



SITE INVESTIGATION REPORT

Client's Name: Wakeford

Address: 21 Cavendish Drive,
,
Waterlooville,
PO7 7PJ

Report Date: 18-Nov-11

Job No.: 51442

(If _R suffix appears after Job No.,
this indicates Revision Number)

Insurance Co.: Infront Innovation

Claim Ref. No.: IFS-RBS-SUB-11-0031275

Project Engineer: Spencer Caizley

From: Infront Innovation,

Engineers Ref.:

Contents: Site Layout
Foundation Exploratory Hole Records
Penetrometer Plot

Address: Mat Lab Ltd
The Dell
Bickenhill Lane
Catherine-De-Barnes
Solihull
B92 0DE

Phone No.: 0121 704 3339

Fax No.: 0121 704 4675

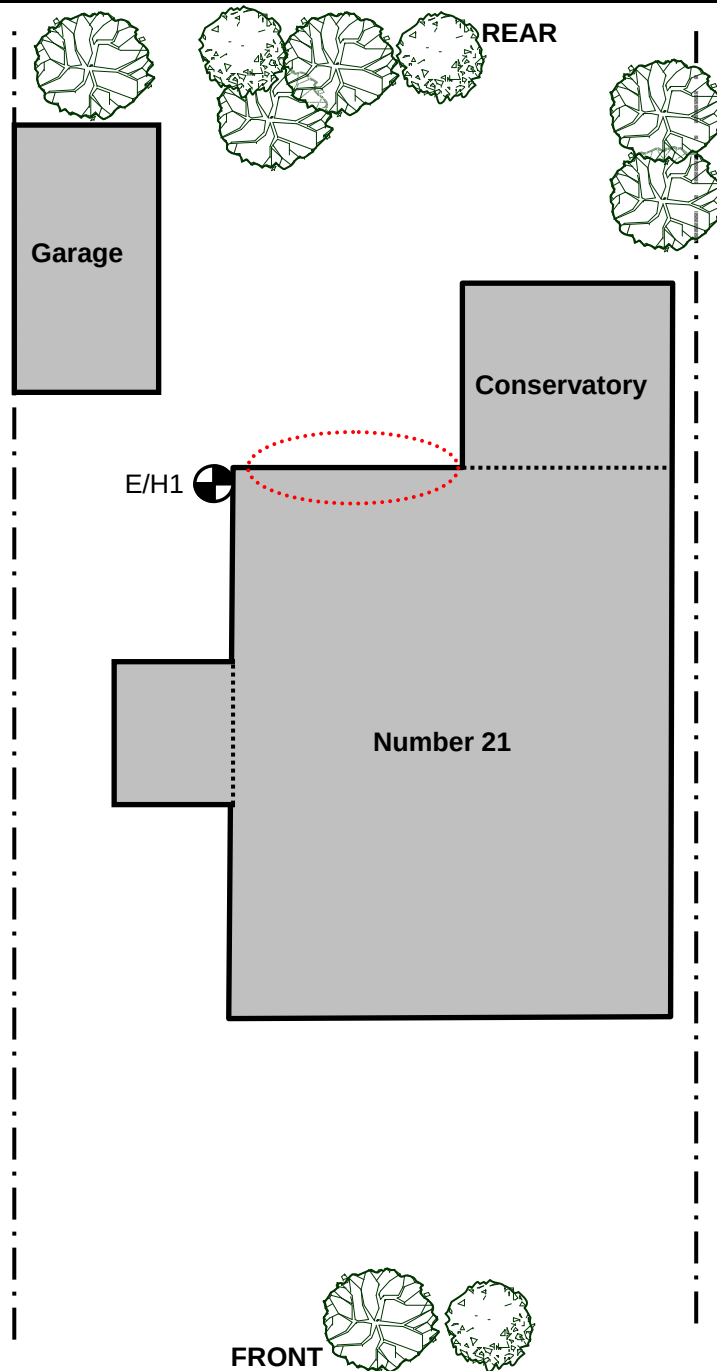
E-mail: post@mat-lab.com

Checked By :

Date :

Site Crew: Wayne

Date: 11-Nov-11



(This plan is not to be scaled and is provided to illustrate general layout only)

General Comments:

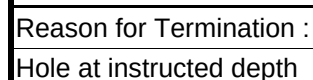
Key:

- =RWGully
- =RWPipe
- =FWGully
- =W/C or S.V. pipe
- =Inspection Chamber
- =Rodding Eye
- =E/H=Exploratory Hole (hand dug pit and/or hand auger)
- =Surveyed pipe indicating flow
- =Unsurveyed pipe
- =Area of Damage
- =Hedge or Shrub
- =Trees
- =Boundary line
- =Outlet at 6 o'clock
- =Inlet at 12 o'clock

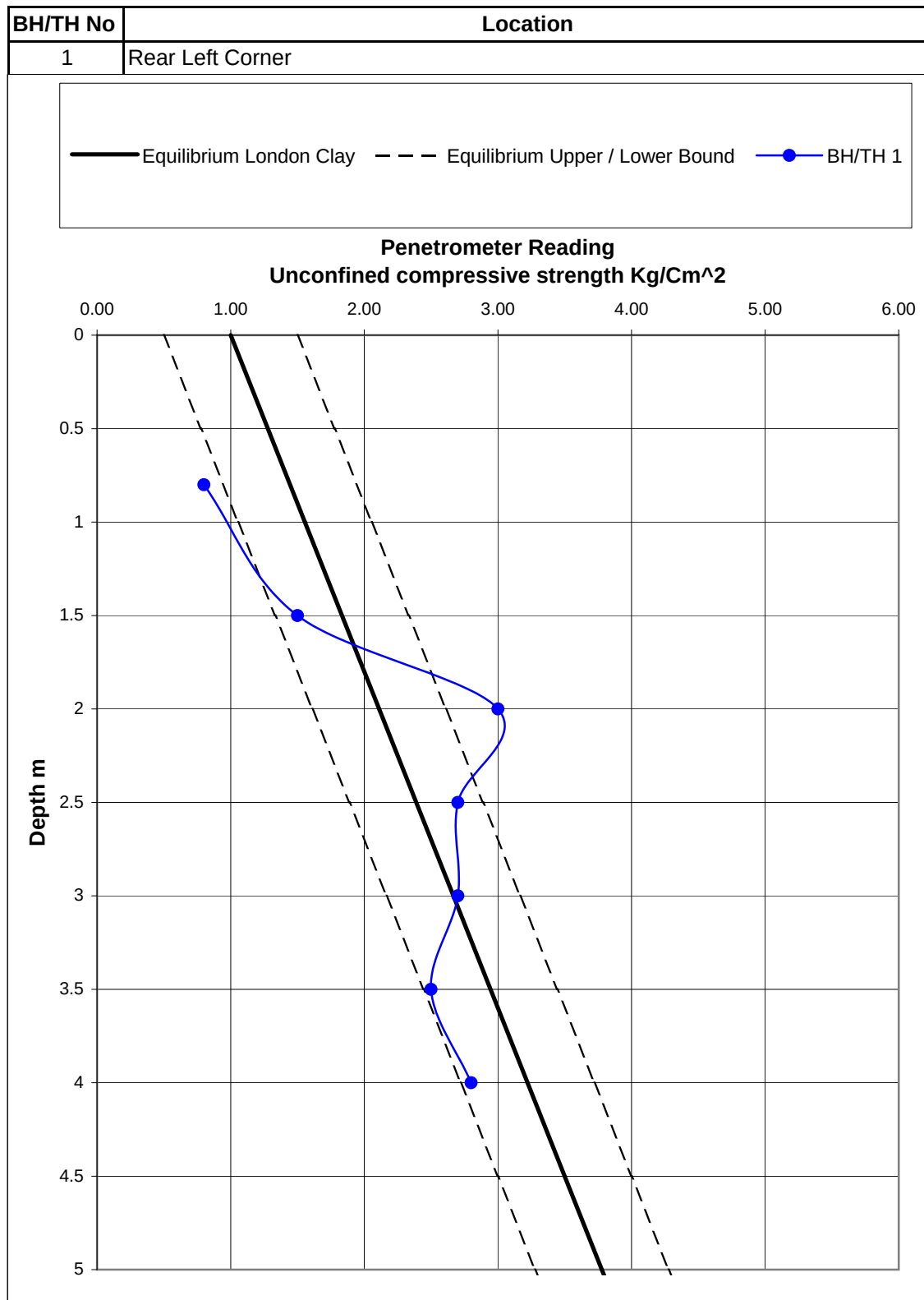
Address: 21 Cavendish Drive, , Waterlooville, PO7 7PJ

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For the interpretation of the above penetrometer results please refer to :-

- 1) Desiccation in clay soils. BRE Digest. 412. February 1996, Comparisons of strength profiles.
- 2) Pugh R. S., Parnell P. G. and Parkes R. D. A rapid and reliable on-site method of assessing desiccation in clay soils. Proceedings of the Institution of Civil Engineers Geotechnical Engineering, 1995, 113, Jan., 25–30.

Address: **21 Cavendish Drive, , Waterloo, PO7 7PJ**

Job No. **51442**



LABORATORY REPORT

Client's Name: Wakeford

Address: 21 Cavendish Drive,
,
Waterlooville,
PO7 7PJ

Report Date: 02-Dec-11

Job No.: 51442

(If _R suffix appears after Job No.,
this indicates Revision Number)

Insurance Co.: Infront Innovation

Claim Ref. No.: IFS-RBS-SUB-11-0031275

Project Engineer: Spencer Caizley

From: Infront Innovation,

Engineers Ref.:

Contents: Root Analysis
Moisture Content
Atterberg Limits
Suction Tests

Address: Mat Lab Ltd
The Dell
Bickenhill Lane
Catherine-De-Barnes
Solihull B92 0DE
E-mail: post@mat-lab.com

Phone No.: 0121 704 3339 **Fax No.:** 0121 704 4675

Authorised By:

J Crooks - Reports Technician

Date Authorised: 02/12/2011

Analysis subcontracted to European Plant Science Laboratory

Your ref: 51442**Job No:** Root211111124803**Re:** Root Identification**Sample Origin:** 21 Cavendish Drive, Waterlooville, PO7 7PJ

The sample of roots taken from the above property and received by us on 21 November 2011, has been examined and identification appears to be as follows:

Reference	Depth	Species Identified		Root Diameter	Starch
BH1 site	to 3.5m	probably <i>Quercus</i> spp. but possibly <i>Castanea</i> spp.	1	1 mm	None Visible
BH1 site	to 3.5m	not a tree or shrub root		<1 mm	None Visible

Comments:

1 - Three the same; all rather juvenile.

Quercus spp. are oaks. *Castanea* spp. include sweet chestnut.

1 species was identified.

Signed MDM

Unless we are otherwise instructed in writing, the above sample material will normally be disposed of 3 years after the date of this report.

Address: 21 Cavendish Drive, , Waterlooville, PO7 7PJ

Job No. 51442

Date Soil Samples Received in Laboratory: 17-Nov-11

Date Testing Requirements Approved: N/A

This Soils Report contains results for 1 borehole(s) on 1 page(s)

General

Soils were prepared in accordance with BS1377:Part 1:1990 Section 7

Laboratory soil sample descriptions in general accordance with BS5930:1999

Where samples are not tested on same date for a particular test type, Test Date quoted refers to the day of testing of final sample

All samples will be disposed of within 1 month of presentation of this report unless otherwise advised

Natural Moisture Content

Test Date: 18-Nov-11

Tested in accordance to BS1377:Part 2:1990 Section 3.2

A sample quantity of 100g is used for fine-grained soils, where available

Where sample quantity is critical, a minimum of 50g may be used, in accordance with BS1377:Part 2:1990

A sample quantity of 300g to 350g is used for medium-grained soils, 3kg is used for coarse-grained soils.

Atterberg Limits

Test Date: 24-Nov-11

Tested in accordance to BS1377:Part 2:1990; Section 4.4 for the Liquid Limit, Section 5 for the determination of the Plastic Limit and Plasticity Index

Suction Tests

Test Date: 28-Nov-11 (Q)*

Suction Test carried out in accordance to the accredited In-house Procedure MTLB001 with reference to the BRE paper IP4/93 (Corrected) 'A Method of Determining the State of Desiccation in Clay Soils' (Unless otherwise stated the filter paper moisture content was determined after 5 to 10 days contact and the test was prepared from a remoulded disturbed sample in accordance with in-house procedures)

** Where denoted by '(Q)' following Test Date above, the test has been performed using 2 soil discs and quartered filter papers.*

The filter paper tests are conducted in a controlled environment within a temperature range of 16oC to 24oC.

Average Suction values (in kPa) calculated using the BRE paper IP4/93 calibration are quoted with the maximum and minimum suction obtained, as indicated by error bars either side of plotted point.

Where possible, suction values should be compared with remote borehole values, to determine relative desiccation.

Each new batch of filter papers used for testing is checked for its consistency against the standard BRE calibration curve using a pressure membrane extractor. The current filter paper batch has been tested and shows good correlation to the BRE curve.

More information is available upon request. Studies on In-house calibrations using a pressure membrane extractor continue.

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Address: 21 Cavendish Drive, , Waterlooville, PO7 7PJ

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SOILS LABORATORY RESULTS.

MAT LAB LTD.

0121 704 3339

Opinions and interpolations expressed herein are outside the scope of UKAS accreditation.

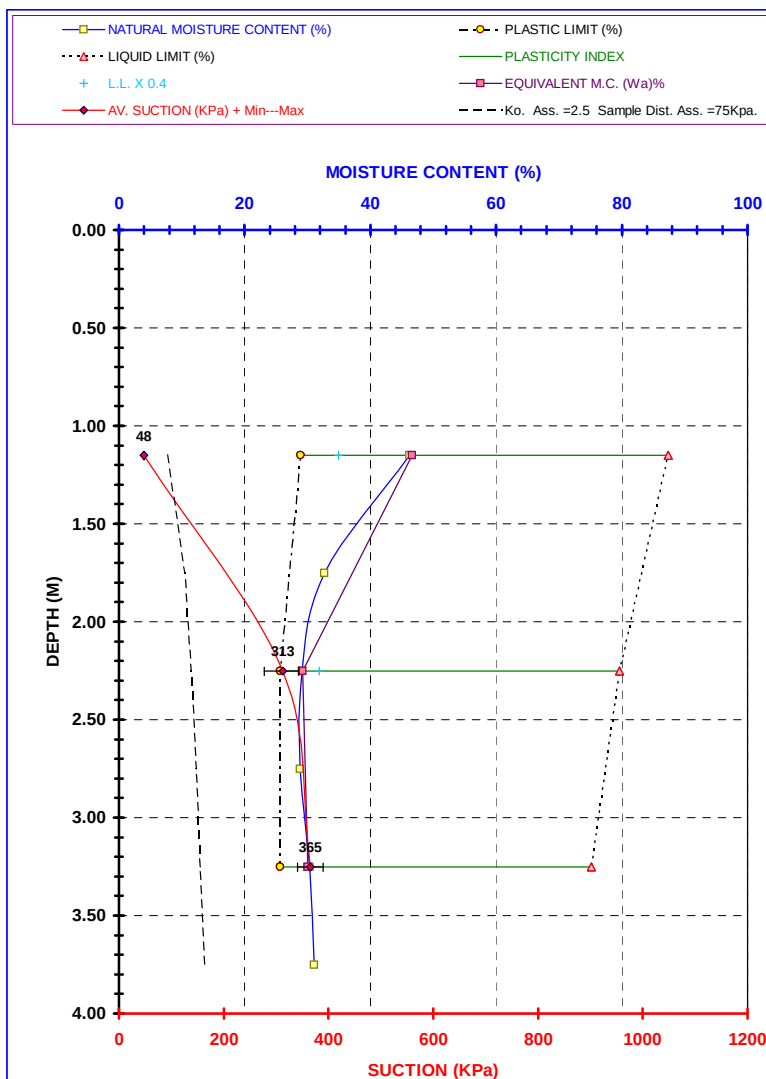
JOB No.:- 51442**INSURANCE COMPANY** Infront Innovation REF:-IFS-RBS-SUB-11-0031275**DATE SAMPLES EXTRACTED:-** 11 Nov 11**ENGINEER:-** Spencer Caizley**CLIENT/INSURED NAME:-** Wakeford**FROM :-** Infront Innovation,**ADDRESS:-** 21 Cavendish Drive,**B.H. No. :-** 1

Waterlooville,

LOCATION:- Rear Left Corner.**REPORT DATE:-** 02 Dec 11**PO7 7PJ****ATTEBERG LIMITS.**

NOTE :- Column "dh" below is outside of UKAS accreditation and is an inference based on the heave analysis [dh (Blue) extrapolated]. "N.P." in the plastic limit column ="Non-Plastic"

DEPTH. M.	M.C. (%)	L.L. (%)	P.L. (%)	P.I. (%)	425um (%)	AV. Filter Paper M.C.(%) & No.	dh (mm)	BRIEF SOIL DESCRIPTION
1.15	46	87	29	58	99	57.9877 (3)	1.4	Soft brown CLAY with rare grey veinings.
1.75	33	-	-	-	-	-	0.0	Firm brown CLAY with rare fine gravel & grey veinings.
2.25	29	80	26	54	99	37.7001 (3)	9.6	Firm/stiff brown CLAY with rare fine gravel & grey veinings.
2.75	29	-	-	-	-	-	0.0	Firm/stiff brown CLAY with rare fine gravel & grey veinings.
3.25	30	75	26	49	100	36.6141 (3)	5.4	Firm/stiff brown CLAY with rare fine gravel & grey veinings.
3.75	31	-	-	-	-	-	0.0	Firm/stiff brown CLAY with rare fine gravel & grey veinings.



The interpretations below are outside of UKAS accreditation.

Heave Potential Analysis :-

Total of Column dh (potential heave increment per layer)

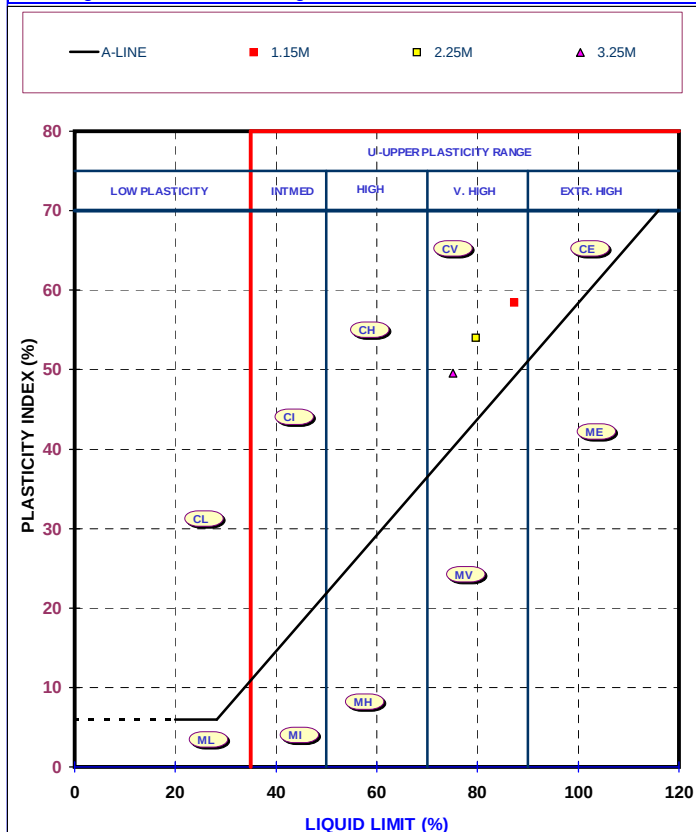
Is Approx. : **16 mm.**

Therefore the Total Surface Heave Potential over the B/H depth is about :-

0cm. to 3cm.

The Above Heave Analysis is based upon :-

BRE Digest 412 Feb 1996 'Using Suction Profiles'



Authorised by :-

J C