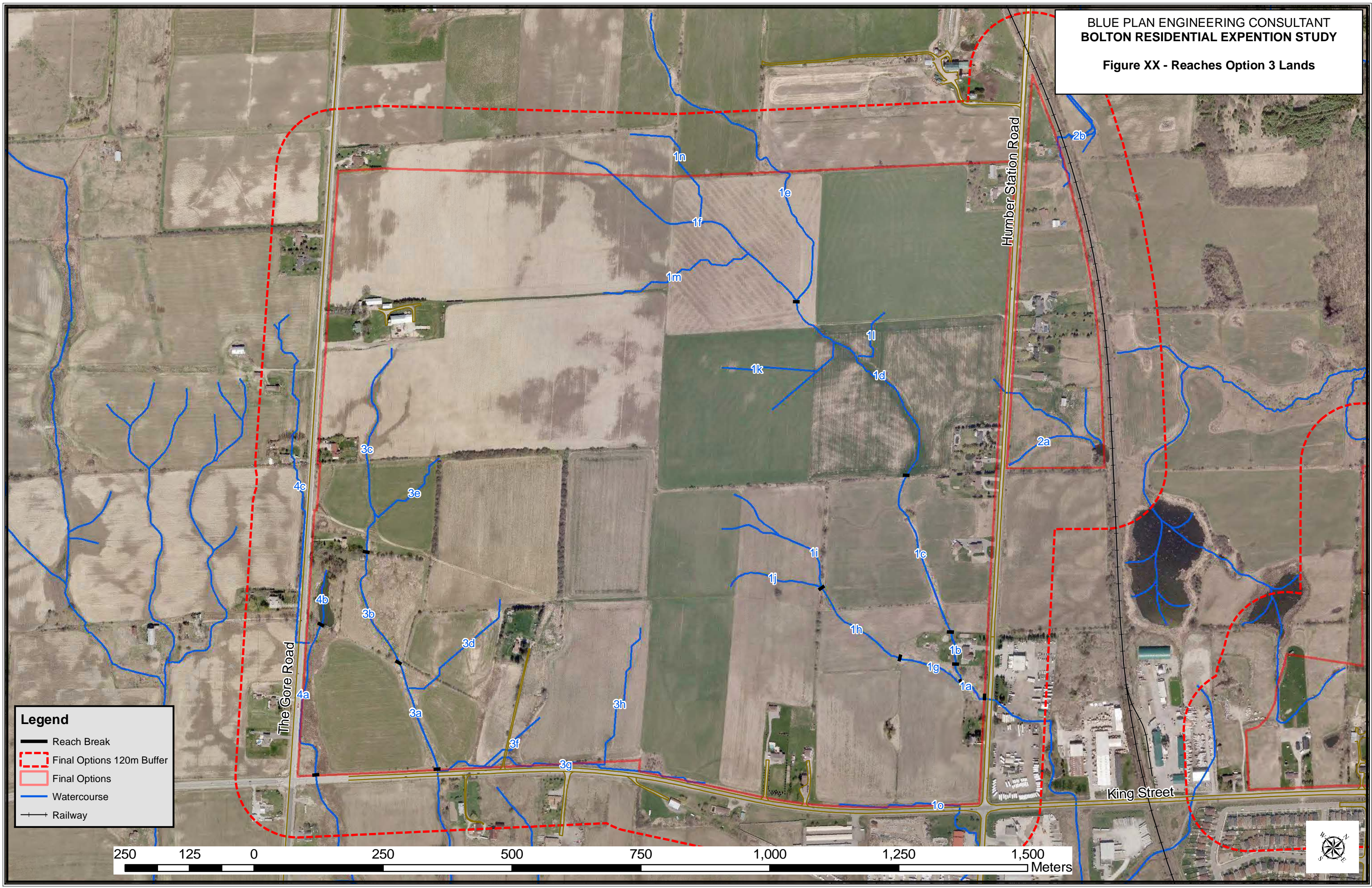




Appendix A

Figure XX - Reaches Option 3 Lands



Legend

- Reach Break
- - - Final Options 120m Buffer
- Final Options
- Watercourse
- +— Railway





Appendix B-1

Caledon Station

PROJECT: Geotechnical Investigation
 CLIENT: Bolton Option 3 Landowners Group
 PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4857815.92 E 597082.44

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Jul/27/2020
 REF. NO.: 20-169-100
 ENCL NO.: 2

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40						
279.8	TOPSOIL: 300mm													
279.5	FILL: sandy silt, trace gravel, dark brown, moist, loose	1	SS	6										
279.0	CLAYEY SILT TILL: sandy, trace gravel, sand seams, brown, moist, very stiff to hard trace cobble below 2.3m	2	SS	19										
278.5		3	SS	36										
278.0		4	SS	55										
277.5		5	SS	32										
275.3	SILTY CLAY: trace sand, grey, very moist, very stiff	6	SS	17										
273.8	SILT: trace clay, grey, wet, compact	7	SS	12										
271.6	END OF BOREHOLE: Notes: 1) Water level at 4.5m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 4.11 Sept 8, 2020 4.24 Oct 22, 2020 4.51	8	SS	20										

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/18

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Bolton Option 3 Landowners Group
 PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4857663.29 E 597311.06

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Jul/27/2020
 REF. NO.: 20-169-100
 ENCL NO.: 3

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			20 40 60 80 100	20 40 60 80 100						
278.8	TOPSOIL: 200mm													
0.2	FILL: sandy silt, trace gravel, brown, moist, loose	1	SS	8										
278.0	CLAYEY SILT TILL: sandy, trace gravel, sand seams, brown, moist, very stiff	2	SS	16										
0.8		3	SS	19										
1.2														
276.5	SANDY SILT: trace clay, brown, moist to very moist, very dense	4	SS	58										
2.3		5	SS	58										
3.3														
4.3														
5.3		6	SS	66										
6.3	wet below 6m													
6.6		7	SS	51										
7.6														
8.2		8	SS	52										
8.2	END OF BOREHOLE: Notes: 1) Water level at 6.1m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 6.12 Sept 8, 2020 6.36 Oct 22, 2020 6.48													

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/18

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Bolton Option 3 Landowners Group PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario DATUM: Geodetic BOREHOLE LOCATION: See Drawing 1 N 4857648.82 E 597335.94	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Jul/27/2020 REF. NO.: 20-169-100 ENCL NO.: 4
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SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
278.6	TOPSOIL: 300mm													
278.3	FILL: sandy silt, trace gravel, brown, moist, compact	1	SS	10										
277.8	SILTY CLAY TILL: sandy, trace gravel, sand seams, brown, moist, stiff	2	SS	13										
277.1		3	SS	10										
276.3		4	SS	15										
276.3	SILTY SAND: trace clay, grey, moist, compact to very dense	5	SS	35										
275.3		6	SS	65										
274.3		7	SS	49										
271.9	END OF BOREHOLE: Notes: 1) Water level at 4.5m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 6.0 Sept 8, 2020 dry Oct 22, 2020 dry													

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/18

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3 , × 3 : Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation	DRILLING DATA		
CLIENT: Bolton Option 3 Landowners Group	Method: Solid Stem Auger		
PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario	Diameter: 150mm	REF. NO.: 20-169-100	
DATUM: Geodetic	Date: Jul/27/2020	ENCL NO.: 5	
BOREHOLE LOCATION: See Drawing 1 N 4857717.02 E 597386.34			

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT						POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE			"N" BLOWS 0.3 m	SHEAR STRENGTH (kPa)		WATER CONTENT (%)					
277.1							20 40 60 80 100		20 40 60 80 100						
0.0	CONCRETE: 300mm	[Cross-hatched]													
276.8			1	SS	8				○						
0.3	FILL: clayey silt, trace gravel, grey to brown, moist, stiff	[Cross-hatched]													
276.3															
1 0.8	SANDY SILT: trace clay, brown, moist, compact to very dense	[Dotted]	2	SS	21				○						
			3	SS	42										
			4	SS	62				○						
			5	SS	56				○						
	wet below 4.5m														
			6	SS	46				○						
271.1															
6.0	SANDY SILT: trace silt, brown, wet, compact	[Dotted]	7	SS	28				○						
270.4															
6.7	END OF BOREHOLE: Notes: 1) Water level at 4.5m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 3.77 Sept 8, 2020 3.90 Oct 22, 2020 inaccessible														

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/18

ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
276				
275				
274				
273				
272				
271				

GROUNDWATER ELEVATIONS
Measurement

1st	2nd	3rd	4th
▽	▼	▽	▽

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Bolton Option 3 Landowners Group
 PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4858369.55 E 597438.77

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Jul/29/2020
 REF. NO.: 20-169-100
 ENCL NO.: 6

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
273.0														
272.9	TOPSOIL: 250mm													
0.3	FILL: sandy silt, trace topsoil/organics, trace gravel, trace rootlets, brown, moist, compact	1	SS	15										
272.2	SILTY CLAY TILL: sandy, trace gravel, frequent sand seams, brown, moist, hard	2	SS	35		272								
0.8		3	SS	31		271								
		4	SS	39										
270.0	CLAYEY SILT TILL: sandy, trace gravel, interbed of sandy silt layers, greyish brown, moist to very moist, hard	5	SS	35		270								
3.0														
	grey below 4.5m	6	SS	37		268								
	sand seams below 6m	7	SS	46		267								
265.5	SILTY SAND: trace clay, grey, moist, very dense	8	SS	74/ 280mm		266								
7.5														
	very moist at 9m	9	SS	59		264								0 51 47 2
263.3	END OF BOREHOLE: Notes: 1) Water level at 9.1m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 2.78 Sept 8, 2020 3.09 Oct 22, 2020 3.38													

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ_DS.GDT 21/1/18

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, x 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation	DRILLING DATA
CLIENT: Bolton Option 3 Landowners Group	Method: Solid Stem Auger
PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario	Diameter: 150mm
DATUM: Geodetic	Date: Jul/28/2020
BOREHOLE LOCATION: See Drawing 1 N 4857501.44 E 597524.2	REF. NO.: 20-169-100
	ENCL NO.: 7

SOIL PROFILE	SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)
	DESCRIPTION	NUMBER	TYPE			"N" BLOWS 0.3 m	20						
271.0													
270.0	TOPSOIL: 250mm												
0.3	FILL: sandy silt, trace topsoil/organics, trace gravel, trace rootlets, dark brown, moist, loose	1	SS	8									
270.2	CLAYEY SILT TILL: sandy, trace gravel, sand seams, brown, moist, stiff to hard	2	SS	12									
0.8													
1													
2	hard below 2.3m	3	SS	21									
3													
4		4	SS	59									
5													
6	grey below 4.5m	5	SS	58									
7													
8		6	SS	31									
9													
10		7	SS	39									
11													
12		8	SS	25									
13													
14													
15													
16													
17													
18													
19													
20													
21													
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75													
76													
77													
78													
79													
80													
81													
82													

8.2 END OF BOREHOLE:

Notes:

- Borehole dry during drilling.
- 50mm dia. monitoring well installed upon completion.
- Water level Reading:

Date: Water Level (mbgl):

Aug 6, 2020 6.77

Sept 8, 2020 1.15

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/18

GROUNDWATER ELEVATIONS GRAPH NOTES + 3 , × 3 : Numbers refer to Sensitivity ○ ● = 3% Strain at Failure

Measurement 1st 2nd 3rd 4th

PROJECT: Geotechnical Investigation
 CLIENT: Bolton Option 3 Landowners Group
 PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4857020.81 E 597903.58

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Jul/31/2020
 REF. NO.: 20-169-100
 ENCL NO.: 8

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
261.7 0.0	TOPSOIL: 500mm	1	SS	8										
261.2 0.5	FILL: clayey silt, trace topsoil/organics, trace gravel, trace rootlets, dark brown, moist, stiff CLAYEY SILT TILL: some sand, trace gravel, brownish grey, very moist, stiff with silt and sand seams at 1.5m	2	SS	10										
260.9 0.8		3	SS	13										
259.4 2.3		SILTY CLAY TILL: some sand, some gravel, greyish brown, moist, very stiff to hard grey, very moist to wet below 3m	4	SS	39									15 18 38 29
		5	SS	28										
		6	SS	21										
		7	SS	19										
		8	SS	25										
		9	SS	16										
		10	SS	24										
250.4 11.3	END OF BOREHOLE: Notes: 1) Borehole dry during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 dry Sept 8, 2020 6.52 Oct 22, 2020 3.40													

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ_DS.GDT_21/1/18

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Bolton Option 3 Landowners Group
 PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4857701.02 E 597673.81

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Jul/28/2020
 REF. NO.: 20-169-100
 ENCL NO.: 9

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)									
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40							60	80	100	20	40	60	80	100	10
0.0	TOPSOIL: 340mm		1	SS	8																			
0.4	FILL: sandy silt, trace topsoil/organics, trace gravel, brown, moist, loose																							
0.8	CLAYEY SILT TILL: sandy, trace gravel, brown, moist, compact		2	SS	10																			
1.5	SILT: some clay, trace sand, trace gravel, brown, very moist, compact to very dense		3	SS	19																			
			4	SS	58																			
			5	SS	92/ 255mm																			
			6	SS	74																			
6.0	SANDY SILT: trace clay, brown, wet, very dense		7	SS	62																			
			8	SS	54																			
8.2	END OF BOREHOLE: Notes: 1) Water at depth of 6.1m during drilling.																							

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/18

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Bolton Option 3 Landowners Group
 PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4857946.64 E 597876.44

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Jul/28/2020
 REF. NO.: 20-169-100
 ENCL NO.: 10

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
274.1 0.0	TOPSOIL: 550mm	1	SS	5		274								
273.6 0.8	FILL: sandy silt, trace topsoil/ organics, trace clay, trace gravel, trace organics, trace rootlets, dark brown, moist, loose SILTY CLAY TILL: some sand, trace gravel, brown, moist, very stiff to hard	2	SS	16		273								
		3	SS	25		272								
	sand seams below 2.3m	4	SS	38		271								
		5	SS	72		270								
	grey below 4.5m	6	SS	45		269								
						268								
	trace cobble, very moist below 6m	7	SS	24		267								
266.6 7.5	SANDY SILT: trace clay, grey, wet, compact	8	SS	29		266								
265.9 8.2	END OF BOREHOLE: Notes: 1) Water level at 7.6m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 4.43 Sept 8, 2020 4.72 Oct 22, 2020 4.97													

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/1/8

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+ 3, × 3: Numbers refer to Sensitivity
 ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Bolton Option 3 Landowners Group PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario DATUM: Geodetic BOREHOLE LOCATION: See Drawing 1 N 4858404.6 E 597955.26	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Jul/29/2020 REF. NO.: 20-169-100 ENCL NO.: 11
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
268.3	TOPSOIL: 300mm													
268.0	FILL: sandy silt, trace topsoil/ organics, trace gravel, trace rootlets, brown, moist, compact		1	SS	15									
267.5	SILTY CLAY TILL: some sand, trace gravel, sand seams, brown, moist to very moist, very stiff		2	SS	21									
267.0			3	SS	25									
266.5			4	SS	25									
266.0			5	SS	16									
265.5	grey below 3m		6	SS	20									
265.0			7	SS	17									
264.5			8	SS	15									
264.0														
263.5														
263.0														
262.5														
262.0														
261.5														
261.0														
260.1	END OF BOREHOLE: Notes: 1) Borehole dry and open upon completion.													

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/18

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, x 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Bolton Option 3 Landowners Group
 PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4858726.5 E 597841.19

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Jul/29/2020
 REF. NO.: 20-169-100
 ENCL NO.: 12

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)	
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
270.1	TOPSOIL: 300mm													
269.8	FILL: sandy silt, trace topsoil/organics, trace gravel, trace rootlets, brown, moist, compact SILTY CLAY TILL: sandy, trace gravel, sand seams, brown, moist, very stiff to hard grey below 4.5m	1	SS	12										
0.3		2	SS	19										
269.3		3	SS	22										
1		4	SS	28										
2		5	SS	44										
3		6	SS	24										
4														
5														
6														
7														
8														
262.4	SILT: some sand, trace clay, trace gravel, grey, wet, compact	8	SS	28										1 11 80 8
7.7		9	SS	27										
260.4	END OF BOREHOLE: Notes: 1) Water level at 9.1m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 5.42 Sept 8, 2020 5.37 Oct 22, 2020 5.33													

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ_DS.GDT 21/1/18

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, x 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Bolton Option 3 Landowners Group PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario DATUM: Geodetic BOREHOLE LOCATION: See Drawing 1 N 4857520.15 E 598321.99	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Jul/31/2020 REF. NO.: 20-169-100 ENCL NO.: 13
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SOIL PROFILE	SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)
	DESCRIPTION	NUMBER	TYPE			"N" BLOWS 0.3 m	20						
(m) ELEV DEPTH 264.9 0.0 264.5 0.4 264.1 0.8 1 2 261.9 3.0 4 5 258.9 6.0 7 8 256.7 8.2	STRATA PLOT TOPSOIL: 400mm FILL: clayey silt, trace topsoil/organics, trace gravel, sand seams, trace rootlets, dark brown, moist, stiff SILTY CLAY TILL: some sand, trace gravel, sand seams, brown, moist to very moist, stiff grey below 2.3m SANDY SILT TO SILT: trace clay, grey, very moist, dense wet below 4.5m SILT: trace clay, trace sand, grey, very moist, compact to loose	1 SS 8 2 SS 8 3 SS 9 4 SS 10 5 SS 32 6 SS 36 7 SS 25 8 SS 7	8 8 9 10 32 36 25 7	W. L. 264.7 m Aug 06, 2020 Bentonite Filter Pack Slotted Pipe	264.9 264.5 264.1 264 263 262 261 260 259 258.9 258 257	20 40 60 80 100 20 40 60 80 100	10 20 30	0 1 94 5	GR SA SI CL				

END OF BOREHOLE:
 Notes:
 1) Water level at 3.1m below grade during drilling
 2) 50mm dia. monitoring well installed upon completion.
 3) Water level Reading:

Date:	Water Level (mbgl):
Aug 6, 2020	0.2
Sept 8, 2020	0.1
Oct 22, 2020	0.14

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/18

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Bolton Option 3 Landowners Group
 PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4857981.07 E 598332.09

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Jul/30/2020
 REF. NO.: 20-169-100
 ENCL NO.: 14

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
268.1	TOPSOIL: 200mm													
268.0	FILL: clayey silt, trace topsoil/ organics, trace gravel, trace rootlets, dark brown, moist, stiff		1	SS	12									
267.3	SILTY CLAY TILL: some sand, trace gravel, sand seams, brownish grey, moist, stiff to very stiff		2	SS	19									
267.0			3	SS	20									
266.9			4	SS	26									
266.8			5	SS	14									
266.7			6	SS	9									
266.6	grey below 4.5m		7	SS	19									
260.6	SANDY SILT TO SILT: trace clay, trace gravel, grey, wet, very dense		8	SS	94/255mm									
259.9	END OF BOREHOLE: Notes: 1) Water at 7.6m below grade during drilling													

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/18

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Bolton Option 3 Landowners Group
 PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4858339.89 E 598409.18

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Jul/30/2020
 REF. NO.: 20-169-100
 ENCL NO.: 15

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40							60
267.7															
0.0	TOPSOIL: 400mm	1	SS	7											
267.3															
0.4	FILL: clayey silt, trace topsoil/organics, trace gravel, trace sand, trace rootlets, brown, moist, firm SILTY CLAY TILL: some sand, trace gravel, frequent sand seams, brown, moist, stiff to hard grey below 6m interbed of clayey silt and sandy silt layers, wet below 10.5m	2	SS	14											
266.9															
0.8			3	SS	13										
			4	SS	27										
			5	SS	28										
			6	SS	24										
			7	SS	18										
			8	SS	29										
			9	SS	22										
			10	SS	35										
256.4															
11.3	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 3.32 Sept 8, 2020 3.43 Oct 22, 2020 3.59														

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ_DS.GDT_21/1/18

W. L. 264.3 m
 Aug 06, 2020
 Oct 22, 2020

Bentonite

Filter Pack

Slotted Pipe

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

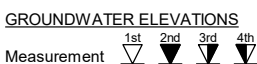
GRAPH NOTES + 3, x 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Bolton Option 3 Landowners Group
 PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4858789.95 E 598183.97

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Jul/30/2020
 REF. NO.: 20-169-100
 ENCL NO.: 16

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)	
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
264.1	TOPSOIL: 350mm													
263.8	FILL: clayey silt, trace topsoil/organics, trace gravel, trace sand, trace rootlets, brown, moist, stiff CLAYEY SILT TILL: some sand, trace gravel, sand seams, brown, moist, stiff to very stiff grey below 4.5m wet below 9m	1	SS	12										
263.3		2	SS	18										
263.3		3	SS	22										
262.1		4	SS	27										
261.7		5	SS	27										
260.0		6	SS	17										
259.0		7	SS	14										
258.0		8	SS	16										
257.0		9	SS	12										
255.0														
254.4	END OF BOREHOLE: Notes: 1) Water level at 9.1m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 2.41 Sept 8, 2020 2.33 Oct 22, 2020 2.41													

DS SOIL LOG 20-169-100 BOLTON OPTION 3 LANDS.GPJ_DS.GDT 21/1/18



GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Bolton Option 3 Landowners Group
 PROJECT LOCATION: Bolton Option 3 Lands, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4857848.7 E 598703.75

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Jul/31/2020
 REF. NO.: 20-169-100
 ENCL NO.: 17

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
265.5	TOPSOIL: 400mm													
0.0 265.1	FILL: clayey silt, trace topsoil/organics, trace gravel, trace rootlets, brown, moist, stiff	1	SS	9										
0.4 264.7		2	SS	33										
0.8 264.0	SILTY CLAY TILL: some sand, trace gravel, sand seams, brown, moist, stiff to hard	3	SS	30										
1.5 262.2		4	SS	24										
3.3 261.0	SANDY SILT: trace clay, brown, wet, compact	5	SS	20										
4.5 260.0	SAND AND GRAVEL: some silt, trace clay, brownish grey, wet, very dense	6	SS	66										
6.2 259.3		7	SS	38										
7.5 258.0	SANDY SILT: trace clay, grey, wet, dense	8	SS	41										
8.2 257.3	END OF BOREHOLE: Notes: 1) Water level at 2.3m below grade during drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: Water Level (mbgl): Aug 6, 2020 2.12 Sept 8, 2020 2.27 Oct 22, 2020 2.49													

W. L. 263.4 m
 Aug 06, 2020¹
 W. L. 263.1 m
 Oct 22, 2020

Filter Pack
 Slotted Pipe

DS SOIL LOG - 20-169-100 BOLTON OPTION 3 LANDS.GPJ DS.GDT 21/1/8

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ● = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4858060.2 E 597225.82

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Aug-31-2022
 REF. NO.: 20-169-104
 ENCL NO.: 2

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)	
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40							60
279.0	TOPSOIL: 300mm															
278.9	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff		1	SS	9											
0.3																
278.2	SILTY CLAY TO CLAYEY SILT TILL: trace to some sand, trace gravel, brown, moist, very stiff to hard sandy silt till layer @2.3m		2	SS	24											
0.8																
1																
2																
3																
4																
5																
6	grey below 4.6m															
7																
272.7	SANDY SILT TILL: trace clay, trace gravel, grey, very moist, very dense		7	SS	65											
6.3																
8																
271.4	SANDY SILT TO SILTY SAND: trace clay, trace gravel, grey, wet, very dense		8	SS	78											
7.6																
270.8																
8.2	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 8, 2022 3.4															

W. L. 275.6 m
Sep 08, 2022

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation	DRILLING DATA
CLIENT: ARGO Development Corp	Method: Hollow Stem Auger
PROJECT LOCATION: Bolton Option 3 Lands, Block 10, Caledon, Ontario	Diameter: 200mm
DATUM: Geodetic	Date: Apr/22/2021
BOREHOLE LOCATION: See Drawing 1 N 4858817.153 E 598138.646	REF. NO.: 20-169-100
	ENCL NO.: 2

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			20 40 60 80 100	20 40 60 80 100						
264.1	TOPSOIL: 300mm					264								
263.8	FILL: clayey silt, trace topsoil/ organics, trace gravel, trace sand, trace rootlets, brown, moist, stiff	1	SS	8		264								
263.3	CLAYEY SILT TILL: some sand, trace gravel, brown, moist, stiff to very stiff	2	SS	10		263								
1 0.8		3	SS	11		262								
2		4	SS	15		261								
3		5	SS	19		260								
4		6	SS	26		259								
5		7	SS	23		258								
6						257								
6.7	grey below 4.5m					256								
6.7	END OF BOREHOLE: Notes: 1) Borhole dry and open at completion of drilling 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: May 3, 2021 Water Level (mbgl): 0.5m					255								

<p>Notes: 1) Borhole dry and open at completion of drilling 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: May 3, 2021 Water Level (mbgl): 0.5m</p>														
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DS SOIL LOG 20-169-100 ARGO HUMBER STATION.GPJ DS.GDT 21/6/28

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: ARGO Development Corp
 PROJECT LOCATION: Bolton Option 3 Lands, Block 10, Caledon, Ontario
 DATUM: Geodetic
 BOREHOLE LOCATION: See Drawing 1 N 4858839.839 E 598092.887

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Apr/22/2021
 REF. NO.: 20-169-100
 ENCL NO.: 3

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)	
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40	60	80				100
263.8	TOPSOIL: 200mm													
263.6	FILL: clayey silt, trace topsoil/organics, trace sand, trace rootlets, brown, moist, firm	1	SS	7										
262.9	SILT: trace clay, brown, saturated, loose	2	SS	9										
262.9	CLAYEY SILT TILL: trace gravel, trace sand, brown, moist to wet, stiff to hard	3	SS	29										
262.2		4	SS	27										
261.3		5	SS	34										
260.4														
259.5		6	SS	24										
257.1		7	SS	22										
6.7	END OF BOREHOLE: Notes: 1) Dry and open upon completion of drilling. 2) 50mm dia. monitoring well installed upon completion. 3) Water level Reading: Date: May 3, 2021 Water Level (mbgl): 0.7m													

DS SOIL LOG 20-169-100 ARGO HUMBER STATION.GPJ DS.GDT 21/6/28

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ● = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: ARGO Development Corp PROJECT LOCATION: Bolton Option 3 Lands, Block 10, Caledon, Ontario DATUM: Geodetic BOREHOLE LOCATION: See Drawing 1 N 4858727.446 E 598063.05	DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Apr/22/2021 REF. NO.: 20-169-100 ENCL NO.: 4
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
266.9	TOPSOIL: 200mm	[Hatched Pattern]												
0.2	FILL: clayey silt, trace topsoil/organics, trace sand, trace gravel, brown, moist, firm	[Hatched Pattern]	1	SS	8									
266.1	CLAYEY SILT TILL: trace gravel, trace sand, brown, moist to wet, stiff to hard	[Dotted Pattern]	2	SS	21									
0.8		[Dotted Pattern]	3	SS	30									
		[Dotted Pattern]	4	SS	38									
		[Dotted Pattern]	5	SS	44									
		[Dotted Pattern]	6	SS	17									
		[Dotted Pattern]	7	SS	12									
6.7	END OF BOREHOLE: Notes: 1) Borehole was open and wet at the bottom upon completion of drilling.													

DS SOIL LOG 20-169-100 ARGO HUMBER STATION.GPJ DS.GDT 21/6/28

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ● = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857899.68 E 597174.15

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-31-2022
 REF. NO.: 20-169-104
 ENCL NO.: 3

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
280.2	TOPSOIL: 300mm													
279.9	WEATHERED/DISTURBED		1	SS	8									
0.3	NATIVE: sandy silt, clayey, trace rootlets, trace gravel, brown, moist, loose		2	SS	13									
279.4														
0.8	SILTY CLAY TO CLAYEY SILT		3	SS	15									
278.7	TILL: some sand to sandy, trace rootlets, trace gravel, brown, moist, stiff													
1.5	SILTY SAND TO SANDY SILT: trace clay, brown, moist, compact to dense		4	SS	36									
			5	SS	34									
	wet, trace gravel below 4.6m		6	SS	45									
			7	SS	44									
	grey below 7.8m		8	SS	35									
			9	SS	19									
	compact below 9.1m													
269.5	SAND: some silt to silty, trace clay, grey, wet, compact		10	SS	16									
10.7														
268.0	SANDY SILT TILL: some clay, trace gravel, grey, wet, very dense		11	SS	53									
12.2														
267.4	END OF BOREHOLE:													
12.8	Notes: 1) Water at depth of 4.5m during drilling.													

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858172.91 E 597505.29	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Aug-30-2022 REF. NO.: 20-169-104 ENCL NO.: 4
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SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			20 40 60 80 100	20 40 60 80 100						
274.8	TOPSOIL: 250mm	1	SS	9										
274.0	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, very stiff	2	SS	20										
274.2		3	SS	23										
271.6		4	SS	28										
271.6		5	SS	30										
267.2	SANDY SILT TILL: some clay to clayey, trace gravel, grey, moist, compact to dense	6	SS	21										
267.2		7	SS	28										
267.2		8	SS	42										
265.1	SANDY SILT: trace clay, trace gravel, grey, wet, dense to very dense	9	SS	59										
265.1														
9.7	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 1.42													

W. L. 273.4 m
Sep 08, 2022

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857977.59 E 597363.66

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-30-2022
 REF. NO.: 20-169-104
 ENCL NO.: 5

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
279.8	TOPSOIL: 200mm		1	SS	9									
279.6	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff		2	SS	26									
278.8	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, very stiff to hard sand pocket@1.5m		3	SS	50/ 130mm									
277.5	SAND: trace to some silt, trace gravel, brown, moist, dense		4	SS	36									
276.0			5	SS	41									
275.2	SANDY SILT TO SILT: trace clay, brown, wet, compact to dense		6	SS	25									
274.0			7	SS	39									
273.0			8	SS	19									
272.0			9	SS	41									
271.0			10	SS	45									
268.5	grey below 10.7m													
11.3	END OF BOREHOLE: Notes: 1) Water at depth of 4.6m during drilling.													

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857690.79 E 597235.89	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Aug-31-2022 REF. NO.: 20-169-104 ENCL NO.: 6
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ELEV DEPTH (m)	SOIL PROFILE DESCRIPTION	STRATA PLOT	SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
			NUMBER	TYPE	"N" BLOWS 0.3 m			20	40						
279.7	TOPSOIL: 320mm		1	SS	10										
279.4	WEATHERED/DISTURBED NATIVE: clayey silt, some sand to sandy, trace rootlets, trace gravel, brown, moist, stiff		2	SS	45		279								
278.9	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, hard		3	SS	30		278								
			4	SS	37		277								
276.6	SANDY SILT: trace clay, brown, moist, dense to very dense		5	SS	82		276								
	wet below 4.6m		6	SS	46		275								
273.6	SILT: some clay, trace sand, silty clay pockets, trace gravel, brown, wet, dense		7	SS	40		274								
	some sand to sandy@7.6m		8	SS	48		272								

8.2 END OF BOREHOLE:
 Notes:
 1) 50mm dia. monitoring well installed upon completion.
 2) Water Level Readings:
 Date: Water Level(mbgf):
 Sept. 08, 2022 6.53

W. L. 273.2 m
Sep 08, 2022

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857757.24 E 597389.06

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-31-2022
 REF. NO.: 20-169-104
 ENCL NO.: 7

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)					
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							W _p	W	W _L	GR SA SI CL	
278.0	TOPSOIL: 380mm																		
277.8	WEATHERED/DISTURBED NATIVE: sandy silt, trace clay, trace gravel, trace rootlets, brown, moist, loose SILTY SAND TO SANDY SILT: trace clay, brown, moist, compact to dense wet below 4.6m greyish brown below 12.2m		1	SS	9														
277.2			2	SS	10														
276.6			3	SS	25														
276.0			4	SS	38														
275.4			5	SS	45														
274.8			6	SS	33														
274.2			7	SS	23														
273.6			8	SS	19														
273.0			9	SS	18														
272.4			10	SS	26														
271.8			11	SS	31														
271.2																			
270.6																			
270.0																			
269.4																			
268.8																			
268.2																			
267.6																			
267.0																			
266.4																			
265.8																			
265.2																			
12.8	END OF BOREHOLE: Notes: 1) Water at depth of 4.6m during drilling.																		

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857881.68 E 597477

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-30-2022
 REF. NO.: 20-169-104
 ENCL NO.: 8

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)	
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40							60
279.8	TOPSOIL: 300mm															
279.0	WEATHERED/DISTURBED NATIVE: silty clay, trace sand, trace rootlets, trace gravel, brown, moist, firm		1	SS	7											
278.3	SANDY SILT: some clay, brown, moist, compact		2	SS	10											
278.3	SILT: some sand to sandy, trace clay, trace gravel, brown, very moist, compact to dense occasional silty clay pockets, wet below 2.3m silty clay layer@3.1m		3	SS	24											
			4	SS	31											
			5	SS	31											
			6	SS	39											
			7	SS	26											
			8	SS	43											
			9	SS	31											
			10	SS	32											
			11	SS	30											
267.0	END OF BOREHOLE: Notes: 1) Water at depth of 2.3m during drilling.															

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857677.07 E 597438.67

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Sep-01-2022
 REF. NO.: 20-169-104
 ENCL NO.: 9

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40						
277.0	TOPSOIL: 200mm		1	SS	11										
276.8	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff		2	SS	17										
276.2	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff		3	SS	26										
274.7	SILT: some sand to sandy, trace clay, trace gravel, brown, moist, dense to very dense		4	SS	65										
			5	SS	60										
	grey, wet below 4.6m		6	SS	51										
			7	SS	38										
			8	SS	34										
267.9	SILTY SAND TO SANDY SILT: trace clay, grey to brown, wet, compact to dense		9	SS	24										
			10	SS	48										
	brown, clayey silt pocket@10.7m		11	SS	44										
264.2	END OF BOREHOLE: Notes: 1) Water at depth of 4.6m during drilling.														

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

<p>PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857907.13 E 597643.95</p>	<p>DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Sep-02-2022</p> <p style="text-align: right;">REF. NO.: 20-169-104 ENCL NO.: 10</p>
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
278.2	TOPSOIL: 250mm	X	1	SS	7									
277.9	FILL: clayey silt to silty clay, some sand to sandy, trace gravel, trace rootlets, organic staining, dark brown to brown, moist, firm to stiff (possible weathered/disturbed native)	X	2	SS	11									
275.9		X	3	SS	9									
272.1		X	4	SS	31									
270.9	SILT: some sand to sandy, trace clay, brown, moist, dense to very dense		5	SS	53									
269.9			6	SS	53									
268.1	SANDY SILT TO SILTY SAND: trace clay, brown, wet, dense		7	SS	42									
267.1			8	SS	38									
266.1			9	SS	38									
265.1			10	SS	43									

10.1	<p>END OF BOREHOLE: Notes: 1) Water at depth of 4.6m during drilling.</p>													
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DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation	DRILLING DATA
CLIENT: Caledon Community Partners	Method: Hollow Stem Auger
PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON	Diameter: 200mm
DATUM: Geodetic	Date: Sep-06-2022
BH LOCATION: See Drawing 1 N 4858145.98 E 597819.82	REF. NO.: 20-169-104
	ENCL NO.: 11

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
269.9	TOPSOIL: 280mm													
269.0	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace to some sand, trace gravel, trace rootlets, brown, moist, stiff		1	SS	8									
269.1														
268.4	SILTY CLAY TILL: trace to some sand, trace gravel, brown, moist, very stiff		2	SS	15									
268.4	SANDY SILT TILL: trace to some clay, trace gravel, brown, moist, compact to very dense		3	SS	29									
268.4			4	SS	71									
268.4			5	SS	61									
268.4			6	SS	56									
268.4			7	SS	38									
268.4			8	SS	37									
268.4			9	SS	23									
268.4			10	SS	31									

10.3	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 1.27													
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DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857991.3 E 597843.47

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Sep-06-2022
 REF. NO.: 20-169-104
 ENCL NO.: 12

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
272.9	TOPSOIL: 250mm		1	SS	8										
272.0	WEATHERED/DISTURBED NATIVE: silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff		2	SS	21										
272.1	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff to hard		3	SS	32										
270.2	SANDY SILT TILL: clayey, trace gravel, brown, moist, dense to very dense		4	SS	40										
270.2			5	SS	50/ 50mm										
268.3	SANDY SILT TO SILTY SAND: trace clay, trace gravel, brown, wet, compact to very dense		6	SS	54										
267.0			7	SS	44										
265.0			8	SS	14										
263.0			9	SS	37										
262.6			10	SS	53										
10.3	END OF BOREHOLE: Notes: 1) Monitoring well installed 1 m away from borehole. 2) 50mm dia. monitoring well installed upon completion. 3) Water Level Readings: Date: Water Level(mbg): Sept. 08, 2022 3.6														

W. L. 269.3 m
Sep 08, 2022

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

<p>PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857721.12 E 597662.19</p>	<p>DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Sep-02-2022</p> <p style="text-align: right;">REF. NO.: 20-169-104 ENCL NO.: 13</p>
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)		
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)								
277.7	TOPSOIL: 300mm															
277.4	WEATHERED/DISTURBED NATIVE: sandy silt to silt, trace clay, trace gravel, trace rootlets, dark brown to brown, moist, compact SILT: some sand to sandy, trace clay, trace gravel, brown, moist, compact to very dense clayey@2.3m wet below 3.1m		1	SS	10											
276.7			2	SS	18											
276.0			3	SS	33											
275.3			4	SS	59											
274.6			5	SS	75											
273.9			6	SS	66											
273.2			7	SS	40											
270.1	SANDY SILT TO SILTY SAND: trace clay, brown, wet, compact to dense grey below 10.7m		8	SS	38											
269.4			9	SS	33											
268.7			10	SS	45											
268.0			11	SS	14											
264.9	END OF BOREHOLE: Notes: 1) Water at depth of 3.1m during drilling.															

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21



PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857674.46 E 597643.49

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Sep-01-2022
 REF. NO.: 20-169-104
 ENCL NO.: 14

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)				
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE			"N" BLOWS 0.3 m	20							40	60	80	100
276.1																		
276.0	TOPSOIL: 250mm		1	SS	9													
0.3	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace rootlets, trace sand, trace gravel, brown, moist, stiff		2	SS	15													
275.2			3	SS	19													
0.9	SILT: trace sand, trace clay, trace gravel, brown, moist, compact to very dense		4	SS	70													
			5	SS	72													
			6	SS	52													
	wet below 4.6m		7	SS	34													
			8	SS	35													
			9	SS	21													
			10	SS	46													
			11	SS	37													
268.5	SANDY SILT: trace clay, brown, wet, compact to dense																	
7.6																		
	grey below 9.1m																	
263.3	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 6.03																	
12.8																		

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3 , × 3 : Numbers refer to Sensitivity ○ ●=3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857544.96 E 597523.95

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Sep-01-2022
 REF. NO.: 20-169-104
 ENCL NO.: 15

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
271.4	TOPSOIL: 300mm														
270.9	WEATHERED/DISTURBED NATIVE: clayey silt, trace rootlets, trace sand, trace gravel, brown, moist, firm		1	SS	7										
270.4	SILTY CLAY TO CLAYEY SILT TILL: some sand to sandy, trace gravel, brown, moist, stiff to hard		2	SS	9										
270.0			3	SS	34										
269.0	sandy below 2.3m		4	SS	42										
268.0	grey below 3.4m		5	SS	48										
267.0			6	SS	22										
266.0			7	SS	26									4	31 45 20
265.0			8	SS	28										
264.0			9	SS	19										
263.0			10	SS	16										
262.0			11	SS	12										
261.0															
260.0															
258.6	moist to very moist @12.2m														
12.8	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 11.9														

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

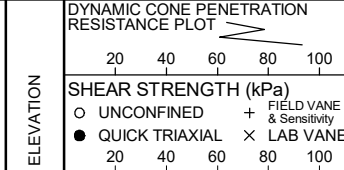
W. L. 259.5 m
Sep 08, 2022

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3 , × 3 : Numbers refer to Sensitivity ○ ● =3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858500.39 E 597551.22	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Aug-29-2022 REF. NO.: 20-169-104 ENCL NO.: 16
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SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40						
270.2	TOPSOIL: 300mm													
269.9	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace rootlets, trace gravel, trace sand, brown, moist, stiff to firm	1	SS	10										
0.3		2	SS	6										
268.7	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, very stiff to hard	3	SS	25										
1.5		4	SS	38										
		5	SS	24										
	grey below 4.6m	6	SS	22										
		7	SS	21										
262.6	SANDY SILT TILL: trace to some clay, trace gravel, grey, moist, very dense	8	SS	57										
7.6														
262.0	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well upon completion. 2) Water Level Readings: Date: Water Level(mbgf): Sept. 08, 2022 1.93													
8.2														



DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858695.96 E 597735.36	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Aug-29-2022 REF. NO.: 20-169-104 ENCL NO.: 17
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
268.8	TOPSOIL: 250mm													
268.0	WEATHERED/DISTURBED NATIVE: clayey silt, some sand, trace gravel, brown, moist, stiff		1	SS	9									
0.3			2	SS	17									
268.0	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, very stiff to hard		3	SS	20									
1			4	SS	36									
0.8			5	SS	27									
1			6	SS	27									
2			7	SS	21									
3			8	SS	25									
4	grey below 3.5m													
5														
6														
6														
7														
7														
8	silty sand pockets @ 7.6m													
260.6														

8.2	END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion.													
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DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858813.11 E 597817.61	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Aug-29-2022 REF. NO.: 20-169-104 ENCL NO.: 18
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SOIL PROFILE	SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
	DESCRIPTION	NUMBER	TYPE			"N" BLOWS 0.3 m	20						
269.0													
268.9	TOPSOIL: 300mm	1	SS	8									
268.7	WEATHERED/DISTURBED NATIVE: sandy silt, trace to some clay, trace rootlets, trace gravel, brown, moist, loose SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, very stiff to hard grey below 4.9m possible boulder@6.1m	2	SS	23									
268.2		3	SS	27									
1 0.8		4	SS	33									
2		5	SS	31									
3		6	SS	26									
4		7	SS	50/ 75mm									
5		8	SS	24									
6													
7													
8													
8.2	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbg): Sept. 08, 2022 2.26												

W. L. 266.7 m
Sep 08, 2022

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858460.95 E 597628.58	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Aug-29-2022 REF. NO.: 20-169-104 ENCL NO.: 19
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
270.0														
269.0	TOPSOIL: 250mm		1	SS	3									
0.3	WEATHERED/DISTURBED NATIVE: clayey silt, some sand, trace rootlets, trace gravel, brown, moist, soft		2	SS	21									
269.2														
0.8	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, very stiff to hard		3	SS	21									
			4	SS	34									
			5	SS	31									
	grey below 4.6m		6	SS	18									
263.9	CLAYEY SILT: trace sand, grey, moist, very stiff		7	SS	29									
6.1														
262.4	SAND AND SILT TILL: some clay, some gravel, grey, moist, dense		8	SS	31									11 38 40 11
7.6														
261.8														
8.2	END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion.													

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858347.09 E 597782.77	DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Aug-30-2022 REF. NO.: 20-169-104 ENCL NO.: 20
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)								
269.0	TOPSOIL: 280mm															
268.0	WEATHERED/DISTURBED		1	SS	6											
0.3	NATIVE: clayey silt, trace sand, trace rootlets, trace gravel, brown, moist, firm		2	SS	9											
268.2	SILTY CLAY TO CLAYEY SILT		3	SS	23											
0.8	TILL: trace sand, trace gravel, brown, moist, stiff to hard trace fine rootlets above 0.9m		4	SS	31											
1			5	SS	32											
2			6	SS	24											
3			7	SS	24											
4			8	SS	20											
5	sandy, grey below 4.6m															
6																
7																
8																
260.8	END OF BOREHOLE:															

Notes:
1) Water at depth of 7.3 during drilling.

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858613.57 E 597956.89	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Aug-29-2022 REF. NO.: 20-169-104 ENCL NO.: 21
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20 40 60 80 100	20 40 60 80 100						
269.4	TOPSOIL: 250mm														
269.0	WEATHERED/DISTURBED		1	SS	7		269								
0.3	NATIVE: clayey silt, some sand to sandy, trace rootlets, trace gravel, brown, moist, firm		2	SS	24		268								
268.6	SILTY CLAY TO CLAYEY SILT TILL: trace sand, gravelly sand pocket@1.0m, brown, moist, very stiff to hard		3	SS	30		268								
1			4	SS	45		267								
0.8			5	SS	39		266								
			6	SS	19		265								
	grey below 4.6m		7	SS	21		263								
			8	SS	18		262								
261.2															

8.2 END OF BOREHOLE:
 Notes:
 1) 50mm dia. monitoring well installed upon completion.
 2) Water Level Readings:
 Date: Water Level(mbg):
 Sept. 08, 2022 2.51

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858504.78 E 598123.48	DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Aug-26-2022 REF. NO.: 20-169-104 ENCL NO.: 22
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
													GR SA SI CL	
267.4	TOPSOIL: 250mm													
267.0	WEATHERED/DISTURBED NATIVE: sandy silt, trace rootlets, trace clay, trace gravel, brown, moist, loose		1	SS	6									
266.6	SILTY CLAY TILL: some sand, trace gravel, brown, moist, very stiff to hard		2	SS	20									
266.0			3	SS	18									
265.0			4	SS	30									
264.0			5	SS	33									4 17 47 32
263.0	grey below 4.6m		6	SS	16									
262.0			7	SS	16									
261.0			8	SS	19									
260.0														

8.2 **END OF BOREHOLE:**
 Notes:
 1) Borehole wet at the bottom upon completion.

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858239.64 E 598130.15	DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Aug-26-2022 REF. NO.: 20-169-104 ENCL NO.: 23
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)	
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40							60
267.8	TOPSOIL: 250mm															GR SA SI CL
267.0	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace rootlets, some sand, trace gravel, dark brown, moist, firm		1	SS	7											
267.0	CLAYEY SILT TO SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff to hard		2	SS	16											
			3	SS	26											
			4	SS	33											
			5	SS	39											
	grey below 4.6m		6	SS	15											
			7	SS	22											
260.2	SANDY SILT TILL: some clay to clayey, trace gravel, silty sand		8	SS	68											
259.6	ockets, grey, moist, very dense															
8.2	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgf): Sept. 08, 2022 1.43															

W. L. 266.3 m
Sep 08, 2022

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

<p>PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858114.18 E 598044.93</p>	<p>DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Aug-26-2022</p> <p style="text-align: right;">REF. NO.: 20-169-104 ENCL NO.: 24</p>
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)							
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)													
270.6	TOPSOIL: 250mm		1	SS	5																
270.0	WEATHERED/DISTURBED NATIVE: silty clay, trace rootlets, trace sand, trace gravel, brown, moist, firm SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff to hard		2	SS	23																
269.8			3	SS	24																
1 0.8			4	SS	29																
2 2			5	SS	30																
3 4			6	SS	21																
4 6	grey below 4.6m																				
5 6.1	SANDY SILT TILL: clayey, trace gravel, grey, moist, compact to very dense		7	SS	27																
6 6.1																					
7 8.1	END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion.		8	SS	50/ 100mm																

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

<p>PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857889.88 E 597985.22</p>	<p>DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Aug-25-2022</p> <p style="text-align: right;">REF. NO.: 20-169-104 ENCL NO.: 25</p>
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
273.1	TOPSOIL: 200mm													
272.9	WEATHERED/DISTURBED NATIVE: silty clay, trace sand, trace rootlets, brown, moist, stiff SILTY CLAY TILL: trace sand, trace gravel, brown, moist, stiff to hard		1	SS	12									
272.7			2	SS	32									
0.4			3	SS	36									
1			4	SS	35									
2			5	SS	38									
268.5	SILT: some clay, some sand, trace gravel, grey, moist, dense		6	SS	30									
4.6			7	SS	20									
267.0	CLAYEY SILT TO SILTY CLAY TILL: trace sand, trace gravel, grey, moist, very stiff		8	SS	17									
6.1			9	SS	17									
7			10	SS	16									
8														
10.4	END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion.													

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation	DRILLING DATA
CLIENT: Caledon Community Partners	Method: Hollow Stem Auger
PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON	Diameter: 200mm
DATUM: Geodetic	Date: Aug-25-2022
BH LOCATION: See Drawing 1 N 4857963.09 E 598107.54	REF. NO.: 20-169-104
	ENCL NO.: 26

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40						
270.9	TOPSOIL: 300mm														
270.0	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace rootlets, trace sand, trace gravel, brown, moist, stiff		1	SS	10										
270.1			2	SS	28										
270.8	SILTY CLAY TILL: some sand, trace gravel, brown, moist, very stiff to hard		3	SS	29										
			4	SS	31										
			5	SS	30										
	grey below 4.6m		6	SS	18										
			7	SS	34										
263.3	SILTY SAND: trace clay, silt seams, grey, wet, compact to very dense		8	SS	57										
7.6			9	SS	22										
259.6			10	SS	37										

11.3 END OF BOREHOLE:
Notes:
1) 50mm dia. monitoring well installed upon completion.
2) Water Level Readings:

Date: Water Level(mbgl):
Sept. 08, 2022 3.1

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857983.06 E 598243.39	DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Aug-24-2022 REF. NO.: 20-169-104 ENCL NO.: 27
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40						
269.0	TOPSOIL: 200mm		1	SS	9										
268.8	WEATHERED/DISTURBED														
268.2	NATIVE: clayey silt to silty clay, trace rootlets, trace sand, brown, moist, stiff		2	SS	28										
1 0.8	SILTY CLAY TO CLAYEY SILT														
2	TILL: trace sand, trace gravel, brown, moist, stiff to hard		3	SS	22										
3			4	SS	39										
4			5	SS	34										
5	grey below 4.6m		6	SS	14										
6			7	SS	31										
7			8	SS	53										
8	silty sand pockets below 6.1m														
9															
259.9															
259.4	SILT: trace to some sand, trace clay, grey, moist to wet, very dense		9	SS	50/30										
9.4	END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion.														

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857751.7 E 598149.64

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-19-2022
 REF. NO.: 20-169-104
 ENCL NO.: 28

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
271.2	TOPSOIL: 230mm														
270.0	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, some sand to sandy, trace rootlets, trace gravel, brown, moist, stiff		1	SS	12		271								
270.4	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff		2	SS	23		270								
269.5	SANDY SILT: trace clay, trace gravel, brown, moist, dense		3	SS	35		269								
269.0			4	SS	46		269								
268.0	clayey seams @3.1m		5	SS	44		268								
267.0							267								
266.6	grey @4.5m		6	SS	29		266								
266.0	SILT: some clay to clayey, some sand, grey, very moist, compact						266								
265.0	wet below 6.1m		7	SS	26		265								
264.0							264								
263.6							263.6								
263.0	SANDY SILT: trace clay, grey, wet, compact		8	SS	20		263								
262.0							262								
261.0							261								
260.0							260								
259.0							259								
258.4	SILTY SAND: trace clay, grey, wet, (disturbed)		11	SS	disturbed		258.4								disturbed sample
258.0	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 4.25														

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857801.25 E 598264.59

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-19-2022
 REF. NO.: 20-169-104
 ENCL NO.: 29

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20 40 60 80 100	20 40 60 80 100						
270.9	TOPSOIL: 200mm														
270.0	WEATHERED/ DISTURBED NATIVE: clayey silt, some sand to sandy, trace gravel, trace rootlets, brown, moist, stiff		1	SS	13										
270.1			2	SS	30										
270.8	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, hard sandy@1.5m		3	SS	55										
268.6			4	SS	44										
267.8	SANDY SILT TILL: trace clay, trace to some gravel, brown, moist, dense		5	SS	72										
265.9	SANDY SILT: trace clay, brown, very moist to wet, very dense		6	SS	56										
263.3	SILT: some clay to clayey, trace sand, trace to some gravel, grey, very moist to wet, dense to very dense		7	SS	32										
263.3			8	SS	37										
261.3			9	SS	29										
259.6			10	SS	14										
11.3	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 4.81														

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

W. L. 266.1 m
Sep 08, 2022

1 10 71 18

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+ 3 , × 3 : Numbers refer to Sensitivity
 ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857873.47 E 598396.84	DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Aug-23-2022 REF. NO.: 20-169-104 ENCL NO.: 30
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
268.9	TOPSOIL: 250mm		1	SS	10									
268.0	WEATHERED/DISURBED NATIVE: silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff		2	SS	26									
268.1	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, very stiff to hard		3	SS	26									
265.7	sandy silt till lenses below 2.3m		4	SS	34									
265.7	SAND: trace silt, trace gravel, orange brown, moist to wet, compact to dense		5	SS	36									
265.7	clayey silt pockets, grey, wet@4.6m		6	SS	39									
263			7	SS	29									
261			8	SS	32									
259.8			9	SS	43									
259.2	SILTY SAND: silt pockets, trace clay, grey, wet, dense													
9.7	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgf): Sept. 08, 2022 3.8													

W. L. 265.1 m
Sep 08, 2022

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857638.89 E 598267.27

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-23-2022
 REF. NO.: 20-169-104
 ENCL NO.: 31

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
268.3	TOPSOIL: 250mm													
268.0	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace rootlets, brown, moist, stiff		1	SS	10									
267.5			2	SS	35									
267.0	SILTY CLAY TILL: trace sand, trace gravel, occasional cobble, brown, moist, very stiff to hard		3	SS	28									
266.0			4	SS	35									
265.0	SANDY SILT: trace clay, brown to grey, wet, dense grey below 2.6m		5	SS	32									
263.7			6	SS	23									
263.0	SILT TO SANDY SILT: some sand, trace to some clay, grey, wet, compact		7	SS	25									
262.0			8	SS	21									
259.2			9	SS	11									
259.0	SAND: some silt to silty, grey, wet, compact		10	SS	29									
255.5			11	SS	disturbed									(disturbed sample)
12.8	END OF BOREHOLE: Notes: 1) Water at depth of 2.3m during drilling.													

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857685.22 E 598400.58

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-23-2022
 REF. NO.: 20-169-104
 ENCL NO.: 32

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40						
268.8	TOPSOIL: 200mm		1	SS	9										
268.0	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace organics/rootlets, brown, moist, stiff		2	SS	24										
268.0	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff		3	SS	24										
266.5	SILT: some sand to sandy, trace to some clay, brown, wet, compact to dense		4	SS	37										
			5	SS	38										
	grey below 4.6m		6	SS	28										
			7	SS	33										
			8	SS	37										
			9	SS	35										
258.1	SAND: some silt to silty, trace clay, brown to greyish brown, wet, dense		10	SS	30										
257.5	END OF BOREHOLE: Notes: 1) Water at depth of 2.3m during drilling.														

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857555.59 E 598363.99

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-23-2022
 REF. NO.: 20-169-104
 ENCL NO.: 33

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
265.3	TOPSOIL: 200mm													
264.9	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown mottled, moist, stiff		1	SS	9									
264.5	SILTY CLAY TILL: trace sand, trace gravel, brown mottled, moist, stiff to very stiff		2	SS	19									
263.3	SANDY SILT: trace clay, trace to some gravel, grey, very moist, compact to dense wet below 2.3m		3	SS	14									
			4	SS	21									
			5	SS	27									
			6	SS	38									
			7	SS	27									
			8	SS	33									
	with silty sand lenses below 7.6m		9	SS	23									
254.6	SAND: some silt, trace clay, grey, wet, compact		10	SS	24									0 82 15 3
253.1	SANDY SILT: with clayey silt pockets, grey, wet, compact		11	SS	15									
12.8	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 0.32													

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3 , × 3 : Numbers refer to Sensitivity ○ ● = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857913.51 E 598493.46

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-25-2022
 REF. NO.: 20-169-104
 ENCL NO.: 34

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT	PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m									
268.0	TOPSOIL: 250mm													
267.2	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace rootlets, trace sand, trace gravel, brown, moist, stiff		1	SS	10									
267.2	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, stiff to very stiff		2	SS	12									
265.7			3	SS	29									
265.7			4	SS	41									
265.7	SANDY SILT TILL: trace clay, trace gravel, occasional cobble, brown, moist, compact to very dense occasional wet sand seams@3.1m		5	SS	25									
264.0			6	SS	50/100mm									
261.9			7	SS	25									
261.9	SANDY GRAVEL: some silt, brown, wet, compact to dense		8	SS	43									
260.0			9	SS	27									52 34 11 3
258.9	SILTY SAND TO SANDY SILT: trace clay, grey, wet, compact to dense		10	SS	35									
256.7														
11.3	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 4.29													

W. L. 263.7 m
Sep 08, 2022

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3 , × 3 : Numbers refer to Sensitivity ○ ● =3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857838.45 E 598615.09

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-24-2022
 REF. NO.: 20-169-104
 ENCL NO.: 35

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL			
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40							60	80	100
267.0	TOPSOIL: 250mm		1	SS	8													
266.8	WEATHERED/DISTURBED NATIVE: silty clay to clayey silt, trace sand, trace gravel, trace rootlets, brown, moist, stiff CLAYEY SILT TO SILTY CLAY TILL: trace to some sand, trace gravel, brown, moist, stiff to very stiff GRAVELLY SAND: some silt, trace clay, brown, wet, compact to very dense moist, some cobbles at 3.1m		2	SS	13													
266.2																		
265.2																		
264.0																		
263.0																		
262.0			6	SS	25											32 54 11 3		
261.0			7	SS	24													
260.0			8	SS	56													
259.0			9	SS	43													
258.0																		
257.0																		
256.3	CLAYEY SILT TILL: sandy, trace gravel, sand pockets, grey, moist, hard		10	SS	49													
255.7	END OF BOREHOLE: Notes: 1) Water at depth of 1.8m during drilling.																	

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857741.56 E 598599.11

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Aug-24-2022
 REF. NO.: 20-169-104
 ENCL NO.: 36

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)								
266.1	TOPSOIL: 250mm															
266.0	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, firm SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff SANDY SILT TO SILTY SAND: trace clay, brown, wet, compact to dense		1	SS	5											
265.3			2	SS	21											
264.6			3	SS	18											
264.0			4	SS	30											
263.0			5	SS	32											
261.0			6	SS	23											
260.0	SAND: some silt, trace silt seams, brown, wet, compact		7	SS	17											
258.5			8	SS	37											
257.0	SANDY SILT TO SILTY SAND: trace clay, grey, wet, compact to very dense		9	SS	52											
256.0			10	SS	37											
255.0			11	SS	47											
253.0			12	SS	23											
252.5	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbgl): Sept. 08, 2022 2.23															

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY GPJ_DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

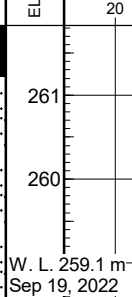
PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858560.88 E 598455.25	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Sep-07-2022 REF. NO.: 20-169-104 ENCL NO.: 37
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
						20 40 60 80 100 ○ UNCONFINED + FIELD VANE & Sensitivity ● QUICK TRIAXIAL × LAB VANE				PLASTIC LIMIT W _p NATURAL MOISTURE CONTENT W LIQUID LIMIT W _L ————— ————— ————— 10 20 30				
261.7	TOPSOIL: 250mm		1	SS	7									
260.9	WEATHERED/DISTURBED NATIVE: silty sand, trace rootlets, trace gravel, brown, moist, loose		2	SS	12									
260.2	SANDY SILT: some clay, trace gravel, brown, very moist, compact		3	SS	10									
1.5	SILTY CLAY TILL: some sand to sandy, trace gravel, brown, moist, stiff to very stiff grey below 2.3m		4	SS	16									
			5	SS	16									
			6	SS	18									
			7	SS	19									
			8	SS	19									
			9	SS	27									
			10	SS	26									
10.5	END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion.													

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858560.27 E 598452.63	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Sep-07-2022 REF. NO.: 20-169-104 ENCL NO.: 38
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SOIL PROFILE		SAMPLES				GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)											
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40							60	80	100	20	40	60	80	100	10	20	30
261.8	Straight drilled to 4m to installed well																									
0.0																										
1																										
2																										
3																										
257.8																										
4.0	END OF BOREHOLE: Notes: 1) Straight drilled to 4m to install 50mm dia. monitoring well. 2) Water Level Readings: Date: Water Level(mbg): Sept. 19, 2022 2.7																									



DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ● = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858497.3 E 598361.23	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Sep-07-2022 REF. NO.: 20-169-104 ENCL NO.: 39
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
265.1	TOPSOIL: 230mm														
264.0	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace rootlets, trace sand, trace gravel, brown, moist, firm		1	SS	5										
264.3			2	SS	22										
0.8	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, stiff to very stiff		3	SS	27										
			4	SS	29										
	grey below 3.1m		5	SS	22										
			6	SS	14										
			7	SS	14										
			8	SS	16										
256.9															

8.2 **END OF BOREHOLE:**
Notes:
1) Borehole wet at the bottom upon completion.

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4858642.88 E 598374.23

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Sep-07-2022
 REF. NO.: 20-169-104
 ENCL NO.: 40

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)		
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							W _p	W
262.7	TOPSOIL: 250mm															
262.0	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace rootlets, trace sand, trace gravel, brown to reddish brown, moist, firm SILTY CLAY TILL: trace sand, trace gravel, brown, moist, stiff to very stiff grey below 3.1m		1	SS	6											
261.9			2	SS	13											
261.8			3	SS	22											
261.7			4	SS	42											
261.6			5	SS	24											
261.5			6	SS	21											
261.4			7	SS	25											
261.3			8	SS	23											
254.5	END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion.															

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

<p>PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858595.53 E 598262.19</p>	<p>DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Sep-07-2022</p> <p style="text-align: right;">REF. NO.: 20-169-104 ENCL NO.: 41</p>
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
266.5	TOPSOIL: 200mm													
266.0	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace rootlets, brown, moist, firm silty sand lens below 0.5m		1	SS	5									
265.7			2	SS	9									
265.0	SILTY CLAY TILL: trace sand, trace gravel, trace rootlets, brown, moist, stiff (disturbed)		3	SS	23									
1.5	SILTY CLAY TILL: trace sand, trace gravel, trace rootlets, brown, moist, very stiff to hard		4	SS	35									
			5	SS	41									
	grey below 4.6m		6	SS	34									
			7	SS	19									
			8	SS	26									

8.2	<p>END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion.</p>													
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DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation	DRILLING DATA
CLIENT: Caledon Community Partners	Method: Solid Stem Auger
PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON	Diameter: 150mm
DATUM: Geodetic	Date: Sep-07-2022
BH LOCATION: See Drawing 1 N 4858595.12 E 598262.27	REF. NO.: 20-169-104
	ENCL NO.: 42

SOIL PROFILE		SAMPLES				GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		SHEAR STRENGTH (kPa)			PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20 40 60 80 100	20 40 60 80 100	W _p W W _L	W _p W W _L	10 20 30						
266.6	Straight drilled to 7.6m to install well.															GR SA SI CL		
0.0																		
1																		
2																		
3																		
4																		
5																		
6																		
7																		
259.0																		

7.6	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbg): Sept. 19, 2022 1.92															
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DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858703.05 E 598283.24	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Sep-07-2022 REF. NO.: 20-169-104 ENCL NO.: 43
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
264.0	TOPSOIL: 230mm														
263.2	WEATHERED/DISTURBED NATIVE: silty clay, trace sand, trace rootlets, trace gravel, brown, moist, stiff		1	SS	8										
0.8	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff to hard trace rootlets above 1.0m		2	SS	27										
			3	SS	27										
			4	SS	37										
	grey below 3.1m		5	SS	29										
			6	SS	15										
			7	SS	20										
			8	SS	17										

8.2 **END OF BOREHOLE:**
 Notes:
 1) 50mm dia. monitoring well installed upon completion.
 2) Water Level Readings:
 Date: Water Level(mbg):
 Oct 18, 2022 3.03

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858702.2 E 598285.12	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Sep-07-2022 REF. NO.: 20-169-104 ENCL NO.: 44
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SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)		
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE			"N" BLOWS 0.3 m	SHEAR STRENGTH (kPa)						W _p	W
263.9 0.0 1 2 3 259.9	Straight drilled to 4.0m to install well.					263 262 W. L. 262.0 m Sep 19, 2022 261 260									
4.0	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbg): Sept. 19, 2022 1.92														

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4858790.18 E 598184.07

DRILLING DATA
 Method: Solid Stem Auger
 Diameter: 150mm
 Date: Sep-06-2022
 REF. NO.: 20-169-104
 ENCL NO.: 45

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)				
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							WATER CONTENT (%)			
						20	40	60	80	100	W _p	w	W _L	GR	SA	SI	CL	
264.0	TOPSOIL: 350mm		1	SS	9													
263.7	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace gravel, trace sand, organic staining, trace rootlets, brown, moist, stiff		2	SS	12													
263.2	SANDY SILT TO SILTY SAND: trace to some clay, trace gravel, brown, very moist, compact		3	SS	12													
261.7	SILTY CLAY TILL: trace to some sand, trace gravel, brown, moist, stiff to very stiff grey below 3.1m		4	SS	24													
259.8			5	SS	21													
259.8			6	SS	16													1 11 51 37
258.8			7	SS	13													
256.8			8	SS	20													
8.2	END OF BOREHOLE: Notes: 1) Borehole wet at the bottom upon completion.																	

DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

<p>PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: The Gore Rd. & King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4858723.71 E 598094.14</p>	<p>DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Sep-06-2022</p> <p style="text-align: right;">REF. NO.: 20-169-104 ENCL NO.: 46</p>
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20 40 60 80 100	20 40 60 80 100						
266.7	TOPSOIL: 250mm		1	SS	13										
266.9	WEATHERED/DISTURBED NATIVE: clayey silt to silty clay, trace sand, trace gravel, trace rootlets, brown, moist, stiff		2	SS	21										
265.9	SILTY CLAY TILL: trace sand, trace gravel, brown, moist, very stiff		3	SS	21										
			4	SS	26										
			5	SS	27										
	grey below 4.6m		6	SS	17										
260.6	SAND: silt pockets, grey, wet, compact		7	SS	18										
259.1	SANDY SILT TILL: trace clay, trace gravel, grey, very moist, dense		8	SS	32										
258.5															

8.2 END OF BORHOLE:
 Notes:
 1) 50mm dia. monitoring well installed upon completion.
 2) Water level Readings:
 Date: Water Level(mbg):
 Oct. 18, 2022 2.05

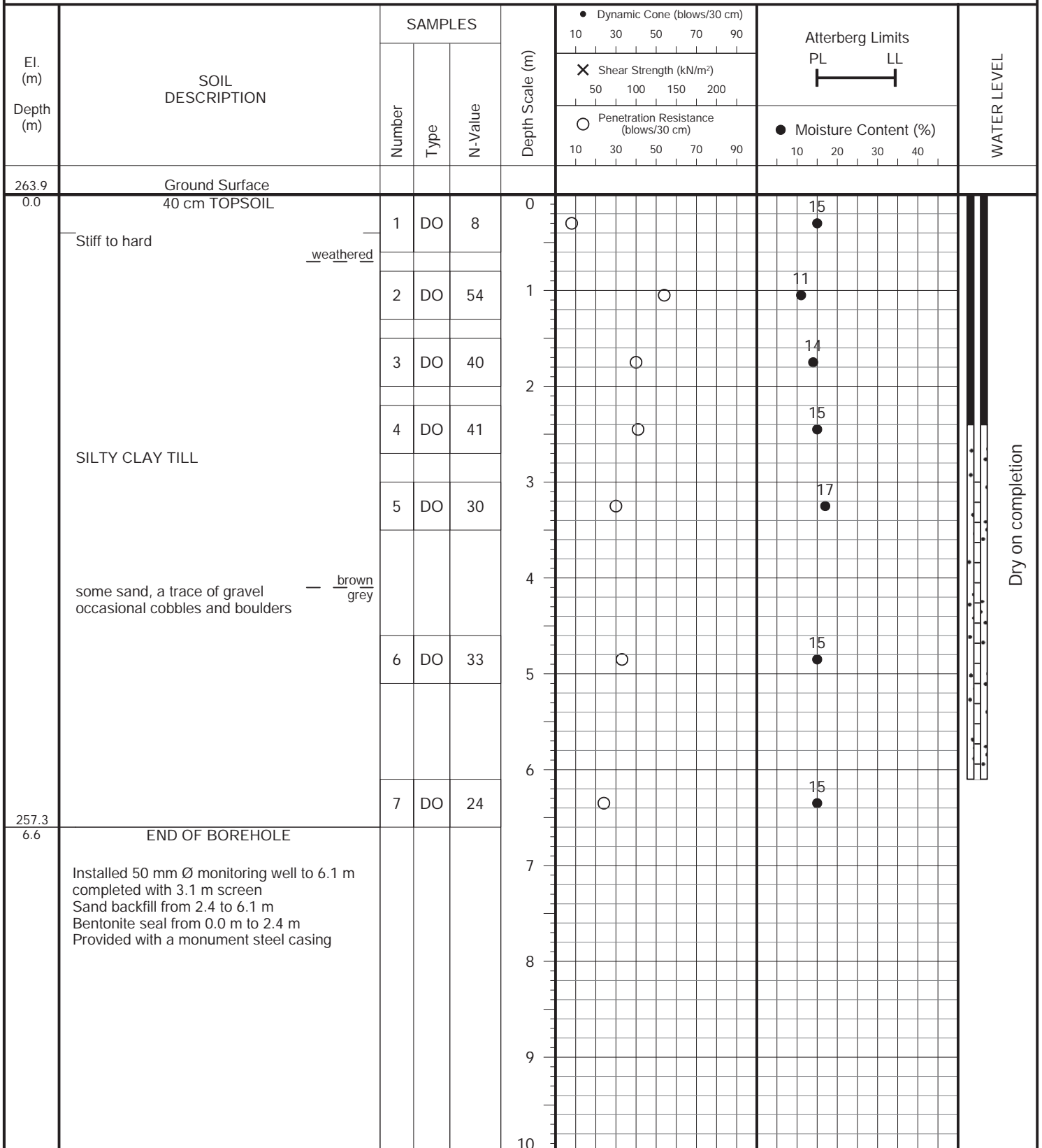
DS SOIL LOG-2021-FINAL 20-169-104 GEO COPY.GPJ DS.GDT 22-10-21

PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021

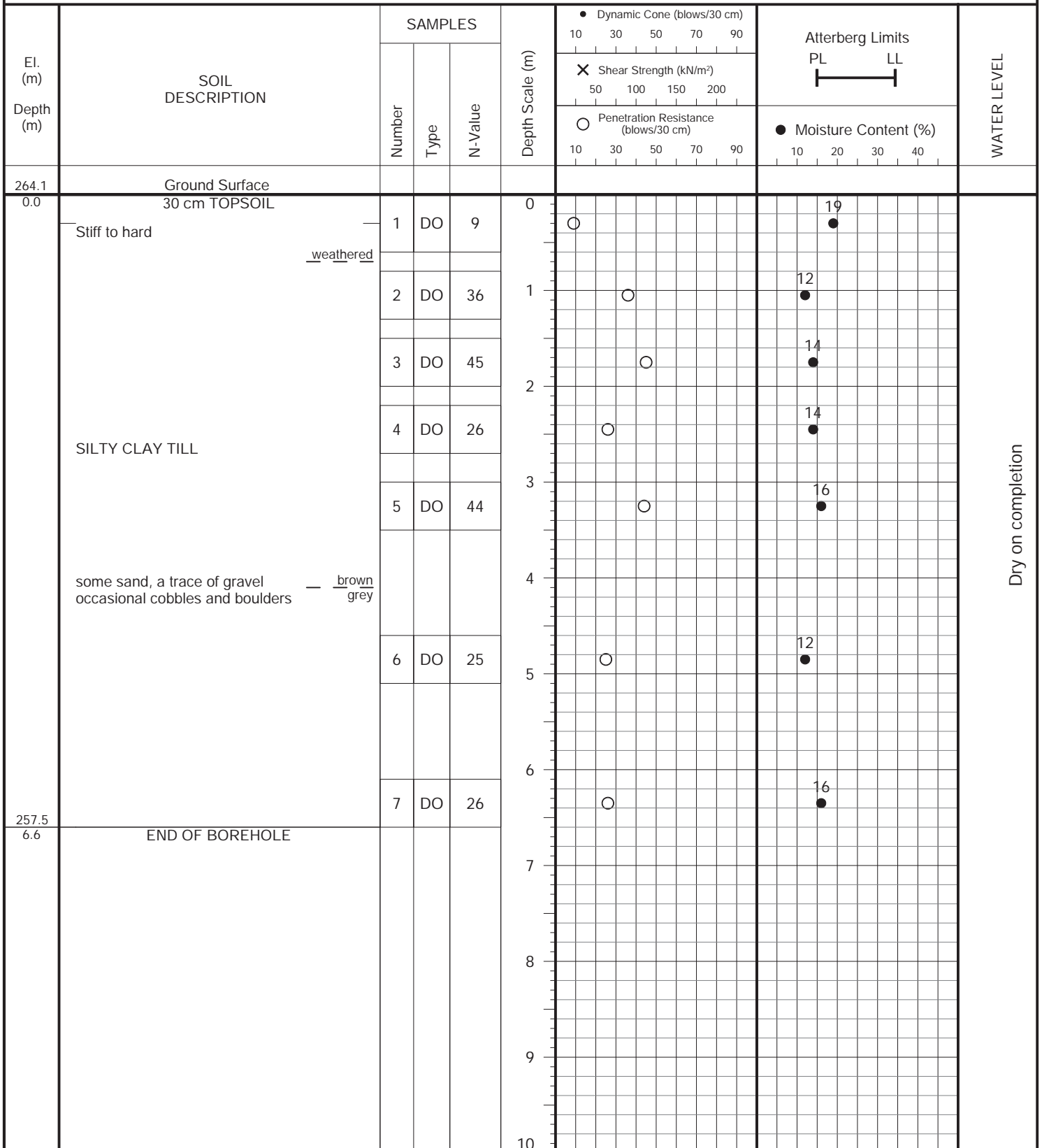


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 28, 2021



Dry on completion

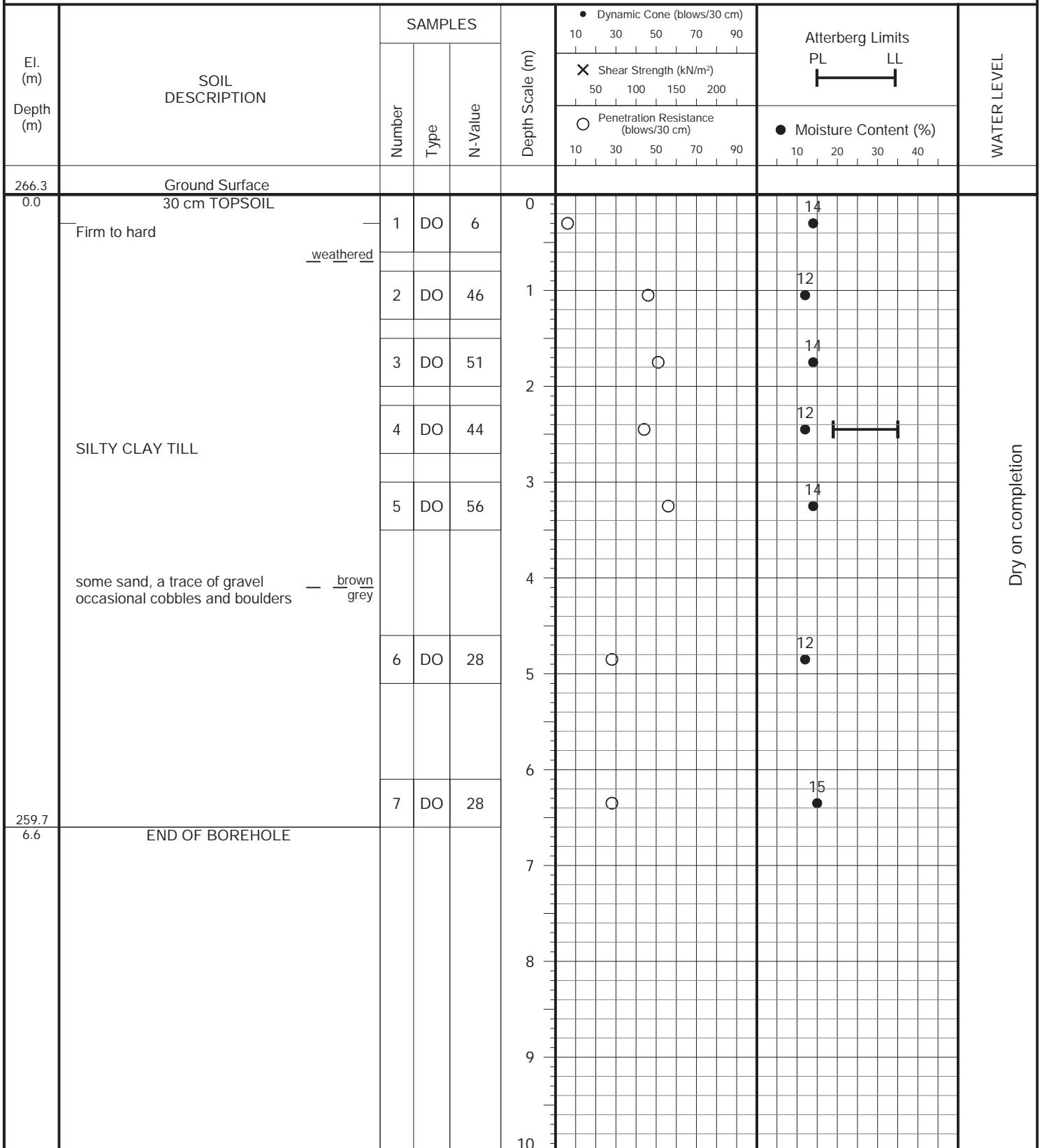


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 28, 2021

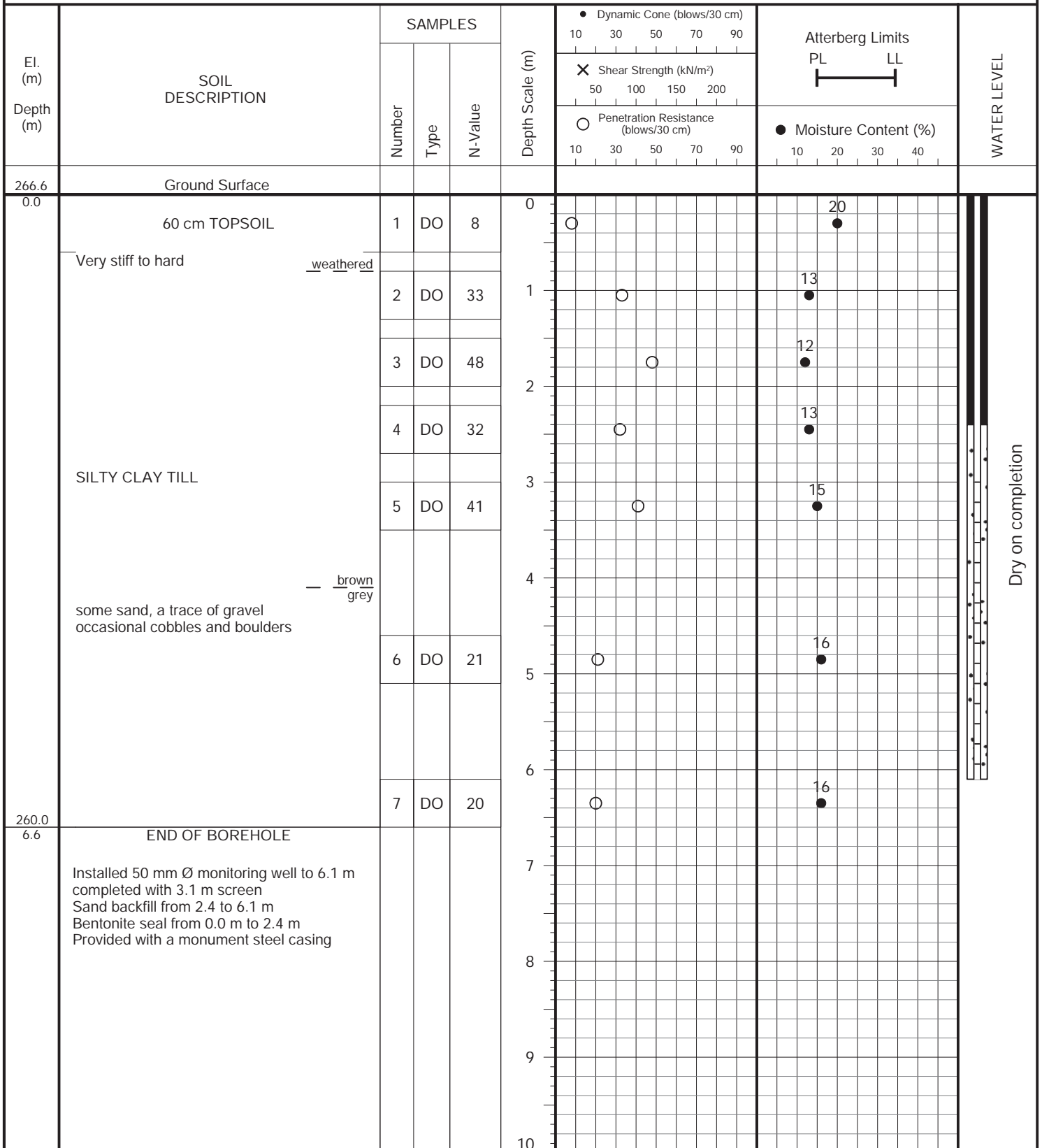


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021

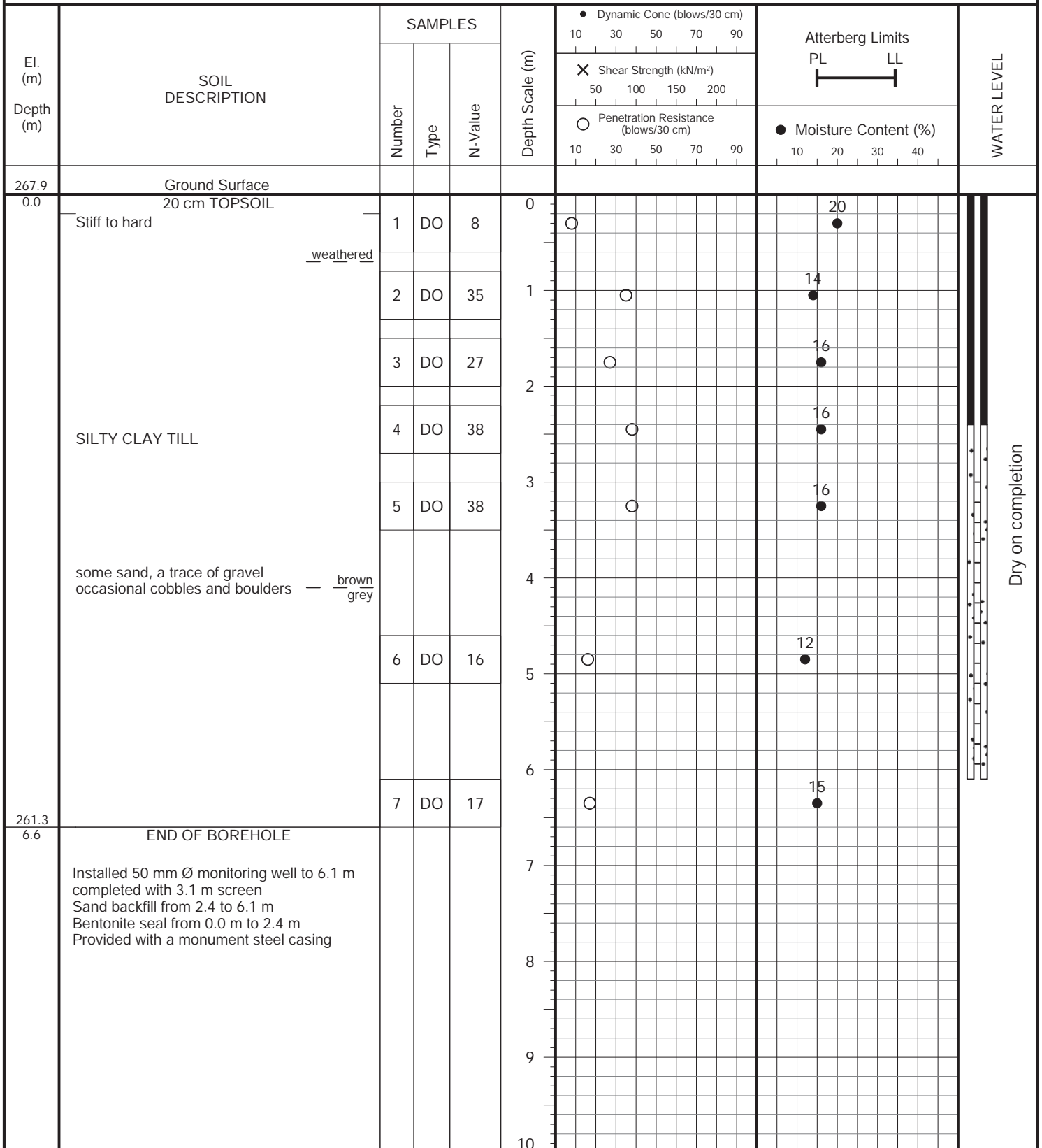


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 4, 2021

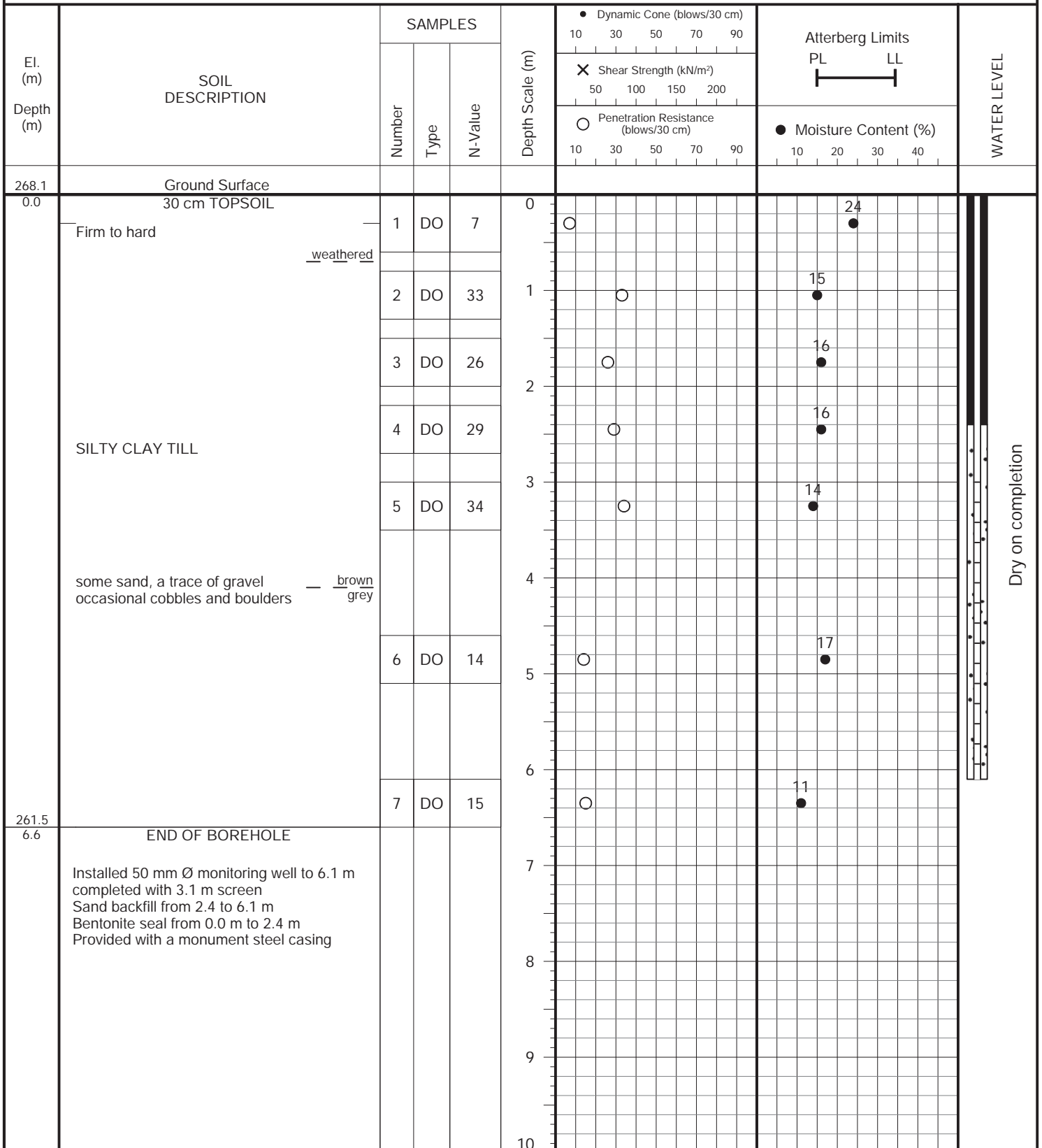


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021

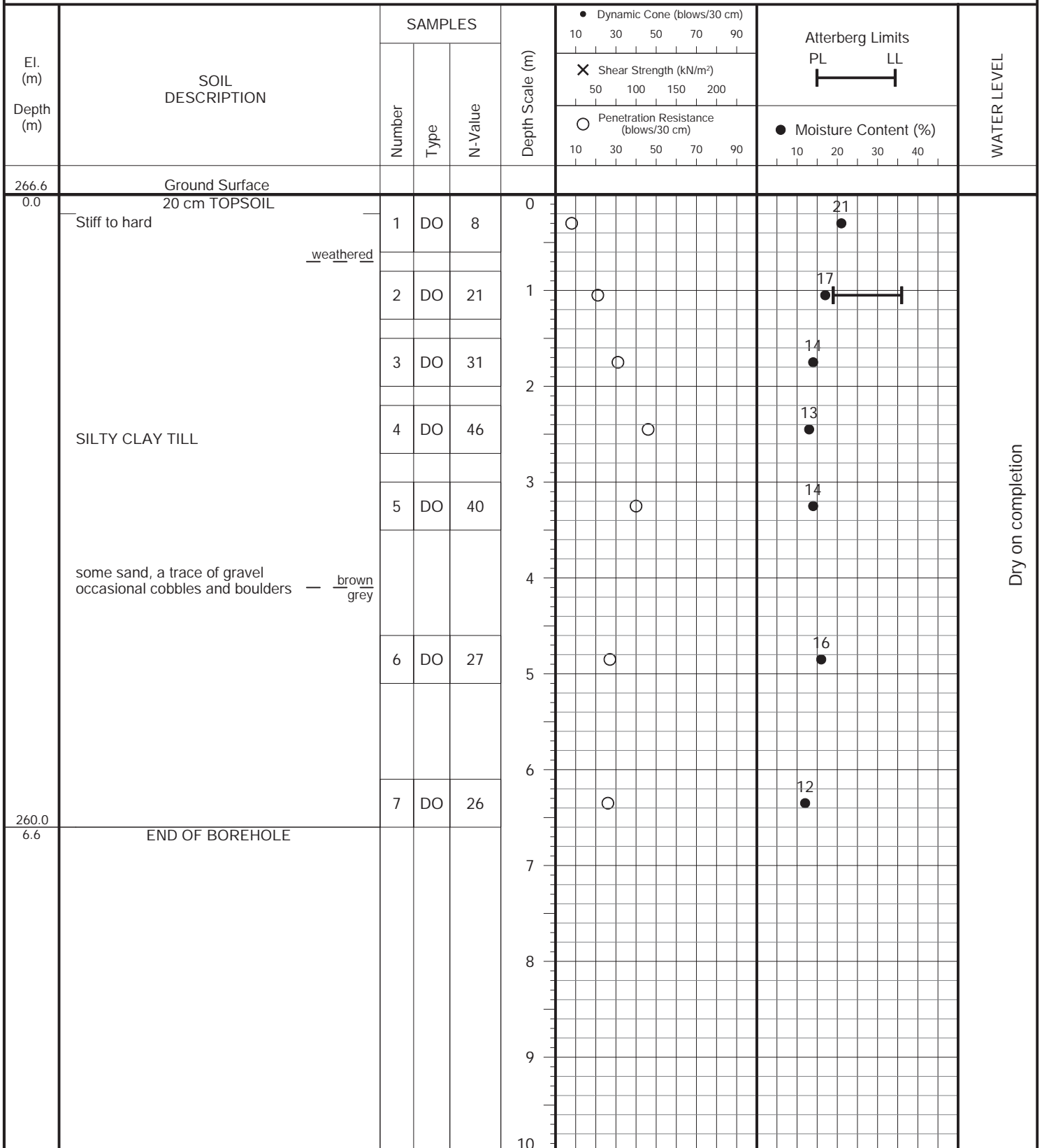


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021

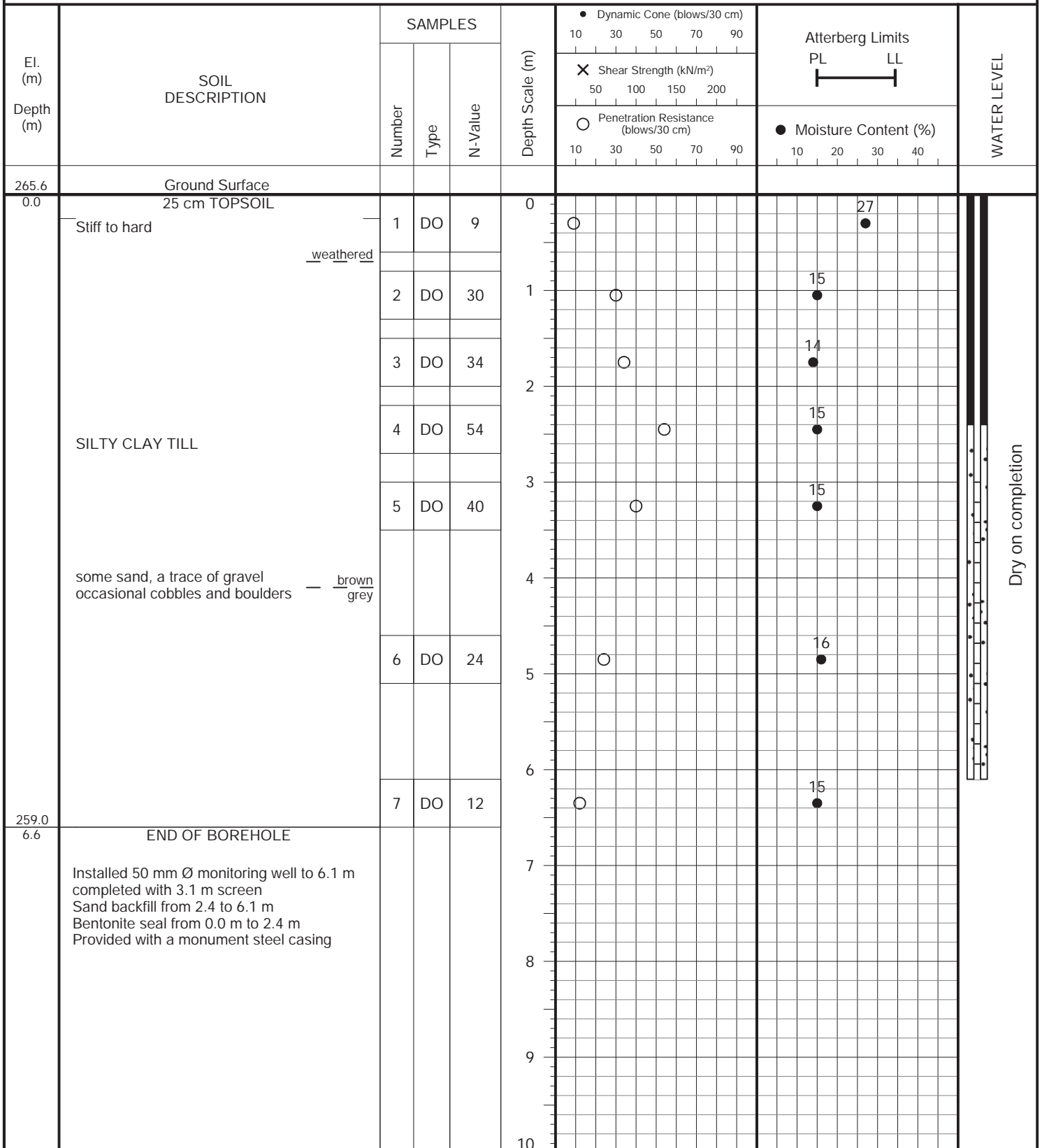


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021

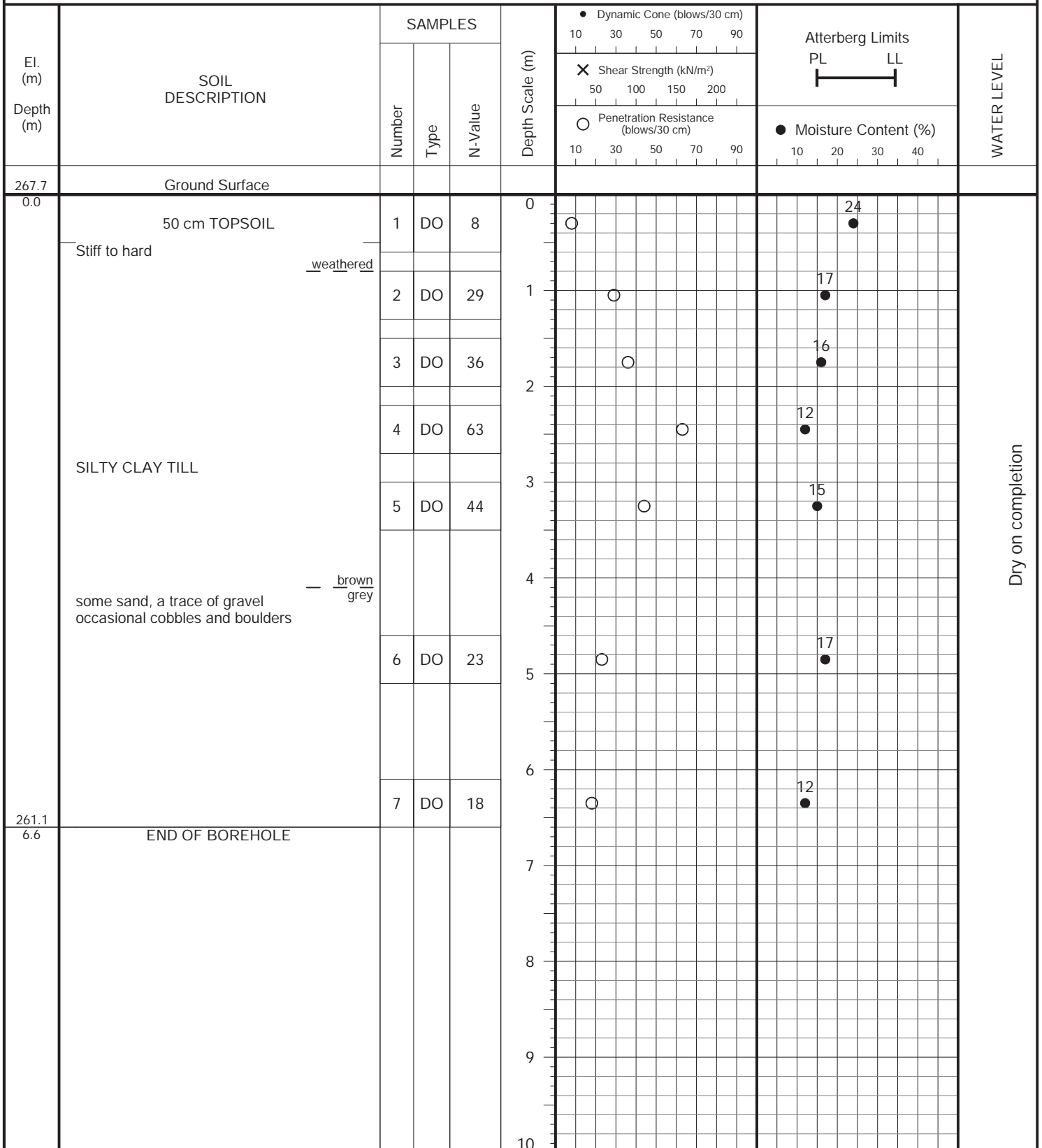


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: September 29, 2021

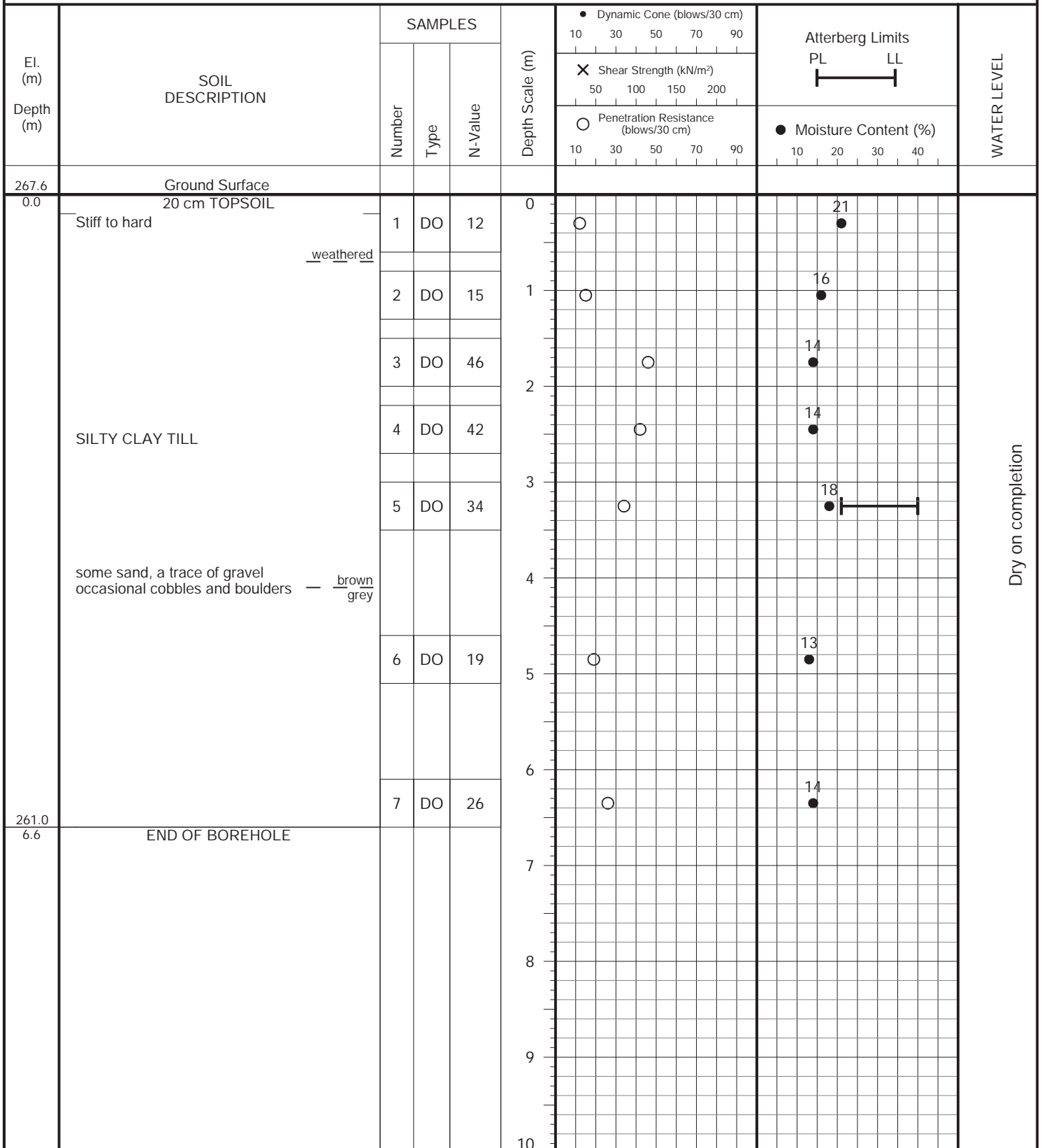


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 5, 2021

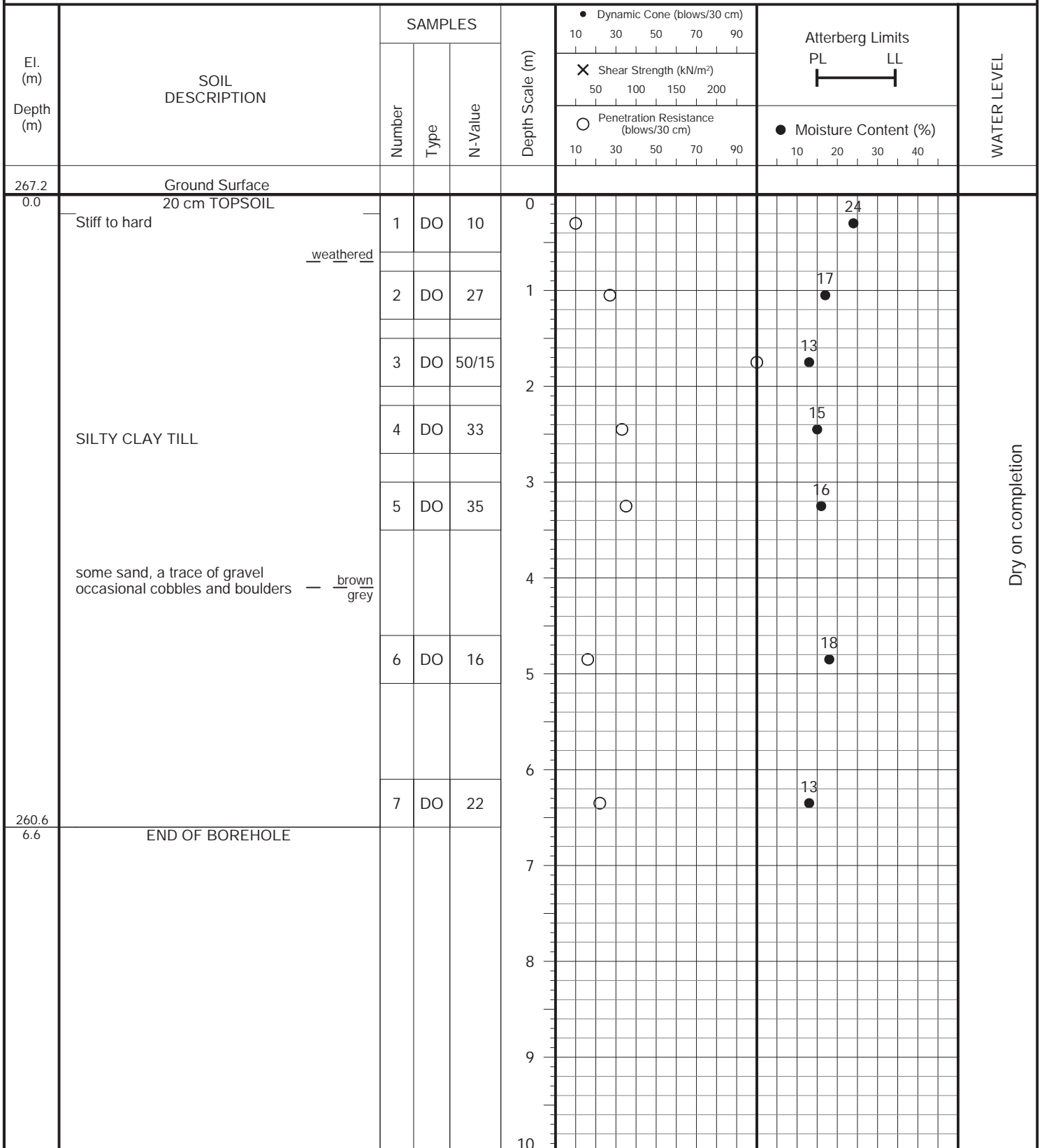


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 5, 2021

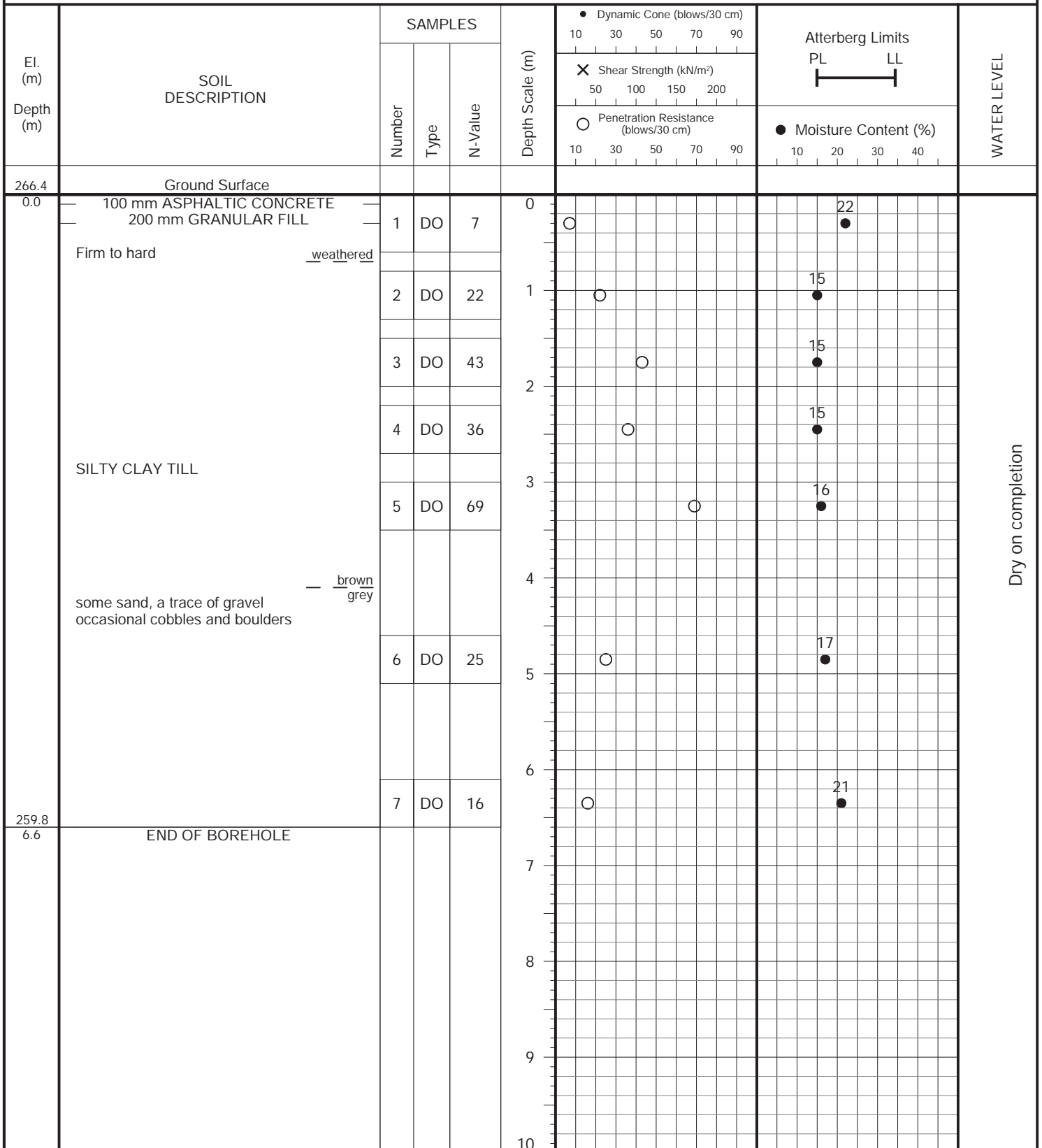


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 4, 2021

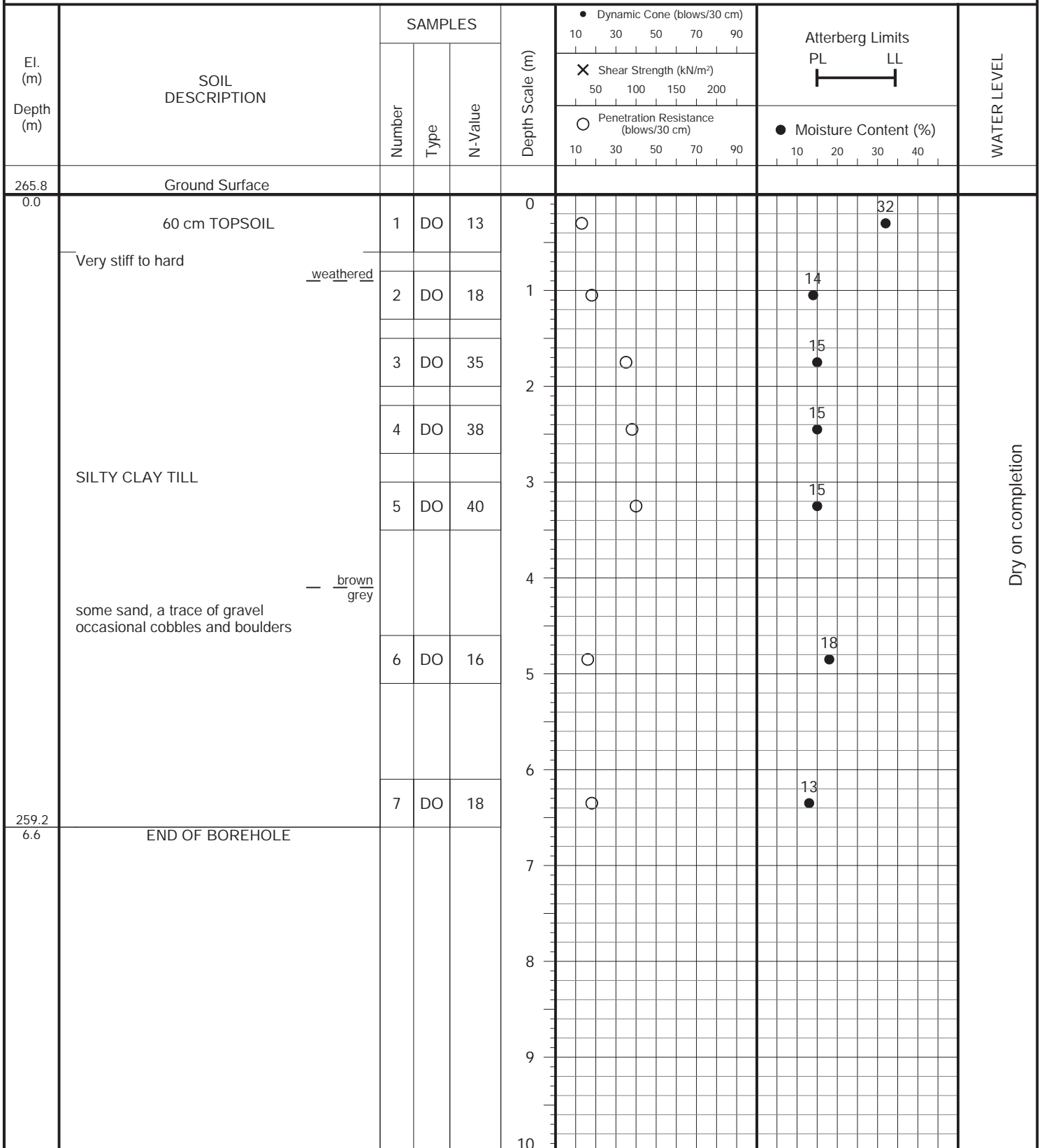


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021

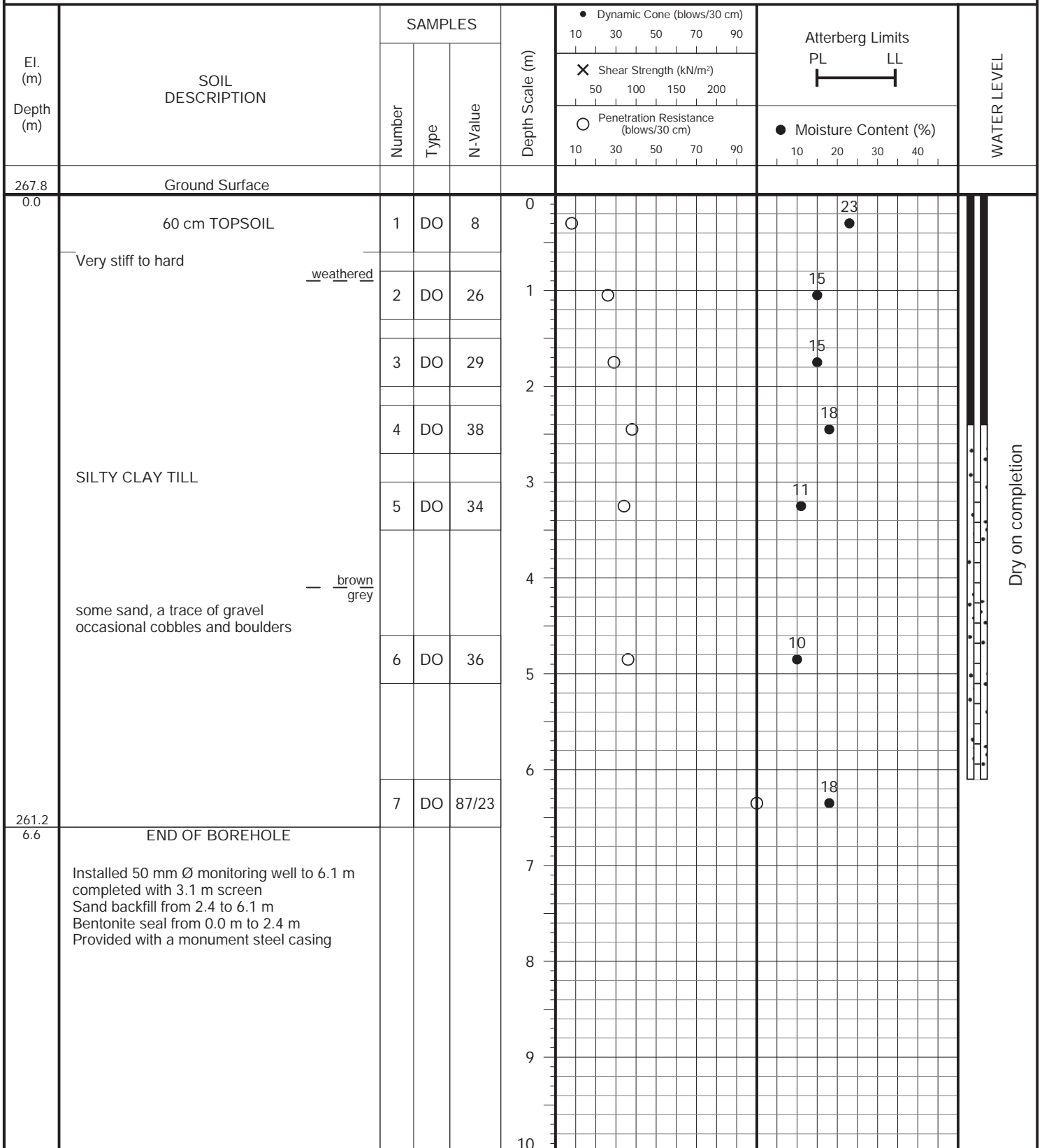


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 4, 2021

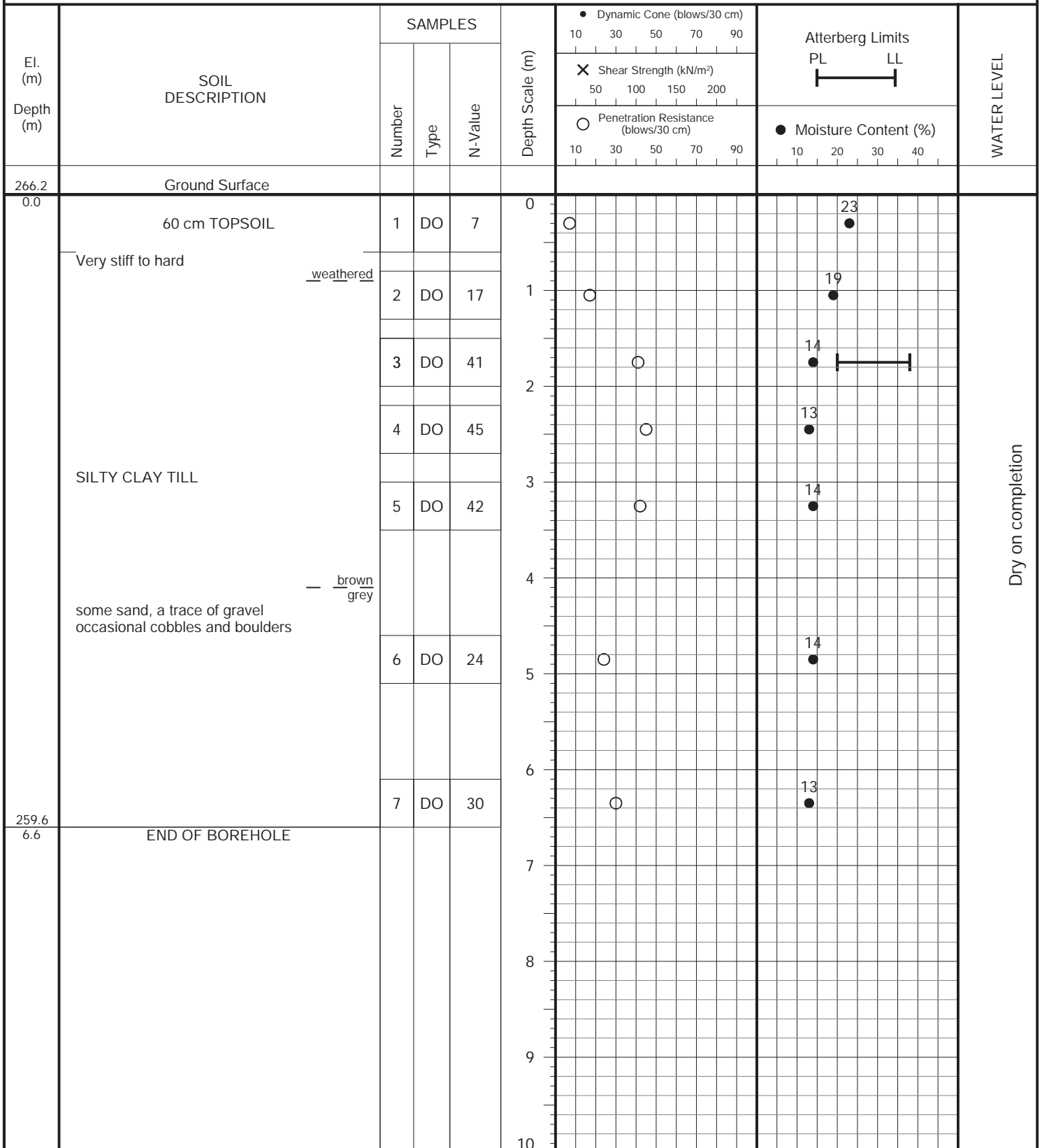


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021

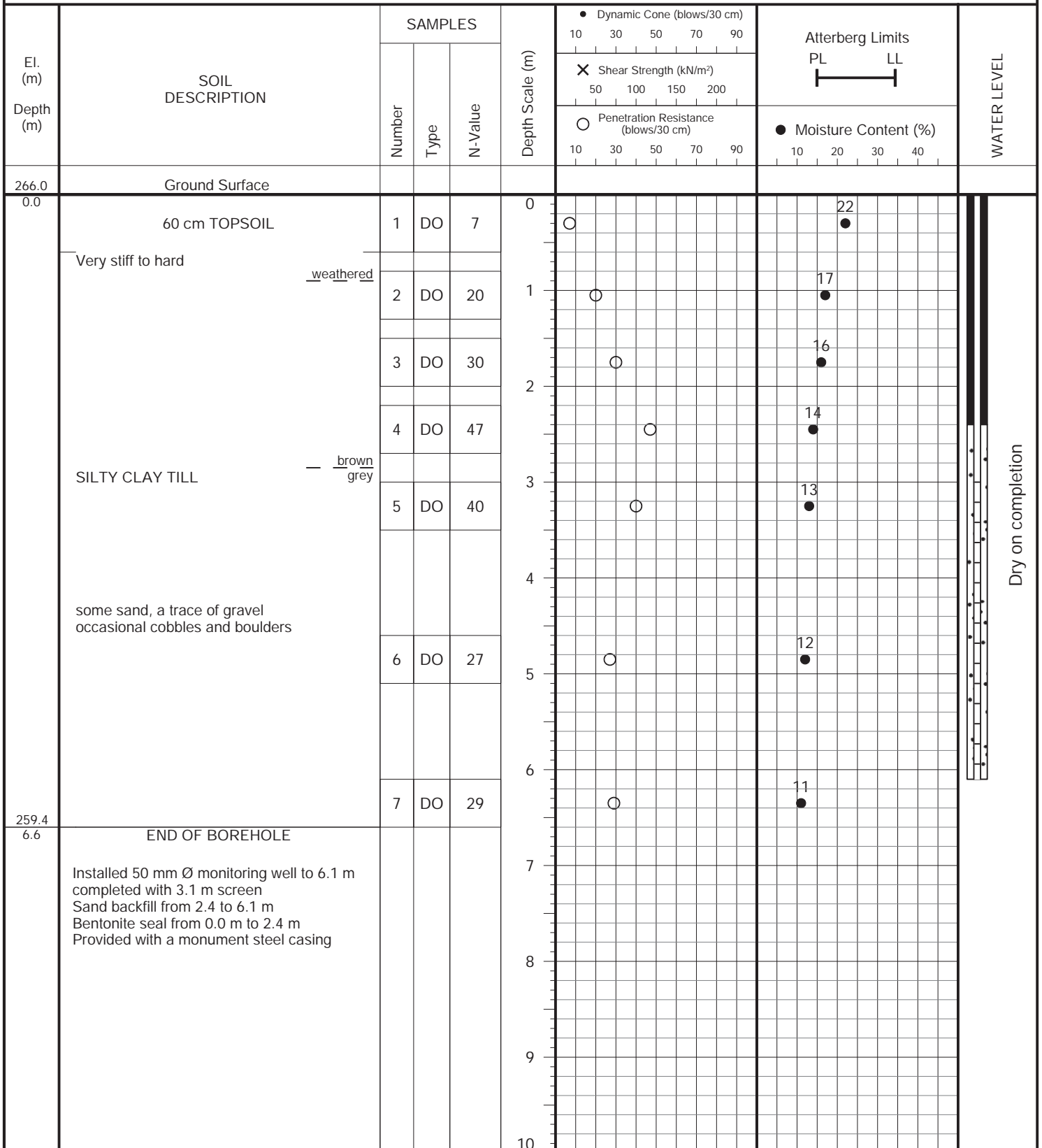


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021

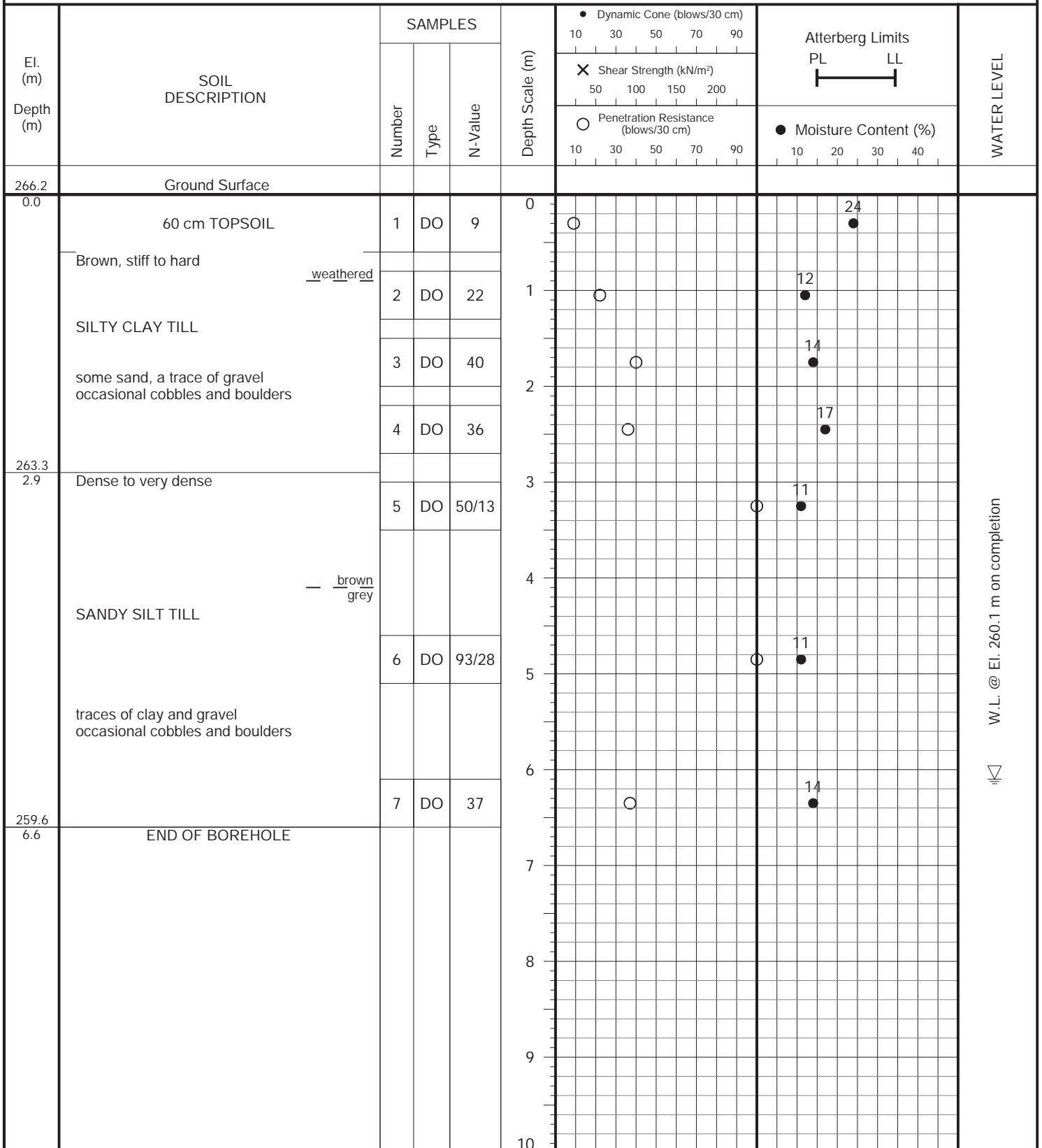


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021

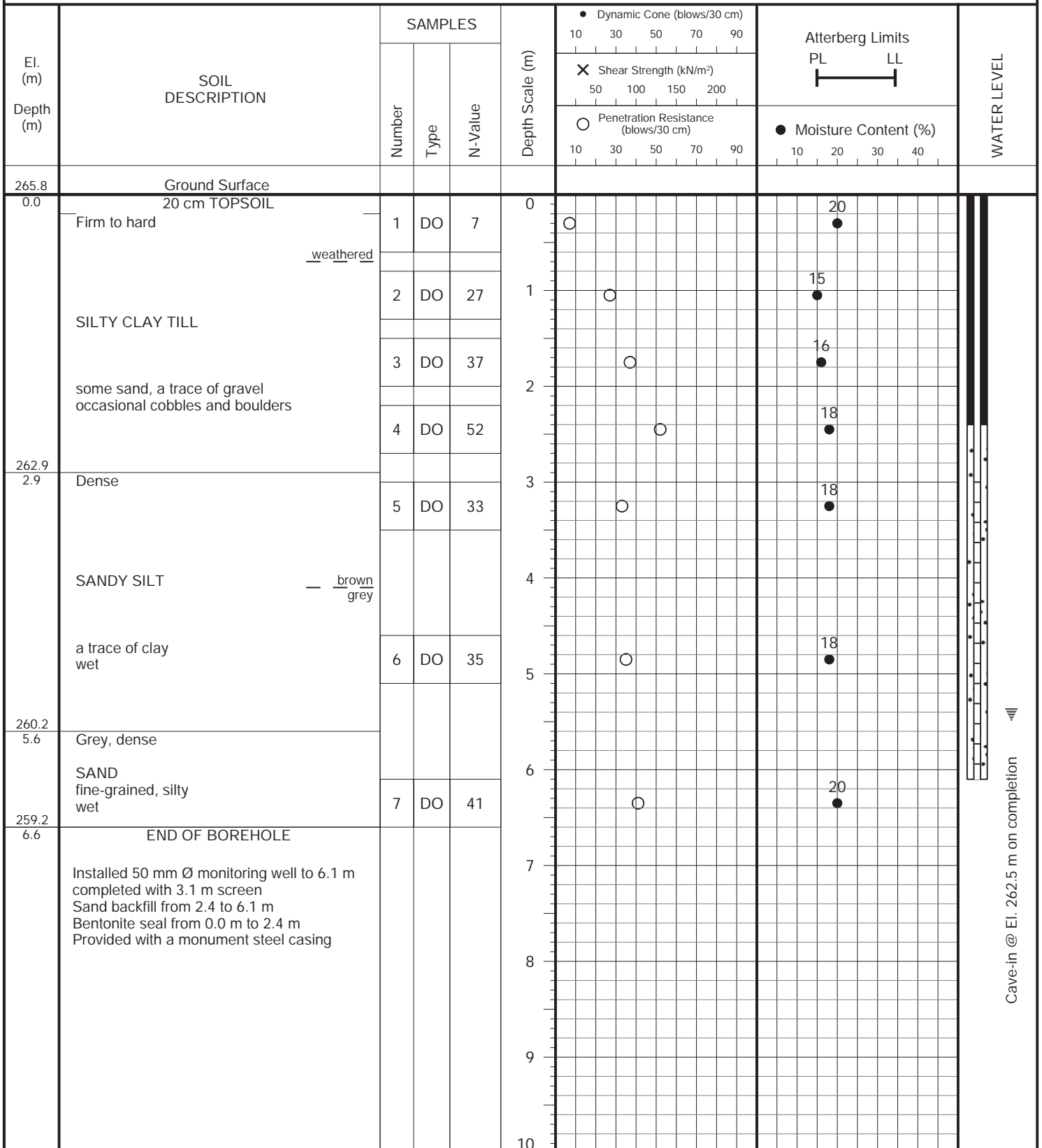


PROJECT DESCRIPTION: Proposed Mixed-Use Development

METHOD OF BORING: Flight-Auger

PROJECT LOCATION: King Street and Humber Station Road, Town of Caledon

DRILLING DATE: October 1, 2021



Cave-in @ El. 262.5 m on completion





Appendix B-2

Argo King I & II

PROJECT: Geotechnical Investigation	DRILLING DATA
CLIENT: Caledon Community Partners	Method: Solid Stem Auger
PROJECT LOCATION: 7675 King St., Bolton, ON	Diameter: 150mm
DATUM: Geodetic	Date: Jun-21-2019
BH LOCATION: See Drawing 1 N 4857122.74 E 598491.68	REF. NO.: 19-093-100
	ENCL NO.: 2





SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (C _u) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40						
257.2	TOPSOIL: 225 mm	1	SS	5										
256.9	FILL: clayey silt, trace topsoil/rootlets, greyish brown, very moist, firm	2	SS	6										
255.7	possibly weathered/ disturbed native below 0.8m	3	SS	30										
	SILTY CLAY TILL: some sand to sandy, trace gravel, brown, moist, very stiff to hard silty clay at 2.3m	4	SS	31										
		5	SS	28										
252.4	200mm sand below 4.6m	6	SS	16										
	CLAYEY SILT TILL: sandy, trace gravel, occasional seams/ layers of sand, grey, moist, very stiff													
250.7	END OF BOREHOLE:	7	SS	23										

Notes:
1) 50 mm diameter monitoring well installed in borehole.
2) Water Level Readings:

Date:	Water Level (mbgl)
Oct. 7, 2019	0.8
Sep. 22, 2022	0.6
Oct. 26, 2022	0.6
Nov. 21, 2022	0.8

W. L. 256.4 m
Nov 21, 2022

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
Measurement    

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: 7675 King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857253.89 E 598597.79	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Jun-21-2019 REF. NO.: 19-093-100 ENCL NO.: 3
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SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
259.0	TOPSOIL: 200mm FILL: clayey silt, some sand, trace gravel, trace cobble, brown, very moist, firm to stiff SILTY CLAY TILL: some sand to sandy, trace gravel, occasional sand seams, brown, moist, stiff to very stiff trace cobble below 2.3 m grey below 4.6 m.	1	SS	6									
258.0		2	SS	8									
257.5		3	SS	14									
257.0		4	SS	23									
256.5		5	SS	26									
255.5		6	SS	17									
252.5		7	SS	16									
6.5	END OF BOREHOLE: Notes: 1) Borehole was wet at bottom upon completion.												

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS Measurement

GRAPH NOTES + 3, x 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

<p>PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: 7675 King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857347.52 E 598496.42</p>	<p>DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Jun-21-2019</p> <p style="text-align: right;">REF. NO.: 19-093-100 ENCL NO.: 4</p>
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SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							
259.8	TOPSOIL: 200 mm	1	SS	4										
259.0	FILL: clayey silt, some sand, trace topsoil, brown, very moist, firm	2	SS	10										
258.3	CLAYEY SILT TILL: sandy, trace gravel, brown, moist, stiff	3	SS	9										
257.5	SANDY SILT: trace to some clay, occasional sand seams, brown, moist, loose	4	SS	31										
255.5	SILTY CLAY TILL: sandy, trace gravel, brown, moist, very stiff to hard grey below 3.1 m	5	SS	25										
254.1	CLAYEY SILT TILL: sandy, trace gravel/ cobble, occasional wet sand seams, grey, moist, hard	6	SS	36										14 24 45 17
253.3	SANDY SILT TILL: some clay, trace gravel, grey, very moist, dense	7	SS	36										

6.5	<p>END OF BOREHOLE: Notes: 1) 50 mm diameter monitoring well installed in borehole. 2) Water Level Readings:</p> <p>Date: Water Level (mbgl) Oct. 7, 2019 1.6 Sep. 22, 2022 0.3 Oct. 26, 2022 0.7 Nov. 21, 2022 0.8</p>													
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DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3 , × 3 : Numbers refer to Sensitivity ○ = 3% Strain at Failure

<p>PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: 7675 King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857475.29 E 598360.25</p>	<p>DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Jun-21-2019</p> <p style="text-align: right;">REF. NO.: 19-093-100 ENCL NO.: 5</p>
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SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	W. L. / ACTION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			20 40 60 80 100	20 40 60 80 100						
262.7	TOPSOIL: 200 mm	1	SS	4										GR SA SI CL
260.9	FILL: clayey silt, trace topsoil/organics, trace gravel, brown, wet, firm	2	SS	13										
261.9	SILTY CLAY TILL: some sand to sandy, trace gravel, brown, moist, firm to very stiff	3	SS	17										
260.6	grey below 1.5 m.	4	SS	7										12 30 45 13
259.4	SANDY SILT TILL: some clay, some gravel, grey, very moist, loose to compact	5	SS	12										
259.4	SILTY SAND: trace clay, occasional gravel, grey, wet, compact	6	SS	14										0 64 34 2
256.2	END OF BOREHOLE:	7	SS	17										

Notes:
 1) 50 mm diameter monitoring well installed in borehole.
 2) Water Level Readings:

Date:	Water Level (mbgl)
Oct. 7, 2019	Artesian (above ground surface)
Sep. 22, 2022	Artesian (above ground surface)
Oct. 26, 2022	Artesian (above ground surface)
Nov. 21, 2022	Artesian (-0.6m plus)

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3 , × 3 : Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: 7675 King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857351.88 E 598344.17	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Jun-24-2019 REF. NO.: 19-093-100 ENCL NO.: 6
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SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m		W. L. ON ELEV ON	SHEAR STRENGTH (kPa)						
260.7						20 40 60 80 100 20 40 60 80 100							
0.0	FILL: clayey silt, sandy, trace topsoil, trace gravel & brick fragments, brown, moist, stiff	1	SS	8									
259.9	SILTY CLAY TILL: some sand to sandy, trace gravel, brown, moist, stiff to very stiff	2	SS	15									
0.8		3	SS	14									
		4	SS	25									
		5	SS	25									
	brown to grey below 3.1 m												
256.1													
4.6	SANDY SILT TILL: some clay, trace gravel, grey, moist, dense	6	SS	34									
254.6													
6.1	CLAYEY SILT TILL: sandy, trace gravel, occasional sand seams, grey, moist, very stiff	7	SS	23									
254.2													
6.5	END OF BOREHOLE: Notes: 1) 50 mm diameter monitoring well installed in borehole. 2) Water Level Readings: Date: Water Level (mbgl): Oct. 7, 2019 Artesian (above ground surface) Sep. 22, 2022 Artesian (above ground surface) Oct. 26, 2022 Artesian (above ground surface) Nov. 21, 2022 Artesian (-1.0m)												

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: 7675 King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857257.05 E 598364.77	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Jun-24-2019 REF. NO.: 19-093-100 ENCL NO.: 7
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SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL					
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)								WATER CONTENT (%)				
259.4	TOPSOIL: 200 mm	1	SS	5		259 W. L. 258.6 m Nov 21, 2022 257 256 255 254 253	20	40	60	80	100								
259.2	FILL: clayey silt, some topsoil, trace rootlets, brown, very moist, firm	2	SS	7			20	40	60	80	100	10	20	30					
258.6	CLAYEY SILT TILL: trace sand, brown, moist, firm (weathered/disturbed)	3	SS	17			20	40	60	80	100	10	20	30					
257.9	CLAYEY SILT TILL: sandy, trace gravel, brown, moist, very stiff to hard	4	SS	31			20	40	60	80	100	10	20	30					
257.9	trace sand, brown to grey below 2.3 m	5	SS	23			20	40	60	80	100	10	20	30					
254.8	grey below 3.1 m	6	SS	24			20	40	60	80	100	10	20	30					
252.9	SANDY SILT TILL: some clay, trace gravel/ cobble, grey, moist, compact	7	SS	17			20	40	60	80	100	10	20	30					
252.9	seams of sand below 6.1 m																		

END OF BOREHOLE:
 Notes:
 1) 50 mm diameter monitoring well installed upon completion.
 2) Water Level Readings:
 Date: Water Level(mbgl):
 Oct. 7, 2019 1.2
 Sep. 22, 2022 0.9
 Oct. 26, 2022 0.6
 Nov. 21, 2022 0.8

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: 7675 King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857251.56 E 598259.87	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Jun-24-2019 REF. NO.: 19-093-100 ENCL NO.: 8
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SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40						
260.4	TOPSOIL: 230 mm	1	SS	5										
260.2	FILL: clayey silt, trace topsoil, trace rootlets, trace sand, brown, very moist, firm	2	SS	17										
259.6	CLAYEY SILT TILL: sandy, trace gravel, occasional sand seams, brown, moist, stiff to very stiff	3	SS	18										
	wet sand seams/ layers below 2.3 m	4	SS	23										
	sandy, wet sand seams/ layers below 3.1 m	5	SS	11										
256.4	SANDY SILT TO SILTY SAND: trace clay, grey, wet, loose	6	SS	7										
255.7	SANDY SILT TILL: trace to some, trace gravel/ cobble, grey, very moist to wet, loose to compact	7	SS	17										
254.1	SILTY SAND: trace clay, trace gravel, grey, wet, compact	8	SS	27										
252.8	SANDY SILT TILL: some clay to clayey, trace gravel/ cobble, grey, moist, compact													
252.4	END OF BOREHOLE: Notes: 1) 50 mm diameter monitoring well installed in borehole. 2) Water Level Readings: Date: Water Level (mbgl): Oct. 7, 2019 1.7 Sep. 22, 2022 1.3 Oct. 26, 2022 3.1 Nov. 21, 2022 2.2													

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: 7675 King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857316.01 E 598196.12	DRILLING DATA Method: Solid Stem Auger Diameter: 150mm Date: Jun-24-2019 REF. NO.: 19-093-100 ENCL NO.: 9
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
261.1	TOPSOIL: 230 mm		1	SS	5									
260.9	FILL: clayey silt, trace topsoil, trace rootlets, trace sand, brown, very moist, firm		2	SS	16									
260.3	CLAYEY SILT TILL: sandy, trace gravel, occasional sand seams, brown, moist, very stiff to hard trace cobble below 1.5 m		3	SS	28									
			4	SS	29									
			5	SS	33									
	brown to grey below 3.1 m		6	SS	24									
			7	SS	51									

END OF BOREHOLE:
Notes:
1) Borehole was wet at bottom upon completion.

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: 7675 King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857417.44 E 598346.16

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Oct-14-2022
 REF. NO.: 19-093-100
 ENCL NO.: 10

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)															
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40							60	80	100	20	40	60	80	100	10	20	30	GR	SA	SI	CL
262.1	TOPSOIL: 350mm																													
261.9	REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace rootlets, trace organics, brown, moist, stiff (Weathered/Disturbed) SILTY CLAY TILL: some sand, trace gravel, brown, moist, very stiff to hard grey below 3.0m		1	SS	11																									
261.3			2	SS	30																									
261.0			3	SS	26																						5	13	48	34
259.9			4	SS	33																									
259.0	SANDY SILT: trace clay, grey, wet, compact to dense		5	SS	14																									
257.9			6	SS	8																									
256.0	SANDY SILT: trace clay, grey, wet, compact to dense		7	SS	13																									
255.0			8	SS	26																									
254.0			9	SS	19																									
252.0			10	SS	41																									
250.8	END OF BOREHOLE:																													
11.3	Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbg): Oct. 26, 2022 Artesian (above ground surface) Nov. 21, 2022 Well damaged																													

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure

PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: 7675 King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857405.77 E 598278.83	DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Oct-13-2022 REF. NO.: 19-093-100 ENCL NO.: 11
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)						
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							W _p	W	W _L			
262.0	TOPSOIL: 300mm	[Symbol]	1	SS	8															
260.9	REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace rootlets, trace organics, brown, moist, stiff to very stiff (Weathered/Disturbed) SILTY CLAY TILL: some sand to sandy, trace gravel, brown, moist, very stiff grey below 2.3m	[Symbol]	2	SS	15															
261.1			3	SS	22															
0.9			4	SS	22															
1.2			5	SS	19															
1.6			6	SS	22															
257.4	SILTY FINE SAND: trace clay, grey, wet, compact to dense	[Symbol]	6	SS	42															
4.6			7	SS	33															
6			8	SS	10															
253.8	END OF BOREHOLE: Notes: 1) Water at depth of 4.8m during drilling.																			

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

PROJECT: Geotechnical Investigation	DRILLING DATA
CLIENT: Caledon Community Partners	Method: Hollow Stem Auger
PROJECT LOCATION: 7675 King St., Bolton, ON	Diameter: 200mm
DATUM: Geodetic	Date: Oct-13-2022
BH LOCATION: See Drawing 1 N 4857409.48 E 598409.77	REF. NO.: 19-093-100
	ENCL NO.: 12

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)						
260.8	TOPSOIL: 300mm		1	SS	8									
260.9	REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace rootlets, trace organics, brown, moist, stiff (Weathered/Disturbed) SILTY CLAY TILL: some sand to sandy, trace gravel, brown, moist, very stiff to hard grey below 3.1m		2	SS	22									
260.0			3	SS	29									
0.3			4	SS	33									
0.8			5	SS	23									
1			6	SS	30									
1.2			7	SS	59									4 24 48 24
1.6			8	SS	34									
253.5	SILTY SAND: trace clay, grey, wet, dense to very dense													
7.3														
8.2	END OF BOREHOLE: Notes: 1) Water at the depth of 6.4m during drilling.													

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

PROJECT: Geotechnical Investigation	DRILLING DATA
CLIENT: Caledon Community Partners	Method: Hollow Stem Auger
PROJECT LOCATION: 7675 King St., Bolton, ON	Diameter: 200mm
DATUM: Geodetic	Date: Oct-13-2022
BH LOCATION: See Drawing 1 N 4857251.72 E 598444.3	REF. NO.: 19-093-100
	ENCL NO.: 13

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)	
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40							60
259.3																
259.0	TOPSOIL: 300mm		1	SS	9											
0.3	REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace rootlets, trace organics, brown, moist, stiff (Weathered/Disturbed)		2	SS	21											
258.5	SILTY CLAY TILL: some sand to sandy, trace gravel, brown, moist, very stiff to hard		3	SS	21											
0.8			4	SS	41											
			5	SS	35											
			6	SS	26											
	grey below 4.6m		7	SS	19											
			8	SS	28											
251.1																

8.2	END OF BOREHOLE: Notes: 1) Borehole dry at the bottom upon completion.															
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DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

<p>PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: 7675 King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857255.24 E 598500.76</p>	<p>DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Oct-14-2022</p> <p style="text-align: right;">REF. NO.: 19-093-100 ENCL NO.: 14</p>
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SOIL PROFILE	SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)
	DESCRIPTION	NUMBER	TYPE			"N" BLOWS 0.3 m	20						
259.1													
258.8	TOPSOIL: 350mm	1	SS	7									
258.2	REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace rootlets, trace organics, brown, moist, firm (Weathered/Disturbed)	2	SS	11									
0.9	CLAYEY SILT TO SILTY CLAY TILL: sandy, trace gravel, brown, moist, stiff to hard interbedded wet silty sand at 2.3m	3	SS	12									
	sand seams @3.1m	4	SS	14									
		5	SS	29									
	grey below 4.6m	6	SS	29									
		7	SS	46									
251.5	CLAYEY SILT TILL: sandy, trace gravel, trace cobbles, grey, moist, hard	8	SS	30									
7.6	sand seams at 9.1m	9	SS	40									
		10	SS	50/ 130mm									

END OF BOREHOLE:
 Notes:
 1) 50mm dia. monitoring well installed upon completion.
 2) Water Level Readings:
 Date: Water Level(mbgf):
 Oct. 26, 2022 0.7
 Nov. 15, 2022 0.7

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS_GDT 23-1-27

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: 7675 King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857175.06 E 598520.87

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Oct-13-2022
 REF. NO.: 19-093-100
 ENCL NO.: 15

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)						
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)							W _p	W	W _L	GR SA SI CL		
258.3	TOPSOIL: 350mm																			
258.0	REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace rootlets, trace organics, brown, moist, stiff (Weathered/Disturbed) SILTY CLAY TILL: some sand, trace gravel, brown, moist, stiff to hard		1	SS	10															
257.5			2	SS	10															
257.0			3	SS	19															
256.0			4	SS	30															
255.0			5	SS	31															
253.7	CLAYEY SILT: trace sand, wet silt seams, grey, moist, hard		6	SS	45															
252.0	CLAYEY SILT TILL: some sand, trace gravel, grey, moist, very stiff		7	SS	22															
250.1	8	SS	25																	
8.2	END OF BOREHOLE: Notes: 1) Water at the depth of 6.3m during drilling.																			

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

<p>PROJECT: Geotechnical Investigation CLIENT: Caledon Community Partners PROJECT LOCATION: 7675 King St., Bolton, ON DATUM: Geodetic BH LOCATION: See Drawing 1 N 4857082.33 E 598454.89</p>	<p>DRILLING DATA Method: Hollow Stem Auger Diameter: 200mm Date: Oct-17-2022</p> <p style="text-align: right;">REF. NO.: 19-093-100 ENCL NO.: 16</p>
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(m) ELEV DEPTH	SOIL PROFILE DESCRIPTION	STRATA PLOT	SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)	
			NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W				LIQUID LIMIT W _L
257.6	TOPSOIL: 350mm		1	SS	10										
257.9	REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace rootlets, trace organics, brown, moist, stiff (Weathered/Disturbed)		2	SS	14										
256.7	SILTY CLAY TILL: some sand, trace gravel, brown, moist, stiff to hard		3	SS	16										
0.9			4	SS	31										
	sand seams, grey below 3.1m		5	SS	32										
253.0	CLAYEY SILT TILL: sandy, trace gravel, grey, moist, very stiff to hard		6	SS	22										
4.6			7	SS	62										
			8	SS	33										
			9	SS	32										
246.7	SILTY FINE SAND: trace clay, grey, wet, very dense		10	SS	50/ 130mm										
246.9	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbg): Oct. 26, 2022 1.4 Nov. 15, 2022 1.5														

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Geotechnical Investigation
 CLIENT: Caledon Community Partners
 PROJECT LOCATION: 7675 King St., Bolton, ON
 DATUM: Geodetic
 BH LOCATION: See Drawing 1 N 4857170.81 E 598356.18

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Oct-17-2022
 REF. NO.: 19-093-100
 ENCL NO.: 17

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT w	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)	
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40							60
259.4	TOPSOIL: 280mm															
259.0	REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace rootlets, trace organics, brown, moist, stiff (Weathered/Disturbed)		1	SS	9											
258.6	SILTY CLAY TO CLAYEY SILT TILL: some sand to sandy, trace gravel, brown, moist, very stiff to hard		2	SS	27											
258.0			3	SS	27											
257.0			4	SS	27											
256.0			5	SS	33											
255.0	grey below 4.0m		6	SS	35											
254.0			7	SS	13											
253.0			8	SS	22											
252.0			9	SS	31											
251.0			10	SS	68											
250.0																
249.0																
248.1	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbg): Oct. 26, 2022 1.35 Nov.15, 2022 1.2															

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3 , × 3 : Numbers refer to Sensitivity ○ ● = 3% Strain at Failure

PROJECT: Geotechnical Investigation	DRILLING DATA
CLIENT: Caledon Community Partners	Method: Hollow Stem Auger
PROJECT LOCATION: 7675 King St., Bolton, ON	Diameter: 200mm
DATUM: Geodetic	Date: Oct-17-2022
BH LOCATION: See Drawing 1 N 4857331.76 E 598205.26	REF. NO.: 19-093-100
	ENCL NO.: 18

SOIL PROFILE		SAMPLES			GROUND WATER CONDITIONS	WATER TABLE	DYNAMIC CONE PENETRATION RESISTANCE PLOT				POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%)				
(m) ELEV DEPTH	DESCRIPTION	NUMBER	TYPE	"N" BLOWS 0.3 m			20	40	60	80				100	PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L
261.6																	
260.9	TOPSOIL: 280mm	1	SS	11													
260.8	REWORKED CLAYEY SILT TO SILTY CLAY: trace sand, trace rootlets, trace organics, brown, moist, stiff (Weathered/Disturbed)	2	SS	23													
260.8	SILTY CLAY TO CLAYEY SILT TILL: trace sand, trace gravel, brown, moist, stiff to hard trace cobble/boulder at 2.3m	3	SS	28													
		4	SS	27													
	grey below 3.1m	5	SS	22													
		6	SS	10													
		7	SS	18													
		8	SS	33													
252.5	SANDY SILT: trace clay, trace gravel, grey, wet, compact	9	SS	21													1 33 64 2
250.3		10	SS	24													
11.3	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water Level Readings: Date: Water Level(mbg): Oct. 26, 2022 Artesian (above ground surface) Nov. 21, 2022 Artesian (-0.71m above ground surface)																

DS SOIL LOG-2021-FINAL 19-093-100 GEO COMBINED FILE.GPJ DS.GDT 23-1-27

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ●=3% Strain at Failure



Appendix C

Table: MECP Water Wells Records (500 m Radius)

Project: 20-169-104

Location: Caledon Station and Argo I & Argo II, Bolton, ON

MECP WWR ID	Easting UTM N17	Northing UTM N17	Depth		Thickness		Stratigraphy				Water Found		Static Level		Water Kind	Date Completed	Status	Water Use
			(ft)	(m)	(ft)	(m)	Color	Primary	Secondary	Tertiary	(ft)	(m)	(ft)	(m)				
4908650	597296	4857460	2	0.6	2	0.6	Brown	Loam	-	-	74	22.6	19	5.8	Fresh	6-Oct-00	Water Supply	Domestic
			12	3.7	10	3.0	Brown	Sand	Clay	-								
			68	20.7	56	17.1	Grey	Clay	Silt	-								
			74	22.6	6	1.8	Grey	Medium Sand	-	-								
4904998	597281	4857522	1	0.3	1	0.3	Brown	Loam	-	-	34	10.4	25	7.6	not stated	4-Dec-75	Water Supply	Domestic
			10	3.0	9	2.7	Brown	Clay	-	-								
			34	10.4	24	7.3	Grey	Sand	-	-								
			40	12.2	6	1.8	Grey	Sand	-	-								
4900215	597688	4857323	15	4.6	15	4.6	Brown	Loam	-	-	65	19.8	15	4.6	Fresh	9-Sep-67	Water Supply	Domestic
			63	19.2	48	14.6	Grey	Clay	-	-								
			65	19.8	2	0.6	-	Medium Sand	-	-								
4903995	597764	4857063	22	6.7	22	6.7	Brown	Clay	-	-	120	36.6	Flowing	Fresh	24-Nov-72	Water Supply	Domestic	
			35	10.7	13	4.0	Blue	Clay	-	-								
			78	23.8	78	23.8	-	Hard Pan	-	-								
			120	36.6	42	12.8	Blue	Clay	-	-								
			140	42.7	140	42.7	-	Sand	Silt	-								
			146	44.5	6	1.8	-	Sand	-	-								
4904238	598060	4858628	20	6.1	20	6.1	Brown	Clay	Stones	-	177	54.0	23	7.0	Fresh	30-Nov-73	Water Supply	Domestic
			67	20.4	47	14.3	Blue	Clay	Gravel	-								
			78	23.8	11	3.4	Blue	Clay	Gravel	Sand								
			120	36.6	42	12.8	Blue	Clay	-	-								
			177	54.0	57	17.4	Blue	Clay	-	-								
4904994	597064	4857323	1	0.3	1	0.3	Brown	Loam	Hard	-	30	9.1	25	7.6	not stated	30-Oct-76	Water Supply	Domestic
			20	6.1	19	5.8	Brown	Clay	Hard	-								
			45	13.7	25	7.6	Grey	Clay	Sand	Loose								
7285847	598658	4858218	-	-	-	-	-	-	-	-	-	-	-	25-Jan-17	-	-		
4907399	598634	4858225	19	5.8	19	5.8	Brown	Clay	Stones	Gravel	88	26.8	22	6.7	Fresh	28-Oct-90	Water Supply	Commerical
			39	11.9	20	6.1	Blue	Clay	Soft	-								
			55	16.8	16	4.9	Blue	Clay	Soft	Hard								
			62	18.9	7	2.1	-	Hard Pan	-	-								
			82	25.0	20	6.1	Blue	Clay	Hard	-								
			88	26.8	6	1.8	Blue	Clay	Stones	Gravel								
			93	28.4	5	1.5	Blue	Coarse Sand	Gravel	-								
4900143	597301	4857436	12	3.7	12	3.7	Brown	Clay	Medium Sand	-	64	19.5	31	9.5	Fresh	20-Aug-65	Water Supply	Domestic/Livestock
			40	12.2	28	8.5	White	Clay	-	-								
			64	19.5	24	7.3	-	Clay	Medium Sand	Hard Pan								
			66	20.1	2	0.6	-	Fine Sand	-	-								
4905615	597364	4857723	48	14.6	48	14.6	-	Topsoil	-	-	100	30.5	26	7.9	Fresh	27-Apr-79	Water Supply	Livestock
			76	23.2	28	8.5	Brown	Sand	Clay	Silt								
			92	28.0	16	4.9	Blue	Clay	Silt	Gravel								
			100	30.5	8	2.4	Blue	Hard Pan	-	-								

			103	31.4	3	0.9	Blue	Gravel	Sand	Clay									
			106	32.3	3	0.9	Blue	Shale	-	-									
4908534	597428	4857420	25	7.6	25	7.6	Brown	Sand	Medium Sand	-	34	10.4	34	10.4	Fresh	27-Jan-00	Water Supply	Domestic	
			66	20.1	41	12.5	Grey	Sand	Medium Sand	-									
			1	0.3	1	0.3	Brown	Loam	-	-									
4904393	597637	4857116	10	3.0	9	2.7	Brown	Clay	-	-	38	11.6	20	6.1	Not stated	01-Aug-74	Water Supply	Domestic	
			38	11.6	28	8.5	Grey	Clay	-	-									
			42	12.8	4	1.2	Grey	Sand	-	-									
			16	4.9	16	4.9	Brown	Clay	-	-									
			38	11.6	22	6.7	Grey	Clay	Stones	-									
			98	29.9	60	18.3	Grey	Silt	Sand	-									
7275497	597641	4857180	110	33.5	12	3.7	Grey	Silt	-	-	-	-	-	-	-	6-May-16	Water Supply	Domestic	
			113	34.5	3	0.9	Grey	Clay	Silt	-									
			125	38.1	12	3.7	Grey	Sand	Clay	-									
			133	40.5	8	2.4	Grey	Sand	Gravel	-									
			143	43.6	10	3.0	Grey	Shale	-	-									
			1	0.3	1	0.3	Brown	Loam	-	-									
			10	3.0	9	2.7	Brown	Clay	-	-									
			12	3.7	2	0.6	Blue	Clay	-	-									
4908694	598144	4857707	75	22.9	63	19.2	Grey	Fine Sand	-	-	75	22.9	7	2.1	Fresh	18-May-00	Water Supply	Domestic	
			84	25.6	9	2.7	Grey	Medium Sand	-	-									
			91	27.7	7	2.1	Grey	Fine Sand	-	-									
			93	28.4	2	0.6	Grey	Sand	Silt	Clay									
			2	0.6	2	0.6	Black	Topsoil	-	-									
4905640	598114	4857523	14	4.3	12	3.7	Blue	Clay	-	Hard	14	4.3	8	2.4	not tested	30-Apr-80	Water Supply	Domestic	
			25	7.6	11	3.4	Brown	Sand	Pebbles	Coarse									
4910378	597322	4857684	-	-	-	-	-	-	-	-	-	-	-	-	-	30-Sep-06	Abandoned	-	-
			1	0.3	1	0.3	Brown	Loam	Hard	-									
4905851	597414	4857323	20	6.1	19	5.8	Brown	Clay	Hard	-	30	9.1	15	4.6	not stated	15-Dec-81	Water Supply	Domestic	
			30	9.1	10	3.0	Grey	Clay	Hard	-									
			35	10.7	5	1.5	Grey	Sand	Loose	-									
			1	0.3	1	0.3	Brown	Loam	-	-									
			10	3.0	9	2.7	Brown	Clay	Stones	-									
4905839	597964	4859273	29	8.8	19	5.8	Grey	Clay	Stones	Sand	22	6.7	17.0	5.2	Fresh	20-May-81	Water Supply	Domestic	
			35	10.7	6	1.8	Grey	Stones	Clay	-									
			36	11.0	1	0.3	Grey	Clay	Shale	-									
			38	11.6	2	0.6	Grey	Shale	Very Hard	-									
			12	3.7	12	3.7	Brown	Loam	-	-									
4905116	597054	4857923	42	12.8	30	9.1	Grey	Clay	-	-	42	13	35	10.7	Fresh	10-May-77	Water supply	Domestic	
			48	14.6	6	1.8	-	Sand	Gravel	Water Bearing									
			2	0.6	2	0.6	Brown	Loam	-	Soft									
			13	4.0	11	3.4	Brown	Clay	-	Hard									
			27	8.2	14	4.3	Grey	Clay	Stones	Hard									
			29	8.8	2	0.6	Brown	Sand	-	Loose									
7267796	596880	4858246	65	19.8	36	11.0	Grey	Clay	-	Hard	8	2.4	13	4.0	Fresh	13-Jun-16	Water Supply	Livestock / Domestic	
			75	22.9	10	3.0	Brown	Sand	Gravel	Layered									
			85	25.9	10	3.0	Grey	Gravel	Sand	Loose									
			98	29.9	13	4.0	Gray	Sand	Silt	Dirty									
			98	29.9	0	0.0	Grey	Shale	-	Hard									
			25	7.6	25	7.6	Brown	Clay	Stones	Dense									
			28	8.5	3	0.9	Blue	Coarse Sand	Loose	-									
			33	10.1	5	1.5	Blue	Fine Sand	Silt	Soft									
4908369	598459	4857745	48	14.6	15	4.6	Blue	Clay	Soft	-	99	30.2	36	11.0	Fresh	25-Aug-97	Water Supply	Domestic	
			53	16.2	5	1.5	Blue	Fine Sand	Loose	-									

			86	26.2	33	10.1	Blue	Fine Sand	Silt	Loose								
			97	29.6	11	3.4	Blue	Clay	Stones	Packed								
			107	32.6	10	3.0	Blue	Coarse Sand	Water Bearing	Loose								
7181645	598283	4858462	1	0.3	1	0.3	Black	Loam	-	Soft	117	35.7	25	7.6	Fresh	20-Feb-12	Water Supply	Domestic
			17	5.2	16	4.9	Brown	Clay	-	Hard								
			92	28.0	75	22.9	Grey	Clay	Silt	Layered								
			98	29.9	6	1.8	Grey	Gravel	-	Loose								
			113	34.5	15	4.6	Grey	Clay	-	Hard								
			117	35.7	4	1.2	Grey	Sand	-	Loose								
4904720	597876	4857244	7	2.1	7	2.1	-	Clay	-	-	28	8.5	4	1.2	Fresh	26-Aug-74	Water Supply	Domestic
			10	3.0	3	0.9	-	Clay	Stones	-								
			12	3.7	2	0.6	-	Sand	-	-								
			16	4.9	4	1.2	-	Stones	-	-								
			18	5.5	2	0.6	-	Clay	-	-								
30	9.1	12	3.7	-	Sand	Stones	-											
4904007	597556	4857470	2	0.6	2	0.6	Brown	Loam	-	-	23	7.0	Flowing	Fresh	15-Jun-72	Water Supply	Domestic	
			9	2.7	7	2.1	Brown	Clay	-	-								
			23	7.0	14	4.3	Blue	Clay	Stones	-								
4904847	596987	4858136	25	7.6	2	0.6	Blue	Gravel	-	-	90	27.4	22	6.7	Fresh	4-Feb-76	Water Supply	Livestock / Domestic
			32	9.8	32	9.8	-	Topsoil	-	-								
			35	10.7	3	0.9	Blue	Clay	-	-								
			90	27.4	55	16.8	-	Fine Sand	-	-								
4907932	597435	4857461	95	29.0	5	1.5	-	Gravel	-	-	60	18.3	5	1.5	not stated	10-Sep-94	Water Supply	Domestic
			1	0.3	1	0.3	Brown	Loam	Hard	-								
			30	9.1	29	8.8	Brown	Clay	Hard	-								
			60	18.3	30	9.1	Grey	Clay	Hard	-								
4904395	597189	4858347	72	22.0	12	3.7	Grey	Sand	Loose	-	20	6.1	15	4.6	not stated	1-Aug-74	Water Supply	Domestic
			1	0.3	1	0.3	Brown	Loam	-	-								
4900216	596886	4858130	15	4.6	14	4.3	Brown	Clay	-	-	132	40.2	25	7.6	Fresh	13-Nov-64	Water Supply	Domestic
			34	10.4	19	5.8	Brown	Sand	Gravel	-								
			2	0.6	2	0.6	-	Loam	-	-								
			15	4.6	13	4.0	-	Clay	-	-								
			45	13.7	30	9.1	-	Hard Pan	-	-								
			110	33.5	65	19.8	-	Clay	Medium Sand	-								
4904146	598039	4858691	130	39.6	20	6.1	-	QSND	-	-	33	10.1	57	17.4	Fresh	6-Jul-73	Water Supply	Domestic
			132	40.2	2	0.6	-	GRVL	-	-								
			2	0.6	2	0.6	Black	Loam	-	-								
			35	10.7	33	10.1	Brown	Clay	Stones	-								
			57	17.4	22	6.7	Blue	Clay	Stones	-								
4904437	598238	4858479	67	20.4	10	3.0	Grey	Sand	-	-	100	30.5	23	7.0	Fresh	30-Jul-73	Water Supply	Domestic
			75	22.9	8	2.4	Blue	Clay	-	-								
			23	7.0	23	7.0	Brown	Clay	-	-								
			100	30.5	77	23.5	Blue	Clay	Stones	-								
			112	34.1	12	3.7	Blue	Sand	Gravel	Clay								

			127	38.7	15	4.6	Blue	Shale	Clay	-							Supply			
			180	54.9	53	16.2	Blue	Shale	-	-										
4903300	598214	4858623	12	3.7	12	3.7	Brown	Clay	-	-	175	53.4	35	10.7	Fresh	11-Aug-69	Water Supply	Domestic		
			122	37.2	110	33.5	Blue	Clay	-	-										
			175	53.4	53	16.2	Grey	Silt	-	-										
			22	6.7	22	6.7	Brown	Clay	Stones	-										
4907094	597663	4858835	65	19.8	43	13.1	Blue	Clay	Stones	-	199	60.7	26	7.9	Fresh	20-Jan-89	Water Supply	Livestock / Domestic		
			72	22.0	7	2.1	Blue	Clay	Soft	-										
			85	25.9	13	4.0	Blue	Clay	Gravel	Sand										
			190	57.9	105	32.0	Blue	Clay	Silt	-										
			199	60.7	9	2.7	Blue	Clay	Silt	Sand										
			214	65.2	15	4.6	-	Fine Sand	-	-										
4909556	598425	4858349	15	4.6	15	4.6	Brown	Clay	-	Hard	75	22.9	17	5.2	Fresh	24-Oct-04	Water Supply	Domestic		
			25	7.6	10	3.0	Grey	Clay	-	Hard										
			64	19.5	39	11.9	Grey	Clay	Stones	Hard										
			70	21.3	6	1.8	Grey	Clay	-	Loose										
			77	23.5	7	2.2	Grey	Gravel	-	Loose										
4904761	597397	4857685	2	0.6	2	0.6	Brown	Loam	-	-	24	7.3	23	7.0	not stated	23-Sep-75	Water Supply	Domestic		
			24	7.3	22	6.7	Brown	Sand	Clay	-										
			38	11.6	14	4.3	Grey	Sand	-	-										
			43	13.1	5	1.5	Brown	Sand	-	-										
4905784	598114	4858823	100	30.5	100	30.5	-	Previously Dug	-	-	208	63.4	22	6.7	Fresh	12-Dec-80	Water Supply	Domestic		
			160	48.8	60	18.3	Blue	Clay	-	-										
			208	63.4	48	14.6	Blue	Clay	Silt	Fine Sand										
			212	64.6	4	1.2	-	Gravel	Coarse Sand	Clay										
7320567	598596	4858298	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
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7366579	598709	4857850	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
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7345658	598259	4857256	1	0.3	1	0.3	Brown	Loam	loose	--	--	--	--	--	--	--	--	--		
			20	6.1	20	6.1	Brown	Silt Till	dry	--	--	--	--	--	--	--	--	--	--	
4909415	599081	4858056	20	6.1	20	6.1	Brown	Fill	-	-	--	--	--	--	--	--	--	--		
			38	11.6	38	11.6	Grey	Clay	-	-	-	-	-	-	-	-	-	-		
			41	12.5	41	12.5	Brown	Sand	-	-	-	-	-	-	-	-	-	-		
			50	15.2	50	15.2	Grey	Sand	Soft	-	-	-	-	-	-	-	-	-		
7172137	599023	4857883	60	18.3	60	18.3	Grey	Clay	Hard	-	-	-	-	-	-	-	-	-		
			0	0.0	0	0.0	Black	-	-	-	-	-	-	-	-	-	-	-		
			1	0.3	1	0.3	Brown	Sand	Gravel	Loose	-	-	-	-	-	-	-	-		
			12	3.7	12	3.7	Brown	Silt	Sand	Loose	-	-	-	-	-	-	-	-		
			20	6.1	20	6.1	Grey	Silt	Clay	Dense	-	-	-	-	-	-	-	-		
7172136	598984	4857838	0	0.0	0	0.0	Brown	Loam	-	Loose	-	-	-	-	-	-	-			
			12	3.7	12	3.7	Brown	Sand	Silt	Loose	-	-	-	-	-	-	-			
			20	6.1	20	6.1	Grey	Sand	Silt	Dense	-	-	-	-	-	-	-			
7172135	599026	4857798	0	0.0	0	0.0	Brown	Loam	-	Loose	-	-	-	-	-	-	-			
			12	3.7	12	3.7	Brown	Sand	Silt	Loose	-	-	-	-	-	-	-			
			20	6.1	20	6.1	Grey	Sand	Silt	Dense	-	-	-	-	-	-	-			
7239897	599227	4857714	-	-	-	-	-	-	-	-	-	-	-	-	9-Mar-15	Abandoned	-			
7366569	597873	4857949	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-			
7366577	597381	4857718	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-			

7366576	598402	4858345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7366575	597077	4857818	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7633574	597309	4857666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7366573	597907	4857026	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7366572	598317	4857523	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7366571	597334	4857649	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7366570	597518	4857496	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-
7345660	598349	4857355	1	0.3	1	0.3	Brown	Loam	-	Loose	not stated	not stated	not stated	not stated	not stated	7-Jun-19	Water supply	Monitoring	
			10	3.0	10	3.0	Brown	Silt	Till	Dry									
			20	6.1	20	6.1	Grey	Sand	Silt	Water Bearing									
7366568	597844	4858742	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-	
7366567	598817	4858787	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-	
7345661	598347	4857475	1	0.3	1	0.3	Brown	Loam	-	Loose	not stated	not stated	not stated	not stated	not stated	7-Jun-19	Water supply	Monitoring	
			10	3.0	10	3.0	Brown	Silt	Till	Dry									
			20	6.1	20	6.1	Grey	Sand	Silt	Water Bearing									
7345662	598561	4857285	1	0.3	1	0.3	Brown	Loam	-	Loose	not stated	not stated	not stated	not stated	not stated	7-Jun-19	Water supply	Monitoring	
			20	6.1	20	6.1	Brown	Silt	Till	Dry									
7345663	598561	4857285	1	0.3	1	0.3	Brown	Loam	-	Loose	not stated	not stated	not stated	not stated	not stated	7-Jun-19	Water supply	Monitoring	
			20	6.1	20	6.1	Brown	Silt	Till	Dry									
7355128	598088	4857215	-	-	-	-	-	-	-	-	-	-	-	-	-	23-Oct-18	-	-	
7366565	597432	4858372	-	-	-	-	-	-	-	-	-	-	-	-	-	24-Jul-20	-	-	
4906292	597825	4856771	1	0.3	1	0.3	Brown	Loam	-	Hard	60	18.3	20	6.1	not stated	19-Aug-84	Water supply	Domestic	
			20	6.1	20	6.1	Brown	Clay	-	Hard									
			60	18.3	60	18.3	Grey	Clay	-	Hard									
			80	24.4	80	24.4	Grey	Sand	-	Loose									
4908027	597914	4856940	2	0.6	2	0.6	-	Loam	-	-	124	37.8	1	0.3	Fresh	31-Aug-95	Water supply	Domestic	
			12	3.7	12	3.7	Brown	Clay	-	-									
			27	8.2	27	8.2	Blue	Clay	-	-									
			78	23.8	78	23.8	Blue	Clay	Gravel	-									
			124	37.8	124	37.8	Blue	Clay	-	Soft									
130	39.6	130	39.6	Brown	Sand	-	-												
4910318	597792	4856990	12	3.7	12	3.7	Brown	Clay	-	-	170	51.8	Flowing	Fresh	15-Aug-06	Water supply	Domestic		
			93	28.3	93	28.3	Grey	Clay	-	-									
			123	37.5	123	37.5	Grey	Silt	Clay	-									
			167	50.9	167	50.9	Grey	Clay	Stones	-									
			180	54.9	180	54.9	Grey	Fine Sand	-	-									
4903854	597815	4857025	12	3.7	12	3.7	Brown	Clay	-	-	85	25.9	90	27.4	Fresh	26-Jun-72	Water supply	Domestic	
			81	24.7	81	24.7	Grey	Clay	-	-									
4908534	597428	4857420	25	7.6	25	7.6	Brown	Sand	Medium Sand	-	34	10.4	34	10.4	Fresh	13-Jan-00	Water supply	Domestic	
			66	20.1	66	20.1	Grey	Sand	Medium Sand	-									
4907840	598556	4856805	-	-	-	-	-	-	-	-	-	-	-	-	-	11-Mar-93	-	-	
4907844	599080	4857704	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4907295	598207	4857250	2	0.6	2	0.6	-	Loam	-	-	134	40.9	135	41.1	Fresh	1990-04-31	Water supply	Domestic	
			37	11.3	37	11.3	-	Clay	-	-									
			39	11.9	39	11.9	-	Sand	Gravel	-									
			95	29.0	95	29.0	Blue	Clay	Gravel	-									
			98	29.9	98	29.9	-	Sand	Gravel	-									
			134	40.8	134	40.8	Blue	Clay	Gravel	-									
140	42.7	140	42.7	Blue	Sand	-	-												
4906516	598227	4857340	18	5.5	18	5.5	Brown	Clay	-	-	23	7.0	22	6.1	Fresh	18-Oct-86	Water supply	Domestic	
			23	7.0	23	7.0	Blue	Clay	-	-									
			35	10.7	35	10.7	Brown	Medium Sand	-	-									

4904719	598524	4857402	45	13.7	45	13.7	Blue	Clay	-	-	10	3.0	6	6.1	Fresh	25-Aug-74	Water supply	Domestic
			9	2.7	9	2.7	-	Clay	-	-								
			12	3.7	12	3.7	-	Sand	-	-								
			18	5.5	18	5.5	-	Sand	-	-								
			28	8.5	28	8.5	-	Clay	-	-								
4900213	598213	4856795	20	6.1	2	0.6	Brown	Clay	-	-	45	13.7	Flowing	Fresh	12-Jun-66	Water supply	Domestic	
			45	13.7	37	11.3	Blue	Clay	-	-								
			55	16.8	39	11.9	-	Medium Sand	Clay	-								
			115	35.1	95	29.0	Blue	Clay	-	-								
			136	41.5	98	29.9	-	Fine Sand	-	-								
4906470	598854	4857932	1	0.3	1	0.3	Black	Loam	-	-	80	24.4	4	1.2	Fresh	16-Nov-85	Water supply	Domestic
			6	1.8	6	1.8	Brown	Clay	Gravel	-								
			11	3.4	11	3.4	Blue	Clay	-	-								
			83	25.3	83	25.3	Brown	Medium Sand	-	-								
			92	28.0	92	28.0	Grey	Medium Sand	-	-								
			107	32.6	107	32.6	Blue	Clay	Gravel	-								
135	41.1	135	41.1	Grey	Shale	Clay	-											
4907878	598918	4857265	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7345659	598366	4857259	1	0.3	1	0.3	Brown	Loam	loose	--	not stated	not stated	not stated	not stated	not stated	24-Jun-19	Water supply	Monitoring
			20	6.1	20	6.1	Brown	Silt Till	dry	--								
7292795	598776	4857763	-	-	-	-	-	-	-	-	-	-	-	-	23-Aug-17	Water supply	Monitoring	
4907881	598405	4857436	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7292729	598776	4857763	-	-	-	-	-	-	-	-	-	-	-	-	7-Aug-17	-	Monitoring	
7292728	598935	4857759	-	-	-	-	-	-	-	-	-	-	-	-	7-Aug-17	-	Monitoring	
4908440	598399	4856652	9	2.7	9	2.7	Brown	Fill	-	-	133	40.5	3	0.9	Fresh	7-Apr-94	Water supply	Domestic
			28	8.5	28	8.5	Blue	Clay	Silt	-								
			41	12.5	41	12.5	Blue	Clay	Silt	Gravel								
			54	16.5	54	16.5	Grey	Clay	-	-								
			57	17.4	57	17.4	Grey	Silt	Gravel	-								
			69	21.0	69	21.0	Grey	Silt	Gravel	-								
			81	24.7	81	24.7	Grey	Silt	-	-								
			121	36.9	121	36.9	Grey	Clay	Silt	-								
			133	40.5	133	40.5	Grey	Silt	Fine Sand	-								
			139	42.4	139	42.4	Grey	Fine Sand	-	-								
145	44.2	145	44.2	Grey	Silt	-	-											
4907849	598780	4857872	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
4908193	597907	4857031	2	0.6	2	0.6	Brown	Peat	-	Loose	Not stated	Not stated	Not stated	Not stated	9-Jan-97	Water supply	Monitoring	
			40	12.2	40	12.2	Grey	Silt	Clay	Till								
			108	32.9	108	32.9	Grey	Silt	Stones	Layered								
			130	39.6	130	39.6	Grey	Clay	Sand	Layered								
			164	50.0	164	50.0	Grey	Clay	Sand	Silt								
			184	56.1	184	56.1	Grey	Sand	Silt	Stones								
			201	61.3	201	61.3	Grey	Fine Sand	Silt	Dense								
			218	66.4	218	66.4	Grey	Sand	Gravel	Layered								
			246	75.0	246	75.0	Grey	Sand	Silt	Layered								
			250	76.2	250	76.2	Grey	Shale	Layered	Weathered								
			1	0.3	1	0.3	Brown	Loam	-	-								
			9	2.7	9	2.7	Brown	Clay	-	-								

4905545	598515	4857723	16	4.9	16	4.9	Brown	Clay	Sand	-	16	4.9	15	4.6	Fresh	6-Jul-79	Water supply	Domestic
			24	7.3	24	7.3	Brown	Sand	-	-								
			32	9.8	32	9.8	Brown	Clay	Sand	-								
			35	10.7	35	10.7	Grey	Sand	-	-								
4908194	597904	4857037	2	0.6	2	0.6	Brown	Peat	-	Loose	Not stated	Not stated	Not stated	3-Jan-97	Water supply	Monitoring		
			40	12.2	40	12.2	Grey	Silt	Clay	Till								
			108	32.9	108	32.9	Grey	Silt	Stones	Layered								
			130	39.6	130	39.6	Grey	Clay	Sand	Layered								
			164	50.0	164	50.0	Grey	Clay	Sand	Silt								
			184	56.1	184	56.1	Grey	Sand	Silt	Stones								
			201	61.3	201	61.3	Grey	Fine Sand	Silt	Dense								
			218	66.4	218	66.4	Grey	Sand	Gravel	Layered								
			246	75.0	246	75.0	Grey	Sand	Silt	Layered								
			250	76.2	250	76.2	Grey	Shale	Layered	Weathered								
4900214	598727	4858045	2	0.6	2	0.6	-	Loam	-	-	21	6.4	5	1.5	Fresh	3-Apr-66	Water supply	Domestic
			5	1.5	5	1.5	Brown	Clay	-	-								
			20	6.1	20	6.1	Brown	Clay	Boulders	-								
			21	6.4	21	6.4	Blue	Clay	-	-								
4907843	597908	4857037	21	6.4	21	6.4	-	Coarse Sand	-	-	-	-	-	-	-	-	-	
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7241065	598679	4857836	2	0.6	2	0.6	Brown	Loam	-	Loose	7	2.1	Not stated	Not stated	27-Mar-15	Water supply	Monitoring	
			7	2.1	7	2.1	Brown	Silt	Clay	-								
			16	4.9	16	4.9	Brown	Sand	Clay	-								
			20	6.1	20	6.1	Grey	Silt	Clay	Soft								
			35	10.7	35	10.7	Grey	Silt	-	Loose								
4908422	599026	4857876	4	1.2	4	1.2	Brown	Clay	Stones	Fill	71	21.6	0	0.0	Fresh	16-Oct-98	Water supply	Commercial
			12	3.7	12	3.7	Brown	Clay	Sand	-								
			34	10.4	34	10.4	Brown	Clay	Gravel	-								
			71	21.6	71	21.6	Grey	Fine Sand	-	-								
			114	34.7	114	34.7	Grey	Fine Sand	-	-								
7278360	599062	4857830	118	36.0	118	36.0	Blue	Clay	Gravel	Sand	-	-	-	-	-	7-Jun-16	-	-
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7220334	598903	4858000	3	0.9	3	0.9	Brown	Sand	Fill	Loose	-	-	-	-	-	7-May-14	-	Monitoring
			14	4.3	14	4.3	Brown	Silt	Clay	Hard								
			18	5.5	18	5.5	Grey	Silt	Clay	Hard								
			26	7.9	26	7.9	Grey	Sand	Silt	Dense								
7172781	599128	4858060	4	1.2	4	1.2	Black	-	-	-	73	22.3	0	0	Not stated	11-Jul-11	Water supply	commercial
			17	5.2	17	5.2	Brown	Clay	Stones	-								
			50	15.2	50	15.2	Grey	Clay	Stones	-								
			70	21.3	70	21.3	Grey	Clay	Stones	-								
4908519	598914	4857996	80	24.4	80	24.4	Grey	Clay	Medium-Gravel	-	Not stated	Not stated	Fresh	5-Oct-99	Water supply	Commercial		
			4	1.2	4	1.2	Brown	Clay	-	-								
			16	4.9	16	4.9	Brown	Clay	Gravel	-								
			34	10.4	34	10.4	Brown	Sand	-	Fine Sand								
			42	12.8	42	12.8	Blue	Clay	-	-								
			68	20.7	68	20.7	-	Sand	-	-								
7148914	598946	4858295	71	21.6	71	21.6	Blue	Clay	-	-	-	-	-	-	Fresh	7-Jun-19	-	Test Hole
			7	2.1	7	2.1	Brown	Silt	Clay	Soft								
			16	4.9	16	4.9	Brown	Silt	Clay	-								
4904011	598756	4858099	25	7.6	25	7.6	Grey	Clay	Silt	-	110	106.7	Flowing	Fresh	5-Aug-72	-	Domestic	
			34	10.4	34	10.4	-	Previously Dug	-	-								
			65	19.8	65	19.8	Blue	Clay	Sand	-								
			110	33.5	110	33.5	Blue	Fine Sand	Clay	-								
4900273	598847	4858021	114	34.7	114	34.7	Grey	Fine Sand	-	-	6	1.7	-	-	Fresh	13-Nov-60	Water supply	Domestic
			5	1.5	5	1.5	Brown	Clay	-	-								
			8	2.4	8	2.4	-	Clay	-	-								
4908538	598806	4858006	18	5.5	18	5.5	-	Medium Sand	-	-	10	12.2	12	3.7	Fresh	6-Oct-99	Water	Commercial
			1	0.3	1	0.3	-	Loam	-	-								
			8	2.4	8	2.4	Brown	Clay	-	-								
22	6.7	22	6.7	Brown	Sand	-	-											

4900330	596000	4850090	61	18.6	61	18.6	Brown	Clay	-	-	40	12.2	12	3.7	Fresh	6-Oct-99	supply	al
			80	24.4	80	24.4	Blue	Clay	-	-								
			93	28.3	93	28.3	Blue	Fine Sand	-	-								
4900282	597482	4859341	12	3.7	5	1.5	Brown	Clay	-	-	59	18.4	-	-	Fresh	13-Jan-57	Water supply	Domestic
			59	18.0	8	2.4	Grey	Clay	Medium Sand	Stones								
			60	18.3	18	5.5	-	Medium Sand	-	-								
4906797	598651	4857730	-	-	-	-	-	-	-	-	-	-	-	-	4-Nov-87	Water supply	Domestic	



Appendix D-1

Caledon Station



Slug Test Analysis Report

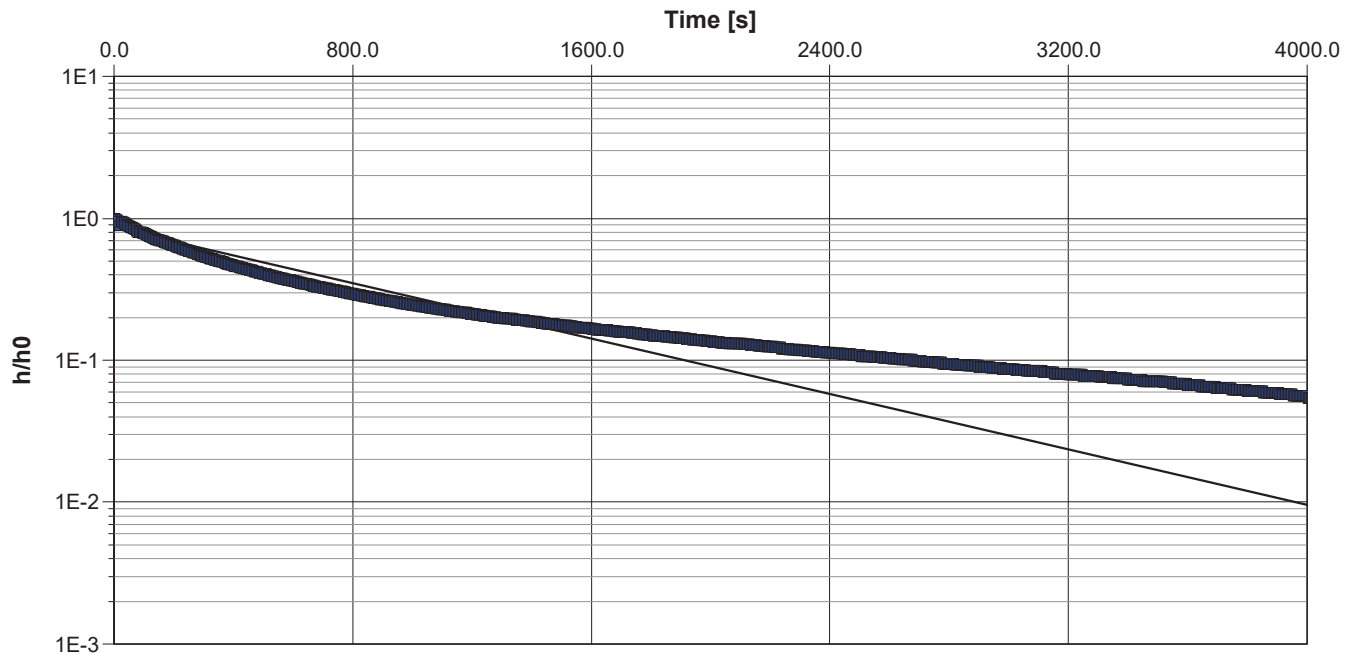
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Project: Hydrogeological Investigation

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands	Slug Test: BH20-1	Test Well: BH20-1
Test Conducted by:		Test Date: 7/6/2020
Analysis Performed by: AS	BH2-01	Analysis Date: 12/7/2020
Aquifer Thickness: 3.80 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH20-1	7.34×10^{-7}



Slug Test Analysis Report

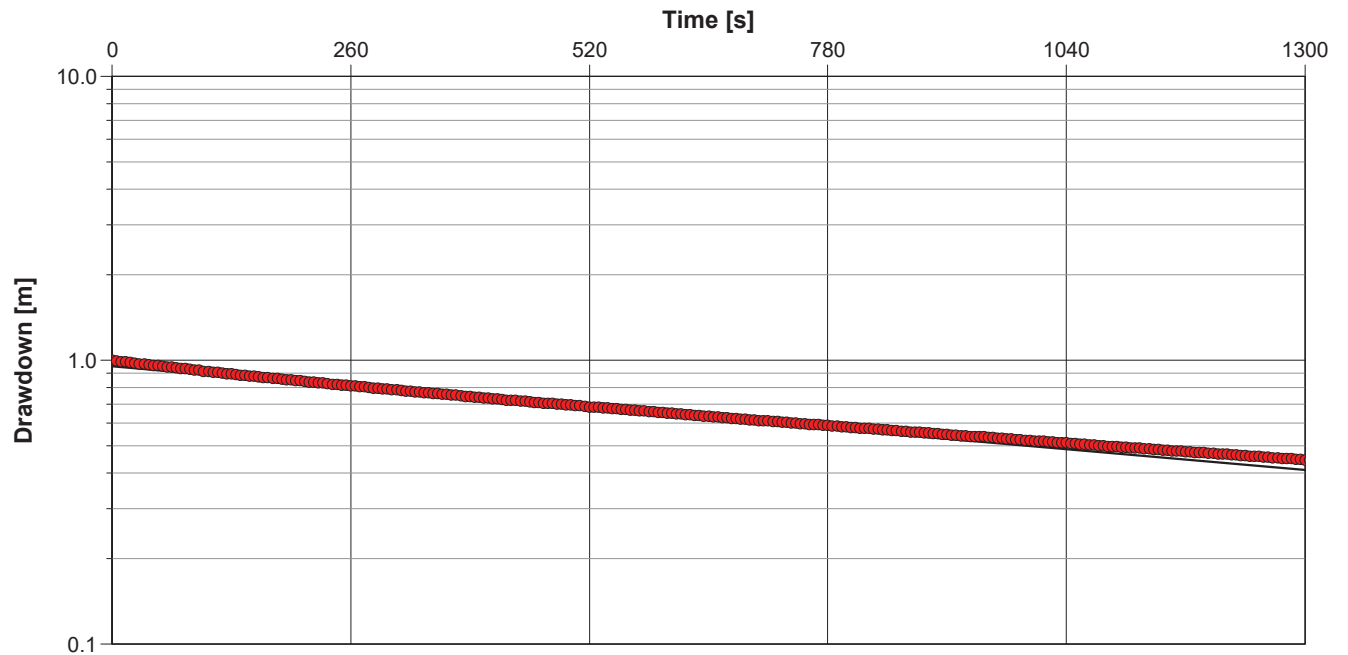
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Project: Hydrogeological Investigation

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands	Slug Test: BH20-5	Test Well: BH20-5
Test Conducted by:		Test Date: 12/7/2020
Analysis Performed by: AS	BH20-5	Analysis Date: 12/7/2020
Aquifer Thickness: 7.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH20-5	5.34×10^{-7}	



Slug Test Analysis Report

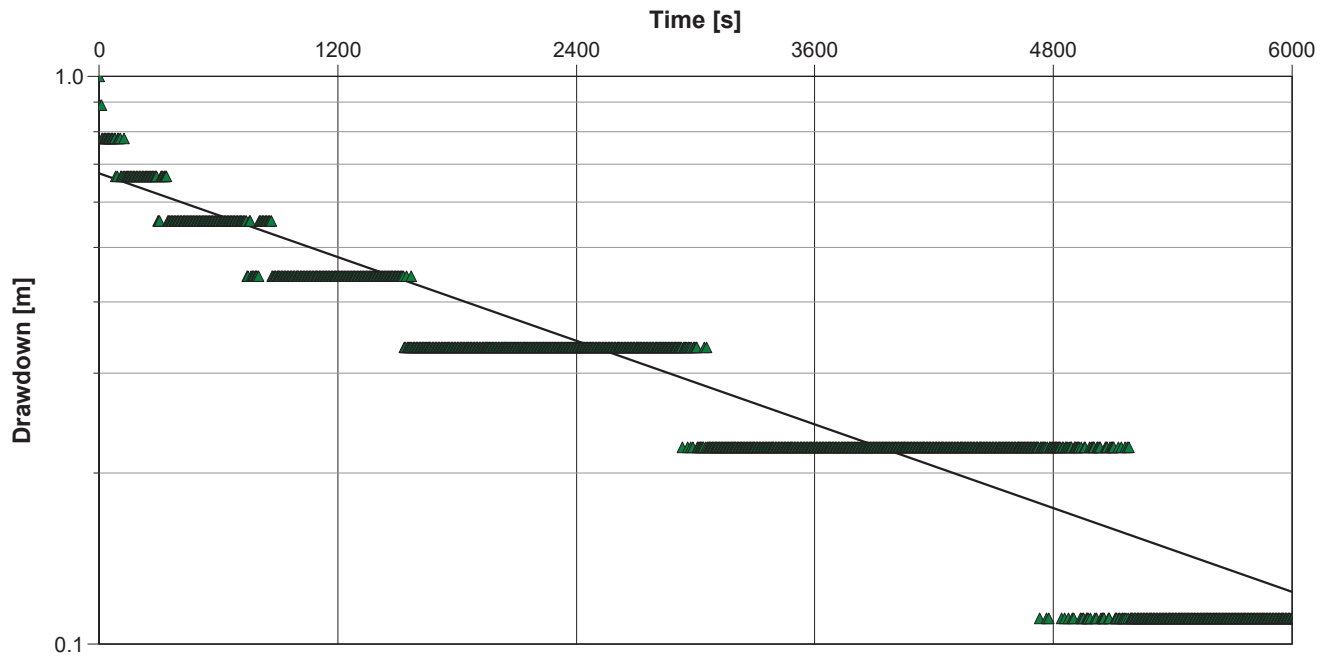
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Project: Hydrogeological Investigation

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands	Slug Test: BH20-6	Test Well: BH20-6
Test Conducted by:		Test Date: 12/7/2020
Analysis Performed by: AS	BH20-6	Analysis Date: 12/7/2020
Aquifer Thickness: 1.08 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH20-6	1.42×10^{-7}



Slug Test Analysis Report

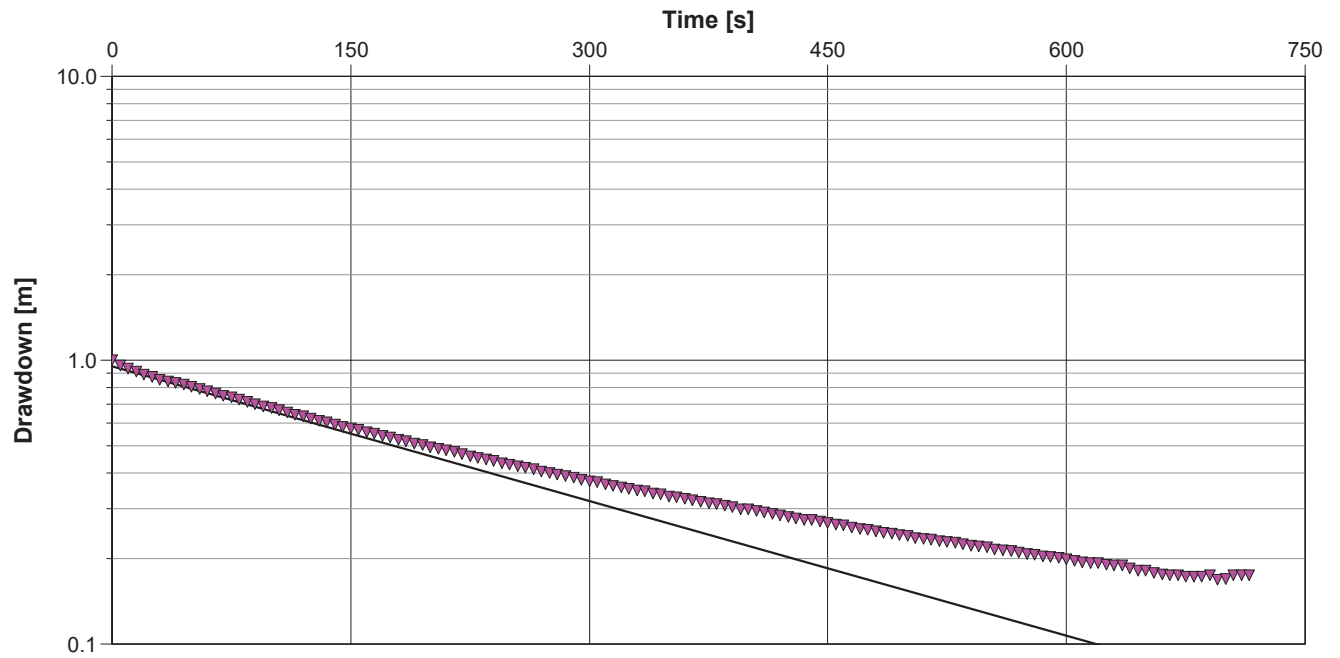
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Project: Hydrogeological Investigation

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands	Slug Test: BH20-9	Test Well: BH20-9
Test Conducted by:		Test Date: 12/8/2020
Analysis Performed by: AS	BH20-9	Analysis Date: 12/8/2020
Aquifer Thickness: 3.08 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]
BH20-9	3.21×10^{-6}



Slug Test Analysis Report

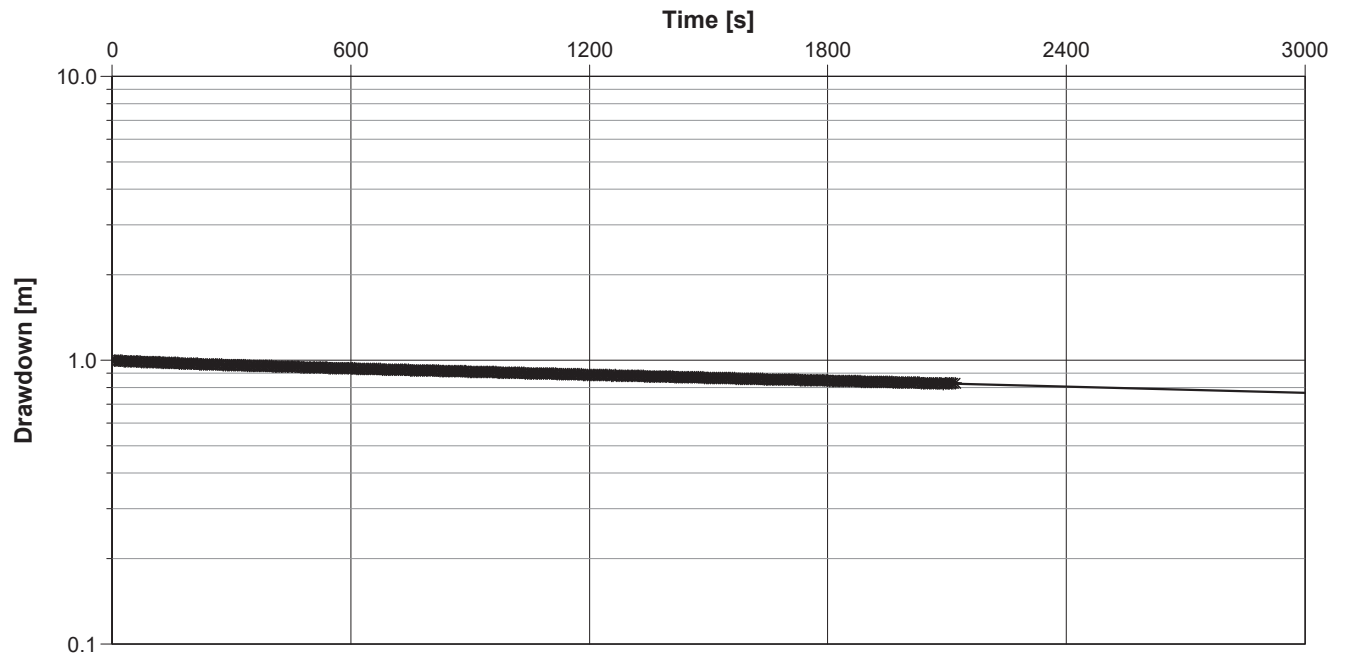
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Project: Hydrogeological Investigation

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands	Slug Test: BH20-11	Test Well: BH20-11
Test Conducted by:		Test Date: 12/8/2020
Analysis Performed by: AS	BH20-11	Analysis Date: 12/8/2020
Aquifer Thickness: 2.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH20-11	5.22×10^{-8}	



Slug Test Analysis Report

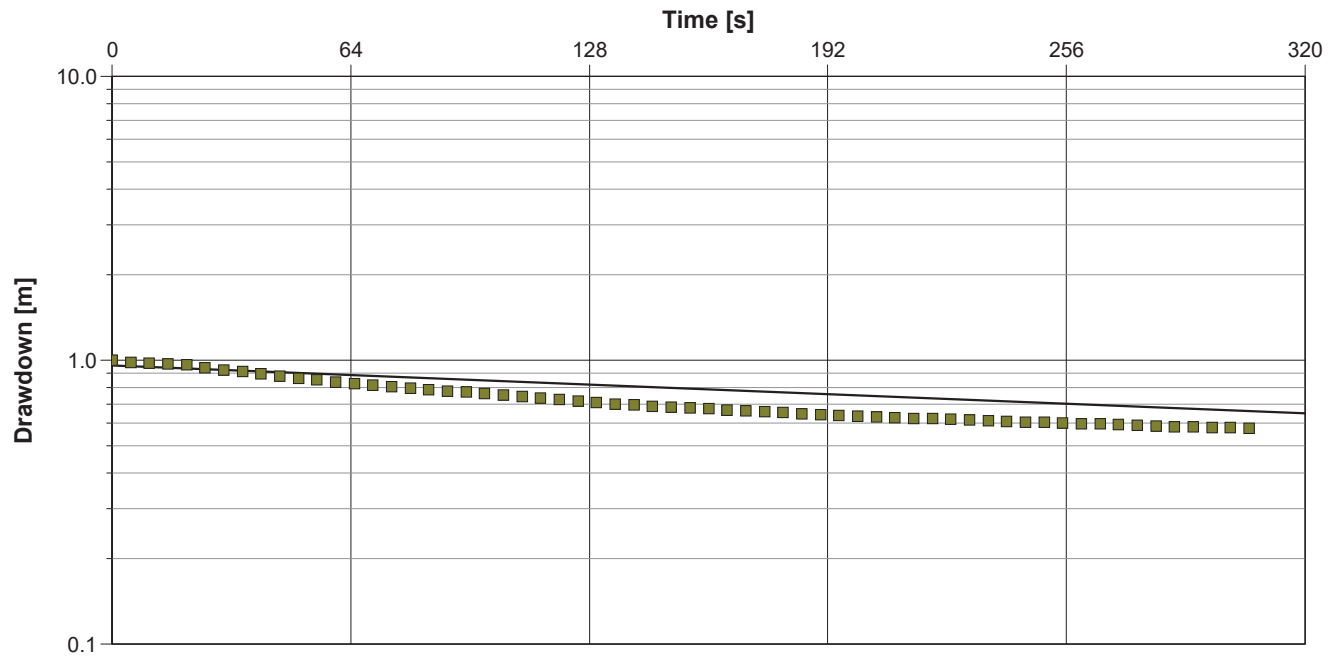
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Project: Hydrogeological Investigation

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands	Slug Test: BH20-12	Test Well: BH20-12
Test Conducted by:		Test Date: 12/8/2020
Analysis Performed by: AS	BH20-12	Analysis Date: 12/8/2020
Aquifer Thickness: 2.20 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH20-12	7.33×10^{-7}



Slug Test Analysis Report

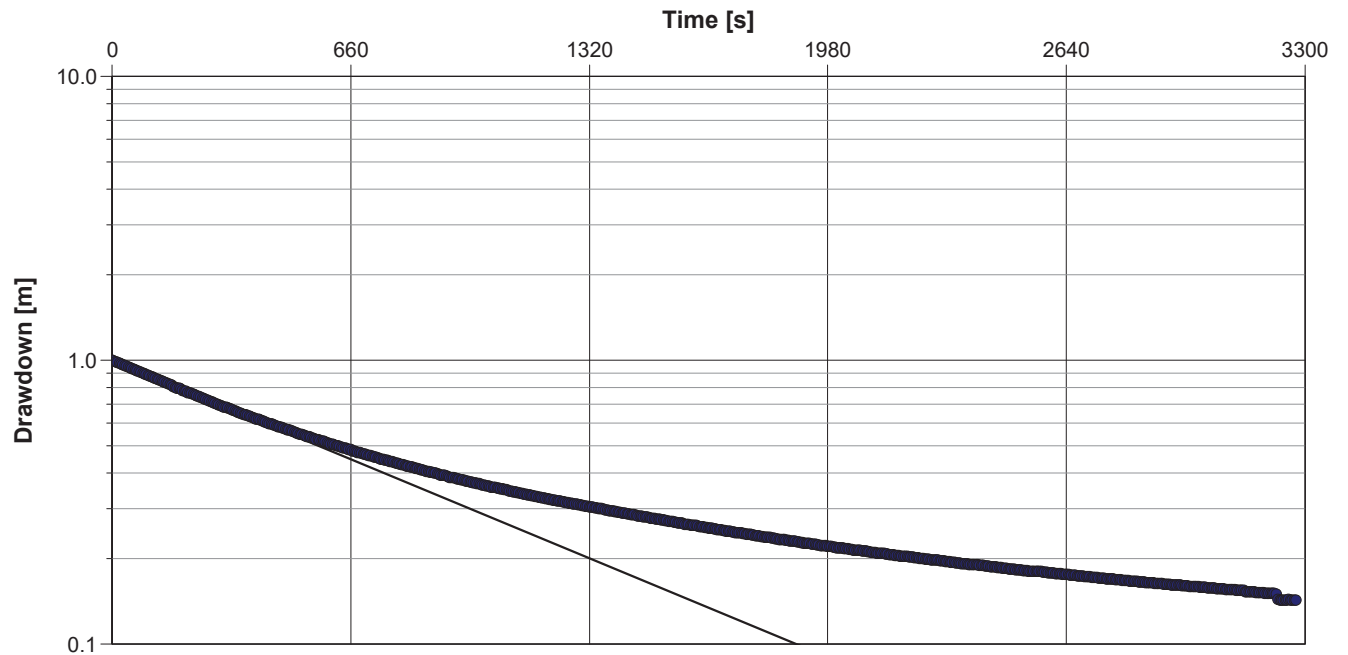
C

Project: Hydrogeological Investigation

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands	Slug Test: BH20-14	Test Well: BH20-14
Test Conducted by:		Test Date: 12/8/2020
Analysis Performed by: AS	BH20-14	Analysis Date: 12/8/2020
Aquifer Thickness: 0.80 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH20-14	6.01×10^{-7}



Slug Test Analysis Report

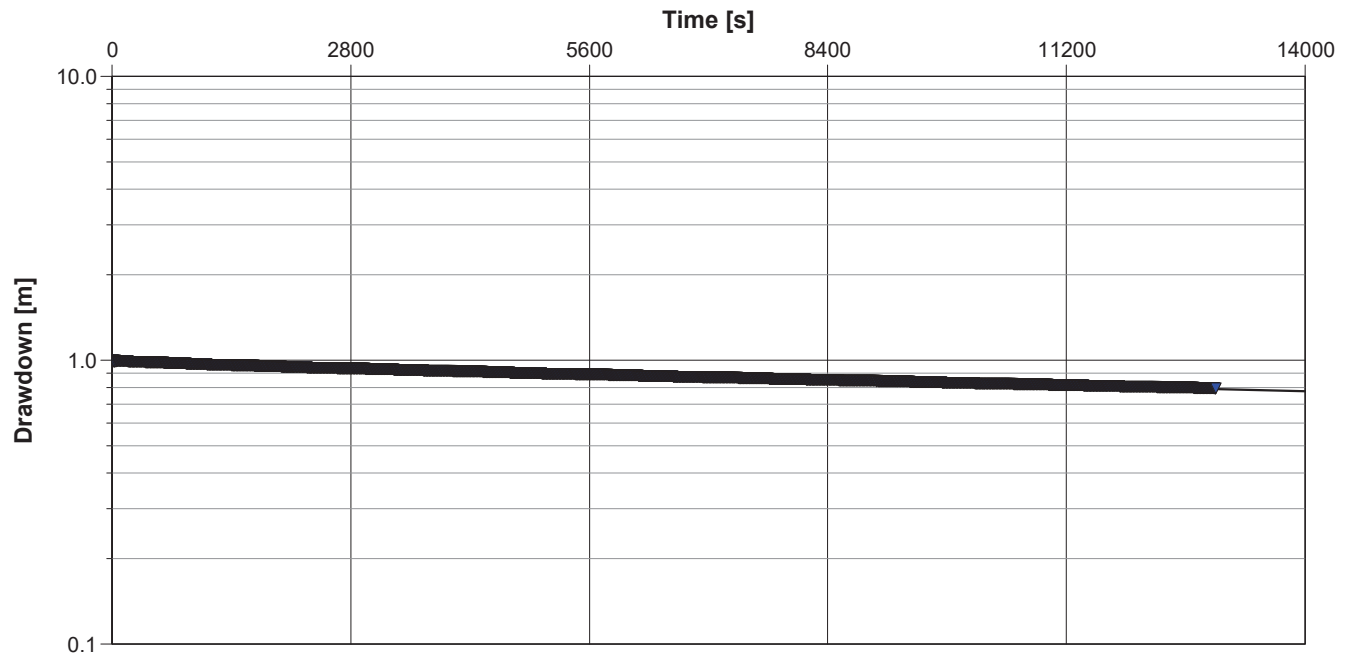
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Project: Hydrogeological Investigation

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands	Slug Test: BH20-15	Test Well: Well 9
Test Conducted by:		Test Date: 12/8/2020
Analysis Performed by: AS	BH20-15	Analysis Date: 12/8/2020
Aquifer Thickness: 0.70 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
Well 9	7.38×10^{-9}



Slug Test Analysis Report

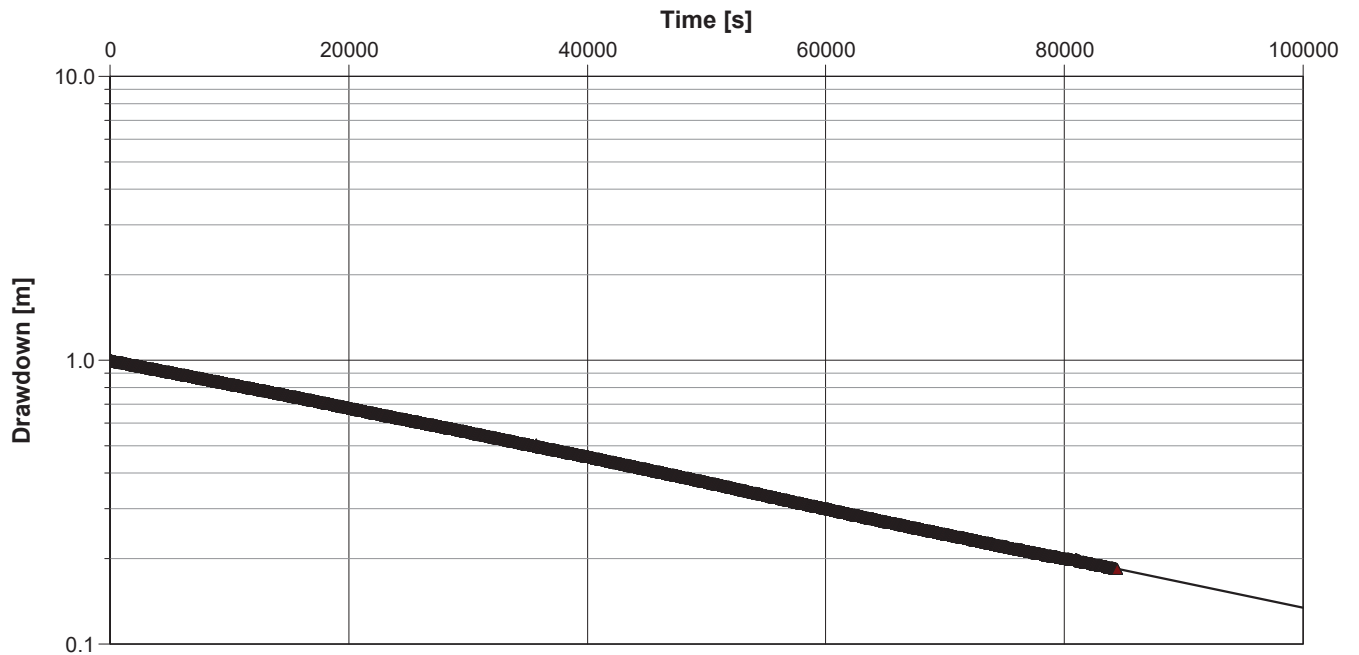
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Project: Hydrogeological Investigation

Number: 20-169-100

Client: Argos Development Corp.

Location: Bolton Option 3 Lands	Slug Test: BH20-16	Test Well: BH20-16
Test Conducted by:		Test Date: 12/8/2020
Analysis Performed by: AS	BH20-16	Analysis Date: 12/8/2020
Aquifer Thickness: 6.12 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH20-16	1.50×10^{-8}



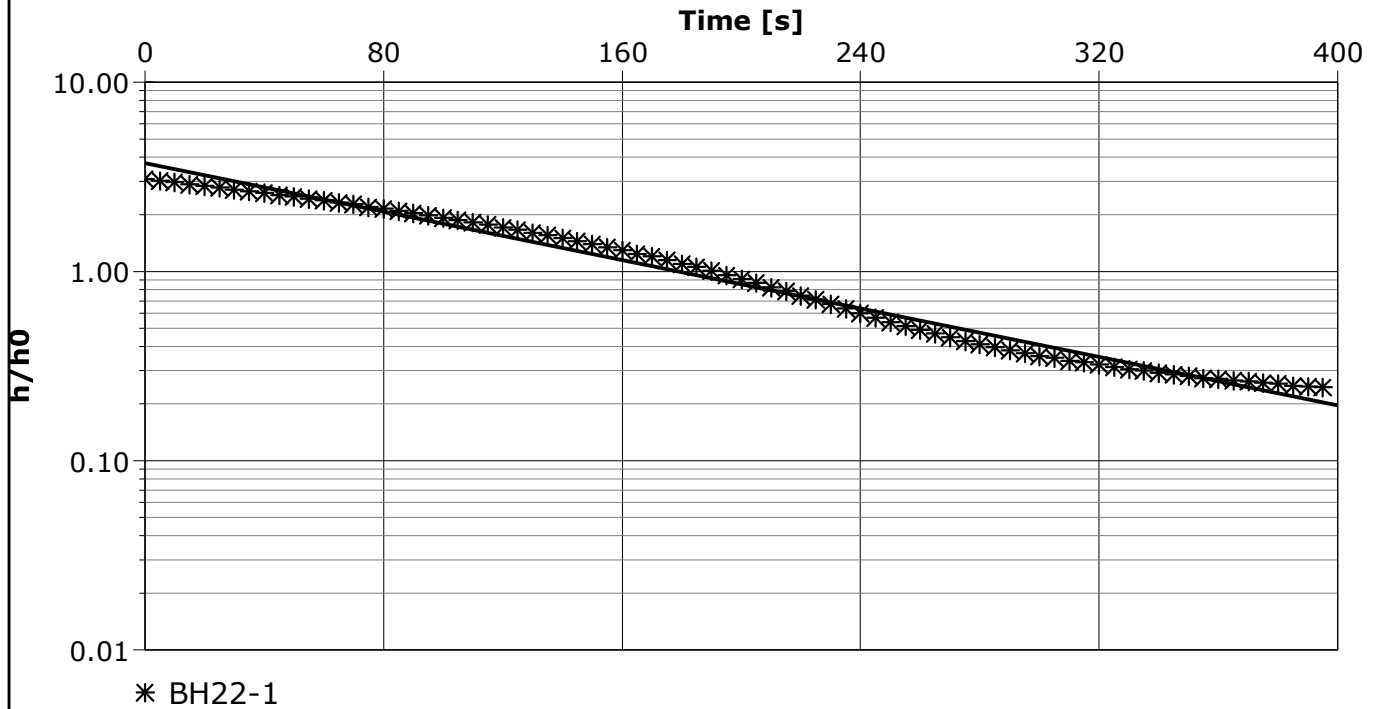
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-1	Test Well: BH22-1
Test Conducted by: HS		Test Date: 11/1/2022
Analysis Performed by: DS	BH22-1	Analysis Date: 11/17/2022
Aquifer Thickness: 12.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-1	2.95×10^{-6}



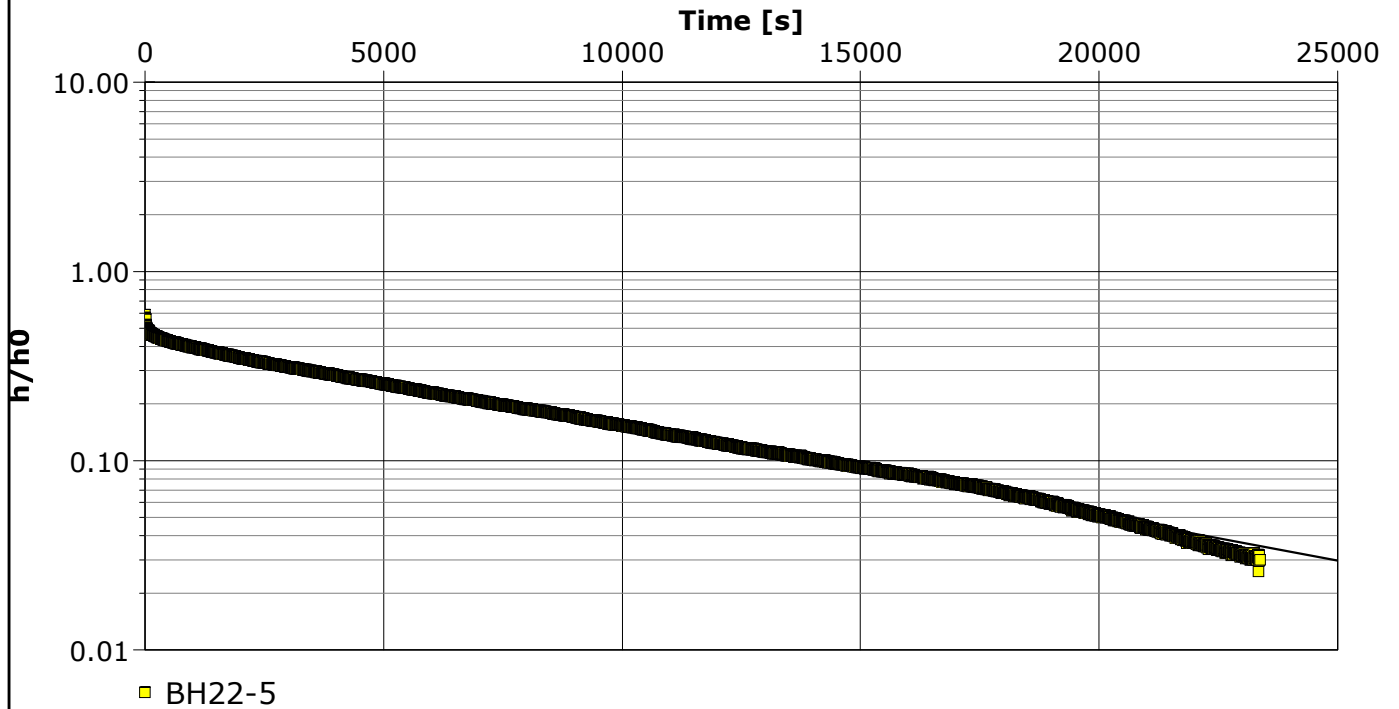
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-5	Test Well: BH22-5
Test Conducted by: HS		Test Date: 11/1/2022
Analysis Performed by: DS	BH22-5	Analysis Date: 11/17/2022
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-5	4.34×10^{-8}



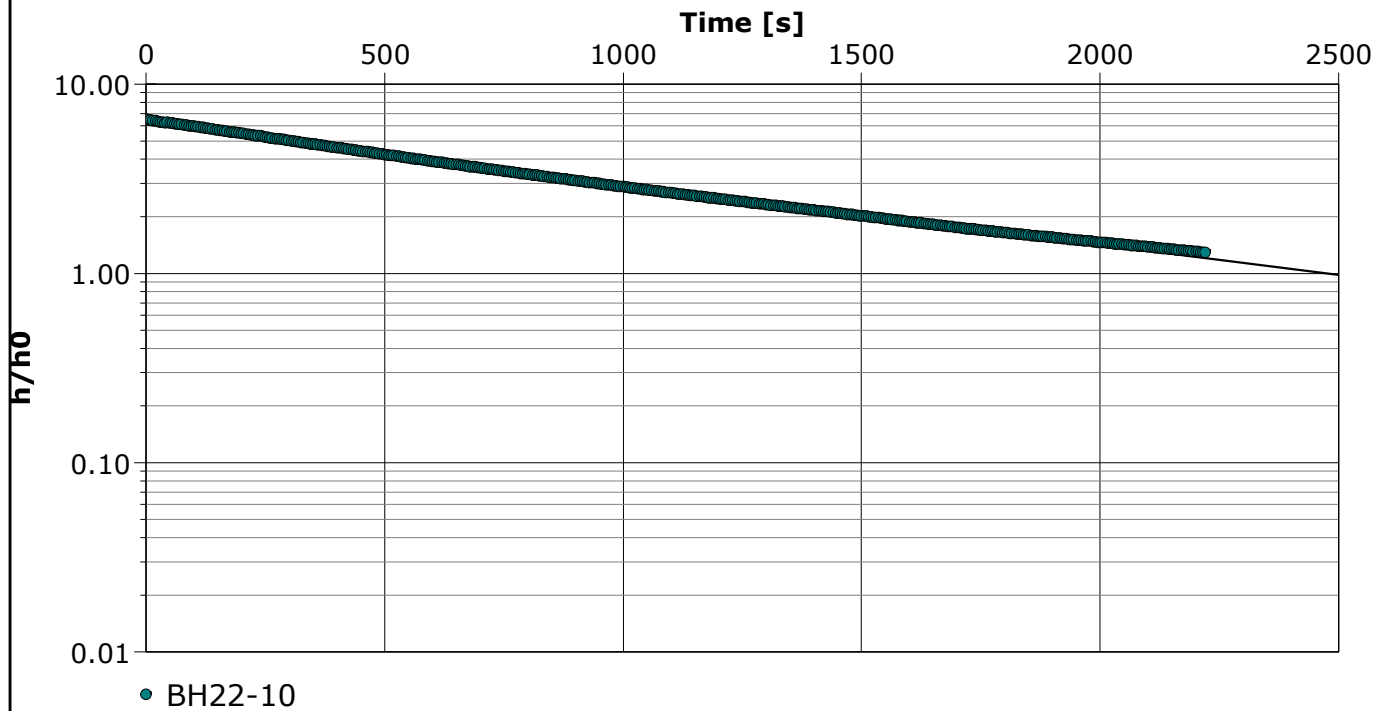
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-10	Test Well: BH22-10
Test Conducted by: HS		Test Date: 11/1/2022
Analysis Performed by:	BH22-10	Analysis Date: 11/17/2022
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-10	2.95×10^{-7}



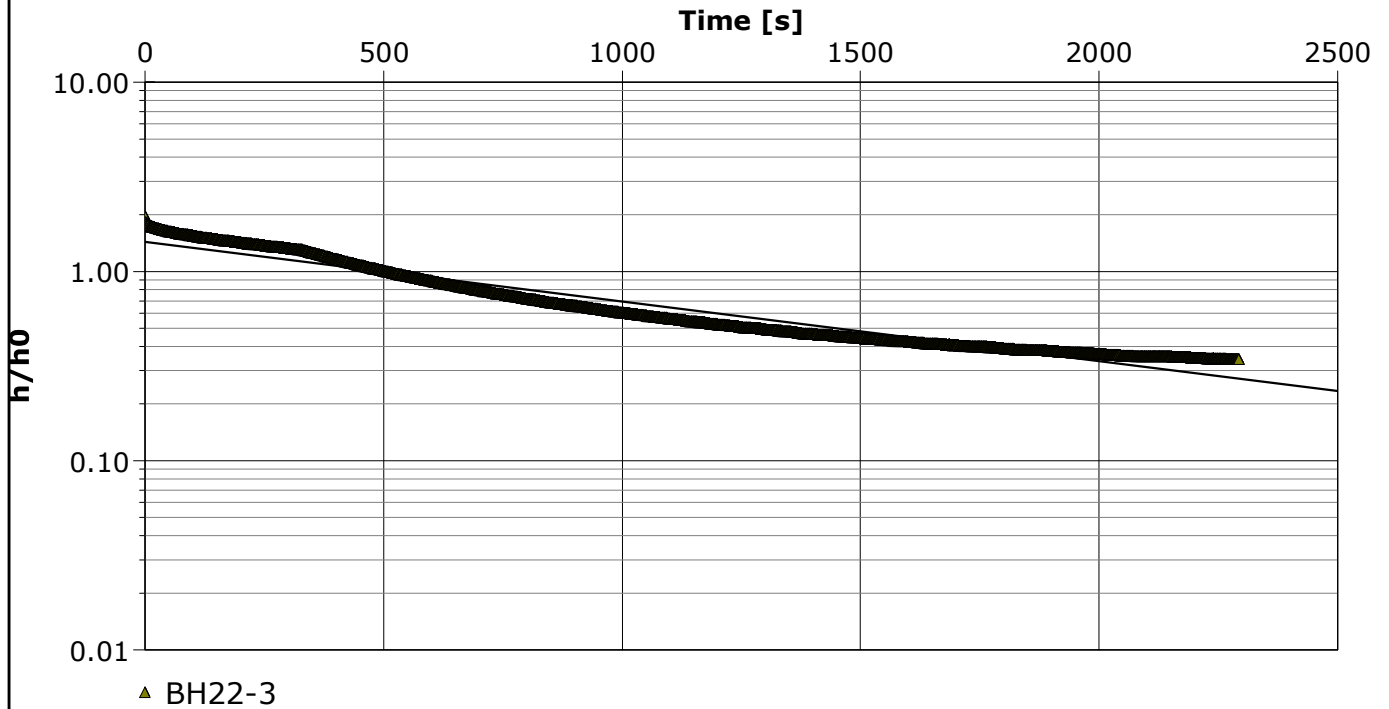
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-3	Test Well: BH22-3
Test Conducted by: HS		Test Date: 11/1/2022
Analysis Performed by: DS	BH22-3	Analysis Date: 11/17/2022
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-3	2.76×10^{-7}



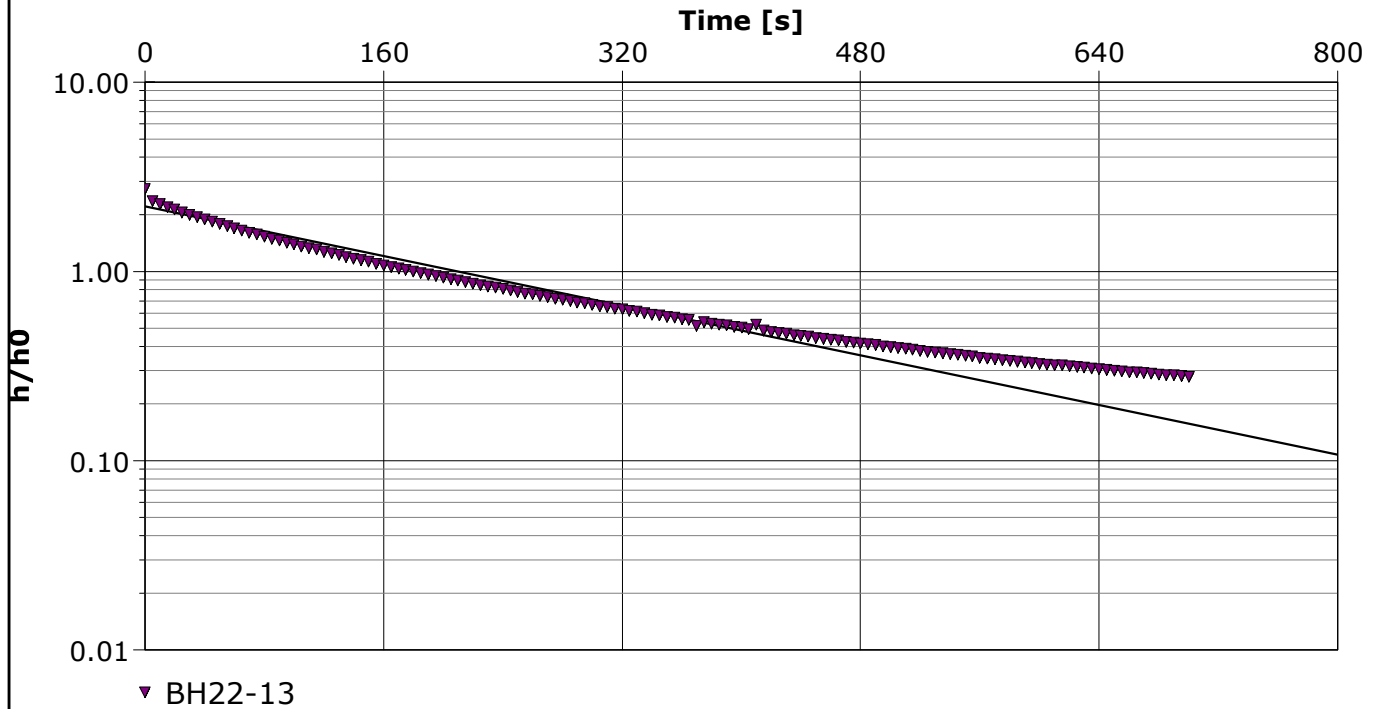
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-13	Test Well: BH22-13
Test Conducted by: HS		Test Date: 11/1/2022
Analysis Performed by: DS	BH22-13	Analysis Date: 11/17/2022
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-13	1.55×10^{-6}



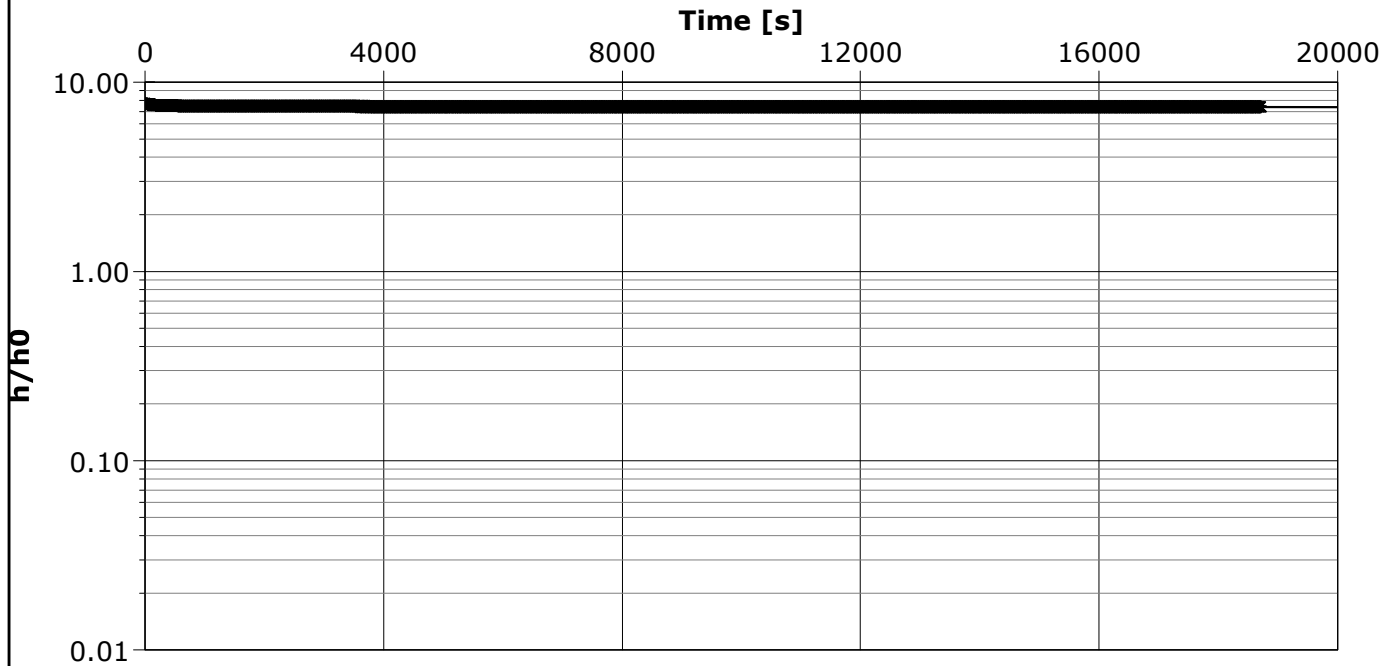
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-14	Test Well: BH22-14
Test Conducted by:		Test Date: 11/1/2022
Analysis Performed by: DS	BH22-14	Analysis Date: 11/17/2022
Aquifer Thickness: 30.00 m		



* BH22-14

Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH22-14	2.94×10^{-10}	



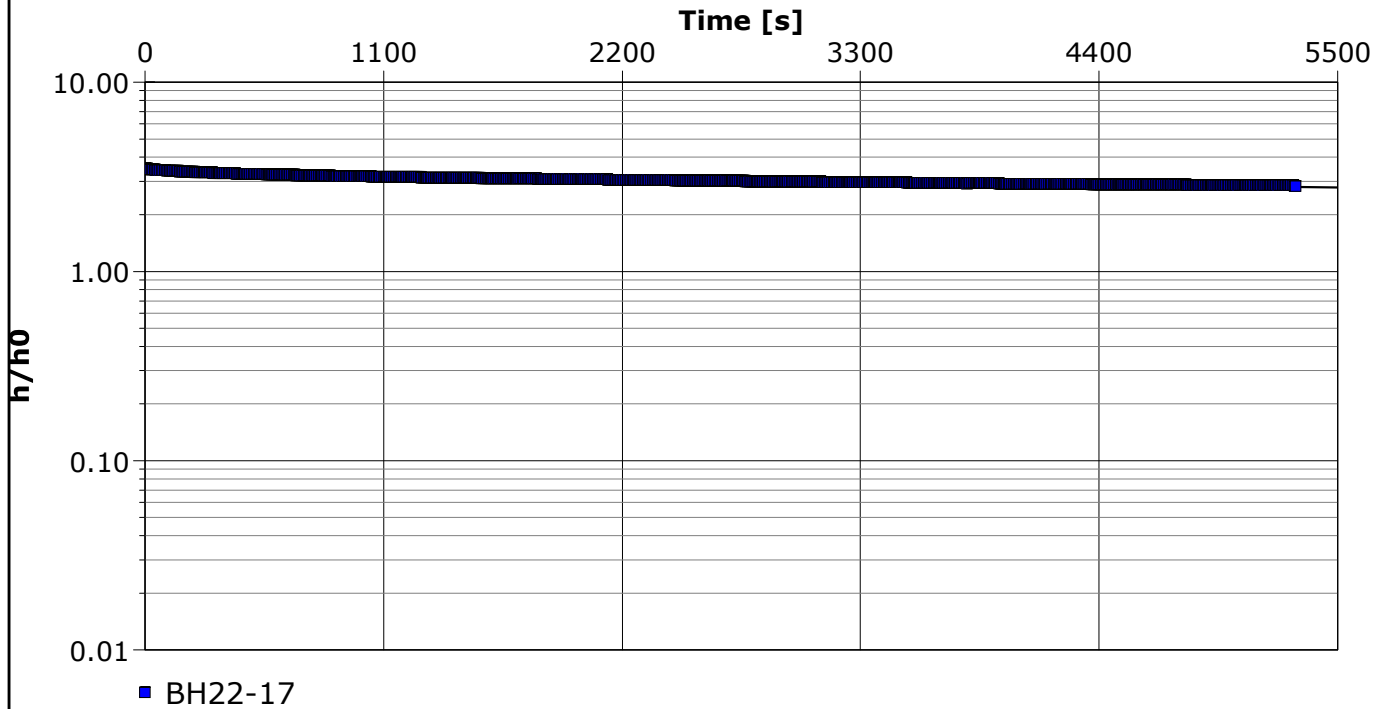
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-17	Test Well: BH22-17
Test Conducted by: HS		Test Date: 11/3/2022
Analysis Performed by: DS	BH22-17	Analysis Date: 11/17/2022
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-17	1.21×10^{-8}



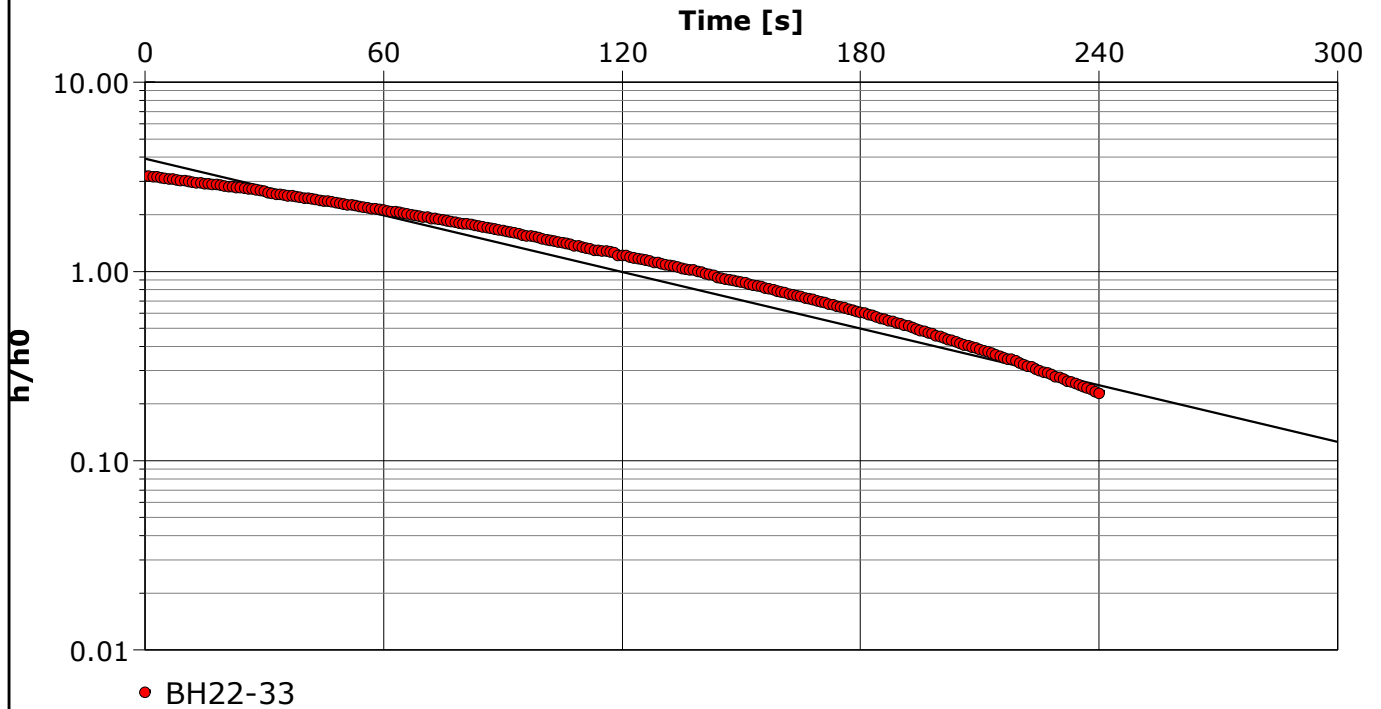
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-33	Test Well: BH22-33
Test Conducted by: HS		Test Date: 11/3/2022
Analysis Performed by: DS	BH22-33	Analysis Date: 11/23/2022
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-33	4.63×10^{-6}



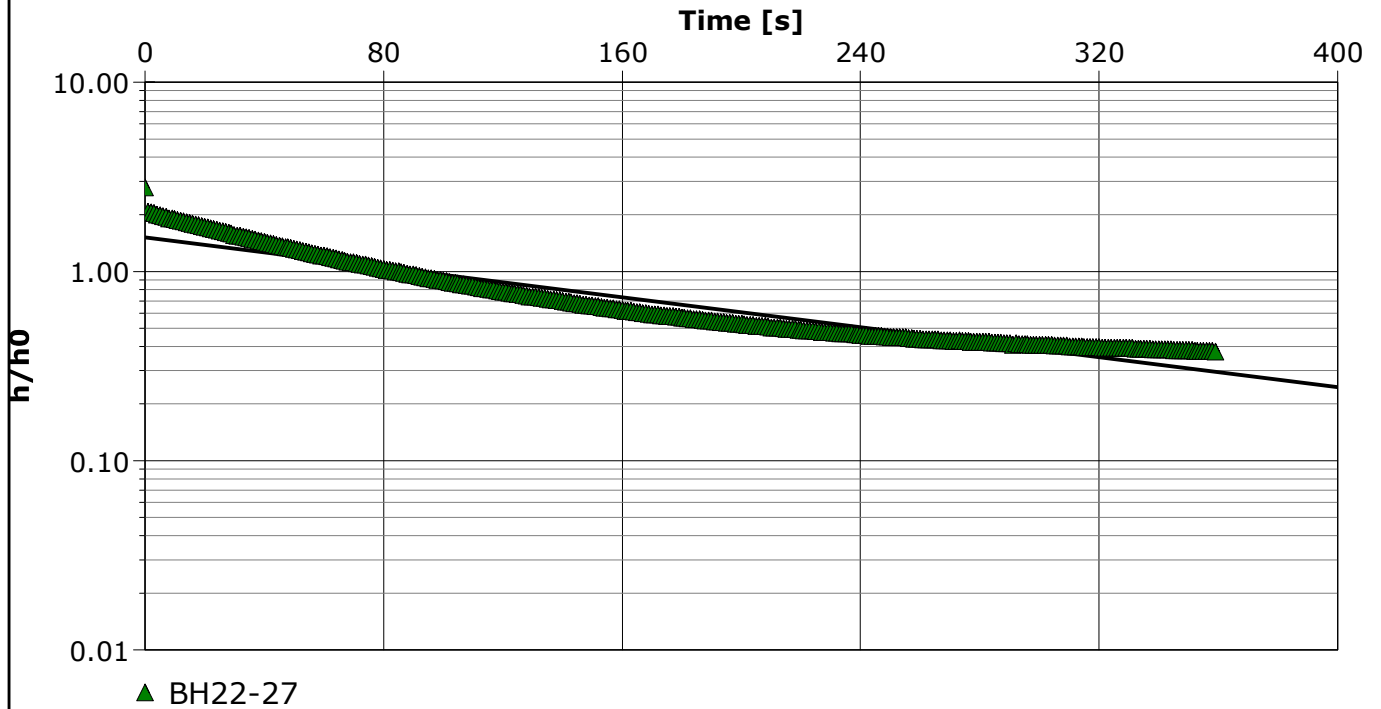
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-27	Test Well: BH22-27
Test Conducted by:		Test Date: 11/1/2022
Analysis Performed by: DS	BH22-27	Analysis Date: 2/10/2023
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-27	1.87×10^{-6}



Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station

Slug Test: BH22-28

Test Well: BH22-28

Test Conducted by: HS

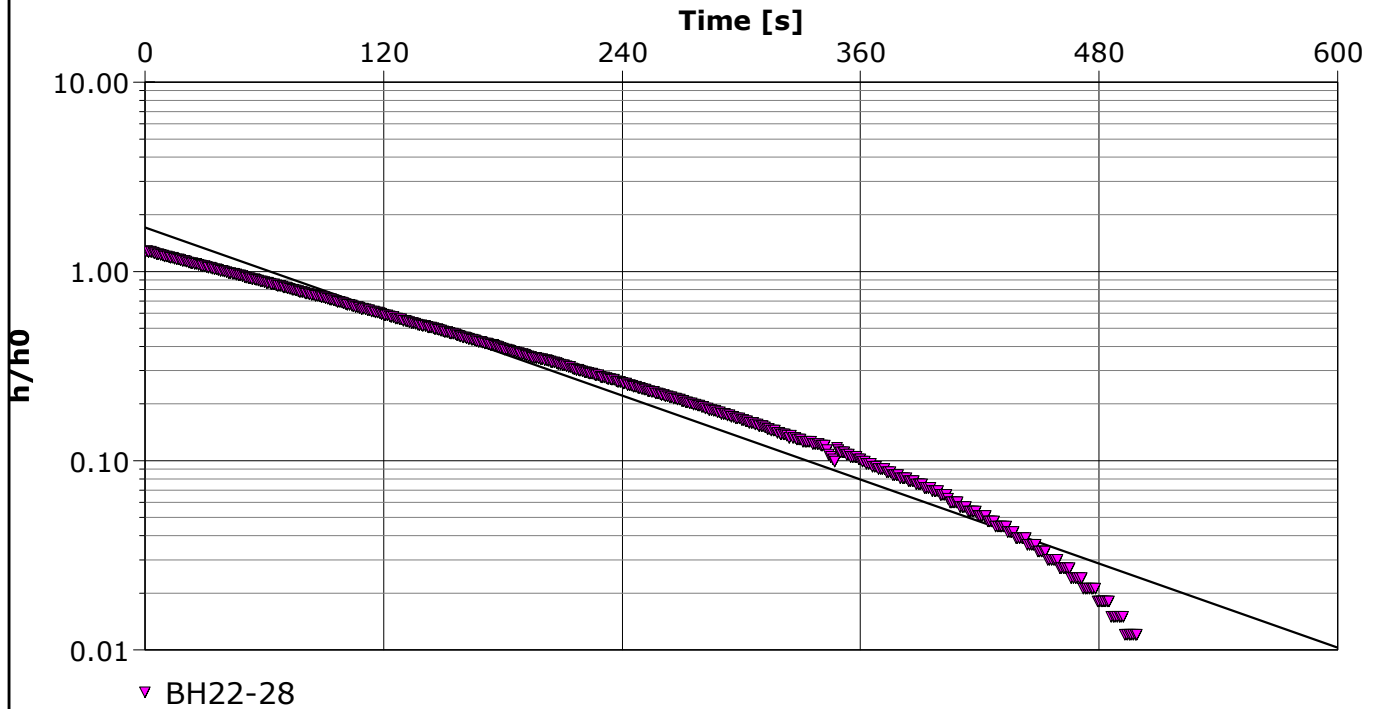
Test Date: 11/2/2022

Analysis Performed by: DS

BH22-28

Analysis Date: 2/10/2023

Aquifer Thickness: 30.00 m



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-28	3.44×10^{-6}



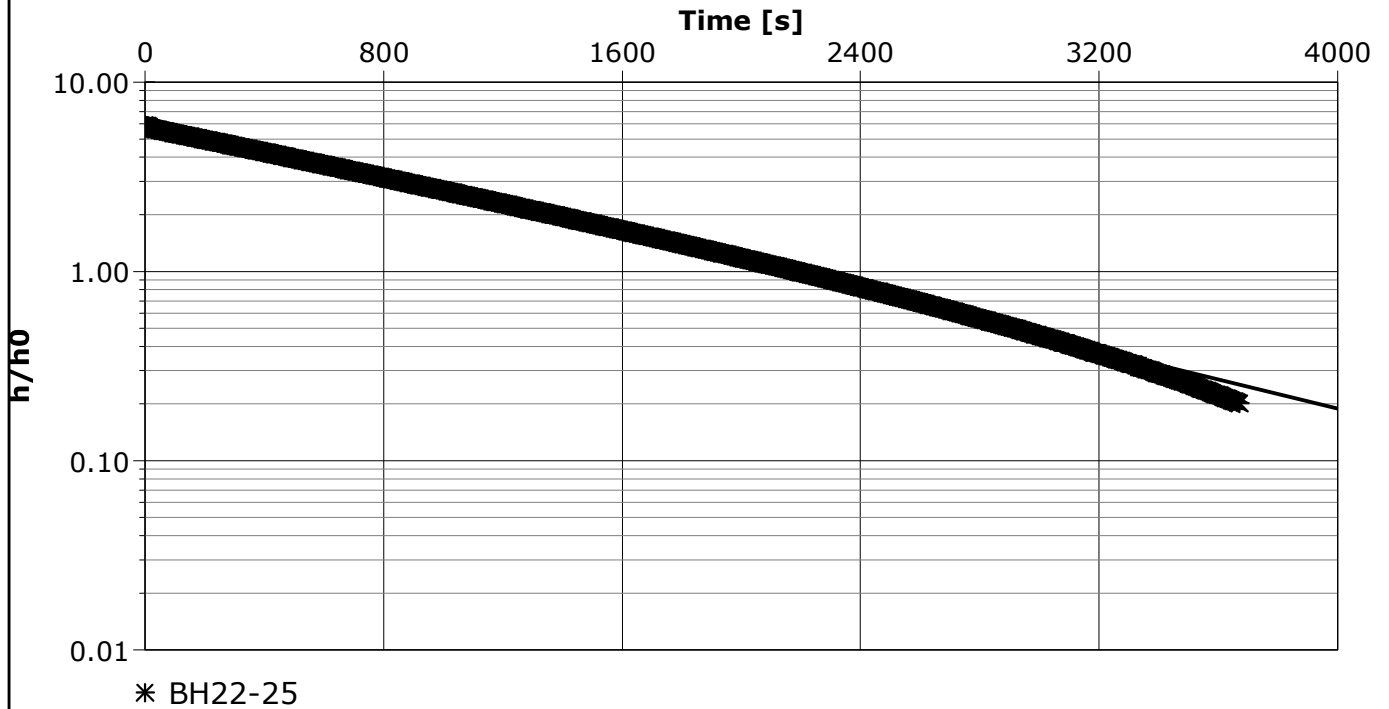
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-25	Test Well: BH22-25
Test Conducted by: HS		Test Date: 2/10/2023
Analysis Performed by: DS	BH22-25	Analysis Date: 2/10/2023
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH22-25	3.56×10^{-7}	



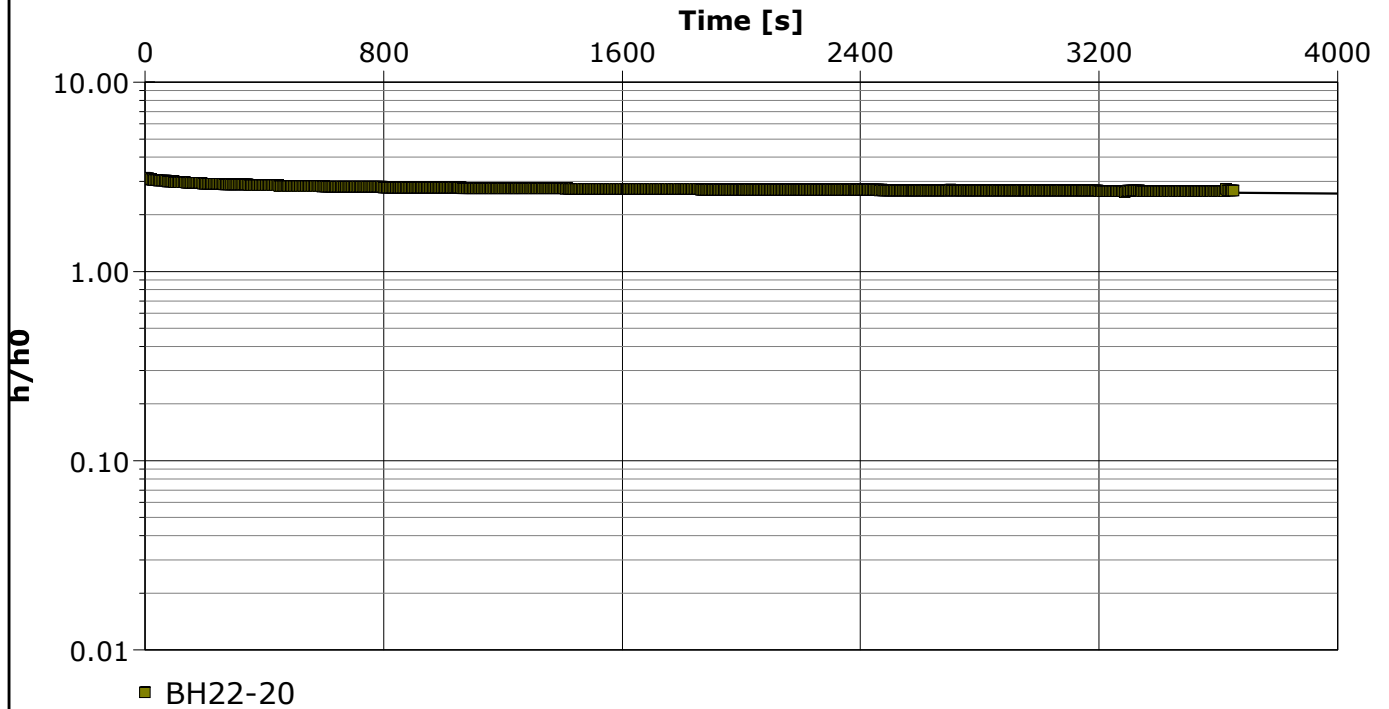
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-20	Test Well: BH22-20
Test Conducted by: HS		Test Date: 11/2/2022
Analysis Performed by: DS	BH22-20	Analysis Date: 2/10/2023
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-20	1.00×10^{-8}



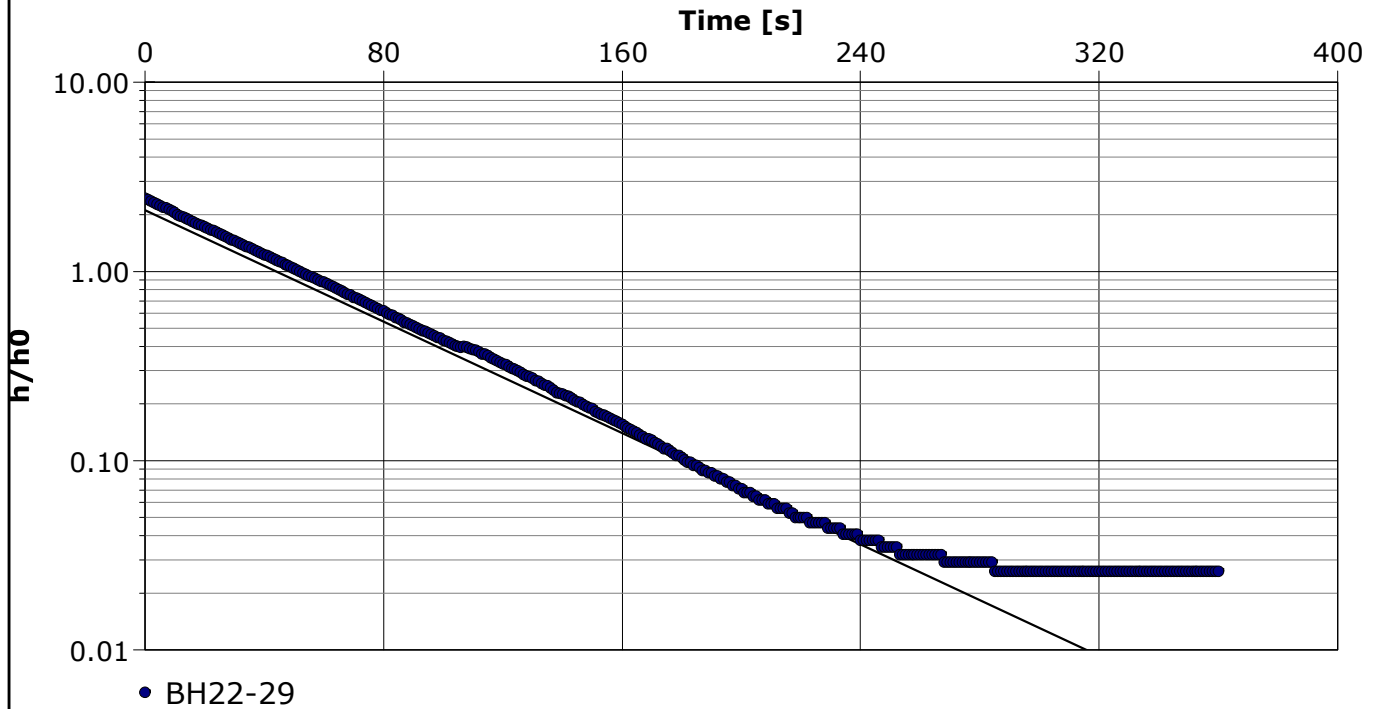
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-29	Test Well: BH22-29
Test Conducted by: HS		Test Date: 11/2/2022
Analysis Performed by: DS	BH22-29	Analysis Date: 2/10/2023
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-29	6.71×10^{-6}



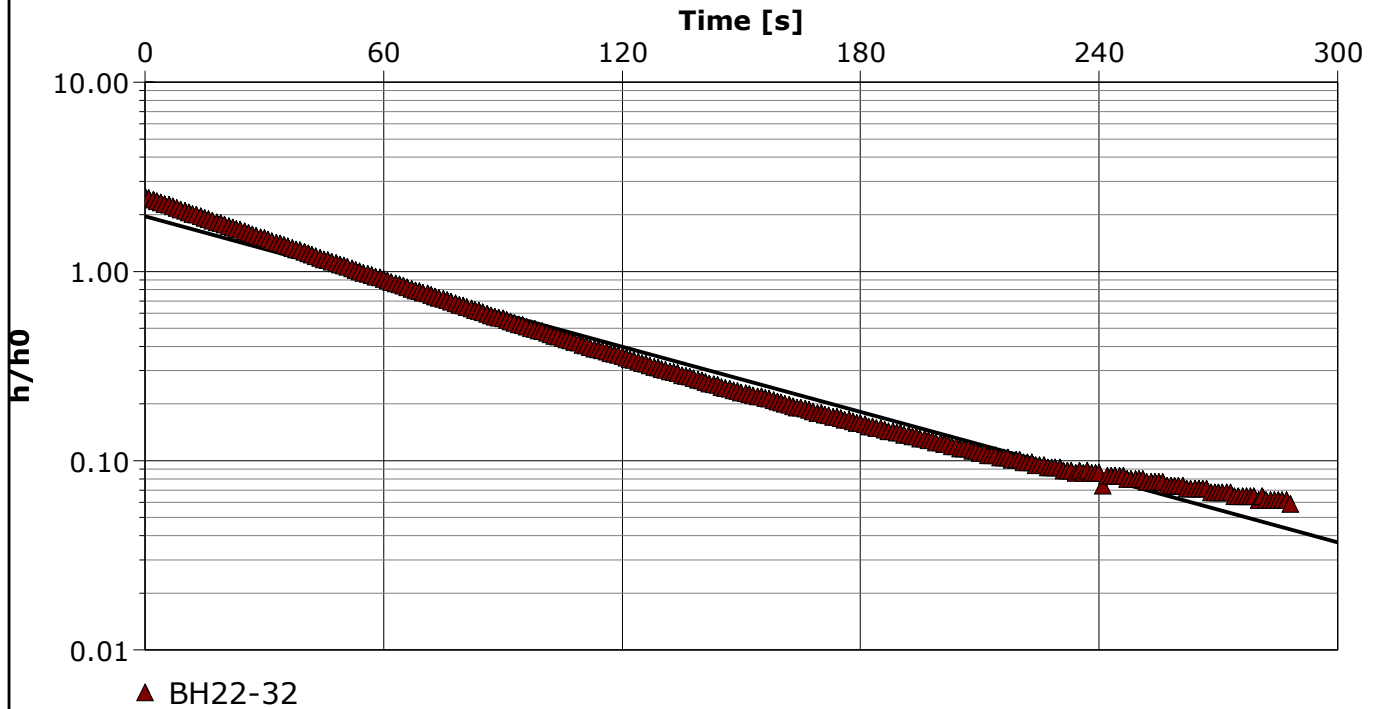
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-32	Test Well: BH22-32
Test Conducted by: HS		Test Date: 11/2/2022
Analysis Performed by: DS	BH22-32	Analysis Date: 2/10/2023
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-32	5.42×10^{-6}



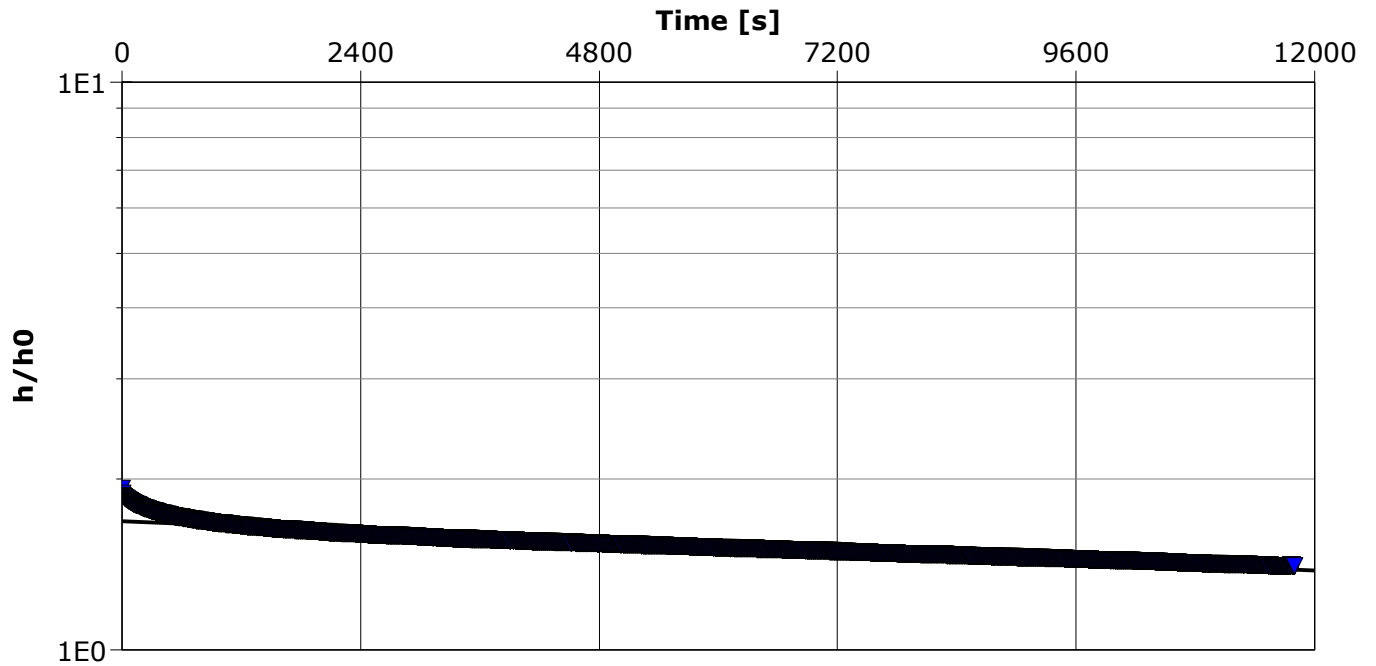
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-36	Test Well: BH22-36
Test Conducted by: HS		Test Date: 11/2/2022
Analysis Performed by: DS	BH22-36	Analysis Date: 2/10/2023
Aquifer Thickness: 30.00 m		



▼ BH22-36

Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-36	5.28×10^{-9}



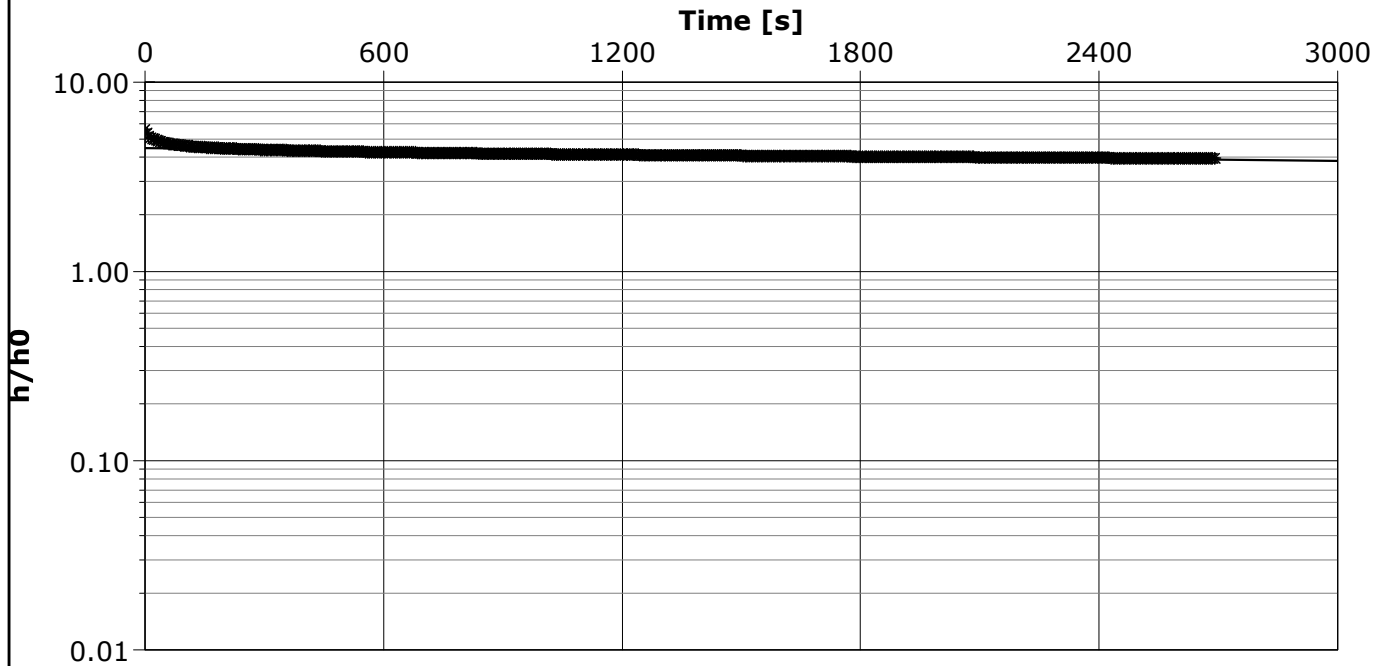
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-22	Test Well: BH22-22
Test Conducted by: HS		Test Date: 11/2/2022
Analysis Performed by: DS	BH22-22	Analysis Date: 2/10/2023
Aquifer Thickness: 30.00 m		



* BH22-22

Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-22	1.84×10^{-8}



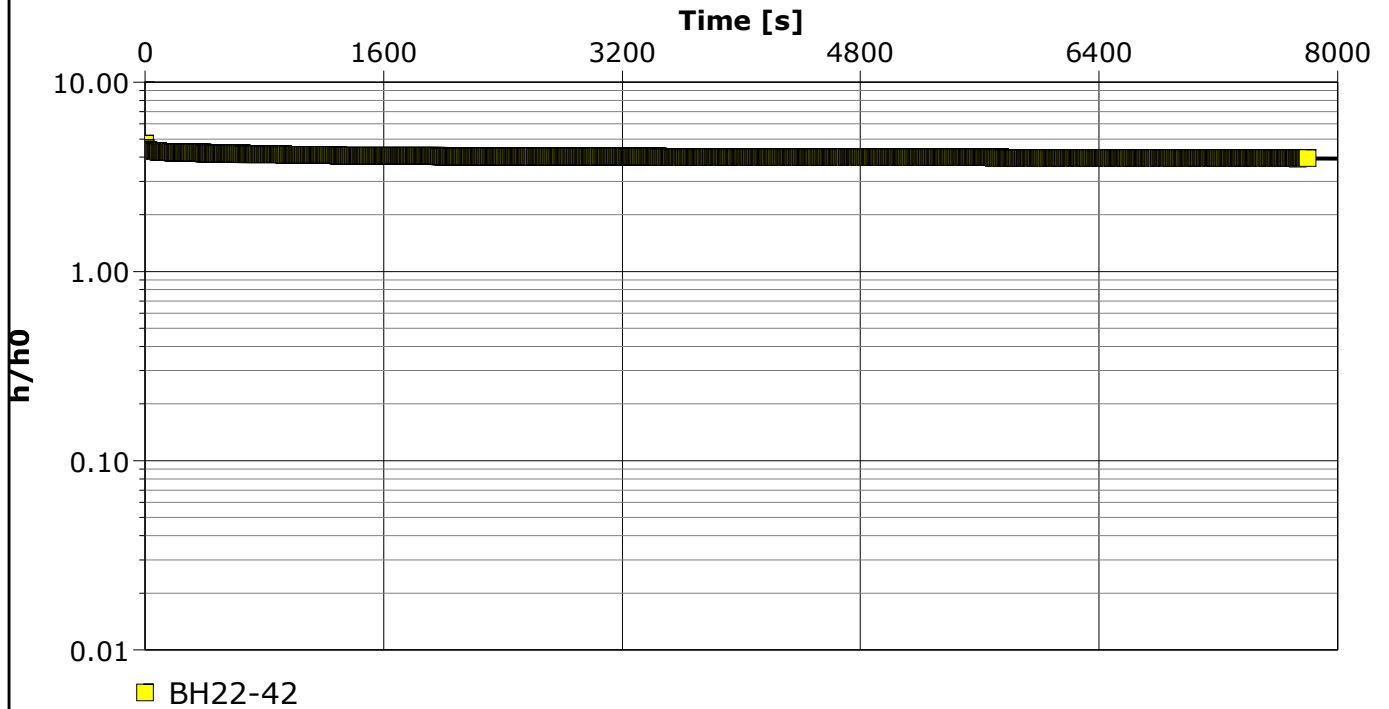
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-42	Test Well: BH22-42
Test Conducted by: HS		Test Date: 11/2/2022
Analysis Performed by: DS	BH22-42	Analysis Date: 2/10/2023
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-42	2.54×10^{-9}



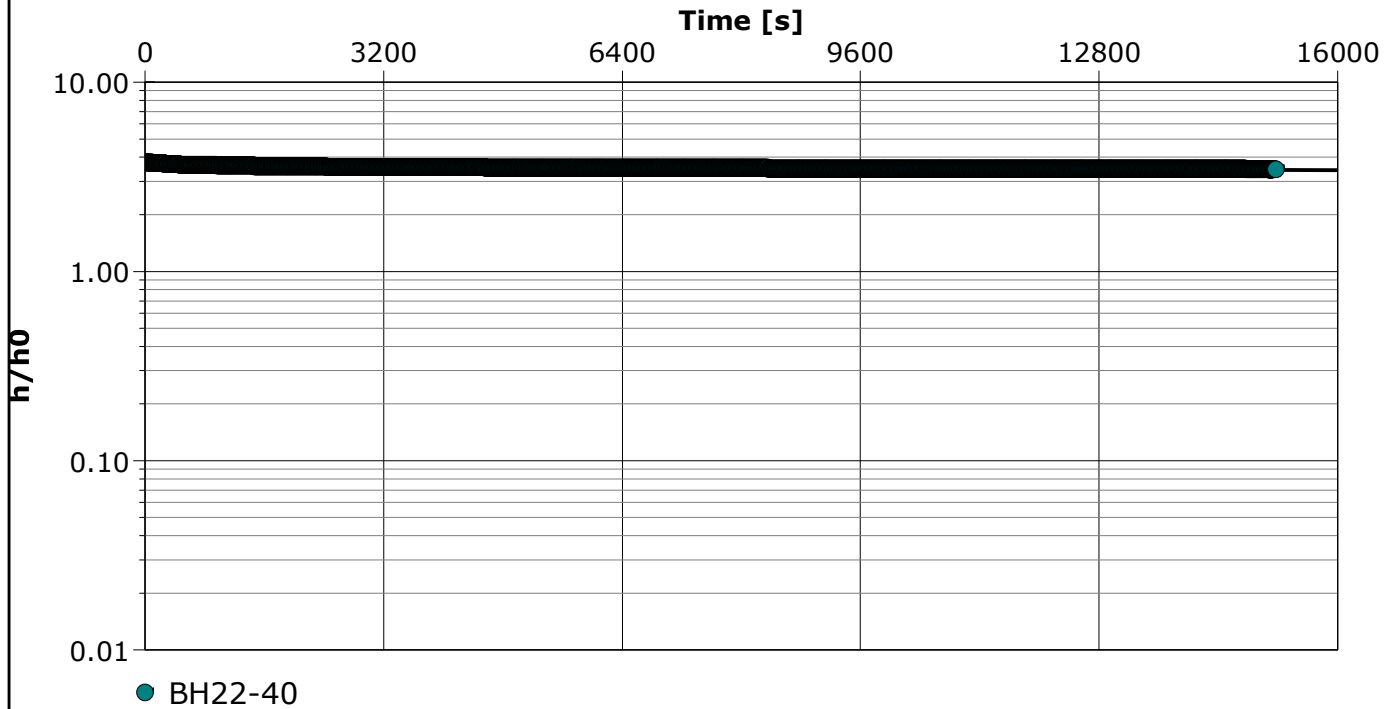
Slug Test Analysis Report

Project: Hydrogeological Investigation

Number: 20-169-104

Client: Caledon Community Partners

Location: Caledon Station	Slug Test: BH22-40	Test Well: BH22-40
Test Conducted by: HS		Test Date: 11/2/2022
Analysis Performed by: DS	BH22-40	Analysis Date: 2/10/2023
Aquifer Thickness: 30.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-40	1.06×10^{-9}



Appendix D-2

Argo King I & II



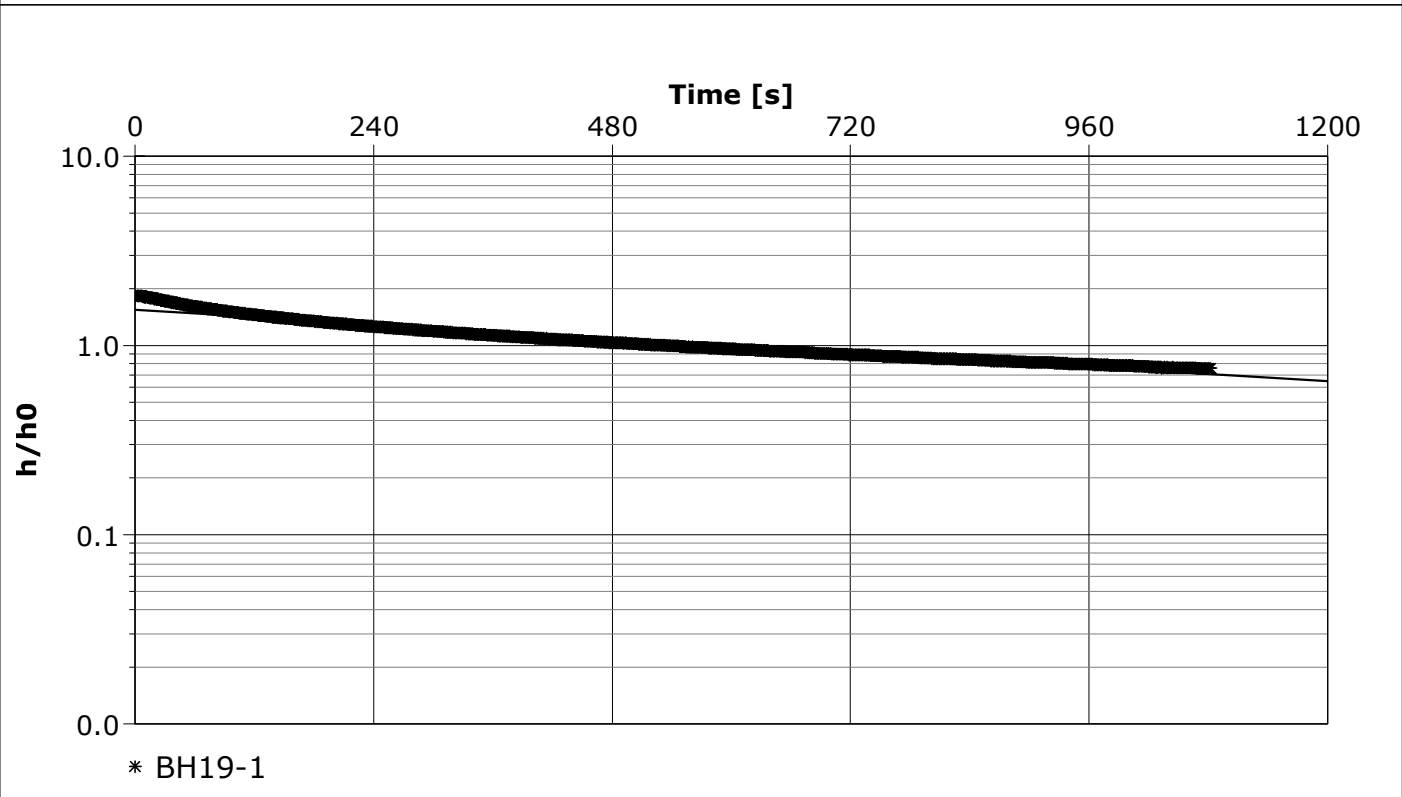
Slug Test Analysis Report

Project: 7675 King St

Number: 19-093-100

Client: Argo Development Corp.

Location: Bolton, ON	Slug Test: BH19-1	Test Well: BH19-1
Test Conducted by: DG		Test Date: 6/27/2019
Analysis Performed by: DG	BH19-1	Analysis Date: 6/28/2019
Aquifer Thickness: 36.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH19-1	4.94×10^{-7}



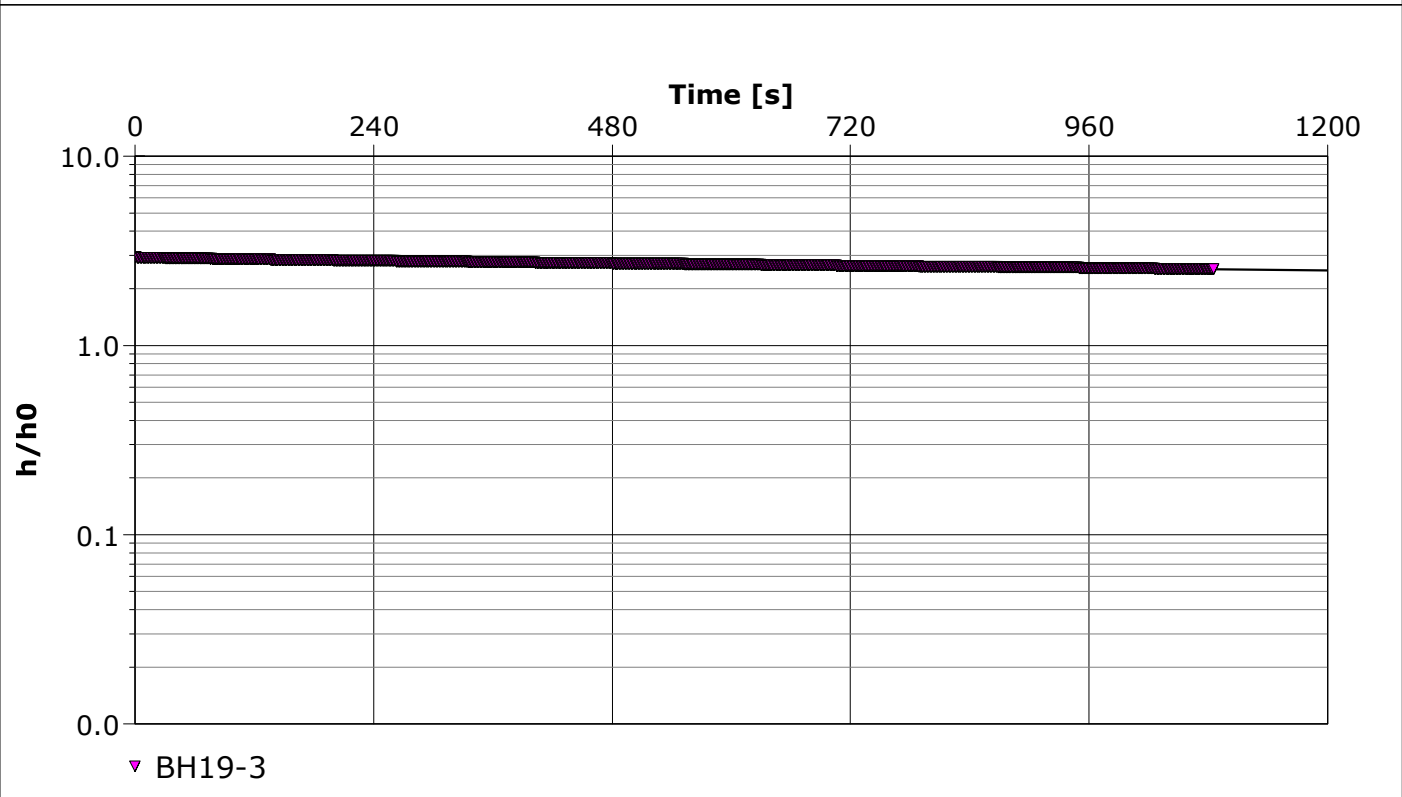
Slug Test Analysis Report

Project: 7675 King St

Number: 19-093-100

Client: Argo Development Corp.

Location: Bolton, ON	Slug Test: BH19-3	Test Well: BH19-3
Test Conducted by: DG		Test Date: 6/27/2019
Analysis Performed by: DG	BH19-3	Analysis Date: 6/28/2019
Aquifer Thickness: 36.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH19-3	8.51×10^{-8}



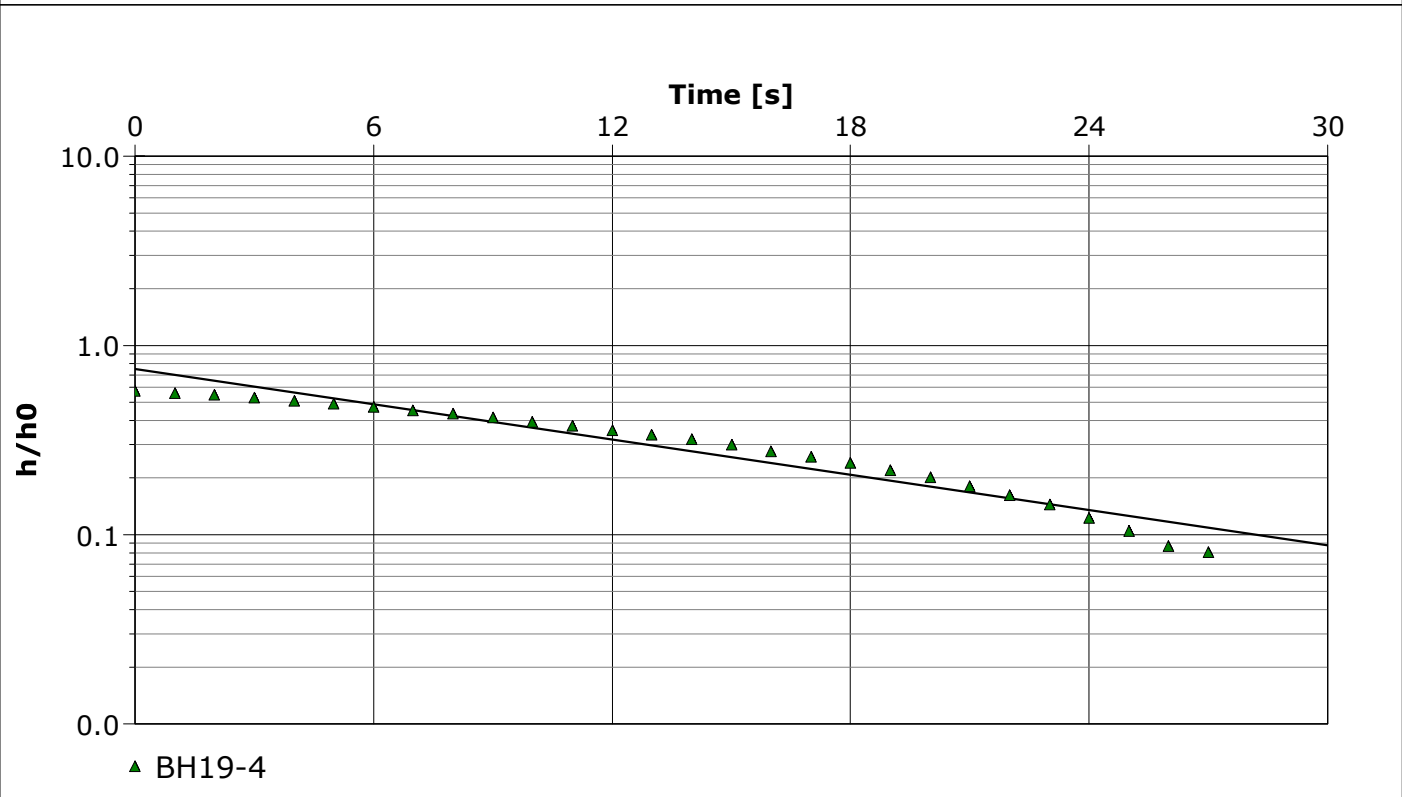
Slug Test Analysis Report

Project: 7675 King St

Number: 19-093-100

Client: Argo Development Corp.

Location: Bolton, ON	Slug Test: BH19-4	Test Well: BH19-4
Test Conducted by: DG		Test Date: 6/27/2019
Analysis Performed by: DG	BH19-4	Analysis Date: 6/28/2019
Aquifer Thickness: 36.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH19-4	4.84×10^{-5}



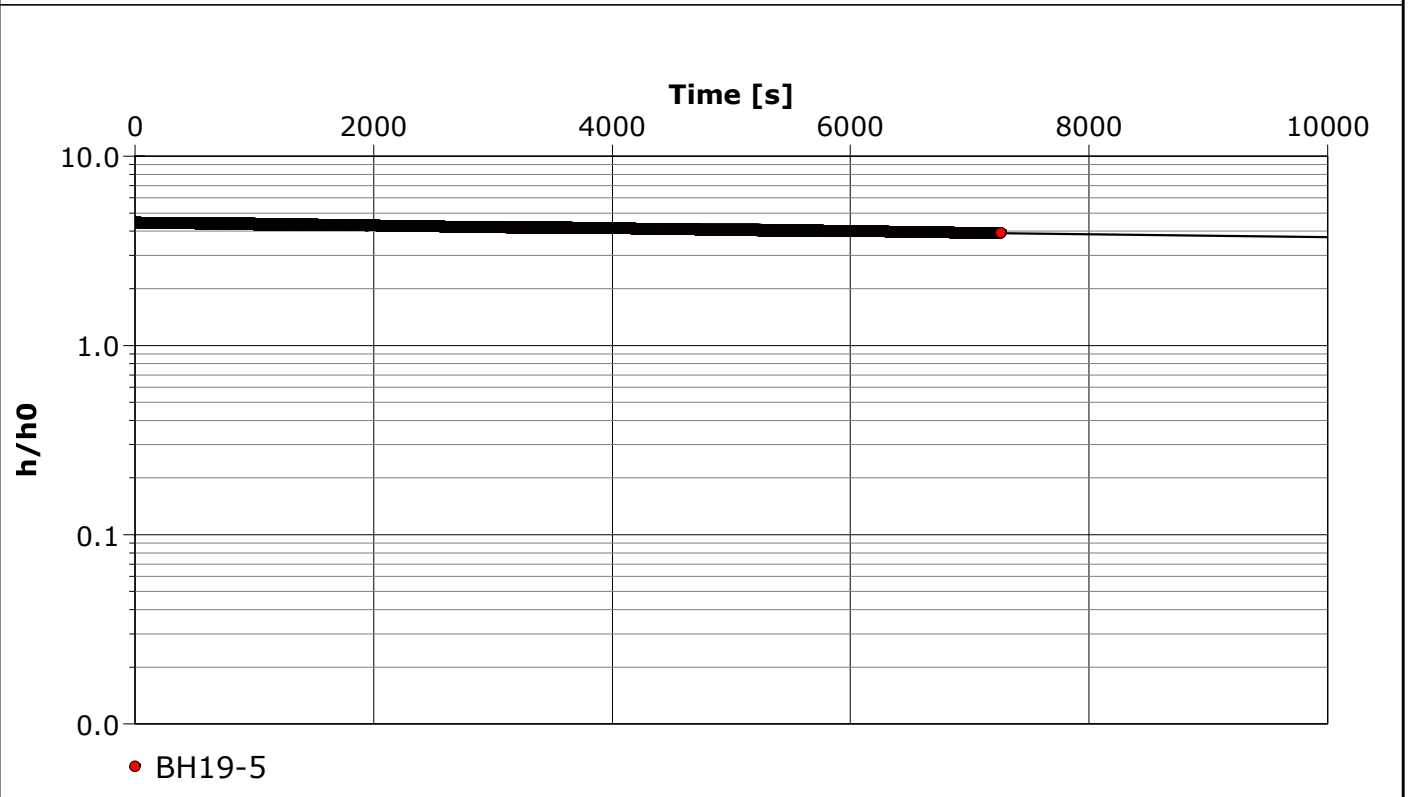
Slug Test Analysis Report

Project: 7675 King St

Number: 19-093-100

Client: Argo Development Corp.

Location: Bolton, ON	Slug Test: BH19-5	Test Well: BH19-5
Test Conducted by: DG		Test Date: 6/27/2019
Analysis Performed by: DG	BH19-5	Analysis Date: 6/28/2019
Aquifer Thickness: 36.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH19-5	1.18×10^{-8}



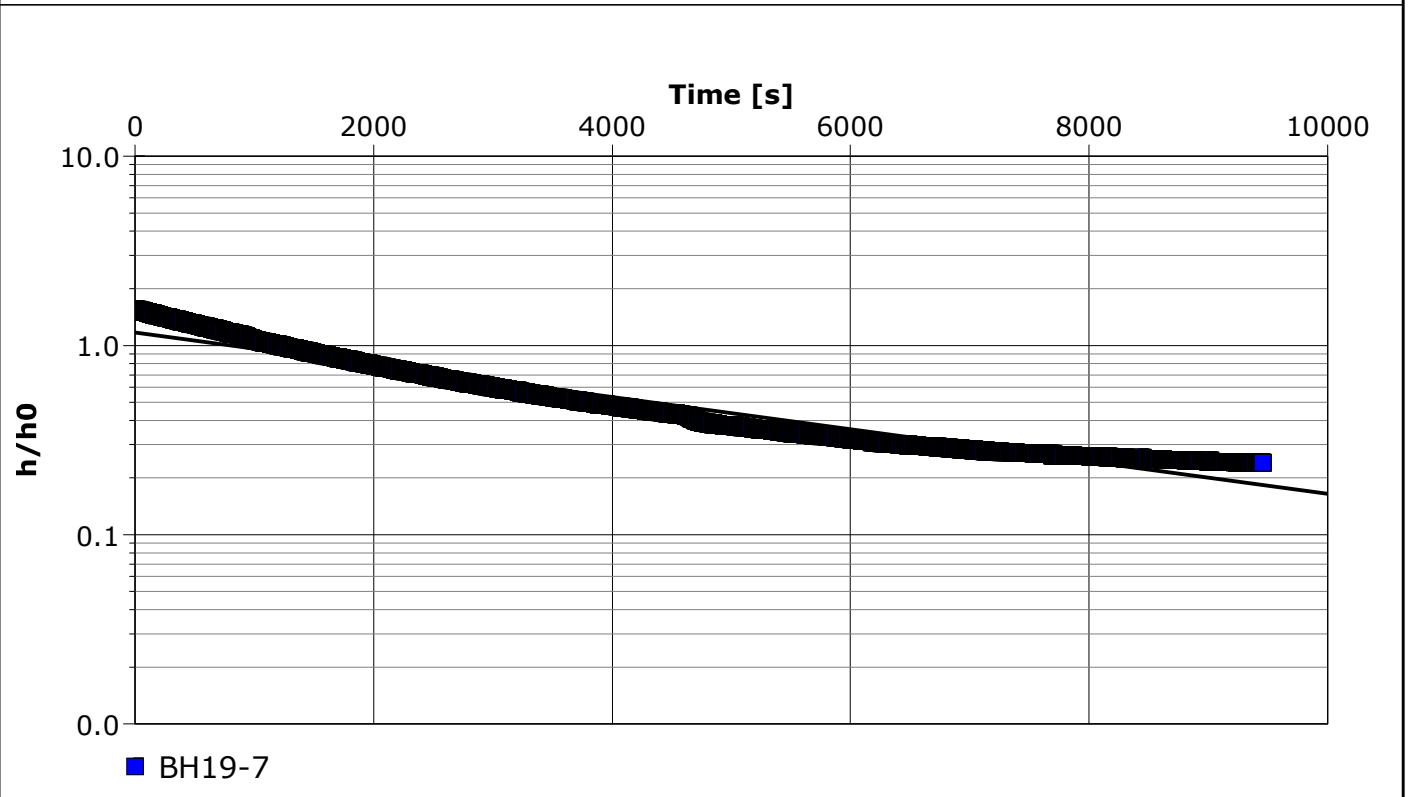
Slug Test Analysis Report

Project: 7675 King St

Number: 19-093-100

Client: Argo Development Corp.

Location: Bolton, ON	Slug Test: BH19-7	Test Well: BH19-7
Test Conducted by: DG		Test Date: 6/27/2019
Analysis Performed by: DG	BH19-7	Analysis Date: 6/28/2019
Aquifer Thickness: 36.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH19-7	1.33×10^{-7}



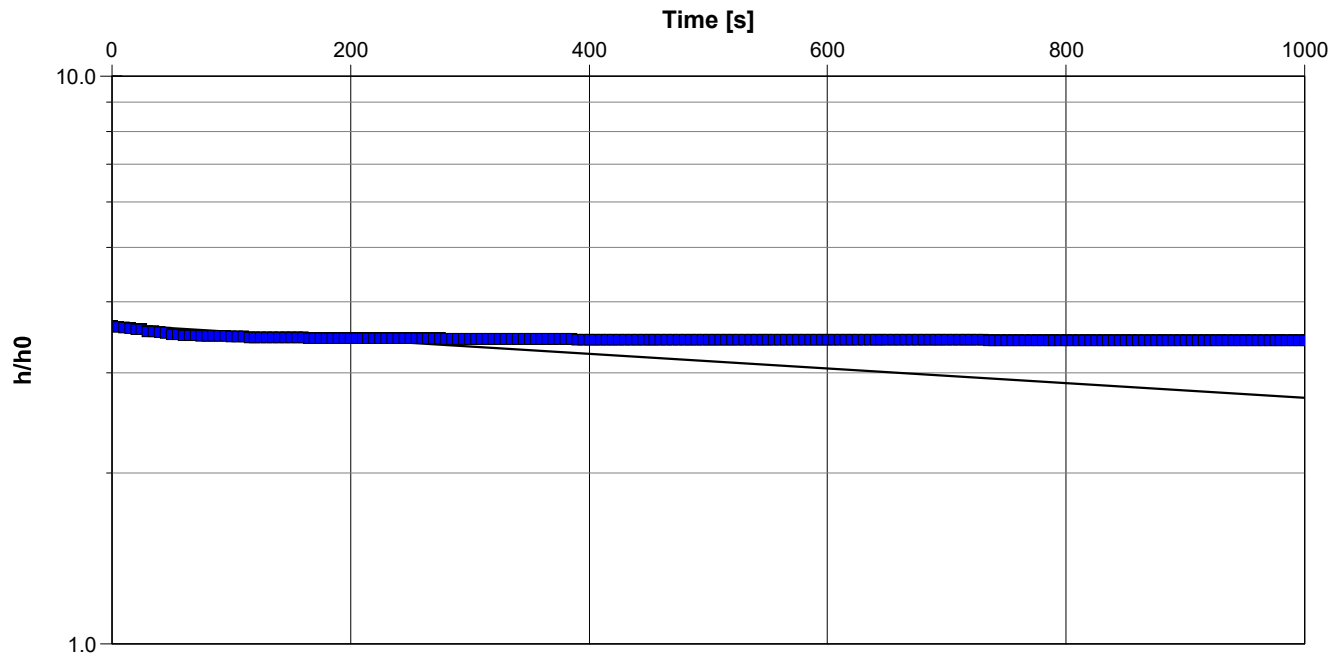
Slug Test Analysis Report

Project: Argo King

Number: 19-093-100

Client: Caledon Community Partners

Location: Caledon, ON	Slug Test: BH19-6	Test Well: BH19-6
Test Conducted by: DS		Test Date: 10/26/2022
Analysis Performed by: DS	BH19-6	Analysis Date: 10/31/2022
Aquifer Thickness: 7.00 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]	
BH19-6	1.04×10^{-7}	



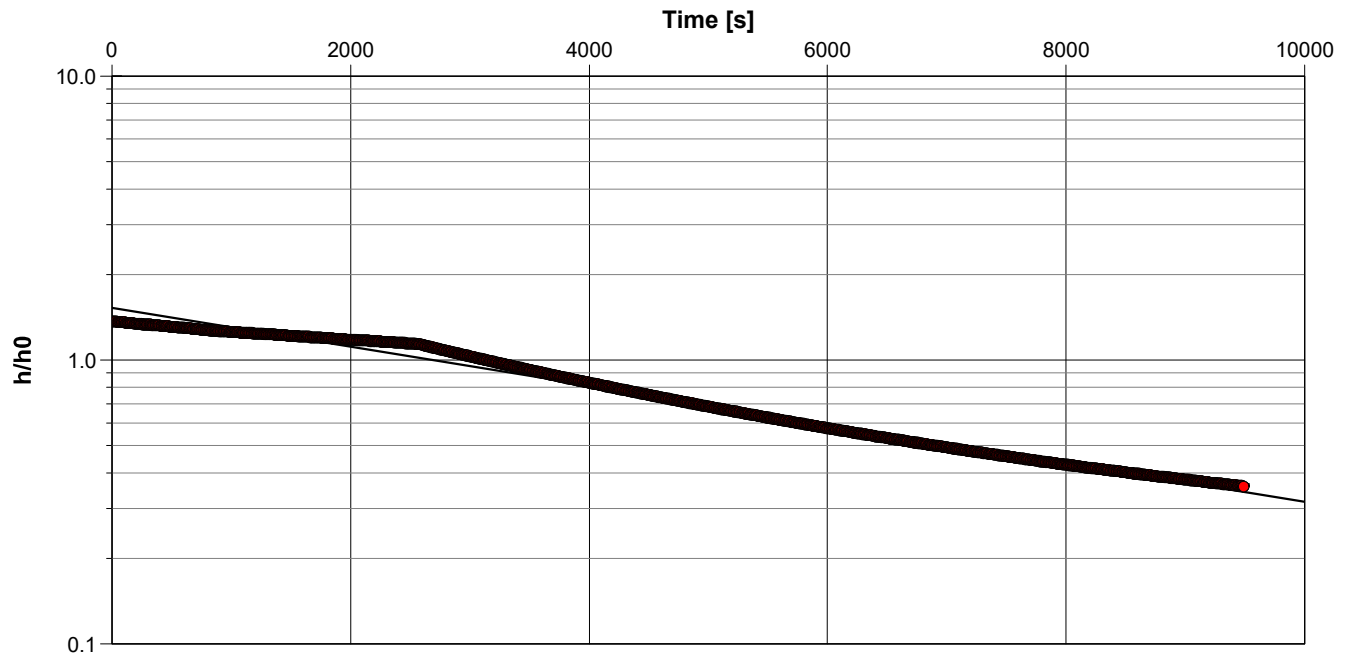
Slug Test Analysis Report

Project: Argo King

Number: 19-093-100

Client: Caledon Community Partners

Location: Caledon, ON	Slug Test: BH22-5	Test Well: BH22-5
Test Conducted by: DS		Test Date: 10/26/2022
Analysis Performed by: DS	BH22-5	Analysis Date: 10/31/2022
Aquifer Thickness: 11.20 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-5	5.54×10^{-8}



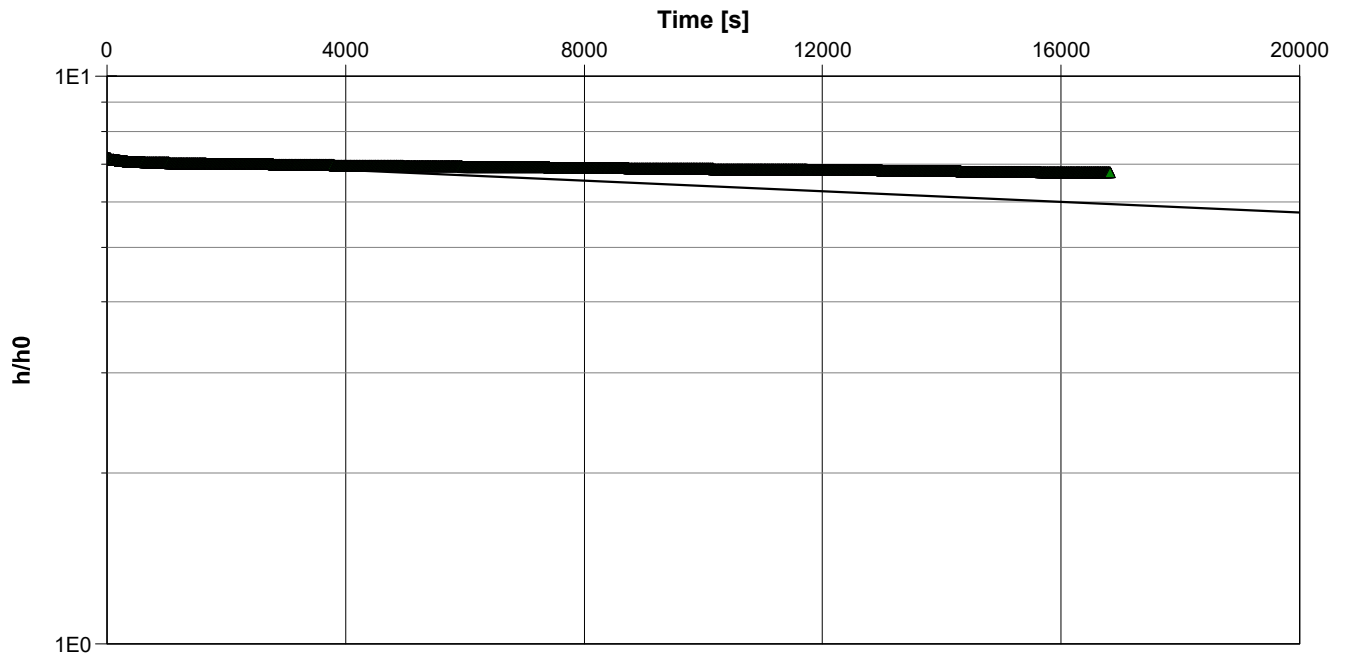
Slug Test Analysis Report

Project: Argo King

Number: 19-093-100

Client: Caledon Community Partners

Location: Caledon, ON	Slug Test: BH22-7	Test Well: BH22-7
Test Conducted by: DS		Test Date: 10/26/2022
Analysis Performed by: DS	BH22-7	Analysis Date: 10/31/2022
Aquifer Thickness: 11.20 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-7	3.79×10^{-9}



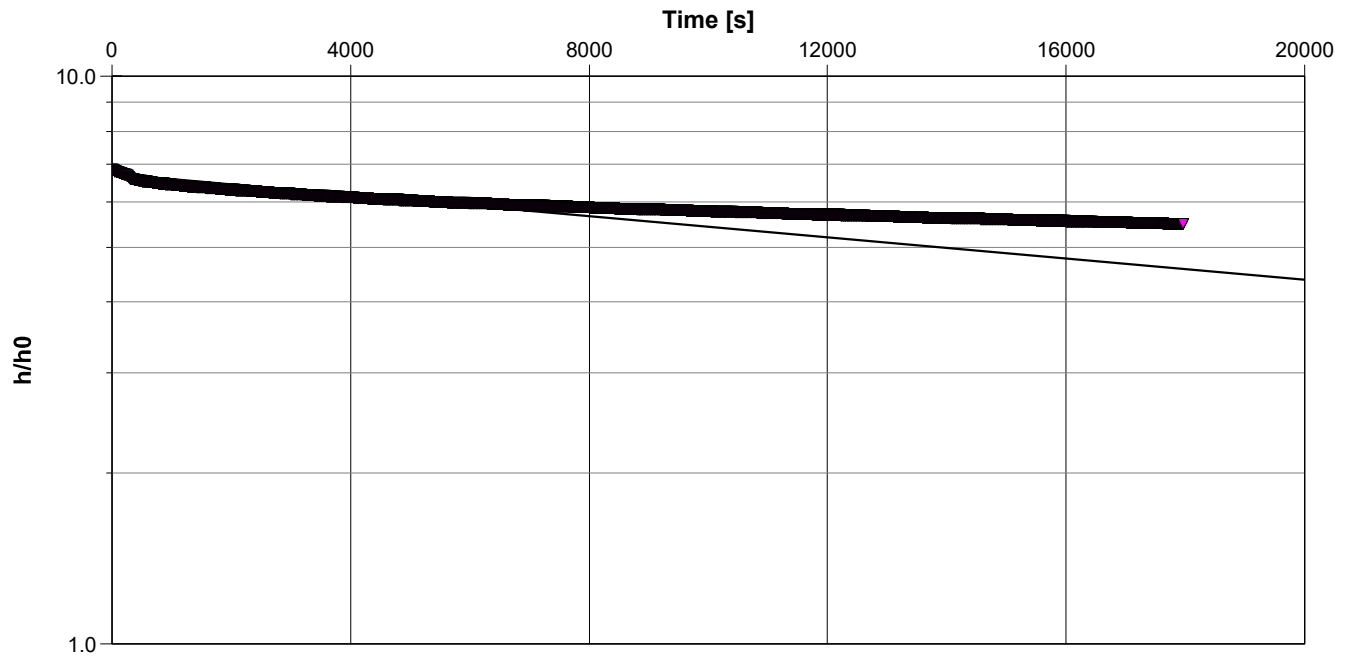
Slug Test Analysis Report

Project: Argo King

Number: 19-093-100

Client: Caledon Community Partners

Location: Caledon, ON	Slug Test: BH22-8	Test Well: BH22-8
Test Conducted by: DS		Test Date: 10/26/2022
Analysis Performed by: DS	BH22-8	Analysis Date: 10/31/2022
Aquifer Thickness: 11.30 m		



Calculation using Bouwer & Rice

Observation Well	Hydraulic Conductivity [m/s]
BH22-8	8.00×10^{-9}



Appendix E-1

Caledon Station



FINAL REPORT

CA15868-OCT20 R1

20-169-100

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Dorothy Garda

Telephone 905-264-9393

Facsimile 905-264-2685

Email dorothy.garda@dsconsultants.ca

Project 20-169-100

Order Number

Samples Surface Water (2)

LABORATORY DETAILS

Project Specialist Brad Moore Hon. B.Sc

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 705-652-2143

Facsimile 705-652-6365

Email brad.moore@sgs.com

SGS Reference CA15868-OCT20

Received 10/29/2020

Approved 10/30/2020

Report Number CA15868-OCT20 R1

Date Reported 10/30/2020

COMMENTS

MAC - Maximum Acceptable Concentration

AO/OG - Aesthetic Objective / Operational Guideline

NR - Not reportable under applicable Provincial drinking water regulations as per client.

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 018069

Hg spike reported as NV due to technician error. No spike used for the replicate sample. Data accepted as the spike blank met tolerance as well as secondary QC

SIGNATORIES

Brad Moore Hon. B.Sc

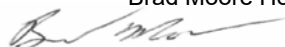


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FINAL REPORT

CA15868-OCT20 R1

Client: DS Consultants

Project: 20-169-100

Project Manager: Dorothy Garda

Samplers: Dorothy Grada

PACKAGE: PWQO_L - General Chemistry

(WATER)

Sample Number	7	8
Sample Name	SGW1	SGW6
Sample Matrix	Surface Water	Surface Water
Sample Date	29/10/2020	29/10/2020

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result	Result
General Chemistry					
Dissolved Oxygen	mg/L	1		8.8	9.1
Total Suspended Solids	mg/L	2		103	33
Alkalinity	mg/L as CaCO3	2		247	375
Bicarbonate	mg/L as CaCO3	2		247	375
Carbonate	mg/L as CaCO3	2		< 2	< 2
OH	mg/L as CaCO3	2		< 2	< 2
Colour	TCU	3		9	13
Conductivity	uS/cm	2		889	2190
Turbidity	NTU	0.10		56.7	50.1
Ammonia+Ammonium (N)	as N mg/L	0.04		0.04	0.32
Phosphorus (total reactive)	mg/L	0.03		0.09	0.10
Total Organic Carbon	mg/L	1		4	8
Ion Ratio	-	-9999		1.58	1
Total Dissolved Solids (calculated)	mg/L	-9999		460	1155
Conductivity (calculated)	uS/cm	-9999		1020	2135
Langeliers Index 4° C	@ 4° C	-9999		0.46	0.77
Saturation pH 4°C	pHs @ 4°C	-9999		7.61	7.25



FINAL REPORT

CA15868-OCT20 R1

Client: DS Consultants

Project: 20-169-100

Project Manager: Dorothy Garda

Samplers: Dorothy Grada

PACKAGE: PWQO_L - Metals and Inorganics

(WATER)

Sample Number 7 8

Sample Name SGW1 SGW6

Sample Matrix Surface Water Surface Water

Sample Date 29/10/2020 29/10/2020

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result	Result
Metals and Inorganics					
Fluoride	mg/L	0.06		0.12	0.67
Bromide	mg/L	0.05		<0.05	0.15
Nitrite (as N)	as N mg/L	0.003		<0.003	<0.003
Nitrate (as N)	as N mg/L	0.006		0.058	0.042
Sulphate	mg/L	0.04		20	14
Mercury	µg/L	0.01	0.2	< 0.01	< 0.01
Hardness	mg/L as CaCO3	0.05		311	467
Aluminum	µg/L	1	75	2610	2400
Aluminum (0.2µm)	mg/L	0.001	0.015	0.034	0.096
Arsenic	µg/L	0.2	5	12.0	1.0
Boron	µg/L	2	200	17	32
Barium	µg/L	0.02		178	82.0
Beryllium	µg/L	0.007	1100	0.139	0.109
Cobalt	µg/L	0.004	0.9	1.86	1.87
Calcium	mg/L	0.01		93.0	153
Cadmium	µg/L	0.003	0.5	0.059	0.036
Copper	µg/L	0.2	5	5.9	3.2
Chromium	µg/L	0.08	100	3.82	2.80
Iron	ug/L	7	300	36800	4300
Potassium	mg/L	0.009		2.69	7.23
Magnesium	mg/L	0.001		19.1	20.8
Manganese	µg/L	0.01		1910	3270
Molybdenum	µg/L	0.04	40	1.34	1.53



FINAL REPORT

CA15868-OCT20 R1

Client: DS Consultants

Project: 20-169-100

Project Manager: Dorothy Garda

Samplers: Dorothy Grada

PACKAGE: PWQO_L - Metals and Inorganics

(WATER)

Sample Number	7	8
Sample Name	SGW1	SGW6
Sample Matrix	Surface Water	Surface Water
Sample Date	29/10/2020	29/10/2020

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result	Result
Metals and Inorganics (continued)					
Nickel	µg/L	0.1	25	1.8	2.8
Sodium	mg/L	0.01		87.3	254
Phosphorus	mg/L	0.003	0.01	1.93	0.358
Lead	µg/L	0.01	25	5.68	1.72
Silicon	ug/L	20		12800	9560
Silver	µg/L	0.05	0.1	< 0.05	< 0.05
Strontium	µg/L	0.02		306	466
Thallium	µg/L	0.005	0.3	0.034	0.026
Tin	µg/L	0.06		0.20	0.19
Titanium	ug/L	0.05		87.3	75.4
Antimony	µg/L	0.09	20	0.19	0.19
Selenium	µg/L	0.04	100	0.22	0.28
Uranium	µg/L	0.002	5	0.220	1.30
Vanadium	µg/L	0.01	6	5.20	3.92
Zinc	µg/L	2	20	24	19
Cation sum	meq/L	-9999		12.5	21.35
Anion Sum	meq/L	-9999		7.89	21.36
Anion-Cation Balance	% difference	-9999		22.58	-0.03



FINAL REPORT

CA15868-OCT20 R1

Client: DS Consultants

Project: 20-169-100

Project Manager: Dorothy Garda

Samplers: Dorothy Grada

PACKAGE: PWQO_L - Other (ORP) (WATER)

Sample Number	7	8
Sample Name	SGW1	SGW6
Sample Matrix	Surface Water	Surface Water
Sample Date	29/10/2020	29/10/2020

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result	Result
Other (ORP)					
pH	No unit	0.05	8.6	8.07	8.02
Chloride	mg/L	0.04		90	480

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
-----------	--------	-------	--------	--

SGW1

Aluminum	SM 3030/EPA 200.8	µg/L	2610	75
Aluminum (dissolved)	SM 3030/EPA 200.8	µg/L	0.034	0.015
Arsenic	SM 3030/EPA 200.8	µg/L	12.0	5
Cobalt	SM 3030/EPA 200.8	µg/L	1.86	0.9
Copper	SM 3030/EPA 200.8	µg/L	5.9	5
Iron	SM 3030/EPA 200.8	µg/L	36800	300
Phosphorus	SM 3030/EPA 200.8	µg/L	1.93	0.01
Zinc	SM 3030/EPA 200.8	µg/L	24	20

SGW6

Aluminum	SM 3030/EPA 200.8	µg/L	2400	75
Aluminum (dissolved)	SM 3030/EPA 200.8	µg/L	0.096	0.015
Cobalt	SM 3030/EPA 200.8	µg/L	1.87	0.9
Iron	SM 3030/EPA 200.8	µg/L	4300	300
Phosphorus	SM 3030/EPA 200.8	µg/L	0.358	0.01



FINAL REPORT

CA15868-OCT20 R1

QC SUMMARY

Alkalinity

Method: SM 2320 | Internal ref.: ME-CA-1ENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Alkalinity	EWL0551-OCT20	mg/L as CaCO3	2	< 2	1	20	102	80	120	NA		

Ammonia by SFA

Method: SM 4500 | Internal ref.: ME-CA-1ENVISFA-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Ammonia+Ammonium (N)	SKA0324-OCT20	mg/L	0.04	<0.04	0	10	100	90	110	99	75	125

QC SUMMARY

Anions by IC

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-ENVIIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Bromide	DIO0586-OCT20	mg/L	0.05	<0.05	ND	20	102	80	120	98	75	125
Chloride	DIO0586-OCT20	mg/L	0.04	<0.04	8	20	100	80	120	94	75	125
Nitrite (as N)	DIO0586-OCT20	mg/L	0.003	<0.003	ND	20	101	80	120	98	75	125
Nitrate (as N)	DIO0586-OCT20	mg/L	0.006	<0.006	20	20	103	80	120	102	75	125
Sulphate	DIO0586-OCT20	mg/L	0.04	<0.04	NV	20	98	80	120	91	75	125
Chloride	DIO0590-OCT20	mg/L	0.04	<0.04	2	20	98	80	120	100	75	125

Carbon by SFA

Method: SM 5310 | Internal ref.: ME-CA-ENVISFA-LAK-AN-009

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Organic Carbon	SKA0327-OCT20	mg/L	1	<1	2	10	103	90	110	109	75	125

QC SUMMARY

Carbonate/Bicarbonate

Method: SM 2320 | Internal ref.: ME-CA-ENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Carbonate	EWL0551-OCT20	mg/L as CaCO3	2	< 2	ND	10	NA	90	110	NA		
Bicarbonate	EWL0551-OCT20	mg/L as CaCO3	2	< 2	1	10	NA	90	110	NA		
OH	EWL0551-OCT20	mg/L as CaCO3	2	< 2	ND	10	NA	90	110	NA		

Colour

Method: SM 2120 | Internal ref.: ME-CA-ENVIEWL-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Colour	EWL0563-OCT20	TCU	3	< 3	ND	10	100	80	120	NA		



FINAL REPORT

CA15868-OCT20 R1

QC SUMMARY

Conductivity

Method: SM 2510 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0551-OCT20	uS/cm	2	< 2	0	20	99	90	110	NA		

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0560-OCT20	mg/L	0.06	<0.06	ND	10	98	90	110	111	75	125

Mercury by CVAAS

Method: SM3112/EPA 245 | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury	EHG0029-OCT20	ug/L	0.01	-0.020	ND	20	90	80	120	NV	70	130



FINAL REPORT

CA15868-OCT20 R1

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-ENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0179-OCT20	ug/L	0.05	<0.00005	ND	20	101	90	110	98	70	130
Aluminum	EMS0179-OCT20	ug/L	1	<0.001	ND	20	99	90	110	115	70	130
Aluminum (0.2µm)	EMS0179-OCT20	mg/L	0.001	<0.001	ND	20	99	90	110	115	70	130
Arsenic	EMS0179-OCT20	ug/L	0.2	<0.0002	4	20	102	90	110	101	70	130
Barium	EMS0179-OCT20	ug/L	0.02	<0.00002	4	20	98	90	110	109	70	130
Beryllium	EMS0179-OCT20	ug/L	0.007	<0.000007	0	20	95	90	110	94	70	130
Boron	EMS0179-OCT20	ug/L	2	<0.002	6	20	91	90	110	NV	70	130
Calcium	EMS0179-OCT20	mg/L	0.01	<0.01	3	20	96	90	110	103	70	130
Cadmium	EMS0179-OCT20	ug/L	0.003	<0.000003	7	20	99	90	110	100	70	130
Cobalt	EMS0179-OCT20	ug/L	0.004	<0.000004	3	20	100	90	110	98	70	130
Chromium	EMS0179-OCT20	ug/L	0.08	<0.00008	ND	20	102	90	110	104	70	130
Copper	EMS0179-OCT20	ug/L	0.2	<0.0002	14	20	101	90	110	105	70	130
Iron	EMS0179-OCT20	ug/L	7	<0.007	18	20	97	90	110	NV	70	130
Potassium	EMS0179-OCT20	mg/L	0.009	<0.009	2	20	100	90	110	100	70	130
Magnesium	EMS0179-OCT20	mg/L	0.001	<0.001	4	20	95	90	110	97	70	130
Manganese	EMS0179-OCT20	ug/L	0.01	<0.00001	1	20	101	90	110	104	70	130
Molybdenum	EMS0179-OCT20	ug/L	0.04	<0.00004	ND	20	102	90	110	106	70	130
Sodium	EMS0179-OCT20	mg/L	0.01	<0.01	6	20	91	90	110	94	70	130
Nickel	EMS0179-OCT20	ug/L	0.1	<0.0001	18	20	101	90	110	83	70	130
Lead	EMS0179-OCT20	ug/L	0.01	<0.00001	2	20	96	90	110	105	70	130



FINAL REPORT

CA15868-OCT20 R1

QC SUMMARY

Metals in aqueous samples - ICP-MS (continued)

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Phosphorus	EMS0179-OCT20	mg/L	0.003	<0.003	ND	20	96	90	110	NV	70	130
Antimony	EMS0179-OCT20	ug/L	0.09	<0.0009	ND	20	98	90	110	110	70	130
Selenium	EMS0179-OCT20	ug/L	0.04	<0.00004	ND	20	100	90	110	110	70	130
Silicon	EMS0179-OCT20	ug/L	20	<0.02	5	20	99	90	110	NV	70	130
Tin	EMS0179-OCT20	ug/L	0.06	<0.00006	ND	20	98	90	110	NV	70	130
Strontium	EMS0179-OCT20	ug/L	0.02	< 0.02	3	20	102	90	110	103	70	130
Titanium	EMS0179-OCT20	ug/L	0.05	<0.00005	ND	20	98	90	110	NV	70	130
Thallium	EMS0179-OCT20	ug/L	0.005	<0.000005	13	20	99	90	110	104	70	130
Uranium	EMS0179-OCT20	ug/L	0.002	<0.000002	4	20	97	90	110	102	70	130
Vanadium	EMS0179-OCT20	ug/L	0.01	<0.00001	8	20	99	90	110	87	70	130
Zinc	EMS0179-OCT20	ug/L	2	<0.002	ND	20	97	90	110	126	70	130



FINAL REPORT

CA15868-OCT20 R1

QC SUMMARY

Metals in aqueous samples - ICP-OES

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Hardness	EMS0179-OCT20	mg/L as CaCO3	0.05		3	20						

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0551-OCT20	No unit	0.05	NA	0		101			NA		

Reactive Phosphorus by SFA

Method: SM 4500-P F | Internal ref.: ME-CA-IENVISFA-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Phosphorus (total reactive)	SKA0319-OCT20	mg/L	0.03	<0.03	ND	10	97	90	110	NV	75	125



FINAL REPORT

CA15868-OCT20 R1

QC SUMMARY

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0555-OCT20	mg/L	2	< 2	0	10	96	90	110	NA		

Turbidity

Method: SM 2130 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Turbidity	EWL0554-OCT20	NTU	0.10	< 0.10	1	10	99	90	110	NA		

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.
RL Reporting Limit.
 ↑ Reporting limit raised.
 ↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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-- End of Analytical Report --



Request for Laboratory Services and CHAIN OF CUSTODY

Environment, Health & Safety - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consoilium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 018069

Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Sueff
Received Date: 10/29/2020 (mm/dd/yy)
Received Time: 16:20 (hr : min)

Received By (signature): [Signature]
Custody Seal Present: Yes No
Custody Seal Intact: Yes No
Cooling Agent Present: Yes No Type: Ice
Temperature Upon Receipt (°C): 9.96 9.96

LAB LIMS #: CA15868-0420

REPORT INFORMATION	INVOICE INFORMATION
Company: <u>DS</u>	<input checked="" type="checkbox"/> (same as Report Information)
Contact: <u>Dorothy Gorda</u>	Company: <u>Accounting</u>
Address: <u>16-6221 Hwy 7</u>	Contact:
<u>Newrynn, Ont</u>	Address:
Phone: <u>(905) 324-2735</u>	Phone:
Fax:	Email: <u>accounting@dsconsultants.ca</u>
Email: <u>dorothy.gorda@dsconsultants.ca</u>	

Quotation #: _____ P.O. #: _____
Project #: 20-169-100 Site Location/ID: _____

TURNAROUND TIME (TAT) REQUIRED
 Regular TAT (5-7days) TAT's are quoted in business days (exclude statutory holidays & weekends).
 Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date: _____ *NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

O.Reg 153/04 O.Reg 406/19

Other Regulations:
 Reg 347/558 (3 Day min TAT)
 PWQO MMR
 CCME Other:
 MISA
 ODWS Not Reportable *See note

Sewer By-Law:
 Sanitary
 Storm
 Municipality: _____

Soil Volume <350m3 >350m3

ANALYSIS REQUESTED

M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)	TCLP
Field Filtered (Y/N)	PAHs only	PCBs <input type="checkbox"/> Total <input type="checkbox"/> Arochlor	F1-F4 + BTEX	VOCs <input type="checkbox"/> all incl BTEX	BTEX only	Pesticides <input type="checkbox"/> Organochlorine or specify other	Specify TCLP tests
Metals & Inorganics (incl Cu, Ni, Pb, Cd, Cr, Co, Cu, Fe, Mn, Mo, Ni, Se, Zn)	SVOCs (incl PAHs, ABNs, CPs)						<input type="checkbox"/> M&I
Full Metals Suite (incl Cu, Ni, Pb, Cd, Cr, Co, Cu, Fe, Mn, Mo, Ni, Se, Zn)							<input type="checkbox"/> VOC
ICP Metals only							<input type="checkbox"/> PCB
							<input type="checkbox"/> B(a)P
							<input type="checkbox"/> ABN
							<input type="checkbox"/> Ignit.

Other: DO, TSS, Gen Chem Characterization Package

Appendix 2: 406/19 Leachate Screening Levels Table

Sewer Use: General Extended

Water Characterization Pkg: General Extended

RECORD OF SITE CONDITION (RSC) YES NO

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX
1 <u>SGW1</u>	<u>10/29/20</u>	<u>8:30am</u>	<u>8</u>	<u>SW</u>
2 <u>SGW6</u>	<u>10/29/20</u>	<u>9am</u>	<u>8</u>	<u>SW</u>
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

COMMENTS:

Observations/Comments/Special Instructions

Sampled By (NAME): <u>Dorothy Gorda</u>	Signature: <u>[Signature]</u>	Date: <u>10/29/20</u> (mm/dd/yy)	Pink Copy - Client
Relinquished by (NAME): <u>Dorothy Gorda</u>	Signature: <u>[Signature]</u>	Date: <u>10/29/20</u> (mm/dd/yy)	Yellow & White Copy - SGS

Revision # 1.4
Date of Issue 22 May 2020

Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. (2) Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



FINAL REPORT

CA40078-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Dorothy Garda

Telephone 905-264-9393

Facsimile 905-264-2685

Email dorothy.garda@dsconsultants.ca

Project 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Order Number

Samples Ground Water (1)

LABORATORY DETAILS

Project Specialist Maarit Wolfe, Hon.B.Sc

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 705-652-2000

Facsimile 705-652-6365

Email Maarit.Wolfe@sgs.com

SGS Reference CA40078-NOV22

Received 11/03/2022

Approved 11/11/2022

Report Number CA40078-NOV22 R1

Date Reported 11/11/2022

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 029791

SIGNATORIES

Maarit Wolfe, Hon.B.Sc



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FINAL REPORT

CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER

Sample Number 8
Sample Name BH 22-13
Sample Matrix Ground Water
Sample Date 03/11/2022

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
General Chemistry				
Biochemical Oxygen Demand (BOD5)	mg/L	2		< 4 †
Total Suspended Solids	mg/L	2		492
Total Kjeldahl Nitrogen	as N mg/L	0.5		0.6
Metals and Inorganics				
Fluoride	mg/L	0.06		0.11
Cyanide (total)	mg/L	0.01		< 0.01
Sulphate	mg/L	2		200
Aluminum (0.2µm)	mg/L	0.001	0.075	0.016
Aluminum (total)	mg/L	0.001		0.016
Antimony (total)	mg/L	0.0009	0.02	< 0.0009
Arsenic (total)	mg/L	0.0002	0.005	0.0010
Cadmium (total)	mg/L	0.000003	0.0001	< 0.000003
Chromium (total)	mg/L	0.00008	0.1	0.00009
Copper (total)	mg/L	0.0002	0.001	0.0005
Cobalt (total)	mg/L	0.000004	0.0009	0.000676
Lead (total)	mg/L	0.00009	0.005	< 0.00009
Manganese (total)	mg/L	0.00001		0.132
Molybdenum (total)	mg/L	0.00004	0.04	0.00234
Nickel (total)	mg/L	0.0001	0.025	0.0008
Phosphorus (total)	mg/L	0.003	0.01	0.011
Selenium (total)	mg/L	0.00004	0.1	0.00012
Silver (total)	mg/L	0.00005	0.0001	< 0.00005



FINAL REPORT

CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER

Sample Number 8
Sample Name BH 22-13
Sample Matrix Ground Water
Sample Date 03/11/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Tin (total)	mg/L	0.00006		0.00079
Titanium (total)	mg/L	0.00005		0.00133
Zinc (total)	mg/L	0.002	0.02	< 0.002
Microbiology				
E. Coli	cfu/100mL	0	100	0
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 2
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4



FINAL REPORT

CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER

Sample Number 8
Sample Name BH 22-13
Sample Matrix Ground Water
Sample Date 03/11/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
Other (ORP)				
pH	No unit	0.05	8.6	7.46
Mercury (total)	mg/L	0.00001	0.0002	0.00001
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001		< 0.0001
Phenols				
4AAP-Phenolics	mg/L	0.002	0.001	0.003
SVOCs				
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
VOCs				
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005		< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005		< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005	0.1	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.07	< 0.0005
Methyl ethyl ketone	mg/L	0.02		< 0.02
Styrene	mg/L	0.0005		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.05	< 0.0005
Trichloroethylene	mg/L	0.0005	0.02	< 0.0005



FINAL REPORT

CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER

Sample Number 8

Sample Name BH 22-13

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
VOCs - BTEX				
Benzene	mg/L	0.0005	0.1	< 0.0005
Ethylbenzene	mg/L	0.0005	0.008	< 0.0005
Toluene	mg/L	0.0005	0.0008	< 0.0005
Xylene (total)	mg/L	0.0005		< 0.0005
m-p-xylene	mg/L	0.0005	0.002	< 0.0005
o-xylene	mg/L	0.0005	0.04	< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
-----------	--------	-------	--------	--

BH 22-13

Phosphorus	SM 3030/EPA 200.8	mg/L	0.011	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	0.003	0.001



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0124-NOV22	No unit	0.05	NA	0		99			NA		



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Bis(2-ethylhexyl)phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	129	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0094-NOV22	as N mg/L	0.5	<0.5	ND	10	102	90	110	103	75	125



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140
Tetrachloroethylene (perchloroethylene)	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND**FOOTNOTES**

NSS Insufficient sample for analysis.
RL Reporting Limit.
 ↑ Reporting limit raised.
 ↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --



Request for Laboratory Services and CHAIN OF CUSTODY

No: 029791

Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Kiule Brigan? Received By (signature): [Signature] cm
 Received Date: Nov 2 2022 (mm/dd/yy) Custody Seal Present: Yes No Cooling Agent Present: Yes No Type: Ice
 Received Time: 17:50 (hr : min) Custody Seal Intact: Yes No Temperature Upon Receipt (°C) 9.9.9 LAB LIMS #: CA-40078-NOV22

REPORT INFORMATION	INVOICE INFORMATION
Company: <u>DS Consultants Ltd</u>	<input type="checkbox"/> (Same as Report Information)
Contact: <u>Dorothy Santos</u>	Company: _____
Address: <u>6221 Hwy 7, unit 16, Vaughan, ON</u>	Contact: <u>Accounting</u>
Phone: <u>905 329 2735</u>	Address: _____
Fax: _____	Phone: _____
Email: <u>dorothy.santos@dsconsultants.com</u>	Email: _____

Quotation #: _____ P.O. #: _____
 Project #: 20-167-104 Site Location/ID: 14275 The Gore Rd, Beeston (Macville)

TURNAROUND TIME (TAT) REQUIRED
 Regular TAT (5-7days) TAT's are quoted in business days (exclude statutory holidays & weekends).
 Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date: _____ ***NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY**

REGULATIONS

O.Reg 153/04 O.Reg 406/19

Other Regulations: Reg 347/558 (3 Day min TAT) Sanitary Storm
 PWQO MMER CCME Other: _____
 MISA ODWS Not Reportable *See note
 Municipality: Pace 1

ANALYSIS REQUESTED

M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)	SPLP	TCLP
Field Filtered (Y/N)	all incl PAHs, ABNs, CPAs	Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX	F1-F4 only incl BTEX	BTEX only	Pesticides (Organochlorine or specify other)	Specify tests	Specify tests
Metals & Inorganics (incl Cu, Ni, Pb, Mn, Ni, Se, Ag, T, U, V, Zn)	PAHs only	PCBs	F1-F4 only	VOCs	Pesticides	Other: <u>(Reg 347/558 and Sanitary water)</u>	<input type="checkbox"/> Metals <input type="checkbox"/> MSI	<input type="checkbox"/> VOC <input type="checkbox"/> VOC
Full Metals Suite (ICP metals plus B(H)WS-soil only) Hg, Cu, Cr, Co, Cd, Pb, Mn, Ni, Se, Ag, T, U, V, Zn	SVOCs	PCBs	F1-F4 only	VOCs	Pesticides	Other: <u>PWQO</u>	<input type="checkbox"/> 1,4-Dioxin <input type="checkbox"/> PCB	<input type="checkbox"/> B(a)P <input type="checkbox"/> ABN
ICP Metals only	PAHs only	PCBs	F1-F4 only	VOCs	Pesticides	Other: <u>PWQO</u>	<input type="checkbox"/> OCP <input type="checkbox"/> ABN	<input type="checkbox"/> Tlgnl.

RECORD OF SITE CONDITION (RSC) YES NO

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	M & I	SVOC	PCB	PHC	VOC	Pest	Other	SPLP	TCLP	COMMENTS:
1 BH 22-13	Nov 3rd, 22	PM	17	GW	N										Non filtered sample
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

Observations/Comments/Special Instructions

Sampled By (NAME): <u>Harry Chai-ranga</u>	Signature: <u>[Signature]</u>	Date: <u>11, 03, 22</u> (mm/dd/yy)	Pink Copy - Client
Relinquished by (NAME): <u>Harry</u>	Signature: <u>[Signature]</u>	Date: <u>11, 03, 22</u> (mm/dd/yy)	Yellow & White Copy - SGS



FINAL REPORT

CA40078-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Dorothy Garda

Telephone 905-264-9393

Facsimile 905-264-2685

Email dorothy.garda@dsconsultants.ca

Project 20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Order Number

Samples Ground Water (1)

LABORATORY DETAILS

Project Specialist Maarit Wolfe, Hon.B.Sc

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 705-652-2000

Facsimile 705-652-6365

Email Maarit.Wolfe@sgs.com

SGS Reference CA40078-NOV22

Received 11/03/2022

Approved 11/11/2022

Report Number CA40078-NOV22 R1

Date Reported 11/11/2022

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 029791

SIGNATORIES

Maarit Wolfe, Hon.B.Sc



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FINAL REPORT

CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER

Sample Number 8

Sample Name BH 22-13

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
-----------	-------	----	----	----	--------

General Chemistry

Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4 †
Total Suspended Solids	mg/L	2	350	15	492
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	0.6

Metals and Inorganics

Fluoride	mg/L	0.06	10		0.11
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		200
Aluminum (0.2µm)	mg/L	0.001			0.016
Aluminum (total)	mg/L	0.001	50		0.016
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0010
Cadmium (total)	mg/L	0.000003	0.7	0.008	< 0.000003
Chromium (total)	mg/L	0.00008	5	0.08	0.00009
Copper (total)	mg/L	0.0002	3	0.05	0.0005
Cobalt (total)	mg/L	0.000004	5		0.000676
Lead (total)	mg/L	0.00009	3	0.12	< 0.00009
Manganese (total)	mg/L	0.00001	5	0.05	0.132
Molybdenum (total)	mg/L	0.00004	5		0.00234
Nickel (total)	mg/L	0.0001	3	0.08	0.0008
Phosphorus (total)	mg/L	0.003	10	0.4	0.011
Selenium (total)	mg/L	0.00004	1	0.02	0.00012
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005



FINAL REPORT

CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER

Sample Number 8
Sample Name BH 22-13
Sample Matrix Ground Water
Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Tin (total)	mg/L	0.00006	5		0.00079
Titanium (total)	mg/L	0.00005	5		0.00133
Zinc (total)	mg/L	0.002	3	0.04	< 0.002

Microbiology

E. Coli	cfu/100mL	0		200	0
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Nonylphenol and Ethoxylates

Nonylphenol	mg/L	0.001	0.02		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01

Oil and Grease

Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4



FINAL REPORT

CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER

Sample Number 8

Sample Name BH 22-13

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
-----------	-------	----	----	----	--------

Other (ORP)

pH	No unit	0.05	10	9	7.46
Mercury (total)	mg/L	0.00001	0.01	0.0004	0.00001

PCBs

Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
--	------	--------	-------	--------	----------

Phenols

4AAP-Phenolics	mg/L	0.002	1	0.008	0.003
----------------	------	-------	---	-------	-------

SVOCs

di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002

VOCs

Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02	8		< 0.02
Styrene	mg/L	0.0005	0.2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005



FINAL REPORT

CA40078-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry Chai Hanya

MATRIX: WATER

Sample Number 8

Sample Name BH 22-13

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.27	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	SANSEW / WATER	SANSEW / WATER
				/ - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010 L1	/ - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010 L2

BH 22-13

Total Suspended Solids	SM 2540D	mg/L	492	350	15
Manganese	SM 3030/EPA 200.8	mg/L	0.132		0.05



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0124-NOV22	No unit	0.05	NA	0		99			NA		



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Bis(2-ethylhexyl)phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	129	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0094-NOV22	as N mg/L	0.5	<0.5	ND	10	102	90	110	103	75	125



FINAL REPORT

CA40078-NOV22 R1

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140
Tetrachloroethylene (perchloroethylene)	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND**FOOTNOTES**

NSS Insufficient sample for analysis.
RL Reporting Limit.
 ↑ Reporting limit raised.
 ↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --



Request for Laboratory Services and CHAIN OF CUSTODY

No: 029791

Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Kiule Brigan? Received By (signature): [Signature] cm
 Received Date: Nov 2 2022 (mm/dd/yy) Custody Seal Present: Yes No Cooling Agent Present: Yes No Type: Ice
 Received Time: 17:50 (hr : min) Custody Seal Intact: Yes No Temperature Upon Receipt (°C) 9.9.9 LAB LIMS #: CA-40078-NOV22

REPORT INFORMATION	INVOICE INFORMATION
Company: <u>DS Consultants Ltd</u>	<input type="checkbox"/> (Same as Report Information)
Contact: <u>Dorothy Santos</u>	Company: _____
Address: <u>6221 Hwy 7, unit 16, Vaughan, ON</u>	Contact: <u>Accounting</u>
Phone: <u>905 329 2735</u>	Address: _____
Fax: _____	Phone: _____
Email: <u>dorothy.santos@dsconsultants.com</u>	Email: _____

Quotation #: _____ P.O. #: _____
 Project #: 20-167-104 Site Location/ID: 14275 The Gore Rd, Beeston (Macville)

TURNAROUND TIME (TAT) REQUIRED
 Regular TAT (5-7days) TAT's are quoted in business days (exclude statutory holidays & weekends).
 Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date: _____ ***NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY**

REGULATIONS

O.Reg 153/04 O.Reg 406/19

Other Regulations:
 Reg 347/558 (3 Day min TAT)
 PWQO MMER
 CCME Other: _____
 MISA
 ODWS Not Reportable *See note

Sewer By-Law:
 Sanitary
 Storm
 Municipality: Pcc 1

ANALYSIS REQUESTED

M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)	SPLP	TCLP
Field Filtered (Y/N)	all incl PAHs, ABNs, CPA	Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX	F1-F4 only incl BTEX	BTEX only	Pesticides <i>(Organochlorine or specify other)</i>	Specify tests	Specify tests
Metals & Inorganics <i>(incl Cu, Ni, Pb, Hg, Mn, NH4, NO3, PO4, Se, Zn, Cd, Cr, Co, Cu, Pb, Mo, Ni, Se, Ag, T, U, V, Zn)</i>	PAHs only						<input type="checkbox"/> Metals <input type="checkbox"/> MSI	
Full Metals Suite <i>(ICP metals plus B(H)WS-soil only) Hg, Cu, Cr, Co, Ni, Pb, Mo, Ni, Se, Ag, T, U, V, Zn</i>	SVOCs						<input type="checkbox"/> VOC <input type="checkbox"/> VOC	
							<input type="checkbox"/> 1,4-Dioxin <input type="checkbox"/> PCB	
							<input type="checkbox"/> OCP <input type="checkbox"/> B(a)P	
							<input type="checkbox"/> ABN <input type="checkbox"/> ABN	
							<input type="checkbox"/> Tgnl.	

RECORD OF SITE CONDITION (RSC) YES NO

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)	SPLP	TCLP	COMMENTS:
1 BH 22-13	Nov 3rd, 22	PM	17	GW	N							<input checked="" type="checkbox"/> PWQO			Non filtered sample
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

Observations/Comments/Special Instructions

Sampled By (NAME): <u>Harry Chai-ranga</u>	Signature: <u>[Signature]</u>	Date: <u>11, 03, 22</u> (mm/dd/yy)	Pink Copy - Client
Relinquished by (NAME): <u>Harry</u>	Signature: <u>[Signature]</u>	Date: <u>11, 03, 22</u> (mm/dd/yy)	Yellow & White Copy - SGS



FINAL REPORT

CA40079-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Dorothy Garda

Telephone 905-264-9393

Facsimile 905-264-2685

Email dorothy.garda@dsconsultants.ca

Project 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Order Number

Samples Ground Water (1)

LABORATORY DETAILS

Project Specialist Maarit Wolfe, Hon.B.Sc

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 705-652-2000

Facsimile 705-652-6365

Email Maarit.Wolfe@sgs.com

SGS Reference CA40079-NOV22

Received 11/03/2022

Approved 11/11/2022

Report Number CA40079-NOV22 R1

Date Reported 11/11/2022

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 029792

SIGNATORIES

Maarit Wolfe, Hon.B.Sc



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FINAL REPORT

CA40079-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-32

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
General Chemistry				
Biochemical Oxygen Demand (BOD5)	mg/L	2		< 4 †
Total Suspended Solids	mg/L	2		98
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5
Metals and Inorganics				
Fluoride	mg/L	0.06		0.10
Cyanide (total)	mg/L	0.01		< 0.01
Sulphate	mg/L	2		63
Aluminum (0.2µm)	mg/L	0.001	0.075	0.001
Aluminum (total)	mg/L	0.001		0.608
Antimony (total)	mg/L	0.0009	0.02	< 0.0009
Arsenic (total)	mg/L	0.0002	0.005	< 0.0002
Cadmium (total)	mg/L	0.000003	0.0001	0.000005
Chromium (total)	mg/L	0.00008	0.1	0.00118
Copper (total)	mg/L	0.0002	0.001	0.0011
Cobalt (total)	mg/L	0.000004	0.0009	0.000342
Lead (total)	mg/L	0.00009	0.005	0.00043
Manganese (total)	mg/L	0.00001		0.0462
Molybdenum (total)	mg/L	0.00004	0.04	0.00084
Nickel (total)	mg/L	0.0001	0.025	0.0010
Phosphorus (total)	mg/L	0.003	0.01	0.073
Selenium (total)	mg/L	0.00004	0.1	< 0.00004
Silver (total)	mg/L	0.00005	0.0001	< 0.00005



FINAL REPORT

CA40079-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-32

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
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Metals and Inorganics (continued)

Tin (total)	mg/L	0.00006		0.00128
Titanium (total)	mg/L	0.00005		0.0246
Zinc (total)	mg/L	0.002	0.02	0.004

Microbiology

E. Coli	cfu/100mL	0	100	1
---------	-----------	---	-----	---

Nonylphenol and Ethoxylates

Nonylphenol	mg/L	0.001		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01

Oil and Grease

Oil & Grease (total)	mg/L	2		< 2
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4



FINAL REPORT

CA40079-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-32

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
Other (ORP)				
pH	No unit	0.05	8.6	7.63
Mercury (total)	mg/L	0.00001	0.0002	< 0.00001
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001		< 0.0001
Phenols				
4AAP-Phenolics	mg/L	0.002	0.001	< 0.002
SVOCs				
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
VOCs				
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005		< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005		< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005	0.1	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.07	< 0.0005
Methyl ethyl ketone	mg/L	0.02		< 0.02
Styrene	mg/L	0.0005		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.05	< 0.0005
Trichloroethylene	mg/L	0.0005	0.02	< 0.0005



FINAL REPORT

CA40079-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-32

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
VOCs - BTEX				
Benzene	mg/L	0.0005	0.1	< 0.0005
Ethylbenzene	mg/L	0.0005	0.008	< 0.0005
Toluene	mg/L	0.0005	0.0008	< 0.0005
Xylene (total)	mg/L	0.0005		< 0.0005
m-p-xylene	mg/L	0.0005	0.002	< 0.0005
o-xylene	mg/L	0.0005	0.04	< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
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BH 22-32

Copper	SM 3030/EPA 200.8	mg/L	0.0011	0.001
Phosphorus	SM 3030/EPA 200.8	mg/L	0.073	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	< 0.002	0.001



FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125



FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130



FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0124-NOV22	No unit	0.05	NA	0		99			NA		



FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140



FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Bis(2-ethylhexyl)phthalate	GCM0219-NOV22	mg/L	0.002	< 0.002	NSS	30	125	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0219-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0082-NOV22	as N mg/L	0.5	<0.5	ND	10	101	90	110	99	75	125

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140
Tetrachloroethylene (perchloroethylene)	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.
RL Reporting Limit.
 ↑ Reporting limit raised.
 ↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --



Request for Laboratory Services and CHAIN OF CUSTODY

No: 029792

Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Male Bryant
 Received Date: Nov 12 12 (mm/dd/yy)
 Received Time: 17:30 (hr:min)

Received By (signature): [Signature]
 Custody Seal Present: Yes No
 Cooling Agent Present: Yes No Type: ILC
 Custody Seal Intact: Yes No
 Temperature Upon Receipt (°C) 9.9.9

CA 40079-NOV12
 LAB LIMS # Nov 3 40079

REPORT INFORMATION	INVOICE INFORMATION
Company: <u>DS Consultants Inc</u>	<input checked="" type="checkbox"/> (same as Report Information)
Contact: <u>Dorothy Santos</u>	Company: _____
Address: <u>6221 Hwy 7, Unit 16, Vaughan, ON</u>	Contact: <u>Accounting</u>
Phone: <u>905 329 2735</u>	Address: _____
Fax: _____	Phone: _____
Email: <u>dorothy.santos@dsconsultants.com</u>	Email: _____

Quotation #: _____ P.O. #: _____
 Project #: 20-167-104 Site Location/ID: 14275 The Gore Rd, Bolton
TURNAROUND TIME (TAT) REQUIRED (Macville)
 Regular TAT (5-7days) TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day
 RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION
 Specify Due Date: _____ *NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

O.Reg 153/04 O.Reg 406/19

Other Regulations:
 Res/Park Soil Texture:
 Table 1 Ind/Com Coarse
 Table 2 Agri/Other Medium/Fine
 Table 3 Appx. _____
 Soil Volume <350m3 >350m3

Reg 347/558 (3 Day min TAT)
 PWQO MMER
 CCME Other: _____
 MISA ODWS Not Reportable *See note

Sewer By-Law:
 Sanitary
 Storm
 Municipality: Poc 1

ANALYSIS REQUESTED

RECORD OF SITE CONDITION (RSC) YES NO

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX
1 BH 22-32	Nov 3 rd , 22	PM	17	GW
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)	SPLP	TCLP					
Field Filtered (Y/N) <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	Metals & Inorganics (As, Cd, Cr, Hg, Pb, Pt, Se, V, W, Zn, Cu, Ni, Mn, Fe, Al, Si, Ti, U, V, Zn, Br, I, Cl, Na, K, Ca, Mg, Sr, Ba, Pb, Bi, Sn, Sb, Te, Mo, Ni, Se, Ag, Tl, U, V, Zn)	PAHs only	SVOCs all incl PAHs, ABNs, CPs	PCBs Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX F1-F4 only no BTEX	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or specify other: <u>(see storm water sampling notes)</u>	Sewer Use: Specify pkg: General <input type="checkbox"/> Extended <input type="checkbox"/>	Water Characterization Pkg: General <input type="checkbox"/> Extended <input type="checkbox"/>	Specify tests: <input type="checkbox"/> Metals <input type="checkbox"/> M&I <input type="checkbox"/> VOC <input type="checkbox"/> VOC <input type="checkbox"/> 1,4-Dioxane <input type="checkbox"/> PCB <input type="checkbox"/> OCP <input type="checkbox"/> B(a)P <input type="checkbox"/> ABN <input type="checkbox"/> ABN <input type="checkbox"/> Ignit.	Specify tests: <input type="checkbox"/> M&I <input type="checkbox"/> VOC <input type="checkbox"/> PCB <input type="checkbox"/> B(a)P <input type="checkbox"/> ABN <input type="checkbox"/> Ignit.	COMMENTS: <u>Not filtered sample</u>

Observations/Comments/Special Instructions

Sampled By (NAME): <u>Hany Tchakiranyan</u>	Signature: <u>[Signature]</u>	Date: <u>11/03/22</u> (mm/dd/yy)	Pink Copy - Client
Relinquished by (NAME): <u>Hany</u>	Signature: <u>[Signature]</u>	Date: <u>11/03/22</u> (mm/dd/yy)	Yellow & White Copy - SGS

Revision # 1.6
 Date of Issue: 02 May 2022
 Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. (2) Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



FINAL REPORT

CA40079-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton (MacVille)

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Dorothy Garda

Telephone 905-264-9393

Facsimile 905-264-2685

Email dorothy.garda@dsconsultants.ca

Project 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Order Number

Samples Ground Water (1)

LABORATORY DETAILS

Project Specialist Maarit Wolfe, Hon.B.Sc

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 705-652-2000

Facsimile 705-652-6365

Email Maarit.Wolfe@sgs.com

SGS Reference CA40079-NOV22

Received 11/03/2022

Approved 11/11/2022

Report Number CA40079-NOV22 R1

Date Reported 11/11/2022

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 029792

SIGNATORIES

Maarit Wolfe, Hon.B.Sc



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FINAL REPORT

CA40079-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-32

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
-----------	-------	----	----	----	--------

General Chemistry

Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4 †
Total Suspended Solids	mg/L	2	350	15	98
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5

Metals and Inorganics

Fluoride	mg/L	0.06	10		0.10
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		63
Aluminum (0.2µm)	mg/L	0.001			0.001
Aluminum (total)	mg/L	0.001	50		0.608
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	< 0.0002
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000005
Chromium (total)	mg/L	0.00008	5	0.08	0.00118
Copper (total)	mg/L	0.0002	3	0.05	0.0011
Cobalt (total)	mg/L	0.000004	5		0.000342
Lead (total)	mg/L	0.00009	3	0.12	0.00043
Manganese (total)	mg/L	0.00001	5	0.05	0.0462
Molybdenum (total)	mg/L	0.00004	5		0.00084
Nickel (total)	mg/L	0.0001	3	0.08	0.0010
Phosphorus (total)	mg/L	0.003	10	0.4	0.073
Selenium (total)	mg/L	0.00004	1	0.02	< 0.00004
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005



FINAL REPORT

CA40079-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton (MacVile)

Project Manager: Dorothy Garda

Samplers: Harry

MATRIX: WATER

Sample Number 8
Sample Name BH 22-32
Sample Matrix Ground Water
Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
Metals and Inorganics (continued)					
Tin (total)	mg/L	0.00006	5		0.00128
Titanium (total)	mg/L	0.00005	5		0.0246
Zinc (total)	mg/L	0.002	3	0.04	0.004
Microbiology					
E. Coli	cfu/100mL	0		200	1
Nonylphenol and Ethoxylates					
Nonylphenol	mg/L	0.001	0.02		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01
Oil and Grease					
Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4



FINAL REPORT

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MATRIX: WATER

Sample Number 8

Sample Name BH 22-32

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
Other (ORP)					
pH	No unit	0.05	10	9	7.63
Mercury (total)	mg/L	0.00001	0.01	0.0004	< 0.00001
PCBs					
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenols					
4AAP-Phenolics	mg/L	0.002	1	0.008	< 0.002
SVOCs					
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02	8		< 0.02
Styrene	mg/L	0.0005	0.2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005



FINAL REPORT

CA40079-NOV22 R1

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Project Manager: Dorothy Garda

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MATRIX: WATER

Sample Number 8

Sample Name BH 22-32

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.27	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	SANSEW / WATER	SANSEW / WATER
				/ - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010 L1	/ - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010 L2

BH 22-32

Total Suspended Solids	SM 2540D	mg/L	98
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FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125



FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130



FINAL REPORT

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QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0124-NOV22	No unit	0.05	NA	0		99			NA		



FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140



FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Bis(2-ethylhexyl)phthalate	GCM0219-NOV22	mg/L	0.002	< 0.002	NSS	30	125	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0219-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0082-NOV22	as N mg/L	0.5	<0.5	ND	10	101	90	110	99	75	125



FINAL REPORT

CA40079-NOV22 R1

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140
Tetrachloroethylene (perchloroethylene)	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.
RL Reporting Limit.
 ↑ Reporting limit raised.
 ↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --



Request for Laboratory Services and CHAIN OF CUSTODY

No: 029792

Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Male Bryant
 Received Date: Nov 12 12 (mm/dd/yy)
 Received Time: 17:30 (hr:min)

Received By (signature): [Signature]
 Custody Seal Present: Yes No
 Cooling Agent Present: Yes No Type: ILC
 Custody Seal Intact: Yes No
 Temperature Upon Receipt (°C) 9.9.9

CA 40079-NOV12
 LAB LIMS # Nov 3 40079

REPORT INFORMATION	INVOICE INFORMATION
Company: <u>DS Consultants Inc</u>	<input checked="" type="checkbox"/> (same as Report Information)
Contact: <u>Dorothy Santos</u>	Company: _____
Address: <u>6221 Hwy 7, Unit 16, Vaughan, ON</u>	Contact: <u>Accounting</u>
Phone: <u>905 329 2735</u>	Address: _____
Fax: _____	Phone: _____
Email: <u>dorothy.santos@dsconsultants.com</u>	Email: _____

Quotation #: _____ P.O. #: _____
 Project #: 20-167-104 Site Location/ID: 14275 The Gore Rd, Bolton
TURNAROUND TIME (TAT) REQUIRED (Macville)
 Regular TAT (5-7days) TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day
 RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION
 Specify Due Date: _____ *NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

O.Reg 153/04 O.Reg 406/19

Other Regulations:
 Reg 347/558 (3 Day min TAT)
 PWQO MMER
 CCME Other: _____
 MISA ODWS Not Reportable *See note

Sewer By-Law:
 Sanitary
 Storm
 Municipality: Poc 1

ANALYSIS REQUESTED

RECORD OF SITE CONDITION (RSC) YES NO

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX
1 BH 22-32	Nov 3 rd , 22	PM	17	GW
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)	SPLP	TCLP					
Field Filtered (Y/N)	PAHs only	Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX	F1-F4 only no BTEX	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or specify other: <u>(local storm water Sanitary water) PWQO</u>	Specify tests: <input type="checkbox"/> Metals <input type="checkbox"/> VOC <input type="checkbox"/> 1,4-Dioxane <input type="checkbox"/> OCP <input type="checkbox"/> ABN	Specify tests: <input type="checkbox"/> M&I <input type="checkbox"/> VOC <input type="checkbox"/> PCB <input type="checkbox"/> B(a)P <input type="checkbox"/> ABN <input type="checkbox"/> Ignit.				
Metals & Inorganics (Cd, Cr, Cu, Ni, Pb, Hg, Mn, Fe, Zn, Al, Se, As, Ba, Be, B, Bi, Br, Ca, Co, Cs, K, Li, Mg, Mo, Ni, Se, Ag, Tl, U, V, Zn)	Full Metals Suite (ICP metals plus all HWS-seal only) Hg, CrVI	ICP Metals only (ICP metals plus all HWS-seal only) Hg, CrVI	PAHs only	SVOCs all incl PAHs, ABNs, CPs	PCBs Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX	F1-F4 only no BTEX	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or specify other: <u>(local storm water Sanitary water) PWQO</u>	Water Characterization Pkg General <input type="checkbox"/> Extended <input type="checkbox"/>	Specify tests: <input type="checkbox"/> Metals <input type="checkbox"/> VOC <input type="checkbox"/> 1,4-Dioxane <input type="checkbox"/> OCP <input type="checkbox"/> ABN	Specify tests: <input type="checkbox"/> M&I <input type="checkbox"/> VOC <input type="checkbox"/> PCB <input type="checkbox"/> B(a)P <input type="checkbox"/> ABN <input type="checkbox"/> Ignit.

COMMENTS:

Not filtered sample

Observations/Comments/Special Instructions: _____

Sampled By (NAME): <u>Hany Tchakiranyan</u>	Signature: <u>[Signature]</u>	Date: <u>11/03/22</u> (mm/dd/yy)	Pink Copy - Client
Relinquished by (NAME): <u>Hany</u>	Signature: <u>[Signature]</u>	Date: <u>11/03/22</u> (mm/dd/yy)	Yellow & White Copy - SGS

Revision # 1.6
 Date of Issue: 02 May 2022
 Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. (2) Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



FINAL REPORT

CA40080-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

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L4H 0K8, Canada

Contact Dorothy Garda

Telephone 905-264-9393

Facsimile 905-264-2685

Email dorothy.garda@dsconsultants.ca

Project 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Order Number

Samples Ground Water (1)

LABORATORY DETAILS

Project Specialist Maarit Wolfe, Hon.B.Sc

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 705-652-2000

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SGS Reference CA40080-NOV22

Received 11/03/2022

Approved 11/11/2022

Report Number CA40080-NOV22 R1

Date Reported 11/11/2022

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 029793

SIGNATORIES

Maarit Wolfe, Hon.B.Sc



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FINAL REPORT

CA40080-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER

Sample Number 8
Sample Name BH 22-17
Sample Matrix Ground Water
Sample Date 03/11/2022

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
General Chemistry				
Biochemical Oxygen Demand (BOD5)	mg/L	2		< 4 †
Total Suspended Solids	mg/L	2		169
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5
Metals and Inorganics				
Fluoride	mg/L	0.06		0.12
Cyanide (total)	mg/L	0.01		< 0.01
Sulphate	mg/L	2		50
Aluminum (0.2µm)	mg/L	0.001	0.075	0.003
Aluminum (total)	mg/L	0.001		1.64
Antimony (total)	mg/L	0.0009	0.02	< 0.0009
Arsenic (total)	mg/L	0.0002	0.005	0.0009
Cadmium (total)	mg/L	0.000003	0.0001	0.000013
Chromium (total)	mg/L	0.00008	0.1	0.00283
Copper (total)	mg/L	0.0002	0.001	0.0025
Cobalt (total)	mg/L	0.000004	0.0009	0.00106
Lead (total)	mg/L	0.00009	0.005	0.00108
Manganese (total)	mg/L	0.00001		0.101
Molybdenum (total)	mg/L	0.00004	0.04	0.00151
Nickel (total)	mg/L	0.0001	0.025	0.0021
Phosphorus (total)	mg/L	0.003	0.01	0.098
Selenium (total)	mg/L	0.00004	0.1	0.00015
Silver (total)	mg/L	0.00005	0.0001	< 0.00005



FINAL REPORT

CA40080-NOV22 R1

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Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-17

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Tin (total)	mg/L	0.00006		0.00188
Titanium (total)	mg/L	0.00005		0.0409
Zinc (total)	mg/L	0.002	0.02	0.006
Microbiology				
E. Coli	cfu/100mL	0	100	0
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 2
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4



FINAL REPORT

CA40080-NOV22 R1

Client: DS Consultants

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Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-17

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
Other (ORP)				
pH	No unit	0.05	8.6	7.61
Mercury (total)	mg/L	0.00001	0.0002	0.00001
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001		< 0.0001
Phenols				
4AAP-Phenolics	mg/L	0.002	0.001	0.002
SVOCs				
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
VOCs				
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005		< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005		< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005	0.1	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.07	< 0.0005
Methyl ethyl ketone	mg/L	0.02		< 0.02
Styrene	mg/L	0.0005		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.05	< 0.0005
Trichloroethylene	mg/L	0.0005	0.02	< 0.0005



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CA40080-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-17

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
VOCs - BTEX				
Benzene	mg/L	0.0005	0.1	< 0.0005
Ethylbenzene	mg/L	0.0005	0.008	< 0.0005
Toluene	mg/L	0.0005	0.0008	< 0.0005
Xylene (total)	mg/L	0.0005		< 0.0005
m-p-xylene	mg/L	0.0005	0.002	< 0.0005
o-xylene	mg/L	0.0005	0.04	< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
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BH 22-17

Cobalt	SM 3030/EPA 200.8	mg/L	0.00106	0.0009
Copper	SM 3030/EPA 200.8	mg/L	0.0025	0.001
Phosphorus	SM 3030/EPA 200.8	mg/L	0.098	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	0.002	0.001



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0124-NOV22	No unit	0.05	NA	0		99			NA		



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Bis(2-ethylhexyl)phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	129	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0082-NOV22	as N mg/L	0.5	<0.5	ND	10	101	90	110	99	75	125



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140
Tetrachloroethylene (perchloroethylene)	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.
RL Reporting Limit.
 ↑ Reporting limit raised.
 ↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm.

The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Reproduction of this analytical report in full or in part is prohibited.

This report supersedes all previous versions.

-- End of Analytical Report --



Request for Laboratory Services and CHAIN OF CUSTODY

No: **029793**

Page 1 of 1

Laboratory Information Section - Lab use only

Received By: Nicole Bryant Received By (signature): [Signature]
 Received Date: Nov 13 2022 (mm/dd/yy) Custody Seal Present: Yes No Cooling Agent Present: Yes No Type: Ice
 Received Time: 17:30 (hr:min) Custody Seal Intact: Yes No Temperature Upon Receipt (°C): 9.9.9
 LAB LIMS #: CA-40080-NOV22

REPORT INFORMATION
 Company: DS consultants Ltd
 Contact: Destiny Santos
 Address: 1221 Hwy-7, Unit 101, Vaughan, ON
 Phone: _____
 Fax: _____
 Email: destiny.santos@dsconsultants.ca

INVOICE INFORMATION
 (same as Report Information)
 Company: _____
 Contact: Accounting
 Address: _____
 Phone: _____

Quotation #: _____ P.O. #: _____
 Project #: 20-109-104 Site Location/ID: 14225 The Green Rd, Bolton (Macville)
TURNAROUND TIME (TAT) REQUIRED
 Regular TAT (5-7days) TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day
 1 Day 2 Days 3 Days 4 Days
RUSH TAT (Additional Charges May Apply):
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION
 Specify Due Date: _____ ***NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY**

REGULATIONS
 O.Reg 153/04 O.Reg 406/19
 Table 1 Res/Park Soil Texture: _____
 Table 2 Ind/Com Coarse _____
 Table 3 Agri/Other Medium/Fine _____
 Table _____ Appx. _____
 Soil Volume <350m3 >350m3
Other Regulations:
 Reg 347/558 (3 Day min TAT)
 PWQO MMER
 CCME Other: _____
 MISA
 ODWS Not Reportable *See note
Sewer By-Law:
 Sanitary
 Storm
 Municipality: Reel

ANALYSIS REQUESTED

M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)	SPLP	TCLP
Field Filtered (Y/N)	Metals & Inorganics <small>Incl: CrVI, CN, Hg, pH, (B)HWS, (EC, SAR, -sol) (Cl, Na water)</small>	PCBs <small>Total</small>	PHC F1-F4 + BTEX	VOCs <small>all incl BTEX</small>	Pesticides <small>Organochlorine or specify other</small>	Other <u>Resil. heavy metals / 5 TOX 21</u> <u>Resil. not soil</u> <u>P.W. D.D.</u>	Sewer Use: <small>Specify plg:</small>	TCLP <small>Specify tests</small>
	Full Metals Suite <small>ICP metals plus BHWS (soil only) Hg, CrVI</small>	PCBs <small>Aroclor</small>	PHC F1-F4 only <small>no BTEX</small>	VOCs <small>all incl BTEX</small>			<input type="checkbox"/> Metals <input type="checkbox"/> M&I <input type="checkbox"/> VOC <input type="checkbox"/> VOC <input type="checkbox"/> 1,4-Dioxane <input type="checkbox"/> PCB <input type="checkbox"/> OCP <input type="checkbox"/> B(a)P <input type="checkbox"/> ABN <input type="checkbox"/> A&N <input type="checkbox"/> Ignit.	COMMENTS:
	ICP Metals only <small>Cr, Co, Cu, Pb, Mn, Ni, Se, Ag, Tl, U, V, Zn</small>	SVOCs <small>all incl PAHs, ABNs, CPs</small>						

RECORD OF SITE CONDITION (RSC) YES NO

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX
1 <u>BH 23-12</u>	<u>Nov 03</u>	<u>PM</u>	<u>17</u>	<u>GW N</u>
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Observations/Comments/Special Instructions

Sampled By (NAME): Chaitanya / Harry Signature: [Signature] Date: 11 3 22 (mm/dd/yy) Pink Copy - Client
 Relinquished by (NAME): Harry Signature: [Signature] Date: 11 31 22 (mm/dd/yy) Yellow & White Copy - SGS



FINAL REPORT

CA40080-NOV22 R1

20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Dorothy Garda

Telephone 905-264-9393

Facsimile 905-264-2685

Email dorothy.garda@dsconsultants.ca

Project 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Order Number

Samples Ground Water (1)

LABORATORY DETAILS

Project Specialist Maarit Wolfe, Hon.B.Sc

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 705-652-2000

Facsimile 705-652-6365

Email Maarit.Wolfe@sgs.com

SGS Reference CA40080-NOV22

Received 11/03/2022

Approved 11/11/2022

Report Number CA40080-NOV22 R1

Date Reported 11/11/2022

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 029793

SIGNATORIES

Maarit Wolfe, Hon.B.Sc



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FINAL REPORT

CA40080-NOV22 R1

Client: DS Consultants

Project: 20-169-104, 14275 The Gore Rd, Bolton, ON. (Macville)

Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-17

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
-----------	-------	----	----	----	--------

General Chemistry

Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4 †
Total Suspended Solids	mg/L	2	350	15	169
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5

Metals and Inorganics

Fluoride	mg/L	0.06	10		0.12
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		50
Aluminum (0.2µm)	mg/L	0.001			0.003
Aluminum (total)	mg/L	0.001	50		1.64
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0009
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000013
Chromium (total)	mg/L	0.00008	5	0.08	0.00283
Copper (total)	mg/L	0.0002	3	0.05	0.0025
Cobalt (total)	mg/L	0.000004	5		0.00106
Lead (total)	mg/L	0.00009	3	0.12	0.00108
Manganese (total)	mg/L	0.00001	5	0.05	0.101
Molybdenum (total)	mg/L	0.00004	5		0.00151
Nickel (total)	mg/L	0.0001	3	0.08	0.0021
Phosphorus (total)	mg/L	0.003	10	0.4	0.098
Selenium (total)	mg/L	0.00004	1	0.02	0.00015
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005



FINAL REPORT

CA40080-NOV22 R1

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Samplers: Chaitanya Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-17

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
-----------	-------	----	----	----	--------

Metals and Inorganics (continued)

Tin (total)	mg/L	0.00006	5		0.00188
Titanium (total)	mg/L	0.00005	5		0.0409
Zinc (total)	mg/L	0.002	3	0.04	0.006

Microbiology

E. Coli	cfu/100mL	0		200	0
---------	-----------	---	--	-----	---

Nonylphenol and Ethoxylates

Nonylphenol	mg/L	0.001	0.02		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01

Oil and Grease

Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4



FINAL REPORT

CA40080-NOV22 R1

Client: DS Consultants

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Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-17

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
Other (ORP)					
pH	No unit	0.05	10	9	7.61
Mercury (total)	mg/L	0.00001	0.01	0.0004	0.00001
PCBs					
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenols					
4AAP-Phenolics	mg/L	0.002	1	0.008	0.002
SVOCs					
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02	8		< 0.02
Styrene	mg/L	0.0005	0.2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005



FINAL REPORT

CA40080-NOV22 R1

Client: DS Consultants

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Project Manager: Dorothy Garda

Samplers: Chaitanya Harry

MATRIX: WATER

Sample Number 8

Sample Name BH 22-17

Sample Matrix Ground Water

Sample Date 03/11/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.27	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	SANSEW / WATER	SANSEW / WATER
				/ - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010 L1	/ - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010 L2

BH 22-17

Total Suspended Solids	SM 2540D	mg/L	169		15
Manganese	SM 3030/EPA 200.8	mg/L	0.101		0.05



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO5034-NOV22	mg/L	2	<2	1	20	103	80	120	104	75	125

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0008-NOV22	mg/L	2	< 2	9	30	105	70	130	115	70	130

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0057-NOV22	mg/L	0.01	<0.01	ND	10	100	90	110	106	75	125



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0127-NOV22	mg/L	0.06	<0.06	ND	10	103	90	110	105	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0012-NOV22	mg/L	0.00001	< 0.00001	15	20	90	80	120	95	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	ND	20	101	90	110	98	70	130
Aluminum (total)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Aluminum (0.2µm)	EMS0052-NOV22	mg/L	0.001	<0.001	2	20	101	90	110	102	70	130
Arsenic (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	ND	20	101	90	110	104	70	130
Cadmium (total)	EMS0052-NOV22	mg/L	0.000003	<0.000003	5	20	99	90	110	98	70	130
Cobalt (total)	EMS0052-NOV22	mg/L	0.000004	<0.000004	1	20	98	90	110	95	70	130
Chromium (total)	EMS0052-NOV22	mg/L	0.00008	<0.00008	14	20	98	90	110	106	70	130
Copper (total)	EMS0052-NOV22	mg/L	0.0002	<0.0002	0	20	102	90	110	99	70	130
Manganese (total)	EMS0052-NOV22	mg/L	0.00001	<0.00001	0	20	101	90	110	95	70	130
Molybdenum (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	8	20	102	90	110	105	70	130
Nickel (total)	EMS0052-NOV22	mg/L	0.0001	<0.0001	2	20	99	90	110	96	70	130
Lead (total)	EMS0052-NOV22	mg/L	0.00009	<0.00001	2	20	98	90	110	86	70	130
Phosphorus (total)	EMS0052-NOV22	mg/L	0.003	<0.003	20	20	93	90	110	NV	70	130
Antimony (total)	EMS0052-NOV22	mg/L	0.0009	<0.0009	ND	20	104	90	110	112	70	130
Selenium (total)	EMS0052-NOV22	mg/L	0.00004	<0.00004	5	20	102	90	110	95	70	130
Tin (total)	EMS0052-NOV22	mg/L	0.00006	<0.00006	14	20	101	90	110	NV	70	130
Titanium (total)	EMS0052-NOV22	mg/L	0.00005	<0.00005	0	20	99	90	110	NV	70	130
Zinc (total)	EMS0052-NOV22	mg/L	0.002	<0.002	1	20	110	90	110	100	70	130



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9087-NOV22	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			83	55	120			
Nonylphenol Ethoxylates	GCM0148-NOV22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0148-NOV22	mg/L	0.01	< 0.01			90	55	120			
Nonylphenol	GCM0148-NOV22	mg/L	0.001	< 0.001			91	55	120			



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM5174-NOV22	mg/L	2	<2	NSS	20	106	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM5174-NOV22	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0124-NOV22	No unit	0.05	NA	0		99			NA		



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0078-NOV22	mg/L	0.002	<0.002	ND	10	95	80	120	111	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0127-NOV22	mg/L	0.0001	<0.0001	NSS	30	87	60	140	NSS	60	140



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Bis(2-ethylhexyl)phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	129	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0113-NOV22	mg/L	0.002	< 0.002	NSS	30	117	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0148-NOV22	mg/L	2	< 2	1	10	96	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0082-NOV22	as N mg/L	0.5	<0.5	ND	10	101	90	110	99	75	125



FINAL REPORT

CA40080-NOV22 R1

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	103	50	140
1,2-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
1,4-Dichlorobenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
Benzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	101	60	130	103	50	140
Chloroform	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140
cis-1,2-Dichloroethene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	104	50	140
m-p-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	103	50	140
Methyl ethyl ketone	GCM0117-NOV22	mg/L	0.02	<0.02	ND	30	97	50	140	100	50	140
Methylene Chloride	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
o-xylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	102	60	130	105	50	140
Styrene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	104	60	130	106	50	140
Tetrachloroethylene (perchloroethylene)	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Toluene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
trans-1,3-Dichloropropene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	100	60	130	101	50	140
Trichloroethylene	GCM0117-NOV22	mg/L	0.0005	<0.0005	ND	30	99	60	130	101	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.
RL Reporting Limit.
 ↑ Reporting limit raised.
 ↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm.

The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Reproduction of this analytical report in full or in part is prohibited.

This report supersedes all previous versions.

-- End of Analytical Report --

Laboratory Information Section - Lab use only

Received By: Nicole Bryant
 Received Date: Nov 13 2022 (mm/dd/yy)
 Received Time: 17:10 (hr:min)

Received By (signature): [Signature]
 Custody Seal Present: Yes No
 Custody Seal Intact: Yes No

Cooling Agent Present: Yes No Type: Ice
 Temperature Upon Receipt (°C) 9.9.9

LAB LIMS #: CA-40080-N0022

REPORT INFORMATION	INVOICE INFORMATION
Company: <u>DS consultants Ltd</u>	<input checked="" type="checkbox"/> (same as Report Information)
Contact: <u>Crystal Santos</u>	Company:
Address: <u>1221 Hwy-7, Unit 1 Vaughan, ON</u>	Contact: <u>Accounting</u>
Phone:	Address:
Fax:	Phone:
Email: <u>crystal.santos@dsconsultants.ca</u>	Email: <u>ca</u>

Quotation #: _____ P.O. #: _____

Project #: 20-109-104 Site Location/ID: 14225 The Green Rd, Bolton (Macville)

Regular TAT (5-7days) **TURNAROUND TIME (TAT) REQUIRED**
 TAT's are quoted in business days (exclude statutory holidays & weekends).
 Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days

PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date: _____ ***NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY**

REGULATIONS

O.Reg 153/04 O.Reg 406/19

Other Regulations:
 Reg 347/558 (3 Day min TAT)
 PWQO MMER
 CCME Other: _____
 MISA

Sewer By-Law:
 Sanitary
 Storm
 Municipality: Reel

Soil Volume <350m3 >350m3 ODWS Not Reportable *See note

ANALYSIS REQUESTED												SPLP	TCLP	COMMENTS:
M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)								
Field Filtered (Y/N)	Metals & Inorganics <small>Incl CrVI, CN, Hg, pH, (B)HWS, (EC, SAR, -sol) (Cl, Na water)</small>	Full Metals Suite <small>ICP metals plus B(HWS) only</small>	ICP Metals only <small>Sb, As, Ba, Be, Bi, Cd, Cr, Co, Cu, Pb, Mo, Ni, Se, Ag, Tl, U, V, Zn</small>	PAHs only	SVOCs <small>all incl PAHs, ABN, CPs</small>	PCBs Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX	F1-F4 only no BTEX	VOCs <small>all incl BTEX</small>	BTEX only	Pesticides <small>Organochlorine or specify other</small>			
N												<input type="checkbox"/> Metals	<input type="checkbox"/> M&I	
												<input type="checkbox"/> VOC	<input type="checkbox"/> VOC	
												<input type="checkbox"/> 1,4-Dioxins	<input type="checkbox"/> PCB	
												<input type="checkbox"/> OCP	<input type="checkbox"/> B(a)P	
												<input type="checkbox"/> ABN	<input type="checkbox"/> ABN	
												<input type="checkbox"/> Ignit.		

RECORD OF SITE CONDITION (RSC)					SAMPLE IDENTIFICATION					
					DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX		
<input type="checkbox"/> YES	<input type="checkbox"/> NO				<u>Nov 03</u>	<u>PM</u>	<u>17</u>	<u>GW</u>	<u>N</u>	

Observations/Comments/Special Instructions _____

Sampled By (NAME): <u>Chaitanya / Harry</u>	Signature: <u>[Signature]</u>	Date: <u>11 3 2022</u> (mm/dd/yy)	Pink Copy - Client Yellow & White Copy - SGS
Relinquished by (NAME): <u>Harry</u>	Signature: <u>[Signature]</u>	Date: <u>11 3 2022</u> (mm/dd/yy)	



Appendix E-2

Argo King I & II



FINAL REPORT

CA40196-OCT22 R1

19-093-100, 7675 King St., Bolton

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Dorothy Santos

Telephone 905-329-2735

Facsimile 905-264-2685

Email dorothy.santos@dsconsultants.ca

Project 19-093-100, 7675 King St., Bolton

Order Number

Samples Ground Water (1)

LABORATORY DETAILS

Project Specialist Jill Campbell, B.Sc.,GISAS

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 2165

Facsimile 705-652-6365

Email jill.campbell@sgs.com

SGS Reference CA40196-OCT22

Received 10/26/2022

Approved 11/03/2022

Report Number CA40196-OCT22 R1

Date Reported 11/03/2022

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 029795

SIGNATORIES

Jill Campbell, B.Sc.,GISAS



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FINAL REPORT

CA40196-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

MATRIX: WATER

Sample Number 8

Sample Name BH 22-5

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
-----------	-------	----	----	----	--------

General Chemistry

Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	5
Total Suspended Solids	mg/L	2	350	15	94
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5

Metals and Inorganics

Fluoride	mg/L	0.06	10		0.27
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		22
Aluminum (total)	mg/L	0.001	50		4.96
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0061
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000024
Chromium (total)	mg/L	0.00008	5	0.08	0.00591
Copper (total)	mg/L	0.0002	3	0.05	0.0056
Cobalt (total)	mg/L	0.000004	5		0.00314
Lead (total)	mg/L	0.00009	3	0.12	0.00155
Manganese (total)	mg/L	0.00001	5	0.05	0.148
Molybdenum (total)	mg/L	0.00004	5		0.00761
Nickel (total)	mg/L	0.0001	3	0.08	0.0064
Phosphorus (total)	mg/L	0.003	10	0.4	0.171
Selenium (total)	mg/L	0.00004	1	0.02	0.00023
Silver (total)	mg/L	0.00005	5	0.12	< 0.00005
Tin (total)	mg/L	0.00006	5		0.00340



FINAL REPORT

CA40196-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

MATRIX: WATER

Sample Number 8

Sample Name BH 22-5

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
-----------	-------	----	----	----	--------

Metals and Inorganics (continued)

Titanium (total)	mg/L	0.00005	5		0.0707
Zinc (total)	mg/L	0.002	3	0.04	0.019

Microbiology

E. Coli	cfu/100mL	0		200	2
---------	-----------	---	--	-----	---

Nonylphenol and Ethoxylates

Nonylphenol	mg/L	0.001	0.02		0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01

Oil and Grease

Oil & Grease (total)	mg/L	2			< 2
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4



FINAL REPORT

CA40196-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

MATRIX: WATER

Sample Number 8

Sample Name BH 22-5

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
Other (ORP)					
pH	No unit	0.05	10	9	8.04
Mercury (total)	mg/L	0.00001	0.01	0.0004	< 0.00001
PCBs					
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenols					
4AAP-Phenolics	mg/L	0.002	1	0.008	< 0.002
SVOCs					
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02	8		< 0.02
Styrene	mg/L	0.0005	0.2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005



FINAL REPORT

CA40196-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

MATRIX: WATER

Sample Number 8

Sample Name BH 22-5

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.27	0.002	< 0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	SANSEW / WATER	SANSEW / WATER
				/ - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010 L1	/ - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010 L2

BH 22-5

Total Suspended Solids	SM 2540D	mg/L	94		15
Manganese	SM 3030/EPA 200.8	mg/L	0.148		0.05



FINAL REPORT

CA40196-OCT22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO5002-NOV22	mg/L	2	<2	ND	20	106	80	120	106	75	125

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0054-OCT22	mg/L	2	< 2	18	30	99	70	130	NV	70	130

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0285-OCT22	mg/L	0.01	<0.01	ND	10	98	90	110	101	75	125



FINAL REPORT

CA40196-OCT22 R1

QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0664-OCT22	mg/L	0.06	<0.06	ND	10	104	90	110	100	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0051-OCT22	mg/L	0.00001	< 0.00001	4	20	115	80	120	106	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0224-OCT22	mg/L	0.00005	<0.00005	ND	20	106	90	110	98	70	130
Aluminum (total)	EMS0224-OCT22	mg/L	0.001	<0.001	1	20	107	90	110	110	70	130
Arsenic (total)	EMS0224-OCT22	mg/L	0.0002	<0.0002	11	20	109	90	110	105	70	130
Cadmium (total)	EMS0224-OCT22	mg/L	0.000003	<0.000003	ND	20	106	90	110	101	70	130
Cobalt (total)	EMS0224-OCT22	mg/L	0.000004	<0.000004	0	20	106	90	110	93	70	130
Chromium (total)	EMS0224-OCT22	mg/L	0.00008	<0.00008	19	20	106	90	110	113	70	130
Copper (total)	EMS0224-OCT22	mg/L	0.0002	<0.0002	6	20	105	90	110	97	70	130
Manganese (total)	EMS0224-OCT22	mg/L	0.00001	<0.00001	1	20	109	90	110	108	70	130
Molybdenum (total)	EMS0224-OCT22	mg/L	0.00004	<0.00004	5	20	105	90	110	105	70	130
Nickel (total)	EMS0224-OCT22	mg/L	0.0001	<0.0001	5	20	102	90	110	94	70	130
Lead (total)	EMS0224-OCT22	mg/L	0.00009	<0.00001	18	20	106	90	110	95	70	130
Phosphorus (total)	EMS0224-OCT22	mg/L	0.003	<0.003	0	20	108	90	110	NV	70	130
Antimony (total)	EMS0224-OCT22	mg/L	0.0009	<0.0009	ND	20	101	90	110	94	70	130
Selenium (total)	EMS0224-OCT22	mg/L	0.00004	<0.00004	11	20	109	90	110	108	70	130
Tin (total)	EMS0224-OCT22	mg/L	0.00006	<0.00006	ND	20	104	90	110	NV	70	130
Titanium (total)	EMS0224-OCT22	mg/L	0.00005	<0.00005	13	20	106	90	110	NV	70	130
Zinc (total)	EMS0224-OCT22	mg/L	0.002	<0.002	1	20	103	90	110	121	70	130



FINAL REPORT

CA40196-OCT22 R1

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9419-OCT22	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			113	55	120			
Nonylphenol Ethoxylates	GCM0431-OCT22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			115	55	120			
Nonylphenol	GCM0431-OCT22	mg/L	0.001	<0.001			115	55	120			

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM0410-OCT22	mg/L	2	<2	NSS	20	100	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0681-OCT22	No unit	0.05	NA	0		101			NA		



FINAL REPORT

CA40196-OCT22 R1

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0318-OCT22	mg/L	0.002	<0.002	ND	10	100	80	120	100	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0377-OCT22	mg/L	0.0001	<0.0001	NSS	30	84	60	140	NSS	60	140



FINAL REPORT

CA40196-OCT22 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Bis(2-ethylhexyl)phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	123	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	113	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0006-NOV22	mg/L	2	< 2	0	10	93	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0015-NOV22	as N mg/L	0.5	<0.5	2	10	100	90	110	107	75	125

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	92	60	130	94	50	140
1,2-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	95	60	130	98	50	140
1,4-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	94	60	130	96	50	140
Benzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Chloroform	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
cis-1,2-Dichloroethene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
m-p-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
Methyl ethyl ketone	GCM0375-OCT22	mg/L	0.02	<0.02	ND	30	93	50	140	95	50	140
Methylene Chloride	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	50	140
o-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
Styrene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	101	50	140
Tetrachloroethylene (perchloroethylene)	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	100	50	140
Toluene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	97	50	140
Trichloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND**FOOTNOTES**

NSS Insufficient sample for analysis.
RL Reporting Limit.
 ↑ Reporting limit raised.
 ↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --



Request for Laboratory Services and CHAIN OF CUSTODY

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 029795
Page 1 of 1

Laboratory Information Section - Lab use only

Received By: B. [Signature]
Received Date: 10/26/22 (mm/dd/yy)
Received Time: 18:00 (hr:min)

Received By (signature): _____
Custody Seal Present: Yes No
Custody Seal Intact: Yes No

Cooling Agent Present: Yes No Type: ICE.
Temperature Upon Receipt (°C) 9.9.9

LAB LIMS #: CA40196-0ct 22

REPORT INFORMATION
Company: DS consultants Ltd.
Contact: Dorothy Santos
Address: 6221 Hwy-7, Unit 16
Vaughan, ON
Phone: 905-264-9393
Fax: _____
Email: dorothy.santos@dsconsultants.ca

INVOICE INFORMATION
 (same as Report Information)
Company: _____
Contact: Accounting
Address: _____
Phone: _____
Email: _____

Quotation #: _____ P.O. #: _____
Project #: 19-093-100 Site Location/ID: 7675 King St, Bolton

TURNAROUND TIME (TAT) REQUIRED
 Regular TAT (5-7days)
TAT's are quoted in business days (exclude statutory holidays & weekends).
Samples received after 6pm or on weekends: TAT begins next business day
RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION
Specify Due Date: _____ *NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS
 O.Reg 153/04 O.Reg 406/19
Other Regulations: Reg 347/558 (3 Day min TAT)
 Res/Park Soil Texture: Coarse Medium/Fine Appx. _____
 Ind/Com Agri/Other MISA
Soil Volume <350m3 >350m3 ODWS Not Reportable *See note
Sewer By-Law: Sanitary Storm
Municipality: Peel

ANALYSIS REQUESTED
M & I SVOC PCB PHC VOC Pest Other (please specify)
Field Filtered (Y/N) _____
Metals & Inorganics (Cd, Cr, Cu, Hg, Pb, Ni, Bi, W, Se, Fe, Mn, Zn, Al, As, Ba, Be, Bi, Br, B, Ca, Co, Cr, Cu, Fe, Hg, Ni, Pb, Se, Si, Sr, V, Zn)
Full Metals Suite (ICP metals plus Bi/HWS-soil only) Hg, CrVI
ICP Metals only (Sb, As, Ba, Be, Bi, Br, B, Ca, Co, Cr, Cu, Fe, Hg, Ni, Pb, Se, Si, Sr, V, Zn)
PAHs only
SVOCs (all incl PAHs, ABRNs, CPs)
PCBs Total Aroclor
F1-F4 + BTEX
F1-F4 only no BTEX
VOCs all incl BTEX
BTEX only
Pesticides Organochlorine or specify other
Peel Sanitary/Storm Sewer Use
PW&O
Sewer Use: Specify pkg. _____
Water Characterization Pkg General Extended
Specify tests: Metals MSU VOC VOC I4-Dioxin PCB B(a)P ABN Ignit.

RECORD OF SITE CONDITION (RSC) YES NO

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	ANALYSIS REQUESTED													COMMENTS:						
						Metals & Inorganics	Full Metals Suite	ICP Metals only	PAHs only	SVOCs	PCBs	F1-F4 + BTEX	F1-F4 only	VOCs	BTEX only	Pesticides	Other	Sewer Use		Water Characterization Pkg	SPLP	TCLP			
BH 22-5	Oct 26 th	PM	17	GW	N																			Non-filtered sample	

Observations/Comments/Special Instructions
Sampled By (NAME): Harry / Charbona Signature: [Signature] Date: 10/26/22 (mm/dd/yy) Pink Copy - Client
Relinquished by (NAME): [Signature] Signature: [Signature] Date: 10/26/22 (mm/dd/yy) Yellow & White Copy - SGS



FINAL REPORT

CA40196-OCT22 R1

19-093-100, 7675 King St., Bolton

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Dorothy Santos

Telephone 905-329-2735

Facsimile 905-264-2685

Email dorothy.santos@dsconsultants.ca

Project 19-093-100, 7675 King St., Bolton

Order Number

Samples Ground Water (1)

LABORATORY DETAILS

Project Specialist Jill Campbell, B.Sc.,GISAS

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 2165

Facsimile 705-652-6365

Email jill.campbell@sgs.com

SGS Reference CA40196-OCT22

Received 10/26/2022

Approved 11/03/2022

Report Number CA40196-OCT22 R1

Date Reported 11/03/2022

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 029795

SIGNATORIES

Jill Campbell, B.Sc.,GISAS



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FINAL REPORT

CA40196-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

MATRIX: WATER

Sample Number 8
Sample Name BH 22-5
Sample Matrix Ground Water
Sample Date 26/10/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
General Chemistry				
Biochemical Oxygen Demand (BOD5)	mg/L	2		5
Total Suspended Solids	mg/L	2		94
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5
Metals and Inorganics				
Fluoride	mg/L	0.06		0.27
Cyanide (total)	mg/L	0.01		< 0.01
Sulphate	mg/L	2		22
Aluminum (total)	mg/L	0.001		4.96
Antimony (total)	mg/L	0.0009	0.02	< 0.0009
Arsenic (total)	mg/L	0.0002	0.005	0.0061
Cadmium (total)	mg/L	0.000003	0.0001	0.000024
Chromium (total)	mg/L	0.00008	0.1	0.00591
Copper (total)	mg/L	0.0002	0.001	0.0056
Cobalt (total)	mg/L	0.000004	0.0009	0.00314
Lead (total)	mg/L	0.00009	0.005	0.00155
Manganese (total)	mg/L	0.00001		0.148
Molybdenum (total)	mg/L	0.00004	0.04	0.00761
Nickel (total)	mg/L	0.0001	0.025	0.0064
Phosphorus (total)	mg/L	0.003	0.01	0.171
Selenium (total)	mg/L	0.00004	0.1	0.00023
Silver (total)	mg/L	0.00005	0.0001	< 0.00005
Tin (total)	mg/L	0.00006		0.00340



FINAL REPORT

CA40196-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

MATRIX: WATER

Sample Number 8

Sample Name BH 22-5

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Titanium (total)	mg/L	0.00005		0.0707
Zinc (total)	mg/L	0.002	0.02	0.019
Microbiology				
E. Coli	cfu/100mL	0	100	2
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001		0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 2
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4



FINAL REPORT

CA40196-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

MATRIX: WATER

Sample Number 8

Sample Name BH 22-5

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
Other (ORP)				
pH	No unit	0.05	8.6	8.04
Mercury (total)	mg/L	0.00001	0.0002	< 0.00001
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001		< 0.0001
Phenols				
4AAP-Phenolics	mg/L	0.002	0.001	< 0.002
SVOCs				
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
VOCs				
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005		< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005		< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005	0.1	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.07	< 0.0005
Methyl ethyl ketone	mg/L	0.02		< 0.02
Styrene	mg/L	0.0005		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.05	< 0.0005
Trichloroethylene	mg/L	0.0005	0.02	< 0.0005



FINAL REPORT

CA40196-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St., Bolton

Project Manager: Dorothy Santos

Samplers: Harry/ Chaitemya

MATRIX: WATER

Sample Number 8

Sample Name BH 22-5

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
VOCs - BTEX				
Benzene	mg/L	0.0005	0.1	< 0.0005
Ethylbenzene	mg/L	0.0005	0.008	< 0.0005
Toluene	mg/L	0.0005	0.0008	< 0.0005
Xylene (total)	mg/L	0.0005		< 0.0005
m-p-xylene	mg/L	0.0005	0.002	< 0.0005
o-xylene	mg/L	0.0005	0.04	< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
-----------	--------	-------	--------	--

BH 22-5

Arsenic	SM 3030/EPA 200.8	mg/L	0.0061	0.005
Cobalt	SM 3030/EPA 200.8	mg/L	0.00314	0.0009
Copper	SM 3030/EPA 200.8	mg/L	0.0056	0.001
Phosphorus	SM 3030/EPA 200.8	mg/L	0.171	0.01
4AAP-Phenolics	SM 5530B-D	mg/L	< 0.002	0.001



FINAL REPORT

CA40196-OCT22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO5002-NOV22	mg/L	2	<2	ND	20	106	80	120	106	75	125

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0054-OCT22	mg/L	2	< 2	18	30	99	70	130	NV	70	130

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0285-OCT22	mg/L	0.01	<0.01	ND	10	98	90	110	101	75	125



FINAL REPORT

CA40196-OCT22 R1

QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0664-OCT22	mg/L	0.06	<0.06	ND	10	104	90	110	100	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0051-OCT22	mg/L	0.00001	< 0.00001	4	20	115	80	120	106	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0224-OCT22	mg/L	0.00005	<0.00005	ND	20	106	90	110	98	70	130
Aluminum (total)	EMS0224-OCT22	mg/L	0.001	<0.001	1	20	107	90	110	110	70	130
Arsenic (total)	EMS0224-OCT22	mg/L	0.0002	<0.0002	11	20	109	90	110	105	70	130
Cadmium (total)	EMS0224-OCT22	mg/L	0.000003	<0.000003	ND	20	106	90	110	101	70	130
Cobalt (total)	EMS0224-OCT22	mg/L	0.000004	<0.000004	0	20	106	90	110	93	70	130
Chromium (total)	EMS0224-OCT22	mg/L	0.00008	<0.00008	19	20	106	90	110	113	70	130
Copper (total)	EMS0224-OCT22	mg/L	0.0002	<0.0002	6	20	105	90	110	97	70	130
Manganese (total)	EMS0224-OCT22	mg/L	0.00001	<0.00001	1	20	109	90	110	108	70	130
Molybdenum (total)	EMS0224-OCT22	mg/L	0.00004	<0.00004	5	20	105	90	110	105	70	130
Nickel (total)	EMS0224-OCT22	mg/L	0.0001	<0.0001	5	20	102	90	110	94	70	130
Lead (total)	EMS0224-OCT22	mg/L	0.00009	<0.00001	18	20	106	90	110	95	70	130
Phosphorus (total)	EMS0224-OCT22	mg/L	0.003	<0.003	0	20	108	90	110	NV	70	130
Antimony (total)	EMS0224-OCT22	mg/L	0.0009	<0.0009	ND	20	101	90	110	94	70	130
Selenium (total)	EMS0224-OCT22	mg/L	0.00004	<0.00004	11	20	109	90	110	108	70	130
Tin (total)	EMS0224-OCT22	mg/L	0.00006	<0.00006	ND	20	104	90	110	NV	70	130
Titanium (total)	EMS0224-OCT22	mg/L	0.00005	<0.00005	13	20	106	90	110	NV	70	130
Zinc (total)	EMS0224-OCT22	mg/L	0.002	<0.002	1	20	103	90	110	121	70	130



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CA40196-OCT22 R1

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9419-OCT22	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			113	55	120			
Nonylphenol Ethoxylates	GCM0431-OCT22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			115	55	120			
Nonylphenol	GCM0431-OCT22	mg/L	0.001	<0.001			115	55	120			

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM0410-OCT22	mg/L	2	<2	NSS	20	100	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0681-OCT22	No unit	0.05	NA	0		101			NA		



FINAL REPORT

CA40196-OCT22 R1

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0318-OCT22	mg/L	0.002	<0.002	ND	10	100	80	120	100	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0377-OCT22	mg/L	0.0001	<0.0001	NSS	30	84	60	140	NSS	60	140



FINAL REPORT

CA40196-OCT22 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Bis(2-ethylhexyl)phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	123	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	113	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0006-NOV22	mg/L	2	< 2	0	10	93	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0015-NOV22	as N mg/L	0.5	<0.5	2	10	100	90	110	107	75	125

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	92	60	130	94	50	140
1,2-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	95	60	130	98	50	140
1,4-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	94	60	130	96	50	140
Benzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Chloroform	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
cis-1,2-Dichloroethene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
m-p-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
Methyl ethyl ketone	GCM0375-OCT22	mg/L	0.02	<0.02	ND	30	93	50	140	95	50	140
Methylene Chloride	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	50	140
o-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
Styrene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	101	50	140
Tetrachloroethylene (perchloroethylene)	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	100	50	140
Toluene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	97	50	140
Trichloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND**FOOTNOTES**

NSS Insufficient sample for analysis.
RL Reporting Limit.
 ↑ Reporting limit raised.
 ↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --



Request for Laboratory Services and CHAIN OF CUSTODY

Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 029795
Page 1 of 1

Laboratory Information Section - Lab use only

Received By: B. [Signature]
Received Date: 10/26/22 (mm/dd/yy)
Received Time: 18:00 (hr:min)

Received By (signature): _____
Custody Seal Present: Yes No
Custody Seal Intact: Yes No

Cooling Agent Present: Yes No Type: ICE.
Temperature Upon Receipt (°C) 9.9.9

LAB LIMS #: CA40196-0ct 22

REPORT INFORMATION
Company: DS consultants Ltd.
Contact: Dorothy Santos
Address: 6221 Hwy-7, Unit 16
Vaughan, ON
Phone: 905-264-9393
Fax: _____
Email: dorothy.santos@dsconsultants.ca

INVOICE INFORMATION
 (same as Report Information)
Company: _____
Contact: Accounting
Address: _____
Phone: _____
Email: _____

Quotation #: _____ P.O. #: _____
Project #: 19-093-100 Site Location/ID: 7675 King St, Bolton

TURNAROUND TIME (TAT) REQUIRED
 Regular TAT (5-7days)
RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION
Specify Due Date: _____
*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS
 O.Reg 153/04 O.Reg 406/19
Other Regulations: Res/Park Soil Texture: _____
 Table 1 Ind/Com Coarse
 Table 2 Agri/Other Medium/Fine
 Table 3 Appx. _____
 Table _____
Soil Volume <350m3 >350m3
Sewer By-Law: Sanitary Storm
Municipality: Peel
 Reg 347/558 (3 Day min TAT)
 PWQO MMER
 CCME Other: _____
 MISA
 ODWS Not Reportable *See note

ANALYSIS REQUESTED
M & I SVOC PCB PHC VOC Pest Other (please specify)
Field Filtered (Y/N) _____
Metals & Inorganics (Cd, Cr, Cu, Hg, Pb, Ni, Mn, Zn, Fe, Al, Si, B, Se, As, Ba, Be, Bi, Br, Ca, Cl, Co, Cr, Cu, Pb, Mo, Ni, Sr, Ag, Tl, U, V, Zn)
Full Metals Suite (ICP metals plus Bi/HWS-soil only) Hg, CrVI
ICP Metals only (Sb, As, Ba, Be, Bi, Br, Ca, Cl, Co, Cu, Pb, Mo, Ni, Sr, Ag, Tl, U, V, Zn)
PAHs only
SVOCs (all incl PAHs, ABRNs, CPs)
PCBs Total Aroclor
F1-F4 + BTEX
F1-F4 only no BTEX
VOCs all incl BTEX
BTEX only
Pesticides Organochlorine or specify other
Peel Sanitary/Storm Sewer Use
PW&O
Sewer Use: Specify pkg. _____
Water Characterization Pkg General Extended
Specify tests: Metals MSU VOC VOC T4-Dioxin PCB B(a)P ABN ABN Ignit.

RECORD OF SITE CONDITION (RSC) YES NO

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	Metals & Inorganics (Cd, Cr, Cu, Hg, Pb, Ni, Mn, Zn, Fe, Al, Si, B, Se, As, Ba, Be, Bi, Br, Ca, Cl, Co, Cr, Cu, Pb, Mo, Ni, Sr, Ag, Tl, U, V, Zn)	Full Metals Suite (ICP metals plus Bi/HWS-soil only) Hg, CrVI	ICP Metals only (Sb, As, Ba, Be, Bi, Br, Ca, Cl, Co, Cu, Pb, Mo, Ni, Sr, Ag, Tl, U, V, Zn)	PAHs only	SVOCs (all incl PAHs, ABRNs, CPs)	PCBs Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX	F1-F4 only no BTEX	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or specify other	Other (please specify)	Sewer Use: Specify pkg. _____	Water Characterization Pkg General <input type="checkbox"/> Extended <input type="checkbox"/>	Specify tests: <input type="checkbox"/> Metals <input type="checkbox"/> MSU <input type="checkbox"/> VOC <input type="checkbox"/> VOC <input type="checkbox"/> T4-Dioxin <input type="checkbox"/> PCB <input type="checkbox"/> B(a)P <input type="checkbox"/> ABN <input type="checkbox"/> ABN <input type="checkbox"/> Ignit.	TCLP	COMMENTS:	
																							SPLP
BH 22-5	Oct 26 th 22	PM	17	GW	N																		Non-filtered sample

Observations/Comments/Special Instructions _____
Sampled By (NAME): Harry / Charbona Signature: [Signature] Date: 10/26/22 (mm/dd/yy) Pink Copy - Client
Relinquished by (NAME): [Signature] Signature: [Signature] Date: 10/26/22 (mm/dd/yy) Yellow & White Copy - SGS



FINAL REPORT

CA40197-OCT22 R1

19-093-100, 7675 King St, Bolton

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Dorothy Santos

Telephone 905-329-2735

Facsimile 905-264-2685

Email dorothy.santos@dsconsultants.ca

Project 19-093-100, 7675 King St, Bolton

Order Number

Samples Ground Water (1)

LABORATORY DETAILS

Project Specialist Jill Campbell, B.Sc.,GISAS

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 2165

Facsimile 705-652-6365

Email jill.campbell@sgs.com

SGS Reference CA40197-OCT22

Received 10/26/2022

Approved 11/03/2022

Report Number CA40197-OCT22 R1

Date Reported 11/03/2022

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 029796

Note: Elevated E coli reporting limit due to excessive growth of bacteria at higher volumes.

SIGNATORIES

Jill Campbell, B.Sc.,GISAS



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FINAL REPORT

CA40197-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER

Sample Number 8

Sample Name BH 22-1

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
-----------	-------	----	----	----	--------

General Chemistry

Biochemical Oxygen Demand (BOD5)	mg/L	2	300	15	< 4 †
Total Suspended Solids	mg/L	2	350	15	38300
Total Kjeldahl Nitrogen	as N mg/L	0.5	100	1	< 0.5

Metals and Inorganics

Fluoride	mg/L	0.06	10		0.14
Cyanide (total)	mg/L	0.01	2	0.02	< 0.01
Sulphate	mg/L	2	1500		24
Aluminum (total)	mg/L	0.001	50		15.7
Antimony (total)	mg/L	0.0009	5		< 0.0009
Arsenic (total)	mg/L	0.0002	1	0.02	0.0072
Cadmium (total)	mg/L	0.000003	0.7	0.008	0.000178
Chromium (total)	mg/L	0.00008	5	0.08	0.0326
Copper (total)	mg/L	0.0002	3	0.05	0.0266
Cobalt (total)	mg/L	0.000004	5		0.0125
Lead (total)	mg/L	0.00009	3	0.12	0.0180
Manganese (total)	mg/L	0.00001	5	0.05	2.17
Molybdenum (total)	mg/L	0.00004	5		0.00230
Nickel (total)	mg/L	0.0001	3	0.08	0.0248
Phosphorus (total)	mg/L	0.003	10	0.4	3.12
Selenium (total)	mg/L	0.00004	1	0.02	0.00022
Silver (total)	mg/L	0.00005	5	0.12	0.00006
Tin (total)	mg/L	0.00006	5		0.00227



FINAL REPORT

CA40197-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER

Sample Number 8

Sample Name BH 22-1

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
-----------	-------	----	----	----	--------

Metals and Inorganics (continued)

Titanium (total)	mg/L	0.00005	5		0.576
Zinc (total)	mg/L	0.002	3	0.04	0.057

Microbiology

E. Coli	cfu/100mL	0		200	< 20 †
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Nonylphenol and Ethoxylates

Nonylphenol	mg/L	0.001	0.02		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01	0.2		< 0.01
Nonylphenol diethoxylate	mg/L	0.01			< 0.01
Nonylphenol monoethoxylate	mg/L	0.01			< 0.01

Oil and Grease

Oil & Grease (total)	mg/L	2			< 4 †
Oil & Grease (animal/vegetable)	mg/L	4	150		< 4
Oil & Grease (mineral/synthetic)	mg/L	4	15		< 4



FINAL REPORT

CA40197-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER

Sample Number 8

Sample Name BH 22-1

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
Other (ORP)					
pH	No unit	0.05	10	9	7.72
Mercury (total)	mg/L	0.00001	0.01	0.0004	0.00002
PCBs					
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001	0.001	0.0004	< 0.0001
Phenols					
4AAP-Phenolics	mg/L	0.002	1	0.008	< 0.002
SVOCs					
di-n-Butyl Phthalate	mg/L	0.002	0.08	0.015	< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002	0.012	0.0088	< 0.002
VOCs					
Chloroform	mg/L	0.0005	0.04	0.002	< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005	0.05	0.0056	< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.08	0.0068	< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005	4	0.0056	< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005	0.14	0.0056	< 0.0005
Methylene Chloride	mg/L	0.0005	2	0.0052	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	1.4	0.017	< 0.0005
Methyl ethyl ketone	mg/L	0.02	8		< 0.02
Styrene	mg/L	0.0005	0.2		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	1	0.0044	< 0.0005
Trichloroethylene	mg/L	0.0005	0.4	0.008	< 0.0005



FINAL REPORT

CA40197-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER

Sample Number 8

Sample Name BH 22-1

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = SANSEW / WATER / - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010

L2 = SANSEW / WATER / - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010

Parameter	Units	RL	L1	L2	Result
VOCs - BTEX					
Benzene	mg/L	0.0005	0.01	0.002	< 0.0005
Ethylbenzene	mg/L	0.0005	0.16	0.002	< 0.0005
Toluene	mg/L	0.0005	0.27	0.002	0.0005
Xylene (total)	mg/L	0.0005	1.4	0.0044	< 0.0005
m-p-xylene	mg/L	0.0005			< 0.0005
o-xylene	mg/L	0.0005			< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	SANSEW / WATER	SANSEW / WATER
				/ - - Peel Table 1 - Sanitary Sewer Discharge - BL_53_2010 L1	/ - - Peel Table 2 - Storm Sewer Discharge - BL_53_2010 L2

BH 22-1

Total Suspended Solids	SM 2540D	mg/L	38300	350	15
Manganese	SM 3030/EPA 200.8	mg/L	2.17		0.05
Phosphorus	SM 3030/EPA 200.8	mg/L	3.12		0.4
Zinc	SM 3030/EPA 200.8	mg/L	0.057		0.04



FINAL REPORT

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QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO5002-NOV22	mg/L	2	<2	ND	20	106	80	120	106	75	125

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0054-OCT22	mg/L	2	< 2	18	30	99	70	130	NV	70	130

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0285-OCT22	mg/L	0.01	<0.01	ND	10	98	90	110	101	75	125



FINAL REPORT

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QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0664-OCT22	mg/L	0.06	<0.06	ND	10	104	90	110	100	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0051-OCT22	mg/L	0.00001	< 0.00001	4	20	115	80	120	106	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0217-OCT22	mg/L	0.00005	<0.00005	ND	20	104	90	110	102	70	130
Aluminum (total)	EMS0217-OCT22	mg/L	0.001	<0.001	3	20	103	90	110	107	70	130
Arsenic (total)	EMS0217-OCT22	mg/L	0.0002	<0.0002	ND	20	110	90	110	106	70	130
Cadmium (total)	EMS0217-OCT22	mg/L	0.000003	<0.000003	ND	20	103	90	110	102	70	130
Cobalt (total)	EMS0217-OCT22	mg/L	0.000004	<0.000004	2	20	104	90	110	99	70	130
Chromium (total)	EMS0217-OCT22	mg/L	0.00008	<0.00008	4	20	105	90	110	104	70	130
Copper (total)	EMS0217-OCT22	mg/L	0.0002	<0.0002	5	20	105	90	110	92	70	130
Manganese (total)	EMS0217-OCT22	mg/L	0.00001	<0.00001	ND	20	107	90	110	83	70	130
Molybdenum (total)	EMS0217-OCT22	mg/L	0.00004	<0.00004	ND	20	105	90	110	105	70	130
Nickel (total)	EMS0217-OCT22	mg/L	0.0001	<0.0001	ND	20	105	90	110	90	70	130
Lead (total)	EMS0217-OCT22	mg/L	0.00009	<0.00001	3	20	103	90	110	93	70	130
Phosphorus (total)	EMS0217-OCT22	mg/L	0.003	<0.003	ND	20	97	90	110	NV	70	130
Antimony (total)	EMS0217-OCT22	mg/L	0.0009	<0.0009	ND	20	103	90	110	106	70	130
Selenium (total)	EMS0217-OCT22	mg/L	0.00004	<0.00004	ND	20	110	90	110	100	70	130
Tin (total)	EMS0217-OCT22	mg/L	0.00006	<0.00006	ND	20	106	90	110	NV	70	130
Titanium (total)	EMS0217-OCT22	mg/L	0.00005	<0.00005	ND	20	105	90	110	NV	70	130
Zinc (total)	EMS0217-OCT22	mg/L	0.002	<0.002	1	20	102	90	110	104	70	130



FINAL REPORT

CA40197-OCT22 R1

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9419-OCT22	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			113	55	120			
Nonylphenol Ethoxylates	GCM0431-OCT22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			115	55	120			
Nonylphenol	GCM0431-OCT22	mg/L	0.001	<0.001			115	55	120			



FINAL REPORT

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QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM0410-OCT22	mg/L	2	<2	NSS	20	100	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0681-OCT22	No unit	0.05	NA	0		101			NA		



FINAL REPORT

CA40197-OCT22 R1

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0318-OCT22	mg/L	0.002	<0.002	ND	10	100	80	120	100	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0377-OCT22	mg/L	0.0001	<0.0001	NSS	30	84	60	140	NSS	60	140



FINAL REPORT

CA40197-OCT22 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Bis(2-ethylhexyl)phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	123	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	113	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0006-NOV22	mg/L	2	< 2	0	10	93	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0004-NOV22	as N mg/L	0.5	<0.5	2	10	98	90	110	106	75	125

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	92	60	130	94	50	140
1,2-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	95	60	130	98	50	140
1,4-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	94	60	130	96	50	140
Benzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Chloroform	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
cis-1,2-Dichloroethene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
m-p-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
Methyl ethyl ketone	GCM0375-OCT22	mg/L	0.02	<0.02	ND	30	93	50	140	95	50	140
Methylene Chloride	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	50	140
o-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
Styrene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	101	50	140
Tetrachloroethylene (perchloroethylene)	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	100	50	140
Toluene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	97	50	140
Trichloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

- NSS** Insufficient sample for analysis.
- RL** Reporting Limit.
 - ↑ Reporting limit raised.
 - ↓ Reporting limit lowered.
- NA** The sample was not analysed for this analyte
- ND** Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --



Request for Laboratory Services and CHAIN OF CUSTODY

Laboratory Information Section - Lab use only

Received By: [Signature]
 Received Date: 10/26/22 (mm/dd/yy)
 Received Time: 17:58 (hr:min)

Received By (signature): _____
 Custody Seal Present: Yes No
 Custody Seal Intact: Yes No
 Cooling Agent Present: Yes No Type: Ice
 Temperature Upon Receipt (°C) 9°C x 3

LAB LIMS #: CA40197-001
22

REPORT INFORMATION	INVOICE INFORMATION
Company: <u>DS Consultants Inc.</u>	<input checked="" type="checkbox"/> (same as Report Information)
Contact: <u>Dorothy Santos</u>	Company: _____
Address: <u>6221 Hwy 7, Unit 16 Vaughan, ON</u>	Contact: <u>Accounting</u>
Phone: <u>905 329 2735</u>	Address: _____
Fax: _____	Phone: _____
Email: <u>dorothy.santos@dsconsultants.com</u>	Email: _____

Quotation #: _____ P.O. #: _____
 Project #: 19-093-100 Site Location/ID: 7675 King St Bolton

TURNAROUND TIME (TAT) REQUIRED
 Regular TAT (5-7 days) TAT's are quoted in business days (exclude statutory holidays & weekends).
 Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date: _____ *NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

O.Reg 153/04 O.Reg 406/19

Other Regulations:
 Reg 347/558 (3 Day min TAT)
 PWQO MMR
 CCME Other: _____
 MISA
 ODWS Not Reportable *See note

Sewer By-Law:
 Sanitary
 Storm
 Municipality: PCC1

ANALYSIS REQUESTED										SPLP	TCLP
M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)				Specify tests	Specify tests
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>(see form and notes)</u>				<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>PWQO</u>				<input type="checkbox"/>	<input type="checkbox"/>

RECORD OF SITE CONDITION (RSC) YES NO

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX
<u>BH 22-1</u>	<u>Oct 26, 22</u>	<u>PM</u>	<u>17</u>	<u>GW</u>

Field Filtered (Y/N)	Metals & Inorganics <small>(Cd, Cr(VI), Cu, Hg, Pb, (Bi)RWs, EC, SPM, soil)</small>	Full Metals Suite <small>(ICP metals plus Bi)RWs-soil only) Hg, Cr(VI)</small>	ICP Metals only <small>(Cr, Co, Cu, Pb, Mo, Ni, Se, Ag, Tl, U, Y, Zn)</small>	PAHs only	SVOCs <small>(all incl) PABs, ABNs, CPs</small>	PCBs <small>Total</small>	F1-F4 + BTEX	F1-F4 only <small>no BTEX</small>	VOCs <small>(all incl) BTEX</small>	BTEX only	Pesticides <small>(Organochlorine or specify other)</small>	Sewer Use: <small>Specify pkg:</small>	Water Characterization Pkg <small>General</small>	Specify tests	Specify tests
<u>N</u>															

COMMENTS:

Non Filtered Samples

Observations/Comments/Special Instructions

Sampled By (NAME): Honey Chaitanya Signature: [Signature] Date: 10/26/22 (mm/dd/yy)
 Relinquished by (NAME): [Signature] Signature: [Signature] Date: 10/26/22 (mm/dd/yy)



FINAL REPORT

CA40197-OCT22 R1

19-093-100, 7675 King St, Bolton

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants
 Address 6221 Highway 7 Unit 16
 Vaughan, Ontario
 L4H 0K8, Canada
 Contact Dorothy Santos
 Telephone 905-329-2735
 Facsimile 905-264-2685
 Email dorothy.santos@dsconsultants.ca
 Project 19-093-100, 7675 King St, Bolton
 Order Number
 Samples Ground Water (1)

LABORATORY DETAILS

Project Specialist Jill Campbell, B.Sc.,GISAS
 Laboratory SGS Canada Inc.
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 SGS Reference CA40197-OCT22
 Received 10/26/2022
 Approved 11/03/2022
 Report Number CA40197-OCT22 R1
 Date Reported 11/03/2022

COMMENTS

RL - SGS Reporting Limit

Temperature of Sample upon Receipt: 9 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 029796

Note: Elevated E coli reporting limit due to excessive growth of bacteria at higher volumes.

SIGNATORIES

Jill Campbell, B.Sc.,GISAS



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FINAL REPORT

CA40197-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER

Sample Number 8

Sample Name BH 22-1

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
General Chemistry				
Biochemical Oxygen Demand (BOD5)	mg/L	2		< 4 †
Total Suspended Solids	mg/L	2		38300
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5
Metals and Inorganics				
Fluoride	mg/L	0.06		0.14
Cyanide (total)	mg/L	0.01		< 0.01
Sulphate	mg/L	2		24
Aluminum (total)	mg/L	0.001		15.7
Antimony (total)	mg/L	0.0009	0.02	< 0.0009
Arsenic (total)	mg/L	0.0002	0.005	0.0072
Cadmium (total)	mg/L	0.000003	0.0001	0.000178
Chromium (total)	mg/L	0.00008	0.1	0.0326
Copper (total)	mg/L	0.0002	0.001	0.0266
Cobalt (total)	mg/L	0.000004	0.0009	0.0125
Lead (total)	mg/L	0.00009	0.005	0.0180
Manganese (total)	mg/L	0.00001		2.17
Molybdenum (total)	mg/L	0.00004	0.04	0.00230
Nickel (total)	mg/L	0.0001	0.025	0.0248
Phosphorus (total)	mg/L	0.003	0.01	3.12
Selenium (total)	mg/L	0.00004	0.1	0.00022
Silver (total)	mg/L	0.00005	0.0001	0.00006
Tin (total)	mg/L	0.00006		0.00227



FINAL REPORT

CA40197-OCT22 R1

Client: DS Consultants

Project: 19-093-100, 7675 King St, Bolton

Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER

Sample Number 8

Sample Name BH 22-1

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Titanium (total)	mg/L	0.00005		0.576
Zinc (total)	mg/L	0.002	0.02	0.057
Microbiology				
E. Coli	cfu/100mL	0	100	< 20 †
Nonylphenol and Ethoxylates				
Nonylphenol	mg/L	0.001		< 0.001
Nonylphenol Ethoxylates	mg/L	0.01		< 0.01
Nonylphenol diethoxylate	mg/L	0.01		< 0.01
Nonylphenol monoethoxylate	mg/L	0.01		< 0.01
Oil and Grease				
Oil & Grease (total)	mg/L	2		< 4 †
Oil & Grease (animal/vegetable)	mg/L	4		< 4
Oil & Grease (mineral/synthetic)	mg/L	4		< 4



FINAL REPORT

CA40197-OCT22 R1

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Project Manager: Dorothy Santos

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MATRIX: WATER

Sample Number 8

Sample Name BH 22-1

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
Other (ORP)				
pH	No unit	0.05	8.6	7.72
Mercury (total)	mg/L	0.00001	0.0002	0.00002
PCBs				
Polychlorinated Biphenyls (PCBs) - Total	mg/L	0.0001		< 0.0001
Phenols				
4AAP-Phenolics	mg/L	0.002	0.001	< 0.002
SVOCs				
di-n-Butyl Phthalate	mg/L	0.002		< 0.002
Bis(2-ethylhexyl)phthalate	mg/L	0.002		< 0.002
VOCs				
Chloroform	mg/L	0.0005		< 0.0005
1,2-Dichlorobenzene	mg/L	0.0005		< 0.0005
1,4-Dichlorobenzene	mg/L	0.0005		< 0.0005
cis-1,2-Dichloroethene	mg/L	0.0005		< 0.0005
trans-1,3-Dichloropropene	mg/L	0.0005		< 0.0005
Methylene Chloride	mg/L	0.0005	0.1	< 0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005	0.07	< 0.0005
Methyl ethyl ketone	mg/L	0.02		< 0.02
Styrene	mg/L	0.0005		< 0.0005
Tetrachloroethylene (perchloroethylene)	mg/L	0.0005	0.05	< 0.0005
Trichloroethylene	mg/L	0.0005	0.02	< 0.0005



FINAL REPORT

CA40197-OCT22 R1

Client: DS Consultants

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Project Manager: Dorothy Santos

Samplers: Harry/Chaitanyo

MATRIX: WATER

Sample Number 8

Sample Name BH 22-1

Sample Matrix Ground Water

Sample Date 26/10/2022

L1 = PWQQ_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

Parameter	Units	RL	L1	Result
VOCs - BTEX				
Benzene	mg/L	0.0005	0.1	< 0.0005
Ethylbenzene	mg/L	0.0005	0.008	< 0.0005
Toluene	mg/L	0.0005	0.0008	0.0005
Xylene (total)	mg/L	0.0005		< 0.0005
m-p-xylene	mg/L	0.0005	0.002	< 0.0005
o-xylene	mg/L	0.0005	0.04	< 0.0005

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
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BH 22-1

Arsenic	SM 3030/EPA 200.8	mg/L	0.0072	0.005
Cadmium	SM 3030/EPA 200.8	mg/L	0.000178	0.0001
Cobalt	SM 3030/EPA 200.8	mg/L	0.0125	0.0009
Copper	SM 3030/EPA 200.8	mg/L	0.0266	0.001
Lead	SM 3030/EPA 200.8	mg/L	0.0180	0.005
Phosphorus	SM 3030/EPA 200.8	mg/L	3.12	0.01
Zinc	SM 3030/EPA 200.8	mg/L	0.057	0.02
4AAP-Phenolics	SM 5530B-D	mg/L	< 0.002	0.001



FINAL REPORT

CA40197-OCT22 R1

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 375.4 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphate	DIO5002-NOV22	mg/L	2	<2	ND	20	106	80	120	106	75	125

Biochemical Oxygen Demand

Method: SM 5210 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Biochemical Oxygen Demand (BOD5)	BOD0054-OCT22	mg/L	2	< 2	18	30	99	70	130	NV	70	130

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (total)	SKA0285-OCT22	mg/L	0.01	<0.01	ND	10	98	90	110	101	75	125



FINAL REPORT

CA40197-OCT22 R1

QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0664-OCT22	mg/L	0.06	<0.06	ND	10	104	90	110	100	75	125

Mercury by CVAAS

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury (total)	EHG0051-OCT22	mg/L	0.00001	< 0.00001	4	20	115	80	120	106	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0217-OCT22	mg/L	0.00005	<0.00005	ND	20	104	90	110	102	70	130
Aluminum (total)	EMS0217-OCT22	mg/L	0.001	<0.001	3	20	103	90	110	107	70	130
Arsenic (total)	EMS0217-OCT22	mg/L	0.0002	<0.0002	ND	20	110	90	110	106	70	130
Cadmium (total)	EMS0217-OCT22	mg/L	0.000003	<0.000003	ND	20	103	90	110	102	70	130
Cobalt (total)	EMS0217-OCT22	mg/L	0.000004	<0.000004	2	20	104	90	110	99	70	130
Chromium (total)	EMS0217-OCT22	mg/L	0.00008	<0.00008	4	20	105	90	110	104	70	130
Copper (total)	EMS0217-OCT22	mg/L	0.0002	<0.0002	5	20	105	90	110	92	70	130
Manganese (total)	EMS0217-OCT22	mg/L	0.00001	<0.00001	ND	20	107	90	110	83	70	130
Molybdenum (total)	EMS0217-OCT22	mg/L	0.00004	<0.00004	ND	20	105	90	110	105	70	130
Nickel (total)	EMS0217-OCT22	mg/L	0.0001	<0.0001	ND	20	105	90	110	90	70	130
Lead (total)	EMS0217-OCT22	mg/L	0.00009	<0.00001	3	20	103	90	110	93	70	130
Phosphorus (total)	EMS0217-OCT22	mg/L	0.003	<0.003	ND	20	97	90	110	NV	70	130
Antimony (total)	EMS0217-OCT22	mg/L	0.0009	<0.0009	ND	20	103	90	110	106	70	130
Selenium (total)	EMS0217-OCT22	mg/L	0.00004	<0.00004	ND	20	110	90	110	100	70	130
Tin (total)	EMS0217-OCT22	mg/L	0.00006	<0.00006	ND	20	106	90	110	NV	70	130
Titanium (total)	EMS0217-OCT22	mg/L	0.00005	<0.00005	ND	20	105	90	110	NV	70	130
Zinc (total)	EMS0217-OCT22	mg/L	0.002	<0.002	1	20	102	90	110	104	70	130



FINAL REPORT

CA40197-OCT22 R1

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
E. Coli	BAC9419-OCT22	cfu/100mL	-	ACCEPTED	ACCEPTED							

Nonylphenol and Ethoxylates

Method: ASTM D7065-06 | Internal ref.: ME-CA-IENVIGC-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nonylphenol diethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			113	55	120			
Nonylphenol Ethoxylates	GCM0431-OCT22	mg/L	0.01	< 0.01								
Nonylphenol monoethoxylate	GCM0431-OCT22	mg/L	0.01	<0.01			115	55	120			
Nonylphenol	GCM0431-OCT22	mg/L	0.001	<0.001			115	55	120			



FINAL REPORT

CA40197-OCT22 R1

QC SUMMARY

Oil & Grease

Method: MOE E3401 | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (total)	GCM0410-OCT22	mg/L	2	<2	NSS	20	100	75	125			

Oil & Grease-AV/MS

Method: MOE E3401/SM 5520F | Internal ref.: ME-CA-IENVIGC-LAK-AN-019

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Oil & Grease (animal/vegetable)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			
Oil & Grease (mineral/synthetic)	GCM0410-OCT22	mg/L	4	< 4	NSS	20	NA	70	130			

pH

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	EWL0681-OCT22	No unit	0.05	NA	0		101			NA		



FINAL REPORT

CA40197-OCT22 R1

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-IENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0318-OCT22	mg/L	0.002	<0.002	ND	10	100	80	120	100	75	125

Polychlorinated Biphenyls

Method: MOE E3400/EPA 8082A | Internal ref.: ME-CA-IENVIGC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Polychlorinated Biphenyls (PCBs) - Total	GCM0377-OCT22	mg/L	0.0001	<0.0001	NSS	30	84	60	140	NSS	60	140



FINAL REPORT

CA40197-OCT22 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3510C/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Bis(2-ethylhexyl)phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	123	50	140	NSS	50	140
di-n-Butyl Phthalate	GCM0391-OCT22	mg/L	0.002	< 0.002	NSS	30	113	50	140	NSS	50	140

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-IENVIEWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0006-NOV22	mg/L	2	< 2	0	10	93	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-IENVISFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0004-NOV22	as N mg/L	0.5	<0.5	2	10	98	90	110	106	75	125

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,2,2-Tetrachloroethane	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	92	60	130	94	50	140
1,2-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	95	60	130	98	50	140
1,4-Dichlorobenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	94	60	130	96	50	140
Benzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Chloroform	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	100	50	140
cis-1,2-Dichloroethene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	100	60	130	102	50	140
Ethylbenzene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
m-p-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	100	50	140
Methyl ethyl ketone	GCM0375-OCT22	mg/L	0.02	<0.02	ND	30	93	50	140	95	50	140
Methylene Chloride	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	98	50	140
o-xylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	102	50	140
Styrene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	98	60	130	101	50	140
Tetrachloroethylene (perchloroethylene)	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	100	50	140
Toluene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140
trans-1,3-Dichloropropene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	96	60	130	97	50	140
Trichloroethylene	GCM0375-OCT22	mg/L	0.0005	<0.0005	ND	30	97	60	130	99	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

- NSS** Insufficient sample for analysis.
- RL** Reporting Limit.
 - ↑ Reporting limit raised.
 - ↓ Reporting limit lowered.
- NA** The sample was not analysed for this analyte
- ND** Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

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This report supersedes all previous versions.

-- End of Analytical Report --



Request for Laboratory Services and CHAIN OF CUSTODY

No: 029796

Page 1 of 1

Laboratory Information Section - Lab use only

Received By: [Signature] Received By (signature): _____
 Received Date: 10/26/22 (mm/dd/yy) Custody Seal Present: Yes No
 Received Time: 17:58 (hr:min) Custody Seal Intact: Yes No

Cooling Agent Present: Yes No Type: Ice
 Temperature Upon Receipt (°C): 9°C x 3

LAB LIMS #: CA40197-001
22

REPORT INFORMATION	INVOICE INFORMATION
Company: <u>DS Consultants Inc.</u>	<input checked="" type="checkbox"/> (same as Report Information)
Contact: <u>Dorothy Santos</u>	Company: _____
Address: <u>6221 Hwy 7, Unit 16 Vaughan, ON</u>	Contact: <u>Accounting</u>
Phone: <u>905 329 2735</u>	Address: _____
Fax: _____	Phone: _____
Email: <u>dorothy.santos@dsconsultants.com</u>	Email: _____

Quotation #: _____ P.O. #: _____
 Project #: 19-093-100 Site Location/ID: 7675 King St Bolton

TURNAROUND TIME (TAT) REQUIRED
 Regular TAT (5-7 days) TAT's are quoted in business days (exclude statutory holidays & weekends).
 Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): 1 Day 2 Days 3 Days 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date: _____ ***NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY**

REGULATIONS

O.Reg 153/04 O.Reg 406/19

Other Regulations:
 Reg 347/558 (3 Day min TAT)
 PWQO MMR
 CCME Other: _____
 MISA
 ODWS Not Reportable *See note

Sewer By-Law:
 Sanitary
 Storm
 Municipality: PCC

ANALYSIS REQUESTED		SPLP	TCLP	COMMENTS:											
M & I	SVOC	PCB	PHC		VOC	Pest	Other (please specify)	Specify tests	Specify tests						
Field Filtered (Y/N)	Metals & Inorganics (Cr, V, Ni, Pb, Bi, Hg, Se, Cd, Mn, Zn, Cu, Ni, Mo, Sb, As, Ag, Tl, U, Y, Zr)	PAHs only	SVOCs (all incl PAHs, ABNs, CPs)	PCBs Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX	F1-F4 only no BTEX	VOCs (all incl BTEX)	BTEX only	Pesticides (Organochlorine or specify other)	Other (please specify)	Sewer Use: Specify pkg:	Water Characterization Pkg: General <input type="checkbox"/> Extended <input type="checkbox"/>	Metals <input type="checkbox"/> VOC <input type="checkbox"/> PCB <input type="checkbox"/> B(a)P <input type="checkbox"/> ABN <input type="checkbox"/> Ignit. <input type="checkbox"/>		
<u>N</u>	<u>Y</u>									<u>Spec form anal sanitary used</u>		<u>PWQO</u>			<u>Non Filtered Samples</u>
1	BH 22-1	Oct 26, 22	PM	17	GW										
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

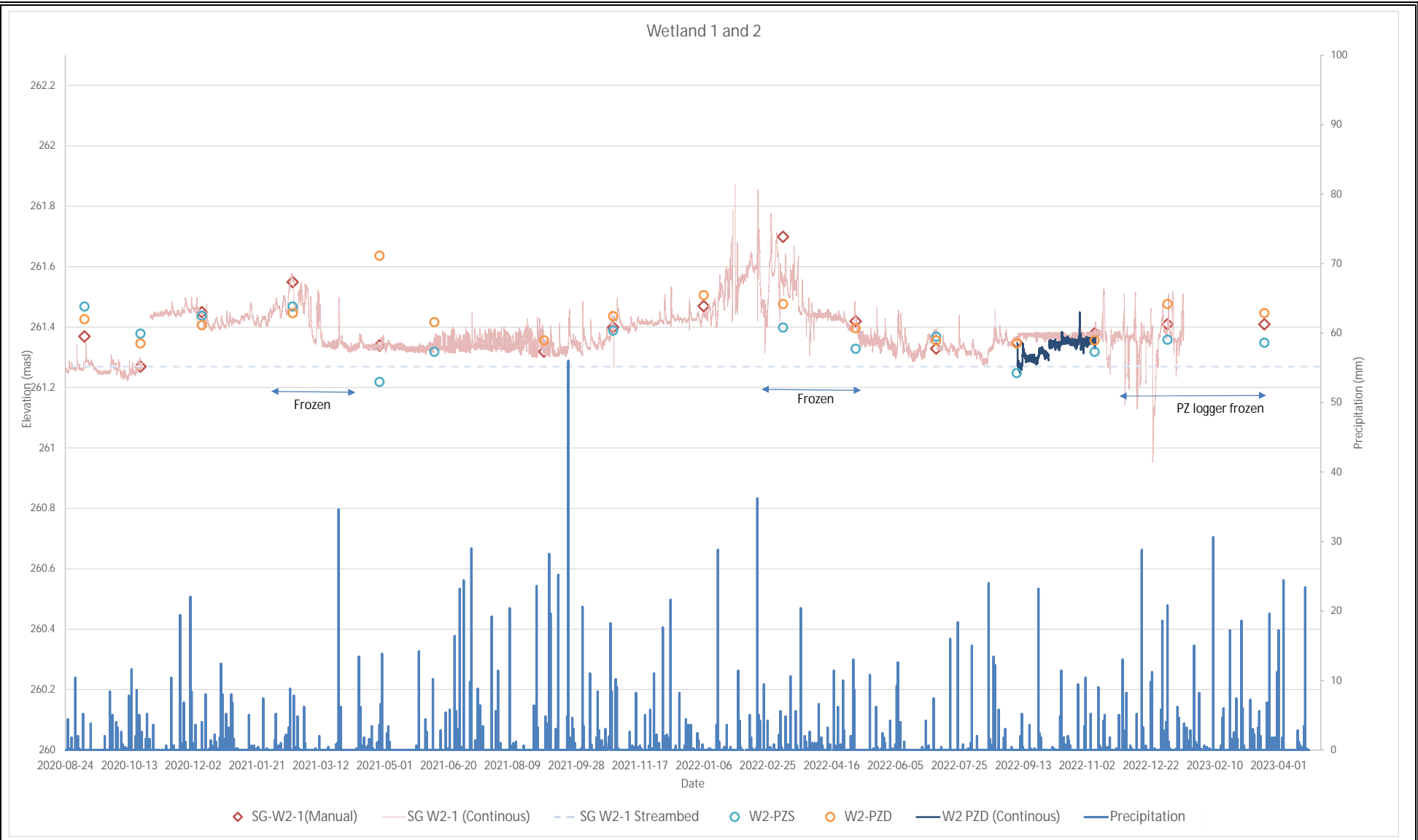
Observations/Comments/Special Instructions

Sampled By (NAME): Harmy Chaitanya Signature: [Signature] Date: 10/26/22 (mm/dd/yy) Pink Copy - Client
 Relinquished by (NAME): [Signature] Signature: [Signature] Date: 10/26/22 (mm/dd/yy) Yellow & White Copy - SGS



Appendix F

WATER LEVEL HYDROGRAPH



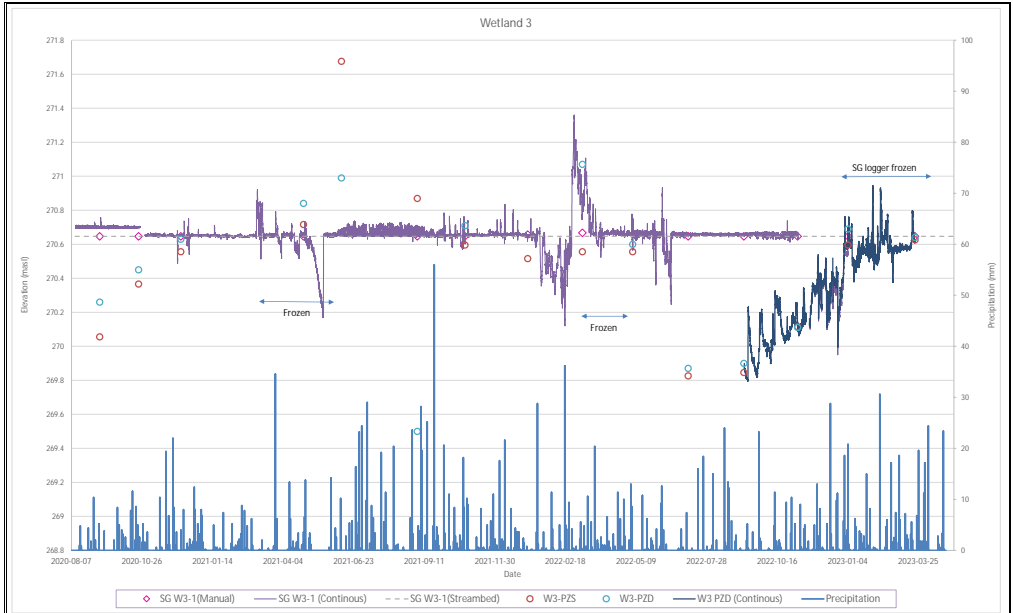
DS CONSULTANTS LTD.
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Caledon Station
WETLAND 1 & 2 HYDROGRAPH

August 2020 - April 2023

F-1

WATER LEVEL HYDROGRAPH



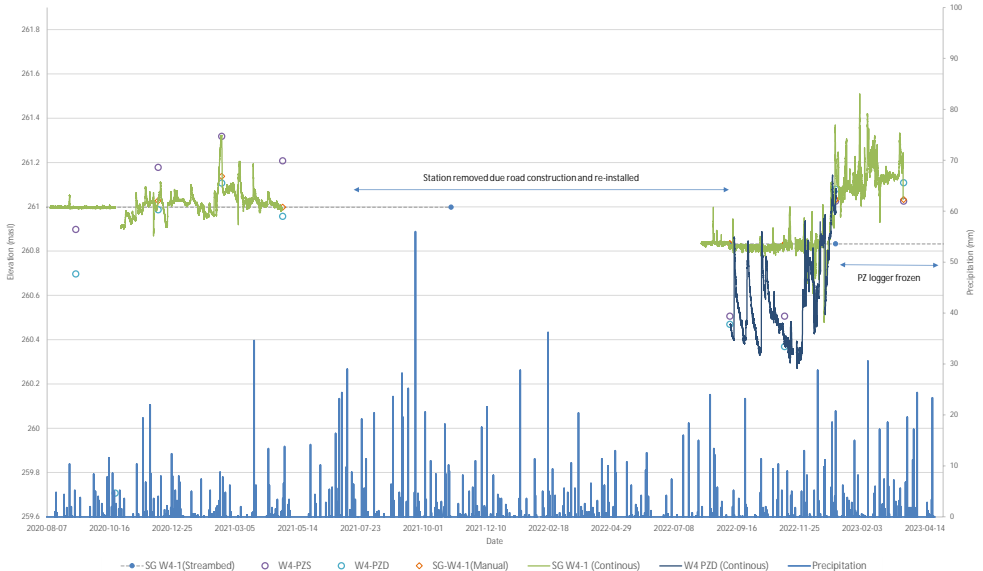
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Caledon Station
WETLAND 3 HYDROGRAPH

August 2020 - April 2023

WATER LEVEL HYDROGRAPH

Wetland 4

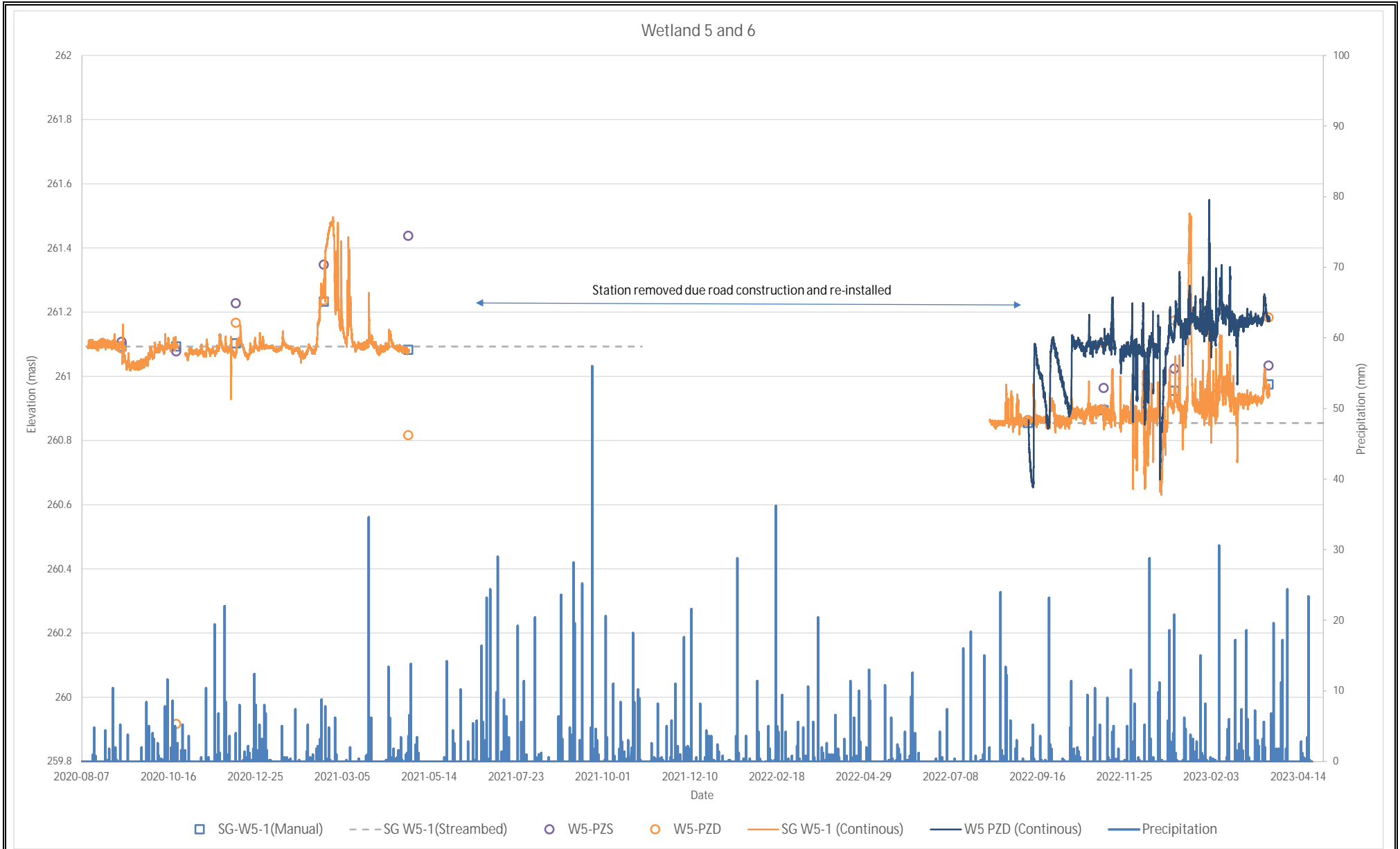


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Caledon Station
 WETLAND 4 HYDROGRAPH

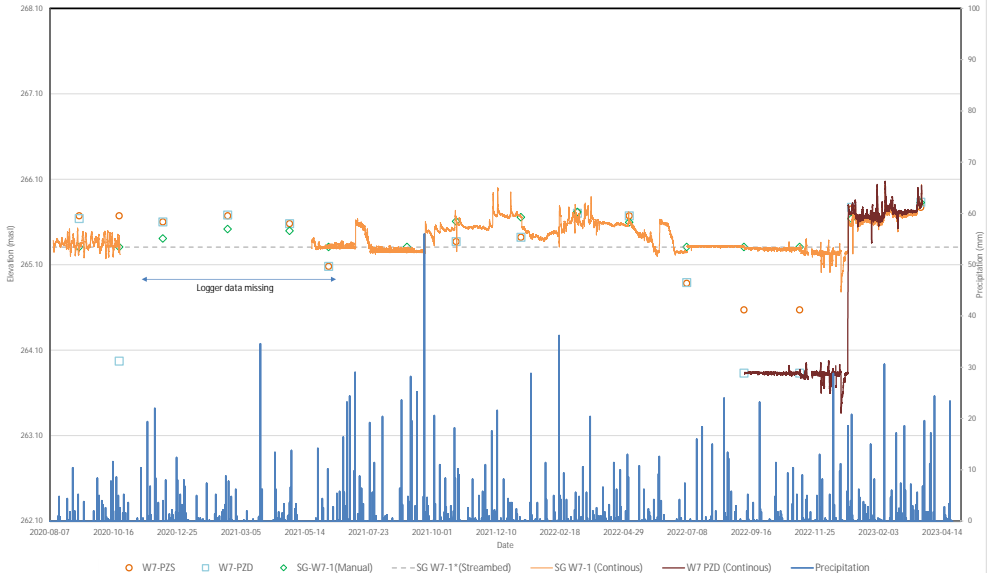
August 2020 - April 2023

WATER LEVEL HYDROGRAPH



WATER LEVEL HYDROGRAPH

Wetland 7



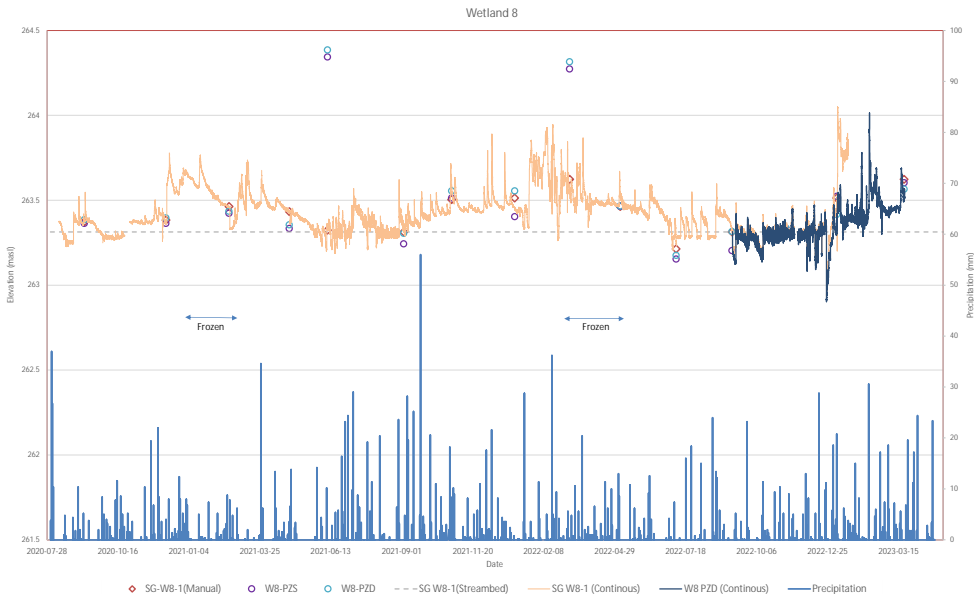
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Caledon Station
WETLAND 7 HYDROGRAPH

August 2020 - April 2023

F6

WATER LEVEL HYDROGRAPH



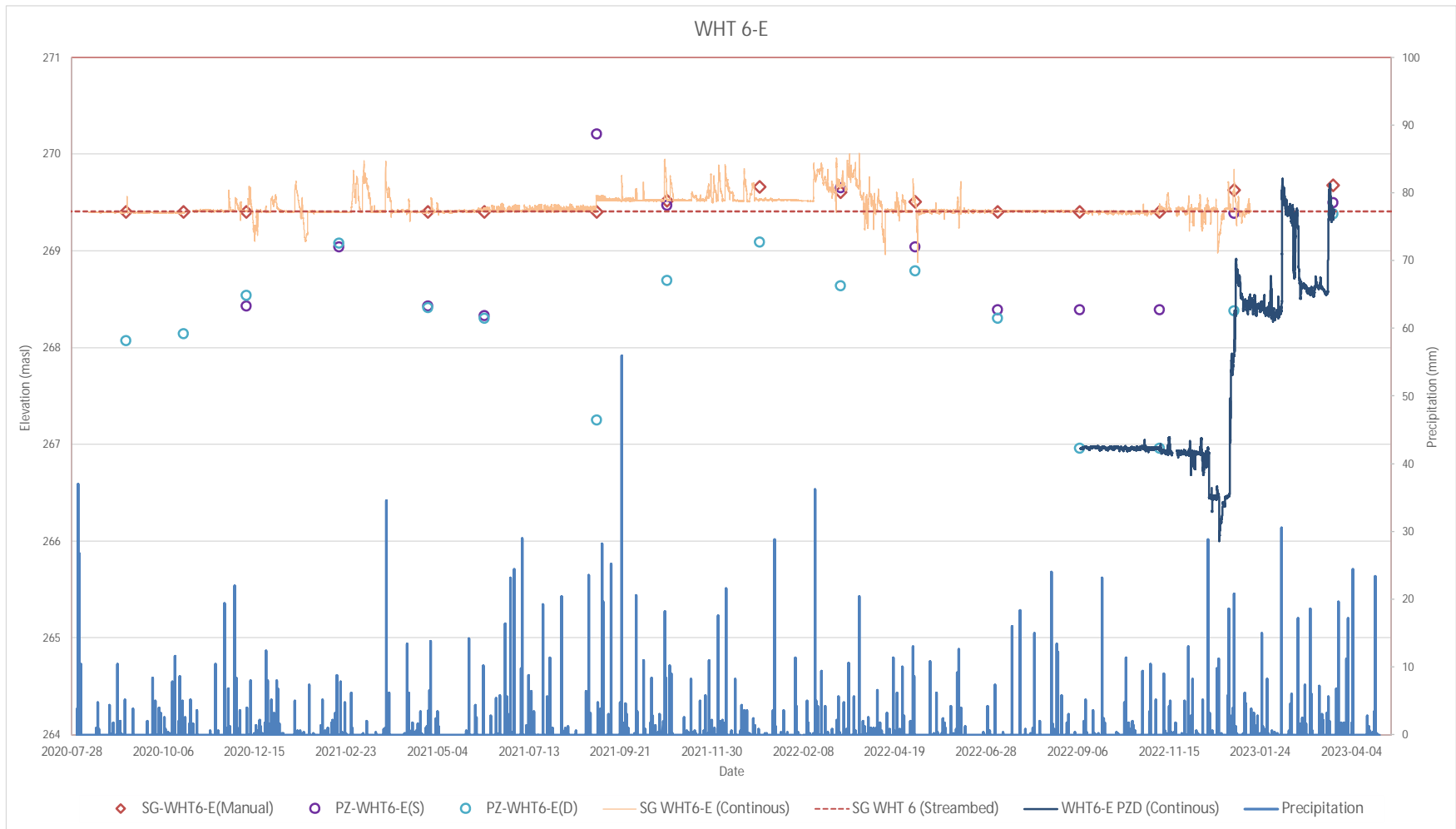
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Caledon Station
 WETLAND 8 HYDROGRAPH

August 2020 - April 2023

F6

WATER LEVEL HYDROGRAPH



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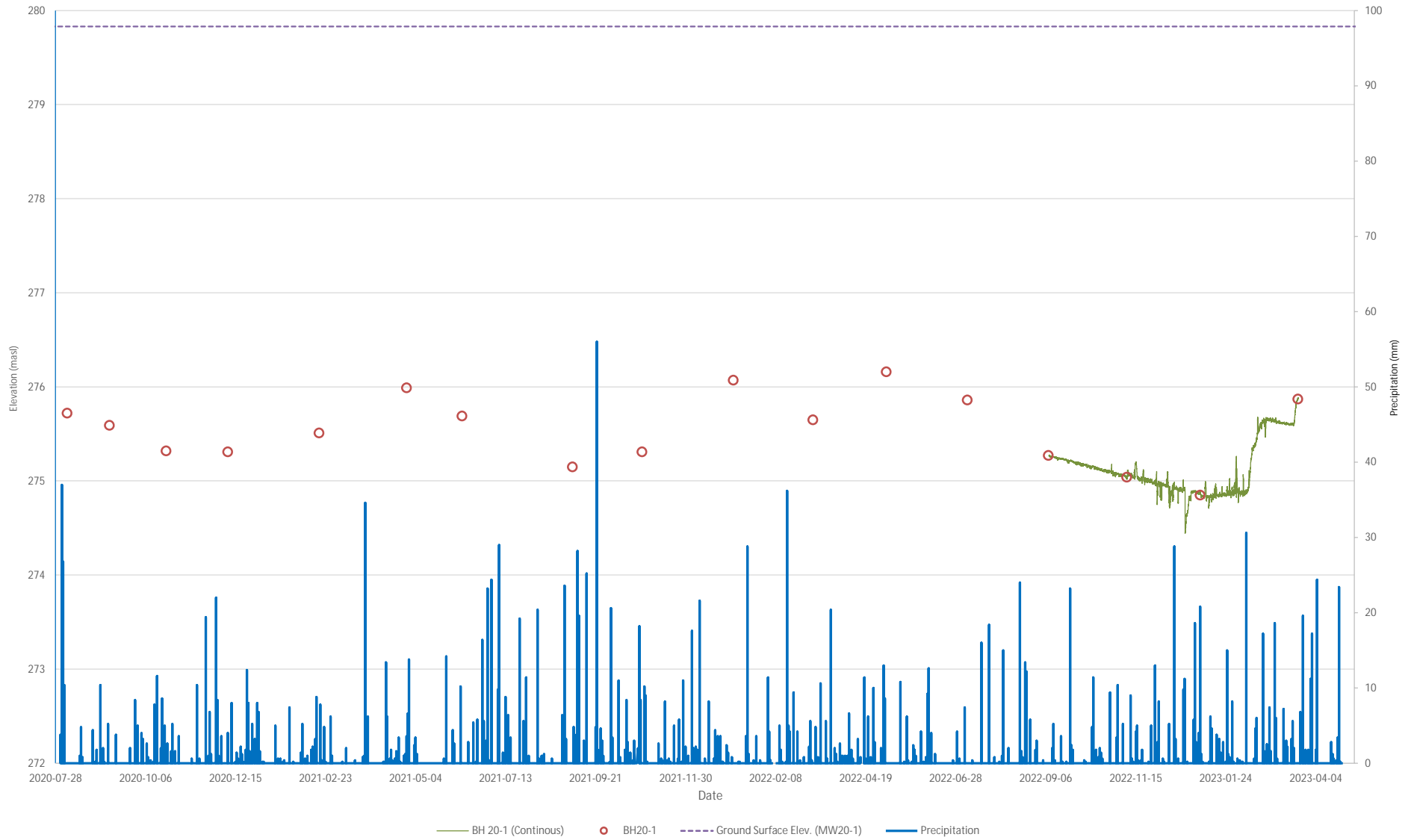
WHT 6-E HYDROGRAPH

August 2020 - April 2023

F-7

WATER LEVEL HYDROGRAPH

MW 20-1



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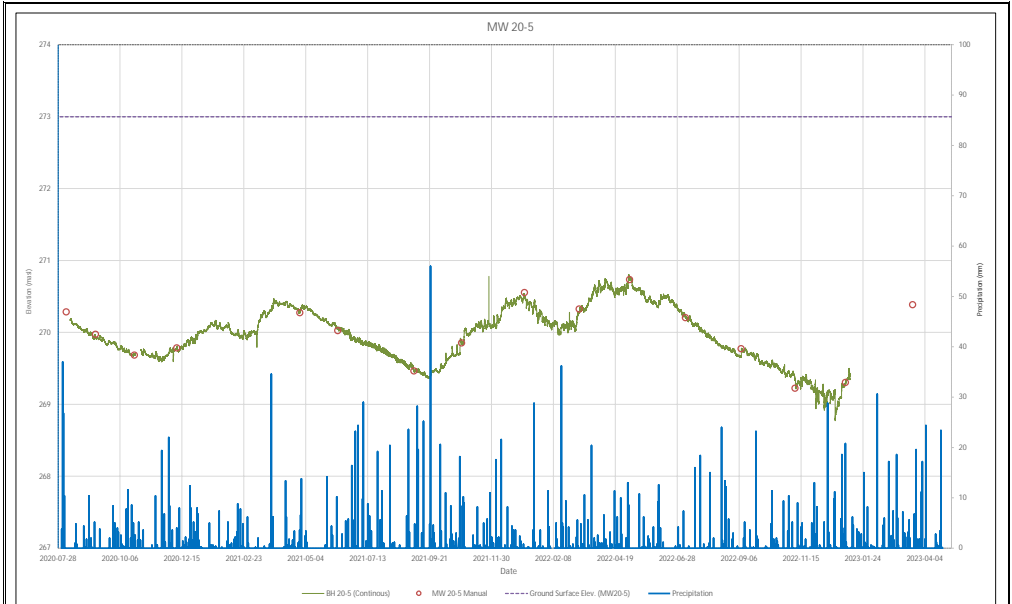
Caledon Station

MW 20-1 HYDROGRAPH

August 2020 - April 2023

F-8

WATER LEVEL HYDROGRAPH



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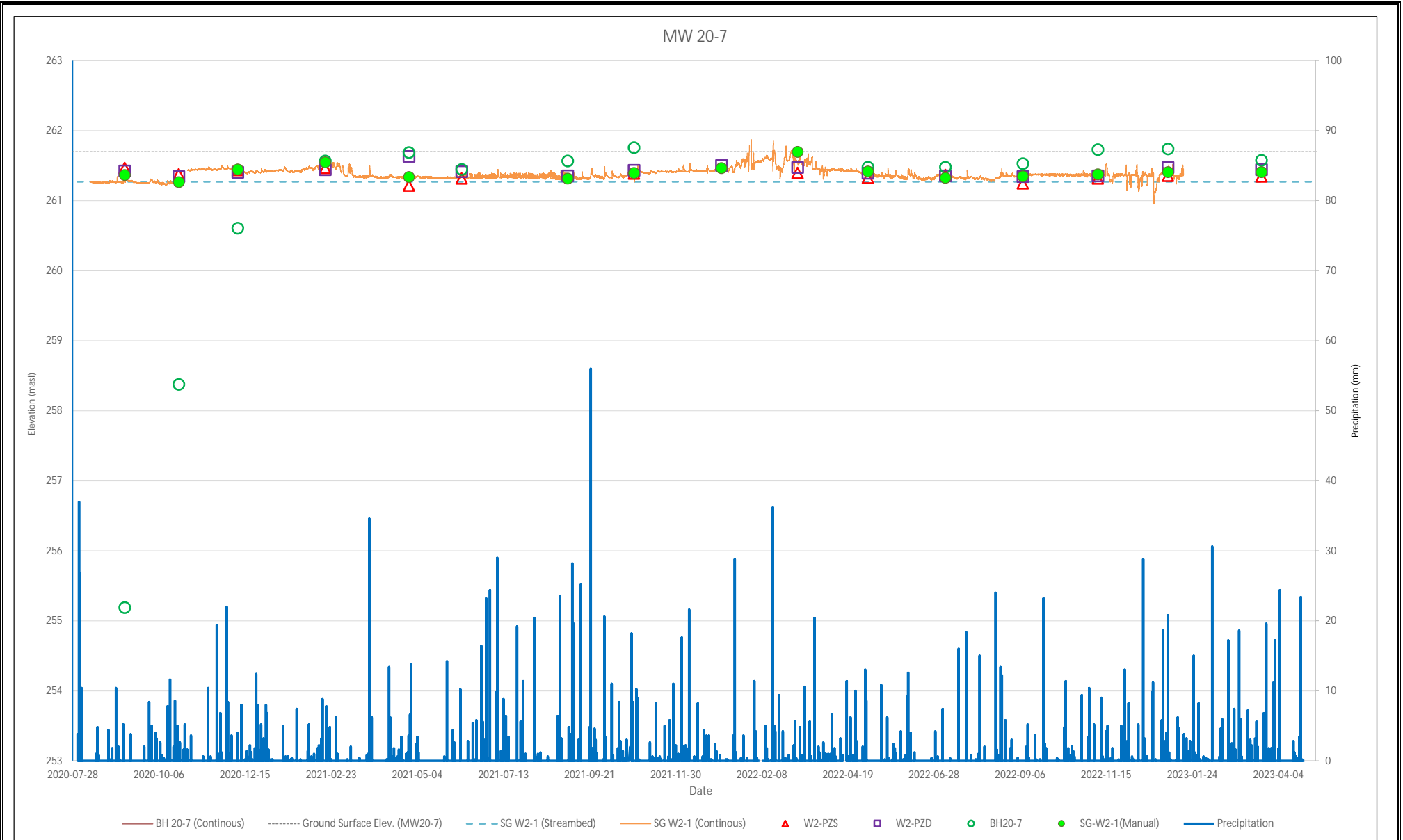
Caledon Station

MW 20-5 HYDROGRAPH

August 2020 - April 2023

F-9

WATER LEVEL HYDROGRAPH

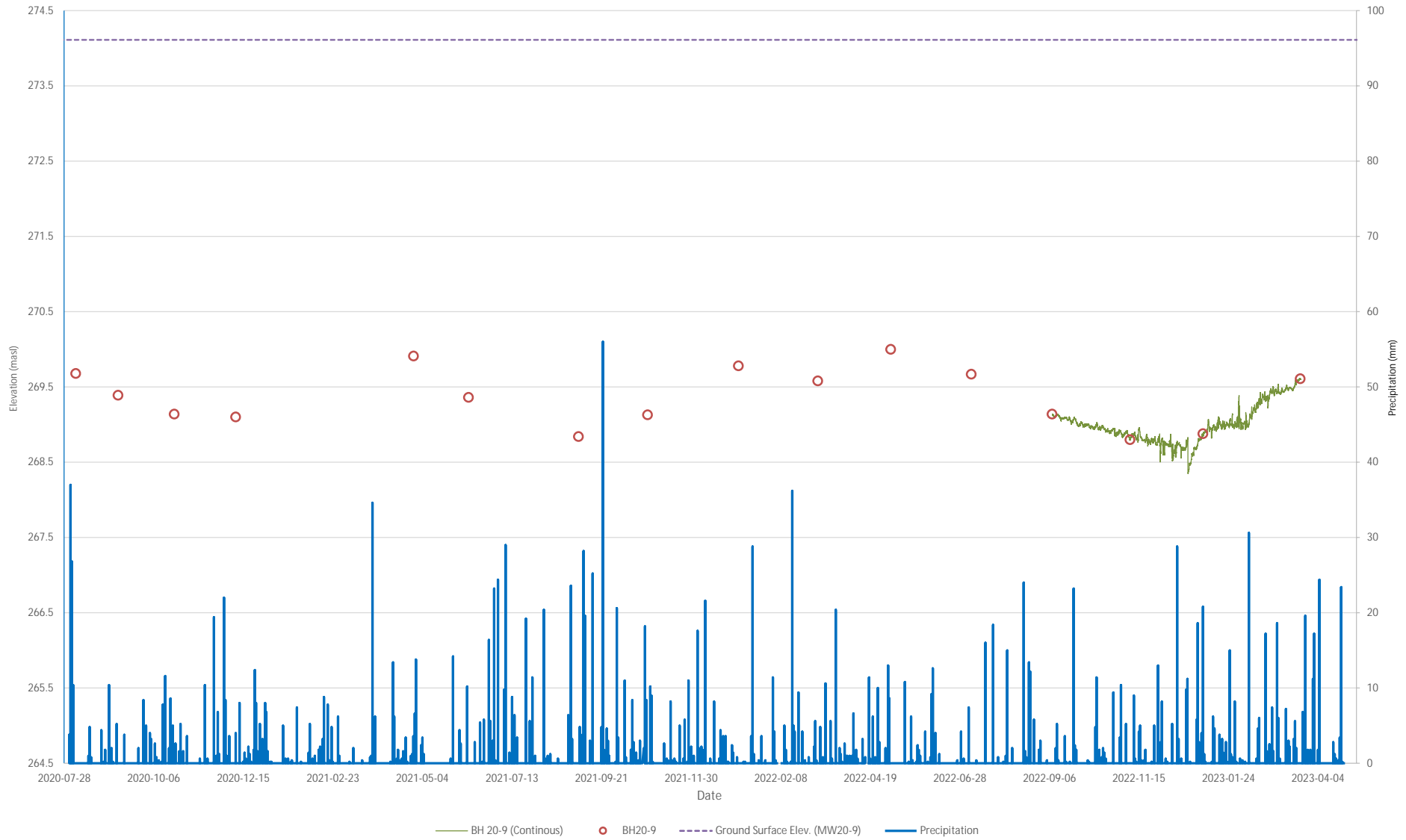


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 MW 20-7 HYDROGRAPH
 August 2020 - April 2023
 F-10

WATER LEVEL HYDROGRAPH

MW 20-9

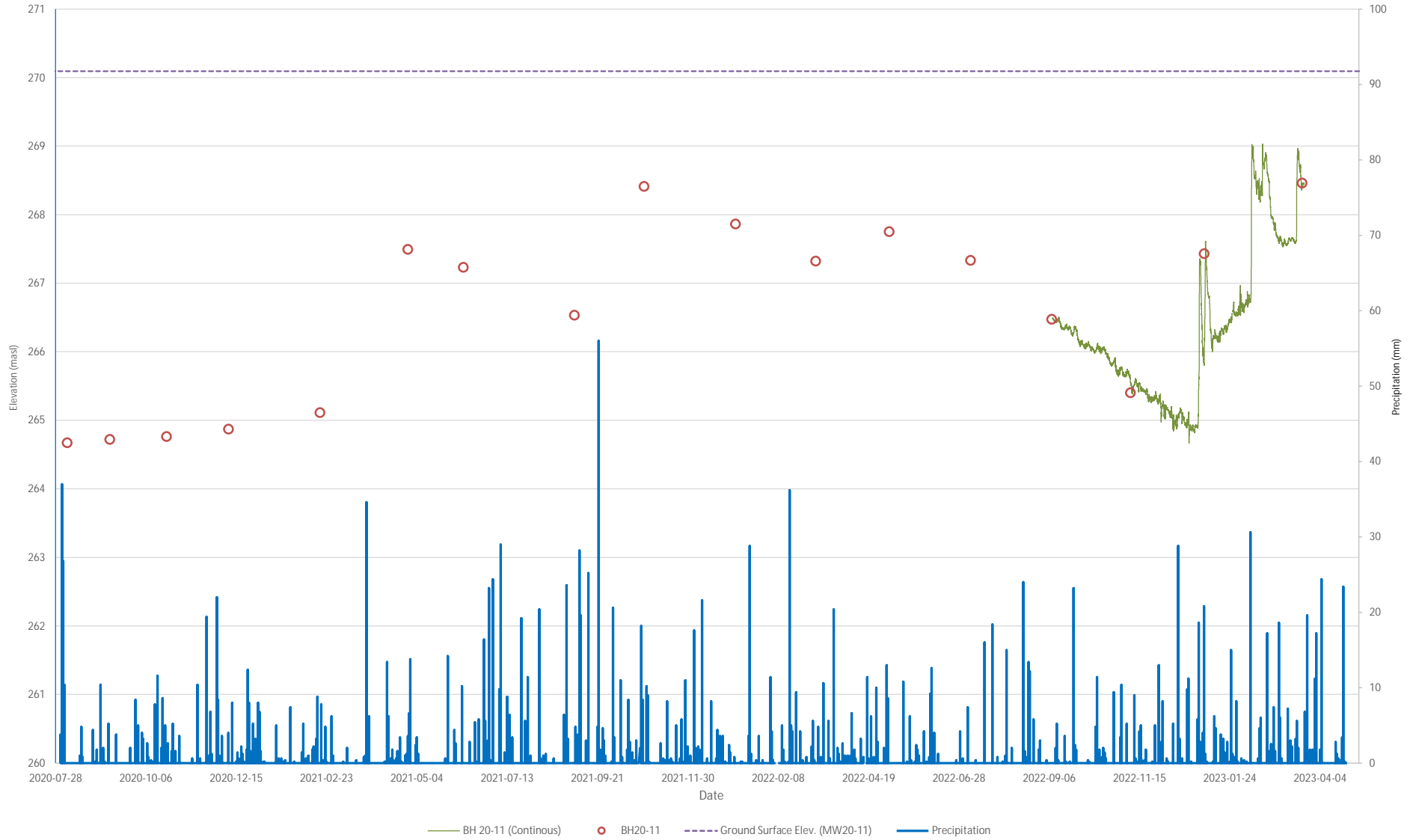


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MW 20-9 HYDROGRAPH
August 2020 - April 2023
F-11

WATER LEVEL HYDROGRAPH

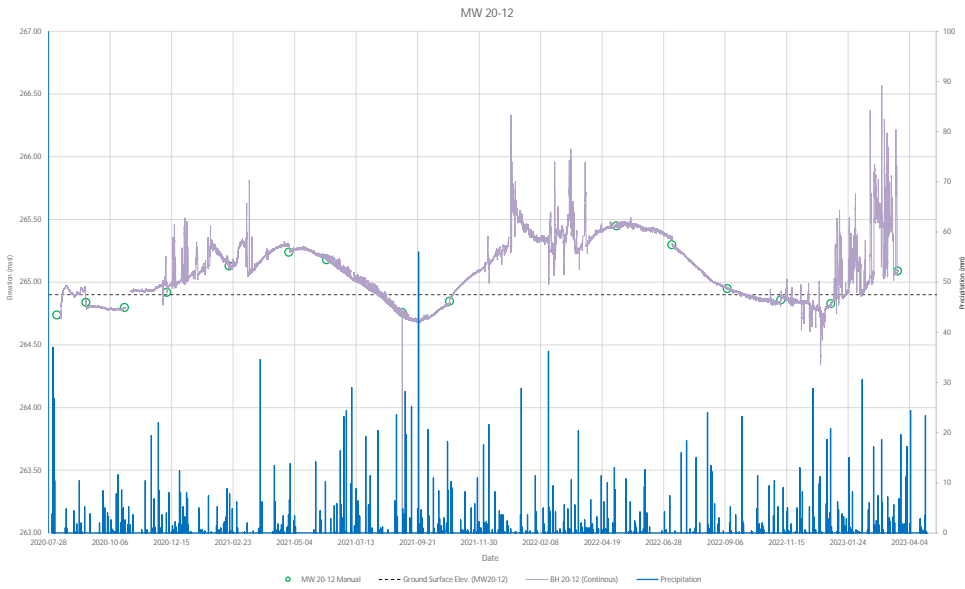
MW 20-11



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MW 20-11 HYDROGRAPH
August 2020 - April 2023
F-12

WATER LEVEL HYDROGRAPH



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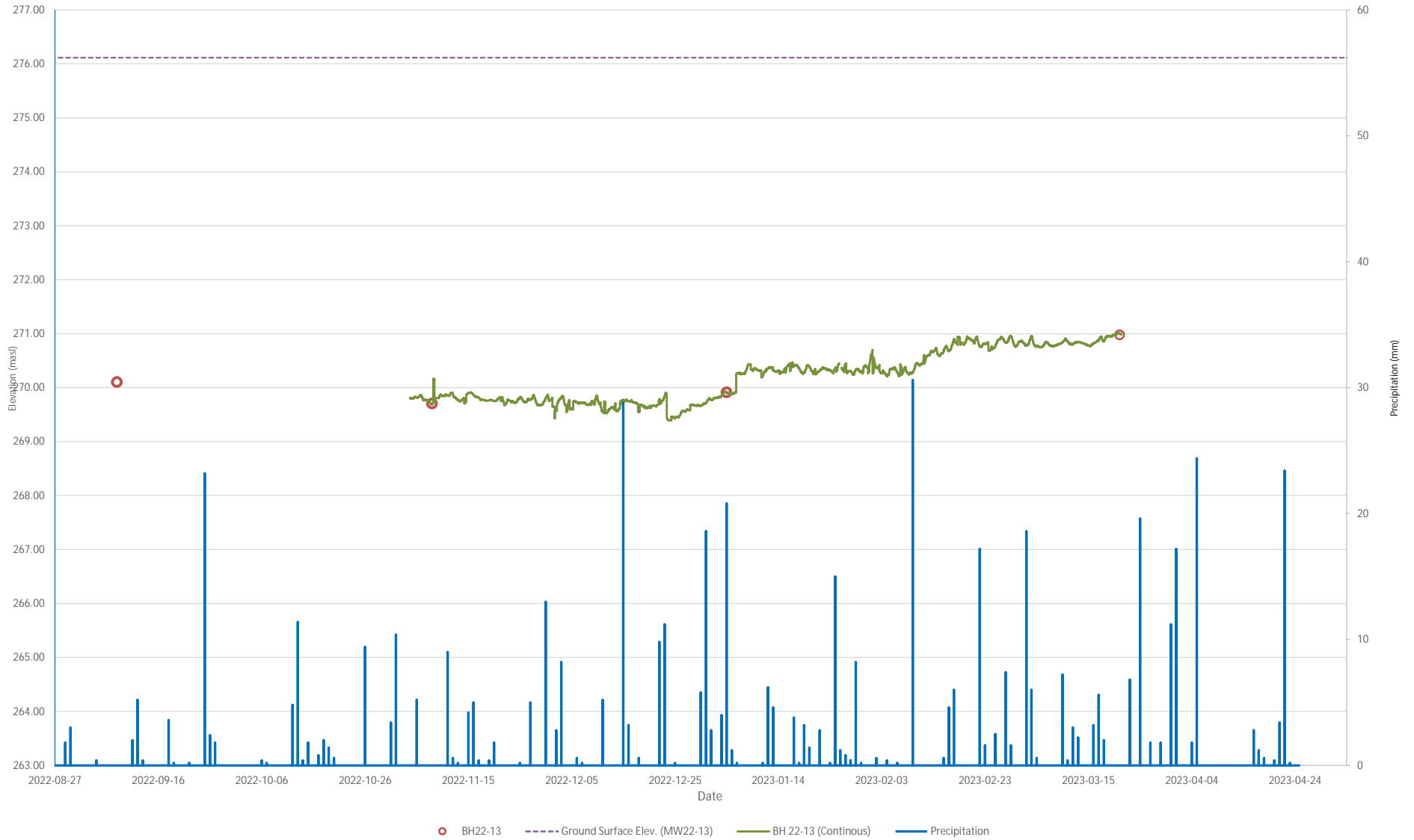
MW 20-12 HYDROGRAPH

August 2020 - 2023

F-13

WATER LEVEL HYDROGRAPH

MW 22-13



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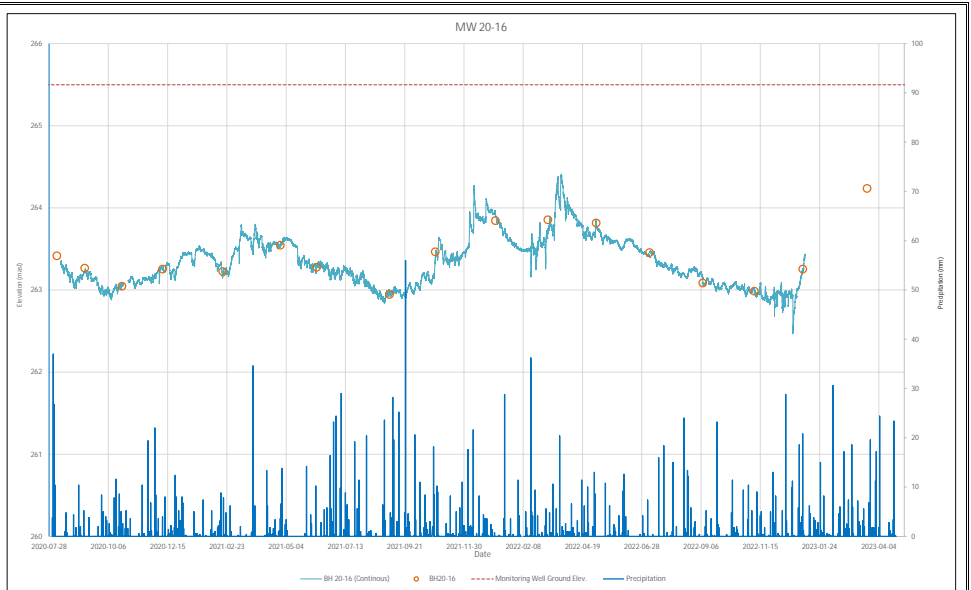
Caledon Station

MW 22-13 HYDROGRAPH

August 2022 - April 2023

F-14

WATER LEVEL HYDROGRAPH



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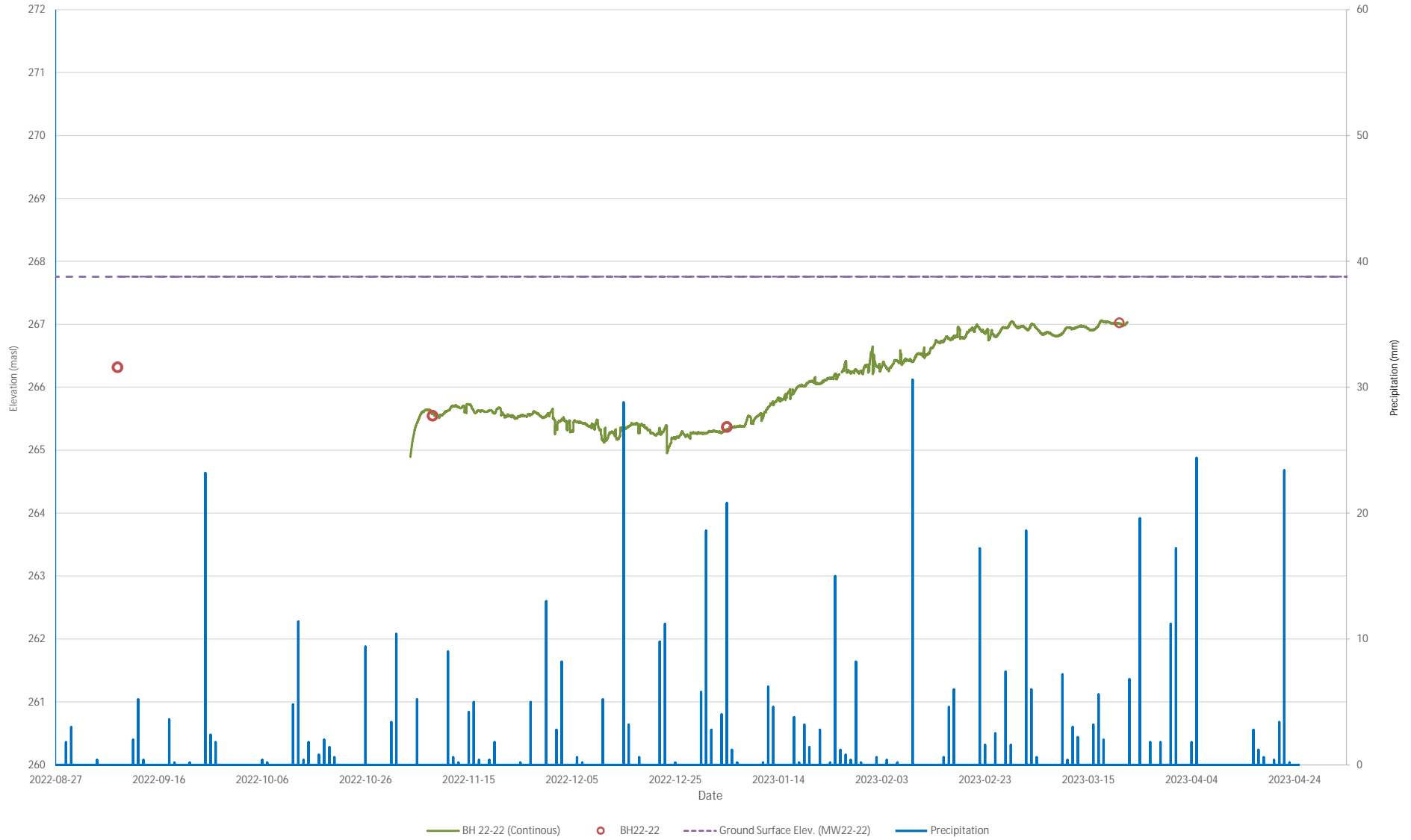
MW 20-16 HYDROGRAPH

August 2020 - April 2023

F-18

WATER LEVEL HYDROGRAPH

MW 22-22



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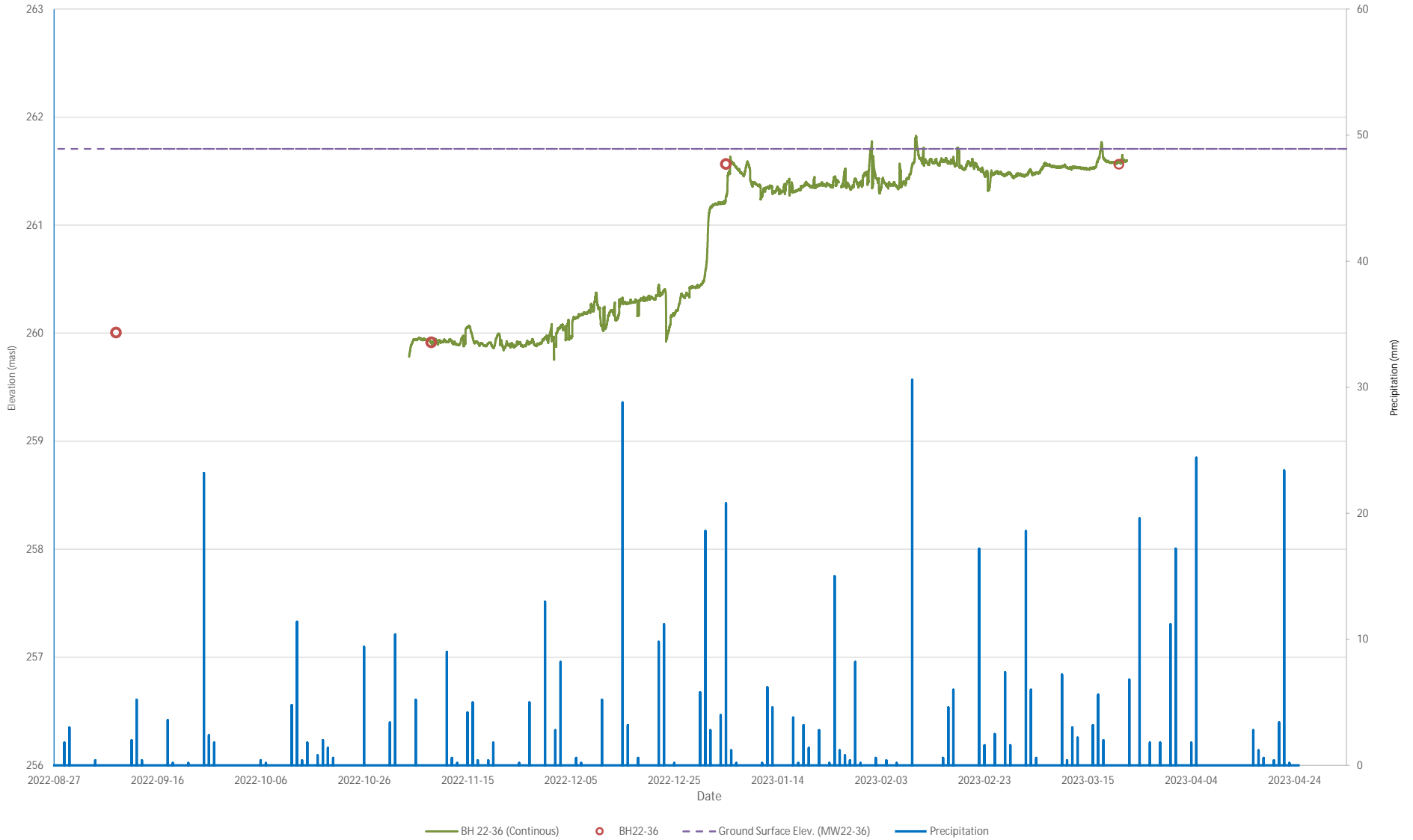
MW 22-22 HYDROGRAPH

August 2022 - April 2023

F-16

WATER LEVEL HYDROGRAPH

MW 22-36



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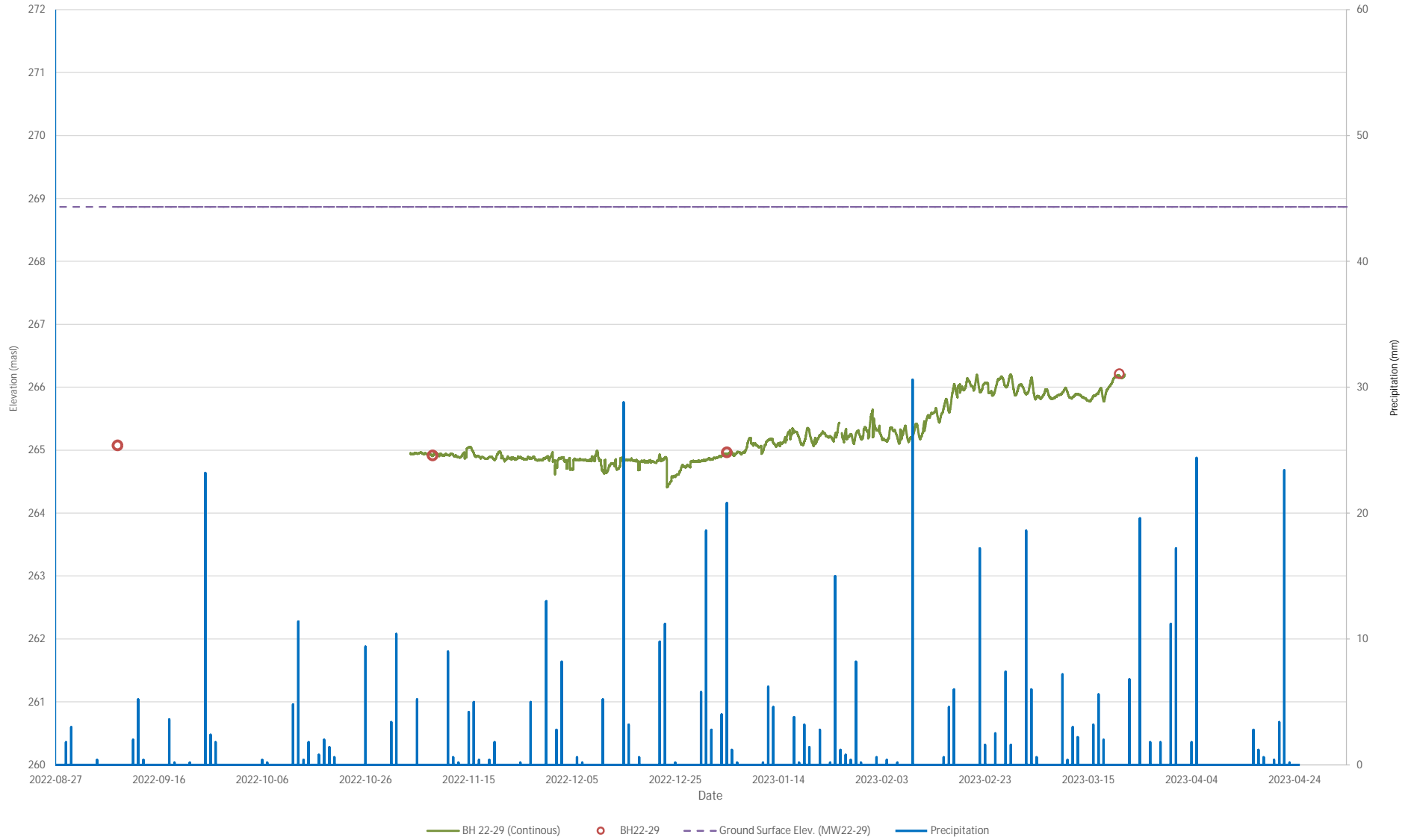
MW 22-36 HYDROGRAPH

August 2022 - April 2023

F-17

WATER LEVEL HYDROGRAPH

MW 22-29



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Caledon Station

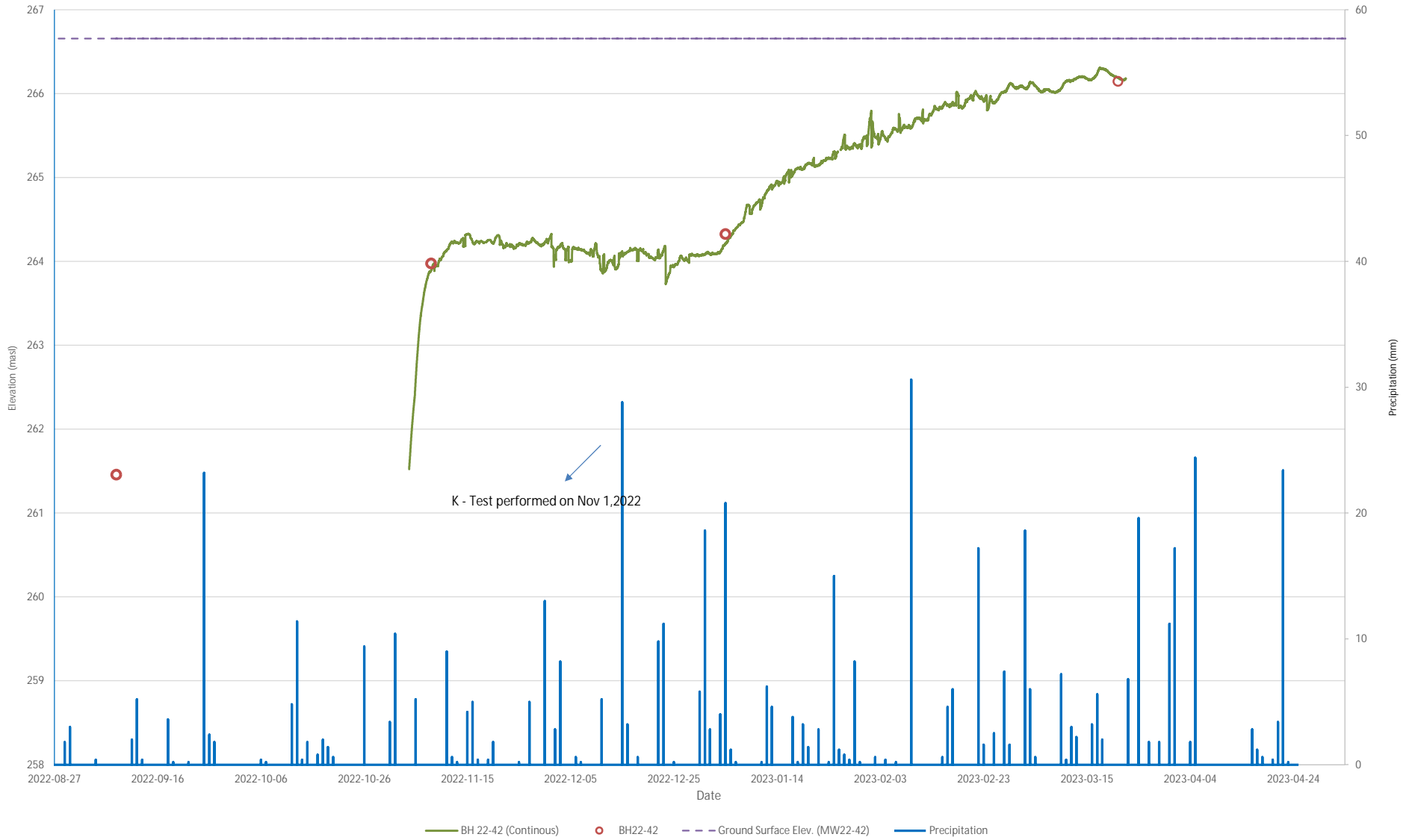
MW 22-29 HYDROGRAPH

August 2022 - April 2023

F-18

WATER LEVEL HYDROGRAPH

MW 22-42



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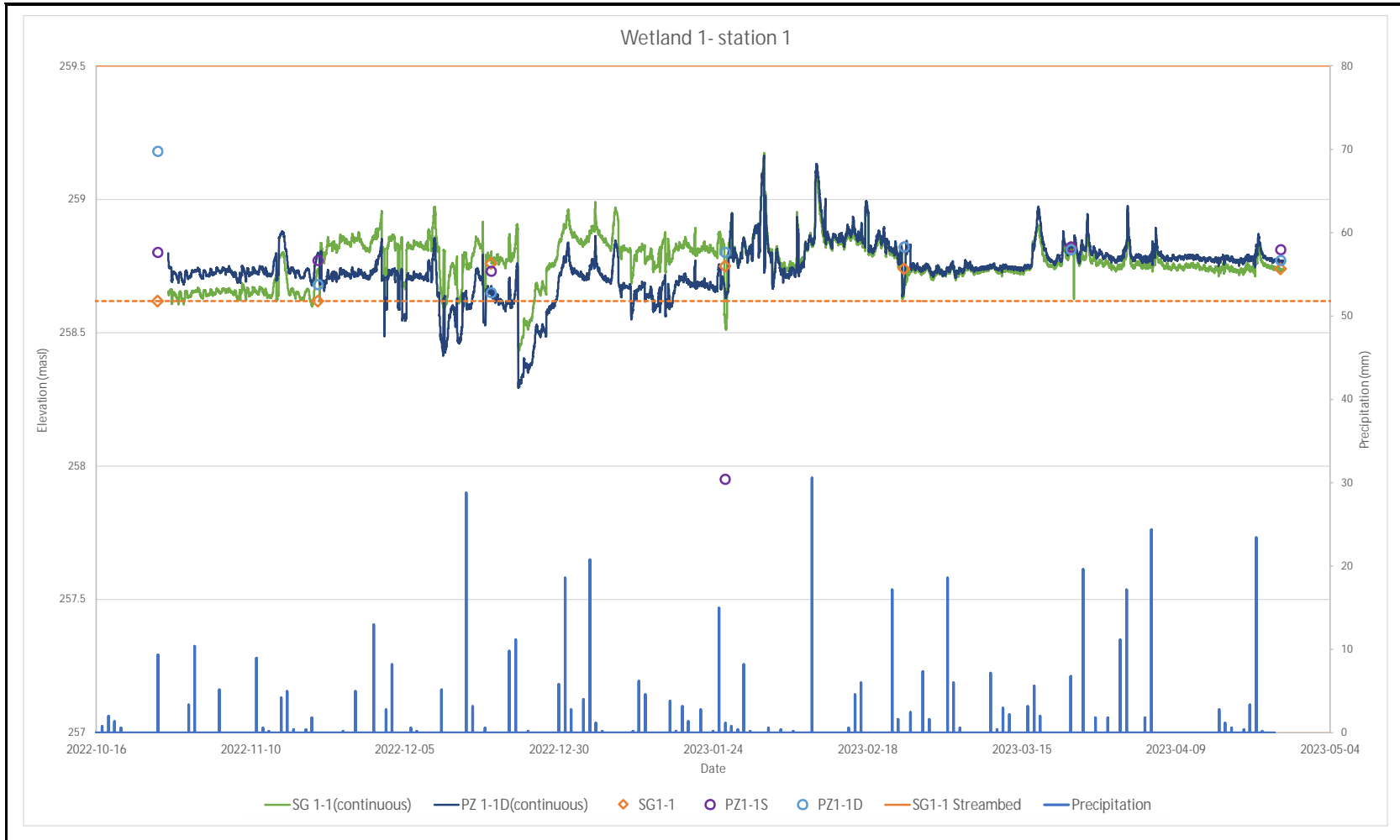
Caledon Station

MW 22-42 HYDROGRAPH

August 2022 - April 2023

F-19

WATER LEVEL HYDROGRAPH

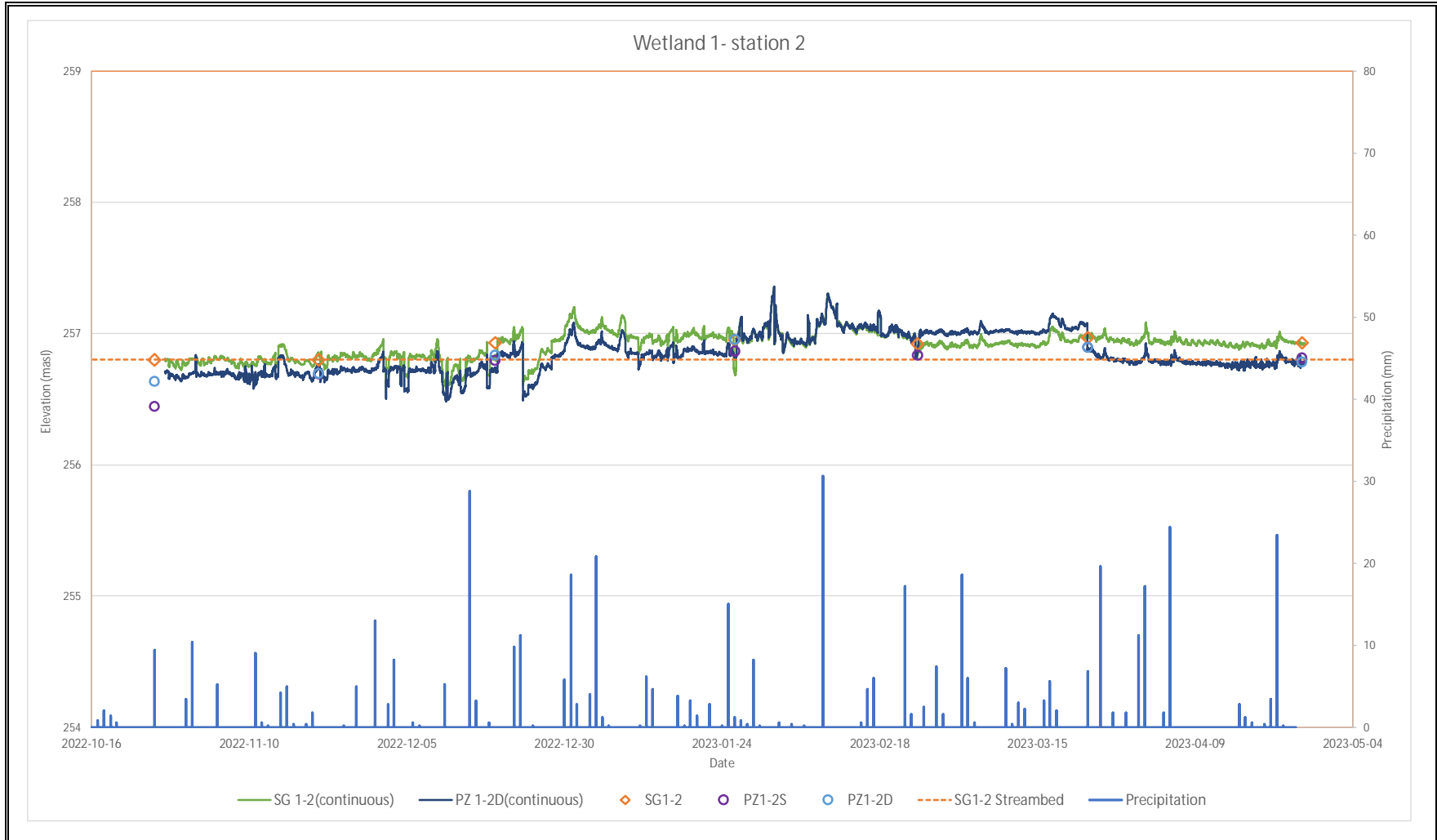


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Argo King I & II
 WETLAND 1 HYDROGRAPH

October 2022 - May 2023
 F-20

WATER LEVEL HYDROGRAPH

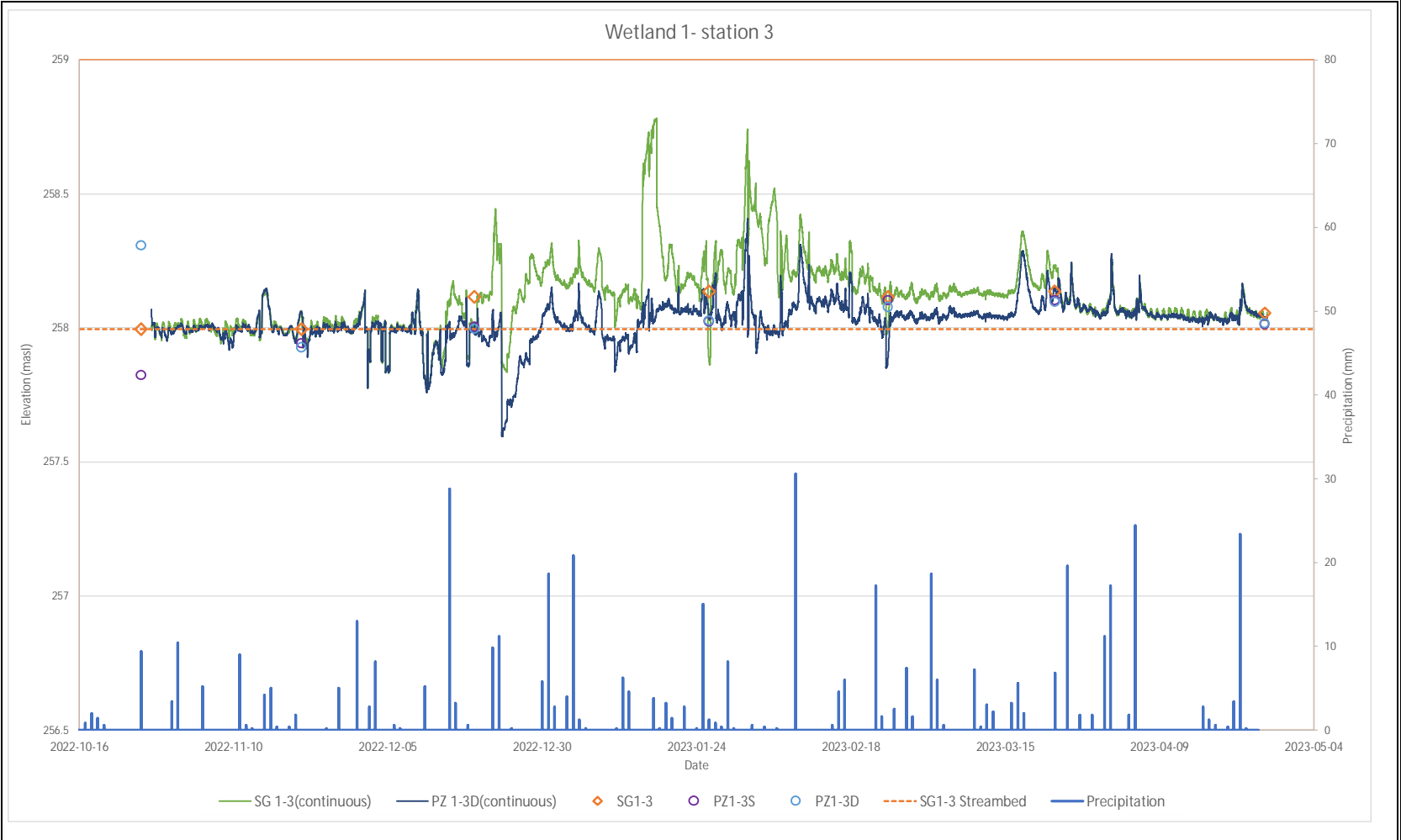


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Argo King I & II
 WETLAND 1 HYDROGRAPH

October 2022 - May 2023
 F-21

WATER LEVEL HYDROGRAPH

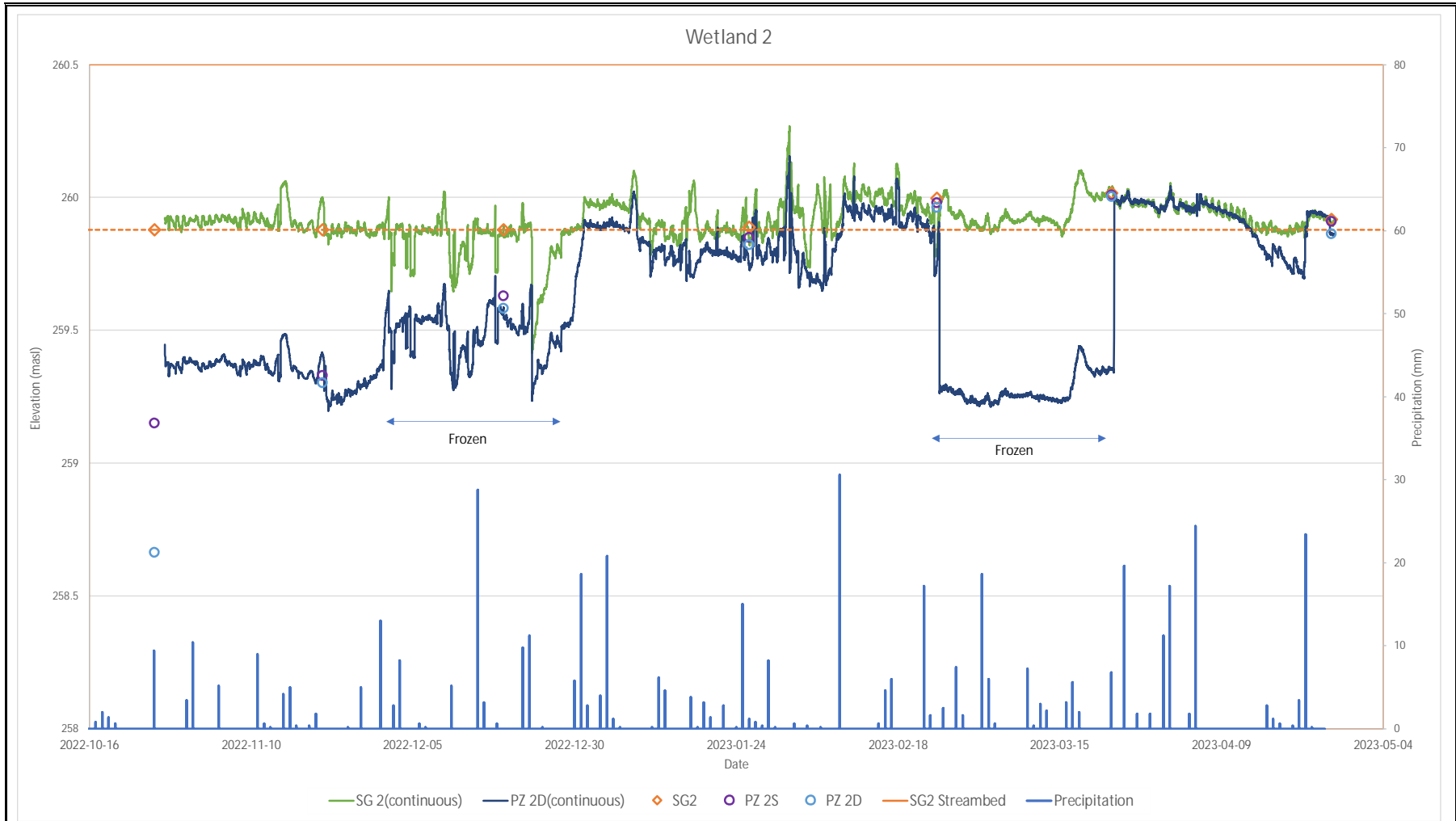


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Argo King I & II
 WETLAND 1 HYDROGRAPH

October 2022 - May 2022
 F-22

WATER LEVEL HYDROGRAPH

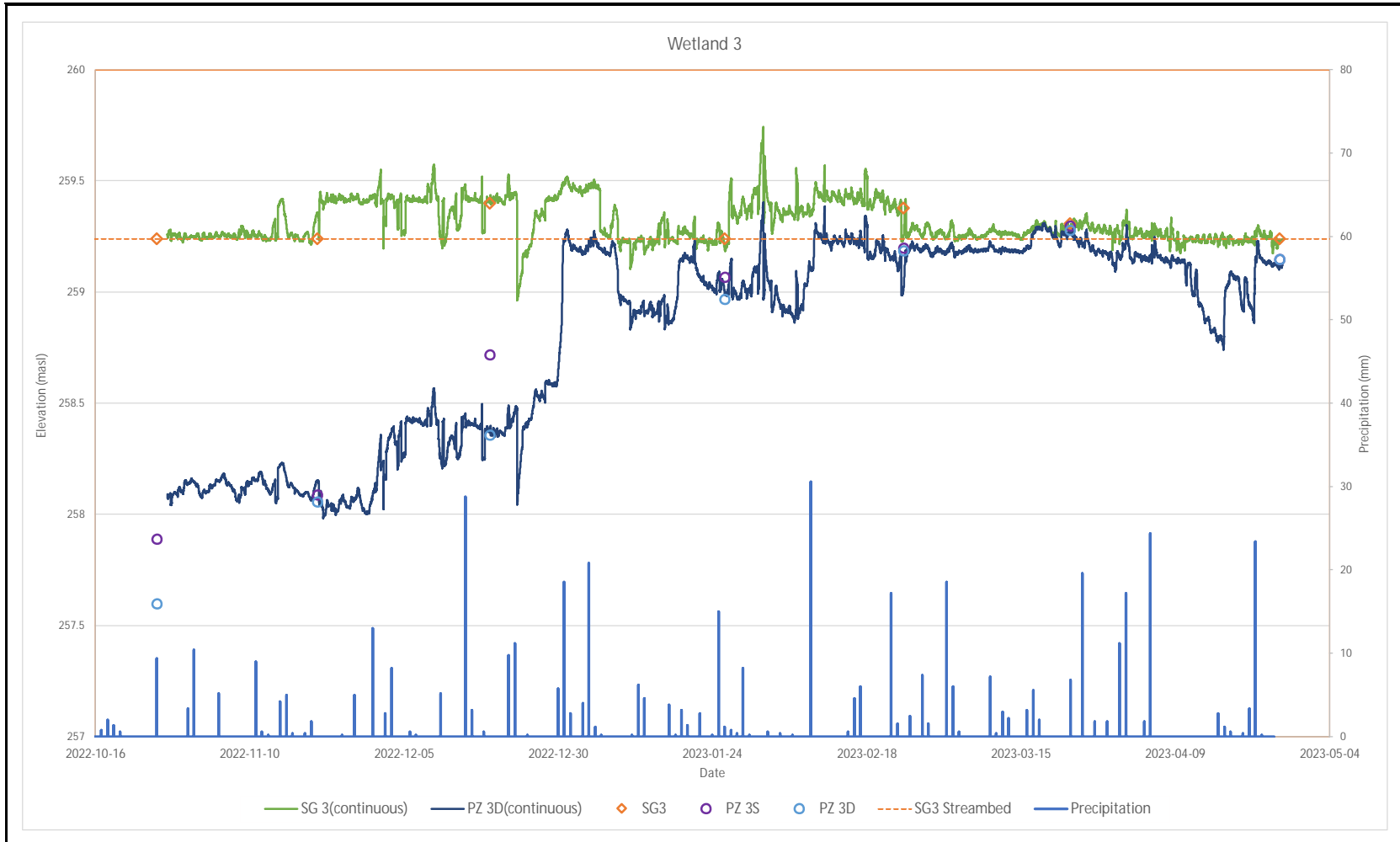


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Argo King I & II
WETLAND 2 HYDROGRAPH

October 2022 - May 2023
F-23

WATER LEVEL HYDROGRAPH

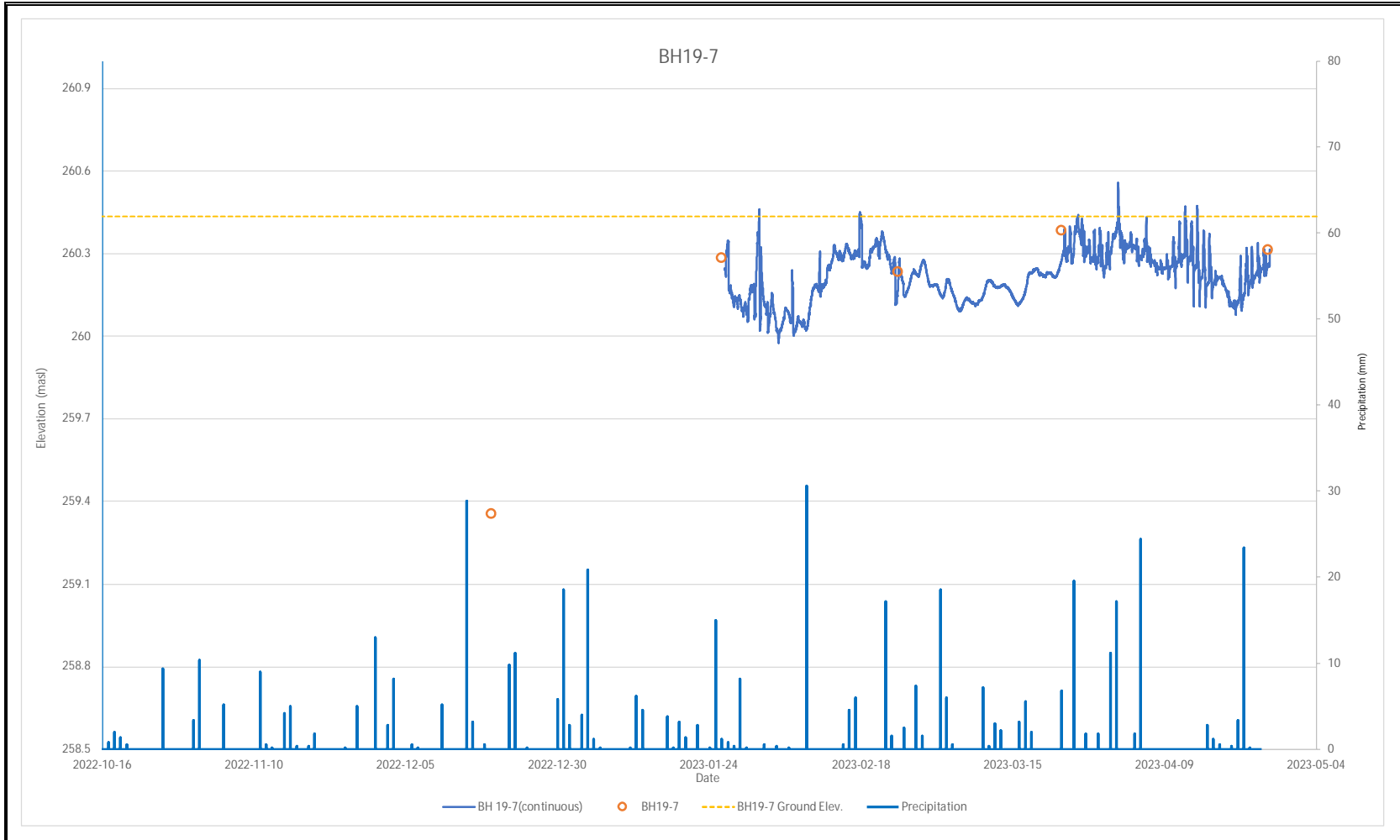


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Argo King I & II
 WETLAND 3 HYDROGRAPH

October 2022 - May 2023
 F-24

WATER LEVEL HYDROGRAPH

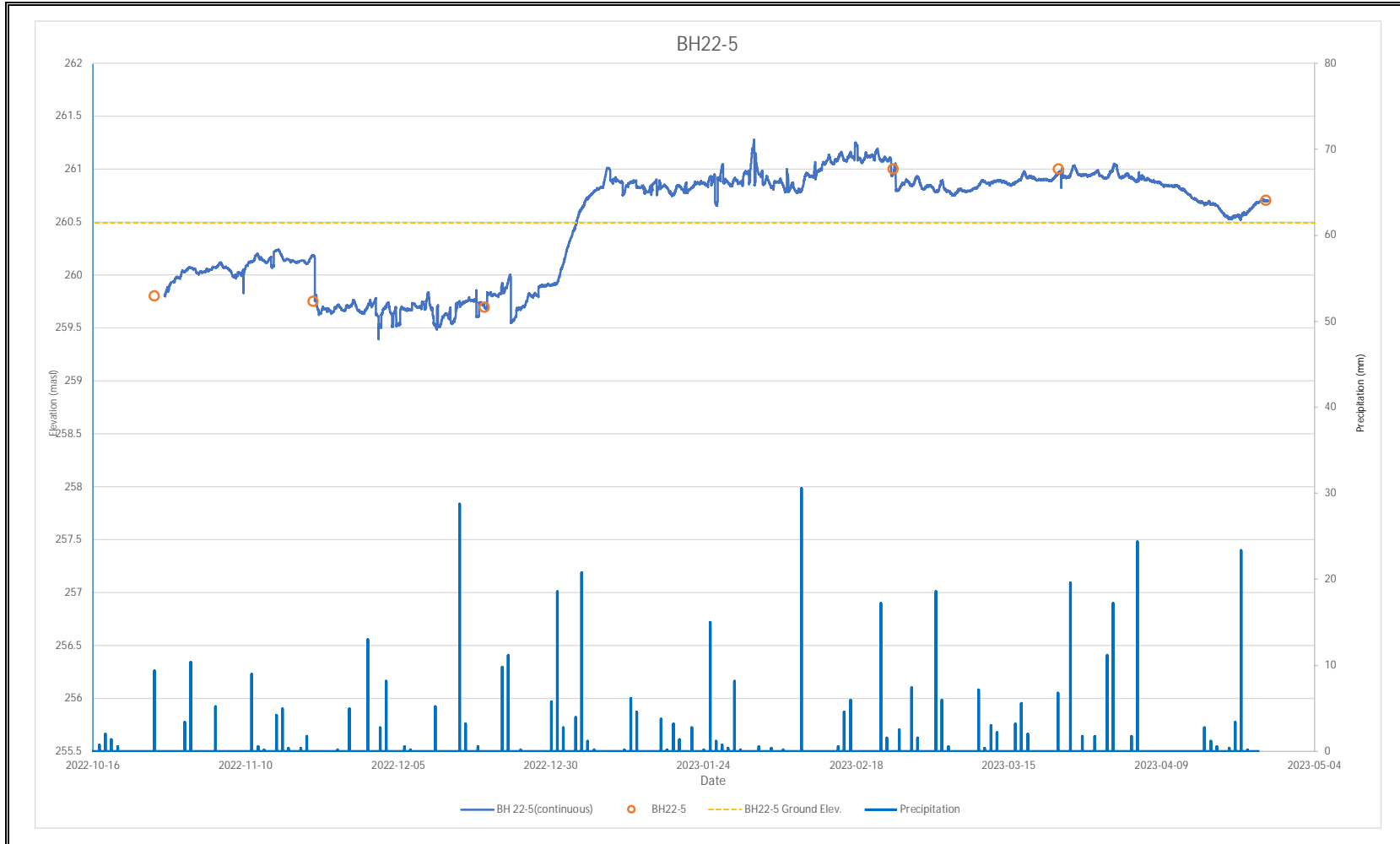


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Argo King I & II
 BH19-7 HYDROGRAPH

October 2022 - May 2023
 F-25

WATER LEVEL HYDROGRAPH

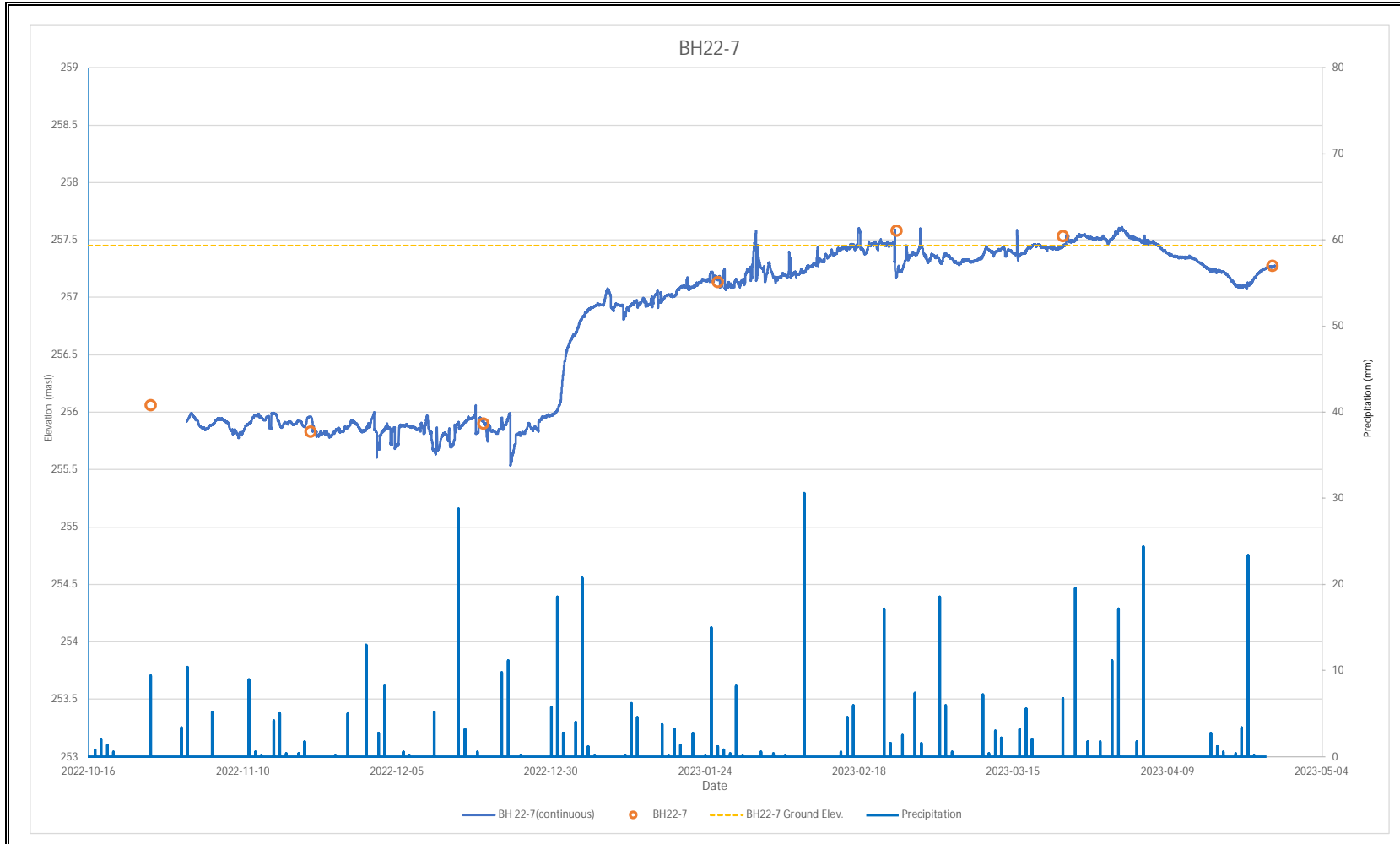


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Argo King I & II
 BH22-5 HYDROGRAPH

October 2022 - May 2023
 F-26

WATER LEVEL HYDROGRAPH



Argo King I & II
BH22-7 HYDROGRAPH

October 2022 - May 2023
F-27



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Appendix G

TABLE 1
 CLIMATE NORMALS - PERSON CLIMATE STATION
 CALED ON STATION

Month	Thornthwaite (1948)					
	Mean Temperature (°C)	Heat Index	Unadjusted Potential Evapotranspiration (mm)	Daylight Correction Value	Adjusted Potential Evapotranspiration (mm)	Total Precipitation (mm)
January	-5.5	0.0	0.0	0.78	0.0	51.8
February	-4.5	0.0	0.0	0.88	0.0	47.7
March	0.1	0.0	0.2	0.99	0.2	49.8
April	7.1	1.7	30.4	1.12	34.1	68.5
May	13.1	4.3	60.7	1.22	74.1	74.3
June	18.6	7.3	90.2	1.28	115.4	71.5
July	21.5	9.1	106.2	1.25	132.7	75.7
August	20.6	8.5	101.2	1.16	117.4	78.1
September	16.2	5.9	77.2	1.04	80.2	74.5
October	9.5	2.6	42.3	0.92	38.9	61.1
November	3.7	0.6	14.6	0.81	11.8	75.1
December	-2.2	0.0	0.0	0.75	0.0	57.9
TOTALS		40.1	522.9		604.8	786.0

Notes: Daylight Correction values obtained from Instruction and Tables For Computing Potential Evapotranspiration and The Water Balance (Thornthwaite & Mather, 1957)

TABLE 3
POST-DEVELOPMENT WATER BALANCE
CALDON STATION

Catchments and Hydrologic Components		Month												Total
		March	April	May	June	July	August	September	October	November	December	January	February	
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
Soil Moisture Storage (mm)		75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
Actual Evapotranspiration (mm)		0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
P-AET (mm)		49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
Precipitation Surplus (mm)		49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
Infiltration Factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
Infiltration (mm)		14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26
Run-Off (mm)		34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95
Catchment Area (m ²) 23007.39		Imperv coeff. 0.83												
		Monthly Volumes												
AET (m ³)		5.67	784.23	1704.39	2359.53	2013.53	1796.88	1714.05	894.60	271.96	0.00	0.00	0.00	11544.84
Infiltration (m ³)		342.03	237.53	1.52	0.00	0.00	0.00	0.00	0.00	294.20	399.64	357.53	329.24	1961.69
Run-Off (m ³)		798.07	554.24	3.54	0.00	0.00	0.00	0.00	0.00	686.47	932.49	834.25	768.22	4577.28
Catchment Area (m ²) = 112330.17		Monthly Volumes												
Evaporation from Imperv. (m ³) - 15% of P.		839.11	1154.19	1251.92	1204.74	1275.51	1315.95	1255.29	1029.51	1265.40	975.59	872.81	803.72	13243.73
Run-Off from Imperv. (m ³) - with 15% evap.		4754.94	6540.42	7094.21	6826.87	7227.89	7457.04	7113.31	5833.87	7170.60	5528.33	4945.90	4554.43	75047.79
Soil Moisture Storage (mm)		75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
Actual Evapotranspiration (mm)		0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
P-AET (mm)		49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
Precipitation Surplus (mm)		49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
Infiltration Factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
Infiltration (mm)		14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26
Run-Off (mm)		34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95
Catchment Area (m ²) 9000.00		Imperv coeff. 0.90												
		Monthly Volumes												
AET (m ³)		2.22	306.78	666.72	923.00	787.65	702.90	670.50	349.95	106.39	0.00	0.00	0.00	4516.10
Infiltration (m ³)		133.80	92.92	0.59	0.00	0.00	0.00	0.00	0.00	115.09	156.33	139.86	128.79	767.37
Run-Off (m ³)		312.19	216.81	1.38	0.00	0.00	0.00	0.00	0.00	268.53	364.77	326.34	300.51	1790.53
Catchment Area (m ²) = 81000.00		Monthly Volumes												
Evaporation from Imperv. (m ³) - 15% of P.		605.07	832.28	902.75	868.73	919.76	948.92	905.18	742.37	912.47	703.49	629.37	579.56	9549.90
Run-Off from Imperv. (m ³) - with 15% evap.		3428.73	4716.23	5115.56	4922.78	5211.95	5377.19	5129.33	4206.74	5170.64	3986.42	3566.43	3284.15	54116.10
Soil Moisture Storage (mm)		75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
Actual Evapotranspiration (mm)		0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
P-AET (mm)		49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
Precipitation Surplus (mm)		49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
Infiltration Factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
Infiltration (mm)		14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26
Run-Off (mm)		34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95
Catchment Area (m ²) 11002.16		Imperv coeff. 0.89												
		Monthly Volumes												
AET (m ³)		2.71	375.02	815.04	1128.33	962.87	859.27	819.66	427.80	130.05	0.00	0.00	0.00	5520.76
Infiltration (m ³)		163.56	113.59	0.73	0.00	0.00	0.00	0.00	0.00	140.69	191.11	170.97	157.44	938.08
Run-Off (m ³)		381.64	265.04	1.69	0.00	0.00	0.00	0.00	0.00	328.27	445.92	398.94	367.36	2188.86
Catchment Area (m ²) = 89017.52		Monthly Volumes												
Evaporation from Imperv. (m ³) - 15% of P.		664.96	914.65	992.10	954.71	1010.79	1042.84	994.77	815.85	1002.78	773.12	691.67	636.92	10495.17
Run-Off from Imperv. (m ³) - with 15% evap.		3768.11	5183.04	5621.90	5410.04	5727.83	5909.43	5637.03	4623.12	5682.43	4381.00	3919.44	3609.22	59472.60

NOTES:

- 1) PET and P Taken from Table 1
- 2) Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- 3) Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- 4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (Δ ST) for a given soil type

TABLE 3
POST-DEVELOPMENT WATER BALANCE
CALDON STATION

Catchment 104	Development - Pervious Landscape	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	-		
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79	
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21	
		Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-	
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-	
		Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26	
		Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95	
		Catchment Area (m ²)	154682.83	Imperv coeff. 0.78												
		AET (m ³)	38.09	5272.55	11458.94	15863.52	13537.32	12080.73	11523.87	6014.57	1828.46	0.00	0.00	0.00	77618.05	
		Infiltration (m ³)	2299.54	1596.97	10.20	0.00	0.00	0.00	0.00	0.00	1977.97	2686.84	2403.77	2213.51	13188.80	
		Run-Off (m ³)	5365.58	3726.26	23.80	0.00	0.00	0.00	0.00	0.00	4615.27	6269.29	5608.80	5164.86	30773.86	
Catchment 105	Development - Pervious Landscape	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	-		
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79	
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21	
		Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-	
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-	
		Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26	
		Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95	
		Catchment Area (m ²)	123597.96	Imperv coeff. 0.64												
		AET (m ³)	30.43	4212.98	9156.16	12675.60	10816.88	9653.00	9208.05	4805.89	1461.02	0.00	0.00	0.00	62020.02	
		Infiltration (m ³)	1837.42	1276.04	8.15	0.00	0.00	0.00	0.00	0.00	1580.48	2146.90	1920.71	1768.69	10538.39	
		Run-Off (m ³)	4287.32	2977.43	19.01	0.00	0.00	0.00	0.00	0.00	3687.79	5009.43	4481.66	4126.94	24589.58	
Catchment 106	Development - Pervious Landscape	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	-		
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79	
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21	
		Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-	
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-	
		Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26	
		Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95	
		Catchment Area (m ²)	61710.34	Imperv coeff. 0.78												
		AET (m ³)	15.19	2103.47	4571.52	6328.71	5400.68	4819.58	4597.42	2399.50	729.46	0.00	0.00	0.00	30965.53	
		Infiltration (m ³)	917.39	637.11	4.07	0.00	0.00	0.00	0.00	0.00	789.11	1071.91	958.98	883.07	5261.64	
		Run-Off (m ³)	2140.59	1486.58	9.49	0.00	0.00	0.00	0.00	0.00	1841.25	2501.12	2237.62	2060.51	12277.16	
Development - Impervious Area	Catchment Area (m ²)	218791.19	Monthly Volumes													
	Evaporation from Imperv. (m ³) - 15% of P.	1634.37	2248.08	2438.43	2346.54	2484.37	2563.14	2444.99	2005.22	2464.68	1900.20	1700.01	1565.45	25795.48		
	Run-Off from Imperv. (m ³) - with 15% evap.	9261.43	12739.12	13817.76	13297.03	14078.12	14524.45	13854.95	11362.92	13966.54	10767.81	9633.38	8870.89	146174.40		

NOTES:

- PET and P Taken from Table 1
- Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

TABLE 3
POST-DEVELOPMENT WATER BALANCE
CALDON STATION

Channel 1 & 2	Development - Pervious Landscape	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	-		
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79	
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21	
		Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-	
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-	
		Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26	
		Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95	
		Catchment Area (m ²) 26559.05	Imperv coeff. 0.10 Monthly Volumes													
		AET (m ³)	6.54	905.30	1967.50	2723.77	2324.36	2074.26	1978.65	1032.70	313.95	0.00	0.00	0.00	13327.03	
		Infiltration (m ³)	394.83	274.20	1.75	0.00	0.00	0.00	0.00	0.00	339.62	461.33	412.73	380.06	2264.52	
	Run-Off (m ³)	921.27	639.80	4.09	0.00	0.00	0.00	0.00	0.00	792.44	1076.44	963.03	886.81	5283.87		
	Catchment Area (m ²) = 2951.01	Monthly Volumes														
	Evaporation from Imperv. (m ³) - 15% of P.	22.04	30.32	32.89	31.65	33.51	34.57	32.98	27.05	33.24	25.63	22.93	21.11	347.92		
	Run-Off from Imperv. (m ³) - with 15% evap.	124.92	171.82	186.37	179.35	189.88	195.90	186.87	153.26	188.38	145.23	129.93	119.65	1971.57		
	Pond 2A	Development - Pervious Landscape	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	-	
			Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
			P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
Actual Soil Moisture Deficit (mm)			0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-	
Change in Soil Moisture Deficit (mm)			0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-	
Precipitation Surplus (mm)			49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21	
Infiltration Factor			0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-	
Run-Off Coefficient			0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-	
Infiltration (mm)			14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26	
Run-Off (mm)			34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95	
Catchment Area (m ²) 5653.57			Imperv coeff. 0.85 Monthly Volumes													
AET (m ³)			1.39	192.71	418.82	579.80	494.78	441.54	421.19	219.83	66.83	0.00	0.00	0.00	2836.90	
Infiltration (m ³)			84.05	58.37	0.37	0.00	0.00	0.00	0.00	0.00	72.29	98.20	87.86	80.90	482.04	
Run-Off (m ³)		196.11	136.19	0.87	0.00	0.00	0.00	0.00	0.00	168.69	229.14	205.00	188.77	1124.77		
Catchment Area (m ²) = 32036.92		Monthly Volumes														
Evaporation from Imperv. (m ³) - 15% of P.		239.32	329.18	357.05	343.60	363.78	375.31	358.01	293.62	360.90	278.24	248.93	229.22	3777.15		
Run-Off from Imperv. (m ³) - with 15% evap.		1356.12	1865.35	2023.29	1947.04	2061.42	2126.77	2028.74	1663.84	2045.08	1576.70	1410.59	1298.94	21403.86		
NHS		Pasture/Shrub, Silty Clay Soils	Soil Moisture Storage (mm)	200.00	200.00	200.00	156.09	99.08	59.83	54.09	76.31	75.00	132.90	135.42	135.42	-
			Actual Evapotranspiration (mm)	0.25	34.09	74.08	110.59	112.07	93.70	76.14	38.88	11.82	0.00	0.00	0.00	551.60
			P-AET (mm)	49.55	34.41	0.22	-39.09	-36.37	-15.60	-1.64	22.22	63.28	57.90	51.80	47.70	-
	Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	-39.09	-75.46	-91.05	-92.69	-70.47	-7.19	0.00	0.00	0.00	-	
	Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	39.09	36.37	15.60	1.64	-22.22	-63.28	-7.19	0.00	0.00	-	
	Precipitation Surplus (mm)		49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	50.71	51.80	47.70	234.40		
	Infiltration Factor		0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-	
	Run-Off Coefficient		0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-	
	Infiltration (mm)		19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	20.28	20.72	19.08	93.76		
	Run-Off (mm)		29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	0.00	30.43	31.08	28.62	140.64	
	Catchment Area (m ²) 97052.63		Imperv coeff. 0.00 Monthly Volumes													
	AET (m ³)		23.90	3308.16	7189.68	10732.86	10876.45	9093.39	7389.12	3773.72	1147.23	0.00	0.00	0.00	53534.50	
	Infiltration (m ³)		1923.73	1335.98	8.53	0.00	0.00	0.00	0.00	0.00	1968.61	2010.93	1851.76	9099.55		
	Run-Off (m ³)	2885.59	2003.97	12.80	0.00	0.00	0.00	0.00	0.00	2952.92	3016.40	2777.65	13649.32			
	Catchment Area (m ²) = 0.00	Monthly Volumes														
	Evaporation from Imperv. (m ³) - 15% of P.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Run-Off from Imperv. (m ³) - with 15% evap.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Total Site	Total Catchment Volumes														
		Total ET (m ³)	9742.95	13401.45	14536.17	13988.38	14810.07	15279.61	14575.30	11953.70	14692.69	11327.65	10134.24	9332.11	153774.31	
		Total AET (m ³)	126.13	17461.20	37948.77	53315.11	47214.53	41521.55	38322.51	19918.58	6055.35	0.00	0.00	0.00	261883.71	
Total Infiltration (m ³)		8096.35	5622.70	35.91	0.00	0.00	0.00	0.00	0.00	5309.45	9180.87	8463.35	7793.47	44502.08		
Total Runoff (m ³)		72498.43	87947.87	82448.32	79267.46	83923.73	86584.46	82593.37	67737.65	95647.26	83971.53	75499.37	69523.55	967642.99		

NOTES:

- PET and P Taken from Table 1
- Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

TABLE 4
POST-DEVELOPMENT WATER BALANCE WITH MITIGATION
CALDON STATION

Catchments and Hydrologic Components		Month												Total
		March	April	May	June	July	August	September	October	November	December	January	February	
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
Soil Moisture Storage (mm)		75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
Actual Evapotranspiration (mm)		0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
P-AET (mm)		49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
Precipitation Surplus (mm)		49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
Infiltration Factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
Infiltration (mm)		14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26
Run-Off (mm)		34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95
Catchment Area (m ²) 12087.39		Monthly Volumes												
AET (m ³)		2.98	412.01	895.44	1239.62	1057.85	944.02	900.51	470.00	142.88	0.00	0.00	0.00	6065.31
Infiltration (m ³)		179.69	124.79	0.80	0.00	0.00	0.00	0.00	154.56	209.96	187.84	172.97	1030.61	1030.61
Run-Off (m ³)		419.28	291.18	1.86	0.00	0.00	0.00	0.00	360.65	489.90	438.29	403.60	2404.76	2404.76
Development - Unconnected Pervious Landscape		Monthly Volumes												
Catchment Area (m ²) = 97050.17		Imperv coeff. 0.83												
Evaporation from Imperv. (m ³) - 15% of P.		724.96	997.19	1081.62	1040.86	1102.00	1136.94	1084.54	889.46	1093.27	842.88	754.08	694.39	11442.22
Run-Off from Imperv. (m ³) - with 15% evap.		4108.13	5650.75	6129.20	5898.22	6244.69	6442.68	6145.70	5040.30	6195.20	4776.32	4273.12	3934.90	64839.22
P - Total Precipitation plus irrigation (mm)		54.50	74.97	81.32	78.25	82.85	85.48	81.54	66.87	82.19	63.37	56.69	52.21	-
P-PET (mm)		54.26	40.88	7.24	-37.15	-49.86	-31.88	1.29	27.99	70.37	63.37	56.69	52.21	-
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-37.15	-87.01	-118.89	-117.60	-89.61	-19.24	0.00	0.00	0.00	-
Soil Moisture Storage (mm)		75.00	75.00	75.00	37.85	0.00	0.00	1.29	29.28	75.00	75.00	75.00	75.00	-
Actual Potential Evapotranspiration (mm)		0.25	34.09	74.08	104.53	90.08	78.10	74.55	38.88	11.82	0.00	0.00	0.00	506.38
P-AET (mm)		54.26	40.88	7.24	-26.28	-7.23	7.38	6.99	27.99	70.37	63.37	56.69	52.21	-
Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	-26.28	-33.51	-26.14	-19.15	0.00	0.00	0.00	0.00	0.00	-
Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	26.28	7.23	-7.38	-6.99	-19.15	0.00	0.00	0.00	0.00	-
Precipitation Surplus (mm)		54.26	40.88	7.24	0.00	0.00	0.00	0.00	8.84	70.37	63.37	56.69	52.21	353.85
MOECC Infiltration Factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
Infiltration (mm)		16.28	12.26	2.17	0.00	0.00	0.00	0.00	2.65	21.11	19.01	17.01	15.66	106.16
Run-Off (mm)		37.98	28.62	5.07	0.00	0.00	0.00	0.00	6.19	49.26	44.36	39.68	36.54	247.70
Catchment Area (m ²) 6840.00		Monthly Volumes (Pervious Area)												
AET (m ³)		1.68	233.15	506.71	715.00	616.17	534.20	509.92	265.96	80.85	0.00	0.00	0.00	3463.65
Infiltration (m ³)		111.34	83.89	14.85	0.00	0.00	0.00	0.00	18.13	144.40	130.03	116.33	107.12	726.10
Run-Off (m ³)		259.78	195.75	34.65	0.00	0.00	0.00	0.00	42.31	336.94	303.41	271.44	249.96	1694.24
Mitigation - Connected Pervious Park Area		Monthly Volumes												
Catchment Area (m ²) = 760.00		Imperv coeff. 0.10												
Evaporation from Imperv. (m ³) - 15% of P.		5.68	7.81	8.47	8.15	8.63	8.90	8.49	6.97	8.56	6.60	5.91	5.44	89.60
Run-Off Directed to Pervious Area (m ³)		32.17	44.25	48.00	46.19	48.90	50.45	48.13	39.47	48.51	37.40	33.46	30.81	507.76

NOTES:

- PET and P Taken from Table 1
- Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

TABLE 4
POST-DEVELOPMENT WATER BALANCE WITH MITIGATION
CALDON STATION

Catchments and Hydrologic Components		Month												Total	
		March	April	May	June	July	August	September	October	November	December	January	February		
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83	
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00	
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17	
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-	
Catchment 1 (continued)	Mitigation - Pervious Park Area to Silva Cells	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	-	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
		Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
		Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26
		Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95
		Catchment Area (m ²)	3840.00	Monthly Volumes											
		AET (m ³)	0.95	130.89	284.47	393.81	336.06	299.90	286.08	149.31	45.39	66.00	0.00	0.00	1926.87
	Infiltration (m ³)	57.09	39.64	0.25	0.00	0.00	0.00	0.00	0.00	49.10	67.70	59.67	54.95	327.41	
	Run-Off Directed to Silva Cells (m ³)	133.20	92.50	0.59	0.00	0.00	0.00	0.00	0.00	114.57	155.64	139.24	128.22	763.96	
	Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	133.20	92.50	0.59	0.00	0.00	0.00	0.00	0.00	114.57	155.64	139.24	128.22	763.96	
	Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Catchment Area (m ²)	7260.00	Monthly Volumes												
	Imperv. coeff.	0.65	Monthly Volumes												
	Evaporation from Imperv. (m ³) - 15% of P.	54.23	74.60	80.91	77.86	82.44	85.05	81.13	66.54	81.78	63.05	56.41	51.95	855.95	
	Run-Off Directed to Silva Cells (m ³)	307.32	422.71	458.51	441.23	467.14	481.96	459.74	377.05	463.44	357.30	319.66	294.36	4850.41	
	Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	307.32	422.71	458.51	441.23	467.14	481.96	459.74	377.05	463.44	357.30	319.66	294.36	4850.41	
	Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-	
	Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79	
	P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-	
	Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-	
	Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-	
	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21	
	Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-	
	Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-	
Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26		
Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95		
Catchment Area (m ²)	2400	Monthly Volumes													
AET (m ³)	0.06	8.18	17.78	24.61	21.00	18.74	17.88	9.33	2.84	0.00	0.00	0.00	120.43		
Infiltration (m ³)	3.57	2.48	0.02	0.00	0.00	0.00	0.00	0.00	3.07	4.17	3.73	3.43	20.46		
Run-Off Directed to Silva Cells (m ³)	8.33	5.78	0.04	0.00	0.00	0.00	0.00	0.00	7.16	9.73	8.70	8.01	47.75		
Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	8.33	5.78	0.04	0.00	0.00	0.00	0.00	0.00	7.16	9.73	8.70	8.01	47.75		
Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Catchment Area (m ²)	7260.00	Monthly Volumes													
Imperv. coeff.	0.80	Monthly Volumes													
Evaporation from Imperv. (m ³) - 15% of P.	54.23	74.60	80.91	77.86	82.44	85.05	81.13	66.54	81.78	63.05	56.41	51.95	855.95		
Run-Off Directed to Silva Cells (m ³)	307.32	422.71	458.51	441.23	467.14	481.96	459.74	377.05	463.44	357.30	319.66	294.36	4850.41		
Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	307.32	422.71	458.51	441.23	467.14	481.96	459.74	377.05	463.44	357.30	319.66	294.36	4850.41		
Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

- NOTES:
1) PET and P Taken from Table 1
2) Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
3) Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

TABLE 4
POST-DEVELOPMENT WATER BALANCE WITH MITIGATION
CALDON STATION

Catchments and Hydrologic Components		Month												Total		
		March	April	May	June	July	August	September	October	November	December	January	February			
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83		
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00		
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17		
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-		
Catchment 102	Development - Pervious Landscape	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79	
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21	
		Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
		Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26	
	Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95		
	Catchment Area (m ²) 9000.00		Monthly Volumes													
	AET (m ³)		2.22	306.78	666.72	923.00	787.65	702.90	670.50	349.95	106.39	0.00	0.00	0.00	4516.10	
	Infiltration (m ³)		133.80	92.92	0.59	0.00	0.00	0.00	0.00	0.00	115.09	156.33	139.86	128.79	767.37	
	Run-Off (m ³)		312.19	216.81	1.38	0.00	0.00	0.00	0.00	0.00	268.53	364.77	300.51	300.51	1790.53	
	Development - Impervious Area	Catchment Area (m ²) = 8100.00		Imperv coeff. 0.90												
				Monthly Volumes												
		Evaporation from Imperv. (m ³) - 15% of P.		605.07	832.28	902.75	868.73	919.76	948.92	905.18	742.37	912.47	703.49	629.37	579.56	9549.90
		Run-Off from Imperv. (m ³) - with 15% evap.		3428.73	4716.23	5115.56	4922.78	5211.95	5377.19	5129.33	4206.74	5170.64	3986.42	3566.43	3284.15	54116.10
Catchment 103	Development - Pervious Landscape	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79	
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21	
		Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
		Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26	
	Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95		
	Catchment Area (m ²) 11002.16		Monthly Volumes													
	AET (m ³)		2.71	375.02	815.04	1128.33	962.87	859.27	819.66	427.80	130.05	0.00	0.00	0.00	5520.76	
	Infiltration (m ³)		163.56	113.59	0.73	0.00	0.00	0.00	0.00	0.00	140.69	191.11	170.97	157.44	938.08	
	Run-Off (m ³)		381.64	265.04	1.69	0.00	0.00	0.00	0.00	0.00	328.27	445.92	398.94	367.36	2188.86	
	Development - Impervious Area	Catchment Area (m ²) = 89017.52		Imperv coeff. 0.89												
				Monthly Volumes												
		Evaporation from Imperv. (m ³) - 15% of P.		664.96	914.65	992.10	954.71	1010.79	1042.84	994.77	815.85	1002.78	773.12	691.67	636.92	10495.17
	Run-Off from Imperv. (m ³) - with 15% evap.		3768.11	5183.04	5621.90	5410.04	5727.83	5909.43	5637.03	4623.12	5682.43	4381.00	3919.44	3609.22	59472.60	

NOTES:

- PET and P Taken from Table 1
- Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

TABLE 4
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CALDON STATION

Catchments and Hydrologic Components		Month												Total	
		March	April	May	June	July	August	September	October	November	December	January	February		
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83	
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00	
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17	
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-	
Catchment 104	Development - Unconnected Pervious Landscape	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	-	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
		Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
		Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26
		Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95
		Catchment Area (m ²)	55992.83	Monthly Volumes											
		AET (m ³)	13.79	1908.58	4147.96	5742.35	4900.30	4373.04	4171.47	2177.18	661.87	0.00	0.00	0.00	28096.55
		Infiltration (m ³)	832.40	578.08	3.69	0.00	0.00	0.00	0.00	0.00	716.00	972.60	870.13	801.26	4774.14
		Run-Off (m ³)	1942.26	1348.85	8.61	0.00	0.00	0.00	0.00	0.00	1670.66	2269.39	2030.30	1869.60	11139.67
	Catchment Area (m ²)	452310.93	Monthly Volumes												
	Evaporation from Imperv. (m ³) - 15% of P.	3378.76	4647.49	5041.01	4851.03	5135.99	5298.82	5054.57	4145.43	5095.28	3928.32	3514.46	3236.28	53327.46	
	Run-Off from Imperv. (m ³) - with 15% evap.	19146.32	26335.80	28565.70	27489.20	29103.95	30026.66	28642.59	23490.77	28873.27	22260.48	19915.25	18338.95	302188.93	
	P - Total Precipitation plus irrigation (mm)	54.50	74.97	81.32	78.25	82.85	85.48	81.54	66.87	82.19	63.37	56.69	52.21	-	
	P-PET (mm)	54.26	40.88	7.24	-37.15	-49.86	-31.88	1.29	27.99	70.37	63.37	56.69	52.21	-	
	Soil Moisture Deficit (mm)	0.00	0.00	0.00	-37.15	-87.01	-118.89	-117.60	-89.61	-19.24	0.00	0.00	0.00	-	
	Soil Moisture Storage (mm)	75.00	75.00	75.00	37.85	0.00	0.00	1.29	29.28	75.00	75.00	75.00	75.00	-	
	Actual Potential Evapotranspiration (mm)	0.25	34.09	74.08	104.53	90.08	78.10	74.55	38.88	11.82	0.00	0.00	0.00	506.38	
	P-AET (mm)	54.26	40.88	7.24	-26.28	-7.23	7.38	6.99	27.99	70.37	63.37	56.69	52.21	-	
	Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-26.28	-33.51	-26.14	-19.15	0.00	0.00	0.00	0.00	0.00	-	
	Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	26.28	7.23	-7.38	-6.99	-19.15	0.00	0.00	0.00	0.00	-	
	Precipitation Surplus (mm)	54.26	40.88	7.24	0.00	0.00	0.00	0.00	8.84	70.37	63.37	56.69	52.21	353.85	
	MOECC Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-	
	Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-	
	Infiltration (mm)	16.28	12.26	2.17	0.00	0.00	0.00	0.00	2.65	21.11	19.01	17.01	15.66	106.16	
	Run-Off (mm)	37.98	28.62	5.07	0.00	0.00	0.00	0.00	6.19	49.26	44.36	39.68	36.54	247.70	
	Catchment Area (m ²)	15030.00	Monthly Volumes (Pervious Area)												
	AET (m ³)	3.70	512.32	1113.43	1571.11	1353.95	1173.84	1120.48	584.42	177.67	0.00	0.00	0.00	7610.91	
	Infiltration (m ³)	244.65	184.34	32.63	0.00	0.00	0.00	0.00	39.85	317.31	285.73	255.63	235.39	1595.52	
Run-Off (m ³)	570.84	430.13	76.14	0.00	0.00	0.00	0.00	92.98	740.38	666.70	596.46	549.25	3722.88		
Catchment Area (m ²)	1670.00	Monthly Volumes													
Evaporation from Imperv. (m ³) - 15% of P.	12.47	17.16	18.61	17.91	18.96	19.56	18.66	15.31	18.81	14.50	12.98	11.95	196.89		
Run-Off Directed to Pervious Area (m ³)	70.69	97.24	105.47	101.49	107.46	110.86	105.75	86.73	106.60	82.19	73.53	67.71	1115.73		

NOTES:

- PET and P Taken from Table 1
- Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

TABLE 4
POST-DEVELOPMENT WATER BALANCE WITH MITIGATION
CALDON STATION

Catchments and Hydrologic Components		Month												Total		
		March	April	May	June	July	August	September	October	November	December	January	February			
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83		
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00		
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17		
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-		
Catchment 104 (continued)	Mitigation - Connected Pervious Pond Area	P - Total Precipitation plus irrigation (mm)	92.13	126.73	137.46	132.28	140.05	144.49	137.83	113.04	138.94	107.12	95.83	88.25	-	
		P-PET (mm)	91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	-	
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	-
		Actual Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83	
		P-AET (mm)	91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	849.27	
		MOECC Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
		Infiltration (mm)	27.57	27.79	19.01	5.06	2.20	8.14	17.28	22.25	38.13	32.13	28.75	26.47	254.78	
		Run-Off (mm)	64.32	64.85	44.36	11.81	5.14	18.99	40.31	51.91	88.98	74.98	67.08	61.77	594.49	
		Catchment Area (m ²)	27400.00	Monthly Volumes (Pervious Area)												
		AET (m ³)	6.75	933.96	2029.80	3162.17	3636.19	3215.52	2198.62	1065.40	323.89	0.00	0.00	0.00	16572.29	
	Infiltration (m ³)	755.28	761.49	520.94	138.65	60.31	223.01	473.34	609.53	1044.88	880.49	787.72	725.37	6981.01		
	Run-Off (m ³)	1762.33	1776.81	1215.53	323.51	140.73	520.36	1104.45	1422.23	2438.05	2054.47	1838.02	1692.54	16289.03		
	Mitigation - Connected Impervious Pond Area	Catchment Area (m ²)	27400.00	Imperv coeff. 0.50 Monthly Volumes												
	Evaporation from Imperv. (m ³) - 15% of P.	204.68	281.54	305.37	293.87	311.13	320.99	306.20	251.12	308.66	237.97	212.90	196.05	3230.96		
	Run-Off Directed to Pervious Area (m ³)	1159.84	1595.37	1730.45	1665.24	1763.05	1818.95	1735.11	1423.02	1749.08	1348.49	1206.42	1110.93	18305.54		
	Mitigation - Connected Pervious Rear Yard Area	P - Total Precipitation plus irrigation (mm)	92.13	126.73	137.46	132.28	140.05	144.49	137.83	113.04	138.94	107.12	95.83	88.25	-	
		P-PET (mm)	91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	-	
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	
		Soil Moisture Storage (mm)	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	-	
		Actual Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83	
		P-AET (mm)	91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	
		Precipitation Surplus (mm)	91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	849.27	
		MOECC Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-	
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-		
Infiltration (mm)		27.57	27.79	19.01	5.06	2.20	8.14	17.28	22.25	38.13	32.13	28.75	26.47	254.78		
Run-Off (mm)		64.32	64.85	44.36	11.81	5.14	18.99	40.31	51.91	88.98	74.98	67.08	61.77	594.49		
Catchment Area (m ²)		23850.00	Monthly Volumes (Pervious Area)													
AET (m ³)		5.87	812.96	1766.81	2752.47	3165.08	2798.91	1913.76	927.37	281.92	0.00	0.00	0.00	14425.15		
Infiltration (m ³)	657.43	662.83	453.45	120.69	52.50	194.12	412.01	530.56	909.50	766.41	685.66	631.39	6076.54			
Run-Off (m ³)	1534.00	1546.60	1058.04	281.60	122.50	452.94	961.36	1237.96	2122.17	1788.28	1599.88	1473.25	14178.59			
Mitigation - Connected Impervious Roof Area	Catchment Area (m ²)	23850.00	Monthly Volumes													
	Evaporation from Imperv. (m ³) - 15% of P.	178.16	245.06	265.81	255.79	270.82	279.40	266.52	218.59	268.67	207.14	185.31	170.65	2811.92		
	Run-Off Directed to Pervious Area (m ³)	1009.57	1388.67	1506.25	1449.48	1534.63	1583.28	1510.30	1238.65	1522.46	1173.78	1050.12	967.00	15934.19		

NOTES:

- PET and P Taken from Table 1
- Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (Δ ST) for a given soil type

TABLE 4
POST-DEVELOPMENT WATER BALANCE WITH MITIGATION
CALDON STATION

Catchments and Hydrologic Components		Month												Total		
		March	April	May	June	July	August	September	October	November	December	January	February			
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83		
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00		
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17		
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-		
Catchment 104 (continued)	Mitigation - Impervious Park Area to Silva Cells	Catchment Area (m ²) = 27670.00	Imperv coeff. 0.65												Monthly Volumes	
		Evaporation from Imperv. (m ³) - 15% of P.	206.69	284.31	308.38	296.76	314.19	324.15	309.21	253.60	311.70	240.31	215.00	197.98	3262.29	
		Run-Off Directed to Pervious Area (m ³)	1171.27	1611.09	1747.50	1681.64	1780.43	1836.87	1752.20	1437.04	1766.31	1361.78	1218.31	1121.88	18486.33	
		Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	1171.27	1611.09	1747.50	1681.64	1780.43	1836.87	1752.20	1437.04	1766.31	1361.78	1218.31	1121.88	18486.33	
		Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-	
	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21		
	Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-		
	Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-		
	Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26		
	Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95		
	Catchment Area (m ²) 28530.00		Monthly Volumes													
	AET (m ³)	7.02	972.48	2113.51	2925.90	2496.85	2228.19	2125.49	1109.34	337.24	0.00	0.00	0.00	14316.02		
	Infiltration (m ³)	424.13	294.55	1.88	0.00	0.00	0.00	0.00	0.00	364.82	495.57	443.36	408.26	2432.57		
	Run-Off (m ³)	989.64	687.28	4.39	0.00	0.00	0.00	0.00	0.00	851.25	1156.32	1034.50	952.62	5675.99		
	Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	989.64	687.28	4.39	0.00	0.00	0.00	0.00	0.00	851.25	1156.32	1034.50	952.62	5675.99		
	Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Catchment Area (m ²) 15520.00		Imperv coeff. 0.80												Monthly Volumes	
	Evaporation from Imperv. (m ³) - 15% of P.	115.93	159.47	172.97	166.45	176.23	181.82	173.44	142.24	174.83	134.79	120.59	111.05	1829.81		
	Run-Off Directed to Pervious Area (m ³)	656.96	903.65	980.17	943.23	998.63	1030.30	982.80	806.03	990.72	763.82	683.35	629.26	10368.91		
	Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	656.96	903.65	980.17	943.23	998.63	1030.30	982.80	806.03	990.72	763.82	683.35	629.26	10368.91		
	Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-		
	Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79		
	P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-		
	Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-		
	Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-		
	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21		
	Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-		
	Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-		
	Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26		
	Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95		
	Catchment Area (m ²) 3880.00		Monthly Volumes													
	AET (m ³)	0.96	132.25	287.43	397.91	339.56	303.03	289.06	150.87	45.86	0.00	0.00	0.00	1946.94		
	Infiltration (m ³)	57.68	40.06	0.26	0.00	0.00	0.00	0.00	0.00	49.61	67.40	60.30	55.52	330.82		
	Run-Off (m ³)	134.59	93.47	0.60	0.00	0.00	0.00	0.00	0.00	115.77	157.26	140.69	129.55	771.92		
Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	134.59	93.47	0.60	0.00	0.00	0.00	0.00	0.00	115.77	157.26	140.69	129.55	771.92			
Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			

NOTES:

- PET and P Taken from Table 1
- Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

TABLE 4
POST-DEVELOPMENT WATER BALANCE WITH MITIGATION
CALDON STATION

Catchments and Hydrologic Components		Month												Total
		March	April	May	June	July	August	September	October	November	December	January	February	
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
Soil Moisture Storage (mm)		75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
Actual Evapotranspiration (mm)		0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
P-AET (mm)		49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
Precipitation Surplus (mm)		49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
Infiltration Factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
Infiltration (mm)		14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26
Run-Off (mm)		34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95
Catchment Area (m ²) 39952.96		Monthly Volumes												
AET (m ³)		9.84	1361.84	2959.72	4097.38	3496.55	3120.33	2976.50	1553.50	472.27	0.00	0.00	0.00	20047.93
Infiltration (m ³)		593.95	412.48	2.63	0.00	0.00	0.00	0.00	0.00	510.89	693.98	620.87	571.73	3406.53
Run-Off (m ³)		1385.87	962.45	6.15	0.00	0.00	0.00	0.00	0.00	1192.08	1619.29	1448.69	1334.03	7948.57
Catchment Area (m ²) = 194074.71		Monthly Volumes												
Evaporation from Imperv. (m ³) - 15% of P.		1449.74	1994.12	2162.96	2081.45	2203.72	2273.59	2168.78	1778.69	2186.25	1685.54	1507.96	1388.60	22881.41
Run-Off from Imperv. (m ³) - with 15% evap.		8215.18	11300.00	12256.79	11794.89	12487.74	12883.65	12289.78	10079.27	12388.76	9551.39	8545.11	7868.76	129661.31
P - Total Precipitation plus irrigation (mm)		54.50	74.97	81.32	78.25	82.85	85.48	81.54	66.87	82.19	63.37	56.69	52.21	-
P-PET (mm)		54.26	40.88	7.24	-37.15	-49.86	-31.88	1.29	27.99	70.37	63.37	56.69	52.21	-
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-37.15	-87.01	-118.89	-117.60	-89.61	-19.24	0.00	0.00	0.00	-
Soil Moisture Storage (mm)		75.00	75.00	75.00	37.85	0.00	0.00	1.29	29.28	75.00	75.00	75.00	75.00	-
Actual Potential Evapotranspiration (mm)		0.25	34.09	74.08	104.53	90.08	78.10	74.55	38.88	11.82	0.00	0.00	0.00	506.38
P-AET (mm)		54.26	40.88	7.24	-26.28	-7.23	7.38	6.99	27.99	70.37	63.37	56.69	52.21	-
Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	-26.28	-33.51	-26.14	-19.15	0.00	0.00	0.00	0.00	0.00	-
Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	26.28	7.23	-7.38	-6.99	-19.15	0.00	0.00	0.00	0.00	-
Precipitation Surplus (mm)		54.26	40.88	7.24	0.00	0.00	0.00	0.00	8.84	70.37	63.37	56.69	52.21	353.85
MOECC Infiltration Factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
Infiltration (mm)		16.28	12.26	2.17	0.00	0.00	0.00	0.00	2.65	21.11	19.01	17.01	15.66	106.16
Run-Off (mm)		37.98	28.62	5.07	0.00	0.00	0.00	0.00	6.19	49.26	44.36	39.68	36.54	247.70
Catchment Area (m ²) 67770.00		Monthly Volumes (Pervious Area)												
AET (m ³)		16.69	2310.02	5020.42	7084.12	6104.93	5292.84	5052.22	2635.12	801.09	0.00	0.00	0.00	34317.44
Infiltration (m ³)		1103.10	831.20	147.14	0.00	0.00	0.00	0.00	179.67	1430.73	1288.34	1152.61	1061.38	7194.17
Run-Off (m ³)		2573.90	1939.46	343.32	0.00	0.00	0.00	0.00	419.23	3338.38	3006.13	2689.42	2476.55	16786.40
Catchment Area (m ²) = 7530.00		Monthly Volumes												
Evaporation from Imperv. (m ³) - 15% of P.		56.25	77.37	83.92	80.76	85.50	88.21	84.15	69.01	84.83	65.40	58.51	53.88	887.79
Run-Off Directed to Pervious Area (m ³)		318.74	438.43	475.56	457.64	484.52	499.88	476.84	391.07	480.68	370.59	331.55	305.30	5030.79

NOTES:

- PET and P Taken from Table 1
- Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

TABLE 4
POST-DEVELOPMENT WATER BALANCE WITH MITIGATION
CALDON STATION

Catchments and Hydrologic Components		Month												Total
		March	April	May	June	July	August	September	October	November	December	January	February	
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
P - Total Precipitation plus irrigation (mm)		92.13	126.73	137.46	132.28	140.05	144.49	137.83	113.04	138.94	107.12	95.83	88.25	-
P-PET (mm)		91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	-
Soil Moisture Deficit (mm)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Soil Moisture Storage (mm)		75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	-
Actual Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
P-AET (mm)		91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	-
Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Precipitation Surplus (mm)		91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	849.27
MOECC Infiltration Factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
Infiltration (mm)		27.57	27.79	19.01	5.06	2.20	8.14	17.28	22.25	38.13	32.13	28.75	26.47	254.78
Run-Off (mm)		64.32	64.85	44.36	11.81	5.14	18.99	40.31	51.91	88.98	74.98	67.08	61.77	594.49
Catchment Area (m ²) 10700.00		Monthly Volumes (Pervious Area)												
AET (m ³)		2.63	364.72	792.66	1234.86	1419.97	1255.70	858.58	416.05	126.48	0.00	0.00	0.00	6471.66
Infiltration (m ³)		294.95	297.37	203.43	54.14	23.55	87.09	184.84	238.03	408.04	343.84	307.61	283.27	2726.16
Run-Off (m ³)		688.21	693.86	474.68	126.34	54.96	203.20	431.30	555.40	952.09	802.29	717.77	660.96	6361.05
Mitigation - Connected Pervious Pond Area		Monthly Volumes												
Catchment Area (m ²) = 10700.00		Imperv coeff. 0.50												
Evaporation from Imperv. (m ³) - 15% of P.		79.93	109.94	119.25	114.76	121.50	125.35	119.57	98.07	120.54	92.93	83.14	76.56	1261.53
Run-Off Directed to Pervious Area (m ³)		452.93	623.01	675.76	650.29	688.49	710.32	677.58	555.70	683.03	526.60	471.12	433.83	7148.67
P - Total Precipitation plus irrigation (mm)		92.13	126.73	137.46	132.28	140.05	144.49	137.83	113.04	138.94	107.12	95.83	88.25	-
P-PET (mm)		91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	-
Soil Moisture Deficit (mm)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Soil Moisture Storage (mm)		75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	-
Actual Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
P-AET (mm)		91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	-
Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
Precipitation Surplus (mm)		91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	849.27
MOECC Infiltration Factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
Infiltration (mm)		27.57	27.79	19.01	5.06	2.20	8.14	17.28	22.25	38.13	32.13	28.75	26.47	254.78
Run-Off (mm)		64.32	64.85	44.36	11.81	5.14	18.99	40.31	51.91	88.98	74.98	67.08	61.77	594.49
Catchment Area (m ²) 4250.00		Monthly Volumes (Pervious Area)												
AET (m ³)		1.05	144.87	314.84	490.48	564.01	498.76	341.03	165.25	50.24	0.00	0.00	0.00	2570.52
Infiltration (m ³)		117.15	118.11	80.80	21.51	9.36	34.59	73.42	94.54	162.07	136.57	122.18	112.51	1082.82
Run-Off (m ³)		273.35	275.60	188.54	50.18	21.83	80.71	171.31	220.60	378.17	318.67	285.09	262.53	2526.58
Mitigation - Connected Impervious Roof Area		Monthly Volumes												
Catchment Area (m ²) = 4250.00		Imperv coeff. 0.50												
Evaporation from Imperv. (m ³) - 15% of P.		31.75	43.67	47.37	45.58	48.26	49.79	47.49	38.95	47.88	36.91	33.02	30.41	501.08
Run-Off Directed to Pervious Area (m ³)		179.90	247.46	268.41	258.29	273.47	282.14	269.13	220.72	271.30	209.16	187.13	172.32	2839.43

NOTES:

- PET and P Taken from Table 1
- Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

TABLE 4
POST-DEVELOPMENT WATER BALANCE WITH MITIGATION
CALDON STATION

Catchments and Hydrologic Components		Month												Total	
		March	April	May	June	July	August	September	October	November	December	January	February		
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83	
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00	
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17	
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-	
Catchment 105 (continued)	Mitigation - Pervious Park Area to Silva Cells	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	-	
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
		Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
		Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26
		Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95
		Catchment Area (m ²) 285.00	Monthly Volumes												
		AET (m ³)	0.07	9.71	21.11	29.23	24.94	22.26	21.23	11.08	3.37	0.00	0.00	0.00	143.01
	Infiltration (m ³)	4.24	2.94	0.02	0.00	0.00	0.00	0.00	0.00	3.64	4.95	4.43	4.08	24.30	
	Run-Off (m ³)	9.89	6.87	0.04	0.00	0.00	0.00	0.00	0.00	8.50	11.55	10.33	9.52	56.70	
	Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	9.89	6.87	0.04	0.00	0.00	0.00	0.00	0.00	8.50	11.55	10.33	9.52	56.70	
	Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Catchment Area (m ²) = 615.00	Imperv coeff. 0.65	Monthly Volumes												
	Evaporation from Imperv. (m ³) - 15% of P.	4.59	6.32	6.85	6.60	6.98	7.20	6.87	5.64	6.93	5.34	4.78	4.40	72.51	
	Run-Off Directed to Pervious Area (m ³)	26.03	35.81	38.84	37.38	39.57	40.83	38.94	31.94	39.26	30.27	27.08	24.94	410.88	
	Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	26.03	35.81	38.84	37.38	39.57	40.83	38.94	31.94	39.26	30.27	27.08	24.94	410.88	
	Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-	
	Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79	
	P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-	
	Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-	
	Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-	
	Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21	
	Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-	
	Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-	
	Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26	
Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95		
Catchment Area (m ²) 640.00	Monthly Volumes														
AET (m ³)	0.16	21.82	47.41	65.64	56.01	49.98	47.68	24.89	7.57	0.00	0.00	0.00	321.14		
Infiltration (m ³)	9.51	6.61	0.04	0.00	0.00	0.00	0.00	0.00	8.18	11.12	9.95	9.16	54.57		
Run-Off (m ³)	22.20	15.42	0.10	0.00	0.00	0.00	0.00	0.00	19.10	25.94	23.21	21.37	127.33		
Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	22.20	15.42	0.10	0.00	0.00	0.00	0.00	0.00	19.10	25.94	23.21	21.37	127.33		
Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Catchment Area (m ²) = 2560.00	Imperv coeff. 0.80	Monthly Volumes													
Evaporation from Imperv. (m ³) - 15% of P.	19.12	26.30	28.53	27.46	29.07	29.99	28.61	23.46	28.84	22.23	19.89	18.32	301.82		
Run-Off Directed to Pervious Area (m ³)	108.36	149.06	161.68	155.58	164.72	169.95	162.11	132.95	163.42	125.99	112.72	103.80	1710.34		
Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	108.36	149.06	161.68	155.58	164.72	169.95	162.11	132.95	163.42	125.99	112.72	103.80	1710.34		
Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

- NOTES:
1) PET and P Taken from Table 1
2) Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
3) Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
4) Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

TABLE 4
POST-DEVELOPMENT WATER BALANCE WITH MITIGATION
CALDON STATION

Catchments and Hydrologic Components		Month												Total
		March	April	May	June	July	August	September	October	November	December	January	February	
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-
Soil Moisture Storage (mm)		75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	75.00	-
Actual Evapotranspiration (mm)		0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79
P-AET (mm)		49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-
Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-
Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-
Precipitation Surplus (mm)		49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21
Infiltration Factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
Infiltration (mm)		14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26
Run-Off (mm)		34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95
Catchment Area (m ²) 56130.34		Monthly Volumes												
AET (m ³)		13.82	1913.27	4158.15	5756.45	4912.34	4383.78	4181.71	2182.53	663.50	0.00	0.00	0.00	28165.55
Infiltration (m ³)		834.44	579.50	3.70	0.00	0.00	0.00	0.00	0.00	717.75	974.98	872.27	803.23	4785.87
Run-Off (m ³)		1947.03	1352.16	8.64	0.00	0.00	0.00	0.00	0.00	1674.76	2274.96	2035.29	1874.19	11167.02
Catchment Area (m ²) = 209771.19		Monthly Volumes												
Evaporation from Imperv. (m ³) - 15% of P.		1566.99	2155.40	2337.90	2249.80	2381.95	2457.47	2344.19	1922.55	2363.07	1821.86	1629.92	1500.91	24732.02
Run-Off from Imperv. (m ³) - with 15% evap.		8879.61	12213.93	13248.10	12748.84	13497.73	13925.66	13283.76	10894.47	13390.74	10323.89	9236.23	8505.17	140148.13
P - Total Precipitation plus irrigation (mm)		54.50	74.97	81.32	78.25	82.85	85.48	81.54	66.87	82.19	63.37	56.69	52.21	-
P-PET (mm)		54.26	40.88	7.24	-37.15	-49.86	-31.88	1.29	27.99	70.37	63.37	56.69	52.21	-
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-37.15	-87.01	-118.89	-117.60	-89.61	-19.24	0.00	0.00	0.00	-
Soil Moisture Storage (mm)		75.00	75.00	75.00	37.85	0.00	0.00	1.29	29.28	75.00	75.00	75.00	75.00	-
Actual Potential Evapotranspiration (mm)		0.25	34.09	74.08	104.53	90.08	78.10	74.55	38.88	11.82	0.00	0.00	0.00	506.38
P-AET (mm)		54.26	40.88	7.24	-26.28	-7.23	7.38	6.99	27.99	70.37	63.37	56.69	52.21	-
Actual Soil Moisture Deficit (mm)		0.00	0.00	0.00	-26.28	-33.51	-26.14	-19.15	0.00	0.00	0.00	0.00	0.00	-
Change in Soil Moisture Deficit (mm)		0.00	0.00	0.00	26.28	7.23	-7.38	-6.99	-19.15	0.00	0.00	0.00	0.00	-
Precipitation Surplus (mm)		54.26	40.88	7.24	0.00	0.00	0.00	0.00	8.84	70.37	63.37	56.69	52.21	353.85
MOECC Infiltration Factor		0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
Run-Off Coefficient		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
Infiltration (mm)		16.28	12.26	2.17	0.00	0.00	0.00	0.00	2.65	21.11	19.01	17.01	15.66	106.16
Run-Off (mm)		37.98	28.62	5.07	0.00	0.00	0.00	0.00	6.19	49.26	44.36	39.68	36.54	247.70
Catchment Area (m ²) 3420.00		Monthly Volumes (Pervious Area)												
AET (m ³)		0.84	116.57	253.35	357.50	308.08	267.10	254.96	132.98	40.43	0.00	0.00	0.00	1731.82
Infiltration (m ³)		55.67	41.95	7.43	0.00	0.00	0.00	0.00	9.07	72.20	65.02	58.17	53.56	363.05
Run-Off (m ³)		129.89	97.87	17.33	0.00	0.00	0.00	0.00	21.16	168.47	151.70	135.72	124.98	847.12
Catchment Area (m ²) = 380.00		Monthly Volumes												
Evaporation from Imperv. (m ³) - 15% of P.		2.84	3.90	4.24	4.08	4.31	4.45	4.25	3.48	4.28	3.30	2.95	2.72	44.80
Run-Off Directed to Pervious Area (m ³)		16.09	22.13	24.00	23.09	24.45	25.23	24.06	19.74	24.26	18.70	16.73	15.41	253.88

NOTES:

- PET and P Taken from Table 1
- Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

TABLE 4
POST-DEVELOPMENT WATER BALANCE WITH MITIGATION
CALDON STATION

Catchments and Hydrologic Components		Month												Total		
		March	April	May	June	July	August	September	October	November	December	January	February			
PET - Adjusted Potential Evapotranspiration (mm)		0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83		
P - Total Precipitation (mm)		49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00		
P-PET (mm)		49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17		
Soil Moisture Deficit (mm)		0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-		
Catchment 106 (continued)	Mitigation - Pervious ROW Area to Silva Cells	Soil Moisture Storage (mm)	75.00	75.00	75.00	31.09	0.00	0.00	0.00	22.22	75.00	75.00	75.00	-		
		Actual Evapotranspiration (mm)	0.25	34.09	74.08	102.56	87.52	78.10	74.50	38.88	11.82	0.00	0.00	0.00	501.79	
		P-AET (mm)	49.55	34.41	0.22	-31.06	-11.82	0.00	0.00	22.22	63.28	57.90	51.80	47.70	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-31.06	-42.87	-42.87	-42.87	-20.66	0.00	0.00	0.00	0.00	-	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	31.06	11.82	0.00	0.00	-22.22	-20.66	0.00	0.00	0.00	-	
		Precipitation Surplus (mm)	49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	42.62	57.90	51.80	47.70	284.21	
		Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
		Infiltration (mm)	14.87	10.32	0.07	0.00	0.00	0.00	0.00	0.00	12.79	17.37	15.54	14.31	85.26	
		Run-Off (mm)	34.69	24.09	0.15	0.00	0.00	0.00	0.00	0.00	29.84	40.53	36.26	33.39	198.95	
		Catchment Area (m ²) 2160.00	Monthly Volumes													
		AET (m ³)	0.53	73.63	160.01	221.52	189.04	168.70	160.92	83.99	25.53	0.00	0.00	0.00	1083.86	
	Infiltration (m ³)	32.11	22.30	0.14	0.00	0.00	0.00	0.00	0.00	27.62	37.52	33.57	30.91	184.17		
	Run-Off (m ³)	74.93	52.03	0.33	0.00	0.00	0.00	0.00	0.00	64.45	87.54	78.32	72.12	429.73		
	Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	74.93	52.03	0.33	0.00	0.00	0.00	0.00	0.00	64.45	87.54	78.32	72.12	429.73		
	Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Catchment Area (m ²) = 8640.00	Monthly Volumes														
	Imperv coeff. 0.80	Monthly Volumes														
	Evaporation from Imperv. (m ³) - 15% of P.	64.54	88.78	96.29	92.66	98.11	101.22	96.55	79.19	97.33	75.04	67.13	61.82	1018.66		
	Run-Off Directed to Pervious Area (m ³)	365.73	503.06	545.66	525.10	555.94	573.57	547.13	448.72	551.53	425.22	380.42	350.31	5772.38		
	Infiltration via Silva Cells (Sized for 25mm capture) (m ³)	365.73	503.06	545.66	525.10	555.94	573.57	547.13	448.72	551.53	425.22	380.42	350.31	5772.38		
	Run-Off (m ³)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Channels	Mitigation - Connected Impervious Area	Catchment Area (m ²) = 2951.01	Monthly Volumes												
			Imperv coeff. 0.10	Monthly Volumes												
Evaporation from Imperv. (m ³) - 15% of P.			22.04	30.32	32.89	31.65	33.51	34.57	32.98	27.05	33.24	25.63	22.93	21.11	347.92	
Run-Off Directed to Pervious Area (m ³)			124.92	171.82	186.37	179.35	189.88	195.90	186.87	153.26	188.38	145.23	129.93	119.65	1971.57	
Mitigation - Connected Pervious Area		P - Total Precipitation plus irrigation (mm)	54.50	74.97	81.32	78.25	82.85	85.48	81.54	66.87	82.19	63.37	56.69	52.21	-	
		P-PET (mm)	54.26	40.88	7.24	-37.15	-49.86	-31.88	1.29	27.99	70.37	63.37	56.69	52.21	-	
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	-37.15	-87.01	-118.89	-117.60	-89.61	-19.24	0.00	0.00	0.00	-	
		Soil Moisture Storage (mm)	75.00	75.00	75.00	37.85	0.00	0.00	1.29	29.28	75.00	75.00	75.00	75.00	-	
		Actual Potential Evapotranspiration (mm)	0.25	34.09	74.08	104.53	90.08	78.10	74.55	38.88	11.82	0.00	0.00	0.00	506.38	
		P-AET (mm)	54.26	40.88	7.24	-26.28	-7.23	7.38	6.99	27.99	70.37	63.37	56.69	52.21	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	-26.28	-33.51	-26.14	-19.15	0.00	0.00	0.00	0.00	0.00	-	
		Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	26.28	7.23	-7.38	-6.99	-19.15	0.00	0.00	0.00	0.00	-	
		Precipitation Surplus (mm)	54.26	40.88	7.24	0.00	0.00	0.00	0.00	8.84	70.37	63.37	56.69	52.21	353.85	
		MOECC Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-
		Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-
		Infiltration (mm)	16.28	12.26	2.17	0.00	0.00	0.00	0.00	2.65	21.11	19.01	17.01	15.66	106.16	
		Run-Off (mm)	37.98	28.62	5.07	0.00	0.00	0.00	0.00	6.19	49.26	44.36	39.68	36.54	247.70	
		Catchment Area (m ²) 26559.05	Monthly Volumes (Pervious Area)													
		AET (m ³)	6.54	905.30	1967.50	2776.27	2392.52	2074.26	1979.97	1032.70	313.95	0.00	0.00	0.00	13449.00	
		Infiltration (m ³)	432.31	325.75	57.66	0.00	0.00	0.00	0.00	70.41	560.70	504.90	451.71	415.95	2819.39	
Run-Off (m ³)		1008.71	760.07	134.55	0.00	0.00	0.00	0.00	164.30	1308.31	1178.10	1053.98	970.56	6578.59		

NOTES:

- PET and P Taken from Table 1
- Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
- Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
- Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (Δ ST) for a given soil type

TABLE 4
POST-DEVELOPMENT WATER BALANCE WITH MITIGATION
CALDON STATION

Catchments and Hydrologic Components			Month												Total	
			March	April	May	June	July	August	September	October	November	December	January	February		
PET - Adjusted Potential Evapotranspiration (mm)			0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	604.83	
P - Total Precipitation (mm)			49.80	68.50	74.30	71.50	75.70	78.10	74.50	61.10	75.10	57.90	51.80	47.70	786.00	
P-PET (mm)			49.55	34.41	0.22	-43.91	-57.01	-39.25	-5.74	22.22	63.28	57.90	51.80	47.70	181.17	
Soil Moisture Deficit (mm)			0.00	0.00	0.00	-43.91	-100.92	-140.17	-145.91	-123.69	-60.42	-2.52	0.00	0.00	-	
Ponds	Mitigation - Connected Impervious Area	Catchment Area (m ²) = 18845.25	Imperv. coeff. 0.50												Monthly Volumes	
		Evaporation from Imperv. (m ³) - 15% of P.	140.77	193.63	210.03	202.12	213.99	220.77	210.60	172.72	212.29	163.67	146.43	134.84	2221.85	
		Run-Off from Imperv. (m ³) - with 15% evap.	797.72	1097.26	1190.17	1145.32	1212.60	1251.04	1193.38	978.73	1202.99	927.47	829.76	764.08	12590.51	
		P - Total Precipitation plus irrigation (mm)	92.13	126.73	137.46	132.28	140.05	144.49	137.83	113.04	138.94	107.12	95.83	88.25	-	
		P-PET (mm)	91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	-	
		Soil Moisture Deficit (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
		Soil Moisture Storage (mm)	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00	-
		Actual Potential Evapotranspiration (mm)	0.25	34.09	74.08	115.41	132.71	117.35	80.24	38.88	11.82	0.00	0.00	0.00	0.00	604.83
		P-AET (mm)	91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	-	
		Actual Soil Moisture Deficit (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-
	Change in Soil Moisture Deficit (mm)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	
	Precipitation Surplus (mm)	91.88	92.64	63.37	16.87	7.34	27.13	57.58	74.15	127.11	107.12	95.83	88.25	849.27		
	MOECC Infiltration Factor	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	-	
	Run-Off Coefficient	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	-	
	Infiltration (mm)	27.57	27.79	19.01	5.06	2.20	8.14	17.28	22.25	38.13	32.13	28.75	26.47	254.78		
	Run-Off (mm)	64.32	64.85	44.36	11.81	5.14	18.99	40.31	51.91	88.98	74.98	67.08	61.77	594.49		
	Catchment Area (m ²) 18845.25	Monthly Volumes (Pervious Area)														
	AET (m ³)	4.64	642.36	1396.06	2174.89	2500.91	2211.58	1512.17	732.76	222.76	0.00	0.00	0.00	11398.14		
	Infiltration (m ³)	519.47	523.74	358.29	95.36	41.48	153.38	325.55	419.22	718.65	605.58	541.78	498.90	4801.42		
	Run-Off (m ³)	1212.10	1222.06	836.02	222.51	96.79	357.89	759.62	978.19	1676.85	1413.03	1264.16	1164.10	11203.31		
	NHS	Development - Pervious Landscape	Soil Moisture Storage (mm)	200.00	200.00	200.00	156.09	99.08	59.83	54.09	76.31	75.00	132.90	135.42	135.42	-
Actual Evapotranspiration (mm)			0.25	34.09	74.08	110.59	112.07	93.70	76.14	38.88	11.82	0.00	0.00	0.00	551.60	
P-AET (mm)			49.55	34.41	0.22	-39.09	-36.37	-15.60	-1.64	22.22	63.28	57.90	51.80	47.70	-	
Actual Soil Moisture Deficit (mm)			0.00	0.00	0.00	-39.09	-75.46	-91.05	-92.69	-70.47	-7.19	0.00	0.00	0.00	-	
Change in Soil Moisture Deficit (mm)			0.00	0.00	0.00	39.09	36.37	15.60	1.64	-22.22	-63.28	-7.19	0.00	0.00	-	
Precipitation Surplus (mm)			49.55	34.41	0.22	0.00	0.00	0.00	0.00	0.00	0.00	50.71	51.80	47.70	234.40	
Infiltration Factor			0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	-
Run-Off Coefficient			0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	-
Infiltration (mm)			19.82	13.77	0.09	0.00	0.00	0.00	0.00	0.00	0.00	20.28	20.72	19.08	93.76	
Run-Off (mm)			29.73	20.65	0.13	0.00	0.00	0.00	0.00	0.00	0.00	30.43	31.08	28.62	140.64	
Catchment Area (m ²) 97052.63		Imperv. coeff. 0.00												Monthly Volumes		
AET (m ³)		23.90	3308.16	7189.68	10732.86	10876.45	9093.39	7389.12	3773.72	1147.23	0.00	0.00	0.00	53534.50		
Infiltration (m ³)		1923.73	1335.98	8.53	0.00	0.00	0.00	0.00	0.00	0.00	1968.61	2010.93	1851.76	9099.55		
Run-Off (m ³)		2885.59	2003.97	12.80	0.00	0.00	0.00	0.00	0.00	0.00	2952.92	3016.40	2777.65	13649.32		
Development - Impervious Area	Catchment Area (m ²) = 0.00	Monthly Volumes														
	Evaporation from Imperv. (m ³) - 15% of P.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Run-Off from Imperv. (m ³) - with 15% evap.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Total Site	Total Catchment Volumes															
	Total ET (m ³)	9644.41	13265.91	14389.15	13846.89	14660.28	15125.07	14427.88	11832.80	14544.08	11213.08	10031.74	9237.72	152219.01		
	Total AET (m ³)	129.38	17910.85	38926.02	55997.48	52519.28	45890.25	39799.50	20431.51	6211.28	0.00	0.00	0.00	277815.55		
	Total Infiltration (m ³)	13856.98	12478.02	6296.85	4655.73	4660.79	5307.60	5871.83	5819.79	14248.45	15887.54	14463.44	13318.65	116865.68		
	Total Runoff (m ³)	66833.08	80778.44	75357.16	69268.11	72710.69	76180.36	74556.24	63489.02	90655.80	77379.42	69601.77	64092.75	880902.84		

- NOTES:
- PET and P Taken from Table 1
 - Soil Moisture Deficit (mm) is a function of P-Pet, once there is a shortage of P to satisfy PET
 - Water Holding Capacity (mm) of soils types taken from Table 3.1, SWM Planning & Design Manual (MOE, March 2003) and applied to March
 - Actual Evapotranspiration (AET) is a function of Adjusted Potential Evapotranspiration (PET) and change in Groundwater Storage (ΔST) for a given soil type

APPENDIX 6

Wastewater

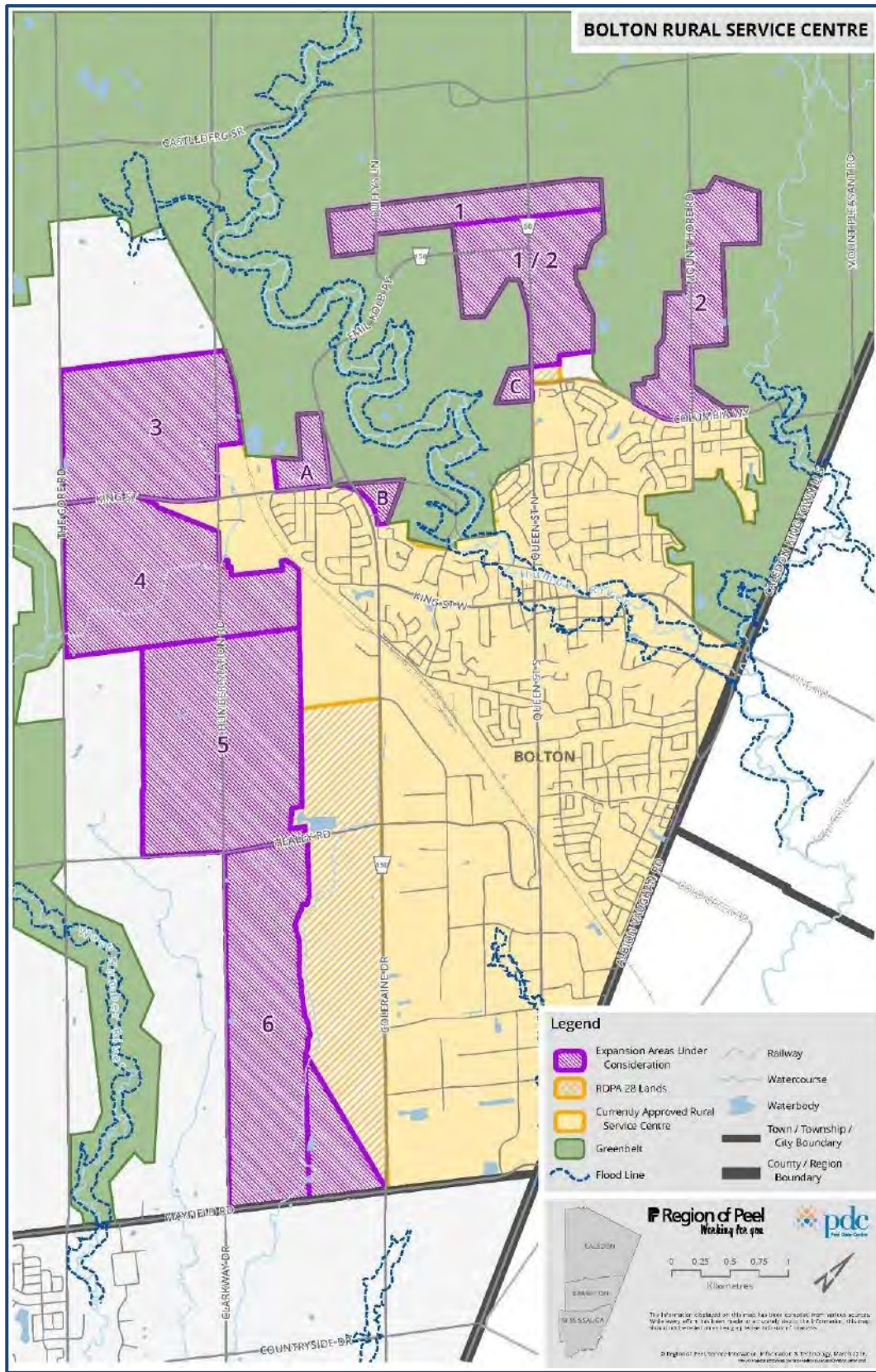


FIGURE 1 BOLTON RESIDENTIAL EXPANSION AREA OPTIONS

4.4.2.6 Option 3

Option 3 is located at the northwest corner of Humber Station Road and King Street. The ground elevations range between 265 m and 280 m.

Wastewater servicing of Option 3 requires an extension of the existing system towards the existing Coleraine Trunk Sewer, which presently conveys all of Bolton's wastewater flow to the lake-based system. Twinning of a section of the Coleraine Trunk sewer will be required. A high level analysis was performed on the ground elevation of the area and it was determined that it can be serviced by gravity in its entirety, therefore eliminating the need for a pumping station.

It is also important to note that the new infrastructure required minimizes the need to work through the urban core, thus lowering the potential for conflict with existing utilities and social impact.

The projects required as part of the wastewater servicing strategy for Option 3 are presented in Table 17.

TABLE 17 WASTEWATER PROJECTS FOR SERVICING OPTION 3

BRES ID	Description	Size/Capacity	Length (m)
Opt3 - WW1	New gravity sewer on King & Coleraine from Option 3 to ex. Coleraine Trunk Sewer south of rail	450 mm	2624
Opt3 - WW2	Twinning of Coleraine Trunk Sewer from south of rail to 700 m north of George Bolton Pkwy	525 mm	2908

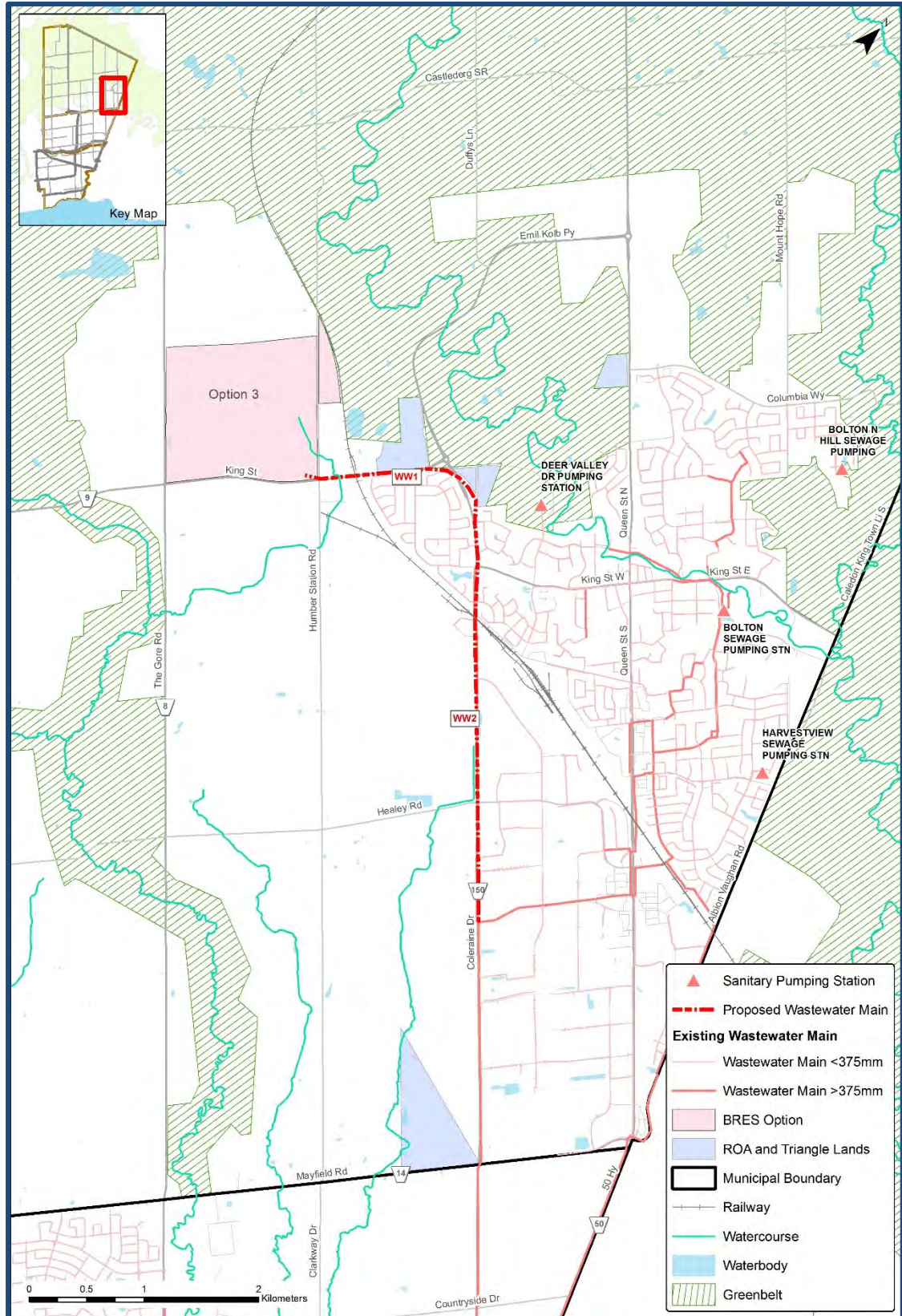


FIGURE 14 WASTEWATER SERVICING OPTION 3

4.4.2.7 Option 4

Option 4 is located at the southeast corner of King St. and The Gore Rd. Ground elevations range between 252 m and 262 m, with a topography allowing for a gravity system without any pumping requirements.

Option 4 can be serviced through a new wastewater gravity sewer on Humber Station Road to the future Holland extension, and then east on the Holland extension to Coleraine Drive. The first section of sewer will need to be more than 5 m deep, further downstream it can be shallower as it approaches Healey Road and the existing sewer on Coleraine. This Option also requires twinning of the Coleraine Trunk sewer to the extension of McEwan Drive.

This servicing strategy minimizes the need to work through the urban core, thus lowering the potential for conflict with existing utilities and social impact.

The projects required as part of the wastewater servicing strategy for Option 4 are presented in Table 18.

TABLE 18 WASTEWATER PROJECTS FOR SERVICING OPTION 4

BRES ID	Description	Size/Capacity	Length (m)
Opt4 - WW1	New gravity sewer on Humber Station Rd from 890 m north of Healey Rd to 790 m north of Healey Rd	450 mm	790
Opt4 - WW2	New gravity sewer on Holland Dr extension from Humber Station Rd to 690 m easterly	450 mm	690
Opt4 - WW3	New gravity sewer on Holland Dr extension from Coleraine Dr to 680 m westerly	450 mm	680
Opt4 - WW4	Twinning of Coleraine Trunk Sewer from Holland Dr extension to McEwan Dr	525 mm	2080

It is anticipated that the new infrastructure will require a few minor creek crossings along Humber Station Road and Healey Road.

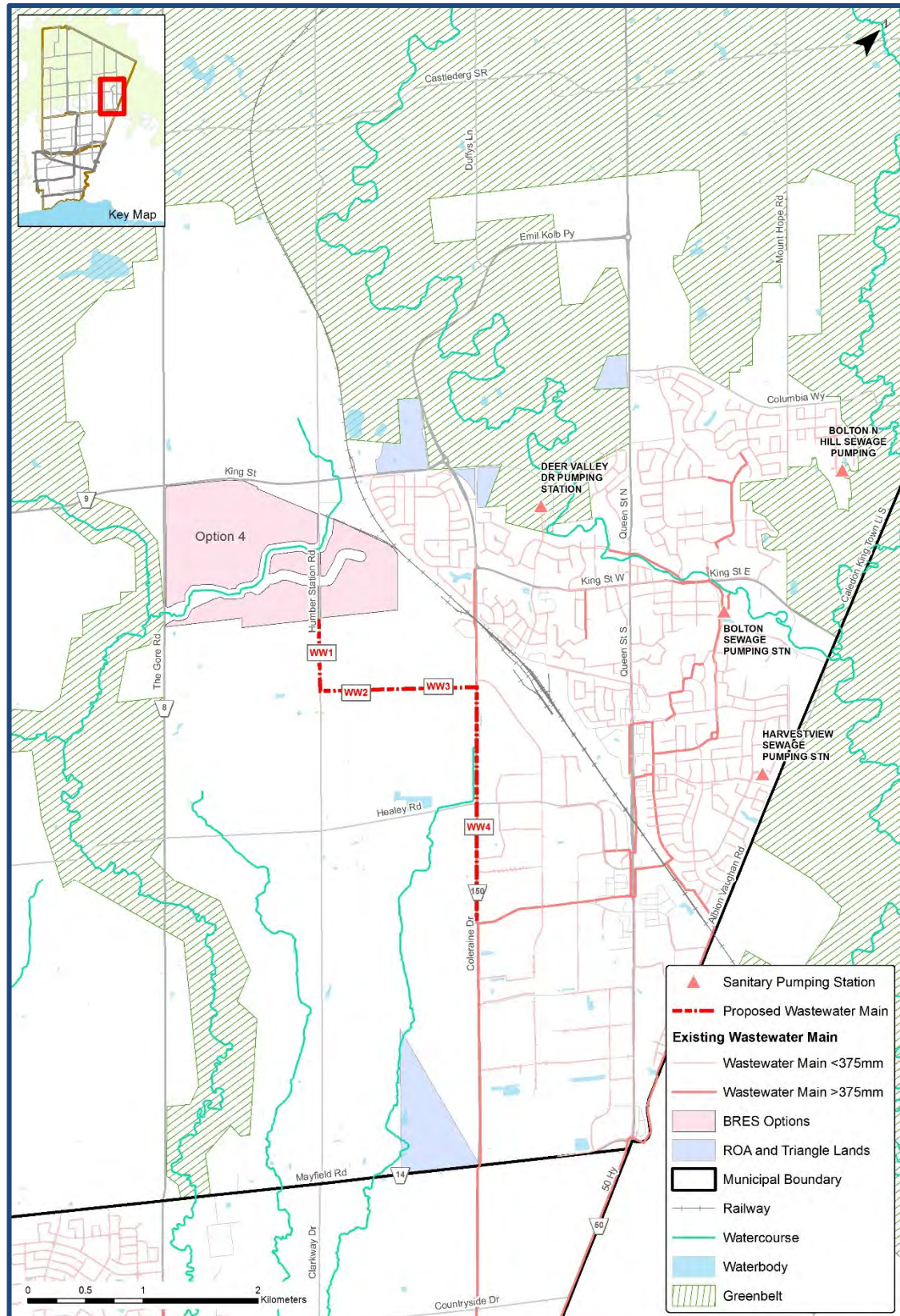


FIGURE 15 WASTEWATER SERVICING OPTION 4



I/c/d
I/c/d
I/s/ha
%
(shown is NOT increased)

SANITARY SEWER DESIGN SHEET

Macville Argo Region of Peel

PROJECT DETAILS

Project No: 15-458
Date: #####
Designed by: E.L.
Checked by: S.H.

DESIGN CRITERIA

Min. Flow =	13 l/s	Daily Per Capital Flow (Residential) =	290.0 I/c/d
Min Diameter =	200 mm	Daily Per Capital Flow (Non-Residential) =	270.0 I/c/d
Mannings 'n' =	0.013	Extraneous Flows =	0.260 I/s/ha
Min. Velocity =	0.75 m/s	Max. Peaking Factor =	4.00
Max. Velocity =	3.00 m/s	Min. Peaking Factor =	2.00
Factor of Safety =	30 %		

NOMINAL PIPE SIZE USED

INPUT

D/S INVERT (m)	MIN DROP @ D/S MH (m)	U/S MH RIM EL. (M)

STREET	FROM MH	TO MH	RESIDENTIAL							NON-RESIDENTIAL					FLOW CALCULATIONS							PIPE DATA				
			AREA (ha)	ACC. AREA (ha)	UNITS (#)	DENSITY (P/ha)	DENSITY (P/unit)	POP	ACCUM. POP.	AREA (ha)	ACC. AREA (ha)	EQUIV. POP. (p/ha)	POP.	ACCUM. POP.	EXTRANEIOUS FLOW (l/s)	TOTAL ACCUM. POP.	PEAKING FACTOR	RESIDENTIAL FLOW (l/s)	MIN. FLOW (l/s)	NON RESIDENTIAL FLOW (l/s)	DESIGN FLOW (l/s)	SLOPE (%)	PIPE DIA (mm)	FULL FLOW CAPACITY (l/s)	FULL FLOW VELOCITY (m/s)	ACTUAL VELOCITY (m/s)
STREET 'S'	21A	20A	17.10	17.10	524	3.6	1887	1887	4.20	4.20	150	630	630	5.5	2,517	3.51	22.2	22.2	6.9	34.6	0.50	300	68.4	0.97	0.96	51%
STREET 'S'	20A	30A	2.80 5.20	2.80 25.10	527 134	2.6 3.6	1355 483	1355 3725	4.20	4.20			630	7.6	4,355	3.71 3.30	16.9 41.3	16.9 41.3	6.5	55.4	0.60	300	74.9	1.06	1.13	74%
STREET 'JJ'	30A	40A	25.10	25.10				3725	4.20	4.20			630	7.6	4,355	3.30	41.3	41.3	6.5	55.4	0.50	375	124.0	1.12	1.08	45%
SPEERS	1F	40A	13.35	13.35	341	3.6	1228	1228	2.05	2.05	293	600	600	4.0	1,828	3.62	14.9	14.9	6.8	25.7	0.50	250	42.0	0.86	0.88	61%
STREET 'Y'	40A	6A	11.20	49.65	334	3.6	1203	6156	6.25	6.25			1230	14.5	7,386	3.08	63.7	63.7	11.9	90.1	0.50	375	124.0	1.12	1.20	73%
STREET 'I'	1A	3A	23.10	23.10	730	3.6	2628	2628						6.0	2,628	3.49	30.8	30.8		36.8	0.50	300	68.4	0.97	0.96	54%
STREET 'I'	3A	5A	23.10	23.10				2628						6.0	2,628	3.49	30.8	30.8		36.8	0.50	300	68.4	0.97	0.96	54%
STREET 'I'	5A	6A	14.60	37.70	485	3.6	1746	4374						9.8	4,374	3.30	48.4	48.4		58.2	0.50	375	124.0	1.12	1.08	47%
STREET 'I'	6A	7A	87.35	87.35				10530	6.25	6.25			1230	24.3	11,760	2.88	101.9	101.9	11.1	137.4	0.50	450	201.6	1.27	1.33	68%
STREET 'EE'	7A	8A	6.10	93.45	208	3.6	749	11279	6.25	6.25			1230	25.9	12,509	2.86	108.2	108.2	11.0	145.1	0.50	450	201.6	1.27	1.36	72%
STREET 'I'	8A	9A	93.45	93.45				11279	6.25	6.25			1230	25.9	12,509	2.86	108.2	108.2	11.0	145.1	0.50	450	201.6	1.27	1.36	72%
SPEERS		9A	1.50	1.50	213	2.6	548	548						0.4	548	3.95	7.3	13.0		13.4	0.50					
SPEERS		9A	3.40	3.40	88	3.6	317	317						0.9	317	4.00	4.3	13.0		13.9	0.50					
		9A	2.30	2.30	426	2.5	1080	1080						0.6	1,080	3.78	13.7	13.7		14.3	0.50					
		9A	6.60	6.60	233	3.6	839	839	0.40	0.40				1.8	839	3.85	10.8	13.0		14.8	0.50					
STREET 'I'	9A	100A	107.25	107.25				14063	6.65	6.65			1230	29.6	15,293	2.77	130.7	130.7	10.6	171.0	0.50	525	304.1	1.40	1.42	56%
KING STREET	100A	101A	107.25	107.25				14063	6.65	6.65			1230	29.6	15,293	2.77	130.7	130.7	10.6	171.0	0.50	525	304.1	1.40	1.42	56%
KING STREET	101A	5	3.50	110.75	546	2.5	1388	15451	0.00	6.65	0	0	1230	30.5	16,681	2.73	141.7	141.7	10.5	182.7	0.50	525	304.1	1.40	1.45	60%
HUMBER STATION		10A	1.05	1.05	136	2.5	343	343	3.35	3.35	179	600	600	1.1	943	3.82	4.4	13.0	7.2	21.3						
HUMBER STATION	10A	13A	12.20	13.25	2422	2.5	6062	6405	4.30	7.65			600	5.4	7,005	3.11	66.8	66.8	5.8	78.0	0.50	375	124.0	1.12	1.16	63%
HUMBER STATION	13A	15A	5.05	18.30	969	2.4	2371	8776	5.65	13.30	24	138	738	8.2	9,514	2.98	87.7	87.7	6.9	102.7	0.50	450	201.6	1.27	1.25	51%
HUMBER STATION	15A	16A	3.50	21.80	345	2.5	865	9641	2.90	16.20			738	9.9	10,379	2.94	95.1	95.1	6.8	111.8	0.50	450	201.6	1.27	1.28	55%
HUMBER STATION	16A	5	0.00	21.80	0	0	0	9641	0.00	16.20	0	0	738	9.9	10,379	2.94	95.1	95.1	6.8	111.8	0.50	450	201.6	1.27	1.28	55%
HUMBER STATION	5	CSSP	0.00	132.55	0	0	0	25092	0.00	22.85	0	0	1968	40.4	27,060	2.52	212.4	212.4	15.5	268.3	0.50	600	434.2	1.54	1.58	62%

I/c/d
I/c/d
I/s/ha

%
(shown is NOT increased)

SANITARY SEWER DESIGN SHEET

Macville Argo

Region of Peel

PROJECT DETAILS	DESIGN CRITERIA
<p>Project No: 15-458 Date: ##### Designed by: E.L. Checked by: S.H.</p>	<p>Min. Flow = 13 l/s Min Diameter = 200 mm Mannings 'n' = 0.013 Min. Velocity = 0.75 m/s Max. Velocity = 3.00 m/s Factor of Safety = 30 %</p> <p>Daily Per Capital Flow (Residential) = 290.0 l/c/d Daily Per Capital Flow (Non-Residential) = 270.0 l/c/d Extraneous Flows = 0.260 l/s/ha Max. Peaking Factor = 4.00 Min. Peaking Factor = 2.00</p> <p style="text-align: right;">NOMINAL PIPE SIZE USED</p>

INPUT		
D/S INVERT (m)	MIN DROP @ D/S MH (m)	U/S MH RIM EL. (M)

STREET	FROM MH	TO MH	RESIDENTIAL							NON-RESIDENTIAL					FLOW CALCULATIONS						PIPE DATA							
			AREA (ha)	ACC. AREA (ha)	UNITS (#)	DENSITY (P/ha)	DENSITY (P/unit)	POP	ACCUM. POP.	AREA (ha)	ACC. AREA (ha)	EQUIV. POP. (p/ha)	POP.	ACCUM. POP.	EXTRANEOUS FLOW (l/s)	TOTAL ACCUM. POP.	PEAKING FACTOR	RESIDENTIAL FLOW (l/s)	MIN. FLOW (l/s)	NON RESIDENTIAL FLOW (l/s)	DESIGN FLOW (l/s)	SLOPE (%)	PIPE DIA (mm)	FULL FLOW CAPACITY (l/s)	FULL FLOW VELOCITY (m/s)	ACTUAL VELOCITY (m/s)	PERCENT FULL (%)	
EXTERNAL LANDS																												
BRES-1 LANDS	OPT1	Emil	114.70	114.70		97				11126	11126				29.8	11,126	2.91	108.6	108.6		138.4	0.50	450	201.6	1.27	1.33	69%	
ROUNDING OUT	Emil	5	22.00	136.70		60				1320	12446				35.5	12,446	2.86	119.5	119.5		155.0	0.50	450	201.6	1.27	1.38	77%	
ULTIMATE SAN TRUNK																												
HUMBER STATION RD	5	6C	100.00	369.25		60				6000	43538			22.85	1968	101.9	45,506	2.30	336.5	336.5	14.2	452.6	0.75	675	728.0	2.03	2.10	62%
HUMBER STATION RD	6C	7C	103.00	472.25		60				6180	49718			22.85	1968	128.7	51,686	2.25	375.7	375.7	13.8	518.2	0.50	750	787.2	1.78	1.87	66%
HUMBER STATION RD	7C	8C	81.00	553.25		60				4860	54578			22.85	1968	149.8	56,546	2.22	405.8	405.8	13.6	569.2	0.50	750	787.2	1.78	1.91	72%
HUMBER STATION RD	8C	9C	81.00	634.25		60				4860	59438			22.85	1968	170.8	61,406	2.18	435.5	435.5	13.4	619.7	1.00	750	1113.3	2.52	2.55	56%
HUMBER STATION RD	9C	10C	81.00	715.25		60				4860	64298			22.85	1968	191.9	66,266	2.15	464.7	464.7	13.2	669.8	0.75	750	964.1	2.18	2.29	69%
HUMBER STATION RD	10C	EX 1A		715.25							64298			22.85	1968	191.9	66,266	2.15	464.7	464.7	13.2	669.8	0.75	750	964.1	2.18	2.29	69%
HUMBER STATION RD	EX 1A	EX 2A		715.25							64298			22.85	1968	191.9	66,266	2.15	464.7	464.7	13.2	669.8	0.30	1200	2135.4	1.89	1.64	31%
COLERAINE ROAD	EXT.	MH 118	95.00	95.00	4000		3.61	14440	14440						24.7	14,440	2.79	135.5	135.5		160.2	0.30	525	235.6	1.09	1.14	68%	
WHITE BELT LANDS	WBL	OUT	120.30	120.30		60				7218	7218				31.3	7,218	3.09	75.0	75.0		106.2	0.30	450	156.2	0.98	1.03	68%	

https://urbantech0.sharepoint.com/sites/15-458Macville/Shared Documents/Design/Sanitary/15-458 SAN (2023).SAN

APPENDIX 7

R.J. Burnside & Associates Water Modelling

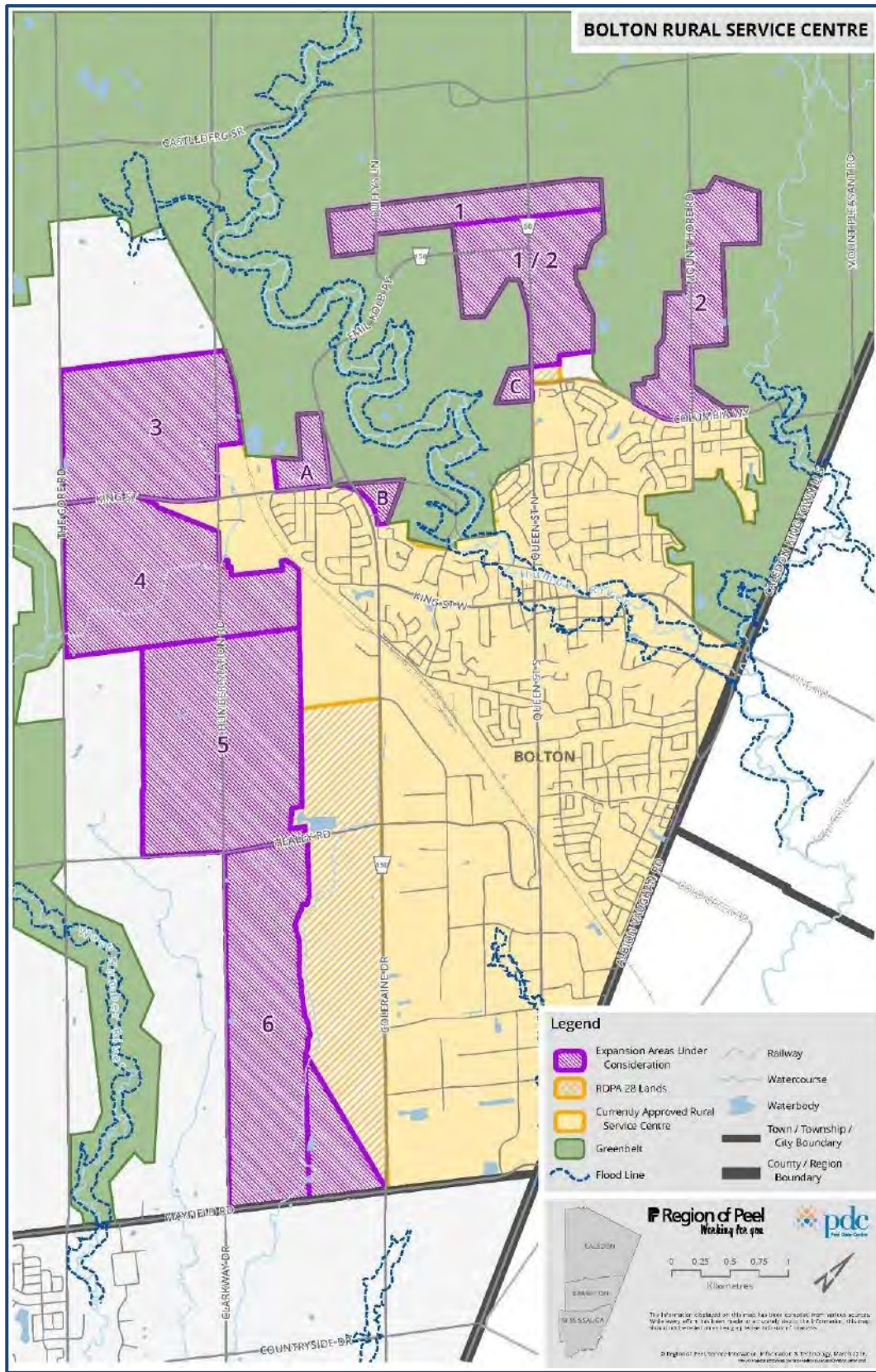


FIGURE 1 BOLTON RESIDENTIAL EXPANSION AREA OPTIONS

3.4.3.6 Option 3

Option 3 is located at the northwest corner of Humber Station Road and King Street. The ground elevations range between 265 m and 280 m, and as such fall in Zone 7. The top water level required to maintain adequate pressures is approximately 328 m.

Water servicing of Option 3 requires the creation of a new pressure zone system due to the range of elevations within the area. To achieve this, a new Zone 7 pumping station is required. Based on previous studies, it was confirmed that the preferred location for a new station is near the intersection of Chickadee Lane and Glasgow Road. An extension of the system through a 400 mm (Zone 6) watermain from the 1050 mm watermain on Coleraine, would provide water to the station, from there, a new 400 mm (Zone 7) feeder main from the proposed Zone 7 pumping station along King Street and Emil Kolb Parkway to the proposed Option 3 storage facility is also required. The proposed location for the elevated tank is a site west of Gore Rd, one which appears to be farm land and has an elevation of 283 m.

A high level evaluation of the storage requirements was undertaken. Based on the ground elevations and environmental features around Option 3, an elevated floating storage facility was selected as the preferred storage servicing strategy. In-ground storage was also considered as an option for provision of storage; however, with a pumped system there must be sufficient pump capacity to supply peak hour demands or maximum day demands plus fire demands. This could result in a larger investment in a pumping facility and larger pipes servicing the area. Furthermore, standby power at the pumping station would also be required. These impacts were considered and it is recognized that elevated floating storage provides a more robust and reliable system and provides a better solution to long term requirements when considering the surrounding areas that could potentially develop.

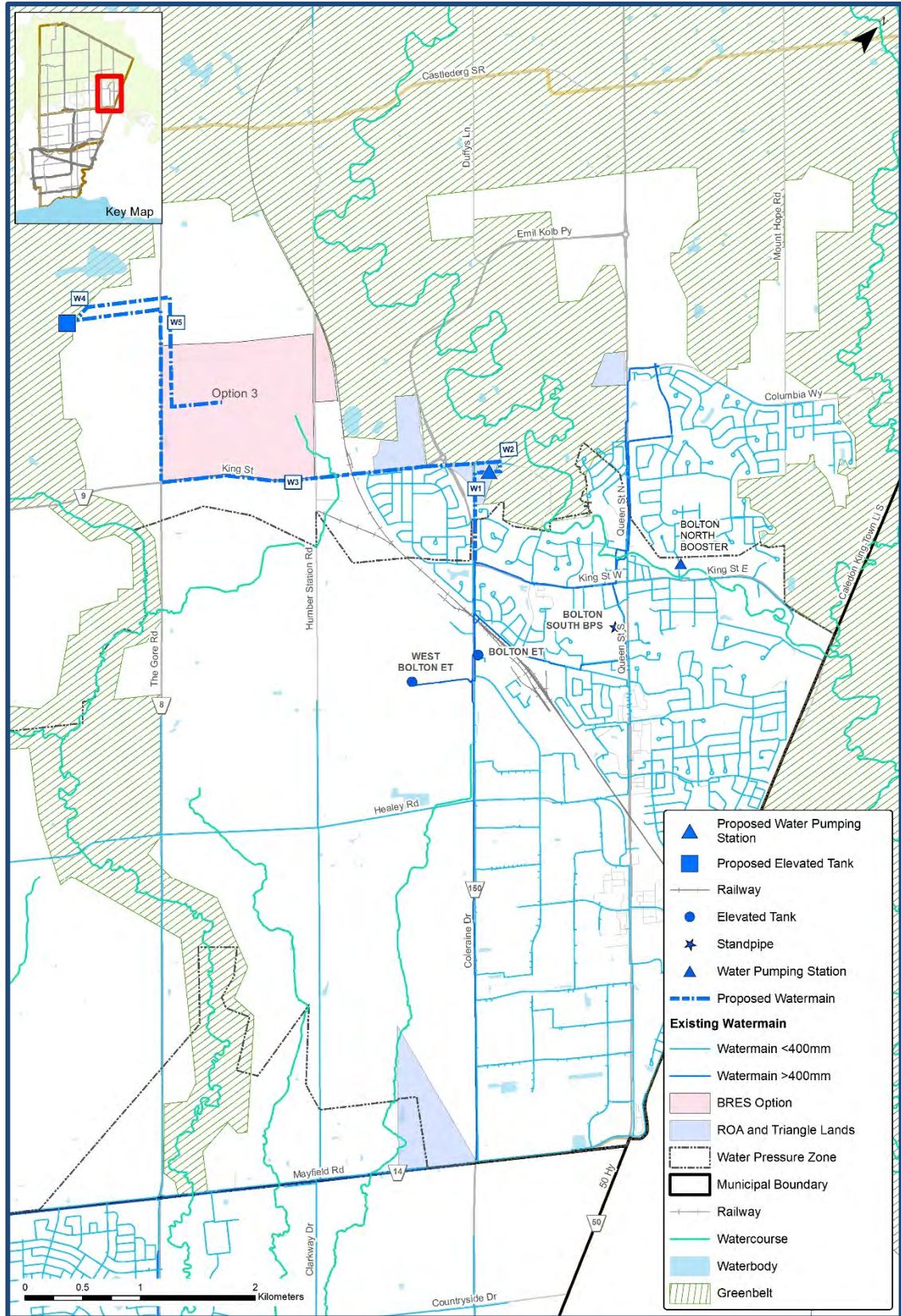


FIGURE 6 WATER SERVICING OPTION 3

The projects required as part of the water servicing strategy for Option 3 are presented in Table 6.

TABLE 6 WATER PROJECTS FOR SERVICING OPTION 3

BRES ID	Description	Size/Capacity	Length (m)
Opt3 - W0	Class EA for elevated tank and booster station		
Opt3 - W1	Z6 Feedermain, from ex. 1050 mm at Coleraine King, east to Future Z7 BPS	400 mm	1038
Opt3 - W2	Z7 BPS, at King and Coleraine (greenfield)	79 L/s	
Opt3 - W3	Z7 Feedermain on King/Gore, from Z7 BPS to E.T. outside	400 mm	5176
Opt3 - W4	E.T. for Option 3 (TWL=327.7m)	5.1 ML	
Opt3 - W5	Z7 Feedermain, from E.T. to distribution	400 mm	2165

It is anticipated that the crossing of the Humber River along Emil Kolb Parkway will require either extensive trenchless installation or could potentially be suspended from the future bridge. Either method of installation will incur additional costs for construction and permitting, as this section crosses TRCA lands.

Servicing Option 3 provides an opportunity to service the Rounding Out Areas A and B without additional infrastructure as well as the potential to re-align the pressure zone boundary to shift some of the existing Zone 6 properties which currently experience low pressures to Zone 7. It has been demonstrated that these properties would benefit from an enhanced Zone 7 service.

3.4.3.7 Option 4

Option 4 is located at the southeast corner of King Street and The Gore Road. Ground elevations range between 252 m and 262 m, and as such most of the land falls in Zone 6 with the top part of the area in Zone 7.

Option 4 falls between two zones, therefore the servicing strategy will involve two components:

Zone 6 Servicing of Option 4:

The lower part of Option 4 can be serviced through an extension of the existing Zone 6 infrastructure. A new 300 mm (Zone 6) watermain is required from the proposed 600 mm watermain on Holland Road Extension to Option 4. This watermain is a candidate for oversizing as it could serve as a feedermain to a larger service area in the future.

Zone 7 Servicing of Option 4:



Technical Memorandum

Date: May 15, 2023 **Project No.:** 300034976.0001

Project Name: Bolton Option 3 Lands Preliminary Water Modelling

Client Name: Bolton Option 3 Landowners Group

Submitted To: Ms. Miriam Polga, P.Eng., Region of Peel

Submitted By: Rachel Walton, P.Eng., MAsc.

Reviewed By: Jeff Langlois, P.Eng., MBA

1.0 Introduction

R.J. Burnside & Associates Limited (Burnside) has been retained by the Bolton Option 3 Landowners Group (BO3LG) to complete a preliminary hydraulic water modelling analysis of the proposed Option 3 lands being considered as part of the urban boundary expansion of the Bolton settlement area in the Town of Caledon (Town). The water distribution system in Bolton is part of the Region of Peel (Region) water distribution system.

As dictated by the Ontario Growth Plan, the Region must plan for its share of growth to 2041. The projected growth numbers are dictated by the Province of Ontario and allocated by the Region to the lower tier Municipalities through Regional Council direction and Regional Official Plan Amendment. The Town previously completed the Bolton Residential Expansion Study (BRES) to determine the best approach to meet their urban boundary expansion needs. The BRES examined six different options for expansion of the Bolton settlement area and examined how each area could be serviced. The location of the BRES Option 3 lands is shown in Figure 1.

As determined in the BRES, the Option 3 lands are generally outside of the range of elevations associated with Pressure Zone 6 of the existing water distribution infrastructure in Bolton. As such, development of the Option 3 lands will ultimately require the development of a new pressure Zone 7. Previous studies completed in support of BRES identified a new Zone 7 booster pumping station at King Street and Coleraine Drive. Ultimately, floating storage is proposed in the form of an elevated tank (ET) to provide storage for flow equalization, fire demands and emergencies. The ET is to be situated in the vicinity of the northwest corner of the Option 3 lands.

The purpose of this preliminary modelling exercise and supporting technical memorandum is to determine interim alternative water servicing arrangements, which leverage the existing Zone 6 water supply to allow some portion of the Option 3 lands to be developed prior to the design and construction of the ultimate Zone 7 servicing solution. Water supply to the zone in the interim scenario would be principally through a new Zone 7 booster pumping station. Options investigated included providing water supply to meet fire demands on an interim basis through pumped, as opposed to floating, storage.

2.0 Background Documents

The following reports have been referenced to complete the hydraulic modelling discussed in this memorandum:

- Bolton Residential Expansion Study Infrastructure Report, prepared by GM BluePlan dated June 16, 2014;
- Region of Peel 2013 Water and Wastewater Master Plan for the Lake-Based Systems, Volume III – Water Master Plan, prepared by GM BluePlan and AECOM, dated March 31, 2014;
- Proposed Regional Official Plan Amendment, An Amendment to Establish the Bolton (2031) Residential Expansion Area Planning Justification Report, prepared by Meridian Planning, dated October 2014;
- Region of Peel 2020 Water and Wastewater Master Plan for the Lake Based Systems, prepared by GM BluePlan and Region of Peel, June 2020; and
- Ministry of the Environment, Conservation and Parks (MECP), “Guidelines for the Design of Water Distribution Systems”, 2008.

2.1 System Pressure

As per the Region of Peel 2020 Water and Wastewater Master Plan for the Lake-Based Systems, Volume III – Water Master Plan, prepared by GM BluePlan and Region of Peel, dated June 2020, a minimum operating pressure of 40 psi and a maximum operating pressure of 100 psi shall be maintained within the water distribution system under maximum day demand and a minimum operating pressure of 40 psi shall be maintained under peak hour demand. The allowable operating pressure during fire flow conditions is a minimum of 20 psi.

2.2 Roughness Coefficient (“C” Value)

The friction factors “C” used in the model are based on the Ministry of Environment, Conservation and Parks (MECP) Design Guidelines for Drinking Water Systems (2008), and are as follows:

- 150 mm diameter: C=100
- 200 mm or 250 mm diameter: C=110
- 300 mm to 600 mm diameter: C=120
- > 600 mm diameter: C=130

2.3 Peaking Factor

Peaking factors have been referenced from the 2020 Water and Wastewater Master Plan. The peaking factors used in the modelling are as follows:

- Residential Maximum Day Factor (MDF) = 1.8
- Non-Residential Maximum Day Factor (MDF) = 1.4
- Peak Hour Factor (PHF) = 3

2.4 Water Demand

The population yield for the Option 3 lands is based on the current proposed Block Plan as determined by Urbantech. The proposed Block Plan includes employment and mixed-use lands. The estimated yields are as follows:

- Residential 25,092 persons
- Employment 1,968 jobs

The demands for the Option 3 lands have been calculated based on the following per capita demands:

- Residential 270 L/cap/d
- Employment 250 L/cap/d

These per capita demands are referenced from the 2020 Water and Wastewater Master Plan. Refer to Appendix A for the demand calculations.

The calculated Option 3 lands demands are:

- Average Day Demand (ADD) = 84.1 L/s
- Maximum Day Demand (MDD) = 149.1 L/s
- Peak Hour Demand (PHD) = 252.3 L/s

Given the likelihood of further refinement of the concept plans through the approval process, for preliminary modelling purposes it has been assumed that the demands have an even distribution across the Option 3 lands. Therefore, the residential and employment demands have been divided evenly between each junction in the model.

There are existing areas within Bolton Pressure Zone 6 that have ground elevations within the Pressure Zone 7 servicing range. As such, the development of Bolton Pressure Zone 7 will allow for these existing lands to move into the new Pressure Zone, thereby providing pressure improvements for existing residents.

The existing land area that would be brought into Pressure Zone 7 was estimated based on the existing Pressure Zone 6 elevation boundary of 259.1 m. Using the existing topography, an approximate total land area of 137 ha has been established. Two existing areas have been identified, west of Coleraine Drive, and largely on the south side of King Street and east of

Highway 50, south of Columbia Way. These are areas where the Region has reported complaints by residents of inadequate pressure from time to time. While the Region has made improvements to the system to work towards addressing these concerns, the pressure remains at the lower end of the Region's preferred operating range, primarily due to elevation.

The existing population for these areas was taken from the population target set out in the Population Allocation 2031/2051 Plan (February 2021). A population density of 65 people per hectare was assumed in the allocation plan. An employment density of 25 jobs per hectare was assumed.

The total estimate population yields for the existing lands are as follows:

- Residential West of Coleraine Drive 2,860
- Employment West of Coleraine Drive 500

The calculated existing demands contributing to Option 3 Lands are:

- Average Day Demand (ADD) = 10.4 L/s
- Maximum Day Demand (MDD) = 18.1 L/s
- Peak Hour Demand (PHD) = 31.2 L/s

2.5 Fire Flow

The required fire flow for the Option 3 lands is 220 L/s while maintaining a minimum system operating pressure of 20 psi, as per Bolton Residential Expansion Study Infrastructure Report, prepared by GM BluePlan dated June 16, 2014.

3.0 Existing Water Distribution System

Bolton receives water supply from the Tullamore Pumping Station and Reservoir, through a transmission main along Mayfield Road and Coleraine Drive. Bolton's water distribution system is serviced in two pressure zones, Zone 5 and Zone 6. Zone 5 is serviced through Zone 6 by pressure reducing valves at the Bolton Zone 5 Standpipes. The Standpipes have a high-water level (HWL) of 274.1 m. Storage for Zone 6 is supplied by the Bolton ET and the North Bolton ET. The HWL of both ET's is 297 m. The Zone 6 ET water level ranges from 295 m to 297 m.

The existing ground elevations within the Option 3 lands range from approximately 262 m to 280 m. These elevations fall outside of the range of elevations capable of being serviced by Zone 6 while maintaining adequate operating pressures within the system. The Region of Peel reports operating pressure issues within an existing residential subdivision fronting on King Street in close proximity to the Option 3 lands.

A new pressure Zone 7 with an ET having a HWL of 327.7 m would adequately service all of the Option 3 lands, as well as address existing operating pressure issues for some existing residents.

4.0 Hydraulic Modelling

The hydraulic model was developed using Infowater modelling software. The Option 3 lands water system layout shown in the model is slightly different than the current proposed road network, however these differences are not anticipated to impact the modelling results. The layout of the watermains can be updated as the design progresses.

As identified through previous studies undertaken by the Town of Caledon and Region of Peel, sufficient supply is available to service the domestic and fire flow requirements associated with the Bolton residential expansion. Therefore, supply constraints have not been reviewed. The servicing constraints are based on supply pressure and hydraulic losses, which is dependent on watermain size and ground elevations within the serviced area.

The existing Zone 6 Bolton ET's have been shown schematically in the model as a reservoir and set at a HWL of 297 m during regular operating scenarios. Although the existing elevated tanks and booster pumping station are shown schematically in relatively close proximity to the Option 3 lands, the pipe lengths have been modelled with the actual lengths to properly reflect the friction losses and actual location of the existing and proposed infrastructure.

Several scenarios were developed to simulate operating pressures under Maximum Day Demand and Maximum Day plus Fire Flow. Model outputs are summarized on the attached figures to demonstrate what portion of the lands may be serviced in an interim water servicing situation.

4.1 Maximum Day Demand and Peak Hour Demand Scenarios

Scenario 1 was developed to estimate operating pressures within the Option 3 lands under MDD assuming a supply from Zone 6 without a booster pumping station or Zone 7 ET in place. This scenario would also simulate an emergency situation under an interim condition with no floating storage, and a Zone 7 Booster Pumping Station out of service. Map 1 in Appendix B shows the expected operating pressures under this scenario. The figure shows that only the southern and eastern periphery of the Option 3 Lands can be serviced by Zone 6 while maintaining pressures above 35 psi under MDD conditions. If a smaller area of the Option 3 lands is serviced, the MDD will be reduced, which in turn would reduce the friction losses in the watermain, resulting in potentially higher pressure in the development while being serviced from Zone 6.

Discussion is required with the Region to confirm the range of acceptable operating pressures during an emergency situation with the pumping station out of service until repair of the pumping station could be facilitated. It is proposed that residual operating pressures in the 20 to 30 psi range, consistent with a fire flow scenario would be appropriate on an emergency basis allowing more of the Option 3 lands to be serviced.

Scenario 2 was developed to estimate pressures within the Option 3 lands under MDD assuming a supply from Zone 6 and including a booster pumping station, but without a Zone 7

ET in place. To represent the booster pumping station, a single equivalent pump was input into the model. In reality, the booster pumping station would include several pumps to deliver the range of flows experienced within the zone at acceptable pressures. A typical pumping system arrangement would include a jockey pump, an ADD pump, large domestic service pumps, and if required a fire pump, all with built-in redundancy as per the Region and MECP Drinking Water Guideline requirements. The specific pumping arrangement would be determined during detailed design. Map 2 in Appendix B shows the expected operating pressures under Scenario 2. The equivalent pump was set to deliver the required MDD of 167.2 L/s at a total dynamic head (TDH) of 30.5 m to the Option 3 lands. The system can supply the MDD to the entirety of the Option 3 lands while maintaining system pressures between 40 psi and 100 psi.

4.2 Fire Flow Scenario

In all fire flow scenarios simulated, the Zone 6 ET has been set to the lower HWL limit of 295 m.

Scenario 3 was developed to estimate the fire flows that would be available assuming a fire pump is in place at the proposed Booster Pumping Station. A fire pump was modelled with a capacity of 387.25 L/s (MDD + 220 L/s fire flow) at a TDH of 30.5 m. A single equivalent pump was used to represent the pumping system. The specific pumping arrangement and design points would be determined during detailed design. Map 3 in Appendix B shows available fire flow under Scenario 7. The fire flow in some of the system falls slightly below the 220 L/s requirement while maintaining 20 psi. It is anticipated that the sizing of the internal watermains could be increased to achieve a 220 L/s fire flow. There are some locations of dead end watermains that fall well below the 220 L/s fire flow requirement. The watermains in these locations have been modelled as 200 mm diameter mains. It is not recommended to increase the diameter of a dead-end watermain above 200 mm diameter given concerns around the maintenance of chlorine residual.

Scenario 4 was developed to estimate available fire flows under the ultimate build out scenario for the Option 3 lands and to determine the required internal watermain sizes to deliver 220 L/s while maintaining a system pressure of 20 psi. This scenario assumes that the Zone 7 ET and the Zone 7 Booster Station are engaged in the model, with the HWL of 327.7 m. Map 4 in Appendix B shows the available fire flows under Scenario 4. The figure shows the internal watermain sizing recommended to deliver 220 L/s and maintain a minimum system pressure of 20 psi. These internal sizes are used in all the other scenarios unless otherwise noted.

5.0 Conclusion

A hydraulic model of the proposed water distribution system has been developed for the Option 3 lands. Various scenarios have been modelled to determine how much of the Option 3 lands can be reasonably serviced on an interim basis without the construction of a Zone 7 ET.

Almost the entirety of the Option 3 lands as summarized below can be serviced under all modelling scenarios if a new Booster Pumping Station is constructed in the vicinity of Coleraine Drive and King Street. The Booster Pumping Station will require appropriately sized booster

pumps to provide the ADD, MDD and PHD within the 40 psi to 100 psi pressure range. The Booster Pumping Station will also require a fire pump to provide the Option 3 Lands with 220 L/s of fire flow. The specific arrangement of the Booster Pumping Station would be determined during detailed design.

The MDD scenarios modelled show that the entirety of the Option 3 lands can be serviced within the recommended pressure range of 40 psi to 100 psi with a MDD pump at the Booster Pumping Station.

A fire flow scenario of the ultimate build out of the Option 3 lands, including the Zone 7 ET, was simulated to determine preliminary watermain sizes for the Option 3 lands. These watermain sizes were then used to determine the extent of Option 3 lands that could be serviced on an interim basis with an available fire flow of 220 L/s at 20 psi with no ET in place with a fire pump at the Zone 7 Booster Pumping Station.

Based on the modelling performed, with a fire pump in place at the Zone 7 Booster Pumping Station, the entirety of the Option 3 lands may be serviced, with the exception of a small area in the Northwest portion of the Block Plan which would require oversizing of dead end watermains as highlighted above.

R.J. Burnside & Associates Limited



Jeff Langlois, P.Eng., MBA
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RW/JLL:sm



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Project Engineer

Enclosures Appendix A: Demands
 Appendix B: Figures

cc: Mr. Aaron Wisson, Argo Development Corporation (enc.) (Via Email)
 Mr. Dave Leighton, C.E.T., Urbantech Consulting (enc.) (Via Email)

In the preparation of the various instruments of service contained herein, R.J. Burnside & Associates Limited (Burnside) was required to use and rely upon various sources of information (including but not limited to: reports, data, drawings, observations) produced by parties other than Burnside. For its part Burnside has proceeded based on the belief that the third party/parties in question produced this documentation using accepted industry standards and best practices and that all information was therefore accurate, correct and free of errors at the time of consultation. As such, the comments, recommendations and materials presented in this instrument of service reflect our best judgment in light of the information available at the time of preparation. Burnside, its employees, affiliates and subcontractors accept no liability for inaccuracies or errors in the instruments of service provided to the client, arising from deficiencies in the aforementioned third party materials and documents.



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Appendix A

Demands

Bolton Option 3 Zone 7 Demand Calculations

Prepared by:	RW
Checked by:	JLL
Project No:	300034976
Date:	5/10/2023

**Assumptions****Water Demands** From the Region of Peel 2020 Water & Wastewater Master Plan for the Lake-Based System

Residential	Residential Per Capita Flow	270	L/person/day
	Max Day Factor	1.8	
	Peak Hour Factor	3	
Employment	Employment Per Capita Flow	250	L/employee/day
	Max Day Factor	1.4	
	Peak Hour Factor	3	

Fire Flow

220 L/s	From Bolton Residential Expansion Study Infrastructure Report, June 16, 2014
---------	--

Residential Population 25092**Employment Population** 1968

Population Based on Updated Option 3 Block Plan and Region of Peel Standards (November 2022) Densities

	Demand (L/s)		
	Residential	Employment	Total
ADD	78.4	5.7	84.1
MDD	141.1	8.0	149.1
PHD	235.2	17.1	252.3

Bolton Existing Lands Zone 7 Demand Calculations

Prepared by:	RW
Checked by:	JLL
Project No:	300034976
Date:	4/27/2021



Assumptions

Water Demands From the Region of Peel 2020 Water & Wastewater Master Plan for the Lake-Based System

Residential	Residential Per Capita Flow	270	L/person/day
	Max Day Factor	1.8	
	Peak Hour Factor	3	
Employment	Employment Per Capita Flow	250	L/employee/day
	Max Day Factor	1.4	
	Peak Hour Factor	3	

Fire Flow

220 L/s From Bolton Residential Expansion Study Infrastructure Report, June 16, 2014

Density

Unit Type	People Per Unit (ppu)*	People Per Hectare (pp/ha)**
Townhomes	3.1	65
Single Detached	3.7	65
Mixed Use	1.99	65
Employment		25

*from development plan
 ** from BRES Population Allocation 2031-2051 Plan
 BRES assumptions used in absences of a development plan

Demand Allocation

Unit Type	Total Area (ha)*	# of units	Population	L/ha/s			L/s		
				ADD	MDD	PHD	ADD	MDD	PHD
Single Detached West of Coleraine Drive	44	N/A	2860				8.9	16.1	26.8
Industrial West of Coleraine Drive	20	N/A	500				1.4	2.0	4.3
Total	64		3360				10.4	18.1	31.2

*area estimated based on existing land area exceeding 259 m, based on existing ground elevation



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Appendix B

Figures

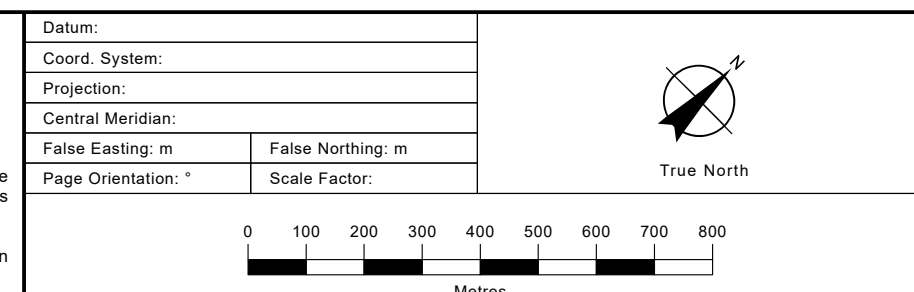
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|--------------------------------|---------------------------|-----------------------|
| Junction Pressure (psi) | Pipe Diameter (mm) | Pump Type |
| • less than 20.00 | — 150 | □ Active |
| • 20.00 ~ 40.00 | — 200 | □ Domain |
| • 40.00 ~ 70.00 | — 300 | Reservoir Type |
| • 70.00 ~ 80.00 | — 400 | □ Active |
| • 80.00 ~ 100.00 | — 600 | □ Domain |
| • > 100 | — 1050 | |
| • Domain | — Domain | |



Sources:
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	Map Title BOLTON ZONE 7 OPTION 3 OPTION 3 - MDD SERVICED OFF ZONE 6 SCENARIO 1			Map No. 1
	BOLTON OPTION 3 LANDOWNERS GROUP	Drawn: RW Scale: H 1:5000	Checked: JLL Date: 2023/05/10 Project No: 300034976	

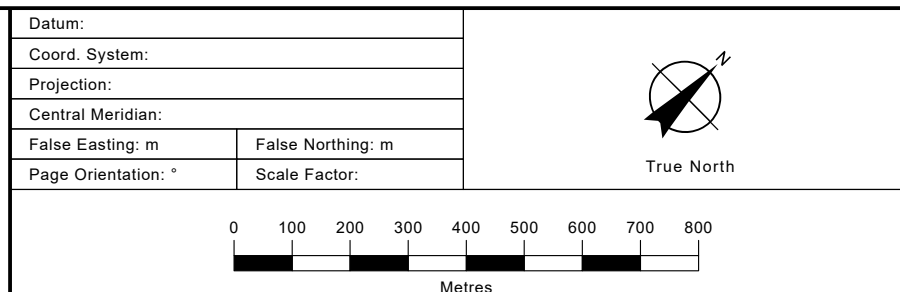
- | | | |
|--------------------------------|---------------------------|-----------------------|
| Junction Pressure (psi) | Pipe Diameter (mm) | Pump Type |
| • less than 20.00 | — 150 | □ Active |
| • 20.00 ~ 40.00 | — 200 | □ Domain |
| • 40.00 ~ 70.00 | — 300 | Reservoir Type |
| • 70.00 ~ 80.00 | — 400 | □ Active |
| • 80.00 ~ 100.00 | — 600 | □ Domain |
| • > 100 | — 1050 | |
| • Domain | — Domain | |



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	BOLTON ZONE 7 OPTION 3 OPTION 3 - MDD WITH BOOSTER PUMPING STATION SCENARIO 2		Map No. 2
	BOLTON OPTION 3 LANDOWNERS GROUP	Drawn: RW Checked: JLL Date: 2023/05/15 Scale: H 1:5000 Project No: 300034976	Client: BOLTON OPTION 3 LANDOWNERS GROUP Map Title: BOLTON ZONE 7 OPTION 3 OPTION 3 - MDD WITH BOOSTER PUMPING STATION SCENARIO 2 Map No.: 2

- | | | |
|----------------------------------|----------------------|------------------|
| Junction | Pipe | Pump |
| Hydrant Design Flow (L/s) | Diameter (mm) | Type |
| • less than 0.0 | — 150 | □ Active |
| • 0.0 ~ 100.0 | — 200 | □ Domain |
| • 100.0 ~ 150.0 | — 300 | Reservoir |
| • 150.0 ~ 220.0 | — 400 | ▭ Active |
| • > 220 | — 600 | ▭ Domain |
| • Domain | — 1050 | |
| | — Domain | |



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False Easting: m	False Northing: m
Page Orientation: °	Scale Factor:

True North

BURNSIDE	BOLTON OPTION 3 LANDOWNERS GROUP	
	Drawn: RW	Checked: JLL
Date: 2023/05/10		Map No. 3
Scale: H 1:5000		Project No. 300034976

- Junction Hydrant Design Flow (L/s)**
- less than 0.0
 - 0.0 ~ 100.0
 - 100.0 ~ 150.0
 - 150.0 ~ 220.0
 - > 220
 - Domain
- Pipe Diameter (mm)**
- 150
 - 200
 - 300
 - 400
 - 600
 - 1050
 - Domain

- Pump Type**
- Active
 - Domain
- Reservoir Type**
- Active
 - Domain

Proposed Zone 7 ET
(Location shown schematically)
HWL - 327.7 m



Existing Lands Demands

Proposed Booster Pumping Station
(Location shown schematically)
@ Coleraine Dr and King Street

Existing Zone 6 ET
(Location shown schematically)
@ Coleraine Dr and Holland Dr
HWL - 297 m
Fire Flow HWL - 295 m

Sources:

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Central Meridian:	
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Page Orientation: °	Scale Factor:

True North

	BOLTON ZONE 7 OPTION 3 OPTION 3 - MDD WITH BOOSTER PUMPING STATION SCENARIO 4		Map No. 4
	Client: BOLTON OPTION 3 LANDOWNERS GROUP	Drawn: RW Checked: JLL Date: 2023/05/15 Scale: H 1:5000 Project No: 300034976	Map No. 4