Cominco

DRILL HOLE RECORD

Location Que River Area | Property MackintoshEL2/70 | District Tasmania, Australia | Alt./R.L. 695.32 | Hole No QR37

Commenced 2/5/75 | Completed 7/5/75 | Core size HQ to 197m EOH | Co-ordinate 7529.9N, 5100.6E | Date 8/5/75

Objective Definition of 'Q' lens and sampling for metallurgy. | % Recovery 92 (96 over cored interval, 9m to EOH) | Bearing (M) 98°47' | Grid bearing (M) 8.75 | Logged RDB | Dip 50°20'

SURVEY DATA

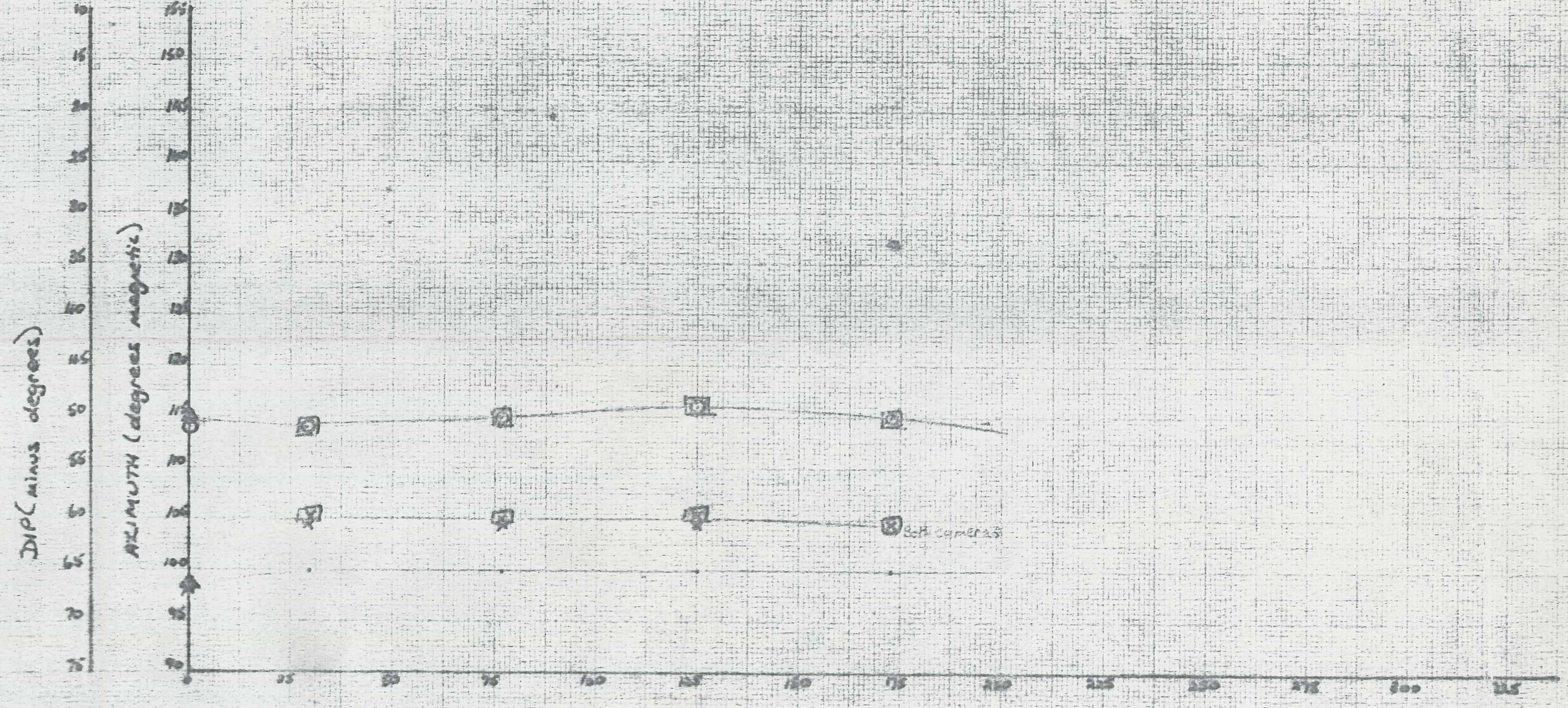
DEPTH	DIP	BEARING(M)	INSTRUMENT TYPE
0	51	98	Clino/Compass
0	50°20'	98°47'	Theodolite
* 29	51	105	Eastman
29	51	104.5	single
* 77	50	105	shot
77	50	104.5	camera
*125	49	104.5	"
125	49	105.5	"
*173	50	104.5	"
173	50	104.5	"

* Clevelands Camera.

GRAPH DERIVED DATA

DEPTH	DIP	BEARING(M)	NORTHING	EASTING	ALTITUDE	REMARKS
0	50.3	98.8	7529.9	5100.6	695.3	4.5° deducted from camera azimuth
25	51	99.5	7529.8	5116.5	676.0	to compensate for calibration
50	50.5	100	7529.6	5132.3	656.6	error.
75	50	100	7529.3	5148.3	637.4	
100	49.5	100	7529.0	5164.5	618.3	
125	49	100	7528.6	5180.8	599.4	
142.9	49	100	7528.3	5192.5	585.9	Start massive sulphide zone con-
164	49.5	100	7528.0	5206.3	569.9	taining base metal. 164m. Finish of
175	50	100	7527.9	5213.4	561.5	massive sulphide zone.
197	51	100	7527.6	5227.4	544.5	E.O.H.

QR 37



CLINOMATE Eastman Camera
☐ DIP
☒ AZIMUTH

Eastman Single Shot Camera
○ DIP
✕ AZIMUTH
△ Threshold to Pick up

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DIAMOND DRILL LOG

Hole N° QR37 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
	5	No Core							
	9.0								
1.8	10	Grey carbonated, locally chloritised and silicified, lithic tuff agglomerate.	F						Py < 1% as fine disseminations and discrete euhedral to subhedral crystals.
	10.5	FAULT ZONE: Broken and sheared core. Some fault pug. Prominent (3.8cm) core loss.	F						
1.5									
0.7	15								
	17		F						
2.1		Angular to rounded green-buff fragments (to 15cm) have euhedral and lath shaped aggregates of pale green sericite throughout. They are carbonated and often have diffuse margins because of a grey alteration? effect (possibly feldspar quartz crystal tuff). Grey fragments (to 3cm) angular to subrounded, occasionally chloritic, commonly have carbonate "spots" and discrete euhedral pyrite crystals. Other irregular "wispy" fragments (to 2cm) have lens shaped aggregates of sericite in a white matrix (white sericite?) possibly pumice or sheared feldspar crystal tuff.	BROKEN AND FAULTED CORE						
2.1	20		C						
2.9	25		C BROKEN CORE						

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DIAMOND DRILL LOG

Hole N° QR37 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
3.0		Grey brown fragments (to 1cm) have occasional occurrence - possibly dacitic lava? The matrix is generally grey, occasionally green grey, carbonated, and has sugary quartz crystals (1mm) often with corroded margins. Fine pyrite can also be disseminated throughout.	BROKEN CORE C						Pyrite < 1% as above.
3.0	30								
3.0		Irregular carbonate veins (to 0.5cm) have patchy occurrence.	C						
3.0	35								
3.0		Fractures vary between 10° and 60° to the core axis, and the unit down to 40m is badly broken.	BROKEN CORE C						
3.0	40								
3.0		Foliation is weak usually 30° to 40° to the core axis.	F						
3.0	45								
3.0									
	50								

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DIAMOND DRILL LOG

Hole N° QR37 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	TRACE	COMMON	ABUNDANT	MASSIVE	DEPTH m	MINERALIZATION
3.0		Below 53m, the matrix becomes thoroughly carbonated and irregular carbonate veins (<0.5cm) are abundant.							Pyrite <1% as above.
2.6	53.4 54.0 55	FAULT ZONE. Broken and sheared core. Some fault pug. Around 53m, brecciated "bands" to .20cm have been healed with carbonate.	BROKEN CORE						
3.0									
3.0	60 61	FAULT ZONE: Pug and badly broken core. Fractures usually 20° to the core axis.							At 60m, the unit is disrupted and irregular carbonate veins and aggregates have fine dusty pyrite aggregates throughout.
3.0	63.5								
3.0	65 65.6 66	FAULT ZONE DTL Speckled green-grey/green grey, carbonated, chloritised quartz feldspar hornblende? crystal tuff lava. The unit is fine grained and has dark green chlorite flecks possibly replacing hornblende? and sugary quartz crystals (<1mm) surrounded by fine carbonate. Carbonate amygdales (to 1cm) and irregular aggregates (to 2mm) are abundant and impart a speckled appearance. Below 71m, decreased chlorite and increased carbonate alteration gives a pinkish-grey hue in some areas.							
3.0	70								
3.0	75								

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DIAMOND DRILL LOG

Hole N° QR37 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
	75.2			75.2	
	75.8	PyP			
3.0	76.2	FAULT ZONE Rug and broken core			Pyrite 1% as aggregates, veins and disseminations of fine euhedral to subhedral crystals.
3.0		Grey, carbonated, locally sericitised coarse lithic tuff. Angular to subrounded fragments (to 3cm) include fine grey tuff, dacitic lava? carbonated feldspar crystal tuff and grey chert nodules.			
	80			80	
3.0		The matrix is light grey carbonated and has abundant sugary quartz crystals (< 1mm).			Py 7% as fine disseminated dust, discrete euhedral crystals, and coarse aggregates and veins of subhedral crystals (to 1mm).
3.0		Below 80m, the unit becomes flooded with fine dusty pyrite, although some zones, not quite as pyritic, have large fragments (to 5cm) flooded with pyrite aggregates and fine dust.			
	85				
3.0		Below 87m, although still pyritic, sericitisation at the expense of pyrite in fragments, emphasises the coarse lithic nature of the unit. The matrix is very pyritic.		87	Py 20% as above.
	90				
3.0					
3.0		Below 93.5m, the unit is not as coarse, and similar to above 87m		93.5	Py 7% as above. Tr. Gn and Sph occur as irregular veins and aggregates.
	95				
3.0					
3.0					
	100				

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DIAMOND DRILL LOG

Hole Nº QR37 Page Nº 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
		As above.				Py 5% as above.
3.0	103.65	Grey lithic tuff, similar to above but not as coarse.				
3.0	104.8	Dark green-grey, thoroughly chloritised, locally carbonated and sericitised lithic tuff/tuff agglomerate. In most zones, textural and compositional features have been obliterated by chlorite alteration, however in some areas preferential alteration of the matrix (carbonate) and fragments (chlorite) emphasises the coarse nature of the unit.			104.8	Py 3% as fine disseminations, aggregates and discrete euhedral crystals.
3.0	110					
1.15	110.6	FAULT ZONE: Thoroughly broken and sheared core. Some fault pug 1m core loss.	F			
0.95	112.1	It appears that thoroughly chloritised areas are usually badly broken, (not necessarily faulted) while carbonated zones are usually more competent. Fractures vary but are usually between 30° and 60° to the core axis and often have chlorite and carbonate "smeared" slickensides. Carbonate veining is minimal.			112.1	Py 10% as above.
3.0	115					
3.0	120					
3.0	121.3	FAULT ZONE: Badly broken and sheared core. Some fault pug.	F			
	124.65	Grey-green grey thoroughly	B F		124.65	Py 3% as above.
	125					

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DIAMOND DRILL LOG

Hole Nº QR37 Page Nº 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	DEPTH m	MINERALIZATION
3.0	129.7	sericitised and carbonated tuff agglomerate. Grey green angular fragments to 15cm, are thoroughly and often have carbonate flecks (<1mm) throughout. The matrix is grey, carbonated and often flooded with fine dusty pyrite. Carbonate aggregates (to 0.5cm) are common. Fractures are usually 40° to the core axis.			Py 3%
3.0	130				
	130.7	FAULT ZONE: Fault pug, some sheared and broken core.			
3.0	132.4	Below 130.7, the unit becomes very disrupted and thoroughly carbonated.			
		FAULT ZONE: Badly broken and sheared core.			
	133.6				
	134.35	Fault bound block of massive base metal sulphides.		134.35	Py 20% as bands, veins and aggreg-
3.0	135				
	135.2	PyP		135.2	ates of euhedral to
	135.75	MP Speckled green-grey carbonated coarse lithic tuff. Illite-hydromuscovite is abundant.			subhedral crystals. Sph 15%, Gn 10% as
	136.4	PyP			bands and aggreg-
3.0		Grey thoroughly sericitised and carbonated tuff agglomerate similar to above between 124.65m and 129.7m. Occasional aggregates and bands of massive pyrite often containing base metal mineralisation occur throughout.			ates. Tr. Cpy as blebs < 1mm. Below 135.2, Py 1%, 138-140.4. Py 40%, Sph 10%, Gn 15% as
				138	aggregates and band
	140				to 10cm. Tr. Cpy.
3.0				140.4	Py 5% as aggregates and veins. Tr. Sph, Gn, Cpy.
	142.9	Zone of massive base metal sulphides. Disrupted sulphide bands and distorted bedding? around massive blocks of sulphide (to 4cm) may indicate slump phenomena.		142.9	Py 10% as bands and aggregates of coarse eu- to sub-hedral crystals. Sph 50% as yellow-brown disrupted bands (to 1cm) aggregates (to 2cm) as rich red-brown bands to 20cm. Gn30 occurs as coarsely
3.0	145				
				147.2	crys. aggregates (to 4cm) & veins in Sph bands (to 1cm). Also as fine disseminations in possibly black graphite. Tr. Cpy occurs as blebs occasionally. Below 147.2m, Py 60%, red-brown Sph 20%, Gn 10%, Cpy 1% all occur as above
3.0	150				

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DIAMOND DRILL LOG

Hole Nº QR37 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		As above.		151.5	Py 10%. Dark red-brown Sph 50%, Gn20% Cpy 1%. The sulphide are not as disrupted and banding is generally finer.
3.0					
	155				
3.0					
				158	Py 10%, Sph 30%, Gn 15%, Tr. Cpy, all occur as above.
3.0				159.4	Py 50%, Sph 20%, Gn 15%, tr. Cpy. Sph & Gn commonly occur as disrupted blocks (to 5cm) and bands (to 3cm).
	160			161.2	161.2-162.3. Py 20% Sph 10%, Gn 5% as veins & aggregates (to 1cm).
3.0				162.3	
	164	Grey thoroughly sericitised tuff agglomerate. Similar to above between 135.4m and 142.9m.		164	162.3-164. Py 70%, Sph 1%, Gn 1%, Cpy 1%
	165				164-166.2. Py 30% as aggregates, veins & disseminations of eu- to sub-hedral crystals.
3.0					
	166.2	Fault Contact		166.2	
		Light grey carbonated coarse lithic tuff/tuff agglomerate. Dark grey pyritic fragments to 3cm, angular to subrounded have euhedral sericite aggregates (< 1mm), possibly feldspar crystal tuff. Other angular fragments to 6cm grey and slightly siliceous may be dacitic lava fragments. Smaller fragments (to 1cm) have dark green chlorite flecks (< 1mm) possibly replacing hornblende, and with abundant sugary quartz, the fragments may be a quartz hornblende crystal tuff.		166.7	Below 166.2. Py 3% as above; where indicated 70% as aggregates & veins with Cpy 3%.
3.0				167.3	
	170			170	
3.0				171.4	
3.0					
	175				

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DIAMOND DRILL LOG

Hole N° QR37 Page N° 8

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
		The matrix is light grey, carbonated and "ashy" with fine sugary quartz crystals (< 1mm).			175.2	Pyrite as above.
					176	
3.0						
	180					
3.0						
		Carbonate veins and aggregates occur in locally disrupted zones.				
3.0						
	185					Below 185m, Py 5% occurs as above. Tr. Gn and Sph also occur where indicated as crystalline veins and aggregates.
3.0						
3.0						
	190					
3.0						
3.0						
	195					
	197	E.O.H.				

HOLE No QR 37 DATE 21,24/5/75

SAMPLE No	FROM (M)	TO (M)	IW (cm)	REMARKS	INITIAL ANALYSIS: %Cu AAS	%Cu XRF	%Pb AAS	%Pb XRF	%Zn AAS	%Zn XRF	%Fe TIT	ppm Ag AAS	ppb Au AAS	ppm Au FIRE	CHECK LAB: INT.	%Cu XRF	%Pb XRF	%Zn XRF
159533	133.75	134.44	69		0.03		0.49			1.02		24	220					
159534	134.44	135.14	70		0.35			13.6		22.5		310	>500	5.7				
159535	135.14	135.72	58		0.45			3.76		8.77		125	>500	6.0				
159536	135.72	136.34	62		0.07		0.67			1.27		22	360					
159537	136.34	137.14	80		0.01		0.14		0.10			8	190					
159538	137.14	137.95	81		0.13			1.42		4.17		70	>500	2.7				
159539	137.95	139.05	110		0.27			5.94		9.84		160	>500	10.0				
159540	139.05	140.70	165		0.20			9.26		13.2		210	>500	8.3				
159541	140.70	142.89	219		0.06			1.05		2.28		40	>500	3.7				
159542	142.89	144.43	154		0.40			23.3		33.5		470	>500	11.0				
159543	144.43	147.16	273		0.35			16.8		29.7		490	>500	10.0				
159544	147.16	148.88	172		0.28			9.56		23.4		360	>500	6.5				
159545	148.88	151.54	266		0.62			18.0		29.3		260	>500	2.7				
159546	151.54	152.74	120		0.29			15.8		30.0		350	>500	4.7				
159547	152.74	153.68	94		0.46			11.2		30.1		220	>500	6.0				
159548	153.68	155.41	173		0.48			20.7		35.1		380	>500	6.3				
159549	155.41	158.03	262		0.32			16.8		31.6		330	>500	9.0				
159550	158.03	159.36	133		0.33			15.1		25.0		380	>500	3.7				
159551	159.36	161.25	189		0.29			15.1		25.8		360	>500	7.3				
159552	161.25	162.10	85		0.19			12.4		18.2		340	>500	6.7				
159553	162.10	163.42	132		0.32			7.70		13.4		68	250					
159554	163.42	164.22	80		0.30			8.30		16.8		61	380					
159555	164.22	165.25	103		0.09			2.03		4.61		17	430					
159556	165.25	165.92	67		0.10			1.23		2.12		20	200					
159557	165.92	166.60	68		0.08			1.12		2.53		17	220					
159558	166.60	167.22	62		0.02		0.16		0.06			8	130					
159559	167.22	169.96	274		0.13		0.09		0.14			8	160					
159560	169.96	171.45	149			2.81	0.18		0.17			45	>500	1.7				
159561	171.45	172.02	57		0.14		0.10		0.08			8	330					
159562	174.72	175.20	38		0.04		0.15		0.17			6	210					
159563	175.20	175.97	77			2.81	0.11		0.11			31	>500	1.3				
159564	175.97	176.53	56		0.03		0.10		0.15			4	70					
	134.44	165.25	3081		0.31		12.4		21.25			263.8		5.7		0.32	11.3	19.6