

LOG OF SONIC BORING: BH-SD-01 Sonic Drilling Investigation

LOCATION: Cambridge, Ontario

CLIENT: Regional Infrastructure Authority

DRILLING CONTRACTOR: Sonic Drilling Services Ltd.

PROJECT: Geotechnical Examples

PROJECT NO.: Geotechnical Examples

DATE STARTED: 2026-08-26

GROUND ELEVATION: 328.4

LOGGED BY: J. Geotechnical Engineer

SONIC RIG / METHOD: Track-mounted resonance drilling with sonic drilling rig

GROUNDWATER: 18.5 ft

Depth (ft)	Elev. (ft)	Water	Graphic Log	Material Description	USCS	Sonic Run	Sample ID	Sample Type	Recovery (%)	Method Tooling	Drilling Data Observations	Remarks
0.0	328.4			Ground Surface								
2.0	326.4			SAND AND GRAVEL FILL; compact, brown, moist, trace asphalt fragments. Brown	FILL	R-01				6 in core barrel; 8 in override casing		
4.0				SILTY SAND; loose to compact, brown, moist, trace gravel. Brown	SM		SC-01	SONIC	92			
6.0						R-02						
8.0							SC-02	SONIC	94			
10.0						R-03				5 in core barrel; casing advanced to 25 ft		
12.0	316.4			SILTY CLAY; soft to firm, grey, wet, medium plasticity, occasional silt seams. Grey	CL		SC-03	SONIC	90			
14.0						R-04						
16.0							SC-04	SONIC	78			Groundwater encountered during drilling.
18.0						R-05						
20.0							SC-05	SONIC	72			Core extrusion slowed by swelling silty clay.
22.0												
24.0	303.4											

BOREHOLE DIAMETER: 6 in

DATE COMPLETED: 08/27/2026

NOTES: Continuous cores logged in 5 ft runs; borehole pressure-grouted on completion

CASING / CORE BARREL: 8 in casing; 6 in, 5 in and 4 in core bar

TERMINATION DEPTH / REASON: 60.0 ft; target depth reached in

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LOGGED BY: M. J. Geotechnical Engineer

Depth (ft)	Elev. (ft)	Water	Graphic Log	Material Description	USCS	Sonic Run	Sample ID	Sample Type	Recovery (%)	Method Tooling	Drilling Data Observations	Remarks
26.0	288.4			SAND AND GRAVEL; compact to dense, grey-brown, wet, occasional cobbles. Grey-brown	GW-GM	R-06	SC-06	SONIC	84	5 in core barrel; casing advanced to 25 ft		Cobbles caused temporary core blockage.
28.0						R-07				4 in core barrel; casing advanced to 42 ft		
30.0						R-08						
32.0				SANDY SILT TILL; dense to very dense, grey, moist, gravel and cobbles. Grey	ML	R-09	SC-09	SONIC	86			Casing advanced to 42 ft to maintain borehole stability.
34.0						R-10						
36.0												
38.0							SC-10	SONIC	82			
40.0												
42.0												
44.0												
46.0												
48.0												
50.0												

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Depth (ft)	Elev. (ft)	Water	Graphic Log	Material Description	USCS	Sonic Run	Sample ID	Sample Type	Recovery (%)	Method Tooling	Drilling Data Observations	Remarks	
	276.4				ML	R-11				4 in core barrel; casing advanced to 42 ft		Tooling changed to carbide bit at weathered shale contact.	
52.0				WEATHERED SHALE; very weak to weak, grey, closely fractured becoming more competent with depth. Grey	SHALE		SC-11	SONIC	76	4 in core barrel with carbide bit			
54.0													
56.0													
58.0							SC-12	SONIC	88				
60.0	268.4			End of Sonic Borehole								Target depth reached; borehole pressure-grouted on completion.	
62.0													
64.0													
66.0													
68.0													
70.0													
72.0													
74.0													

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TERMINATION DEPTH / REASON: 60.0 ft; target depth reached in