BOREHOLE LOG

PROJET: Iqaluit Airport
SITE: Apron III
BOREHOLE NO.: IQA_AERO_DDH_13_05
COORDINATES: X:523003.7829 Y:7069159.9078
ELEVATION: 19
START DATE: 03-05-2013
END DATE: 04-05-2013

Instrumentation
- Temperature sensor (Decagon ECT)
- Temperature sensor (YSI 44033)
- Volumetric water content, temperature and bulk electrical conductivity (Decagon 5ET)
- Volumetric water content (Decagon EC-5)
- Pressure sensor

Instrumentation
- PVC casing

Sampling method
- Excavation
- Diamond core
- Slit spoon
- Destructive

Recovery
- Recovered
- No recovery

Sample state
- *Ud-F* Undisturbed and frozen
- *Ud-Uf* Undisturbed and unfrozen
- *D-F* Disturbed and frozen
- *D-Uf* Disturbed and unfrozen

C/H/N
- *w* Water content (%)
- *p* Bulk density (g/cm-3)
- C Carbon (%)
- H Hydrogen (%)
- N Nitrogen (%)

Depth (m)	Stratigraphy	Soil description	Sampling method	Recovery	Sample state	Sample name	Water content (%)	Salinity (ppm)	Grain size G	Grain size S	Grain size M-C	Consistency wl	Consistency wp	Consistency Ip	Consistency IL	USCS	Consol. kPa 25	Consol. kPa 50	Consol. kPa 100	C/H/N w	C/H/N p	C/H/N C	C/H/N H	C/H/N N	Radiocarbon dates 14C (BP)	±	Material
0.00		Asphalt (0,10 m)																									
		Brown gravel and sand (embankment). Pore ice.			D-Uf	13_05_10-55																					
-1.00					D-Uf	13_05_55-128	5.6		6.0	77.3	16.7	18.5				SM											
		Medium gravelly sand with little brownish blackish silt. Pore ice. Ice rich peat between 1,70 and 1,75 m that correspond to the naturel terrain before construction.			Ud-F	13_05_155-167	18.4																				
						13_05_167-173	25.0		8.0	40.4	51.6	37.1	31.8	5.3	-1.3	ML											
		Boulder.				13_05_173-179	38.8																				
		Medium gravelly sand. Pore ice. Ice-rich peat between 1,87 and 2,01 m.			Ud-F	13_05_186-190	25.2																				
-2.00						13_05_190-200	37.5		19.4	51.4	29.2	61.4	53.9	7.5	-2.2	SM											
						13_05_190-214	14.2		58.0	28.9	13.1					GM											
		Low density ice. Occasional oxydized sediment vein. Many vertically elongated air bubble.			Ud-F	13_05_220-276																					

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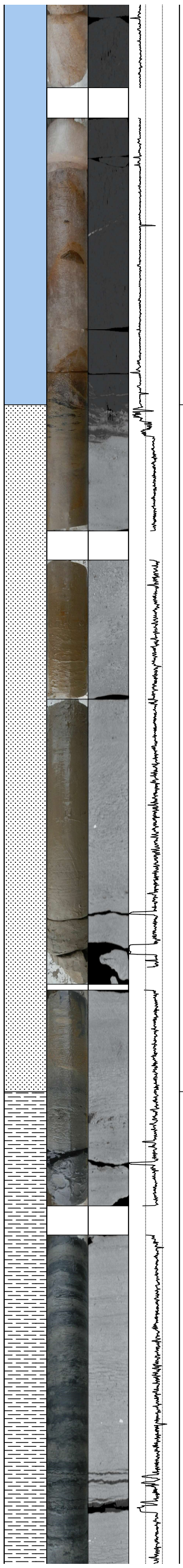

Depth (m)	Stratigraphy	Soil description	Sampling method	Sample state	Sample name	Volume (%) (Soil / Ice / Air)	Water content (%)	Salinity (ppm)	Grain size G	Grain size S	Grain size M-C	Consistency wl	Consistency wp	Consistency Ip	Consistency IL	USCS	Consol. kPa 25	Consol. kPa 50	Consol. kPa 100	C/H/N w	C/H/N p	C/H/N C	C/H/N H	C/H/N N	Radiocarbon dates 14C (BP)	±	Material
-3.00		Beige fine sand, oxydized occasionally. Thin subhorizontal ice lenses.		Ud-F	13_05_280-315																						
					13_05_331-340		47.7																				
					13_05_340-349		33.6																				
				Ud-F	13_05_354-366		29.9																				
					13_05_369																				6905	20	Shells
					13_05_366-378		32.1		0.0	26.3	73.6	24.9	19.1	5.9	2.2	CL-ML											
				Ud-F	13_05_378-388		29.4																				
					13_05_388-396		27.9																				
-4.00					13_05_396-407		25.9		0.4	20.6	79.1	24.9	18.3	6.6	1.2	CL-ML											
					13_05_407-415		27.0																				
					13_05_315-424		20.7																				
		Fine grey gravelly silt with occasional organic matter layer. Coarse gravel at 6,14 m deep. Thin to a little thicker ice lenses. Ice lenses regularly space between 5,60 and 6,60 m.		Ud-F																							
					13_05_455-463		24.8		0.0	25.7	74.3	25.3	17.4	7.9	0.9	CL											
-5.00				Ud-F	13_05_467-513																						
					13_05_513-524		26.3	19.6																			

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Depth (m)	Instrumentation	Stratigraphy	Image	CT (HU) 3071 / -1024	TI profile (HU) -1024 / 1024 / 3071	Soil description	Sampling method	Recovery	Sample state	Sample name	Volume (%) Soil / Ice / Air (0 / 100)	Water content (%)	Salinity (ppm)	Grain size G	Grain size S	Grain size M-C	Consistency wl	Consistency wp	Consistency Ip	Consistency IL	USCS	Consol. kPa 25	Consol. kPa 50	Consol. kPa 100	C/H/N w	C/H/N ρ	C/H/N C	C/H/N H	C/H/N N	Radiocarbon dates 14C (BP)	±	Material
										13_05_524-534		24.4																					
									Ud-F	13_05_546-576																							
										13_05_576-585		26.7																					
										13_05_585-591		24.4																					
										13_05_591-598		25.7		0.0	14.6	85.4	22.2	17.0	5.2	1.7	CL-ML											
-6.00																																	
										13_05_606-613		23.1																					
										13_05_613-619		20.6																					
										13_05_633-645		24.3	18.9																				
										13_05_645-655		24.1																					
									Ud-F	13_05_655-657																			12265	35	Organic matter
										13_05_657-661		27.6																					
										13_05_661-671		26.4																					
										13_05_671-682		23.3		0.0	10.9	89.1	21.6	14.9	6.7	1.3	CL-ML											
						Bouldery grey diamict (till). Pore ice.																											
-7.00										13_05_700-725																							
									Ud-F	13_05_725-760																							

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-8.00									Ud-F	13_05_787-798		8.7																				
										13_05_798-818		12.6		10.9	58.7	30.4	13.5				SM											
										13_05_818-840		13.0																				
						Boulder (bedrock?).			Ud-F																							
						End of borehole at 8, 54 m.																										

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