

February 3, 2021

LON-00017018-GE

Ms. Carrie O'Brien Drewlo Holdings Inc. P.O. Box 6000 London, Ontario NOL 1R0

Attention: Ms. O'Brien

Slope Stability Assessment Proposed Residential Development, Edgevalley Phase 2 Kilally Road, London, Ontario

EXP Services Inc. (EXP) was retained by Drewlo Holdings Inc. to conduct a slope stability assessment for the existing onsite slope and determine the top of stable slope and setback (if any) associated with the proposed residential development at Edgevalley Phase 2 on Kilally Road in London, Ontario (Site). It is understood that the development will consist of detached single-family dwellings and medium-density residential blocks.

A portion of the proposed development area is within an area regulated by the Upper Thames River Conservation Authority (UTRCA). As a result, consent from the Conservation Authority is required prior to establishing the limits of any proposed structures.

Background

EXP is currently conducting a hydrogeological assessment at the Site. The study consisted of advancing boreholes at 10 locations across the Site shown on **Drawing 1** and denoted as BH1 to BH10, inclusive. MW was suffixed to the borehole symbol (BH) at locations where monitoring wells were installed. The borehole depths ranged from 3.5 m below ground surface (bgs) to 17.2 m bgs.

Contour information from the topographic plan provided by MTE was utilized to create the cross sections. For areas outside of the Site boundary topography information was taken from City of London Digital Mapping.

Using engineering judgement and technical experience, various cross sections (which are considered to be representative of typical site conditions) have been reviewed.



Based on an interpretation of the factual borehole data, and a review of soil, groundwater information from test holes excavated at the site, and topography, EXP Services Inc. has provided geotechnical comments and recommendations on the stable top of slope.

Site Reconnaissance

A Site reconnaissance was conducted on January 13, 2021 to examine the condition of the slopes at the Site. The slope profile was reviewed at three locations using the 'Slope Stability Rating Chart' created by the Ontario Ministry of Natural Resources and Forestry (MNRF), which summarizes the Site observations and empirically scores various elements of the slope profile which contribute to slope stability, to provide an assessment of the potential for slope instability at the Site. Rating charts were completed at the critical slope inclinations, as assessed by EXP, indicated as Cross Section A-A', B-B' and C-C' on **Drawings 2, 3** and **4**, appended. The rating charts for the cross sections, which are considered to be representative of the worst-case scenarios of the slope on Site, are appended to this report. Each cross section scored a slope rating indicating a low potential for slope instability with values ranging from 10 to 18.

Quaternary mapping completed by Barnett et. al. (1981) indicates that the quaternary geology for the Site consists of glaciofluvial deposits of sand and gravel from deposits of rivers and delta topset facies. Also present in the vicinity of the Site is the Huron-Georgian Bay lobe of the Tavistock Till. The Tavistock Till consists of sandy silt to silt and silty clay with a moderate to high carbonate content. The Thames River is located over 200 m towards the north of the Site.

The slope on the Site runs through the northern portion of the site and slopes downward to the north. The slope was observed to be very gradual with natural inclinations varying from 3.4H:1V to less than 5H:1V based on the topographic mapping.

The floodplain between the northern boundary of the Site and the Thames River was also investigated. The slope was observed to be very gradual with natural inclinations varying from 3.1H:1V at one location near the north-west corner of the Site to less than 7H:1V along the northern boundary based on City of London topographic mapping.

The elevation drops approximately 19 m across the Site based on the topographic mapping. The slope is generally vegetated with mature trees, grasslands and/or shrubbery. A large stockpile of fill material was observed in the area of BH1 at the north-west corner of the Site. Minor seepage was observed at mid-slope near Cross Section B-B'. Seepage areas will be addressed in the Hydrogeological Investigation under separate cover. However, the seepage was considered in the slope stability modeling as described in the sections below.



Generalized Slope Soil Stratigraphy

The soils encountered in the boreholes and monitoring wells advanced at the Site as part of the Hydrogeological Assessment were reviewed in the assessment of the Slope and the Borehole Logs are attached.

Boreholes BH1, BH5 and BH6 were located along the crest of the slope.

The borehole locations were surfaced with a layer of topsoil. The topsoil thickness ranged between 100 mm and 250 mm. A 1.4 m thick layer of fill was encountered below the topsoil in borehole BH6.

Underlying topsoil in BH5 was sand and gravel, extending to 4.0 m bgs. The sand and gravel was generally described as brown, with trace silt, coarse grained, dense and damp to wet.

Underlying the topsoil, fill, or sand and gravel in all boreholes was clayey silt till. All boreholes were terminated in the clayey silt till except for BH1/MW, which was terminated in a sand and gravel layer below the clayey silt till. The clayey silt till is generally described as grey with some clay and sand and trace gravel, hard to very stiff, and damp to very moist.

Slope Stability Assessment

Slope stability analyses investigating different Factors of Safety (FOS) were conducted on Cross Section A-A', B-B' and C'-C'. The analyses were undertaken by computer methods utilizing the Slope/W computer program for the three slope profiles. The existing slope geometry was evaluated using the soil and groundwater information from the geotechnical and hydrogeological investigations. The soil parameters used were conservative to build in an added safety factor for the analyses. Loading from buildings and roadways along the slope were accounted for in the analyses.

The minimum FOS was 5.97 for Cross Section A-A', 3.36 for Cross Section B-B' and 3.20 for Cross Section C-C'. These minimum FOS determined are well above the MNRF's Technical Guide recommended minimum FOS of 1.4 for Infrastructure and Public Use.

Development Setback

The existing slope has natural inclinations ranging from 3.4H:1V to flatter than 11H:1V and no water course was observed near the base of the slope. The slope was assessed in accordance with MNRF's Technical Guide – River & Stream Systems: Erosion Hazard Limit (2002) and is considered stable and no development setback, including emergency access allowance, is required from the top or base of the slope.

The existing soil stockpile that is present is anticipated to be regraded to generally match the surrounding slope inclination as this area is anticipated to be developed.



Client: Drewlo Holdings Inc. Slope Assessment – Edgevalley Phase 2, London, ON Project Number: LON-00017018-GE

Conclusions

The Site slopes are generally very gradual with inclinations ranging from 4.3H:1V to flatter than 5H:1V. The Thames River watercourse is located over 200 m towards the north of the base of the slope at the Site. Based on the slope stability analyses the slope is generally stable, no potential erosion hazards were identified, and the slope inclinations are flatter than the criteria outlined in the MNRF's Technical Guide to require any development setback. No development setback from the slope is required for the development from a geotechnical standpoint.

Additional Comments

The Site should be graded such that surface water is directed away from the slope. No water from the table land should be out-letted down the slope.

Water from downspouts and perimeter weeping tile etc. should be collected in a controlled manner and directed away from the slope.

Spoils from any excavation should be removed from the Site. Excavated soils should not be placed over the table land near the crest of slope, unless the soil is placed as engineered structural fill. No net surcharge should be placed on the slope.

During construction, stockpiles of materials, supplies and construction debris should be located away from the slope crest. Additional loading from stockpiled materials should be avoided in proximity to the slope crest.

Debris littering the slope should be removed and vegetation on the slope should be maintained.

Any bare spot or cracks observed at the slope should be revegetated.

A regular maintenance program should be implemented such as tree preservation, grading, and drainage control.

EXP should be contacted to review the final construction and design to verify that the recommendations of this report have been followed.



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General Comments

We trust the above is satisfactory for your present requirement. Should you have any questions regarding this matter, please don't hesitate to contact our office.

Yours very truly,

EXP Services Inc.

Craig Swinson, P. Eng. Geotechnical Services



Botel M. F. Chiu, M.Eng., P. Eng. Vice President, Earth and Environment Southwestern Ontario

Appendices:

Drawing 1 – Cross Section Location Plan Drawing 2 – Cross Section A – A' Drawing 3 – Cross Section B – B' Drawing 4 – Cross Section C – C' Slope Stability Rating Charts Slope Stability Analysis Results EXP Geotechnical Borehole Logs Limitations and Use of Report



Client: Drewlo Holdings Inc. Slope Assessment – Edgevalley Phase 2, London, ON Project Number: LON-00017018-GE

LIMITATIONS AND USE OF REPORT

BASIS OF REPORT

This report ("Report") is based on site conditions known or inferred by the geotechnical investigation undertaken as of the date of the Report. Should changes occur which potentially impact the geotechnical condition of the site, or if construction is implemented more than one year following the date of the Report, the recommendations of exp may require re-evaluation.

The Report is provided solely for the guidance of design engineers and on the assumption that the design will be in accordance with applicable codes and standards. Any changes in the design features which potentially impact the geotechnical analyses or issues concerning the geotechnical aspects of applicable codes and standards will necessitate a review of the design by exp. Additional field work and reporting may also be required.

Where applicable, recommended field services are the minimum necessary to ascertain that construction is being carried out in general conformity with building code guidelines, generally accepted practices and exp's recommendations. Any reduction in the level of services recommended will result in exp providing qualified opinions regarding the adequacy of the work. exp can assist design professionals or contractors retained by the Client to review applicable plans, drawings, and specifications as they relate to the Report or to conduct field reviews during construction.

Contractors contemplating work on the site are responsible for conducting an independent investigation and interpretation of the borehole results contained in the Report. The number of boreholes necessary to determine the localized underground conditions as they impact construction costs, techniques, sequencing, equipment and scheduling may be greater than those carried out for the purpose of the Report.

Classification and identification of soils, rocks, geological units, contaminant materials, building envelopment assessments, and engineering estimates are based on investigations performed in accordance with the standard of care set out below and require the exercise of judgment. As a result, even comprehensive sampling and testing programs implemented with the appropriate equipment by experienced personnel may fail to locate some conditions. All investigations or building envelope descriptions involve an inherent risk that some conditions will not be detected. All documents or records summarizing investigations are based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated. Some conditions are subject to change over time. The Report presents the conditions or requirements, these should be disclosed to exp to allow for additional or special investigations to be undertaken not otherwise within the scope of investigation conducted for the purpose of the Report.

RELIANCE ON INFORMATION PROVIDED

The evaluation and conclusions contained in the Report are based on conditions in evidence at the time of site inspections and information provided to exp by the Client and others. The Report has been prepared for the specific site, development, building, design or building assessment objectives and purpose as communicated by the Client. exp has relied in good faith upon such representations, information and instructions and accepts no responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of any misstatements, omissions, misrepresentation or fraudulent acts of persons providing information. Unless specifically stated otherwise, the applicability and reliability of the findings, recommendations, suggestions or opinions expressed in the Report are only valid to the extent that there has been no material alteration to or variation from any of the information provided to exp.

STANDARD OF CARE

The Report has been prepared in a manner consistent with the degree of care and skill exercised by engineering consultants currently practicing under similar circumstances and locale. No other warranty, expressed or implied, is made. Unless specifically stated otherwise, the Report does not contain environmental consulting advice.

COMPLETE REPORT

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All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment form part of the Report. This material includes, but is not limited to, the terms of reference given to exp by its client ("Client"), communications between exp and the Client, other reports, proposals or documents prepared by exp for the Client in connection with the site described in the Report. In order to properly understand the suggestions, recommendations and opinions expressed in the Report, reference must be made to the Report in its entirety. exp is not responsible for use by any party of portions of the Report.



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Appendix A – Drawings





CROSS SECTION A-A'



CROSS SECTION B-B'



CROSS SECTION C-C'



pent	Drewlo Holdings Inc.						
	Tross Section C-C'						
Development	Prepared By: C.S.		Reviewed By: B.C.				
e 2 Ontario	*exp. 157	EX 01 Robin's Hill F	EXP Services Inc. ill Road, London, ON, N5V 0A5				
	⊳- ∎ JANUARY 2021	sс-ц 1:200		project no. LON-00017018-GE	dwg. 4		

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Appendix B – Slope Rating Charts



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Geotechnical Principles for Stable Slopes Ontario Ministry of Natural Resources

Cross Section A-A

Site Location:	Edgevalley Phase 2	Project No.: L	ON-00017018-GE	
Town/City:	London, ON	Inspection Date:	Jan 13th, 2021	
Inspected by:	М. В	Weather: Clo	oudy, 1°C	
_			Rating Value	Slope
Slope Inclination	n			Rating
degree	s or less (3H:1V or flatter)		0	_
to 28 de	egrees (2H:1V to 3H:1V)		6	0
degree	s or more (steeper than 2H:1V)		16	
Soil Stratigraph	ıy			
shale /	limestone		0	
sand, g	ravel		6	
till			9	6
clay, sil	t		12	
fill			18	
leda cla	Ŋ		24	
Seepage from S	Slope Face			
none, o	r near bottom only		0	•
near mi	d-slope only		6	0
near cr	est only, or from several levels		12	
Slope Height				
2 m or	ess		0	
2.1 to 5	m		2	2
5.1 to 1	0 m		4	
more th	an 10 m		8	
Vegetation Cov	er on Slope Face			
well ve	getated: heavy shrubs or forested wi	th mature trees	0	
light ve	getation: grass, weeds, occasional t	rees, shrubs	4	0
no vege	etation: bare		8	
Table Land Dra	inage			
table la	nd flat, no apparent drainage over s	lope	0	•
minor d	rainage over slope, no active erosio	n	2	2
drainag	e over slope, active erosion, gullies		4	
Proximity of Wa	atercourse to Slope Toe			
15 m or	more from slope toe		0	0
Less tha	in 15 m from slope toe		6	-
Previous Lands	lide Activity			
No			0	0
Yes			6	
Slope Instability	y Rating			10
Low Potential Slight Potential	< 24 Site Inspection only, of 25-35 Site Inspection and sure of the section and section and sure of the section and section	confirmation, report lett	er dy. detailed report	

Moderate Potential > 35 BH Investigation, piezometers, lab tests, surveying, detailed report

Notes:

Is there is a water body (stream, creek, river, pond, bay, lake) at the toe of slope? **No** If YES - the potential for toe erosion and undercutting should be evaluated in detail.

*exp.

Geotechnical Principles for Stable Slopes Ontario Ministry of Natural Resources

Cross Section B-B

Site Location:	Edgevalley Phase 2	Project No.: L	.ON-00017018-GE	
Town/City:	London, ON	Inspection Date:	Jan 13th, 2021	
Inspected by:	М. В	Weather: Clo	oudy, 1°C	
			Rating Value	Slope
Slope Inclination	on			Rating
degree	s or less (3H:1V or flatter)		0	
to 28 d	egrees (2H:1V to 3H:1V)		6	0
degree	s or more (steeper than 2H:1V)		16	
Soil Stratigraph	у			
shale /	limestone		0	
sand, g	Iravel		6	
till			9	6
clay, si	lt		12	
fill			18	
leda cla	ау		24	
Seepage from \$	Slope Face			
none, c	or near bottom only		0	-
near m	id-slope only		6	6
near cr	est only, or from several levels		12	
Slope Height				
2 m or	less		0	
2.1 to 5	5 m		2	4
5.1 to 1	0 m		4	
more th	nan 10 m		8	
Vegetation Cov	ver on Slope Face			
well ve	getated: heavy shrubs or forested v	vith mature trees	0	
light ve	getation: grass, weeds, occasional	trees, shrubs	4	0
no veg	etation: bare		8	
Table Land Dra	inage			
table la	nd flat, no apparent drainage over	slope	0	
minor c	Irainage over slope, no active erosi	on	2	2
drainag	je over slope, active erosion, gullies	5	4	
Proximity of Wa	atercourse to Slope Toe			
15 m or	more from slope toe		0	0
Less that	an 15 m from slope toe		6	Ū
Previous Lands	slide Activity			
No	,		0	٥
Yes			6	U
Slope Instabilit	y Rating			18
Low Potential	< 24 Site Inspection only,	confirmation, report lett	er	
Slight Potential	25-35 Site Inspection and su	irveying, preliminary stu	dy, detailed report	
Moderate Poten	tial > 35 BH Investigation, pie	zometers, lab tests, sur	veying, detailed repo	ort

Notes:

Is there is a water body (stream, creek, river, pond, bay, lake) at the toe of slope? **No** If YES - the potential for toe erosion and undercutting should be evaluated in detail.

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Geotechnical Principles for Stable Slopes Ontario Ministry of Natural Resources

Cross Section C-C

Site Location:	Edgevalley Phase 2	Project No.: L	.ON-00017018-GE	
Town/City:	London, ON	Inspection Date:	Jan 13th, 2021	
Inspected by:	М. В	Weather: Cle	oudy, 1°C	
			Rating Value	Slope
Slope Inclination	n			Rating
degree	s or less (3H:1V or flatter)		0	_
to 28 de	egrees (2H:1V to 3H:1V)		6	0
degree	s or more (steeper than 2H:1V)		16	
Soil Stratigraph	y .			
shale /	limestone		0	
sand, g	ravel		6	
till			9	9
clay, sil	t		12	
fill			18	
leda cla	Ŋ		24	
Seepage from S	Slope Face			
none, o	r near bottom only		0	•
near mi	d-slope only		6	0
near cr	est only, or from several levels		12	
Slope Height				
2 m or	ess		0	
2.1 to 5	m		2	4
5.1 to 1	0 m		4	
more th	an 10 m		8	
Vegetation Cov	er on Slope Face			
well veg	getated: heavy shrubs or forested wit	h mature trees	0	
light ve	getation: grass, weeds, occasional tr	ees, shrubs	4	0
no vege	etation: bare		8	
Table Land Dra	inage			
table la	nd flat, no apparent drainage over sl	ope	0	
minor d	rainage over slope, no active erosior	n	2	2
drainag	e over slope, active erosion, gullies		4	
Proximity of Wa	atercourse to Slope Toe			
15 m or	more from slope toe		0	0
Less that	in 15 m from slope toe		6	U
Previous Lands	lide Activity			
No	2		0	0
Yes			6	Ũ
Slope Instability	y Rating			15
-				
Low Potential Slight Potential	< 24 Site Inspection only, c 25-35 Site Inspection and surv	onfirmation, report let /eying, preliminary stu	ter Idy, detailed report	

Moderate Potential > 35 BH Investigation, piezometers, lab tests, surveying, detailed report

Notes:

No Is there is a water body (stream, creek, river, pond, bay, lake) at the toe of slope? No If YES - the potential for toe erosion and undercutting should be evaluated in detail.

*exp.

EXP Services Inc.

Client: Drewlo Holdings Inc. Slope Assessment – Edgevalley Phase 2, London, ON Project Number: LON-00017018-GE

Appendix C – Slope Stability Analysis Results









EXP Services Inc.

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Appendix D – Borehole Logs



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BOREHOLE LOG

BH1/MW

Sheet 1 of 1

Drewlo Holdings Inc.

PROJECT NO. LON-00017018-GE

PR	ROJECT	Edge Valley Subdivision Phase 2							DA	ATUM Geodetic
LO	CATION	London, ON		DAT	ES:	Boring	a Ap	oril 17, 2	2019	Water Level May 24/19
	Е		6	В		SAN	IPLES			SHEAR STRENGTH
DWPTT		STRATA DESCRIPTION	STRATA PLO		TYPE	NU MB MR	RUCOVUR	N VALUE (blows)	MOLSTURE	S Field Vane Test (#=Sensitivity) Penetrometer Triaxial Tests 40 80 kPa Atterberg Limits and Moisture W _P W W _L
(m bgs)	(m) 255.11		Т	Y (kN/m3)			(mm)		(%)	 SPT N Value × Dynamic Cone 10 20 30 40
-0 -	255.01	TOPSOIL - lightly vegetated, 100 mm	\times	(KIVIIIJ)					(70)	
-1	252.20	FILL - sandy silt, dark brown, trace organics, weathered, very loose to loose, moist			⊠ss	5 S1	100	1	14	•
-2	255.20	CLAYEY SILT TILL - grey, some sand, trace fine gravel, some cobbles, firm to hard, damp			⊠ss ⊠ss	S S2 S S3	400	7 12	22 12	
3 -		to moist			∑ ∑s:	5 S4	450	19	11	o e
4 - 5		wat cond and group lover opequatored poor			⊠s:	S S5	300	35	9	0
- 6		4.9 m bgs - wet gravel layer encountered near 5.5 m bgs			77					
- 7		- cobbles encountered from 6.1 m bgs to 7.6 m bgs			∕∕∕ss	S S6	300	42	13	
- 8					⊠ss	S S7	250	50*	15	•
- 9 -					⊠s:	5 S8	200	45	12	•
10 11 	244.21	SAND AND GRAVEL - grey, coarse grained, very dense, wet		¥ []]						
-12 - -13			0000		⊘s:	S S9	100	50**	4	•
- —14	240.94		0000		∕∕ se	6 S10	150	50**	9	• •••••••••••••••••••••••••••••••••••
- 15		End of borenole at 14.2 m bgs.								
16 -										
-17 -										
-18										
NO: 1) B 2) B 3) b 4) N d 5) ** 8) V	TES Borehole L Borehole v gs denote lo signific Irilling. denotes t * denotes Vater Lev Date	og interpretation requires assistance by EXP befor og must be read in conjunction with EXP Report l vas open and dry upon completion of drilling. es below ground surface. ant methane gas concentration was detected upo 50 blows for 130 mm split spoon sampler penetral 50 blows for 100 mm split spoon sampler penetra el Measurements <u>Depth to Water (m bgs)</u> Water Level Eleval	n com tion. ation.	e by of 00170 pletior	thers. 18GE	SAM ⊠ I OTH GS HH SS YU PF KL WAT	IPLE L AS Aug Rock C IER TE pecific lydrom ieve A nit We ield Pe ab Per FER LE	EGEND ger Sam Core (eg. ESTS Gravity eter nalysis eight ermeability meability EVELS	ple ⊠ BQ, N Cl Cl Ul ty Ut y D	SS Split Spoon IQ, etc.) III ST Shelby Tube III VN Vane Sample Consolidation D Consolidated Drained Triaxial U Unconsolidated Undrained Triaxial U Unconsolidated Undrained Triaxial C Unconfined Compression S Direct Shear
May	/ 24, 2019	11.34 243.2				¥ /	Appare	ent	¥ M	easured 🚺 Artesian (see Notes)

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"ex	D.

BOREHOLE LOG

BH2

Sheet 1 of 1

Drewlo Holdings Inc.

PROJECT _______ Edge Valley Subdivision Phase 2_____

DATUM Assumed

Water Level

PROJECT NO. **LON-00017018-GE**

LOCATION London, ON			DATES: B		Borir	Boring April 25, 2		2019	Water Level		
	E		<u>s</u>	В		SA	MPLE	S		SHEAR STRENGTH	
P	Ē			L K			R			S Field Vane Test (#=Sensitivity) ▲ Penetrometer ■ Triaxial Tests	
P	Ĥ	STRATA	Ā	P	Ţ			N	S T T E	40 80 kPa	
п	Ŏ N	DESCRIPTION	Ľ	N S	P	BE	Ŭ E	(blows)		Atterberg Limits and Moisture W _P W W _L	
(m bgs)	(m)		?	Ϋ́			Ŷ			• SPT N Value × Dynamic Cone	
-0 -	261.50	FILL - clayey silt, black/grey, trace sand, trace		(kN/m3)			(mm)	(%)		╞
- 1	260 13	organics, lightly vegetated, stripped surface, very stiff		Ϋ́	⊘s	s s1	200	20			-
2	200.10	CLAYEY SILT TILL - grey, some clay, trace fine gravel, very stiff to hard, moist	Ê		⊘s	s sz	400	26		• • • • • • • • • • • • • • • • • • •	
-				*	⊘s	s sa	450	37			
-3	257.99				∕∕s	s s4	450	29			
-4		End of Borehole at 3.5 m bgs.									-
5											-
-											
-0											
-7											-
-8											-
9											-
-											
10 -											
-11											-
- 12											-
-											
-13											
-14											-
-15											-
- 16											-
-											
-17											
-18											-
NO						SA ⊠	MPLE AS Au	LEGEND Iger Sam	ple 🛛	SS Split Spoon ST Shelby Tube	
1) B	orehole L	og interpretation requires assistance by EXP before	ore us	e by of	hers	. Ш • ОТ	Rock	Čore (eg. ESTS	BQ, N	Q, etc.) 🔲 🛛 VN Vane Sample	3
2) B	ON00017	.00 must be read in conjunction with EXP Report 2018-GE. vas open to 1.8 m bas and aroundwater encounte	red ne	ear06	m	G H	Specifi	c Gravity	C C	Consolidation D Consolidated Drained Triaxial	
2) b 3) b	gs upon o gs denote	completion of drilling. es below ground surface.	roune	ui 0.0		S Y	Sieve A	Analysis eight	C	U Consolidated Undrained Triaxial	
4) N d	o signific rilling.	ant methane gas concentration was detected upo	n com	pletior	n of	P K	Field P ab Pe	ermeabil rmeabilit	ity U y D	C Unconfined Compression S Direct Shear	
						WA ⊻	TER L Appar	EVELS ent		easured 🚺 Artesian (see Notes)

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BOREHOLE LOG

BH3/MW

Sheet 1 of 1

CLIENT Drewlo Holdings Inc.

PROJECT ______ Edge Valley Subdivision Phase 2

DATUM Geodetic

____ PROJECT NO. ______ PROJECT NO. ______

LOCATION London, ON

_____ DATES: Boring April 26, 2019 Water Level May 24/19 SHEAR STRENGTH

	E		s	B SAMPLES SHEAR STRENGTH			SAMPLES			TRENGTH		
DE			T R A	L K			N	R		M C O O I N	 S Field Vane To Penetrometer 	est (#=Sensitivity) ■ Triaxial Tests
1 1 1	Ŷ	STRATA		PE		Ţ	Ü	Č		S T T E	40	80 kPa
	O N	DESCRIPTION	P	N Ş		P E	B	Ĕ	(blows)	ŘŤ	Atterberg Limit	ts and Moisture
(m bgs)	(m)		Þ	ļţ			R	R				
	264.80		·	Y (kN/m3	5)			(mm)		(%)		30 40
	264.50	TOPSOIL - 300 mm	$\times \times \times \times$		\setminus							
-1		FILL - clayey silt, black/grey, trace sand, trace gravel, trace organics	\bigotimes		Ň	AS	S1					
-			\bigotimes		/ \							
-2			\bigotimes									
-	262.06											
-3		grained, some silt, some fine sand lavering.	0.00			ss	S2	300	18			
		compact, wet	0.00				00	000				
-4			0.0.0	E		55	53	300	14			
5				::=::		SS	S4	400	14		•••••	
-	259.24		0.0.0									
-6	050.05	CLAYEY SILT TILL - grey, trace sand, stiff, moist	1916			~	05	450	40			
	258.25	End of Borehole at 6.6 m bgs.			12	33	30	450	13		<u>╴╴╴╴╴</u>	
_/		-										-
-8												-
-												
-9												-
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-11												-
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-12												-
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-16												
- 10												
-17												-
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-18												-
							SAM			nle 🗖	SS Split Space	ST Shelby Tuba
1) D	ES orobolo l	ag interpretation requires assistance by EVD befo		hu -	the			Rock C	ore (eg.	BQ, N	Q, etc.)	VN Vane Sample
	orehole L	og must be read in conjunction with EXP Report	ne use	- ny d	ale	лъ.	OTH	ER TE	STS	~	O an a shida ti	
2) B	ON00017 orehole v	018-GE as open and dry upon completion of drilling					G S H H	pecific vdrom	Gravity eter	C Cl	Consolidation	ned Triaxial
3) b	gs denote	es below ground surface.	n	nlotic	n c	f	S Si	eve Aı	nalysis	Č	J Consolidated Und	rained Triaxial
d	rilling.		n com	piello	11 0	'	Y U P Fi	nit We eld Pe	ignt irmeabili	ty U	C Unconsolidated U	norained Triaxial ression
5) W	/ater Lev Date	el Measurements Depth to Water (m bgs) Water Level Eleval	tion (m	ASL)			K La	ab Per	meability	ý DS	S Direct Shear	
May	24, 2019	3.70 260.9		/			WAT	ER LE	EVELS	▼ M	easured 🔺	Artesian (see Notes)
1							/					

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BOREHOLE LOG

BH4/MW

Sheet 1 of 1

Drewlo Holdings Inc.

PROJECT _ Edge Valley Subdivision Phase 2

DATUM Geodetic

____ PROJECT NO. ______ LON-00017018-GE

LOCATION	London, ON	

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DATES: Boring April 25, 2019 Water Level May 24/19 CUEAD CTDENCTU

Product STRATA DESCRIPTION Product		Е		6	В	T		SAM	SAMPLES			SHEAR STRENGTH	
E Y STRATA DESCRIPTION A R V N R V V APenetrometer I Traxial Tests 40 00 80 82 40 00 82 40 40 80 82 40 40 80 82 40 266.03 0 0 0 0 0 0 0 0 0 0 0 0 0 0 90 82 Atterberg Limits and Moisture W, W		Ē		Ĭ	Ľ						MC	S Field Vane Test (#=Sensitivity)	
T T STRATA DESCRIPTION A D T T W W Atterborg Umits and Moisture Wp W W, W Atterborg Umits and Moisture Wp W, W W, W W, W Atterborg Umits and Moisture Wp W, W W, W W, W Atterborg Umits and Moisture Wp W, W W, W W, W Atterborg Umits and Moisture Wp W, W W, W W, W W, W Atterborg W W, W	Ĕ	X		ΙĀ	ĸ			N	R		ΙN	▲ Penetrometer ■ Triaxial Tests	
n n p N N p N <td>1 5</td> <td>Î</td> <td>STRATA</td> <td> Å</td> <td>P</td> <td></td> <td>Ţ</td> <td>Ŭ</td> <td>Ī</td> <td>N</td> <td>S T T E</td> <td>40 80 kPa</td> <td></td>	1 5	Î	STRATA	Å	P		Ţ	Ŭ	Ī	N	S T T E	40 80 kPa	
n n		Ö N	DESCRIPTION	P	NS		Ė	B	Ĭ	(blows)	U N R T	Atterberg Limits and Moisture	
Image Image <th< th=""><th></th><th></th><th></th><th> <u>b</u></th><th>ļĮ</th><th></th><th>-</th><th>Ŕ</th><th>Ŗ</th><th>(,</th><th>Е</th><th></th><th></th></th<>				<u>b</u>	ļĮ		-	Ŕ	Ŗ	(,	Е		
-0 266:78 TOPSOIL - 250 mm 10 <td< th=""><th>(m bgs)</th><th>(m) 266.03</th><th></th><th>Т</th><th>Ý</th><th></th><th></th><th></th><th>(mm)</th><th></th><th>(%)</th><th>SPT N Value × Dynamic Cone 10 20 30 40</th><th></th></td<>	(m bgs)	(m) 266.03		Т	Ý				(mm)		(%)	SPT N Value × Dynamic Cone 10 20 30 40	
SAND AND GRAVEL - brown, coarse grained, trace to some sill, dense to very ense, damp to moist Z SS S1 250 45 -2 -3 Z SS S2 300 38 -4 20161	-0 -	265.78	TOPSOIL - 250 mm	<u>, 17. 1</u>	(KN/m	5)					(70)		_
1 grained, trace to some sill, dense to very dense, damp to moist 22 SS S1 250 45 250 38 2 2 25S S2 300 38 28 51 250 45 250 45 250 45 250 45 250 38 250 38 250 38 250 38 250 38 250 38 250 38 250 38 250 38 250 38 250 38 250 38 250 38 250 250 38 250 250 38 350 250 250 250 78 250 78 250 78 250 27 250 250 78 250 78 250 78 250 78 250 78 250 78 250 78 250 78 250 78 250 78 250 78 250 78 250 78 250 78 250 78 250 78 250 78 250 78 78	-		SAND AND GRAVEL - brown, coarse	0.00		77							-
-2 -2 <td< td=""><td>-1</td><td></td><td>grained, trace to some silt, dense to very dense, damp to moist</td><td>0.00</td><td></td><td></td><td>ss</td><td>S1</td><td>250</td><td>45</td><td></td><td></td><td>-</td></td<>	-1		grained, trace to some silt, dense to very dense, damp to moist	0.00			ss	S1	250	45			-
2 2 2 2 5 S3 400 51 -3 -3 2 SS S4 400 20 -4 2 -4<				0.0.0.0			ss	S2	300	38		┠┼┼┼╎┼╎┼╎┼╎┼╎┿┼┼┼┼┤	-
-3 -3 -2 -3 -2 -3 -4 -5 -5 SAND - brown, coarse grained, trace gravel, compact, very moist to wet -2 -5 -5 -5 -5 -5 -5 -5 -5 -6 -5 -5 -6 -6 -7<				000		7	00	63	100	51			
261.61 261.61 261.61 285 S4 400 20 261.61 SAND - brown, coarse grained, trace gravel, compact, very moist to wet 285 S6 450 27 6 259.78 CLAYEY SILT TILL - grey, some sand, very stiff, moist 285 S7 450 17 77 Stiff, moist Stiff, moist 285 S7 450 17 8 5 5 5 5 17 5 5 9 5 5 5 5 17 5 5 10<	-3			000				33	400	51			-
261.61 83.00 - brown, coarse grained, trace gravel, compact, very moist to wet 25.00 - 27 -6 259.78 259.48 CLAYEY SILT TILL - grey, some sand, very stiff, moist 25.85 57 450 17 -7 <	-			0,00			ss	S4	400	20			-
251.01 SAND - brown, coarse grained, trace gravel, compact, very moist to wet 25.0 25.0 25.0 27 27	-4	004.04		0000		÷Х	AS	S5				┠┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼	
-5 compact, very moist to wet -2 -3 -4 -2 -5 -6 -2 -5 -6 -4 <td>-</td> <td>201.01</td> <td>SAND - brown coarse grained trace gravel</td> <td>000</td> <td></td> <td></td> <td></td> <td>00</td> <td>450</td> <td>07</td> <td></td> <td></td> <td>-</td>	-	201.01	SAND - brown coarse grained trace gravel	000				00	450	07			-
259.78 259.78 259.48 CLAYEY SILT TILL - grey, some sand, very 92.12 258. S7 450 17	-5		compact, very moist to wet			1	SS	56	450	27			-
259.78 259.48 CLAYEY SILT TILL - grey, some sand, very stiff, moist 9 55 57 450 17 9	-				I∶E:								-
239.40 CLAYEY SILT TILL - grey, some sand, very 240.2 230.50 110 111 -7 End of Borehole at 6.6 m bgs. - -8 - -9 - -10 - -11 - -12 - -13 - -14 - -15 -	-6	259.78			ĽН.		Iss	S 7	450	17		┠┼┽┽┽┽┥┪┙┥┥┥┥┥┥┥┥	_
		209.40	Stiff, moist	911.1				01		17			
-8 - 9 - 91011121313151515	[']		End of Borehole at 6.6 m bgs.										
-9 -10 -10 -10 -10 -11 <td>_8</td> <td></td> <td>_</td>	_8												_
-91011121315151515151415151415151415141514141514141514141514141514141514141514141514141514141514141415141415141415141415141414151414141514141414141414141414141514	-												-
	-9												
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	[''												
	-18												
								0.4.4.4					
SAMPLE LEGEND	NOT	TES						SAM	PLE L \S Au	EGEND	ple 🛛	SS Split Spoon ST Shelby Tube	
1) Borehole Log interpretation requires assistance by EXP before use by others	1) B	iorehole I	og interpretation requires assistance by FXP befo	oreus	e bv r	othe	ers	ΠF	Rock Č	Core (eg.	BQ, N	Q, etc.) 🔲 🖾 VN Vane Sample)
Borehole Log must be read in conjunction with EXP Report	B	Borehole L	og must be read in conjunction with EXP Report		- ~, <			OTH	ER TE	ESTS Gravity	c	Consolidation	
2) Borehole was open and dry upon completion of drilling.	2) B	2) Borehole was open and dry upon completion of drilling.						HH	ydrom	eter	ci	D Consolidated Drained Triaxial	
3) bgs denotes below ground surface. 4) No significant methane gas concentration was detected upon completion of Vulnit Weight ULU upon solidated Undrained Triavial	3) b 4) N	3) bgs denotes below ground surface.						S Si	eve A	nalysis	C	U Consolidated Undrained Triaxial	
drilling. C Weight State Level Measurements	d d	rilling.			Pictic		.,	PFi	eld Pe	ermeabili	ty U	C Unconfined Compression	
Date Depth to Water (m bgs) Water Level Elevation (mASL)	5) V	vater Lev Date	el measurements <u>Depth to Water (m bgs)</u> Water Level Eleva	<u>tion (</u> m	<u>ASL</u>)		K La	ab Per	meability	/ D:	S Direct Shear	
May 24, 2019 5.06 260.9 WATER LEVELS	May	24 <u>, 2</u> 019	5.06 260.9					WAT ∇ 4	ER LE	=VELS ent	▼ M	easured 🛋 Artesian (see Notes))

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BOREHOLE LOG

BH5

Sheet 1 of 1

CLIENT Drewlo Holdings Inc.

PROJECT _______ Edge Valley Subdivision Phase 2

DATUM Assumed

LOCATION London, ON

DATES: Boring April 25, 2019 Water Level

____ PROJECT NO. _____ PROJECT NO. _____

	E		s	B			SAMPLES				SHEAR STRENGTH	
n	E		İĬ	Ľ						MC	S Field Vane Test (#=Sensitivity)	
Ĕ	X		Ì₿	K			М	R		IN	▲ Penetrometer ■ Triaxial Tests	
۲	Ŧ	STRATA	Ā	P		τ	Ü	Ž	Ν	STE	40 80 kPa	
н	٥.	DESCRIPTION	Р	Ň		<u>P</u>	B	μŇ		Ŭ Ñ R T	Atterberg Limits and Moisture	
	N		L L	ļ		E	R	R	(biows)	Ë	W _P W W _L	
n bgs)	(m) 257 50		Ť	ΙΫ́				Y		(0/)	• SPT N Value × Dynamic Cone	
0 -	257.50	TOPSOIL - 250 mm	N 17. N	(kN/m3)				(mm)		(%)		-
	201.20	SAND - brown, some gravel, trace silt, coarse	0.00									-
-1		grained, some fine sand layering, dense, damp	0.000		\square	SS	S1	200	30		╞╾╾╴╴	-
		to moist	0.0.0			ss	S2	300	47			-
-2			000	1	22 77						╞┽┽┼┽┽┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼	-
		- cobble encountered near 2.4 m bgs	.0 = 0 0 \ 0		12	SS	S3	150	50*		••••••	-
-3		- becoming wet near 3.0 m bgs	000			ss	S4	300	37			
4	253.46											
4		CLAYEY SILT TILL - grey, some sand, some	98K									
5	252.47	gravel, hard, moist	ØL]	\mathbb{Z}	SS	S5	450	30			_
Ŭ		End of Borehole at 5.0 m bgs.										_
-6											-	_
												-
-7											-	_
												-
-8											-	-
												-
-9												-
10												1
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-11												
• •												_
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-16											-	-
17												
-17												
-18											-	_
							SAM ⊠ △	PLE L	EGEND	nle 🕅	SS Split Spoon 🔲 ST Shelby Tube	
	<u>IES</u> arabala l	or interpretation requires assistance by EVD befo			th a		D F	Rock C	ore (eg.	BQ, N	Q, etc.)	
שיי B	orehole L	Log must be read in conjunction with EXP Report	ne use	- ny 0	пе	15.	OTH	ER TE	STS	-		
L 2) R	ON00017	018-GE. vas open to 3.1 m bos and dry upon completion of	f drillin	a			G SI	pecific	Gravity eter	C	Consolidation Consolidated Drained Triaxial	
3) b	gs denote	es below ground surface.		.g.		,	S Si	eve A	nalysis	Cl	J Consolidated Undrained Triaxial	
4) N d	o signific: rillina.	ant methane gas concentration was detected upo	n com	pletio	o ר	ſ	Υ Ui P Fi	nit We eld Pe	ight rmeabili	UU tv U	J Unconsolidated Undrained Triaxial	
5)*	denotes (50 blows for 100 mm split spoon sampler penetra	tion.				K La	ab Per	meability	/ DS	S Direct Shear	
							WAT	ER LE	VELS	_		
							¥Α	Appare	nt	¥ Me	easured Ā Artesian (see Notes)	

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BOREHOLE LOG

BH6/MW

Sheet 1 of 1

Drewlo Holdings Inc.

PROJECT Edge Valley Subdivision Phase 2

____ DATUM <u>Geodetic</u>

LOCATION London, ON

DATES: Boring April 18, 2019

Water Level <u>May 24/19</u>

PROJECT NO. LON-00017018-GE

	Ē		s	B		5		SAMPLES			SHEAR STRENGTH	
Ы	Ē		Ī	Ľ				_		MC	S Field Vane Test (#=Sensitivity)	
Ĕ	X		Ì₽	ĸ			N	R		ιN	▲ Penetrometer ■ Iriaxial lests	
۲ I	Î	STRATA		P		Ϋ́	Ü	Ž	Ν	ST	40 80 kPa	
н	ģ	DESCRIPTION	P	N		P	B	ν	VALUE	ΫĀ	Atterberg Limits and Moisture	
	N		ΪĻ			E	E	ER	(blows)	Ê	W _P W W _L	
(m bgs)	(m)		¥	ļŢ			i,	Ŷ			● SPT N Value × Dynamic Cone	
	261.45			(kN/m	13)			(mm)		(%)	10 20 30 40	
0	261.35	TOPSOIL - lightly vegetated, 100 mm										
		FILL - sandy silt, dark brown, some clay, trace			77.		04	200	20	45		
-1	260.08	organics, compact, moist				55	51	200	29	15		
	259.77	CLAYEY SILT - brown, some sand, very stiff	<u> X X</u>			ss	S2	300	18	12	╞ ┊┊┊┊ ╋╴╪╋╴╴╴╴╴╴╴╴╴╴╴╴╴╴╴╴╴	
-2		SILTY SAND - brown, fine grained, dilatant,				1						
-		loose to compact, moist to wet				SS	S3	300	10	22		
-3	258.20				7	ss	S4	400	6	20		
-	257 44	CLAYEY SILT - grey, firm, wet	KK		//		01		Ŭ	20		
-4	207.41	CLAVEY SILT TILL a grey some sand trace									╞┽┽┽┽┽╋┼┥╋┼┥┥┥╴	
-		fine gravel, very stiff to hard, damp to very	197P		77.		05	450	45	10		
-5		moist	14			55	55	450	15	12		
-			147									
-6			10									
-			T			SS	S6	450	24	11		
-7			196									
-			1 A									
-8			12/11			SS	S7	450	18	10	╞┽┽┼┼╋┼┼┼╇╎┼┼┼┼┼┼┼┼┼┼┼┼┼┤	
_			64	<u>Y</u>								
-9												
Ľ		- cobbles encountered from 9.1 m bgs to 15.2	gt[/								╞┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┤	
_10		m bgs	AP 2									
11			277			ss	S8	400	46	10		
			1			1						
10			A									
			JQ									
			K K									
-13			XX									
Ē			KATK				00	050	F0 *	40		
-14			Ad	日日	14	55	59	350	50 *	12	−−−−	
-			MA	日日								
15			A									
-		- coarse grained, wet sand layering	AT L	日日	<u> </u>	SS	S10	300	74	14	·····	
-16			K.K.	Ŀ₿							╞┽┽┼┼┽┽┼┼┼┼┼┼┼┼┼┼┼┼┼┼┼┤	
-			d M	日								
-17	244.23					SS	S11		50**	7		
-		End of Borehole at 17.2 m bgs.									-	
-18												
			1	I			SAM		FCENID			
NO	TES								ger Sam	ple 🛛	SS Split Spoon ST Shelby Tube	
	oreholo I	og interpretation requires assistance by EVD bef	oreuer	h h v	othe	re	🔲 F	Rock Č	ore (eg.	BQ, N	Q, etc.) 🔲 🖾 VN Vane Sample	
''B	Sorehole L	og must be read in conjunction with EXP Report	LON0	5 Dy)017	018	GE.	OTH	ER TE	STS			
2) B	orehole v	vas open and dry upon completion of drilling.				_	G S	pecific	Gravity	C	Consolidation	
3) D 4) N	3) bgs denotes below ground surface. 4) No significant methane gas concentration was detected upon completion of						н H S Si	yarom eve A	eter nalvsis		J Consolidated Urained Triaxial	
d	rilling.			p.011	5.1 0		γÜ	nit We	ight	U	J Unconsolidated Undrained Triaxial	
5)*,	denotes	50 blows for 130 mm split spoon sampler penetra	tion. ation				P Fi	eld Pe	rmeabili	ty UC	C Unconfined Compression	
7́) v	Vater Lev	el Measurements					K Lab Permeability DS Direct Shear					
Max	<u>Date</u>	Depth to Water (m bgs) Water Level Eleva	tion (m	ASL)		VVAT		VELS	V NA	asured A rtesian (see Notes)	
Inviay	27,2018	, 0.00 ZJJ.1					- + P	vhhaig				

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BOREHOLE LOG

BH7

Sheet 1 of 1

Drewlo Holdings Inc.

PROJECT _Edge Valley Subdivision Phase 2

DATUM Assumed

Water I evel

_ PROJECT NO. ________

LO	CATION	London, ON		DAT	ΈS	S: B	Boring	<u>Ар</u>	oril 25, 2	2019	Water Level	
	E		<u>s</u>	B			SAM	PLES			SHEAR STRENGTH	
P	Ē			K				R			S Field Vane Test (#=Sensitive ▲ Penetrometer ■ Triaxial Te	sts
P	Ĥ	STRATA	Ā	P		Ţ	N U	L C	N	ST	40 80 ķPa	1
"	Ó N	DESCRIPTION	Ľ	N Ş		Р Е	BE	Ĕ	(blows)	U N R T F	Atterberg Limits and Moisture W _P W W _I	*
(m bgs)	(m)		P	Ιţ			R	Ŷ		-	• SPT N Value × Dynamic Co	ne
-0 -	259.80 259.55	TOPSOIL - 250 mm	<u>```'''''``````</u> ``	(kN/m3	;)			(mm)		(%)		┿┿
- 1	200100	FILL - clayey silt, black/brown, trace sand, trace organics, loose, very moist				ss	S1	300	4			
2	257.67	- cobble or boulder encountered near 1.5 m	\bigotimes		Z	ss	S2	50	50*			
-		CLAYEY SILT TILL - grey, some sand, trace	Ť		\mathbb{Z}	ss	S3	450	21			· · · · · ·
3 -		nne gravel, very sun, moist			\mathbb{Z}	ss	S4	450	26			
-4				Į⊥								
- -5	254.77				Z	ss	S5	450	28			
-		End of Borehole at 5.0 m bgs.										
-0												
-7												-
-8												-
9												_
-												
- 10												
-11												
-12												-
-13												_
-												
												-
-15												-
-16												-
- 17												-
L.							SAM	 PLE I	EGEND			
NO	TES						⊠ A □ F	AS Aug Rock C	ger Sam Core (eg.	ple ⊠ BQ, N	SS Split Spoon ■ ST Shelby ⁻ Q, etc.) ■ VN Vane Sa	Fube ample
1) B E	1) Borehole Log interpretation requires assistance by EXP before use Borehole Log must be read in conjunction with EXP Report					ers.	OTH	ER TE	ESTS	° C	Concolidation	•
2) B	LON00017018-GE. 2) Borehole was open to 4.6 m bgs and groundwater encountered ne						HH	ydrom	eter	CI	D Consolidated Drained Triaxial	
3) b	gs upon o gs denote	es below ground surface. ant methane das concentration was detected upor	n com	nletio	n o	f	γ U	nit We	ight		U Unconsolidated Undrained Triaxia	al
d 5) *	rilling.	50 blows for 50 mm split spoon sampler penetratio	on.	picuo			K La	ab Per	meability	y D	S Direct Shear	
							WAT ⊈ A	ER LE	EVELS ent	¥ M	easured 🗴 Artesian (see N	√otes)

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BOREHOLE LOG

BH8/MW

Sheet 1 of 1

Drewlo Holdings Inc.

PROJECT Edge Valley Subdivision Phase 2

DATUM <u>Geodetic</u>

_ PROJECT NO. ________

LOCATION London, ON DATES: B						Boring	Ap	oril 17, 2	019	Water Level May 24/19
	E		S	B U		SAN	IPLES			SHEAR STRENGTH
P	Ē		RA	Ĺ			P		M C O O I N	▲ Penetrometer ■ Triaxial Tests
P	Î	STRATA	I	P	Ţ	Ŭ	E C	N	ST	4080 kPa
•	Ó N	DESCRIPTION	P	N Ş	P E	B	ŬĔ	(blows)	U N R T	Atterberg Limits and Moisture W _P W W
(m bgs)	(m)		P	Ť		R	R		-	● SPT N Value × Dvnamic Cone
-0 -	258.60		0	(kN/m3)			(mm)		(%)	10 20 30 40
-	258.47	CLAYEY SILT TILL - grev. trace to some	9 9 6							
-1		sand, some fine gravel, trace cobbles, stiff to very stiff moist to very moist			gss	5 S1	300	15	12	
-2					⊠ss	5 S2	450	21	12	φ
-					Øss	S S3	400	24	12	• • • • • • • • • • • • • • • • • • •
-3			<u>J</u>	÷	Øss	s S4	450	17	12	
-					22					
-					77					
5			Ho		gss	S S5	400	25	11	
-			9016							
-0					∕∕ss	S S6	100	47	11	
-7										
-					77.55	5 57	400	24	8	
8		- wet sand layering encountered from 7.9 m	3B		2200			24	Ŭ	
-9		bgs to 11.0 m bgs			~~					
-					ss	5 S8	300	14	10	
-10			AB							
-11			126		ss	S S9	250	19	10	
-										
-12	245.05				7/00	S10	300	28	11	
	245.95	End of Borehole at 12.7 m bgs.	1. 1-1.		// 00	, 510	300	20		
-										-
-14										-
										-
-										-
-16										-
-										-
- 17										-
-18										-
						SAM	PLEL	EGEND		
NO	TES						45 Aug Rock C	ger Sam Core (eg.	ple ⊠ BQ, N	SS Split Spoon ■ ST Shelby Tube Q, etc.)
1) B E	orenole L Sorehole L	og interpretation requires assistance by EXP before og must be read in conjunction with EXP Report	ore use	e by of	ners.	OTH	ER TE	STS	~	Concolidation
2) B	ONUU017	via-GE. /as open and dry upon completion of drilling.				HH	ydrom	eter	C C	Consolidation D Consolidated Drained Triaxial
3) b 4) N	gs denote lo signific	es below ground surface. ant methane gas concentration was detected upo	n com	pletior	n of	SSi γU	ieve A nit We	nalysis ight	Cl Ul	J Consolidated Undrained Triaxial J Unconsolidated Undrained Triaxial
d 5) V	rilling. Vater Lev	el Measurements				P Fi	eld Pe	ermeabili	ty Ū	C Unconfined Compression
, Mav	<u>Date</u> 24, 2019	Depth to Water (m bgs) 2.78 Water Level Elevat 256.4	ion (m	ASL)		WAT	ERLE	EVELS	, D.	5 Birot Olical
,	,					<i>▼</i> /	Appare	ent	¥ Me	easured 👗 Artesian (see Notes)

"OV	n

BOREHOLE LOG

BH9 Sheet 1 of 1

CL	IENT	Drewlo Holdings Inc.					PROJECT NO LON-00017018-GE							
PR	OJECT	Edge Valley Subdivision Phase 2							DA	TUM Assumed				
LO	CATION	London, ON		DAT	ES:	Borin	g <u>A</u> p	oril 25, 2	2019	Water Level				
	E		ş	BU		SA	IPLES	1	мс	SHEAR STRENGTH S Field Vane Test (#=Sensitivity)				
DEPTH	шVAT-ON	STRATA DESCRIPTION	RATA PLO		T Y P E		RUCON	N VALUE (blows)	©NTENT URE	▲ Penetrometer ■ Triaxial Tests 40 80 kPa Atterberg Limits and Moisture W _P W W _L				
m bgs)	(m)		¥	Ϋ́			Ŷ			• SPT N Value × Dynamic Cone				
-0 -	261.40 261.05	TOPSOIL - 350 mm	N	(kN/m3)		_	(mm)		(%)					
-1		CLAYEY SILT TILL - grey, some clay, some gravel, some silt layering, very stiff to hard, moist to very moist			⊠s Øs	S S1 S S2	450 400	22 33						
-3		- possible cobble encountered near 2.4 m bgs			⊠s ⊠s	S S3 S S4	200 450	50* 39						
-4	256.37	- possible cobble encountered near 4.0 m bgs			s	S S5	450	48						
5		End of Borehole at 5.0 m bgs.												
-6														
-7 -8										-				
-9														
-10														
-11														
-12														
-13														
-14														
-15														
-16														
-17														
-18										-				
NO1 1) B 2) B 2) B 3) b 4) N 4) N 5) *	rES orehole L ON00017 orehole w gs denote o significa rilling. denotes s	og interpretation requires assistance by EXP befor og must be read in conjunction with EXP Report 018-GE. 'as open to 4.6 m bgs and dry upon completion o 's below ground surface. ant methane gas concentration was detected upo 50 blows for 80 mm split spoon sampler penetrati	ore use f drillin n com on.	e by of ng. pletior	thers	SAM SAM SAM SAM SAM SAM SAM SAM	IPLE L AS Au Rock C IER TE Specific lydrom ieve A Jnit We ield Pe ab Per TER LI Appare	EGEND ger Sam Core (eg ESTS c Gravity eter nalysis eight ermeabilit meabilit EVELS ent	ple ⊠ BQ, N CI CI UI ty UC y DS	SS Split Spoon Q, etc.) ST Shelby Tube VN Vane Sample Consolidation D Consolidated Drained Triaxial U Consolidated Undrained Triaxial U Unconsolidated Undrained Triaxial C Unconfined Compression S Direct Shear easured Artesian (see Notes)				

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	$\mathbf{\nabla}_{\mathbf{i}}$

BOREHOLE LOG

BH10

Sheet 1 of 1

Drewlo Holdings Inc.

PROJECT _______ Edge Valley Subdivision Phase 2_____

DATUM Assumed

Water Level

PROJECT NO. **LON-00017018-GE**

LOCATION London, ON					ES	S: E	oring April 25, 2			2019	Water Level				
	Ę		s	В	3		SAMPLES				SHEAR STRENGTH				
Ē	Ē		T R	Ц К				R		МС ОО	S Field Vane Test (#=Sensitivity) ▲ Penetrometer ■ Triaxial Tests				
P	A Ţ	STRATA	Î	P		Ţ	Ŋ	EC	N	I N S T T F	40 80 ķPa				
н	O N	DESCRIPTION	P	N Ş		Р Е	BE	U V E	VALUE (blows)	Ů Ň Ŗ T	Atterberg Limits and Moisture				
(m bgs)	(m)		ļ	ļţ			R	R Y		E	● SPT N Value × Dynamic Cone				
-0-	265.50			(kN/m3)				(mm)		(%)	10 20 30 40				
-		FILL - clayey silt, black/grey, trace gravel, some organics, lightly vegetated, stripped	\bigotimes		V	AS	S1					-			
-1		surface, loose to compact, very moist	\bigotimes		\wedge	/.0	0.								
-2			\bigotimes			SS	S2		12						
-	262.45		\bigotimes	ĮΨ								-			
-3	262.45	SAND AND GRAVEL - brown, coarse	XXX			ss	S3	300	20		•••••	-			
-4	201.04	CLAYEY SILT - brown, some sand, very stiff,	901			ss	S4	450	19			-			
-	260 47	moist			$\overline{\mathcal{D}}$	ss	S5	450	25			-			
- <u>5</u> -	200.47	Stiff, of Boroholo et 5.0 m has	214/1.					100	20			-			
-6		End of Borehole at 5.0 m bgs.													
-												-			
-/												-			
-8															
-												-			
-9												-			
-10												-			
-												-			
-												-			
-12												-			
-												-			
-												-			
-14												-			
												_			
-												-			
-16												-			
-17												_			
-												-			
-18															
NO	NOTES							SAMPLE LEGEND							
1) B	1) Borehole Log interpretation requires assistance by EXP before use by others							Image: A standard of the standa							
É	Borehole Log must be read in conjunction with EXP Report LON00017018-GE.							OTHER TESTS G Specific Gravity C Consolidation							
 Borehole was open to 3.4 m bgs and groundwater encountered ne bgs upon completion of drilling. 						ear 2.4 m			H Hydrometer CD Consolidated Drained Triaxial S Sieve Analysis CU Consolidated Undrained Triaxial						
 3) bgs denotes below ground surface. 4) No significant methane gas concentration was detected upon con 						f	γ Ui Ρ Fi	nit We eld Pe	ight rmeabili	UI ty LI	U Unconsolidated Undrained Triaxial C Unconfined Compression				
ĺ́d	arilling.						K La	b Per	meability	ý D	S Direct Shear				
								ER LE	EVELS ent	¥ M	easured 🗴 Artesian (see Notes)			