

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-48				1 OF 2 METRIC									
G.W.P. 156-98-00		LOCATION N 5136239.8; E 273994.0		ORIGINATED BY SA											
DIST _____ HWY 17		BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring		COMPILED BY EC											
DATUM Geodetic		DATE August 29 and 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 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							
239.5 0.0	GROUND SURFACE		1	SS	WH	▽	239								
	PEAT (Fibrous) Very soft Black Wet		2	SS	1		238								
			3	SS	WH		237								
			4	SS	1		236								
			5	SS	WH		235								
235.8 3.7	SILTY CLAY to CLAY, trace sand Soft to firm Grey Wet		6	SS	3			235							
	Varved below 6.1 m depth.		7	SS	3			234							
			8	SS	1			233							
			9	SS	WH			232							
			10	SS	WH			231							
			11	SS	WH			230							
			12	SS	WH			229							
226.2 13.3	SILT, trace to some clay, trace sand Loose Grey Wet		13	SS	8			228							
							227								
							226								
							225								

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

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+ 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:

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

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-50		1 OF 2 METRIC						
G.W.P. 156-98-00		LOCATION N 5136248.9; E 274017.3		ORIGINATED BY ID						
DIST HWY 17		BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring		COMPILED BY EC						
DATUM Geodetic		DATE September 5, 2012		CHECKED BY SEMP						
SOIL PROFILE			SAMPLES		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						
239.5 0.0	GROUND SURFACE		1	SS	WH					
	PEAT (Fibrous) Very soft Black Wet		2	SS	1					
			3	SS	WH					
			4	SS	WH					
			5	SS	WH					
235.9 3.6	SILTY CLAY to CLAY, some sand, trace gravel Soft to firm Grey Wet		6	SS	1					
			7	SS	2					
			8	SS	1					
			9	TO	PH					
			10	SS	WH					
			11	TO	PH					
			12	SS	1					
226.1 13.4	SILT, trace to some clay, trace to some sand Loose Grey Wet		13	SS	4					

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+ 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 H2-51			1 OF 2 METRIC					
G.W.P. 156-98-00			LOCATION N 5136264.2; E 274024.9			ORIGINATED BY EHS					
DIST _____ HWY 17			BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring			COMPILED BY EC					
DATUM Geodetic			DATE September 13, 2012			CHECKED BY SEMP					
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED	PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT W _p — W — W _L WATER CONTENT (%)	UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES						
239.5	GROUND SURFACE										
0.0	PEAT (Fibrous) Very soft Black Wet		1	SS	1		239				
			2	SS	WH		238				
			3	SS	WH						
			4	SS	WH		237				
236.1			5	SS	WH		236				
3.4	CLAYEY SILT, some sand, trace gravel Very soft Grey Wet		6A	SS	1						
235.4			6B	SS	1		235				
4.1	SILTY CLAY to CLAY, varved Soft to firm Grey Wet		7	SS	2		234				
			8	TO	PM		233				
			9	SS	WH		232				
			10	SS	WH		231				
			11	SS	WH		230				
			12	SS	1		229				
			13	SS	4		228				
226.0							227				
13.5	SILT, trace to some clay, trace to some sand, trace gravel Loose Grey Wet						226				
							225				

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

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

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-52		1 OF 2 METRIC									
G.W.P. 156-98-00		LOCATION N 5136257.6; E 274040.9		ORIGINATED BY EHS									
DIST _____ HWY 17		BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring		COMPILED BY EC									
DATUM Geodetic		DATE September 12, 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					
239.5 0.0	GROUND SURFACE		1	SS	1								
	PEAT (Fibrous) Very soft Black Wet		2	SS	2								
			3	SS	1								
			4	SS	WH								
			5	SS	WH								
235.9 3.6	CLAYEY SILT Stiff Grey Wet		6	SS	2								
			7	SS	3								
233.6 5.9	CLAY, varved Soft to firm Grey Wet		8	SS	1								
			9	SS	WH								
			10	SS	WH								
			11	SS	WH								
227.5 12.0	SILT, trace to some clay, trace sand Very loose to loose Grey Wet		12	SS	2								
			13	SS	4								

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

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



CSUD-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 H2-54		1 OF 2 METRIC							
G.W.P.		156-98-00		LOCATION		N 5136266.7; E 274064.2							
DIST		HWY 17		BOREHOLE TYPE		Portable Equipment, NW Casing, Wash Boring							
DATUM		Geodetic		DATE		September 10, 2012							
						ORIGINATED BY EHS							
						COMPILED BY EC							
						CHECKED BY SEMP							
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT 20 40 60 80 100 SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED 20 40 60 80 100	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								
239.6 0.0	GROUND SURFACE												
	PEAT (Fibrous) Very soft Black Wet		1	SS	WH	▽	239						
			2	SS	WH		238						
			3	SS	WH		237						
			4	SS	WH		236						
236.1 3.5	SILTY CLAY to CLAY, trace to some sand, trace gravel Soft to stiff Grey Wet		5	SS	WH		235						
			6	SS	3		234						
			7	SS	5		233						
	Varved below 5.2 m depth.		8	SS	WH		232						
			9	SS	WH		231						
			10	SS	WH		230						
229.2 10.4	SILT, trace to some clay, trace gravel Very loose to loose Grey Wet		11	SS	2		229						
			12	SS	9		228						
226.3 13.3	Sandy SILT, trace to some clay, trace gravel Loose to compact Grey Wet		13	SS	4		227						
							226						
							225						

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

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

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-55		1 OF 2 METRIC										
G.W.P. 156-98-00		LOCATION N 5136281.8; E 274071.6		ORIGINATED BY GM										
DIST HWY 17		BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring		COMPILED BY EC										
DATUM Geodetic		DATE May 9, 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						
239.7 0.0	GROUND SURFACE		1	SS	6									
	PEAT (Fibrous) Very soft Black Frozen to wet		2	SS	WH									
			3	SS	WH									
			4	SS	1									
236.2 3.5	SILTY CLAY, varved Soft to firm Grey Wet		5A	SS	1									
			5B											
			6	SS	11									
			7	SS	6									
			8	SS	WH									
			9	SS	WH									
231.0 8.7	SILT, trace to some clay Loose Grey Wet		10A	SS	10									
230.3 9.4	Sandy SILT, trace to some gravel, trace clay Loose Grey Wet Between 0.2 m and 0.6 m of heave encountered below 9.7 m depth.		10B											
			11	SS	6									
			12	SS	6									
226.4 13.3	SAND and GRAVEL Compact Grey Wet		13	SS	14									
			14	SS	30									

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


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

PROJECT 11-1191-0007			RECORD OF BOREHOLE No H2-56			1 OF 1 METRIC													
G.W.P. 156-98-00			LOCATION N 5136275.8; E 274087.5			ORIGINATED BY GM													
DIST HWY 17			BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring			COMPILED BY EC													
DATUM Geodetic			DATE May 10, 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		
239.7 0.0	GROUND SURFACE							20 40 60 80 100 ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED			W _p — W — W _L 20 40 60			kN/m ³					
	PEAT (Fibrous) Very soft Black Wet		1	SS	1		239												
			2	SS	WH		238												
			3	SS	WH		237												
236.9 2.8	SILTY CLAY to CLAY, varved Very soft to firm Grey Wet		4	SS	WH		236												
			5	SS	1		235												
			6	SS	9		234												
			7	SS	9		233												
			8	SS	WH		232												
			9	SS	WH		231												
230.9 8.8	SILT, trace sand Loose Grey Wet		10A	SS	10		230												
230.3 9.4	Silty SAND, trace clay Compact Grey Wet		10B	SS	10		229												
	Approximately 0.1 m of heave encountered below 9.7 m depth.		11	SS	11		228												
			12	SS	11		227												
226.9 12.8	END OF BOREHOLE Notes: 1. Water level at ground surface (Elev. 239.7 m) upon completion of drilling. 2. Moved 1.0 m north of Borehole H2-56 and turned N-vane at 5.6 m depth and obtained a Shelby tube at 6.6 m depth below ground surface.																		

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 H2-57				2 OF 2 METRIC							
G.W.P. <u>156-98-00</u>		LOCATION <u>N 5136269.9; E 274103.0</u>		ORIGINATED BY <u>GM</u>									
DIST <u>HWY 17</u>		BOREHOLE TYPE <u>Portable Equipment, NW Casing, Wash Boring</u>		COMPILED BY <u>EC</u>									
DATUM <u>Geodetic</u>		DATE <u>May 11, 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 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		WATER CONTENT (%)			
--- CONTINUED FROM PREVIOUS PAGE ---							<div style="display: flex; justify-content: space-between; font-size: small;"> 20 40 60 80 100 20 40 60 80 100 </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> ○ UNCONFINED + FIELD VANE </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> ● QUICK TRIAXIAL x REMOULDED </div>		<div style="display: flex; justify-content: space-between; font-size: small;"> W_p W W_L </div>				
	END OF BOREHOLE SPOON REFUSAL AND REFUSAL TO FURTHER CASING ADVANCEMENT (HAMMER BOUNCING) Note: 1. Water level at ground surface (Elev. 239.6 m) upon completion of drilling.												

PROJECT 11-1191-0007		RECORD OF BOREHOLE No H2-58				2 OF 2 METRIC											
G.W.P. 156-98-00		LOCATION N 5136285.3; E 274110.8		ORIGINATED BY GM													
DIST HWY 17		BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring		COMPILED BY EC													
DATUM Geodetic		DATE May 14 and 15, 2012		CHECKED BY SEMP													
SOIL PROFILE			SAMPLES			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	"N" VALUES	GROUND WATER CONDITIONS	ELEVATION SCALE	SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED				WATER CONTENT (%) w _p — w — w _L					
223.8 15.8	SAND and GRAVEL Compact Grey Wet --- CONTINUED FROM PREVIOUS PAGE --- END OF BOREHOLE Note: 1. Water level at ground surface (Elev. 239.6 m) upon completion of drilling. 2. Moved 1.0 m south of Borehole H2-58 and obtained a Shelby tube at 5.2 m depth below existing ground surface.		14	SS	15		224										

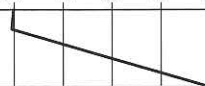
SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

PROJECT 11-1191-0007			RECORD OF BOREHOLE No H2-60			1 OF 1 METRIC							
G.W.P. 156-98-00			LOCATION N 5136293.9; E 274132.6			ORIGINATED BY AC							
DIST _____ HWY 17			BOREHOLE TYPE Portable Equipment, NW Casing, Wash Boring			COMPILED BY EC							
DATUM Geodetic			DATE May 17, 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								
239.8	GROUND SURFACE												
0.0	PEAT (Fibrous to Amorphous) Very soft Black Wet		1	SS	WH								
239.3													
0.5													
238.7	Silty SAND, trace clay Loose Grey Wet		2	SS	5								
1.1													
	SILTY CLAY, varved Firm Grey to brown Wet		3	SS	6								
			4	SS	1								
236.2													
3.6	SILT, trace to some clay, trace sand Loose Grey Wet		5	SS	2								
			6	SS	6								
234.2													
5.6	SAND, trace gravel, trace clay Loose to very dense Grey Wet		7	SS	4								
			8	SS	6								
			9	SS	12								
			10	SS	70								
229.3													
10.5	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:



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

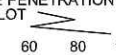
PROJECT 11-1191-0007				RECORD OF DCPT No H2-DC3				2 OF 2 METRIC					
G.W.P. 156-98-00				LOCATION N 5136322.4; E 273930.8				ORIGINATED BY AC					
DIST HWY 17				BOREHOLE TYPE Dynamic Cone Penetration Test				COMPILED BY EC					
DATUM Geodetic				DATE April 3, 2012				CHECKED BY SEMP					
SOIL PROFILE		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 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 —						20 40 60 80 100 ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED 20 40 60 80 100						
224.0 15.8	END OF DCPT REFUSAL TO FURTHER PENETRATION (HAMMER BOUNCING)					224							

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 DCPT No H2-DC5		2 OF 2 METRIC	
G.W.P. <u>156-98-00</u>		LOCATION <u>N 5136341.6; E 273980.2</u>		ORIGINATED BY <u>EHS</u>	
DIST <u> </u> HWY <u>17</u>		BOREHOLE TYPE <u>Dynamic Cone Penetration Test</u>		COMPILED BY <u>EC</u>	
DATUM <u>Geodetic</u>		DATE <u>March 13, 2012</u>		CHECKED BY <u>SEMP</u>	

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT  SHEAR STRENGTH kPa ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED 20 40 60 80 100	PLASTIC LIMIT W _p NATURAL MOISTURE CONTENT W LIQUID LIMIT W _L WATER CONTENT (%)	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 ---										
217.0							224				
22.8							223				
							222				
							221				
							220				
							219				
							218				
217.0	END OF DCPT REFUSAL TO FURTHER PENETRATION (130 Blows / 0.3 m)						217	130			

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



2 OF 2 METRIC

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



+ 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 <u>11-1191-0007</u>				RECORD OF DCPT No H2-DC8				2 OF 2 METRIC			
G.W.P. <u>156-98-00</u>				LOCATION <u>N 5136347.4; E 274058.0</u>				ORIGINATED BY <u>EHS</u>			
DIST <u>HWY 17</u>				BOREHOLE TYPE <u>Dynamic Cone Penetration Test</u>				COMPILED BY <u>EC</u>			
DATUM <u>Geodetic</u>				DATE <u>March 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 WATER CONTENT (%)	UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES						
220.2 19.6	END OF DCPT REFUSAL TO FURTHER PENETRATION (HAMMER BOUNCING)										

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


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

PROJECT <u>11-1191-0007</u>		RECORD OF DCPT No H2-DC10				2 OF 2 METRIC							
G.W.P. <u>156-98-00</u>		LOCATION <u>N 5136364.5; E 274104.8</u>				ORIGINATED BY <u>EHS</u>							
DIST <u> </u> HWY <u>17</u>		BOREHOLE TYPE <u>Dynamic Cone Penetration Test</u>				COMPILED BY <u>EC</u>							
DATUM <u>Geodetic</u>		DATE <u>March 16, 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		W _p	W		
	— CONTINUED FROM PREVIOUS PAGE —												
224.2 15.8	END OF DCPT REFUSAL TO FURTHER PENETRATION (103 Blows / 0.3 m)												

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

PROJECT 11-1191-0007		RECORD OF DCPT No H2-DC13				2 OF 2 METRIC									
G.W.P. 156-98-00		LOCATION N 5136285.9; E 273940.9				ORIGINATED BY EHS									
DIST HWY 17		BOREHOLE TYPE Dynamic Cone Penetration Test				COMPILED BY EC									
DATUM Geodetic		DATE April 18, 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 x REMOULDED				WATER CONTENT (%) w _p w w _L				
-- CONTINUED FROM PREVIOUS PAGE --															
224.3 15.4	END OF DCPT REFUSAL TO FURTHER PENETRATION (HAMMER BOUNCING)														

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

PROJECT <u>11-1191-0007</u>				RECORD OF DCPT No H2-DC14				2 OF 2 METRIC					
G.W.P. <u>156-98-00</u>		LOCATION <u>N 5136273.5; E 273970.3</u>		ORIGINATED BY <u>EHS</u>									
DIST <u> </u> HWY <u>17</u>		BOREHOLE TYPE <u>Dynamic Cone Penetration Test</u>		COMPILED BY <u>EC</u>									
DATUM <u>Geodetic</u>		DATE <u>April 18, 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 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		WATER CONTENT (%)				
	-- CONTINUED FROM PREVIOUS PAGE --						<div style="display: flex; justify-content: space-between; font-size: small;"> 20 40 60 80 100 20 40 60 80 100 </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> ○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED </div>		<div style="display: flex; justify-content: space-between; font-size: x-small;"> W_p W W_L </div>				
223.1						224							
16.5	END OF DCPT Note: 1. DCPT stopped due to possible bent rods.												

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

PROJECT 11-1191-0007

RECORD OF DCPT No H2-DC15

2 OF 2 **METRIC**

G.W.P. 156-98-00

LOCATION N 5136300.8; E 273976.8

ORIGINATED BY AC

DIST HWY 17

BOREHOLE TYPE Dynamic Cone Penetration Test

COMPILED BY EC

DATUM Geodetic

DATE March 30, 2012

CHECKED BY SEMP

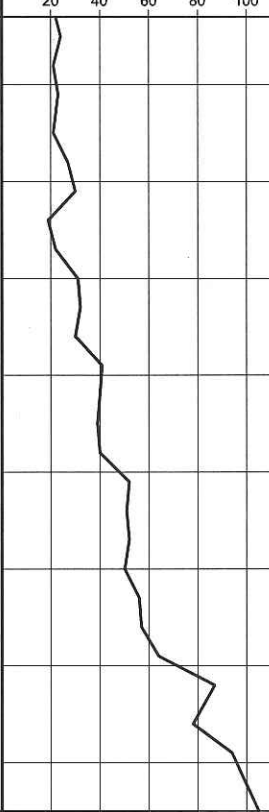
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION SCALE	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC NATURAL LIQUID LIMIT MOISTURE CONTENT			UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES			20 40 60 80 100	20 40 60 80 100	W _p W W _L				
--- CONTINUED FROM PREVIOUS PAGE ---														
							224							
							223							
							222							
							221							
							220							
							219							
							218							
							217							
							216							
215.0 24.7	END OF DCPT REFUSAL TO FURTHER PENETRATION (106 Blows / 0.3 m)						215							

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 DCPT No H2-DC16		2 OF 2 METRIC	
G.W.P. <u>156-98-00</u>	LOCATION <u>N 5136285.3; E 274002.2</u>	ORIGINATED BY <u>AC</u>			
DIST <u>HWY 17</u>	BOREHOLE TYPE <u>Dynamic Cone Penetration Test</u>	COMPILED BY <u>EC</u>			
DATUM <u>Geodetic</u>	DATE <u>March 28, 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 CONTENT LIMIT			UNIT WEIGHT γ kN/m ³	REMARKS & GRAIN SIZE DISTRIBUTION (%) GR SA SI C
ELEV DEPTH	DESCRIPTION	STRAT PLOT	NUMBER	TYPE	"N" VALUES	20 40 60 80 100			W _p W W _L						
-- CONTINUED FROM PREVIOUS PAGE --															
216.5	END OF DCPT REFUSAL TO FURTHER PENETRATION (105 Blows / 0.3 m)							224							
23.2								223							222

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

PROJECT 11-1191-0007

RECORD OF DCPT No H2-DC17

2 OF 2 **METRIC**

G.W.P. 156-98-00

LOCATION N 5136315.3; E 274016.6

ORIGINATED BY AC

DIST HWY 17

BOREHOLE TYPE Dynamic Cone Penetration Test

COMPILED BY EC

DATUM Geodetic

DATE March 22, 2012

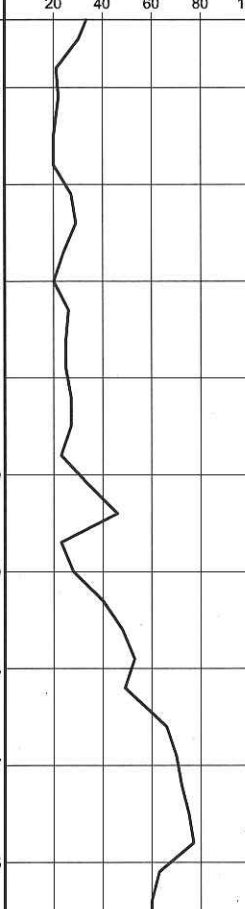
CHECKED BY SEMP

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 —							○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED						
218.2														
21.6	END OF DCPT REFUSAL TO FURTHER PENETRATION (107 Blows / 0.3 m)													

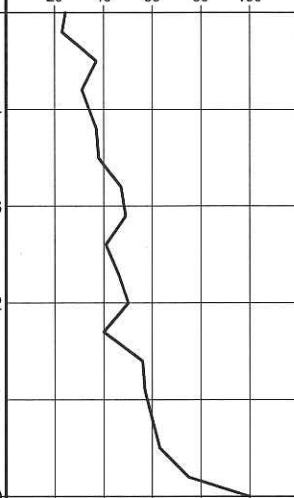
SUD-MTO 001 11-1191-0007.GPJ GAL-MISS.GDT 17/03/14 DATA INPUT:

+ 3, × 3: Numbers refer to
Sensitivity

○ 3% STRAIN AT FAILURE

PROJECT 11-1191-0007				RECORD OF DCPT No H2-DC18				2 OF 2 METRIC							
G.W.P. 156-98-00				LOCATION N 5136304.1; E 274048.6				ORIGINATED BY GM							
DIST HWY 17				BOREHOLE TYPE Dynamic Cone Penetration Test				COMPILED BY EC							
DATUM Geodetic				DATE May 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 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 --															
215.1	END OF DCPT REFUSAL TO FURTHER PENETRATION (100 Blows / 0.20 m)						216								
24.6							224								
							223								
							222								
							221								
							220								
							219								
							218								
							217								

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

PROJECT		RECORD OF DCPT No H2-DC19				2 OF 2 METRIC							
11-1191-0007													
G.W.P. 156-98-00		LOCATION		N 5136333.2; E 274063.5		ORIGINATED BY GM							
DIST		HWY 17		BOREHOLE TYPE Dynamic Cone Penetration Test		COMPILED BY EC							
DATUM Geodetic		DATE		May 4, 2013		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
-- CONTINUED FROM PREVIOUS PAGE --													
220.0 20.0	END OF DCPT REFUSAL TO FURTHER PENETRATION (100 Blows / 0.23 m)					224							
						223							
						222							
						221							
						220							

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



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

PROJECT 11-1191-0007		RECORD OF DCPT No H2-DC24				1 OF 2 METRIC								
G.W.P. 156-98-00		LOCATION N 5136254.8; E 274001.6		ORIGINATED BY ID										
DIST HWY 17		BOREHOLE TYPE Dynamic Cone Penetration Test		COMPILED BY EC										
DATUM Geodetic		DATE September 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						
239.5 0.0	GROUND SURFACE						<div style="display: flex; justify-content: space-between;"> 20 40 60 80 100 20 40 60 80 100 </div> <div style="display: flex; justify-content: space-between;"> ○ UNCONFINED + FIELD VANE </div> <div style="display: flex; justify-content: space-between;"> ● QUICK TRIAXIAL × REMOULDED </div>							
239														
238														
237														
236														
235														
234														
233														
232														
231														
230														
229														
228														
227														
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

PROJECT 11-1191-0007				RECORD OF DCPT No H2-DC27				1 OF 2 METRIC					
G.W.P. 156-98-00		LOCATION N 5136261.1; E 274079.6		ORIGINATED BY GM									
DIST HWY 17		BOREHOLE TYPE Dynamic Cone Penetration Test		COMPILED BY EC									
DATUM Geodetic		DATE May 8, 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 (%)			
239.6 0.0	GROUND SURFACE						<div style="display: flex; justify-content: space-between;"> 20 40 60 80 100 20 40 60 80 100 </div> <div style="display: flex; justify-content: space-between;"> ○ UNCONFINED + FIELD VANE </div> <div style="display: flex; justify-content: space-between;"> ● QUICK TRIAXIAL × REMOULDED </div>	<div style="display: flex; justify-content: space-between;"> W_p W W_L </div>					
239													
238													
237													
236													
235													
234													
233													
232													
231													
230													
229													
228													
227													
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



PROJECT 11-1191-0007

RECORD OF DCPT No H2-DC29

1 OF 1 METRIC

G.W.P. 156-98-00

LOCATION N 5136278.6; E 274126.6

ORIGINATED BY GM

DIST HWY 17

BOREHOLE TYPE Dynamic Cone Penetration Test

COMPILED BY EC

DATUM Geodetic

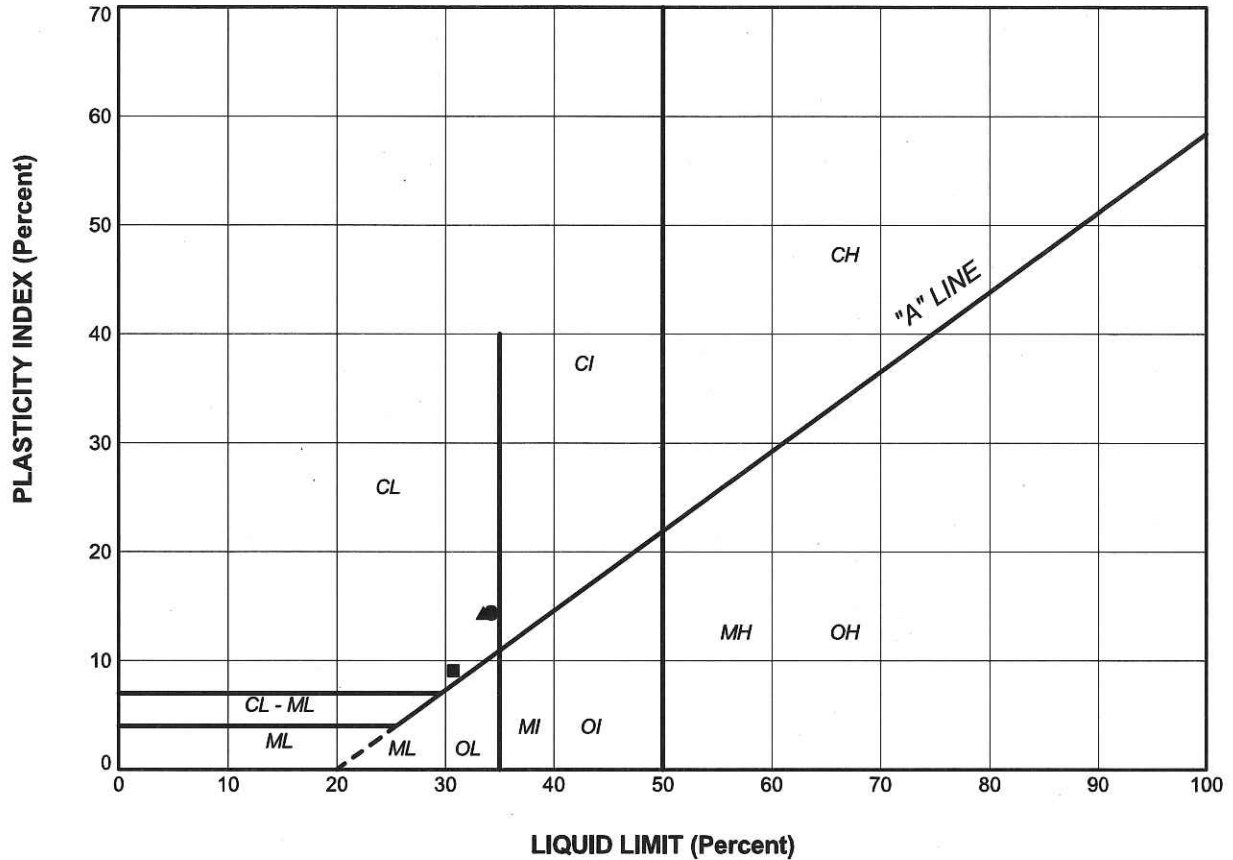
DATE May 15, 2012

CHECKED BY SEMP

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	"N" VALUES			SHEAR STRENGTH kPa		W _p W W _L				
239.6 0.0	GROUND SURFACE							○ UNCONFINED + FIELD VANE ● QUICK TRIAXIAL × REMOULDED	WATER CONTENT (%)					
							239							
							238							
							237							
							236							
							235							
							234							
							233							
							232							
							231							
							230							
							229							
							228							
							227							
226.2 13.4	END OF DCPT REFUSAL TO FURTHER PENETRATION (100 Blows / 0.27 m)													

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



LEGEND

SYMBOL	BOREHOLE	SAMPLE	LL(%)	PL(%)	PI
●	H2-1	1	34.2	19.8	14.4
■	H2-1	3	30.7	21.6	9.1
▲	H2-2	2	33.5	19.1	14.4

PROJECT				
HIGHWAY 17 STA 13+140 TO 13+390 (WBL)				
TITLE				
PLASTICITY CHART CLAYEY SILT				
PROJECT No. 11-1191-0007		FILE No. 11-1191-0007.GPJ		
DRAWN	TB	Mar 2014	SCALE	N/A
CHECK	SEMP	Mar 2014	REV.	
APPR		Mar 2014	FIGURE B1	

