BOREHOLE LOG

PROJET: Iqaluit Airport
SITE: Runway - South
BOREHOLE NO.: IQA_AERO_DDH_13_08
COORDINATES: X:522855.3432 Y:7069005.3956
ELEVATION: 21
START DATE: 10-05-2013
END DATE: 11-05-2013

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)	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 p	C/H/N C	C/H/N H	C/H/N N	Radiocarbon dates 14C (BP)	±	Material
0.00						Asphalt (0,29 m)																										
						Brown gravel and sand (embankment).			D-Uf	13_08_29-70		1.2		40.1	55.6	4.3					SP											
-1.00									D-Uf	13_08_70-130		3.3																				
									D-Uf	13_08_130-194		3.5		3.6	90.6	5.8	18.5				SW-SM											
-2.00									Ud-F	13_08_194-202		10.2																				
						Asphalt (0,15 m)																										
						Brown gravel and sand (embankment).																										
						Brown angular gravelly sand. Ice-rich peat betwwen 2,68 and 2,73 m				13_08_268-280		12.2																				

Version 1.4 E. L'Hérault and A-S. Carbonneau (2015-06)

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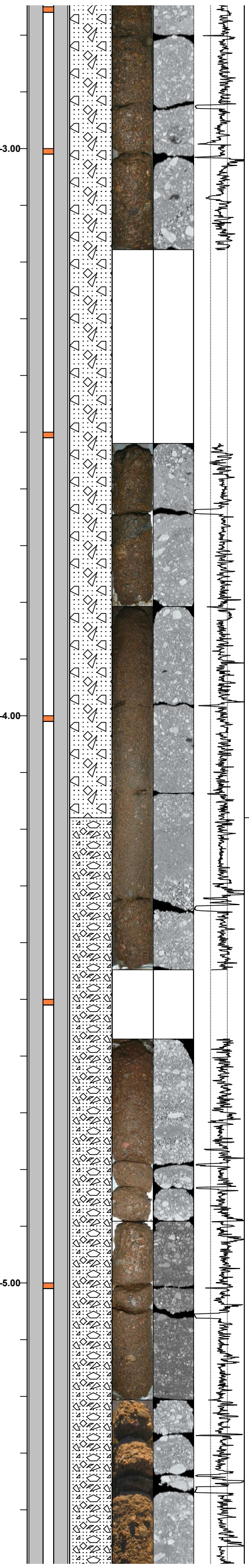
Stratigraphic information | **Sampling characteristic** | **Laboratory analysis**

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 / S / M-C | Consistency wl / wp / Ip / IL | USCS | Consol. kPa 25 / 50 / 100 | C/H/N w / ρ / C / H / N | Radiocarbon dates 14C (BP) / ± / Material



Soil description: that correspond to the natural terrain before construction. Pore ice.

Soil description: Very coarse sand interbedded with fine sand and gravel. Horizontal beddings. Pore ice and exess ice in the coarser layer.

Sample name	Water content (%)	Grain size G	S	M-C	USCS	Consol. 25 kPa	50	100	C/H/N w	ρ	C	H	N	Radiocarbon 14C (BP)	±	Material
13_08_280-293	11.5															
13_08_293-302	11.8	24.0	73.6	2.4	SP											
13_08_305-318	13.4	31.3	65.3	3.4	SP			0.96								
13_08_352-364	13.5															
13_08_365-376	11.4	20.7	70.0	9.4	SW-SM											
13_08_376-380	14.1															
13_08_381-391	13.1															
13_08_397-400	14.9															
13_08_400-410	15.8	10.2	86.6	3.1	SP											
13_08_410-413	17.4															
13_08_413-426	16.6															
13_08_426-435	15.2															
13_08_435-443	11.5															
13_08_457-471	11.1															
13_08_471-480	11.2															
13_08_480-490	10.6															
13_08_490-521	12.3															
13_08_490-521	12.1															
13_08_490-521	15.5															
13_08_521-536	12.0	31.3	68.0	0.7	SP											
13_08_536-552	14.2															

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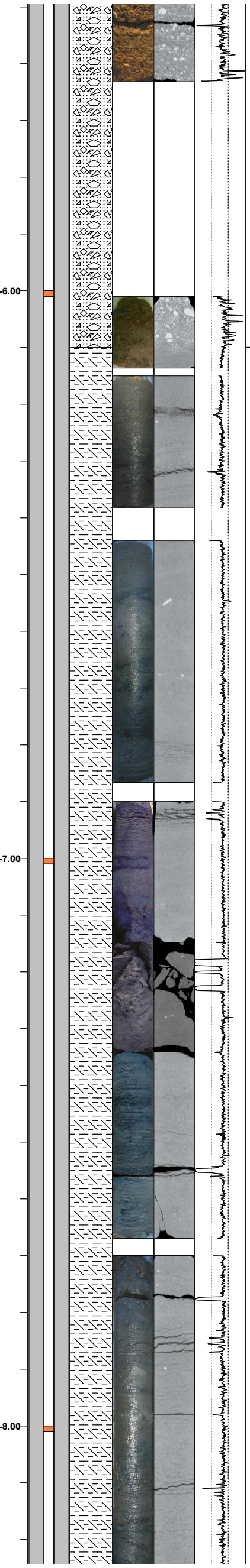

Very fine grey silty sand interbedded with very fine gravel and occasionnal organic matter layer. Marine shell found at 6,67 m. Medium to large ice lenses.

Depth (m)	Sampling method	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	Radiocarbon dates 14C (BP)	±	Material
			13_08_552-563	15.4												
	Ud-F		13_08_601-614	17.8												
	Ud-F		13_08_622-630	24.5												
			13_08_630-638	25.5												
	Ud-F		13_08_644-656	22.1												
			13_08_656-666	21.3		0.0	54.2	45.9	22.2	20.5	1.8	0.5	SM			
			13_08_666-678	21.5										7115	20	Shells
			13_08_681-686	22.2	5.6											
	Ud-F		13_08_695-704	22.7												
			13_08_704-710	21.4		0.3	29.3	70.4	24.1	18.5	5.7	0.5	CL-ML			
	Ud-F		13_08_717-735	22.3	6.4											
	Ud-F		13_08_735-769													
	Ud-F															
	Ud-F		13_08_770-780	21.7	9.4											
			13_08_790-800	21.9		0.0	19.6	80.4	24.7	19.1	5.7	0.5	CL-ML			
	Ud-F		13_08_800-829													

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						End of borehole at 8,29 m.																										

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