

Site Investigation Report

Auger Ref:

164086.1.USI



Job Information

Client	Admiral (Subs)
Client ref	QG1S1250222
Visit date	19/01/2024
Report date	07/02/2024

Job Summary

- ✓ CCTV survey undertaken. [Read more.](#)
- ✓ 1 trial hole undertaken. [Read more.](#)



Job Information

Overview

Brief

Auger were commissioned by Admiral (Subs) 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

Trial Hole 1

Trial hole 1 was completed in the requested location and reached the requested depth. The footing was discovered.

Root samples were taken at 1.0m and 1.5m. Soil samples were taken at 1.0m, 1.5m, 2.0m and 2.5m.

Drain Survey

We carried out a CCTV survey of the below ground drainage system, our findings of which are as follows:

Line 3 - From MH1 upstream to Beyond AOC

Our survey of line 3 revealed cracking at ???m. However, it was noted that this pipework is shared with a neighbouring property and the defects are therefore the sole responsibility of the local water authority.

Line 5 - From MH1 upstream to RWG2

Our survey of line 5 revealed no significant defects to the pipework on this line which could be allowing an escape of water.

Line 1 - From SVPI downstream to FROZEN

We were unable to complete a full CCTV survey of line 1 due to encountering frozen root mass just downstream of the restbend.

Line 2 - From RWG1 downstream to FROZEN

We were unable to complete a full CCTV survey of line 2 due to encountering a frozen root mass just downstream of the restbend.

Line 4 - From MH1 upstream to Upwards Deviation

We were unable to complete a full CCTV survey of line 4 due to a very sharp and steep upward deviation that our engineer could not push their camera around.

Recommendations

Recommendations

We are recommending a return visit to conduct further investigations. This will involve:

Line 1: Root cutting and jetting downstream to clear the line and then completing a CCTV survey to determine the line route and condition.

Line 2: Root cutting and jetting downstream to clear the line and then completing a CCTV survey to determine the line route and condition.

Our investigations revealed potential defects within drainage lines that we understand to be LWA assets. These defects could be leading to an escape of water into the surrounding ground. If the Loss Adjuster/Engineer is of the opinion that these defects are an influence in the cause of subsidence to the building structures, we recommend you inform the LWA of the problem and request that they (the LWA) inspect and repair their asset. We cannot undertake any further inspection or repair of LWA assets without the express approval of the LWA.

We will now refer this back to the client.

Photographs

Trial Hole 1

Fig 1.1: Trial Hole 1 Location



Fig 1.2: Trial Hole 1 Footing



CCTV Stills

Fig 2.1: Line 1



Fig 2.2: Line 2

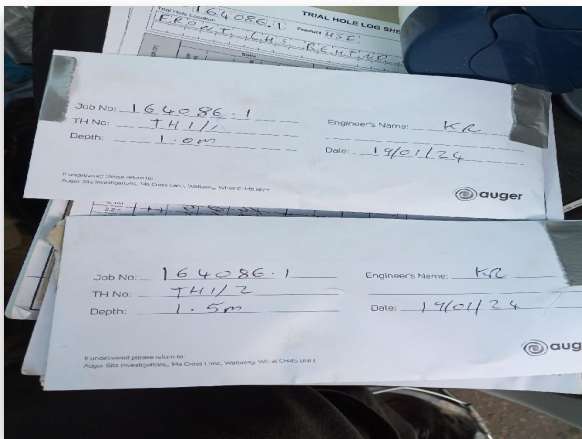


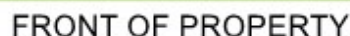
Site Photos

Fig 3.1: Trial hole 1 soil samples



Fig 3.2: Trial hole 1 root samples





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

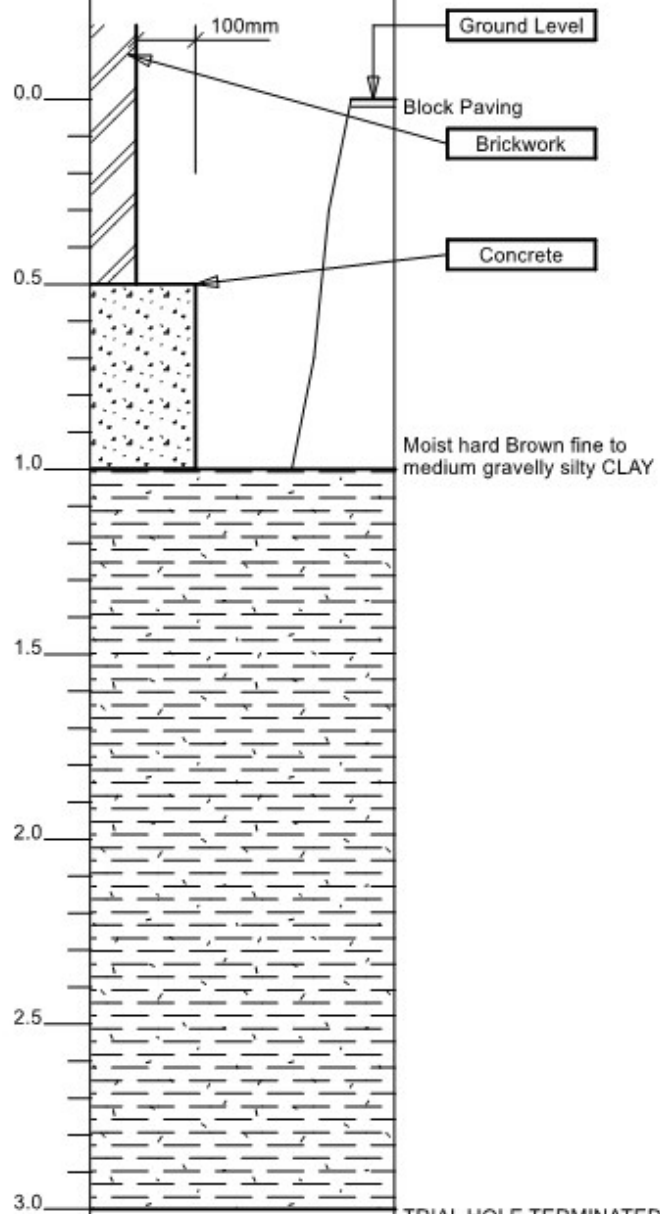
 = Manhole (MH)	 = Blockage / Collapse	 = Lines not to be camera surveyed	 = Trial hole	 = Shrubs / Bush
 = Inspection Chamber (IC)	 = Soil Vent Pipe (SVP) / WC	 = Lines to be camera surveyed	 = Borehole	 = Hedge
 = Inspection Point (IP)	 = Combined Waste Gully (CWG) / Foul Waste Gully (FWG)	 = Assumed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



Trial Hole Log No.1

Location: Front RHS behind RWG1

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Depth (m)	Symbolic Log	Strata Description	Insitu Tests		Soil Sample	Root Sample
			SV(19)			
0.0		Ground Level				
		Block Paving				
		Brickwork				
0.5		Concrete				
1.0		Moist hard Brown fine to medium gravelly silty CLAY	150kpa		Soil @ 1m	Root @ 1m
1.5			150kpa		Soil @ 1.5m	Root @ 1.5m
2.0			150kpa		Soil @ 2m	
2.5			150kpa		Soil @ 2.5m	
3.0		TRIAL HOLE TERMINATED	150kpa			

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 laboratory on behalf of Auger.**

**Auger House,
Cross Lane,
Wallasey,
Wirral,
CH45 8RH**

Summary Of Claim Details

Policy Holder

GSTL Job Reference

70859

SI Date

19/01/2024

Issue Date

19/01/2024

Report Date

07/02/2024

Auger Reference

164086.1.2.RSS

Insurance Company

Admiral

LA Claim Reference

QG1S1250222

LA Co. Reference

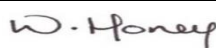
Admiral (Subs)

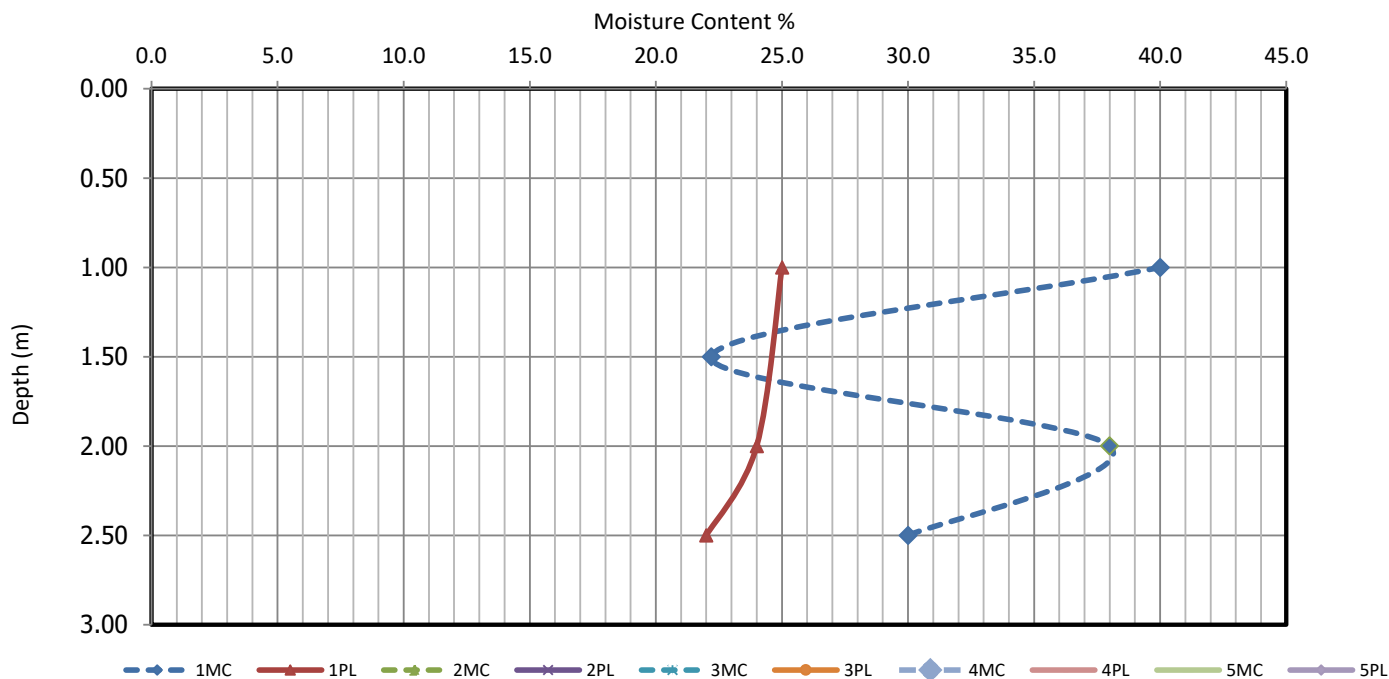
This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of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

Checked and approved

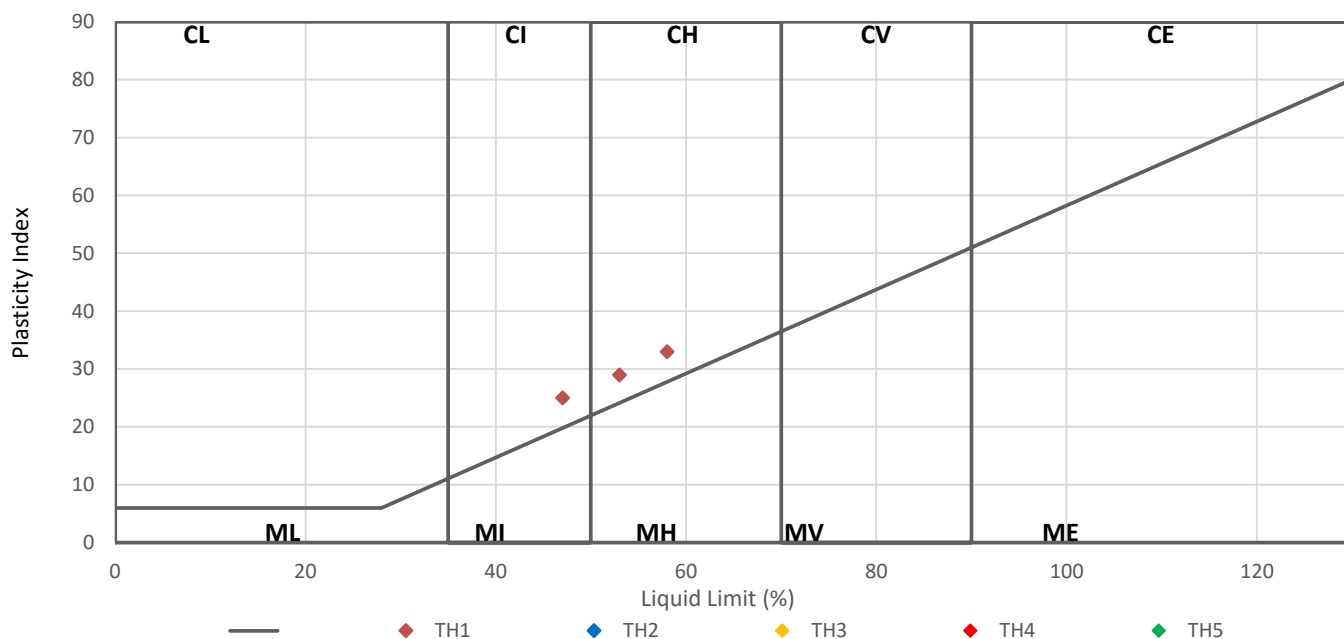
07/02/2024

Wayne Honey





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

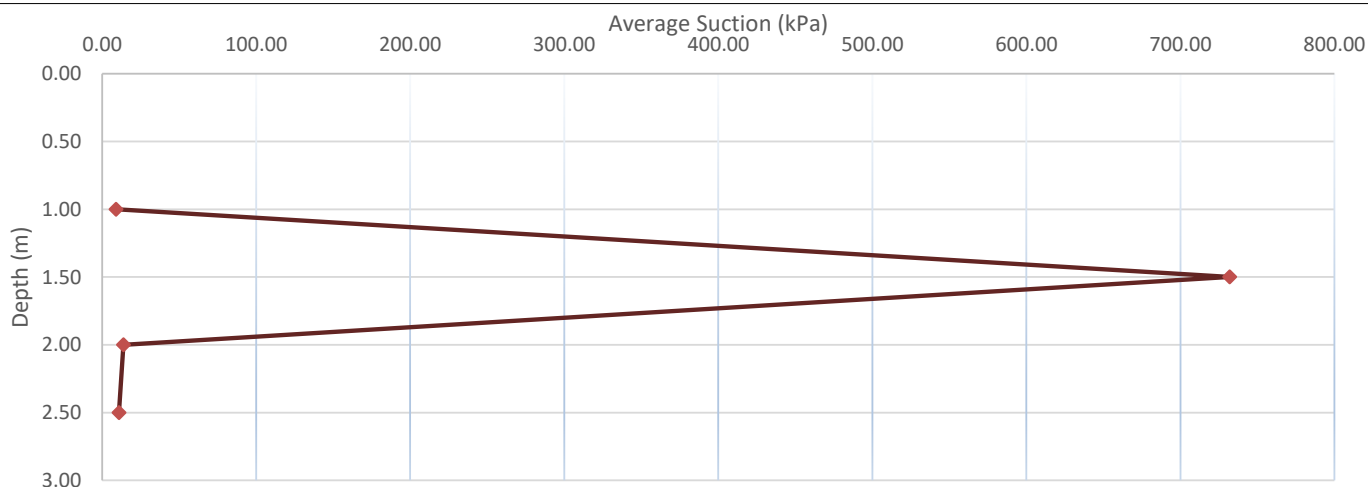
GSTL Contract Number	70859	
Report Date	07/02/2024	
Auger Reference	164086.1.2.RSS	
Remarks	D - Disturbed (Recompacted 2.5kg Rammer), U - Undisturbed Sample	

TH Trial Hole	Depth (m)	Filter Paper Location	Filter Paper	Sample Prep Method	Test Duration (Days)	Water Content (%)	Soil Suction Pk (kPa)	Average Soil Suction Pk (kPa)	Cumalative Heave Potential (mm) from bottom of the hole
TH1	1.00	Top	I	D	5	113.0	9	9	0
TH1		Middle	II	D	5	114.0	9		
TH1		Bottom	III	D	5	113.0	9		
TH1	1.50	Top	I	D	5	31.7	740	732	0
TH1		Middle	II	D	5	31.8	731		
TH1		Bottom	III	D	5	31.8	725		
TH1	2.00	Top	I	D	5	95.4	14	14	0
TH1		Middle	II	D	5	95.7	14		
TH1		Bottom	III	D	5	95.9	14		
TH1	2.50	Top	I	D	5	105.0	11	11	0
TH1		Middle	II	D	5	105.0	11		
TH1		Bottom	III	D	5	106.0	11		

Heave potential is calculated from the bottom of the hole and heaves above the bottom of the hole are reported as a cumulative value.

The values reported for heave above only apply to the strata the suction and plasticity have been performed on. The shallowest depth reported is assumed to be a strata thickness to GL and Heave is calculated based on that layer thickness, if the next sample is in 0.5m increments the heave is calculated based on the layer thickness of 0.5m and depths 1m from the sample above will include heave over 1m.

Consideration should be made for other stratas where values are not reported and when working out the heave potential over the entire trial hole.



Test Operator
Jason Smith



Root identification
Vegetation surveys
Tree/Building investigations
Plant taxonomy

Richardson's Botanical Identifications

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

Auger Solutions

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07/02/2024

Your ref: **164086-1-1**

Our ref: **88/1208**

Dear Sirs

Root ID

The samples you sent in relation to the above on 19/01/2024 have been examined. Their structures were referable as follows:

TH1, 1.0m		
9 no.	Examined root: FAGUS (Beech).	Alive, recently* .
1 no.	Examined sample: unusual in structure. Possibly only a piece of TWIG or SUCKER, rather than a root. Origin could be PRUNUS (Cherries, Plums and Damsons, Almonds, Peaches and Apricots, Blackthorn/Sloe, as well as the shrubby Cherry-laurel and Portugal-laurel). This was a TENTATIVE identification.	Alive, recently* .
8 no.	Unfortunately all with insufficient cells for identification.	
TH1, 1.5m		
4 no.	Examined root: ACER (Maples, Sycamores).	Alive, recently* .
9 no.	Unfortunately all with insufficient cells for identification.	

Click here for more information: [ACER](#) [FAGUS](#) [PRUNUS](#)

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.

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