

Client: City of Winnipeg - Public Works **Project Number:** 0015 008 00
Project Name: Lyndale Drive Retaining Wall Assessment **Location:** UTM N-5526079.846, E-634790.178
Contractor: Maple Leaf Drilling **Ground Elevation:** 231.23 m
Method: 125mm Solid Stem Auger, B40 Mobile Truck Mount **Date Drilled:** 6 May 2013 - 6 May 2013

Sample Type: Grab (G) Shelby Tube (T) Split Spoon (SS) Split Barrel (SB) Core (C)
Particle Size Legend: Fines Clay Silt Sand Gravel Cobbles Boulders
Backfill Legend: Bentonite Cement Drill Cuttings Filter Pack Sand Grout Slough

Elevation (m)	Depth (m)	Soil Symbol	Slope Inclinerometer	VW Piezo	VW Piezo	MATERIAL DESCRIPTION	Sample Type	Sample Number	RQD (%)	SPT (N)	Bulk Unit Wt (kN/m ³)		Undrained Shear Strength (kPa)
											16	17	
231.1	0.0					GRAVEL - trace sand, well graded - damp, compact		G01					
230.5	0.5					CLAY (Fill) - silty - black, moist, stiff, high plasticity - trace organics, trace rootlets							
229.7	1.0					CLAY - silty, stratified - dark brown, moist, firm to stiff, high plasticity - trace sand, trace to some light grey silt inclusions 1-25mm dia.		G02					△
229.1	1.5					SILT - tan, moist, soft, non-plastic		G03					
	2.0					CLAY - silty - brown, moist, firm to stiff, high plasticity - trace oxidations, trace silt inclusions							
	2.5												
	3.0					- light brown below 3.0 m		G04					△
	3.5							T05					⊠
	4.0												
	4.5							G06					⊠ △
	5.0					- firm below 4.6 m							
	5.5												
	6.0							G07					⊠
	6.5							T08					⊠ △
	7.0												
	7.5							G09					⊠
	8.0					- trace coarse gravel particle (20 mm diameter), trace oxidations at 7.6 m - trace tan silt inclusions below 7.6 m		T10					⊠
	8.5					- grey below 8.7 m							

Logged By: Michael Van Helden **Reviewed By:** Ken Skafffeld **Project Engineer:** Ken Skafffeld

SUB-SURFACE LOG 0015 008 00 LYNDALE DRIVE LOGS.GPJ TREK GEOTECHNICAL_GDT 7/8/13



Sub-Surface Log

Test Hole TH13-01

2 of 2

Elevation (m)	Depth (m)	Soil Symbol	Slope Incliner	VW Piezo	VW Piezo	MATERIAL DESCRIPTION	Sample Type	Sample Number	ROD (%)	SPT (N)	Bulk Unit Wt (kN/m ³)		Undrained Shear Strength (kPa)	
											18	19	0	50
						- trace white precipitates below 9.1 m		G11						
	9.5							T12						
	10.0					- soft below 9.8 m								
	10.5							G13						
	11.0							T14						
	11.5													
	12.0							G15						
	12.5							T16						
	13.0					- trace coarse gravel 20 mm diameter at 12.8 m								
	13.5					- very soft below 13.4 m		G17						
	14.0													
	14.5													
	15.0							G18						
	15.5					SILT (TILL) - trace sand, tan, moist, compact								
	16.0					- wet, trace sand, trace to some gravel below 15.8 m								
	16.5					- moist, dense, trace gravel below 16.1 m								
	17.0					- very dense below 16.7 m		G19						

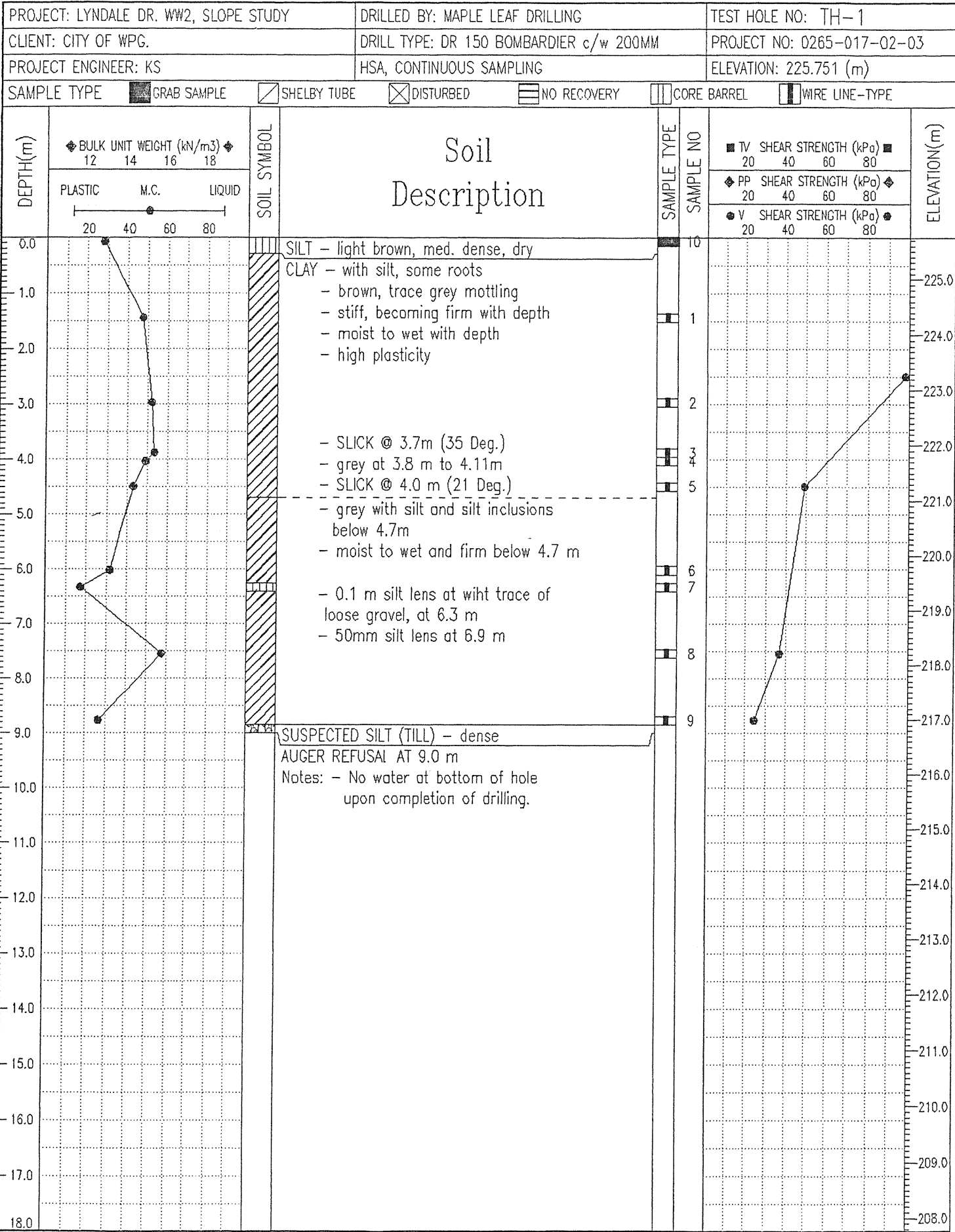
END OF HOLE AT 17.1 m IN TILL
 Notes:
 1) Power auger refusal (PAR) at 16.7 m
 2) Seepage observed below 15.8 m
 3) No sloughing observed.
 4) Water level at 16.8 m upon completion of drilling.
 5) Vibrating wire piezometers VW-1A and VW-1B installed in test hole.
 6) Slope inclinometer SI-1 installed in test hole.

SUB-SURFACE LOG 00115 008 00 LYNDALE DRIVE LOGS.GPJ TREK GEOTECHNICAL_GDT 7/8/13

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Reviewed By: Ken Skaffeld

Project Engineer: Ken Skaffeld

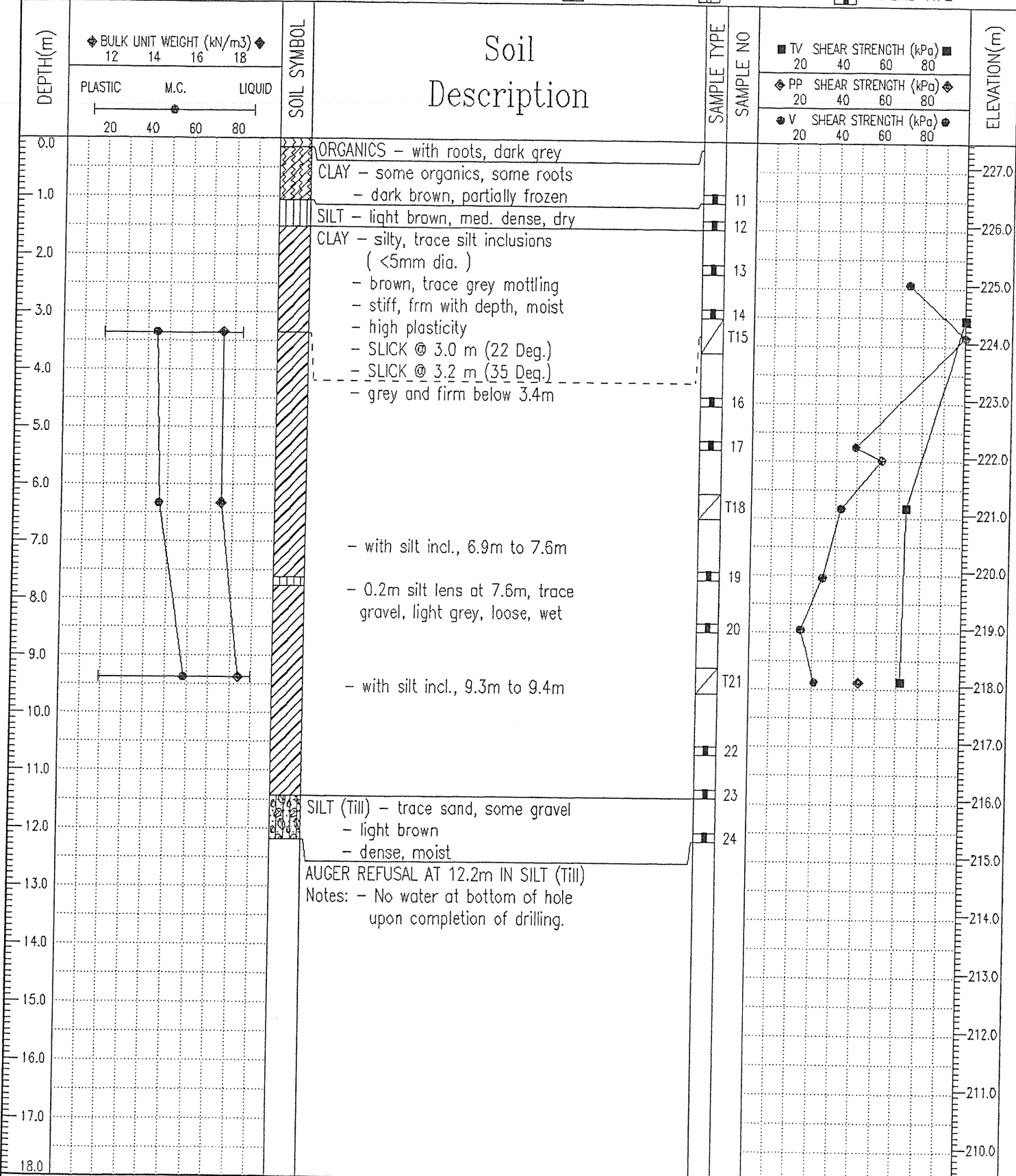


UMA Engineering Ltd.
Winnipeg, Manitoba

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

COMPLETION DEPTH: 9.0 m
COMPLETE: 98/03/02

PROJECT: LYNDALE DR. WW2, SLOPE STUDY	DRILLED BY: MAPLE LEAF DRILLING	TEST HOLE NO: TH-2
CLIENT: CITY OF WPG.	DRILL TYPE: DR 150 BOMBARDIER c/w 200MM	PROJECT NO: 0265-017-02-03
PROJECT ENGINEER: KS	HSA, CONTINUOUS SAMPLING	ELEVATION: 227.435 (m)
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB SAMPLE	<input type="checkbox"/> SHELBY TUBE
	<input type="checkbox"/> DISTURBED	<input type="checkbox"/> NO RECOVERY
	<input type="checkbox"/> CORE BARREL	<input type="checkbox"/> WIRE LINE-TYPE



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Winnipeg, Manitoba

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

COMPLETION DEPTH: 12.2 m
COMPLETE: 98/03/02