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Billtion Exploration Canada Ltd. / Celtic Minerals Ltd.
Diamond Drill Log

DRILLED BY: Petro Drilling (NQ) **LOCATION:** L-4+00 E 0+75 S **Grid Map Reference:** 12A / 16 **Claim #:** 7402M
Location: UTM NAD 27, Zone 21 539001.22 E, 5417655.23 N (Handheld GPS) **PROPERTY:** Buchans Junction North (Joe Glodes)
DATE COMPLETED: 06/15/00 **DATE LOGGED:** 06/29/00 **TOTAL Meterage:** 178.92 m **AZIMUTH:** 140° **LOGGED BY:** Trevor Rice **DATE STARTED:** 06/13/00
Dip of Hole at: Collar -50° → 140° **at:** 194.16 m -46° → 140°
 NOTE: Geochemistry sheet added at back / Casing left in hole

FROM	TO	DESCRIPTION
0	5.92 m	Overburden
5.92 m	20.71	Rhyolite Light Grey to light blue-grey massive plagioclase phenocrystic rhyolite. - Non-magnetic - Plag crystals rounded to lath shaped (1-3mm) accounts for 10% interval. - Locally apple green coloured, weakly silicified - Few quartz eyes present Mineralization · Trace to 1% disseminated pyrite, pyrite form cubic crystals (~0.5mm) · Stringer pyrite along thin discrete chloritic fracture planes. Stringers do not exceed 2cm and usually cut core at 70 - 80 ° to c.a. Frequency : 1 stringer per 3 m of interval. · Lower contact is sharp at 70° to c.a.
20.71	29.10	Mafic Crystal Tuff Dark green non-magnetic fine to coarse grained mafic crystal tuff. - Plag phyric. Size 0.5-3mm, subhedral. Occasionally epidote altered. Phenocrysts located throughout unit. - Mafic mineral altered to chlorite - Minor chloritization along fracture planes - Weak fabric at 60 - 70° to c.a. Mineralization - Local trace disseminated pyrite and thin (1-2mm) discontinuous pyrite stringers along fracture planes. - Lower contact graditional; parallel to fabric at 60-70 ° to c.a.
70.43	73.02	Mafic Tuff Medium grained dark to light green non-magnetic mafic tuff. - Pervasive epidote alteration throughout unit . Appears as thin veinlets parallel to fabric, 1mm altered crystal fragments, and as large blebs. Blebs are locally pyritic. - Well developed fabric at 60 ° to c.a. From 29.1 –32.17 interval moderately chloritized (scrape with fingernail) and locally quartz flooded. Interval contains trace –1% stringer py. Rare cpy. At 31.78 m 1 cm pyritic stringer containing 25% sulphides with minor chalcopyrite. - Tiny maroon fragments noted at 29.2 m From 32.17-36.9 m · Trace disseminated pyrite · Lower contact quartz flooded over 15 cm. Contact at 50 ° to c.a.

- 36.9 42.72 Mafic Ash Tuff
Dark green non-magnetic mafic ash tuff. Has massive to laminated appearance.
- Well developed fabric at 60-70 to c.a.
 - Fine grained plag < 1mm. Mafic minerals altered to chlorite
 - Minor epidote alteration along fabric. Local epidote replacement near bottom of unit
 - Lower 1 m of interval moderately chloritized
 - Lower contact sharp at 85 ° to c.a.
- 42.72 44.45 Rhyolite
Dark grey massive rhyolite. Non magnetic
- Few plag and quartz phenocrysts noted
 - Trace f.g disseminated pyrite, possible sphalerite flake noted. Minor amounts of calcopyrite associated with quartz carbonate veining. Quartz / carbonate veining ~3% of interval
 - Lower contact sharp at 50 ° to c.a. Masked by quartz/ carbonate flooding
- 44.45 66.1 Mafic Tuff
Dark to light green mafic tuff. Weakly magnetic locally fabric at 60-70° to c.a.
- From 44.45-53.25m
- Moderate chloritic alteration. Stringer pyrite toward upper contact
 - At 49.39 thin (1-2mm) maroon coloured magnetic band.
 - Peppered with epidote amygdules (1-4mm)
- From 53.25-66.10m
- Lesser epidotization than noted above. Consists of large epidote patches with fewer amygdules
 - Py stringers along chloritized fabric planes
 - Lower contact for interval graditional
- From 49.7-50.93m
- Dark grey felsic dyke
 - Contains few rounded and stretched (~1mm) calcite filled amygdules.
 - Upper and lower contacts sharp
- From 54.72-55.7m
- Massive apple green rhyolite
 - Plag phyric and local quartz eyes
 - Anastomosing thin chloritic fractures
 - Trace disseminated fine grained pyrite
 - Both contacts sharp at 50° to c.a. Contacts parallel to fabric
- From 61.63-64.02
- Light grey to blue-grey massive rhyolitic dykes
 - Plag phyric (5%)
 - Trace disseminated py
 - Contact sharp at 60 ° to c.a.

66.10	109.41	· Mafic host f.g and chloritic near felsic contacts Mafic Crystal Tuff Dark to light green fg-mg weakly magnetic mafic crystal tuff · Plag phenocrysts (1-2mm) · Well developed fabric at 65-75° to c.a. locally kinked · Trace to locally 2% stringer and disseminated py. Occasionally blebs cpy From 71.0m-77.92m · Core blocky · Chloritic alteration - pyrite mineralization elevated in following sections: 71.32-71.72m- 5-10% blebby py in stringer 78.72-79.92m - 5-8% stringer (1-3mm thick) pyrite From 86.18-86.30m · 15-20% pyrite in calcite carbonate vein From 99.80-105.01 · light olive green tuff carrying quartz porphyroblasts? Well rounded and up to 1cm. possible pyroclastic unit. From 105.01-105.49, 107.86-108.81m · Light grey rhyolitic dyke · 1-3% disseminated py · contacts sharp at 45° to c.a.
109.41	115.78	Rhyolite Light grey plag phyric rhyolite. Massive in appearance · plag phenos 1-2 mm, subhedral · few quartz eyes noted · weakly silicified · trace pyrite · upper contact sharp at 50° to c.a. · lower contact gradational at 45 - 50° to c.a.
115.78	117.54	Mafic Tuff Dark green mg mafic tuff. · Trace to locally 1-2% blebby py From 116.27-116.89 · Felsic dyke
117.54	124.03	Rhyolite Light grey to candy apple green massive rhyolite · Local pinkish potassic fracturing · Weak to moderate silification. Plag phenos wiped out · Trace disseminated fg pyrite and stringer pyrite along chloritic fractures. Minor blebs chalcopyrite in lower 8 cm. · Lower contact at 45° to c.a.
124.03	143.07	Mafic Tuff Dark green non-magnetic fg-mg mafic tuff. · Good fabric at 70 - 80° to c.a. From 124.03-132.0m · F.g tuff with 1-2 % py stringers. Locally up to 5% over 50 cm.

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From 132.5-134.63 m

- Minor epidote filled amygdules up to 1cm (rounded)

From 134.63-140.82

- Fg light green plag phyric mafic dyke

From 140.82-142.85

- Wispy carbonate alteration 20% of interval
- At 142.64, 1 cm sulphide stringer (25% sulphides) 90 – 95% py and 5-10% cpy.

143.07	146.37	Dark grey massive rhyolite
		· Trace disseminated py. Occasional cpy bleb.
146.37	173.6	Mafic tuff
		Dark to light green mafic tuff
		Locally magnetic
		· Upper 10 m appear more similar to a mafic flow. Abundant epidote alteration: as amygdules and as patchy blobs.
		· Trace disseminated py
		· Lower contact gradition
		From 152.73-153.43
		· Felsic dyke
		· Trace disseminated py
173.60	194.16	Dark to light green mg-cg mafic tuff with intermixed monolithic mafic fragmental?
		· Fragments are 0.5 – 1 cm and are oblong shaped. Parallel to fabric at 60 - 70 ° to c.a. Fragments can be silicified.
		· F.g light coloured chloritic matrix. Matrix supported
		· Trace disseminated py. Occasional cpy bleb.
194.16		End of Hole

Hole ID: BJN 00-02		Company: Billiton / Celtic Minerals		Core Geochemistry
Type	From	To	Length	Description
43169	30.0	32.17	2.17	Chloritized mafic tuff. Thin stringer py with blebs cpy. (1% of core sulphides)
43170	44.45	47.45	3.0	2% py (stringer) in chloritized mafic . Local cpy
43171	71.30	72.3	1.0	5% py stringer in chloritized mafic
43172	77.72	80.72	3.0	5-10 % py over 1m
43173	86.0	89.0	3.0	1% stringer py. (15-20% Sulphides – 86.18-86.36 m)
43174	124.66	127.66	3.0	2-3% stringer py in chloritized mafic
Whole Rock				
36203	19.31	19.61	0.30	Silica altered plag phyrlic rhyolite (trace disseminated)
36204	102.72	103.02	0.30	Mafic tuff, Felsic Pyroclastic?
36205	113.6	113.90	0.30	Silicified rhyolite (local chloritic veinlets in sample) trace py