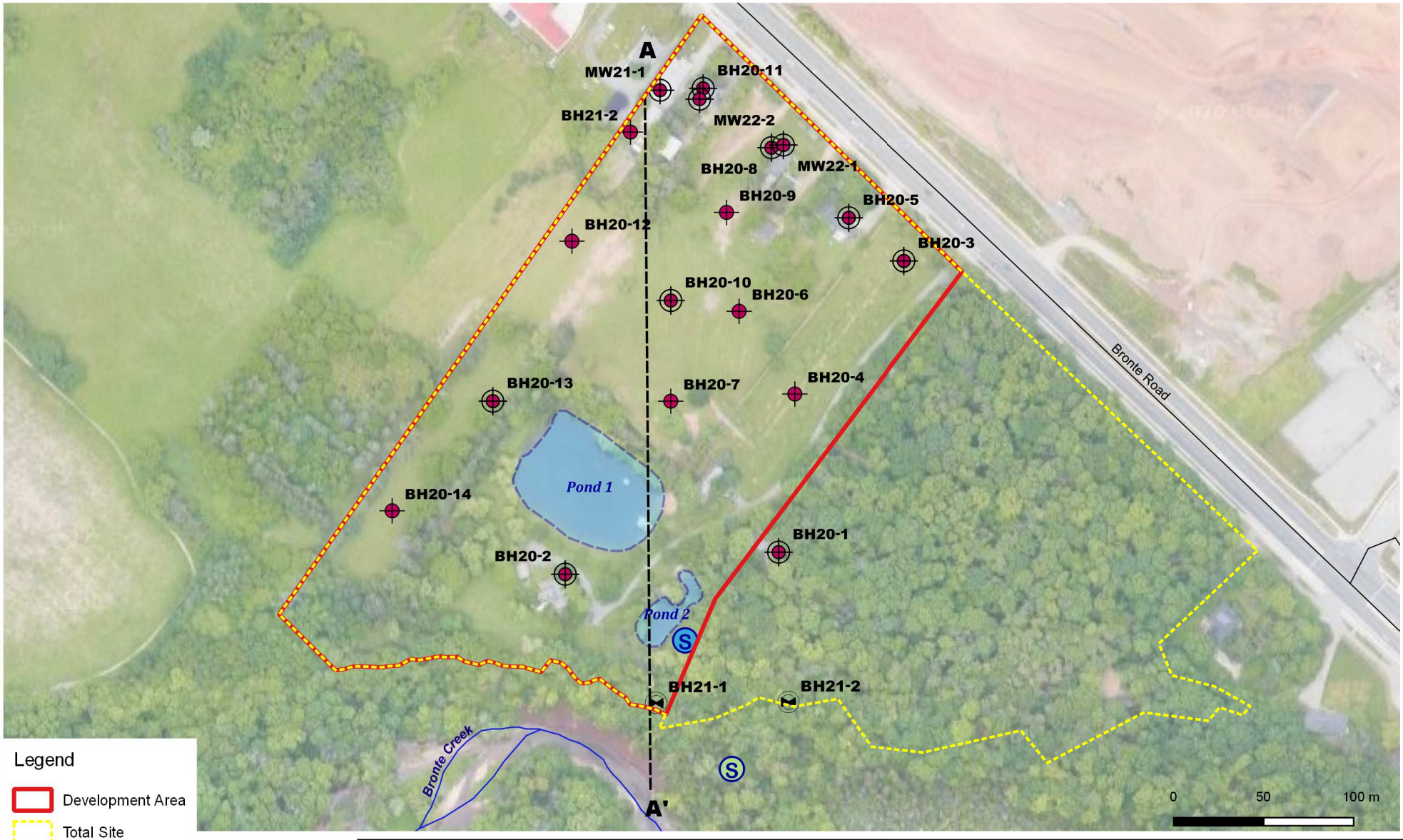
J:\-GIS\2020 PROJECTS\20-186-100 1326 Bronte Road\1-QGIS\HydroG\Figures with Total Site\Figure 3 – Borehole and Monitoring Well Locations.qgs Jul-17 14:29



Legend

- Development Area
- Total Site
- Borehole
- Monitoring Well
- Cross Section
- Seep (Natural)
- Seep (Pond)

DS CONSULTANTS LTD.
6221 Highway 7, UNIT 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

Project: HYDROGEOLOGICAL INVESTIGATION
1300, 1316, 1326, 1342 and 1350 Bronte Road, Oakville, ON

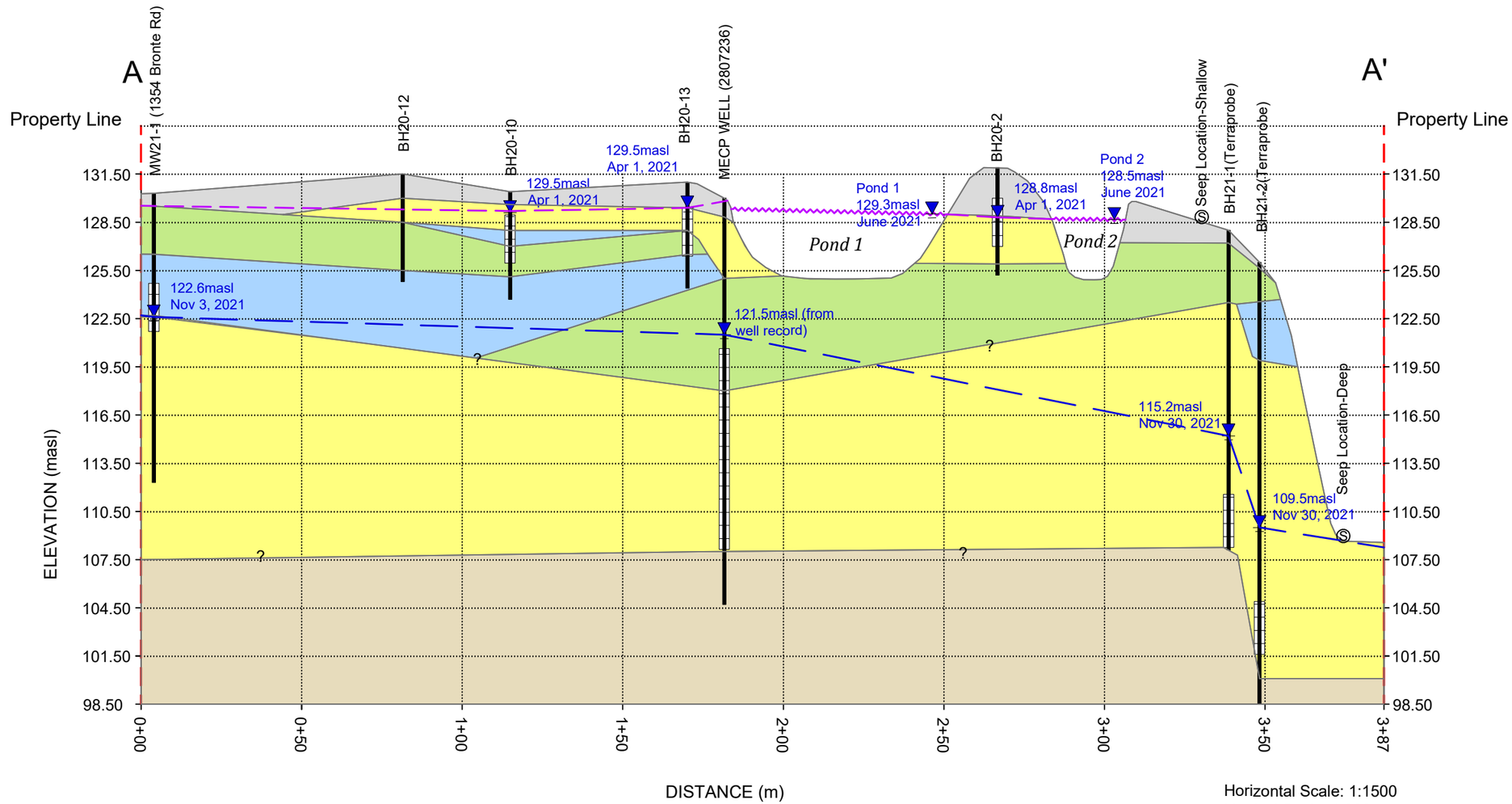
Title: **BOREHOLE AND MONITORING WELL LOCATIONS**

N

Client: BRONTE RIVER LIMITED PARTNERSHIP

Size: 8.5 x 11	Approved By: D.G	Drawn By: S.Y	Date: July 2023
Rev: 0	Scale: As Shown	Project No.: 20-186-100	Figure No.: 3

Image/Map Source: *Google Satellite Image*



Shallow Groundwater Elevation

Deep Groundwater Elevation

Pond Water Level

Ⓢ Seep Location

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Project: HYDROGEOLOGICAL INVESTIGATION
1300, 1316, 1326, 1342 and 1350 Bronte Road, Oakville, ON

Title: **GEOLOGICAL CROSS SECTION A-A'**

Client: BRONTE RIVER LIMITED PARTNERSHIP

Size:	Approved By:	Drawn By:	Date:
11 X 17	P.P	S.Y	August 2023
Rev.	Scale: As Shown	Project No: 20-186-100	Figure No. 5

Path:j:\-gis\2020 projects\20-186-100 1326 bronte road\7-misc\cad\geological cross section - 20-186.dwg

Terraprobe

LOG OF BOREHOLE 21-1

Project No.	: 1-16-0035-02	Client	: Bronte River LP	Originated by	: RS
Date started	: November 4, 2021	Project	: 1300 Bronte Road	Compiled by	: CM
Sheet No.	: 1 of 2	Location	: Oakville, Ontario	Checked by	: MMT

Position : E: 600943, N: 4807415 (UTM 17T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Hollow stem augers / mud rotary (tricone)

Elev Depth (m)	Description	Number	Type	SPT 'N' Value	Lab Data and Comments (GR SA SI CL)
128.0	**GROUND SURFACE**				
127.8 / 0.2	150mm **TOPSOIL**				
	(WEATHERED/DISTURBED)	1	SS	2	
127.2 / 0.8	**CLAYEY SILT**, sandy, trace gravel, very stiff to hard, reddish brown, moist (GLACIAL TILL)	2	SS	21	
		3	SS	35	3 27 46 24
		4	SS	36	
		5	SS	88 / 250mm	
123.4 / 4.6	**SANDY GRAVEL to SAND AND GRAVEL**, some silt, trace clay, very dense, reddish brown, moist	6	SS	78	
		7	SS	95	
		8	SS	50 / 125mm	
	...at 9.1 m, wet below	9	SS	50 / 75mm	
		10	SS	57	

Penetration Test Values (Blows / 0.3m) ✕ Dynamic Cone; Undrained Shear Strength (kPa) ○ Unconfined ● Pocket Penetrometer ✚ Field Vane ■ Lab Vane

Moisture / Plasticity: Plastic Limit, Natural Water Content, Liquid Limit

Headspace Vapour (ppm) | Instrument Details | Unstabilized Water Level

(continued next page)

Terraprobe

LOG OF BOREHOLE 21-1

Project No.	: 1-16-0035-02	Client	: Bronte River LP	Originated by	: RS
Date started	: November 4, 2021	Project	: 1300 Bronte Road	Compiled by	: CM
Sheet No.	: 2 of 2	Location	: Oakville, Ontario	Checked by	: MMT

Position : E: 600943, N: 4807415 (UTM 17T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Hollow stem augers / mud rotary (tricone)

Depth Scale (m)	Elev Depth (m)	Description (continued)	Graphic Log	Number	Type	SPT 'N' Value	Elevation Scale (m)
11		**SANDY GRAVEL to SAND AND GRAVEL**, some silt, trace clay, very dense, reddish brown, moist *(continued)*		10	SS	57	117
12	115.8 / 12.2	**SAND**, some silt, trace gravel, compact to dense, brown, wet		11	SS	25	116
13							115
14				12	SS	32	114
15							113
				13	SS	30	
16							112
17				14	SS	25	111
18							110
				15	SS	31	
19							109
	108.2 / 108.1 / 19.9	**INFERRED BEDROCK**, shale with intermittent sandstone, limestone / dolostone stringers, reddish brown (QUEENSTON FORMATION)		16	SS	50 / 100mm	

Penetration Test Values (Blows / 0.3m): X Dynamic Cone; 10 20 30 40

Undrained Shear Strength (kPa): O Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane; 40 80 120 160

Moisture / Plasticity: Plastic Limit, Natural Water Content, Liquid Limit; PL MC LL; 10 20 30

Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT): GR SA SI CL

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Nov 30, 2021	12.8	115.2

END OF BOREHOLE

Unstabilized water level and depth at cave could not be determined due to use mud rotary drilling technique.

50 mm dia. monitoring well installed.

file: 1-16-0035-02 bh logs.gpj

Terraprobe

LOG OF BOREHOLE 21-2

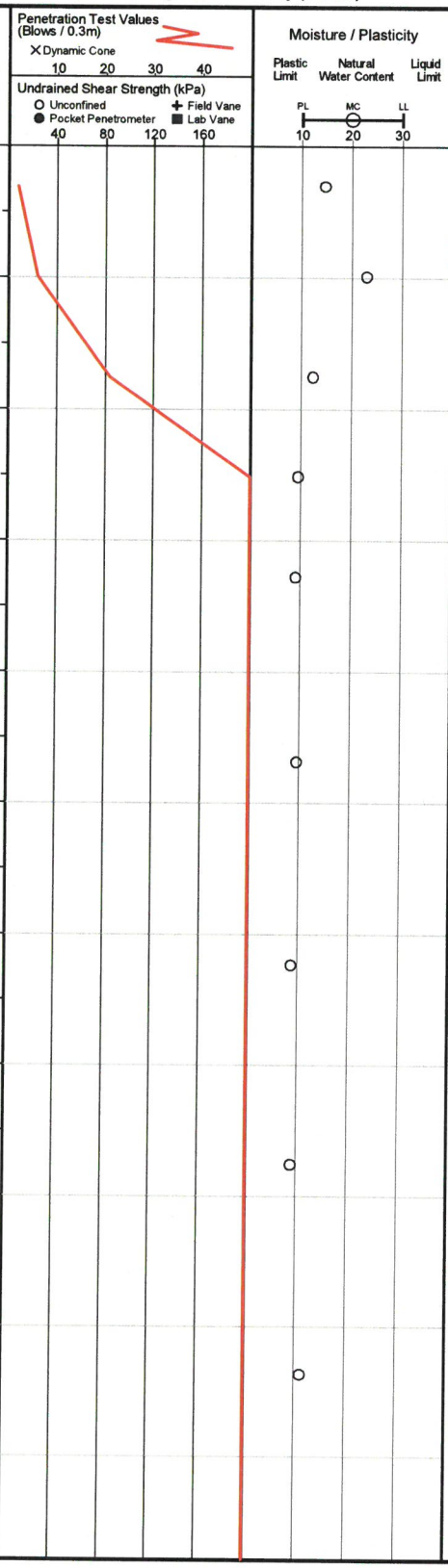
Project No.	: 1-16-0035-02	Client	: Bronte River LP	Originated by	: OE/RS
Date started	: October 26, 2021	Project	: 1300 Bronte Road	Compiled by	: CM
Sheet No.	: 1 of 3	Location	: Oakville, Ontario	Checked by	: MMT

Position : E: 601025, N: 4807419 (UTM 17T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Hollow stem augers / mud rotary (tricone)

Elev Depth (m)	Description	Number	Type	SPT 'N' Value
126.0	**GROUND SURFACE**			
125.8 / 0.2	200mm **TOPSOIL**			
	(WEATHERED/DISTURBED)	1	SS	2
		2	SS	6
124.8 / 1.2	**CLAYEY SILT**, some sand to sandy, trace gravel, very stiff, reddish brown, moist (GLACIAL TILL)	3	SS	21
123.7 / 2.3	**SILTY SAND**, some gravel to gravelly, trace clay, very dense, reddish brown, moist	4	SS	57
		5	SS	71
		6	SS	50 / 75mm
119.9 / 6.1	**SANDY GRAVEL to SAND AND GRAVEL**, some silt, trace clay, very dense, reddish brown, moist	7	SS	50 / 125mm
		8	SS	50 / 125mm
		9	SS	59
		10	SS	60

Lab Data and Comments: 22 49 21 8 (GR SA SI CL)



Headspace Vapour (ppm)

Instrument Details

Unstabilized Water Level

GRAIN SIZE DISTRIBUTION (%) (MIT)

(continued next page)

Terraprobe

LOG OF BOREHOLE 21-2

Project No.	: 1-16-0035-02	Client	: Bronte River LP	Originated by	: OE/RS
Date started	: October 26, 2021	Project	: 1300 Bronte Road	Compiled by	: CM
Sheet No.	: 2 of 3	Location	: Oakville, Ontario	Checked by	: MMT

Position : E: 601025, N: 4807419 (UTM 17T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Hollow stem augers / mud rotary (tricone)

Depth Scale (m)	Elev Depth (m)	SOIL PROFILE Description (continued)	Graphic Log	SAMPLES Number	Type	SPT 'N' Value	Elevation Scale (m)	Penetration Test Values (Blows / 0.3m) X Dynamic Cone 10 20 30 40 / Undrained Shear Strength (kPa) O Unconfined ● Pocket Penetrometer ✚ Field Vane ■ Lab Vane 40 80 120 160	Moisture / Plasticity Plastic Limit Natural Water Content Liquid Limit PL MC LL 10 20 30	Headspace Vapour (ppm)	Instrument Details	Unstabilized Water Level	Lab Data and Comments GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL
11		**SANDY GRAVEL to SAND AND GRAVEL**, some silt, trace clay, very dense, reddish brown, moist *(continued)*		10	SS	60	115						
12				11	SS	86	114						
13							113						
14				12	SS	39	112						
15							111						
16				13	SS	50	110						
17		...at 16.8 m, grey below		14	SS	58	109						
18							108						
19				15	SS	58	107						
20				16	SS	63	106						
21				17	SS	54	105						

(continued next page)

Terraprobe

LOG OF BOREHOLE 21-2

Project No.	: 1-16-0035-02	Client	: Bronte River LP	Originated by	: OE/RS
Date started	: October 26, 2021	Project	: 1300 Bronte Road	Compiled by	: CM
Sheet No.	: 3 of 3	Location	: Oakville, Ontario	Checked by	: MMT

Position : E: 601025, N: 4807419 (UTM 17T) Elevation Datum : Geodetic

Rig type : Track-mounted Drilling Method : Hollow stem augers / mud rotary (tricone)

Depth Scale (m)	Elev Depth (m)	SOIL PROFILE Description (continued)	Graphic Log	SAMPLES Number	Type	SPT 'N' Value	Elevation Scale (m)	Penetration Test Values (Blows / 0.3m) ✕ Dynamic Cone 10 20 30 40 / Undrained Shear Strength (kPa) ○ Unconfined ● Pocket Penetrometer ✚ Field Vane ■ Lab Vane 40 80 120 160	Moisture / Plasticity Plastic Limit PL 10 / Natural Water Content MC 20 / Liquid Limit LL 30	Headspace Vapour (ppm)	Instrument Details	Unstabilized Water Level	Lab Data and Comments GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL
		SANDY GRAVEL to SAND AND GRAVEL, some silt, trace clay, very dense, reddish brown, moist *(continued)*		17	SS	54							
22							104						
23				18	SS	54	103		○				
24							102						
				19	SS	53			○				
25							101						
	100.1 / 25.9												
26		**INFERRED BEDROCK**, shale with intermittent sandstone, limestone / dolostone stringers, reddish brown (QUEENSTON FORMATION)		20	SS	50 / 75mm	100		○				
27							99						
	98.5 / 27.5			21	SS	50 / 75mm			○				

END OF BOREHOLE

Unstabilized water level and depth at cave could not be determined due to use mud rotary drilling technique.

50 mm dia. monitoring well installed.

WATER LEVEL READINGS

Date	Water Depth (m)	Elevation (m)
Nov 30, 2021	16.5	109.5

file: 1-16-0035-02 bh logs.gpj

Groundwater Levels- 1326 Bronte Road, Oakville

Date			18-Aug-20		16-Mar-21		01-Apr-21		23-Apr-21		07-May-21		27-May-21		10-Jun-21	
Well ID	Ground Level	Well Depth	Water Level	Water Level Elev.	Water Level	Water Level Elev.	Water Level	Water Level Elev.	Water Level	Water Level Elev.	Water Level	Water Level Elev.	Water Level	Water Level Elev.	Water Level	Water Level Elev.
		mbgs	(mbgs)	m	mbgs	m	(mbgs)	m	(mbgs)	m	(mbgs)	m	(mbgs)	m	(mbgs)	m
BH 20-1	129	6.2	2	127	1.9	127.1	1.86	127.14	1.87	127.13	1.86	127.14	1.92	127.08	1.91	127.09
BH 20-2	131.9	4.9	3.1	128.8	3.2	128.7	3.1	128.8	3.09	128.81	3.08	128.82	3.06	128.84	3.03	128.87
BH 20-3	130.2	4.3	2.5	127.7	2	128.2	1.8	128.4	1.99	128.21	2.04	128.16	2.07	128.13	2.18	128.02
BH 20-5	129.9	4.3	1.6	128.3	1.2	128.7	1.06	128.84	1.31	128.59	1.37	128.53	1.49	128.41	1.51	128.39
BH 20-8	129.9	5.2	4.6	125.3	Dry	n/a	4.98	124.92	5.02	124.88	5.06	124.84	Dry	n/a	5.07	124.83
BH 20-10	130.4	4.3	1.2	129.2	1.04	129.36	0.92	129.48	1.05	129.35	1.08	129.32	1.1	129.3	1.13	129.27
BH 20-13	131	4.7	1.6	129.4	1.6	129.4	1.53	129.47	1.49	129.51	1.45	129.55	1.41	129.59	1.46	129.54