Drill Hole Record

Cominco

HOLE N° QR 21

LOCATION Que River Area PROPERTY Mackintosh EL 2/70 DISTRICT Tasmania, Australia ALTITUDE / RL 662.9 DATE 22.2.1975

COMMENCED 18.2.1975 COMPLETED 21.2.1975 CORE SIZE NQ to 83.37 m BQ to 184.62 m E.O.H. LOGGED C.H. Young

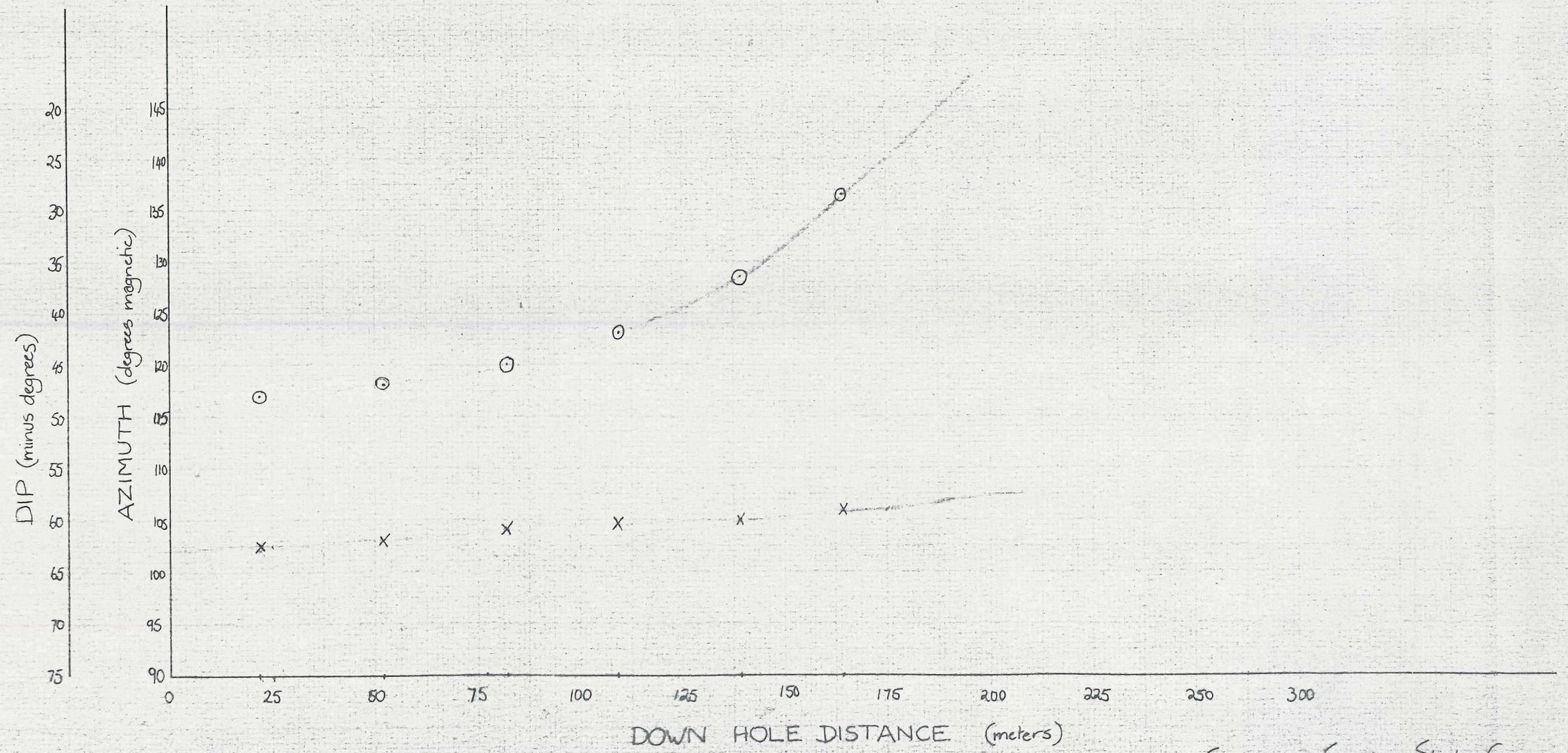
OBJECTIVE To test a coincident I.P. and Geochemical anomaly. %RECOVERY 98% CO-ORDINATES 8397.7N 4975.4E

GRID BEARING (M) 8.75° BEARING (M) 102° DIP -49.5°

SURVEY DATA			
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE
0	49.5	102	Compass and Clinometer
22	48	102.5	Eastman
52	47	103	Single Shot
82	45	104	Camera
109	42	104.5	" "
139	36.5	105	" "
169	28.5	106	" "

GRAPH DERIVED DATA						REMARKS
DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
0	49.5	102	8397.7	4975.4	662.9	
25	48	102.5	8396.6	4991.8	644.1	
50	47	103	8395.5	5008.6	625.6	
75	45.5	103.5	8394.1	5025.9	607.6	
100	43.5	104.5	8392.5	5043.6	590.1	91.4 - 91.9 m Pyrite 30%.
125	39.5	105	8390.5	5062.2	573.5	
150	33.5	105.5	8388.2	5082.2	558.7	155.8 - 157.9 m Very minor zones of
175	25	106	8385.6	5103.8	546.5	disseminated galena.
184.62	22.5	106.5	8384.4	5112.5	542.6	

QR 21.


DIP (minus degrees)
20
25
30
35
40
45
50
55
60
65
70
75
AZIMUTH (degrees magnetic)
145
140
135
130
125
120
115
110
105
100
95
90
0
25
50
75
100
125
150
175
200
225
250
300
DOWN HOLE DISTANCE (meters)
Eastman Single Shot Camera
⊙ DIP
X AZIMUTH

DIAMOND DRILL LOG

Hole N° QR 21 | Page N°. 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 (TRACE / COMMON / ABUNDANT / MASSIVE)	DEPTH m	MINERALIZATION
	0	No Core.	BROKEN CORE		
1.8	5	Lightly weathered grey-green (green when fresh). Lithic feldspar hornblende crystal tuff agglomerate. (As QR 19 0 – 120.8 m) the lithic fragments are large (to 6 cm) sub-angular, grey- green in colour and characterised by white carbonate flecks (after feldspar?). Green chlorite flecks both within the fragments and matrix are thought to represent hornblende. The matrix is of similar composition to the fragments. Occasional leached voids lined with chlorite have been noted.			Pyrite <1% as very fine disseminations within the matrix.
1.6					
0.7					
1.2	10				
1.9				10.9	Pyrite 1% – 2% as small irregular veins and as disseminations within the matrix.
0.6					
3.0	15				
	15.25			15.25	
0.6		Grey siliceous coarse lithic tuff. Fragments of fine grey tuff to 3 cm are common their outlines are mostly obscured (by alteration?). In part the unit is fine grained waterlain tuff. The matrix is fine, grey and siliceous. Scattered pale grey-green sericite aggregates are common.			Pyrite 3%, 10% where indicated as minor irregular veins aggregates and disseminations within the matrix of fine subhedral to euhedral crystals.
3.0		Weak foliation 50° to core axis.			
	20				
2.8		Below 21.8 m carbonate aggregates to 3 mm are common, together with an increased pyrite content give the rock a speckled appearance.			
2.0		Fractures 30° – 50° to core axis.			
	25				

DIAMOND DRILL LOG

Hole N° QR 21 Page N°. 2.

Feature : Bedding, Foliation, Fragment – size & shape (Fg); 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
1.0	25.4	Grey weakly sericitised coarse <u>lithic pumice tuff</u> - <u>tuff agglomerate</u>. An exceedingly heterogeneous fragmental. The rock consists of small to large (6 cm) irregularly shaped fragments of dacitic lava, fine grey tuff, grey sericitised pumice, grey chert and porphyritic rhyolite (petrology QR 14 286.8 m). Very little matrix is evident.	F	25.4	Pyrite 5%, 10% where indicated as disseminations within the matrix of fine subhedral to euhedral crystals, as irregular veins, aggregates and as fragments.
2.7			F		
2.8	30	The variation in composition of the fragments indicates that they are from more than one source.			
		32.1 m Sample for Petrology 155535.			
1.1		At 30.5 m a fine bedded tuff at 50° to core axis suggests that the unit is a waterlain tuff.			
	33.9				
1.2		<u>Fault zone</u> mainly pug. Sheared and broken core 50° to core axis.			
	35				
1.0	35.5				
0.8		Weakly sheared and sericitised down to 37 m. The unit is now a grey silicified partly disrupted lithic pumice tuff. Lithic fragments are light grey fine grained tuff, irregular in outline, occasionally up to 3 cm. Grey pumice fragments of similar size are characterised by shard like and lenticular aggregates of pale grey-green sericite.			
2.8					
1.5	40		F		
1.7			F		
			F		
3.0			c		
	45	44.5 - 48.6 m fragments of grey-white filamentus pumice are common as are fragments of pyrite to 1 cm.	F		
3.0			F		
2.0	48.7		F		
	50	<u>Fault zone</u>.	F		

DIAMOND DRILL LOG

Hole N° QR 21 | Page N°. 3.

Feature : Bedding, Foliation, Fragment – size & shape (Og); 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
	50.2								Pyrite as above.
1.0		Below the fault the unit is fragmental, grey siliceous lithic pumice tuff agglomerate. Very pale grey-green pumice fragments tend to have raggard outlines sometimes filamentus and are generally up to 5 cm in size. They characteristically contain lenticular aggregates of pale grey sericite. Occasional patches of green illite-hydromuscovite have been noted. The fragments are often completely sericitised and dark grey in colour. Lithic fragments with irregular outlines consist of grey to buff coloured dacitic lava, dark grey fine grained tuff and small pyrite fragments. Some fragments have the appearance of porphyritic rhyolite described by petrology QR 14 286.8 m.	F						
2.6									
2.4	55		F F						
3.1									
1.1	60	Weak foliation 60° to core axis.							
3.0									
3.0	65								
3.0									
3.0	70								
3.0									
	75								

DIAMOND DRILL LOG

Hole N° QR 21 | Page N°. 4.

Feature : Bedding, Foliation, Fragment – size & shape Og | 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	MINERALIZATION
			Pyrite as above.
3.0		Lithic pumice tuff agglomerate as above.	
3.0	80		
1.3		83.1 – 84 m small carbonate stringers are common.	
1.6	85		
3.0			
3.0	90		
3.0		91.9 – 92.4 m Disrupted chert and fine tuff bands 60° to core axis. Below 92.4 m the rock is generally a coarse tuff not tuff agglomerate. Small fragments (to 3 cm) of filamentus pumice are now common.	91.4 Pyrite 30% as an irregular vein of subhedral to euhedral crystals to 2 mm. 91.9 Pyrite 5% – 10% as above.
3.0	95		
3.0			
	100		

VISUAL LOG: TRACE | COMMON | ABUNDANT | MASSIVE

DIAMOND DRILL LOG

Hole N°. QR 21 Page N°. 5.

Feature : Bedding, Foliation, Fragment – size & shape Og

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
3.0		101.3 m minor band of disrupted chert with secondary pyrite.							Pyrite 5%, 10% where indicated as above. Rare secondary galena has been noted.
		102.3 - 103 m disrupted chert and highly sericitised pumice, weakly carbonated.						102.3	Pyrite 40% irregular veins and aggregates of fine subhedral to euhedral crystals.
		Weak foliation and bedding at 40° to core axis.						103	
3.0	105								
3.0		Below 107 m tuff agglomerate as described above.							
3.0	110								
3.0		113.8 - 115.9 m coarse agglomerate, fragments to 15 cm in a matrix of small fragmental material.							
	115								
3.0									
3.0	120								
3.0									
	125								

DIAMOND DRILL LOG

Hole N°. QR 21 Page N°. 6.

Feature : Bedding, Foliation, Fragment – size & shape (fg) | 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
3.0		As above.							Pyrite 5%, 10% where indicated as above.
3.0	129								
		Below 129 m the rock is generally disrupted and locally sericitised lithic tuff agglomerate, essentially similar to above. (Fragment outlines are a little more diffuse, the rock is now most likely an agglomerate - lava).							
3.0	130								
3.0									
3.0	135		c c c						
3.0			c c						
3.0	140								
3.0									
3.0	145		c						
3.0									
3.0	150								

DIAMOND DRILL LOG

Hole N°. QR 21 Page N°. 7.

Feature : Bedding, Foliation, Fragment – size & shape Og; 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
					Pyrite 5%, 10% where indicated as above.
3.0		As above.			
	155				
3.0	155.2	Gradational Contact. Mottled pale grey weakly carbonated coarse lithic tuff. Partly disrupted, this unit has a rather mottled appearance, fragment outlines are obscure. The lithic fragments appear similar to the porphyritic rhyolite as noted by petrology QR 14 286.8 m, they are nearly buff in colour, contain irregular sericite aggregates to 3 mm commonly dusted with pyrite. Small carbonate? flecks after feldspar, have been noted. Aggregates of green illite-hydro-muscovite have been noted.		155.8 156.5 157.2 157.4 157.8 157.95	Pyrite 10%. Fine to medium grained disseminated galena 5%. Trace chalcopyrite and sphalerite associated with carbonate and sericite alteration.
3.0	160				Pyrite 5%, 10% where indicated as above.
3.0	165			164.9 165.1	Pyrite 10% disseminated galena 5% trace chalcopyrite. Pyrite 5%, 10% where indicated.
3.0	167.5	Gradational Contact. Dark grey-green lithic tuff – tuff agglomerate. A rather varied unit, locally weakly chloritic, imparting the greenish colour. The fragments are generally sub-rounded grey, mottled to 5 cm with pale green sericite aggregates. A large (to 6 cm) green coloured, highly sericitised fragment with white carbonate spots is common. Other fragments are dark grey and highly sericitised. The matrix is fine grained and ashy. Carbonate spotting is common.		167.5	Pyrite 3% as irregular veins, aggregates and disseminations within the matrix, often as discrete euhedral crystals to 2 mm.
3.0	170				
3.0					
	175				

DIAMOND DRILL LOG

Hole N°. QR 21 Page N°. 8.

Feature : Bedding, Foliation, Fragment – size & shape (Fg), 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
3.0									Pyrite 3% as above.
3.0	180	As above.							
3.0									
0.62	184.62	E.O.H.							
	185								