

Drill Hole Record

Cominco

LOCATION Que River Area
 COMMENCED 26.1.1975

PROPERTY Mackintosh EL 2/70
 COMPLETED 2.2.1975

DISTRICT Tasmania, Australia
 CORE SIZE NQ to 195.15 m BQ to 293.5 m E.O.H.

ALTITUDE /RL 691.87 new RL
 CO-ORDINATES 7800.73N 5080.75 E

HOLE N° QR 15
 DATE 7.2.1975
 LOGGED R. Birrell

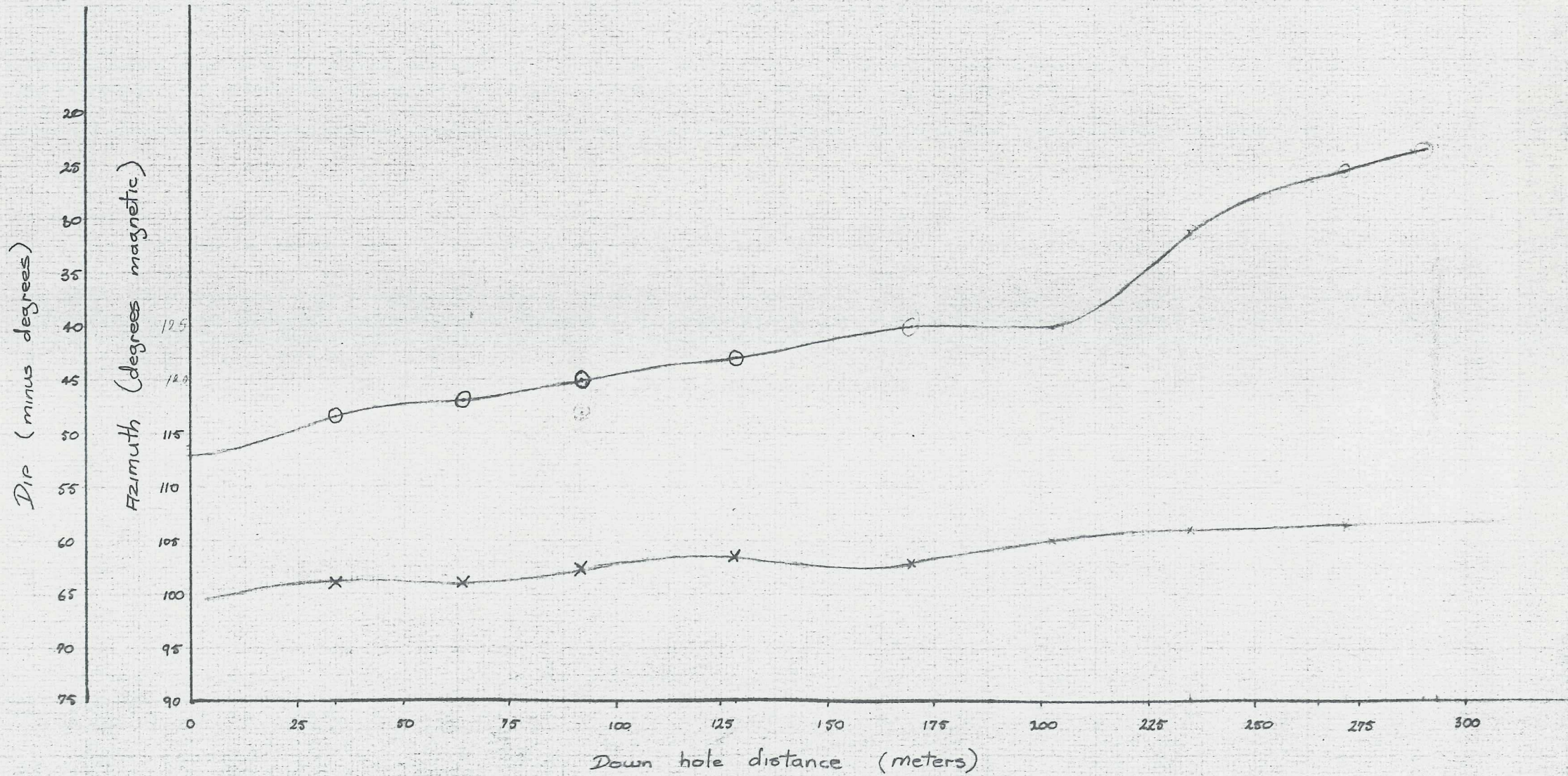
OBJECTIVE To test coincident IP and geochemical anomalies and the strike projection of the west lens.

%RECOVERY 99%
 GRID BEARING (M) 8.75°

BEARING (M) 98° (m)
 DIP -52°

SURVEY DATA				GRAPH DERIVED DATA						REMARKS
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE	DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	
0	52	98	Compass & Clinometer	0	52	98	7800.73	5080.75	691.87	
34	48.5	101	Eastman	25	49.5	101	7800.51	5096.56	672.51	
64	47.0	101	Single Shot	50	47.5	101	7799.86	5113.11	653.79	
92	45	102.5	Camera	75	46	101.5	7799.11	5130.22	635.59	
129	43	103.5	" "	100	44.5	103	7798.04	5147.78	617.83	98.7 - 104 m disrupted bands of massive base metal sulphides.
170	40	103	" "	125	43.0	103.5	7796.62	5165.78	600.54	
203	40	105	" "	150	41.5	102.5	7795.25	5184.23	583.74	
236	31	106	" "	175	40	103.4	7793.85	5203.12	567.42	
272	25.5	106.5	" "	200	40	105	7792.01	5222.18	551.35	210.1 - 210.4 m 30 cm massive base metal sulphides.
290	23.5	167?	Inside Casing	225	34.5	106	7789.67	5241.92	536.23	
				265	26	106.5	7785.17	5276.08	516.14	263 - 267.7 m disseminated base metal sulphides.
				275	25	106.5	7783.95	5285.02	511.83	
				293.5	23	107	7781.59	5301.76	504.31	

QR 15






Eastman single shot camera

○ Dip

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%













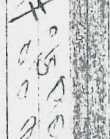

CORE REC'D	DEPTH m	GEOLOGY	VISUAL LOG	TRACE COMMON ABUNDANT MASSIVE	DEPTH m	MINERALIZATION
			000			Pyrite as above.
2.5		Slumped and disrupted bedding lies at approx. 20° to the core axis, while the foliation, emphasised by thoroughly sericitised euhedral to subhedral feldspar? crystals is about 30° to the core axis. The groundmass is fine grained and grey.				
1.9	28.2	Grey to buff coloured vitric feldspar crystal tuff. Characterised by greenish yellow aggregates of sericite (replacing vitric shards?). The matrix contains fine carbonate flecks, presumably after feldspar and otherwise is fine grained and siliceous. Grey alteration about fractures and carbonate veins are common.			28.2	Pyrite 3% as irregular veins, networks and discrete euhedral crystals.
1.6	30					
3.0						
3.0	35					
1.9	36.5	36.5 - 46 m the unit is sheared and thoroughly sericitised. Occasional fragments of chert up to 10 cm have been noted (disrupted bedding?).				
1.1	38.6	<u>Fault zone</u> mainly pug with 20% broken core.			38.6	Pyrite 10% galena 5% sphalerite 1%
	39.6					
3.0	40					Pyrite 5% as above.
3.0						
3.0	45					
3.0						
	50					Rare galena.

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	TRACE COMMON ABUNDANT MASSIVE	DEPTH m	MINERALIZATION
	3.0	As above.				As above.
	3.0					
	5.5					
	3.0					
	2.4					
	60					
	0.90	<u>Fault zone</u> 80% sheared and broken core some pug.				
	61.7	<u>Fault contact.</u>				
	2.7	<u>Lithic quartz crystal tuff</u> Coloured grey, with large (to 2 cm) fine grained dark grey angular fragments (siliceous tuff), with fine pyrite disseminations.				
	65	Dark green-grey angular to sub-rounded pumice fragments (to 5 cm) are highly sericitised, with abundant pyrite aggregates, veins and disseminations, while filamentous pumice (to 5 cm) is highly carbonated and chloritised.				
	3.0	Small veins and aggregates (to 3 m) of carbonate, and pyrite fragments (to 4 mm) are common. The groundmass is grey and "ashy".				
	70	Foliation is at 50° while fractures are 50° and 80° to core axis.				
	3.0					
	75					

58.0 Pyrite 7% occurs as above.

Feature :

Bedding 
 Foliation 
 Fragment-size & shape 

Shearing 
 Fault 
 Vein 

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	Illite-hydro-muscovite has been noted.			78.8	Pyrite 10% as irregular veins (to 6 cm) aggregates and disseminations of euhedral to subhedral crystals (to 3 mm).
	80	Gradational change				
	3.0	Pumice vitric tuff fine grained, highly sericitised and locally carbonated. Pale green sericite, characteristic of devitrified glass shards is aligned with the foliation at 50° to C.A.				
	2.0	83.05				
	2.0	Fault zone 60% sheared and broken core some pug. 40° to core axis.				
	2.0	85				
	0.90	86.8			86.8	Rare pyrite, disseminated and very fine.
	1.40	Fault contact Lithic tuff agglomerate 86.8 m - 89.2 m buff coloured 89.2 m - 92.4 m grey coloured 92.4 m - 98.7 m buff coloured				
	1.90	90				
	1.30	Large angular to subangular buff coloured fragments (to 8 cm) are carbonated and sericitised, with fine disseminated pyrite, are possibly remnants of fine tuff.				
	1.80	Filamentous pumice bands (to 5 cm) are highly sericitised. Pink fragments to 5 cm, are siliceous, possibly quartz crystal tuff.				
	1.20	95				
	2.40	Grey angular to sub-rounded fragments (to 2 cm) are occasionally siliceous usually carbonated and have pyrite disseminations. The siliceous matrix is mauve coloured. Pyrite fragments (to 2 cm) and illite-hydro-muscovite have been noted. Foliation at 30° and fractures at 40° to core axis.				
	0.90	98.7			98.7	98.7 - 99m banded pyrite 30% as fine euhedral to subhedral crystals. Trace sphalerite.
	100	Fault contact Pumice lithic tuff				

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	TRACE COMMON ABUNDANT MASSIVE	DEPTH m	MINERALIZATION
		A cyclic occurrence of sulphides, initially detrital, grade into minor massive sulphide bands. The host is sericitised and carbonated and has grey fine grained sub-rounded fragments (to 2 cm).				99 - 99.3 m banded sphalerite 25% galena 15% 99.3 - 99.8 m pyrite 7% detrital sphalerite 1%.
	3.0				104	99.8 - 100.3 m pyrite 15% as coarse aggregates fine bands and disseminations sphalerite 5% as fragments and bands, galena 3%.
	104	Below 104 m, the unit is steel-grey in colour, carbonated and occasionally silicified with local bands of sericite. Pyrite aggregates (to 4 cm) occur immediately below 104 m, then as fragments to 1 cm.				100.3 - 100.6 m massive pyrite 70% trace sphalerite and galena.
	105	Some pale grey fragments, (to 1 cm) angular to sub-rounded, are characterised by pyrite disseminations throughout. Other dark grey fragments (to 2 cm) are common, probably fine tuff.				100.6 - 102.1 pyrite 20% as bands and fragments to 1 cm galena 5% sphalerite 1%
	2.9					102 - 104 m banded pyrite 20% as above galena 1% sphalerite 1%.
	109.8	<u>Fault zone 30° to core axis.</u>				
	110	Below 110.5 m the unit is finer grained with slumped? and disrupted bedding at apparently 40° to core axis.				104 - 123 m pyrite 3% trace galena has been noted.
	110.1	Filamentous pumice exhibits "flow" characteristics suggesting an ash flow origin.				
	2.95					
	3.0					
	115					
	116.0					
	116.6	<u>Fault zone 50° to core axis.</u>				
	3.0	Fractures are ragged and vary between 20° and 60° to core axis.				
	120					
	3.0					
	123					
	2.6	Carbonated feldspar crystal tuff. <u>Fault zone broken and sheared core.</u>				123 Rare pyrite as fine aggregates.
	124.4	Carbonated and silicified fault breccia Similar unit to QR 10 0 - 66.3 m but not magnetic.				
	125					

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	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
	2.9	The unit is fine grained, finely banded and with feldspar crystals <1 mm. Carbonate alteration, (ankerite and siderite - petrology QR 2) give the following colour banding.							Pyrite as above.
	2.7	123 - 141 m greenish-buff due to chlorite sericite alteration.							
	130	141 - 154.2 m Pinkish-buff with numerous carbonate veins.							
	1.0								
	2.0								
	2.25								
	135								
	1.75								
	138								
	3.0	<u>Fault zone</u> welded fault breccia. Angular to sub-rounded chips in a carbonate-chlorite matrix.							
	140								
	140.4								
	2.15								
	3.0	Fractures are between 80° and 10° to the core axis.							
	145								
	3.0								
	3.0								
	150								





















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	filamentous pumice bands to 3 cm, are sericitised.						Pyrite as above.
	2.4	Light and dark grey angular fragments to 1 cm have pyrite inclusions (fine tuff). The unit has carbonate bands (to 5 mm) and patches (to 1 cm). Foliation and fracture can be almost parallel but foliation is usually 30°-40° to core axis while fracture is 60°.	 					
	180							
	180.6	Fault contact.					180.6	Pyrite <1%.
		Lithic agglomerate intermittent buff to grey with buff coloured fragments of carbonated feldspar crystal tuff and a grey (matrix?) fine quartz crystal tuff.						
	2.9							
	184.4	Fault zone 50% broken core 50° to C.A.						
	195							
	1.7							
	1.8	Below 188 m sericitised and carbonated filamentous pumice becomes common.						
	2.8	Fractures are ragged, 40° to 50° to core axis (can be parallel).						
	190							
	2.2							
		Illite-hydro-muscovite has been noted.						
	2.0							
	194.85	Fault contact.					194.85	Pyrite 3% as disseminations and fragments of euhedral to subhedral crystals.
	195	Lithic pumice tuff agglomerate this unit has filamentous pumice bands to 3 cm with characteristic pale green sericite in bands and replacing vitric shards. Angular to sub-angular fragments to (3 cm) of dacitic lava? have albitised feldspars.						
	1.8	Fractures are between 30° and 50° to core axis.						
	3.0	Foliation usually 50° to core axis.						
	200							

DIAMOND DRILL LOG

 Hole No: QR 15

Page No. 10.

Feature:

Bedding 
 Foliation 
 Fragment-size & shape 

Shearing 
 Fault 
 Vein - 




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
1.6		226.3 - 229 m mauve tuff agglomerate similar to 219 - 221.4 m.	Qc Og			3% pyrite as above.
2.3		Fractures are at 60° - 70° to core axis.	Og			
	229	Fault contact	Og		229	
3.0	230	<u>Carbonated feldspar crystal tuff</u> Similar to 123 - 154 m. Buff to pink coloured with grey alteration zones (to 5 mm) on irregular fractures.	Og			Pyrite <1% as disseminations fragments and discrete euhedral crystals.
1.7		231.6 - 233 m, mottled pink-grey lithic tuff.	Og			
1.0		233 - 248 m carbonated feldspar crystal tuff as above 231.6 m.	Og			
2.0	235		Og			
0.6			Og			
2.1			Og			
3.0	240	Foliation is 40° to 50° while fractures are about 60° to core axis.	Og			
3.0			Og			
	245	Sample for petrology 155550	Og			
3.0			Og			
	248	248 - 252 m the unit becomes a lithic tuff, slightly silicified, there are numerous patches with a "lime green" hue (sericite?).	Og		248	Pyrite 1% as above.
	250		Og			

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	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
									1% pyrite as above.
	3.0	Below 252 m sericitised filamentous pumice and angular fragments to 1 cm (fine tuff) become common.	0						
	255		0						
	3.0		0						
	256.5	Gradational contact						256.5	Pyrite as above and as fragments (to 1 cm).
		<u>Lithic crystal tuff</u> green-grey "speckled" appearance because of abundant carbonate, illite-hydro-muscovite and sericite, resulting from lava clast replacement (petrology QR 12).	0						
	3.0		0						
	260	Pumice fragments to 2 cm are amoeboid shaped and amygdules to 1 cm are common.	0						
	2.0	The matrix is grey and "ashy" with carbonate replacing feldspar. This unit can be correlated with QR 12, 163.5 - 171.65 m and QR 14 217.8-237.25.	0						
	263		0					263	Pyrite 7% as bands, veins and aggregates of euhedral to subhedral crystals.
	0.5	Disseminated sulphides in a thoroughly sericitised and disrupted <u>pumice lithic tuff</u> .	0						
	1.79		0					264.8	Pyrite 10% as above, galena 5% sphalerite 1%.
	265	Foliation and fracture at 60° to core axis.	0						
	1.7		0						
	3.0		0					267.7	Pyrite 5% as bands veins and aggregates of subhedral to euhedral crystals.
	270		0						
	271	Gradational contact.							
	1.8		0						
		<u>Grey pumice lithic tuff agglomerate</u> locally sericitised with pale grey angular to rounded fragments (to 10 cm) of pumice, sometimes vitric, with sericite, carbonate and occasionally pyrite replacing feldspar and glass, albitised feldspar noted?	0						
	3.0		0						
	275		0						

HOLE No QR 15

DATE 13/2/75

SAMPLE NO	FROM M	TO M	IW cm	REMARKS	INITIAL ANALYSIS:										CHECK LAB:			
					%Cu		%Pb		%Zn		%Fe	ppm Ag	ppb Au	ppm Au	INT	%Cu	%Pb	%Zn
					AAS	XRF	AAS	XRF	AAS	XRF	TIT	AAS	AAS	FIRE				
156281	261.45	262.60	115	Datum 263	0.20		0.09		0.10				47	45				
156282	262.60	263.15	55		0.03		0.03		0.02				2	30				
156283	263.15	263.93	78	Block 263.54 ties in	0.02		0.49			1.43			9	330				
156284	263.93	264.43	50		0.34		0.14		0.13				56	>500	2.7			
156285	264.43	265.07	64	Block 265.5 Measured 265.0	0.43			3.83		7.18			110	>500	3.0			
156286	265.07	265.82	75		0.18			7.40		12.9			94	>500	3.0			
156287	265.82	266.66	84	Block 267; Measured 266.66 (ie 36cm core loss	0.33			5.86		10.8			170	>500	2.0			
156288	266.66	267.26	60		0.06			1.72		3.03			56	>500	1.7			
156289	267.26	268.40	114	End of tray. Measures 268.40	0.03		0.89			1.25			31	>500	0.7			
	264.43	267.26	283		0.26		4.93		8.89				112.1		2.4			

HOLE No QR 15

DATE 12/2/75

INITIAL ANALYSIS:

CHECK LAB:

SAMPLE NO	FROM M	TO M	IW cm	REMARKS	%Cu		%Pb		%Zn		%Fe	ppm Ag	ppb Au	ppm Au	INT.	%Cu	%Pb	%Zn
					AAS	XRF	AAS	XRF	AAS	XRF	TIT	AAS	AAS	FIRE				
156269	98.27	98.77	50	Datum 97.80; Block 98.70; Measured 98.77	<0.01		0.04		0.05			< 2	< 20					
156270	98.77	99.38	61		0.40		8.56		16.7			190	>500	2.3				
156271	99.38	99.89	51		0.06		2.00		2.81			25	380					
156272	99.89	100.37	48		0.05		2.10		3.75			37	>500	1.0				
156273	100.37	100.83	46		0.29		6.32		8.73			110	>500	1.0				
156274	100.83	101.30	47	Block 100.80 Measured 100.88	0.34		10.4		13.3			72	>500	2.0				
156275	101.30	101.76	46		0.38		7.01		11.2			130	>500	4.0				
156276	101.76	102.26	50		0.43		8.72		13.4			200	>500	3.3				
156277	102.26	102.76	50		0.34		3.54		4.35			150	>500	2.3				
156278	102.76	103.26	50		0.10		3.21		4.64			69	>500	1.3				
156279	103.26	104.06	80	Block 103.80 Measured 103.89	0.27		5.56		10.3			130	240					
156280	104.06	104.60	54	Block 106.80 Measured 106.91	0.15		1.39		1.98			56	500	1.0				
	98.77	104.06	529		0.27		5.76		9.13			114.2		1.7				