

D.B.M. A.O. CG CC&M D.S.M.E.
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 DEPT. OF MINES
 REF. No.



DRILL HOLE RECORD

Location Que River Area Property Mackintosh EL2/70 District Tasmania, Australia Alt./R.L. 686.7 Hole No. QR32
 Commenced 14/4/75 Completed 30/4/75 Co-ordinate 7898.12N, 4984.30E Date 6/5/75
 Objective Northern strike extension of O/P and Q lenses. Core size NQ to 321.5m, BQ to 441m EOH Bearing (M) 100° Logged RDB
 % Recovery 94.5 (97 over cored interval, 12.2m to EOH) Grid bearing (M) 8.75 Dip 50

SURVEY DATA				GRAPH DERIVED DATA						REMARKS
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE	DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
0	50	98	Cline/Compass	0	50	100	7898.1	4984.3	686.7	4.5° deducted from camera azimuths to compensate for interpreted calibration error.
26	51	104.5	Eastman	25	51	99.5	7897.8	5000.2	667.4	
57	48	104	single	50	48.5	100.5	7897.5	5016.3	648.3	
94	43.5	106	shot	75	46	101	7896.9	5033.3	630.0	
127	41	109	camera	100	43	102	7896.1	5051.1	612.5	
154	38.5	110.5	"	125	41	104	7894.7	5069.6	595.7	
181	35	111	"	150	39	106	7892.6	5088.7	579.7	
212	33	112	"	175	35.5	106.5	7889.9	5108.4	564.6	
244	29	115	"	200	33.5	107	7887.0	5128.8	550.4	
270	24	114.5	"	225	31	108.5	7883.7	5149.7	537.1	
300	21	115	"	250	27.5	109.5	7879.8	5171.1	524.9	
330	19.5	117.5	"	275	23.5	110	7875.5	5193.2	514.1	
359	16	118	"	300	21	110.5	7870.9	5215.9	504.6	
393	9	118.5	"	325	20	112	7866.1	5238.7	495.7	
437	0.5	121	"	350	17	113.5	7860.7	5261.7	487.5	
				375	12.5	113.5	7854.6	5285.1	481.2	
				400	8	114	7848.2	5308.8	476.7	
				437	0.5	116.5	7837.7	5344.1	474.0	
				441	0.5	116.5	7836.5	5347.9	474.0	End of hole
0	50°28'40"	100°27'27"	Theodolite	(Pick up of drill string for dip and azimuth).						









DIAMOND DRILL LOG

Hole No **QR 32**

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





Feature :

Bedding 
 Foliation 
 Fragment - size & shape 

Shearing 
 Fault 
 Vein  c carbonate
 q quartz

Mineralization :

Trace 1-5%
 Common 5-15%
 Abundant 15-60%
 Massive \geq 60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	0 to 12.2	No core.							
1.7	12.2	PyP Lightly weathered to 18.5m with iron staining common along fractures and in sheared and broken areas.							Pyrite 1% as aggregates, veins, rare bands and as discrete euhedral crystals.
0.45	12.65								
0.8	13.05								
2.5	13.5	Grey coarse <u>lithic tuff/tuff agglomerate</u> .							
20	16.05	Large green-grey fragments to 6cm are angular and have euhedral aggregates of pale green sericite. Other fragments to 4cm are light grey green with lens shaped sericite aggregates, and have a wispy irregular outline. Possibly disrupted fragments, as described above, of feldspar crystal tuff.							
3.05	19.1	Fragments of filamentous pumice are pale green and thoroughly altered to white? and green sericite.							
	25								

BROKEN CORE



DIAMOND DRILL LOG

Hole No QR32

Page No 2

Feature : Bedding
 Foliation
 Fragment-size & shape

Shearing
 Fault
 Vein carbonate
 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	Fragments and disrupted bands of fine, dark grey, siliceous tuff have irregular cavities and vugs occasionally with vesicular quartz crystals. Other fragments to 1cm, grey-buff in colour are possibly quartz crystal tuff.							Pyrite 1% as above.
	3.05	Light grey chert nodules and angular fragments (to 3cm) have carbonated tension fractures.							Rare Gn has been noted with carbonate veins.
	30								
	3.05	The matrix is light grey, carbonated, and has sugary quartz crystals (<1mm) often with corroded margins.							
	3.05	Weak foliation is at 30° to the core axis while fractures vary between 30-50° to the core axis.							
	34.1								
	35	Grey carbonated, locally sericitised lithic tuff. The unit has a "pyroclastic" appearance with fragments that appear genetically the same as described above but							
	36.85	generally much smaller, usually							
	37.25	<u>FAULT ZONE</u> Pug. sheared and broken core							
		1cm. Carbonate through the matrix is common while irregular aggregates to 2mm are abundant.							
	38.4-40.4m	the unit is a coarse lithic tuff with fragments of grey buff dacitic lava to 3cm. Foliation is emphasised by "wisps of green sericitised filamentous pumice?"							
	3.05								
	3.05	Between 44.5-46.0m, the unit has a very "ashy" appearance. Pyrite fragments to 0.5cm have occasional occurrence.							
	0.6								
	45								
	2.4								
	47.5								
	3.05	Below 47.5, the unit appears to be a grey water lain tuff with rare lithic fragments of feldspar crystal tuff to 5cm. Possible graded bedding at 50m suggests facing is up hole to the west.							
	50								



DIAMOND DRILL LOG

Hole No QR32 Page No 3

Feature : Bedding Shearing
 Foliation Fault
 Fragment-size & shape Vein carbonate 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
		As above.							Pyrite 1%.
	50.6	Mottled grey carbonated lithic tuff agglomerate.							
	3.05	Buff-green, angular to subangular fragments (to 10cm) are sericitised and carbonated, possibly a feldspar, quartz crystal tuff.						53.65	Quartz-carbonate vein with trace Sph and Gn.
	3.05	Fragments of buff-grey dacitic lava? (to 2cm) occur at the beginning of the unit but are rare below 55m.							
	3.05	Other fragments include dark grey tuff (to 1cm) random pyrite fragments (to 0.5cm) and carbonated fine tuff, rounded and rimmed with fine pyrite. Irregular carbonate aggregates and veins that have random orientation with respect to the core axis are common between 56-60m.							
	60	The matrix is light grey, carbonated, and appears quartz rich with abundant sugary quartz crystals (< 1mm)							
	3.05	Band of fine grey possibly feldspar crystal tuff.							
	62.4								
	0.6	Foliation is 30°-40° to the core core axis while fractures are between 30° and 60°.							
	63.5								
	2.45								
	65								
	65.5	DTL Pink-buff fine grained feldspar crystal? tuff, weakly sheared with occasional lithic fragments. An irregular fracture pattern has grey alteration zones along fractures as well as quartz carbonate fillings rimmed with fine dusty pyrite.						65.5	Pyrite rare.
	69.8								
	70	PyP Mottled grey carbonated lithic tuff agglomerate. Similar to that described above between 50.6 - 62.4m.						69.8	Pyrite as above 65.
	3.05								
	3.05								
	75								



DIAMOND DRILL LOG

Feature : Bedding Shearing
 Foliation Fault
 Fragment-size & shape 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	Fragments? (to 50cm, commonly 5cm) of feldspar? crystal tuff, as described between 65.5m - 69.8m also occur.							Py 1% as fragments, discrete euhedral crystals, small bands (to 0.5cm) and as fracture fillings of fine dusty pyrite.
	78.4	DTL Pinkish-buff-green, fine feldspar? crystal tuff. Similar to above between 65.5m - 69.8m small aggregates (to 2mm) of illite-hydromuscovite are common. Below 87m, the unit becomes disrupted, brecciated, and silicified. Chert and pyrite appear as common fracture fillings.						78.4	Pyrite rare
	80								
	85								
	86.0	PyP Mottled grey carbonated lithic tuff agglomerate, similar to above between 69.8m-78.4m and 44.5m-46.0m. There appears to be a cyclicity of unit type occurrence.						86.0	Pyrite 1% as above 78.4m
	90	DTL A very varied and disrupted unit. Essentially a pink-grey feldspar crystal tuff-lava, as described above between 65.5m - 69.8m with extensive grey alteration zones throughout.							
	95	Around 94.7, fine dark grey band with white bands (to 2mm), parallel to the core axis, possibly flow banding.							
	100	Occasional bands or large fragments of grey lithic tuff agglomerate, similar to above between 50.6m-62.4m, also occur.							



DIAMOND DRILL LOG

Feature : Bedding Shearing
 Foliation Fault
 Fragment-size & shape 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	MINERALIZATION			DEPTH m
				TRACE	COMMON	ABUNDANT	
	2.4	Chert bands and nodules are common throughout.					Pyrite as above.
	1.0						
	1.7	Disrupted and brecciated zones are often silicified and some minor fractures appear to be healed with carbonate.					
	1.4						
	1.3						
	0.3	2.6m core loss - mis-latch of inner tube.					
	3.0						
	3.1	<u>FAULT ZONE Broken and sheared core</u>					
	3.05						
	3.0	Illite-hydromuscovite has been noted.					
	2.5						



DIAMOND DRILL LOG

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

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

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	MINERALIZATION			DEPTH m
				TRACE	COMMON	ABUNDANT	
		As above.					Py 1% as fragments (to 0.5cm) small bands (to 0.5cm) and as fracture fillings of fine dust.
	3.05						
	130	Below 129m, the unit has an overall grey colour with occasional unaltered? kernels. Pale green sericite aggregates with euhedral outlines, possibly represent altered feldspar. The matrix is pale grey and slightly siliceous.					
	3.05						
	3.05						
	135						
	3.05						
	140	Below 138m, the unit has a green grey colouration, possibly caused by chloritisation. Local areas are sericitised and irregular carbonate veins are common.					
	3.05						
	3.05						
	145						
	3.05						
	147	Below 147m, the unit is disrupted and locally brecciated.					
	2.5						
	149.9	<u>FAULT CONTACT</u>					
	150						



DIAMOND DRILL LOG

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%



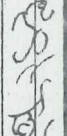

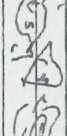


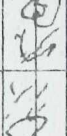



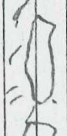
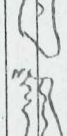
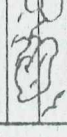
CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	MINERALIZATION		
				TRACE	COMMON	ABUNDANT
	3.05	In general, the fragments (up to 7cm, usually 1-2cm) are sericitised and to a lesser extent chloritised, and have fine pyrite dust throughout.				Py 1% as above.
	3.05	Some fragments (to 3cm) of dacitic lava? are pinkish grey, angular and have euhedral sericite aggregates. Other fragments (to 2cm) are angular and have a "wispy" appearance. Possibly pumice or a sheared feldspar crystal tuff.				
	1.80	The matrix is grey, fine grained and usually carbonated.				
	3.05					
	1.8	Foliation, and occasionally bedding? is at 40° to the core axis, while fractures are between 30° and 60° to the core axis.				
	1.85					
	3.05					
	1.25	Random bands of fine grey pyritic tuff, possibly feldspathic, with occasional sericitised lihtic fragments occur below 190m.				
	1.90					
	3.05					
	3.05					
	1.95					
	2.4					
	2.55					
	2.60					



DIAMOND DRILL LOG

Feature : Bedding  Shearing 
 Foliation  Fault 
 Fragment - size & shape  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
		As above.							Py 1% as above.
	3.05	Between 198m-205m, the unit is disrupted and thoroughly silicified.							
	3.05								
	3.05								
	3.05								
	3.05								
	3.05								
	3.05	13.6 Gradational Contact						213.6	Pyrite rare.
	3.05	The unit has an overall grey colouration with buff-green buff occasionally grey-green patches throughout.							
	3.05	A difficult unit, that is possibly a coarse lithic tuff/ tuff agglomerate with fragments (to 10cm) of buff-green buff feldspar crystal tuff (lava?), in a fine grey carbonated, quartz, possibly feldspar crystal tuff groundmass.							
	3.05	With no significant chlorite/sericite alteration, only carbonate spotting occurs in some fragments.							
	3.05								
	3.05								
	3.05								

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

Mineralization : Trace 1-5%
 Common 5-15%
 Abundant 15-60%
 Massive \geq 60%

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	MINERALIZATION		
				TRACE	COMMON	ABUNDANT
	3.0	A diffuse, marginal, grey alteration effect can be observed in some fragments.				Pyrite rare.
	1.7					
	229					
	0.8	230 FAULT ZONE Broken and sheared core. Some fault pug. 230m - 233m, small irregular carbonate aggregates (<1mm) are abundant. Below 233 larger carbonate aggregates (to 3cm) occur and together with random quartz veins become common below 142m.				
	3.0					
	3.0					
	235					
	3.0	Fractures are at 60° to the core axis while foliation appears to be between 30° and 40° to the core axis.				
	3.0					
	240					
	3.0					
	3.0					
	245					
	3.0					
	3.0					
	250					



DIAMOND DRILL LOG

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

Mineralization : Trace 1-5%
 Common 5-15%
 Abundant 15-60%
 Massive $\geq 60\%$

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
		As above.							Pyrite rare.
	252.4	FAULT ZONE Broken and sheared core. Some pug.							
	254.6	Grey sericitised coarse lithic tuff.						254.6	Py 5% as aggregates and veins of euhedral to subhedral crystals.
	255	Fragments of dacitic lava? to 2cm, angular to subrounded have euhedral aggregates of pale green sericite. Other fragments of fine grey tuff are sericitised have fine pyrite disseminations.							
	260	Irregular "wispy" fragments to 1cm are possibly pumice or sheared feldspar crystal tuff. The matrix is light grey, carbonated and has sugary grey quartz crystals (<1mm).							
	263.55	DTL						263.55	Pyrite rare.
	265	Green-buff fine carbonated tuff (tuff lava?). Possibly feldspathic, with fine chlorite flecks imparting overall green colouration.							
	270	Chlorite also occurs in irregular fractures.							
	275	A "hairline" contact exists between this unit and the upper PyP unit.							



DIAMOND DRILL LOG

Feature : Bedding Shearing
 Foliation Fault
 Fragment - size & shape 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
	1.25	As above.							Pyrite rare as above
	2.3								
	0.75								
	2.9	DTL PyP Grey locally carbonated, sericitised lithic tuff. The unit contains bands occasionally disrupted (at 50° to core axis) and fragments (to 3cm) of massive base metal sulphides.						281.2 281.85 283	281.2-281.85. Py 7% as veins and aggregates. Sph 3%, Gn 1%, tr. Cpy as fine veins (to 1mm). 281.85-283. Py 10% as fine disseminations and veins (to 0.5cm). Pale brown Sph 30%, Gn 20%, tr. Cpy occurs as bands (to 4cm). 283-285.25. Py 15%, Sph 20%, Gn 10%, tr. Cpy occurs as above. 285.25-285.85. Py 5%, tr. Sph, Gn, Cpy 285.85-287. Py 10%, Sph 3%, Gn 1%, tr. Cpy occurs as irregular aggregates and veins. 287-292.80. Py 15%, Sph 3%, Gn 1%, tr. Cpy as bands and fragments (to 3cm). Fine white bands (to 1cm) occur at 287. - possibly barite. 292.8-293.25. Py 3%, tr. Sph, Gn. Pyrite rare.
	3.05	NOTE: 20cm core loss between 279.35m and 282.40m. Probably in the ore zone at 281.6m.						285.25 285.85 287	
	3.05	91.1 91.55 FAULT ZONE Broken and sheared core. Some pug							
	3.05	93.25 DTL Fine green tuff (tuff lava?) similar to above between 263.55m and 281.2m.						292.8 293.25	
	1.45	94.6 95 DP Blue-green-grey, chloritised, locally carbonated, lithic tuff agglomerate. Angular fragments (to 6cm) of feldspar? hornblende? crystal tuff, have pink-brown aggregates, possibly iron stained carbonate and dark green flecks possibly represent chloritised hornblende.						294.6	Pyrite rare.
	1.5	Other fragments (to 2cm) angular to subrounded are light grey,							
	2.1								






DIAMOND DRILL LOG




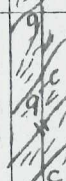

Hole No **QR32**

Page No 17

Feature : Bedding 
 Foliation 
 Fragment-size & shape 

Shearing 
 Fault 
 Vein  carbonate
 quartz

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

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	MINERALIZATION			
				TRACE	COMMON	ABUNDANT	
		As above.					Pyrite 7% as above.
	3.05						
	4.05						
	3.05						
	3.05						
	4.10	Below 409m, carbonate/sericite alteration is less common.					
	1.2						
	2.45						
	3.05						
	4.15						
	3.05						
	19.5	Grey-buff fine carbonated tuff (tuff-lava?) with slumped or disrupted bedding or possibly flow banding.					Pyrite rare.
	20.5	Similar to above between 378.6m and 409m.					Pyrite as above 419.5m.
	2.45						
	4.22	Buff-grey fine carbonated tuff, (tuff-lava?), bedded? at 40° to c.a. (Possibly a Qtz. feldspar crys. tuff) Irregular sericite aggregates (<1mm) occur but are not common.					Py 1% as irregular veins, often with carbonate veins and aggregates, as fine euhedral to subhedral crystals.
	1.2						
	2.45						
	4.24.3	Light grey carbonated tuff agglomerate.					
	4.25						

