

PROJECT 11-1191-0007			RECORD OF BOREHOLE No H2-1			1 OF 1 METRIC							
G.W.P. 156-98-00			LOCATION N 5136289.9; E 273879.1			ORIGINATED BY AC							
DIST _____ HWY 17			BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers			COMPILED BY EC							
DATUM Geodetic			DATE April 10, 2012			CHECKED BY SEMP							
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT <div style="display: flex; justify-content: space-around; font-size: small;"> 20 40 60 80 100 </div>	PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV. DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES								
240.7	GROUND SURFACE												
0.0	ORGANICS												
0.1	CLAYEY SILT, trace sand, trace organics		1	SS	9								
	Stiff		2	SS	13								
	Brown		3	SS	15								
	Moist												
238.5													
2.2	Sandy SILT, trace clay												
238.0	Compact		4A	SS	15								
	Grey		4B										
	Wet												
2.8	Gravelly SAND, trace to some silt												
	Brown												
	Wet												
	END OF BOREHOLE												
	SPOON REFUSAL (HAMMER BOUNCING) AND AUGER REFUSAL												
	Note:												
	1. Borehole dry upon completion of drilling.												

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:


PROJECT 11-1191-0007			RECORD OF BOREHOLE No H2-3			1 OF 1 METRIC											
G.W.P. 156-98-00			LOCATION N 5136299.6; E 273902.2			ORIGINATED BY EHS											
DIST _____ HWY 17			BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring			COMPILED BY EC											
DATUM Geodetic			DATE April 11, 2012			CHECKED BY SEMP											
SOIL PROFILE			SAMPLES			DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC NATURAL LIQUID LIMIT MOISTURE CONTENT			UNIT WEIGHT			REMARKS & GRAIN SIZE DISTRIBUTION (%)		
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED			WATER CONTENT (%) W _p — W — W _L			UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL		
239.8	GROUND SURFACE																
0.0	PEAT (Fibrous to amorphous) Very soft Black Frozen to wet		1	SS	5		239										
			2	SS	WH		238										
			3	SS	WH		237										
237.5	SILTY CLAY to CLAY Stiff Grey Wet		4	SS	5		236										
2.3							235										
235.8	SILT, some clay Very loose Grey Wet		5A	SS	WH		234										
4.0			5B														
			6	SS	WH												
233.6	END OF BOREHOLE SPOON REFUSAL (HAMMER BOUNCING) AND REFUSAL TO FURTHER CASING ADVANCEMENT		7	SS	10/0.28												
6.2	Note: 1. Water level at ground surface (Elev. 239.8 m) upon completion of drilling.																

SUD-MTO 001 11-1191-0007.GPJ GAL-MASS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007			RECORD OF BOREHOLE No H2-5			1 OF 1 METRIC							
G.W.P. 156-98-00		LOCATION N 5136309.9; E 273929.2		ORIGINATED BY EHS									
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring		COMPILED BY EC									
DATUM Geodetic		DATE April 11 and 12, 2012		CHECKED BY SEMP									
SOIL PROFILE			SAMPLES			DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC NATURAL LIQUID LIMIT MOISTURE CONTENT		UNIT WEIGHT		REMARKS & GRAIN SIZE DISTRIBUTION (%)	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	SHEAR STRENGTH kPa	W _p	W	W _L	γ	GR SA SI CL
239.8	GROUND SURFACE												
0.0	PEAT (Fibrous to amorphous) Very soft Black Frozen to wet		1	SS	WH								
			2	SS	WH								
			3	SS	WH								
			4	SS	WH								
236.4	CLAY Soft to firm Black Wet		5	SS	WH								
3.4	Varved below 4.9 m depth.		6	SS	WH								
			7	SS	WH								
232.4	SILT, some clay Loose Grey Wet		8	SS	4								
7.4			9	SS	8								
229.6	SAND and SILT, trace gravel Compact Grey Wet		10	SS	18								
10.2													
228.5	END OF BOREHOLE												
11.3													
226.9	END OF DCPT REFUSAL TO FURTHER PENETRATION (HAMMER BOUNCING)												
12.9	Notes: 1. Water level at a depth of 0.8 m below ground surface (Elev. 239.0 m) upon completion of drilling.												

+ 3, x 3: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007			RECORD OF BOREHOLE No H2-6			2 OF 2 METRIC							
G.W.P. 156-98-00			LOCATION N 5136305.7; E 273942.7			ORIGINATED BY AC							
DIST _____ HWY 17			BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring			COMPILED BY EC							
DATUM Geodetic			DATE April 3 and 4, 2012			CHECKED BY SEMP							
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa					
	— CONTINUED FROM PREVIOUS PAGE —						20 40 60 80 100 ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED						
223.5 16.3	SAND and SILT, trace clay Very loose to compact Grey Wet		14	SS	2								
222.1 17.7	SAND, some silt Loose Grey Wet Spoon attempted at 17.7 m depth, spoon bouncing.		15	SS	7								
	END OF BOREHOLE REFUSAL TO FURTHER CASING ADVANCEMENT Notes: 1. Water level 0.5 m above ground surface (Elev. 240.3 m) upon completion of drilling. 2. On April 5, 2012, the water level was measured in the casing at 0.5 m above ground surface (Elev. 240.3 m); approximately 3.7 m of sand and silt heave was measured in casing.												

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-7				2 OF 2 METRIC						
G.W.P. 156-98-00		LOCATION N 5136317.2; E 273949.0		ORIGINATED BY AC								
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring		COMPILED BY EC								
DATUM Geodetic		DATE March 30, 2012		CHECKED BY SEMP								
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT	PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE								
--- CONTINUED FROM PREVIOUS PAGE ---												
	END OF BOREHOLE											
220.4												
19.5	END OF DCPT REFUSAL TO FURTHER PENETRATION HAMMER BOUNCING (100 Blows / 0.15 m) Notes: 1. Water level at ground surface (Elev. 239.9 m) upon completion of drilling. Water level measured in casing at a height of 0.8 m above ground surface (Elev. 240.7 m) prior to removing casing.											

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

+³, ×³: Numbers refer to Sensitivity

○ 3% STRAIN AT FAILURE



PROJECT		RECORD OF BOREHOLE No H2-8				2 OF 2 METRIC								
G.W.P. 156-98-00		LOCATION N 5136332.8; E 273956.8				ORIGINATED BY AC								
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring				COMPILED BY EC								
DATUM Geodetic		DATE April 2 and 3, 2012				CHECKED BY SEMP								
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa						
	— CONTINUED FROM PREVIOUS PAGE —													
223.6 16.3	SAND and SILT, trace gravel, trace clay Loose to compact Grey Wet		14	SS	12									3 40 54 3
222.5 17.4	SAND, trace gravel, trace silt Compact Grey Wet		15	SS	11									
	END OF BOREHOLE													
	Note: 1. Water level at ground surface (Elev. 239.9 m) upon completion of drilling.													

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

+ 3, × 3; Numbers refer to Sensitivity

○ 3% STRAIN AT FAILURE

PROJECT <u>11-1191-0007</u>				RECORD OF BOREHOLE No H2-9				2 OF 2 METRIC							
G.W.P. <u>156-98-00</u>		LOCATION <u>N 5136326.6; E 273972.2</u>				ORIGINATED BY <u>AC</u>									
DIST <u> </u> HWY <u>17</u>		BOREHOLE TYPE <u>108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring</u>				COMPILED BY <u>EC</u>									
DATUM <u>Geodetic</u>		DATE <u>April 2, 2012</u>				CHECKED BY <u>SEMP</u>									
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT				PLASTIC NATURAL LIQUID LIMIT MOISTURE LIMIT CONTENT			UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL x REMOULDED				WATER CONTENT (%) W _p W W _L			
— CONTINUED FROM PREVIOUS PAGE —															
	SILT, trace to some sand, trace clay Very loose to compact Grey Wet		13	SS	5										
						224									
			14	SS	14	223									
						222									
			15	SS	12	221									
220.0	1.5 m of heave encountered at 18.9 m depth.														
19.8	END OF BOREHOLE					220									
	Note: 1. Water level at ground surface (Elev. 239.8 m) upon completion of drilling.														

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

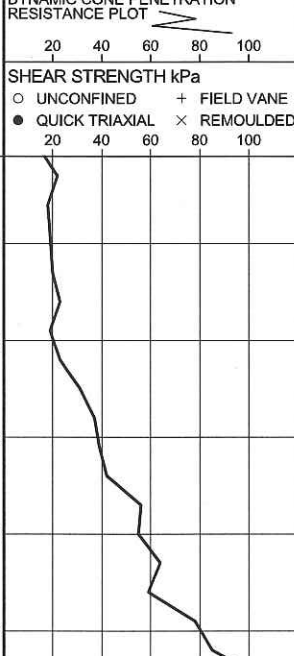
PROJECT <u>11-1191-0007</u>		RECORD OF BOREHOLE No H2-10				2 OF 2 METRIC										
G.W.P. <u>156-98-00</u>		LOCATION <u>N 5136320.7; E 273988.4</u>				ORIGINATED BY <u>AC</u>										
DIST <u> </u> HWY <u>17</u>		BOREHOLE TYPE <u>108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing and Wash Boring</u>				COMPILED BY <u>EC</u>										
DATUM <u>Geodetic</u>		DATE <u>March 23, 2012</u>				CHECKED BY <u>SEMP</u>										
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC NATURAL LIQUID LIMIT MOISTURE LIMIT CONTENT			UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED					WATER CONTENT (%) W _p W W _L			
--- CONTINUED FROM PREVIOUS PAGE ---																
	Sandy SILT, trace clay Very loose to loose Grey Wet		13	SS	5											
			14	SS	10											
220.9			15	SS	9											
18.9	END OF BOREHOLE															
	Note: 1. Water level at a depth of 0.6 m below ground surface (Elev. 239.2 m) upon completion of drilling.															

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-11				2 OF 2 METRIC										
G.W.P. 156-98-00		LOCATION N 5136334.7; E 273993.6				ORIGINATED BY AC										
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers				COMPILED BY EC										
DATUM Geodetic		DATE March 26, 2012				CHECKED BY SEMP										
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED								
-- CONTINUED FROM PREVIOUS PAGE --																
	Sandy SILT, trace clay Loose to compact Gery Wet		13	SS	10											0 24 74 2
222.4						224										
						223										
17.4	END OF BOREHOLE Note: 1. Water level at a depth of 1.6 m below ground surface (Elev. 238.2 m) upon completion of drilling.															

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-12		2 OF 2 METRIC	
G.W.P. 156-98-00		LOCATION N 5136351.0; E 274003.6		ORIGINATED BY EHS	
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers		COMPILED BY EC	
DATUM Geodetic		DATE March 21, 2012		CHECKED BY SEMP	

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT 	PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT W _p W W _L	WATER CONTENT (%) 20 40 60	UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT NUMBER	TYPE	"N" VALUES							
	-- CONTINUED FROM PREVIOUS PAGE -- END OF BOREHOLE										
219.6 20.3	END OF DCPT REFUSAL TO FURTHER PENETRATION (100 Blows / 0.15 m) Notes: 1. Water level at a depth of 4.7 m below ground surface (Elev. 235.2 m) upon completion of drilling.										



PROJECT		RECORD OF BOREHOLE				No H2-13		2 OF 2		METRIC			
G.W.P.		LOCATION		ORIGINATED BY		DIST		BOREHOLE TYPE		COMPILED BY			
DATUM		DATE		CHECKED BY		HWY		108 mm I.D. Continuous Flight Hollow Stem Augers		EC			
Geodetic		March 21, 2012		SEMP									
SOIL PROFILE		SAMPLES				DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC NATURAL LIQUID LIMIT MOISTURE CONTENT		UNIT WEIGHT		REMARKS & GRAIN SIZE DISTRIBUTION (%)	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	20 40 60 80 100	W _p W W _L	WATER CONTENT (%)	γ	GR SA SI CL	
224.7	END OF DCPT												
15.2	Notes: 1. Water level at a depth of 0.9 m below ground surface (Elev. 239.0 m) upon completion of drilling. 2. Borehole H2-13 was terminated due to heaving in the augers that jammed the rods.												

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-14				2 OF 2 METRIC						
G.W.P. 156-98-00		LOCATION N 5136338.5; E 274035.1				ORIGINATED BY EHS						
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers				COMPILED BY EC						
DATUM Geodetic		DATE March 20 and 21, 2012				CHECKED BY SEMP						
SOIL PROFILE			SAMPLES			DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC NATURAL LIQUID LIMIT MOISTURE CONTENT		UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	20 40 60 80 100	W _p W W _L			
— CONTINUED FROM PREVIOUS PAGE —												
END OF BOREHOLE												
219.8							224					
							223					
							222					
							221					
							220					
20.0	END OF DCPT REFUSAL TO FURTHER PENETRATION (100 Blows / 0.20 m)											
	Notes: 1. Water level at a depth of 0.1 m below ground surface (Elev. 239.7 m) upon completion of drilling.											

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

[illegible]

+ 3, × 3: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-18		1 OF 2 METRIC									
G.W.P. 156-98-00		LOCATION N 5136356.7; E 274081.7		ORIGINATED BY EHS									
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers		COMPILED BY EC									
DATUM Geodetic		DATE March 9, 2012		CHECKED BY SEMP									
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC NATURAL LIQUID LIMIT MOISTURE CONTENT		UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			20 40 60 80 100	20 40 60 80 100	W _p W W _L	WATER CONTENT (%)		
240.1 0.0	GROUND SURFACE PEAT (Fibrous) Very soft Brown to black Frozen to wet	1	SS	7		▽	240					NP	0 3 89 8
		2	SS	1			239						
238.4 1.7	CLAY Firm Grey to brown Wet Varved below 3.0 m depth.	3	SS	WH			238						
		4	SS	6			237						
		5	SS	3			236	4					
		6	SS	WH			235						
234.5 5.6	CLAYEY SILT, trace sand, varved Firm Grey Wet	7	SS	1			234	9					
232.9 7.2	SILT, trace to some clay, trace sand Very loose to loose Grey Wet Between 0.3 m and 1.5 m of heave encountered below 9.8 m depth.	8	SS	5			233	6					
		9	SS	7			232						
		10	SS	WH			231						
228.4 11.7	Silty SAND, trace to some gravel Very loose Grey Wet	11	SS	2			230						
226.4 13.7	END OF BOREHOLE					229							
						228							
						227							
						226							

Continued Next Page

+ 3, x 3: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

SUD-MTO-001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

1 OF 2 **METRIC**

PROJECT 11-1191-0007

G.W.P. 156-98-00

LOCATION N 5136372.0; E 274089.0

ORIGINATED BY EHS

DIST HWY 17

BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers

COMPILED BY EC

DATUM Geodetic

DATE March 8 and 9, 2012

CHECKED BY SEMP

Continued Next Page

+ 3, × 3: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE


SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007			RECORD OF BOREHOLE No H2-20			1 OF 1 METRIC							
G.W.P. 156-98-00			LOCATION N 5136384.5; E 274097.7			ORIGINATED BY EHS							
DIST _____ HWY 17			BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers			COMPILED BY EC							
DATUM Geodetic			DATE March 8, 2012			CHECKED BY SEMP							
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT	PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES								
240.4	GROUND SURFACE												
240.0	PEAT (Fibrous)												
240.1	Black												
0.3	Wet		1	AS	-		240						
	SILTY CLAY, some sand, trace organics		2	SS	6		239						
	Firm to stiff		3	SS	8		238						
	Brown		4	SS	5		237						
	Wet						236						
	Varved below 2.3 m depth.						235						
237.0	CLAYEY SILT, trace sand		5	SS	WH		234						
3.4	Firm						233						
	Grey						232						
	Wet		6	SS	3		231						
							230						
233.2	SILT, some sand, trace clay						229						
7.2	Very loose to loose		7	SS	4		228						
	Grey						227						
	Wet												
	Between 0.6 m and 1.8 m of heave encountered below a depth of 8.2 m.		8	SS	WH								
			9	SS	8								
228.7	SAND and SILT, some gravel, trace clay												
11.7	Compact		10	SS	18								
	Grey												
	Wet												
	Auger grinding was noted at 12.9 m depth.												
227.0	END OF BOREHOLE												
13.4	AUGER REFUSAL												
	Notes:												
	1. Water level at a depth of 0.6 m below ground surface (Elev. 239.8 m) upon completion of drilling.												




SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT <u>11-1191-0007</u>				RECORD OF BOREHOLE No H2-21				2 OF 2 METRIC							
G.W.P. <u>156-98-00</u>		LOCATION <u>N 5136381.4; E 274112.1</u>		ORIGINATED BY <u>EHS</u>											
DIST <u> </u> HWY <u>17</u>		BOREHOLE TYPE <u>108 mm I.D. Continuous Flight Hollow Stem Augers</u>		COMPILED BY <u>EC</u>											
DATUM <u>Geodetic</u>		DATE <u>March 7, 2012</u>		CHECKED BY <u>SEMP</u>											
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	T _N VALUES			20 40 60 80 100	20 40 60 80 100	20 40 60 80 100	W _p W W _L				
	— CONTINUED FROM PREVIOUS PAGE —														
	END OF BOREHOLE						225								
224.0 16.3	END OF DCPT REFUSAL TO FURTHER PENETRATION (53 Blows / 0.15 m) Notes: 1. Water level at a depth of 0.8 m below ground surface (Elev. 239.5 m) upon completion of drilling.						224								

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-23				1 OF 1 METRIC								
G.W.P. 156-98-00		LOCATION N 5136249.0; E 273909.0				ORIGINATED BY EHS								
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers				COMPILED BY EC								
DATUM Geodetic		DATE April 11, 2012				CHECKED BY SEMP								
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED						
239.6 0.0	GROUND SURFACE PEAT (Fibrous) Very soft Black Wet		1	SS	WH									
			2	SS	WH									
237.9 1.7	CLAYEY SILT, trace organics Firm Grey Wet		3	SS	7									
237.4 2.2	SAND and SILT, trace gravel, trace clay Loose to compact Grey Wet		4	SS	6									
			5	SS	11									
235.7 3.9	END OF BOREHOLE SPOON REFUSAL (HAMMER BOUNCING) AND AUGER REFUSAL Notes: 1. Water level at ground surface (Elev. 239.6 m) upon completion of drilling.		6	AS	7/0.1									

SUD-MTO 001 11-1191-0007 GPJ GAL-MSS.GDT 17/03/14 DATA INPUT:

PROJECT		11-1191-0007		RECORD OF BOREHOLE No H2-25		1 OF 1 METRIC													
G.W.P.		156-98-00		LOCATION		N 5136280.0; E 273923.8													
DIST		HWY 17		BOREHOLE TYPE		108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring													
DATUM		Geodetic		DATE		April 19, 2012													
						ORIGINATED BY EHS													
						COMPILED BY EC													
						CHECKED BY SEMP													
SOIL PROFILE			SAMPLES			DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC NATURAL LIQUID			UNIT WEIGHT			REMARKS & GRAIN SIZE DISTRIBUTION (%)				
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	SHEAR STRENGTH kPa					WATER CONTENT (%)			GR SA SI CL			
239.7 0.0	GROUND SURFACE PEAT (Fibrous) Very soft Black Frozen to wet		1	SS	3		239												
			2	SS	WH		238												
			3	SS	WH		237												
			4	SS	WH		236												
236.7 3.0	SILTY CLAY Soft Grey to brown Wet Varved below 4.9 m depth.	5	SS	1	235		35 +					8 +							
		6	SS	WH	234		10 +												
		7	SS	WH	233							9 +							
232.8 6.9	SILT, trace to some sand Very loose Grey Wet	8	SS	3	232														
231.2 8.5	SAND and GRAVEL, some silt, trace clay Compact Grey Wet	9	SS	61/0.28	231														
230.3 9.4	Possible boulder at 9.2 m depth. END OF BOREHOLE SPOON REFUSAL (HAMMER BOUNCING) Notes: 1. Advanced Borehole 1.0 m west of Borehole H2-25, obtained a Shelby tube sample at a depth of 3.8 m and vane at a depth of 4.6 m below existing ground surface. 2. Water level at a depth of 0.8 m below ground surface (Elev. 238.9 m) upon completion of drilling.													33 47 18 2					

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-27		1 OF 1 METRIC													
G.W.P. 156-98-00		LOCATION N 5136265.8; E 273952.9		ORIGINATED BY EHS													
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring		COMPILED BY EC													
DATUM Geodetic		DATE April 20 and 23, 2012		CHECKED BY SEMP													
SOIL PROFILE			SAMPLES			DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC NATURAL LIQUID LIMIT MOISTURE CONTENT			UNIT WEIGHT			REMARKS & GRAIN SIZE DISTRIBUTION (%)		
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED			WATER CONTENT (%) W _p W W _L			UNIT WEIGHT γ	GR SA SI CL		
239.7 0.0	GROUND SURFACE																
	PEAT (Fibrous) Very soft Black Wet		1	SS	1		239										
			2	SS	WH		238										
			3	SS	WH		237										
237.3 2.4	CLAY, varved Soft to firm Grey to brown Wet Silt layer between 2.6 m and 3.2 m depth.		4	SS	2		236										
			5	SS	2		235										
			6	SS	WH		234										
			7	SS	WH		233										
232.2 7.8	Sandy GRAVEL, some silt Compact Grey Wet END OF BOREHOLE SPOON REFUSAL (HAMMER BOUNCING) Note: 1. Water level 0.3 m above ground surface (Elev. 240.0 m) upon completion of drilling.		8	SS	12/0.2		232										

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT <u>11-1191-0007</u>		RECORD OF BOREHOLE No H2-28		2 OF 2 METRIC	
G.W.P. <u>156-98-00</u>		LOCATION <u>N 5136292.2; E 273957.6</u>		ORIGINATED BY <u>EHS</u>	
DIST <u> </u> HWY <u>17</u>		BOREHOLE TYPE <u>108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring</u>		COMPILED BY <u>EC</u>	
DATUM <u>Geodetic</u>		DATE <u>April 12 and 13, 2012</u>		CHECKED BY <u>SEMP</u>	

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC LIMIT W _P	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa							
	— CONTINUED FROM PREVIOUS PAGE —														
	SAND, some gravel, trace to some silt Loose Grey Wet		13	SS	9										
223.7 16.1	END OF BOREHOLE SPOON REFUSAL (HAMMER BOUNCING) AND REFUSAL TO FURTHER CASING ADVANCEMENT Notes: 1. Moved over 1.5 m west of Borehole H2-28 and advanced augers to a depth of 5.5 m below existing ground surface. Obtained a Shelby tube at 5.5 m depth below existing ground surface. 2. Water level measured in casing at 1.4 m above ground surface (Elev. 241.2 m) upon completion of drilling.														

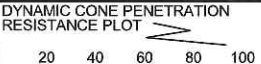

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:



+³, ×³: Numbers refer to Sensitivity ○³% STRAIN AT FAILURE

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-30		2 OF 2 METRIC										
G.W.P. 156-98-00		LOCATION N 5136283.3; E 273985.8		ORIGINATED BY AC										
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring		COMPILED BY EC										
DATUM Geodetic		DATE April 4 and 5, 2012		CHECKED BY SEMP										
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC NATURAL LIQUID LIMIT MOISTURE LIMIT CONTENT			UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	20 40 60 80 100	20 40 60 80 100	W _p W W _L	WATER CONTENT (%)			
-- CONTINUED FROM PREVIOUS PAGE --														
	SILT, trace to some sand, trace clay Very loose to compact Grey Wet		14	SS	13		224							
			15	SS	13		223							
			16	SS	19		221							0 6 91 3
			17	SS	28		220							
			18	SS	15		218							
217.3							217							
22.4	SAND and SILT, trace clay Loose Grey Wet		19	SS	10		216							0 31 65 4
			20	SS	8		215							
214.7														
25.0	END OF BOREHOLE Notes: 1. Water level at 0.5 m above ground surface (Elev. 239.7 m) upon completion of drilling. 2. Prior to resuming drilling on April 5, 2012, water level was measured in casing at 0.5 m above existing ground surface (Elev. 240.2 m).													


SUD-MTO 001 11-1191-0007.GPJ GAL-MASS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-31				2 OF 2 METRIC								
G.W.P. 156-98-00		LOCATION N 5136292.8; E 273989.6				ORIGINATED BY AC								
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring				COMPILED BY EC								
DATUM Geodetic		DATE March 28 and 29, 2012				CHECKED BY SEMP								
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT <div style="text-align: center;">  </div>	PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES									
— CONTINUED FROM PREVIOUS PAGE —														
223.4 16.3	SILT, trace to some clay Very loose to loose Grey Wet		13	SS	9	224								
							223							
								222						
									221					
							15	SS		15	220			
			16	SS	4									
219.3 20.4	END OF BOREHOLE													
	Note: 1. Water level measured in casing at 1.5 m above existing ground surface (Elev. 241.2 m) upon completion of drilling.													

SUD-MTO 001 11-1191-0007 GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-32				2 OF 2 METRIC										
G.W.P. 156-98-00		LOCATION N 5136307.3; E 273993.6				ORIGINATED BY AC										
DIST HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring				COMPILED BY EC										
DATUM Geodetic		DATE March 27 and 28, 2012				CHECKED BY SEMP										
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT				PLASTIC NATURAL LIQUID LIMIT MOISTURE LIMIT CONTENT			UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED				WATER CONTENT (%) W _p W W _L				
--- CONTINUED FROM PREVIOUS PAGE ---																
222.6	Sandy SILT, trace to some clay Very loose Grey Wet	[Strat Plot]	14	SS	WH		224									0 23 74 3
17.2	SAND, some gravel, trace silt Compact Grey Wet	[Strat Plot]	15	SS	11		223									
220.9		[Strat Plot]	16	SS	24		222									
18.9	END OF BOREHOLE Note: 1. Water level at ground surface (Elev. 239.8 m) upon completion of drilling.	[Strat Plot]					221									19 79 (2)

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007			RECORD OF BOREHOLE No H2-33			2 OF 2 METRIC											
G.W.P. 156-98-00		LOCATION N 5136300.2; E 274007.1		ORIGINATED BY AC													
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers, NW Casing, Wash Boring		COMPILED BY EC													
DATUM Geodetic		DATE March 27, 2012		CHECKED BY SEMP													
SOIL PROFILE			SAMPLES			DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT			REMARKS & GRAIN SIZE DISTRIBUTION (%)		
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED			WATER CONTENT (%) W _p W W _L			γ	GR SA SI CL		
--- CONTINUED FROM PREVIOUS PAGE ---																	
220.4	SILT, trace to some sand, trace clay Very loose to compact Grey Wet		13	SS	13		224										
							223										
			14	SS	8												
			15	SS	3		221										
219.4	SAND, trace gravel Compact Grey Wet		16	SS	11		220										
20.4	END OF BOREHOLE Note: 1. Water level at ground surface (Elev. 239.8 m) upon completion of drilling.																

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT <u>11-1191-0007</u>			RECORD OF BOREHOLE No H2-34			2 OF 2 METRIC							
G.W.P. <u>156-98-00</u>			LOCATION <u>N 5136295.0; E 274025.3</u>			ORIGINATED BY <u>GM</u>							
DIST <u> </u> HWY <u>17</u>			BOREHOLE TYPE <u>Portable Equipment, NW Casing, Wash Boring</u>			COMPILED BY <u>EC</u>							
DATUM <u>Geodetic</u>			DATE <u>April 30, 2012</u>			CHECKED BY <u>SEMP</u>							
SOIL PROFILE			SAMPLES			DYNAMIC CONE PENETRATION RESISTANCE PLOT							
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	SHEAR STRENGTH kPa	PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ	REMARKS & GRAIN SIZE DISTRIBUTION (%)
	— CONTINUED FROM PREVIOUS PAGE —							<div style="display: flex; justify-content: space-between; font-size: 0.8em;"> 20 40 60 80 100 20 40 60 80 100 </div> <div style="display: flex; justify-content: space-between; font-size: 0.7em;"> ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED </div>	WATER CONTENT (%)				
223.4	SILT, trace to some clay, trace sand Loose Grey Wet		14	SS	10		224						
16.3	SAND and SILT, trace to some gravel, trace clay Loose to compact Grey Wet		15	SS	8		223						
	Between 0.2 m and 0.3 m of heave encountered below 17.4 m depth.						222						
			16	SS	13		221						
			17	SS	11		220						
218.2			18	SS	13		219						
21.5	END OF BOREHOLE												
	Note: 1. Water level at ground surface (Elev. 239.7 m) upon completion of drilling.												

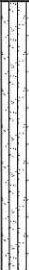
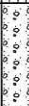
SUD-MTO-001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-35				2 OF 2 METRIC								
G.W.P. 156-98-00		LOCATION N 5136310.1; E 274032.3		ORIGINATED BY GM										
DIST HWY 17		BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring		COMPILED BY EC										
DATUM Geodetic		DATE May 1 and 2, 2012		CHECKED BY SEMP										
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC NATURAL LIQUID LIMIT MOISTURE CONTENT LIMIT			UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED			WATER CONTENT (%) W _p W W _L			
	— CONTINUED FROM PREVIOUS PAGE —													
	SAND and SILT, some gravel, trace clay Loose to dense Grey Wet		13	SS	5		224							
	Difficult casing advancement below 16.3 m depth.		14	SS	14		223							
			15	SS	34		222							
			16	SS	22		221							
220.8 18.9	END OF BOREHOLE													
	Note: 1. Water level at ground surface (Elev. 239.7 m) upon completion of drilling.													

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT		RECORD OF BOREHOLE				No H2-36		2 OF 2		METRIC					
11-1191-0007		G.W.P. 156-98-00		LOCATION N 5136325.5; E 274040.2		ORIGINATED BY		GM							
DIST		HWY 17		BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring		COMPILED BY		EC							
DATUM Geodetic		DATE		May 2, 2012		CHECKED BY		SEMP							
SOIL PROFILE			SAMPLES			DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT		REMARKS & GRAIN SIZE DISTRIBUTION (%)	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	SHEAR STRENGTH kPa			WATER CONTENT (%)			γ	GR SA SI CL
							20 40 60 80 100	20 40 60 80 100	20 40 60 80 100	20 40 60 80 100	20 40 60 80 100	20 40 60 80 100	20 40 60 80 100		
	— CONTINUED FROM PREVIOUS PAGE —														
	SAND and GRAVEL Compact Grey Wet		13	SS	12		224								
							223								
222.4			14	SS	16										
17.4	END OF BOREHOLE Note: 1. Water level at ground surface (Elev. 239.8 m) upon completion of drilling.														

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 2010/14 DATA INPUT:

PROJECT 11-1191-0007			RECORD OF BOREHOLE No H2-37				2 OF 2 METRIC								
G.W.P. 156-98-00		LOCATION N 5136319.2; E 274055.5				ORIGINATED BY GM									
DIST _____ HWY 17		BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring				COMPILED BY EC									
DATUM Geodetic		DATE May 3 and 4, 2012				CHECKED BY SEMP									
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED							
	--- CONTINUED FROM PREVIOUS PAGE ---							20 40 60 80 100							
222.1	SAND and SILT, trace gravel Loose to compact Grey Wet		14	SS	12		224								3 42 55 0
17.8	Gravelly SAND Compact Grey Wet		15	SS	22		223								
221.0							222								
18.9	END OF BOREHOLE Note: 1. Water level at ground surface (Elev. 239.9 m) upon completion of drilling.		16	SS	16		221								

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-38				2 OF 2 METRIC									
G.W.P. 156-98-00		LOCATION N 5136313.2; E 274071.8				ORIGINATED BY GM									
DIST HWY 17		BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring				COMPILED BY EC									
DATUM Geodetic		DATE May 7 and 8, 2012				CHECKED BY SEMP									
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT				PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa							
— CONTINUED FROM PREVIOUS PAGE —															
	END OF BOREHOLE REFUSAL TO FURTHER CASING ADVANCEMENT (HAMMER BOUNCING) Note: 1. Water level at a depth of 0.2 m below ground surface (Elev. 239.6 m) upon completion of drilling.														

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:



+3, ×3: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:


PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-40				2 OF 2 METRIC										
G.W.P. 156-98-00		LOCATION N 5136342.7; E 274086.8		ORIGINATED BY EHS												
DIST HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers		COMPILED BY EC												
DATUM Geodetic		DATE March 16, 2012		CHECKED BY SEMP												
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC NATURAL LIQUID LIMIT MOISTURE LIMIT CONTENT			UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV. DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa					WATER CONTENT (%)			
-- CONTINUED FROM PREVIOUS PAGE --							20 40 60 80 100 ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED 20 40 60 80 100					w _p — w — w _L 20 40 60				
	END OF BOREHOLE Note: 1. Water level at a depth of 0.8 m below ground surface (Elev. 239.2 m) upon completion of drilling.															

SUD-MTO 001 11-1191-0007.GPJ CAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-42		1 OF 1 METRIC	
G.W.P. 156-98-00		LOCATION N 5136332.8; E 274117.9		ORIGINATED BY EHS	
DIST HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers		COMPILED BY EC	
DATUM Geodetic		DATE March 14 and 15, 2012		CHECKED BY SEMP	

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT	PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES								
241.8	GROUND SURFACE												
240.9	ORGANICS		1	SS	12								
	SILTY CLAY, trace sand												
	Firm to stiff		2	SS	12								
	Brown												
	Moist to wet		3	SS	7								
	Varved below 1.5 m depth.												
239.2			4	SS	12								
238.6	SILT, trace sand, trace clay												
	Compact												
	Brown												
	Wet		5	SS	4								
	SAND to SAND and SILT, trace to												
	some gravel, trace clay		6	SS	WH								
	Very loose to loose												
	Grey to brown		7	SS	4								
	Wet												
	Between 0.6 m and 0.9 m of heave												
	encountered below 3.8 m depth.												
			8	SS	3								
			9	SS	3								
			10	SS	8								
			11	AS	-								
231.1	END OF BOREHOLE												
10.7	Notes:												
	1. Water level at a depth of 1.6 m												
	below ground surface (Elev. 240.2 m)												
	upon completion of drilling.												

+ 3, × 3: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE

<div style="display: flex; justify-content: space-between;"> PROJECT 11-1191-0007 RECORD OF BOREHOLE No H2-43 2 OF 2 METRIC </div>															
G.W.P. 156-98-00		LOCATION N 5136346.2; E 274123.4				ORIGINATED BY EHS									
DIST _____ HWY 17		BOREHOLE TYPE 108 mm I.D. Continuous Flight Hollow Stem Augers				COMPILED BY EC									
DATUM Geodetic		DATE March 14, 2012				CHECKED BY SEMP									
SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE			"N" VALUES	SHEAR STRENGTH kPa							
	--- CONTINUED FROM PREVIOUS PAGE ---						<div style="display: flex; justify-content: space-between;"> 20 40 60 80 100 20 40 60 80 100 </div>								
	END OF BOREHOLE					227									
						226									
						225									
224.1															
18.0	END OF DCPT Notes: 1. Water level at a depth of 1.7 m below ground surface (Elev. 240.4 m) upon completion of drilling.														

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT		11-1191-0007		RECORD OF BOREHOLE No H2-45		1 OF 1 METRIC							
G.W.P.		156-98-00		LOCATION		N 5136216.0; E 273962.8							
DIST		HWY 17		BOREHOLE TYPE		Portable Equipment, NW Casing, Wash Boring							
DATUM		Geodetic		DATE		August 28, 2012							
						ORIGINATED BY SA							
						COMPILED BY EC							
						CHECKED BY SEMP							
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT	PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	UNIT WEIGHT γ	REMARKS & GRAIN SIZE DISTRIBUTION (%)
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES								
239.5 0.0	GROUND SURFACE		1	SS	WH								
	PEAT (Fibrous) Very soft Black Wet		2	SS	WH								
			3	SS	WH								
			4	SS	WH								
236.1 3.4	SILTY CLAY, varved, trace to some sand Soft to stiff Grey Wet		5A	SS	WH								
			5B										
			6	SS	3								
			7	SS	2								
			8	SS	WH								
232.3 7.2	CLAYEY SILT, trace sand, trace gravel Soft Grey Wet		9	SS	1								
230.8 8.7	SILT, trace to some sand, trace clay Very loose Grey Wet		10	SS	3								
229.1 10.6	SAND and GRAVEL Compact Grey Wet		11	SS	25/0.15								
	END OF BOREHOLE SPOON REFUSAL (HAMMER BOUNCING)												
	Note: 1. Water level at a depth of 0.2 m below ground surface (Elev. 239.3 m) upon completion of drilling.												

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007			RECORD OF BOREHOLE No H2-47			1 OF 2 METRIC											
G.W.P. 156-98-00			LOCATION N 5136245.4; E 273978.6			ORIGINATED BY SA											
DIST _____ HWY 17			BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring			COMPILED BY EC											
DATUM Geodetic			DATE August 30 and 31, 2012			CHECKED BY SEMP											
SOIL PROFILE			SAMPLES			DYNAMIC CONE PENETRATION RESISTANCE PLOT			PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			UNIT WEIGHT			REMARKS & GRAIN SIZE DISTRIBUTION (%)		
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	20 40 60 80 100	20 40 60 80 100	W _P W W _L	WATER CONTENT (%)	20 40 60	γ	GR SA SI CL			
239.5 0.0	GROUND SURFACE		1	SS	1		239										
	PEAT (Fibrous) Very soft Black Wet		2	SS	1		238										
			3	SS	WH		237										
			4	SS	WH		236										
235.8 3.7	SILTY CLAY Soft to firm Grey Wet		5	SS	WH		235										
			6	SS	3		234										
			7	SS	4		233										
			8	TO	PM		232										
			9	SS	1		231										
			10	SS	WH		230										
			11	SS	WH		229										
			12	SS	WH		228										
			13	SS	8		227										
226.2 13.3	SILT, trace clay, trace sand Loose to compact Grey Wet						226										
							225										

SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

Continued Next Page

+³, ×³: Numbers refer to Sensitivity ○ 3% STRAIN AT FAILURE