

Appendix R - Part 1

Hydrogeological Assessment Report

PROJECT:	19119989 (2000)
LOCATION:	See Figure 1

### RECORD OF BOREHOLE: 20-12

BORING DATE: July 10, 2020

SHEET 2 OF 2

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

	CPT HAMMER: MASS, 64kg; DROP, 760mm	r			MER TYPE: AUTOMATIC
년 문	SOIL PROFILE		AMIC PENETRATION	HYDRAULIC CONDUCTIVITY, k, cm/s	
METRES BORING METHOD	DESCRIPTION DESCRIPTION	NUMBER TYPE BLOWS/0.3m	20 40 60 80 AR STRENGTH nat V, + Q - ● kPa rem V, ⊕ U - O	Wp - Own Wi	PIEZOMETER OR STANDPIPE INSTALLATION
10	CONTINUED FROM PREVIOUS PAGE     (CL-ML) CLAYEY SILT and SAND,     some gravel; grey (TILL), contains     cobbles and boulders; cohesive, w <pl, hard<="" td=""><td>10 SS 50/ 0,10</td><td>20 40 60 80</td><td>0</td><td></td></pl,>	10 SS 50/ 0,10	20 40 60 80	0	
12 13	dhud	11 SS 50/ 0.05		0	
14	110 mm Tricore with Mud	12 SS 0.08		0	
15		13 ss 59/ 010		¢	
17	END OF BOREHOLE 16,8 NOTE: 1. Borehole open upon completion of dnilling.	14 SS 50/ 0.13		0	
18	2. Heaving sand encountered at a depth of 7.6 m, drilling method changed to 110 mm tricone with mud.;				
19					
DEPTH 1 : 50	I SCALE	G			LOGGED: MJB/BD CHECKED: KN

PROJECT:	19119989 (2000)
LOCATION:	See Figure 1

### RECORD OF BOREHOLE: 20-13

BORING DATE: July 20, 2020

SHEET 1 OF 2

DATUM: Geodetic

Ι	QQ	SOIL PROFILE		SA	MPL	ES	DYNAMIC PENET RESISTANCE, BLC	ATION WS/0.3m	~	HYDRA	k, cm/s	NDUCTIVI	тч, Т	NG F	PIEZOMETER
	METH		PLOT	Ľ		EC C	20 40	60	80		p <sup>-6</sup> 10		10 <sup>° ⊥</sup>	TION	OR STANDPIPE
MILITIC	BORING METHOD	DESCRIPTION	(m)		TYPE	BLOWS/0.3m	SHEAR STRENGT Cu, kPa	H nat V rem V	+ Q-● ⊕ U- O			NTENT PE		ADDITIONAL LAB TESTING	INSTALLATION
	BO		GE (m)	-		ы	20 40	60	80		0 20		40		
•		GROUND SURFACE TOPSOIL (690 mm)	218.3									-	_		
					ss	6						5			
				1		Ŭ									
		(CL) SILTY CLAY, trace sand to sandy,	217.0		1										
1		trace gravel; brown, organic staining, oxidation staining; cohesive, w>PL, stiff		2	ss	10					k	ъ			
				3	ss	12					0				
2				H											
-		(SM) SILTY SAND, some gravel; brown to grey (TILL), contains cobbles and	216.1												
	548	to grey (TILL), contains cobbles and boulders; non-cohesive, moist, dense to		4	ss	31				0					
	n Augers	very dense		Ĺ	100	51				Ū					
	w Stem														
3	Hollow				1					ο					
	mm O.D	- Becoming grey at a depth of 3.4 m		5	SS	73				U					
	220 m														
4															
				-											
	B-45			6	SS	93/ 0.2				0					
5	Mobile B-45				1										
		- Auger grinding between depths of 5.5 m and 6.1 m													
		5.5 manu oli m													
6	F	-		7	ss	50/ 0.1					þ			мн	
						0.1									
7															
			18												
	1					50/					0				
	with M			8	55	50/ 0.13					Ŭ			11	
8	icone														
	110 mm Tricone with Mud														
	110														
9						50/									
				9	SS	0.08				0					
10		CONTINUED NEXT PAGE	4184		+-	-	+	-+-							
				1	1										
DEF	тн	SCALE					GOI	DER	2					LO	DGGED: BD

			T: 19119989 (2000) DN: See Figure 1	RECORD OF BOREHOLE: 20-13	Sł	HEET 2 OF 2
	LU			BORING DATE: July 20, 2020	D/	ATUM: Geodetic
			PT HAMMER: MASS, 64kg; DROP, 760mm			YPE: AUTOMATIC
DEPTH SCALE	METRES	BORING METHOD	SOIL PROFILE	SAMPLES         DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m         HYDRAULIC CONDUCTIVITY, k, cm/s           Interpretation         10 <sup>4</sup> 10 <sup>5</sup> 10 <sup>4</sup> 10 <sup>3</sup> Interpretation         Interpretation         10 <sup>4</sup> 10 <sup>5</sup> 10 <sup>4</sup> 10 <sup>3</sup> Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation           Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation           Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation           Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation         Interpretation		PIEZOMETER OR STANDPIPE INSTALLATION
_	10	-	- CONTINUED FROM PREVIOUS PAGE			
	11		to grey (TILL), contains cobles and boulders; non-cohesive, moist, dense to very dense	S 3 2 10 SS 50/ 0.08 0		
and a constant in	12	5 th Mud	- Auger grinding between depths of 12.2 m and 13.1 m			
KHAM GPJ GAL-MIS GDT 8/25/21	14	Mobile 8-45 110 mm Tricone with Mud		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		
22 DATAIGINTIBERCZYGLEN MA	16		END OF BOREHOLE	20126 14 SS 50/ 17/04		
ULTING/BERCZYG	18		NOTE: 1. Borehole open upon completion of drilling.			
STA-BHS 001 SICLIER	20 DEF 1 : 5		CALE			- IGGED: BD ECKED: KN

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SP	7/DC	PT HAMMER: MASS, 64kg; DROP, 760mm							HAMMER	TYPE: AUTOMATIC
1	QQ	SOIL PROFILE		SA	MPLE	ES	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	HYDRAULIC CONDUCTIVITY, k, cm/s	AL A	PIEZOMETE
	BORING METHOD	DESCRIPTION	LA DE	LEV PTH (m)	TYPE	BLOWS/0.3m	20         40         60         80           SHEAR STRENGTH         nat V. +         Q • ●           Cu, kPa         rem V. ⊕         U - O           20         40         60         80	10 <sup>8</sup> 10 <sup>5</sup> 10 <sup>4</sup> WATER CONTENT PERC Wp - <u>OW</u> 10 20 30		OR STANDPIP INSTALLATIO
。		GROUND SURFACE	2	216.45						50 mm Diameter
ľ		ASPHALT (150 mm) FILL- (SP) gravelly SAND; brown;		0.00						PVC Monitornig Well (Flush mount)
		non-cohesive, moist, dense	<b>.</b>	1 215.69	ss	30		0		May 20, 2021
1		FILL - (CL) sandy SILTY CLAY; brown; cohesive, w~PL, firm		0.76	ss	8		0		
				3	ss	6		0		
2	Stem Auron	(CL) sandy SILTY CLAY to SILTY CLAY and SAND, some gravel; brown to grey at 6,1 m (TILL), contains cobbles and		214-32						
	ck Mount Mo O.D. Hollow	boulders; cohesive, w <pl, hard<="" stiff="" td="" to="" very=""><td></td><td>4</td><td>ss</td><td>17</td><td></td><td>p</td><td></td><td></td></pl,>		4	ss	17		p		
3	700 mm (									
	ſ			5	SS	20				
4										
				6	ss	50/ 0.13		0		
5										Bentonite
Ĭ	+	-								
6										
Ĭ				7	ss	93/				
				-	33	0.23		Ĩ		
7										
	B57	<b>K</b> anos								
	Mobile									
	Track Mount Mobile B57	2 0 0								
8	Track			8	SS	83			мн	
	11	2		-	1					
9										
3				9	SS	50/		0		
				9	35	0.13				1
10						_	+++	+	+	
		CONTINUED NEXT PAGE								

PROJECT: 19119989 (2000)	RECORD OF BOREHOLE: 2	21-1	SHEET 2 OF 2
LOCATION: N 4861885 83; E 632932.01	BORING DATE: May 10, 2021		DATUM: Geodetic
SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm	DVIANO DEVETO ETA ETA VI		MER TYPE: AUTOMATIC
DO SOIL PROFILE	SAMPLES     DVNAMIC PENETRATION RESISTANCE, BLOWSV0.3m       LO     L       LO </td <td>HYDRAULIC CONDUCTIVITY, k, cm/s 10° 10<sup>5</sup> 10<sup>4</sup> 10<sup>3</sup> WATER CONTENT PERCENT Wp</td> <td>PIEZOMETER OR STANDPIPE INSTALLATION</td>	HYDRAULIC CONDUCTIVITY, k, cm/s 10° 10 <sup>5</sup> 10 <sup>4</sup> 10 <sup>3</sup> WATER CONTENT PERCENT Wp	PIEZOMETER OR STANDPIPE INSTALLATION
10      CONTINUED FROM PREVIOUS PAGE (CL) sandy SLLTY CLAY to SILTY CLAY and SAND, some gravel; brown to grey at 6.1 m (TILL), contains cobbies and boulders; cohesive, w <pl, stiff="" to<br="" very="">hard         11       11         12       Image: single single</pl,>	10         SS         507           11         SS         507           11         SS         507           12         SS         607           12         SS         607           13         SS         607           13         SS         607           14         SS         507           15         SS         507           15         SS         52           199.41         16         SS           17.04         J         J		MH Sand
DEPTH SCALE 1 : 50	GOLDER MEMBER OF WEP		LOGGED: YS CHECKED: YS

	ac	Τ	SOIL PROFILE			SA	MPL	ES	DYNAMIC PENETRA RESISTANCE, BLOV	TION /S/0_3m	2	HYDRAUL k. (	C CONDUCT	IVITY, T	0	PIEZOMET
METHOD	BORING METHOD		DESCRIPTION	STRATA PLOT	ELEV DEPTH (m)	NUMBER	түре	BLOWS/0.3m	20 40 SHEAR STRENGTH Cu, kPa 20 40	60 nat V. – rem V. 6	80 H Q - O Đ U - O 80	10 <sup>6</sup> WATE	10 <sup>5</sup> 1 R CONTENT		ADDITIONAL LAB. TESTING	STANDPI
0			GROUND SURFACE TOPSOIL (100 mm) FILL - (CL) sandy SILTY CLAY; brown, rootlets, organic inclusions; cohesive, w~PI, firm		220.80 0.00 0.10		ss	5						0		50 mm Diameter PVC Monitornig Well (Flush mount)
1	Track Mount Mobile B57	200 mm O D Hollow Stem Augers				2	SS	8				p				
2		200 mm			218.67		ss	4					þ			
			(SM) SILTY SAND; brown; non-cohesive, moist, very dense		2.13	4	ss	65				0				Bentonite
3				10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		5	ss	72					0			
4			(SP) gravely SAND, some fines; brown; non-cohesive, wet, very dense		216.76 4.04											
5				N. N. N. N.		6	ss	61				0				May 20, <b>20</b> Sand
6	rack Mount Mobile 857	mm Tricone Mud Rotary														Screen
7	Track M	130 mm Tr		ALL	213.75	7	ss	83/ 0.25				Φ			мн	
			(CL) sandy SILTY CLAY, some gravel; grey (TILL), contains cobbles and boulders; cohesive, w <pl, hard<="" td=""><td></td><td>7 05</td><td>8</td><td>ss</td><td>50/ 0.10</td><td></td><td></td><td></td><td>0</td><td></td><td></td><td></td><td></td></pl,>		7 05	8	ss	50/ 0.10				0				
8																
9						9	ss	50/ 0.10				d				
10		_	CONTINUED NEXT PAGE			_		-								

GTA-BH 1 : 50

LOGGED: SC CHECKED: YS

SHEET 1 OF 2

DATUM: Geodetic

PIEZOMETER OR STANDPIPE INSTALLATION

May 20, 2021

RECORD OF BOREHOLE: 21-2

PROJECT: 19119989 (2000)

		T: 19119989 (2000) DN: N 4861617,47; E 632979.74		RE	co	RC	OF BOREHOLE: 2	1-2	SHEET 2 OF 2
						BOR	ING DATE: May 7, 2021		DATUM: Geodetic
	- 1	T HAMMER: MASS, 64kg; DROP, 760mm SOIL PROFILE			SAMP	LES	DYNAMIC PENETRATION RESISTANCE, BLOWS/0,3m	HYDRAULIC CONDUCTIVITY,	MER TYPE: AUTOMATIC
DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	TA DE		TYPE	E	RESISTANCE, BLOWS/0.3m           20         40         60         80           SHEAR STRENGTH         nat V. + Q. ●         Cu, kPa         rem V. ⊕         U - O           20         40         60         80         80	k, cm/s 10 <sup>-4</sup> 10 <sup>-5</sup> 10 <sup>-4</sup> 10 <sup>-3</sup> WATER CONTENT PERCENT Wp H Wi 10 20 30 40	PIEZOMETER OR STANDPIPE INSTALLATION
10 11 12 12 13 14 14 15 16 17 18 19 19	130 mm Tricone Mud Rotary	<ul> <li>CONTINUED FROM PREVIOUS PAGE – (CL) sandy SILTY CLAY, some gravel; grey (TILL), contains cobbles and boulders; cohesive, w<pl, hard<="" li=""> <li>Second State (Second State)</li> <li>Second State (Second State)</li> <li>END OF BOREHOLE</li> <li>NOTES:         <ol> <li>Water encountered at a depth of 4.6 m during drilling.</li> <li>Water encountered at a depth of 4.6 m during drilling.</li> <li>Water level measured in monitoring well as follows:</li> <li>Date Depth (m) Elev. (m) 20-May-21 4.7 216,1</li> </ol> </li> </pl,></li></ul>			2 SS 3 SS 2 SS 5 SS 6 SS	50/ 0.10 50/ 0.08 50/ 0.10			
DEPT 1 : 50	HS	CALE							LOGGED: SC CHECKED: YS

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		T: 19119989 (2000) DN: N 4861620,43; E 633018.12	RECORD OF BOREHOLE: 21-3 BORING DATE: May 4, 2021		HEET 1 OF 3 DATUM: Geodetic
SP	T/DCF	PT HAMMER: MASS, 64kg; DROP, 760mm		AMMER	TYPE: AUTOMATIC
1	_	SOIL PROFILE	SAMPLES DYNAMIC PENETRATION HYDRAULIC CONDUCTIVITY, RESISTANCE, BLOWS/0.3m k, cm/s	T 19	PIEZOMETER
DEPTH SCALE METRES	BORING METHOD	DESCRIPTION	LO         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L         L <thl< th="">         L         <thl< th=""> <thl< th=""></thl<></thl<></thl<>	ADDITIONAL LAB TESTING	OR STANDPIPE INSTALLATION
— o		GROUND SURFACE TOPSOIL (680 mm)	220.82	_	50 mm Diameter 194 IPVC Monitornig
			1 SS 6		Well (Flush mount)
n i		(CL) SILTY CLAY and SAND, some gravel; brown; cohesive, w <pl, stiff<="" td=""><td>2 SS 11</td><td></td><td></td></pl,>	2 SS 11		
101010101		(SM) SILTY SAND, trace gravel; brown (TILL); very dense	219.45 1,37 3 SS 50		lBentonite
2		(ML) SILT and SAND; brown;	1 218.69 1 218.69 1 2.13		
		non-cohesive, moist to wet, dense to very dense	4 SS 84 C		
3			5 SS 61 C		
4 5	Track Mount Mobile B57 nm O.D. Hollow Stem Augers		6 SS 32	мн м	Sand V 4 May 20, 2021
	Track Mount M 200 mm O.D. Hollow	(SP) gravelly SAND, trace fines; brown; non-cohesive, wet, very dense	7 SS 84		Screen
8			8 SS 71 O		
9			9 SS 010		
		CONTINUED NEXT PAGE			
DE 1 :		SCALE			LOGGED: SC HECKED: YS

PROJECT:	19119989 (2000)
OCATION:	N 4861620.43; E 633018.12

### RECORD OF BOREHOLE: 21-3

BORING DATE: May 4, 2021

SHEET 2 OF 3

DATUM: Geodetic

	QOF	SOIL PROFILE			SA	MPL	ES	DYNAMIC PENETRATION SISTANCE, BLOWS/0,3m	HYDRAULIC CONDUCTIVITY, k, cm/s	T .0	
METRES	BORING METHOD		LOT		ж.		3 <sup>m</sup>	20 40 60 80	10 <sup>-6</sup> 10 <sup>-5</sup> 10 <sup>-4</sup> 10 <sup>-3</sup>	ADDITIONAL LAB. TESTING	PIEZOMETER OR
μ	RING	DESCRIPTION	STRATA PLOT	ELEV, DEPTH	NUMBER	ТҮРЕ	BLOWS/0.3m	SHEAR STRENGTH nat V. + Q - ● Cu, kPa rem V. ⊕ U - O	WATER CONTENT PERCENT	B TE	STANDPIPE
	BOF		STR	(m)	ž		BLO	20 40 60 80	Wp H OW I WI	₹₹	
10	_	- CONTINUED FROM PREVIOUS PAGE -									
		(CL) sandy SILTY CLAY, some gravel; grey (TILL), contains cobbles and boulders; cohesive, w <pl hard<="" td="" to="" w~pl,=""><td></td><td>210,69 10.13</td><td></td><td>SS</td><td>50/</td><td></td><td>0</td><td></td><td></td></pl>		210,69 10.13		SS	50/		0		
11	Track Mount Mobile 857 nm O.D. Hollow Stem Augers						0.08				
13	Track M 200 mm O.D.				11	SS	50/ 0.10		o		
14					12	SS	50/ 0.10		H <del>O1</del>	мн	
15					13	SS	50/ 0.15		0		
10111111111111111111111111111111111111	Mount Mobile B57 Tricone Mud Rotary				14	SS	50/ 0.13		0		
6	Track Mount Mobile B57 130 mm Tricone Mud Rotar				15	SS	50/ 0.13		0		
8					16	SS	50/ 0.15		c		
19		END OF BOREHOLE NOTES: 1. NP = Non-Plastic 2. Water encountered at a depth of		202 40 18 42	17	SS	50/ 8.13		c		
20 -	-,,	4.6 m during drilling.					_				
_	1		1				_				

		T: 19119989 (2000)		RE	C	OF	RD	OF	BOF	REH	OLE	: :	21-3						HEET 3 OF 3
LC	CATIC	N: N 4861620.43; E 633018.12				8	ORI	NG DAT	E: Ma	y 4, 202	1							D	ATUM: Geodetic
SP	T/DCF	T HAMMER: MASS, 64kg; DROP, 760mm						0.0141		ETRATIC		>					HAM	MER T	YPE: AUTOMATIC
DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE	STRATA PLOT	ELEV. DEPTH (m)	~	UPLE 3	BLOWS/0.3m	RESIST 20 SHEAR Cu, kPa	ANCE, 4 STREN	BLOWS/ 0 6 GTH n	0,3m 0 8 atV + emV⊕	0 0-0	10 VV VVp	k, cm/s 0 <sup>5</sup> 10 ATER C0	D <sup>5</sup> 10 DNTENT	0 <sup>-4</sup> 1 PERCE	W	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
GTA-BHS 001 S/CLIENTSISCS. CONSULTINGUBERCZYGLEN MARKHAM/0. DATAIGINTIBERCZYGLEN MARKHAM/0. DA		CONTINUED FROM PREVIOUS PAGE 3. Water level measured in monitoring well as follows: Date Depth (m) Elev. (m) 20-May-21 4,5 216.3	STRA				BLOW	20					l vvb						
S 001 S:VCLIENTSIS																			
DE DE	EPTH 8 50	SCALE						Ç	MEME		6 K 8P								OGGED: SC IECKED: YS

# BURNSIDE

R.J. Burnside & Associates Limited 292 Speedvale Avenue West, Guelph, Ontario N1H 1C4 telephone (519) 823-4995 fax (519) 836-5477

# LOG OF DRILLING OPERATIONS <u>AG-MW1</u>

Page	1	of	1

Client:	Angus Glen Developments Inc.	Project Name:	Name: Angus Glen MESP Logged by: C. D.											
Project N	No.: 300036802	Location: Mark	kham, (	ON	Ground (m	round (m amsl): 225.80								
Drilling (	Co.: Lantech Drilling Services Inc.	Date Started: 3	<u> 8/2/201</u>	5				Static Wat	er Le	evel [	Depth	ו (m):	7.3	4
Drilling N	Method: Hollow Stem Auger	Date Completed:	3/2/	2015				Sand Pack			-		7.62	
Depth				Floy	ſ		1			SAN	IPLE		Do	nth
Scale	Stratigraphic Descriptic	on	Strat. Plot	Elev. Depth	1		1		Num.	Type	<u>nt.</u>	N.Val.		pth a <b>l</b> e
(ft) (m)	Surface Elevation (m): 22	5.80	<i>o</i> –	(m)					Ž		<u> </u>	ź		(m)
	TOPSOIL										$\wedge$ 7		(11)	
	Dark brown clayey silt, rootlets								1	SS	X	8		
-	CLAY Silty		XXX	225.30 0.50							$ \land$			F
-	Brown, soft, wet, grey clay mottlin		XXX								7		-	1
- 1.0	plasticity, trace fine sand, iron sta occasional gravel (<1 cm diameter		XXX						2	SS	X	18		- 1.0
	to subrounded, occasional pocket		XXX	224.25							$\langle \rangle$			
5.0	∖medium sand ́			224.35 1.45							7		5.0 -	F
	Sandy Silt TILL		IN.						3	ss	X	15		
- 2.0	Brown, stiff, medium plasticity, dr some clay, trace gravel (<2 cm di		IN III								$\backslash$			- 2.0
	some clay, trace graver (<2 cm di subangular to subrounded, iron st		E E E E						<u> </u>		$\vdash$		-	-
-	occasional cobble	3,	M.						4	SS		59		-
							Holeplug	J			$ /\rangle$			
10.0 - 3.0	sandier and harder with depth		HH)										10.0 -	- 3.0
									_		$\mathbb{N}$			
_			HH.						5	SS	$ \wedge $	91		-
													_	
- 4.0			HH.								$\mathbb{N}/$			- 4.0
									6	SS		63		
			HH.											_
15.0-											$\overline{7}$		15.0 -	
- 5.0			IN S						7	SS	X	>50/3"		- 5.0
			LA L								$ \land$			
			<u>III.</u>										-	
			SHI)				.							
20.0 - 6.0											$\mathbb{N}/$		20.0 -	- 6.0
			<u>III ( )</u>						8	SS	X	>50/6"		
			LA L		-		Sandpad	:k						-
-			<u>B</u> H				Well Scr	een					-	
- 7.0			JA JA											- 7.0
			<u>III</u>		¥[	目								
25.0			JJ/J			7.62					Ļ,	ļ	25.0 -	ŀ
			HAA.	/ / /					9	SS	$\bigvee$	>50/4"		
			SS II	2017 57					3	55	$\wedge$	- 30/4		
			<u>A     K/X/</u> 3	8.23							/	·		
Prenar	ed By: <b>C. D.</b>	Checked By:	.1 9					Date P	rena	red·	3	/3/20	15	
This bor	ehole log was prepared for hydrogeolog	ical and/or enviror	nmenta	l purpos	ses	and o	loes not r	ecessarily	cont	ain ir	nform	natior		
	for a geotechnical assessment of the su tes Limited personnel before use by oth		ns. Bo	reho <b>l</b> e d	lata	requ	ires interp	pretation by	R.J	. Bur	nside	е&		
	· · ·													
	· · · · · · · · · · · · · · · · · · ·		SA	MPLE T	YPE			iger Cutting	SS			Split		
2		n dia. PVC				CS		ontinuous		ע <u>וו</u> קווי		Air R		
⊥⊥∠ Stati	c Water Level - 6/16/2015 Screen: 51 mn	n dia. PVC #10 slot				RC	AAA Ro	ock Core	W	сĽ	1 I I	Wash	n Cut	tinas

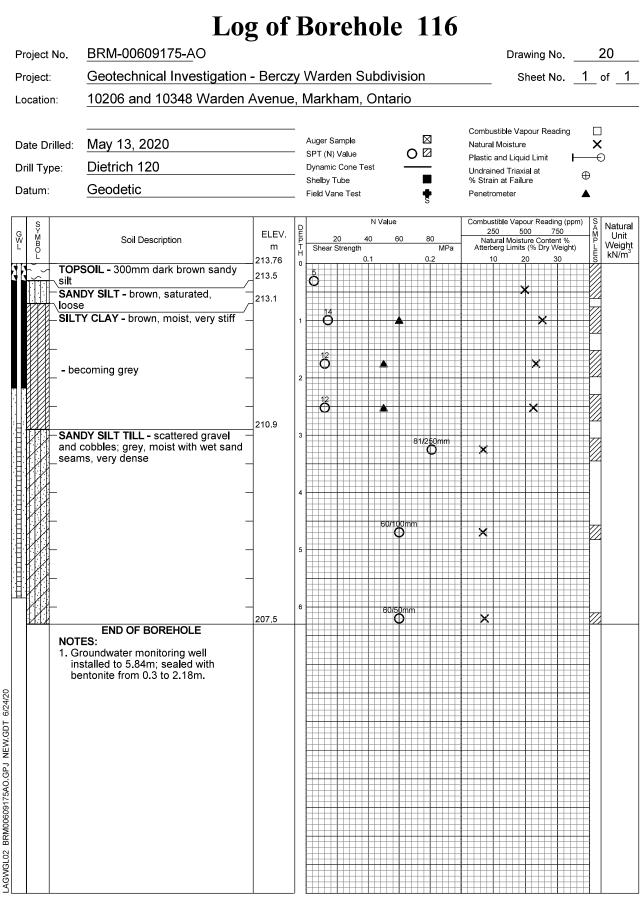
### LOG OF DRILLING OPERATIONS BG-MW1



R.J. Burnside & Associates Limited 292 Speedvele Avenue West, Guelph, Ontario N1H 104 telephone (519) 823-4995 fax (519) 836-5477

Page 1 of 1

Client:	Berozy Clon Londown		Project Name	Borom	y Glen L	onda			Loggod	<i>,.</i>	о D:				
	Berczy Glen Landown No.: 300033248	ers Group		kham,		anus			Logged by: C. Dinulescu Ground (m amsl): 220.2						
	Co.: Lantech Drilling S	ervices In		9/18/2(					Static Wa						
	Method: Hollow Stem		Date Completed		8/2013				Sand Pac					6.86	
											,	IPLE			
Depth Scale		raphic Des	•	Strat. Plot						Num.	Type	Int.	N.Val.	Sc	pth ale
(ft) (m)	Surface Elevation (m TOPSOIL - dark b		220.20	444	(m)	100000					-			(ft)	<u>(m)</u>
- 1.0	SILTY CLAY - with gravel, pockets of f sand, damp, weakl iron staining	sand, tra ine to me y plastic,	ace fine subrounded edium grained		- 0,35 	-				1	SS SS		24	5.0-	- 1.0
- 2.0	brown, weakly plas	tic, soft,	damp	× * · × × · × × · ×	2.21			bentoni	to cool	2	55	X	24	_	-2.0
10.0	occasional gravel, to wet, loose.							Denton	le seal	3	55	X	82/10"		
10.0					 					4	S6	X	55/6°	10.0 —	_
- 4.0					• • • •	Ţ									-4.0
- 5,0 - 5,0	SANDY GRAVEL - graded, wet to satu			0 0 0 0 0 0 0 0	4.70 (			silica sa	and pack	5	SS	$\ge$	105		- 5,0
402Y GLEN.GPU LEMPLALE.GU 17/28/14	SAND - medium to fine gravel, trace si loose, saturated, w	lt, unifor ell grade	m, light brown, d	0.0	- 5.64					6	SS 	XX	77	20.0 -	-6.0
	cobbles, saturated	ounded, loose	trace silt, trace clay,		6.45		6.86			8	SS	$\geq$			-
003328 BEHCZ	and boulders	ht brown,	ed, trace silt, trace , saturated, cobbles												
31EN/30	Stone refusal at 6.8	36 m													
Prepar	red By: S. Charity		Checked By	: <b>C.</b> [	Dinules	cu			Date F	repa	red:	1	0/7/2	013	
This bo	reholé log was prepared o for a geotechnical ass ates Limited personnel b	essment o	ogeological and/or envir of the subsurface condit	onmen	tal purp	oses a			t necessari	ly co	ntain	infor	matio	on	
	)	MONITOF	ING WELL DATA	S	AMPLE T	YPE /	٩C	A L	uger Cutting	S	s 🗅	$\leq$	Split	Spoc	n
o 🗶 Wate	er found @ time of drilling	Pipe:	51 mm dia. PVC			- (	cs	$\sum c$	Continuous	A	R 🔟		Air R	otary	
≝ ⊻ Stati	ic Water Level -	Screen:	51 mm dia. PVC #10 slot			F	RC	►ÂÂÂ F	lock Core	W	icΞ	<b>`</b> .	Wasł	ו Cut	tings





Time	Water Level (m)	Depth to Cave (m)
On completion After 9 days After 14 days	Dry 0.97 0.99	Borehole Well Well

			g 01	D	or	e		ole 11.	3	_			16				
Projec		BRM-00609175-AO	-	.,			~	<b></b>			rawing No.		16				
Projec		Geotechnical Investigation								-	Sheet No.	1	of _				
_ocatio	on:	10206 and 10348 Warden	Avenue	э, N	larki	nam	ι, C	Intario									
Date D	Drilled:	May 19 and 22, 2020			uger Sa PT (N)			O ⊠ ⊠	Natur	al Moisti		>	☐ <				
Drill Ty	/pe:	Dietrich 120		_ C	ynamic	: Cone		-	Undra	ained Tri		⊕	Θ				
Datum	:	Geodetic			helby T ield Va		st			ain at Fa trometer							
								S									
SYMBO		Soil Description	ELEV. m		2 Shear S	20 Strengt	40 th	Value 60 80 MF		250 atural Mo rberg Lim	apour Reading (pp 500 750 isture Content % nits (% Dry Weight)						
	TOP	SOIL - 400mm dark brown silt	214.40	0	8		0.1	0.2		10	20 30						
Ì	SILT	Y CLAY - some sand, trace of	214.0		0						×						
	grav	el; brown, moist to saturated, stiff ery stiff	_		ó						¥		19.7				
					Ÿ								4				
	_		-		14 Ö						~		20.2				
	<u>ен т</u>	- brown, saturated, compact	212.4	2	U								20.2				
			212.0			3	3				×						
		DY SILT TILL - wet sand seams, tered gravel and cobbles; brown,				C	>			×			4				
	[_satu	rated becoming moist at ~3m, se to very dense	_	3				60/50mm	×			z	z				
	– be	coming grey	-	4													
			_					60/75mm					~				
				5				<b>.</b>				Ħ	]				
			-														
			_	6				60/100mm									
								<b>O</b>	>	<			23.				
			_	7													
								60/100mm	;	<		e	23.0				
			-	8													
			_														
				9				60/125mm		<			23.4				
			-									ľ	4				
				10													
	<u> </u>		-					60/125mm					7				
1K/	1							$\phi$		<b>X</b>		ΗĽ	23.2				

\*exp.

Time	Water Level (m)	Depth to Cave (m)
On completion After 4 hours	3.96 0.61	Borehole Well
After 5 days	0.58	Well

oject No. <u>BRM-00609175-A</u> O oject: Geotechnical Investiga	ation - Berc:	zv '	Wa	ard	en :	Sub	divis	sion					ring N eet N			16 of 2
							/alue					e Vapou	ır Readir	ng (ppm)		
S Y B Soil Description	ELEV. m		Sr	2 near S	) trengt		60		30 MPa	Na Atte			e Conte % Dry V		SAMP LES	Unit Weigh kN/m
	203.40	11				0.1			0.2		10	20	3	80	S	
	_															
	_	12				50/1	50mm									-
END OF BOREHOLE	201.9	_					2				<				ľ	23.3
NOTES: 1. Groundwater monitoring well																
installed to 11.89m; sealed with bentonite from 0.3 to 8.23m.																



Time	Water Level (m)	Depth to Cave (m)
On completion	3.96	Borehole
After 4 hours	0.61	Well
After 5 days	0.58	Well

		Lo	g of	ľ	Boreho	le 113	4				
Projec	ct No.	<u>BRM-00609175-A</u> O						Drawing No.		17	7
Projec	ct:	Geotechnical Investigation	- Bercz	zy	Warden Sub	division		Sheet No.	1	_ of	_1
Locat	ion:	10206 and 10348 Warden	Avenue	ə, I	Markham, Or	ntario					
	Drilled:	May 22, 2020 Dietrich 120		_	Auger Sample SPT (N) Value Dynamic Cone Test		Natural N Plastic a	nd Liquid Limit		□ ×	
Drill T		Geodetic		-	Shelby Tube			d Triaxial at at Failure	$\oplus$		
Datun	n:	Geodelic		-	Field Vane Test	S	Penetron	neter			
GWL SYMBOL		Soil Description	ELEV. m 214.40	DEPTH	20 40 Shear Strength	/alue 60 80 MPa 0.2	250	ble Vapour Reading (pp 500 750 al Moisture Content % g Limits (% Dry Weight 20 30	m) )	Ř L v	latural Unit Veight (N/m <sup>3</sup>
	TOP	SOIL - 400mm dark brown silt	214.0	0							
	grave	Y CLAY - some sand, trace of el; brown, moist to saturated, stiff ry stiff	_	1							
	<u>ен т</u>	brown acturated compact	212.4	2							
	SAN scatt satur dens	<ul> <li>brown, saturated, compact</li> <li>DY SILT TILL - wet sand seams, iered gravel and cobbles; brown, rated becoming moist at ~3m, iere to very dense</li> <li>coming grey</li> </ul>	212.0	3 4 5 6 7							
о н <u>к</u> п		END OF BOREHOLE	207.2								
LAGWGL02 BRM00609175AO.GPJ NEW.GDT 6/24/20	1. Gi	FS. roundwater monitoring well stalled to 7.19m; sealed with entonite from 0.3 to 3.53m.									



Water	Depth to
Level	Cave
(m)	(m)
Dry	Borehole
1.14	Well
1.09	Well
	Level (m) Dry 1.14

## BURNSIDE

R.J. Burnside & Associates Limited 292 Speedvale Avenue West, Guelph, Ontario N1H 1C4 telephone (519) 823-4995 fax (519) 836-5477

### <u>AG-MW12</u>

LOG OF DRILLING OPERATIONS

Page\_1\_ of \_1\_

(	Clie	ent:	Angus Glen Developments Inc.	Project Name:	Angus	Glen M	IESP			Logged by	/: (	C. D.							
1	<sup>o</sup> ro	ject	No.: <b>300034937</b>	Location: Mark	ation: Markham, ON Groun								d (m amsl): <b>217.20</b>						
L	Dril	ling	Co.: Lantech Drilling Services Inc.	Date Started: 2	/25/20	15				Static Wat						;			
Ľ	Dril	ling l	Method: Hollow Stem Auger	Date Completed:	2/25	5/2015	1			Sand Pac	_			.46 -	7.62				
		pth ale	Stratigraphic Description	1	Strat. Plot	Elev. Depth					Num.	Type SAM	IPLE	N.Val.	Dep Sca				
_(	ft)	(m)	Surface Elevation (m): 217 TOPSOIL	<u>.20</u>		(m)					z				(ft)	(m)			
	_	- 1.0	Dark brown sandy silt, weathered sof rocks, dry	small pieces							1	SS	$\bigwedge$	frozen	_	- 1.0			
	5.0-	-	FILL			2 <u>15.76</u> 1.44					2	SS	$\Delta$	29	5.0	-			
	_	- 2.0	Gravel and Sand, fragments of roc compact, dry, trace silt	ks, loose to							3	SS	$\Delta$	>100	-	- 2.0			
1	0.0-	- 3.0				-			Holeplu	9	4	SS	X	>50/3"	10.0 -	- - 3.0			
	_	-	Sandy Silt TILL			<u>213.47</u> 3.73	$\overline{\nabla}$				5	SS	X	>50/4"	_	-			
1	5.0-	- 4.0	Grey, stiff, dry, some clay, trace gr diameter) subangular to subround	ed,							6	SS	X	>50/2"	15.0 -	- 4.0			
/21/16	_	- 5.0	occasional pockets with medium s becomes harder with depth	and	SD 11 1911 1915						7	SS	Х	>50/4"	_	- 5.0			
ATE.GDT		- 6.0														- 6.0			
D TEMPL/	0.0-	-							Sandpa	ck	8	SS	X	>50/5"	20.0 -	-			
S GLEN.GI	-	- 7.0			LAN LAN				Well Sci	een					_	- 7.0			
37_ANGU	5.0-	J		k	<u>USISIAN</u>	209.58 7.62	1 1:	7.62	Į		9	ss	$\mathbf{X}$	>50/4"	<sub>25.0</sub> ∟				
1/3000349																			
GUS GLEN																			
0000 ANG																			
300034937																			
300 JOBS/																			
ECTS/3																			
GINTVP	Thi: suit	s bo able	ed By: <b>C. D.</b> rehole log was prepared for hydrogeologi for a geotechnical assessment of the sul ites Limited personnel before use by othe	osurface conditior	menta	l purpo					cont	ain ir	form		015				
		END			SA	MPLE T	YPE	ac [	Au	uger Cutting	SS	s 🖂	$\triangleleft$	Split S	Spool	 ก			
	_		-	dia. PVC				cs [		ontinuous	AF			Air Ro					
HLC	Ā	Stati	ic Water Level - 6/16/2015 Screen: 51 mm	dia. PVC #10 slot				RC	^_^_ R	ock Core	W	с⊡		Wash	Cutt	ings			

#### PROJECT: 14-1186-0012 LOCATION: See Figure 2

### RECORD OF BOREHOLE: 14-16

BORING DATE: May 8, 2014

SHEET TOT 2

DATUM: Geodetic

HAMMER TYPE: AUTOMATIC

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

METRES	MET		15												ONDUCT			AZ.	PIEZOMETER
ME	10		FLO	ELEV.	ШШ	w	0.3m	20	40	60		80	101	1			03 1	ADDITIONAL LAB. TESTING	OR
	BORING METHOD	DESCRIPTION	STRATA PLOT	DEPTH	NUMBER	TYPE	BLOWS/0.3m	SHEAR S Cu, kPa	TRENGT	rH na re	m V. ∉	Q- 0					WI	ADDI LAB. 1	INSTALLATION
-	ă		ST	(m)			B	20	40	60	)	80	10				40		
0		GROUND SURFACE FILL - (ML) CLAYEY SILT, some sand,		214.70	-		-	-	-	-			-		-	-	-	-	
		organic inclusions; dark brown; cohesive, W <pl firm<="" td="" to="" w~pl,=""><td></td><td></td><td>1</td><td>SS</td><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0</td><td></td><td></td><td></td><td>Concrete</td></pl>			1	SS	5								0				Concrete
1				214.01	-										1				
		(ML) sandy CLAYEY SILT; pale brown, with oxidation staining; cohesive, W <pl,< td=""><td>K</td><td>0.69</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></pl,<>	K	0.69	-														
1		stiff			2	SS	9								0				
		(CI) SILTY CLAY, some sand; grey, with	KK	213.33															
		(CI) SILTY CLAY, some sand; grey, with oxidation staining; cohesive, W>PL, firm to stiff			à	SS	.7							н		-0-		PL	
2					×.	30	94										1221	n.	
		Very thinly bedded with fine sand below a depth of approximately 2.1 m below existing ground surface																	
		existing ground surface			4	SS	12	1.1							5				
				211.80	_														
3		(ML) sandy SILT, some clay to clayey, trace gravel, with pockets of medium	1	211,60															
44		sand; grey (TILL); non-cohesive, moist, very dense			5	SS	83						<u>д</u>						
			4.6																
			14																X
			2.2																
ł	5		44									Ĩ							
	TRACK MOUNTED CME 55 Hollow Stem Augers		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		6	SS	50/ .05						8						
5	Stem At		6 P.				1												· · · · ·
1111	Inliaw S		9.40																Bentonite Seal
1	TRA		4 4 4																
			100																
÷			100		-		MIX.												
					7	55	50/ .13						<i>D</i> .						
			4																
								I											
1			18																
			18						1										
			10		8	ss	50/					Ĩ	0						
2																			
			2.00																
			44.4																
9			201		9	90	50/												
			40.0		4	33	50/ .13						8						
			100																
10							_			_	_						-	14	
		CONTINUED NEXT PAGE		-					-	1	_	-	1	-	-	LL.			
DEF	THS	CALE							Â	à.,		er ates						L.	OGGED: JG

SHEET 1 OF 2

#### PROJECT: 14-1186-0012 LOCATION: See Figure 2

DEPTH SCALE METRES

1:50

GTA-BHS (01 S:ICLIENTSISTONYBROOKIBERCZY\_CREEN02\_DATAIGINT/14/1860012.GPJ GAL-MIS.GDT 10/6/17

### RECORD OF BOREHOLE: 14-16

SHEET 2 OF 2 DATUM: Geodetic

HAMMER TYPE: AUTOMATIC

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

BORING DATE: May 8, 2014

щ	00	SOIL PROFILE		o :	SA	MPL	ES	DYNAMIC PENETRA RESISTANCE, BLOW	TION /S/0.3m	HYDRAULIC CONDUCTIVITY, k, cm/s	TL	
METRES	BORING METHOD		PLOT		æ		0.3m	20 40	60 80	10 <sup>-6</sup> 10 <sup>-5</sup> 10 <sup>-4</sup> 10 <sup>-</sup>	ADDITIONAL	PIEZOMETER OR STANDPIPE
MET	RING	DESCRIPTION	STRATA PLOT	ELEV. DEPTH	NUMBER	TYPE	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa	nat V. + Q-● rem V. ⊕ U- ○		ADDIT	INSTALLATION
,	BO		STR	(m)	Z	1	BL	20 40	60 80	10 20 30 40		
10		<ul> <li>CONTINUED FROM PREVIOUS PAGE — (ML) sandy SiLT, some clay to clayey, trace gravel, with pockets of medium sand; grey (TILL); non-cohesive, moist, very dense</li> </ul>	1 2 4 2 4 2 4 2 4 2 4 4 4 4 4 4 4 4 4 4		10	SS	50) ,13			-0-		Bentonite Seal
17	TRACK MOUNTED CME 55. Hollow Stem Augers				31	<b>S</b> S	50/ 13					1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
14			PARA PARA PARA		12	SS	99/ .13			Ø		Silica Sand Filter
15		Augers grinding below a depth of approximately 14.9 m below ground surface. Inferred cobble/boulder	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	199,16	13	SS	50/ .13			ō		
16		AUGER REFUSAL ON INFERRED COBBLE/BOULDER END OF BOREHOLE		15.54								1. Water level measured at a depth of 3.87 m below ground surface, June 20/14
17												
10												
19												
20												
DEF	אדי	J SCALE		L°	1	1.1.1.		Â	Golder			LOGGED: JG

Golder Associates

CHECKED: AM

#### LOCATION: N 4861996.50; E 634983.99

### **RECORD OF BOREHOLE: KP1** BORING DATE: January 21, 2021

DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m

SHEET 1 OF 1

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC HYDRAULIC CONDUCTIVITY, k, cm/s Ľ, PIEZOMETER 80 10<sup>-6</sup> 10<sup>-5</sup> 10-4 10<sup>-3</sup> I OR

-	DEPTH SCALE     METRES			SOIL PROFILE DESCRIPTION GROUND SURFACE ASPHALT (140 mm thick) Crushed granular; brown	STRATA PLOT	ELEV. DEPTH (m) 204.50 0.00 0.14	NUMBER	TYPE	BLOWS/0.3m	DYNAMIC RESISTAI 20 SHEAR S Cu, kPa 20	40	) 6 GTH n re	0 8 atV.+ emV.⊕	Q - ● U - O	1 W	ATER C	D <sup>5</sup> 10 DNTENT	D <sup>-4</sup> 10 I I PERCEN	IT MI	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
	- 1 - 1	B57 Truck Mount	Stem	FILL - (SP-SM) SAND, trace gravel, some fines; brown; non-cohesive, moist (CI) SILTY CLAY, some sand; brown, oxidation staining; cohesive, w <pl, very<br="">stiff</pl,>		204.05 0.45 203.80 0.70	1B 2 3		- 15 15							0				МН	
3AL-MIS.GDT 4/5/21	- 2			END OF BOREHOLE NOTES: 1. Borehole caved to a depth of 1.3 m upon completion of drilling. 2. Borehole was dry upon completion of drilling.		<u>202.52</u> 1.98															
GTA-BHS 001 S:ICLIENTSIREGION OF YORKIMAJOR MACKENZIE DRIVE/02 DATAIGINTMARKHAM WARDEN&KENNEDY RD.GPJ GAL-MIS.GDT 4/5/21	5																				
CKENZIE DRIVE/02 DATA/GINT/	7																				
CLIENTS/REGION OF YORK/MAJOR MA	- 8 - 9 - 9 - 10																				
GTA-BHS 001 S:\	DE 1 :		   S	CALE						G S	0	LD	EF	2							DGGED: JL ECKED: TO

#### LOCATION: N 4862126.14; E 634957.69

### RECORD OF BOREHOLE: KP2 BORING DATE: January 21, 2021

SHEET 1 OF 1

DATUM: Geodetic

HAMMER TYPE: AUTOMATIC

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

щ	(	D P	SOIL PROFILE	1		SA	MPL	≡S	DYNAMIC RESISTA	PEN NCE,	ETRAT <b>I</b> BLOWS	ON /0.3m	$\overline{\boldsymbol{\lambda}}$	HYDR	AULIC C k, cm/s	ONDUC	TIVITY,	T	ŚŁ	PIEZOMETER
DEPTH SCALE METRES		BORING METHOD		STRATA PLOT	ELEV.	ЯË	 س	BLOWS/0.3m	20	4		-	30		1	1	1	10 <sup>-3</sup>	ADDITIONAL LAB. TESTING	OR
		SNG	DESCRIPTION	ATA I	DEPTH	NUMBER	TYPE	/S/VC	SHEAR S Cu, kPa	TREN	GTH	natV.+ remV.⊕	Q - O	N N	VATER C				AB. T	INSTALLATION
ā	Č	<u>ĝ</u>		STR	(m)	z		BLO	20	4	0	50 8	30					40	2	
- 0			GROUND SURFACE		207.80															
Ĩ			ASPHALT (160 mm thick) Crushed granular with RAP; brown	****	0.00															
		Jer	-		207.37	1A	AS	_												
	Ħ	em Auge	FILL- (SP-SM) SAND, trace gravel, some fines; brown; non-cohesive, moist		0.43	1B														
	B57 Truck Mount	w Ste	FILL - (CL-ML) gravelly SILTY CLAY-CLAYEY SILT and SAND, brown;	*	207.04 0.76															
- 1	Truck	Hollo	CLAY-CLAYEY SILT and SAND, brown; cohesive, w>PL, stiff to very stiff			2	ss	11							⊢⊖I				мн	
	B57	n 0.D.																		
		150 mm																		
		-				3	ss	18												
- 2					205.82															
-			END OF BOREHOLE		1.98															
			NOTES:																	
			1. Borehole caved to a depth of 1.5 m upon completion of drilling.																	
			2. Borehole was dry upon completion of																	
- 3			drilling.																	
			3. RAP = Recycled asphalt pavement																	
4																				
5																				
Ŭ																				
6																				
7																				
8																				
5																				
9																				
10																				
-																				
	_	1			•										•		•			
			CALE					X	G	i O	LD	) E I	2							DGGED: JL
1:	50																		СН	ECKED: TO

#### LOCATION: N 4862283.37; E 634927.65

### **RECORD OF BOREHOLE: KP3** BORING DATE: January 21, 2021

SHEET 1 OF 1

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

	E
	_
-	┢
5/2	F
4/5	F.
DT	F
9	F
ŝ	F
Σ	Ľ
Ţ	L
ð	F
EDY RD.GPJ G	F
Ъ	
RD.(	F
2	Ł
Σ	F
ĒD	Ľ
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181	F
RDEN	Ľ
2	È
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E\02_DATA	
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DRI	F
IE DRI	E
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EN.	F
X	Ľ
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	-					0.4		-0	DYNAM	C PEN	ETRATIO	N	<u> </u>	HYDRALI		NDUCT		-		
DEPTH SCALE METRES	BOPING METHOD		SOIL PROFILE	⊢ ⊢			MPL		DYNAM RESIST/				Ľ	HYDRAUL k,				Ţ	ADDITIONAL LAB. TESTING	PIEZOMETER
1 SC, TRES	ME V			STRATA PLOT	ELEV.	Ш	ш	BLOWS/0.3m	20				30	10-6	10			0-3 -	TION TEST	OR STANDPIPE
EPT ME			DESCRIPTION	ATA	DEPTH	NUMBER	ТҮРЕ	/S/NC	SHEAR Cu, kPa	STREN	GTH r	nat V. + em V.⊕	Q - ● U - O	WATE			PERCE		AB. T	INSTALLATION
Ō		Ż		STR.	(m)	Ź		BLC	20				30	10 VVp	20			40	<sup>ر د</sup>	
0			GROUND SURFACE		212.00				Ĺ											
Ē			Crushed granular; brown		0.00	1A														-
Ł		e			211.60		AS	_												-
F		n Aug	FILL - (SM) SILTY SAND, trace gravel: brown; non-cohesive, moist		0.40	1B														-
F	B57 Truck Mount	150 mm O.D. Hollow Stem Auger		颷	211.24 0.76															-
- 1	ruck I	- Iollov	FILL - (CL) SILTY CLAY, some sand; dark grey and black, organic inclusions; cohesive, w~PL, stiff			2	ss	11												-
E	B57 T	0.D.			010.00															-
E		mm C	(CL) SILTY CLAY and SAND, some	ĨŨ	210.63 1.37															-
È.		151	gravel; brown; cohesive, w <pl, stiff<="" td="" very=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td></pl,>																	-
F					210.02	3	SS	20												-
- 2	Γ		END OF BOREHOLE		1.98															
E			NOTES:																	-
E			1. Borehole caved to a depth of 1.2 m upon completion of drilling.																	-
ŧ																				-
- 3			2. Borehole was dry upon completion of drilling.																	-
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### LOCATION: N 4862501.24; E 634887.30

### RECORD OF BOREHOLE: KP4 BORING DATE: January 21, 2021

SHEET 1 OF 1

DATUM: Geodetic

HAMMER TYPE: AUTOMATIC

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

	-		SOIL PROFILE		1	SA	MPL	ES	DYNAMI RESIST/	C PEN ANCE,	IETRAT BLOWS	ION 5/0.3m	$\overline{\boldsymbol{\lambda}}$	HYDR.	AULIC C k, cm/s	ONDUC <sup>-</sup>	TVITY,	T	J	PIEZOMETER
DEPTH SCALE METRES		BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	ТҮРЕ	BLOWS/0.3m	20 SHEAR Cu, kPa	STREM	NGTH	nat V. ⊣ rem V. €		w W	ATER C		PERCE	w	ADDITIONAL LAB. TESTING	OR STANDPIPE INSTALLATION
			GROUND SURFACE	0	217.50				20		10	60	80			20 3	io 4	40		
• 0			ASPHALT (120 mm thick) Crushed granular with RAP; brown	***	0.00	4.0														
		Jer			217.15 0.35		AS	-												
	l te	in Auger	FILL - (SM) SILTY SAND, trace gravel: brown; non-cohesive, moist		216.75	1B														
	Mol	n O.D. Hollow Stem.	FILL - (CL-ML) gravelly SILTY CLAY-CLAYEY SILT and SAND, brown;		0.75															
1	Truc	Holl	cohesive, w>PL, stiff			2	SS	13							0					
	58	mm O.I		×	216.13															
		150 n	(SM) SILTY SAND, some gravel; brown; non-cohesive, moist, compact		. 1.37															
					1	3	SS	16												
2		_	END OF BOREHOLE	11	215.52 1.98															
			NOTES:																	
			1. Borehole caved to a depth of 1.5 m upon completion of drilling.																	
			<ol> <li>Borehole was dry upon completion of</li> </ol>																	
3			drilling.																	
			3. RAP = Recycled asphalt pavement																	
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D	EP	TH S	CALE							6 O		ΣE	R							OGGED: JL
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#### LOCATION: N 4862688.03; E 634846.61

### RECORD OF BOREHOLE: KP5 BORING DATE: January 21, 2021

SHEET 1 OF 1

DATUM: Geodetic

HAMMER TYPE: AUTOMATIC

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

ц		8	SOIL PROFILE			SA	MPL	ES	DYNAMIC RESISTAN		RATION		ŀ	HYDRAU	LIC CO	ONDUCT	IVITY,	Т		
DEPTH SCALE METRES		BORING METHOD		LOT		۲		3m	20	40	60	80	۱ I	10 <sup>-6</sup>	1			10 <sup>-3</sup>	ADDITIONAL LAB. TESTING	PIEZOMETER OR
METR		S Z	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	MBE	ТҮРЕ	BLOWS/0.3m	SHEAR ST	RENGT	H nat	/ + Q- V.⊕ U-				ONTENT			ΞË	STANDPIPE
		M M M M		TRA.	(m)	R	H	BLOV	Cu, kPa							-0 <sup>W</sup>			LAB	
	Ľ		GROUND SURFACE	0 V					20	40	60	80	+	10	2	:0 3	60	40	+	
0			Crushed granular; brown		219.80 0.00					_			_							
					3	1.														
		Auger	FILL - (SP) SAND, some gravel, trace		219.41															
	Ħ		fines: brown; non-cohesive, moist	×	0.55		AS	-												
	B57 Truck Mount	N Ste	Recycled asphalt pavement FILL - (CL) SILTY CLAY, some sand;	諁	219.02 0.78															
1	Truck	Hollow	FILL - (CL) SILTY CLAY, some sand; dark brown; cohesive, w>PL, stiff		3	2	SS	9												
	B57 -	0.D.			040.40															
		E	(CL) SILTY CLAY and SAND, some	Ĭ	218.43 1.37															
		150	gravel; brown; cohesive, w <pl, stiff<="" td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></pl,>																	
						3	SS	8						p						
2			END OF BOREHOLE		217.82 1.98															
			NOTES:																	
			1. Borehole caved to a depth of 1.2 m upon completion of drilling.																	
			2. Borehole was dry upon completion of																	
3			drilling																	
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#### LOCATION: N 4862905.53; E 634805.64

### RECORD OF BOREHOLE: KP6 BORING DATE: January 21, 2021

SHEET 1 OF 1

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

	Ģ	a T	SOIL PROFILE			SAM	<b>NPLE</b>	s [				DN 0.2m	)	HYDR.		ONDUC	TIVITY,	т		
DEPTH SCALE METRES		BORING METHOD		Ы					RESISTA 20	NCE, В 40			80	1	k, cm/s 0 <sup>-6</sup> 1		10 <sup>-4</sup> 1	10 <sup>-3</sup>	ADDITIONAL LAB. TESTING	PIEZOMETER OR
TH S IETRI		v	DESCRIPTION	STRATA PLOT	ELEV.	NUMBER	ТҮРЕ						- Q - O		1		T PERCE		LES	STANDPIPE INSTALLATION
DEP N			BEGORI HON	TRAT	DEPTH (m)	NUN	₽		Cu, kPa		r	em V. €	€ U- O	w	⊳ <b>⊢</b>	0^M	/I	W	ADI	INSTALLATION
	Ľ	<u> </u>		ST	,			n	20	40	) 6	0	80					40		
- 0	L	+	GROUND SURFACE ASPHALT (200 mm thick)		221.80 0.00 221.60	$\square$	+	+								<u> </u>		-	-	
			Crushed granular; brown	****	221.60 0.20 221.40	1A													м	
		Auger	FILL - (SP) SAND, some gravel, trace		221.40 0.40		AS	-												
	unt	tem A	fines; brown; non-cohesive, moist		220.98	1B														
	ck Mo	1 O.D. Hollow Stem	FILL - (CL) SILTY CLAY, some sand; dark brown; cohesive, w>PL, stiff		0.82															
- 1	57 Tru	Р. Ц	dark brown; conesive, w>PL, sum			2B	SS	8								0				
	ö	O mm	(SM) gravelly SILTY SAND; brown		220.43 1.37															
		150	(TILL); non-cohesive, moist, compact																	
				<u>4 4 4</u> 4 4 4 4		3	ss :	28												
- 2	-	╧╋	END OF BOREHOLE	k	219.82 1.98		+													
	ĺ		NOTES:															1		
	ĺ		1. Borehole caved to a depth of 1.3 m															1		
			upon completion of drilling.																	
- 3			2. Borehole was dry upon completion of drilling.																	
-																				
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#### LOCATION: N 4863105.31; E 634761.62

### RECORD OF BOREHOLE: KP7 BORING DATE: January 21, 2021

SHEET 1 OF 1

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m HYDRAULIC CONDUCTIVITY, k, cm/s SOIL PROFILE SAMPLES BORING METHOD ADDITIONAL LAB. TESTING DEPTH SCALE METRES PIEZOMETER STRATA PLOT 40 60 80 10<sup>-6</sup> 10<sup>-5</sup> 10-4 10<sup>-3</sup> OR BLOWS/0.3m 20 NUMBER STANDPIPE ELEV. ТҮРЕ SHEAR STRENGTH nat V. + Q. ● Cu, kPa rem V. ⊕ U- O WATER CONTENT PERCENT DESCRIPTION INSTALLATION DEPTH -0<sup>W</sup> Wp – w (m) 40 60 80 10 20 30 40 20 GROUND SURFACE 222.80 0 Crushed granular; brown 0.00 1A AS -0.55 1B FILL - (SP) SAND, some gravel, trace B57 Truck Mount n O.D. Hollow Stem / fines: brown; non-cohesive, moist FILL - (SM) SILTY SAND and GRAVEL with RAP; brown; non-cohesive, moist, 2A 221.83 SS 18 0.97 2B 0 М compact Compact FILL - (SM) SILTY SAND and GRAVEL; brown; non-cohesive, moist, compact (CI) SILTY CLAY, trace sand; brown; cohesive, w>PL, very stiff 221.43 100 150 SS 0 3 15 X 220.82 2 END OF BOREHOLE 1,98 NOTES: 1. Borehole caved to a depth of 1.3 m upon completion of drilling. 2. Borehole was dry upon completion of 3 drilling. S:ICLIENTSIREGION OF YORKIMAJOR MACKENZIE DRIVEI02 DATAIGINTIMARKHAM WARDEN&KENNEDY RD.GPJ GAL-MIS.GDT 4/5/21 3. RAP = Recycled asphalt pavement 4 5 6 7 8 9 10 GTA-BHS 001 DEPTH SCALE LOGGED: JL GOLDER 1:50 CHECKED: TO

#### LOCATION: N 4863330.56; E 634715.76

#### RECORD OF BOREHOLE: KP8 BORING DATE: January 21, 2021

DATUM: Geodetic

HAMMER TYPE: AUTOMATIC

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m HYDRAULIC CONDUCTIVITY, k, cm/s SOIL PROFILE SAMPLES BORING METHOD ADDITIONAL LAB. TESTING DEPTH SCALE METRES PIEZOMETER STRATA PLOT 40 60 80 10<sup>-6</sup> 10<sup>-5</sup> 10-4 10<sup>-3</sup> OR BLOWS/0.3m 20 NUMBER STANDPIPE ELEV. ТҮРЕ SHEAR STRENGTH nat V. + Q - ● Cu, kPa rem V. ⊕ U - O WATER CONTENT PERCENT DESCRIPTION INSTALLATION DEPTH -0<sup>W</sup> Wp – w (m) 40 60 80 10 20 30 40 20 GROUND SURFACE 223.40 0 ASPHALT (120 mm thick) 0.00 Crushed granular; brown 1A 223.02 0.38 AS -FILL - (SP) SAND, some gravel, trace fines: brown; non-cohesive, moist 1B 222.78 0.62 B57 Truck Mount n O.D. Hollow Stem / ASPHALT (260 mm) 222.52 2A SS 69/ FILL - (CL) gravely SILTY CLAY and SAND, grey; cohesive, w>PL, hard to 0.88 2B Ο stiff 150 r - Auger grinding at a depth of 1.1 m SS 3 11 221.42 2 END OF BOREHOLE 1,98 NOTES: 1. Borehole caved to a depth of 1.4 m upon completion of drilling. 2. Borehole was dry upon completion of drilling. 3 SICLIENTSIREGION OF YORKIMAJOR MACKENZIE DRIVE102 DATAIGINTIMARKHAM WARDEN&KENNEDY RD.GPJ GAL-MIS.GDT 4/5/21 3. \*N value may not be representative of the soil's consistency due to obstructions encountered. 4 5 6 7 8 9 10 GTA-BHS 001 DEPTH SCALE GOLDER LOGGED: JL 1:50 CHECKED: TO

#### LOCATION: N 4863498.29; E 634672.80

#### **RECORD OF BOREHOLE:** KP9 BORING DATE: January 21, 2021

SHEET 1 OF 1

HAMMER TYPE: AUTOMATIC

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

Ļ		Q	SOIL PROFILE	1		SA	MPL	ES	DYNAMIC PE RESISTANCI	NETRA E, BLOW	FION /S/0.3m	2	HYDRAULIC k, cr	CONDUC n/s	TIVITY,	T	Ę,	PIEZOMETER
METRES		BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV.	NUMBER	түре	BLOWS/0.3m	20 I SHEAR STRI Cu, kPa	40 ENGTH		80 - Q-● → U- O	10 <sup>-6</sup> I WATER	CONTEN	T PERCE		ADDITIONAL LAB. TESTING	OR STANDPIPE INSTALLATION
		BOR		STRA	(m)	P	г	BLO	20 20	40		<u>80 - 0</u>	Wp	O <sup>V</sup>		WI 40	<b>P</b> A	
0		_	GROUND SURFACE	- <u> </u>	223.20									_				
-			Crushed granular; brown		0.00	1A												
		Jer	FILL - (SP) SAND, some gravel, trace		222.80 0.40		AS	-										
	L t	m Aug	fines: brown; non-cohesive, moist		0.40	1B												
	B57 Truck Mount	150 mm O.D. Hollow Stem Auger			222.30	2A												
1	Truck	Hollo	FILL - (CL) gravelly SILTY CLAY and SAND, dark brown; cohesive, w <pl, stiff<="" td=""><td></td><td>0.90</td><td>2B</td><td>SS</td><td>14</td><td></td><td></td><td></td><td></td><td>0</td><td></td><td></td><td></td><td></td><td></td></pl,>		0.90	2B	SS	14					0					
	B57	i O	to very stiff															
		0 mm																
		15				3	ss	15										
					221.22	Ĵ	55	15										
2			END OF BOREHOLE		1.98													
			NOTES:															
			1. Borehole caved to a depth of 1.2 m															
			upon completion of drilling.															
3			2. Borehole was dry upon completion of drilling.															
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#### PROJECT: 20146456 LOCATION: N 4863698.71; E 634626.76

### RECORD OF BOREHOLE: KP10 BORING DATE: January 21, 2021

SHEET 1 OF 1

DATUM: Geodetic

SF	PT/[	DCP	T HAMMER: MASS, 64kg; DROP, 760mm											HAMM	1ER T	PE: AUTOMATIC
ш	4	3	SOIL PROFILE			SA	MPL	ES	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	ì	HYDR	AULIC CONE k, cm/s	DUCTIVITY,	Т	, (1)	
DEPTH SCALE METRES		BURING METHUU		Ы		~		m	20 40 60	80	1	0 <sup>-6</sup> 10 <sup>-5</sup>	10 <sup>-₄</sup> 10	,₃ ⊥	ADDITIONAL LAB. TESTING	PIEZOMETER OR
TH S IETR		≥ פ	DESCRIPTION	STRATA PLOT	ELEV.	NUMBER	ТҮРЕ	BLOWS/0.3m	SHEAR STRENGTH nat V. Cu, kPa rem V.			<u> </u>	ENT PERCEN	IT	DEC	STANDPIPE INSTALLATION
ΩEΡ.			DESCRIPTION	RAT,	DEPTH	NUN	Ţ	ŇO	Cu, kPa rem V.	⊕ U-Ō	w		ə <sup>w</sup> ı	vi 🛛	LAB.	INSTALLATION
	i	ň		ST	(m)			B	20 40 60	80		10 20	30 40			
— o			GROUND SURFACE		223.50					_						
E			ASPHALT (180 mm thick) Crushed granular; brown	~~~~	223.32											
-		ger	FILL - (SP-SM) gravelly SAND, some		223.18 0.36		AS	-								
F	1	n Aug	fines: brown; non-cohesive, moist			1B					0				м	
-	B57 Truck Mount	v Stei	FILL - (CL) gravelly SILTY CLAY and	*	222.75 0.75											
- 1	Truck	Ю Но По Но	SAND, dark brown, organic inclusions; cohesive, w>PL, stiff			2	ss	12								-
E	B57 1	150 mm O.D. Hollow Stem Auger	,,,,,,													
Ł		m m														
_		15(														
E					221.52	3	SS	12				0				
- 2			END OF BOREHOLE		1.98											-
F			NOTES:													
F			1. Borehole caved to a depth of 1.3 m	1							1					
F			upon completion of drilling.													
Ē,			2. Borehole was dry upon completion of	1							1					
— 3 _			drilling.	1							1					-
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#### PROJECT: 20146456 LOCATION: N 4863918.31; E 634575.98

### RECORD OF BOREHOLE: KP11 BORING DATE: January 21, 2021

SHEET 1 OF 1

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m HYDRAULIC CONDUCTIVITY, k, cm/s SOIL PROFILE SAMPLES BORING METHOD ADDITIONAL LAB. TESTING DEPTH SCALE METRES PIEZOMETER STRATA PLOT 40 60 80 10<sup>-6</sup> 10<sup>-5</sup> 10-4 10<sup>-3</sup> OR BLOWS/0.3m 20 NUMBER STANDPIPE ELEV. ТҮРЕ SHEAR STRENGTH nat V. + Q - ● Cu, kPa rem V. ⊕ U - O WATER CONTENT PERCENT DESCRIPTION INSTALLATION DEPTH -0<sup>W</sup> Wp – w (m) 40 60 80 10 20 30 40 20 GROUND SURFACE 221.20 0 ASPHALT (180 mm thick) 221.02 Crushed granular; brown 0.18 1A AS FILL - (SP-SM) gravelly SAND, some fines: brown; non-cohesive, moist 0.34 1B 220.62 FILL - (CL) gravelly SILTY CLAY and 0.5 B57 Truck Mount SAND; dark brown, organic inclusions; cohesive, w<PL, very stiff to hard Hollow : 2 SS 18 þн ΜΗ -1 0.D. 150 mm SS 61\* 3 - Auger resistance between a depth of 1.8 m and 1.9 m 219.22 2 END OF BOREHOLE 1,98 NOTES: 1. Borehole caved to a depth of 1.2 m upon completion of drilling. 2. Borehole was dry upon completion of 3 drilling. S:ICLIENTSIREGION OF YORKIMAJOR MACKENZIE DRIVEI02 DATAIGINTIMARKHAM WARDEN&KENNEDY RD.GPJ GAL-MIS.GDT 4/5/21 3. \*N value may not be representative of the soil's consistency due to obstructions encountered 4 5 6 7 8 9 10 GTA-BHS 001  $\Diamond$ DEPTH SCALE GOLDER LOGGED: JL 1:50 CHECKED: TO

#### PROJECT: 20146456 LOCATION: N 4864147.22; E 634531.61

### RECORD OF BOREHOLE: KP12 BORING DATE: January 21, 2021

SHEET 1 OF 1

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m HYDRAULIC CONDUCTIVITY, k, cm/s SOIL PROFILE SAMPLES BORING METHOD ADDITIONAL LAB. TESTING DEPTH SCALE METRES PIEZOMETER STRATA PLOT 40 60 80 10<sup>-6</sup> 10<sup>-5</sup> 10-4 10<sup>-3</sup> OR BLOWS/0.3m 20 NUMBER STANDPIPE ELEV. ТҮРЕ SHEAR STRENGTH nat V. + Q - ● Cu, kPa rem V. ⊕ U - O WATER CONTENT PERCENT DESCRIPTION **INSTALLATION** DEPTH -OW Wp – w (m) 10 40 60 80 20 30 40 20 GROUND SURFACE 220.10 0 Crushed granular; brown 0.00 1A 219.65 0.45 AS 1B -FILL - (SP-SM) gravelly SAND, some fines: brown; non-cohesive, moist B57 Truck Mount 219.28 0.82 (CI) SILTY CLAY, some sand, some gravel; brown; cohesive, w>PL, stiff Hollow 2 SS 8 0.0 218.73 1.37 150 mm (ML) sandy SILT; brown; non-cohesive, wet, compact ss 22 0 3 ΜН 218.12 2 END OF BOREHOLE 1,98 NOTES: 1. Borehole caved to a depth of 1.3 m upon completion of drilling. 2. Borehole was dry upon completion of drilling. 3 S:ICLIENTSIREGION OF YORKIMAJOR MACKENZIE DRIVEI02 DATAIGINTIMARKHAM WARDEN&KENNEDY RD.GPJ GAL-MIS.GDT 4/5/21 4 5 6 7 8 9 10 GTA-BHS 001  $\Diamond$ GOLDER DEPTH SCALE LOGGED: JL 1 : 50 CHECKED: TO

PROJECT:	20146456
LOCATION:	N 4864251.68; E 634519.69

S:ICLIENTSIREGION OF YORKIMAJOR MACKENZIE DRIVEI02 DATAIGINTIMARKHAM WARDEN&KENNEDY RD.GPJ GAL-MIS.GDT 4/5/21

GTA-BHS 001

### RECORD OF BOREHOLE: KP13 BORING DATE: January 21, 2021

SHEET 1 OF 1

DATUM: Geodetic

HAMMER TYPE: AUTOMATIC

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m HYDRAULIC CONDUCTIVITY, k, cm/s SOIL PROFILE SAMPLES BORING METHOD ADDITIONAL LAB. TESTING DEPTH SCALE METRES PIEZOMETER STRATA PLOT 40 60 80 10<sup>-6</sup> 10<sup>-5</sup> 10-4 10<sup>-3</sup> OR BLOWS/0.3m 20 NUMBER STANDPIPE ELEV. ТҮРЕ SHEAR STRENGTH nat V. + Q. ● Cu, kPa rem V. ⊕ U- O WATER CONTENT PERCENT DESCRIPTION **INSTALLATION** DEPTH -0<sup>W</sup> Wp – w (m) 40 60 80 10 20 30 40 20 GROUND SURFACE 222.80 0 ASPHALT (240 mm thick) 0.00 222.56 0.24 Crushed granular; brown 8 1A AS -FILL - (SP-SM) gravelly SAND, some fines; brown; non-cohesive, moist, 0.40 1B B57 Truck Mount n O.D. Hollow Stem / compact 2A 221.75 SS 15 FILL - (SM) SILTY SAND and GRAVEL; brown; non-cohesive, moist, compact 1.05 2B 0 221.43 1.37 150 mm (ML) sandy SILT, some gravel, brown; non-cohesive, moist, compact ss 19 3 220.82 2 END OF BOREHOLE 1,98 NOTE: 1. Borehole open and dry upon completion of drilling. 3 4 5 6 7 8 9 10 DEPTH SCALE LOGGED: JL GOLDER 1 : 50 CHECKED: TO

#### LOCATION: N 4861907.72; E 635019.68

### RECORD OF BOREHOLE: KS1 BORING DATE: January 20, 2021

SHEET 1 OF 2

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m HYDRAULIC CONDUCTIVITY, k, cm/s SOIL PROFILE SAMPLES BORING METHOD ADDITIONAL LAB. TESTING DEPTH SCALE METRES PIEZOMETER STRATA PLOT 40 60 80 10<sup>-6</sup> 10<sup>-5</sup> 10-4 10<sup>-3</sup> OR BLOWS/0.3m 20 NUMBER STANDPIPE ELEV. ТҮРЕ SHEAR STRENGTH nat V. + Q - ● Cu, kPa rem V. ⊕ U - O WATER CONTENT PERCENT DESCRIPTION **INSTALLATION** DEPTH -0<sup>W</sup> Wp H – w (m) 40 60 80 10 20 30 40 GROUND SURFACE 204.00 C ASPHALT (265 mm thick) 0.00 1A 203.74 AS -Crushed granular; brown 0,26 1B 203.49 FILL - (SP-SM) gravelly SAND, some 0.5 fines; brown; non-cohesive, moist, compact 2 SS 12 202.63 FILL - (CL-ML) gravelly SILTY CLAY-CLAYEY SILT and SAND; brown, containing asphalt pieces; cohesive, w>PL, stiff ss 0 11 3 \_\_\_\_\_ January 29, 2021 2 4 SS 15 201.10 2.90 (CL) SILTY CLAY and SAND, some 3 gravel; grey (TILL); cohesive, w~PL to w<PL, very stiff to hard YORKIMAJOR\_MACKENZIE\_DRIVE\02\_DATA\GINTMARKHAM\_WARDEN&KENNEDY\_RD.GPJ\_GAL-MIS.GDT\_4/5/21 5 SS 21 мн Bentonite 4 Auger - Auger grinding between depths of 4.3 m and 4.4 m B57 Truck Mount Sten SS 50/ 6 Hollow 5 0.0 8 6 0 7 SS 56 7 10.21 Sand ss 49 8 8 Screen S:\CLIENTS\REGION\_OF 9 9 SS 70 0 Sand 194.25 9.75 END OF BOREHOLE 10 CONTINUED NEXT PAGE GTA-BHS 001  $\Diamond$ DEPTH SCALE GOLDER LOGGED: YS 1:50 CHECKED: TO

#### LOCATION: N 4861907.72; E 635019.68

### **RECORD OF BOREHOLE: KS1** BORING DATE: January 20, 2021

SHEET 2 OF 2

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DATUM: Geodetic HAMMER TYPE: AUTOMATIC

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE				MPL		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s			Т	μĞ	PIEZOMETER		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	ТҮРЕ	BLOWS/0.3m	SHEAI Cu, kP	L R STREI a	NGTH	⊥ nat V. + rem V. ⊕		Wp	ATER C			W	ADDITIONAL LAB. TESTING	OR STANDPIPE INSTALLATION
			Ś	+	-	-	<u>ш</u>	2	0	40	60 ε	30 	1	0 2	:0 3	30 ∠ 	40	-	
- 10		CONTINUED FROM PREVIOUS PAGE NOTES:																	
		1. Water encountered at a depth of 9.0 m during drilling.																	
		2. Groundwater level was measured in monitoring well at a depth of 2.0 mbgs (El. 202m) on January 29, 2021.																	
- 11																			
- 10																			
- 12																			
- 13																			
15																			
- 14																			
- 15																			
- 16																			
- 17																			
•																			
— 18																			
- 14 - 14 - 15 - 15 - 16 - 17 - 17 - 18 - 19 - 19																			
— 19																			

GTA-BHS 001 S:\CL DEPTH SCALE 1 : 50

20

🚯 GOLDER

CHECKED: TO

#### LOCATION: N 4862189.80; E 634962.05

### RECORD OF BOREHOLE: KS2 BORING DATE: January 4, 2021

SHEET 1 OF 2

DATUM: Geodetic

METRES	L L							k, cm/s	1175	PIEZOMETER
'	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	BLOWS/0.3m	20         40         60         80           SHEAR STRENGTH Cu, kPa         nat V. + Q - € rem V. ⊕ U - C         Q - €           20         40         60         80	10 <sup>-6</sup> 10 <sup>-5</sup> 10 <sup>-4</sup> 10 <sup>-3</sup> WATER CONTENT PERCENT           Wp           0         0         W           10         20         30         40	ADDITIONAL LAB. TESTING	STANDPIPE INSTALLATION
0		GROUND SURFACE Crushed granular; brown		209.30						
		FILL - (SM) SILTY SAND, trace gravel:		208.95 0.35	1A A	s -				
		brown; non-cohesive, moist		208.54	1B					
1		FILL - (CL-ML) gravelly SILTY CLAY-CLAYEY SILT and SAND; brown; cohesive, w <pl, stiff<="" td=""><td></td><td>0.76</td><td>2 S</td><td>S 8</td><td></td><td>0</td><td></td><td></td></pl,>		0.76	2 S	S 8		0		
		FILL - (ML) sandy SILT; brown; non-cohesive, wet, compact		207.93 1.37	_					
					3 S	S 14				 January 29, 2021
2		(ML) SILT and SAND, trace gravel;	414	207.17						
		brown (TILL); non-cohesive, moist, very dense	<u>4</u> .4.4		4 S	S 65		0	мн	
			4 A A A		_					Bentonite
3			444		_					
			4444		5 S	S 85				
			4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4							
4	ger	(CL) SILTY CLAY and SAND, some		205.26						
1	200 mm O.D. Hollow Stem Auger	gravel; grey (TILL); cohesive, w <pl, hard</pl, 								
Truck Mount	Hollow 3				6 S	S 54		0		
5	- /cg									
	200 m									
										Sand
6					_					
					7 S	S 91				
7										
					-					Screen
8					8 S	S 92		0		
9										
		END OF BOREHOLE		200.03 9.27	9 S	s 50/				Sand
		NOTES:		3.21						
		1. Borehole was open and dry upon completion of drilling.								
10		CONTINUED NEXT PAGE		†	-†	1-	+	+ + +-		

PROJECT:	20146456

#### RECORD OF BOREHOLE: KS2 LOCATION: N 4862189.80; E 634962.05

SHEET 2 OF 2

DATUM: Geodetic

L L	DOH	SOIL PROFILE	1	1	SA	MPL	_	DYNAMIC F			),		k, cm/s			T	AL	PIEZOMETER
METRES	BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	ТҮРЕ	BLOWS/0.3m	20 SHEAR STR Cu, kPa	RENGTH	nat V. + rem V.⊕		Wp		L ONTENT O <sup>W</sup>		WI	ADDITIONAL LAB. TESTING	OR STANDPIPE INSTALLATION
10	_	CONTINUED FROM PREVIOUS PAGE	S				Ē	20	40	<u>60 8</u>	30	10	. 2	:0 :	30	40		
10 -		2. Groundwater level was measured in monitoring well at a depth of 1.7 mbgs (El. 207.6m) on January 29, 2021.																
12																		
13																		
14																		
15																		
16																		
17																		
17 18 19 20 DEF 1 : 5																		
19																		
20 DEF	PTH S	CALE						G									L0	GGED: YS

BORING DATE: January 4, 2021

#### LOCATION: N 4862378.69; E 634920.57

### RECORD OF BOREHOLE: KS3

SHEET 1 OF 1

DATUM: Geodetic

HAMMER TYPE: AUTOMATIC

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

BORING DATE: January 4, 2021

i	0	SOIL PROFILE			SAN	IPLES	DYN RES	AMIC PE	NETRAT	ON 5/0.3m	$\overline{)}$	HYDRAL	JLIC Co k, cm/s	ONDUCT	IVITY,	T	10	
METRES	BORING METHOD		PLOT		н			20	40	60	30	10-6	<sup>3</sup> 10	0 <sup>-5</sup> 1	0 <sup>-4</sup> 1	o-₃ ⊥	ADDITIONAL LAB. TESTING	
MET	SING	DESCRIPTION	STRATA PLOT	ELEV.	NUMBER	TYPE BLOWS/0.3m	SHE. Cu, k	AR STRE Pa	NGTH	nat V.  + rem V. €	Q - O	WA		ONTENT				STANDPIPE INSTALLATION
i i	BOF		STR/	(m)	ž	BLO					30	Wp   10				WI 10	⊲ ⊴	
0		GROUND SURFACE		214.70														
0		Crushed granular; brown		0.00	1A													-
				214.29		AS -												
		FILL - (SM) SILTY SAND, trace gravel; brown; non-cohesive, moist		0.41	1B								0				м	-
		FILL - (CL) SILTY CLAY and SAND, some gravel; dark brown; cohesive,		0.70														
1		w>PL, firm			2	SS 7												
				213.33														-
		(CL) SILTY CLAY and SAND, some gravel; grey (TILL); cohesive, w <pl,< td=""><td></td><td>1.37</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></pl,<>		1.37														
		very stiff to hard			3	SS 27						0						
2																		-
					4	SS 60												-
							1											▏
3		(SM) SILTY SAND, some gravel; brown		211.80 2.90														Bentonite -
Ĩ		(TILL); non-cohesive, moist, very dense			<u> </u>	SS 50/												▏
	uder				5 :	SS 0.13	3					0						▏
	Stem A						1											
	JIOW S						1											
4	B57 Truck Mount O.D. Hollow Stem Auger	(CL) SILTY CLAY and SAND, some gravel; grey (TILL); cohesive, w <pl,< td=""><td></td><td>210.66 4.04</td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></pl,<>		210.66 4.04			1											
	200 mm O	gravel; grey (TILL); cohesive, w <pl, hard</pl, 																
	200					96												-
					6	SS 0.2	5											
5																		
																		-
6																		Sand Z
					7	SS 50/						0						
						0.1	3											
7																		Screen
							1											
							1											
					8	ss 50/												Sandawaa aa aasa
8		END OF BOREHOLE	<u>P</u>	206.80		0.1	3											Saudnuary 29, 2021
0		NOTES:					1											
							1											1
		1. Borehole was open and dry upon completion of drilling.					1											
		2. Groundwater level was measured in monitoring well at a depth of 7.7 mbgs					1											
9		(El. 206.9m) on January 29, 2021.																
																		1
							1											
10							1											-
																		1
DE	этн	SCALE						$\sim$	\ I F	、 ー ·	h						Ŀ	OGGED: YS
1:4								GC		ノヒー	<b>≺</b>							IECKED: TO

GTA-BHS 001 SICLIENTSIREGION OF YORKIMAJOR MACKENZIE DRIVE\02 DATAIGINTIMARKHAM WARDENSKENNEDY RD.GPJ GAL-MIS.GDT 4/5/21

#### LOCATION: N 4862601.12; E 634875.39

#### RECORD OF BOREHOLE: KS4 BORING DATE: January 18, 2021

SHEET 1 OF 2

DATUM: Geodetic

HAMMER TYPE: AUTOMATIC

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m HYDRAULIC CONDUCTIVITY, k, cm/s SOIL PROFILE SAMPLES BORING METHOD ADDITIONAL LAB. TESTING DEPTH SCALE METRES PIEZOMETER STRATA PLOT 40 60 80 10<sup>-6</sup> 10<sup>-5</sup> 10-4 10<sup>-3</sup> OR BLOWS/0.3m 20 NUMBER STANDPIPE ELEV. ТҮРЕ SHEAR STRENGTH nat V. + Q - ● Cu, kPa rem V. ⊕ U - O WATER CONTENT PERCENT DESCRIPTION INSTALLATION DEPTH -0<sup>W</sup> Wp - w (m) 40 60 80 10 20 30 40 GROUND SURFACE 218.70 C Crushed granular; brown 0.00 AS 1 -218.28 FILL - (SM) SILTY SAND, trace gravel; 0.42 brown; non-cohesive, moist, loose 2 SS 6 217.33 FILL - (CI) SILTY CLAY, some sand; brown; cohesive, w>PL, firm ss 0 3 7 2 216.57 FILL - (SM) SILTY SAND, tarce gravel; 2.13 brown; non-cohesive, moist, loose 4 SS 6 215.80 (SM) SILTY SAND, fine; brown; 3 non-cohesive, moist to wet, very dense 5 SS 61 0 мн 4 SS 50/ B57 Truck Mount 6 Hollow: 5 Bentonite Ö 200 mn 6 7 SS 73 0 \_\_\_\_\_ January 29, 2021 7 - 0.3m thick sand blowout was observed at 7.6 m ss 50 8 8 9 - 0.9m thick sand blowout was observed SS 50/ 9 at 9.1 m 10 CONTINUED NEXT PAGE  $\Diamond$ DEPTH SCALE GOLDER LOGGED: YS

1 : 50

GTA-BHS 001

S:ICLIENTSIREGION OF YORKIMAJOR MACKENZIE DRIVEI02 DATAIGINTIMARKHAM WARDEN&KENNEDY RD.GPJ GAL-MIS.GDT 4/5/21

CHECKED: TO

PROJECT:	20146456
LOCATION:	N 4862601.12; E 634875.39

### RECORD OF BOREHOLE: KS4

BORING DATE: January 18, 2021

SHEET 2 OF 2

DATUM: Geodetic

		PT HAMMER: MASS, 64kg; DROP, 760mm	1											ONDUCT			R TYPE: AUTOMA	ATIC
DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE	F		+	AMPL	1	DYNAMIC PE RESISTANC			"'、	10	k, cm/s	0 <sup>-5</sup> 10				
ETRE	IG ME	DESCRIPTION	STRATA PLOT	ELEV.	_1 📟	ТҮРЕ	BLOWS/0.3m	20 SHEAR STR	40 ENGTH		80 · Q - ●	I		1 1	PERCENT			PIPE
ΠΣ	ORIN		FRAT/	DEPTH (m)	<sup>I</sup> NON	μ	,row	SHEAR STR Cu, kPa		rem V. €	U-Õ	Wp	I			ADE		AHON
	-	CONTINUED FROM PREVIOUS PAGE	ی ا	(,	-		8	20	40	60	80	1	) :	20 30	) 40			
10		(SM) SILTY SAND, fine; brown;		1	+													
		non-cohesive, moist to wet, very dense																
		- 1.5m thick sand blowout was observed at 10.7 m			10	ss	50											
11						55	50											
12																		
													~					
					11	SS	65						0				Bentonite	
	der					1												
13	Fruck Mount Hollow Stem Auder			1														
	B57 Truck Mount																	
	B57 Tru																	
					12	ss	50/ 0.13											
14	200				$\vdash$		0.13											
15																	Sand	10.N
					$\vdash$													276.3
					13	SS	90							0				18. N
16																	Screen	20 X
																		10.X0
																		200
		END OF BOREHOLE		201.9		+												Z
17		NOTES:																
		1. Water was encountered at a depth of 4.6 m during drilling.																
		<ol> <li>Sand blowout was cleaned out using</li> </ol>																
		water prior to advancing augers.																
18		3. Groundwater level was measured in monitoring well at a depth of 6.6 mbgs (El. 211.6m) on January 29, 2021.																
		4. SPT N-value could not be carried out at 16.7mbgs due to a 1.5m sand																
		blowout. The sand could not be completely cleaned out during drilling.																
19																		
20																		
	1	1	1	1	1					1	1							
		SCALE						G	DLI	DEI	R						LOGGED: YS	
1:	50															(	CHECKED: TO	

5

#### LOCATION: N 4862815.63; E 634829.53

### **RECORD OF BOREHOLE: KS5**

SHEET 1 OF 1

DATUM: Geodetic

BORING DATE: January 15, 2021

	/DCF	PT HAMMER: MASS, 64kg; DROP, 760mm															HAM	MER T	YPE: AUTOMATIC
	Q	SOIL PROFILE			SA	MPL	ES	DYNAI RESIS	/IC PEN TANCE,	ETRAT BLOW	ION S/0.3m	~	HYDR,	AULIC C k, cm/s	ONDUCT	IVITY,	Т	<sup>D</sup> L	PIEZOMETER
METRES	BORING METHOD		STRATA PLOT		<u>ب</u>		3m	2	0 4	0	60	80				0 <sup>-4</sup> 10	<sub>)³</sub> ⊥	ADDITIONAL LAB. TESTING	OR
MET	SING	DESCRIPTION	ATA F	ELEV. DEPTH	NUMBER	TYPE	BLOWS/0.3m	SHEAF Cu, kP	R STREN a	IGTH	nat V. + rem V. €	- Q- O			ONTENT			DDIT B. TE	STANDPIPE INSTALLATION
	BOR		STR/	(m)	ž	Ľ	BLO	2				80			0 <sup>W</sup>		MI 0	٩J	
		GROUND SURFACE		221.30					-		Ī								
0		ASPHALT (280 mm thick)		0.00	)														
		Crushed granular; brown	<b>***</b>	221.02 0.28	1A	AS	_												
		FILL - (SP) SAND, some gravel, trace fines; brown; non-cohesive, moist		0.41	1B	~~	-												
		(CI) SILTY CLAY, some sand; brown;		220.54	4														
1		cohesive, w>PL, stiff to very stiff			2	ss	9								0				
																			-
					3	SS	24												
2				219.17	.—	-													-
		(SP) SAND, trace fines; brown;		2.13	5														
		non-cohesive, moist to wet, very dense																	
					4	SS	65						0						
						1													
3																			-
					5	SS	56												
	B57 Truck Mount 150 mm O.D. Hollow Stem Auger																		
	Stem																		
1	B57 Truck Mount O.D. Hollow Stem																		
4	L H																		-
ľ	96   E																		
	150 n																		
					6	ss	83						0						
						-													
5																			
6																			
Ŭ					7		50/												
					Ľ	SS	50/ 0.13												
7																			_
							50/												
ļ			Ľ.	213.43	8	SS	50/ 0.10							0					
8		END OF BOREHOLE		7.87															-
		NOTE:																	
		1. Borehole was open and dry upon completion of drilling.																	
												1							
9																			-
												1							
												1							
																			-
10																			

GOLDER

GTA-BHS 001 S:/CLIENTSIREGION OF YORKIMAJOR\_MACKENZIE DRIVE/02 DATA/GINTIMARKHAM WARDEN&KENNEDY RD.GPJ GAL-MIS.GDT 4/5/21 DEPTH SCALE 1 : 50

LOGGED: YS

CHECKED: TO

#### LOCATION: N 4863022.33; E 634786.84

### RECORD OF BOREHOLE: KS6 BORING DATE: January 22, 2021

SHEET 1 OF 1

DATUM: Geodetic

				1	-				N	<u> </u>			דסיייסואר				
DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE	- <b>I</b> -		SAM	IPLES	DYNAMIC PEN RESISTANCE,	BLOWS/	0.3m	L.		AULIC CO k, cm/s	JNDUCT	IVILY,	T	μģ	PIEZOMETER
SES SES	MET		PLOT		<u>بر</u>	<u>a</u>	20 4	40 6			1	0 <sup>-6</sup> 10	) <sup>5</sup> 10	)-4 1	0-3 ⊥	ADDITIONAL LAB. TESTING	OR
E E	DNG	DESCRIPTION	TΑΡ	ELEV.	NUMBER	TYPE DWS/0.		NGTH n	at V. + m V. ⊕	Q-•	w	ATER CO			NT		STANDPIPE
5	OR		STRATA F	DEPTH (m)	ĨN   Í	TYPE BLOWS/0.3m	Cu, kPa	re	an v. ⊕	u- U	Wp	⊳ <b>I</b>	-0 <sup>W</sup>		W	Fa	
	ш		SI	···/		B	20 4	40 6	) 8	0	1	0 2	0 3	0 4	10		
0		GROUND SURFACE		222.30		_											
		ASPHALT (140 mm thick) Crushed granular with RAP; brown		0.00													
		-			1A												
		FILL - (SP) SAND, some gravel, trace fines: brown; non-cohesive, moist		0.42		AS -											
		mes. brown, non-conesive, moist			1B												
		FILL - (CL) SILTY CLAY, some sand;		221.45 0.85		SS 13											
1		brown; cohesive, w>PL, stiff			2B												
				220.93													
		(ML) SILT and SAND, some gravel; brown (TILL); non-cohesive, moist,		1.37													
		compact to dense	9 A 9 P														
					3 8	SS 19						0					
2				]													
				:1 L													
					4 5	SS 37											
				'i	4	30 31											
				i t													
3				:1 L													
						SS 37					0						
	Iger			1	5	30 31										мн	
	lount Stem Auger																
	B57 Truck Mount n O.D. Hollow Stem.																
4	ruck bllov			218.26													
'	357 T	(SM) SILTY SAND, some gravel; brown; non-cohesive, moist, very dense		4.04													
		non-conesive, moist, very dense															
	150 1			:													
				·1	6 5	SS 84											
_				-] -													
5																	
				1													
6				1													
				1	7 8	SS 70					0						
				;  F													
7				:													
				1													
				]													
				. 214.40	8 5	SS 50/ 0.13											
8		END OF BOREHOLE		7.90		$\top$											
		NOTE:															
		1. Borehole was open and dry upon completion fo drilling.															
		2. RAP = Recycled asphalt pavement															
9																	
Ĵ																	
10																	
							G G G			_							
DEI	PTH 8	SUALE				Ň				כ						LO	GGED: JL

PROJECT:	20146456

#### LOCATION: N 4863216.48; E 634749.77

#### RECORD OF BOREHOLE: KS7 BORING DATE: January 19, 2021

SHEET 1 OF 1

DATUM: Geodetic

HAMMER TYPE: AUTOMATIC

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m HYDRAULIC CONDUCTIVITY, k, cm/s SOIL PROFILE SAMPLES BORING METHOD ADDITIONAL LAB. TESTING DEPTH SCALE METRES PIEZOMETER STRATA PLOT 60 80 10<sup>-6</sup> 10<sup>-5</sup> 10-4 10<sup>-3</sup> OR BLOWS/0.3m 20 40 NUMBER STANDPIPE ELEV. ТҮРЕ SHEAR STRENGTH Cu, kPa nat V. + Q - ● rem V. ⊕ U - O WATER CONTENT PERCENT DESCRIPTION INSTALLATION DEPTH -OW Wp H – w (m) 60 80 10 20 30 40 GROUND SURFACE 223.00 C Crushed granular; brown 0.00 1 AS -222.43 0.57 FILL - (SP) SAND, some gravel, trace fines: brown; non-cohesive, moist, dense 2 SS 32 0 221.63 1.37 FILL - (CL) gravelly SILTY CLAY and SAND; dark grey and brown, organic inclusions; cohesive, w>PL, stiff ss 3 11 2 220.87 \_\_\_\_\_ January 29, 2021 (CL) SILTY CLAY and SAND, some 2.13 gravel; brown; cohesive, w>PL, stiff 4 SS 10 t Bentonite 3 5 SS 11 B57 Truck Mount Ster Hollow 218.96 (SM) SILTY SAND; brown; 4.04 0 0 non-cohesive, wet, very dense 8 6 SS 58 0 5 Sand 6 7 SS 89 Screen  $\sim$ SS 50/ 0.13 0 8 Sand 215.10 7<u>.</u>90 END OF BOREHOLE 8 NOTES: 1. Water was encountered at a depth of 4.6 m during drilling. 2. Groundwater level was measured in monitoring well at a depth of 2.2 mbgs (El. 220.8m) on January 29, 2021. 9 10  $\Diamond$ DEPTH SCALE GOLDER LOGGED: JL

1:50

YORKIMAJOR\_MACKENZIE\_DRIVE/02\_DATA/GINT/MARKHAM\_WARDEN&KENNEDY\_RD.GPJ\_G4L-MIS.GDT 4/5/21

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GTA-BHS 001

CHECKED: TO

#### LOCATION: N 4863405.94; E 634706.26

### RECORD OF BOREHOLE: KS8 BORING DATE: January 22, 2021

SHEET 1 OF 2

DATUM: Geodetic

			R: MASS, 64kg; DROP, 760mm SOIL PROFILE			SA	MPLE	s	DYNAMIO RESISTA	PENET	RATIC	N ).3m	$\sum_{i=1}^{n}$	HYDRA	AULIC C k, cm/s	ONDUC	TIVITY,	T		
METRES	BORING METHOD		DESCRIPTION	STRATA PLOT	ELEV. DEPTH	NUMBER	түре	BLOWS/0.3m	20 SHEAR S Cu, kPa	40	6	) (	30 Q-● U- ○		D <sup>-6</sup> 1 ATER C	0 <sup>-5</sup> 1	0 <sup>-4</sup> 1 I I PERCE		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
	B	GROUND	SURFACE	STF	(m)	-	_	В	20	40	6	) 8	30					40 		
0			granular; brown		223.50 0.00 223.02	1A														Sand
		fines; bro	P) SAND, some gravel, trace wn; non-cohesive, moist ) SILTY CLAY, some sand,		223.02 0.48 222.65 0.85	1B 2A	AS	-												~,
1		trace grav	) SILTY CLAT, some sand, rel; dark grey and brown, clusions; cohesive, w>PL, stiff			2B	ss	13												
2						3	ss	9							(					
					220.60		SS	7												Bentonite
3			Y CLAY and SAND, trace own; cohesive, w>PL, firm		2,90		SS	7							юн				мн	
4	unt .	(CL) SILT gravel; br w <pl, ha<="" td=""><td>Y CLAY and SAND, some own to grey (TILL); cohesive, rd</td><td></td><td>219.46 4.04</td><td>6</td><td>SS</td><td>40</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td> January 29, 2021</td></pl,>	Y CLAY and SAND, some own to grey (TILL); cohesive, rd		219.46 4.04	6	SS	40												 January 29, 2021
5	B57 Truck N		ng grey at a depth of 5.6 m																	
6						7	SS	80						0						
7						8	SS	48												Grout
8																				Grout
9						9	SS	31						0						Grout
10	_ L				1	┝╺┤		-	+-	-	· — –	·				+		+		
DEF 1:{	этн	SCALE		1	1				¢ G	0		E	י א			1	<u>I</u>	1	L	DGGED: JL

		T: 20146456 DN: N 4863405.94; E 634706.26		RE	:C			OF BOREHOLE: KS8		SHEET 2 OF 2 DATUM: Geodetic
SPT/	DCP	PT HAMMER: MASS, 64kg; DROP, 760mm	1			-			HAMMER .	TYPE: AUTOMATIC
	BORING METHOD	SOIL PROFILE	A PLOT	ELEV. DEPTH (m)	1BER	AMPL	Зm	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m         HYDRAULIC CONDUCTIVITY, k, cm/s           20         40         60         80         10 <sup>-5</sup> 10 <sup>-4</sup> 10 <sup>-3</sup> SHEAR STRENGTH Cu, kPa         nat V. + Q - O rem V. ⊕ U - O         WATER CONTENT PERCENT         WATER CONTENT PERCENT           20         40         60         80         10         20         30         40		
	-	CONTINUED FROM PREVIOUS PAGE			$\vdash$	+	-			
	200 mm C.D. Hollow Stein Auger	<ul> <li>CONTINUED FROM PREVIOUS PAGE</li></ul>		206.41 17.09	11 12 13 13	ss ss	50/ 0.07			Grout
DEP1		SCALE						GOLDER		LOGGED: JL HECKED: TO

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#### LOCATION: N 4863597.66; E 634660.05

#### RECORD OF BOREHOLE: KS9 BORING DATE: January 28, 2021

SHEET 1 OF 2

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m HYDRAULIC CONDUCTIVITY, k, cm/s SOIL PROFILE SAMPLES BORING METHOD ADDITIONAL LAB. TESTING DEPTH SCALE METRES PIEZOMETER STRATA PLOT 40 60 80 10<sup>-6</sup> 10<sup>-5</sup> 10-4 10<sup>-3</sup> OR BLOWS/0.3m 20 NUMBER STANDPIPE ELEV. ТҮРЕ SHEAR STRENGTH nat V. + Q - ● Cu, kPa rem V. ⊕ U - O WATER CONTENT PERCENT DESCRIPTION **INSTALLATION** DEPTH -0<sup>W</sup> Wp - w (m) 40 60 80 10 20 30 40 GROUND SURFACE 222.90 C Crushed granular; brown 0.00 14 222.48 AS -FILL - (SP) SAND, some gravel, trace 0.42 1B fines; brown; non-cohesive, moist 222.17 0.73 FILL - (CL) gravelly SILTY CLAY and SAND; brown and black, organic inclusions; cohesive, w<PL, stiff to very 2 SS 28 0 stiff SS 10 3 2 220.77 2.13 (SM) SILTY SAND; brown; non-cohesive, moist to wet, compact to dense 4 SS 19 3 S.ICLIENTSIREGION\_OF\_YORKIMAJOR\_MACKENZIE\_DRIVE\02\_DATAIGINTIMARKHAM\_WARDEN&KENNEDY\_RD.GPJ\_GAL-MIS.GDT\_4/5/21 5 SS 29 4 B57 Truck Mount 6 SS 42 0 Hollow: 5 Bentonite Ö 200 mn 6 7 SS 35 \_\_\_\_\_ January 29, 2021 7 8 SS 31 0 8 214.29 8.61 (CL) SILTY CLAY and SAND, some gravel; grey (TILL); cohesive, w>PL, very stiff 9 9 ss 19 10 CONTINUED NEXT PAGE GTA-BHS 001  $\Diamond$ DEPTH SCALE GOLDER LOGGED: YS 1:50 CHECKED: TO

#### LOCATION: N 4863597.66; E 634660.05

### RECORD OF BOREHOLE: KS9 BORING DATE: January 28, 2021

SHEET 2 OF 2

DATUM: Geodetic

	4	ADH HOU	SOIL PROFILE	1.		SA	MPLES	DYNAMIC PENE RESISTANCE, I	TRATION BLOWS/0.3m	) (	HYDRAULIC CONE k, cm/s		T da	PIEZOMETER
DEPTH SCALE METRES		BORING METHOD	DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE BLOWS/0.3m	20 4 SHEAR STREN Cu, kPa 20 4	GTH nat V. rem V.	80 + Q - ● ⊕ U - O 80	10 <sup>-6</sup> 10 <sup>-5</sup> WATER CONT Wp	10 <sup>-4</sup> 10 <sup>-3</sup> ENT PERCENT ⊖ <sup>W</sup> WI 30 40	ADDITIONAL LAB. TESTING	OR STANDPIPE INSTALLATION
10			CONTINUED FROM PREVIOUS PAGE (CL) SILTY CLAY and SAND, some gravel; grey (TILL); cohesive, w>PL, very stiff											
11	ck Mount	Hollow Stem Auger	(ML) SILT and SAND, some gravel; grey (TILL); non-cohesive, moist, compact	A TAN AN A	<u>211.24</u> 11.66		SS 18 SS 25				0			Bentonite
13	B57 Truck Mount	200 mm O.D. Holl	(SM) SILTY SAND and GRAVEL; grey; non-cohesive, wet, very dense		209.72 13.18	12	SS 52				o			Sand A
15		-	(CL) SILTY CLAY and SAND, some gravel; grey (TILL); cohesive, w <pl, hard END OF BOREHOLE</pl, 		208.19 14.71 207.38 15.52	13	SS 50/ 0.13							Screen
16			NOTES: 1. Water was encountered at a depth of 6.1 m during drilling 2. Groundwater level was measured in monitoring well at a depth of 7.0 mbgs (EI. 215.9m) on January 29, 2021											
18														
19														
20														
DE	PT	ΉS	CALE					S C O	LDE	D			L	OGGED: YS

PROJECT:	20146456

#### LOCATION: N 4863803.25; E 634615.91

### **RECORD OF BOREHOLE: KS10** BORING DATE: January 20, 2021

SHEET 1 OF 2

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC Y HYDRAULIC CONDUCTIVITY, тΙ 

, F	ТНОВ	SOIL PROFILE			SAI	MPLES			ENETRA E, BLOV		$\boldsymbol{\zeta}$		k, cm/s			T	NG	PIEZOMETER
METRES	BORING METHOD	DESCRIPTION		ELEV. DEPTH (m)	NUMBER	TYPE BI OWS/0.3m	SHE Cu,			nat V.  + rem V. €		w w	ATER C			WI	ADDITIONAL LAB. TESTING	OR STANDPIPE INSTALLATION
	8	GROUND SURFACE	ی ا			<u>م</u>	1	20	40	60	80		10 2 	20 3	30 ·	40		
0		ASPHALT (265 mm thick)		223.20 0.00			-											
				222.94														
		Crushed granular; brown FILL - (SP) SAND, some gravel, trace		0.26 222.75 0.45	1	AS -												
		fines; brown; non-cohesive, moist,		0.40														
		compact																
1					2	SS 1	1						0					
		FILL - (CL) gravelly SILTY CLAY and		221.94 1.26														
		SAND, brown; cohesive, w>PL, firm																
					3	ss s												
2																		
2																		
					4	ss 7							0					
				220.30														
3		(SM) SILTY SAND, fine; brown;		220.30														
		non-cohesive, moist to wet, compact to dense			5	SS 2	_											
					5	2	1											
																		Bentonite
4																		
	uger																	
	tem A																	
	k Mo				6	SS 4	7					0					мн	
_	7 Truc																	
5	B57 Truck Mount 200 mm O.D. Hollow Stem Auger																	
	200 m																	📕
																		📕
																		📕
6																		_
					7	SS 3	2											_
																		_
7																		
																		Sand
					8	SS 2	3						0	7				 January 29, 2021
8																		
																		Screen
																		[4
9																		[4]
					9	SS 2	1											Sand
		END OF BOREHOLE		213.60 9.60		+	-											
		NOTES:																
10		CONTINUED NEXT PAGE	+		-+	-	-	· + -		-+	·	+		+	·	+	·	
DE	этн 8	SCALE						C		DEI	D						L	OGGED: YS
	50							9,0			r <b>i</b>						СН	ECKED: TO

PROJECT:	20146456
LOCATION:	N 4863803.25; E 634615.91

### RECORD OF BOREHOLE: KS10 BORING DATE: January 20, 2021

SHEET 2 OF 2

DATUM: Geodetic

HAMMER TYPE: AUTOMATIC

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

	Ē	дор	SOIL PROFILE			SAN	PLES	DYNA RESIS	MIC PEN STANCE,	ETRATI BLOWS	DN /0.3m	Z	HYDR,	AULIC Co k, cm/s	ONDUCT	IVITY,	Т	L G	PIEZOMETER
	DEPTH SCALE METRES	BORING METHOD		STRATA PLOT		к	.3m		20 4	10 E	50 8	80		0 <sup>-6</sup> 1	0 <sup>-5</sup> 10	D <sup>-4</sup> 10	<u>,</u> ⊥	ADDITIONAL LAB. TESTING	OR
	EPTH MET	SING	DESCRIPTION		EV. PTH	NUMBER	BLOWS/0.3m	SHEA Cu, kł	R STREI	r HTDI، r	natV.+ remV.⊕	Q - O	w		ONTENT	PERCE		B. TE	STANDPIPE INSTALLATION
	DE	BOF		STR/	n)	Z	BLO					80	VV		0 3		MI 0	۲A	
ľ	10		CONTINUED FROM PREVIOUS PAGE																
E	- 10		<ol> <li>Water was encountered at a depth of 7.6 m during drilling.</li> </ol>																-
ŀ																			-
Ē			2. Groundwater level was measured in monitoring well at a depth of 7.8 mbgs (El. 215.4m) on January 29, 2021																
ŀ																			-
F	- 11																		-
E																			-
ŀ																			-
E																			-
F	- 12																		
E																			-
ŀ																			-
F																			
ļ	- 13																		-
4/5/2																			
1 0 1																			-
MIS																			-
GAL	- 14																		-
GPJ																			-
å																			-
μEDΥ																			-
KEN	- 15																		-
DEN8																			-
NAR																			-
MA																			-
ARKH	- 16																		
Ϊ¥Υ																			-
AG																			-
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/E/02	- 17																		-
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GTA-BHS 001 SYCTIENTSREGION OF YORKMAJOR MACKENZIE DRIVE002 DATAKGINTMARKHAM WARDEN&KENNEDY RD.GPJ GALMIS.GDT 4/5/21									1	I	I	I		I	I				
FA-BH	DE 1 ·	PTH S	CALE				Q	S	GO		) E F	2							DGGED: YS
Ċ	1.13	PTH SCALE LOGGED: YS 50 CHECKED: TO																	

PROJECT: 20146456 LOCATION: N 4864045.36; E 634563.11

### RECORD OF BOREHOLE: KS11

BORING DATE: January 20, 2021

SHEET 1 OF 1

DATUM: Geodetic

SPT/DCPT HAMMER: MASS, 64kg; DROP, 760mm

HAMMER TYPE: AUTOMATIC

ц	0	;	SOIL PROFILE			S,	AMPL	ES	DYNAMIC PENETRA RESISTANCE, BLO	ATION NS/0.3m	ì	HYDRAULI k, c	C CONDU	CTIVITY,	Т	.0	
DEPTH SCALE METRES	BORING METHOD		DESCRIPTION	STRATA PLOT	ELE DEP	тΗВ	ТҮРЕ	BLOWS/0.3m	20 40 I I SHEAR STRENGTH Cu, kPa	60 I nat V. + rem V. €		10 <sup>-6</sup> WATE Wp <b>I</b>		10 <sup>-4</sup> 1 NT PERCE	w	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		+	GROUND SURFACE	ى ا	218	_		- <sup></sup>	20 40	60	80	10	20	30 4	10		
· 0			Crushed granular; brown		0	1.00						0					
			FILL - (SP) SAND, some gravel, trace fines; brown; non-cohesive, moist ASPHALT (240 mm thick)		218 0 218 0 217	.30 19 18	- AS	-								м	
1			FILL - (CL) gravelly SILTY CLAY and SAND, black and brown, containing rootlets and organic inclusions; cohesive, w~PL to w>PL, stiff to soft		0	.75	ss	12									
2						3	ss	13				0					
						4	ss	3									
3							-										Bentonite
	Mount	O.D. Hollow Stem Auger				5	ss	4				0					
4	B57 Truck Mount	200 mm O.D. Hollov	(CL) SILTY CLAY and SAND, some gravel; grey (TILL); cohesive, w <pl, hard</pl, 		214 4	.66											
5		200	na u			6	ss	39									
6																	Sand
						7	ss	50/ 0.07				0					
7																	Screen
			END OF BOREHOLE		210 7	.98 8	ss	50/ 0.10									Sand
8			NOTES: 1. Water was encountered at a depth of 2.3 m during drilling.														
9			2. Groundwater level was measured in monitoring well at a depth of 2.5mbgs (El. 216.2m) on January 29, 2021														
· 10																	
DEI 1:		-1 S(	CALE		1		<u> </u>		GOL	DE	R	<u>   </u>					I OGGED: YS IECKED: TO



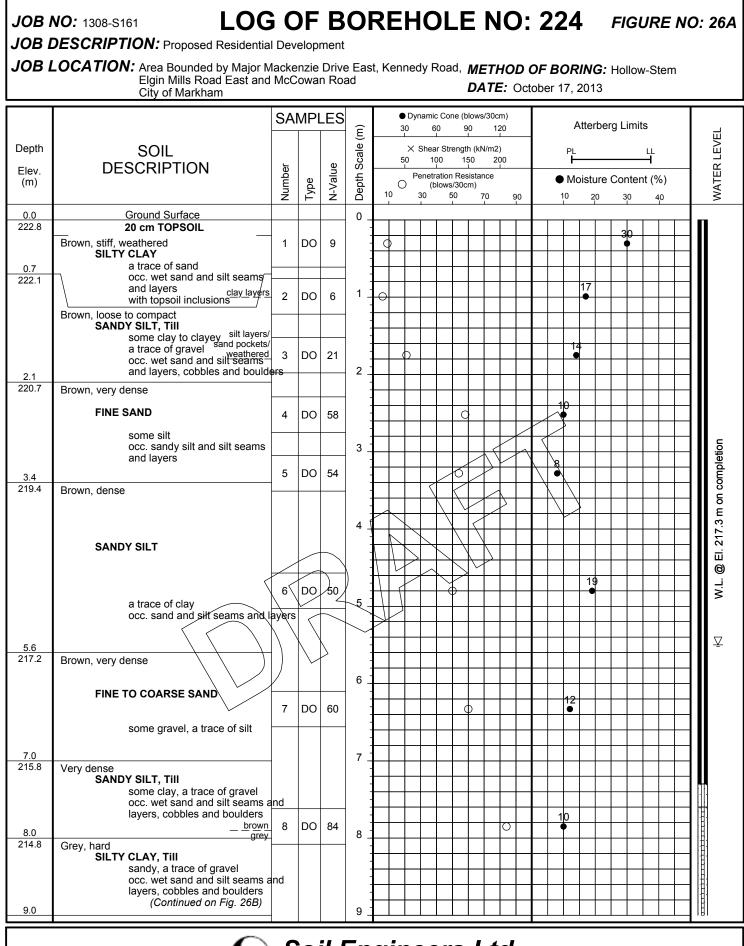
H.J. Bernsido & Assenzatos Lumnod 15 Tawaikas, Drangeville, Ortimo LSW 2R4 teleptune (519) 841-8331 Tax (518) 941-8120

## LOG OF DRILLING OPERATIONS

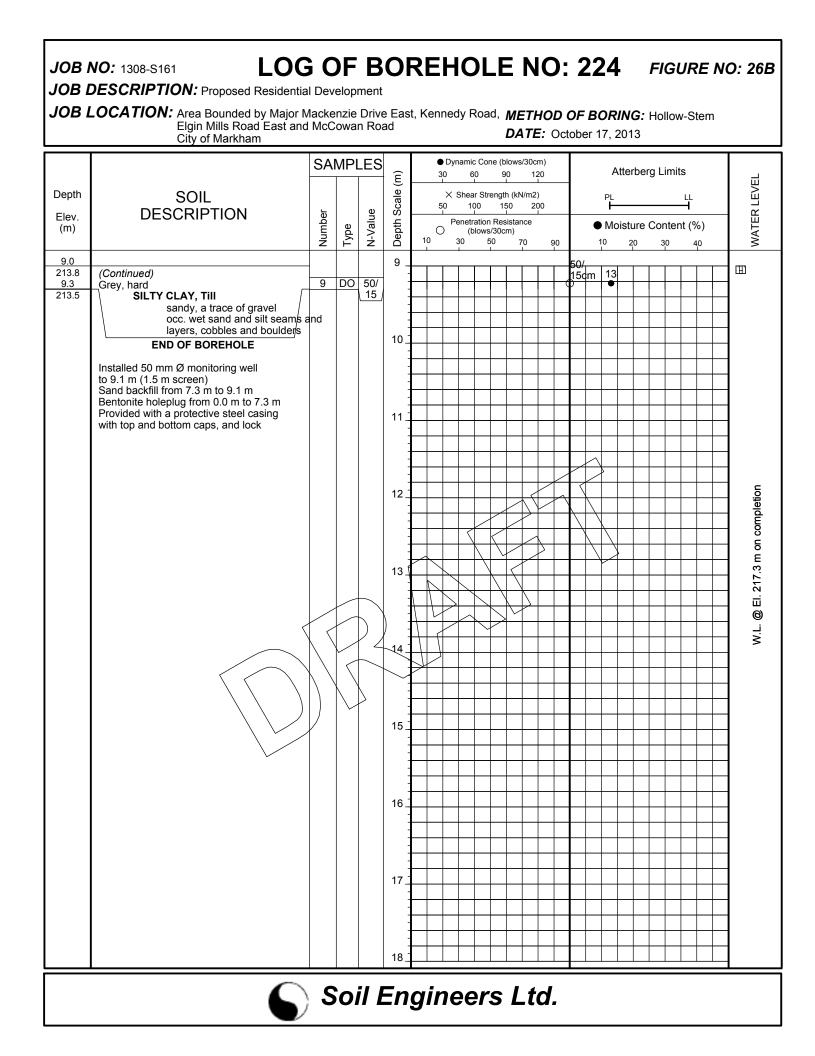
### <u>RJB9</u>

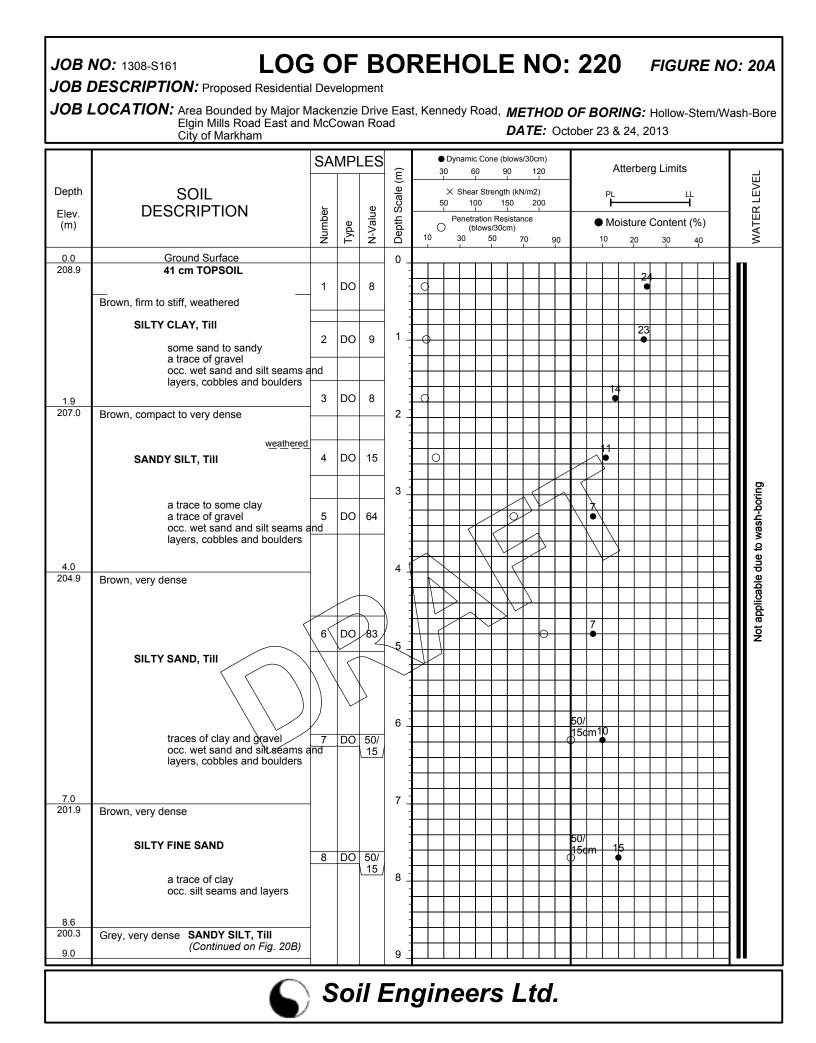
Page\_1\_ of \_1\_

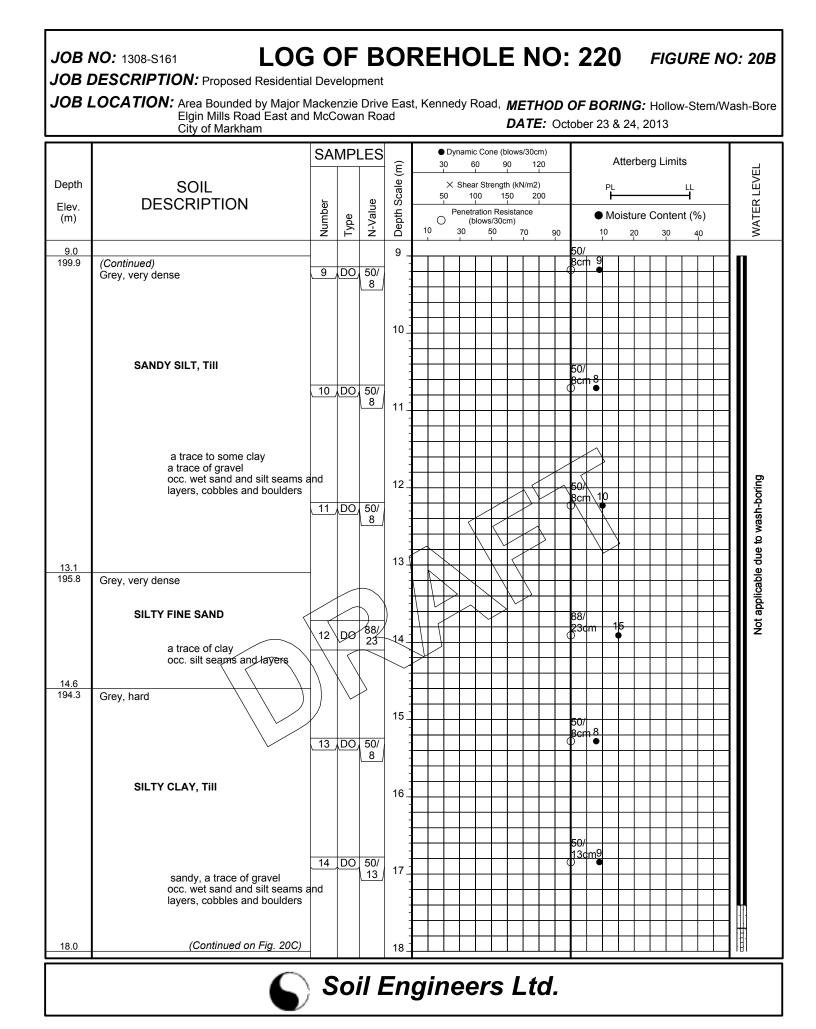
ſ	Clie	nt:	North Markham Lando	wners Gro	up	Project Name:	North M	/larkhan	n			Logged by	/:	D. W	eir			
Ī			No.: <b>PTN14385.0</b>		-	•	kham					Ground (m			220.0	00		
	Drill	ing C	co.: Lantech Drilling S	ervices Inc.	.	Date Started:	6/5/200	8				Static Wat	ter Le	evel (ı	m am	nsl): 🕻	213.8	2
	Drill	ing N	lethod: Hollow Stem	Auger	I	Date Completed	6/5/2	2008				Sand Pack	k (m a	amsl)	): <b>2</b>	14.21	- 21	2.38
	De Sc	pth ale	Stratig	raphic Des	cription		Strat. Plot	Elev. Depth	F		]		Num.	Type SA	IPLE I	N.Val.	Dep Sca	
	(ft)	(m)	Surface Elevation (m)		220.		0,	(m)					ž	Ţ		ź	(ft)	(m)
		_	TOPSOIL silty sand brown, moist, comp	bact	-	~		- <u>219.39</u> 0.61					1	SS	$\ge$	11	_	-
	5.0-	— 1.0 —	SILTY SAND, trace rootlets, brown, mc	oist, compa	act		KXXXXX	- <u>218.63</u> _ 1.37					2	SS	X	18	5.0 —	- 1.0
	5.0-	- 2.0	SILTY SAND TILL, brown, moist, comp	bact	-			<u>217.87</u> 2.13					3	SS	$\boxtimes$	17	5.0 -	- 2.0
5/25/09	_	-	SILTY SAND, trace moist, very dense	e gravel, bi	rown, o	xidized,		-			benton	ite seal	4	SS	$\ge$	98/20cm	-	-
TE.GDT	10.0-	- 3.0						_			benton		5	SS	$\mathbf{X}$	50/3cm	10.0 —	- 3.0
TEMPLA	_	- 4.0						_					6	SS	$\ge$	50/10cm	-	- 4.0
GS.GPJ	15.0-	— — 5.0						_					7	SS	$\ge$	50/5cm	15.0 —	- 5.0
HOLE LO	_	-						-					8	SS	$\ge$	50/3cm	-	-
M BORE	20.0-	— 6.0 —	- wet at 6.10 m					213.29	$\nabla$				9	SS	$\times$	50/5cm	20.0 -	- 6.0 -
<b>ARKHAI</b>	_	- 7.0	SAND, trace silt, br dense	own, oxidi	ized, w	et, very		213.29 6.71 -			.   silica si	and pack	10	SS	X	50/8cm	_	- 7.0
NORTH N	25.0-	— — 8.0						- - <u>211.77</u> 8.23	<u></u>	7.62	]		11	SS	X	50/5cm	25.0 -	- 8.0
BHLOG ORANGEVILLE F./STAFFUACKIE/PROJECTS/PTN14385 NORTH MARKHAM LANDS/BOREHOLE LOGS/NORTH MARKHAM BOREHOLE LOGS/GPJ TEMPLATE.GDT 5/26/09	Pre	pare	ed By: <b>J.Shaw</b>			Checked By:	J. Tł	nomps	on			Date P	repa	red:		1/5/2	008	
GEVILLE F:\S	This geo	bore techr	chole log was prepared thical assessment of the se by others.			and/or environm	ental pu	rposes a	and c			essarily conta	in info	orma	tion s	suitab	le foi	
<b>NRANC</b>	LEG	END		MONITORI	NG WEL	L DATA	SA	MPLE TY	/PE	AC [		Auger Cutting	SS		_	Split S	Spoon	
0.00.0			r found @ time of drilling	Pipe:	51 mm c	lia. PVC				cs [		Continuous	AF	_	_	Air Ro	-	
뷞	Ā	Static	: Water Level - 7/7/2008	Screen:	51 mm d	lia. PVC #10 slot				RC	<u>`^^^</u>	Rock Core	W	cĽ	Ľ ·	Wash	Cutti	ngs

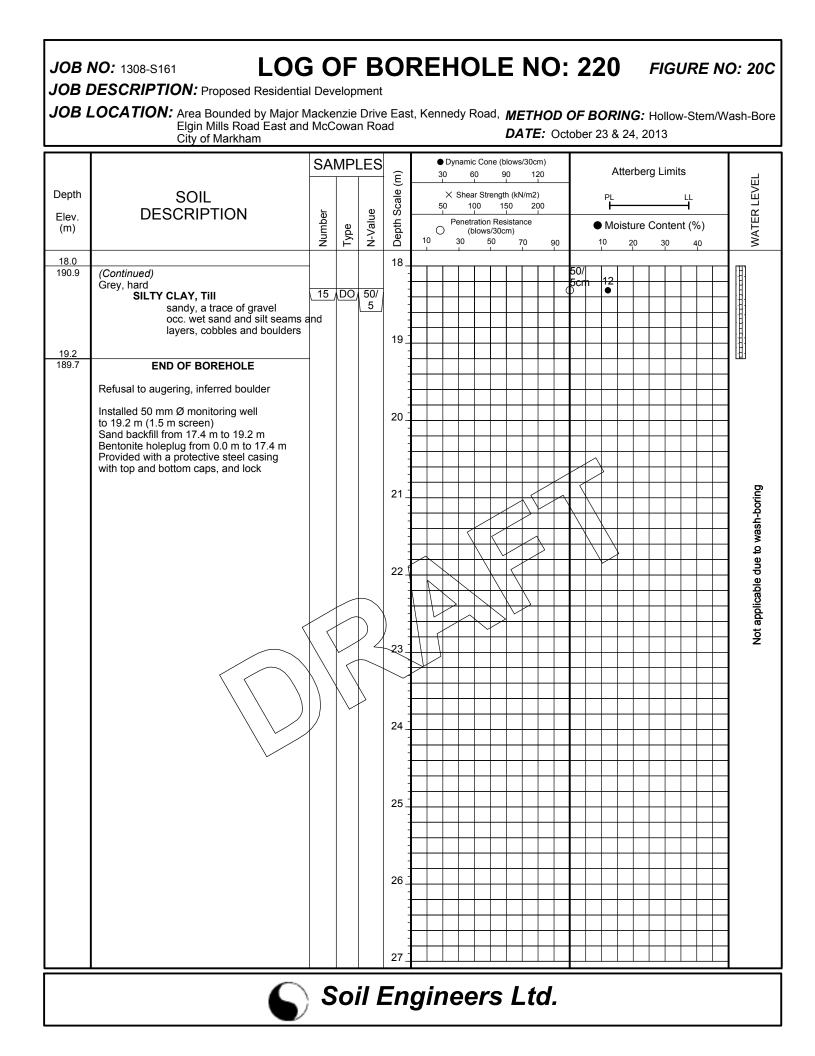


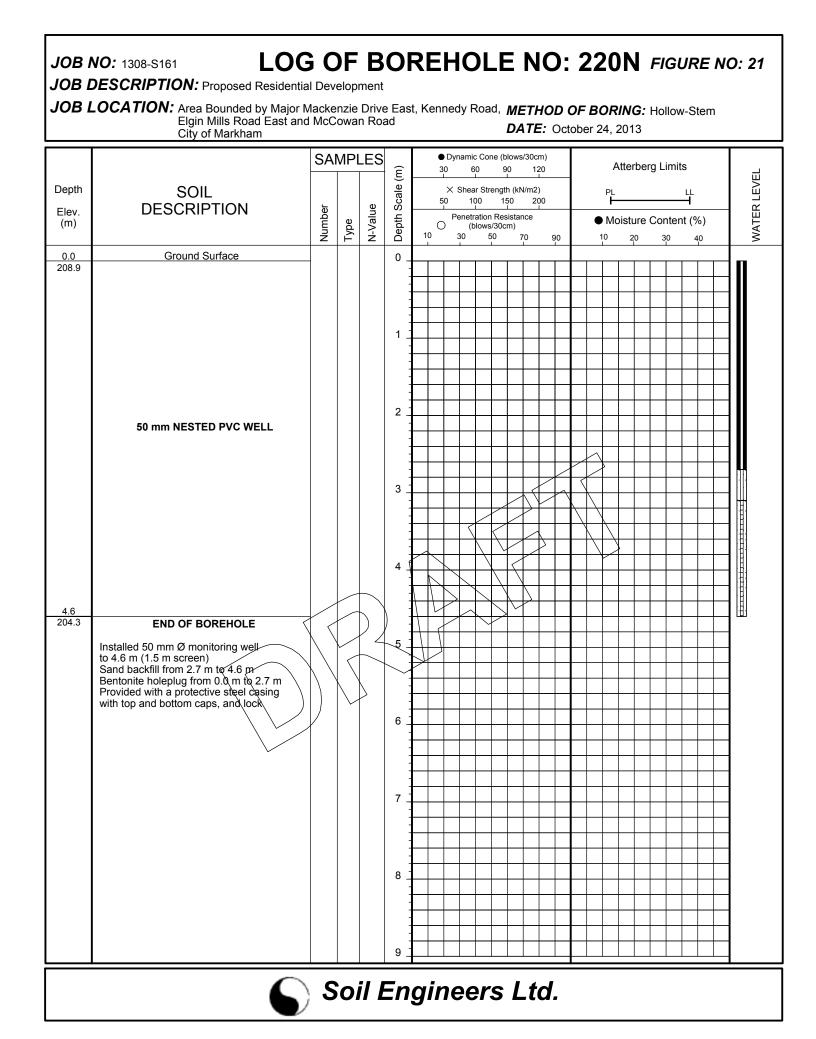
Soil Engineers Ltd.











# BURNSIDE

R.J. Burnside & Associates Limited 292 Speedvale Avenue West, Guelph, Ontario N1H 1C4 telephone (519) 823-4995 fax (519) 836-5477

## LOG OF DRILLING OPERATIONS

### AG-MW6D

Page 1 of 2

	Clie	ent:	Angus Glen Developments Inc.	Project Name: Ar	ngus	Glen M	IESP		Logged by	/:	I. Mur	rphy			
	Pro	ject I	No.: <b>300034937</b>	Location: Markh	am, (	ON			Ground (m	1 ams	sl): <i>:</i>	223.8	30		
	Drill	ling (	Co.: Lantech Drilling Services Inc.	Date Started: 3/1	18/20	15			Static Wat	er Le	vel D	)epth	ı (m):	6.78	3
	Drill	ling N	Method: PQ Coring	Date Completed:	3/18	/2015			Sand Pac	k Dep	oth (m	n) : <b>1</b>	4.32	- 17.9	98
	Do	pth				Floy		٦			SAM	PLE		Dei	.th
		ale	Stratigraphic Descriptio	n 🕴	Plot	Elev. Depth		$\neg$		Num.	Type	Int.		Dep Sca	
		(m)	Surface Elevation (m): 22	3.80	<i>"</i> –	(m)				Γ	$ \hat{-} $	-		(ft)	
	()		See MW6s-AG for stratigraphy						_					<u>, , , , , , , , , , , , , , , , , , , </u>	()
		-						bentonit	e seal					ŀ	-
	-	- 1.0				_		8		1				-	- 1.0
						_				1					
	5.0-	-						8						5.0 -	-
		- 2.0				_								+	- 2.0
	-					_		steel ca	sing					-	
						_									-
	10.0-	- 3.0						8						10.0 -	- 3.0
		_				_				Í				-	-
	-					_		8						-	
		- 4.0				_								Ī	- 4.0
	15.0-	-						8						15.0 -	-
16		- 5.0				_									- 5.0
1/21/	_					-				Í				_	
GDT		-												ľ	-
-ATE.	20.0-	- 6.0				_				Í				20.0 -	- 6.0
EMPI						_		grout							_
3PJ T	_					_	₽Ø	0		Í					
LEN.0		- 7.0												ŀ	- 7.0
US G	25.0-	-				- 216.18 7.62								25.0 -	-
ANG	23.0-		SAND (SP)			7.62								23.0	
4937		- 8.0	With silt, fine to medium grained, p brown, wet, dilatant	boorly graded,		_					0005				- 8.0
30003	_	-									CORE			-	-
REN		- 9.0				-								-	- 9.0
5 SUS	30.0-					_								30.0 -	
ANG		_	trace gravel, saturated, dilatant at	9.8 m		- 212.00				Í				Ī	-
0000	_	- 10.0	SILT (ML)			<u>213.89</u> 9.91					CORE			-	- 10.0
34937		_	With fine grained sand, low plastic moist, some oxidation, tarce clay a			-									-
3000	35.0-		(grey, dry)			213.13 - <sup>10.67</sup>		0						35.0 -	
JOBS		- 11.0	SILT (TILL)		11									f	- 11.0
\300 .	-	-	Trace clay, trace fine sand, trace p		YT)						CORE			-	-
ECTS			occasional cobble, non-plastic, gre	ey, ury	1 KH	_									
			ed By: <b>C. D.</b>		J.S.		'		Date P				26/2		
LIND			ehole log was prepared for hydrogeolog for a geotechnical assessment of the su											l	
H P://			tes Limited personnel before use by othe												
	EG	END	MONITORING WE	ELL DATA	SA	MPLE T	YPE AC	Au	uger Cutting	SS	s 🖂	$\Box$	Split \$	Spool	י ו
000				dia. PVC			CS		ontinuous	AF	२ 🛄		Air Ro	otary	
BHL(	$\overline{\Delta}$	Stati	c Water Level - 6/16/2015 Screen: 51 mm	dia. PVC #10 slot			RC	R	ock Core	W	c 🗠		Wash	n Cutt	ings



R.J. Burnside & Associates Limited 292 Speedvale Avenue West, Guelph, Ontario N1H 1C4 telephone (519) 823-4995 fax (519) 836-5477

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AG-MW6D

Client:	Angus Glen Developm	ients Inc.	Project Name:	Angus Glen MES	SP	Logged by	/: I	l. Mur	phy	
Project N	o.: <b>300034937</b>		Location: Mar	kham, ON		Ground (m	n ams	sl): 💈	223.80	
	o.: Lantech Drilling S	ervices Inc.		3/18/2015		Static Wat				
Drilling M	ethod: PQ Coring		Date Completed	3/18/2015		Sand Pack			<i>'</i>	2 - 17.9
Depth				Elev.				SAM	PLE	Dep
Scale	Stratig	raphic Descript	ion	Strat. Depth	$\mathbb{N}$		Num.	Type	<u>ut</u>	Sca
(ft) (m)	Surface Elevation (m	)· <b>2</b>	23.80	(m)			ź	μ	-	(ft)
40.0-	stone at 11.3 m									40.0
-										
					grout			CORE		
13.0								OONL		
_										
45.0-					bentonit	e seal				45.0 -
14.0										
+								CORE		
- 15.0										
50.0-							$\left  - \right $		┝┨─	50.0 -
$\vdash$										
16.0								CORE		
					silica sa					
55.0-	sand lens at 16.5 n	n - very fine g	rained, poorly		well scre	en				55.0 -
- 17.0	graded, grey, dry									
								CORE		
T										
This bore suitable f Associate LEGEND	d By: <b>C. D.</b> shole log was prepared or a geotechnical asse es Limited personnel b	essment of the s efore use by oth MONITORING V	subsurface condition hers. VELL DATA	onmental purpose	ta requires interp	uger Cutting	conta R.J SS	ain in Burr 3	formati nside &	lit Spoor
This bore suitable f Associate LEGEND Y Water	hole log was prepared or a geotechnical asse es Limited personnel b	essment of the s before use by oth MONITORING V Pipe: <b>51 m</b>	gical and/or enviro subsurface conditio hers.	onmental purpose ons. Borehole da	ta requires interp PE AC Au CS DD Co	necessarily pretation by	conta R.J	ain in Burr Burr	formati nside & Spl	on



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AG-MW6S

Cli	ent:	Angus Glen Developments Inc.	Project Name:	Angus	Glen M	ESP		Logged by	y: (	C.D.				
Pro	oject l	No.: 300034937	Location: Marl	kham,	ON			Ground (n	n ams	sl):	223.8	<b>BO</b>		
Dr	lling (	Co.: Lantech Drilling Services Inc	Date Started:	3/17/20	015			Static Wat	ter Le	evel D	Depth	n (m):	dry	
Dri	lling l	Method: Hollow Stem Auger	Date Completed	: 3/1	7/2015			Sand Pac	k Dep	oth (r	n) : <b>5</b>	.5 - 7.	62	
	epth cale	Stratigraphic Des	cription	Strat. Plot	Elev. Depth				Num.	Type San	IPLE	N.Val.	Dep Sca	
(ft)	(m)	Surface Elevation (m):	223.80		(m)				Ž	ŕ	_	z	(ft)	(m)
	_	TOPSOIL Dark brown, clayey, fine root	lets						1	SS	X	46		-
	- 1.0	CLAY Silty Brown, firm, moist, trace to s	ome fine sand,		<u>222.95</u> 0.85				2	SS	X	38	-	- 1.0
5.0	- 2.0	medium plasticity. SAND Silty Fill like, brown, fine to mediu	m. compact. moist.		222.16 - 1.64 -				3	SS	X	51	5.0 -	- 2.0
	-	well graded, some gravel (<2 subangular to subrounded)	cm diameter,				bentonit	te seal	4	SS	$\mathbf{X}$	>50/4"	-	-
10.0	3.0								5	SS	$\mathbf{X}$	>50/5"	10.0 -	- 3.0
	- 4.0	SAND Brown, fine to medium, comp moist, uniform, trace silt, occ			<u>220.07</u> - 3.73 				6	ss	$\mathbf{X}$	>50/5"	_	- 4.0
15.0	- 5.0	from 6.6 m - fine to coarse, d	-										15.0 -	- 5.0
E.GDT 1/2	-				.– .–		· . · .		7	SS	X	>50/3"	-	-
20.0 1 TEMPLAT	- 6.0			· · · · ·			∶ ∴ ∵ silica sa	ind pack	8	SS	X	>50/3"	20.0 -	- 6.0
37_ANGUS GLEN.GPJ TEMPLATE.GDT 1/21/16 00 00	- 7.0				.= 		well scr	•			·,		_	- 7.0
25.0 25.0	<u>}</u>			<u> </u>	216.18 7.62	7.62	:		9	SS	X	>50/4"	25.0 J	-
											/			
NGUS GLEI														
37.0000 <u>A</u> 1														
3S\3000349														
TS/300 JOE														
	enar	ed By: <b>C. D.</b>	Checked By:	J. S				Date P	rena	red	7	26/2	015	
d⊥Ng Su	is boi tab <b>l</b> e	rehole log was prepared for hydrog for a geotechnical assessment of tes Limited personnel before use b	eological and/or enviro he subsurface conditio:	nmenta	al purpos			necessarily	conta	ain ir	nform	ation		
린 민드(	GEND	MONITORI	NG WELL DATA	SA		YPE AC		uger Cutting	SS	$\sim$	$\triangleleft$	Split S	Spool	<u></u> า
			51 mm dia. PVC			CS		ontinuous	AF			Air Ro		
ע ע ד			51 mm dia. PVC #10 slot					ock Core	W	_	_	Wash		ings



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AG-MW7

								ugo	<u> </u>	<u> </u>	<u> </u>
Client: Angus Glen Developments Inc.	Project Name: An	ngus Glen M	ESP		Logged by	: (	C. D.				
Project No.: 300034937		am, ON			Ground (m	ams	sl):	212.(	00		
Drilling Co.: Lantech Drilling Services Inc.	Date Started: 2/2	4/2015			Static Wat						,
Drilling Method: Hollow Stem Auger	Date Completed:	2/24/2015			Sand Pack	( Dep	oth (r	n) : <b>5</b>	.43 - 7	7.62	
Donth		. Floy					SAM	IPLE		Dei	a th
Depth       Scale       Stratigraphic Descriptic	n tt	Elev. Depth				Num.	Type	Int.	N.Val.	Dej Sca	
	2.00	(m)				Nu	Тy	<u>_</u>	ź		(m)
			$\nabla$								<u>(111)</u>
\Darl brown loam, rootlets			<u> </u>			1	SS		13		-
- SAND										-	
<ul> <li>Brown, fine to coarse, loose, dry, trace small gravel</li> </ul>	well graded,					2	SS	Х	62	İ	- 1.0
		<u>210.52</u>								5.0 -	-
Becomes wet at 0.7 m and very c						3	SS	X	31		
gravel (<2 cm diameter) subround	ed to							$\square$			- 2.0
SAND Silty	/					4	SS	$\mathbb{N}$	53	-	-
Brown fine to medium compact	friable, moist 🛄	209.00		Holeplug				$\land$		10.0 -	- 2 0
to wet, well graded, trace clay, tra		3.00				5	SS	$\bigtriangledown$	54	10.0 -	5.0
cm diameter) subrounded to roun						5		$\bigtriangleup$		ł	-
										-	- 4.0
Becomes dense with depth						6	SS	$\wedge$	>50/5"		
15.0- SAND Silty	• • • • • •									15.0 -	-
$\underline{\underline{B}}_{\underline{\underline{C}}}$   Till like, brown, fine to medium, de						7	SS	Х	>100		- 5.0
diameter) subangular to rounded										_	
	°°° •°•									ł	-
لللل from 3.8 m - inferred seams of silt المراجعة from 3.8 m - inferred seams of silt المراجعة sand, wet	and pockets									20.0 -	- 6.0
	°°° •°• •°•					8	SS	$\mathbb{N}$	>50/4"	20.0	
	*** ***	205 14		Sandpac	k			$\square$		Ī	-
	• • • • • • • •	205.14 6.86		Well Scr	een					-	-7.0
Brown, fine to coarse, loose, satur	rated, well					9	SS	Х	>50/4"		_
gg <sub>25.0</sub> 上 ∟graded, trace silt	مثملير	•••••• <u>•</u> <u>204.38</u> 7.62	7.62							<sub>25.0</sub> _	
<ul> <li>Prepared By: C. D.</li> <li>This borehole log was prepared for hydrogeolog suitable for a geotechnical assessment of the su Associates Limited personnel before use by other static water found @ time of drilling</li> <li>✓ Static Water found @ time of drilling</li> <li>✓ Static Water Level - 6/16/2015</li> </ul>											
00 00 40											
000											
60 00											
80 80											
Prepared By: <b>C. D.</b>	Checked By:	J. S.			Date Pr	ера	red:		26/20	)15	
This borehole log was prepared for hydrogeolog											
Associates Limited personnel before use by othe			ata reguli		station by		. Dui	13100			
	ELL DATA	SAMPLE T		Au	ger Cutting	SS	s D	$\triangleleft$	Split S	pool	 n
g ▼ Water found @ time of drilling Pipe: <b>51 mm</b>	dia. PVC		cs D		ntinuous	AF			Air Ro		
Static Water Level - 6/16/2015 Screen: <b>51 mm</b>	dia. PVC #10 slot		RC 🖸		ck Core	W	c 🖂	_	Wash	•	ings



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AG-MW4

Client:	Angus Glen Developments Inc.	Project Name:	Angus	Glen M	IESP			Logged by	/:	I. Mu	rphy			
Project N	No.: <b>300034937</b>	Location: Ma	rkham,	ON				Ground (n	n am	sl):	223.(	00		
Drilling C	Co.: Lantech Drilling Services Inc.	Date Started:	3/2/201	5				Static Wat	ter Le	evel [	Depth	ו (m)	: 0.1	1
Drilling N	Nethod: Hollow Stem Auger	Date Complete	d: <b>3/2/</b>	2015				Sand Pac	k De	pth (r	n) : <b>2</b>	.14 -	4.57	,
		·			Г		1			SAN	1PLE			
Depth Scale	Stratigraphic Descriptio	n	Strat. Plot	Elev. Depth					Num.	Type	Int.	N.Val.		epth cale
(ft) (m)		3.00		(m)	$\nabla$				2				(ft)	(m)
-	SANDY SILT (TOPSOIL) │Fine grained, poorly graded, low p ∖brown, frozen	lastic fines,		222.70 0.30	<u> </u>				1	ss		56	-	-
- 1.0	SILT (ML) Trace fine sand, non-plastic, hard,	dark brown,		<u> </u>	-		bentonit	e seal	2	SS		5	-	- 1.0
5.0	\dry, trace clay at 0.9 m CLAYEY SILT (CL/ML) ┐ Trace fine sand, medium plasticity	, firm, light		 					3	ss	$\square$	20	5.0-	- 2.0
	brown, moist, sand gravel lens at brown, moist	about 1.7 m,		-					4	SS	$\square$	102	-	-
10.0 3.0	SANDY SILT (ML) Trace clay, very fine grained sand	low		-		H					$\square$	<u> </u>	10.0 -	- 3.0
-	plasticity, hard, moist, light brown, at 2.9 m, some oxidation			219.65 3.35			silica sa		5	SS	X	50+		-
- 4.0	SILT (TILL) Trace clay, trace fine sand, trace r	pebbles.					well scre	en	6	SS	$\square$	50+		- 4.0
15.0-	non-plastic, hard, brown, dry	,		-		<u>4.57</u>	<u>}</u>				$\square$		15.0 -	ł
- 5.0	stone at 4.1 m grey, moist, hard at 4.4 m			2 <u>17.82</u>					7	SS	X	50+		- 5.0
	\grey, dry at 4.6 m		/	0.10										

BHLOG GUELPH P:/GINT/PROJECTS/300 JOBS/300034937 0000_ANGUS GLEN/300034937_ANGUS GLEN/GPJ TEMPLATE.GDT 1/21/16	fs.0   grey, moist, hard a ∖grey, dry at 4.6 m	at 4.4 m		5.18			7 55	50+ 5.0
JECTS								
PRO.	Prepared By: <b>C. D.</b>	d for bydr	Checked By:	J.S.	doog	Date Pr		7/26/2015
H P:\GINT\	This borehole log was prepared for hydrogeological and/or environmental purposes and does not necessarily contain information suitable for a geotechnical assessment of the subsurface conditions. Borehole data requires interpretation by R. J. Burnside & Associates Limited personnel before use by others.							
UELP	LEGEND	ΜΟΝΙΤΟ	RING WELL DATA	SAMPLE TYPE AC		Auger Cutting	ss 🖂	Split Spoon
DG G	▼ Water found @ time of drilling	Pipe:	51 mm dia. PVC	CS	)	Continuous	AR 🛄	Air Rotary
BHLC	∑ Static Water Level - 6/16/201	Screen:	51 mm dia. PVC #10 slot	RC	<u>`^^^</u>	Rock Core	wc 🗠	Wash Cuttings

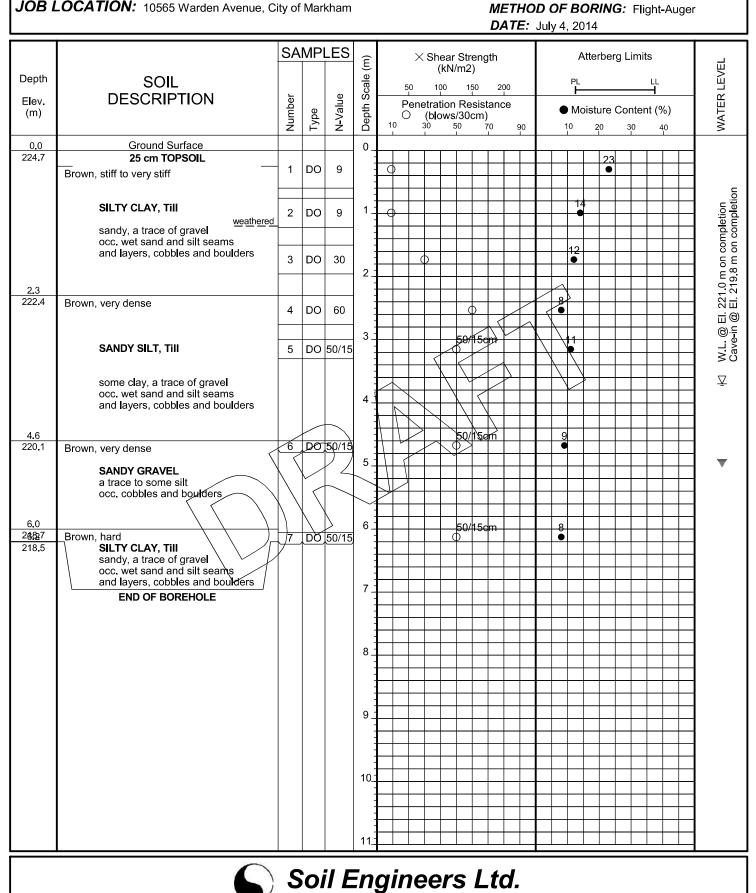
JOB NO: 1402-S061

## LOG OF BOREHOLE NO: 1

FIGURE NO: 1

JOB DESCRIPTION: Proposed Residential Development

JOB LOCATION: 10565 Warden Avenue, City of Markham



#### JOB NO: 1408-S150

## LOG OF BOREHOLE NO: 1

FIGURE NO: 1

METHOD OF BORING: Flight-Auger

JOB DESCRIPTION: Proposed Residential Development

JOB LOCATION: 10231 Warden Avenue, City of Markham (Part 11 of Lot 22)

