Auger House, Cross Lane,
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Site Investigation Report

Auger Ref:
144634.1.USI

Job Information	
Client	Crawford & Co
Client ref	SU2205242
Visit date	20/12/2022
Report date	17/01/2023

Job Summary

- 2 trial holes undertaken. Read more.
- No CCTV survey undertaken. Read more.
- Trial Hole depth not reached. Read more.

Job Information

Overview	
Brief	Auger were commissioned by Crawford & Co to undertake a site investigation and CCTV inspection of the underground drainage within the area of concern (AOC) at the property.

Findings	
Trial Hole Findings	Within TH1 we revealed the footing but we were unable to reach the required depth in TH1 because we encountered desiccated clay which our engineer could not auger through at 2.6m. The Trail Hole was excavated in the proposed location. We took soil and root samples. These measurements are shown in Trial Hole Log 1 below. The base of the footing of TH1 was determined by probing to a depth below 1m and therefore the exact profiles/depth cannot be guaranteed. Within TH2 we revealed the footing and augered to the required depth (3m) in the proposed location. We took soil and root samples. These measurements are shown in Trial Hole Log 2 below.
Drain Survey	No CCTV survey of the underground drainage was undertaken whilst on site because there was no drainage in the area of concern.

Recommendations	
Refer Back to Client	We will now refer the claim back to the client in order to progress the claim.

Photographs

Trial Hole 1

Fig 1.1: Trial Hole 1 Location

Fig 1.2: Trial Hole 1 Footing

Fig 1.3: TH1

Trial Hole 2

Fig 2.1: Trial Hole 2 Location

Fig 2.2: Trial Hole 2 Footing

Fig 2.3: TH2

auger	Existing Layout	Job Ref: 144635.1 Date: 20/12/2022

FRONT OF PROPERTY

This drawing should be used for diagrammatic purposes only. Auger are not responsible or liable for any 3rd party works undertaken using the details outlined in this drawing.
Confirmation of the drainage configuration can only be confirmed by excavation or detailed technical survey.

LEGEND

- = Manhole (MH)
- = Inspection Chamber (IC)
- = Inspection Point (IP)
- = Blockage / Collapse
- = Soil Vent Pipe (SVP) / WC
- = Combined Waste Gully (CWG) / Foul Waste Gully (FWG)
- = Rainwater Gully (RWG)
- = Rainwater Pipe (RWP)
- = Lines not camera surveyed
- = Lines camera surveyed
- = Assumed water mains feed
- = Walls
- = Fences
- = Building Outline
- = Trial hole
- = Borehole
- = Direction of flow
- = Gate / Door
- = Shrubs / Bush
- = Hedge
- = Tree
- = Steps

Trial Hole Log No.1

Location: Front rhs

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Depth (m)	Symbolic Log	Strata Description	Insitu Tests SV(19)	Insitu Tests	Soil Sample	Root Sample
0.0		Ground Level; Gravel; Stone; Stone				
0.5						
1.0		Moist very stiff Brown silty fine to medium gravelly CLAY	130kpa		Soil @ 1.1m	Root @ 1.1m
1.5			150kpa		Soil @ 1.6m	Root @ 1.6m
2.0		Dry hard Brown silty fine to medium gravelly CLAY	150kpa		Soil @ 2.1m	
2.5		TRIAL HOLE TERMINATED				
3.0						

Trial Hole Log No.2

Location: Rear rhs

Job Ref: 144634.1.USI

Depth (m)	Symbolic Log	Strata Description	Insitu Tests SV(19)	Insitu Tests	Soil Sample	Root Sample
0.0						
0.5						
1.0		Dry hard Brown slightly sandy fine to medium gravelly silty CLAY	150kpa		Soil @ 1m	Root @ 1m
1.5		Dry hard Brown fine to medium gravelly silty CLAY	140kpa		Soil @ 1.5m	Root @ 1.5m
2.0		Dry hard Brown/black slightly sandy fine to medium gravelly silty CLAY	150kpa		Soil @ 2m	
2.5		Dry hard Brown/black fine to medium gravelly silty CLAY	150kpa		Soil @ 2.5m	
3.0		TRIAL HOLE TERMINATED	150kpa			

Richardson's Botanical Identifications

Root identification
Vegetation surveys
Tree/Building investigations
Plant taxonomy

Dr Ian B K Richardson
BSc, MSc, PhD, MRSB, FLS
James Richardson
BSc (Hons. Biology)

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Auger Solutions
Auger House
Cross Lane
WALLASEY
Wirral CH45 8RH

Your ref: **144634-1-2**

Our ref: 85/3205

27/01/2023

Dear Sirs

Root ID

The samples you sent in relation to the above on 20/12/2022 have been examined. Their structures were referable as follows:

TH1, 1.1m		
8 no.	Examined root: FRAXINUS (Ash).	Alive, recently*.
1 no.	Examined root: a conifer - particularly like the family CUPRESSACEAE (cypresses ('macrocarpa', 'Leylandii' etc.), Thuja (Western Red Cedar), Junipers).	Alive, recently*.
3 no.	Unfortunately all with insufficient cells for identification.	
TH1, 1.6m		
2 no.	Examined root: FRAXINUS (Ash). Very THIN.	Dead* (note this 'dead' result can be unreliable with such thin samples).
3 no.	All pieces of BARK only - not enough material for identification.	
3 no.	Unfortunately all with insufficient cells for identification.	
TH2, 1.0m		
2 no.	Examined root: FRAXINUS (Ash).	Alive, recently*.
4 no.	Examined root: the family CUPRESSACEAE (as listed above).	Alive, recently*.
1 no.	Examined sample: very immature (under 0.15mm in diameter). NOT a conifer. Could well be only a section of TWIG, rather than a root.	Alive, recently*.
4 no.	Unfortunately all with insufficient cells for identification.	

/ continued overleaf

TH2, 1.5m		
1 no.	Examined root: very THIN (not more than 0.06mm in diameter). We cannot rule out FRAXINUS (Ash).	Dead* (as previously, this 'dead' result could be unreliable).

Click here for more information: CUPRESSACEAE FRAXINUS

I trust this is of help. Please call us if you have any queries; our Invoice is enclosed.

Yours faithfully

Dr Ian B K Richardson

* Based mainly on the Iodine test for starch. Starch is present in some cells of a living woody root, but is more or less rapidly broken down by soil micro-organisms on death of the root, sometimes before decay is evident. This result need not reflect the state of the parent tree.

* * Try out our web site on www.botanical.net * *

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	Geotechnical Testing Analysis Report	auger environmental + claims mgmt + subsidence + drainage +
Unit 3 & 4, Heol Aur, Dafen Ind Estate, Dafen Llanelli, Carmarthenshire, SA14 8QN	*The testing results contained within this report have been performed by GSTL a UKAS accredited laborotory on behalf of Auger.	Auger House, Cross Lane, Wallasey, Wirral, CH45 8RH

Summary Of Claim Details

Policy Holder	Unknown
Risk Address	Unknown
SI Date	20/12/2022
Issue Date	20/12/2022
Report Date	16/01/2023
Auger Reference	144634.1.3.RSS
Insurance Company	Axa Insurance
LA Claim Reference	SU2205242
LA Co. Reference	Crawford & Co

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Checked and approved	16/01/2023	Wayne Honey	

UKAS TESTING
2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.4 & 5.3) DESCRIPTIONS	auger environmental claims mgmt subsidence drainage
GSTL Contract Number	**63564**	
Risk Address	**Unknown**	
Auger Reference	**144634.1.3.RSS**	

TH Trial Hole	Sample Type	Depth (m)	Sample Description
TH1	D	1.10	Brown silty fine to medium gravelly CLAY
TH1	D	1.60	Brown fine to medium gravelly silty CLAY
TH1	D	2.10	Brown fine to medium gravelly silty CLAY
TH2	D	1.00	Brown slightly sandy fine to medium gravelly silty CLAY
TH2	D	1.50	Brown fine to medium gravelly silty CLAY
TH2	D	2.00	Brown/black slightly sandy fine to medium gravelly silty CLAY
TH2	D	2.50	Brown/black fine to medium gravelly silty CLAY

Test Operator
Jason Smith

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.4 & 5.3)	auger environmental claims mgmt subsidence drainage
GSTL Contract Number	**63564**	
Risk Address	**Unknown**	
Auger Reference	**144634.1.3.RSS**	
Remarks	NP - (Non-Plastic), # - (Liquid Limit and Plastic Limit Wet Sieved)	

TH Trial Hole	Sample Type	Depth (m)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing .425mm %	NHBC Chapter 4.2	Remarks
TH1	D	1.10	25	75	22	53	96	HIGH VCP	CV Very High Plasticity
TH1	D	1.60	26						
TH1	D	2.10	20	70	20	50	96	HIGH VCP	CH/V High/HighPlasticity
TH2	D	1.00	17	63	18	45	96	HIGH VCP	CH High Plasticity
TH2	D	1.50	18						
TH2	D	2.00	17	58	18	40	96	MEDIUM VCP	CH High Plasticity
TH2	D	2.50	25	74	22	52	96	HIGH VCP	CV Very High Plasticity

Modified Plasticity Index (PI) <10	: Non Classified
Modified PI = 10 to <20	: Low volume change potential (LOW VCP)
Modified PI = 20 to <40	: Medium volume change potential (Med VCP)
Modified PI = 40 or greater	: High volume change potential (HIGH VCP)

The Atterberg Limits May also be used to classify the volume change potential of fine soils using the National House building system, as given in the NHBC's Standards Chapter 4.2 (2003) "Building Near Trees"

Test Operator
Jason Smith

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION
BS 5930:1999+A2:2010

Modified Plasticity Index (PI) <10	: Non Classified
Modified PI = 10 to <20	: Low volume change potential (LOW VCP)
Modified PI = 20 to <40	: Medium volume change potential (Med VCP)
Modified PI = 40 or greater	: High volume change potential (HIGH VCP)

The Atterberg Limits May also be used to classify the volume change potential of fine soils using the National House building system, as given in the NHBC's Standards Chapter 4.2 (2003) "Building Near Trees"

Test Operator
Jason Smith