

Project Grew Creek - Yukon  
Area Carlos Zone Resource

**Golden Predator**  
Program 2011  
Logger S O'Connor

Hole name GC11-276  
Length (m) 220.97  
Log Date May 1, 2011

## LITHO

mFrom	mTo	Lith1	Relog	Comments
64.00	66.81	Iv	0	Pale green, heavily smectite-altered volcanic. Intermediate (rare feldspar phenocrysts), carbonate and quartz amygdules. 65.82-66.20: dark grey silicified ash tuff cut by quartz veins. Uphole boundary brecciated in green volcanic matrix.
66.81	68.13	Fvr	0	Strongly clay-altered coarse ash crystal tuff, friable.
68.13	69.16	Iv	0	Pale green intermediate volcanic, sharp contacts with maroon margins.
69.16	73.61	Fvr	0	Fine ash crystal tuff. Quartz>feldspar, with feldspar and pumice (?) lapilli, wispy green quartz porphyry clasts. 69.52-70.10: Fine ash tuff appears welded, wispy black laminations define a subtle fabric in matrix. Clasts imbricated parallel to fabric.
73.61	75.41	Fvr	0	Strong argillic alteration (smectite in matrix). Core swelling. Increased disseminated pyrite.
75.41	78.78	Fvr	0	Quartz>feldspar crystal coarse ash tuff with 5% black lithics, disseminated pyrite, argillized matrix.
78.78	82.76	Fvr	0	Crystal coarse ash tuff, moderately argillized throughout. Clasts of unaltered, fine ash crystal tuff and quartz vein in altered tuff matrix.
82.76	85.70	Fvr	0	Quartz>feldspar crystal coarse ash tuff, minor black lithic fragments. Disseminated pyrite and clots. White or green lapilli of quartz porphyry.
85.70	89.14	Fvr	0	Crystal coarse ash tuff, moderately and pervasively clay-altered. Matrix appears slightly brecciated/autoclastic. Intervals cut by dark grey clay/sulfide veinlets.
89.14	98.00	Fvr	0	Crystal fine ash tuff. Green porphyry and feldspar lapilli. Pyrite disseminated and replacing lithic clasts. Matrix weakly clay-altered. 92.37-92.53: pale tan volcanic (?), brecciated by carbonate veinlets, cut and offset by clay-sulfide fracture 96.32-97.07: pale green intermediate volcanic, carbonate and quartz amygdules, sub-mm rounded feldspar phenocrysts or amygdules
98.00	103.53	Fvr	0	Dark grey fine to coarse ash tuff, fine quartz and feldspar crystal fragments and feldspar lapilli. Disseminated and clotted pyrite. Black lithic fragments <5%. Carbonate after feldspar lapilli, illite/kaolinite throughout. Cut by carbonate>quartz veins and stockworks. Matrix fine-grained and clay-altered, core generally friable. 98.00-98.44: irregular 1-2 cm quartz < carbonate vein/stockwork, parallel TCA. 99.88-100.30: amygdaloidal green volcanic along core axis 101.00-102.30: dark grey, carbonate-rich brecciated and recemented (?) tuff, abundant green porphyry
103.53	114.39	Fvr	0	Friable feldspar lapilli to quartz>feldspar fine ash tuff, dark grey, carbonate and illite after feldspar lapilli, illite/smectite throughout matrix. 105.28-105.87: smectite-rich green volcanic. Boundaries dark grey clay-altered. 109.98-110.89: multi cm tuff clasts in a more altered matrix - brecciated and recemented? 111.67-112.25: smectite-altered green volcanic parallel TCA. Margins dark clay and heavily sulfitized.

**LITHO**

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114.39	125.47	Fvr	0	Dark grey tuff, fine ash quartz+feldspar+lithic matrix, fsp+quartz+green porphyry lapilli. Cut by green quartz porphyry dykes/veins and with wispy porphyry bombs. Matrix weakly to moderately smectite-altered. Feldspar lapilli altered to illite and carbonate. Veins are illite/smectite with pyrite fracture fill. 115.47-115.67: brecciated tuff, quartz-fine ash/chalcedony clasts in tuff matrix. 118.67-120.00: slight welding texture - weak fabric/imbrication of fragments, carbonized fragments 120.69-121.65: 2-3 mm sulfide clay fracture, undulose and sub parallel to core axis. 123.06-123.31: black brown laminations in matrix, feldspar and porphyry lapilli with wispy/cuspate margins - welding? 124.00-124.10: 4 cm wide brecciated green quartz porphyry dyke, strongly sulfitic. Cuts intact, unaltered green
125.47	135.55	Fvr	0	Quartz feldspar crystal lapilli tuff, 2-5 mm feldspar and quartz pyroclasts angular to subrounded. Minor lithics, common porphyry throughout. Carbonate after feldspar clasts. Illite along fractures. 126.49-126.83: fine ash matrix, glassy, feldspar and quartz lapilli, disaggregating green quartz feldspar porphyry. 129.97-130.27: banded quartz<feldspar porphyry, cut by tan veins. Feldspar 7-15 mm, quartz crystals 2-4 mm. Bands/laminations parallel to contacts with tuff around 20 degrees to core axis. 131.22-131.60: green feldspar-quartz porphyry and quartz-carbonate vein in tan vein stockwork/breccia matrix 133.38-134.00: interval of equigranular coarse ash crystal tuff ("salt and pepper") with clasts of fine grey ash tuff and feldspar lapilli tuff (as overlying unit) up to 5 cm.
135.55	140.80	Fvr	0	Crystal coarse ash tuff, 5-10% lithic clasts, quartz>feldspar, moderately to well sorted ("salt and pepper"). Cut by quartz carbonate veins and tan/buff stringers. Light white clay dusting in matrix and along fractures. 138.02-139.21: quartz carbonate vein, banded on 20-40 mm intervals, broken core, around 45 degrees TCA 140.35-140.80: quartz-carbonate vein parallel to core axis, 12 mm
140.80	147.62	Fvr	0	Quartz>feldspar crystal coarse ash tuff, 5-10% lithic fragments. 5% feldspar lapilli. Illite/kaolinite throughout matrix, carbonate after feldspar lapilli. Matrix is quartz-rich, but not silicified. Minor tan +/- carbonate stringers.
147.62	158.08	Fvr	0	Quartz>feldspar crystal coarse ash tuff, minor lithics cut by quartz carbonate veins, tan stringers and stockworks 148.82-149.07: quartz-carbonate vein, shattered, around 30 degrees to core axis uphole 149.82-150.77: brecciated quartz carbonate vein, broken core 152.08-152.27: banded quartz-carbonate vein, 45 mm, 25 degrees to core axis 152.51-152.60: banded quartz-carbonate vein, 40 mm, around 45 degrees to core axis but non planar in core 154.05-154.20: green porphyry, carbonate after 5-10 mm feldspar crystals with 3-6 mm quartz crystals 154.55-155.33: set of two 10-15 mm quartz-carbonate veins, 20 and 30 degrees to core axis, and a quartz carbonate stockwork

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mFrom	mTo	Lith1	Relog	Comments
158.08	176.98	Fvr	0	<p>Crystal (quartz&gt;feldspar) coarse ash tuff, grey, silicified proximally to veins. Generally coarsens downhole with some fine ash and lapilli beds. Bedding contacts are gradational. Lithic fragments are black or grey, comprise 5-7% of matrix, grade from ash to lapilli and are subrounded. Cut by quartz-carbonate and tan veinlets.</p> <p>161.13-161.72: banded quartz+carbonate+adularia (?) (hard,pink) vein around 60 degrees to core axis. Excellent bladed quartz/angel wing texture uphole.</p> <p>162.54-162.93: irregular quartz-carbonate vein with stockwork uphole</p> <p>162.82-163.17: white feldspar lapilli to coarse ash bed, boundaries approximately perpendicular to core axis. Brecciated clast past boundary into downhole tuff.</p> <p>165.12-165.31: 92 mm wide banded quartz-carbonate vein brecciated by light beige carbonate stockwork, 55 degrees to core axis</p> <p>166.24-166.37: irregular/non-planar broken quartz vein cut by tan and carbonate veins</p> <p>167.00-167.21: set of quartz veins, 1-2 mm bands/laminations, cut by carbonate veins (parallel), both 60 degrees to core axis</p> <p>168.05-168.15: banded quartz&gt;carbonate vein offset by hairline carbonate veinlet</p> <p>168.87-169.05: quartz&lt;carbonate stockwork veins</p> <p>170.63-170.79: banded quartz-carbonate vein, 60 degrees to core axis</p>
176.98	183.27	Fvr	0	<p>Quartz&gt;feldspar crystal coarse ash tuff, matrix argillicized but with quartz flooding adjacent to veins. Lithic lasts around 5%. Crystal clasts are uniformly 1-2mm in diameter (equigranular).</p> <p>179.55-179.87: feldspar lapilli and quartz coarse ash bed</p> <p>180.04-180.13: milky/opaque quartz vein brecciated by carbonate stockwork</p> <p>180.61-180.97: tan-green intermediate volcanic cutting tuff, wallrock tuff clasts up to 5 mm in volcanic. Carbonate along margins - cutting older vein?</p>
183.27	187.44	lv	0	<p>Green volcanic, fine feldspar phyrlic, carbonate and quartz amygdules. Cut by carbonate-quartz veins and veinlets, smectite and illite altered throughout. Carbonate veins along margins.</p> <p>184.58-184.77: milky, opaque quartz carbonte veins with wallrock volcanic clasts, 40 degrees to core axis</p>
187.44	191.91	Fvr	0	<p>Crystal coarse ash tuff, only weakly altered.</p> <p>189.38-189.58: vein (carbonate&gt;&gt;quartz) brecciating fine ash bed/chalcedony? In tuff</p> <p>190.04-190.10: quartz carbonate vein, 70 degrees to core axis, 3 cm wide</p>
191.91	197.32	Fvr	0	Argillicization increases, crystal coarse ash tuff with homogenous/autobreccia interval from 192.10 to 193.87

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197.32	204.21	Fvr	0	Crystal lithic coarse ash tuff, quartz>feldspar>lithic pyroclasts, matrix fine quartz and feldspar. Scattered feldspar and lithic lapilli. Massive. Argillicization throughout matrix. Pyrite replaces some lithic clasts. Cut by 2-3 mm tan veins (H=2-4, unreactive) and finer stockworks. Tan veins universally irregular, whether discontinuous, undulose, or splash-shaped.
204.21	215.12	Fvr	0	Crystal lithic coarse ash to lapilli tuff. Quartz >feldspar crystals predominate, up to 7% rounded black friable lithic fragments. Lapilli are feldspar or lithics. Argillicized matrix silica altered adjacent to veins. Cut by tan veins and stockworks as above interval. 205.00-206.21: pink adularia vein around 2 cm wide brecciated by stockwork of tan and carbonate veins. Parallel to core axis. 209.41-209.81: two 1-2 cm quartz carbonate veins 25 and 45 degrees to core axis, both cut by tan, wallrock clast bearing veins. 211.43-212.26: 3 mm quartz carbonate vein parallel to core axis. Parallel tan vein cuts along one margin. Tuff fsp
215.12	220.97	Fvr	0	Lightly altered crystal lithic tuff, pyrite after lithic clasts, quartz>feldspar pyroclasts. Scattered tan vein(let)s. 219.50-220.97: cracks in matrix give tuff a brecciated appearance. Coarsens significantly downhole.

#### ALTERATION

mFrom	mTo	Alt1	Relog	Comments
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#### MINERALISATION

mFrom	mTo	Min1	Relog	Comments
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#### VEINS

mFrom	mTo	Vein1	Relog	Comments
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#### STRUCTURES

mFrom	mTo	Struct1	Relog	Comments
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