<post@mat-lab.com>
21/03/2013
17:10

To <subsidence@crawco.co.uk>, <Matt.Deller@crawco.co.uk>
cc
bcc
Subject Mat Lab Ltd. Report. 40 Priory Road Ltd Your Ref. SU1204234 Our Ref. LJ 56634

Please find attached in PDF format Site Investigation Report for :-
Our Job No :- 56634
Client :- 40 Priory Road Ltd
Address :- 40d Priory Road,
London,
NW6 4SJ

Your Ref No :- SU1204234
Insurance Ref No :-

Attached :-
Full Report:- SU1204234.pdf

Mat Lab Inv. ML_INV56634.doc

The Dell, Bickenhill Lane, Catherine-de-Barnes, B92 0DE
Telephone: **0121 704 3339** | Mobile: **07795 037 560**
www.mat-lab.com
post@mat-lab.com

SU1204234.pdf ML_INV56634.doc Feedback.doc

SITE INVESTIGATION REPORT

Client's Name: 40 Priory Road Ltd

Address: 40d Priory Road,
London,
NW6 4SJ

Report Date: 18-Mar-13
Job No.: **56634** (If **_R** suffix appears after Job No., this indicates Revision Number)
Insurance Co.: RSA
Claim Ref. No.: 201209039839

Project Engineer: Matt Deller
From: Crawford & Company,
Engineers Ref.: SU1204234

Contents: Site Layout
Foundation Exploratory Hole Record

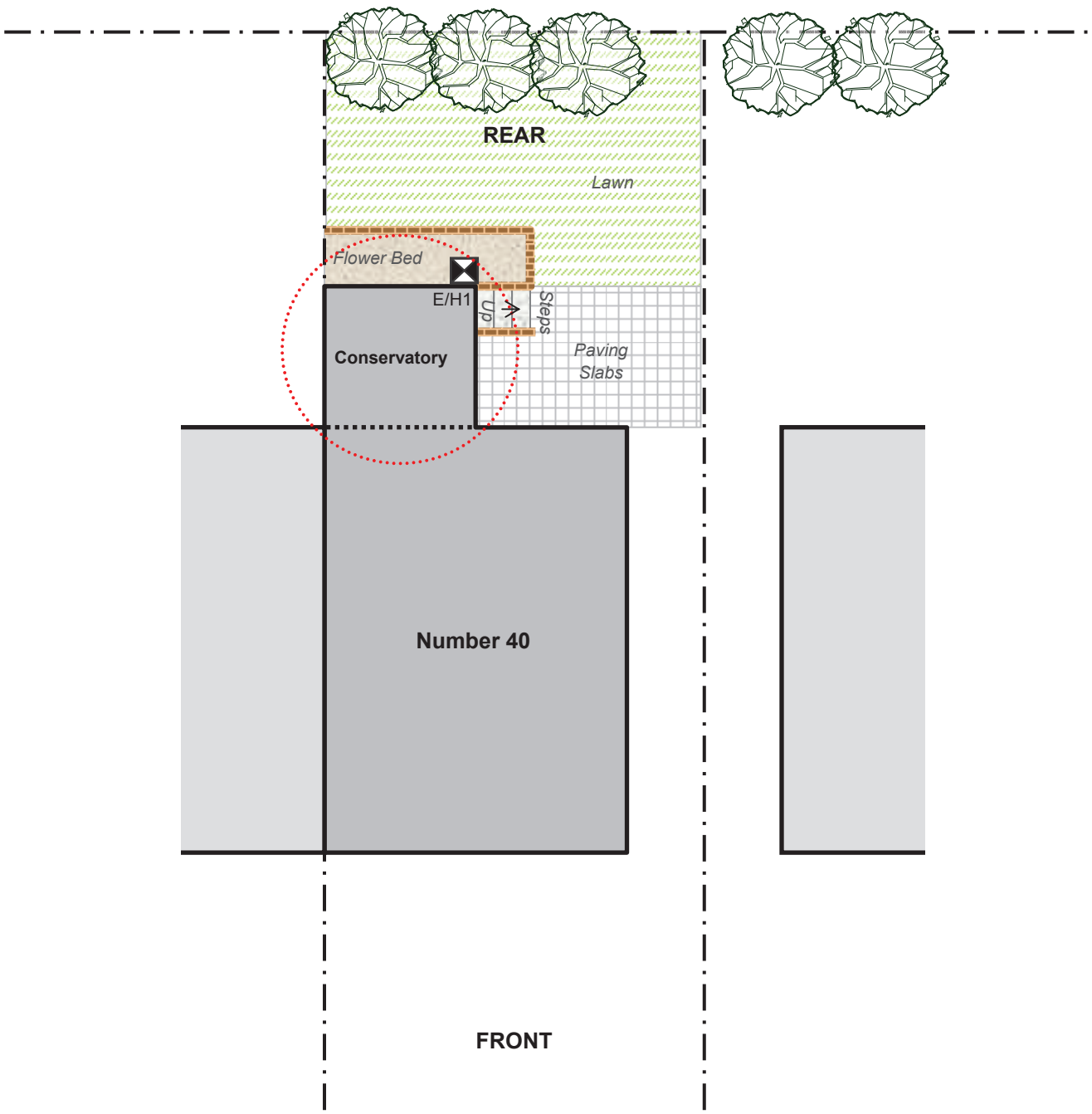
Address: Mat Lab Ltd
The Dell
Bickenhill Lane
Catherine-De-Barnes
Solihull
B92 0DE

Phone No.: 0121 704 3339
Fax No.: 0121 704 4675
E-mail: post@mat-lab.com

Checked By :	AJ
Date :	18/03/2013

SITE LAYOUT

Site Crew: Wayne | Date: 15-Mar-13



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

General Comments:

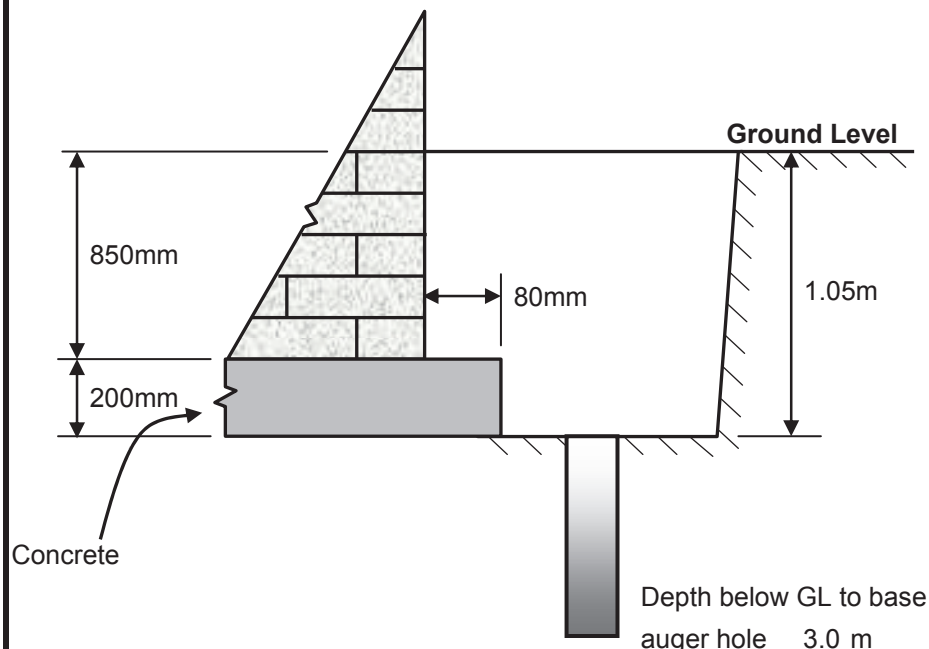
Key: =RWGully =RWPipe =FWGully =W/C or S.V. pipe =Inspection Chamber
=Rodding Eye =Surveyed pipe indicating flow =Unsurveyed pipe
=E/H=Exploratory Hole (hand dug pit and/or hand auger) =Area of Damage
=Hedge or Shrub =Trees =Boundary line
=Outlet at 6 o'clock =Inlet at 12 o'clock

Address: **40d Priory Road, London, NW6 4SJ** | Job No. **56634**

FOUNDATION PIT RECORD

Location: **Rear Right Hand Corner of Conservatory**		E/H No. **1**
Ground Surface: Damp	Weather: Dry	Date: 15-Mar-13

Foundation Cross Section (Not to Scale)



Depth below GL to base of auger hole 3.0 m

Roots Depth & Dia:
Down to 2.5m,
up to 1mm diameter

Water Depth Hit & Rise:
None observed on-site

Reason for Termination :
Hole at instructed depth

Depth (m)	Soil Descriptions (NB:Field crew description only)	Test Type	Depth (m) From	Depth (m) To
G.L.				
1.05	Firm brown CLAY			
1.50	Firm brown CLAY			
2.50	Firm brown CLAY			
3.00	End of Borehole			

Photograph

General Comments :

Key: Mac=Macintosh Probe Blow Count, V(n)=Natural Shear Vane (kN/m²), P.P. = Pocket Penetrometer (Kg/cm²)

Address: **40d Priory Road, London, NW6 4SJ** Job No. **56634**

LABORATORY REPORT

Client's Name: 40 Priory Road Ltd

Address: 40d Priory Road,
London,
NW6 4SJ

Report Date: 21-Mar-13
Job No.: **56634** (If **_R** suffix appears after Job No., this indicates Revision Number)
Insurance Co.: RSA
Claim Ref. No.: 201209039839

Project Engineer: Matt Deller
From: Crawford & Company,
Engineers Ref.: SU1204234

Contents:

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:
R Marvin - Technical Manager
Date Authorised: 21/03/2013

ROOT IDENTIFICATION

Analysis subcontracted to Tree Root Identification Limited.

Certificate of Analysis

The following work was commissioned by Mat Lab Limited on behalf of their client. Root samples were obtained in sealed packets from the above site with no reference given as to the types of tree or shrub from which they may have originated.

The results were as follows -

Borehole Number	Depth (m) From	Depth (m) To	Root Diameter (mm)	Tree, shrub or climber from which root originates	Result of starch test#
1	1.05	2.5	1.0	Tilia (lime)	positive*

The presence of starch indicates that the root was alive in the recent past.

* Starch level is high.

Ronald Macleod

DR RONALD D MACLEOD
Principal Scientist

Address: **40d Priory Road, London, NW6 4SJ** | Job No. **56634**

OEDOMETER RESULTS DATA

MAT LAB LIMITED

Swell/Strain Test Method **(UKAS accredited)** **Test Date: 20-Mar-13**

The In-house Procedure MTLB002 is based on "Determination of swelling and collapse characteristics" British Standards 1377:Part 5:1990 Section 4.4 , carried out on a disturbed, remoulded sample.
Test specimen has cylindrical dimensions 50mm (diameter) by 17mm (height).
Prior to the introduction of distilled water the specimen is reconsolidated to the approximate in situ vertical effective stress, calculated from the average sample extraction depth using the assumptions below.
Laboratory tests are conducted in a controlled environment within a temperature range of 16^{o}C to 24^{o}C.

Assumptions

Soil Bulk Density (Moist Unit Weight) is equal to 2039 kg / m3. Depth to water table has been assumed as to be below sampling depth. Any possible surcharge stresses due to construction are not considered.

Predicted Free Surface Heave Calculation **(Not UKAS accredited)**

An approximated value of 0.010 strain is deducted from the measured oedometer strain to account for remoulding of the sample. Therefore strain in excess of Remoulding Disturbance Line (see Results Chart) is extrapolated for calculation of Predicted Heave per incremental layer displayed in the following table(s), in column labelled "Dd mm". A Shrinkage factor (Sf) of 2 is also applied to each heave value. Heave values per layer are summed as a total for each Borehole (in mm), and then displayed as a range in (in cm).

Predicted Free Surface Heave is calculated over a range defined by the sample depths tested, but not shallower than 0.2m below ground level, the assumed depth of topsoil. Heave inadvertently measured above foundation depth may be discounted by deducting the relevant layer value from the Borehole total.
Please note that the swell predicted is that expected of the ground if it were allowed to fully re-hydrate and come to equilibrium. This is possibly greater than the expected annual variation; due to reasons such as persistent annual deficits, changes in vegetation and annual climatic conditions, amongst others. The predicted total swell can take many years to fully propagate, though the majority takes place early on in the swelling period.

Uncertainty of Measurement

The accuracy of the quoted strain measurement in an individual test is deemed to be within +/- 2.5%.
The variation of repeated results on the same sample is determined by the uniformity of sample.
Due to variability in strata changes and sample uniformity, it is more appropriate to consider the Heave Potential by the quoted range (in cm) rather than the precise total (in mm).

Further information relating to Swell/Strain Test is available on the MAT LAB Website:- www.mat-lab.com

OEDOMETER RESULTS DATA

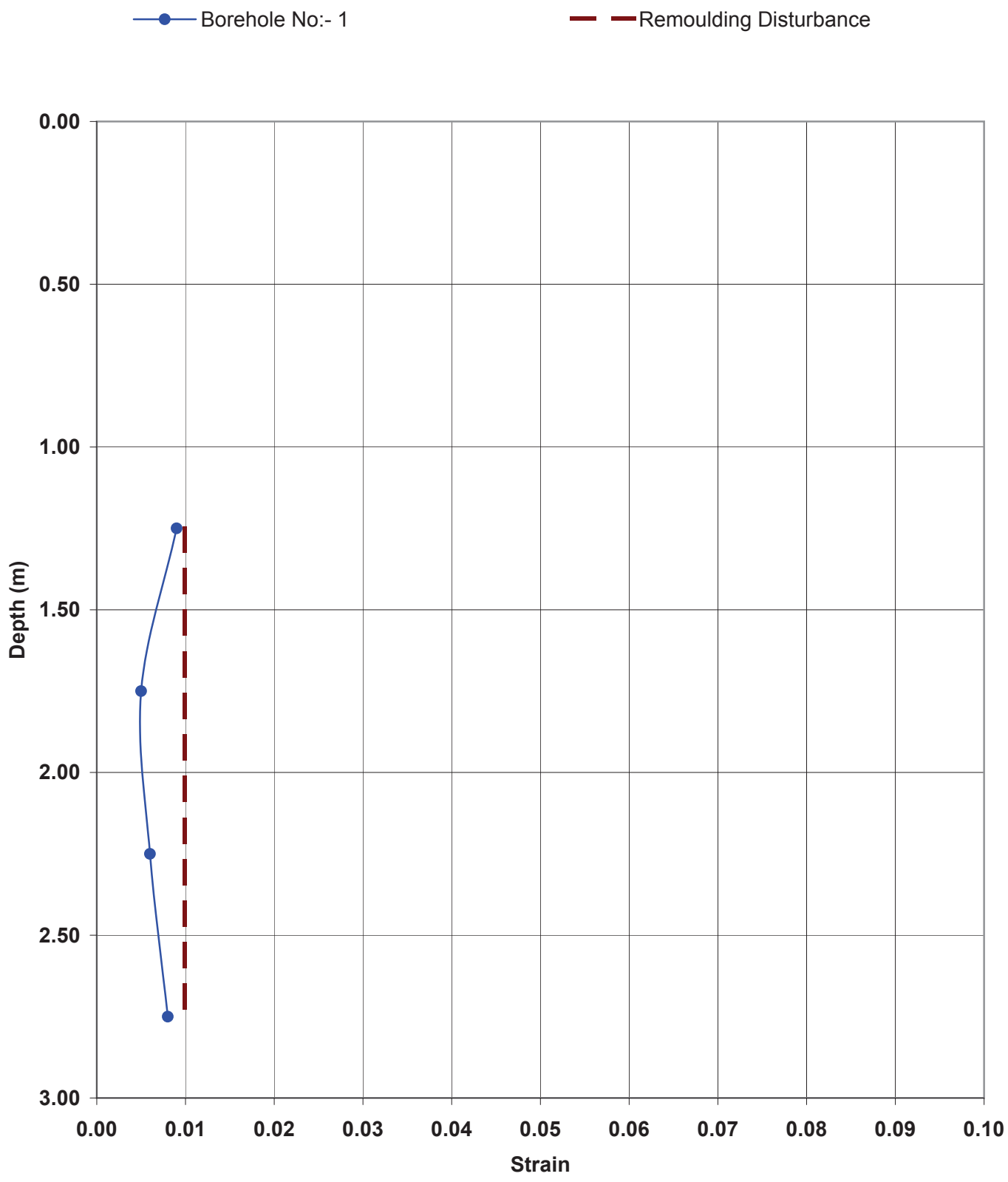
Borehole No:- 1			
Location	Rear Right Hand Corner of Conservatory		
Depth(m)	Specimen No. & Comments	STRAIN	
1.25	Specimen No. 1A	0.0090	0.0
1.75	Specimen No. 2A	0.0050	0.0
2.25	Specimen No. 3A	0.0060	0.0
2.75	Specimen No. 4A	0.0080	0.0
Total Column Dd=0mm Therefore Free Surface Heave Potential Over B/H Depth Is About 0cm to 2cm.			

Address: **40d Priory Road, London, NW6 4SJ**

Job No. **56634**

OEDOMETER RESULTS CHART

Oedometer Strains



Address: **40d Priory Road, London, NW6 4SJ**	Job No. **56634**

Notes relating to Soils Report

MAT LAB LIMITED

Date Soil Samples Received in Laboratory: 18-Mar-13
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-Mar-13

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: N/A

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: N/A (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.

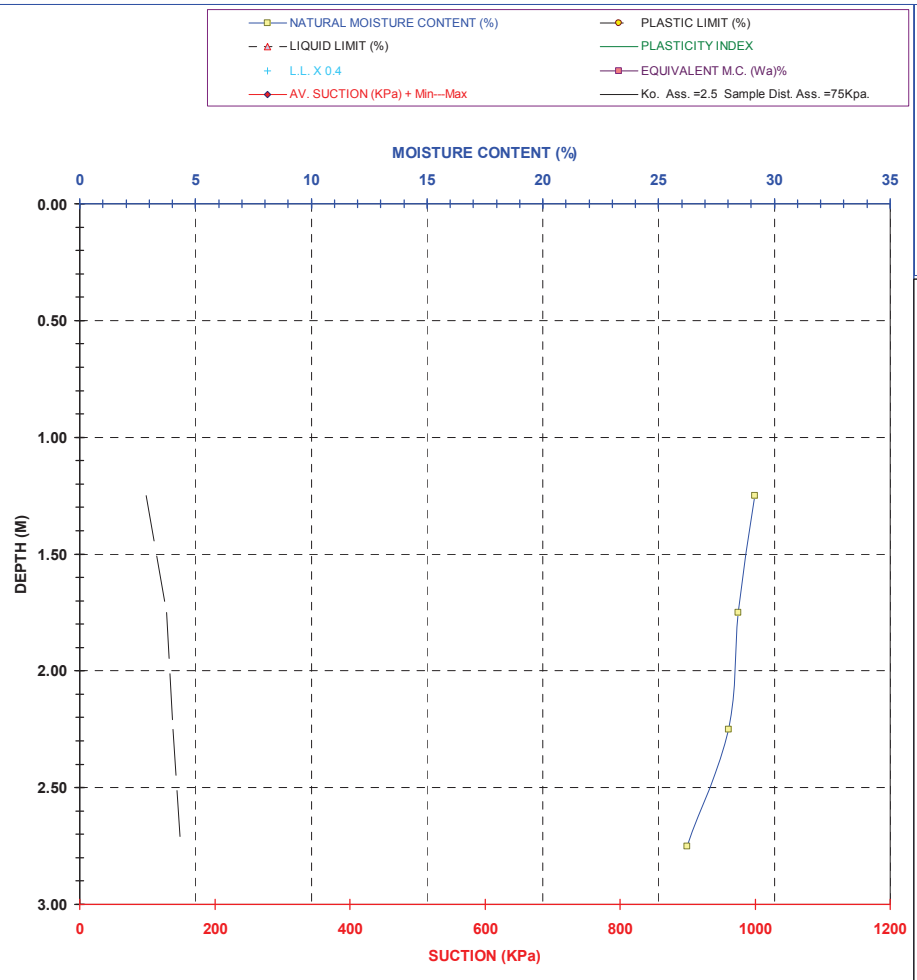
UKAS TESTING
2093

JOB No.:-	56634	INSURANCE COMPANY	RSA REF:-201209039839
DATE SAMPLES EXTRACTED:-	15 Mar 13	ENGINEER:-	Matt Deller REF:-SU1204234
CLIENT/INSURED NAME:-	40 Priory Road Ltd	FROM :-	Crawford & Company,
ADDRESS:-	40d Priory Road,	B.H. No. :-	1
	London,	LOCATION:-	Rear Right-Hand Corner of Conservatory
	NW6 4SJ	REPORT DATE:-	21 Mar 13

UKAS TESTING 2093

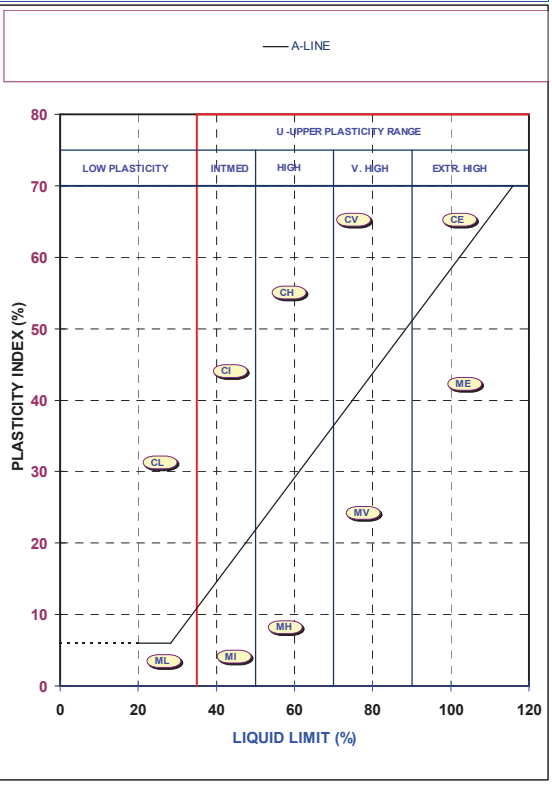
NOTE :- "N.P." ="Non-Plastic" "N" = Natural & "S" = Sieve, Columns "dh" & AV. Suct below are outside of UKAS accreditation and are inferences based on the heave analysis [values in Blue are extrapolated].

		ATTERBERG LIMITS.					SUCTION RESULTS			
DEPTH. M.	M.C. (%)	L.L. (%)	P.L. (%)	P.I. (%)	Prep Type	>425µm (%)	AV. Suct (kPa)	AV. Filter Paper M.C.(%) & No.		BRIEF SOIL DESCRIPTION
1.25	29	-	-	-	-	-	-	-		Firm brown CLAY with rare sand & fine/medium gravel.
1.75	28	-	-	-	-	-	-	-		Firm brown CLAY with rare sand & fine gravel.
2.25	28	-	-	-	-	-	-	-		Firm brown CLAY with rare sand & fine gravel.
2.75	26	-	-	-	-	-	-	-		Firm brown CLAY with rare sand & fine gravel.



Opinions and interpretations expressed in the chart above are outside the scope of UKAS accreditation.

The interpretations below are outside of UKAS accreditation.



Authorised by :- R M

MAT LAB LIMITED