Cominco

DRILL HOLE RECORD

Location Que River **Property** Mining Lease 2M/75 **District** Tasmania, Australia. **Bearing (M)** 98°41' **Hole No** QR 76 D.

Commenced 5.1.1976 **Completed** 12.1.1976 **% Recovery** 95.5 **Grid bearing (M)** 8.75° **Date** 12.1.1976

Objective To test P south lens 7475N, 560 RL. **Core size** NQ to 75 m BQ to 208.25 m E.O.H. **Logged** C.H. YOUNG

Co-ordinates 7472.12N 5064.49E **Dip** 50°27' **Alt./R.L.** 699.26

SURVEY DATA				GRAPH DERIVED DATA			CALCULATED CO-ORDINATES			REMARKS
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE	DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
0	50	97	Clinometer & Serveyors Pegs	0	50.5	98.75	7472.12	5064.49	699.26	144.7 m Contact DTL with PyP_1.
0	50°30'	98°41'	Surveyors Pick up	25	51.0	99.0	7472.09	5080.31	679.90	145.1 to 184.1 m Bands of semi massive
29	51	104.5	Eastman	50	51.0	99.5	7471.95	5096.04	660.47	pyrite including;
62	51	105	Single Shot	75	51.0	99.5	7471.74	5111.77	641.04	167.3 - 171.3 m Massive base metal
89	50.5	104.5	Camera	100	50.0	98.75	7471.64	5127.67	621.75	sulphides sphalerite, galena.
119	47	103	" "	125	46.5	98.5	7471.68	5144.31	603.11	172.25 - 184.1 m Bands of semi massive
135	43.5	105.5	" "	150	41.25	99.25	7471.63	5162.31	585.80	to massive pyrite with associated
152	41	104.5	" "	175	40.5	99.5	7471.43	5181.22	569.44	chalcopyrite, sphalerite and galena.
179	40.5	105	" "	208.25	40.25	100.0	7470.98	5206.54	547.90	
201	40.5	105.5	" "							

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DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE	DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
0	50	97	Clinometer & Serveyors Pegs	0	50.5	98.75	7472.12	5064.49	699.26	144.7 m Contact DTL with PyP_1.
0	50°30'	98°41'	Surveyors Pick up	25	51.0	99.0	7472.09	5080.31	679.90	145.1 to 184.1 m Bands of semi massive
29	51	104.5	Eastman	50	51.0	99.5	7471.95	5096.04	660.47	pyrite including;
62	51	105	Single Shot	75	51.0	99.5	7471.74	5111.77	641.04	167.3 - 171.3 m Massive base metal
89	50.5	104.5	Camera	100	50.0	98.75	7471.64	5127.67	621.75	sulphides sphalerite, galena.
119	47	103	" "	125	46.5	98.5	7471.68	5144.31	603.11	172.25 - 184.1 m Bands of semi massive
135	43.5	105.5	" "	150	41.25	99.25	7471.63	5162.31	585.80	to massive pyrite with associated
152	41	104.5	" "	175	40.5	99.5	7471.43	5181.22	569.44	chalcopyrite, sphalerite and galena.
179	40.5	105	" "	208.25	40.25	100.0	7470.98	5206.54	547.90	
201	40.5	105.5	" "							

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DIAMOND DRILL LOG

Hole N° QR76D 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
	5	No Core.							
	8.0								
1.0	10	DTL Weathered, partly kaolinised down to 11.0 m. Iron stained down to 14 m. Grey-buff carbonated locally chloritised feldspar crystal lithic tuff agglomerate. Fault zone. Pug, sheared and broken core.	BROKEN CORE						
	11.0								
0.8		(The rock appears to be a lava breccia) Lithic fragments from 0.5 mm to 6 cm are irregular in outline, consisting of feldspar (replaced by sericite and carbonate) in a buff-grey siliceous groundmass. Less common are fragments of grey-green vesicular lava.	BROKEN CORE						
1.0		The matrix is grey siliceous and fine grained.						14.0	Pyrite 1%-2% as disseminations, aggregates and occasional irregular veinlets.
0.8	15								
	15.2								
0.1		Fault zone. Pug, sheared and broken core. Note lost core.							
	17.0								
1.2			BROKEN CORE						
0.4									
0.9									
	20	Below 20.0 m the rock is less obviously fragmental more like a lava breccia.							
0.7		Shearing at 30° to core axis occasionally gives the rock a "shredded" appearance.							
0.1									
1.2		Fractures parallel to cleavage at 30° to core axis are occasionally chlorite lined.							
0.9									
0.8		22.1 - 22.5 m Fractures parallel to core axis.							
1.0									
	25								

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DIAMOND DRILL LOG

Hole N° QR76D Page N° 2.

Feature : Bedding, Foliation, Fragment - size & shape (D%), 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		DTL as above.			
1.1					
1.9				28.3	Pyrite 3%-5% locally 10% as disseminations, aggregates and irregular veins associated with carbonate veining. Commonly the carbonate has been removed by solution forming solution cavities about the pyrite.
1.2	30				
1.8					
1.5					
1.5					
	35				
3.0					
3.0					
	40	41.0 m 2 cm irregular grey chert band folded and faulted.			
3.0		Solution cavities are common down to 59 m.			
1.2					
	45			45.1	Pyrite 1%-2% as disseminations and aggregates of fine subhedral to euhedral crystals.
1.8					
2.5					
	50				

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DIAMOND DRILL LOG

Hole N° QR76D Page N° 3.

Feature : Bedding, Foliation, Fragment - size & shape 0%, 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
1.9		DTL as above.			Pyrite 1%-2% as above.
1.5		52.5 - 55.6 m The rock is feldspar crystal tuff lava - not brecciated.			
2.4	55				
2.0		Below 55.6 m breccia fragments up to 20 cm have been noted, green sericite aggregates often euhedral in outline replace feldspar crystals within the fragments.			
1.5					
2.5	60				
1.5			c		
0.5			F		
1.5					
3.0	65	Below 65.3 m the rock is feldspar crystal tuff lava - not brecciated.	c		
				67.4	Pyrite 5% as aggregates filling fractures.
3.0				68.0	
	70				Pyrite 1%-2% as above.
	71.85			71.85	
3.0	72.2	PyP1 Grey carbonated coarse lithic tuff. DTL as above.	F F	72.2	Pyrite 3%-5% as disseminations and aggregates of fine subhedral to euhedral crystals. Pyrite 1%-2% as above.
1.0			c		
	75				

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DIAMOND DRILL LOG

Hole N° QR76D Page N° 4.

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
1.5		Feldspar crystal tuff lava as above.							Pyrite 1%-2% as above.
1.4									
1.1									
2.6	80								
	81.5	PyP$_1$ Grey sericitised locally carbonated and silicified coarse lithic tuff.						81.5	Pyrite 3%-5% as disseminations and aggregates.
1.0	82.45	Fragments appear to be of DTL. DTL Contact 30° to C.A.						82.45	Pyrite 1%-2% as above.
	83.0	As above.							
0.1		Fault zone. Pug, sheared and broken core 30° to core axis.	BROKEN CORE						
0.2		The rock within the fault zone is grey.							
0.1	84.4								
0.2	85	Below 84.4 m the rock is green in colour due to increased chlorite alteration.							
1.9									
1.8									
0.7									
	89.85							89.85	
1.4	90	PyP$_1$ Grey sericitised locally chloritised and carbonated feldspar crystal tuff lava (altered DTL?) sheared 30° to C.A.							Pyrite 3%-5%.
								90.5	Pyrite 10% as irregular veins.
1.1	91.2	DTL Contact 30° to core axis.						91.2	Pyrite 1%-2% as disseminations and aggregates.
	92.2	As above 89.85 m.						92.2	
3.0		Pink carbonated fine feldspar quartz crystal tuff lava. (Occasionally green in colour due to minor chlorite alteration). This is a fine grained lava, "classic" DTL.							Pyrite rare.
	95	Feldspar crystals are represented by aggregates of sericite to 1 mm. Quartz grains 1 mm have been noted.							
3.0		The groundmass is fine grained and siliceous.	c						
		Minor carbonate veinlets less than 1 cm are common.	c						
3.0									
	100								

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DIAMOND DRILL LOG

Hole N° QR76D 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	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0		Irregular flow banding has been noted but is not common. The rock is largely unbroken, fractures tend to be parallel to regional cleavage at 30° - 50° to core axis.	c						Pyrite rare.
3.0	105	106.8 - 107. 1 m Magnetite is present as very fine disseminations, the rock is dark brown in colour.	c						
3.0			c						
3.0	110		c						
3.0	115		c						
3.0	117.4	MTL Brown-green carbonated locally chloritised fine feldspar crystal tuff lava. Magnetite is present as very fine disseminations.							
3.0	119.5								
3.0	120	DTL Carbonated buff-pink feldspar quartz crystal tuff lava. As above 117.4 m.	c						
3.0									
	125		c						

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.			Pyrite rare as above.
	128.2				
3.0		MTL Brown-green carbonated locally chloritised fine feldspar quartz crystal tuff lava. Magnetite is present as very fine disseminations. Crude flow banding has been noted.			
3.0	130				
	134.0				
3.0	135	DTL Buff-pale grey-green feldspar quartz crystal lava. As above 125.2 m.			
1.9		139.0 - 143 m the rock appears to be vesicular, white carbonate aggregates to 4 mm elongated in the direction of "flow"? at 40° to core axis are common.	BROKEN CORE		
1.1	140				
1.6		Below 143 m the rock is partly grey in colour due to the introduction of pyrite along "healed" fractures. Flow banding? at 55° to core axis has been noted.			
3.2				143.0	Pyrite 1%-2% as disseminations and aggregates.
	144.7	Contact 30° to core axis.		144.7	Pyrite 3%-5% as above.
1.0	145	PyP1 Grey ser (carb) lithic tuff aggl.		145.1	Pyrite 15% locally 30% as nettworks and bands of fine subhedral to euhedral crystals.
	145.1	Fault zone. Pug, sheared and broken			
	146.0	core heavily chloritised, carbonate rich			
1.4		Note, chlorite alteration zone 145.1 - 147.1 m.		146.9	Pyrite 50%, 60% where indicated, Cpy 3%-5%, trac
1.8		Bands of semi massive to massive pyrite in a grey sericitised chloritised and locally carbonated coarse lithic tuff. Lithic fragments irregular in outline are from 0.5 mm to 3 cm and appear to consist of fine grained (pyritic) tuff. The matrix is light grey and siliceous.		147.9	Sph, Gn.
				148.4	Py 3%-5% as above. Pyrite 30% locally 40% Sph 1%-2% Gn 1%-2% as disseminations and aggregates with carbonate veins
	150				

DIAMOND DRILL LOG

Hole No QR76D Page No 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	DEPTH m	MINERALIZATION
3.0		PyP_1 as above.		150.25	Py 60%-70% associated with quartz/carbonate veins
				151.0	rare Sph, Gn.
					Py 3%-5% rare Sph, Gn.
				151.6	Py 30% as disseminations, aggregates and irregular veins of fine subhedral to euhedral crystals. Trace Sph, Gn.
2.7					
	154.2			154.2	Py 60% locally 70% as disseminations, aggregates bands and irregular veins of fine subhedral to euhedral crystals. Trace Cpy rare Sph, Gn.
		Chlorite - sericite alteration associated with semi massive to massive pyrite.			
	155				
3.1					
				157.4	Py 30% as above.
				158	Py 60% trace Cpy, rare Sph, Gn as above.
3.1					
	160			160.1	Py 15% as disseminations
				160.3	
					Py 60 % Tr Cpy Rare Sph, Gn.
3.1					
				163.8	Pyrite 30%.
				164.1	Pyrite 30%-50% as disseminations, aggregates and bands.
2.5	165				
0.5		167.15 - 167.3 m Carbonate cemented breccia.		167.15	Pyrite 10%.
	167.3			167.3	Massive base metal sulphides as aggregates and bands, pyrite 50% Sph 15%-25%, Gn 10%-15%.
1.4		Massive base metal sulphides. Banded at 55° - 60° to core axis. The banding appears to be a remobilisation texture viz. streaks of recrystallised galena.	BROKEN CORE		
0.1					
0.45					
1.05					
N/C	170				
0.1					
0.7					
	171.3			171.3	Py 5%, Sph 1%-2%, Gn 1% as disseminations, aggregates and occasional fragments.
1.1		Grey sericitised locally carbonated lithic tuff band.			
	172.25			172.25	Py 50%, Sph 8%-10%, Gn 5%-8% in a sericite gangue.
1.9		Massive to semi massive pyrite with associated base metal mineralization.			
				173.75	Pyrite 30%, Sph 1%-5%, Gn 2%-3%.
	175				

DIAMOND DRILL LOG

Hole No QR76D 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
2.1		Semi massive sulphides in PyP_1 host as above. Sericite schist gangue, schistosity 30° to core axis.		175.6	Massive pyrite with chalcopyrite. Py 60% Cpy 5%-10%.
1.8				177.4	Py 20%-30%, Cpy 2%-3%.
1.2				178.95	Py 50%, Cpy 10%, Sph 1%-2%, Gn <1% as disseminations, bands and stringers.
0.2	180			180.15	Py 20%-30%, Cpy 1%-2%, Sph 1-2%, Gn 1%, with a sericit gangue.
2.2					
3.0				182.35	Py 60%, Cpy 2%-5%, Sph 3%-8%, Gn 1%-3%. Framboidal textures have been noted.
	184.9			184.1	Py 10% locally 15%, trace Sph, Gn, Cpy.
3.0	185	Grey sericitised and carbonated coarse lithic tuff. Lithic fragments from 0.5 mm to 3 cm are irregular to sub-rounded. Disrupted chert has been noted. Sericite bands of pyrite are common. Shearing at 30° to core axis.		184.9	Py 5%, locally 10% as disseminations, aggregates and irregular veins. Trace Sph, Gn.
	188.2			188.2	Py 10%, locally 15% as disseminations, aggregates and irregular bands.
3.0	190	Grey silicified locally carbonated and sericitised lithic tuff agglomerate. Lithic fragments are sub-rounded to rounded up to 6 cm, feldspar crystal tuff or tuff lava. Green sericite aggregates to 3 mm represent feldspar crystals in a fine grey siliceous groundmass.		189.3	Py 3%-5% as above.
				190.2	Py 10% locally 15% trace Sph, Gn.
3.0		The rock may represent an autobrecciated feldspar crystal tuff lava.		192.0	Py 5%-15% where indicate Cpy 1%-2% trace Sph, Gn as disseminations, aggregates and stringers.
3.0	195			195.1	Py 60% rare Sph, Gn.
				195.35	Py 3%-5% as dissemination and aggregates 30% where indicated as irregular veins, rare Sph, Gn as aggregates to 3 mm.
3.0		Below 197.0 - 198.6 m rounded cream coloured aggregates of carbonate associated with highly sericitised fragments are common.			
	200				

DIAMOND DRILL LOG

Hole No. QR76D Page No 9.

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		Grey silicified lithic tuff agglomerate as above.							Pyrite as above.
3.0	205								
2.25									
	208.25 E.O.H.								