



# Sub-Surface Log

Test Hole TH19-01

1 of 3

**Client:** Blumetric Environmental **Project Number:**                       
**Project Name:** Former Wellgreen Mill and Tailings Area **Location:** UTM 7V, 6820562 m N, 589182 m E (Tailings Dam)  
**Contractor:** Midnight Sun Drilling Inc. **Ground Elevation:** 791.27 m  
**Method:** 100 mm sonic core in 152 mm casing hole, Rig 9 Terrasonic track mounted **Date Drilled:** 7 October 2019 - 8 October 2019

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

Elevation (m)	Depth (m)	Soil Symbol	SP-01	MATERIAL DESCRIPTION	Sample Type	Sample Number	SPT (N)	Temperature (°C)	Bulk Unit Wt (kN/m <sup>3</sup> )		Undrained Shear Strength (kPa)
									16	17	
791.0	0.0			GRAVEL (FILL) - sandy, trace clay, trace silt, grey, moist to wet, loose to compact, well-graded, fine sand to coarse gravel, sub-rounded, maximum diameter <50 mm		G100		15.5			
	0.5			CLAY (FILL) - silty, sandy, gravelly (<30 mm diam.) - grey - moist, firm to stiff - low plasticity		G101	8	14			
790.1	1.0							13.5			
	1.5			GRAVEL (FILL) - sandy, trace clay, trace silt, trace cobbles (<100 mm diam.) - grey - moist to wet, moist below 1.5 m, compact - well-graded, fine sand to coarse gravel - sub-rounded		G102		6.3			
	2.0					SS103	18	4.6			
	2.5					G104					
	3.0			- silt seam, trace clay, low plasticity, oxidized (300 mm thick) at 2.9 m		G105					
788.2	3.0			SAND - some silt, trace clay, trace gravel (<30 mm diam.) - brown - moist to wet, compact - poorly-graded, fine to medium sand		SS106	13				
	3.5										
787.3	4.0			SAND AND GRAVEL - trace clay, trace silt, trace cobbles (<100 mm diam.) - grey, moist to wet, loose - well-graded, fine sand to coarse gravel - sub-rounded		G107		8.7			
	4.5										
786.7	4.5			SILT - trace clay, trace sand - grey, moist, soft - no to low plasticity		SS108	9	8.9			
	5.0			- sand seam (152 mm thick), loose at 5.0 m and no plasticity below 5.0 m				10.5			
	5.5			- sand seam (152 mm thick) at 5.5 m				11.9			
								11.6			

SUB-SURFACE LOG LOGS 2019-11-08 WELLGREEN WORKPLAN SITE (TEST HOLES)\_FINAL\_BT 0154-015-00.GPJ\_TREK GEOTECHNICAL\_GDT 28/11/19

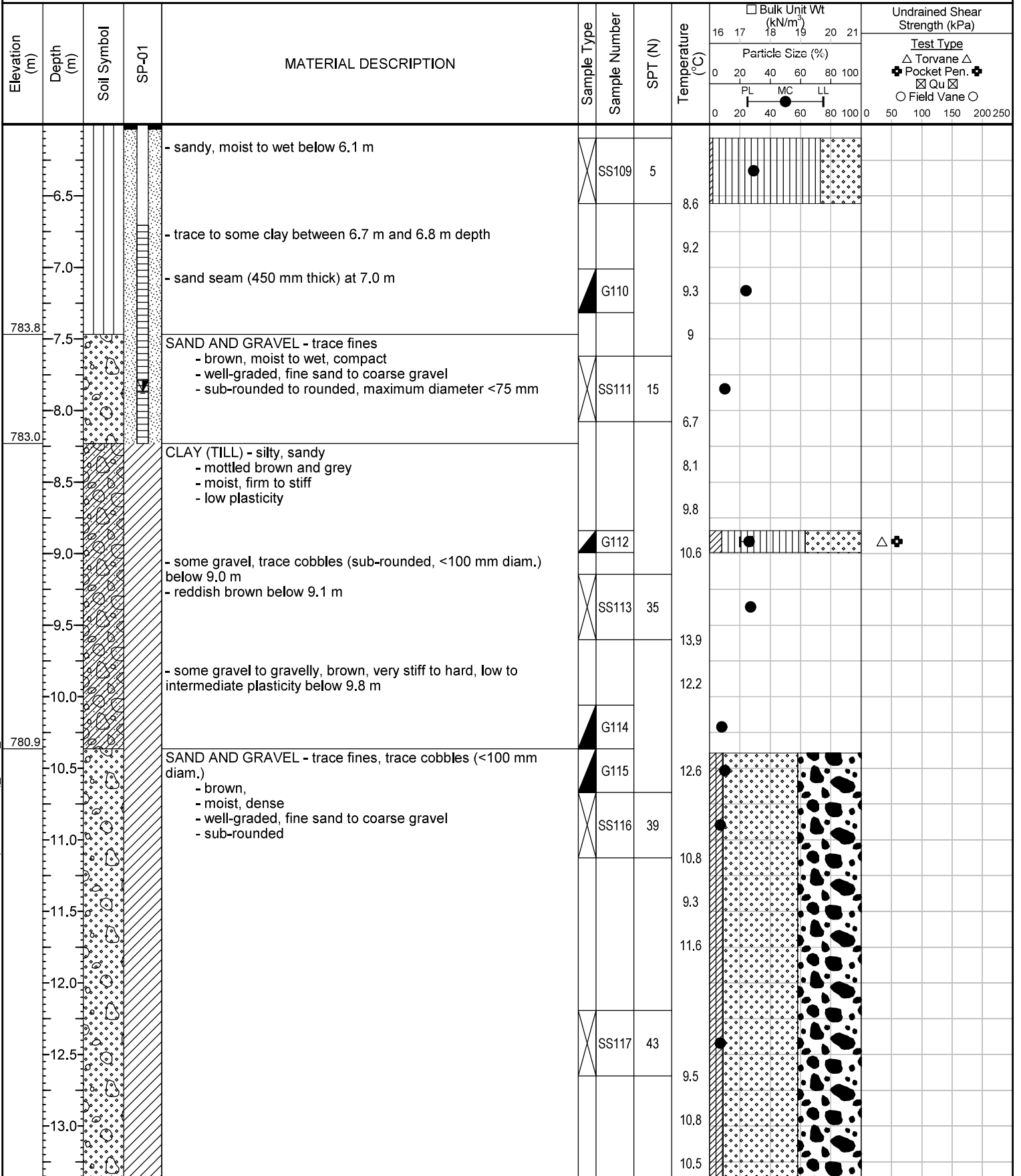
**Logged By:**                      **Reviewed By:**                      **Project Engineer:**



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Logged By: \_\_\_\_\_ Reviewed By: \_\_\_\_\_ Project Engineer: \_\_\_\_\_



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Elevation (m)	Depth (m)	Soil Symbol	SP-01	MATERIAL DESCRIPTION	Sample Type	Sample Number	SPT (N)	Temperature (°C)	Bulk Unit Wt (kN/m <sup>3</sup> )	Undrained Shear Strength (kPa)		
									16 17 18 19 20 21	Test Type	50 100 150 200 250	
									Particle Size (%)			
									0 20 40 60 80 100	△ Torvane △	□ Pocket Pen. □	○ Field Vane ○
									PL MC LL			
									0 20 40 60 80 100			
13.5												
14.0						SS118	69	11.3				
14.5								11.5				
15.0												
775.7	15.5					SS119	41 / 122mm	13.2				

END OF TEST HOLE AT 15.5 m IN SAND AND GRAVEL

Notes:

1. Seepage between 1.2 m and 4.6 m depth and between 6.1 m and 8.2 m below ground surface.
2. Sloughing could not be observed due to drilling method.
3. Standpipe SP-01 (50 mm diameter) installed at 8.2 m below ground surface.
4. Test Hole backfilled with cuttings from the bottom of test hole to 8.2 m depth, sand from 8.2 m to 6.0 m depth, and bentonite chips from 6.0 m depth to surface.
5. Groundwater level measured in SP-01 at elevation 783.392 m on October 10, 2019.
6. Samples G102, SS103 and G104 were combined to obtain sufficient amount for testing. Results represent a combined material.
7. Samples G115, SS116, SS117, SS118 and SS119 were combined to obtain sufficient amount for testing. Results represent a combined material.

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