



**PLAN**  
 0 100 200 m  
 SCALE 1:1000

Earth Tech Canada Ltd.  
 Winnipeg Water Treatment Plant

**Test Hole Location Plan**



CLIENT **Manitoba Floodway Expansion Authority**  
 PROJECT **PDEA 2 - Parcel 5 Branch Aqueduct Crossings**  
 SITE  
 LOCATION **Branch I, East Midslope**  
 DRILLING METHOD **125 mm ø Solid Stem Auger, CT 250 Canterra**

JOB NO. **E488-002-05-006**  
 GROUND ELEV. **232.69**  
 TOP OF PVC ELEV.  
 WATER ELEV.  
 DATE DRILLED **5 Feb 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 60 80	10 20 30	PL	MC	LL	
232.69			CLAY AND SILT VARVED (layers 25 mm thickness)											
232.63	1		- trace rootlets clay description: - silty, brown silt description: - light brown - moist, frozen - high plasticity				150							
231	5		CLAY - silty - trace silt inclusions (< 10 mm diam.) - trace rootlets above 1.5 m - brown - moist, stiff - high plasticity				151							
230	10		- some grey mottling below 1.5 m - increasing grey mottling with depth				152							
229	15		- dark grey and firm to soft with depth below 4.0 m				153							
228	20						154							
227	25						155							
226	30						156							
225	35						157							
224	40						158							
223	45						159							
222			- trace silt inclusions (< 20 mm diam.) below 9.1 m - trace fine to coarse gravel below 9.1 m				160							
221							161							
220							162							
219							163							
218							164							
							165							
							166							
							167							
							168							

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SAMPLE TYPE Auger Grab Shelby Tube Split Spoon

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR

APPROVED KMS DATE 13/7/04

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) ◆ Cu TORVANE (kPa) ◆ Cu Pocket Pen (kPa) ★		
									10 20 30		PL	MC	LL
217	16		- trace till inclusions (< 50 mm diam.) below 15.2 m				169				★		
216.38	16						170				★		
216	17		<b>SILT TILL</b> - some clay, trace sand - trace clay inclusions (< 20 mm diam.) above 16.8 m - light grey - moist, loose - wet below 16.8 m - trace coarse gravel (angular limestone) below 16.8 m - compact below 16.8 m - drilling method air hammer and no samples below 17.7 m				171				●		
215	17						172		▲ 16		●		
214	18												
214	18												
214	19												
214	19												
214	20		<b>BEDROCK</b> - drilling method: air hammer - no samples										
212	20												
212	21												
211	21												
211	22												
211	22				22.3								
210	23												
210	23												
209	23												
209	23												
208.61	24				23.5								
208.61	24				24.1								
208	24		END OF TEST HOLE AT 23.2 m IN BEDROCK. Notes: 1. Power auger refusal at 17.7 m in Silt Till. 2. Air hammer from 17.7 m to 24.1 m. 3. Air hammer was advanced without casing. 4. Sloughing or bridging at 16.5 m. 5. Waterlevel at 6.4 m, at termination of drilling. 6. Standpipe piezometer installed, P 9509.										
208	25												
207	25												
207	26												
206	26												
206	27												
205	27												
205	28												
204	28												
204	29												
203	29												
203	30												
202	30												
202	31												
201	31												
201	32												
200	32												

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CLIENT **Manitoba Floodway Expansion Authority**  
 PROJECT **PDEA 2 - Parcel 5 Branch Aqueduct Crossings**  
 SITE  
 LOCATION **Branch I, East Slope Toe**  
 DRILLING METHOD **125 mm ø Solid Stem Auger, CT 250 Canterra**

JOB NO. **E488-002-05-006**  
 GROUND ELEV. **229.72**  
 TOP OF PVC ELEV.  
 WATER ELEV.  
 DATE DRILLED **3 Feb 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 60 80	10 20 30	PL	MC	LL	
229.72			CLAY - silty											
229	1		- trace silt inclusions (< 10 mm diam.)				28							
228	5		- trace sand above 1.5 m				29							
227	10		- brown				30							
226	15		- frozen to 0.8 m				31							
225	20		- moist, stiff to firm with depth				34							
224	25		- high plasticity				35							
223	30		- becoming mottled grey with depth below 1.5 m				36							
222	35		- dark grey/brown and soft below 3.1 m				37							
221	40		- trace gravel below 4.6 m				38							
220	45		- trace sand, dark grey, and very soft below 8.2 m				39							
219	50						40							
218.83	55						41							
217	60						42							
216	65						43							
215.09	70						44							
215	75						45							
	80						46							
	85						47							
	90						48							
	95						49							
	100						50							
	105						51							

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SAMPLE TYPE Auger Grab Shelby Tube Split Spoon

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR \_\_\_\_\_ APPROVED       KMS       DATE 13/7/04



# SUMMARY LOG

REFERENCE NO.

HOLE NO.

**9610**

2 of 2

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) ◆	Cu TORVANE (kPa) ◆	Cu Pocket Pen (kPa) ★
									CONE blows/0.15 m △	PL	MC	LL
									10 20 30			20 40 60 80
214	16		Notes: 1. Power auger refusal at 14.6 m 2. Sloughing at 12.2 m, 3. Waterlevel at 9.5 m, at termination of drilling. 4. Standpipe piezometer installed, P 9510.									
213	17											
212	18											
211	19											
210	20											
209	21											
208	22											
207	23											
206	24											
205	25											
204	26											
203	27											
202	28											
201	29											
200	30											
199	31											
198	32											
197												

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SAMPLE TYPE  Auger Grab  Shelby Tube  Split Spoon

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR

APPROVED KMS DATE 13/7/04

CLIENT **Manitoba Floodway Expansion Authority**  
 PROJECT **PDEA 2 - Parcel 5 Branch Aqueduct Crossings**  
 SITE  
 LOCATION **Branch I, East Channel Bottom**  
 DRILLING METHOD **125 mm ø Solid Stem Auger, CT 250 Canterra**

JOB NO. **E488-002-05-006**  
 GROUND ELEV. **225.64**  
 TOP OF PVC ELEV.  
 WATER ELEV.  
 DATE DRILLED **3 Feb 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) ◆ Cu TORVANE (kPa) ◆ Cu Pocket Pen (kPa)★										
									10 20 30		PL	MC	LL								
											% 20 40 60 80										
225.64			CLAY - silty - trace sand, trace gravel - trace oxidation - brown/grey - frozen to 0.5 m - moist, firm - high plasticity - dark grey/brown, no oxidation, soft below 1.2 m - high plasticity																		
225	1																				
224	5																				
223	10				- trace silt inclusions (< 5 mm diam.) below 3.1 m																
222	15				- no sand or gravel, and very soft below 4.6 m																
221	20																				
220	25																				
219	30																				
218	35																				
217.10	40				- transition between clay and till below 8.2 m																
217	45				SILT TILL - some clay, trace fine gravel, trace sand - light grey - moist to wet, very loose to loose - sub-rounded granular particles - some sand below 9.9 m			9.4													
216	50																				
215	55																				
214	60																				
213.75	65																				
	70																				
	75																				
	80																				
	85																				
	90																				
	95																				
	100																				
	105																				
	110																				
	115																				
	120																				
	125																				
	130																				
	135																				
	140																				
	145																				
	150																				
	155																				
	160																				
	165																				
	170																				
	175																				
	180																				
	185																				
	190																				
	195																				
	200																				
	205																				
	210																				

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SAMPLE TYPE Auger Grab Split Spoon

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR

APPROVED           KMS           DATE 13/7/04

CLIENT **Manitoba Floodway Expansion Authority**  
 PROJECT **PDEA 2 - Parcel 5 Branch Aqueduct Crossings**  
 SITE  
 LOCATION **Branch I, West Channel Bottom**  
 DRILLING METHOD **125 mm ø Solid Stem Auger, CT 250 Canterra**

JOB NO. **E488-002-05-006**  
 GROUND ELEV. **225.76**  
 TOP OF PVC ELEV.  
 WATER ELEV.  
 DATE DRILLED **6 Feb 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 60 80	10 20 30	PL	MC	LL		
225.76			CLAY - silty - trace rootlets - trace oxidation - dark brown/grey - frozen to 0.6 m - moist, soft - high plasticity - trace silt inclusions, dark grey below 1.5 m  - trace till inclusions (< 150 mm diam.) below 6.4 m												
225	1														
224	2														
223	3														
222	4														
221	5														
220	6														
219	7														
218.60			SILT TILL - trace clay, some coarse gravel, trace sand - light grey - moist to wet, loose - sub-rounded granular particles - compact below 8.1 m												
218	8														
217	9														
216.47	9.3														
216	10														
215	11														
214	12														
213	13														
212	14														
211															

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SAMPLE TYPE Auger Grab Split Spoon

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR

APPROVED           KMS           DATE 13/7/04

CLIENT **Manitoba Floodway Expansion Authority**  
 PROJECT **PDEA 2 - Parcel 5 Branch Aqueduct Crossings**  
 SITE  
 LOCATION **Branch I, West Slope Toe**  
 DRILLING METHOD **150 mm ø Solid Stem Auger, CT 250 Canterra**

JOB NO. **E488-002-05-006**  
 GROUND ELEV. **229.18**  
 TOP OF PVC ELEV.  
 WATER ELEV.  
 DATE DRILLED **11 Feb 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 60 80	10 20 30	PL	MC	LL	
229.18	0													
228	1		CLAY - silty - trace rootlets above 0.8 m - trace silt inclusions (< 5 mm diam.) - trace gravel above 1.5 m - grey/brown - high plasticity - frozen to 0.8 m - dark grey, moist, and firm below 0.8 m				228							
227	2						229							
226	3						230							
225	4		- soft below 4.0 m - trace cobbles below 4.0 m				231							
224	5						232							
223	6		- trace till inclusions (< 10 mm diam.) below 5.8 m - moist to wet, very soft below 5.8 m				233							
222	7						234							
221	8						235							
220.50	9		SILT TILL - some clay, trace to some coarse gravel, trace sand - light grey - moist to wet, loose - sub-rounded granular particles - moist to dry, dense below 9.9 m				236							
220	10						237							
219	11						238							
218	12		- drilling method air hammer and no samples below 11.3 m				239							
217	13						240							
216	14						241							
215	15						242							

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SAMPLE TYPE Auger Grab Shelby Tube Split Spoon Core Barrel

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR \_\_\_\_\_ APPROVED       KMS       DATE 13/7/04





# SUMMARY LOG

REFERENCE NO.

HOLE NO.

**9613**

2 of 2

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) ◆	Cu TORVANE (kPa) ◆	Cu Pocket Pen (kPa) ★
									CONE blows/0.15 m △	PL	MC	LL
									10 20 30			
214	50											
213	16											
212	55											
211	17											
210	18											
209	60		BEDROCK - drilling method: Coring		18.9							
208	19											
207	65											
206	20											
205	70											
204	21											
203	22		END OF TEST HOLE AT 22.3 m IN BEDROCK.		21.9							
202	75		Notes: 1. Power auger refusal at 11.3 m in Silt Till. 2. Air hammer 11.3 m to 18.3 m. 3. Coring with casing below 18.3 m. 4. No sloughing due to casing. 5. Waterlevel at surface, at termination of drilling. 6. Standpipe piezometer installed, P 9513.		22.3							
201	23											
200	80											
199	24											
198	85											
197	25											
	90											
	26											
	85											
	27											
	90											
	28											
	95											
	29											
	100											
	30											
	105											
	31											
	105											

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SAMPLE TYPE Auger Grab Shelby Tube Split Spoon Core Barrel

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR \_\_\_\_\_

APPROVED     KMS     DATE     13/7/04

CLIENT **Manitoba Floodway Expansion Authority**  
 PROJECT **PDEA 2 - Parcel 5 Branch Aqueduct Crossings**  
 SITE  
 LOCATION **Branch I, West Midslope**  
 DRILLING METHOD **150 mm ø Solid Stem Auger, CT 250 Canterra**

JOB NO. **E488-002-05-006**  
 GROUND ELEV. **231.76**  
 TOP OF PVC ELEV.  
 WATER ELEV.  
 DATE DRILLED **12 Feb 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	60	80	PL	MC	LL	
231.76			CLAY - silty													
	1		- trace rootlets above 1 m				248									
	5		- grey, mottled brown				249									
	2		- moist, firm				250									
	10		- high plasticity				251									
	15		- frozen above 1 m				252									
	20		- trace silt inclusions (< 10 mm diam.) and grey/brown below 1 m				253									
	25		- trace oxidation below 3.1 m				254									
	30		- dark grey and firm to soft with depth below 3.1 m				255									
	35						256									
	40						257									
	45						258									
	50						259									
	55						260									
	60						261									
	65						262									
	70						263									
	75						264									
	80						265									
	85						266									
	90						267									
	95						268									

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SAMPLE TYPE Auger Grab Shelby Tube Split Spoon

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR \_\_\_\_\_ APPROVED       KMS       DATE 13/7/04





# SUMMARY LOG

REFERENCE NO.

HOLE NO.

**9614**

2 of 2

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) ◆	Cu TORVANE (kPa) ◆	Cu Pocket Pen (kPa) ★
									CONE blows/0.15 m △	PL	MC	LL
									10 20 30			20 40 60 80
216	16		trace coarse gravel, and dense below 14.5 m END OF TEST HOLE AT 14.6 m IN SILT TILL. Notes: 1. Power auger refusal at 14.6 m 2. Sloughing at 13.4 m, 3. Waterlevel at 8.2 m, at termination of drilling. 4. Standpipe piezometer installed, P 9514.									
215	17											
214	18											
213	19											
212	20											
211	21											
210	22											
209	23											
208	24											
207	25											
206	26											
205	27											
204	28											
203	29											
202	30											
201	31											
200	32											

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SAMPLE TYPE  Auger Grab  Shelby Tube  Split Spoon

CONTRACTOR **Paddock Drilling Ltd.** INSPECTOR

APPROVED KMS DATE 13/7/04

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-200</b>
LOCATION: East Ditch of Murdock Road, Near Intersection with Dugald Road		PROJECT NO.: 3398-055-0608
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0	OH		ORGANIC CLAY - silty - black - very moist, soft, high plastic				0
1			CLAY - laminated with silt - brown - moist, soft, high plastic				1
2	CH						2
3			- dark brown/grey mottled below 2.4 m - trace silt inclusions, trace sulphate inclusions below 2.4 m				3
4			END TEST HOLE AT 3.7 m IN CLAY. Notes: 1. Slight seepage from 0.3 to 2.4 m. 2. Frost to depth of 0.5 m. 3. Water level at 3.1 m upon completion of drilling.				4
5							5
6							6
7							7
8							8
9							9
10							10

LOG OF TESTHOLE: 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

	LOGGED BY: AH	COMPLETION DEPTH: 3.66 m
	REVIEWED BY: GM	COMPLETION DATE: 1/26/06
	PROJECT ENGINEER: Giovanni Militano	Page 1 of 1



PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-201</b>
LOCATION: East Ditch of Murdock Road, ~300 m South of TH-06-200	PROJECT NO.: 3398-055-0608	
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0	OH		ORGANIC CLAY - some silt - black - moist, firm, high plastic				
1			CLAY - trace silt, trace organics to 0.6 m - dark brown - moist, stiff, high plastic				1
2	CH		- trace sulphates below 1.5 m				2
3			- firm below 3.1 m				3
4			END TEST HOLE AT 3.7 m IN CLAY. Notes: 1. No seepage or sloughing observed during drilling.				4
5							5
6							6
7							7
8							8
9							9
10							10

LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

	LOGGED BY: AH	COMPLETION DEPTH: 3.66 m
	REVIEWED BY: GM	COMPLETION DATE: 1/26/06
	PROJECT ENGINEER: Giovanni Militano	Page 1 of 1

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-202</b>
LOCATION: East Ditch of Murdock Road, ~300 m South of TH-06-201	PROJECT NO.: 3398-055-0608	
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Δ Pocket Pen. (Su) Δ (kPa) 50    100    150    200	COMMENTS	DEPTH (m)
0	OH		ORGANIC CLAY - some silt - black - moist, firm, high plastic					
1			CLAY - trace silt inclusions - brown - moist, stiff, high plastic - laminated with silt between 0.9 m and 1.8 m					1
2	CH		- dark brown/grey mottled below 1.8 m - dark grey below 2.1 m					2
3								3
4			END TEST HOLE AT 3.7 m IN CLAY. Notes: 1. No seepage or sloughing observed during drilling.					4
5								5
6								6
7								7
8								8
9								9
10								10

LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07



PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-203</b>
LOCATION: East Ditch of Murdock Road, ~300 m South of TH-06-202	PROJECT NO.: 3398-055-0608	
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0	OH		ORGANIC CLAY - some silt - black - moist, firm, high plastic				
1			CLAY - trace silt, trace organics - dark brown - moist, stiff, high plasticity - brown, laminated with oxidized silt below 0.9 m				1
2	CH		- trace silt inclusions below 1.4 m  - mottled brown and dark grey below 1.8 m				2
3							3
4			- dark grey below 3.4 m				4
4			END TEST HOLE AT 3.7 m IN CLAY. Notes: 1. No seepage or sloughing observed during drilling.				4
5							5
6							6
7							7
8							8
9							9
10							10

LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

	LOGGED BY: AH	COMPLETION DEPTH: 3.66 m
	REVIEWED BY: GM	COMPLETION DATE: 1/26/06
	PROJECT ENGINEER: Giovanni Militano	Page 1 of 1

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-204</b>
LOCATION: East Ditch of Murdock Road, ~300 m South of TH-06-203	PROJECT NO.: 3398-055-0608	
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Δ Pocket Pen. (Su) Δ (kPa) 50    100    150    200	COMMENTS	DEPTH (m)
0			CLAY - brown - moist, stiff, high plastic - oxidized					
1			- laminated with silt between 1.1 m and 2.0 m					1
2	CH		- trace silt inclusions below 2.0 m					2
3			- dark brown/grey mottled below 2.6 m					3
4			END TEST HOLE AT 3.7 m IN CLAY. Notes: 1. No seepage or sloughing observed during drilling.					4
5								5
6								6
7								7
8								8
9								9
10								10

LOG OF TESTHOLE 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: TH-06-205
LOCATION: East Ditch of Murdock Road, ~300 m South of TH-06-204		PROJECT NO.: 3398-055-0608
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0	OH		ORGANIC CLAY - some silt - black - moist, firm, high plastic CLAY - trace silt inclusions - dark brown - moist, stiff, high plastic				0
1							1
2	CH		- dark grey/brown mottled below 2.4 m				2
3							3
4			END TEST HOLE AT 3.7 m IN CLAY. Notes: 1. No seepage or sloughing observed during drilling.				4
5							5
6							6
7							7
8							8
9							9
10							10

	LOGGED BY: AH	COMPLETION DEPTH: 3.66 m
	REVIEWED BY: GM	COMPLETION DATE: 1/26/06
	PROJECT ENGINEER: Giovanni Militano	Page 1 of 1

LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-206</b>
LOCATION: East Ditch of Murdock Road, ~300 m South of TH-06-206	PROJECT NO.: 3398-055-0608	
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Pocket Pen. (Su) (kPa) 50 100 150 200	COMMENTS	DEPTH (m)
0	OL		ORGANIC CLAY - silty - black - very moist, soft, low plastic					
1	CH		CLAY - laminated with silt - brown - moist, stiff, high plastic - silty and soft from 0.9 to 1.8 m				- seepage observed from 0.9 to 1.8 m below grade.	1
2			CLAY - trace silt - dark grey/brown mottled - moist, firm, high plastic					2
3	CH							3
4			- dark grey below 3.4 m					4
4			END TEST HOLE AT 3.7 m IN CLAY Notes: 1. Water level at grade upon completion of drilling. 2. Test hole sloughed to 2.7 m upon completion.					4
5								5
6								6
7								7
8								8
9								9
10								10

LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07



PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-207</b>
LOCATION: East Ditch of Murdock Road, ~300 m South of TH-06-206	PROJECT NO.: 3398-055-0608	
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Δ Pocket Pen. (Su) Δ (kPa) 50    100    150    200	COMMENTS	DEPTH (m)
0	Cl		CLAY - silty, trace organics - brown - wet, soft, medium plastic				- seepage observed from 0 to 0.5 m below grade.	0
1			CLAY - trace silt - brown - moist, stiff, high plastic  - laminated with oxidized silt between 1.2 m and 1.8 m					1
2	CH		- dark grey/brown below 1.8 m					2
3			- dark grey below 3.0 m					3
4			END TEST HOLE AT 3.7 m IN CLAY Notes: 1. Water level at grade upon completion of drilling. 2. Test hole sloughed to 2.7 m upon completion.					4
5								5
6								6
7								7
8								8
9								9
10								10





LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-208</b>
LOCATION: East Ditch of Murdock Road, ~300 m South of TH-06-207	PROJECT NO.: 3398-055-0608	
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Δ Pocket Pen. (Su) Δ (kPa) 50    100    150    200	COMMENTS	DEPTH (m)
0			CLAY - laminated with silt - brown - very moist to wet, very soft, high plastic - moist, stiff below 0.2 m					0
1			- thin sand layer at 1.2 m					1
2	CH		- trace silt, dark grey/brown mottled below 1.5 m					2
3			- dark grey below 2.6 m					3
4			END TEST HOLE AT 3.7 m IN CLAY Notes: 1. No seepage observed during drilling. 2. Test hole squeezed to 3.1 m upon completion.					4
5								5
6								6
7								7
8								8
9								9
10								10

LOG OF TESTHOLE 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-209</b>
LOCATION: East Ditch of Murdock Road, ~300 m South of TH-06-208	PROJECT NO.: 3398-055-0608	
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Δ Pocket Pen. (Su) Δ (kPa) 50    100    150    200	COMMENTS	DEPTH (m)
0			CLAY - trace organics to 0.3 m - brown - moist, stiff, high plasticity - silt laminations between 0.5 m to 1.4 m					0
1								1
2	CH		- mottled dark grey and brown, trace silt inclusions below 1.5 m					2
3			- dark grey below 2.6 m					3
4			- firm below 3.0 m					4
4			END TEST HOLE AT 3.7 m IN CLAY. Notes: 1. No seepage or sloughing observed during drilling.					4
5								5
6								6
7								7
8								8
9								9
10								10

LOG OF TESTHOLE 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-210</b>
LOCATION: East Ditch of Murdock Road, North of GWWD Rail Line		PROJECT NO.: 3398-055-0608
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

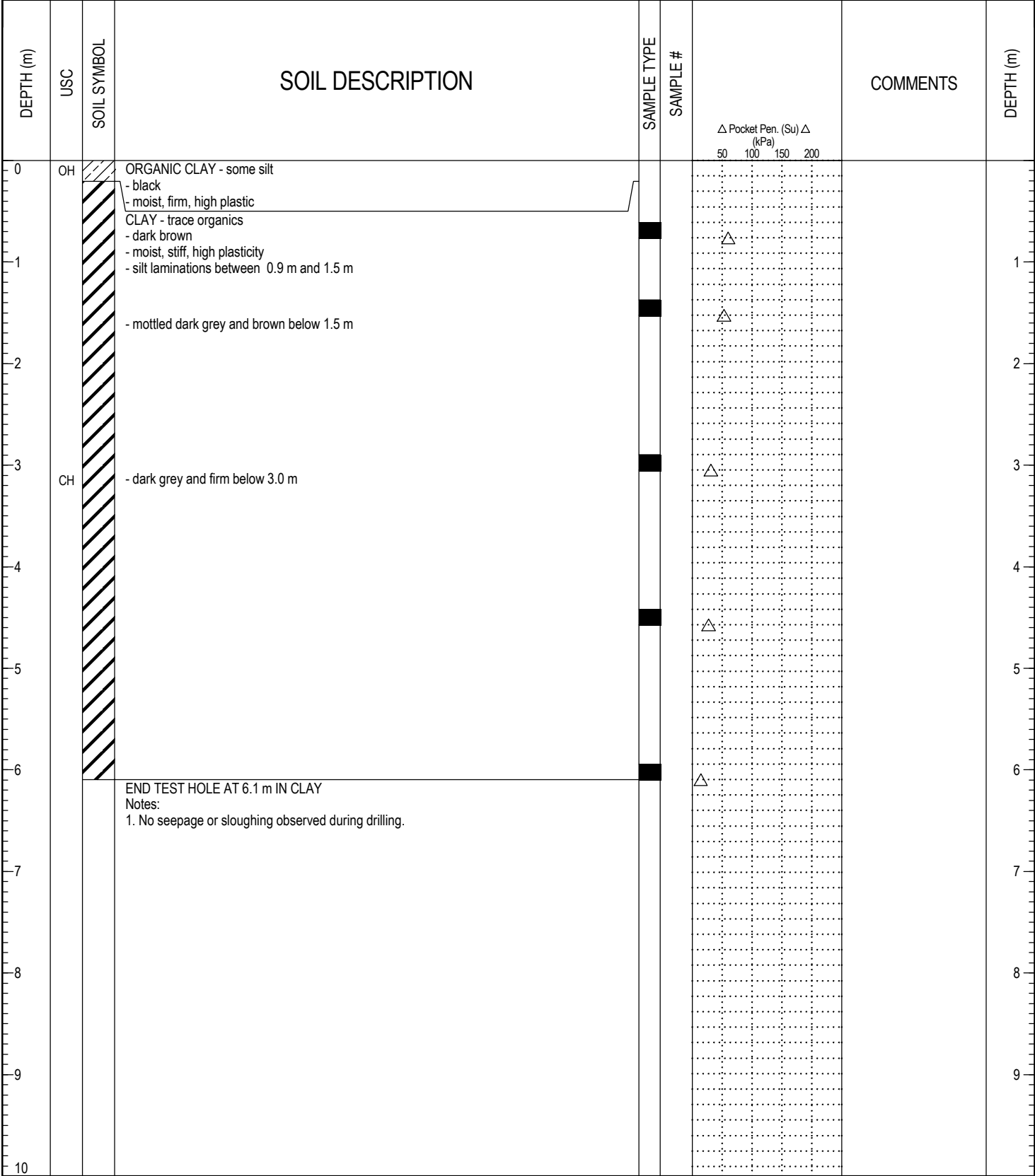
DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0	OH		ORGANIC CLAY - some silt - black - frozen, high plastic				0
1			CLAY - trace silt inclusions, trace organics to 0.9 m - brown - moist, stiff, high plasticity				1
2			- silt laminations below 1.5 m				2
3			- dark grey below 2.7 m				3
4	CH		- soft, trace sulphates below 3.0 m				4
5							5
6							6
7			END TEST HOLE AT 6.1 m IN CLAY Notes: 1. No seepage or sloughing observed during drilling. 2. Frost depth of 0.2 m.				7
8							8
9							9
10							10

LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

	LOGGED BY: AH	COMPLETION DEPTH: 6.10 m
	REVIEWED BY: GM	COMPLETION DATE: 1/27/06
	PROJECT ENGINEER: Giovanni Militano	Page 1 of 1



PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: TH-06-211
LOCATION: East Ditch of Murdock Road, South of GWWD Rail Line		PROJECT NO.: 3398-055-0608
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE



LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

	LOGGED BY: AH	COMPLETION DEPTH: 6.10 m
	REVIEWED BY: GM	COMPLETION DATE: 1/27/06
	PROJECT ENGINEER: Giovanni Militano	Page 1 of 1

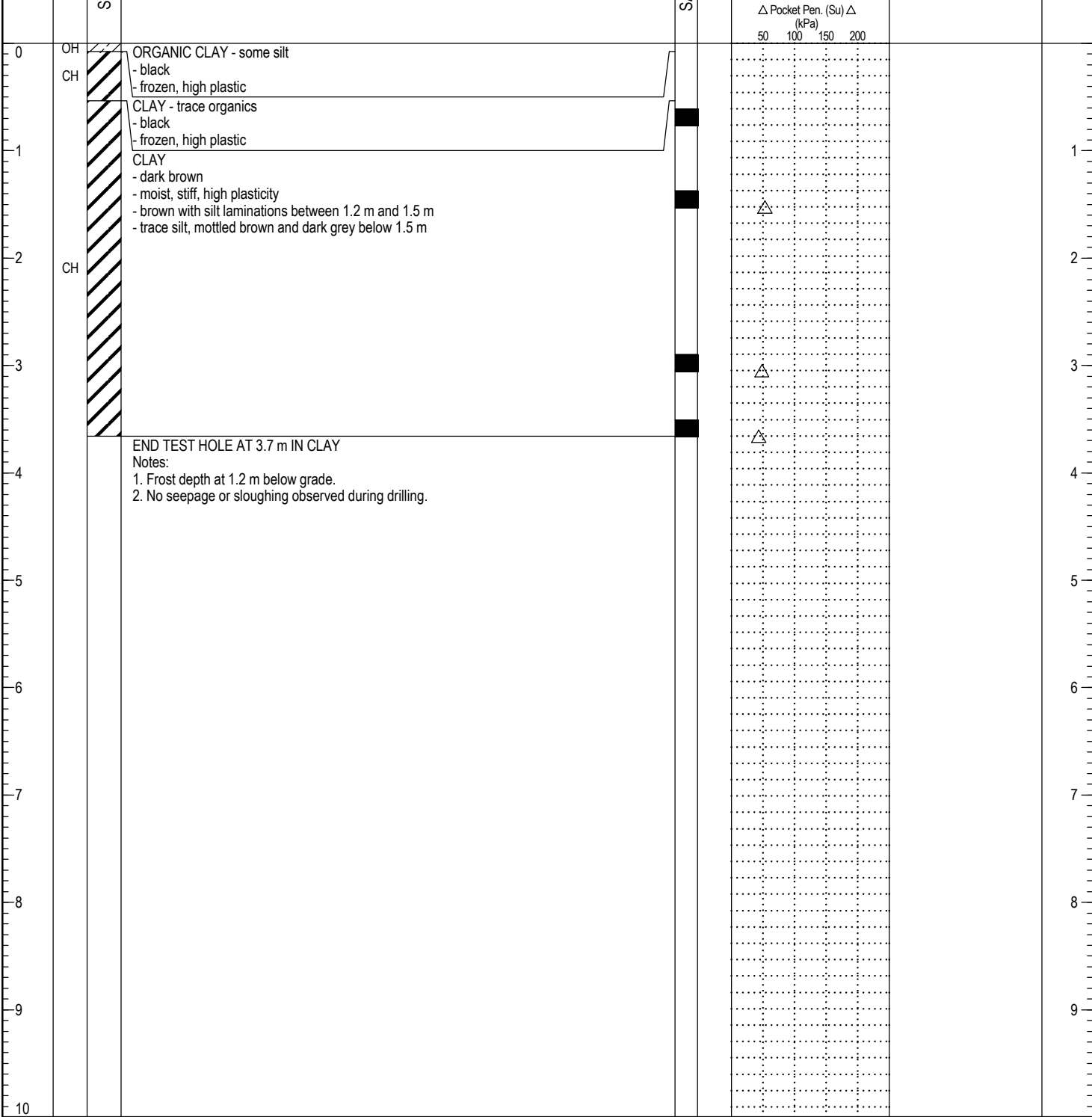
PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-212</b>
LOCATION: ~20 m South of GWWD line, ~ 250 m East of TH-06-211		PROJECT NO.: 3398-055-0608
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Δ Pocket Pen. (Su) Δ (kPa) 50    100    150    200	COMMENTS	DEPTH (m)
0	OH		ORGANIC CLAY - some silt - black - frozen, high plastic					
	CH		CLAY (Fill) - silty - brown - frozen, high plastic					
1	OL		- 76 mm topsoil lens at 0.9 m below grade CLAY - organic inclusions to 1.5 m - brown - moist, very stiff, high plasticity - trace silt inclusions below 1.5 m					1
2	CH		- stiff below 2.0 m					2
3								3
4			END TEST HOLE AT 3.7 m IN CLAY. Notes: 1. No seepage or sloughing observed during drilling. 2. Frost depth of 0.9 m.					4
5								5
6								6
7								7
8								8
9								9
10								10

LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-213</b>
LOCATION: ~20 m South of GWWD line, ~ 250 m East of TH-06-212	PROJECT NO.: 3398-055-0608	
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0	OH		ORGANIC CLAY - some silt - black - frozen, high plastic				
1	CH		CLAY - trace organics - black - frozen, high plastic				
2	CH		CLAY - dark brown - moist, stiff, high plasticity - brown with silt laminations between 1.2 m and 1.5 m - trace silt, mottled brown and dark grey below 1.5 m				
3							
4			END TEST HOLE AT 3.7 m IN CLAY Notes: 1. Frost depth at 1.2 m below grade. 2. No seepage or sloughing observed during drilling.				
5							
6							
7							
8							
9							
10							



LOG OF TESTHOLE 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-214</b>
LOCATION: ~20 m South of GWWD line, ~ 250 m East of TH-06-214		PROJECT NO.: 3398-055-0608
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input checked="" type="checkbox"/> BULK <input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

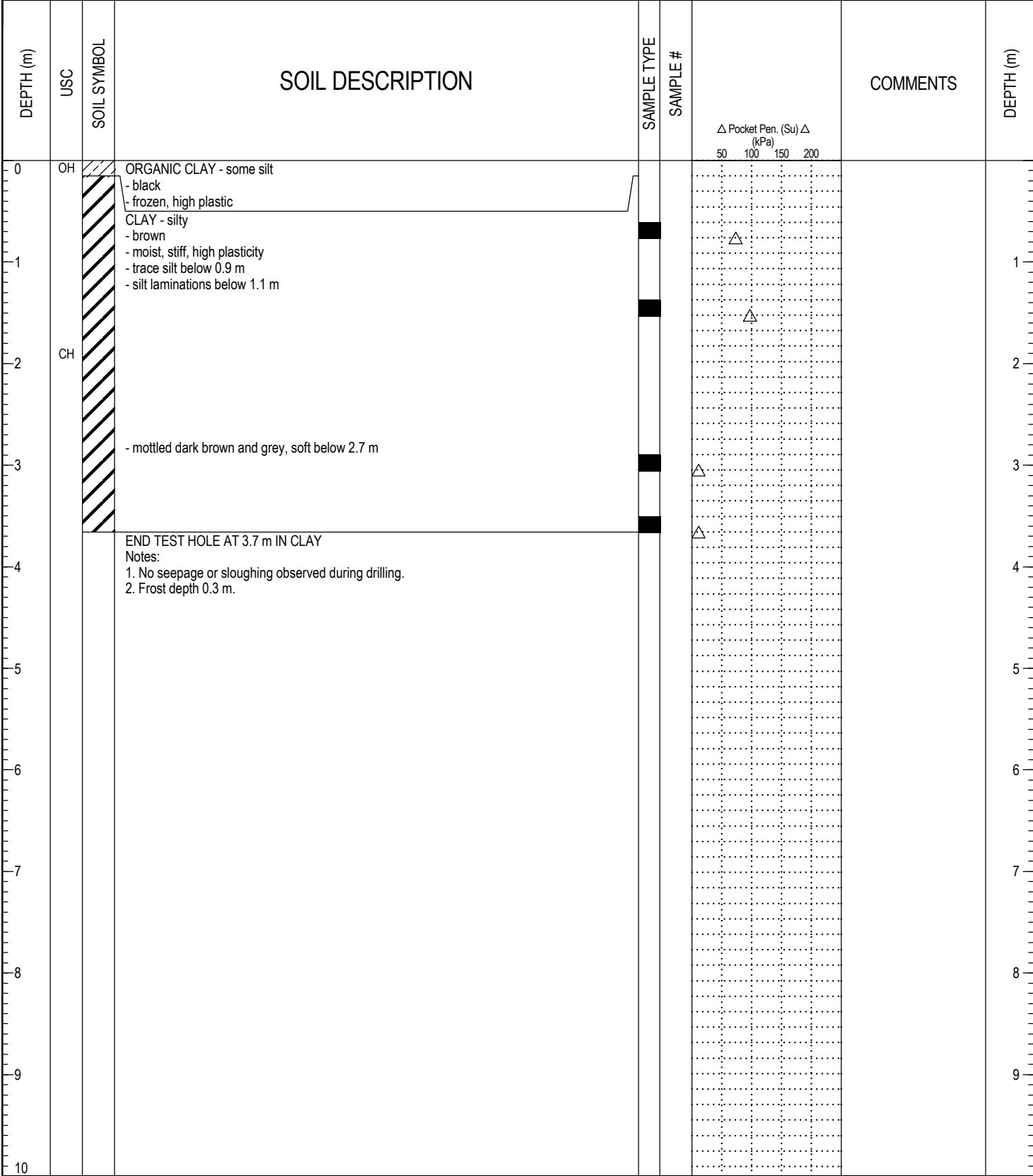
DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0	OH		ORGANIC CLAY - some silt				
	CH		- black - frozen, high plastic				
1			CLAY - trace organics - black - frozen, high plastic				1
			CLAY - trace organics to 0.9 m - brown - moist, very stiff, high plastic - silt laminations below 1.5 m			△	
2	CH		- stiff below 2.0 m				2
3			- mottled dark grey and brown, firm below 2.7 m			△	3
4			END TEST HOLE AT 3.7 m IN CLAY			△	4
			Notes: 1. Frost depth at 0.5 m below grade. 2. No seepage or sloughing observed during drilling.				
5							5
6							6
7							7
8							8
9							9
10							10

	LOGGED BY: AH	COMPLETION DEPTH: 3.66 m
	REVIEWED BY: GM	COMPLETION DATE: 1/27/06
	PROJECT ENGINEER: Giovanni Militano	Page 1 of 1


LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07



PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-215</b>
LOCATION: ~20 m South of GWWD line, ~ 250 m East of TH-06-214	PROJECT NO.: 3398-055-0608	
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE



LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

	LOGGED BY: AH REVIEWED BY: GM PROJECT ENGINEER: Giovanni Militano	COMPLETION DEPTH: 3.66 m COMPLETION DATE: 1/27/06 Page 1 of 1
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PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-216</b>
LOCATION: ~20 m South of GWWD line, ~ 250 m East of TH-06-215	PROJECT NO.: 3398-055-0608	
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	△ Pocket Pen. (Su) △ (kPa) 50    100    150    200	COMMENTS	DEPTH (m)
0	OH		ORGANIC CLAY - some silt - black - frozen, high plastic					
1			CLAY - trace organics to 1.2 m - dark brown - moist, stiff, high plastic			△		1
2	CH		- trace silt, brown  - silt laminations below 1.5 m			△		2
3			- firm below 3.0 m			△		3
4			END TEST HOLE AT 3.7 m IN CLAY Notes: 1. No seepage or sloughing observed during drilling.			△		4
5								5
6								6
7								7
8								8
9								9
10								10

LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: TH-06-217
LOCATION: ~20 m South of GWWD line, ~ 250 m East of TH-06-216		PROJECT NO.: 3398-055-0608
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input checked="" type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0	OH		ORGANIC CLAY - some silt - black - frozen, high plastic				0
1			CLAY - trace organics - moist, stiff, high plastic - brown below 0.6 m, trace silt				1
2	CH		- mottled dark grey and brown, firm below 2.0 m				2
3							3
4			END TEST HOLE AT 3.7 m IN CLAY Notes: 1. No seepage or sloughing observed during drilling.				4
5							5
6							6
7							7
8							8
9							9
10							10

LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

	LOGGED BY: AH	COMPLETION DEPTH: 3.66 m
	REVIEWED BY: GM	COMPLETION DATE: 1/27/06
	PROJECT ENGINEER: Giovanni Militano	Page 1 of 1

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: <b>TH-06-218</b>
LOCATION: ~20 m South of GWWD line, West of the Perimeter Highway		PROJECT NO.: 3398-055-0608
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0	OH CH		ORGANIC CLAY - some silt - black - frozen, high plastic				
1			CLAY - trace organics - black - moist, stiff, high plastic				1
2			CLAY - trace silt, trace organics to 0.9 m - brown - moist, stiff, high plastic				2
3			- silt laminations between 2.3 m and 3.0 m				3
4	CH		- mottled grey and brown, moist, firm below 3.0 m				4
5			- grey below 4.6 m				5
6			END TEST HOLE AT 6.1 m IN CLAY.				6
7			Notes: 1. No seepage or sloughing observed during drilling.				7
8							8
9							9
10							10

LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

	LOGGED BY: AH	COMPLETION DEPTH: 6.10 m
	REVIEWED BY: GM	COMPLETION DATE: 1/27/06
	PROJECT ENGINEER: Giovanni Militano	Page 1 of 1

PROJECT: Freeze/Thaw Forcemain	CLIENT: Earth Tech	TESTHOLE NO: TH-06-219
LOCATION: ~20 m South of GWWL line, East of the Perimeter Highway		PROJECT NO.: 3398-055-0608
CONTRACTOR: Maple Leaf Drilling	METHOD: DR-150 with 125 mm SSA	ELEVATION (m):
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK	<input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE

DEPTH (m)	USC	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0			CLAY - trace organics - brown - moist, stiff, high plastic				0
1			- trace silt below 0.8 m				1
2			- silt laminations below 1.4 m - soft, some silt below 1.5 m				2
3	CH		- mottled dark grey and brown below 3.0 m				3
4			- trace silt below 4.3 m				4
5			- dark grey below 4.6 m				5
6			END TEST HOLE AT 6.1 m IN CLAY				6
7			Notes: 1. Water level at 4.6 m upon completion of drilling. 2. Test hole squeezed in to 4.6 m upon completion.				7
8							8
9							9
10							10

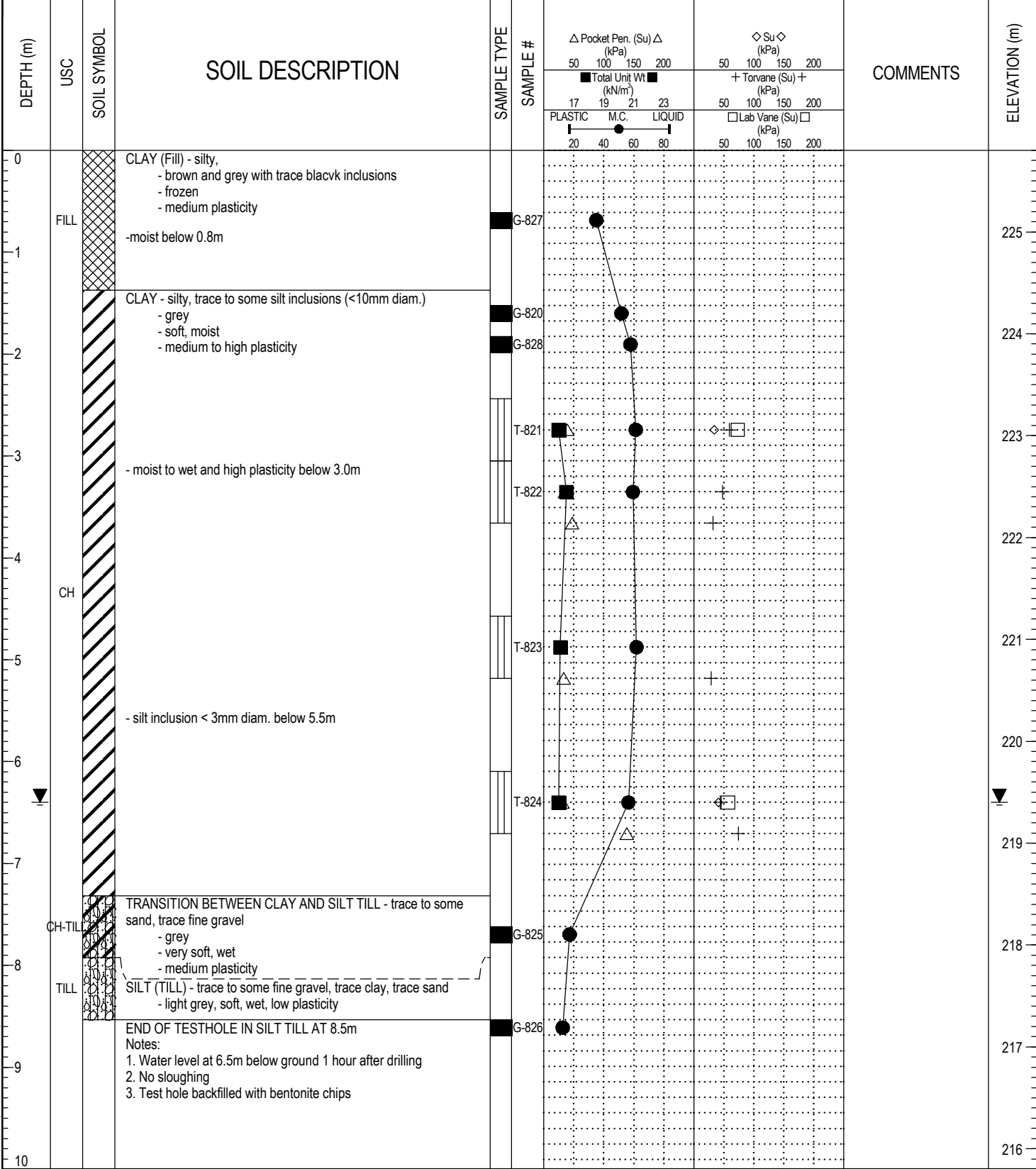
LOG OF TESTHOLE - 2006 01 26 FREEZE THAW FORCEMAIN.GPJ UMA.GDT 7/6/07

	LOGGED BY: AH	COMPLETION DEPTH: 6.10 m
	REVIEWED BY: GM	COMPLETION DATE: 1/27/06
	PROJECT ENGINEER: Giovanni Militano	Page 1 of 1



PROJECT: Design of Forcemanin Thru Floodway Channel      CLIENT: City of Winnipeg (Earth Tech Canada)      TESTHOLE NO: TH07-220  
 LOCATION: Proposed Forceman Alignment - N E UTM3 N 5,524,242.8 E 647,038.0      PROJECT NO.: 3398-055-00  
 CONTRACTOR: Paddock Drilling Ltd.      METHOD: 125mm Solid Stem Auger, Nodwell 460      ELEVATION (m): 225.8

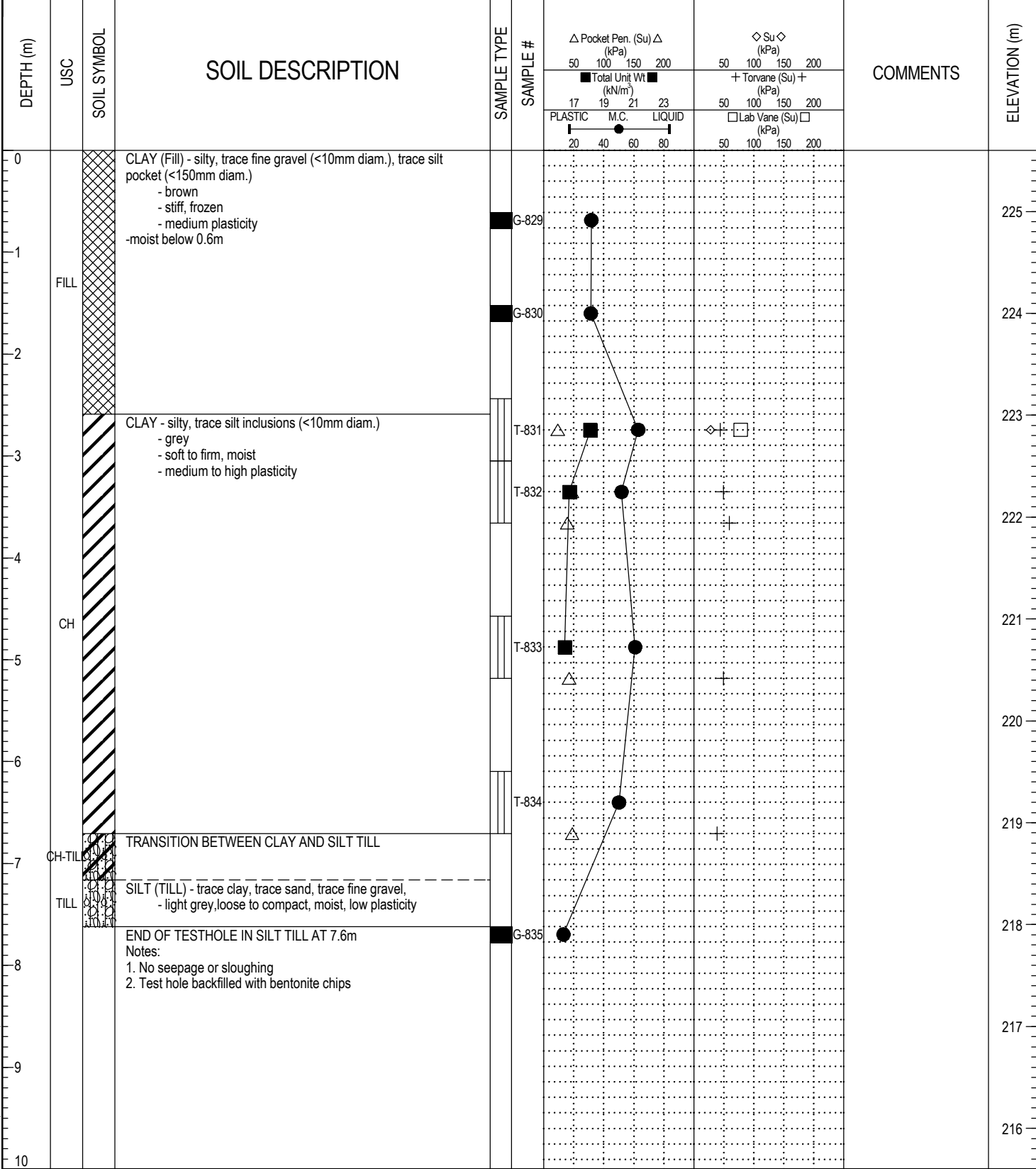
SAMPLE TYPE      GRAB      SHELBY TUBE      SPLIT SPOON      BULK      NO RECOVERY      CORE



LOG OF TEST HOLE (OLD TEMPLATE) FORCEMAIN THRU FLOODWAY.GPJ UMA.GDT 7/30/07

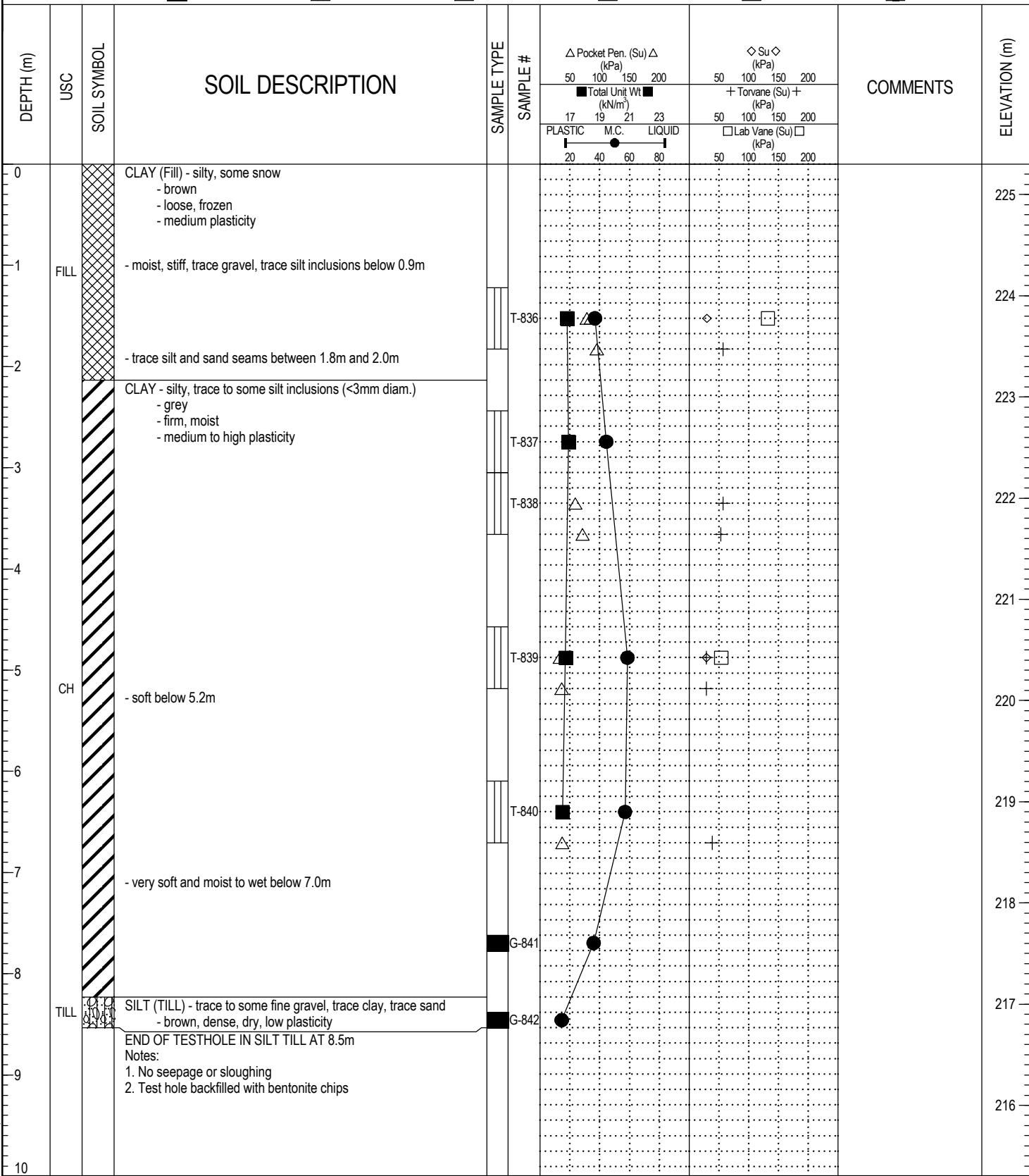
PROJECT: Design of Forcemanin Thru Floodway Channel      CLIENT: City of Winnipeg (Earth Tech Canada)      TESTHOLE NO: TH07-221  
 LOCATION: Proposed Forcemain Alignment - N E UTM3 N 5,524,236.6 E 647,060.3      PROJECT NO.: 3398-055-00  
 CONTRACTOR: Paddock Drilling Ltd.      METHOD: 125mm Solid Stem Auger, Nodwell 460      ELEVATION (m): 225.6

SAMPLE TYPE      GRAB      SHELBY TUBE      SPLIT SPOON      BULK      NO RECOVERY      CORE



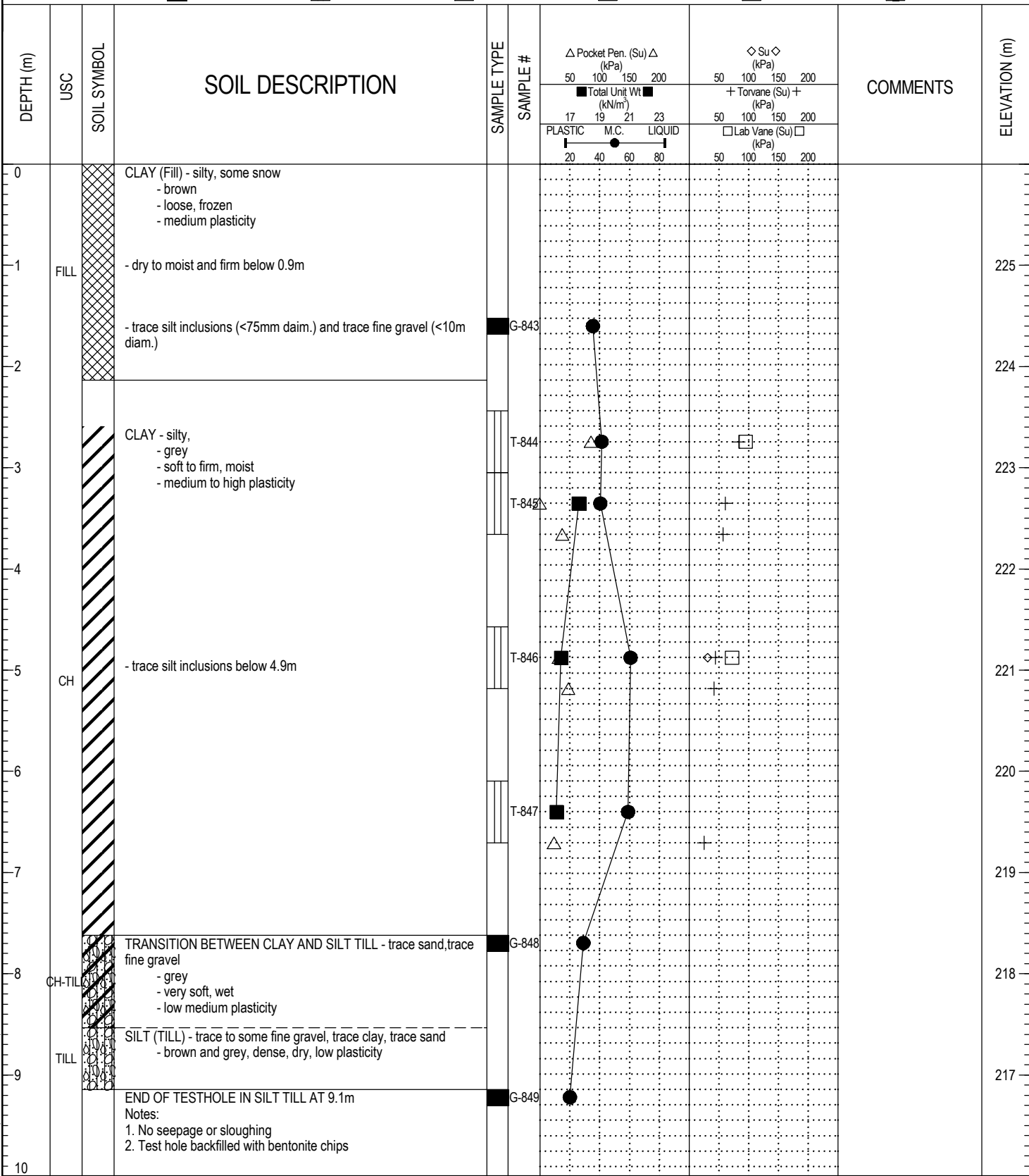
LOG OF TEST HOLE (OLD TEMPLATE) FORCEMAIN THRU FLOODWAY.GPJ UMA.GDT 7/30/07

PROJECT: Design of Forcemanin Thru Floodway Channel	CLIENT: City of Winnipeg (Earth Tech Canada)	TESTHOLE NO: TH07-222
LOCATION: Proposed Forcemain Alignment - N E UTM3 N 5,524,209.1 E 647,129.7	PROJECT NO.: 3398-055-00	
CONTRACTOR: Paddock Drilling Ltd.	METHOD: 125mm Solid Stem Auger, Nodwell 460	ELEVATION (m): 225.3
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



PROJECT: Design of Forcemanin Thru Floodway Channel      CLIENT: City of Winnipeg (Earth Tech Canada)      TESTHOLE NO: TH07-223  
 LOCATION: Proposed Forcemain Alignment - N E UTM3 N 5,524,198.2 E 647,165.8      PROJECT NO.: 3398-055-00  
 CONTRACTOR: Paddock Drilling Ltd.      METHOD: 125mm Solid Stem Auger, Nodwell 460      ELEVATION (m): 226

SAMPLE TYPE      GRAB      SHELBY TUBE      SPLIT SPOON      BULK      NO RECOVERY      CORE



LOG OF TEST HOLE (OLD TEMPLATE) FORCEMAIN THRU FLOODWAY.GPJ UMA.GDT 7/30/07