

Logged by:		C. Couëslan				Date logged: 2020/07/17	
Location:		Huzyk Creek				Continuous core	
UTM zone	14	Easting:	479752	Northing:	6014982	Core size: NQ	
DDH#	HZ-19-1	Azimuth:	322°	Plunge:	55°	Unit: meters	
From:	To:	Description:					
70.8	71.5	Regolith					
		Not revisited.					
71.5	82.75	Plagioclase Amphibolite–Hornblende Gneiss / Calcsilicate / Pegmatite, pink					
		<p>Most calcsilicate appears to be conformable and diffusely interlayered at a scale of <5 cm with the hornblende gneiss. The conformable calcsilicate is grey-green, medium to coarse grained, foliated, and strongly magnetic in places. Composition: titanite, tr.; magnetite, tr.; sulphide, tr–2%; clinopyroxene, 20–40%; and plagioclase.</p> <p>Two bands of titanite-rich calcsilicate <4 cm thick occur at 77.55 m and 78.45 m and are conformable to semi-conformable. They are green, medium to coarse grained, weakly foliated, and non-magnetic. Composition: sulphide, tr–1%; titanite, 2–3%; clinopyroxene, 30–40%; and white feldspar (albite?).</p> <p>The titanite occurs along discrete seams forming local clusters of up to 7% titanite. The semiconformable band is oriented parallel to the regional fabric, but appears to pinch and swell, overprinting the pre-existing foliation.</p> <p>A disconformable 15 cm band of sulphide- and titanite-rich calcsilicate occurs at 81.6–81.75 m. It is light green-grey, medium-grained, foliated, and magnetic in places. Composition: carbonate, tr–1%; titanite, 3–5%; sulphide, 3–5%; clinopyroxene, 20–30%; and feldspar. This band was photographed last year at 81.5 m.</p> <p>Photos: 77.0 m; semiconformable calcsilicate / hornblende gneiss / calcsilicate; 6709, 6717. Samples: 108-20-HZ01; 78.35–78.55 m; semiconformable calcsilicate 108-20-HZ02; 81.45–81.85 m; discordant calcsilicate</p>					

82.75	92.8	Pegmatite / Granite / Calcsilicate / Plagioclase Amphibolite
		<p>The interval is largely intrusive. Calcsilicate and plagioclase amphibolite occur as rafts <30 cm long. The calcsilicate appears conformable within the plagioclase amphibolite and locally contains up to 3% sulphide and 3% titanite.</p> <p>The interval consists dominantly of hornblende monzonite. The monzonite is pink to grey, coarse grained, weakly foliated, and non-magnetic.</p> <p>The composition is variable from sulphide, tr.; titanite, tr.; biotite, 1–2%; hornblende, 2–3%; quartz and feldspar; to biotite, tr.; sulphide, 1–2%; titanite, 2–3%; hornblende, 5–7%; quartz and feldspar.</p> <p>Biotite locally rims and overprints hornblende.</p> <p>An intrusion of hornblende aplite occurs from 88.66–91.39 m. It is pink to grey, fine grained, foliated, and non-magnetic.</p> <p>Composition: sulphide, tr.; titanite, tr.; hornblende, tr–1%; biotite, 1–2%; quartz and feldspar.</p> <p>Photos: 86.0 m; hornblende monzonite / aplite; 6711, 6721 90.2 m; aplite / hornblende monzonite; 6713, 6722.</p> <p>Samples: 108-20-HZ03; 86.0–86.3 m; hornblende monzonite 108-20-HZ04; 89.5–89.75 m; hornblende aplite 108-20-HZ05; 91.65–91.9 m; hornblende monzonite.</p>
92.8	116	Plagioclase Amphibolite / Calcsilicate / Pegmatite, pink / Hornblende Gneiss
		<p>Sparse titanite-rich calcsilicate, mostly in the first 4 m of interval (92.8–97 m). The composition is similar to previous with 1–2% carbonate and up to 7% titanite.</p> <p>Local hornblende-bearing monzonite dykes <1.5 m contain tr–2% hornblende and 5–7% biotite. No titanite or sulphide noted except for intervals at 102.6–102.9 m and 103.75–103.9 m, which contain 3–5% sulphide, 5–7% titanite, 10–20% hornblende, quartz and feldspar.</p> <p>Photos: 115 m; calcsilicate / hornblende gneiss / granodiorite; 6726, 6731.</p>

116	169.8	Multicomponent Gneiss
		<p>Intervals of sulphide- and titanite-rich calcsilicate occur at 137.7–137.8 m, 151.3–151.6 m, 153.17–153.31 m, and 166.5–167.0 m. The compositions and textures are variable. They are medium to coarse grained, and typically strongly magnetic. All contact appear intrusive suggesting the calcsilicate are rafts in a poly-phase intrusive complex.</p> <p>The composition varies from sulphide, tr–1%; magnetite, 2–3%; titanite, 5–7%; hornblende, 30–40%; quartz and feldspar; to carbonate, 3–5%; titanite/andradite?, 10–15%; pyrrhotite, 10–15%; and epidote.</p> <p>A bleached-metasomatized interval occurs from 136.4–136.81 m. It is light green-grey, medium-grained, and moderately magnetic.</p> <p>Composition: chalcopyrite, tr.; pyrrhotite, 2–3%; carbonate, 3–5%; titanite, 3–5%; green amphibole, 10–12%; quartz and feldspar.</p> <p>Contacts of the bleached zone appear sharp and crosscut fabrics and structures in the core. Appears to be overprinting country rock.</p> <p>Intervals of titanite- and hornblende-bearing monzonite occur from 143.6–144.7 m, 145.6–147.65 m, 149.55–150.2 m, 153.31–156.16 m, and 158.3–160.63 m. It is similar to previous.</p> <p>Photos: 136.7 m; bleached-metasomatized rock / tonalite / pegmatite; 6727, 6734 153.1 m; titanite-rich calcsilicate / hornblende monzonite; 6729, 6736. 153.7 m; hornblende monzonite / pegmatite; 6730, 6737</p> <p>Sample: 108-20-HZ06; 116.3–116.6 m; granodiorite 108-20-HZ07; 136.5–136.8 m; bleached-metasomatized rock 108-20-HZ08; 151.35–151.60 m; titanite-rich calcsilicate 108-20-HZ09; 159.4–159.8 m; hornblende monzonite 108-20-HZ10; 161.0–161.3 m; tonalite 108-20-HZ11; 166.6–167.0 m; sulphide- and epidote-rich calcsilicate.</p>
169.8	179.0	Calcsilicate / Plagioclase Amphibolite / Tonalite / Pegmatite / Granite
		No obvious metasomatism, titanite-rich calcsilicate, or hornblende-bearing monzonite noted.
179.0	191.05	Orthopyroxene Wacke / Calcsilicate / Plagioclase Amphibolite / Pegmatite / Monzodiorite
		<p>Additional notes to last year's log:</p> <p>The calcsilicate occurs as a 2.6 m layer, disrupted by small pegmatite injections. The plagioclase amphibolite occurs as diffuse layers <10 cm thick within the calcsilicate sub-interval. The up-hole contact between the calcsilicate and orthopyroxene wacke is sharp with no apparent change in strain intensity, or shearing at or near the contact. Most straight forward interpretation would be a depositional (or intrusive) contact between the orthopyroxene wacke and calcsilicate.</p> <p>Intervals of hornblende-bearing quartz monzodiorite occur from 182.0–183.16 m, 183.9–184.62 m, and 186.9–187.3 m. The intrusions are pale pink, coarse grained, foliated, and non-magnetic.</p> <p>Composition: Ilm?, tr–1%; sulphide, 1–2%; biotite, 2–3%; hornblende, 7–10%; quartz and feldspar.</p> <p>No titanite noted.</p> <p>Photos: 179.4 m; contact between orthopyroxene wacke and calcsilicate (pen tip) / calcsilicate / hornblende quartz monzodiorite; 6739, 6745</p> <p>Samples: 108-20-HZ12; 179.2–179.8 m; contact between Opx wacke and calcsilicate 108-20-HZ13; 182.0–182.3 m; hornblende-bearing granite.</p>

191.05	196.6	Garnet Wacke / Pegmatite / Granite
		The granite appears aplitic. No obvious metasomatism, titanite-rich calcsilicate, or hornblende-bearing monzonite noted.
196.6	220.4	Orthopyroxene Wacke–Mudstone / Pegmatite / Granite / Tonalite
		The granite is aplitic. No obvious metasomatism, titanite-rich calcsilicate, or hornblende-bearing monzonite noted. Sample: 108-20-HZ14; 201.65–201.93 m; aplitic 108-20-HZ15; 212.55–212.85 m; simple pegmatite
220.4	230.9	Calcsilicate / Hornblende Gneiss / Pegmatite / Plagioclase Amphibolite
		Granitic intrusions similar in grain size and overall texture to the hornblende-bearing monzonite occur from 222.53–222.68 m, 224.18–225.92 m, 228.2–228.63 m. However, the intrusions do not contain hornblende. They are light pink-grey, medium to coarse grained, foliated, and non-magnetic. Composition: biotite, 5–7%; quartz and feldspar. The biotite is locally chloritized. No obvious metasomatism, titanite-rich calcsilicate, or hornblende-bearing monzonite noted. Photos: 221.65 m; calcsilicate–plagioclase amphibolite / biotite-bearing granite; 6742 , 6747 . Sample: 108-20-HZ16; 224.55–224.85 m; biotite-bearing granite
230.9	236.45	Orthopyroxene Wacke–Mudstone / Garnet Wacke–Mudstone / Pegmatite, pink
		No hornblende-bearing monzonite, titanite-rich calcsilicate, or obvious metasomatism noted.
236.45	237.2	Garnet Wacke, graphitic
		No hornblende-bearing monzonite, titanite-rich calcsilicate, or obvious metasomatism noted.
237.2	240.9	Garnet Wacke–Mudstone / Orthopyroxene Wacke–Mudstone / Pegmatite
		No hornblende-bearing monzonite, titanite-rich calcsilicate, or obvious metasomatism noted.
240.9	250.1	Granite, medium-grained / Pegmatite
		No hornblende-bearing monzonite, titanite-rich calcsilicate, or obvious metasomatism noted.
250.1	254.45	Calcsilicate / Hornblende Gneiss–Plagioclase Amphibolite / Pegmatite
		Additional notes to last years log: The hornblende gneiss locally contains plagioclase-rich domains/pods <4 x 2 cm that could be interpreted as flattened clasts. The clasts locally contain sparse garnet <2 mm. The calcsilicate and hornblende gneiss contain intervals of granitoid intrusions from 250.3–250.55 m, 252.2–252.9 m, and 253.2–253.3 m. The intrusions are light grey-pink, coarse-grained, foliated, and non-magnetic. Composition: biotite, 3–5%; quartz and feldspar. No hornblende-bearing monzonite, titanite-rich calcsilicate, or obvious metasomatism noted. Photos: 251.07 m; hornblende gneiss with ‘clasts’ / pegmatite / calcsilicate; 6749 , 6751 .

254.45	262.9	Hornblende Wacke–Mudstone / Pegmatite
		No hornblende-bearing monzonite, titanite-rich calcsilicate, or obvious metasomatism noted.
		Samples: 108-20-HZ17; 254.45–254.6 m; hornblende wacke 108-20-HZ18; 258.8–259.1 m; hornblende mudstone
262.9	268.85	Garnet Wacke–Mudstone / Pegmatite
		Not revisited.
268.85	300.5	Orthopyroxene Wacke–Mudstone / Pegmatite / Tonalite
		Not revisited.
300.5	314.8	Mudstone, graphitic / Wacke, sulphidic / Pegmatite
		Not revisited.
314.8	317.3	Orthopyroxene Wacke / Garnet Mudstone
		Not revisited.
317.3	338.7	Orthopyroxene Wacke / Pegmatite / Granite, medium-grained
		Not revisited.
338.7	342.8	Granite–Granodiorite / Hornblende-Biotite Gneiss
		Not revisited.
		Sample: 108-20-HZ19; 339.95–340.15 m; granite-granodiorite.
342.8	349.3	Orthopyroxene Wacke–Mudstone / Granite–Granodiorite / Pegmatite
		Not revisited.
349.3	365.8	Granite / Pegmatite / Wacke, graphitic
		Not revisited.
		Sample: 108-20-HZ20; 355.6–355.9 m; massive granite.
365.8	371	Wacke, graphitic
	EOH	Not revisited.
Interpretation of the drillcore:		All obvious metasomatism, titanite-rich calcsilicate, and hornblende-bearing monzonite occurs in the interval from the top of the Precambrian to 169.8 m. An additional interval of hornblende monzondiorite occurs from approximately 182–187 m. The core was not revisited below 263 m. This log is meant to supplement the drill log from 2019, which can be found in Appendix 1 of Geoscientific Paper GP2020-1.