

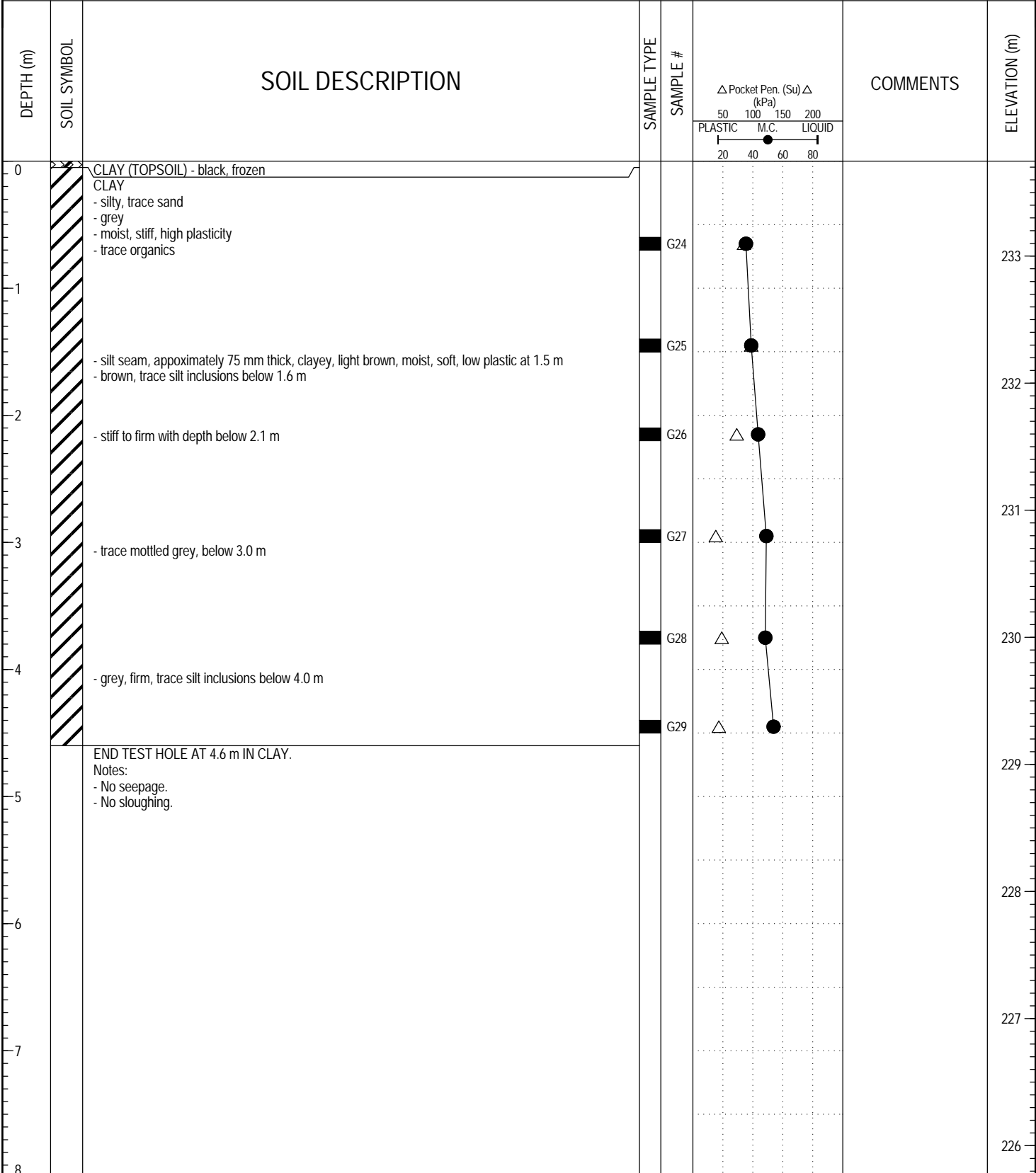
**Geotechnical Report**

**Appendix A**

**Test Hole Logs**

**UMA December 2004**

PROJECT: Kenaston Underpass	CLIENT: Stantec Consulting Ltd.	TESTHOLE NO: TH-04-21
LOCATION: East of McCreary, North of CNRail Tracks		PROJECT NO.: 4231-040-09
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker - 125 mm Solid Stem Augers	ELEVATION (m): 233.747
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

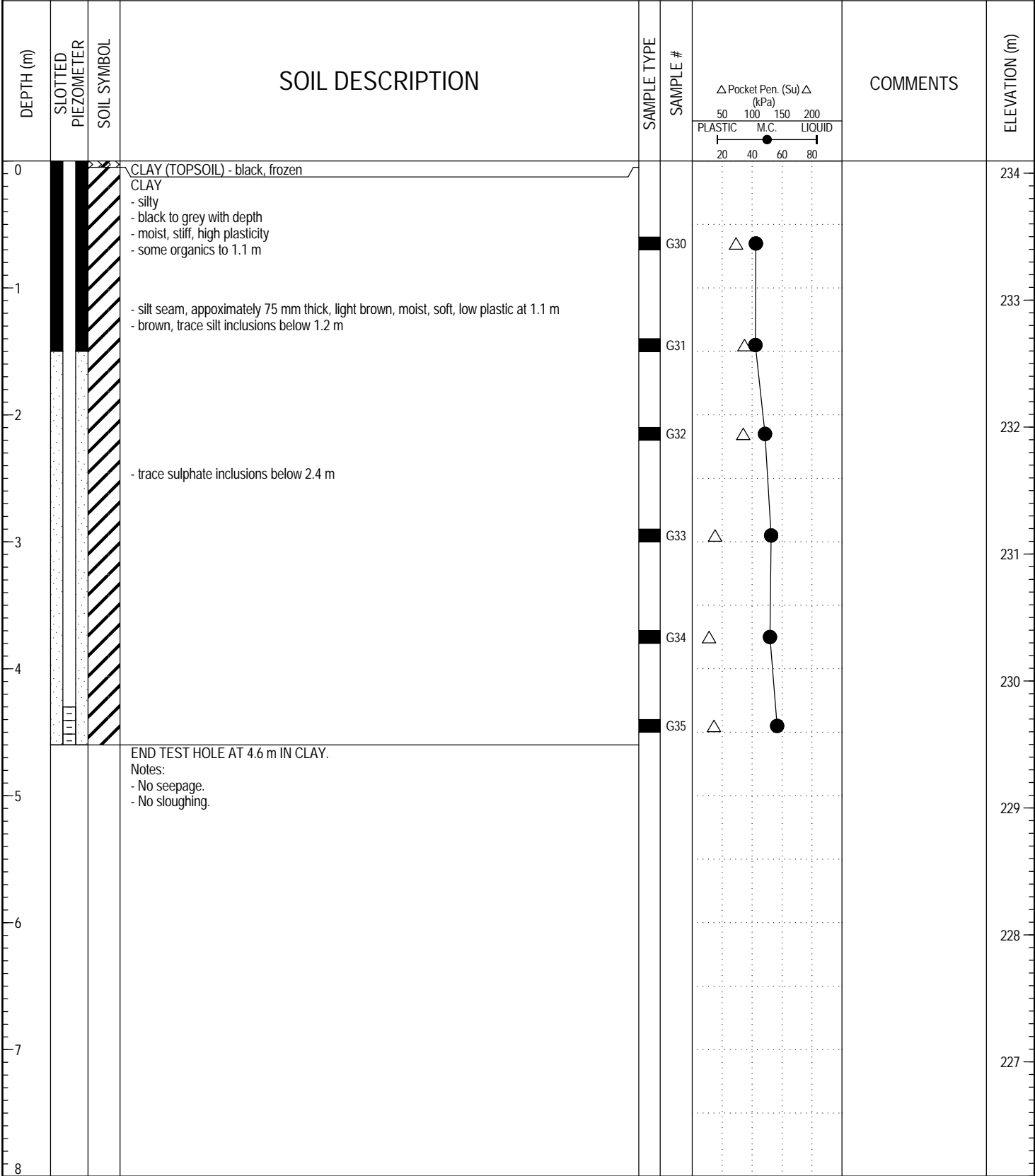


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 4.60 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 6/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 1

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-22		
LOCATION: East of McCreary, North of CNRail Tracks				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 234.096	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

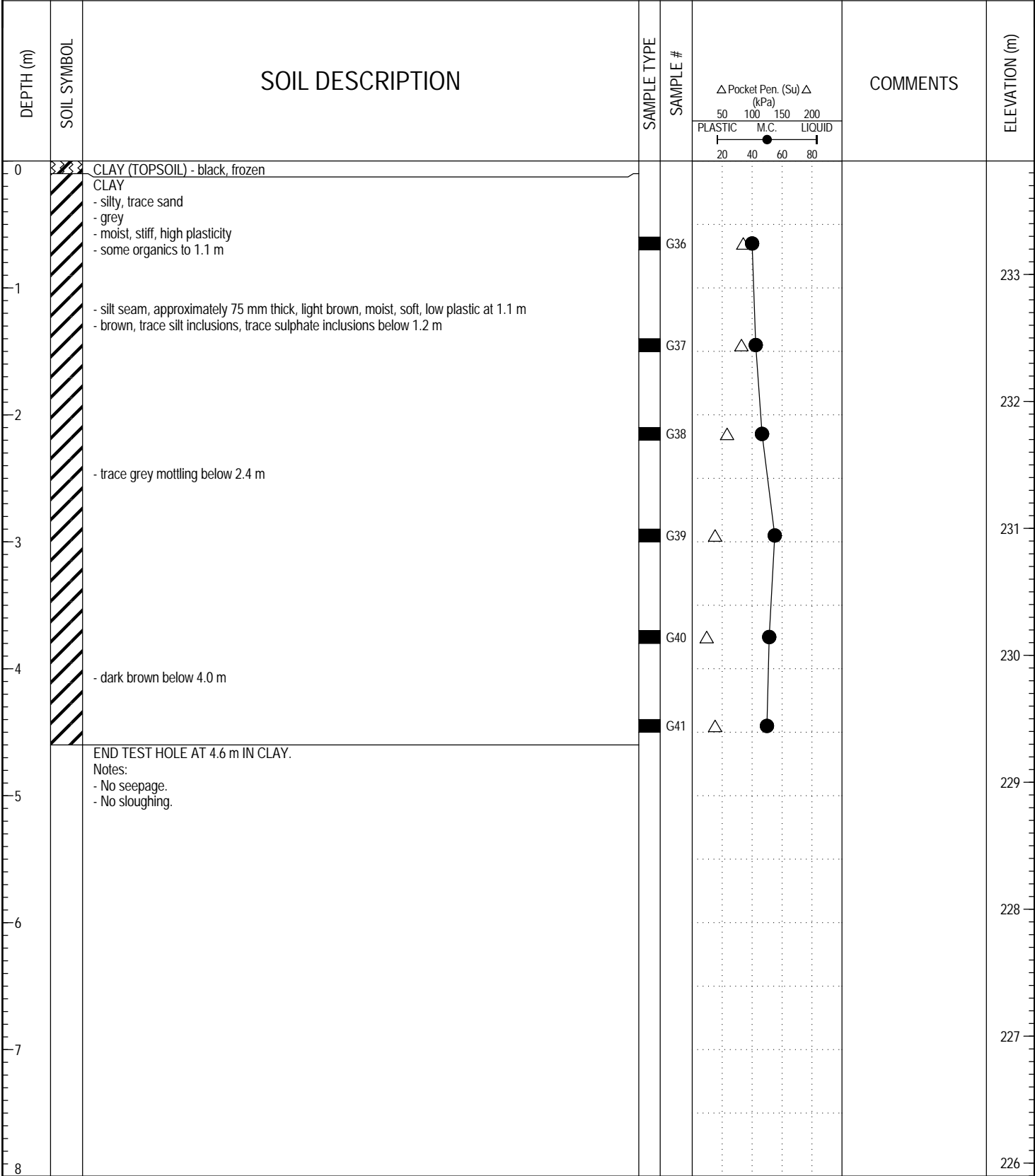


LOG OF TESTHOLE - KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 4.60 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 6/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 1

PROJECT: Kenaston Underpass	CLIENT: Stantec Consulting Ltd.	TESTHOLE NO: TH-04-23
LOCATION: East of McCreary, North of CNRail Tracks		PROJECT NO.: 4231-040-09
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker - 125 mm Solid Stem Augers	ELEVATION (m): 233.894
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	

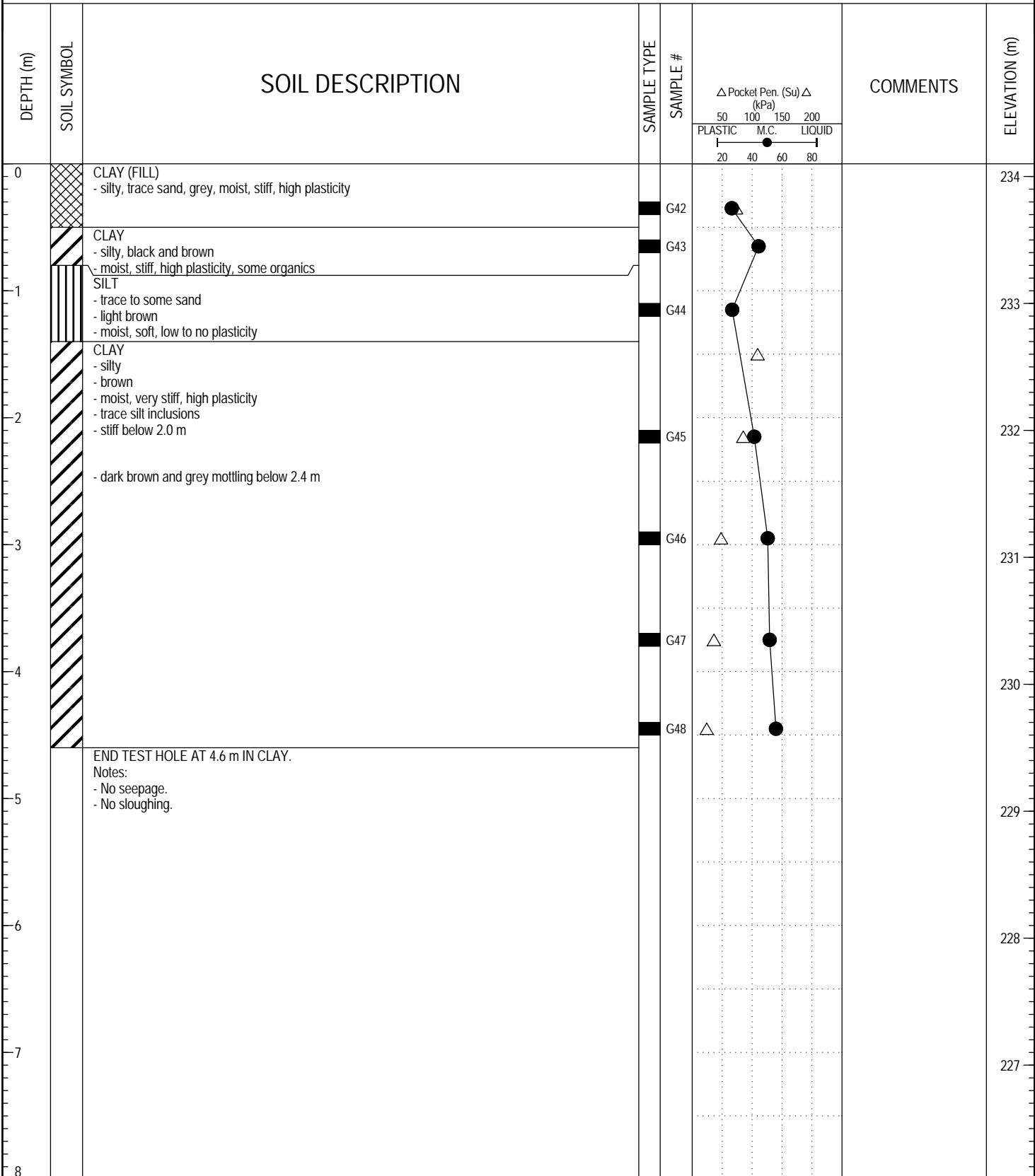


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 4.60 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 6/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 1

PROJECT: Kenaston Underpass	CLIENT: Stantec Consulting Ltd.	TESTHOLE NO: TH-04-24
LOCATION: East of McCreary, North of CNRail Tracks		PROJECT NO.: 4231-040-09
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker - 125 mm Solid Stem Augers	ELEVATION (m): 234.1
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

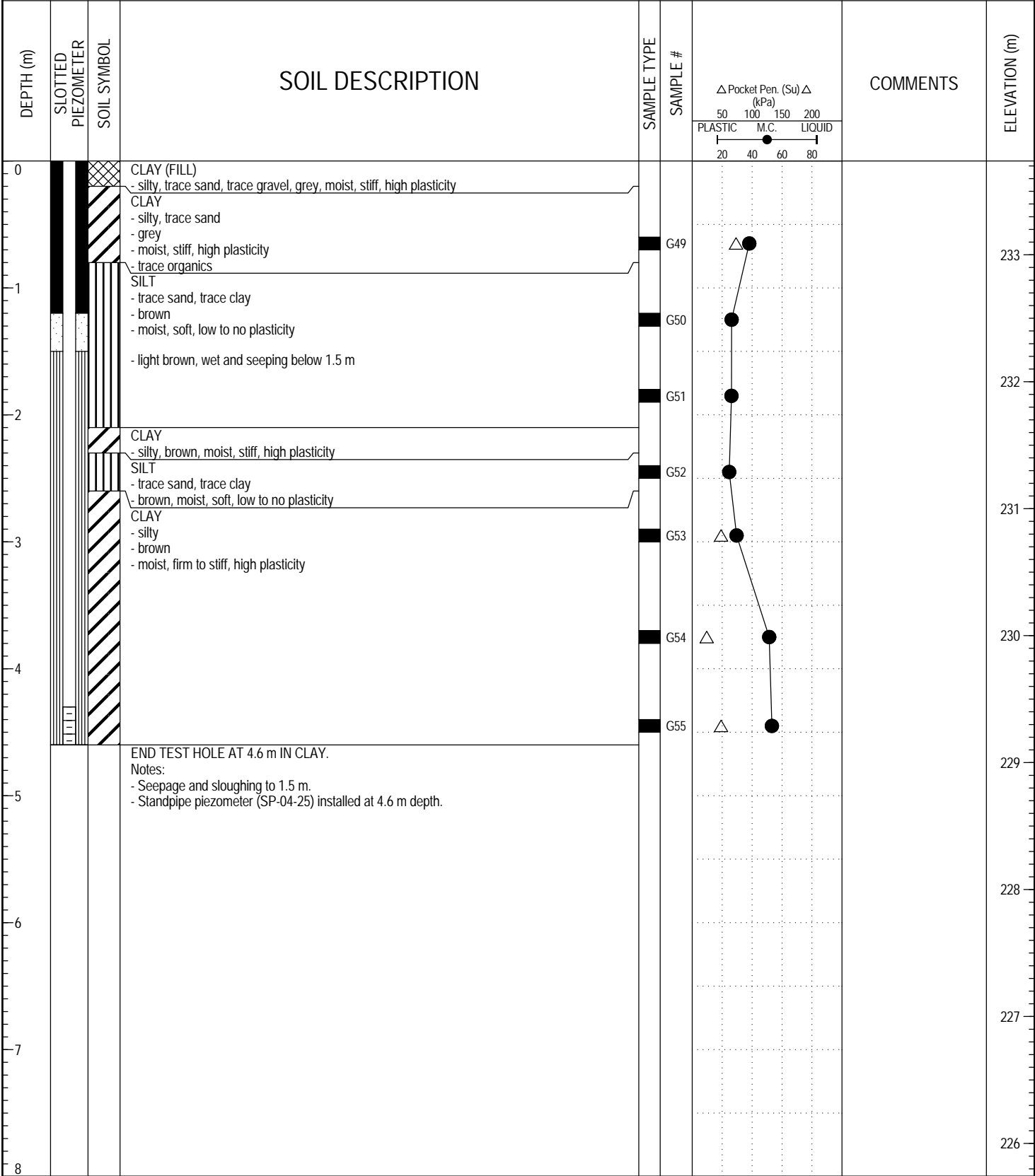


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 4.60 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 6/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 1

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-25		
LOCATION: East of McCreary, North of CNRail Tracks				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 233.739	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

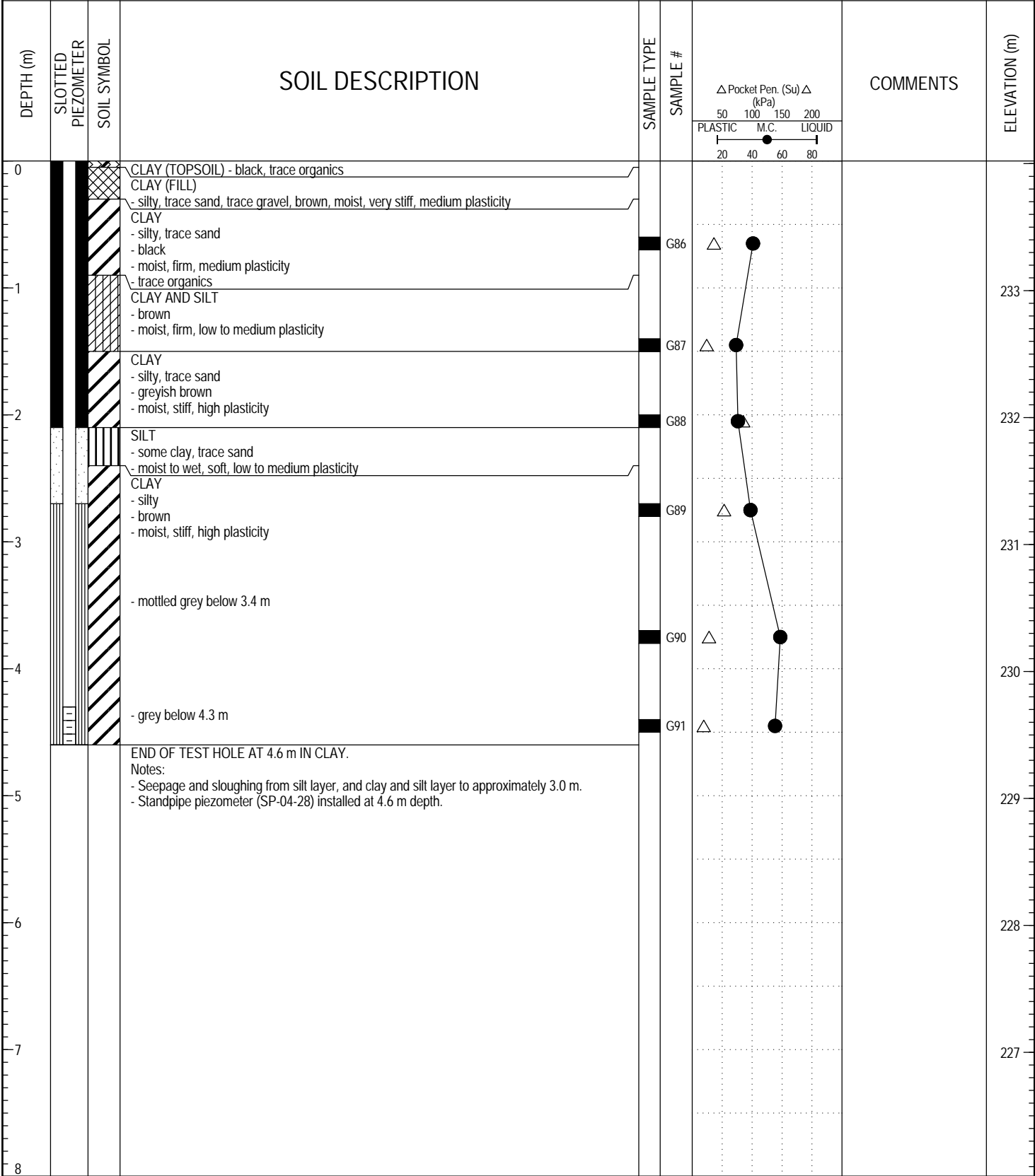


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 4.60 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 6/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 1

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-28		
LOCATION: North of Wilkes, East of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 234.021	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

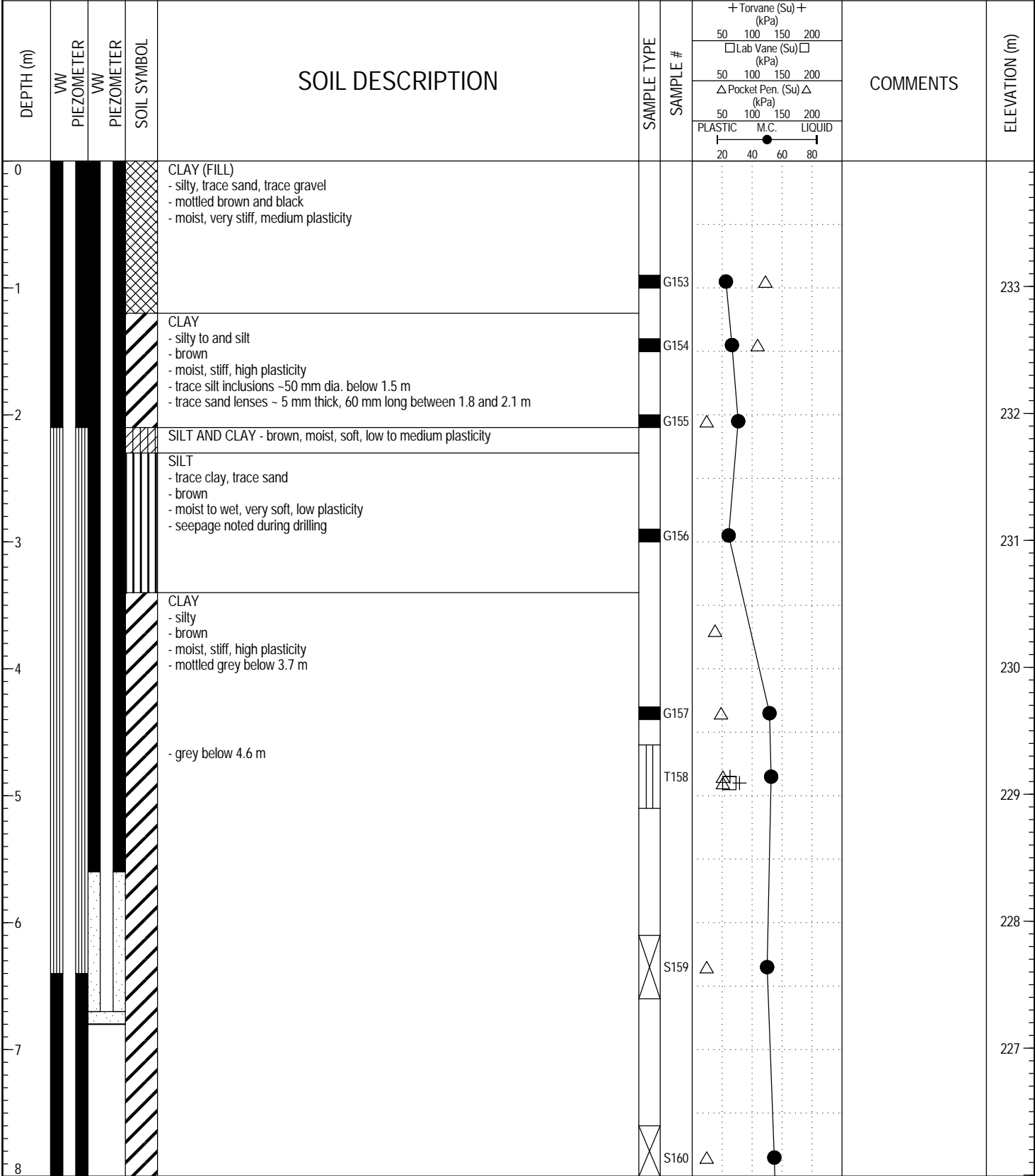


LOG OF TESTHOLE - KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 13.40 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 7/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 1

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-29		
LOCATION: North of Wilkes, East of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 233.988	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



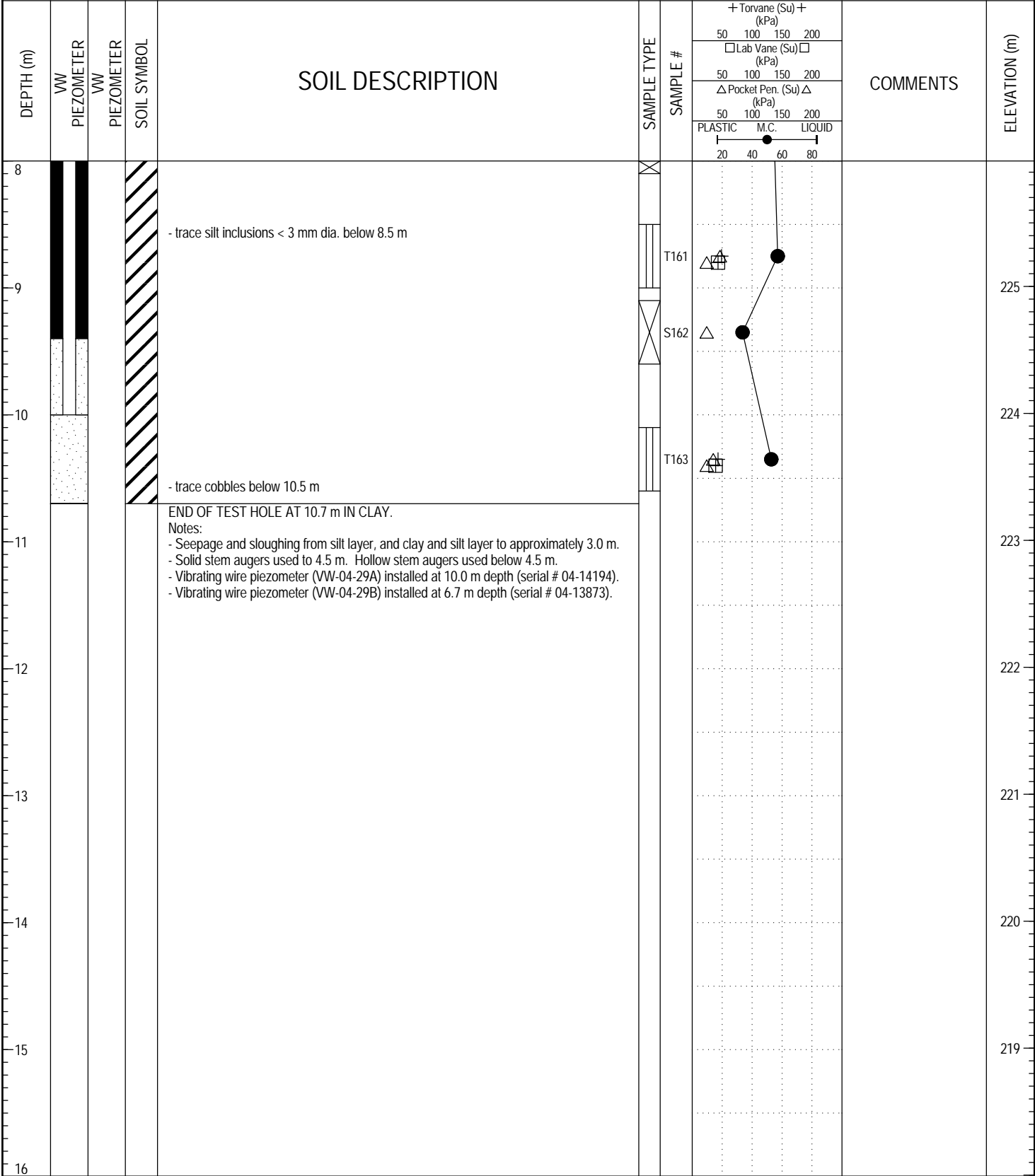
LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 10.70 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 13/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 2



PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-29		
LOCATION: North of Wilkes, East of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 233.988	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

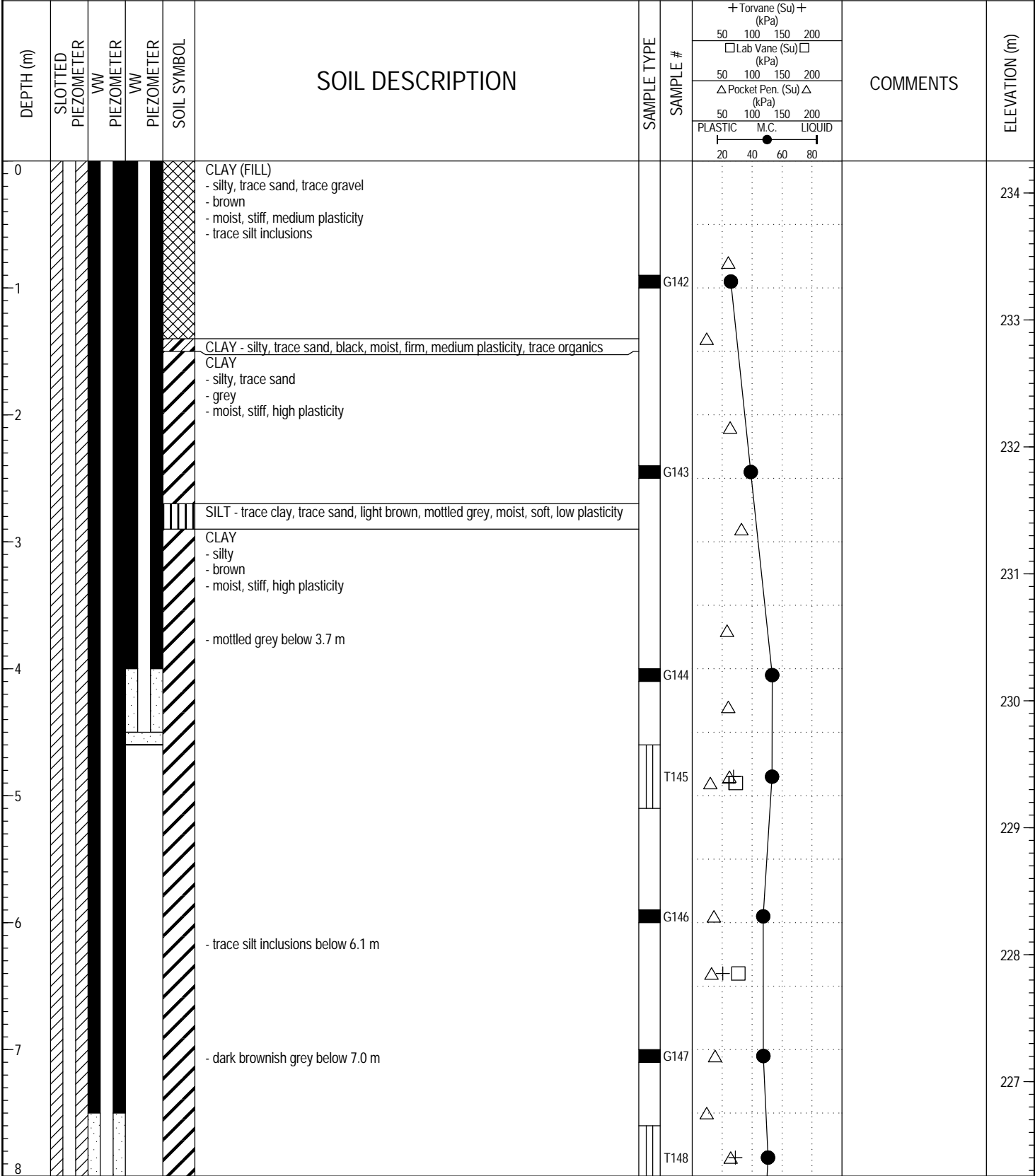


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 10.70 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 13/12/04
PROJECT ENGINEER: Bill Wiesner	Page 2 of 2

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-30		
LOCATION: North of Wilkes, West of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 234.252	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

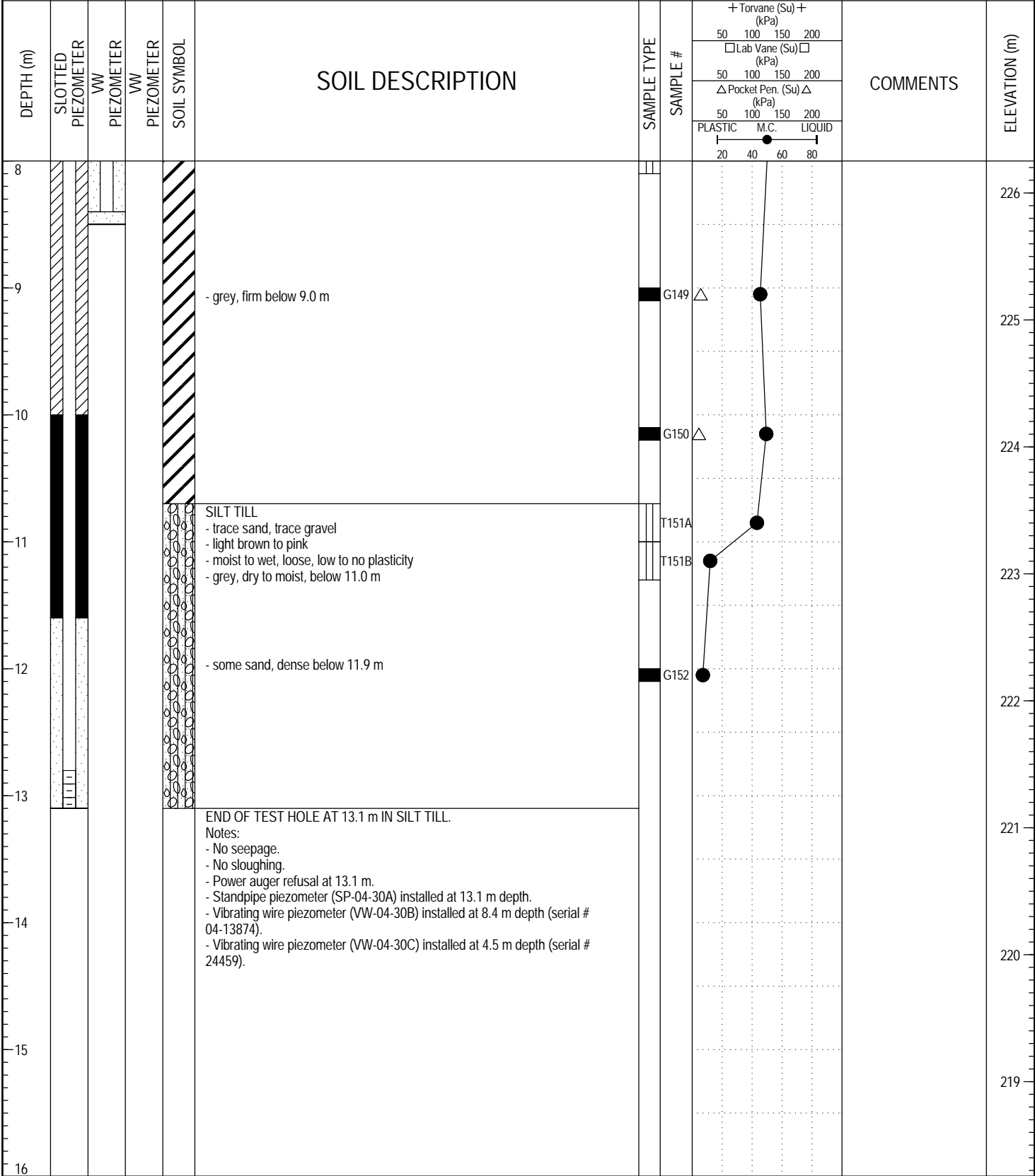


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 13.10 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 10/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 2

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-30		
LOCATION: North of Wilkes, West of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 234.252	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

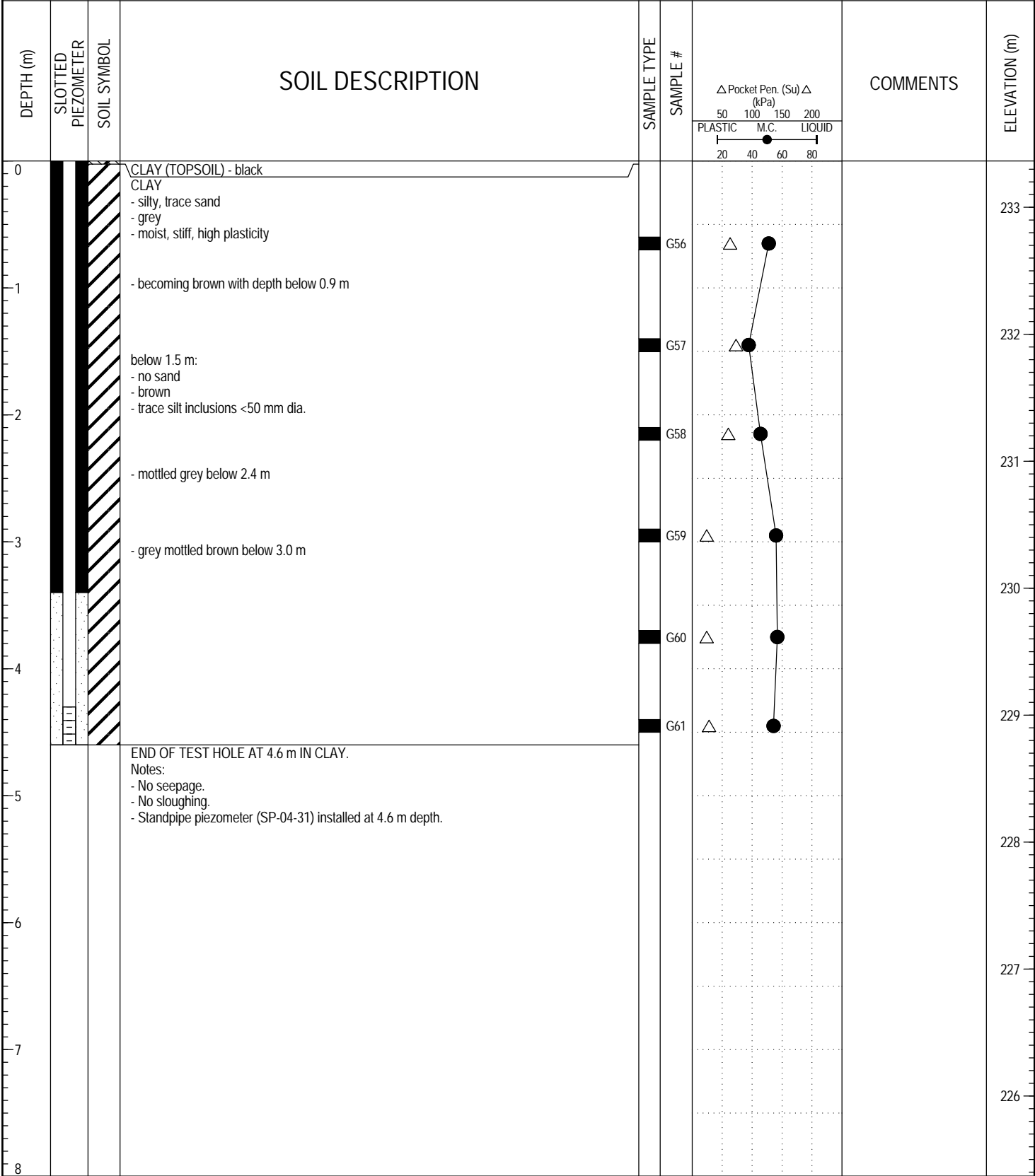


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 13.10 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 10/12/04
PROJECT ENGINEER: Bill Wiesner	Page 2 of 2

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-31		
LOCATION: South of Wilkes, West of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 233.365	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

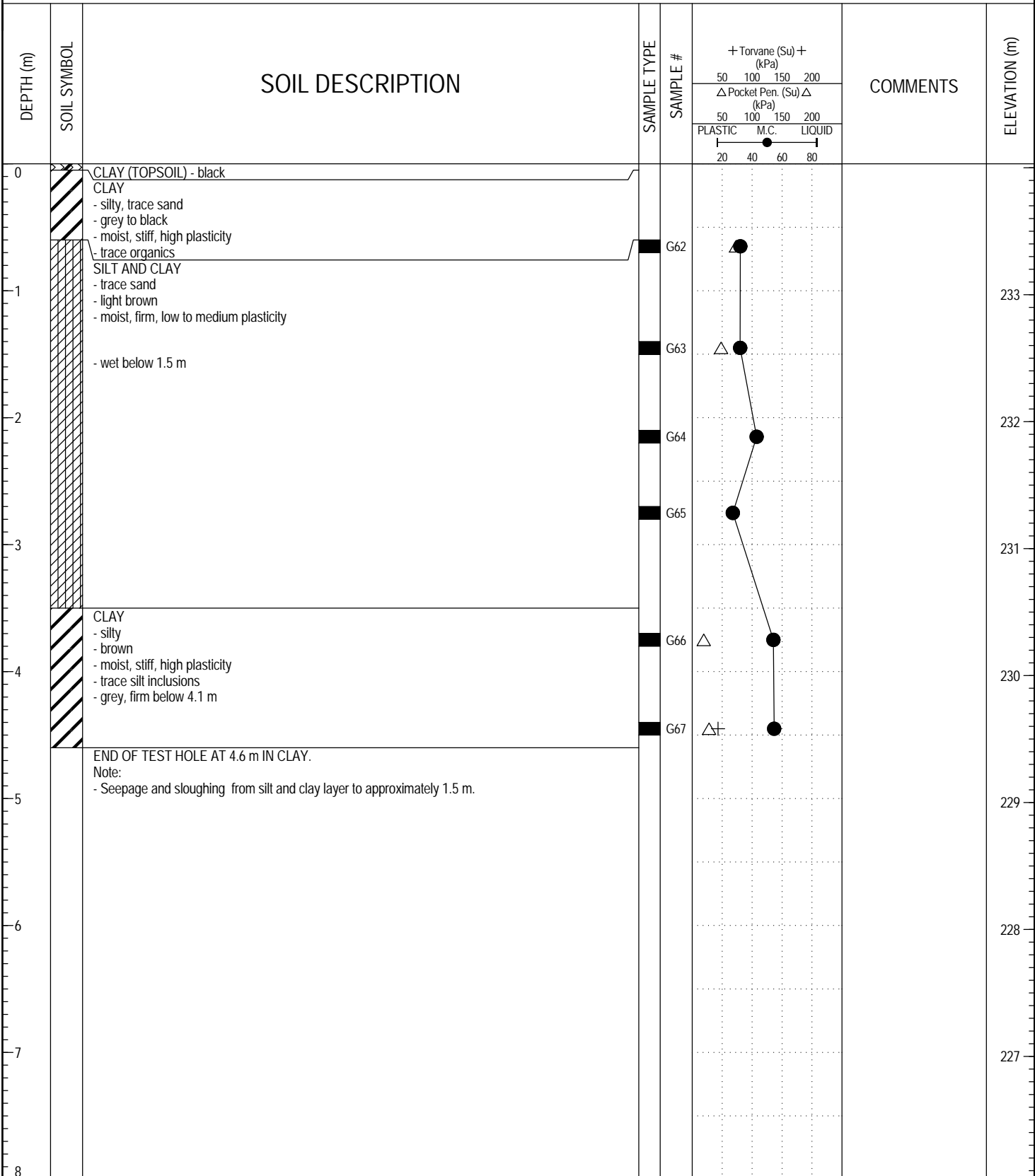


LOG OF TESTHOLE - KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 4.60 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 6/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 1

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.	TESTHOLE NO: TH-04-32
LOCATION: South of Wilkes, East of Kenaston			PROJECT NO.: 4231-040-09
CONTRACTOR: Paddock Drilling Ltd.		METHOD: Acker - 125 mm Solid Stem Augers	ELEVATION (m): 234.031
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

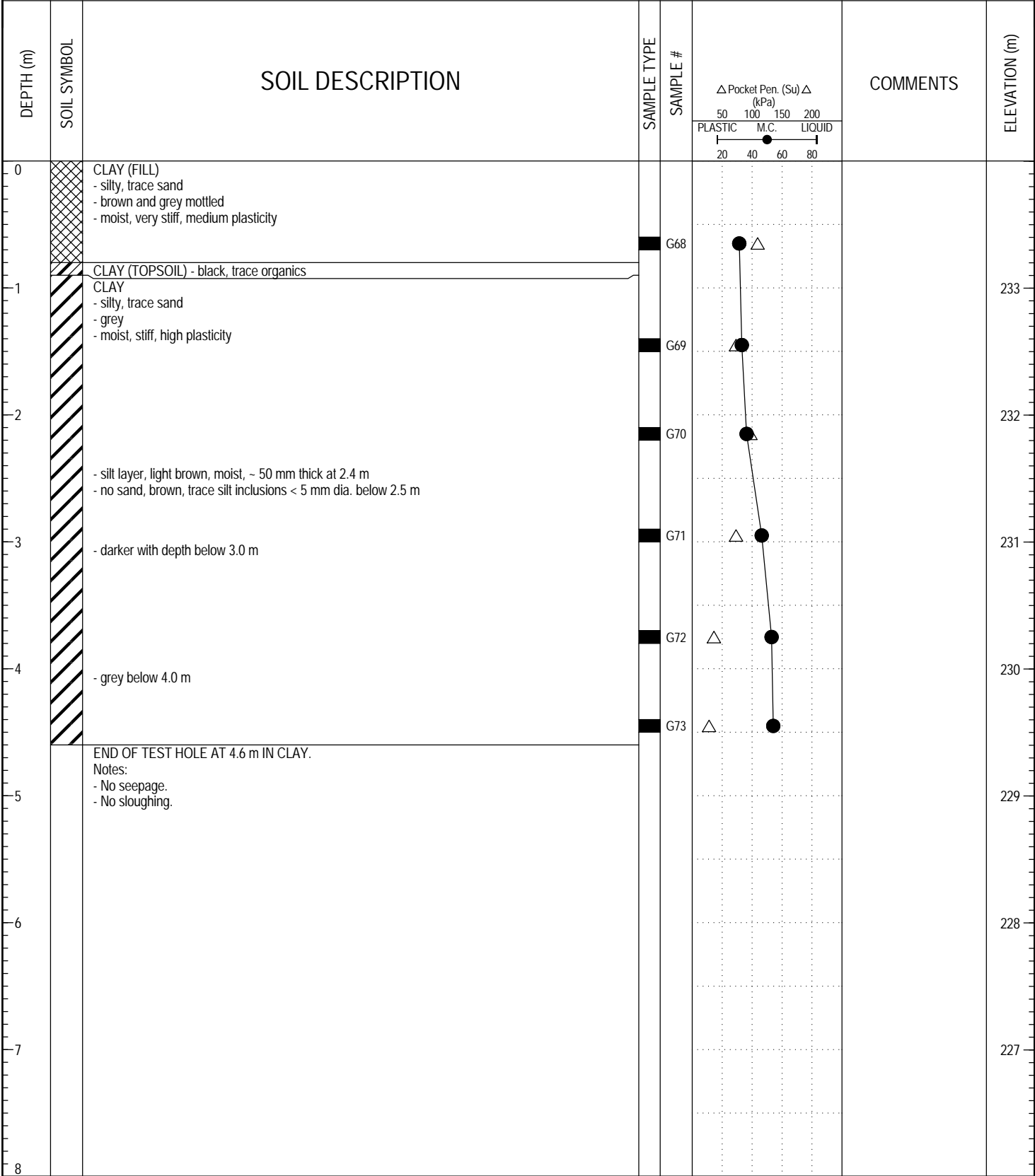


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 4.60 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 6/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 1

PROJECT: Kenaston Underpass	CLIENT: Stantec Consulting Ltd.	TESTHOLE NO: TH-04-33
LOCATION: South of Wilkes, East of Kenaston		PROJECT NO.: 4231-040-09
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker - 125 mm Solid Stem Augers	ELEVATION (m): 234.002
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	

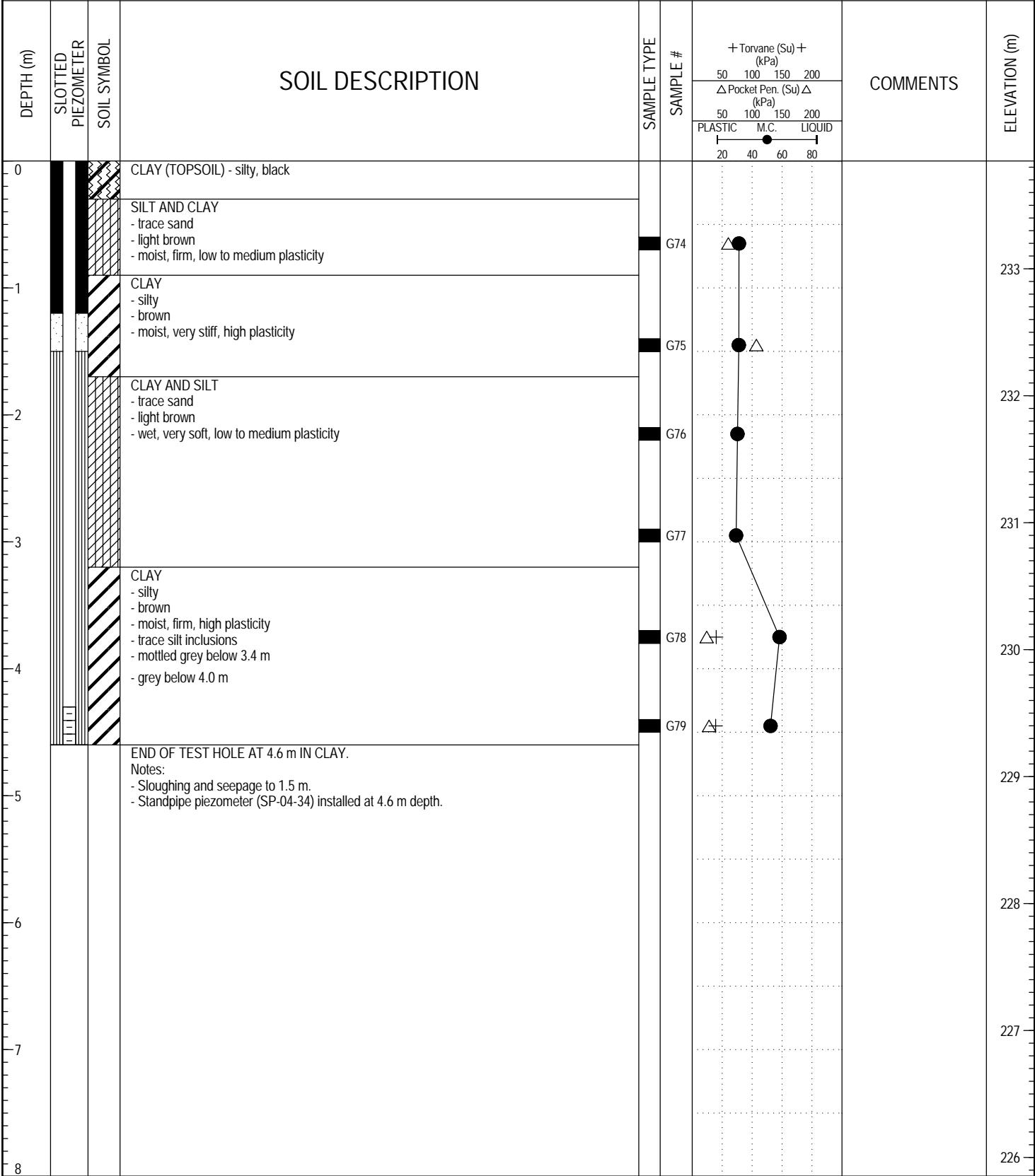


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 4.60 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 6/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 1

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-34		
LOCATION: South of Wilkes, East of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 233.849	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

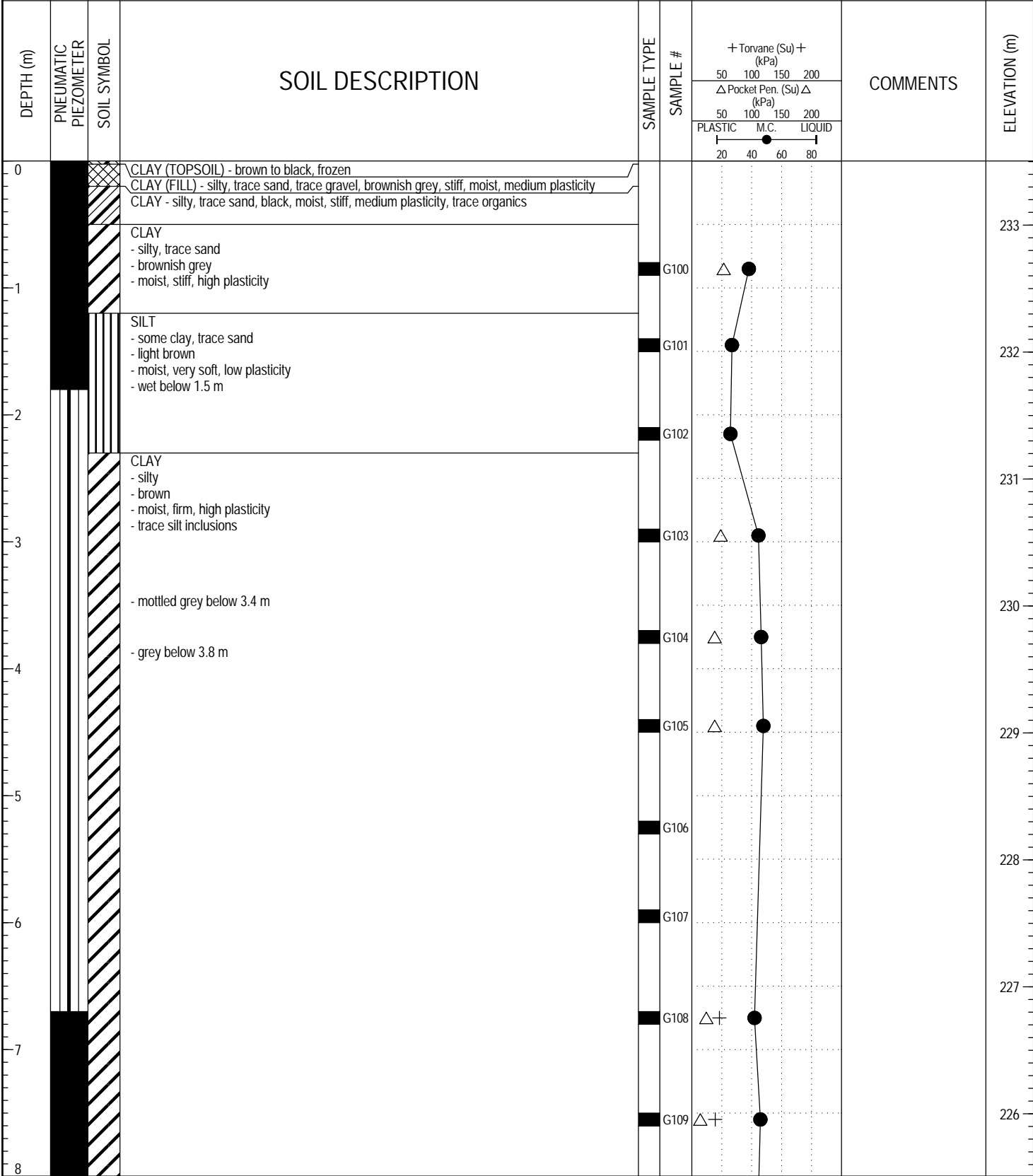


LOG OF TESTHOLE - KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 4.60 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 6/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 1

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-35		
LOCATION: North of CN Rail, East of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 233.505	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



LOG OF TESTHOLE - KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 9.10 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 7/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 2



PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-35		
LOCATION: North of CN Rail, East of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 233.505	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

DEPTH (m)	PNEUMATIC PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	Penetration Test Results (kPa)		COMMENTS	ELEVATION (m)
						+ Torvane (Su) + 50 100 150 200	Δ Pocket Pen. (Su) Δ 50 100 150 200		
8					G110	Δ+	●		225
9					G111	Δ+	●		224
9.2			END OF TEST HOLE AT 9.2 m IN CLAY. Notes: - Sloughing and seepage from silt layer to approximately 6.0 m at completion of test hole. - Pneumatic piezometer (PN-04-35) installed in hollowstem hole next to test hole at 9.2 m depth.						223
10									222
11									221
12									220
13									219
14									218
15									217
16									216

LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 9.10 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 7/12/04
PROJECT ENGINEER: Bill Wiesner	Page 2 of 2

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-36		
LOCATION: North of CN Rail, East of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 233.039	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

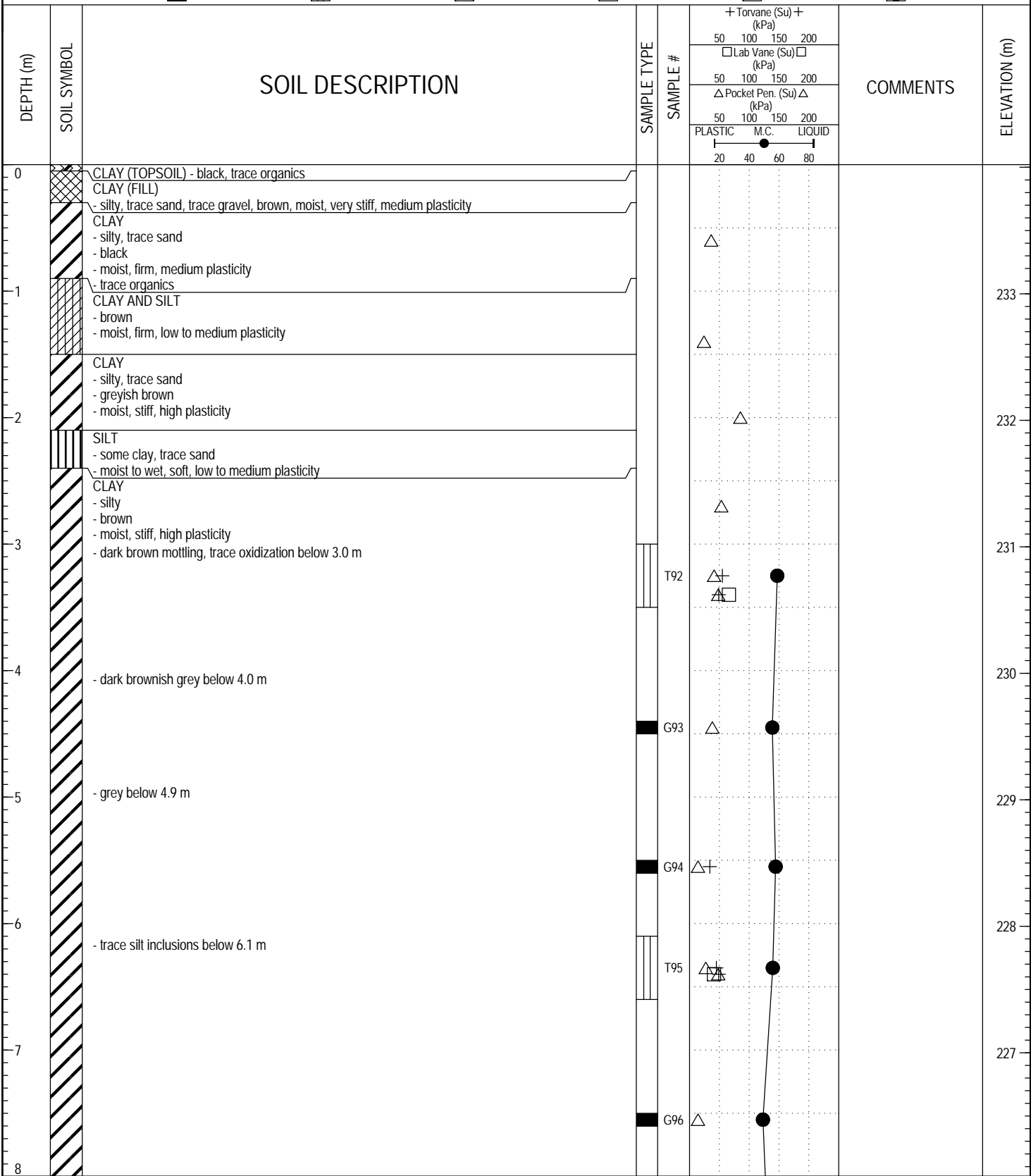
DEPTH (m)	SLOTTED PIEZOMETER	SOIL SYMBOL	SOIL DESCRIPTION	SAMPLE TYPE	SAMPLE #	△ Pocket Pen. (Su) △ (kPa)				COMMENTS	ELEVATION (m)	
						50	100	150	200			
0			CLAY - silty, trace sand - brownish grey - moist, very stiff, high plasticity									
1			SILT - some clay - light brown - moist, very soft, low plasticity - trace oxidization		G80							232
2					G81							
3			CLAY - silty - brown - moist, firm, high plasticity - trace silt inclusions		G82							231
4			- mottled grey below 3.4 m  - grey below 3.8 m		G83							230
5					G84							229
6					G85							228
7			END OF TEST HOLE AT 4.6 m IN CLAY. Notes: - Sloughing from silt layer to approximately 2.7 m. - No seepage. - Standpipe piezometer (SP-04-36) installed at 4.6 m depth.									227
8												226

LOG OF TESTHOLE - KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 4.60 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 6/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 1

PROJECT: Kenaston Underpass	CLIENT: Stantec Consulting Ltd.	TESTHOLE NO: TH-04-41
LOCATION: North of Wilkes, West of Kenaston		PROJECT NO.: 4231-040-09
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker - 125 mm Solid Stem Augers	ELEVATION (m): 234.021
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

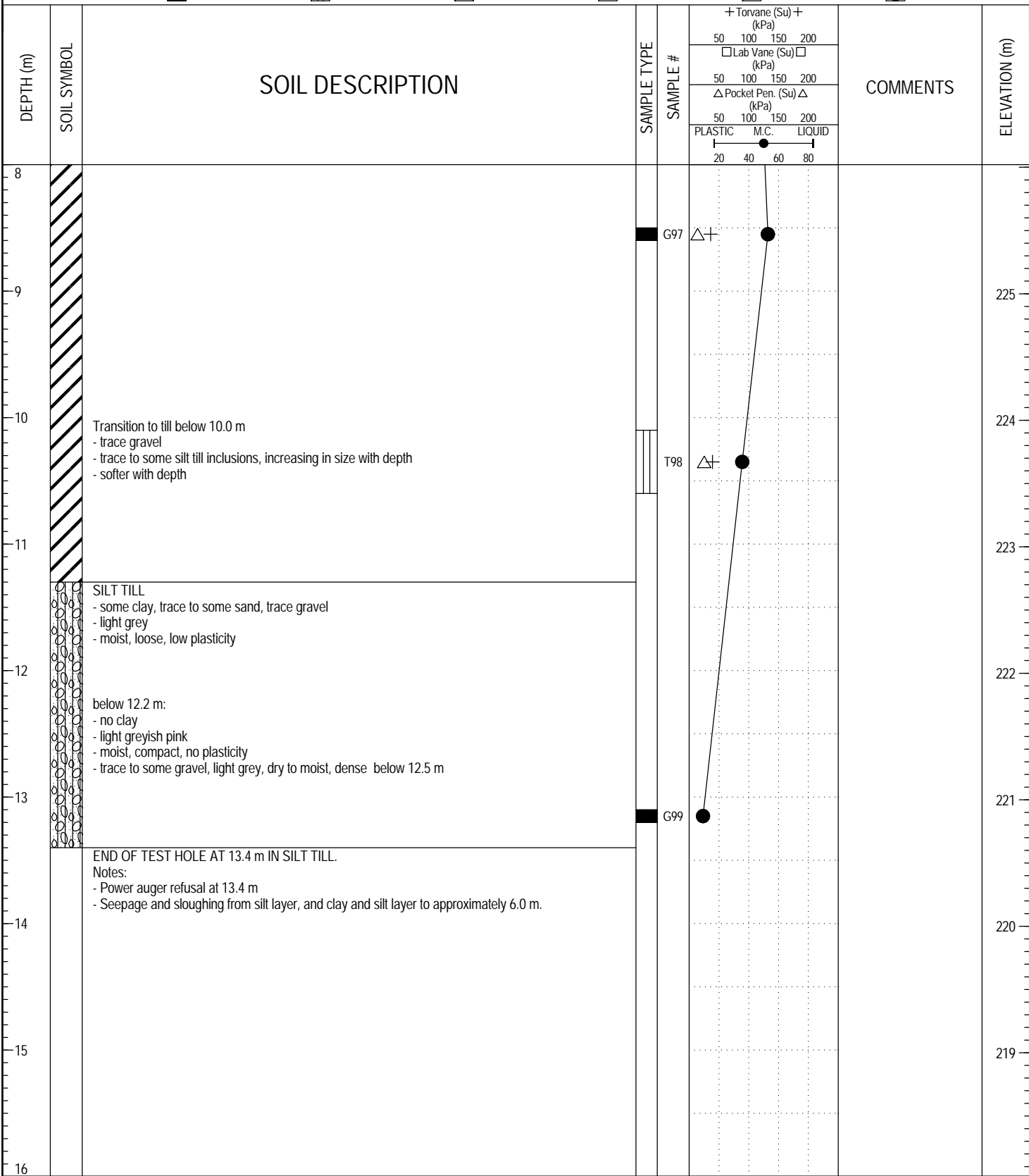


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 13.40 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 7/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 2

PROJECT: Kenaston Underpass	CLIENT: Stantec Consulting Ltd.	TESTHOLE NO: TH-04-41
LOCATION: North of Wilkes, West of Kenaston		PROJECT NO.: 4231-040-09
CONTRACTOR: Paddock Drilling Ltd.	METHOD: Acker - 125 mm Solid Stem Augers	ELEVATION (m): 234.021
SAMPLE TYPE	<input checked="" type="checkbox"/> GRAB <input type="checkbox"/> SHELBY TUBE <input type="checkbox"/> SPLIT SPOON <input type="checkbox"/> BULK <input checked="" type="checkbox"/> NO RECOVERY <input type="checkbox"/> CORE	

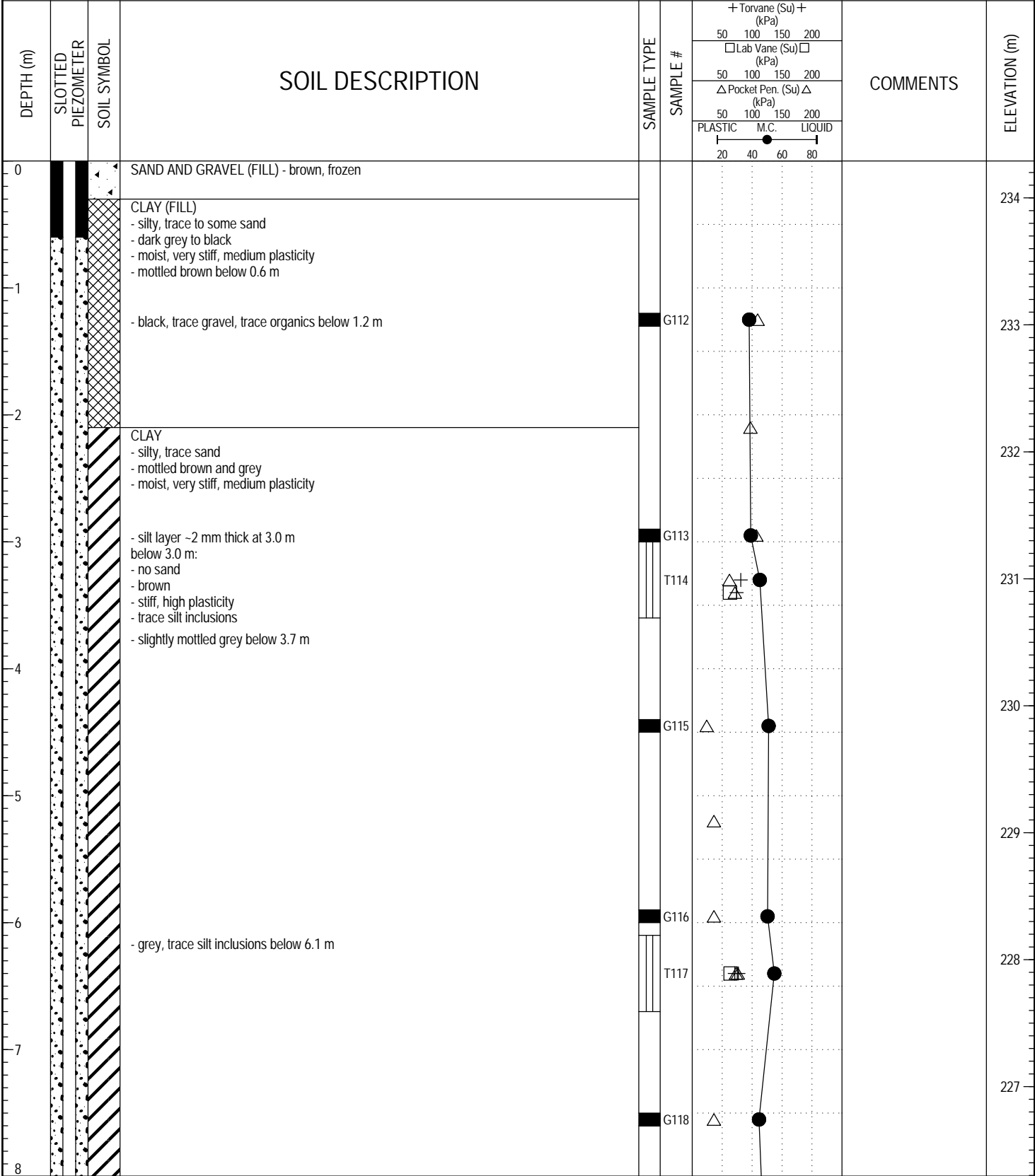


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 13.40 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 7/12/04
PROJECT ENGINEER: Bill Wiesner	Page 2 of 2

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-42		
LOCATION: North of Wilkes, West of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 234.291	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND

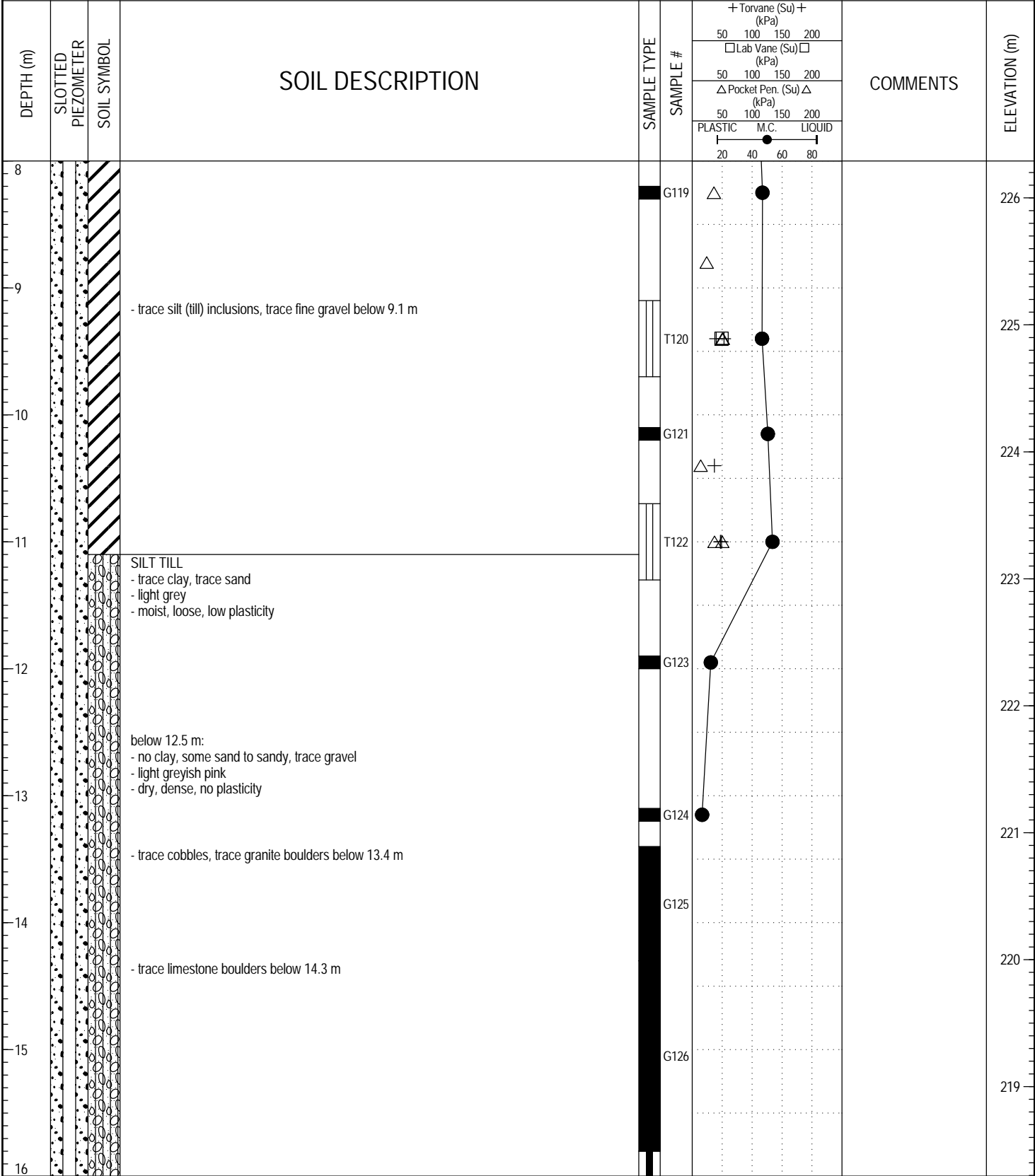


LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 37.20 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 9/12/04
PROJECT ENGINEER: Bill Wiesner	Page 1 of 5

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-42		
LOCATION: North of Wilkes, West of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 234.291	
SAMPLE TYPE	GRAB	SHELBY TUBE	SPLIT SPOON	BULK	NO RECOVERY	CORE
BACKFILL TYPE	BENTONITE	GRAVEL	SLOUGH	GROUT	CUTTINGS	SAND



LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 37.20 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 9/12/04
PROJECT ENGINEER: Bill Wiesner	Page 2 of 5

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-42		
LOCATION: North of Wilkes, West of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 234.291	
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 #	+ Torvane (Su) + (kPa)				COMMENTS	ELEVATION (m)
						50	100	150	200		
						<input type="checkbox"/> Lab Vane (Su) <input type="checkbox"/> 50 100 150 200 Δ Pocket Pen. (Su) Δ (kPa) 50 100 150 200 PLASTIC M.C. LIQUID 20 40 60 80					
16					C127						218
17					C128						217
18					C129						216
19					C130						215
20			LIMESTONE - light brownish grey to white - pitted, cemented - signs of acidic dissolving and calcite precipitation - fractured and jointed - slight oxidation between 20.4 m and 23.4 m		C131					Recovery: 90 % ROD: 46%	214
21					C132						213
22			- core in 30 to 300 mm pieces between 22.0 and 23.5 m							Recovery: 90 % ROD: 20%	212
23											211
24			- core largely fractured < 100 mm lengths between 23.5 m and 25.0 m							Recovery: 85 % ROD: 42%	211

LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 37.20 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 9/12/04
PROJECT ENGINEER: Bill Wiesner	Page 3 of 5

PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-42		
LOCATION: North of Wilkes, West of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 234.291	
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 #	+ Torvane (Su) + (kPa)		COMMENTS	ELEVATION (m)
						50	100		
24			- mottled light grey and light brown to white below 24.5 m						210
25			- pale light yellow, no signs of weathering, fresh faces on fractures, no alteration below 25.0 m					Recovery: 87 % RQD: 44%	209
26			- possible solution cavity, infilled with very fine grain silt material, very hard, between 25.6 m and 26.2 m						208
27								Recovery: 100 % RQD: 86%	207
28								Recovery: 100 % RQD: 80%	206
29									205
30								Recovery: 100 % RQD: 61%	204
31									203
32								Recovery: 100 % RQD: 57%	203

LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 37.20 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 9/12/04
PROJECT ENGINEER: Bill Wiesner	Page 4 of 5



PROJECT: Kenaston Underpass		CLIENT: Stantec Consulting Ltd.		TESTHOLE NO: TH-04-42		
LOCATION: North of Wilkes, West of Kenaston				PROJECT NO.: 4231-040-09		
CONTRACTOR: Paddock Drilling Ltd.			METHOD: Acker - 125 mm Solid Stem Augers		ELEVATION (m): 234.291	
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 #	+ Torvane (Su) + (kPa)		COMMENTS	ELEVATION (m)
						50	100		
32									202
33									201
34					C139				200
35			- coring procedure lost water circulation at approximately 34.7 m		C140			Recovery: 100 % ROD: 79%	199
36					C141			Recovery: 100 % ROD: 94%	198
37									197
38			END OF TEST HOLE AT 37.2 m IN BEDROCK. Notes: - Seepage and Sloughing from silt layer, and clay and silt layer to approximately 6.0 m. - Power auger refusal at 13.4 m. - HQ cored from 13.4 m to 37.2 m. - Standpipe piezometer (SP-04-42) installed at 26.5 m depth.					Recovery: 100 % ROD: 79%	196
39									195
40									

LOG OF TESTHOLE KENASTON UNDERPASS.GPJ UMA.GDT 21/3/05



LOGGED BY: Kate Franklin	COMPLETION DEPTH: 37.20 m
REVIEWED BY: Jeff Tallin	COMPLETION DATE: 9/12/04
PROJECT ENGINEER: Bill Wiesner	Page 5 of 5