

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

**JOB NO.** 03-107-17  
**GROUND ELEV.**  
**WATER ELEV.**  
**DATE DRILLED** 06 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 ▲	Cu TORVANE (kPa) ◆		
									PL	MC	LL
			<b>TOPSOIL</b> - Organics, frozen to 0.3 m. <b>CLAY (LACUSTRINE)</b> - Mottled grey-brown, moist, firm, high plasticity, silt striations, trace fine grained sand.								
1	5		- Soft with some fine grained sand at 2.13 m.			1					
2	10					2					
3	15		- Sandy (fine grained) with trace free water at 4.88 m. - Firm at 5.18 m.			3					
4	20					4					
5	25		- Grey, stiff at 7.01 m.			5					
6	30		- Light brown, 0.2 m silty lens with fine grained sand at 8.53 m.			6					
7	35		- Brown, stiff to very stiff, till inclusions at 9.75 m.			7					
8	40					8					
9	45		- Occasional pebble to 19 mm ø at 13.11 m.			9					
10	50		<b>SILT (TILL)</b> - Tan, moist to damp with depth, low plasticity, dense on surface to very dense with depth.			10					
11			- Solid stem auger to 15.24 m, ream hole with casing to 17.1 m.		15.8						
12			- Cobbly, bouldery, very dense at 16.5 m.			11					

SAMPLE TYPE Auger Grab Split Spoon Core Barrel

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR **G.E. HARRISON**

APPROVED \_\_\_\_\_ DATE 09/01/04

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 TORVANE (kPa) ◆			
									PL	MC	LL	
								20 40 60	20 40 60 80			
17			- 360 mm ø boulder at 16.8 m, begin HQ Coring at 17.1 m.		17.5							
18	60		- Recovered very dense granite cobble (150 mm ø), numerous granitic and limestone gravel sizes (<75 mm ø) at 17.98 m. Fines may have been washed out during coring. Sand visible in return cuttings.		17.8							
19						12						
20	65		<b>LIMESTONE (BEDROCK)</b> - Core (0.13 m length) of buff limestone, very vuggy.			13						
21			- Buff to white, massive at 20.12 m.									
22	70					14						
23	75		- 0.31 m of insitu vertical fracture planes at 22.56 m.		23.2	15						
			<b>END OF HOLE AT 23.16 m</b>									
24	80		Notes: 1. Installed Casagrande standpipe at 17.83 m depth. Pipe consists of 25 mm diameter PVC with 0.3 m long screen zone. 2. Groundwater depth at 4.1 m below ground surface on January 8, 2004.									
25												
26	85											
27												
28	90											
29	95											
30	100											
31												
32	105											
33												
34	110											
35	115											
36												
	120											

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