

CLIENT CITY OF WINNIPEG

JOB NO. 03-107-17

PROJECT MONTCALM FORCE MAIN REPLACEMENT

GROUND ELEV. 226.40 m

SITE MONTCALM FORCE MAIN

WATER ELEV. 222.30 m (8-Jan-04)

LOCATION RUE ARCHIBALD, EAST BANK NEAR RIVER, 5529380.6 N 635873.1 E

DATE DRILLED 6-7-Jan-04

DRILLING METHOD 150 mm ø Solid Stem Auger, Nodwell and HQ Coring

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) ◆			
									20	40	60	80
									PL	MC	LL	
									%			
								20 40 60	20	40	60	80
226.2			TOPSOIL - Organics, frozen to 0.3 m.									
226			CLAY (LACUSTRINE) (CH) Mottled grey-brown, moist, firm, high plasticity, silt striations, trace fine grained sand.									
225	1					1						
224	2		- With some fine grained sand at 2.13 m.									
223	3					2						
222	4											
221	5		- Sandy (fine grained) with trace free water at 4.88 m.			3						
220	6					4						
219	7		- Grey at 7.01 m.									
218	8					5						
217	9		- Light brown, 0.2 m silty lens with fine grained sand at 8.53 m.			6						
216	10		- Brown, till inclusions at 9.75 m.									
215	11					7						
214	12					8						
213	13		- Occasional pebble to 19 mm ø at 13.11 m.									
212.4	14		SILT (TILL) (ML) - Tan, damp, low plasticity, dense, trace gravel.			9						
212	15											
211	16		- End of solid stem auger at 15.24 m. - Set casing to 15.2 m. - Begin HQ coring at 15.7 m.		15.8	10						
210			- Cobbly, bouldery, very dense at 16.5 m.			11						

SAMPLE TYPE Auger Grab Split Spoon Select Core Barrel

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

APPROVED _____ **DATE** 19/01/04

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			
209	17		- 360 mm ø boulder at 16.8 m, begin HQ Coring at 17.1 m. - Poor recovery, good circulation.		17.5							
208	18		- 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							
207	19					12						
206.4	20		LIMESTONE (BEDROCK) - Core (0.13 m length) of buff limestone, very vuggy, very strong. - Buff to white, massive at 20.12 m.									
206	20					13						
205	21											
204	22					14						
203.2	23		- 0.31 m of insitu vertical fracture planes at 22.56 m.									
203	23		END OF HOLE AT 23.16 m		23.2							
202	24		Notes: 1. Installed Casagrande standpipe at 17.83 m depth. Pipe consists of 25 mm diameter PVC with response zone from 15.85 to 23.16 m depth. 2. Lockable protective steel casing installed at ground surface. 3. Groundwater depth at 4.1 m below ground surface on January 8, 2004.									
201	25											
200	26											
199	27											
198	28											
197	29											
196	30											
195	31											
194	32											
193	33											
192	34											
191	35											
190	36											

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