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DRILL HOLE RECORD

Location Que River Area **Property** Mackintosh EL 2/70 **District** Tasmania, Australia **Bearing (M)** 101° 57' **Hole No** QR 50

Commenced 23.6.1975 **Completed** 9.7.1975 **% Recovery** 99% **Grid bearing (M)** 8.75 **Date** 14.7.1975

Objective To test for P lens at RL 410 below the intersection in QR 32. **Core size** NQ to 247 m BQ to 400.75 m E.O.H. **Logged** C.H. YOUNG

Co-ordinates 7897.4N 4982.6E **Dip** 64° 58' **Alt./R.L.** 686.46

SURVEY DATA				GRAPH DERIVED DATA			CALCULATED CO-ORDINATES			REMARKS
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE	DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
0	65	100	Clinometer & Tube Compass	0	65	102	7897.4	4982.6	686.5	
0	64°58'	101°57'	Theodolite	25	65.5	100.5	7896.9	4993.1	663.8	
29	65.5	105.5	Eastman	50	65	101	7896.5	5003.6	641.1	
44	65.5	106	Single Shot	75	63	102	7896.0	5014.5	618.6	
60	64	105.5	Camera	100	59	102.5	7895.3	5026.6	596.8	
78	63	104.5	" "	125	55	103.5	7894.3	5040.2	575.8	
102	58.5	106	" "	150	53	103	7893.1	5054.8	555.6	
126	55	108	" "	175	52	102.5	7892.0	5070.0	535.8	
144	54	108	" "	200	52.5	102.5	7891.0	5085.3	516.0	
174	52	107	" "	225	52	102.5	7890.0	5100.5	496.2	188.0 - 194.9 m Altered PyP_1 unit
203	52	107	" "	250	50.5	103	7888.9	5116.2	476.7	pyrite 5%-10%, sphalerite 5%, galena 1%-2%
232	52	106.5	" "	275	48	103	7887.7	5132.4	457.8	chalcopyrite <1% May be N lens.
250	51.5	108	" "	300	44	109.5	7885.4	5149.6	439.8	
270	48.5	108	" "	325	40	105.5	7882.6	5167.9	423.1	319.4 - 324.8 m PyP_1 unit with trace
300	44	109.5	" "	350	37.5	106	7880.3	5187.3	407.5	Sphalerite and Galena may correlate with
333	39.5	110.5	" "	375	35	106	7877.7	5207.3	392.7	P lens in QR 32.
364	36	110.5	" "	400.75	32	106	7875.0	5228.6	378.5	E.O.H.
391	33.5	110.5	" "							

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DIAMOND DRILL LOG

Hole Nº QR 50 Page Nº 1.

Feature: Bedding, Foliation, Fragment - size & shape, Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization: Trace 1 - 5%, Common 5 - 15%, Abundant 15 - 60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG
	5	No Core.	
	10		
	12.2	PyP$_1$?	
0.7		Partly weathered and kaolinised down to 20.5 m, iron oxide staining on fracture planes, solution cavities etc. down to 26 m.	BROKEN CORE
3.5	15	Light grey carbonated feldspar crystal tuff.	
		Irregular white carbonate aggregates to 3 mm after feldspar? are randomly distributed in a light grey siliceous carbonated matrix.	
1.85		Lithic fragments to 3 cm are not common, consisting essentially of feldspar crystal tuff similar to the matrix.	
1.4	20	Foliation at various core angles.	
0.7	21.7	PyP$_1$ Grey locally carbonated and sericitised lithic tuff agglomerate.	BROKEN CORE
3.05	25	There are a variety of lithic fragments, irregular to sub-rounded in shape, from 0.5 mm to 10 cm. The more common of the fragments include	

MINERALIZATION (12.2 m onward): Pyrite 5%, locally 10% as disseminations, aggregates and irregular veins. Occasionally as fragments to 2 cm.

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DIAMOND DRILL LOG

Hole N° QR 50 Page N° 2.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault (F), Vein (c carbonate, q quartz)

Mineralization : Trace 1 - 5%; Common 5 15%; Abundant 15 60%; Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
2.45		grey porphyritic dacitic lava with green sericite aggregates after feldspar (these fragments are often sub-rounded and exhibit concentric alteration zones) and grey sericitised and pyritised trachyte? Other fragments include grey recrystallised chert, pyrite to 2 cm and occasional pale cream to off-white carbonate-sericite "shredded" fragments of porphyritic lava?	BROKEN CORE						Pyrite 5%, locally 10% as above.
3.05	30	The matrix is "ashy" grey and siliceous.							
1.5		30.0 - 30.6 m Fine grey lithic tuff band bedded at 30° to core axis.							
3.05		Foliation - crude fragment alignment at various core angles.							
	35								
1.2		35.7 m Solution cavities and iron stained fractures at 30° to core axis.							
2.2									
1.8	40								
3.05		41 m 20 cm tuff band bedded? at 20° to core axis.							
	45								
3.05									
	46.1							46.1	Pyrite 3%-5% as disseminations and aggregates of fine subhedral to euhedral crystals.
0.5		Grey sericitised lithic tuff. Similar to above - fragments are considerably smaller, generally < 3 mm.							
2.75		Sericitised "shredded", off-white fragments to 2 cm are randomly distributed. Crude bedding or foliation at 30° to CA.							
	49.8								
	50	Grey locally carbonated and sericitised							

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DIAMOND DRILL LOG

Hole N° QR 50 Page N° 3.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
3.65		lithic tuff agglomerate as above 46.1 m. Crude fragment alignment 25° to core axis.			Pyrite 3%-5% as above.
3.05	54.1 55	Grey-buff lithic tuff agglomerate. This rock is conspicuous as most fragments are a buff DTL type in a grey PyP_1 matrix. This unit may well correlate laterally with DTL.			
1.5		Fragments are irregular to sub-rounded from 1 mm to 6 cm, typically buff to grey porphyritic dacitic lava, characterised by sericite and occasionally pyrite aggregates to 3 mm often euhedral in outline (after feldspar) in a fine grained siliceous groundmass.			
1.5	60				
1.55		Less abundant are grey-green sericitised "shredded" lithic fragments. The matrix is grey siliceous fine grained and pyritised.			
3.05		There is a crude fragment alignment at 35° to core axis. Fractures have been noted at 10° to core axis but are more common at 60°.			
	65				
3.05					
	68.4	DTL Grey-buff carbonated <u>feldspar crystal tuff-lava</u>.		68.4	Pyrite 3%-5% as above, locally 10% as irregular veins, aggregates and as fracture filling.
3.05	70	Feldspar crystals (phenocrysts) are sericite, pyrite replaced. The groundmass is fine grained and siliceous.			
	70.8	PyP_1? Grey - buff <u>lithic tuff agglomerate</u>, as above 68.4 m.		70.8	Pyrite 3%-5% as above.
3.05		This rock appears to be a hybrid mixture of PyP_1 and DTL types.			
1.9	75				

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DIAMOND DRILL LOG

Hole N° QR 50 Page N° 4.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz, F)

Mineralization : Trace 1 5%; Common 5 15%; Abundant 15 60%; Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0	80	PyP_1 as above. Fragments of grey chert to 3 cm, sericitised and pyritised trachyte? have been noted. Crude fragment alignment 30° - 40° to core axis. Fragments are often "blocky" in outline.							Pyrite 3%-5% as above.
3.0									
3.0	85								
2.9		Special note, below 91.9 m the rock is essentially DTL type - partly fragmental and partly autobrecciated. Where "more fragmental" and with a greater percentage of grey pyritised matrix the rock is classified PyP_1. Some "bedding" in the PyP_1 appears to have been truncated by minor lava flows.							
3.0	90								
3.1	91.9	DTL The rock is similar to above although more characteristic of DTL. Grey-buff carbonated <u>feldspar crystal tuff-lava</u>. The rock is partly fragmental or brecciated? (pyrite filled fractures may give a pseudo fragmental appearance?)							
3.0	95								
	95.7	PyP_1 Grey coarse <u>lithic tuff-tuff agglomerate</u>. Mixed fragment types.							
3.0	96.85	DTL Grey-buff carbonated coarse <u>lithic feldspar crystal tuff-lava</u>. This rock is in part definitly fragmental. In part autobrecciated.							
	99.4	PyP_1 Grey coarse <u>lithic tuff</u> band within the DTL unit.							
	100								

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DIAMOND DRILL LOG

Hole N° QR 50 Page N° 5.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault (F), Vein (c carbonate, q quartz)

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	100.8	PyP_1 as above.							Pyrite 3%-5% as above.
3.0		DTL Grey-buff carbonated lithic feldspar crystal tuff-lava. As described above. In part fragmental and part auto-brecciated.							
3.0	105								
3.0									
3.0	110								
3.0									
2.4	115	114.1 - 117.5 m PyP_1 in appearance, or fragmental DTL? includes 30 cm lithic tuff band.							
3.0									
0.6	120								
3.0									
3.0	125								

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DIAMOND DRILL LOG

Hole N° QR 50 Page N° 6.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault (F), Vein (c carbonate, q quartz)

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		DTL as above.							Pyrite 3%-5% as above.
	126.7								
3.0		PyP_1 Grey lithic tuff agglomerate. Irregular DTL fragments from 0.5 mm to 3 cm in a grey siliceous, pyritised matrix.							
	129.2								
	130	DTL Grey-buff carbonated feldspar crystal tuff lava.							
3.0		Feldspar crystals (phenocrysts) are sericite, pyrite replaced. The groundmass is fine grained and siliceous.							
		In part fragmental and part autobrecciated.							
3.0									
	135								
3.0		136.3 m Minor fault breccia.							
3.0									
	140								
		Below 141.1 m the rock is mostly fragmental.							
3.0									
	145								
3.0									
1.5		148.6 m Minor fault breccia.							
1.55									
	150								

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DIAMOND DRILL LOG

Hole N° QR 50 Page N° 7

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.1		DTL as above.							Pyrite 3%-5% as above.
	153.9							153.9	Pyrite 5% as disseminations, irregular veins and as fracture filling; rare disseminated galena.
3.05	155	PyP_1 Similar to the DTL above, more fragmental and with a grey pyritic matrix. Grey carbonated lithic tuff agglomerate. The rock is partly brecciated. Fragments are generally DTL type, feldspar crystal tuff or porphyritic lava? - irregular in outline up to 6 cm. Minor bands of coarse lithic tuff contain a mixture of fragments; sericitised trachyte?, chert and minor pyrite.						156.3 156.5	Pyrite 10% as disseminations, irregular veins and aggregates.
3.05	160	The matrix is grey, siliceous and contains fine disseminated pyrite.							
2.4	164.70							164.7	Pyrite 3%-5% as above 153.9 m, generally as fracture filling.
3.0	165	DTL Grey-buff carbonated feldspar crystal tuff-lava. Similar to the PyP_1 unit above. The rock has the appearance of a lava rather than a fragmental. Commonly autobrecciated, large "fragments" to 15 cm - altered grey and pyritised along their margins. Feldspar is represented by pale green sericite. The matrix or groundmass is siliceous.							
	168.6								
3.05		PyP_1 As above 164.7 m.							
	170	Grey carbonated lithic tuff agglomerate. Crude fragment alignment or foliation at 40° to core axis.							
0.6									
3.01									
	173.4								
	175	DTL Grey-buff carbonated feldspar crystal tuff-lava. Often mottled in appearance due to pale green sericite aggregates in a buff siliceous matrix.							

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DIAMOND DRILL LOG

Hole No QR 50 Page No 8.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
3.0		DTL as above. The rock is part fragmental, part autobrecciated. The matrix, where present, is grey and siliceous. Minor aggregates of green illite-hydromuscovite have been noted.			Pyrite 3%-5% as above.
1.7					
0.5	180				
1.0	181.0			181.0	Pyrite 3%-5% as above rare aggregates of Gn.
3.0		PyP_1 Grey carbonated lithic tuff agglomerate. As above 173.4 m. Foliation or crude fragment alignment 35° to core axis.			
	182.7	DTL Cream to buff carbonated feldspar crystal tuff-lava.		182.7	Pyrite 3%-5% as disseminations, irregular veins and aggregates.
	183.9	Fault Contact.		183.9	Pyrite 5% - 10% as disseminations and aggregates of very fine subhedral to euhedral crystals.
	184.5	PyP_1 Fault zone Pug, sheared 40°.			
2.9	185	Grey sericitised coarse lithic tuff/ tuff agglomerate. Fragments are irregular in outline, generally elongated up to 6 cm. They consist mainly of light grey sericitised trachyte? The matrix is fine grained sericitised and pyritic.			
	188	Foliation 40° to core axis.	F	188.0	Pyrite 5%-10% as above including irregular veins (up to 5 cm) and aggregates of light brown to grey sphalerite 5%, galena 1%-2% and splashes of chalcopyrite <1%.
3.4		The rock is now grey-cream-green in colour and completely sericitised. Feldspar crystal tuff or lava. Elongate aggregates of sericite up to 3 mm are distributed within a sericitised matrix.			
	190		F		
1.5		Foliation 30° - 40° to core axis.	F		
			F		
	193				
2.8		Chlorite alteration zone. Sericitised as above, dark green chlorite is common.			
	194.9	Fractures 30° to core axis.		194.9	Pyrite 3%-5% as disseminations and irregular veins.
	195				
1.1		Fault zone. Some pug, 50% sheared and broken core 25° - 50° to C.A.			
	196.2				
3.2		Below the fault the unit is sericitised and locally carbonated grey feldspar crystal tuff. Pale green sericite aggregates after feldspar are <3 mm elongated in direction of foliation at 30° to core axis. White carbonate aggregates to 3 mm, randomly distributed are common.			
	200				

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DIAMOND DRILL LOG

Hole No QR 50 Page No 9.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein; c carbonate, q quartz

Mineralization : Trace ! 5%, Common 5 15%, Abundant 15 60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
2.9		PyP_1 as above.	c						Pyrite 3%-5% as above.
3.2	205		c					204.1	Pyrite 10%, locally 50% as irregular veins and aggregates. (Some colloform textures have been noted.)
3.1		Below 207.5 m carbonate alteration has locally made the rock pale grey to off-white in colour, in some cases imparting a pseudo "agglomerate" appearance.						207.5	Pyrite 3%-5% as above.
3.0	210	Small aggregates, 3 mm of illite-hydromuscovite have been noted.							
	211.6								
2.3		Fault zone. Some pug, 50% sheared and broken core, 30° - 50° to core axis.							
	213.7								
	215	White carbonate aggregates to 3 mm are common.							
3.05	215.45	Bedded? contact 35° to C.A. Pale green carbonated and locally sericitised feldspar crystal tuff similar to above. May be a DTL type.							
	217.0								
3.1	218.1	Fault zone. Some pug, sheared and broken core 25° to core axis. Grey locally sericitised and carbonated lithic tuff agglomerate.						218.1	Pyrite 5% as disseminations, irregular veins and aggregates of fine subhedral to euhedral crystals.
	219.0	Fault zone. Pug, sheared and broken core 30° to core axis, quartz veining.							
	220								
	220.45	There are a variety of lithic fragments. Irregular to sub-rounded from 0.5 mm to 6 cm with a crude alignment at 30° to C.A. Fragment types include; buff dacitic lava (characterised by pale green sericite aggregates in a buff siliceous groundmass), grey feldspar crystal tuff with white carbonate aggregates similar to above 215.45 m, grey to pale cream completely sericitised trachyte?, grey recrystallised							
3.05									
2.6	225								

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DIAMOND DRILL LOG

Hole No QR 50 Page No 10.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization : Trace 1-5%; Common 5-15%; Abundant 15-60%; Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
		chert have been noted.	BROKEN CORE		Pyrite 5% as above.
3.0		The matrix is blue-grey siliceous and fine grained. The rock is essentially a volcanogenic conglomerate.		227.0	10 cm vein pyrite 80%.
3.0	230			232.0	Pyrite 3%-5% as disseminations, irregular veins and aggregates.
3.05		233.8 m Sub-rounded fragments to 20 cm of grey feldspar crystal tuff or lava.			
	235				
	235.6	Fault zone Pug, sheared and broken,			
2.2	236.5	quartz veins. 30° to core axis. Below the fault, fragments of grey feldspar crystal tuff or lava predominate.			
3.1		Crude fragment alignment at 35° to core axis.			
	240				
1.1					
3.0		Note cumulative error of 0.7 m, possibly occured at 177.4 m.			
	244.7			244.7	Pyrite 5% as above.
3.0	245	The rock is essentially grey carbonated feldspar crystal tuff or lava, similar to the fragmental described above.		246.2	Trace secondary galena within carbonat veinlet.
2.4					
	250			249.9	Pyrite 3%-5% as above.

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DIAMOND DRILL LOG

Hole N° QR 50 Page N° 11.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein; c carbonate, q quartz

Mineralization : Trace 1 - 5%, Common 5 15%, Abundant 15 60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
			TRACE COMMON ABUNDANT MASSIVE		
					Pyrite 3%-5% as above, some colloform textures
3.05	251.2	Grey coarse lithic tuff. Fragments are irregular to sub-rounded generally <1 cm up to 2 cm. Fragments are of mixed types as above.			
3.05		253.6 m The matrix is grey siliceous and pyritised.			
	255				
3.05		256.5 m Carbonate cemented fault breccia, carbonate veinlets and minor chlorite.	F		
3.05	260				
3.05		262.0 m Sub-rounded fragments of grey chert to 2 cm, bedded at 50° to core axis.		262.7	5 cm irregular vein Pyrite 30% sphalerite 10% galena 2%.
2.0	265	265.0 - 266.3 m The rock is fractured, brecciated? and has a mottled appearance.			
2.7	268.3	Grey to off-white carbonated feldspar crystal tuff or lava. Aggregates of sericite to 2 mm after feldspar are randomly distributed in a grey siliceous matrix. The rock is partly fragmental or autobrecciated.		268.3	Pyrite 3%-5% as above, rare sphalerite and galena as dissemination and aggregates.
	270				
3.05	271	Grey-buff locally carbonated coarse lithic vitric feldspar crystal tuff. Similar to above 271 m however contains fragmental bands commonly at 30° to core axis. This rock has some DTL characteristics.		271.0	Pyrite 3%-5% as above.
3.05				274.4	20 cm Pyrite 30%.
	275				

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DIAMOND DRILL LOG

Hole Nº QR 50 Page Nº 12.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein; c carbonate, q quartz

Mineralization : Trace 1 - 5%, Common 5 - 15%, Abundant 15 - 60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.05		PyP_1 as above. The rock is vitric? by virtue of small <1 mm grey quartz aggregates. Foliation 15° - 70° to core axis, commonly 40°.							Pyrite 3%-5% as above.
1.7	280								
1.7		281.0 - 283.2 m The rock is buff in colour under the influence of increased carbonate alteration.							
2.5	283.2	Grey sericitised lithic feldspar crystal tuff agglomerate.	c						
0.55	285	As above however more sericitic and grey in colour due to increased pyrite within the matrix.							
3.05		Lithic fragments are "stretched" in the direction of foliation at 40° to core axis and are completly sericitised.	F						
		Fractures commonly parallel to foliation at 40° to core axis.						288.0	Pyrite 5%-10% as disseminations, irregul veins and aggregates,
1.9								289.5	colloform textures hav been noted.
1.1	290	Grey feldspar crystal lithic tuff-tuff-agglomerate.	f						Pyrite 3%-5% as above, some framboidal? textures have been note
2.0		The rock is conspicuously spotted with white carbonate aggregates to 4 mm after feldspar, some euhedral outlines have been noted. Lithic fragments are not abundant - fragment outlines are obscure - generally <4 cm; grey tuff, buff feldspar crystal tuff lava and grey recrystallised chert.	c						
2.0	295	The matrix is grey often blue-grey due to ultra fine pyrite.							
2.1									
3.0									
	300								

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DIAMOND DRILL LOG

Hole N° QR 50 Page N° 13.

Feature : Bedding, Foliation, Fragment - size & shape, Shearing, Fault, Vein, c carbonate, q quartz

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
3.05		PyP_1 as above.			Pyrite 3%-5% as above.
				302.51	3 cm pyrite 60%, vein of very fine crystals.
3.05	305	Below 305 m sub-rounded fragments of buff feldspar crystal tuff lava up to 15 cm are randomly distributed.			
3.05		308.8 m 30 cm recemented fault breccia.			
2.05	310	Fractures commonly parallel to foliation at 30° to core axis.			
1.5					
2.3				313.7	5 cm pyrite 40% associated with minor carbonate veins.
	315	315.2 - 318.4 m The rock is grey due to increased carbonate alteration.		315.4	5 cm pyrite 40% associated with minor carbonate veins.
3.05					
	318.8			318.8	Pyrite rare.
1.6	319.4	DTL buff-pink carbonated feldspar crystal tuff lava.		319.4	Pyrite 3%-5% as above, trace sphalerite and galena as aggregates t 1 cm.
	319.88	PyP_1 Grey lithic feldspar crystal tuff agglomerate.	BROKEN CORE		
0.4	320	Fault zone 60% broken core, some pug.			
2.8	321.75	Lithic fragments are irregular in outline to 8 cm, light grey feldspar crystal tuff lava, feldspar crystals within the matrix are altered to white carbonate and randomly distributed.		321.7	2 cm vein pyrite 10%.
	324.8			324.8	Pyrite <1%.
	325	DTL Gradational Contact.			

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DIAMOND DRILL LOG

Hole N° QR 50 Page N° 14.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault (F), Vein (c carbonate, q quartz)

Mineralization : Trace 1 - 5%; Common 5 15%; Abundant 15 60%; Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.05		Buff-green carbonated lithic feldspar crystal tuff agglomerate-lava.							Pyrite <1% as above.
3.05		Feldspar crystals are elongated in the direction of foliation at 45° to core axis and are represented by pale green sericite aggregates to 3 mm. The matrix or groundmass is buff, siliceous and carbonated. Below 326 m the rock is fragmental with irregular to sub-rounded fragments of dacitic lava in a matrix of similar composition.							
	330	Gradational Contact.							
		DP Green locally chloritic lithic feldspar crystal tuff agglomerate.							
3.05		Fragments are generally up to 6 cm irregular to sub-rounded often DTL as above, some fragments of grey siliceous tuff have been noted. Feldspar crystals are represented by aggregates to 2 mm of white carbonate.							
3.05	335	The matrix is grey-green in colour of similar texture and composition as the fragments.							
		Note error in depth of 41 cm, 332.7 m should read 333.39 m.							
3.05		Pale green-white "shredded" fragments of tuff-lava have been noted.							
	339.5								
1.7	340	Grey-green lithic feldspar crystal tuff (AGGLOMERATE) as above.	BROKEN CORE						
0.9		Angular fragments to 8 cm of dark green tuff or lava with white carbonate aggregates to 3 mm (after feldspar?) are now common.							
3.05		Sub-rounded buff to green coloured dacitic lava fragments to 6 cm are randomly distributed.							
	345	The matrix is grey-green, siliceous occasionally fine lithic tuff with rare pyrite fragments to 2 mm.							
		Irregular fractures 30° - 50° to core axis.							
3.05									
3.05									
	350								

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DIAMOND DRILL LOG

Hole N° QR 50 Page N° 15.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization : Trace 1 5%; Common 5 15%; Abundant 15 60%; Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
		DP as above.	BROKEN CORE		Pyrite < 1% as above.
3.05		Fractures 30° - 40° to core axis often chlorite lined.			
0.55	355				
1.45					
1.4					
3.05	360				
3.05		Below 362.7 m the rock is grey in colour under the influence of increased pyrite within the matrix.		362.7	Pyrite 2%-3% as disseminations irregular veins and aggregates.
	365				
3.05	365.6	Gradational Contact.			
		PyP_1 Grey to buff locally carbonated <u>lithic tuff agglomerate</u>.			
2.2		Lithic fragments are predominantly feldspar crystal tuff or lava, buff in colour (feldspar crystals are generally replaced by aggregates of sericite and often pyrite). The matrix or groundmass is siliceous and carbonated in the above fragments. Other fragments include grey recrystallised chert to 1 cm and fine grey tuff. Some white sericitised "shredded" fragments have been noted.			
0.9	370				
3.05		The matrix is "gritty", composed of small lithic fragments. There is a crude bedding or fragment alignment at 40° to core axis.			
3.05	374	DP Grey-green locally chloritic coarse <u>lithic tuff</u>.		374	Pyrite 1% as disseminations and aggregates.
	375				

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		Lithic fragments are commonly < 2 cm, pale green to white sericitised porphyritic lava? with "shredded" outlines.							Pyrite 1% as above.
	376.8							376.8	Pyrite 2%-3% as disseminations, irregular veins and aggregates.
2.55		PyP Grey sericitised and locally carbonated lithic tuff agglomerate. Lithic fragments are grey feldspar crystal tuff or lava up to 5 cm in a pale matrix.							
	378.7							378.7	Pyrite 1% as disseminations and aggregates.
3.05	380	DP Green chloritic and locally carbonated lithic feldspar crystal vitric tuff agglomerate. Lithic fragments are irregular with "shredded" outlines, pale green porphyritic (feldspar) lava up to 6 cm. The shredding of fragments is a shearing effect. Feldspar crystals up to 3 mm are thinly dispersed throughout and are represented by aggregates of carbonate-chlorite-sericite-albite (semi-pseudomorphs of plagioclase crystals).								
3.05									
	385	The matrix consists of devitrified sericitised eutaxitic shards in a chlorite-sericite-carbonate-quartz rich base (petrology CMS suggests the rock is an ignimbrite.)							
3.05									
0.4									
	389.2							389.2	Pyrite 1%-2% as above.
2.5	390	Grey-green chlorite and locally carbonated lithic feldspar crystal vitric tuff agglomerate as above, grey colouration due to increased pyrite content. Foliation 50° to core axis. Fractures 40° - 50° to core axis.							
1.25									
1.5									
	394.4							394.4	Pyrite <1% as occasional disseminations.
1.5	395	Pale green chloritic and locally carbonated lithic feldspar crystal vitric tuff agglomerate as above 389.2 m.							
2.4									
3.05									
	400								

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DIAMOND DRILL LOG

Hole N° QR 50 Page N° 17.

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault (F), Vein (c carbonate, q quartz)

Mineralization : Trace 1 - 5%; Common 5 15%; Abundant 15 60%; Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	400	DP as above.							Pyrite ~1% as above.
		.75 E.O.H.							
	405								

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DRILL HOLE RECORD

Location Que River **Property** ML 2M/75 **District** Tasmania **Alt./R.L.** **Hole No** QR50 extension

Commenced 22/5/76 **Completed** 4/6/76 **Core size** BQ to 549.3m **Co-ordinate** **Date** 15/6/76

Objective To test beneath P North system 350 R.L. **% Recovery** 92.0 **Bearing (M)** **Logged** C.H. Young

Grid bearing (M) **Dip**

SURVEY DATA			
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE
393	33.25	109.5	Eastman
423	29.0	109.0	single
453	26.5	107.5	shot
484	25.5	106.5	camera
514	21.5	107.5	"
N/R	17.0	N/R	Camera lost
			inside drill
			string

GRAPH DERIVED DATA					
DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE
400	32.0	106.0	7875.08	5227.97	378.90
425	29.0	104.5	7872.65	5249.36	366.21
450	26.5	103.0	7870.72	5271.40	354.58
475	25.5	102.0	7869.25	5293.82	343.62
500	23.5	102.5	7867.86	5316.52	333.25
525	20.0	103.5	7866.14	5339.66	323.99
549.3	16.0	104.5	7864.03	5362.66	316.49

REMARKS
No ore intersections
The hole continued until stopped in barren pyroclastics.

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DIAMOND DRILL LOG

Hole N° QR50ext Page N° 1

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault (F), Vein (c carbonate, q quartz)

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	400.75	Commence QR50 Extension							
2.0		AP/P1P2. Pale grey green carbonated weakly chloritic feldspar crystal tuff agglomerate or feldspar porphyry lava breccia (as above 440.75m). Fragments (lava clasts?) are irregular in outline up to 3cm with a "shredded" appearance.							Pyrite up to 1% as disseminations and occasional aggregates.
3.05	405	Occasional sub-rounded aggregates of white carbonate may be filled vesicles. Sericite-illite-hydromuscovite generally replaces feldspar crystals.							
3.05		Foliation 40° to core axis.							
1.0	410								
3.0									
2.5	415								
0.6									
0.8	420								
0.8									
1.5									
2.2	425								

BROKEN CORE

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DIAMOND DRILL LOG

Hole N° QR50ext Page N° 2

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
3.0		As above.			Pyrite as above.
3.0	430	429.8 - 432m. Light grey in colour due to pyrite alteration.		429.8	Pyrite 5% locally 10% as disseminations, aggregates and irregular veins.
3.0				433.9	
	435				Pyrite up to 1% as disseminations and aggregates.
3.0		436m. Chlorite lines slickensides 65° to core axis.			
	440			437.1	Pyrite 1-2% as above.
				438.0	
3.0					Pyrite <1% as above.
	440	Below 440m. Fragments of vesicular lava have been noted. Now filled with white carbonate. Up to 4mm.			
3.0					
3.0	445	Sheared contact 30° C.A. "Silicified"		445	Pyrite 103% as disseminations and aggregates.
		Fragment alignment/bedding? 40° C.A. Green green lithic tuff-agglomerate. Similar to above 445m.			
3.0				447.4	Pyrite 15-20% as aggregates and irregular veins.
	448				Pyrite 1-3% as above,
	450				

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DIAMOND DRILL LOG

Hole N° DR50ext Page N° 3

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault (F), Vein (c carbonate, q quartz)

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
2.0		lithic tuff agglomerate as above. Foliation - crude fragment alignment 55° C.A.			Pyrite 1-3% as above.
2.1		Gradational contact			
	453.1			453.1	Pyrite <1% as disseminations and occasional aggregates.
N/C	453.4	Fault zone. Sheared and broken core. Note 0.8m core loss.			
	455	Green grey carbonated weakly chloritised feldspar hornblende porphyry lava breccia similar to above 445.0m.	c		
1.7			c		
1.3				457.65	10cm pyrite 10%
2.95					
	460		F		
0.8					
	465		q		
2.1					
	467		BROKEN CORE		
0.1		Note - 467.0 - 469.0, approx. 2m core loss.			
0.1		Probable fault zone.			
	467.1		q/c		
2.3		Fault contact. Carbonate-silicate alteration zone. Veins of carbonate and quartz are very common. The core is light grey to pink in colour, apparently an alteration of the more common green colouration.	c		
			q		
			c		
3.0		The rock is similar to above. Veins are irregular, commonly 40-50° C.A.	c		

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DIAMOND DRILL LOG

Hole N° QR50ext Page N° 4

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization : Trace 1 5%, Common 5 15%, Abundant 15 60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0		A.P. as above. Carbonate-silicate alteration zone.							Pyrite 1% as above.
2.7		Fractures 30° - 40° and 70° to core axis are common. (Joints)							
	480								
3.1									
	485								
3.0									
3.1	488.4	End of carbonate alteration zone. Gradational contact.							
	490	Green-grey carbonated feldspar hornblende lithic tuff-agglomerate or lava breccia. Similar to above 445.0m. Fragments are irregular to sub-rounded feldspar horneblende porphyry to 5cm. The groundmass or matrix is of similar composition and texture.							
3.1									
3.0									
	495								
2.1									
3.1									
	500								

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DIAMOND DRILL LOG

Hole N° QR50ext Page N° 5

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein; c carbonate, q quartz

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	DEPTH m	MINERALIZATION
		AP as above			Pyrite <1% as above.
3.1		Fractures or joints 40° -60° to core axis.			
	505	504.5 - 506m. Minor pale green epidote veinlets.			
3.1					
1.9					
		509.5 - 511.0m. Grey in colour due to increased pyrite alteration.			
	510			510.5	
2.6				510.8	Pyrite 5% as disseminations and aggregates associated with q/c veins.
3.0					Pyrite <1% as above.
	515				
3.0					
3.0				519.8	
	520				Aggregates of chalcopyrite to 1cm in q/c vein.
3.0					
				524.8	Pyrite aggregate to 3cm
	525				

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DIAMOND DRILL LOG

Hole N° QR50ext Page N° 6

Feature : Bedding, Foliation, Fragment - size & shape; Shearing, Fault, Vein (c carbonate, q quartz)

Mineralization : Trace 1-5%, Common 5-15%, Abundant 15-60%, Massive >60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0		AP as above							Pyrite <1% as above.
3.0	530								
3.0									
3.0	535								
2.8									
	540	Below 538.0m. White carbonate replaced feldspar phenocrysts become conspicuous.							
2.9									
3.1									
	545								
3.0									
1.4									
	549.3	END OF HOLE							
	550								