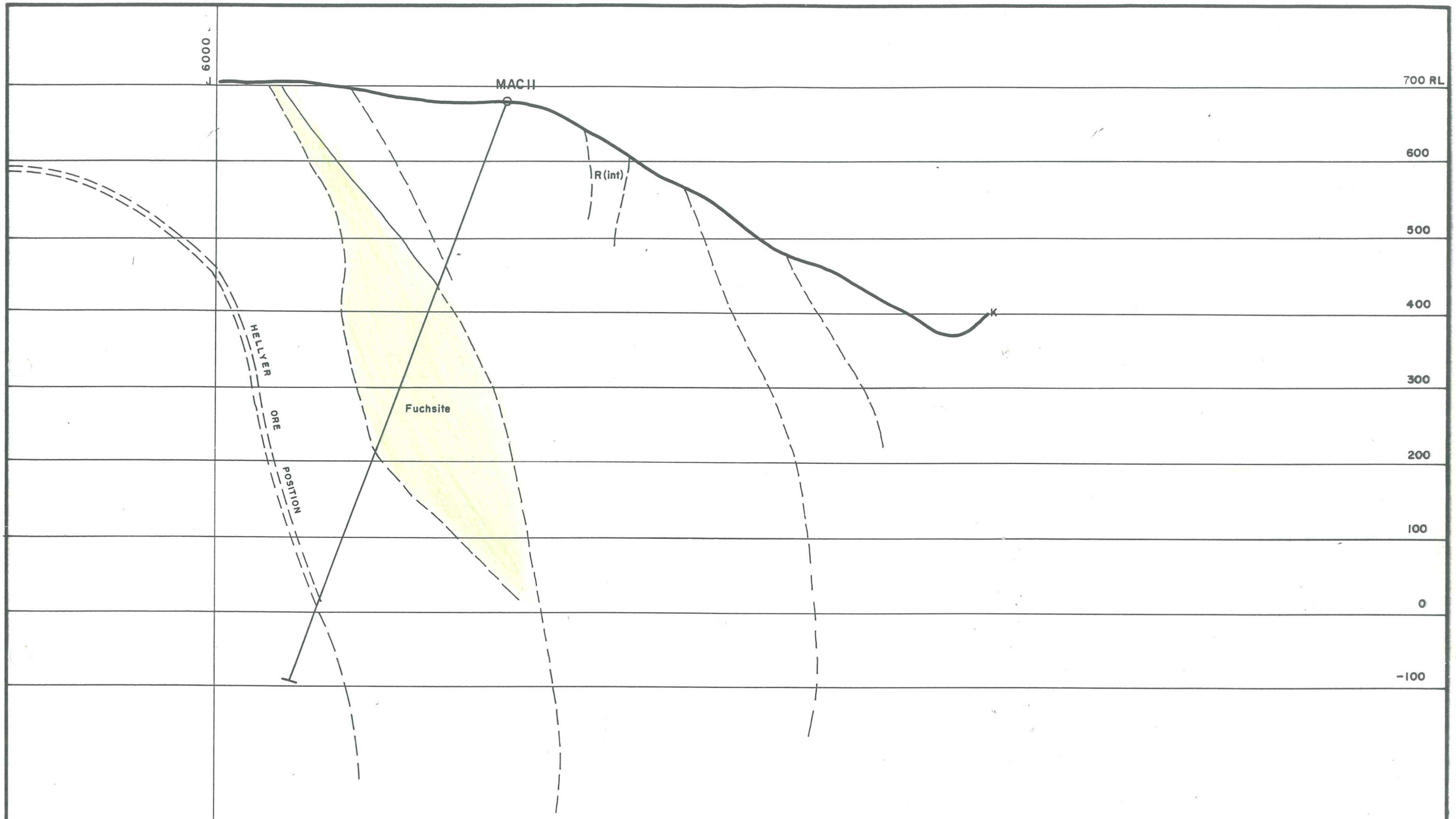
Compiled : DJJ

Drawn :

Traced : JLR

Checked :

Plate No. : MAC 202 b



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REVISIONS			
Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

PORTAL ROAD HOLE

SECTION 10400N (J - K)

Scale : 1:5 000

Date : Aug, 1988

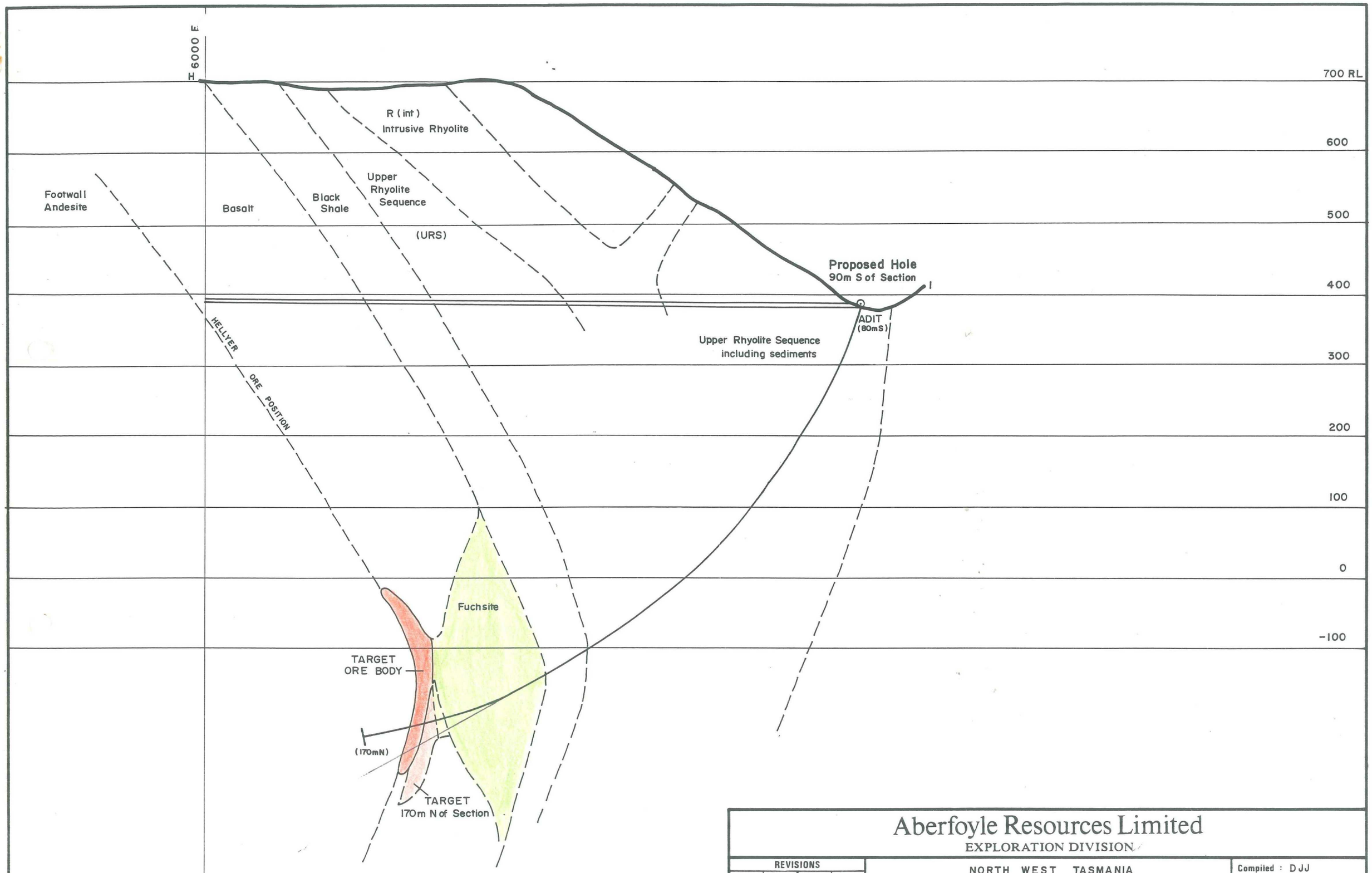
Compiled : DJJ

Drawn :

Traced : JLR

Checked :

Plate No. : MAC 202c



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EXPLORATION DIVISION

REVISIONS			
Init.	Date	Init.	Date

Location Code :

NORTH WEST TASMANIA

PORTAL ROAD HOLE - MAC 19

SECTION 10600N (H-I)

Scale : 1:5 000

Date : Aug, 1988

Compiled : DJJ

Drawn :

Traced : JLR

Checked :

Plate No. : MAC202 a

FAX TO DAVE WALLACE

FROM IAN ROGERS.

RE BREAKAGE OF P.V.C. DOWN MAC 19.

The P.V.C. was broken when K How was pulling the NQ Rods and Looked to see if the plug was off the rod being pulled as he Looked around the side of the Drill Rig he accidently kicked the foot release causing 124 metres of NQ rods to fall back down the hole. THE rods caught on the P.V.C causing it to break and twist in numerous places. This caused the P.V.C to tangle up and block MAC 19 at aproximately 370 to 380 metres.

Ian Rogers

Field. Technician.