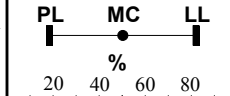


CLIENT CITY OF WINNIPEG
PROJECT MONTCALM FORCE MAIN REPLACEMENT
SITE MONTCALM FORCE MAIN
LOCATION RUE ARCHIBALD
DRILLING METHOD 150 mm ø Solid Stem Auger, Nodwell and HQ Coring

JOB NO. 03-107-17
GROUND ELEV.
TOP OF PVC ELEV.
WATER ELEV.
DATE DRILLED 6-Jan-04 and 12-Jan-04

ELEVATION m (ft)	DEPTH (m) (ft)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	PIEZ. LOG	DEPTH (m)	SAMPLE TYPE NUMBER	RECOVERY %	SPT (N) blows/0.30 m▲ CONE blows/0.15 m△	Cu from Uncon. Comp. Test (kPa) ◇	
									20	40
			SILTY SAND - Brown, moist, compact, low to intermediate plasticity, trace fine grained sand, frozen.							
1	5				3.0	1				
2	10		- Loose, non plastic, poorly graded, some to with clay content at 3.05 m.			2				
3	15		-Soft, low to intermediate plasticity, gradual increase in clay content with depth, trace oxidation at 4.57 m.			3				
4	20					4				
5	25		- Trace water seepage at 6.71 m.			5				
6	30		- Grey, wet, soft, low to intermediate plasticity, with clay and fine grained sand at 7.62 m.			6				
7			- Trace fine grained sand, trace shells at 9.14 m.							



SAMPLE TYPE Auger Grab Core Barrel

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR **J. CHING** APPROVED _____ DATE **13/01/04**

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ELEVATION m (ft)	DEPTH (m) (ft)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	PIEZ. LOG	DEPTH (m)	SAMPLE TYPE NUMBER	RECOVERY %	SPT (N) blows/0.30 m▲	Cu from Uncon. Comp. Test (kPa) ◇
								CONE blows/0.15 m△	Cu TORVANE (kPa) ◆
								20 40 60	20 40 60 80
									PL MC LL %
35	11					7			
40	12					8			
45	13		- Loose, with fine grained angular gravel, trace shells below 13.11 m.			9			
50	14		SILTY CLAY - Grey, soft to firm, intermediate to high plasticity, trace 5 mm ø silt nodules, trace angular gravel.			10			
55	15		SILTY TILL - Tan, compact, dense, some fine to coarse grained angular gravel.			11			
60	16		- Damp, stiff to very stiff, low plasticity, pebbles to 50.8 mm ø (10% granitic) at 16.76 m.			1			
65	17		- Buff limestone cobble at 17.78 m.			2			
70	18		- Buff limestone cobble at 18.17 m.			3			
	19								
	20								
	21		- Minimal recovery, predominantly pebbles to 38.1 mm ø from 21.34 to 21.77 m.						

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SAMPLE TYPE Auger Grab Core Barrel

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR **J. CHING** APPROVED _____ DATE 13/01/04

ELEVATION m (ft)	DEPTH (m) (ft)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	PIEZ. LOG	DEPTH (m)	SAMPLE TYPE NUMBER	RECOVERY %	SPT (N) blows/0.30 m▲	Cu from Uncon. Comp. Test (kPa) ◇
								CONE blows/0.15 m△	Cu TORVANE (kPa) ◆
								20 40 60	20 40 60 80
									PL MC LL %
									20 40 60 80
22			- Fine grained sand recirculating. - Grey granitic cobble at 21.77 m. - Minimal recovery, predominantly pebbles to 76.2 mm ø from 21.95 to 22.40 m. - Fine grained sand recirculating.						
23	75		- Light grey, very stiff, pebbles to 50.8 mm ø (20% granitic) at 22.94 m. - Minimal recovery, predominantly pebbles to 50.8 mm ø (20% granitic) from 23.34 to 24.49 m. - Fine grained sand recirculating.			4			
24					24.6				
25	80		- Grey granitic cobble at 24.52 m. LIMESTONE (BEDROCK) - Buff, solid, vuggy at interface.		24.9				
26	85		- White, massive at 25.96 m.			5			
27			END OF HOLE AT 26.59 m		26.6	6			
28	90		Notes: 1. Installed Casagrande standpipe at 24.89 m depth. Pipe consists of 25 mm diameter PVC with 0.3 m long screen zone.						
29	95								
30	100								
31	105								
32	110								

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SAMPLE TYPE  Auger Grab  Core Barrel

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR **J. CHING**

APPROVED _____ DATE 13/01/04