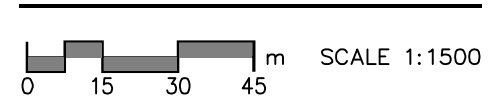
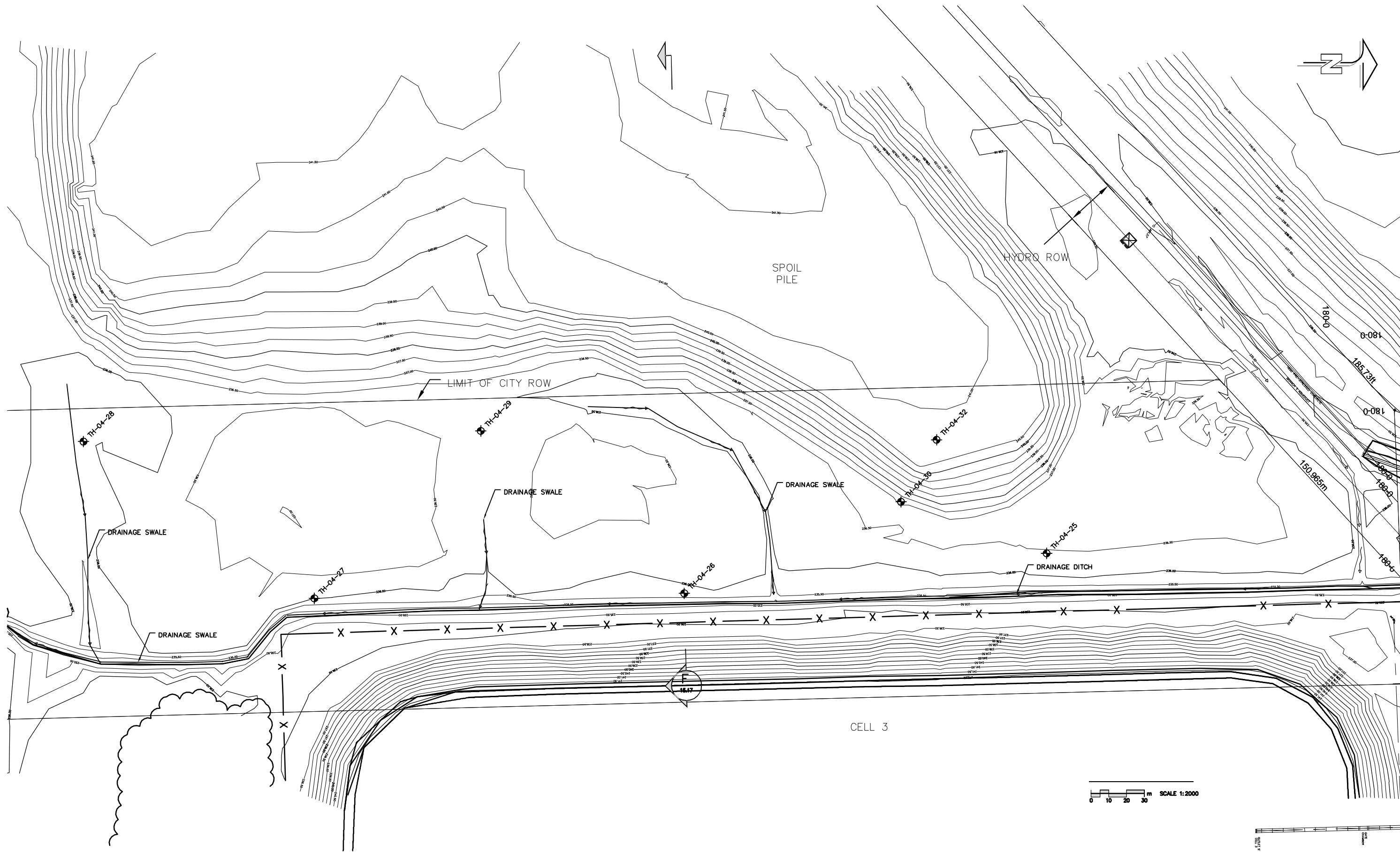
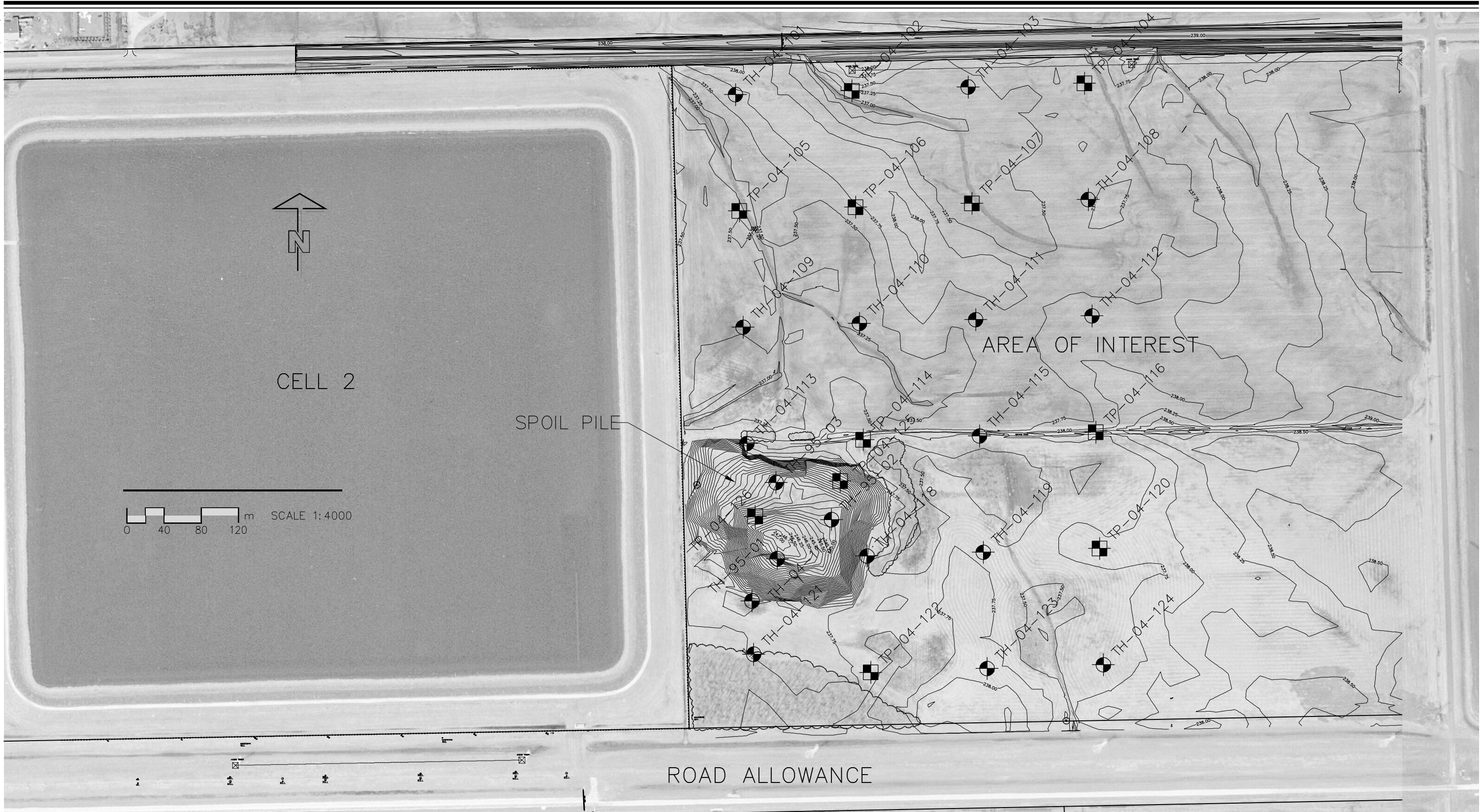





- ⊕ TESTHOLES
- ⊕ TESTHOLES BY OTHERS

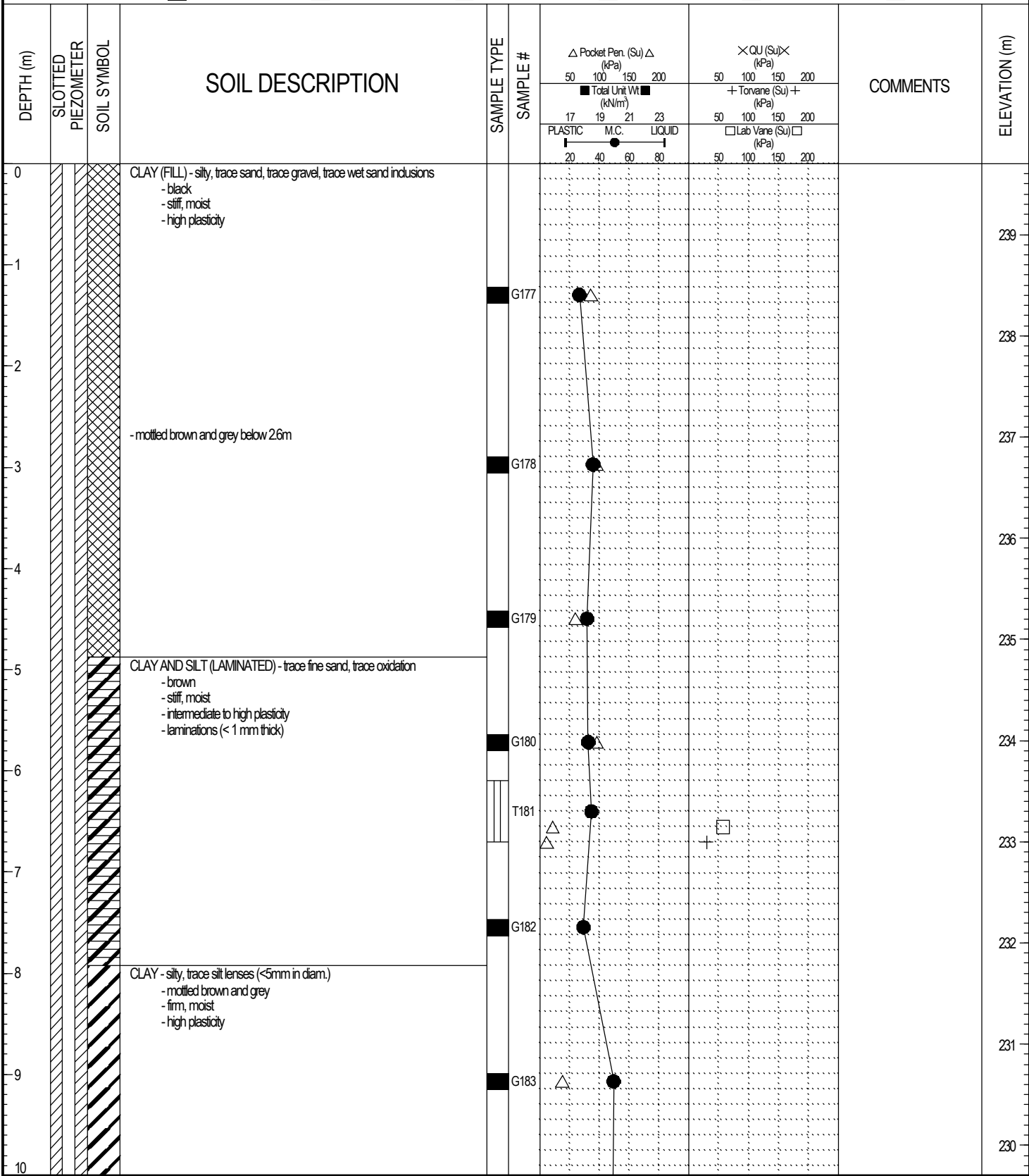






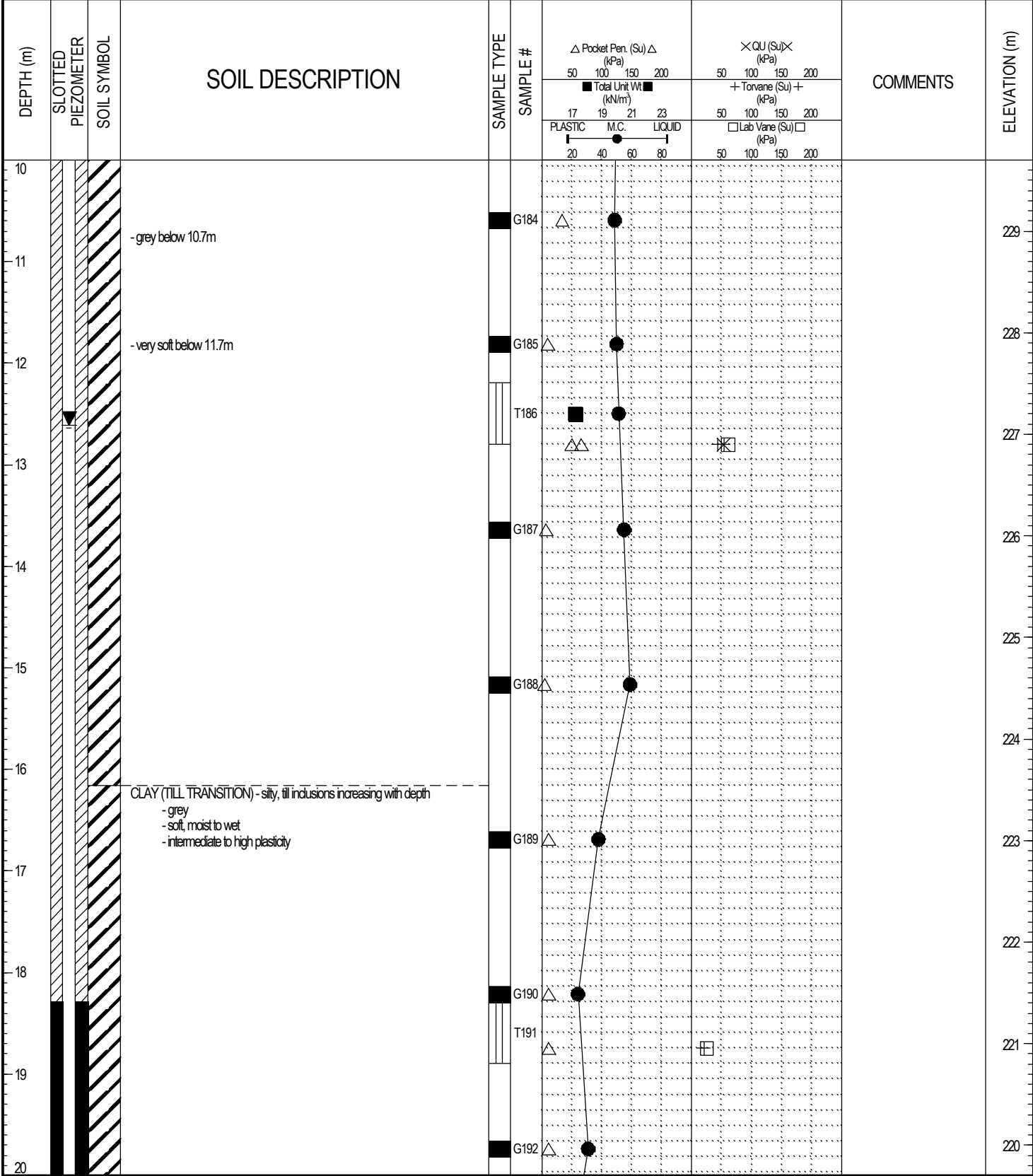
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 1995 TESTHOLE
-  TH-04-108
 2004 TESTHOLE
-  TP-04-107
 2004 TEST PIT

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-01		
LOCATION: WTP - N 5524018.031 E 647939.000				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: RM 30 - 125 mm Solid Stem Augers		ELEVATION (m): 239.7	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



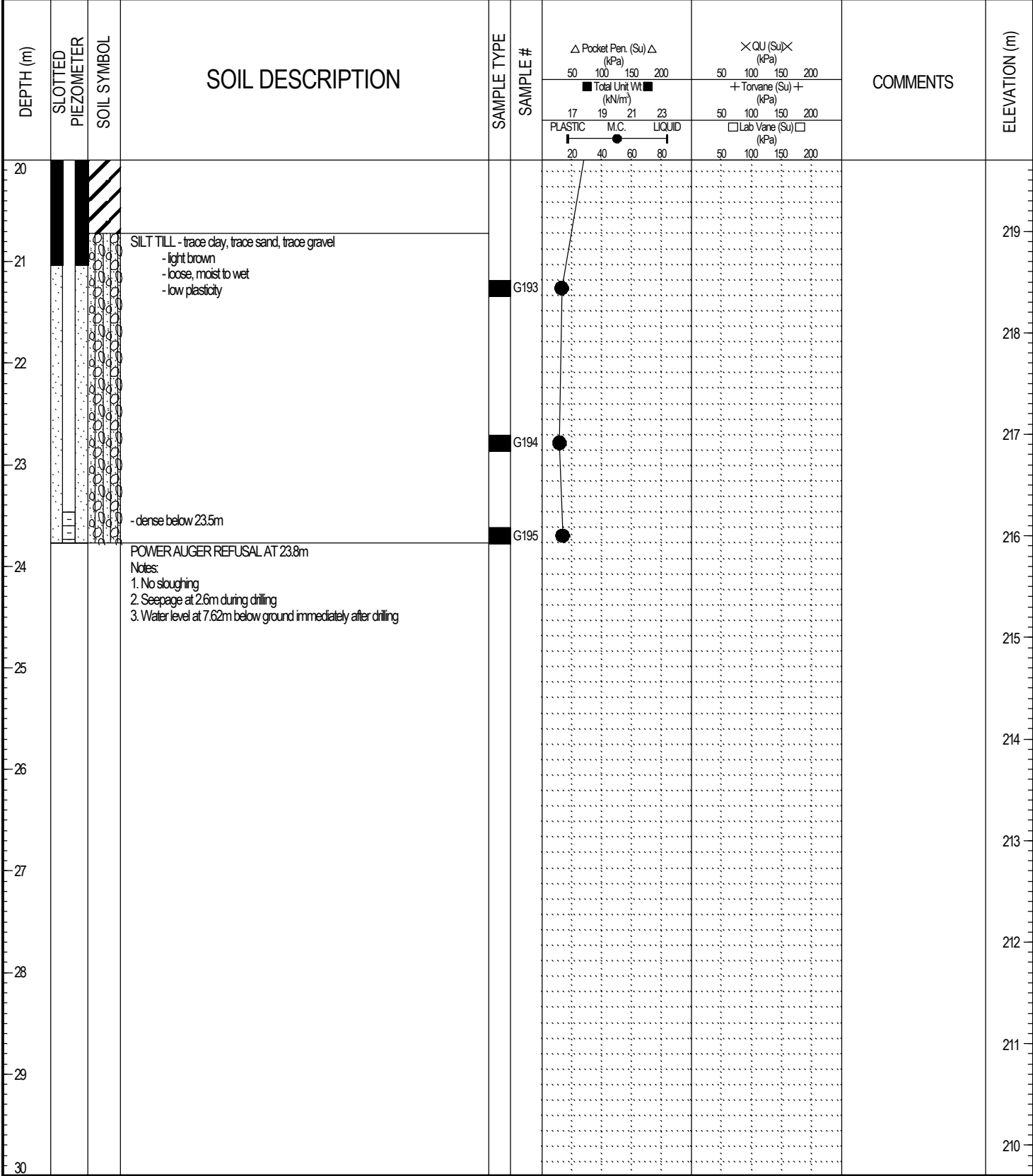
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-01		
LOCATION: WTP - N 5524018.031 E 647939.000				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: RM 30 - 125 mm Solid Stem Augers		ELEVATION (m): 239.7	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



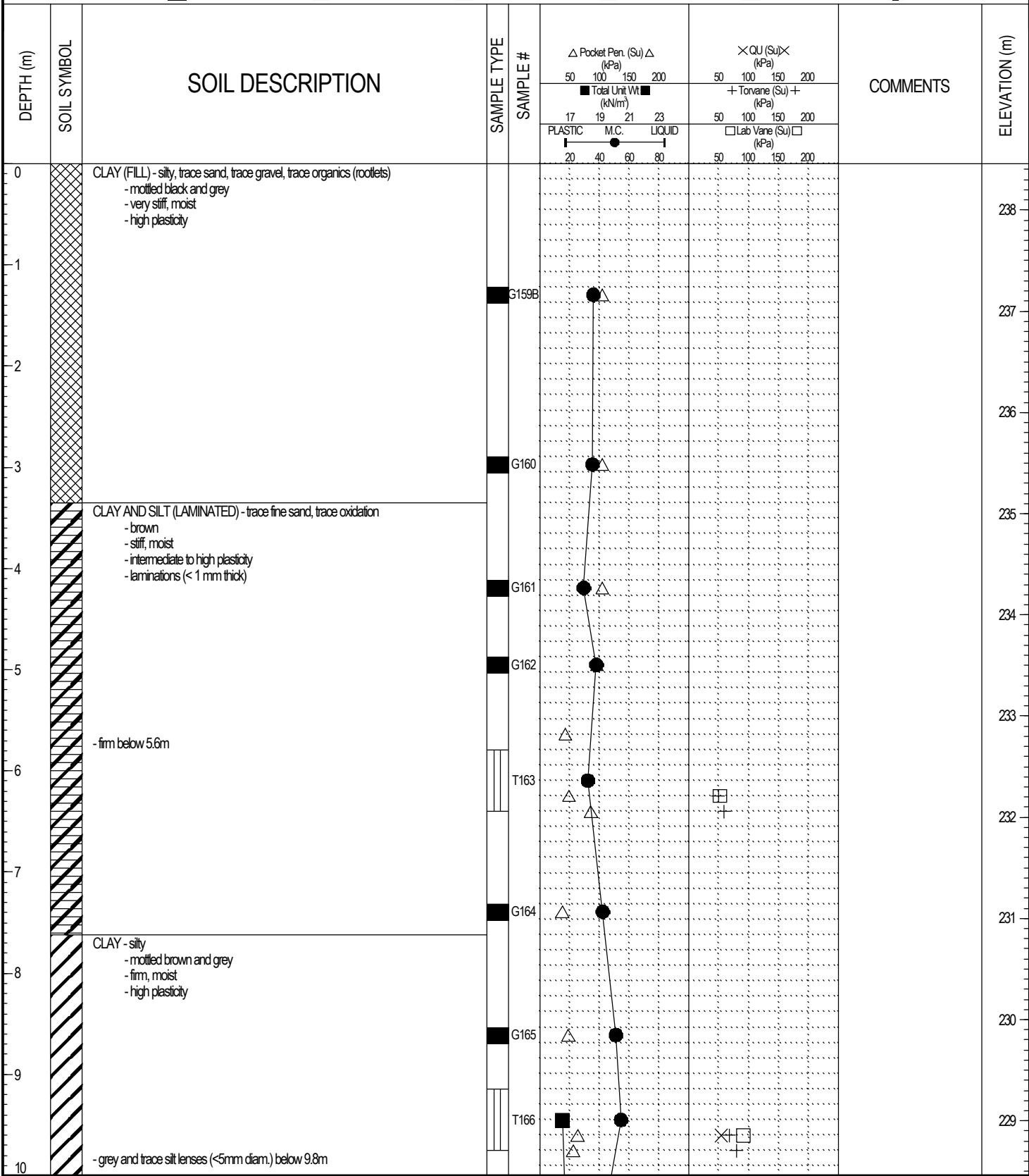
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-01		
LOCATION: WTP - N 5524018.031 E 647939.000				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: RM 30 - 125 mm Solid Stem Augers		ELEVATION (m): 239.7	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

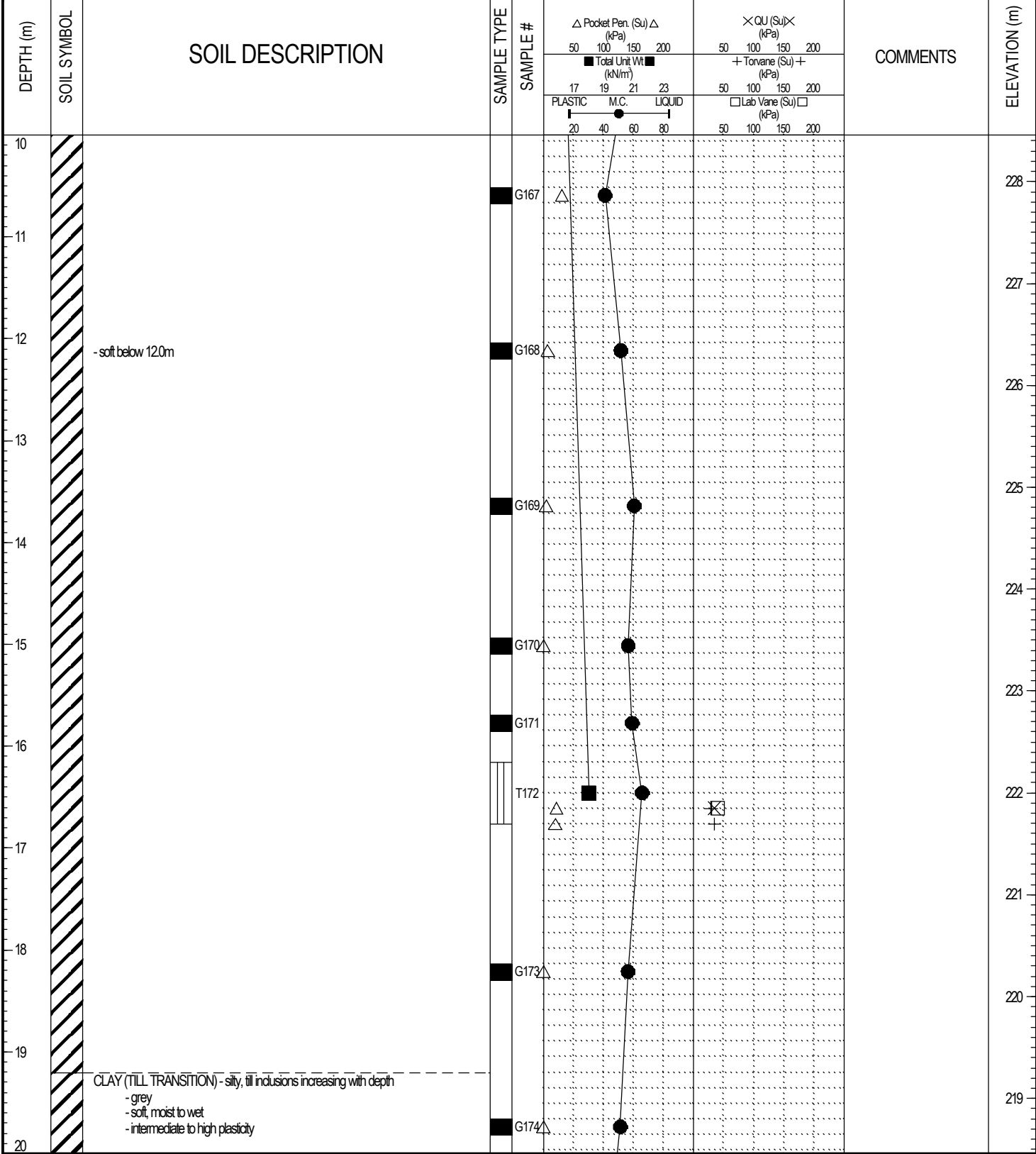
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-02
LOCATION: WTP - N 5524039.025 E 648058.040		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 238.458
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-02
LOCATION: WTP - N 5524039.025 E 648058.040		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 238.458

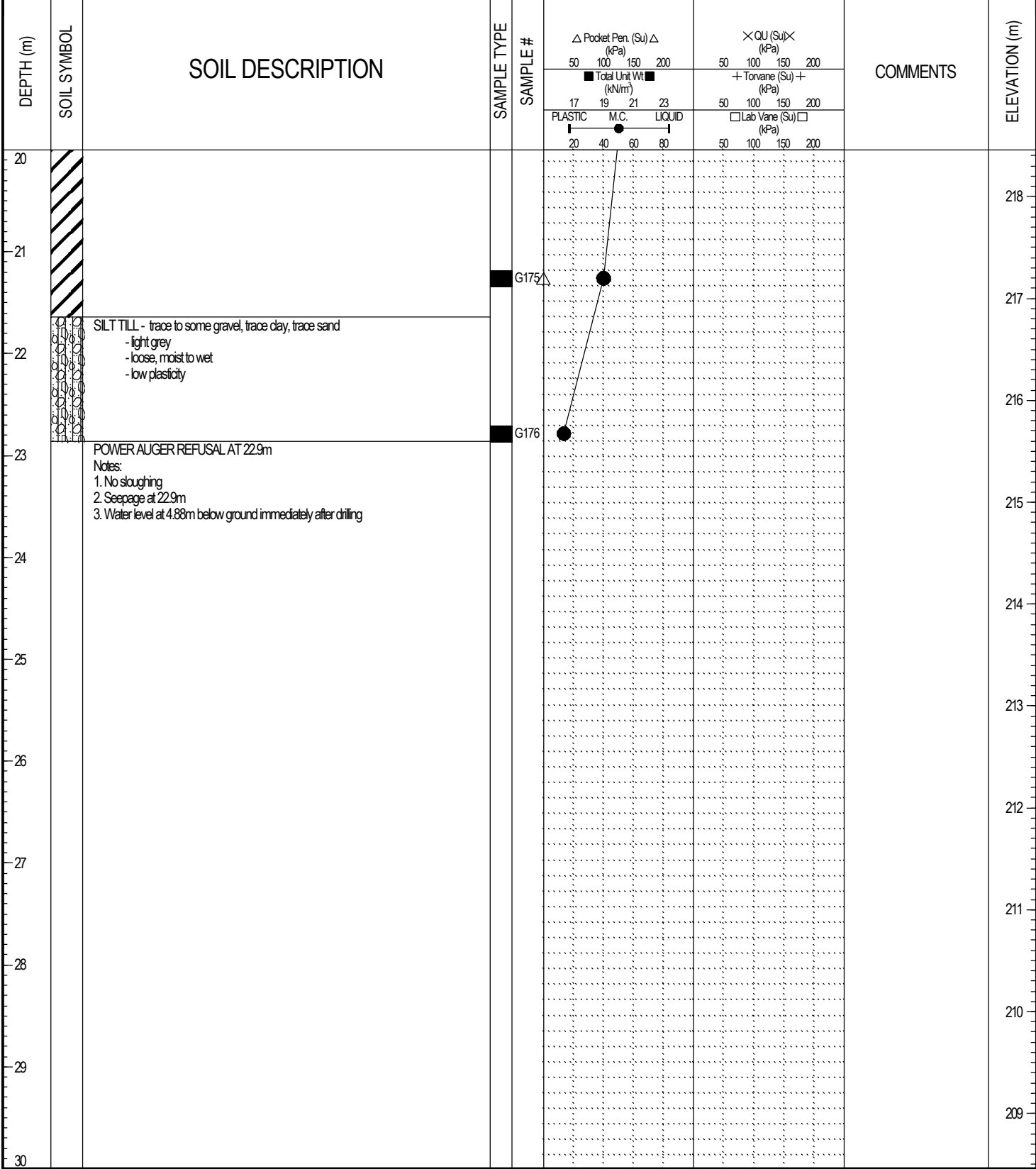
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
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LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant CLIENT: City of Winnipeg (Earth Tech Can Ltd) TESTHOLE NO: 04-02
 LOCATION: WTP - N 5524039.025 E 648058.040 PROJECT NO.: 3398-055-00-01
 CONTRACTOR: Paddock Drilling Ltd. METHOD: RM 30 - 125 mm Solid Stem Augers ELEVATION (m): 238.458

SAMPLE TYPE GRAB SHELBY TUBE SPLIT SPOON BULK NO RECOVERY CORE



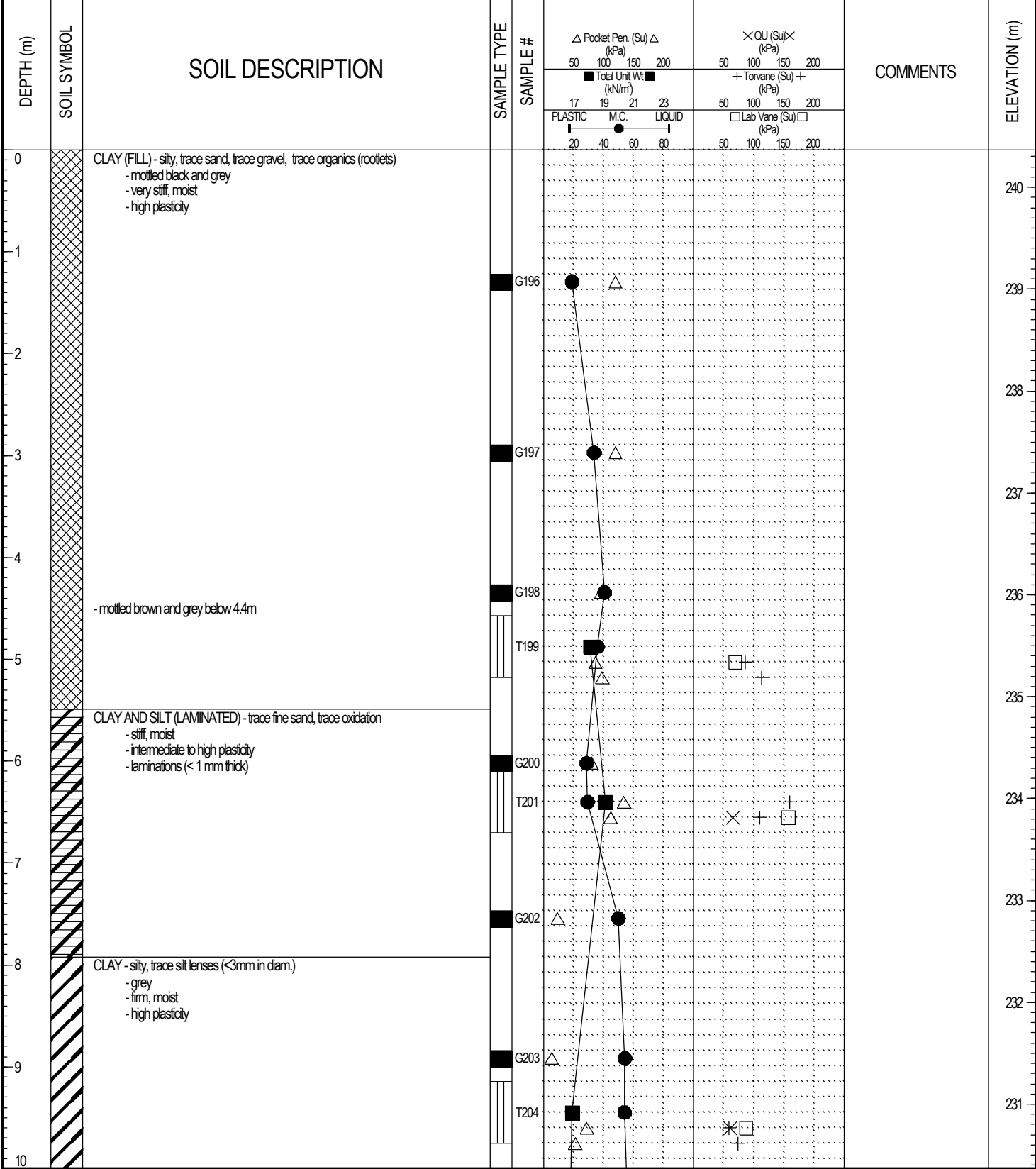
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



LOGGED BY: Kate Franklin COMPLETION DEPTH: 22.86 m
 REVIEWED BY: COMPLETION DATE: 4/10/04
 PROJECT ENGINEER: Ken Skafffeld Page 3 of 3

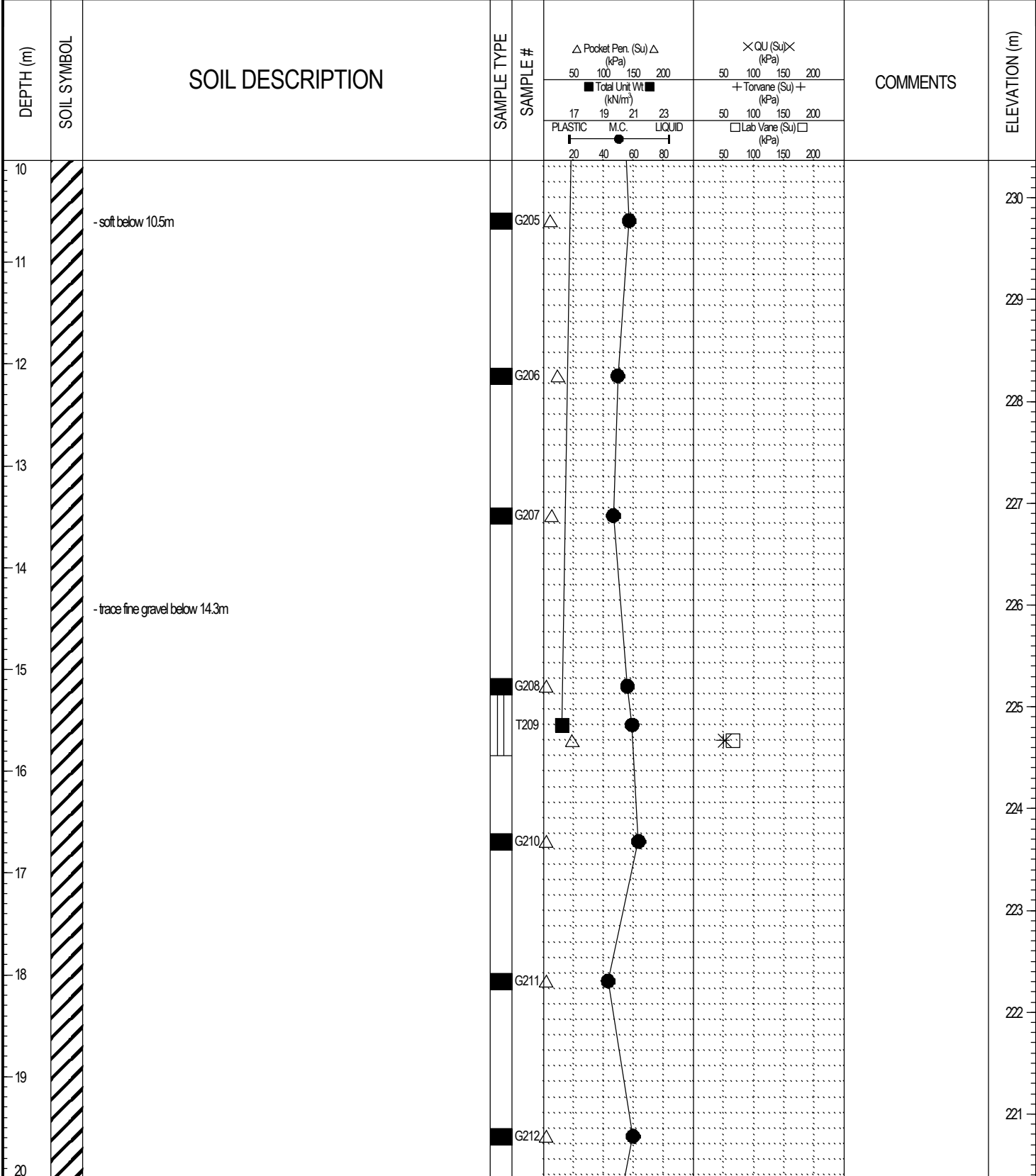
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-03
LOCATION: WTP - N 5524091.980 E 647959.997		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 240.367

SAMPLE TYPE GRAB SHELBY TUBE SPLIT SPOON BULK NO RECOVERY CORE



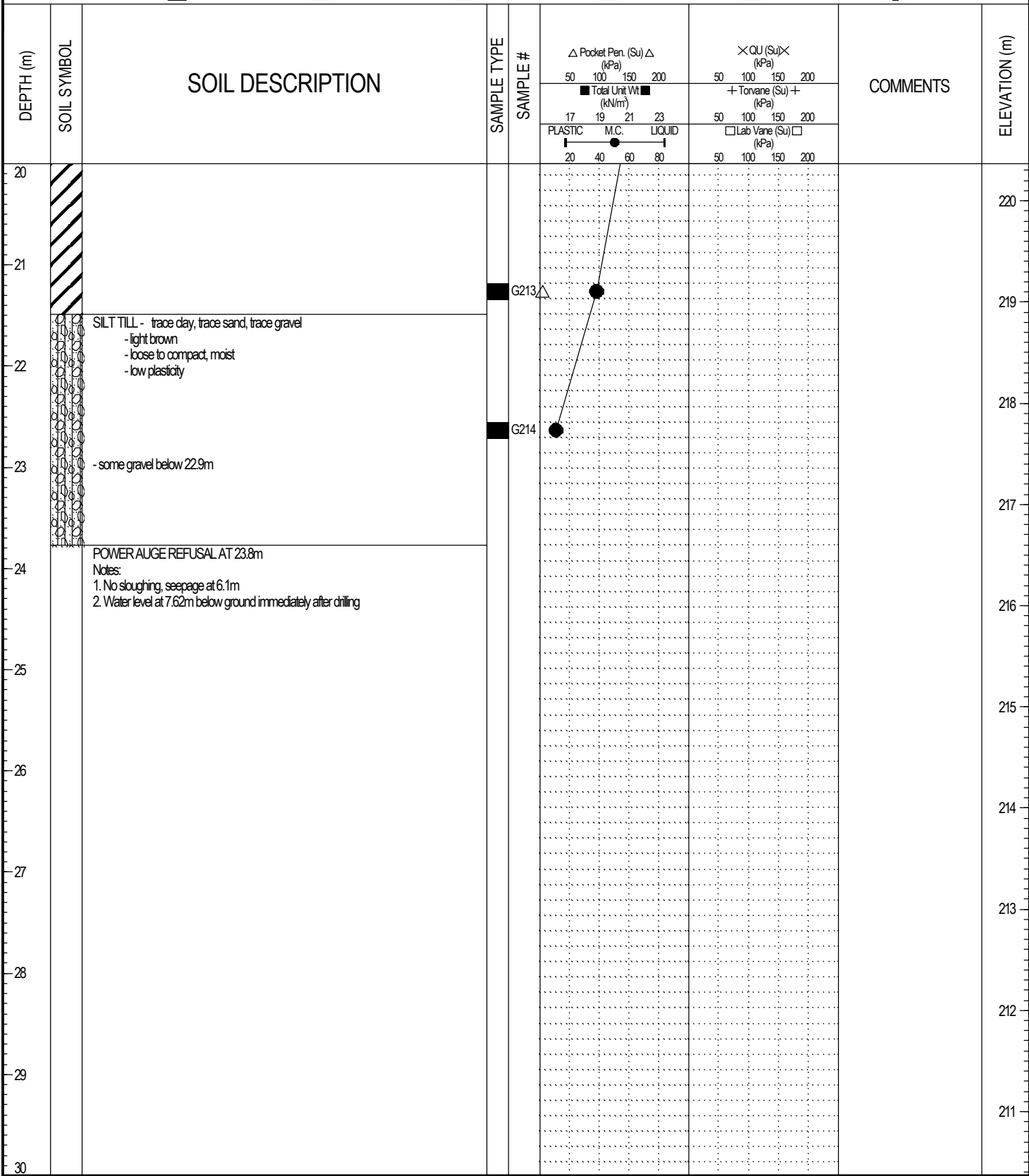
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-03
LOCATION: WTP - N 5524091.980 E 647959.997		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 240.367
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	



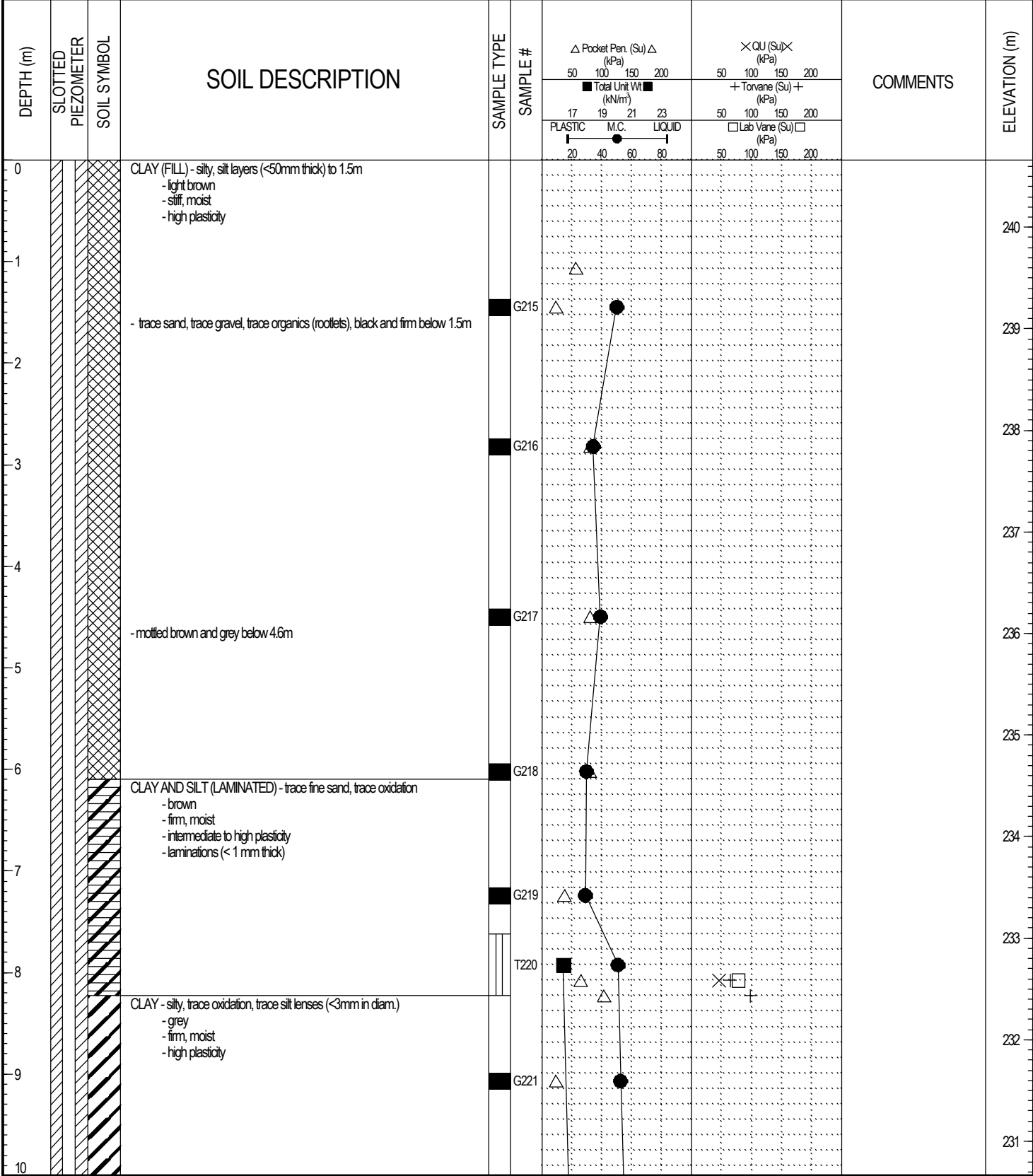
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-03
LOCATION: WTP - N 5524091.980 E 647959.997		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 240.367
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	



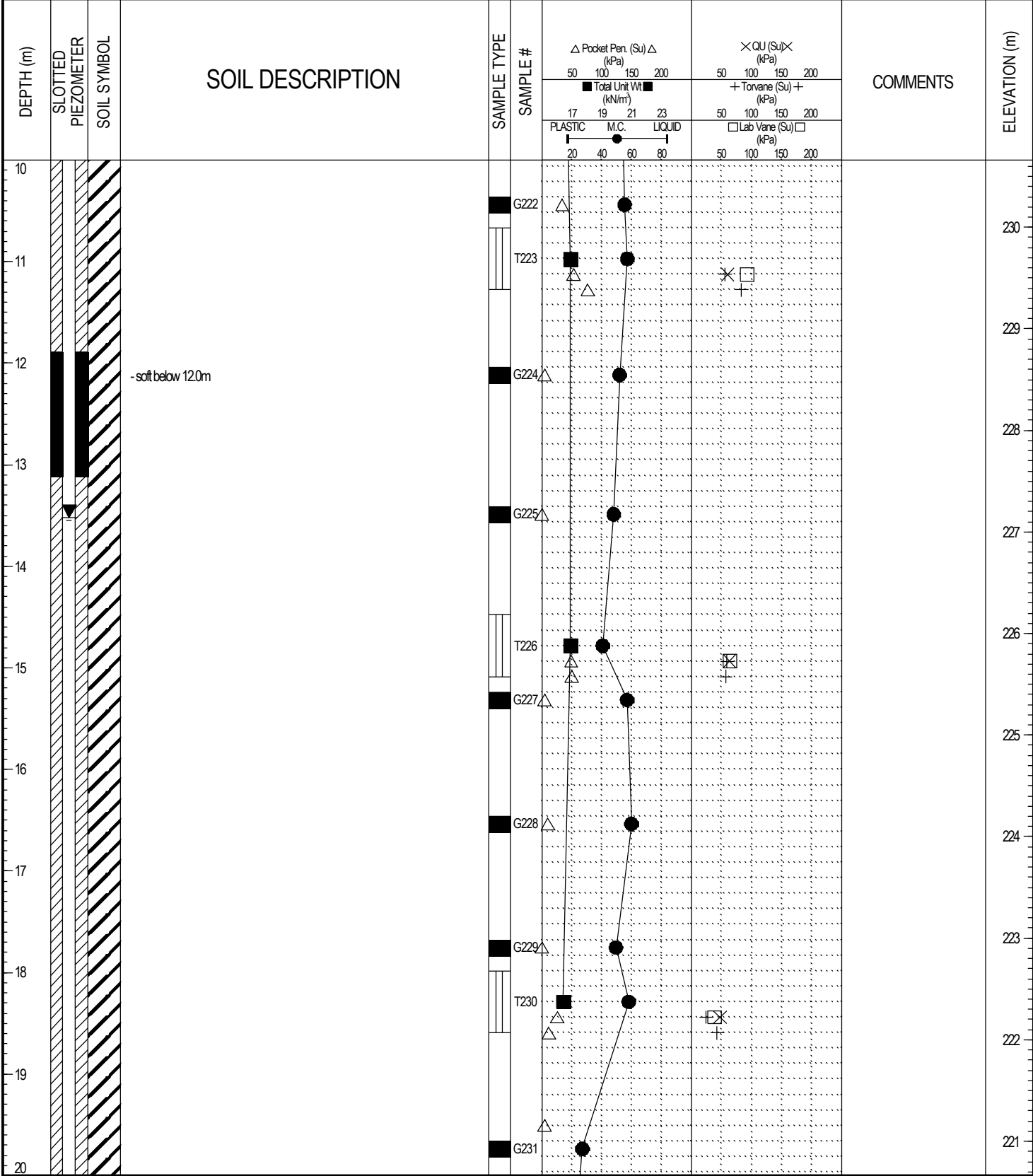
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-04		
LOCATION: WTP - N 5524124.018 E 647902.002				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: RM 30 - 125 mm Solid Stem Augers		ELEVATION (m): 240.662	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



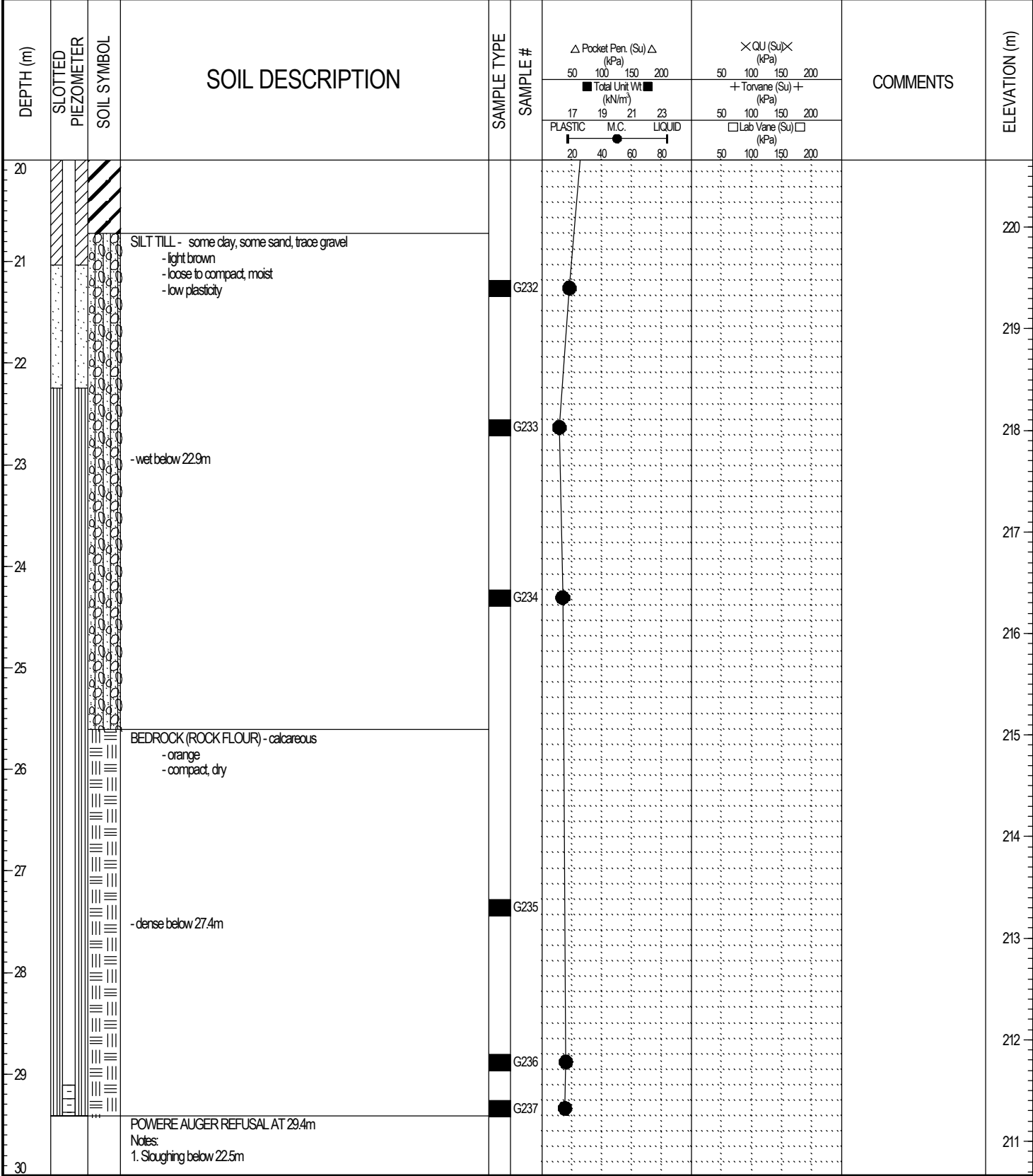
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-04		
LOCATION: WTP - N 5524124.018 E 647902.002				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: RM 30 - 125 mm Solid Stem Augers		ELEVATION (m): 240.662	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-04		
LOCATION: WTP - N 5524124.018 E 647902.002				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: RM 30 - 125 mm Solid Stem Augers		ELEVATION (m): 240.662	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



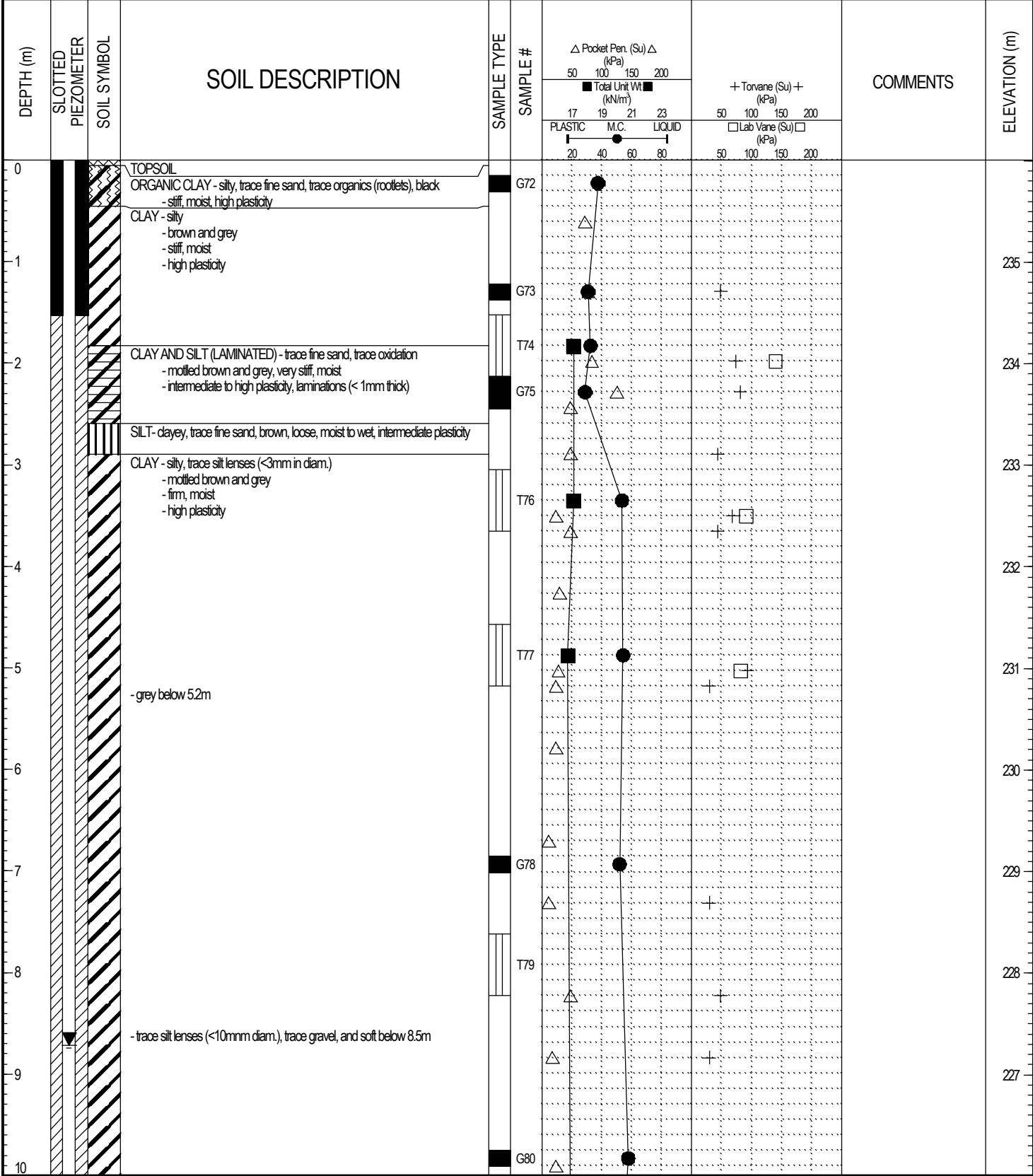
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-04	
LOCATION: WTP - N 5524124.018 E 647902.002				PROJECT NO.: 3398-055-00-01	
CONTRACTOR: Paddock Drilling Ltd.			METHOD: RM 30 - 125 mm Solid Stem Augers		ELEVATION (m): 240.662
SAMPLE TYPE		<input checked="" type="checkbox"/> GRAB	<input type="checkbox"/> SHELBY TUBE	<input type="checkbox"/> SPLIT SPOON	<input type="checkbox"/> BULK
BACKFILL TYPE		<input checked="" type="checkbox"/> BENTONITE	<input type="checkbox"/> GRAVEL	<input type="checkbox"/> SLOUGH	<input type="checkbox"/> GROUT
				<input type="checkbox"/> NO RECOVERY	<input type="checkbox"/> CORE
				<input type="checkbox"/> CUTTINGS	<input type="checkbox"/> SAND

DEPTH (m)	SLOTTED PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Pocket Pen. (Su) Δ (kPa)		QU (Su) X (kPa)		COMMENTS	ELEVATION (m)
						50	100	150	200		
30			2. Seepage at 3.1m 3. Water level at 11.89m below ground immediately after drilling								210
31											209
32											208
33											207
34											206
35											205
36											204
37											203
38											202
39											201
40											

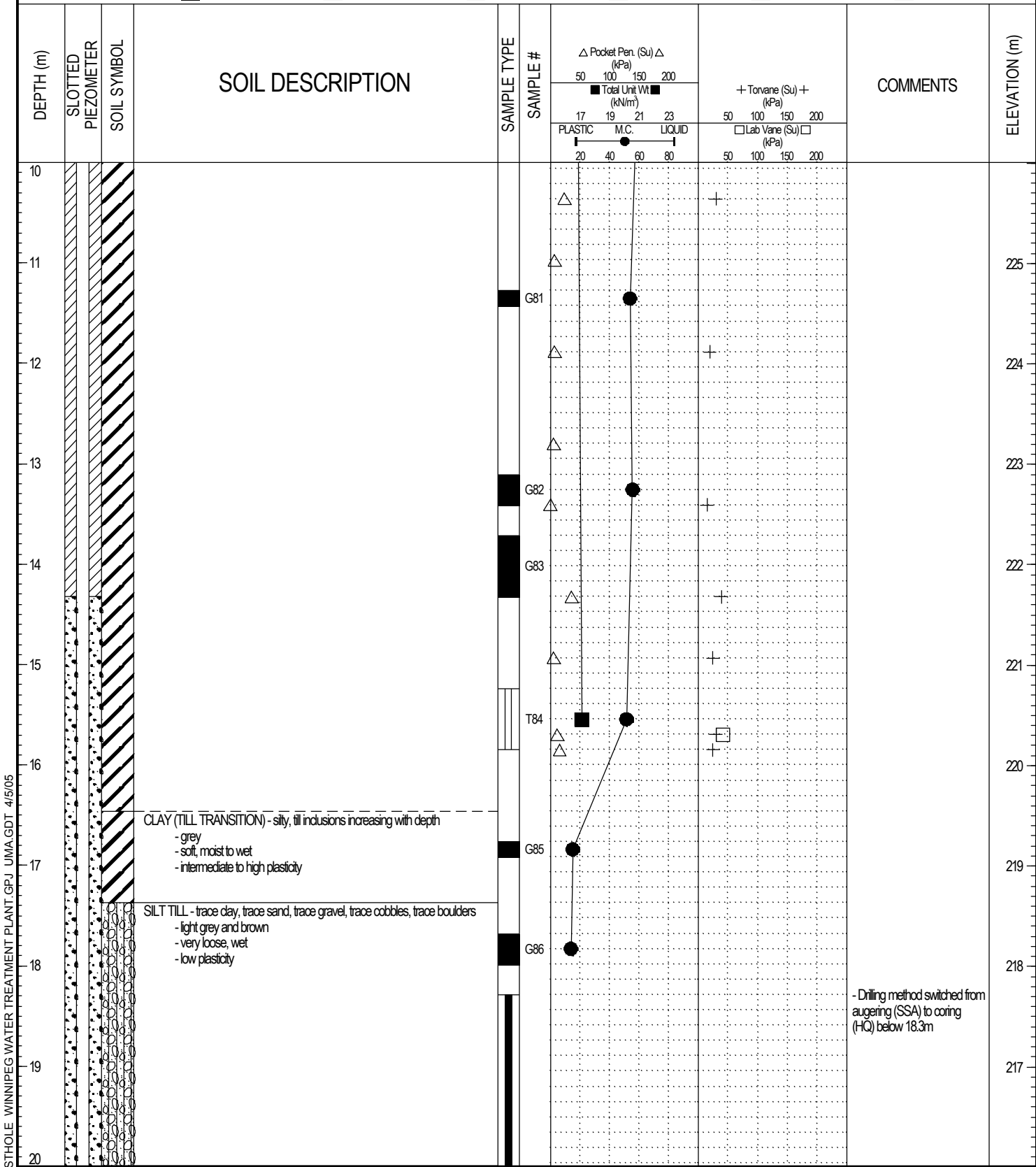
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-05		
LOCATION: WTP - N 5524149.497 E 647855.683				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Nodwell-125 mm Solid Stem Augers		ELEVATION (m): 236.006	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-05		
LOCATION: WTP - N 5524149.497 E 647855.683				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Nodwell-125 mm Solid Stem Augers		ELEVATION (m): 236.006	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

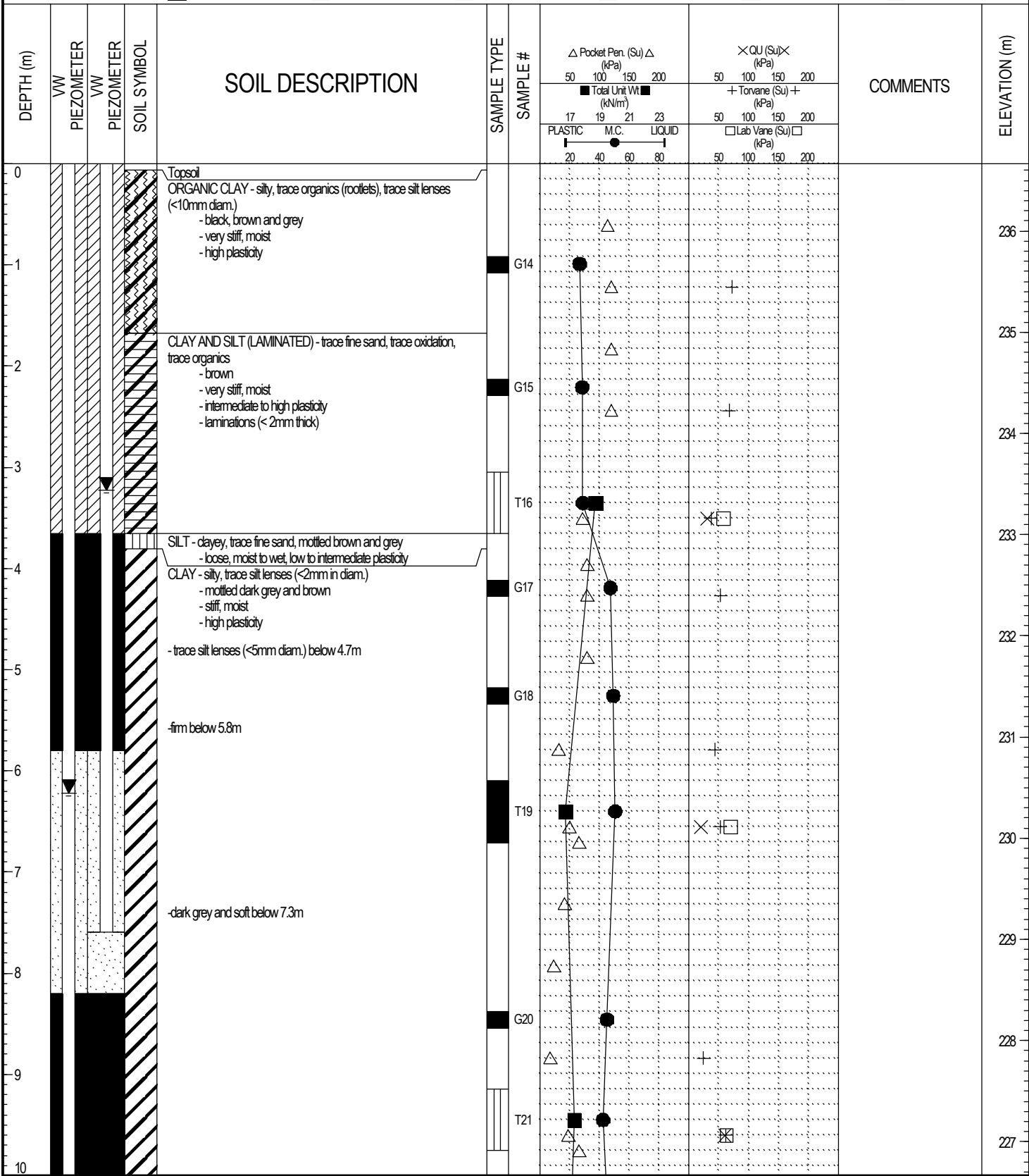


PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-05		
LOCATION: WTP - N 5524149.497 E 647855.683				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Nodwell-125 mm Solid Stem Augers		ELEVATION (m): 236.006	
SAMPLE TYPE	<input 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
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE	<input type="checkbox"/> GRAVEL	<input type="checkbox"/> SLOUGH	<input type="checkbox"/> GROUT	<input type="checkbox"/> CUTTINGS	<input type="checkbox"/> SAND

DEPTH (m)	SLOTTED PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Pocket Pen. (Su) Δ (kPa)		+ Torvane (Su) + (kPa)		COMMENTS	ELEVATION (m)
						50 100 150 200	17 19 21 23	50 100 150 200	50 100 150 200		
						Total Unit Wt (kN/m³)		Lab Vane (Su) (kPa)			
						PLASTIC M.C. LIQUID					
						20 40 60 80					
20			LIMESTONE BEDROCK								
			-150mm fracture at 20.4m								
21											215
22											214
23			END OF TEST HOLE AT 22.7m in LIMESTONE BEDROCK								213
			Notes: 1. No sloughing 2. Seepage at 2.61m 3. Standpipe SP-5 installed - Tip for SP-5 at Elevation 213.31m								212
24											211
25											210
26											209
27											208
28											207
29											206
30											205

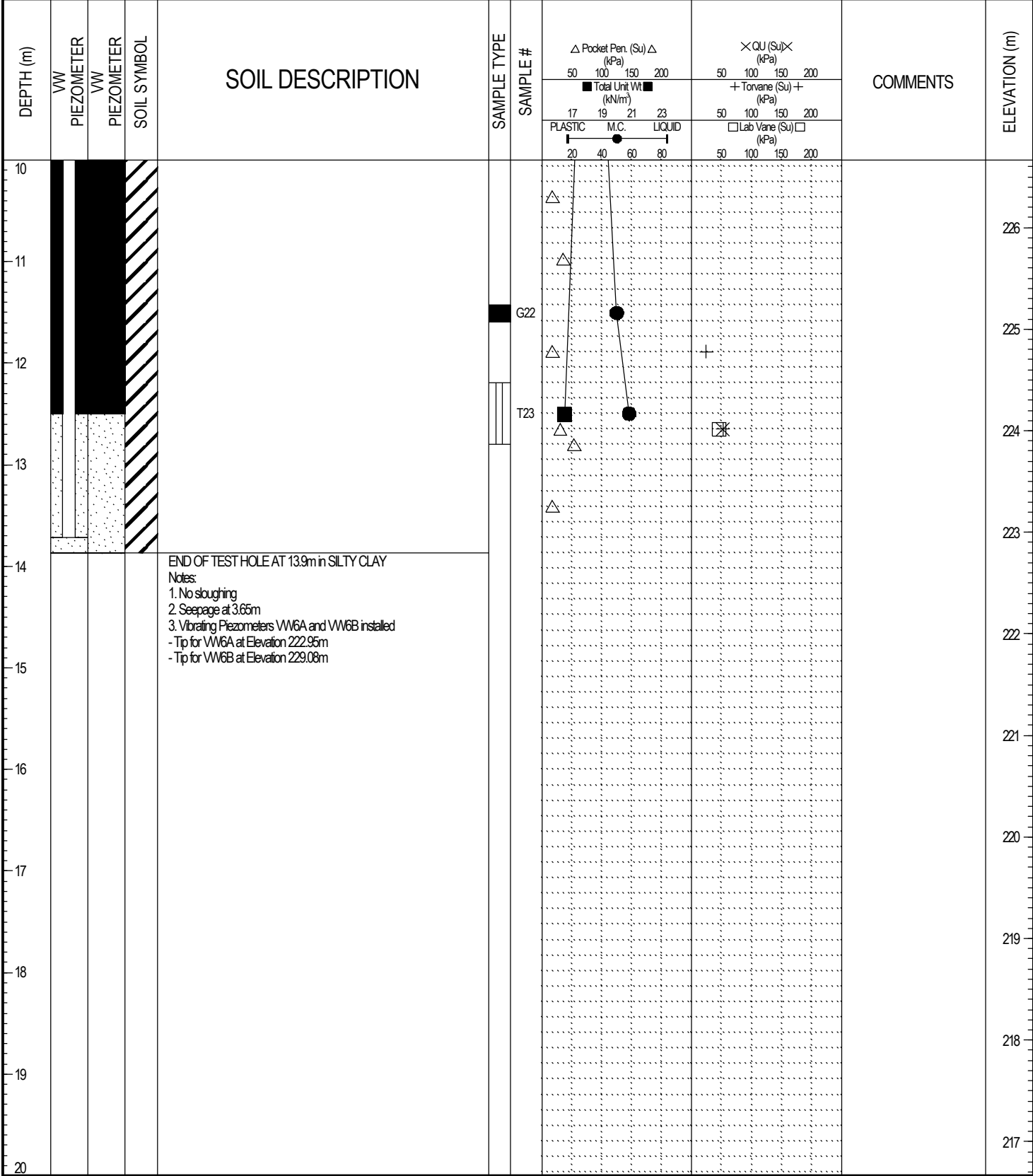
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-06			
LOCATION: WTP - N 5524161.864 E 647862.951				PROJECT NO.: 3398-055-00-01			
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - RM 5 - 125 mm Solid Stem Augers				
ELEVATION (m): 236.665							
SAMPLE TYPE		GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE		BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



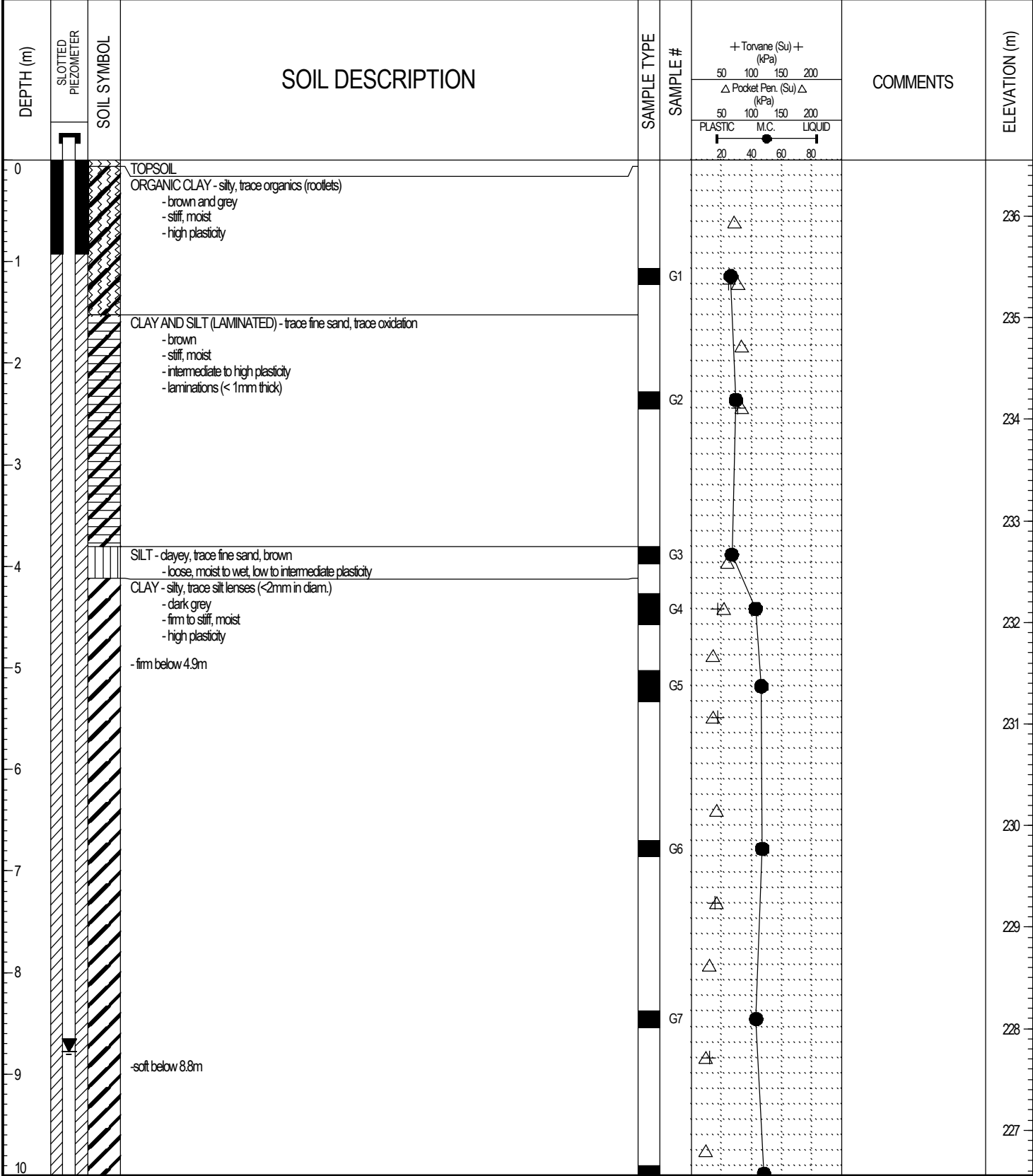
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-06	
LOCATION: WTP - N 5524161.864 E 647862.951				PROJECT NO.: 3398-055-00-01	
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - RM 5 - 125 mm Solid Stem Augers		
SAMPLE TYPE		GRAB	SHELBY TUBE	SPLIT SPOON	BULK
BACKFILL TYPE		BENTONITE	GRAVEL	SLOUGH	GROUT
				NO RECOVERY	CORE
				CUTTINGS	SAND



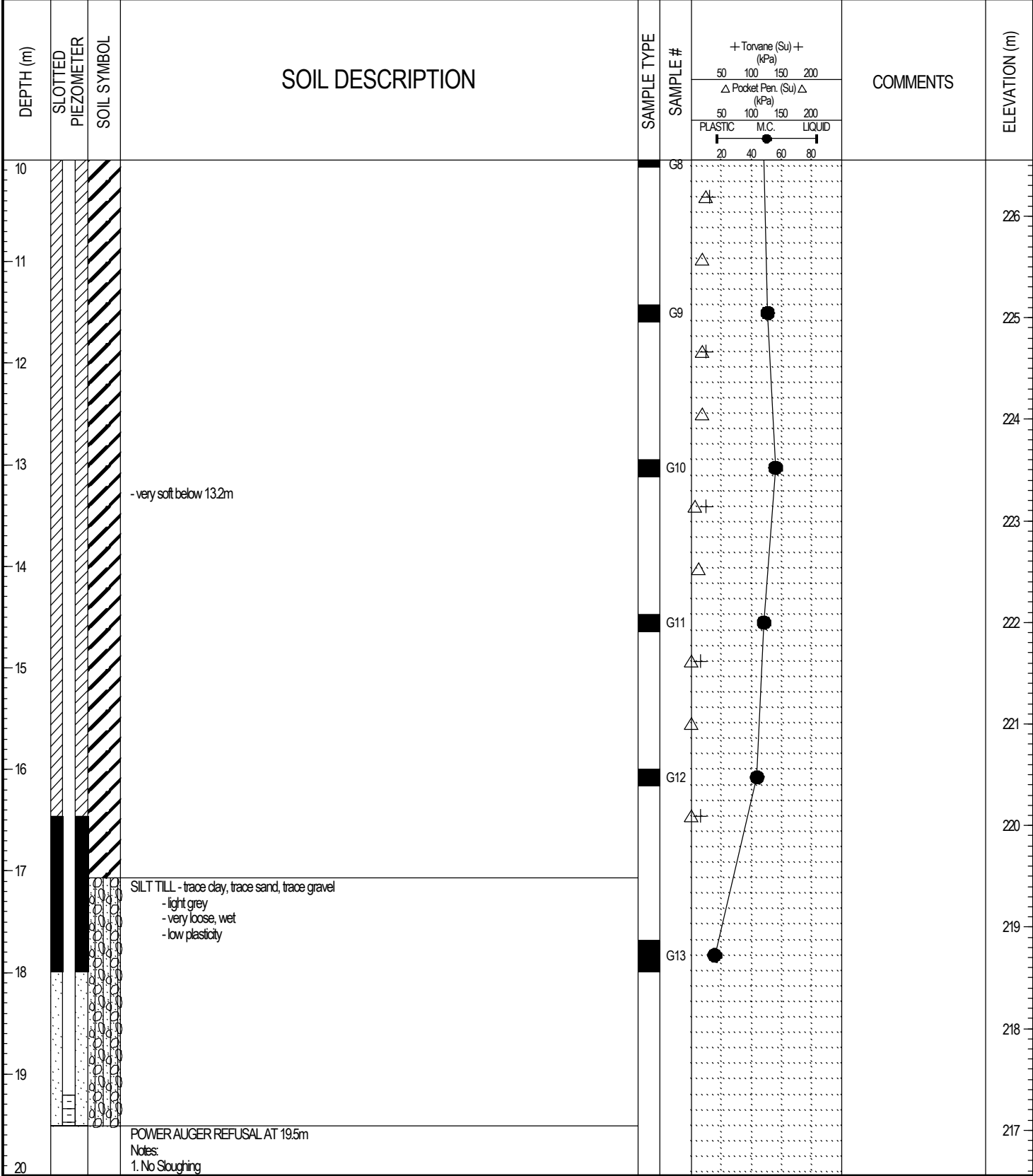
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-07		
LOCATION: WTP - N 5524176.733 E 647870.72				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - RM 5 - 125 mm Solid Stem Augers			
ELEVATION (m): 236.552						
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-07	
LOCATION: WTP - N 5524176.733 E 647870.72				PROJECT NO.: 3398-055-00-01	
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - RM 5 - 125 mm Solid Stem Augers		
SAMPLE TYPE		GRAB	SHELBY TUBE	SPLIT SPOON	BULK
BACKFILL TYPE		BENTONITE	GRAVEL	SLOUGH	GROUT
				NO RECOVERY	CORE
				CUTTINGS	SAND



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-07		
LOCATION: WTP - N 5524176.733 E 647870.72				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - RM 5 - 125 mm Solid Stem Augers			
ELEVATION (m): 236.552						
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
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE	<input type="checkbox"/> GRAVEL	<input type="checkbox"/> SLOUGH	<input type="checkbox"/> GROUT	<input type="checkbox"/> CUTTINGS	<input type="checkbox"/> SAND

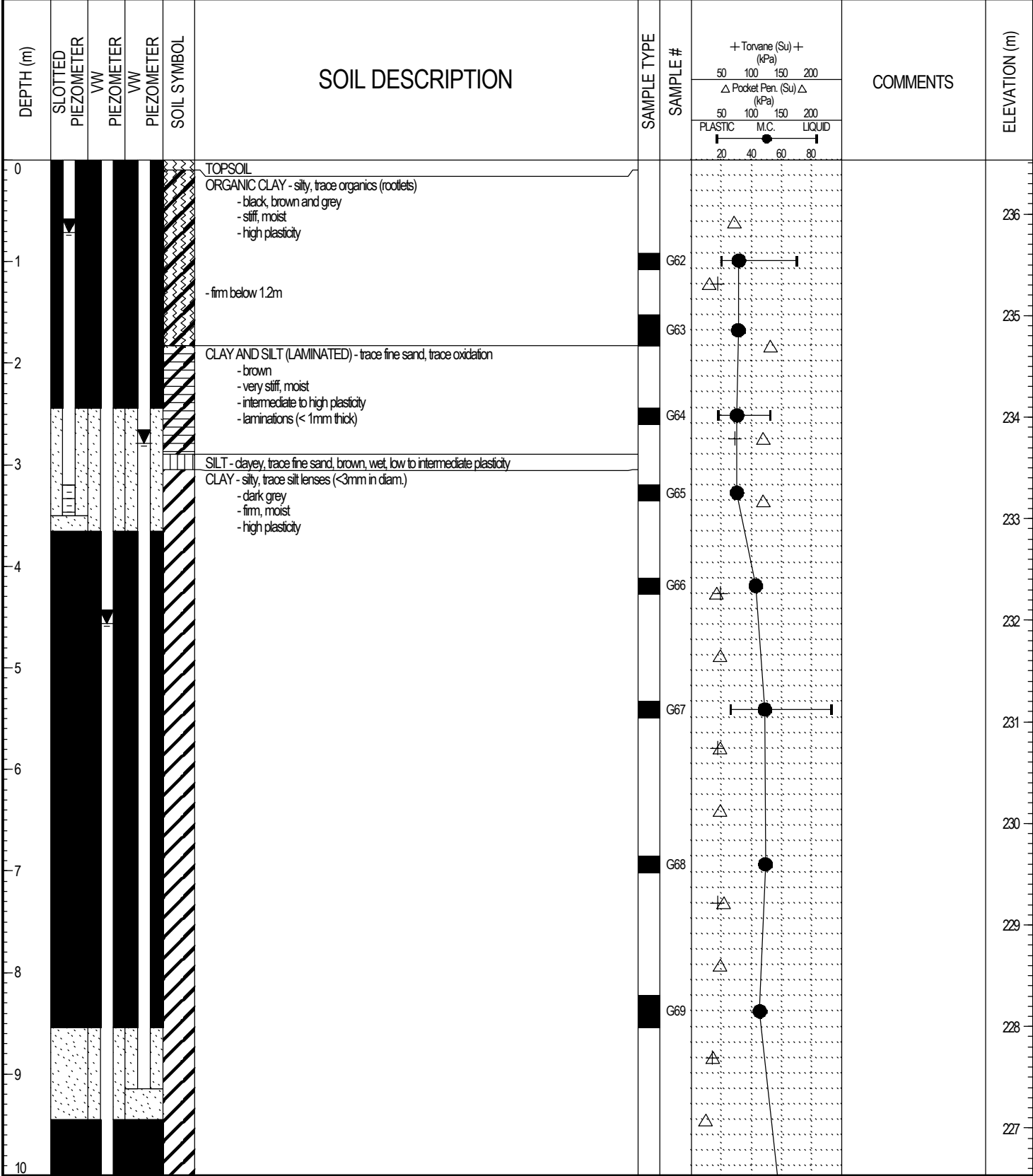
DEPTH (m)	SLOTTED PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	+ Tonvane (Su) + (kPa)		COMMENTS	ELEVATION (m)	
						50	100			150
						△ Pocket Pen. (Su) △ (kPa)				
						PLASTIC M.C. LIQUID				
						20	40	60	80	
20			2. Seepage at 3.80m and 17.10m below ground 3. Water level at 7.90m below ground immediately after drilling 4. Standpipe SP-7 installed at Elevation 217.05m							216
21										215
22										214
23										213
24										212
25										211
26										210
27										209
28										208
29										207
30										207

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



LOGGED BY: Nelson Ferreira	COMPLETION DEPTH: 19.51 m
REVIEWED BY:	COMPLETION DATE: 8/9/04
PROJECT ENGINEER: Ken Skafffeld	Page 3 of 3

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-08		
LOCATION: WTP - N 5524190.678 E 647878.442				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - RM 5 - 125 mm Solid Stem Augers			
ELEVATION (m): 236.531						
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

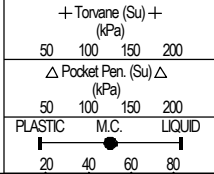


LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

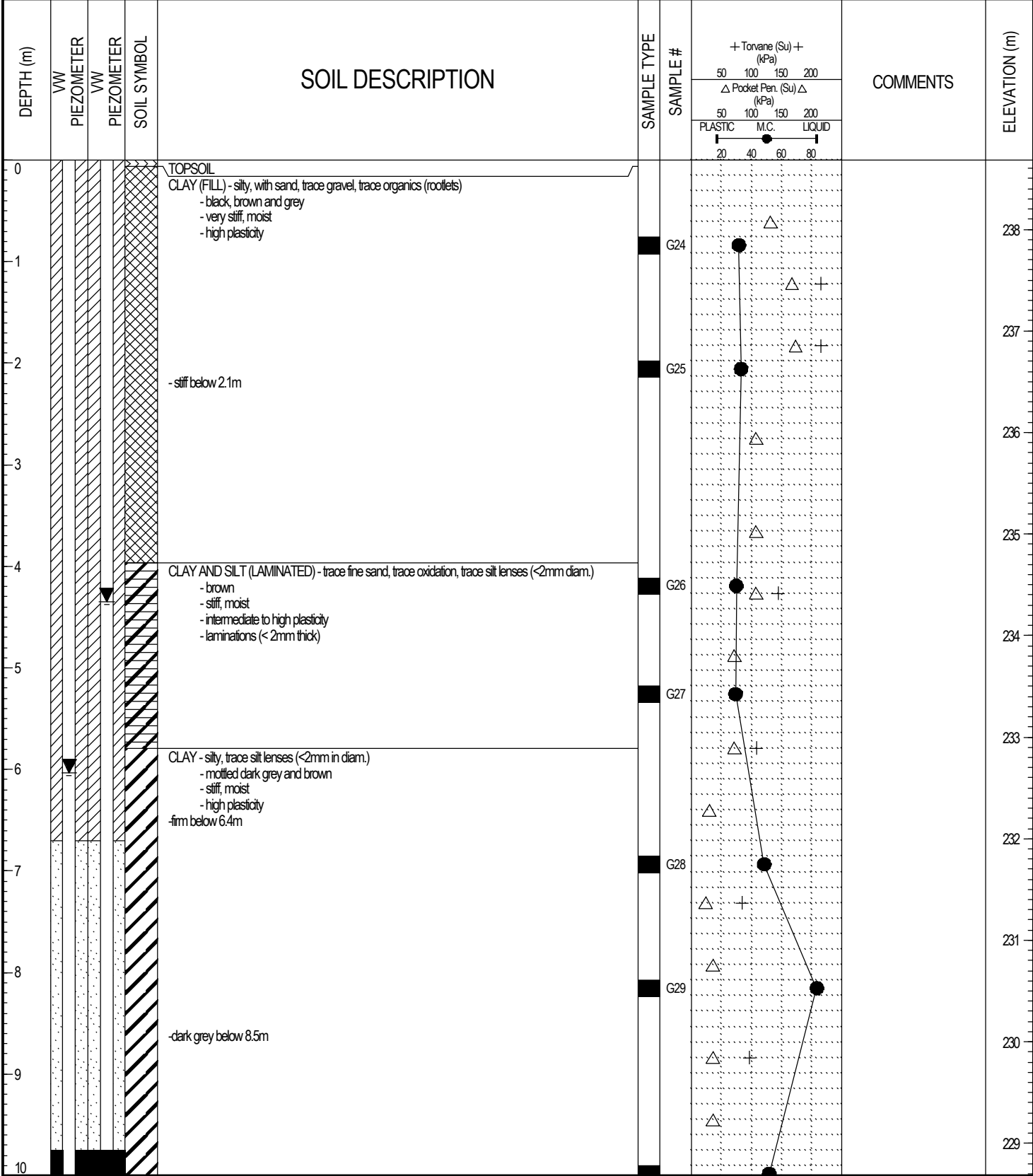
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-08
LOCATION: WTP - N 5524190.678 E 647878.442	PROJECT NO.: 3398-055-00-01	
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker - RM 5 - 125 mm Solid Stem Augers	ELEVATION (m): 236.531
SAMPLE TYPE	<input 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	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	

DEPTH (m)	SLOTTED PIEZOMETER	VW PIEZOMETER	VW PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	+ Tonvane (Su) + (kPa)		COMMENTS	ELEVATION (m)
								50	100		
10											26
11											
12											
13					END OF TEST HOLE AT 12.2m in SILTY CLAY Notes: 1. No sloughing 2. Seepage at 3.10m 3. Standpipe SP-8 and Vibrating Piezometers VW8A and VW8B installed - Tip for SP-8 at Elevation 233.02m - Tip for VW8A at Elevation 224.49m - Tip for VW8B at Elevation 227.39m						
14											
15											
16											
17											
18											
19											
20											

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

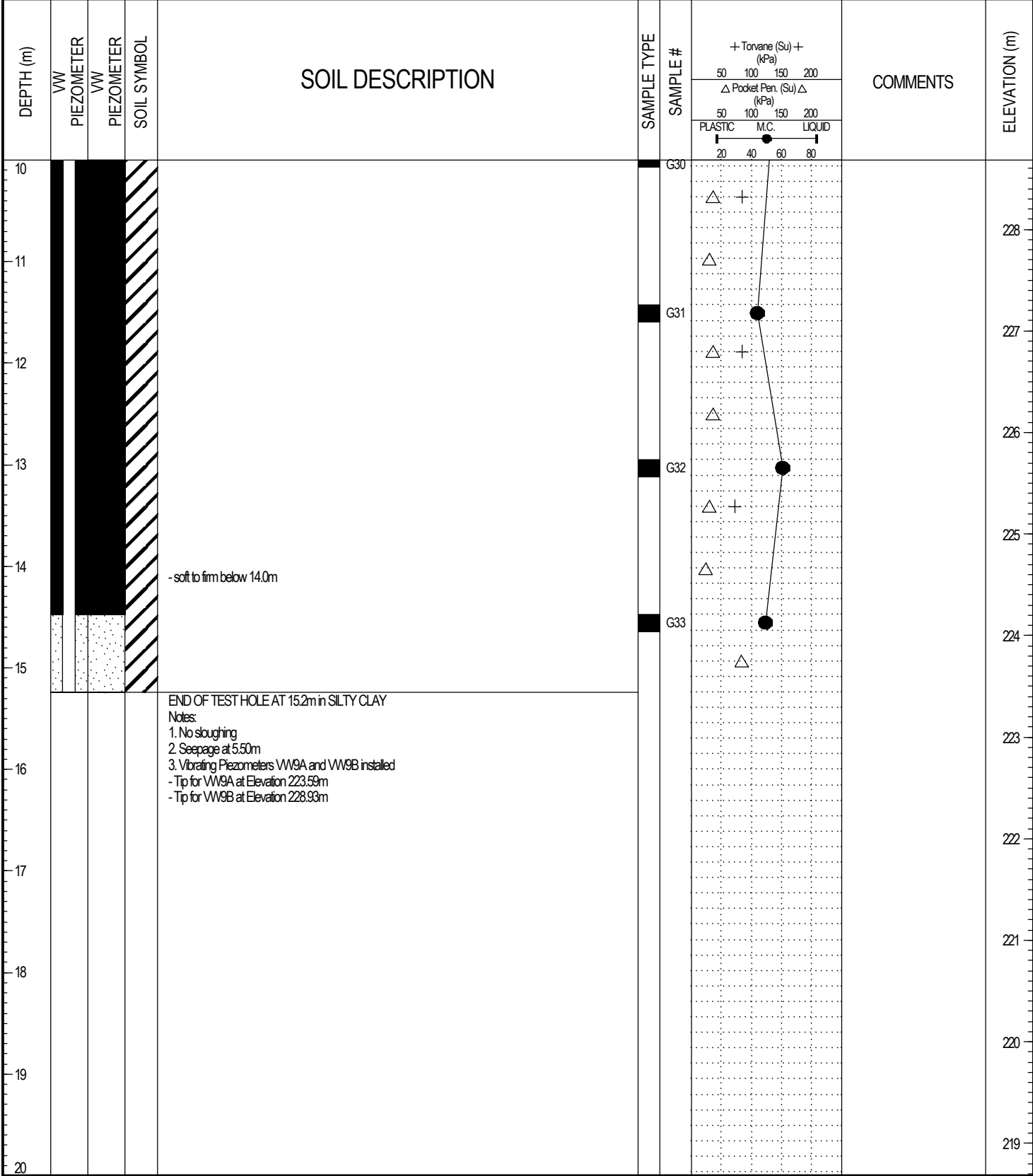


PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-09
LOCATION: WTP - N 5524134.541 E 647846.631	PROJECT NO.: 3398-055-00-01	
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker - RM 5 - 125 mm Solid Stem Auger	ELEVATION (m): 238.682
SAMPLE TYPE	<input checked="" 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	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	



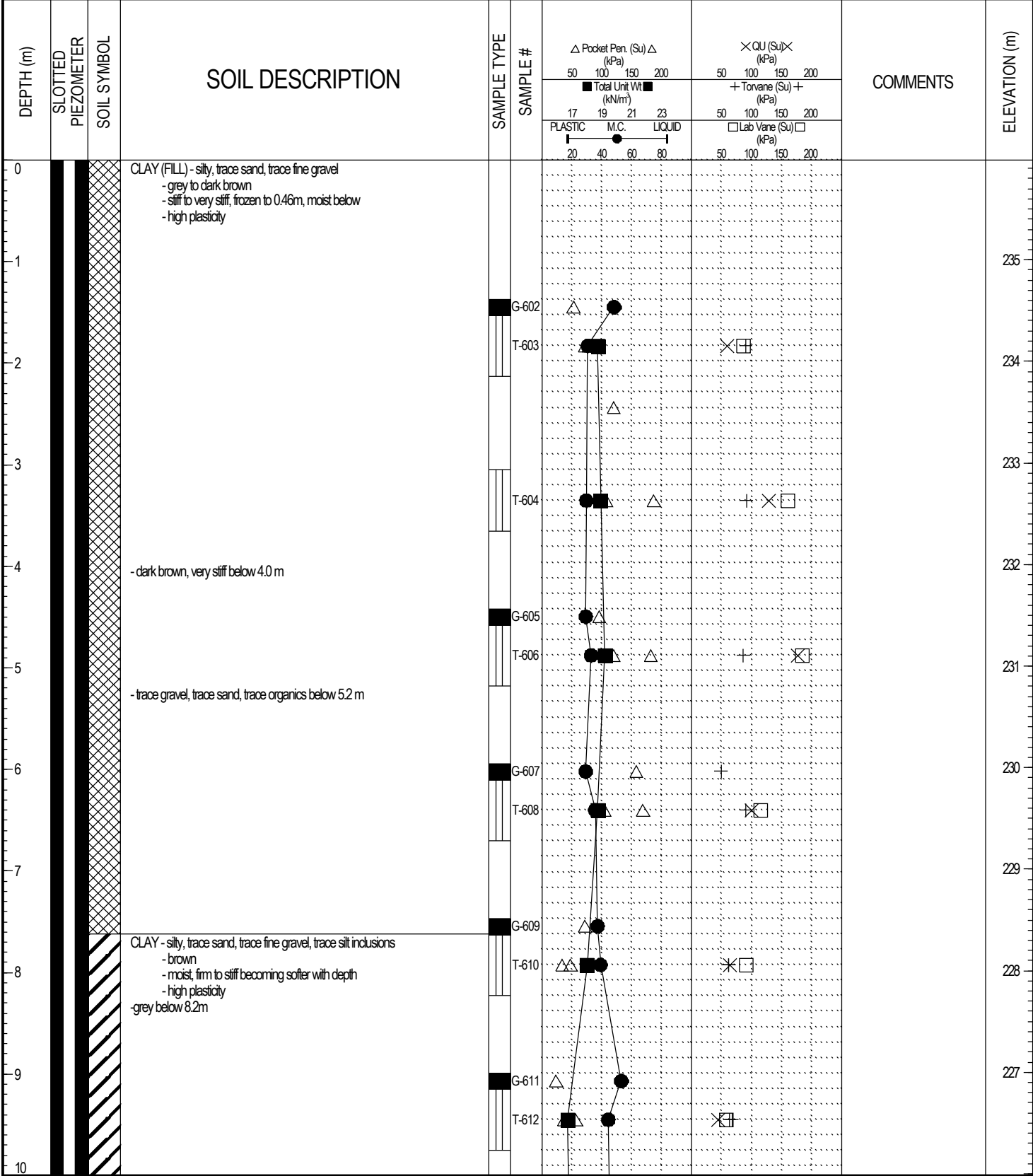
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-09
LOCATION: WTP - N 5524134.541 E 647846.631	PROJECT NO.: 3398-055-00-01	
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker - RM 5 - 125 mm Solid Stem Augers	ELEVATION (m): 238.682
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	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	



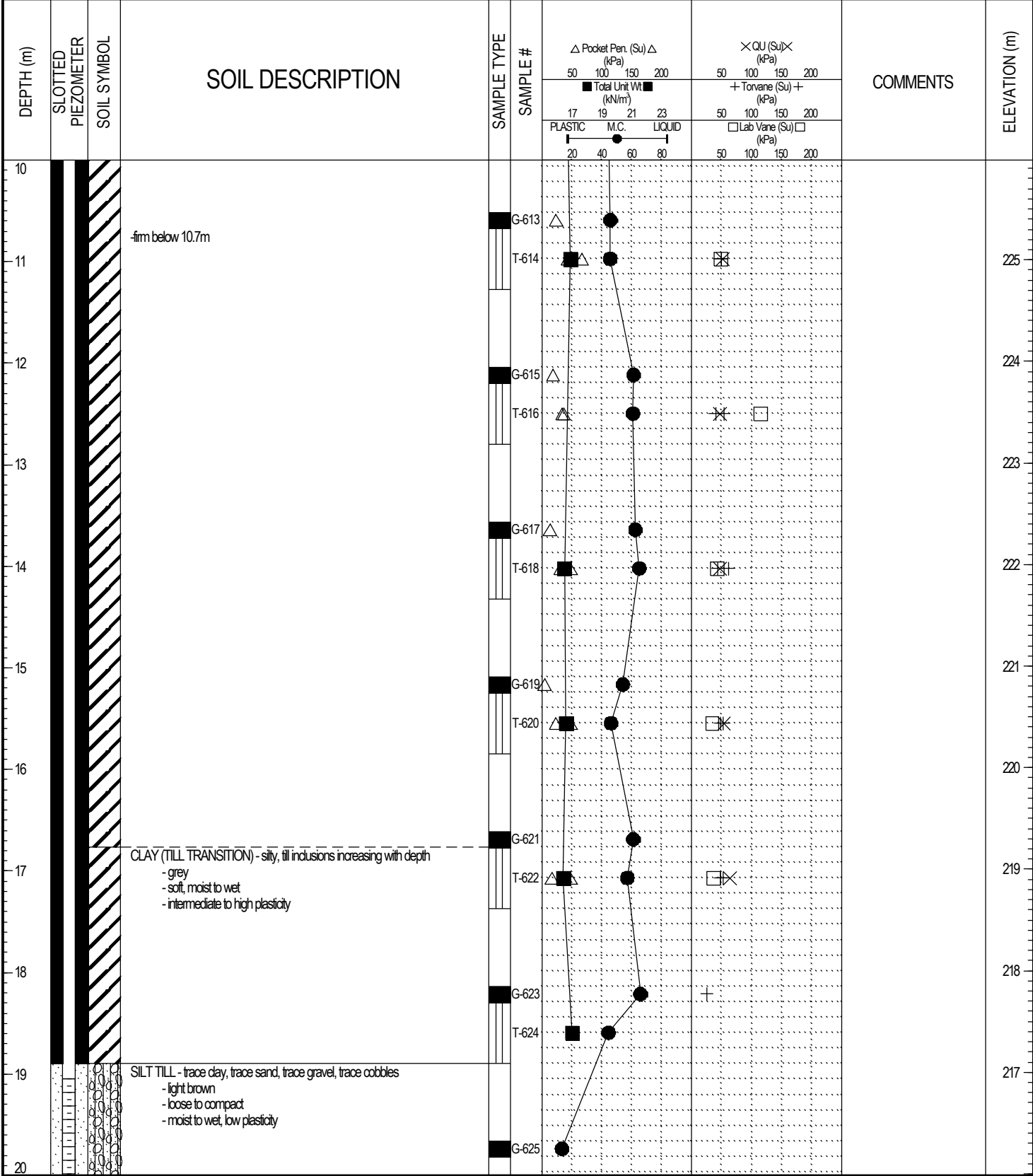
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-10		
LOCATION: WTP - N 5524085.998 E 647717.370				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Maple Leaf Drilling			METHOD: DR 150 - 125 mm Solid Stem Auger		ELEVATION (m): 235.982	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-10		
LOCATION: WTP - N 5524085.998 E 647717.370				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Maple Leaf Drilling			METHOD: DR 150 - 125 mm Solid Stem Auger		ELEVATION (m): 235.982	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-10		
LOCATION: WTP - N 5524085.998 E 647717.370				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Maple Leaf Drilling			METHOD: DR 150 - 125 mm Solid Stem Auger		ELEVATION (m): 235.982	
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB	<input type="checkbox"/> SHELBY TUBE	<input checked="" type="checkbox"/> SPLIT SPOON	<input type="checkbox"/> BULK	<input type="checkbox"/> NO RECOVERY	<input type="checkbox"/> CORE
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE	<input type="checkbox"/> GRAVEL	<input type="checkbox"/> SLOUGH	<input type="checkbox"/> GROUT	<input type="checkbox"/> CUTTINGS	<input type="checkbox"/> SAND

DEPTH (m)	SLOTTED PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Pocket Pen. (Su) Δ (kPa)		QU (Su) × (kPa)		COMMENTS	ELEVATION (m)
						50	100	150	200		
20			POWER AUGER REFUSAL AT 20.6 m Notes: 1. Sloughing below 18.9m 2. Seepage at 20.5m 3. Water level at 8.5m 4. Standpipe (SP-10) installed at Elevation 215.82m	<input checked="" type="checkbox"/>	G-626						
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											

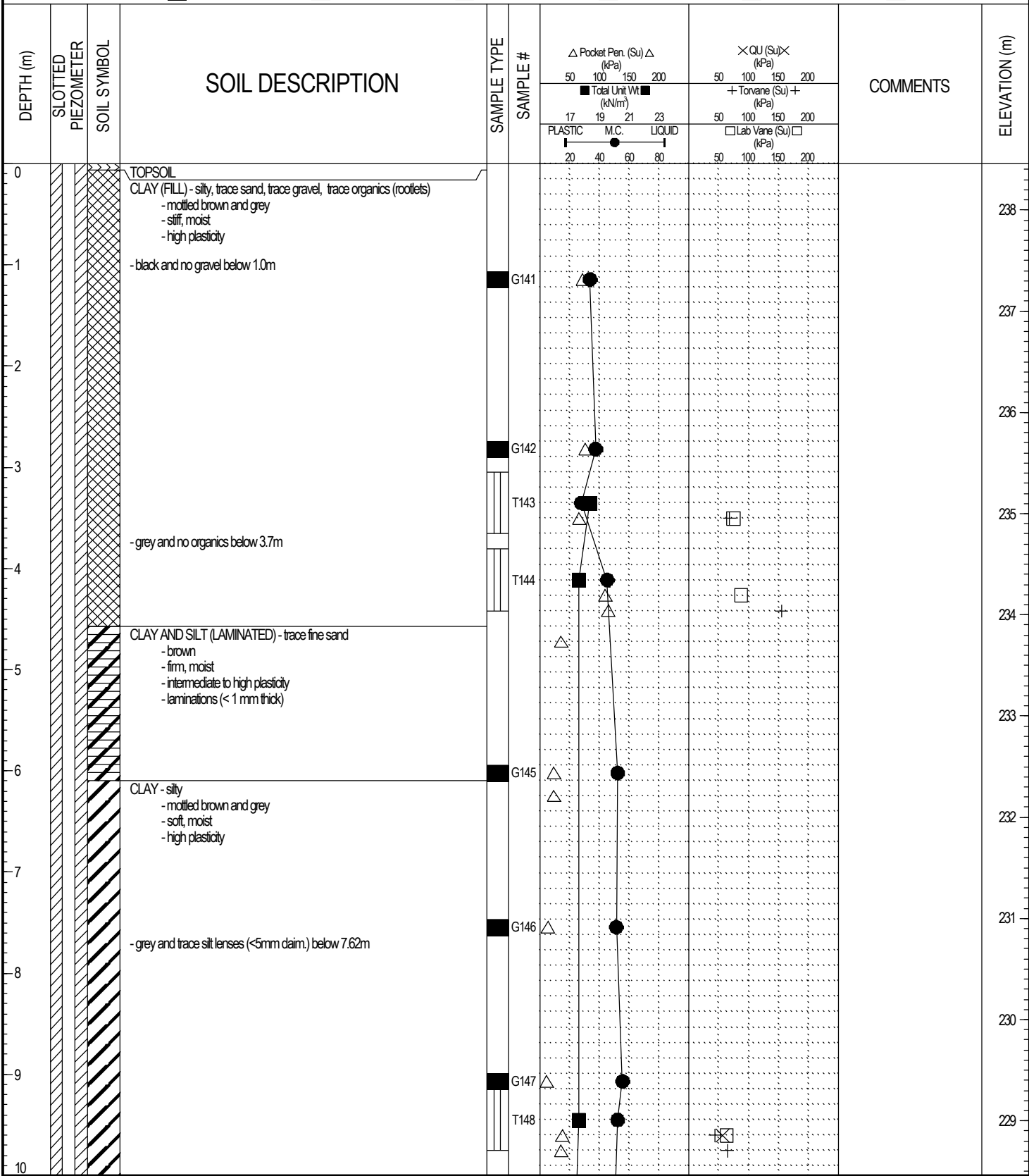
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 20.57 m
REVIEWED BY:	COMPLETION DATE: 17/12/04
PROJECT ENGINEER: Ken Skafffeld	Page 3 of 3

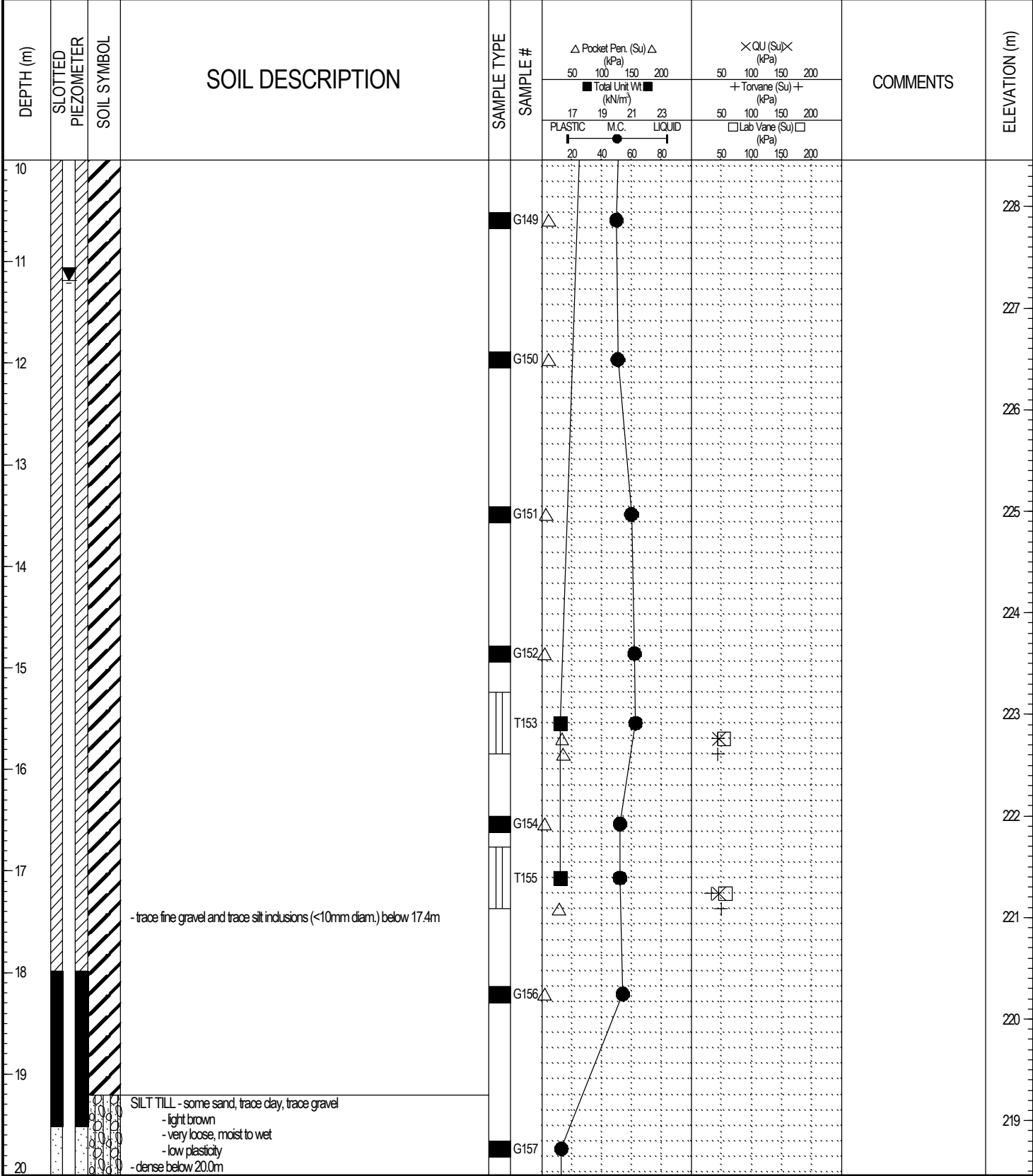
Test Hole No. 04-11 was not drilled

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-12		
LOCATION: WTP - N 5524116.025 E 647832.961				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: RM 30 - 125 mm Solid Stem Augers		ELEVATION (m): 238.458	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-12		
LOCATION: WTP - N 5524116.025 E 647832.961				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: RM 30 - 125 mm Solid Stem Augers		ELEVATION (m): 238.458	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-12		
LOCATION: WTP - N 5524116.025 E 647832.961				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: RM 30 - 125 mm Solid Stem Augers		ELEVATION (m): 238.458	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

DEPTH (m)	SLOTTED PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Pocket Pen. (Su) Δ (kPa)		QU (Su) × (kPa)		COMMENTS	ELEVATION (m)
						50	100	150	200		
20											218
21					G158						217
22					G159						216
23			POWER AUGER REFUSAL AT 22.9m Notes: 1. No sloughing 2. Seepage at 22.9m 3. Standpipe SP-12 installed - Tip for SP-12 at Elevation 215.60m								215
24											214
25											213
26											212
27											211
28											210
29											209
30											209

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-13
LOCATION: WTP - N 5524133.038 E 647799.960		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 237.271
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	

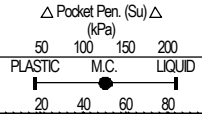
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Pocket Pen. (Su) (kPa)		COMMENTS	ELEVATION (m)
					PLASTIC	LIQUID		
0		CLAY (FILL) - silty, trace fine sand, trace gravel, trace organics - black, brown and grey - stiff, moist - high plasticity						237
1		- some organics (topsoil) at 1.2m - black and brown and no gravel below 1.5m	<input checked="" type="checkbox"/>	G105	●			236
2								235
3		CLAY AND SILT (LAMINATED) - brown - firm to stiff, moist - intermediate to high plasticity - laminations (< 1 mm thick)	<input checked="" type="checkbox"/>	G106	△	●		234
3			<input checked="" type="checkbox"/>	G107	△	●		233
4		CLAY - silty, mottled brown and grey, firm, moist, high plasticity	<input checked="" type="checkbox"/>	G108	△	●		233
5		END OF TEST HOLE AT 4.6m IN SILTY CLAY Notes: 1. No seepage or sloughing						232
6								231
7								230
8								229
9								228
10								228

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-14
LOCATION: WTP - N 5524147.035 E 647773.020		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 236.317
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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0		CLAY (FILL) - silty, trace fine sand, trace gravel, trace organics - black, brown and grey - stiff, moist - high plasticity				236
1		CLAY AND SILT (LAMINATED) - mottled brown and grey - firm to stiff, moist - intermediate to high plasticity - laminations (< 1 mm thick)	<input checked="" type="checkbox"/>	G102		235
2			<input checked="" type="checkbox"/>	G103		234
3		END OF TEST HOLE AT 3.0m IN SILTY CLAY Notes: 1. No seepage or sloughing	<input checked="" type="checkbox"/>	G104		233
4						232
5						231
6						230
7						229
8						228
9						227
10						227

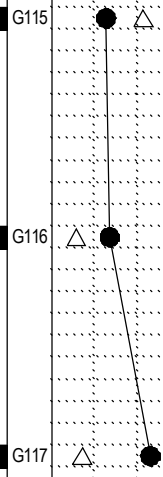
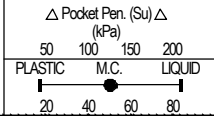
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



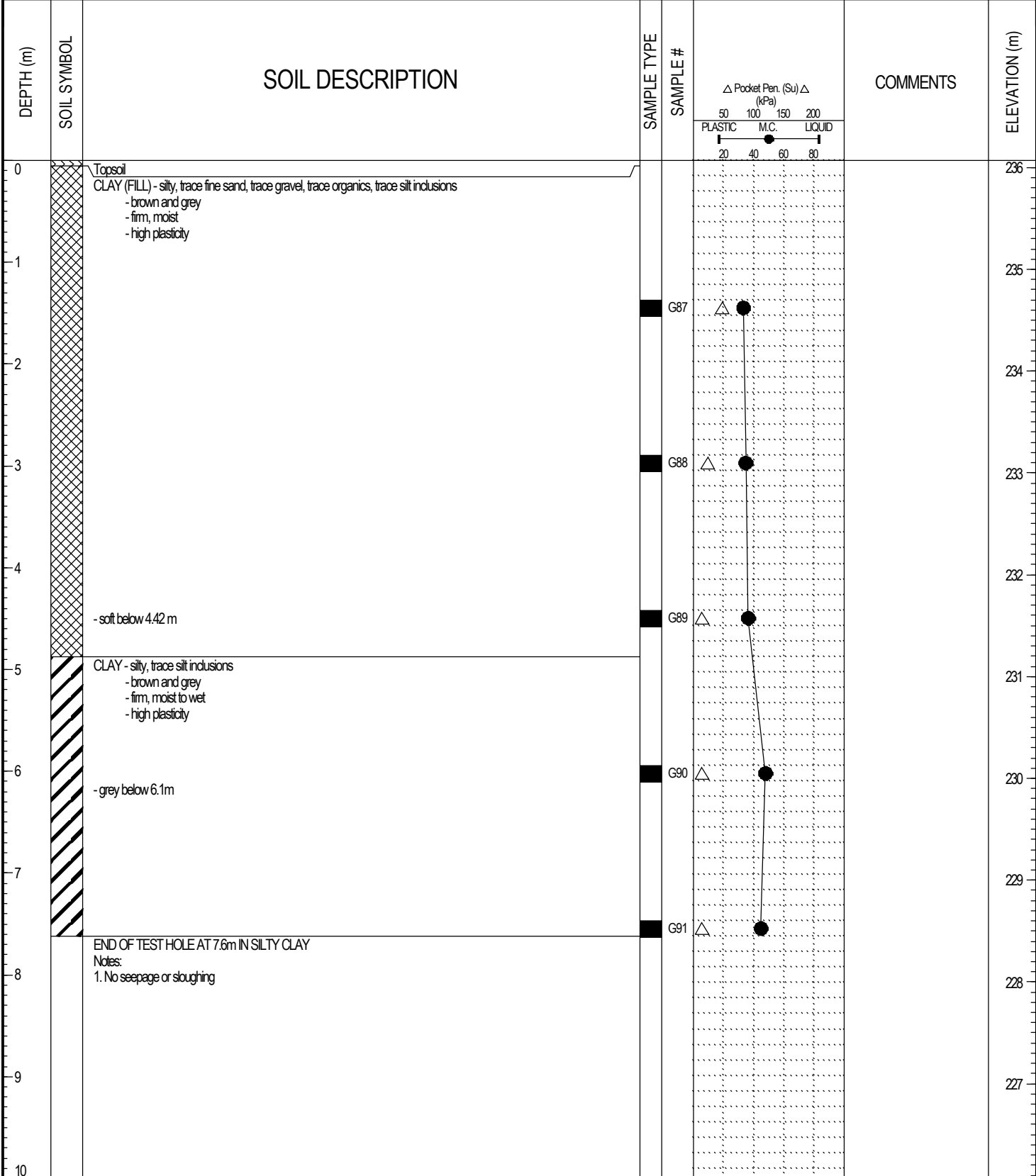
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-15
LOCATION: WTP - N 5524166.008 E 647735.023		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 236.299
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0		CLAY (FILL) - silty, trace fine sand, trace gravel, trace organics - black, brown and grey - stiff, moist - high plasticity				236
1						235
2		CLAY AND SILT (LAMINATED) - brown - firm, moist - intermediate to high plasticity - laminations (< 1 mm thick)				234
3						233
4		CLAY - silty, mottled brown and grey, firm, moist, high plasticity				232
5		END OF TEST HOLE AT 4.6m IN SILTY CLAY Notes: 1. No seepage or sloughing				231
6						230
7						229
8						228
9						227
10						227

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-16
LOCATION: WTP - N 5524139.981 E 647752.000		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 236.069
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	

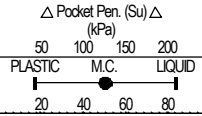


LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-17
LOCATION: WTP - N 5524113.008 E 647806.004		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 237.339
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	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0		CLAY (FILL) - silty, trace fine sand, trace gravel, trace organics - black, brown and grey - firm to stiff, moist - high plasticity				237
1		- some organics (topsoil) at 1.2 m - brown and no gravel below 1.5m				236
2						235
3						234
4		CLAY AND SILT (LAMINATED) - brown - stiff, moist - intermediate to high plasticity - laminations (< 1 mm thick)				234
4.3		CLAY - silty, mottled brown and grey, firm, moist, high plasticity - firm, mottled brown and grey below 4.3m				233
4.6		END OF TEST HOLE AT 4.6m IN SILTY CLAY Notes: 1. No seepage or sloughing				232
5						232
6						231
7						230
8						229
9						228
10						228

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



G109

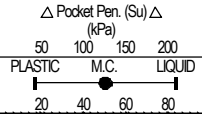
G110

G111

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-18
LOCATION: WTP - N 5524094.878 E 647805.042		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 237.027
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	

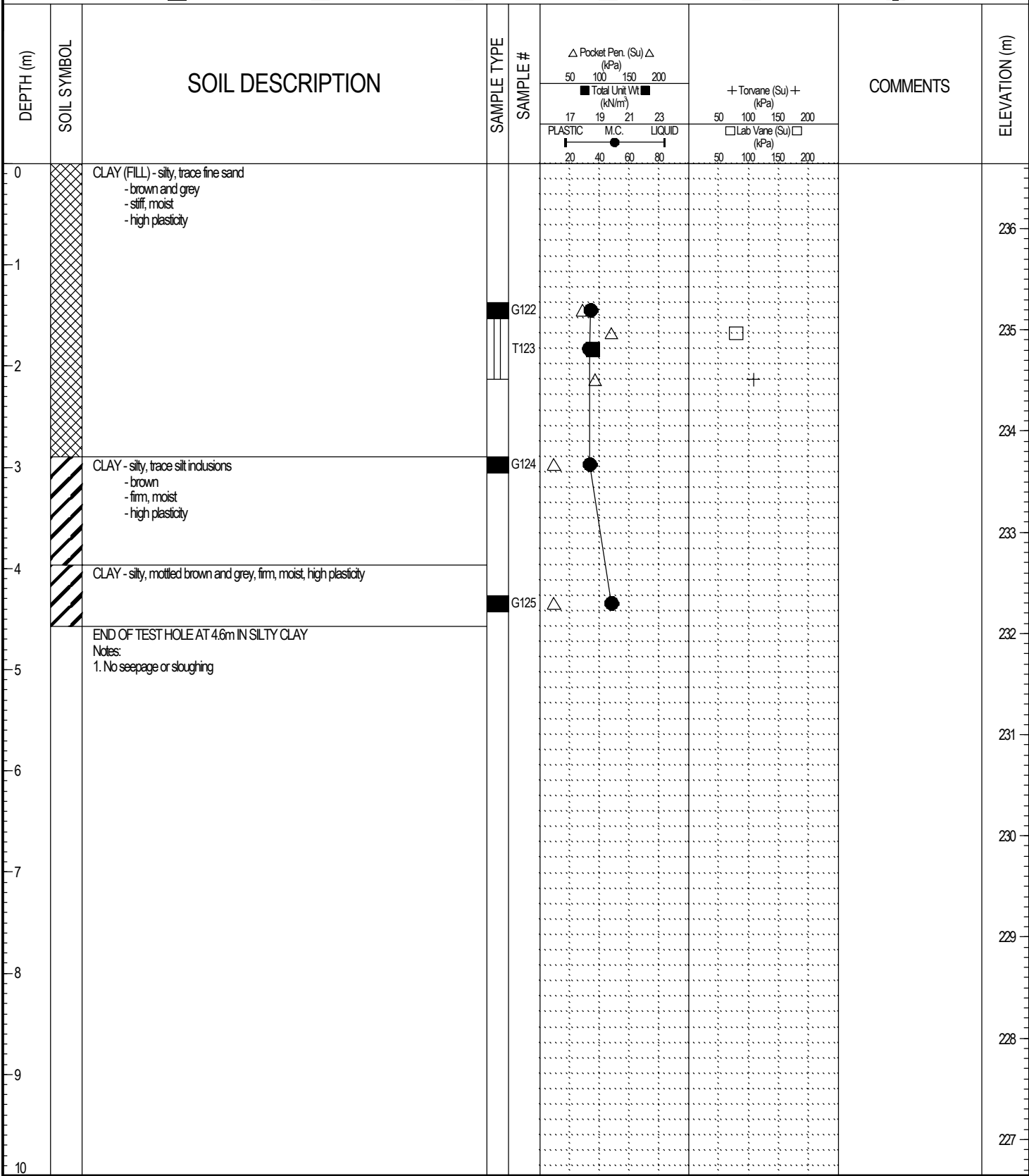
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0		CLAY (FILL) - silty, trace fine sand, trace gravel, trace organics - black, brown and grey - stiff, moist - high plasticity				236
1						235
2						234
3						233
4		CLAY AND SILT (LAMINATED) - brown - firm, moist - intermediate to high plasticity - laminations (< 1 mm thick) CLAY - silty, mottled brown and grey, firm, moist, high plasticity				232
5		END OF TEST HOLE AT 4.6m IN SILTY CLAY Notes: 1. No seepage or sloughing				231
6						230
7						229
8						228
9						
10						

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



G112
G113
G114

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-19
LOCATION: WTP - N 5524110.001 E 647787.020		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 236.642
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 WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05








PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-20
LOCATION: WTP - N 5524123.005 E 647759.997		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 235.968
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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0		Topsoil CLAY (FILL) - silty, trace fine sand, trace gravel, trace organics - brown and grey - stiff, moist - high plasticity				235
1				G98		234
2						
3		- soft below 2.9m - trace wood fragments (<100mm in length) at 3.2m		G99		233
4		CLAY - silty - mottled brown and grey - soft, moist - high plasticity - grey below 4.3m				232
5				G100		231
6		END OF TEST HOLE AT 6.1m IN SILTY CLAY Notes: 1. No seepage or sloughing		G101		230
7						229
8						228
9						227
10						

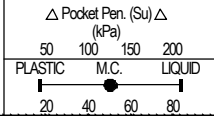
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

	LOGGED BY: Kate Franklin	COMPLETION DEPTH: 6.10 m
	REVIEWED BY:	COMPLETION DATE: 1/10/04
	PROJECT ENGINEER: Ken Skafield	Page 1 of 1

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-21
LOCATION: WTP - N 5524133.016 E 647733.030		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 236.892
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

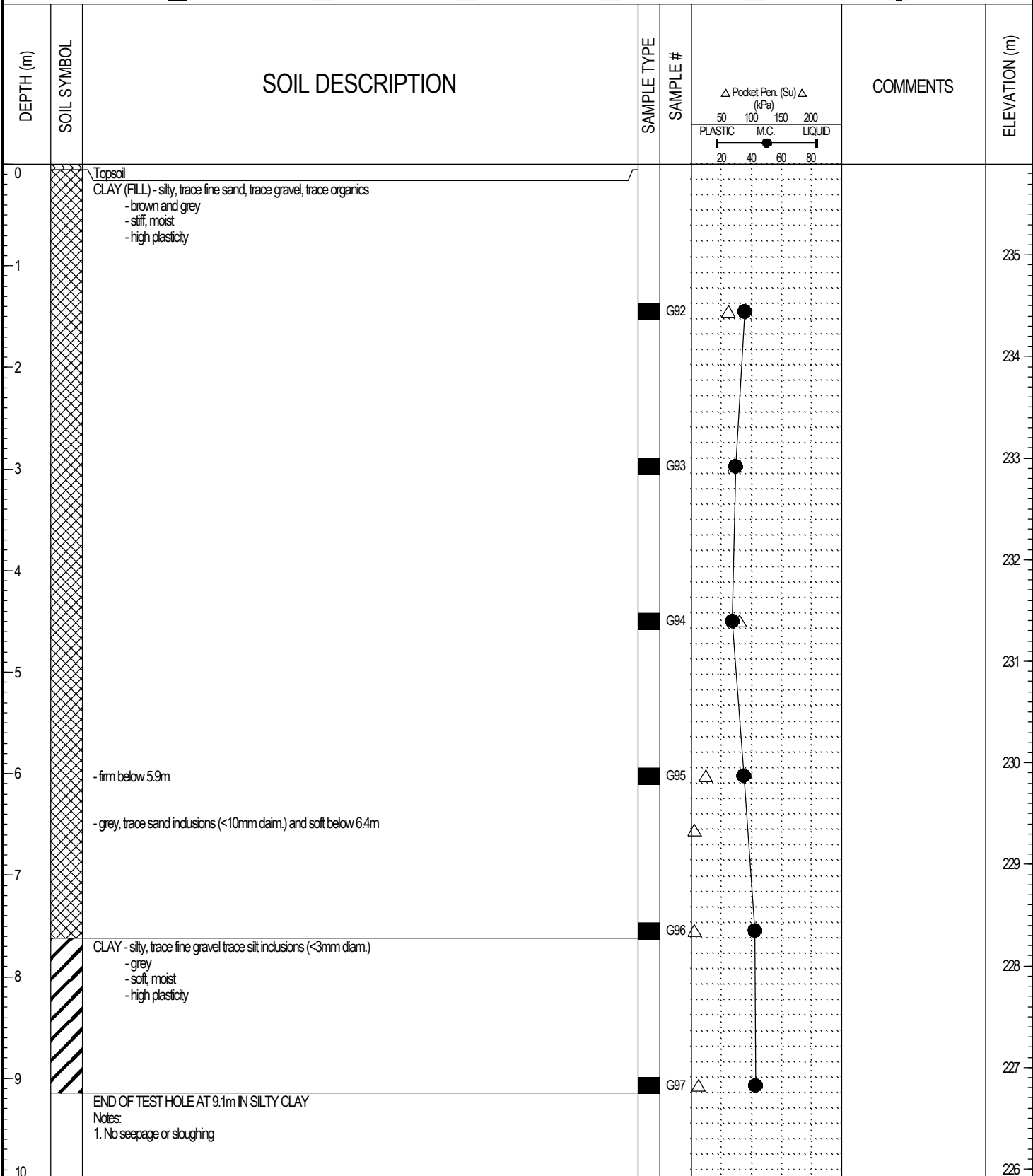
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0		SAND & GRAVEL FILL (BALLAST) - light brown - compact, moist to dry - sub-angular				
1		CLAY (FILL) - silty, trace fine sand, trace gravel, trace organics - black, brown and grey - very stiff, moist - high plasticity				236
2						235
3		- firm below 2.9m				234
4		- grey below 3.7m				233
5		CLAY - silty, trace silt inclusions (<2mm diam.) - grey - firm, moist - high plasticity				232
6		- soft below 5.9m				231
6.1		END OF TEST HOLE AT 6.1m IN SILTY CLAY Notes: 1. No seepage or sloughing				230
7						229
8						228
9						227
10						227

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



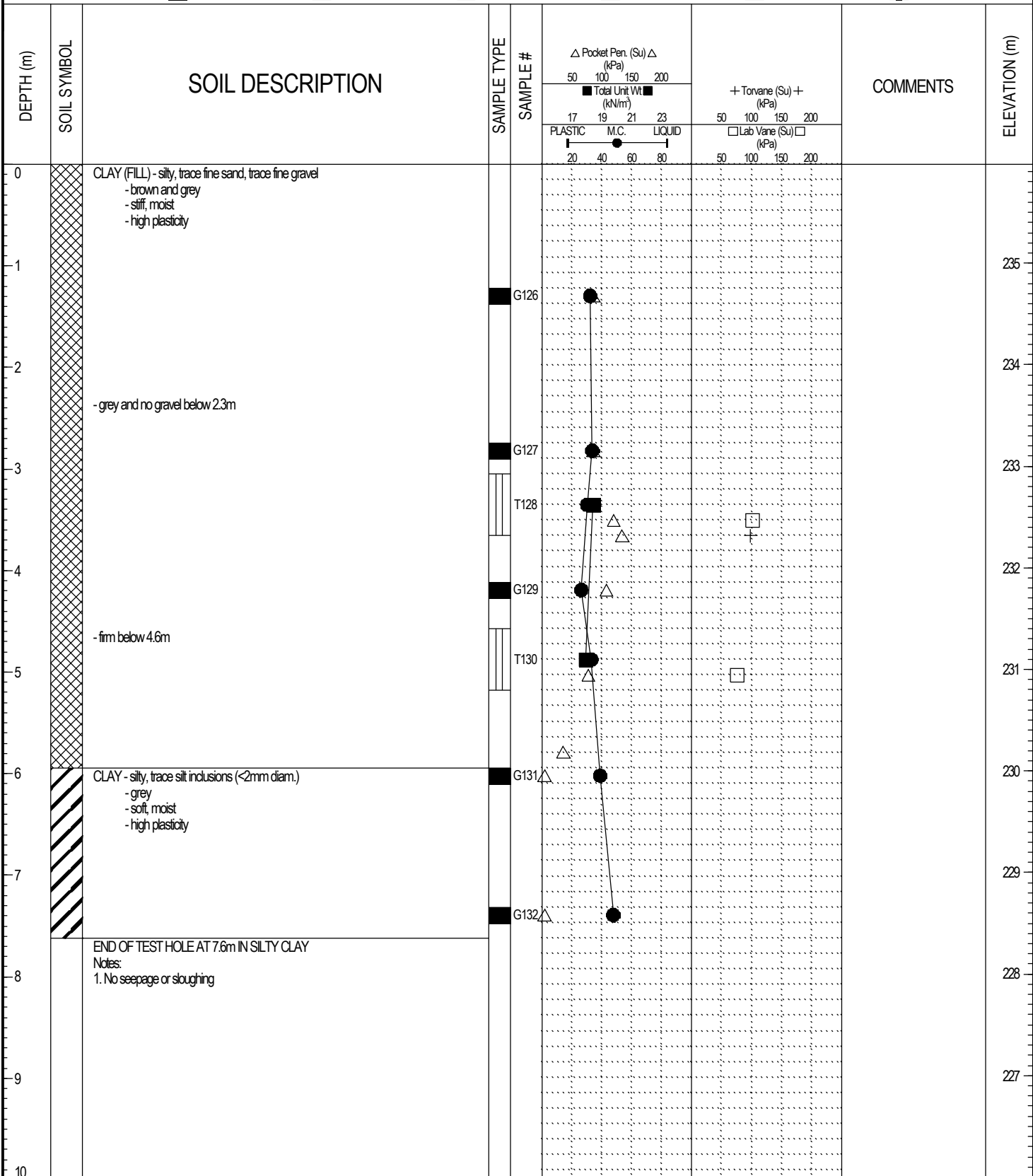
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-22
LOCATION: WTP - N 5524106.018 E 647749.981		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 235.893

SAMPLE TYPE GRAB SHELBY TUBE SPLIT SPOON BULK NO RECOVERY CORE



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

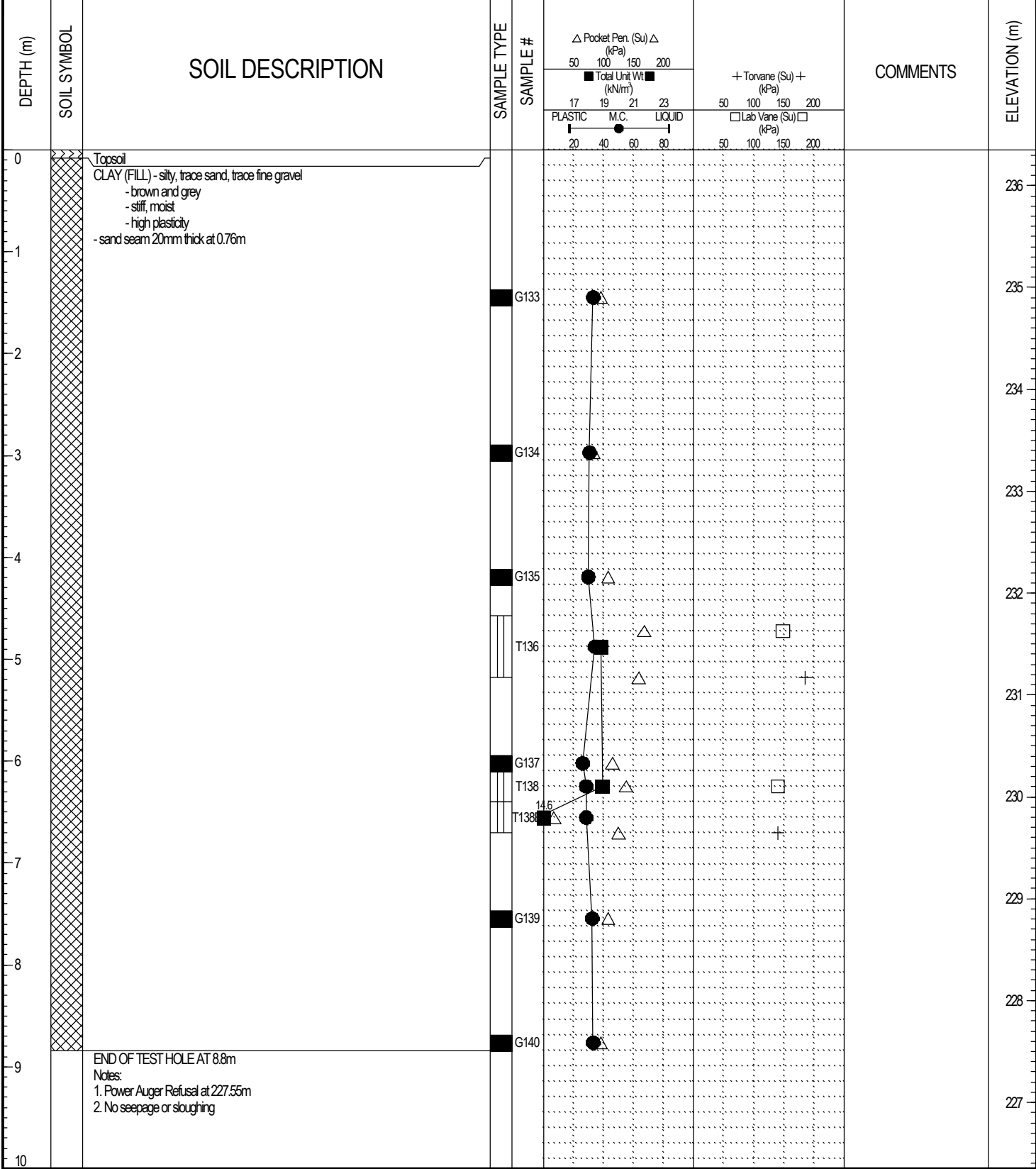
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-23
LOCATION: WTP - N 5524091.975 E 647777.015		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 235.973
SAMPLE TYPE	<input checked="" 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 WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

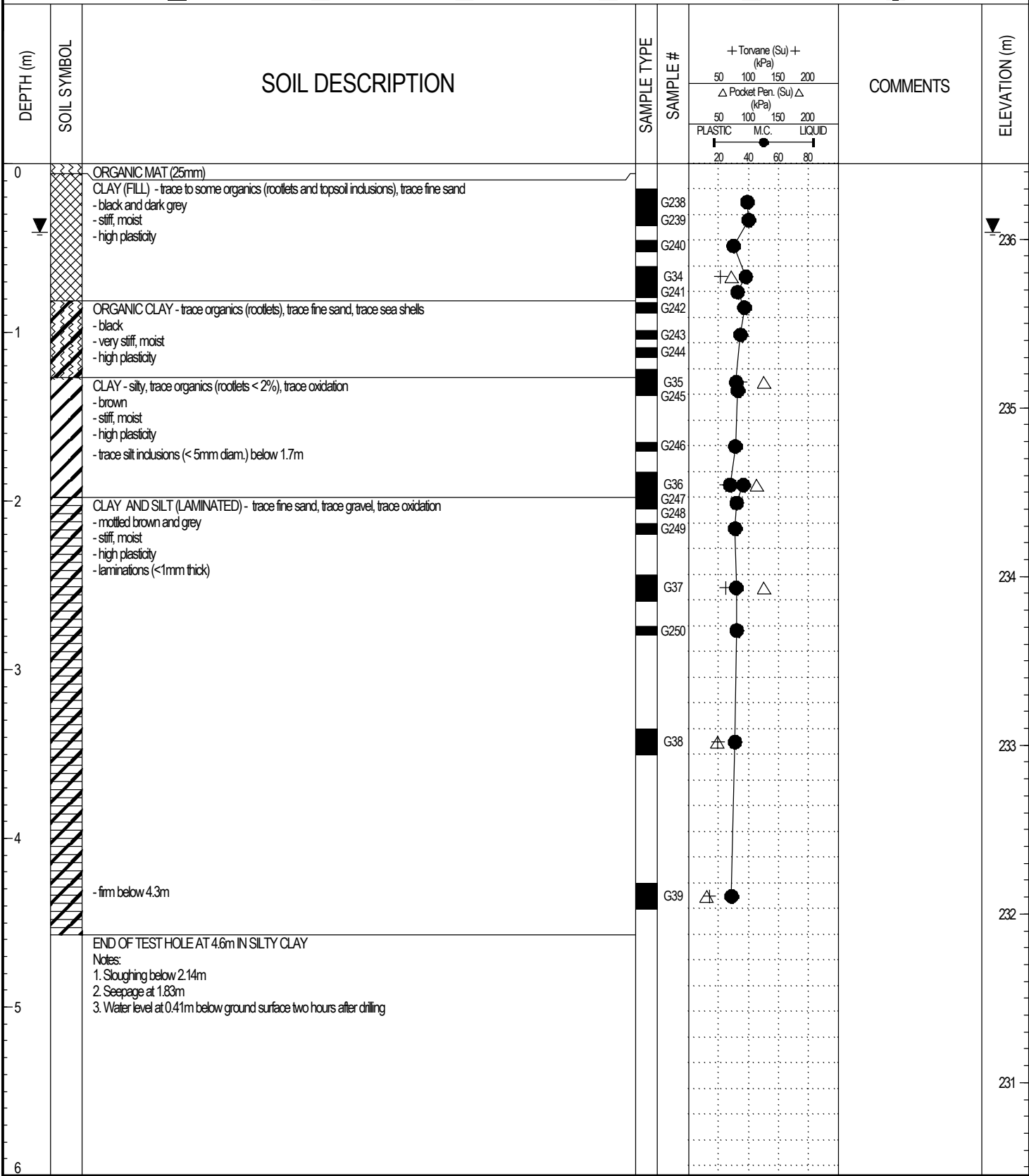
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-24
LOCATION: WTP - N 5524089.009 E 647752.003		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: RM 30 - 125 mm Solid Stem Augers	ELEVATION (m): 236.35

SAMPLE TYPE GRAB SHELBY TUBE SPLIT SPOON BULK NO RECOVERY CORE



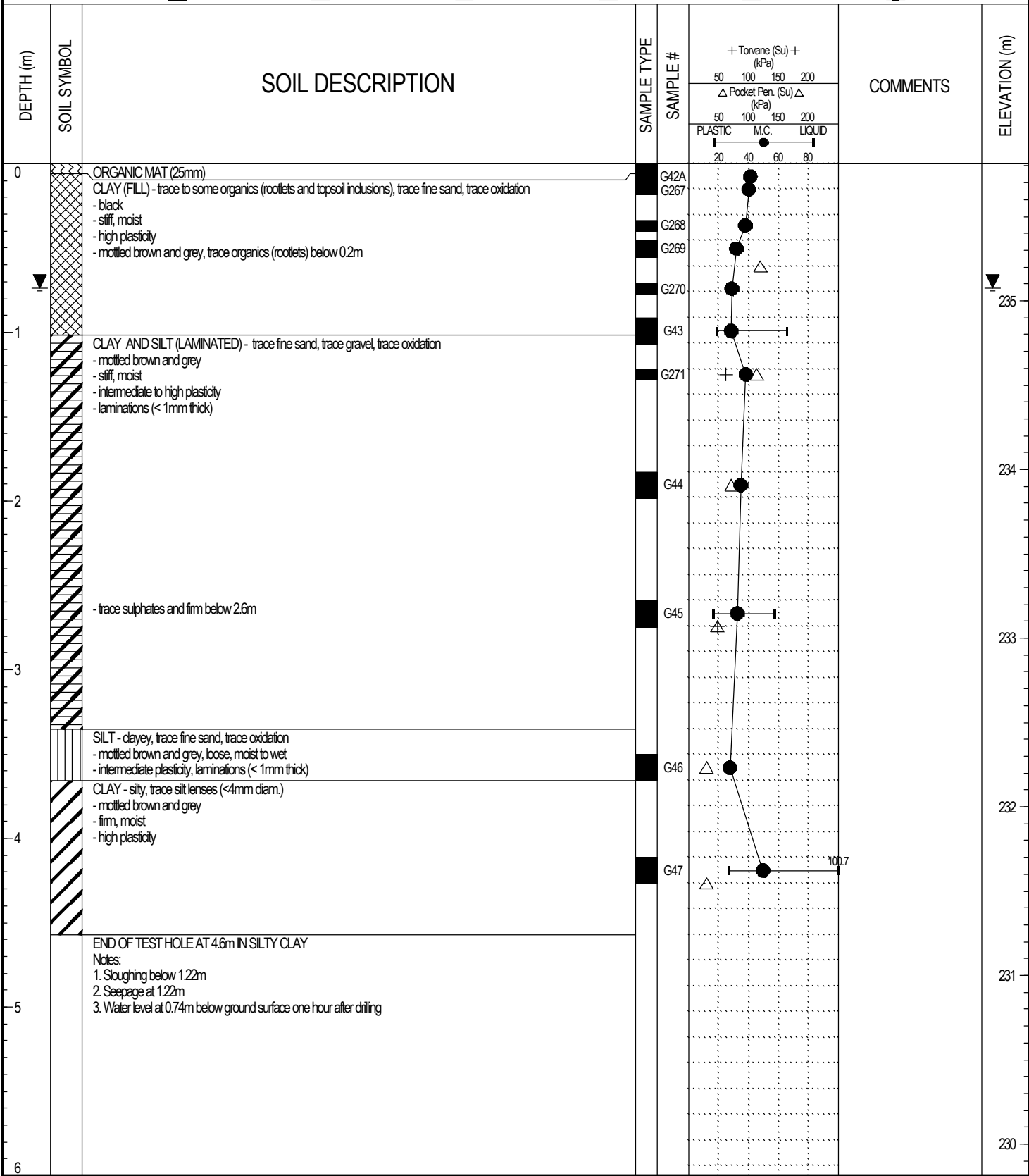
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-25
LOCATION: Freeze/Thaw Lagoon - N 5523678.036 E 647727.041		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker RM5 125mm Solid Stem Augers	ELEVATION (m): 236.448
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	



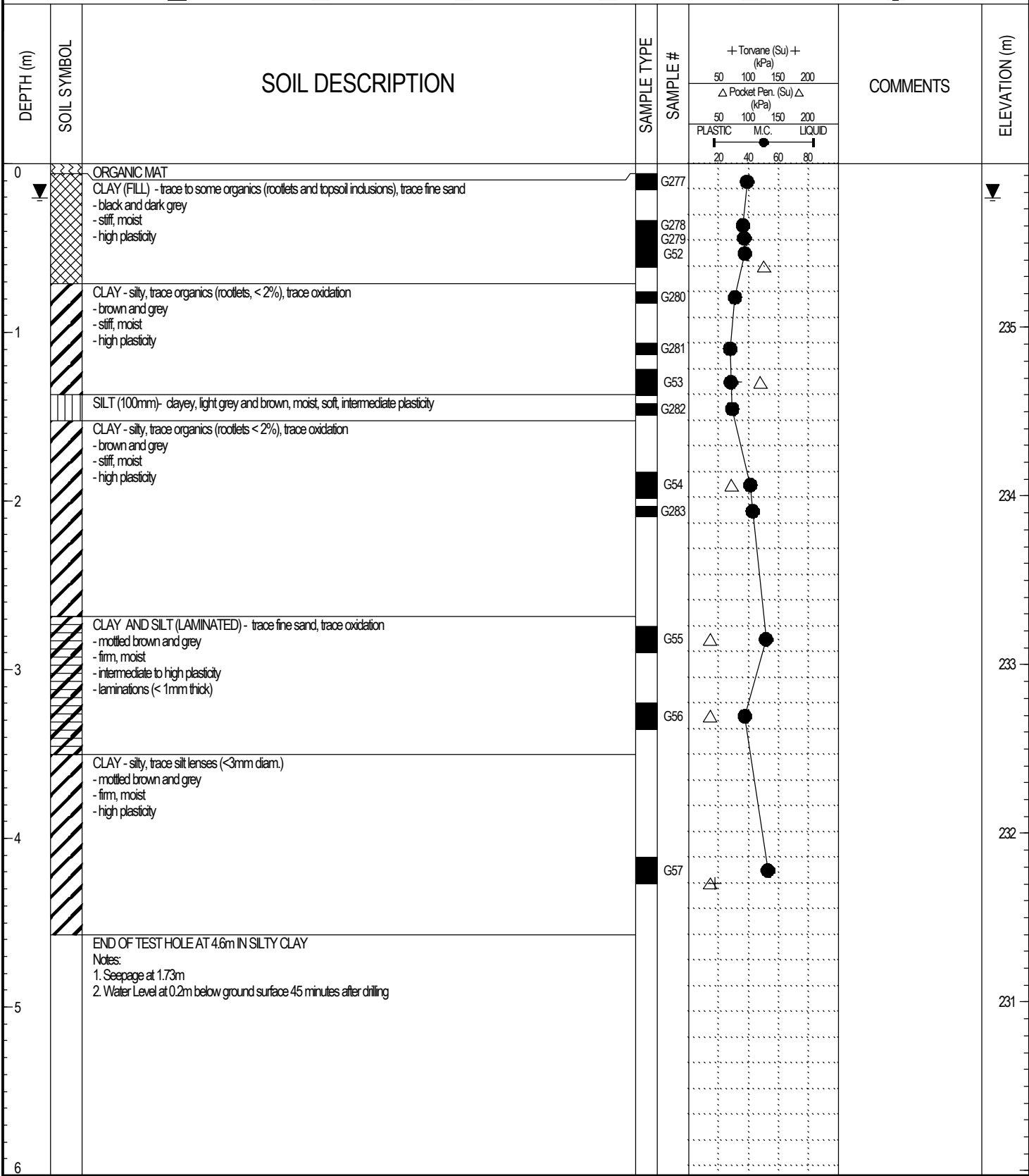
LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-26
LOCATION: Freeze/Thaw Lagoon - N 5523473.747 E 647749.616		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker RM5 125mm Solid Stem Augers	ELEVATION (m): 235.813
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



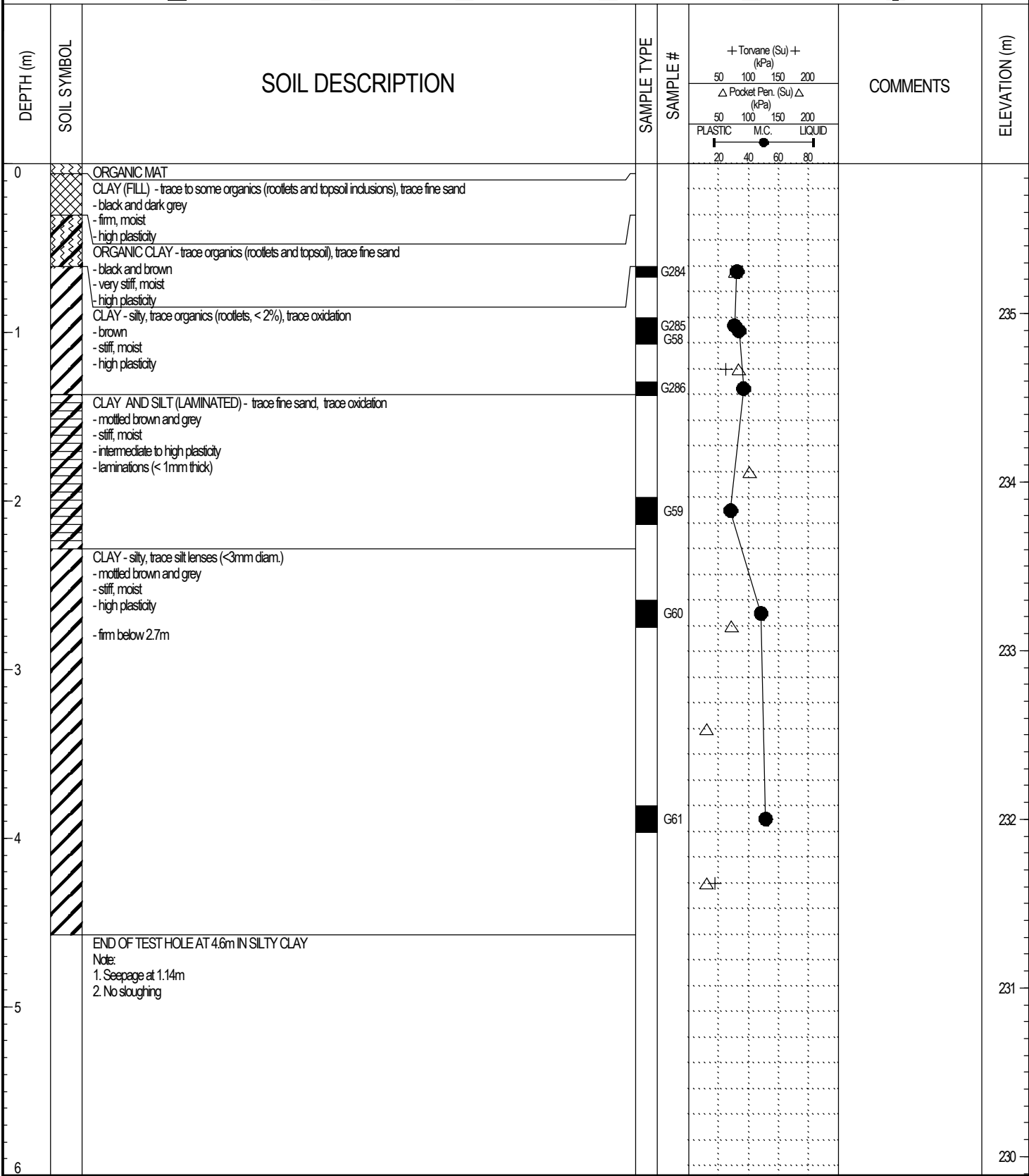
LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-27
LOCATION: Freeze/Thaw Lagoon - N 5523265.177 E 647752.426		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker RM5 125mm Solid Stem Augers	ELEVATION (m): 235.97
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



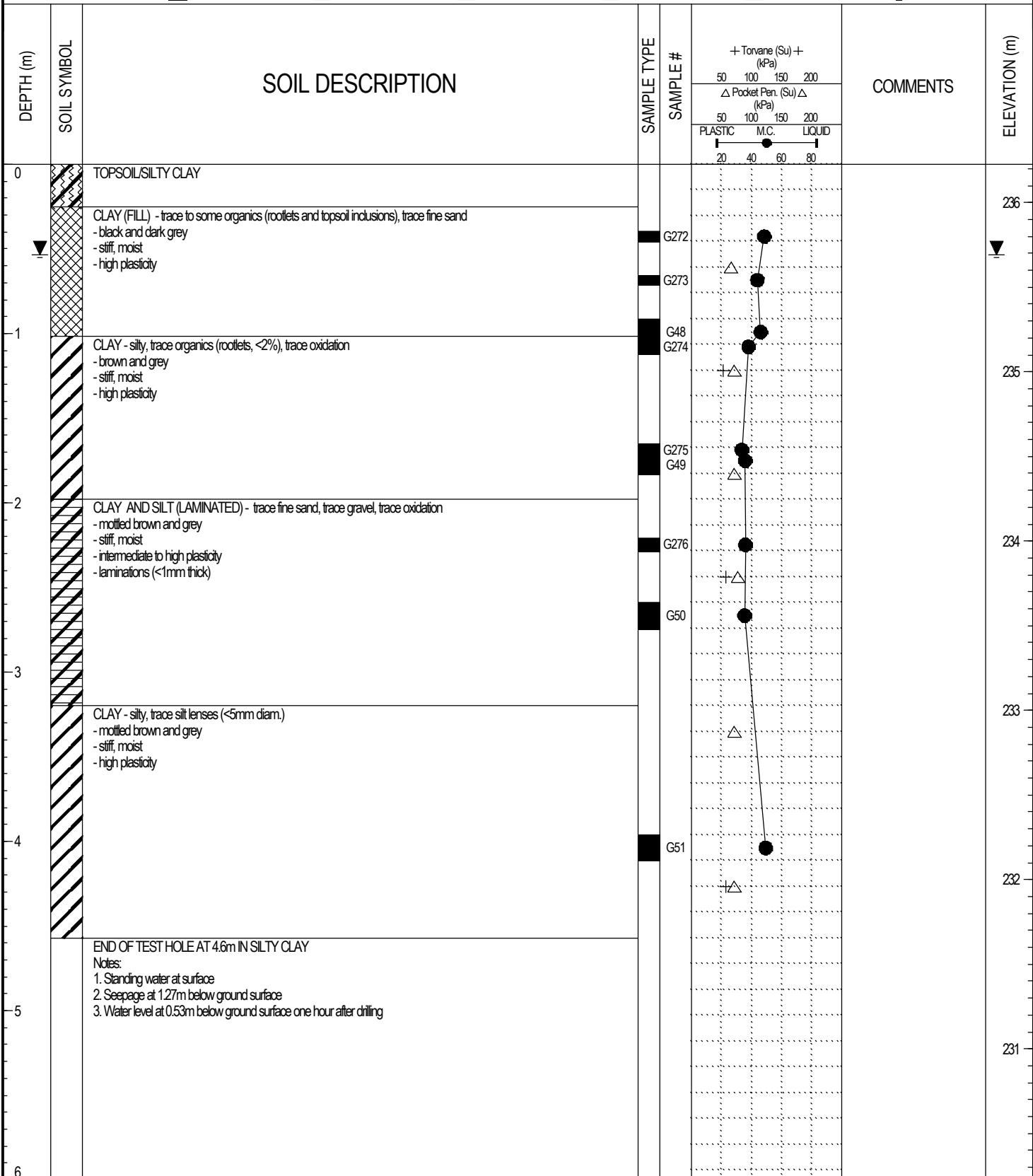
LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-28
LOCATION: Freeze/Thaw Lagoon - N 5523134.985 E 647663.995		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker RM5 125mm Solid Stem Augers	ELEVATION (m): 235.887
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



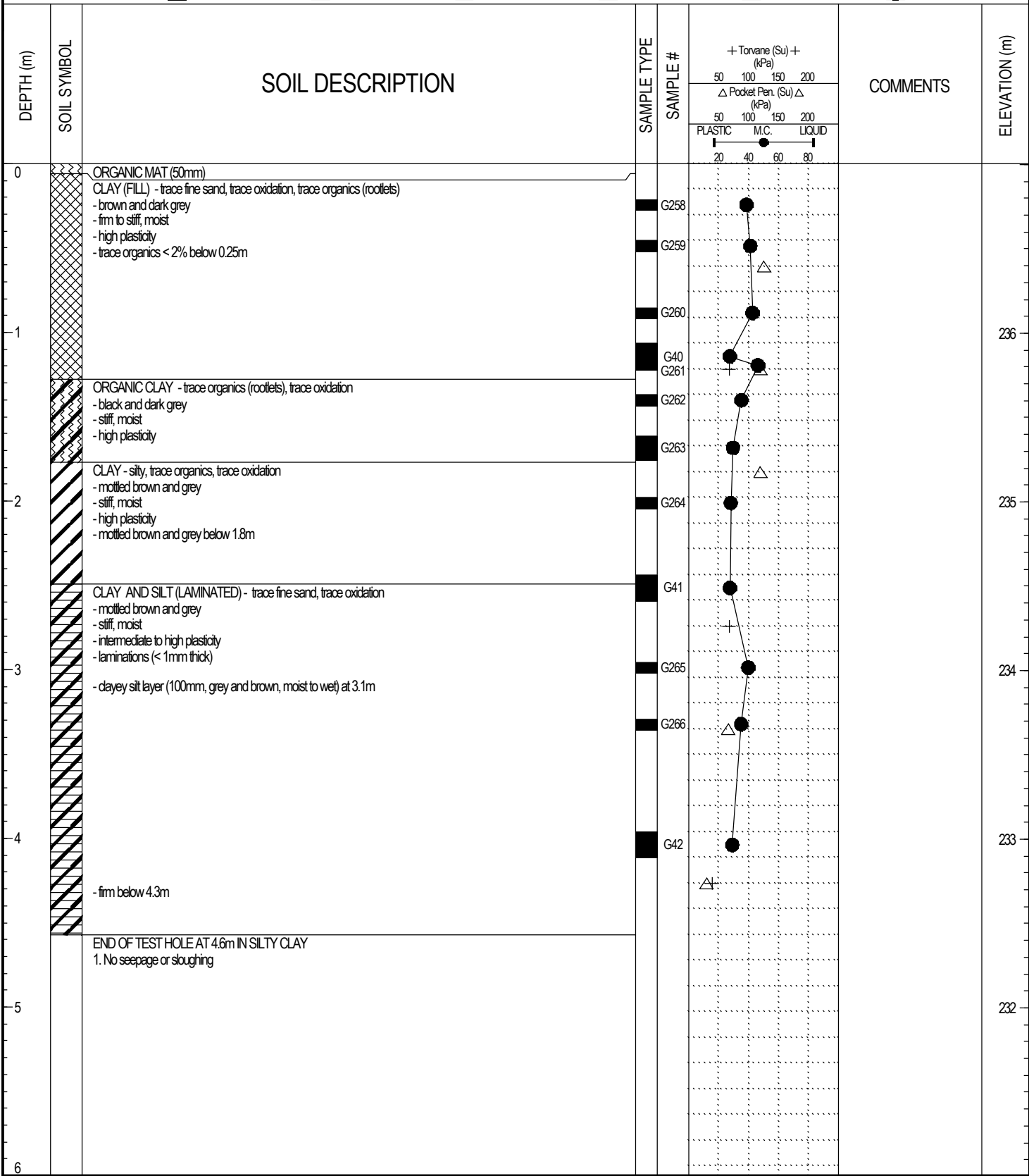
LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-29
LOCATION: Freeze/Thaw Lagoon - N 5523359.007 E 647658.037		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker RM5 125mm Solid Stem Augers	ELEVATION (m): 236.226
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	

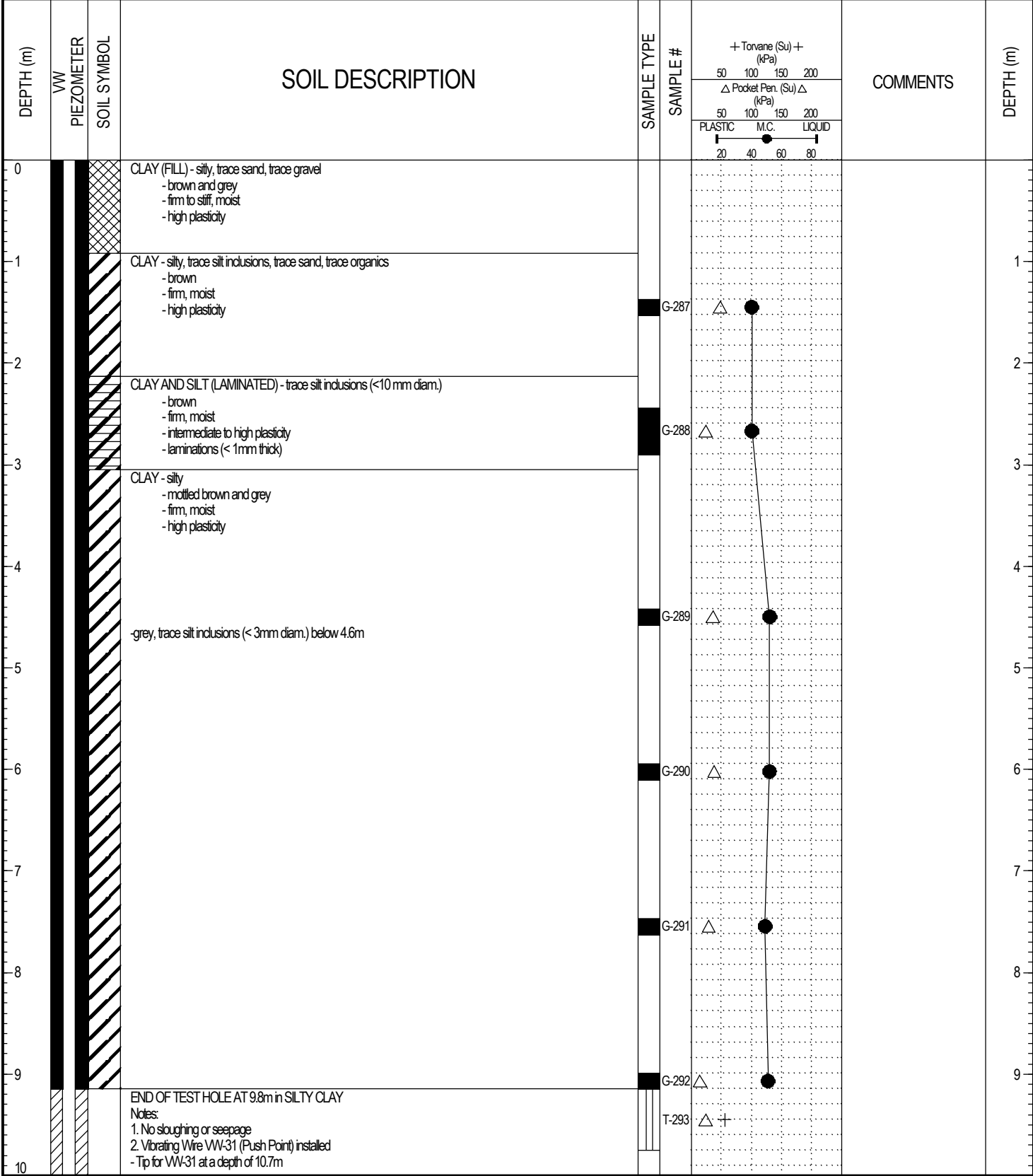


LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-30
LOCATION: Freeze/Thaw Lagoon - N 522 E 5523595.976 647697.990		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker RM5 125mm Solid Stem Augers	ELEVATION (m): 237.005
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: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-31		
LOCATION: At Pumping Well PW-1				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Maple Leaf Drilling			METHOD: B-40 - 125 mm Solid Stem Augers		ELEVATION (m):	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-31		
LOCATION: At Pumping Well PW-1				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Maple Leaf Driling			METHOD: B-40 - 125 mm Solid Stem Augers		ELEVATION (m):	
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
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE	<input type="checkbox"/> GRAVEL	<input type="checkbox"/> SLOUGH	<input type="checkbox"/> GROUT	<input type="checkbox"/> CUTTINGS	<input type="checkbox"/> SAND

DEPTH (m)	VW PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	+ Tonvane (Su) + (kPa)		COMMENTS	DEPTH (m)
						50	100		
						△ Pocket Pen. (Su) △ (kPa)			
						PLASTIC M.C. LIQUID			
						20 40 60 80			
10									10
11									11
12									12
13									13
14									14
15									15
16									16
17									17
18									18
19									19
20									20

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



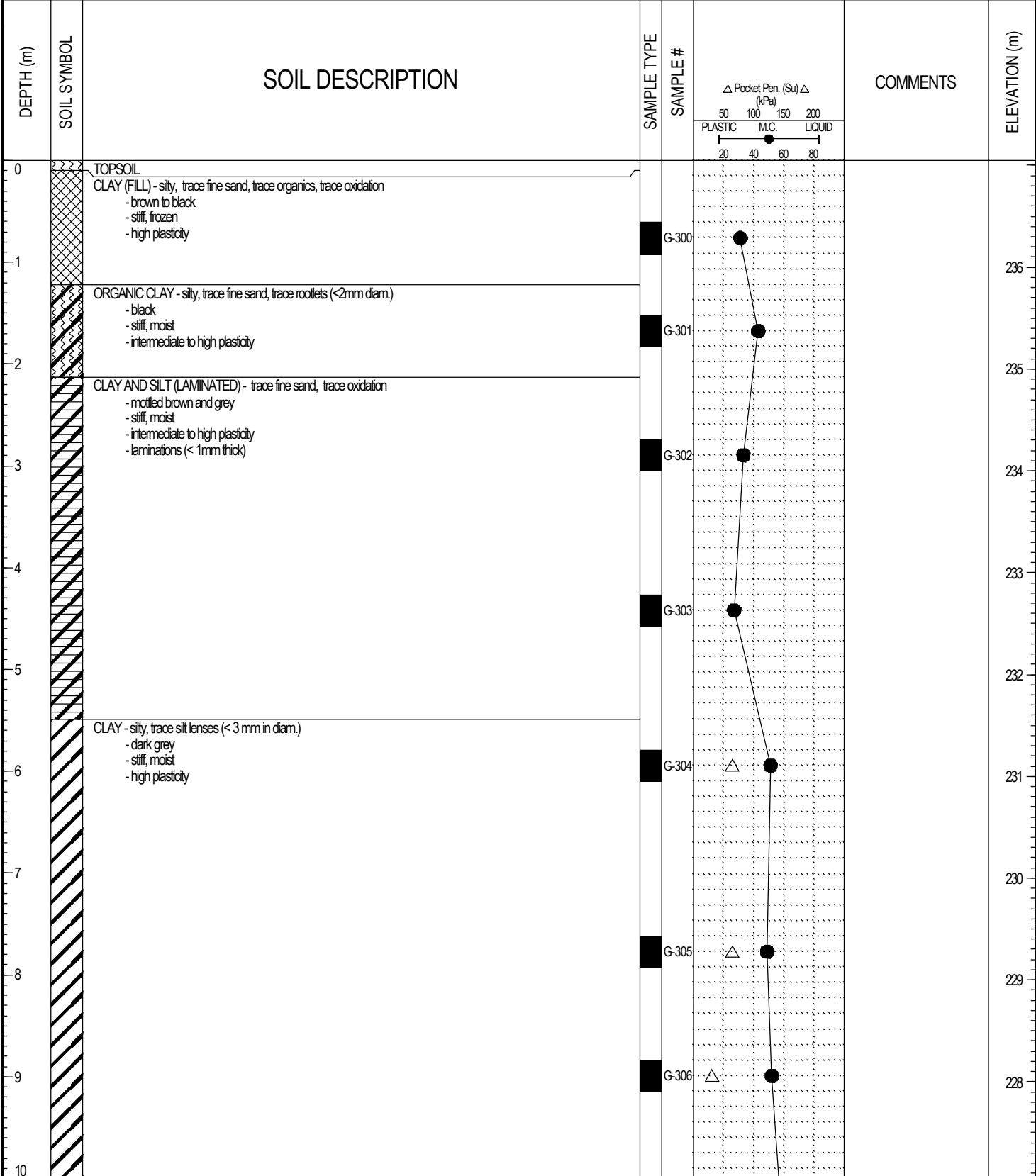
LOGGED BY: Kate Franklin	COMPLETION DEPTH: 9.75 m
REVIEWED BY:	COMPLETION DATE: 12/10/04
PROJECT ENGINEER: Ken Skafffeld	Page 2 of 2

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-32
LOCATION: Spoil Pile West of Freeze/Thaw Lagoon - N 5523616 E 647663		PROJECT NO.: 3398-055-00-01
CONTRACTOR: UMA Engineering	METHOD: 50 mm Hand Auger	ELEVATION (m): 240.81
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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	PLASTIC	M.C.	LIQUID	COMMENTS	ELEVATION (m)
0		ORGANIC MAT (25mm) CLAY (FILL) - silty, trace fine sand, trace fine gravel, trace oxidation, trace organics (rootlets and topsoil inclusions < 2%) - brown, grey and black - stiff, moist - high plasticity		G251	20	40	80		240.81
				G252					
1				G253					240
2				G254					239
3				G255					238
4				G256					237
5				G257					236
6		END OF TEST HOLE AT 4.3m IN SILTY CLAY Note: 1. No sloughing or seepage							235

LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

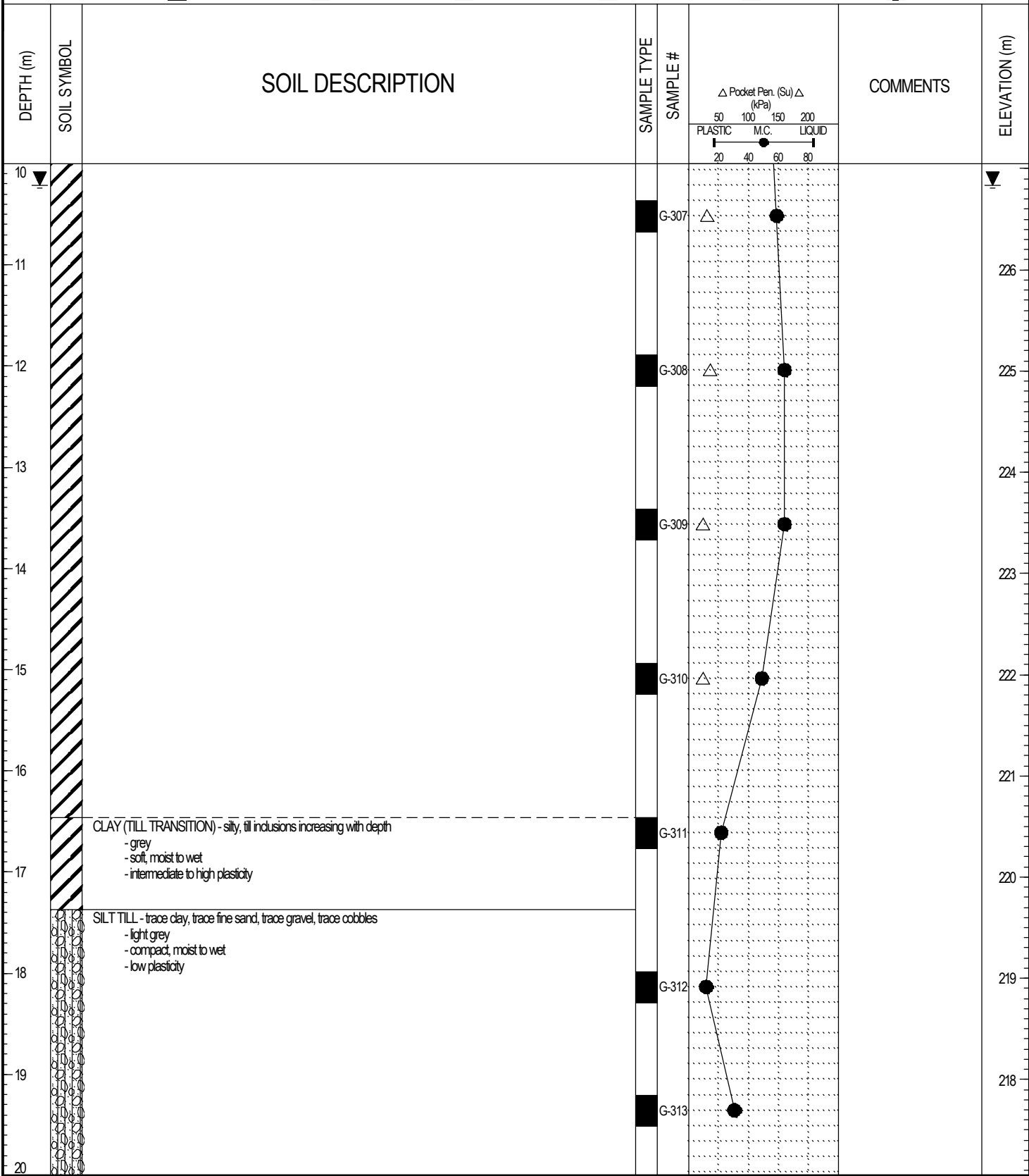
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-33
LOCATION: WTP - N 5524157.897 E 647801.041		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 237.049
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-33
LOCATION: WTP - N 5524157.897 E 647801.041		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 237.049

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
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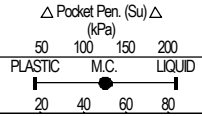


LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

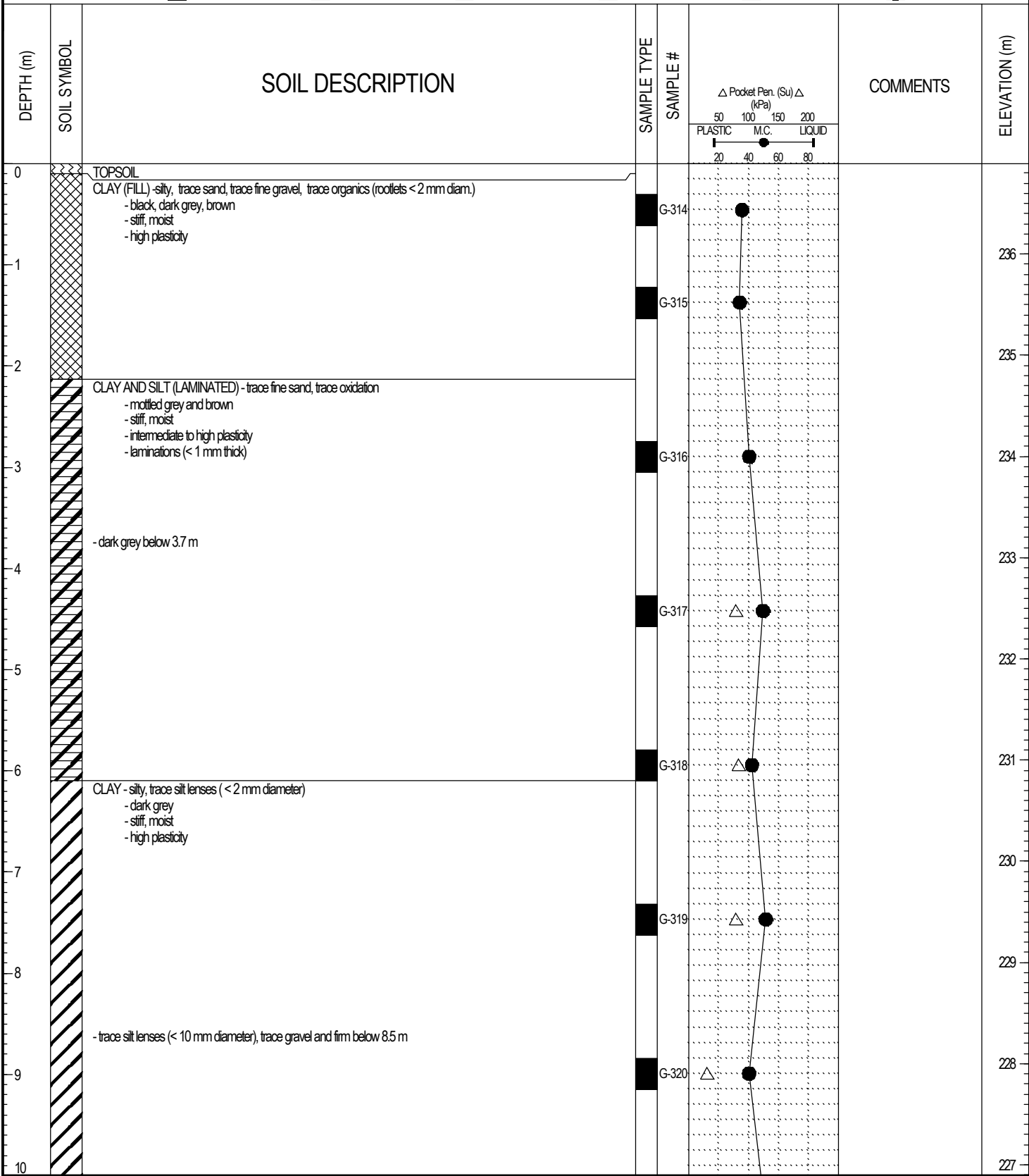
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-33
LOCATION: WTP - N 5524157.897 E 647801.041		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 237.049
SAMPLE TYPE	<input checked="" type="checkbox"/> 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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
20						
21						
22		POWER AUGER REFUSAL AT 21.3m Notes: 1. Sloughing below 17.4m 2. Seepage at 19.8m 4. Water level at 10.2m below ground surface 3 hours after completion of drilling 5. Test hole grouted to 3.7m below ground surface and backfilled with cuttings to surface		G-314		
23						
24						
25						
26						
27						
28						
29						
30						

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

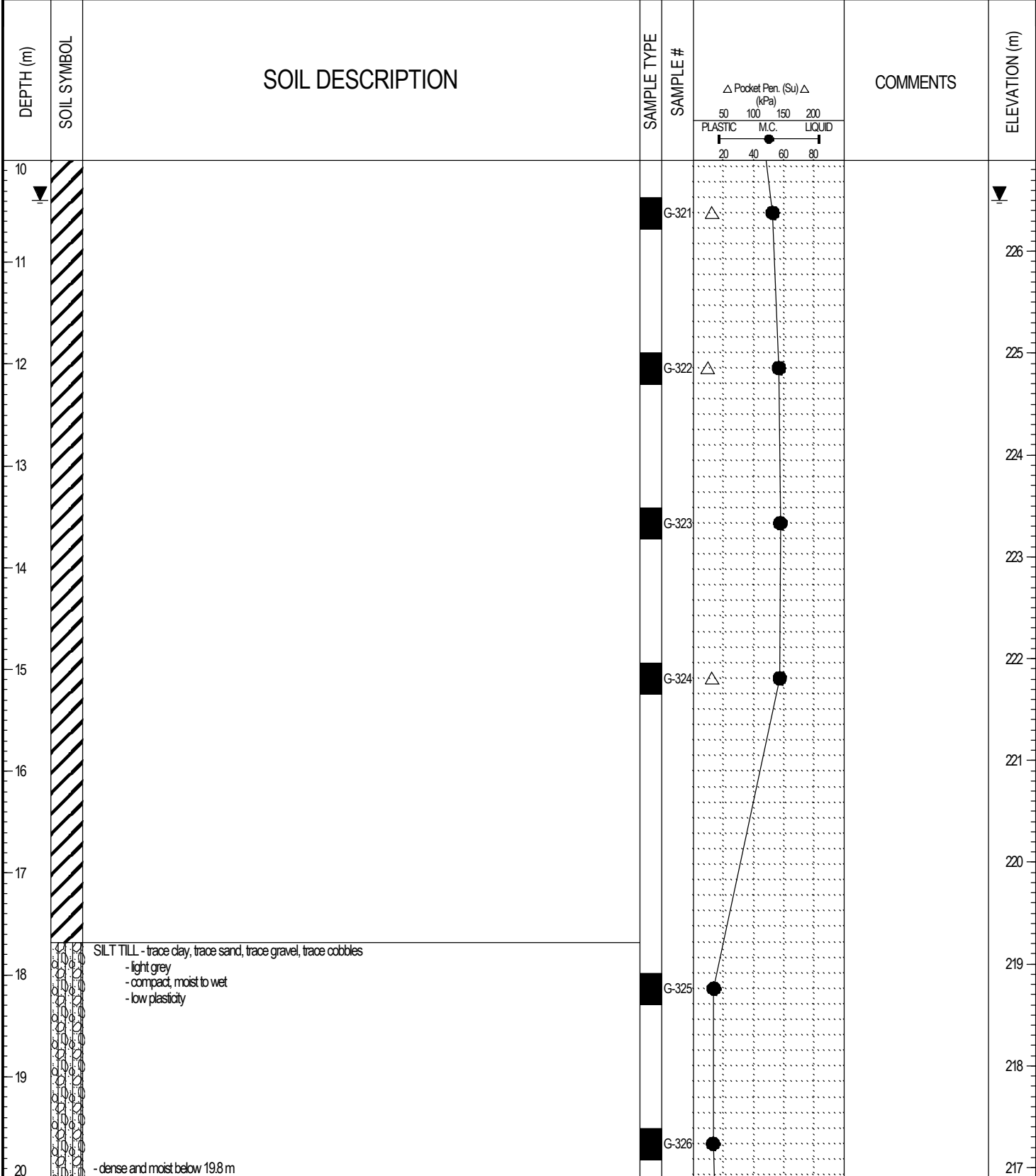


PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-34
LOCATION: WTP - N 5524132.146 E 647785.051		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 236.894
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-34
LOCATION: WTP - N 5524132.146 E 647785.051		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 236.894
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	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-34
LOCATION: WTP - N 5524132.146 E 647785.051		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 236.894
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

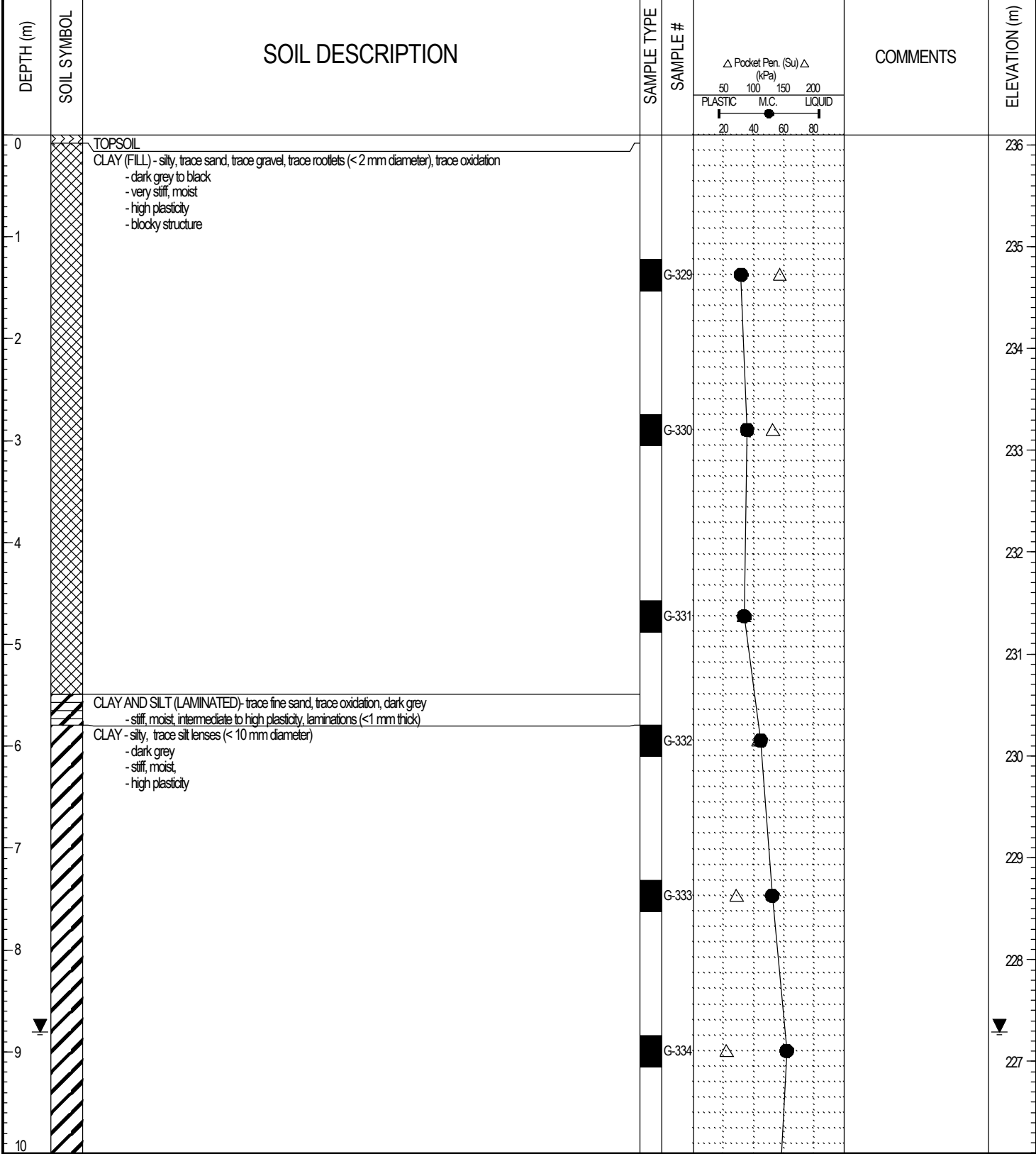
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
20			<input checked="" type="checkbox"/>	G-327		216
21				G-328		215
22						214
23						213
24						212
25		POWER AUGER REFUSAL AT 24.4 m Notes: 1. Sloughing below 22.3m 2. Seepage (heavy) at 22.3 m 4. Water level at 17.4m below ground surface immediately at completion of drilling 5. Water level at 10.4m below ground surface 2 hours after completion of drilling 6. Test hole grouted to ground surface				211
26						210
27						209
28						208
29						207
30						207

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

	LOGGED BY: Nelson Ferreira	COMPLETION DEPTH: 24.38 m
	REVIEWED BY:	COMPLETION DATE: 13/12/04
	PROJECT ENGINEER: Ken Skafffeld	Page 3 of 3

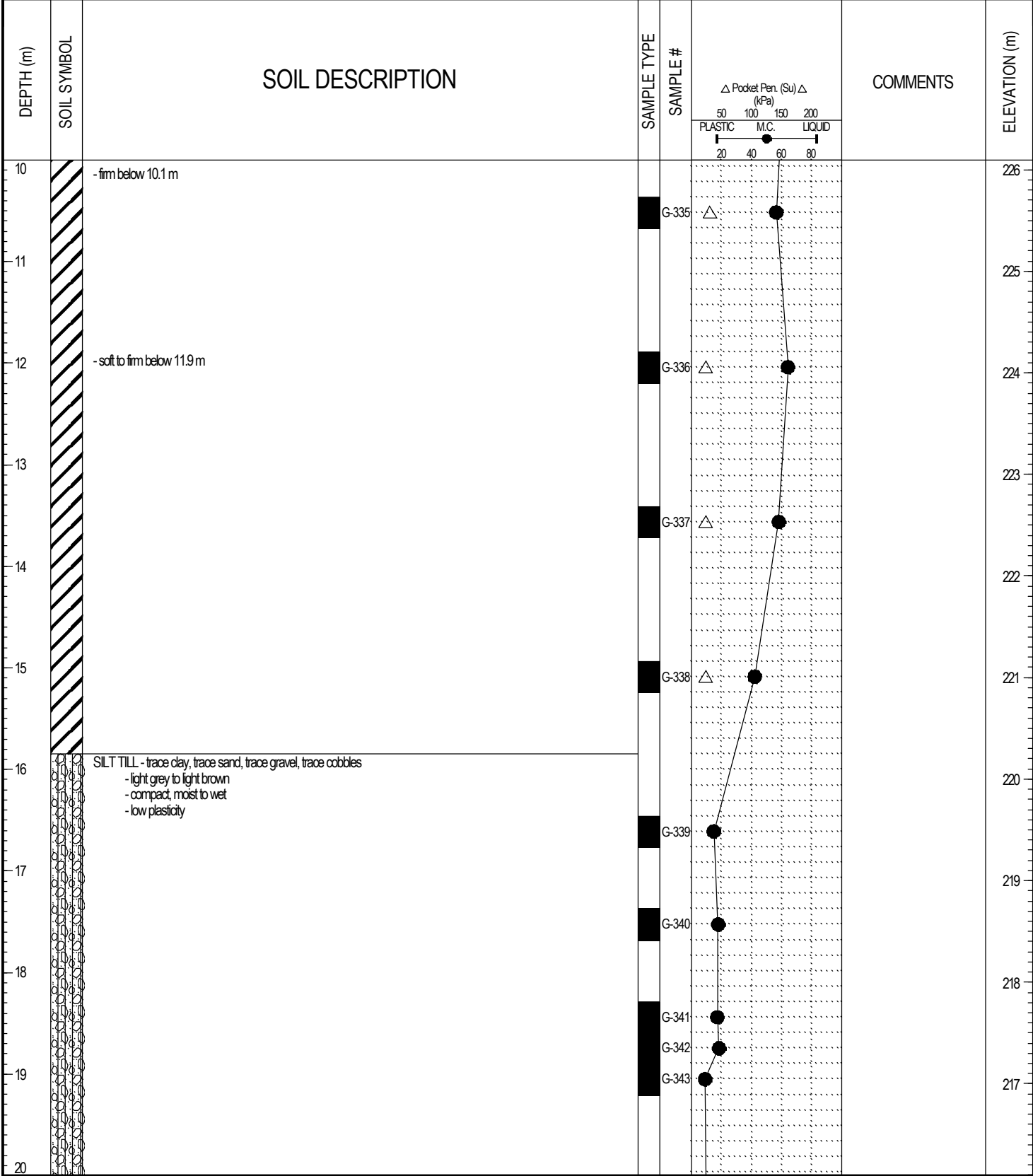
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-35
LOCATION: WTP - N 5524103.892 E 647767.976		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 236.095

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
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	LOGGED BY: Nelson Ferreira	COMPLETION DEPTH: 21.34 m
	REVIEWED BY:	COMPLETION DATE: 13/12/04
	PROJECT ENGINEER: Ken Skafffeld	Page 1 of 3

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-35
LOCATION: WTP - N 5524103.892 E 647767.976		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 236.095
SAMPLE TYPE	<input type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

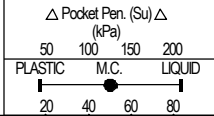


LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

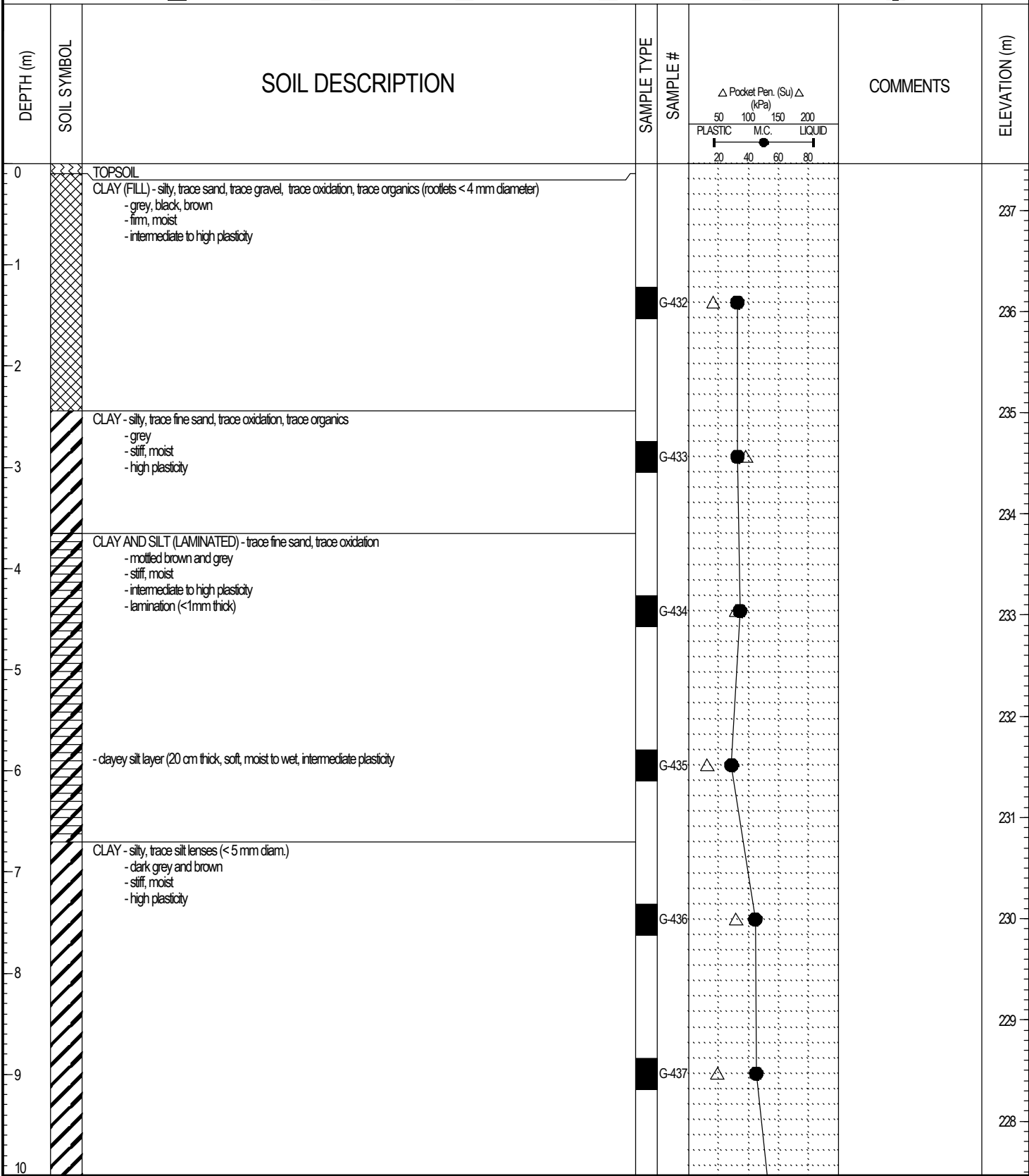
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-35
LOCATION: WTP - N 5524103.892 E 647767.976		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 236.095
SAMPLE TYPE	<input checked="" type="checkbox"/> 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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
20						216
21						215
22		POWER AUGER REFUSAL AT 21.3m Notes: 1. Sloughing below 30.5m 3. Seepage at 21.0m 4. Water level at 9.1m below ground surface 3 hours after completion of drilling 5. Test hole grouted to 3.7m below ground surface and backfilled with cuttings to surface	<input checked="" type="checkbox"/>	G-344		214
23						213
24						212
25						211
26						210
27						209
28						208
29						207
30						207

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

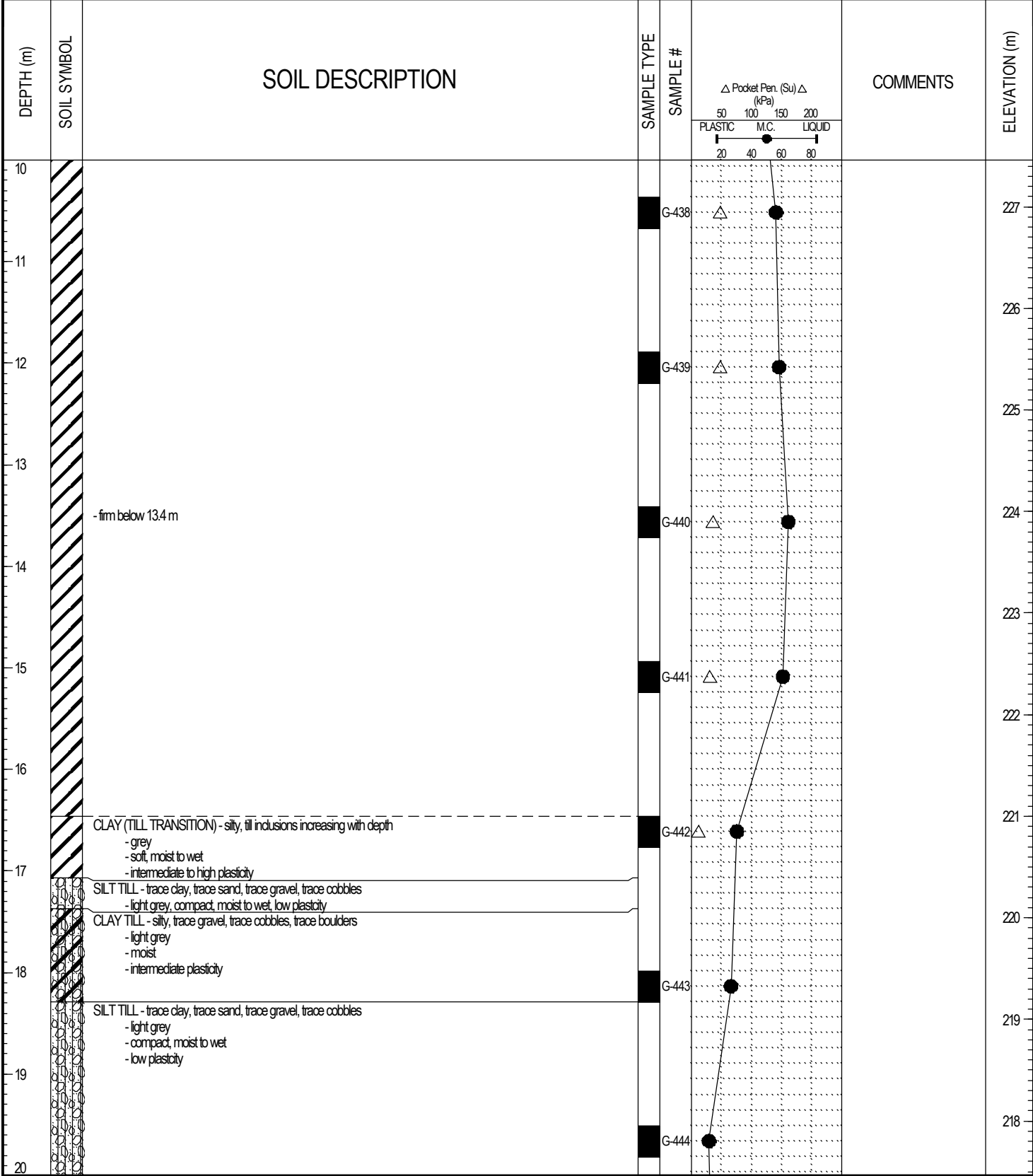


PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-36
LOCATION: WTP - N 5524027.267 E 647809.570		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 237.461
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

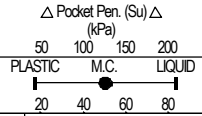
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-36
LOCATION: WTP - N 5524027.267 E 647809.570		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 237.461
SAMPLE TYPE	<input checked="" type="checkbox"/> 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: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-36
LOCATION: WTP - N 5524027.267 E 647809.570		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 237.461
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

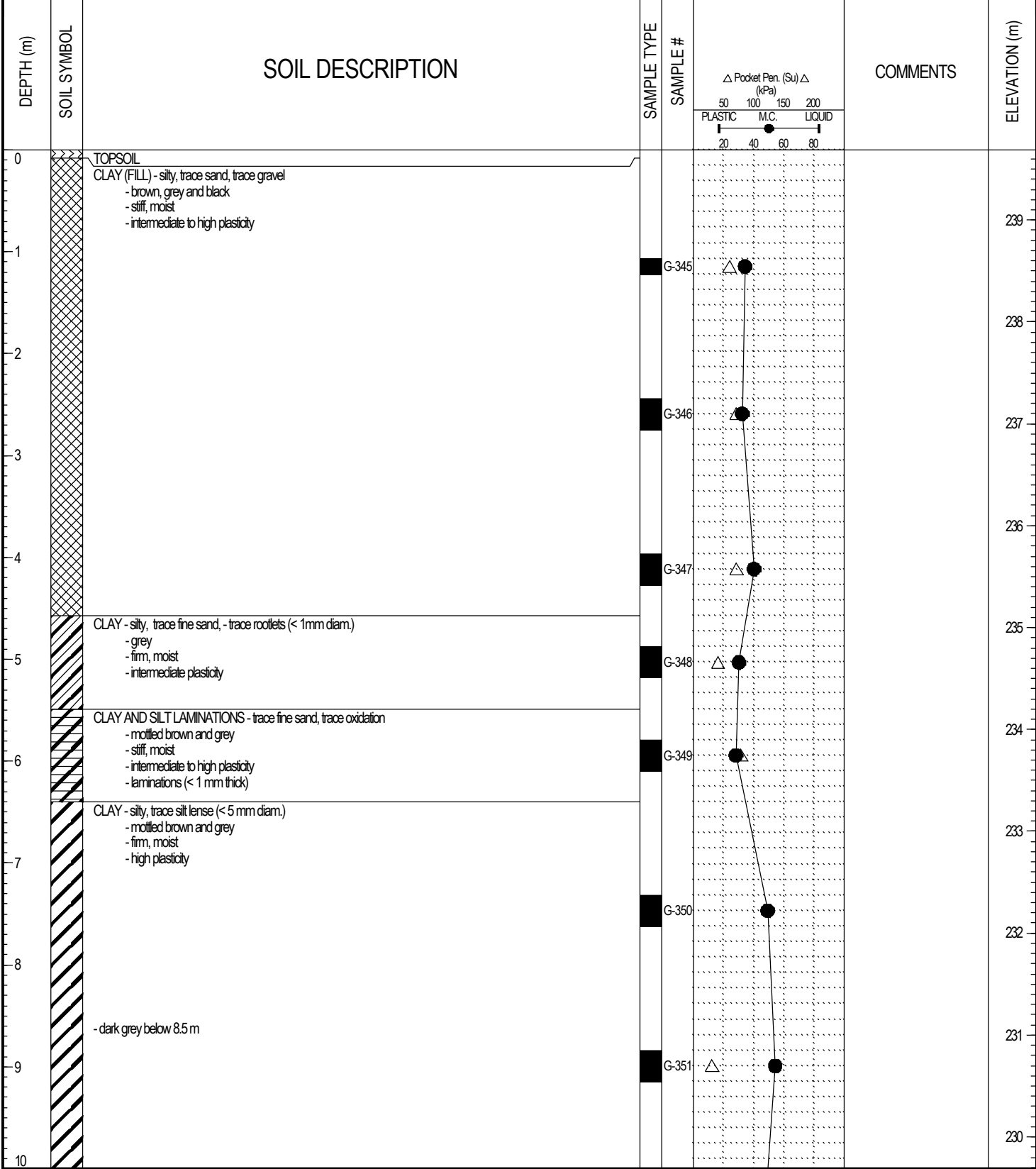
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
20						217
21						216
22				G-445		216
22				G-446		215
23		POWER AUGER REFUSAL AT 22.3m Notes: 1. Seepage at 22.3 m 2. Test hole grouted to 12.2m below ground surface and backfilled with cuttings to surface				215
24						214
25						213
26						212
27						211
28						210
29						209
30						208

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



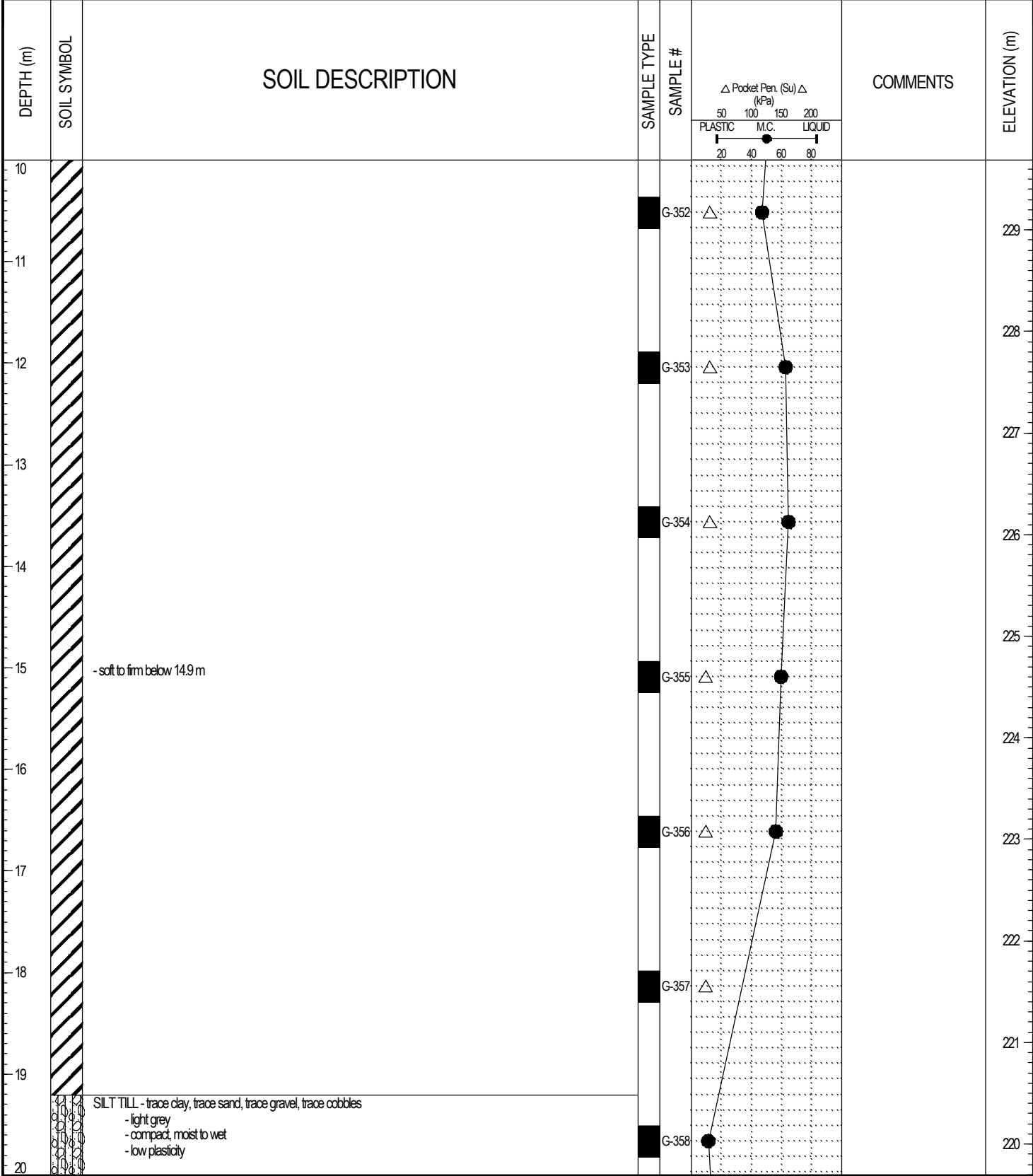
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-37
LOCATION: WTP - N 5524100.010 E 647872.679		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 239.689

SAMPLE TYPE GRAB SHELBY TUBE SPLIT SPOON BULK NO RECOVERY CORE



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

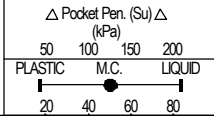
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-37
LOCATION: WTP - N 5524100.010 E 647872.679		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 239.689
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

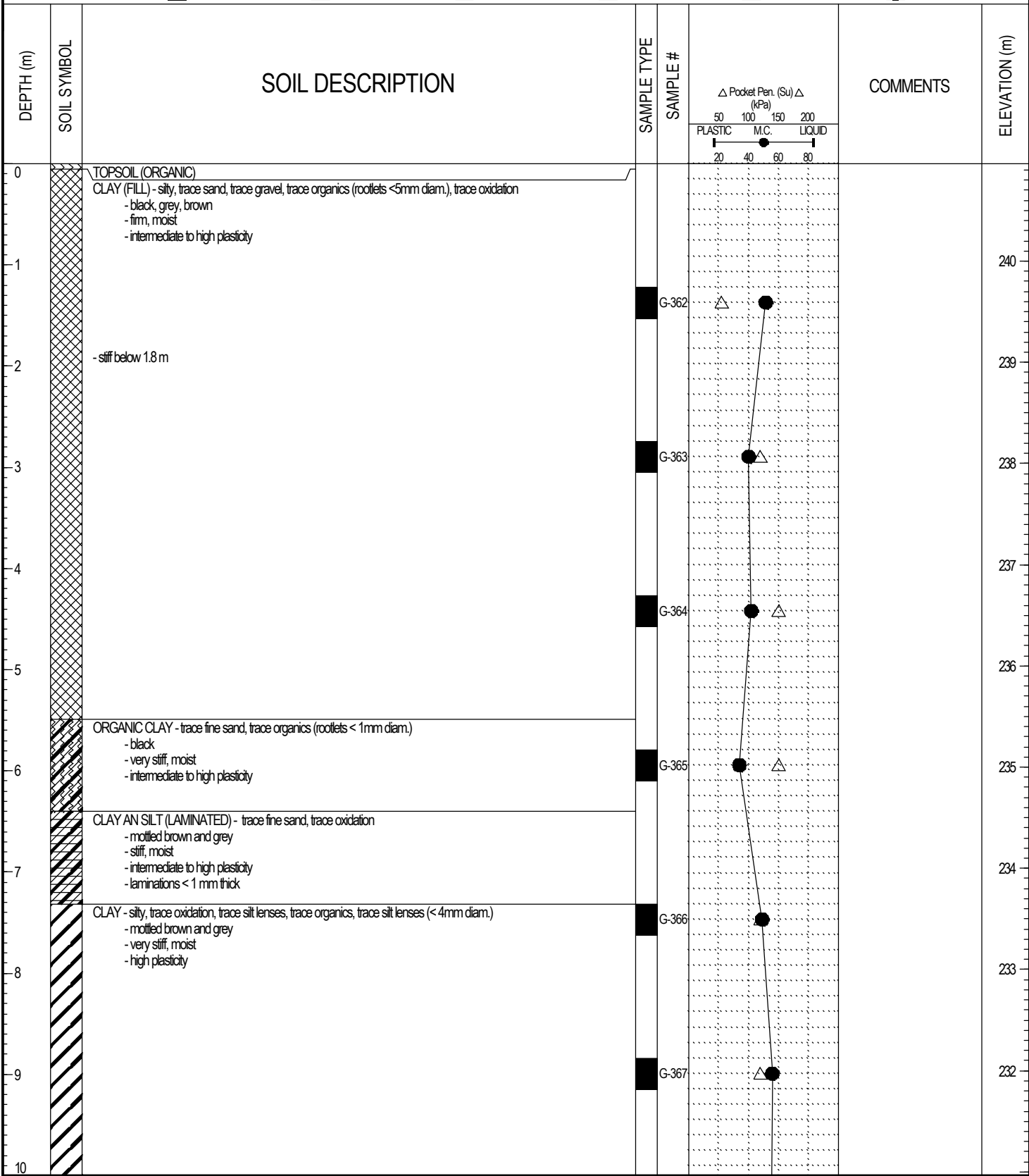
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-37
LOCATION: WTP - N 5524100.010 E 647872.679		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 239.689
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
20		CLAY TILL - trace fine sand, trace gravel, trace cobbles - dark grey - firm, moist - intermediate plasticity				219
21			<input checked="" type="checkbox"/>	G-359		
22		SILT TILL - trace clay, trace sand, trace gravel, trace cobbles - light grey - compact, moist to wet - low plasticity				218
22			<input checked="" type="checkbox"/>	G-360		
23			<input checked="" type="checkbox"/>	G-361		217
25		POWER AUGER REFUSAL AT 25.0 m Notes: 1. Sloughing below 21.3m 2. Seepage at 22.3m 3. Test hole grouted to 8.5m below ground surface and backfilled with auger cuttings to surface				214



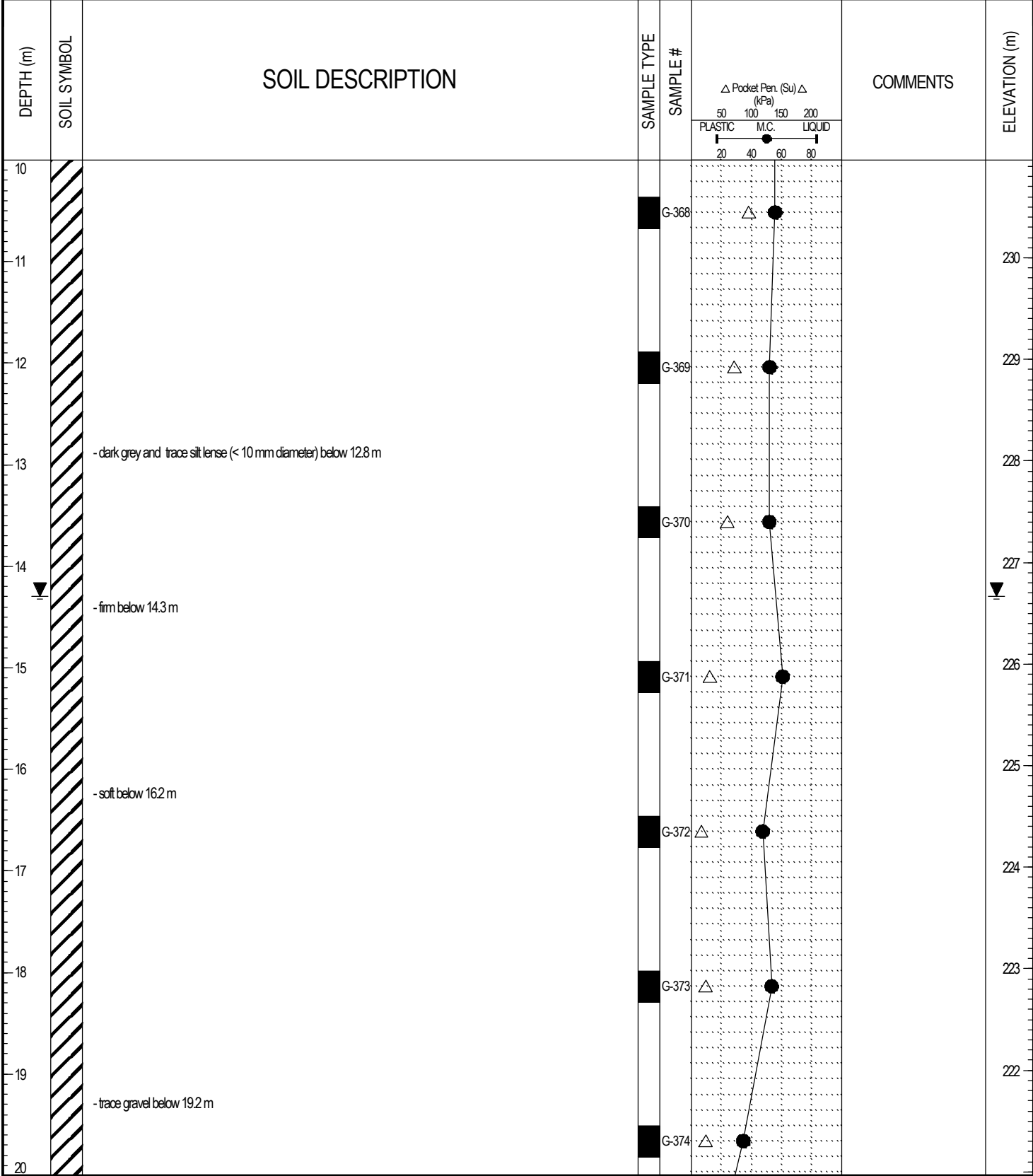
LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-38
LOCATION: WTP - N 5524087.124 E 647893.710		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 240.963
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	


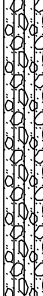


LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

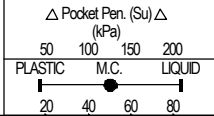
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-38
LOCATION: WTP - N 5524087.124 E 647893.710		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 240.963
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



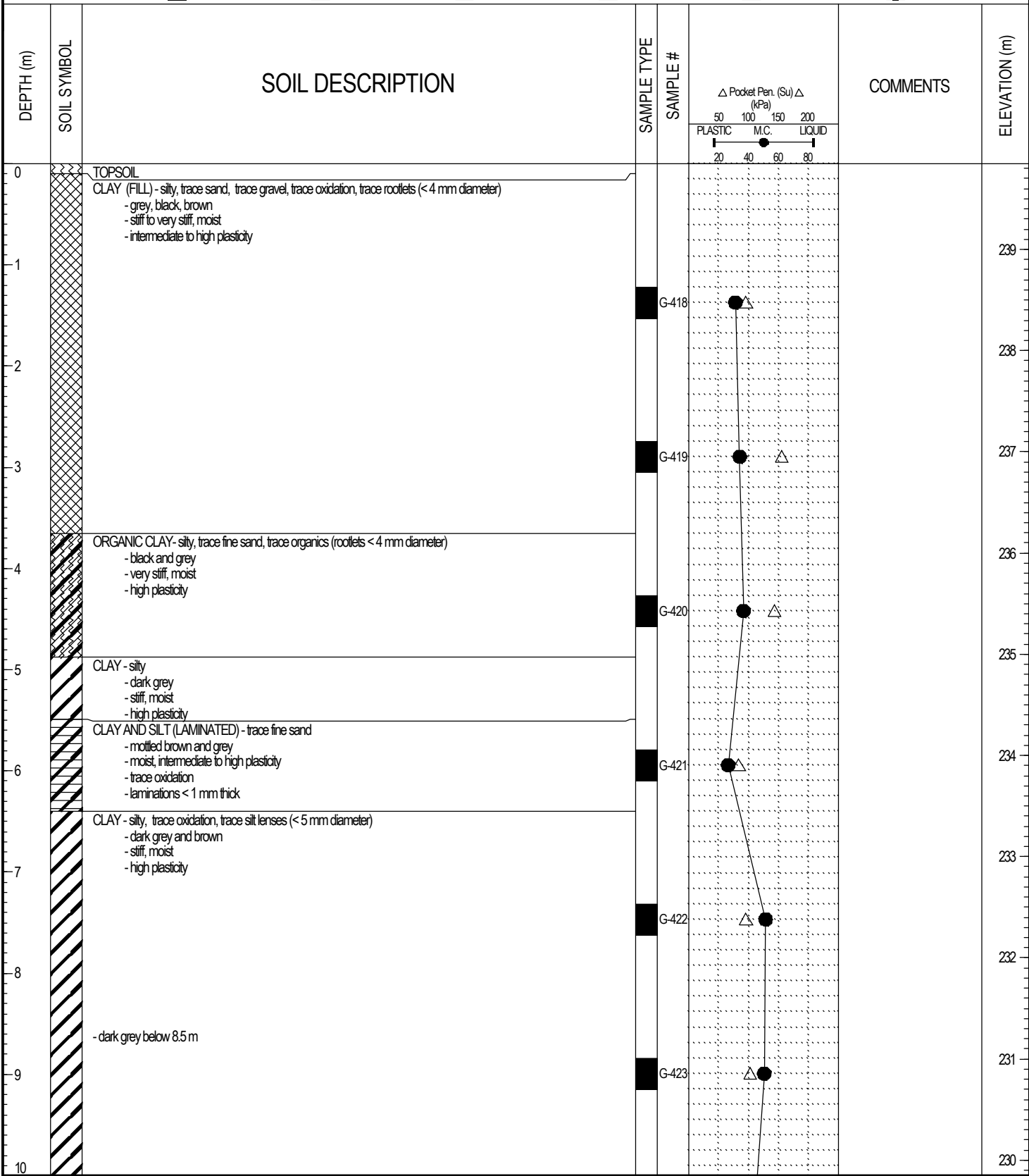
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-38
LOCATION: WTP - N 5524087.124 E 647893.710		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 450mm Auger	ELEVATION (m): 240.963
SAMPLE TYPE	<input checked="" type="checkbox"/> 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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
20						
21		<p>SILT TILL - trace clay, trace sand, trace gravel, trace cobbles</p> <ul style="list-style-type: none"> - light grey to light brown - compact, moist to wet - low plasticity 	<input checked="" type="checkbox"/>	G-375		220
22		-moist below 21.9 m				219
23		-seepage below 22.6 m	<input checked="" type="checkbox"/>	G-376		218
23		<p>END OF TEST HOLE AT 22.9 m IN TILL</p> <p>Notes:</p> <ol style="list-style-type: none"> 1. Power auger refusal not reached due to excessive sloughing and seepage in till layer 2. Sloughing below 22.3 m 3. Seepage (heavy) at 22.6 m 4. Water level at 14.3 m below ground surface 2 hours after completion of drilling 4. Test hole grouted to 8.5 m below ground surface and backfilled with auger cuttings to surface 				218
24						217
25						216
26						215
27						214
28						213
29						212
30						

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

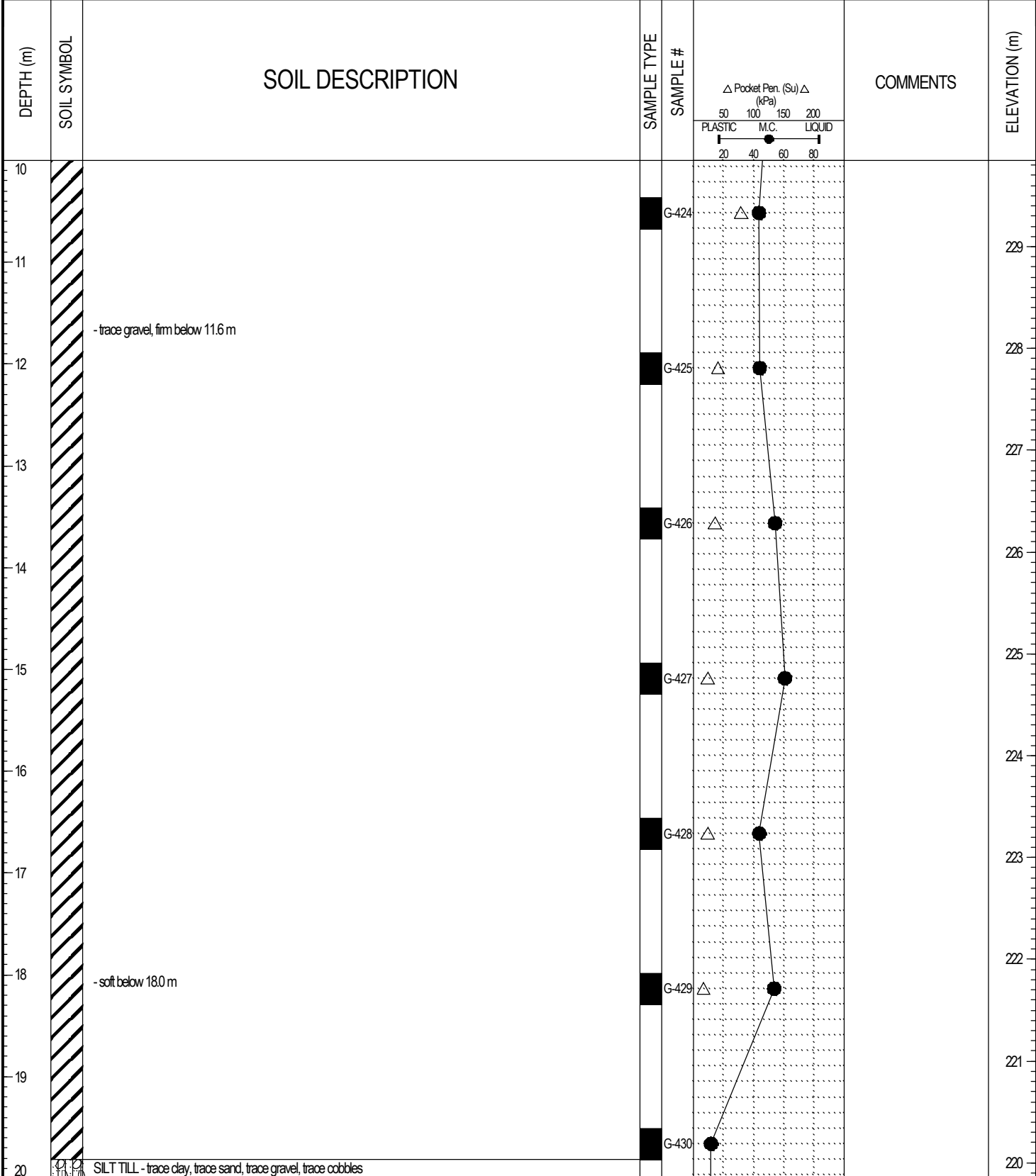


PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-39
LOCATION: WTP - N 5524057.650 E 647875.469		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 239.847
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-39
LOCATION: WTP - N 5524057.650 E 647875.469		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 239.847
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	

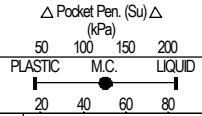


LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-39
LOCATION: WTP - N 5524057.650 E 647875.469		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 239.847
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

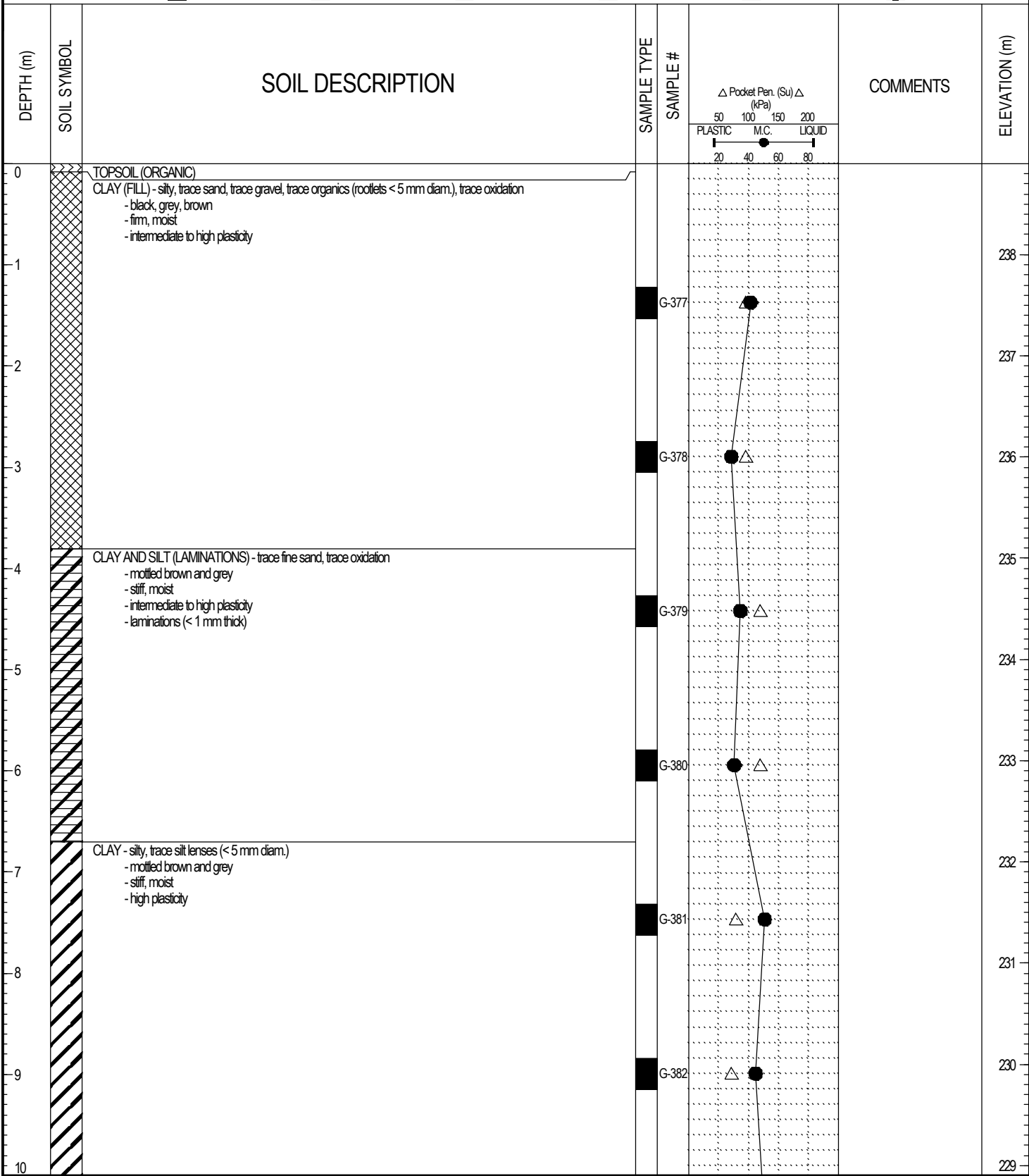
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
20		- light grey - compact, moist to wet - low plasticity				219
21						218
22						217
23		POWER AUGER REFUSAL AT 22.9m Notes: 1. Sloughing below 21.9m 2. Water level at 12.8m below ground surface 1 hour after completion of drilling 3. Test hole grouted to 8.1m below ground surface and backfilled with cuttings to surface				216
24						215
25						214
26						213
27						212
28						211
29						210
30						210

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



G-431

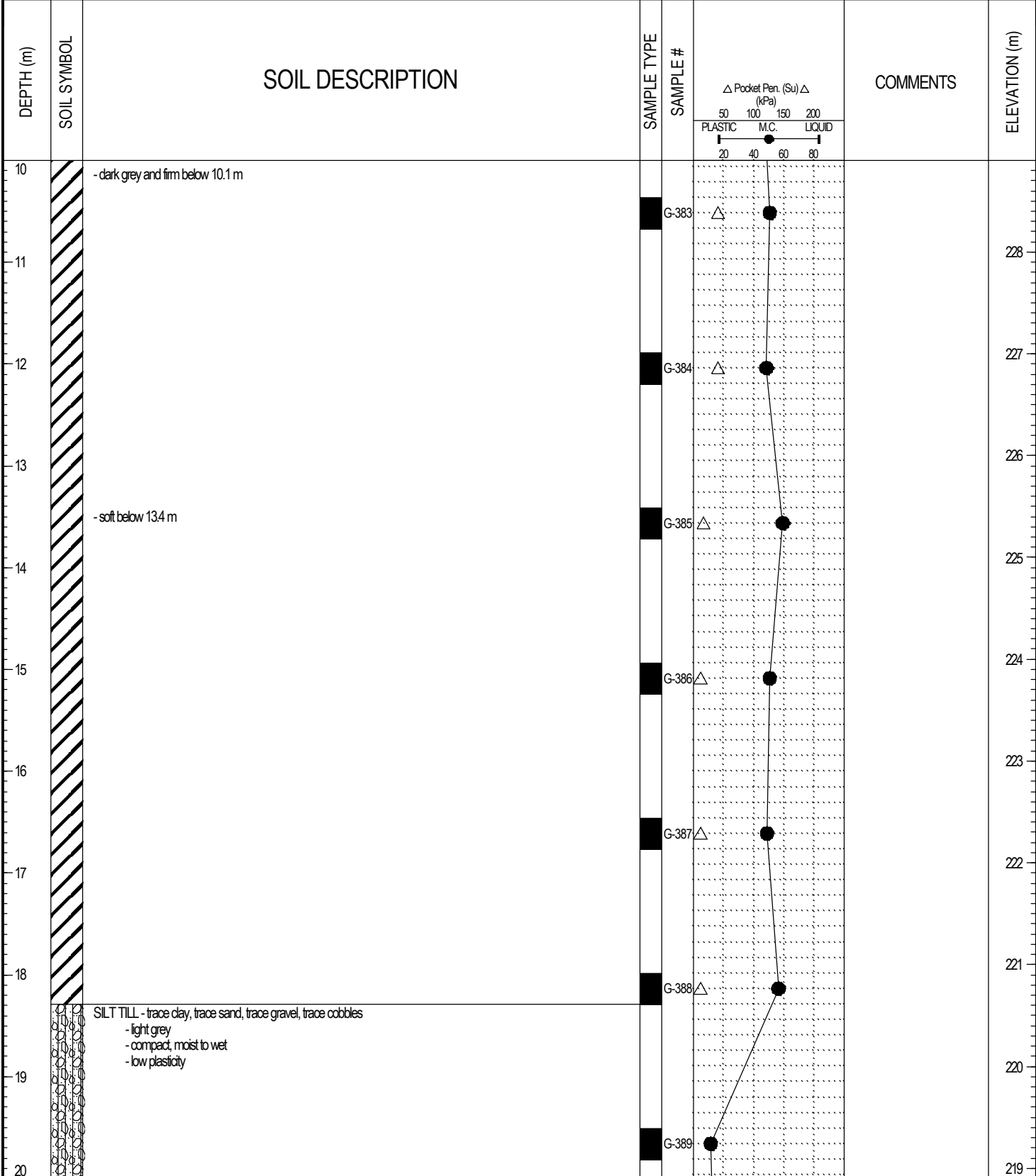
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-40
LOCATION: WTP - N 5524019.655 E 647854.567		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 238.899
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-40
LOCATION: WTP - N 5524019.655 E 647854.567		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 238.899

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
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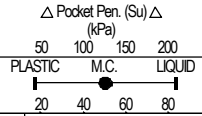


LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-40
LOCATION: WTP - N 5524019.655 E 647854.567		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 238.899
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

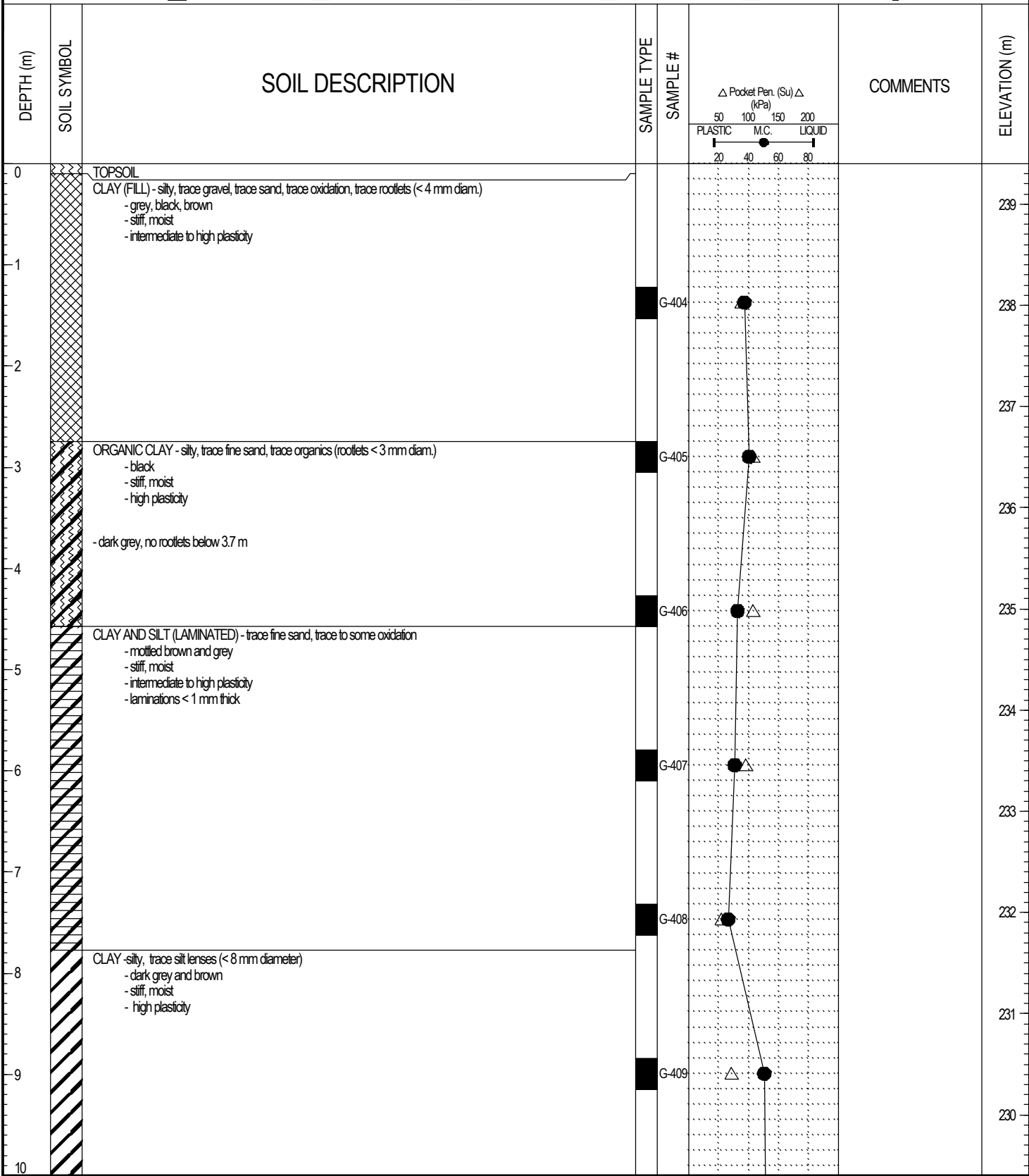
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
20						218
21						217
22		- till is gravelly and cobblely below 21.9 m				216
23		END OF TEST HOLE AT 22.6 m IN SILT TILL Notes: 1. Power auger refusal not reached due to excessive sloughing and seepage in till layer 2. Sloughing below 22.3 m 3. Seepage at 3.8m (laminated clay) and at 20.7 m (silt till) 4. Water level at 12.2 m below ground surface 2 hours after completion of drilling 5. Test hole grouted to 8.5m below ground surface and backfilled with cuttings to surface				215
24						214
25						213
26						212
27						211
28						210
29						209
30						209

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



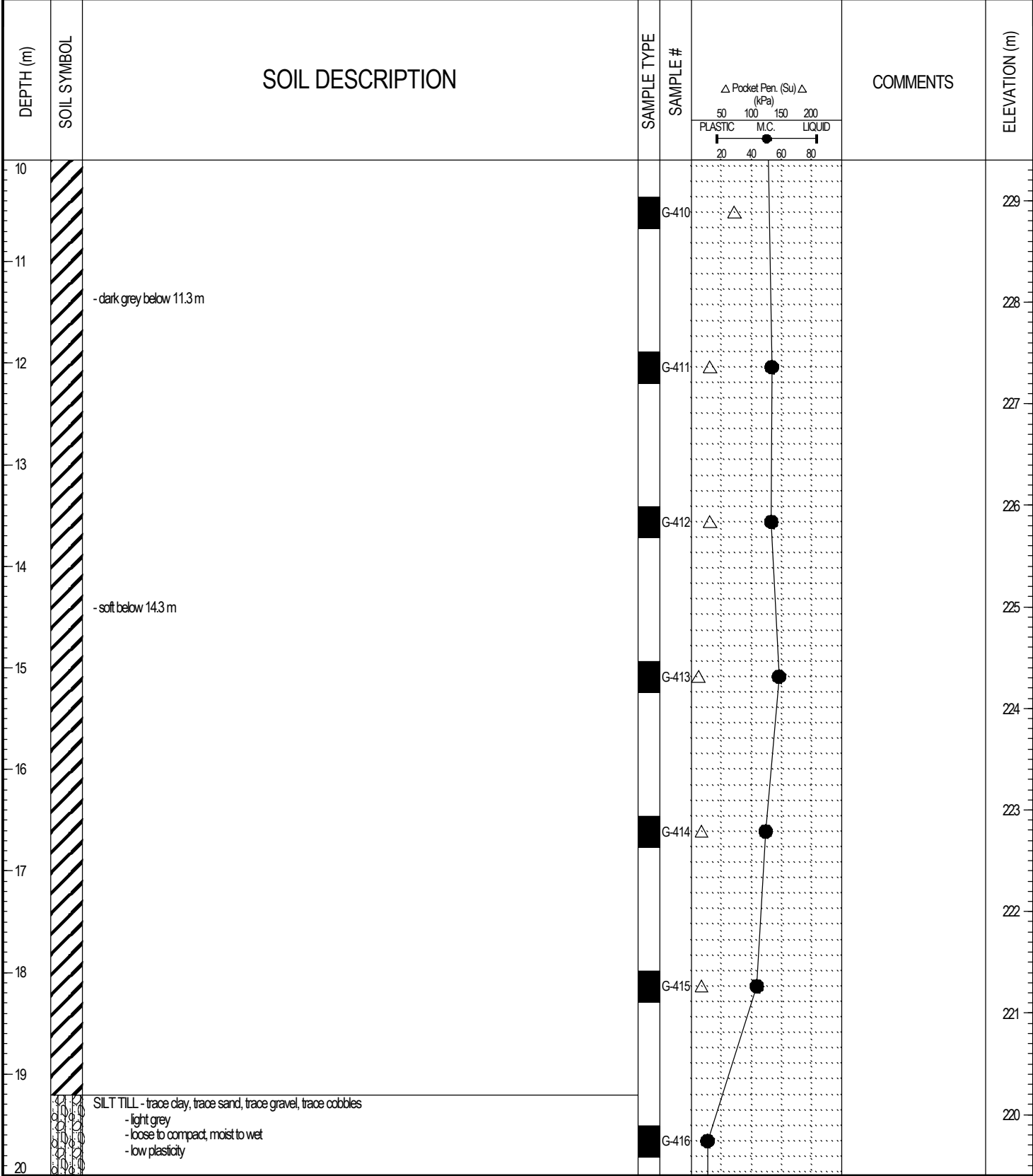
G-390

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-41
LOCATION: WTP - N 5524018.150 E 647897.056		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 239.399
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	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-41
LOCATION: WTP - N 5524018.150 E 647897.056		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 239.399
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



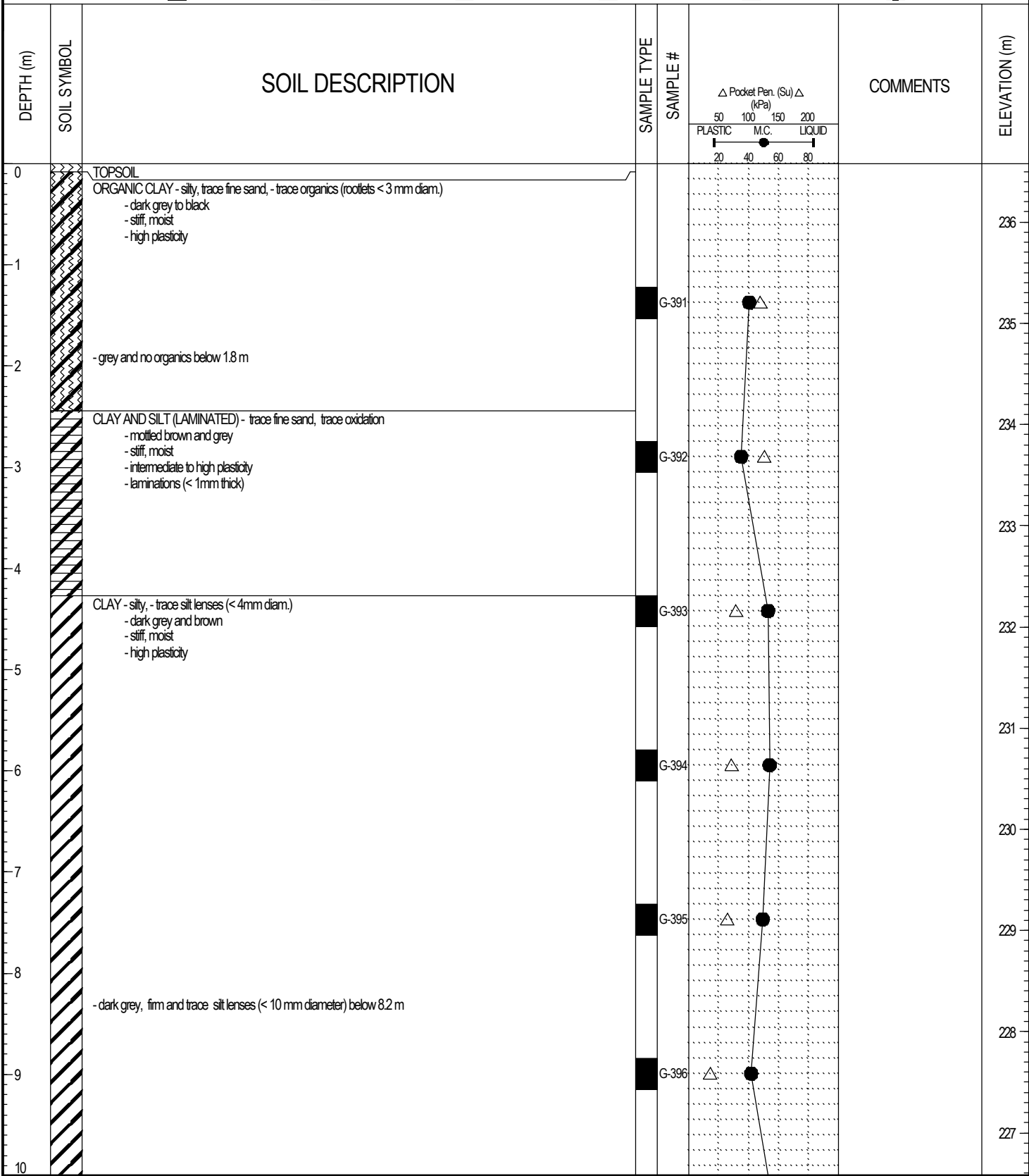
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-41
LOCATION: WTP - N 5524018.150 E 647897.056		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 239.399
SAMPLE TYPE	<input checked="" type="checkbox"/> 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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
20						219
21						218
22		POWER AUGER REFUSAL AT 21.6m Notes: 1. Sloughing below 21.5m 2. Seepage at 21.0m 3. Water level at 19.7m below ground surface 30 minutes after completion of drilling 4. Test hole grouted to 7.7m below ground surface and backfilled to surface	<input checked="" type="checkbox"/>	G-417		217
23						216
24						215
25						214
26						213
27						212
28						211
29						210
30						210

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

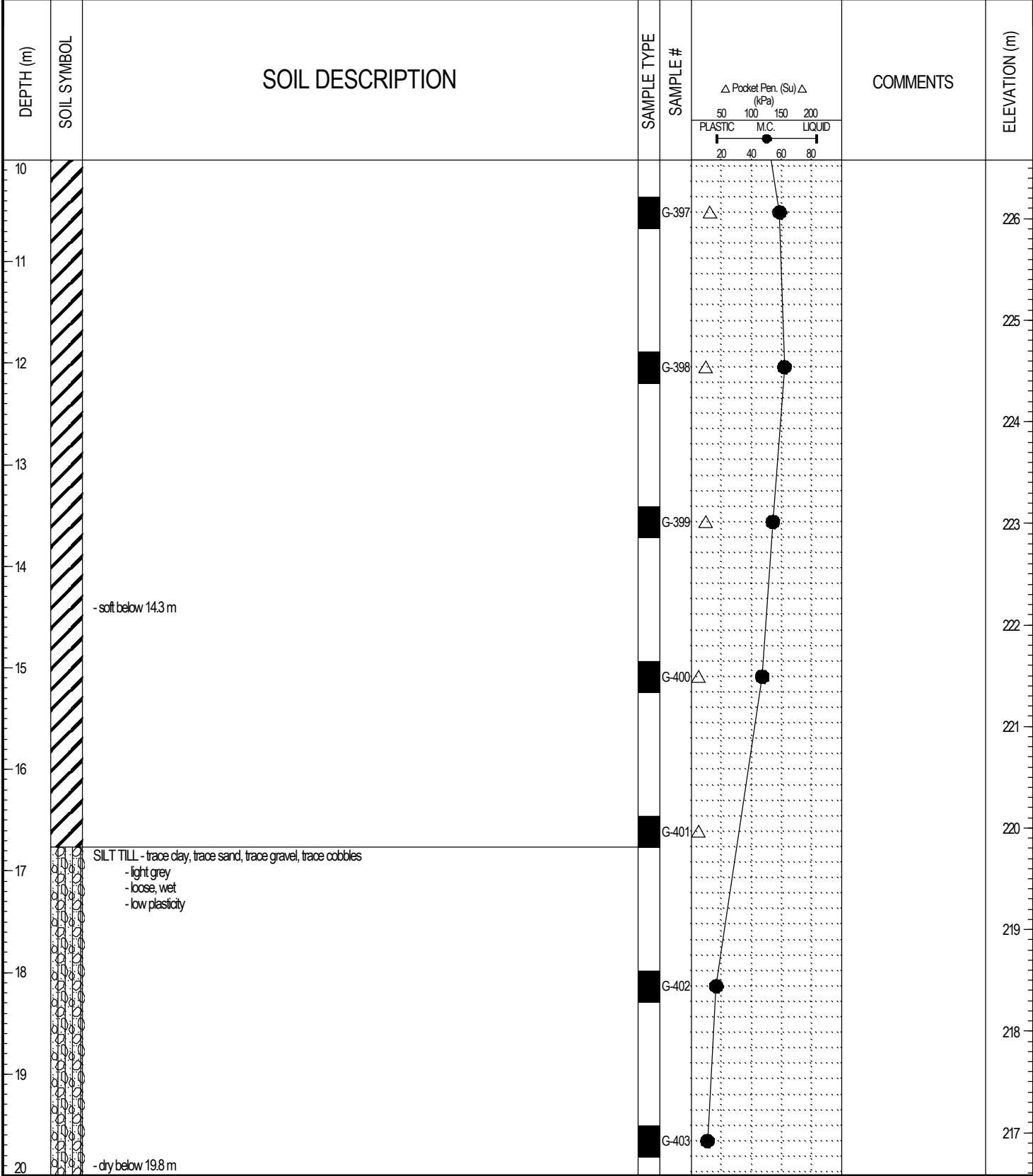
	LOGGED BY: Nelson Ferreira	COMPLETION DEPTH: 21.64 m
	REVIEWED BY:	COMPLETION DATE: 15/12/04
	PROJECT ENGINEER: Ken Skafffeld	Page 3 of 3

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-42
LOCATION: WTP - N 5523979.163 E 647888.166		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 236.577
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-42
LOCATION: WTP - N 5523979.163 E 647888.166		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 236.577
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	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

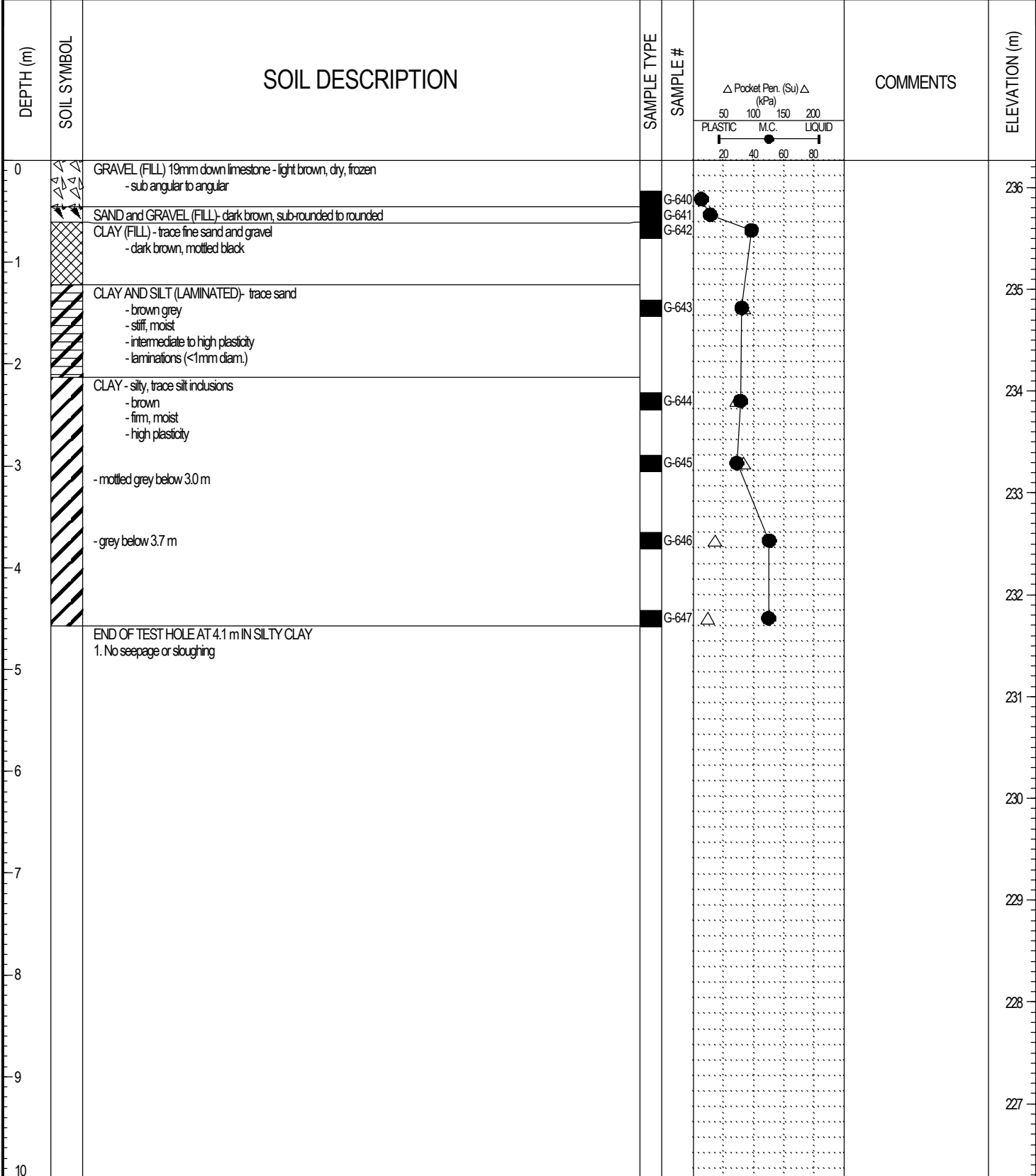
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-42
LOCATION: WTP - N 5523979.163 E 647888.166		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 236.577
SAMPLE TYPE	<input checked="" type="checkbox"/> 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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
20		POWER AUGER REFUSAL AT 20.1 m Notes: 1. Sloughing below 19.2m 2. Seepage at 19.2m 3. Water level at 9.6m below ground surface 4.5 hours after completion of drilling 4. Test hole grouted to 5.4m below ground surface and backfilled to surface				216
21						215
22						214
23						213
24						212
25						211
26						210
27						209
28						208
29						207
30						207

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

	LOGGED BY: Nelson Ferreira	COMPLETION DEPTH: 20.12 m
	REVIEWED BY:	COMPLETION DATE: 15/12/04
	PROJECT ENGINEER: Ken Skaffeld	Page 3 of 3

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-43
LOCATION: Access Roads - N 5523918.260 E 647838.376		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Auger	ELEVATION (m): 236.266
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	

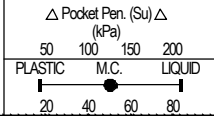


LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-44
LOCATION: Access Roads - N 5523935.322 E 647896.922		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 236.799
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0	TOPSOIL	CLAY (FILL)- silty, trace fine sand, trace gravel, trace oxidation, trace organics (rootlets < 2 mm diam) - brown and grey - stiff, moist - intermediate plasticity - desiccated below 0.91 m - black, trace sand, trace large gravel and dry to moist below 1.5 m	GRAB	G-467		236
2		CLAY - silty, trace fine sand, trace fine gravel, trace (< 3%) oxidation, trace organics (rootlets < 1 mm diam) - dark grey to brown - very stiff, moist - high plasticity - desiccated below 2.4 m	GRAB	G-468 G-469		235
3		CLAY AND SILT (LAMINATED)- trace fine sand, trace to some oxidation, trace organics (< 1%, rootlets < 1 mm diam) - mottled brown and grey - stiff, moist - intermediate to high plasticity - laminations (<1 mm diam.)	GRAB	G-470		233
4		CLAY- silty, trace organics (< 2%, rootlets < 2 mm diameter), trace silt lenses (< 4 mm diam) - dark grey to brown - stiff, moist - high plasticity	GRAB	G-471		232
5		END OF TEST HOLE AT 4.6 m IN SILTY CLAY Notes: 1. No seepage or sloughing				232
6						231
7						230
8						229
9						228
10						227

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05



PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-45
LOCATION: Access Roads - 5523955.117 E 647815.851		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 236.772
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	△ Pocket Pen. (Su) △ (kPa) 50 100 150 200 PLASTIC M.C. LIQUID 20 40 60 80	COMMENTS	ELEVATION (m)
0	TOPSOIL	CLAY (FILL) - silty, trace gravel, trace fine sand, - trace oxidation, trace organics (rootlets < 2 mm diam) - brown and grey - stiff, moist - intermediate to high plasticity	GRAB	G-463	●		236
1							
2		CLAY - silty, trace fine sand, trace fine gravel, trace (< 3%) oxidation, trace organics (rootlets < 1 mm diam) - dark grey to brown - very stiff, moist - high plasticity - desiccated - stiff below 2.0 m	GRAB	G-464	●	△	235
3		CLAY AND SILT (LAMINATED) - trace fine sand, trace to some oxidation, trace organics (< 1%, rootlets < 1 mm diam) - mottled brown and grey - stiff, moist - intermediate to high plasticity - laminations (< 1mm thick)	GRAB	G-465	●	△	234
4		CLAY - silty, trace organics (< 2%, rootlets < 2 mm diam), trace silt lenses (< 4 mm diam) - dark grey to brown - stiff, moist - high plasticity	GRAB	G-466	●	△	233
5		END OF TEST HOLE AT 4.6 m IN CLAY Notes: 1. No seepage or sloughing					232
6							231
7							230
8							229
9							228
10							227

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-46
LOCATION: Access Roads - N 5524112.335 647648.893		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 236.479
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	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	△ Pocket Pen. (Su) △ (kPa) 50 100 150 200 PLASTIC M.C. LIQUID 20 40 60 80	COMMENTS	ELEVATION (m)
0	TOPSOIL						
0		ORGANIC CLAY -silty, trace fine sand, trace to some oxidation, trace organics (rootlets < 5 mm diam) - dark grey to black - stiff, moist - high plasticity - desiccated		G-458	● △		236
1		CLAY - silty, trace organics (< 4%, rootlets, < 2 mm diam) - grey - stiff, moist - high plasticity		G-459	● △		235
2		CLAY AND SILT (LAMINATED)- trace fine sand, trace to some oxidation, trace organics (rootlets < 1 mm diam) - mottled brown and grey - stiff, moist - high plasticity - laminations (< 1 mm thick)		G-460	●		234
3		CLAY - silty, trace organics (< 2%, rootlets, < 2 mm diam), silt lenses (< 4 mm diam) - dark grey to brown - stiff, moist - high plasticity		G-461	● △		233
4		CLAY - silty, trace organics (< 2%, rootlets, < 2 mm diam), silt lenses (< 4 mm diam) - dark grey to brown - stiff, moist - high plasticity		G-462	● △		232
5		END OF TEST HOLE AT 4.6 m IN SILTY CLAY Notes: 1. No seepage or sloughing					231
6							230
7							229
8							228
9							227
10							227

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-47
LOCATION: Access Roads - N 5524177.032 E 647667.626		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB	ELEVATION (m): 236.976
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	

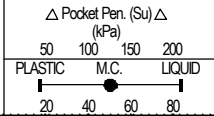
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #		COMMENTS	ELEVATION (m)
0	TOPSOIL						
0 - 0.5		CLAY - silty, trace fine sand, trace gravel, trace organics (<4%, rootlets < 2 mm diameter), trace oxidation - brown and grey - firm, moist - high plasticity - desiccated		G-453			236
0.5 - 1.5		CLAY AND SILT (LAMINATED) - trace sand, trace oxidation - mottled brown and grey - stiff, moist - intermediate to high plasticity - laminations (< 1 mm thick)		G-454			235
1.5 - 3.5		CLAY - silty - grey and brown - stiff, moist - high plasticity - desiccated		G-455			234
3.5 - 4.6		CLAY AND SILT (LAMINATED) - silty, trace sand, trace oxidation - mottled brown and grey - stiff, moist - intermediate to high plasticity - laminations (< 1 mm thick)		G-456			233
4.6 - 5.0		END OF TEST HOLE AT 4.6 m IN SILTY CLAY Notes: 1. No seepage or sloughing		G-457			232
5.0 - 6.0							231
6.0 - 7.0							230
7.0 - 8.0							229
8.0 - 9.0							228
9.0 - 10.0							228

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

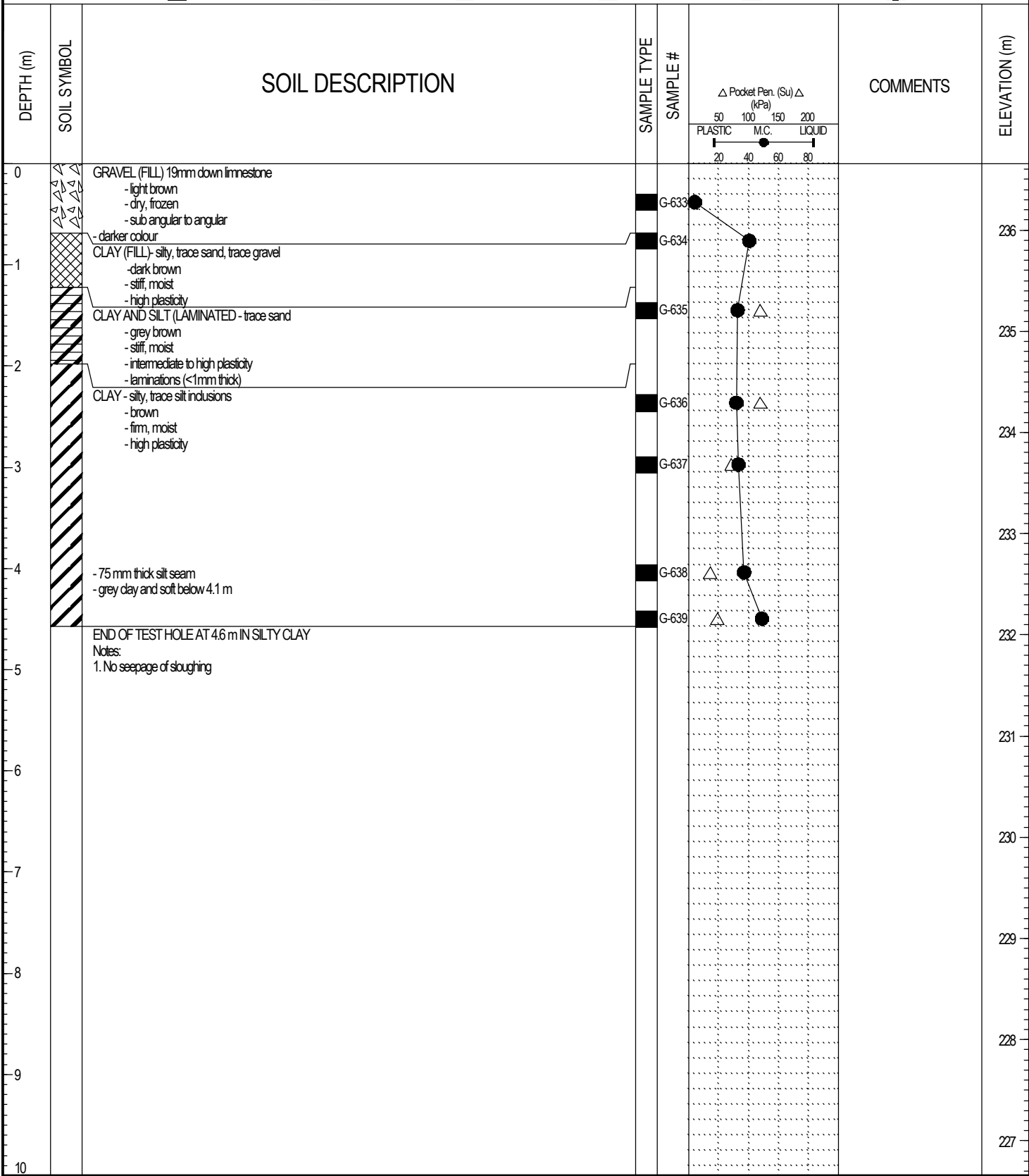
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-48
LOCATION: Access Roads - N 5524184.233 E 647726.958		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Subterranean	METHOD: SoilMech D-312HB, 600mm Auger	ELEVATION (m): 236.211
SAMPLE TYPE	<input checked="" 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	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0	TOPSOIL	CLAY - silty, trace fine sand, trace gravel, trace oxidation, trace organics (<4%, rootlets < 2 mm diam.) - brown - firm, moist - high plasticity				236
1				G-447		235
2				G-448		234
3		CLAY AND SILT (LAMINATED)- trace sand, trace oxidation - mottled brown and grey - stiff, moist - intermediate to high plasticity - laminations (< 1mm thick)		G-449		233
4		CLAY - silty, trace oxidation, trace silt lenses (< 4 mm diam) - grey and brown - stiff, moist - high plasticity		G-450		232
5		CLAY - silty, trace oxidation, trace silt lenses (< 4 mm diam) - grey and brown - stiff, moist - high plasticity		G-451		232
6		END OF TEST HOLE AT 4.6m IN SILTY CLAY Notes: 1. No seepage or sloughing		G-452		232
7						231
8						230
9						229
10						228

LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

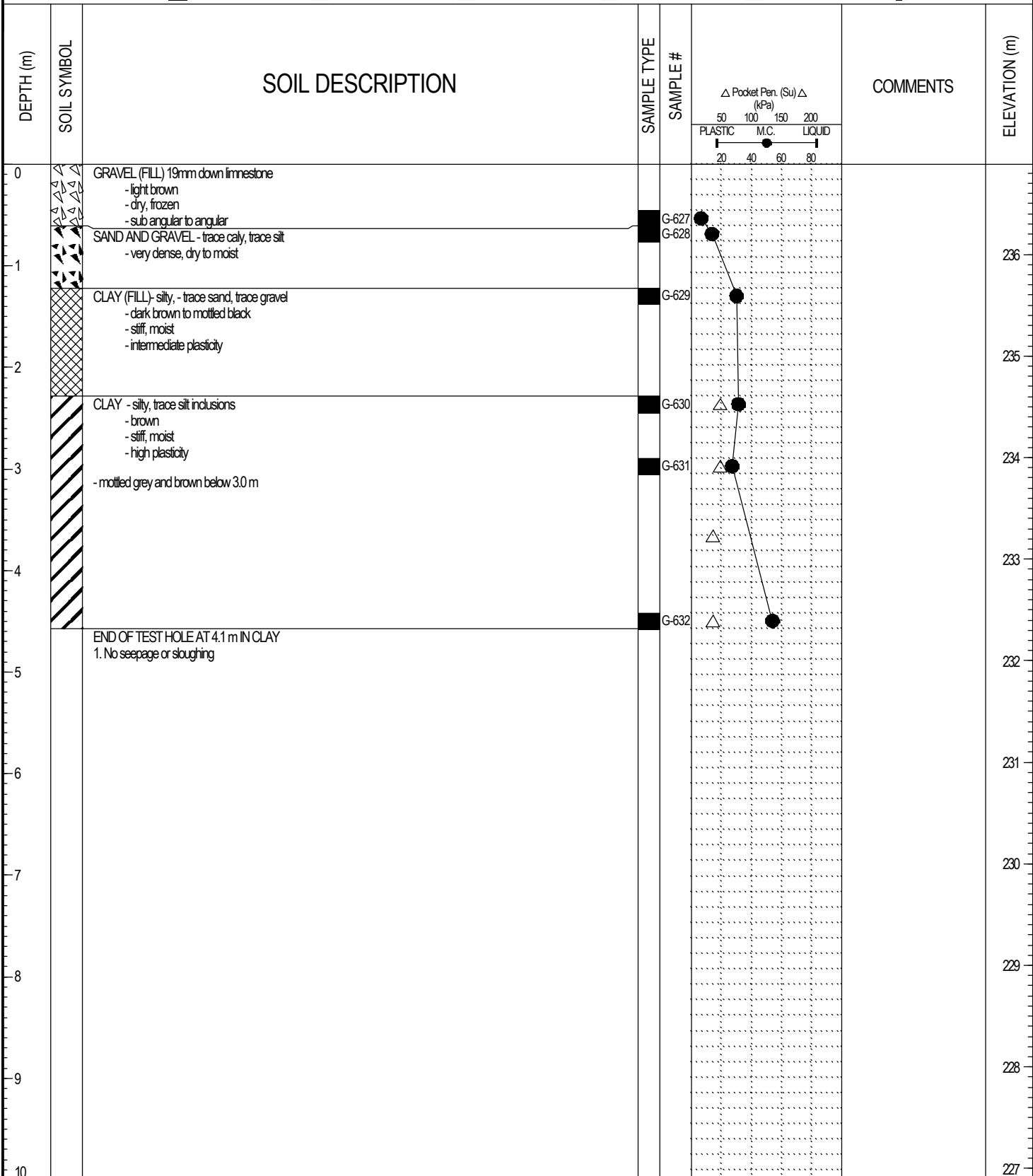


PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-49
LOCATION: Access Roads - N 5523907.744 E 648028.131		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Auger	ELEVATION (m): 236.656
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	



LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-50
LOCATION: Access Roads - N 5523911.437 E 648218.067		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Auger	ELEVATION (m): 236.888
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

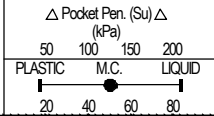


LOG OF TESTHOLE WINNIPEG WATER TREATMENT PLANT.GPJ UMA.GDT 4/5/05


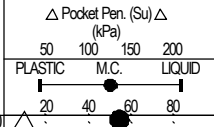
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-101
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524690.377 E 649283.565		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.65
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	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0		ORGANIC CLAY (Topsoil) - silty, some organics - black, frozen				
0.5		CLAY - silty, trace sand, trace organics (<2%) - grey and brown - moist, stiff - high plasticity				237
1.5		CLAY AND SILT (LAMINATED) - trace oxidation - brown - moist, stiff - intermediate to high plasticity - laminations (<2mm thick)		G-596		236
2.5		- firm below 2.4m				235
3.5		CLAY - silty - grey and brown - moist, firm - high plasticity		G-597		234
4.2		SILT - some sand, trace clay, trace fine gravel - moist, soft - low plasticity		G-598		
4.5		CLAY - silty, trace sulphates inclusions (<2mm diam.) to 5.5m - mottled grey and brown - moist, stiff - high plasticity		G-599		233
5.5		- grey, trace silt inclusions below 5.5m				232

LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05



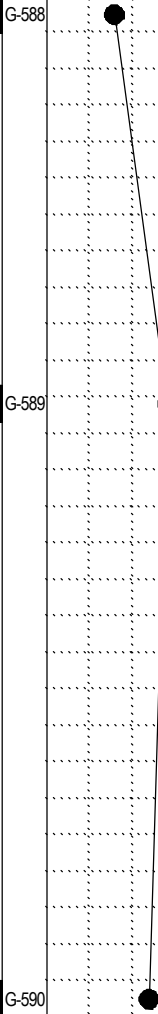
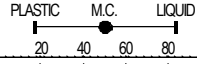
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-101
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524690.377 E 649283.565		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.65
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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
6			<input checked="" type="checkbox"/>	G-600		231
7						
8		END OF TEST HOLE AT 7.6m IN CLAY. Notes: 1. Seepage at 4.3m 2. No sloughing		G-601		230
9						229
10						228
11						227
12						226

LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

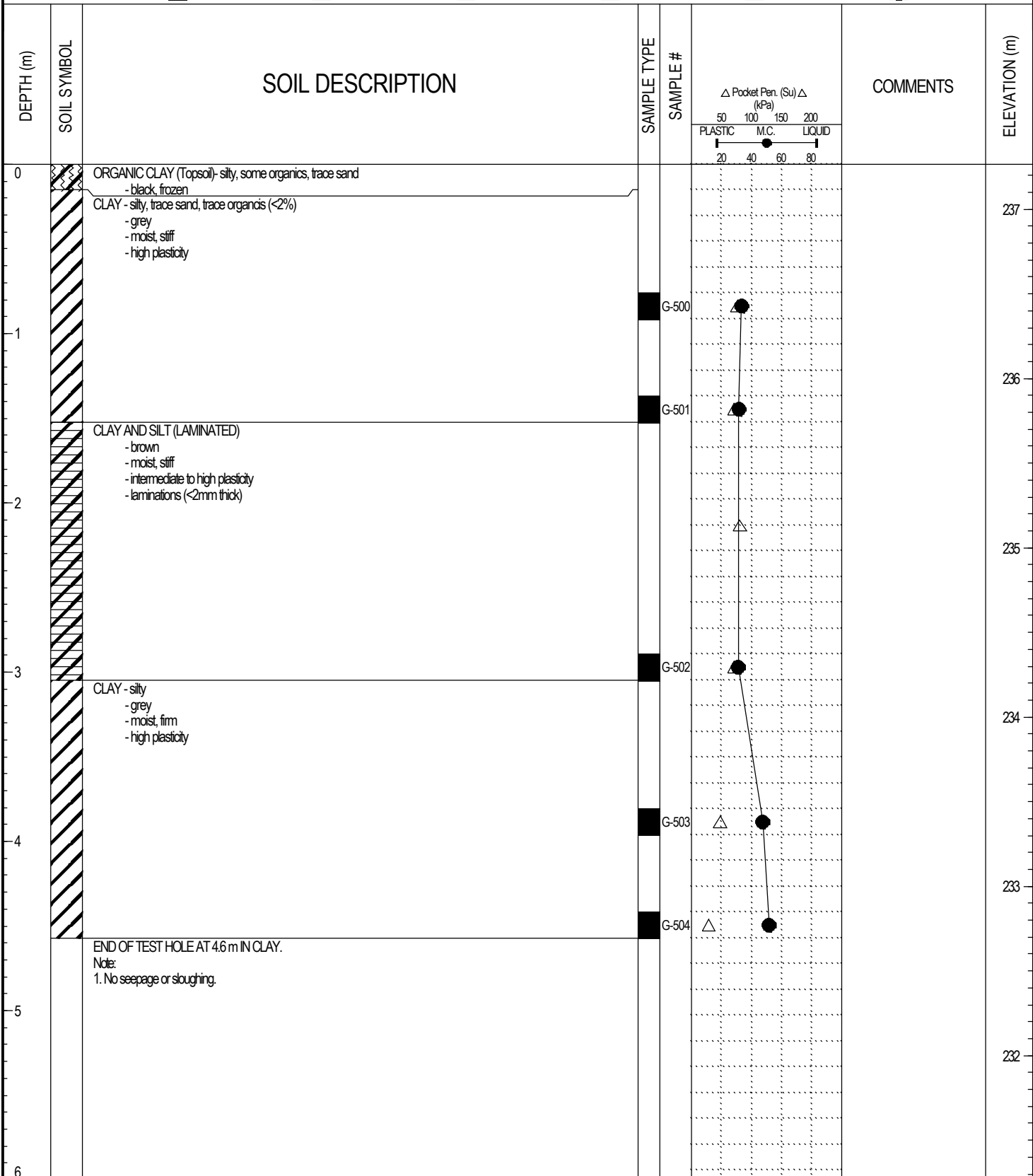
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-102
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524694.418 E 649408.515		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Cat 320L Excavator	ELEVATION (m): 237.265
SAMPLE TYPE	<input checked="" 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	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0		ORGANIC CLAY (Topsoil) - silty, some organics - black, frozen				237
		CLAY - silty, trace sand, trace organics (<2%) - grey and brown - moist, stiff - high plasticity				
1		CLAY AND SILT (LAMINATED) - trace oxidation - brown - moist, stiff - intermediate to high plasticity - blocky structure - laminations (<2mm thick)				236
2		CLAY - silty - brown - moist, stiff to firm - high plasticity - closed vertical fractures (grey) at 100mm to 300mm spacing - number of fractures decrease with depth				235
3						234
4						233
5		- grey, no fractures below 5.0 m				
		END OF TEST PIT AT 5.2 m IN CLAY. Notes: 1. Seepage at 1.8m 2. No sloughing				232
6						



LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-103
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524698.519 E 649533.434		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.265
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	

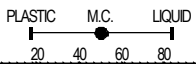


LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05









PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-104
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524702.537 E 649658.386		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Cat 320L Excavator	ELEVATION (m): 237.576
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	

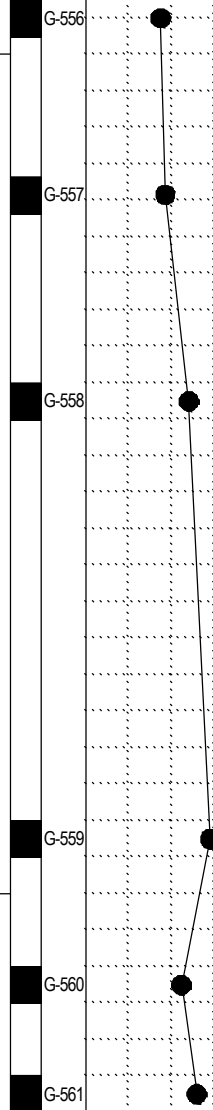
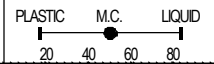
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	PLASTIC	M.C.	LIQUID	COMMENTS	ELEVATION (m)
0		ORGANIC CLAY (Topsoil)- silty, some organics - black, frozen							
		CLAY - silty, trace sand, trace organics (<2%) - grey and brown - moist, stiff - high plasticity - blocky structure							237
1		CLAY AND SILT (LAMINATED) - brown - moist, stiff - intermediate to high plasticity - blocky structure - laminations (<2mm thick)		G-584					236
2				G-585					235
3		CLAY - silty, trace sulphates - dark brown - moist, firm - high plasticity		G-586					234
4				G-587					233
5		- grey and trace silt inclusions below 5.0 m							
6		END OF TEST PIT AT 5.3 m IN CLAY. Note: 1. No seepage or sloughing.							232

LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05



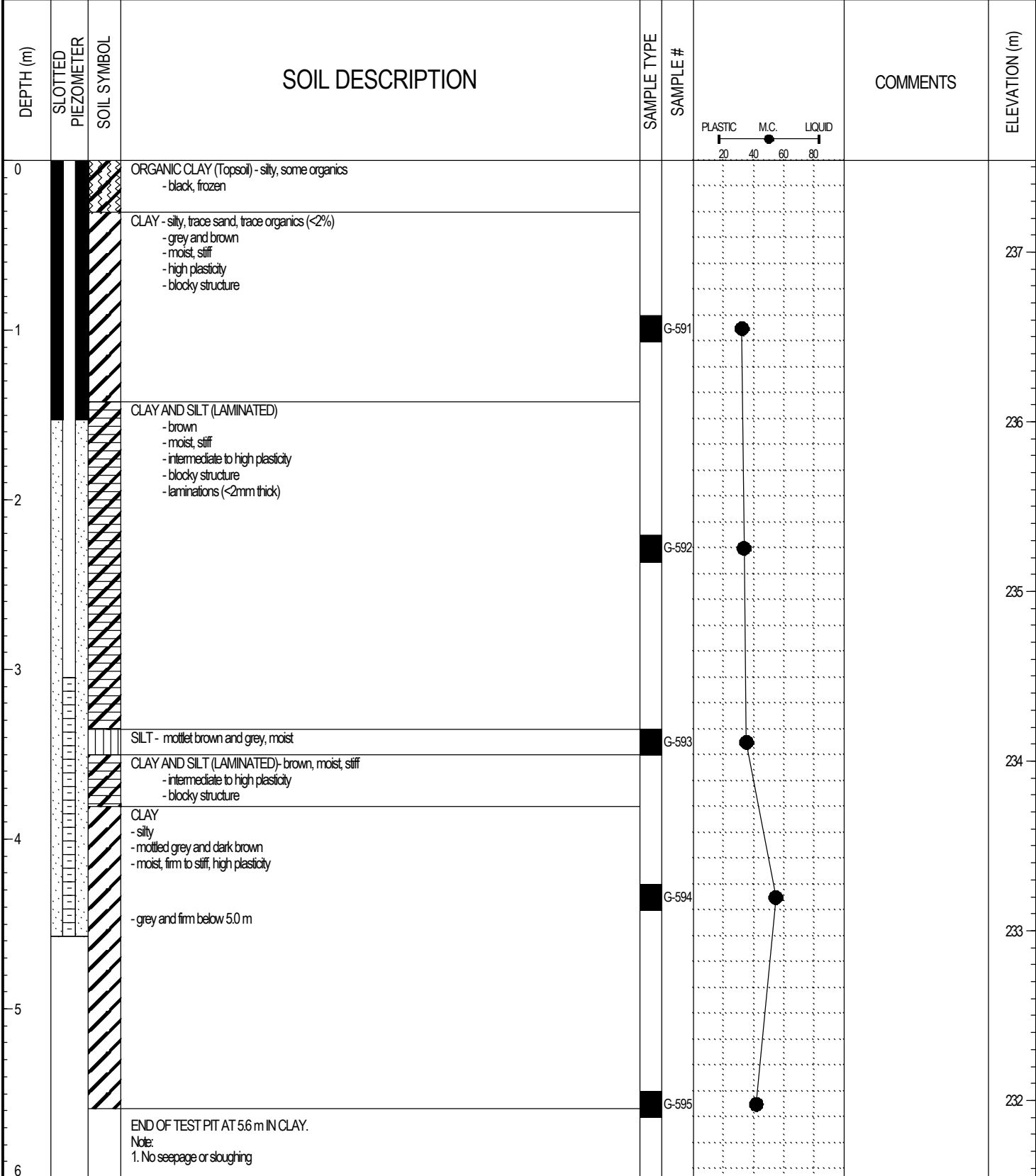
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-105
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524565.443 E 649287.636		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Cat 320L Excavator	ELEVATION (m): 237.461
SAMPLE TYPE	<input checked="" 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	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0		ORGANIC CLAY (Topsoil)- silty, some organics - black, frozen				
		CLAY - silty, trace sand, trace organics (<2%) - grey and brown - moist, stiff - high plasticity - blocky structure				237
1		CLAY AND SILT (LAMINATED) - brown - moist, stiff - intermediate to high plasticity - blocky structure - laminations (<2mm thick)				236
2		- dark brown below 2.0 m				235
3						234
4						233
5		CLAY - silty - dark brown - moist, firm - high plasticity - closed vertical fractures (grey) at 100mm spacing - fractures infilled with sulphates				
		- grey, homogeneous, trace silt inclusions below 5.3 m				
6		END OF TEST PIT AT 5.5 m IN CLAY. Note: 1. No seepage or sloughing				232



LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-106
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524569.501 E 649412.575		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Cat 320L Excavator	ELEVATION (m): 237.54
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	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	



LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-106
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524569.501 E 649412.575		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Cat 320L Excavator	ELEVATION (m): 237.54
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	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	

DEPTH (m)	SLOTTED PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	PLASTIC	M.C.	LIQUID	COMMENTS	ELEVATION (m)
6			2. Standpipe SP-106 installed			20	40	60		231
7										230
8										229
9										228
10										227
11										226
12										226

LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05



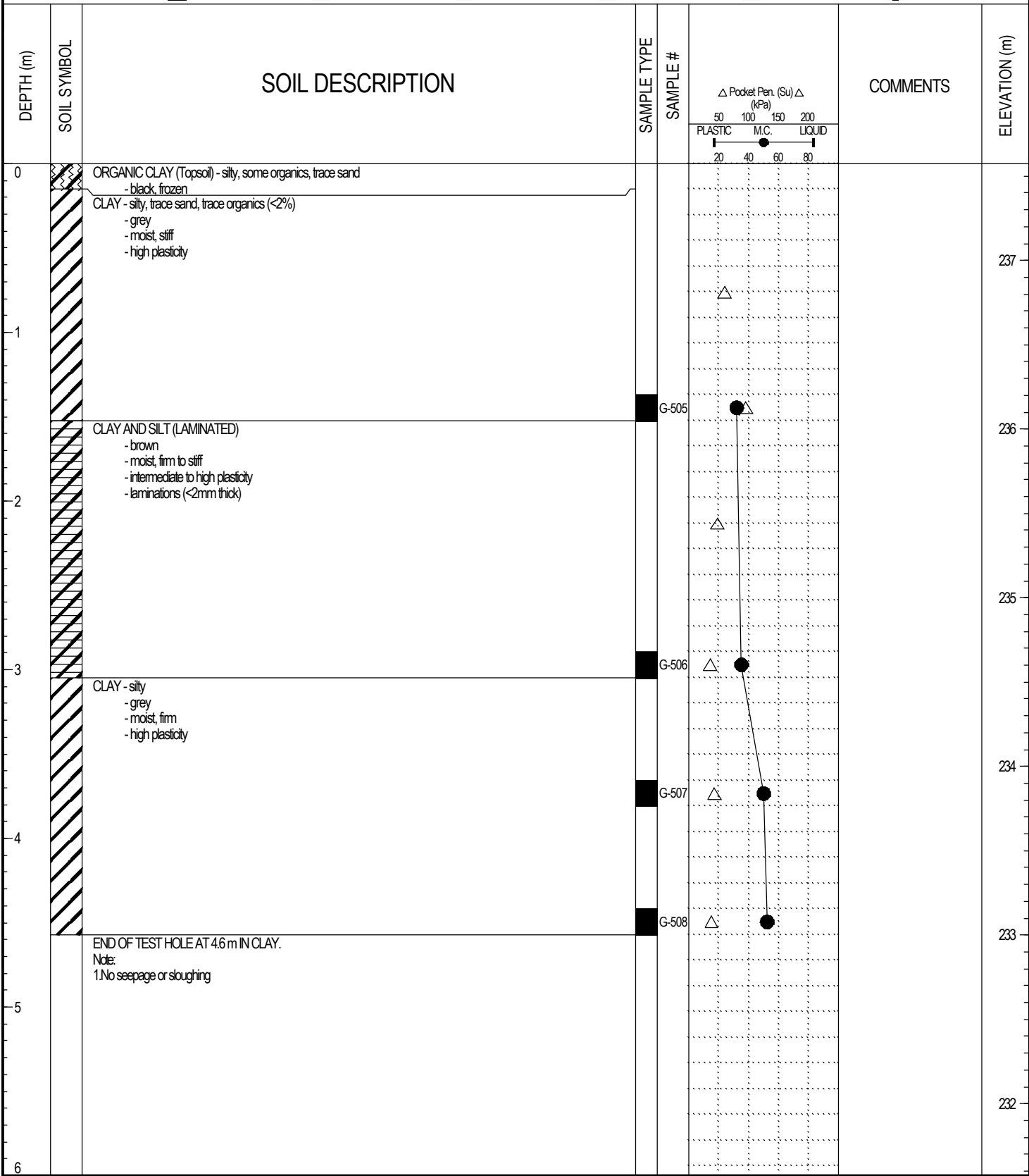
LOGGED BY: Kate Franklin	COMPLETION DEPTH: 5.59 m
REVIEWED BY: Nelson Ferreira	COMPLETION DATE: 16/12/04
PROJECT ENGINEER: Ken Skaffeld	Page 2 of 2

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-107
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524573.592 E 649537.526		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Cat 320L Excavator	ELEVATION (m): 237.32
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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	PLASTIC	M.C.	LIQUID	COMMENTS	ELEVATION (m)
0		ORGANIC CLAY (Topsoil) - silty, some organics - black, frozen							237
0		CLAY - silty, trace sand, trace organics (<2%) - grey and brown - moist, stiff - high plasticity - blocky structure							236
2		CLAY AND SILT (LAMINATED) - brown - moist, stiff - intermediate to high plasticity - blocky structure - laminations (<2mm thick) - trace sulphate inclusions below 2.4 m	<input checked="" type="checkbox"/>	G-580					235
4		CLAY - silty - dark brown - moist, stiff to firm - high plasticity	<input checked="" type="checkbox"/>	G-581					233
5		- grey and trace silt inclusions below 5.0 m	<input checked="" type="checkbox"/>	G-582					232
5		- grey and trace silt inclusions below 5.0 m	<input checked="" type="checkbox"/>	G-583					232
6		END OF TEST PIT AT 5.2 m IN CLAY. Note: 1. No seepage or sloughing							232

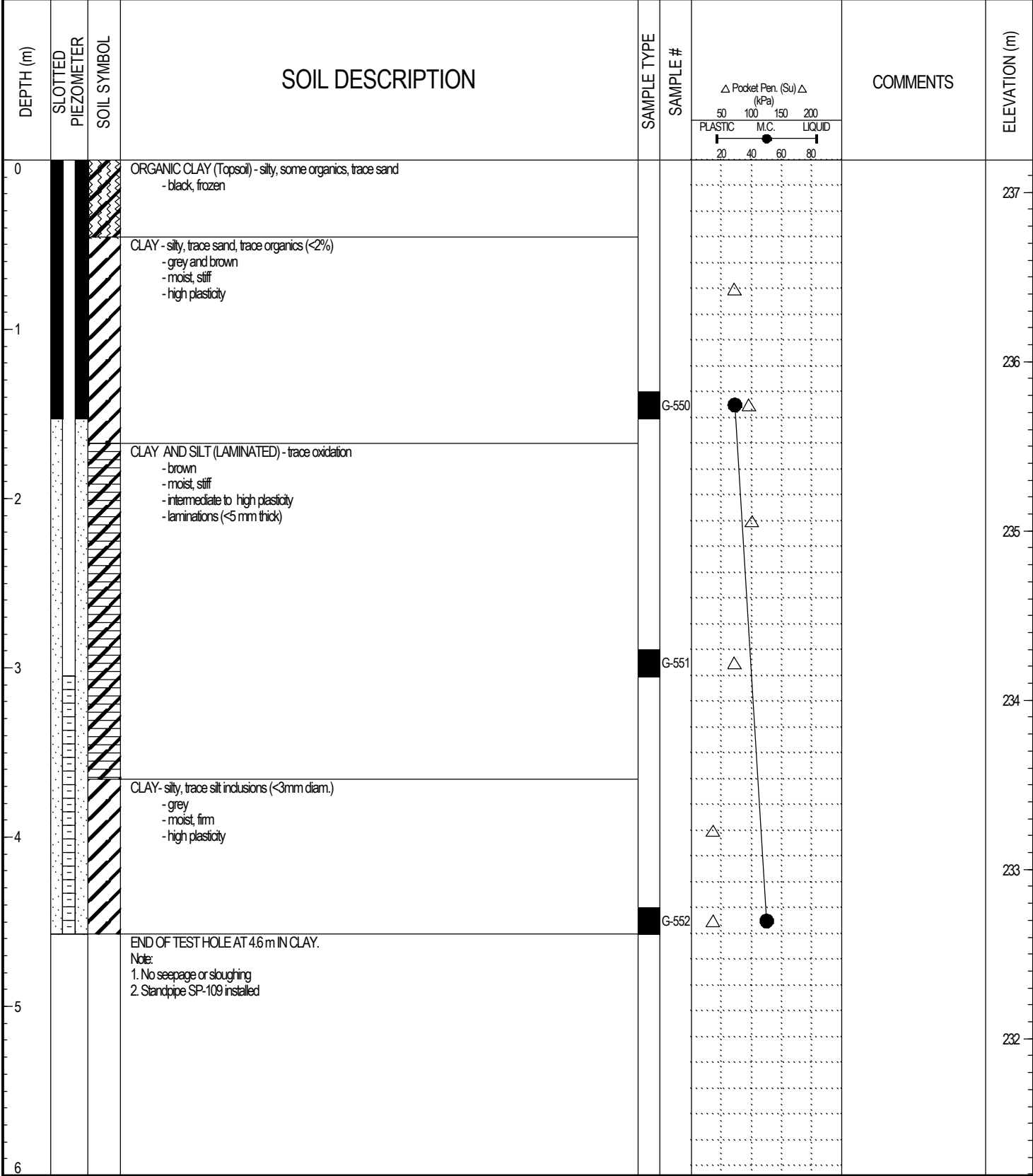
LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-108
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524573.592 E 649537.526		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.573
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	

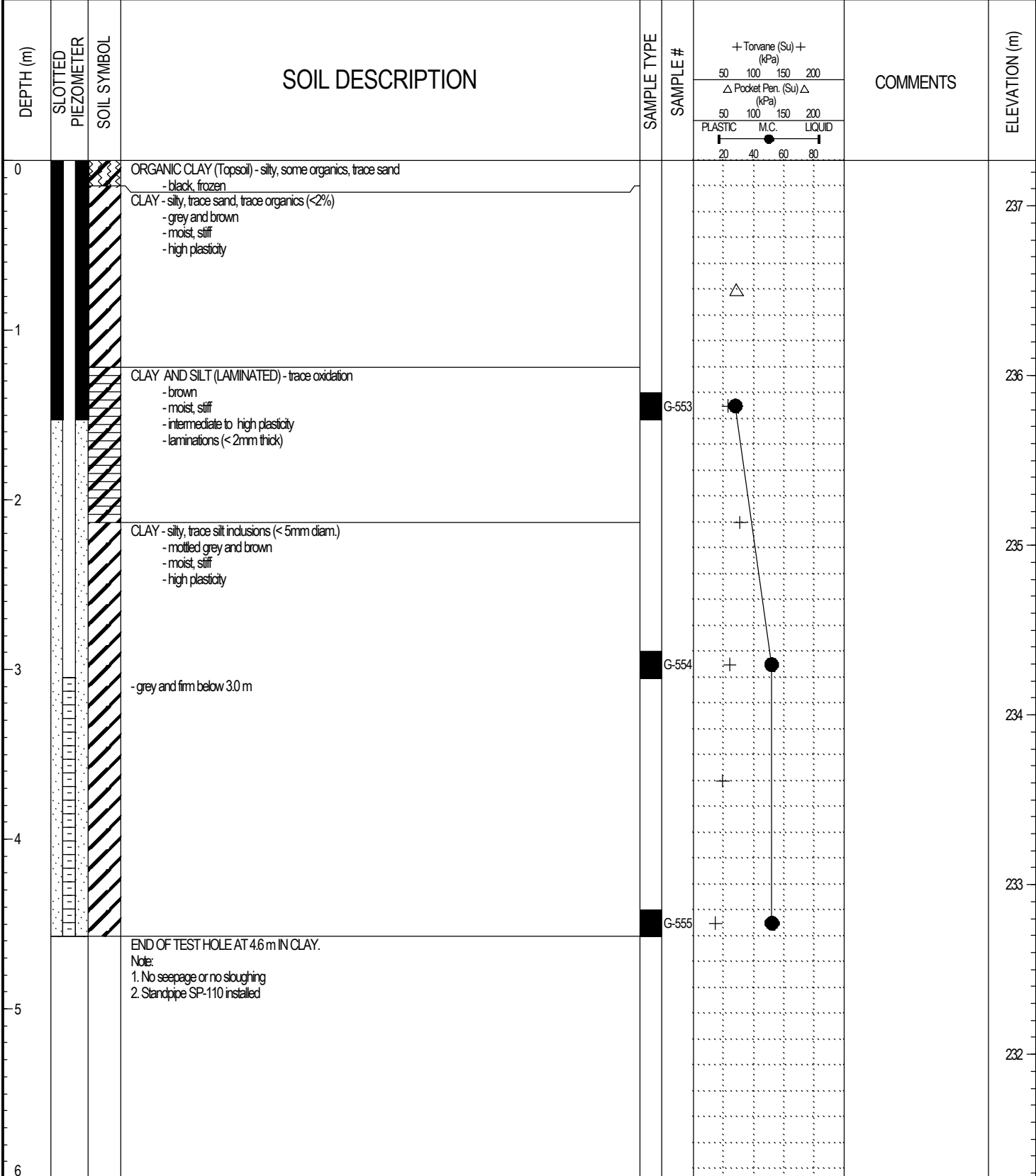


LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant		CLIENT: City of Winnipeg (Earth Tech Can Ltd)		TESTHOLE NO: 04-109		
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524440.569 E 649291.718				PROJECT NO.: 3398-055-00-01		
CONTRACTOR: Maple Leaf Drilling		METHOD: DR 150 - 125 mm Solid Stem Augers		ELEVATION (m): 237.191		
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

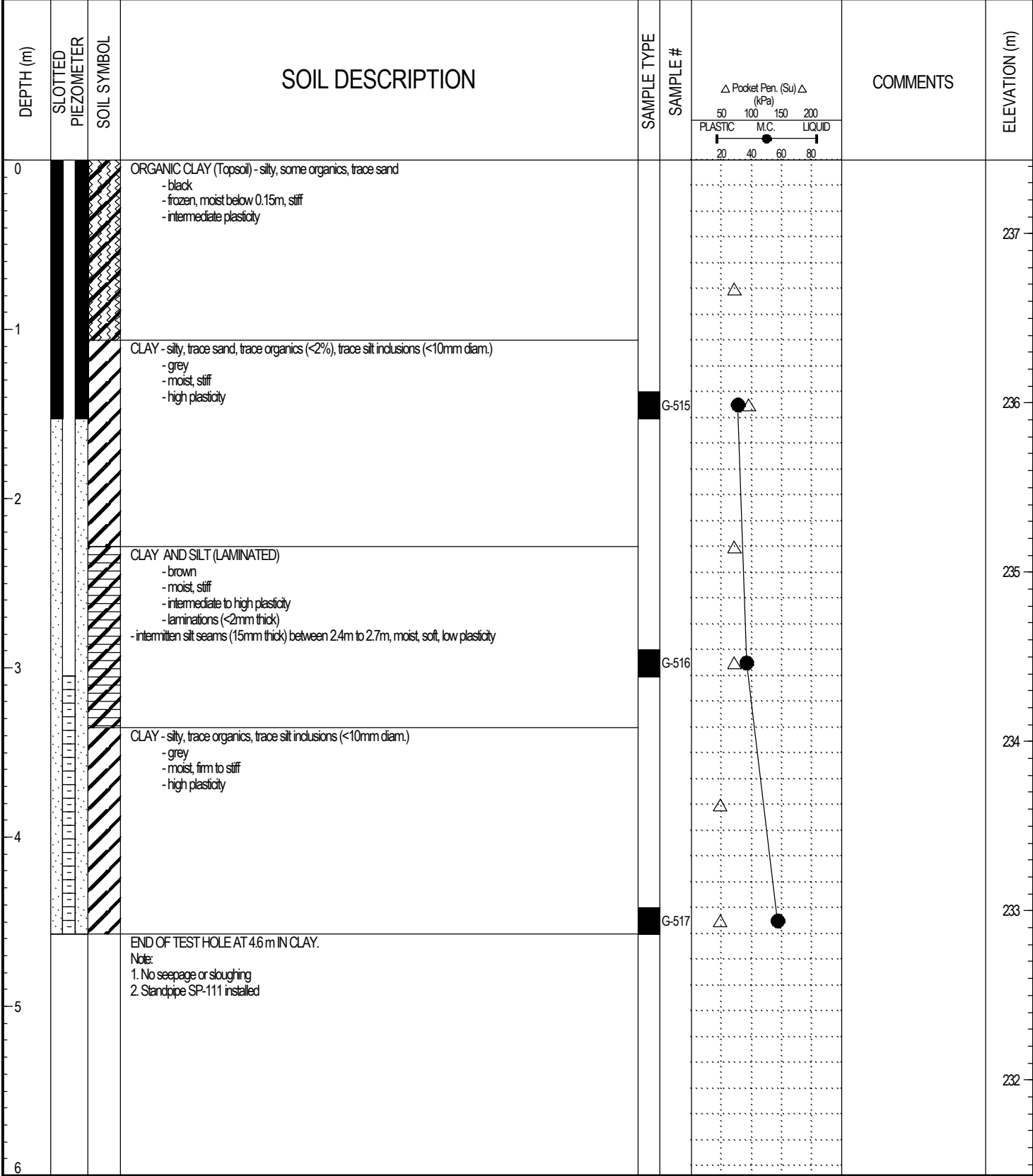


PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-110
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524444.610 E 649416.628		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.268
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	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	



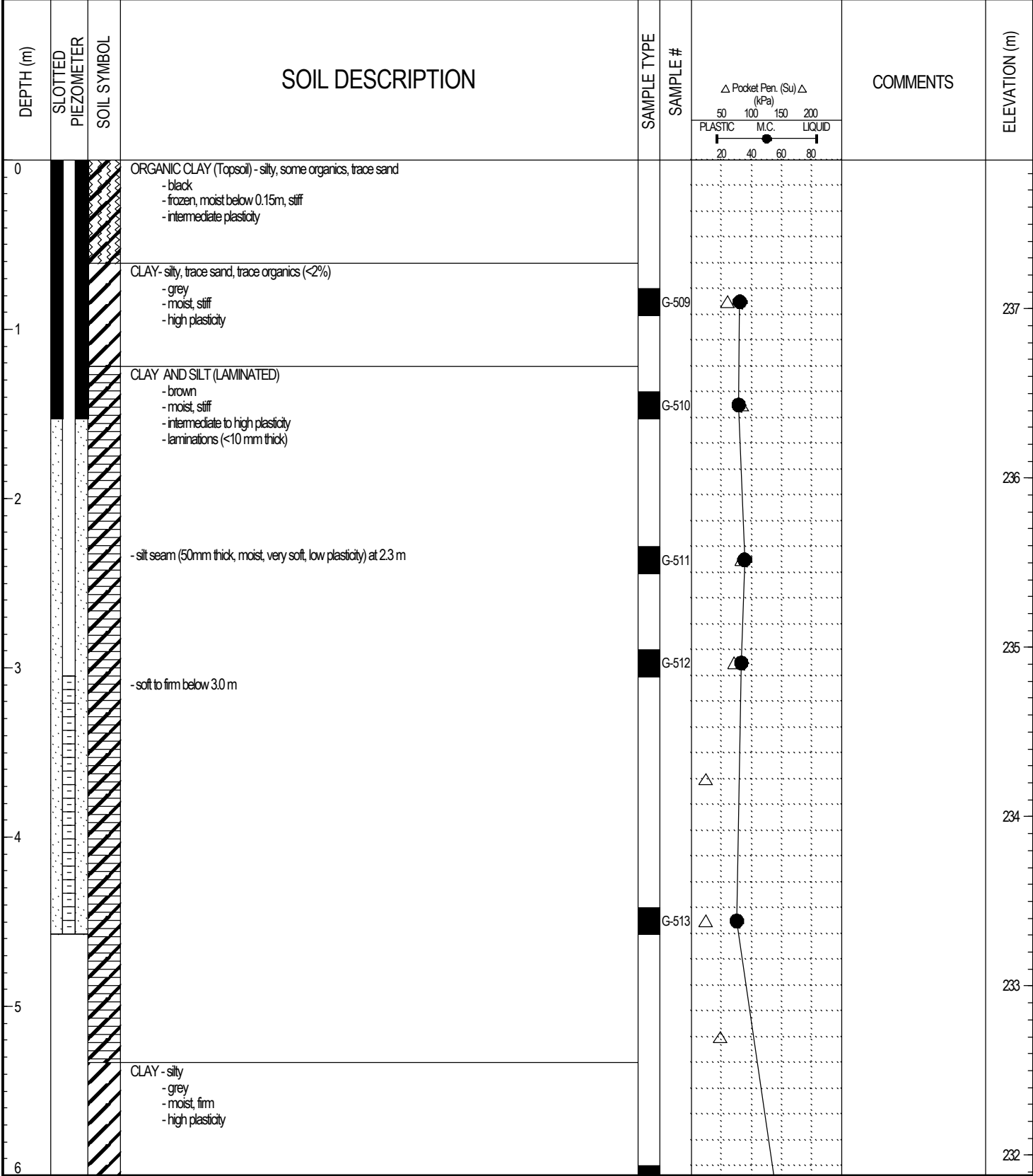
LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-111
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524448.640 E 649541.586		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.435
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	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	



LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-112
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524452.767 E 649666.478		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.879
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	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	



LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-112
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524452.767 E 649666.478		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.879
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	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	

DEPTH (m)	SLOTTED PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #		COMMENTS	ELEVATION (m)
6			END OF TEST HOLE AT 6.1 m IN CLAY. Note: 1. No seepage or sloughing 2. Standpipe SP-112 installed	<input checked="" type="checkbox"/>	G-514			231
7								230
8								229
9								228
10								227
11								226
12								226

LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-113
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524315.588 E 649295.769		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.736
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	

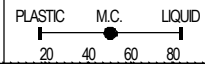
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Pocket Pen. (Su) Δ (kPa)		COMMENTS	ELEVATION (m)
					PLASTIC	LIQUID		
0		ORGANIC CLAY (Topsoil) - brown - stiff, moist - intermediate plasticity						
1		CLAY - silty, trace organics (<2%) - dark grey and brown - moist, stiff - high plasticity						237
2		SILT - trace sand, trace clay - light brown - soft, moist - low plasticity		G-546				236
		CLAY AND SILT (LAMINATED) - brown, moist, stiff - intermediate to high plasticity, laminations (<2mm thick)						
		SILT		G-547				
3		CLAY AND SILT (LAMINATED) - brown - moist, stiff - intermediate to high plasticity - laminations (<2mm thick)						235
		CLAY - silty - mottled grey and brown - moist, firm - high plasticity						
4		- grey below 3.7 m						234
5		END OF TEST HOLE AT 4.6 m IN CLAY Notes: 1. No seepage or sloughing		G-548				233
6				G-549				232

LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

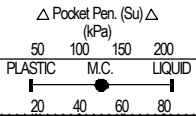









PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-114
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524319.669 E 649420.680		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Cat 320L Excavator	ELEVATION (m): 237.442
SAMPLE TYPE	<input checked="" 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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	PLASTIC	M.C.	LIQUID	COMMENTS	ELEVATION (m)
0		ORGANIC CLAY (Topsoil) - silty, some organics - black, frozen							
0.5		CLAY - silty, trace sand, trace organics (<2%) - brown and grey - moist, stiff - high plasticity							237
1.5		CLAY AND SILT (LAMINATED) - brown and grey - moist, stiff - intermediate to high plasticity - blocky structure - laminations (<5mm thick)							236
2.0			<input checked="" type="checkbox"/>	G-562					235
3.5		CLAY - silty - dark brown - moist, firm - high plasticity - vertical fractures (grey) at 300mm spacing							234
4.0		- dark brown, closed vertical fractures at a spacing >300mm below 4.0m	<input checked="" type="checkbox"/>	G-564					233
4.5		- mottled grey and brown below 4.6 m							
5.0			<input checked="" type="checkbox"/>	G-565					232
5.5		END OF TEST PIT AT 5.5 m IN CLAY Notes: 1. No seepage or sloughing							

LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05



PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-115
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524323.702 E 649545.632		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.592
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #		COMMENTS	ELEVATION (m)
0		ORGANIC CLAY (Topsoil) - silty, some organics, trace sand - black - stiff, moist - intermediate plasticity					237
1		CLAY - silty, trace sand, trace organics (<2%) - grey - stiff, moist - high plasticity					236
2		CLAY AND SILT (LAMINATED) - brown - moist, stiff - intermediate to high plasticity - laminations (<2mm thick) - silt seam (20 mm thick) at 2.4m		G-518			235
3		CLAY - silty - mottled grey and brown - moist, firm - high plasticity - trace silt inclusions (<3mm diam.) below 3.0m		G-519			234
4				G-520			233
5		END OF TEST HOLE AT 4.6m IN CLAY Notes: 1. No Sloughing 2. Trace seepage at 2.4m					232
6							

LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

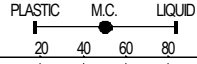
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-116
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524327.786 E 649670.584		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Cat 320L Excavator	ELEVATION (m): 237.79
SAMPLE TYPE	<input checked="" 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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	PLASTIC	M.C.	LIQUID	COMMENTS	ELEVATION (m)
0		ORGANIC CLAY 9(Topsoil) - silty, some organics - black, frozen							
0.5		CLAY - silty, trace sand, trace organics (<2%) - grey brown - moist, stiff - high plasticity - blocky structure	<input checked="" type="checkbox"/>	G-576					237
1.5		CLAY AND SILT (LAMINATED) - trace oxidation - brown - moist, stiff, - intermediate to high plasticity - laminations (<5mm thick)							236
2.5		CLAY - silty - mottled grey and dark brown - moist, firm - high plasticity - closed vertical fractures (grey) at 100mm to 300mm spacing	<input type="checkbox"/>	B-577					235
4.5		- grey and no fractures below 4.9 m	<input checked="" type="checkbox"/>	G-578					233
5.5			<input type="checkbox"/>	B-579					232
6		END OF TEST PIT AT 5.6 m IN CLAY Notes: 1. Trace seepage in testpit							

LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-116
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524327.786 E 649670.584		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Cat 320L Excavator	ELEVATION (m): 237.79
SAMPLE TYPE	<input 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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
6		2. No sloughing				231
7						
8						230
9						229
10						228
11						227
12						226



LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

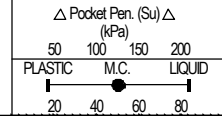


LOGGED BY: Kate Franklin	COMPLETION DEPTH: 5.64 m
REVIEWED BY: Nelson Ferreira	COMPLETION DATE: 16/12/04
PROJECT ENGINEER: Ken Skafffeld	Page 2 of 2

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-117
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524 146.463 E 649301.255		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.627
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	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Pocket Pen. (Su) Δ (kPa)		COMMENTS	ELEVATION (m)
					PLASTIC	LIQUID		
0		ORGANIC CLAY (Topsoil) - silty, some organics, trace sand - black - moist, frozen - intermediate plastic						237
1		CLAY - silty, trace sand, trace silt inclusions (<5mm diam.), trace organics (<2%) - grey - moist, stiff - high plasticity						236
2		CLAY AND SILT (LAMINATED) - trace oxidation - brown - moist, stiff - intermediate to high plasticity - laminations (<3 mm thick)						235
3		- mottled grey and brown below 3.7 m						234
4		- silt lenses (<3mm diam.) below 4.3m						233
5		CLAY - silty, trace sulphates and calcium carbonate inclusions to 4.9m - mottled grey and brown - moist, firm - high plasticity						232
6								

LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05



G-539

G-540

G-541

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-117
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524146.463 E 649301.255		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.627
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	

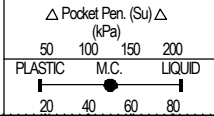
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #		COMMENTS	ELEVATION (m)
6		END OF TEST HOLE AT 6.1 m IN CLAY Note: 1. No seepage or sloughing	<input checked="" type="checkbox"/>	G-542	45		231
7							230
8							229
9							228
10							227
11							226
12							

LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-118
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524194.692 E 649424.784		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.778
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	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0		CLAY (FILL) - brown, moist, frozen ORGANIC CLAY - silty, some organics, trace sand - black, frozen				
0.5		CLAY - silty, trace sand, trace organics (<2%) - grey - moist, stiff to very stiff - intermediate plasticity				237
1.1		- stiff and no organics below 1.1 m				
2.0		CLAY AND SILT (LAMINATED) - trace oxidation - brown - moist, very stiff - intermediate to high plasticity - laminations (<2mm thick)		543		236
3.0				544		235
4.0		CLAY - silty - mottled grey and brown - moist, stiff - high plasticity - moist to wet and silt inclusions (<5mm diam.) below 4.0m - grey below 4.3 m				234
4.6		END OF TEST HOLE AT 4.6 m IN CLAY Note: 1. No seepage or sloughing		545		233
5.0						
6.0						232

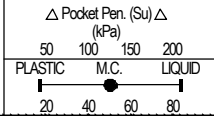
LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05



PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-119
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524198.758 E 649549.696		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.647
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
0		ORGANIC CLAY (Topsoil) - silty, trace sand - black, frozen				
		CLAY - silty, trace sand, trace organics (<2%) - grey - moist, stiff - high plasticity				237
1		CLAY AND SILT (LAMINATED) - trace sand - brown - moist, stiff - high plasticity - laminations (<5mm diam.) - trace silt lenses (<2mm diam.) below 1.5 m				236
2						235
3						234
4		- silt seam (20mm thick, very soft) at 4.0 m				
		CLAY - silty - grey - moist, firm - high plasticity				233
5		END OF TEST HOLE AT 4.6 m IN CLAY Notes: 1. No seepage or sloughing				
6						232

LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

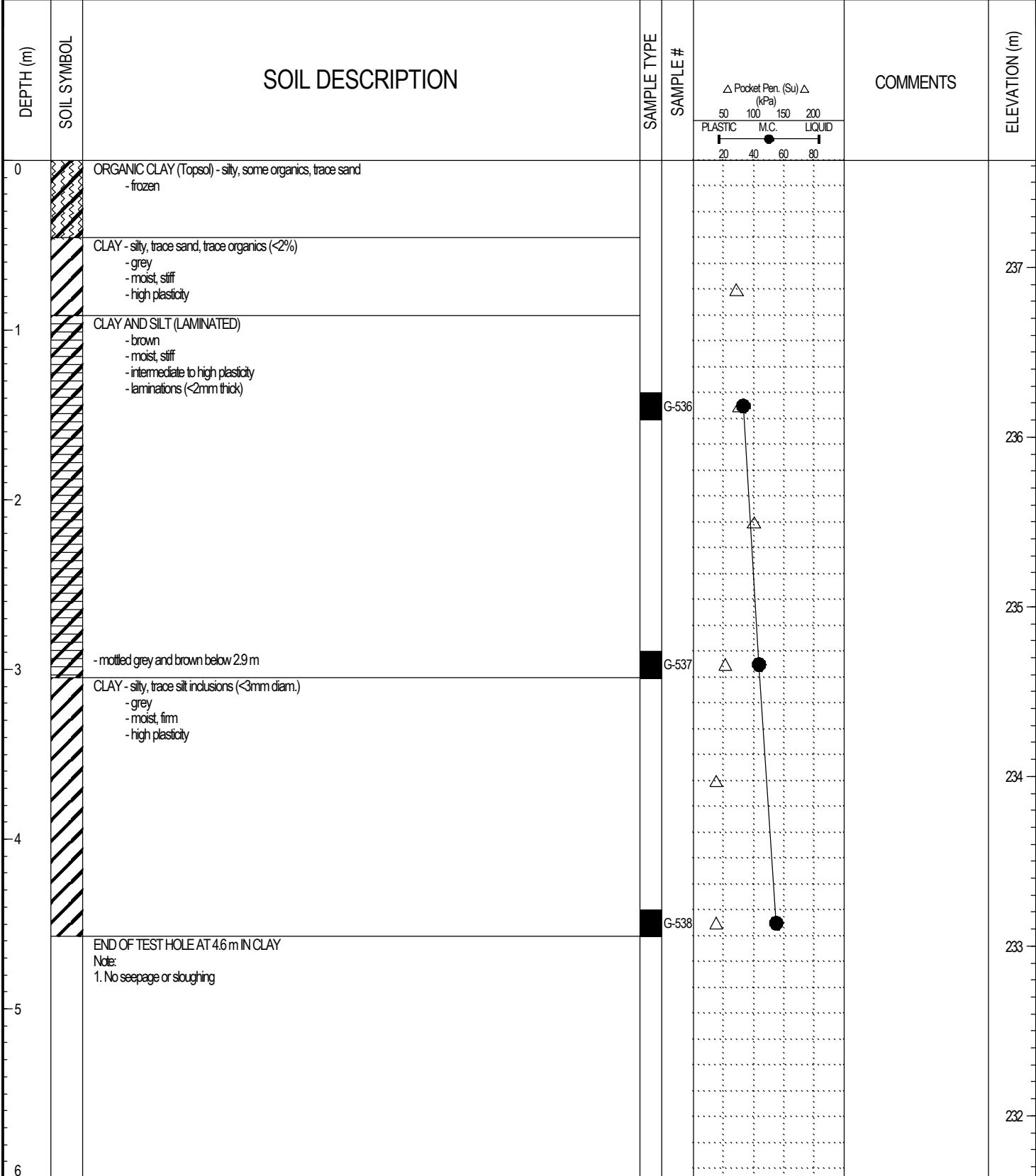


PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-120
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524202.859 E 649674.634		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Excavator (track mounted)	ELEVATION (m): 237.74
SAMPLE TYPE	<input 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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	PLASTIC	M.C.	LIQUID	COMMENTS	ELEVATION (m)
0		ORGANIC CLAY (Topsoil)- silty, trace organics and sand - black, frozen							
0-1		CLAY - silty, trace sand, trace organics (<2%) - grey and brown - moist, stiff, - high plasticity - blocky structure	<input checked="" type="checkbox"/>	G-571					237
1-2		CLAY AND SILT (LAMINATED) - trace oxidation - brown - moist, stiff - intermediate to high plasticity - blocky structure - laminations (<2mm thick)	<input checked="" type="checkbox"/>	G-572					236
2-5		CLAY - silty - mottled grey and dark brown - moist, firm - high plasticity	<input checked="" type="checkbox"/>	G-573					235
5-6		- grey below 5.2 m	<input checked="" type="checkbox"/>	G-574					233
6		END OF TEST PIT AT 5.6 m IN CLAY Notes: 1. No seepage or sloughing	<input checked="" type="checkbox"/>	G-575					232

LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-121
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524089.223 E 649303.155		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.63
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	

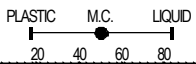


LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

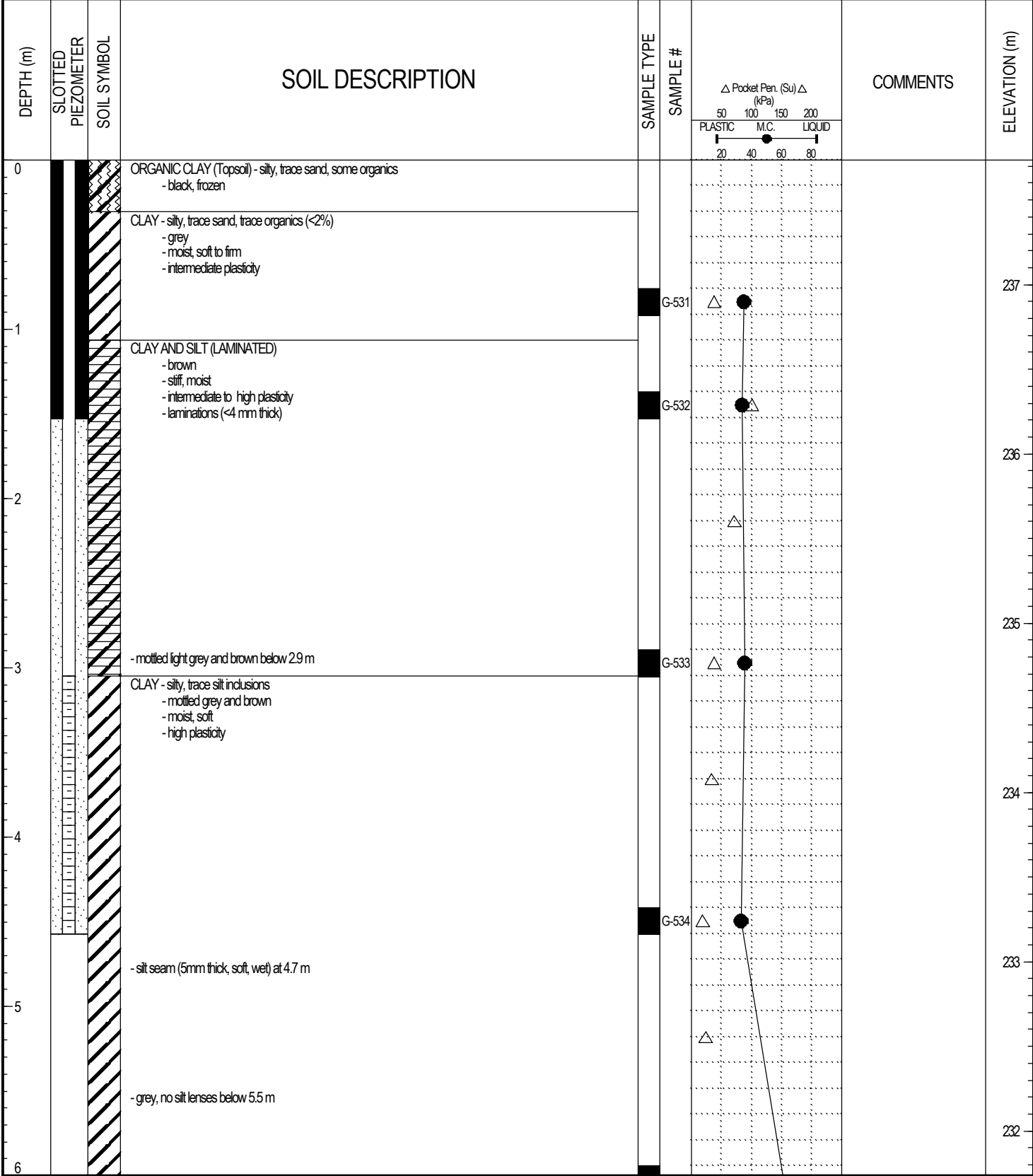
PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-122
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524069.795 E 649428.828		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Excavator (track mounted)	ELEVATION (m): 237.542
SAMPLE TYPE	<input 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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	PLASTIC	M.C.	LIQUID	COMMENTS	ELEVATION (m)
0		ORGANIC CLAY (Topsoil) - silty, some organics, trace sand - black, frozen							
0.5		CLAY - silty, trace sand, trace silt inclusions, trace organics (<2%) - grey and brown - moist, stiff - high plasticity - blocky structure	<input checked="" type="checkbox"/>	G-568					237
2		CLAY AND SILT (LAMINATED) - brown - moist, stiff - intermediate to high plasticity - laminations (<2mm thick)							236
3.5		CLAY - silty - mottled grey and dark brown - moist, firm - high plasticity - closed vertical fractures (grey) at 100mm to 300mm spacing infilled with sulphates	<input checked="" type="checkbox"/>	G-569					235
5		CLAY - silty - mottled grey and dark brown - moist, firm - high plasticity - closed vertical fractures (grey) at 100mm to 300mm spacing infilled with sulphates	<input checked="" type="checkbox"/>	G-570					234
5.2		END OF TEST PIT AT 5.2 m IN CLAY Notes: 1. No seepage or sloughing							233
6									232

LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05



PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-123
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524073.877 E 649553.762		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.736
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	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	



LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-123
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524073.877 E 649553.762		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.736
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	
BACKFILL TYPE	<input checked="" type="checkbox"/> BENTONITE <input type="checkbox"/> GRAVEL <input type="checkbox"/> SLOUGH <input type="checkbox"/> GROUT <input type="checkbox"/> CUTTINGS <input type="checkbox"/> SAND	

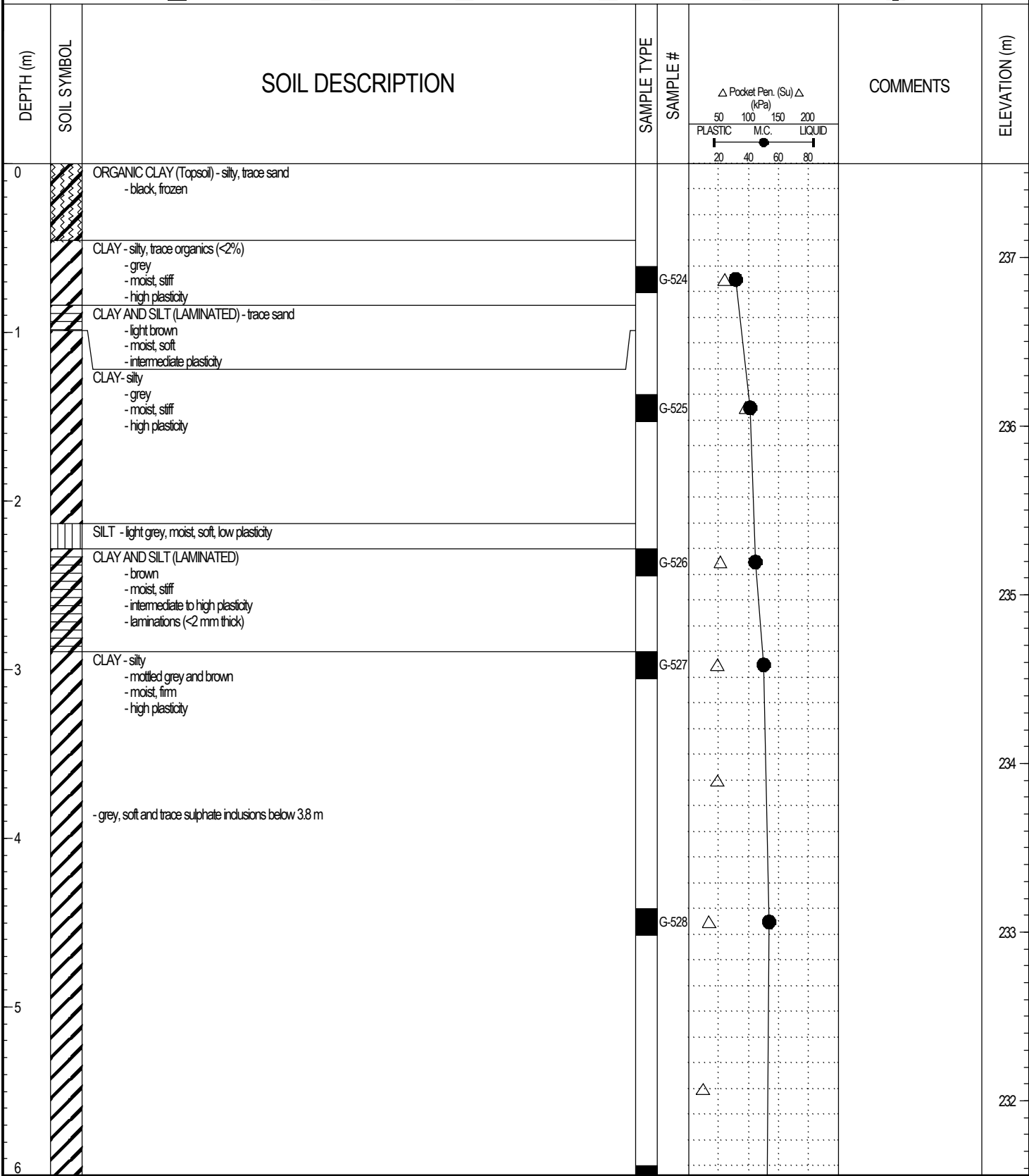
DEPTH (m)	SLOTTED PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #		COMMENTS	ELEVATION (m)
6			END OF TEST HOLE AT 6.1 m IN CLAY Notes: 1. Seepage at 1.5m (CLAY AND SILT) and 4.7m (SILT SEAM) 2. Water level at 3.0m below ground and rising at completion of test hole 3. No sloughing 4. Standpipe SP-123 installed	<input checked="" type="checkbox"/>	G-535			231
7								230
8								229
9								228
10								227
11								226
12								226

LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05




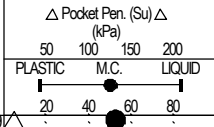
LOGGED BY: Kate Franklin	COMPLETION DEPTH: 6.10 m
REVIEWED BY: Nelson Ferreira	COMPLETION DATE: 13/12/04
PROJECT ENGINEER: Ken Skafffeld	Page 2 of 2

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-124
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524077.947 E 649678.727		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.556
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	





LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTHOLE NO: 04-124
LOCATION: Alternative Freeze/Thaw Lagoon - N 5524077.947 E 649678.727		PROJECT NO.: 3398-055-00-01
CONTRACTOR: Maple Leaf Drilling	METHOD: DR 150 - 125 mm Solid Stem Augers	ELEVATION (m): 237.556
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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	ELEVATION (m)
6			<input checked="" type="checkbox"/>	G-529		231
7		-trace coarse sand, trace fine gravel below 7.0 m				
8		END OF TEST HOLE AT 7.6m IN CLAY Note: 1. No seepage or sloughing		G-530		230
9						229
10						228
11						227
12						226



LOG OF TESTHOLE FREEZE THAW LAGOON.GPJ UMA.GDT 4/5/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-125
LOCATION: Alternative Freeze/Thaw Lagoon		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Cat 320L Excavator	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)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0		CLAY (FILL)- silty, trace to some organics, trace sand - brown, grey and black - stiff, moist - intermediate to high plasticity				
1						1
2						2
3						3
4		ORGANIC CLAY - (Topsoil) - top of native clay, silty, some organics (grass), black, moist END OF TEST HOLE AT 3.5 m IN CLAY Note: 1. No seepage or sloughing		G-566		4
5						5
6						6

LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

PROJECT: Winnipeg Water Treatment Plant	CLIENT: City of Winnipeg (Earth Tech Can Ltd)	TESTPIT NO: 04-126
LOCATION: Alternative Freeze/Thaw Lagoon		PROJECT NO.: 3398-055-00-01
CONTRACTOR: JC Paving	METHOD: Cat 320L Excavator	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

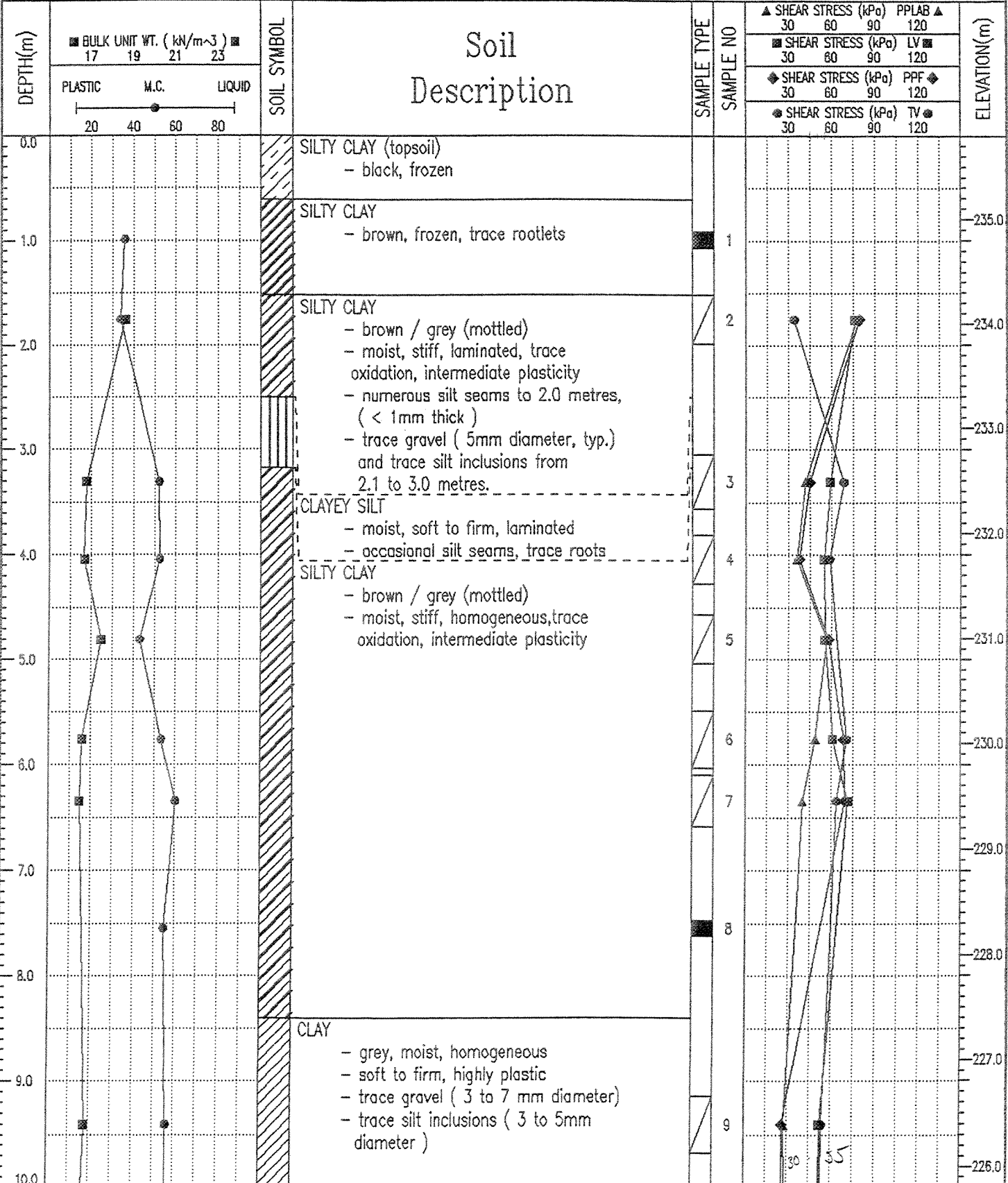
DEPTH (m)	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	COMMENTS	DEPTH (m)
0		CLAY (FILL) - silty, trace sulphates and silt inclusions - grey, brown and black - moist, stiff - intermediate plasticity				
1						1
2						2
3		ORGANIC SOIL (Topsail) - silty, some organics, trace sand - black, moist				3
4		END OF TEST HOLE AT 3.4 m IN CLAY Note: 1. No seepage or sloughing				4
5						5
6						6

LOG OF TEST PIT FREEZE THAW LAGOON.GPJ UMA.GDT 4/15/05

B-567

PROJECT: DEACON DRAINAGE STRUCTURE	DRILLED BY: PADDOCK DRILLING LIMITED	BOREHOLE NO: TH-1
CLIENT: CH2M G&S / CITY OF WINNIPEG	DRILL TYPE: ACKER MP5, 125 mm SS AUGERS	PROJECT NO: 4895-006-07-01
PROJECT ENGINEER: DY	LOCATION: STN 20693.3, 14m S OF BR-1 C/L	ELEVATION: 235.794 (m)

SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB SAMPLE	<input type="checkbox"/> SHELBY TUBE	<input checked="" type="checkbox"/> DISTURBED	<input type="checkbox"/> NO RECOVERY	<input type="checkbox"/> SPLIT SPOON	<input type="checkbox"/> WIRE LINE-TYPE
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UMA Environmental
Winnipeg, Manitoba

LOGGED BY: GR
REVIEWED BY: KS
Fig. No:

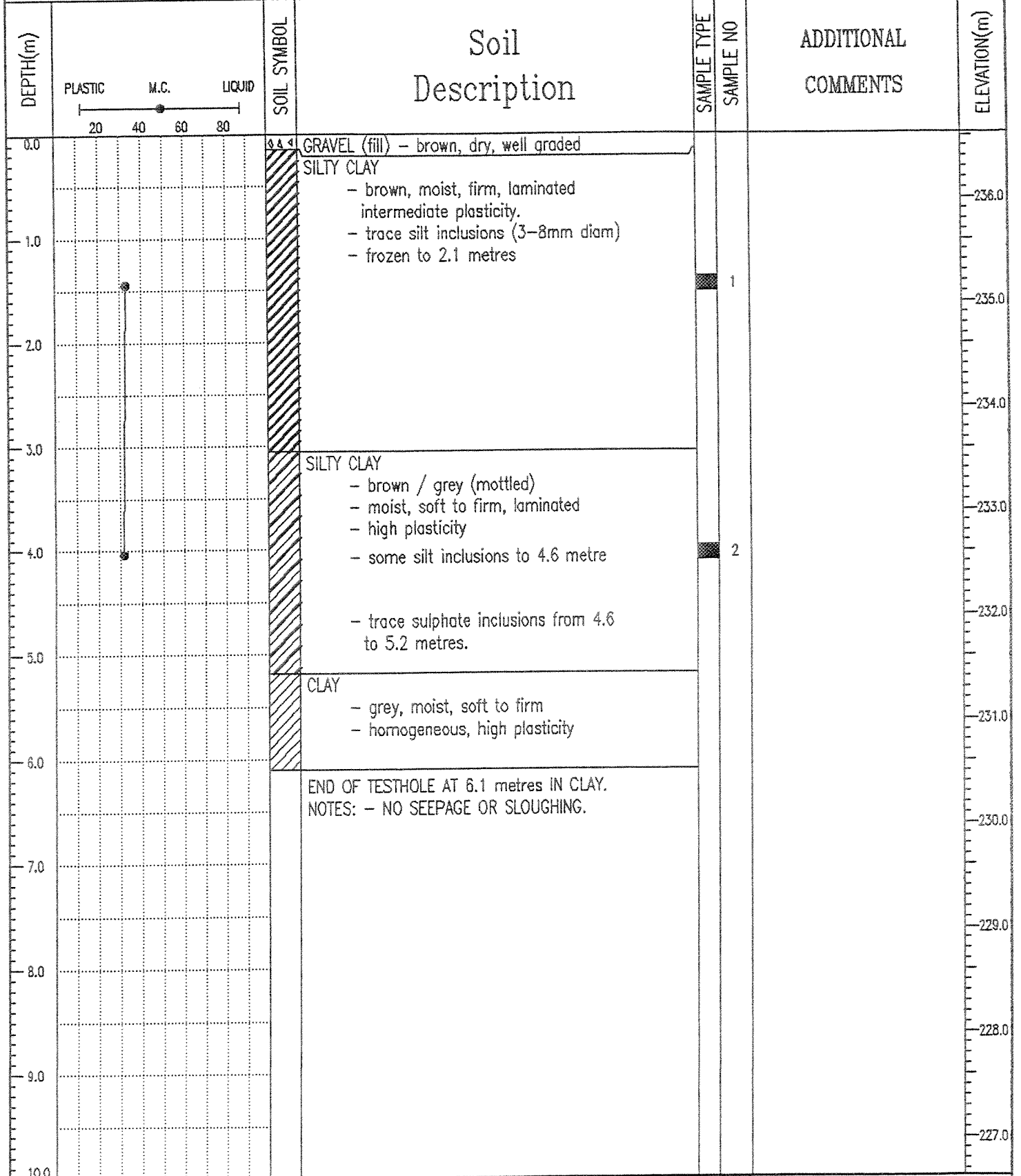
COMPLETION DEPTH: 13.7 m
COMPLETE: 16/02/96

PROJECT: DEACON DRAINAGE STRUCTURE		DRILLED BY: PADDOCK DRILLING LIMITED		BOREHOLE NO: TH-1	
CLIENT: CH2M G&S / CITY OF WINNIPEG		DRILL TYPE: ACKER MP5, 125 mm SS AUGERS		PROJECT NO: 4895-006-07-01	
PROJECT ENGINEER: DY		LOCATION: STN 20693.3, 14m S OF BR-1 C/L		ELEVATION: 235.794 (m)	
SAMPLE TYPE <input checked="" type="checkbox"/> GRAB SAMPLE		<input checked="" type="checkbox"/> SHELBY TUBE		<input checked="" type="checkbox"/> DISTURBED	
		<input type="checkbox"/> NO RECOVERY		<input type="checkbox"/> SPLIT SPOON	
				<input type="checkbox"/> WIRE LINE-TYPE	

DEPTH (m)	BULK UNIT WT. (kN/m ³)				SOIL SYMBOL	Soil Description	SAMPLE TYPE	SAMPLE NO	SHEAR STRESS (kPa)				ELEVATION (m)		
	17	19	21	23					PPLAB	LV	PPF	TV			
	PLASTIC M.C. LIQUID 20 40 60 80														
10.0					<input checked="" type="checkbox"/>	- occasional silt seams from 12.8m	<input checked="" type="checkbox"/>	10					225.0		
11.0															224.0
12.0															223.0
13.0															222.0
14.0						END OF TESTHOLE AT 13.7 metres IN CLAY. NOTES: - NO SEEPAGE OR SLOUGHING						221.0			
15.0												220.0			
16.0												219.0			
17.0												218.0			
18.0												217.0			
19.0												216.0			
20.0															

UMA Environmental Winnipeg, Manitoba	LOGGED BY: GR REVIEWED BY: KS Fig. No:	COMPLETION DEPTH: 13.7 m COMPLETE: 16/02/96
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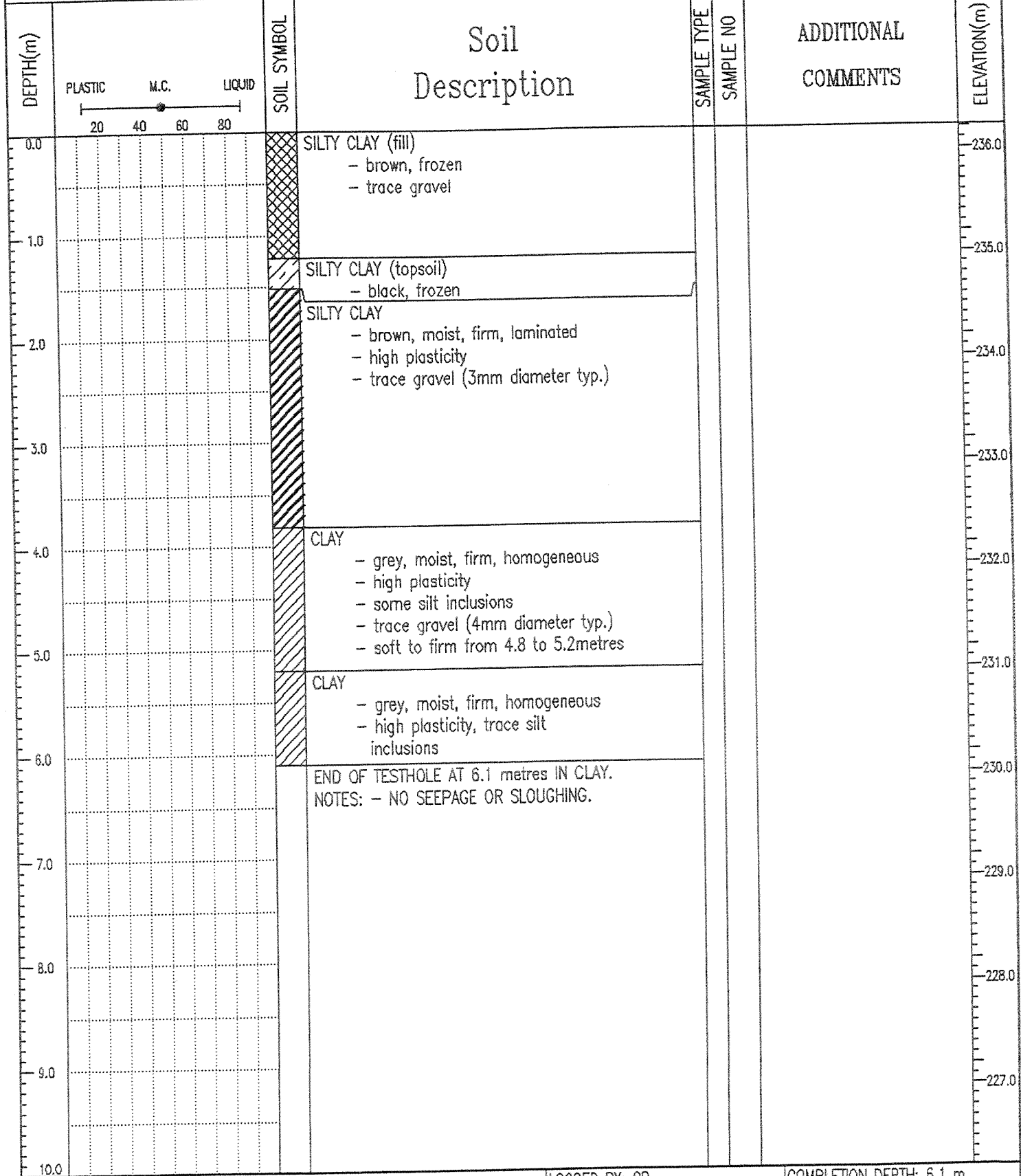
PROJECT: DEACON DRAINAGE STRUCTURE	DRILLED BY: PADDOCK DRILLING LIMITED	BOREHOLE NO: TH-2
CLIENT: CH2M G&S / CITY OF WINNIPEG	DRILL TYPE: ACKER MP5, 125 mm SS AUGERS	PROJECT NO: 4895-006-07-01
PROJECT ENGINEER: DY	LOCATION: STN 20629m, 10m S OF BR-1 C/L	ELEVATION: 236.633 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB SAMPLE	<input checked="" type="checkbox"/> SHELBY TUBE
	<input checked="" type="checkbox"/> DISTURBED	<input type="checkbox"/> NO RECOVERY
	<input type="checkbox"/> SPLIT SPOON	<input type="checkbox"/> WIRE LINE-TYPE



<p>UMA Environmental Winnipeg, Manitoba</p>	LOGGED BY: GR	COMPLETION DEPTH: 6.1 m
	REVIEWED BY: KS	COMPLETE: 16/02/96
	Fig. No:	Page 1 of 1

PROJECT: DEACON DRAINAGE STRUCTURE	DRILLED BY: PADDOCK DRILLING LIMITED	BOREHOLE NO: TH-3
CLIENT: CH2M G&S / CITY OF WINNIPEG	DRILL TYPE: ACKER MP5, 125 mm SS AUGERS	PROJECT NO: 4895-006-07-01
PROJECT ENGINEER: DY	LOCATION: STN 20556m, 8m S OF BR-1 C/L	ELEVATION: 236.222 (m)

SAMPLE TYPE GRAB SAMPLE SHELBY TUBE DISTURBED NO RECOVERY SPLIT SPOON WIRE LINE-TYPE

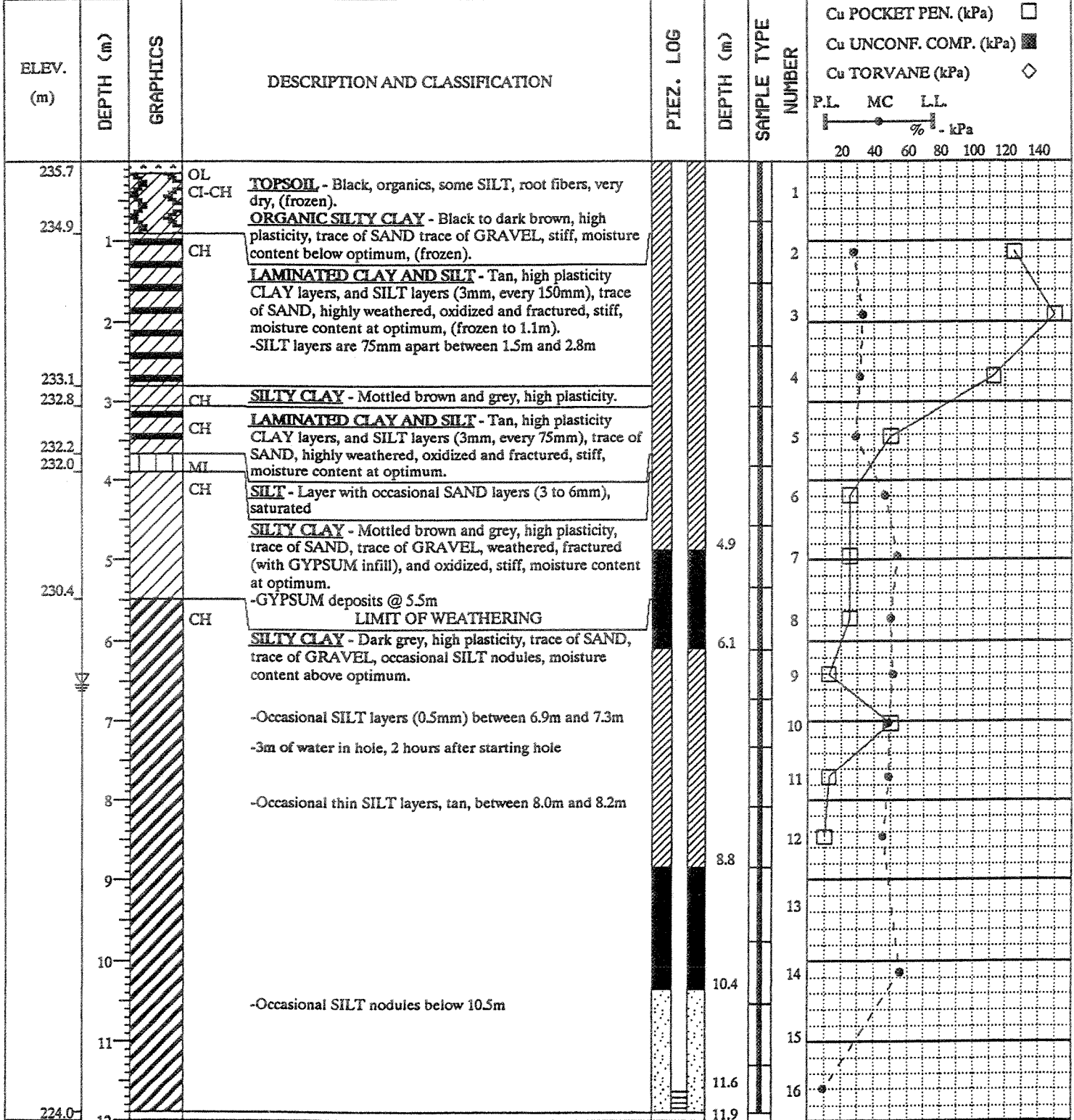


UMA Environmental
Winnipeg, Manitoba

LOGGED BY: GR	COMPLETION DEPTH: 6.1 m
REVIEWED BY: KS	COMPLETE: 16/02/96
Fig. No:	Page 1 of 1

CLIENT **CITY OF WINNIPEG, WATERWORKS, WASTE AND DISPOSAL**
 PROJECT **DEACON RESERVOIR - PROPOSED EXPANSION**
 SITE **CELL 3**
 LOCATION **(LOCAL) N 4,925 E 4,266**
 DRILLING METHOD **200mm Hollow Stem Auger**

JOB NO. **90-107-04**
 GROUND ELEV. **235.8**
 WATER ELEV. **229.3**
 DATE DRILLED **91/1/21**



SAMPLE TYPE SPLIT SPOON SHELBY SPLIT BARREL SAMPLER AUGER GRAB

CONTRACTOR **Paddock Drilling Ltd** INSPECTOR **H.B. Dahl** APPROVED **RK** DATE **91/04/03**

ELEV. (m)	DEPTH (m)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	PIEZ. LOG	DEPTH (m)	SAMPLE TYPE NUMBER
	12		END OF HOLE			
	13		NOTE: Moved 1.5m EAST and 1.5m NORTH and augered to TILL (16.3m) to install a piezometer in TILL. Auger refusal on boulder @ 16.9m; hole abandoned, no piezometer installed. Dry hole.			
	14					
	15					
	16					
	17					
	18					
	19					
	20					
	21					
	22					
	23					
	24					
	25					
	26					

Cu POCKET PEN. (kPa)
 Cu UNCONF. COMP. (kPa)
 Cu TORVANE (kPa)

P.L. MC LL
 |-----|-----|-----|-----|
 20 40 60 80 100 120 140 (%)

CLIENT **CITY OF WINNIPEG, WATERWORKS, WASTE AND DISPOSAL**
 PROJECT **DEACON RESERVOIR - PROPOSED EXPANSION**
 SITE **CELL 3**
 LOCATION **(LOCAL) N 4,925 E 4,269**
 DRILLING METHOD **125mm Hollow Stem Auger**

JOB NO. **90-107-04**
 GROUND ELEV. **235.8**
 WATER ELEV. **233.0**
 DATE DRILLED **91/1/21**

ELEV. (m)	DEPTH (m)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	PIEZ. LOG	DEPTH (m)	SAMPLE TYPE NUMBER	Cu POCKET PEN. (kPa) <input type="checkbox"/> Cu UNCONF. COMP. (kPa) <input checked="" type="checkbox"/> Cu TORVANE (kPa) <input type="checkbox"/> P.L. MC LL. % - kPa 20 40 60 80 100 120 140
235.7			TOPSOIL - Black, organics, some SILT, root fibers, very dry, (frozen).				
234.9	1		ORGANIC SILTY CLAY - Black to dark brown, high plasticity, trace of SAND, trace of GRAVEL, stiff, moisture content below optimum, (frozen).				
	2		LAMINATED CLAY AND SILT - Tan, high plasticity CLAY layers, and SILT layers (3mm, every 150mm), trace of SAND, highly weathered, oxidized and fractured, stiff, moisture content at optimum, (frozen to 1.1m). -SILT layers are 75mm apart between 1.5m and 2.8m				
233.17			SILTY CLAY - Mottled brown and grey, high plasticity.		3.1		
232.8	3		LAMINATED CLAY AND SILT - Tan, high plasticity CLAY layers, and SILT layers (3mm, every 75mm), trace of SAND, highly weathered, oxidized and fractured, stiff, moisture content at optimum.		3.4		
232.2	4		LAMINATED CLAY AND SILT - Tan, high plasticity CLAY layers, and SILT layers (3mm, every 75mm), trace of SAND, highly weathered, oxidized and fractured, stiff, moisture content at optimum.		3.7		
			END OF HOLE				
			NOTE: -Soil description from hole A12.				

SAMPLE TYPE SPLIT SPOON SHELBY SPLIT BARREL SAMPLER AUGER GRAB

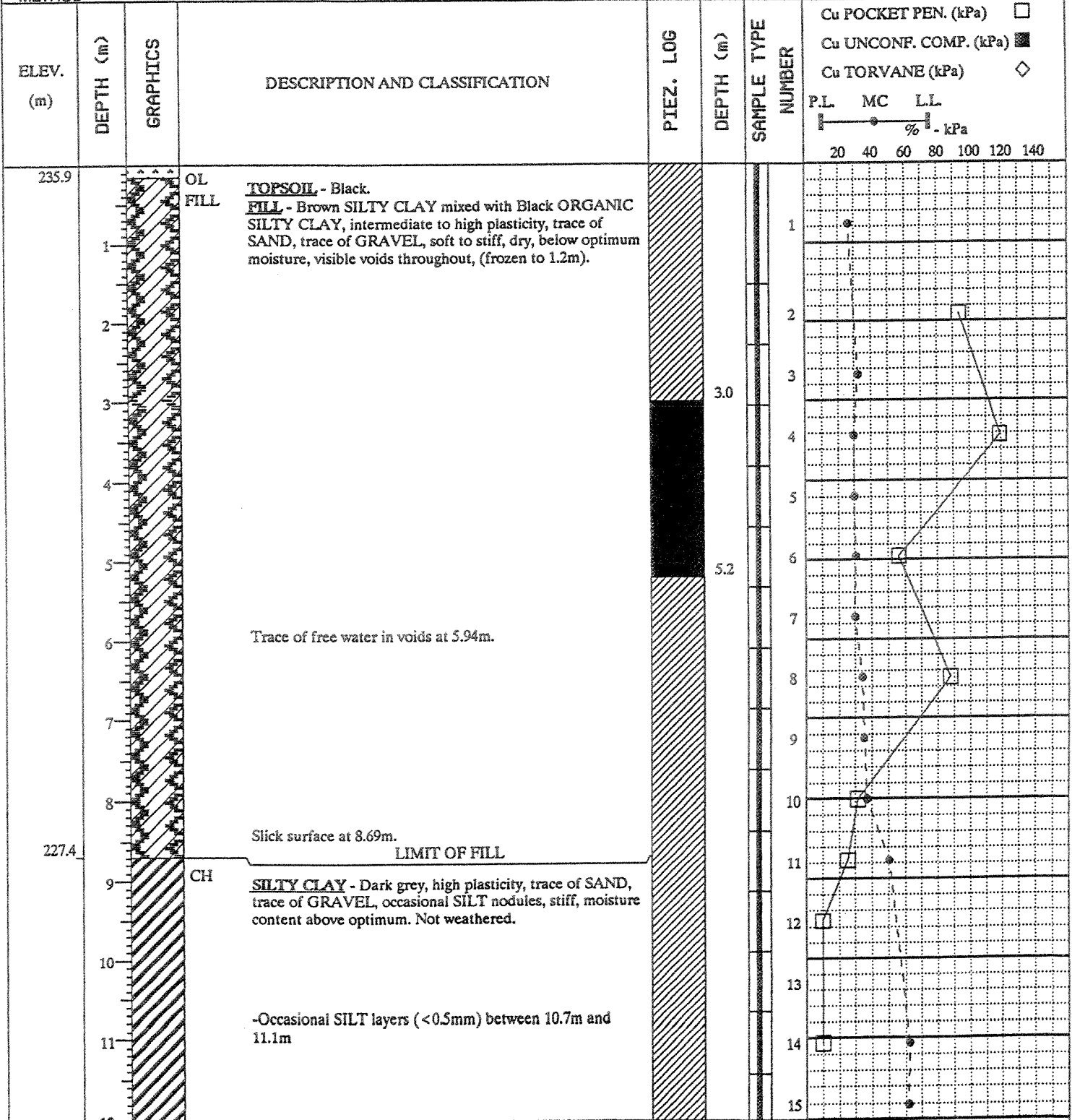
CONTRACTOR **Paddock Drilling Ltd**

INSPECTOR **H.B. Dahl**

APPROVED RK DATE **91/04/03**

CLIENT **CITY OF WINNIPEG, WATERWORKS, WASTE AND DISPOSAL**
 PROJECT **DEACON RESERVOIR - PROPOSED EXPANSION**
 SITE **BOOSTER STATION**
 LOCATION **(LOCAL) N 5,171 E 4,367**
 DRILLING METHOD **200mm Hollow Stem Auger**

JOB NO. **90-107-04**
 GROUND ELEV. **236.0**
 WATER ELEV.
 DATE DRILLED **91/1/22**



SAMPLE TYPE SPLIT SPOON SHELBY SPLIT BARREL SAMPLER AUGER GRAB

CONTRACTOR **Paddock Drilling Ltd**

INSPECTOR **H.B. Dahl**

APPROVED Rke DATE 91/04/03

ELEV. (m)	DEPTH (m)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	PIEZ. LOG	DEPTH (m)	SAMPLE TYPE	NUMBER	Cu POCKET PEN. (kPa) <input type="checkbox"/> Cu UNCONF. COMP. (kPa) <input checked="" type="checkbox"/> Cu TORVANE (kPa) <input type="checkbox"/> P.L. MC LL (%)
220.8	12		CH <u>SILTY CLAY</u> - Dark grey, high plasticity, trace of SAND, trace of GRAVEL, occasional SILT nodules, stiff, moisture content above optimum. Not weathered. -Occasional STONES (angular, diam. <25mm) below 13.7m		13.7		16	[Symbol] [Symbol] [Symbol] [Symbol] [Symbol] [Symbol]
	13						17	
	14						18	
	15				15.2		19	
	16		END OF HOLE NOTE: The unweathered SILTY CLAY below 8.7m is stiffer in hole A13 than it is in the other holes.					
	17							
	18							
	19							
	20							
	21							
	22							
	23							
	24							
	25							
	26							



R.M. HARDY & ASSOCIATES LTD.
CONSULTING ENGINEERING & TESTING

SUMMARY OF SAMPLING & LABORATORY TESTS

PROJECT

DEACON RESERVOIR

NO.

C&D

DATE OF INVESTIGATION

JOB NO W-0420

HOLE 3

WATER CONTENT

SOIL PROFILE

SOIL SAMPLES

SOIL DESCRIPTION

DEPTH
FEET

WATER

SOIL
SYMBOL

UNIFIED
CLASSIF.

CONDITION

TYPE

PENETRATION
RESISTANCE

RECOVERY, %

OTHER TESTS

WATER CONTENT - %
10 20 30 40 50 60 70
w_p - □ w - ○ w_L - Δ

SURFACE ELEVATION

36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69

CLAY, SILTY,
STIFF

$q_u = 2060 \text{ psf}$
 $e_f = 4.4\%$
 $\gamma = 105.2 \text{ pcf}$
 $\gamma_d = 71.8 \text{ pcf}$

$q_u = 2067 \text{ psf}$
 $e_f = 6.6\%$
 $\gamma = 112.0 \text{ pcf}$
 $\gamma_d = 73.3 \text{ pcf}$

TILL, LIGHT
BROWN, SILT
WITH SOME
SAND, CLAY,
GRAVEL UP TO
3" SIZE

VERY DENSE, 65'

SEEPAGE ON ROCK
SURFACE AT 69'



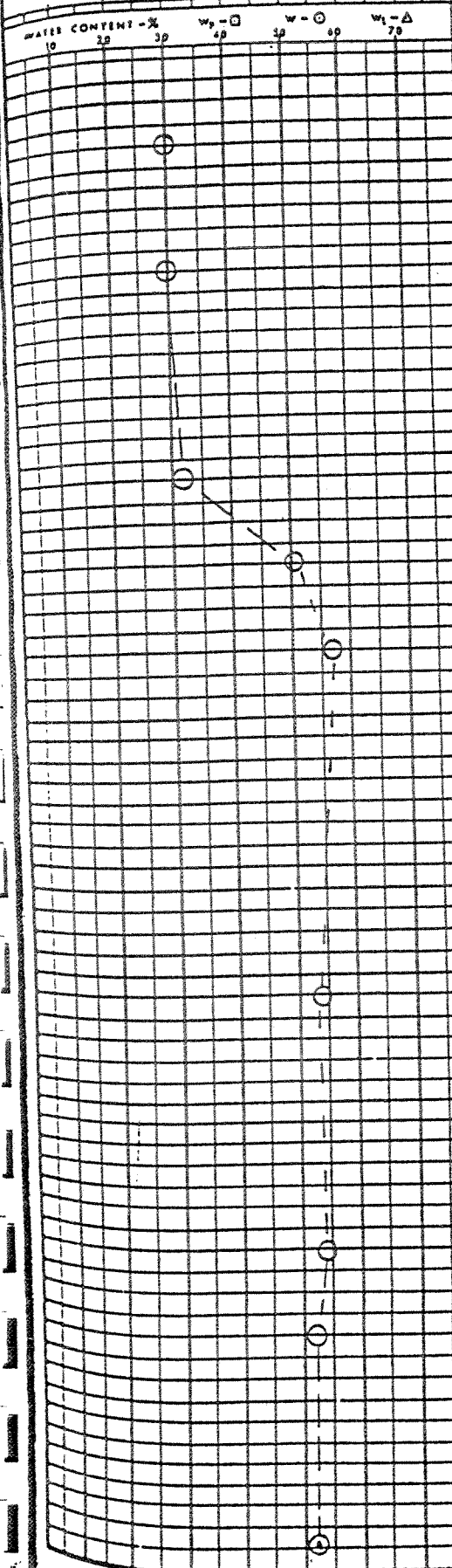
R.M. HARDY & ASSOCIATES LTD.
CONSULTING ENGINEERING & TESTING

PROJECT
DEACON RESERVOIR

BY A. L. B.
WATER CONTENT

CEO

DATE OF INVESTIGATION MARCH 24, 1977 100 NO W-0420 HOLE 4



DEPTH (FEET)	SOIL PROFILE			SOIL SAMPLES				OTHER TESTS
	SOIL DESCRIPTION	SOIL SYMBOL	UNIFIED CLASSIF.	CONDITION	TYPE	PENETRATION RESISTANCE	RECOVERY %	
1	CLAY, BROWN, SILTY (CONTAINS SILT LAYERS 4'-12')	CI	CI-M					
2								
3								
4								
12	CLAY, GREY AND BROWN, VARVED, FIRM TO STIFF	CH						$q_u = 1783 \text{ psf}$ $e_f = 2.6\%$ $\gamma = 103.5 \text{ pcf}$ $\gamma_d = 66.0 \text{ pcf}$
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
30								$q_u = 3521 \text{ psf}$ $e_f = 2.0\%$ $\gamma = 107.0 \text{ pcf}$ $\gamma_d = 70.3 \text{ pcf}$
31								
32								
33								
34								
35								



R.M. HARDY & ASSOCIATES LTD.
CONSULTING ENGINEERING & TESTING

SUMMARY OF SAMPLING & LABORATORY TESTS

PROJECT
DEACON RESERVOIR

BY **A.L.B.**

CRD

DATE OF INVESTIGATION **MARCH 24, 1977** 105 NO W-0420

HOLE **5**

WATER CONTENT				SOIL PROFILE				SOIL SAMPLES						
WATER CONTENT - %				SOIL DESCRIPTION				SOIL SYMBOL	UNIFIED CLASS.	CONDITION	TYPE	PENETRATION RESISTANCE	RECOVERY %	OTHER TESTS
10	20	30	40	50	60	70	DEPTH DATUM FEET							
				SURFACE ELEVATION										
				TOP SOIL										
				1 CLAY, FIRM TO STIFF										
				2										
				3 (CONTAINS				CI-ML						
				4 NUMEROUS SILT										
				5 LAYERS TO 11')										
				6										
				7 SOME COARSE										
				8 SAND 0.3' - 1.5'										
				9										
				10										
				11										
				12										
				13										
				14										
				15										
				16										
				17										
				18										
				19										
				20										
				21										
				22				$q_u = 1039 \text{ psf}$ $e_f = 2.3\%$ $\gamma = 104.6 \text{ pcf}$ $\gamma_d = 67.7 \text{ pcf}$						
				23										
				24										
				25										
				26										
				27										
				28										
				29										
				30										
				31										
				32										
				33										
				34										
				35				$q_u = 2034 \text{ psf}$ $e_f = 2.5\%$ $\gamma = 108.7 \text{ pcf}$ $\gamma_d = 72.2 \text{ pcf}$						
								$q_u = 2200$ $\gamma = 106$						



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CONSULTING ENGINEERING & TESTING

PROJECT
DEACON RESERVOIR

A. L. B.

C.E.D.

DATE OF INVESTIGATION MARCH 24, 1977

100 NO. W-0420

HOLE 5

WATER CONTENT

SOIL PROFILE

SOIL SAMPLES

SOIL DESCRIPTION

SOIL SYMBOL

UNIFIED CLASSIF.

CONDITION

TYPE

PENETRATION RESISTANCE

RECOVERY %

OTHER TESTS

DEPTH FEET

DATUM

SURFACE ELEVATION

WATER CONTENT - %
10 20 30 40 50 60 70
w_p - □ w - ○ w_L - Δ

36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70

CLAY

CH

-- $q_u = 1700$
 $\gamma = 104$

-- $q_u = 1600$
 $\gamma = 107$

TILL (MOIST),
LIGHT BROWN
SILT WITH SOME
SAND, GRAVEL
AND CLAY,
MEDIUM DENSE,
FREQUENT
COBBLES AND
OCCASIONAL
BOULDERS

END OF HOLE

WATER LEVEL
AT 66'

R.M. HARDY & ASSOCIATES LTD.
CONSULTING ENGINEERING & TESTING

PROJECT: DEACON RESERVOIR

DATE OF INVESTIGATION: MARCH 24, 1977 100 NO M-0420

HOLE 6

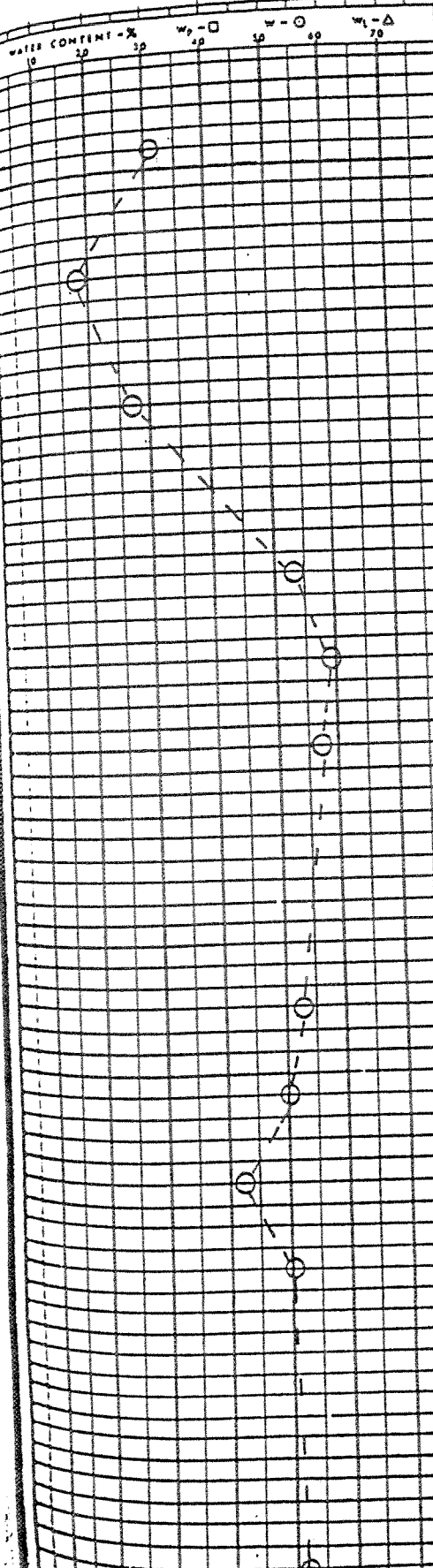
A. L. B.

C & D

SOIL PROFILE

SOIL SAMPLES

WATER CONTENT



DEPTH / BATHY / FEET	SOIL DESCRIPTION	SOIL SYMBOL	SOIL CLASS.	CONDITION	TYPE	PENETRATION RESISTANCE	RECOVERY %	OTHER TESTS
1	TOPSOIL, TREE ROOTS							
2	ROOTS							
3								
4	CLAY, BROWN, SILTY, FIRM		CI-ML					
5	(CONTAINS SILT LAYERS 3-11', TRACE OF SAND)							
6								
7								
8								
9								
10								
11								
12	CLAY, GREY, STIFF		CH					
13								
14	OCC. SILT POCKETS							
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								

$q_u = 1470$
 $e_f = 2.2$
 $\gamma = 107.1 \text{ pcf}$
 $\gamma_d = 70.9 \text{ pcf}$

$q_u = 2002 \text{ psf}$
 $e_f = 2.4\%$
 $\gamma = 105.2 \text{ pcf}$
 $\gamma_d = 66.8 \text{ pcf}$

$q_u = 2264 \text{ psf}$
 $e_f = 3.7\%$
 $\gamma = 106.0 \text{ pcf}$
 $\gamma_d = 67.9 \text{ pcf}$



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CONSULTING ENGINEERING & TESTING

SUMMARY OF SAMPLING & LABORATORY TESTS

PROJECT
DEACON RESERVOIR

BY **A.L.B.**

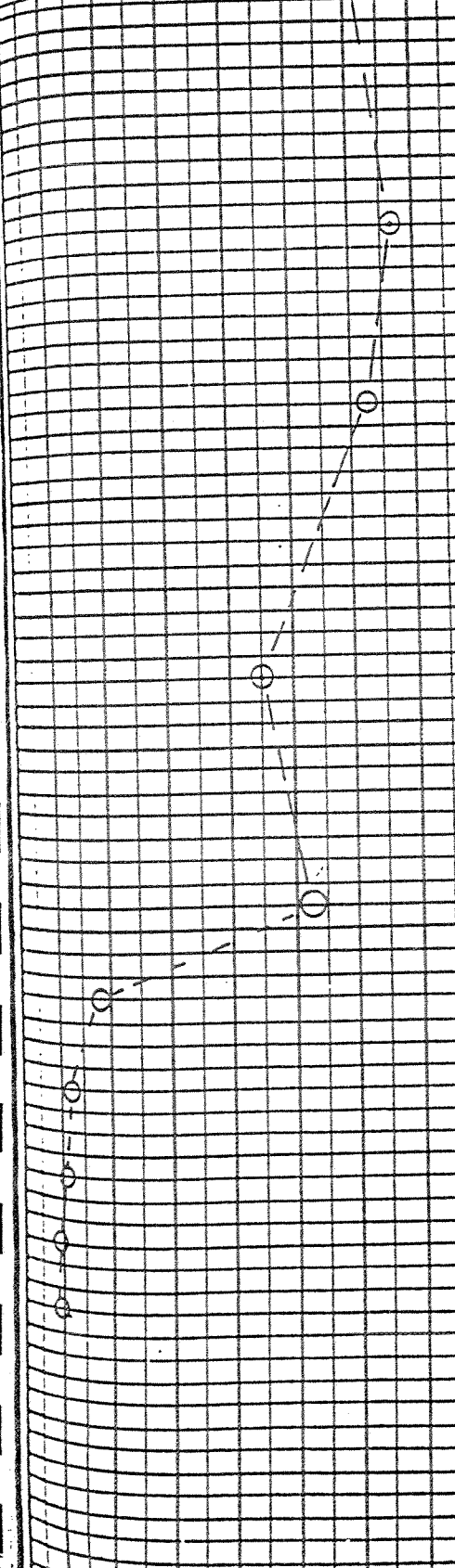
CHK'D

DATE OF INVESTIGATION **MARCH 24, 1977** 100 NO. W-0420

HOLE **6**

WATER CONTENT

WATER CONTENT - % w_p - □ $w - O$ $w_L - \Delta$
10 20 30 40 50 60 70



SOIL PROFILE

SOIL DESCRIPTION

DEPTH DATUM
FEET

SURFACE ELEVATION

36 CLAY, GREY
37 FIRM TO
38 STIFF
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58 SILT TILL
59 - GRAVELLY
60 - MOIST
61 - FIRM
62 - - VERY DENSE
63
64
65
66
67
68 WATER LEVEL AT 69'
69 END OF HOLE

SOIL SAMPLES

OTHER TESTS

SOIL
STRATA
UNITED
CLASS.

CONDITION

TYPE

PENETRATION
RESISTANCE

RECOVERY %

$q_u = 1662 \text{ psf}$
 $e_s = 7.1\%$
 $\gamma = 106.0 \text{ pcf}$
 $\gamma_d = 63.5 \text{ pcf}$

$q_u = 2200 \text{ psf}$
 $e_s = 6.5\%$
 $\gamma = 109.5 \text{ pcf}$
 $\gamma_d = 75.5 \text{ pcf}$

DYREGROV CONSULTANTS

BOREHOLE LOG

PROJECT

Proposed Venturi Chambers
Deacon Reservoir

LOGGED/DWN. SDG CXD. AOD DATE OF INVEST. 21/05/93 JOB NO. 931176 HOLE NO. 1

WATER CONTENT						DEPTH (M)	SOIL SYMBOL	SOIL DESCRIPTION		SOIL SAMPLE			DRILL TYPE
W _p - □	W - ○	W _L - △	PERCENT %					DATUM	CONDITION	TYPE	PENETRATION RESISTANCE		400 mm Auger
10	20	30	40	50	60			SURFACE ELEVATION	236.04 M				OTHER TESTS

						0	X	Fill -clay -some gravel					
						1	X						
						2	X						
						3		Clay -mottled brown -highly plastic -silt seams and lenses to 5.2 m					
						4							
						5							
						6		---grey		U		qu=204.6kpa γ _w =18.6kn/m ³ pp=222.6kpa Tv 95.8kpa	
						7							
						8				U		qu=130.4kpa γ _w =17.0kn/m ³	
						9						pp=138.9kpa Tv=69.2kpa	
						10							
						11				U		qu=157.7kpa γ _w =16.5kn/m ³	
						12						pp=107.7kpa Tv=57.5kpa	
						13							
						14				U		qu=156.1kpa γ _w =15.9kn/m ³	
						15						pp=110.1kpa Tv=54.6kpa	
						16							
						17							
						18							
						19							

Note:
Hole terminated at 19.0 m on glacial till.

DYREGROV CONSULTANTS

BOREHOLE LOG

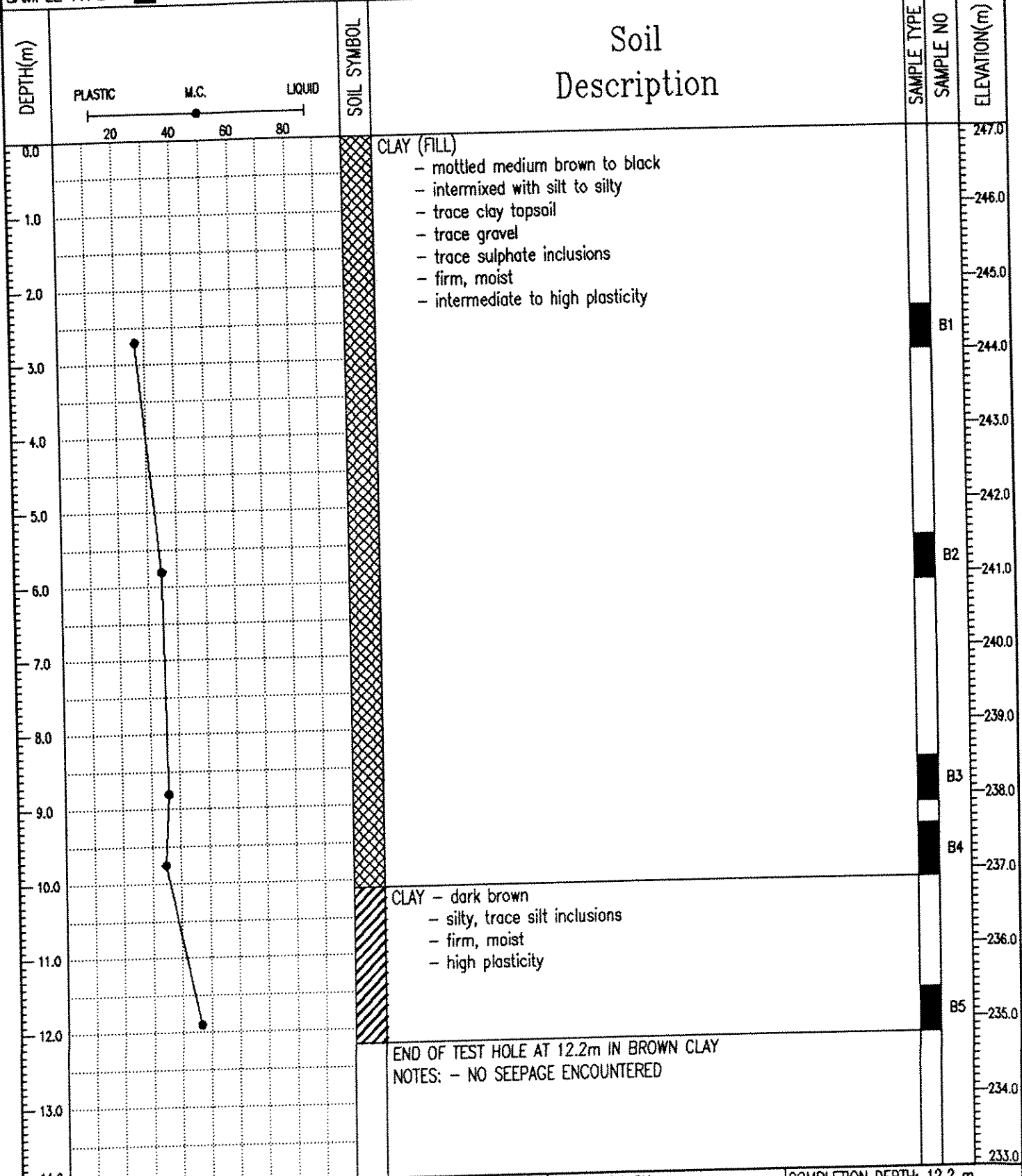
PROJECT

Proposed Venturi Chambers
Deacon Reservoir

LOGGED/DWN. SDG CKD. AOD DATE OF INVEST. 21/05/93 JOB NO. 931176 HOLE NO. 2

WATER CONTENT					DEPTH (M)	SOIL SYMBOL	SOIL DESCRIPTION	SOIL SAMPLE			DRILL TYPE
W _p - □	W - ○	W _L - △	CONDITION	TYPE				PENETRATION RESISTANCE	OTHER TESTS		
PERCENT %											
10	20	30	40	50	60		DATUM SURFACE ELEVATION 236.04 M				400 mm Auger
						X	Fill -clay, trace gravel				
							Clay -mottled brown -highly plastic -silt seams and lenses to 3.8 m -stiff to firm				
									U		qu=60.5kpa γ _w =17.6kn/m ³ pp=117.3kpa Tv=81.4kpa
							grey		U		qu=93.8kpa γ _w =16.6kn/m ³ pp=151.3 Tv=64.6kpa
									U		qu=142.1kpa γ _w =16.4kn/m ³ pp=112.5kpa Tv=58.4kpa
									U		qu=120.1kpa γ _w =15.8kn/m ³ pp=95.8kpa Tv=52.7kpa
							Glacial Till -silty, sandy, gravelly -tan, clay seams -cobble and bouldery -wet -compact to medium dense below 18.2 m				
							Note: Hole terminated at 18.9 m in glacial till.				

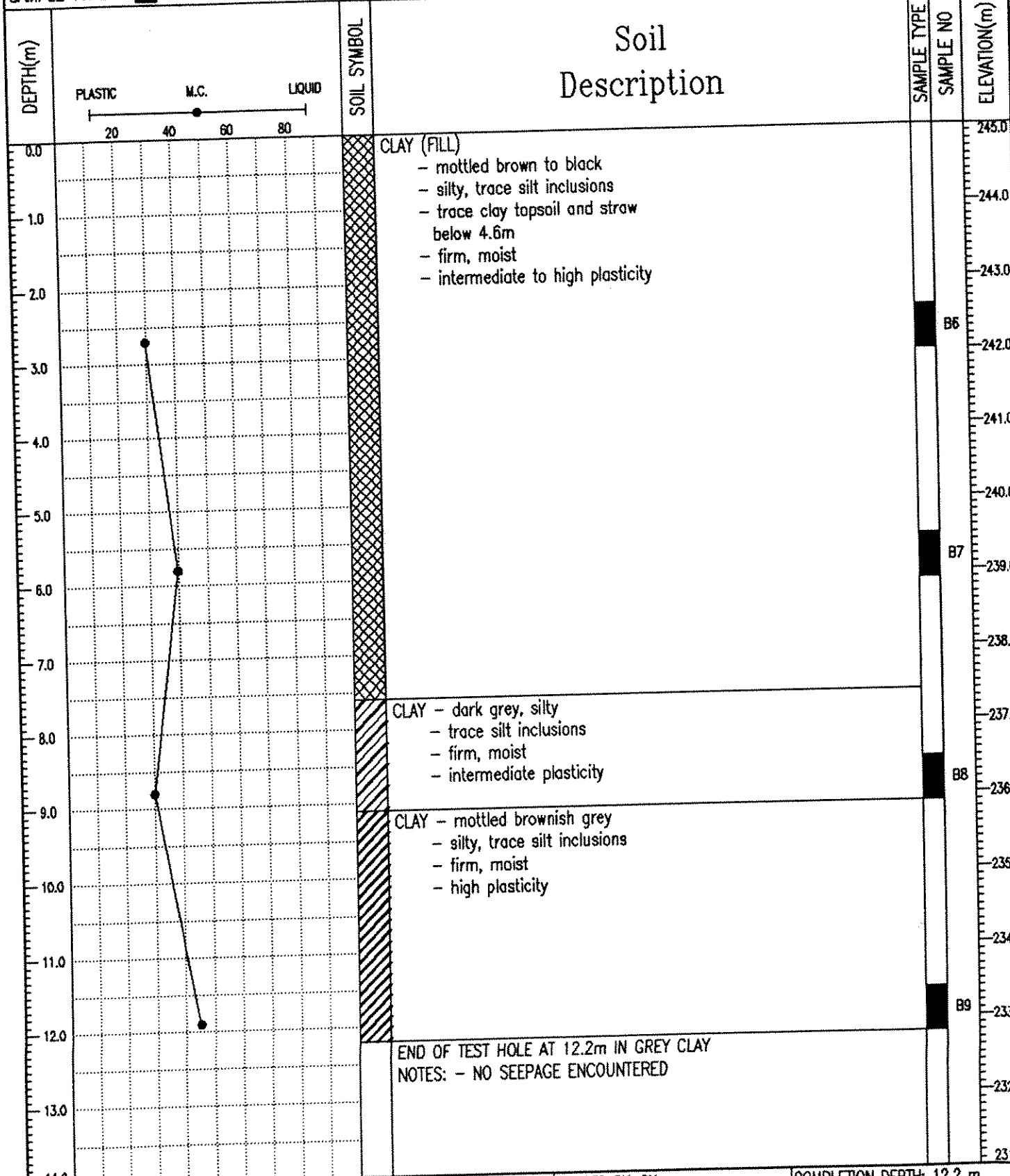
PROJECT: DEACON RESERVOIR STOCKPILE	LOCATION: MILE 14, EAST OF CELL 2	TEST HOLE NO: TH-1
CLIENT: GORE & STORRIE	DRILLER: PADDOCK DRILLING LTD.	PROJECT NO: 4895-006-07-01
PROJECT ENGINEER: DY	DRILL: NODWELL, 125mm SOLID STEM AUGERS	ELEVATION: 247.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB SAMPLE	<input checked="" type="checkbox"/> SHELBY TUBE
	<input checked="" type="checkbox"/> DISTURBED	<input type="checkbox"/> NO RECOVERY
	<input type="checkbox"/> CORE BARREL	<input type="checkbox"/> WIRE LINE-TYPE



UMA Environmental
 Winnipeg, Manitoba

LOGGED BY: DY	COMPLETION DEPTH: 12.2 m
REVIEWED BY: KS	COMPLETE: 08/09/95
Fig. No:	Page 1 of 1

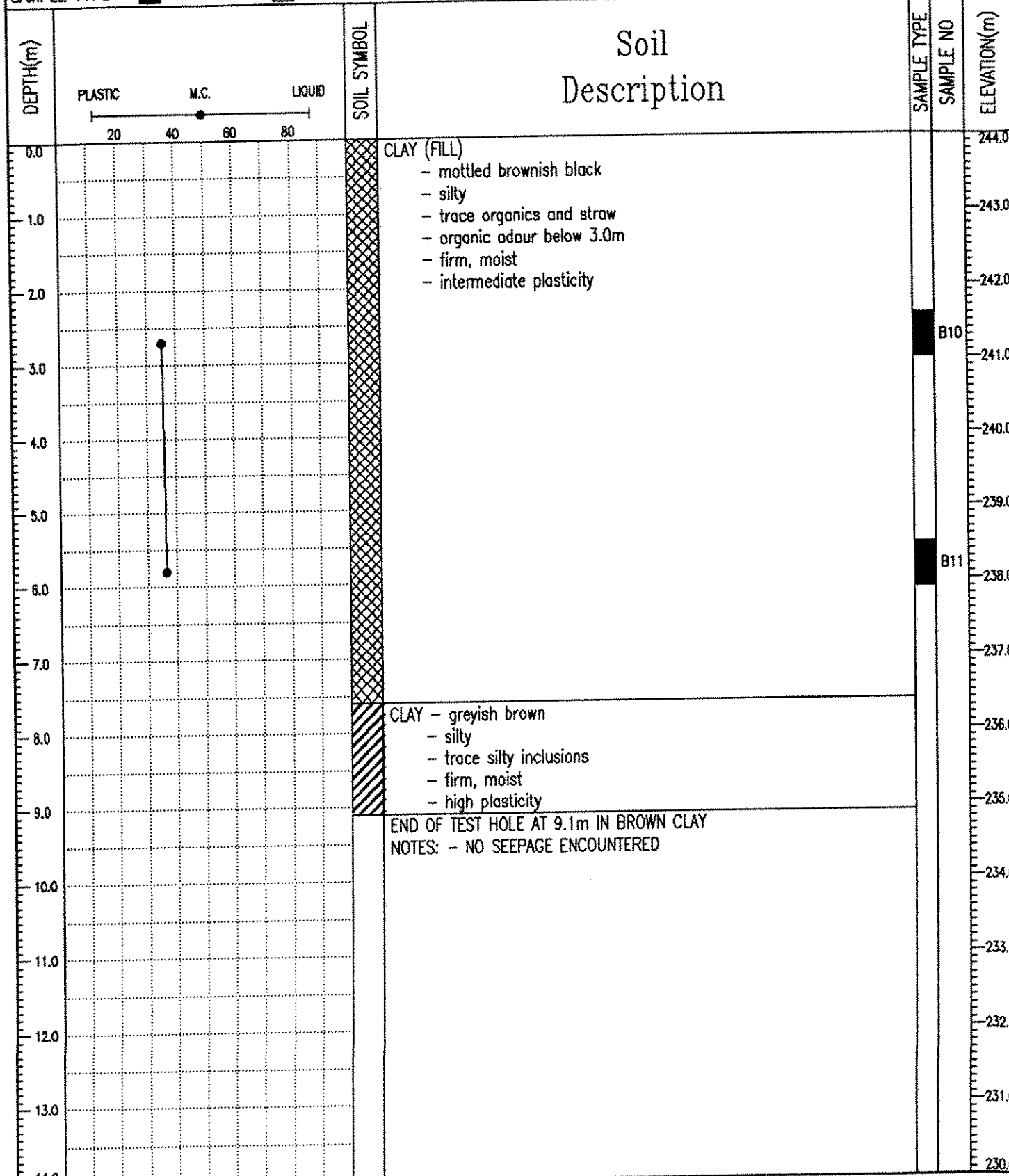
PROJECT: DEACON RESERVOIR STOCKPILE	LOCATION: MILE 14, EAST OF CELL 2	TEST HOLE NO: TH-2
CLIENT: GORE & STORRIE	DRILLER: PADDOCK DRILLING LTD.	PROJECT NO: 4895-006-07-01
PROJECT ENGINEER: DY	DRILL: NODWELL, 125mm SOLID STEM AUGERS	ELEVATION: 245.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB SAMPLE <input checked="" type="checkbox"/> SHELBY TUBE <input checked="" type="checkbox"/> DISTURBED <input type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE BARREL <input type="checkbox"/> WIRE LINE-TYPE	



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LOGGED BY: DY	COMPLETION DEPTH: 12.2 m
REVIEWED BY: KS	COMPLETE: 08/09/95
Fig. No:	Page 1 of 1

PROJECT: DEACON RESERVOIR STOCKPILE	LOCATION: MILE 14, EAST OF CELL 2	TEST HOLE NO: TH-3
CLIENT: GORE & STORRIE	DRILLER: PADDOCK DRILLING LTD.	PROJECT NO: 4895-006-07-01
PROJECT ENGINEER: DY	DRILL: NODWELL, 125mm SOLID STEM AUGERS	ELEVATION: 244.00 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB SAMPLE	<input checked="" type="checkbox"/> SHELBY TUBE
	<input checked="" type="checkbox"/> DISTURBED	<input type="checkbox"/> NO RECOVERY
	<input type="checkbox"/> CORE BARREL	<input type="checkbox"/> WIRE LINE-TYPE



UMA Environmental Winnipeg, Manitoba	LOGGED BY: DY	COMPLETION DEPTH: 9.1 m
	REVIEWED BY: KS	COMPLETE: 08/09/95
	Fig. No:	Page 1 of 1