

Chelmer

Site Investigations

'Groundbreaking Services'

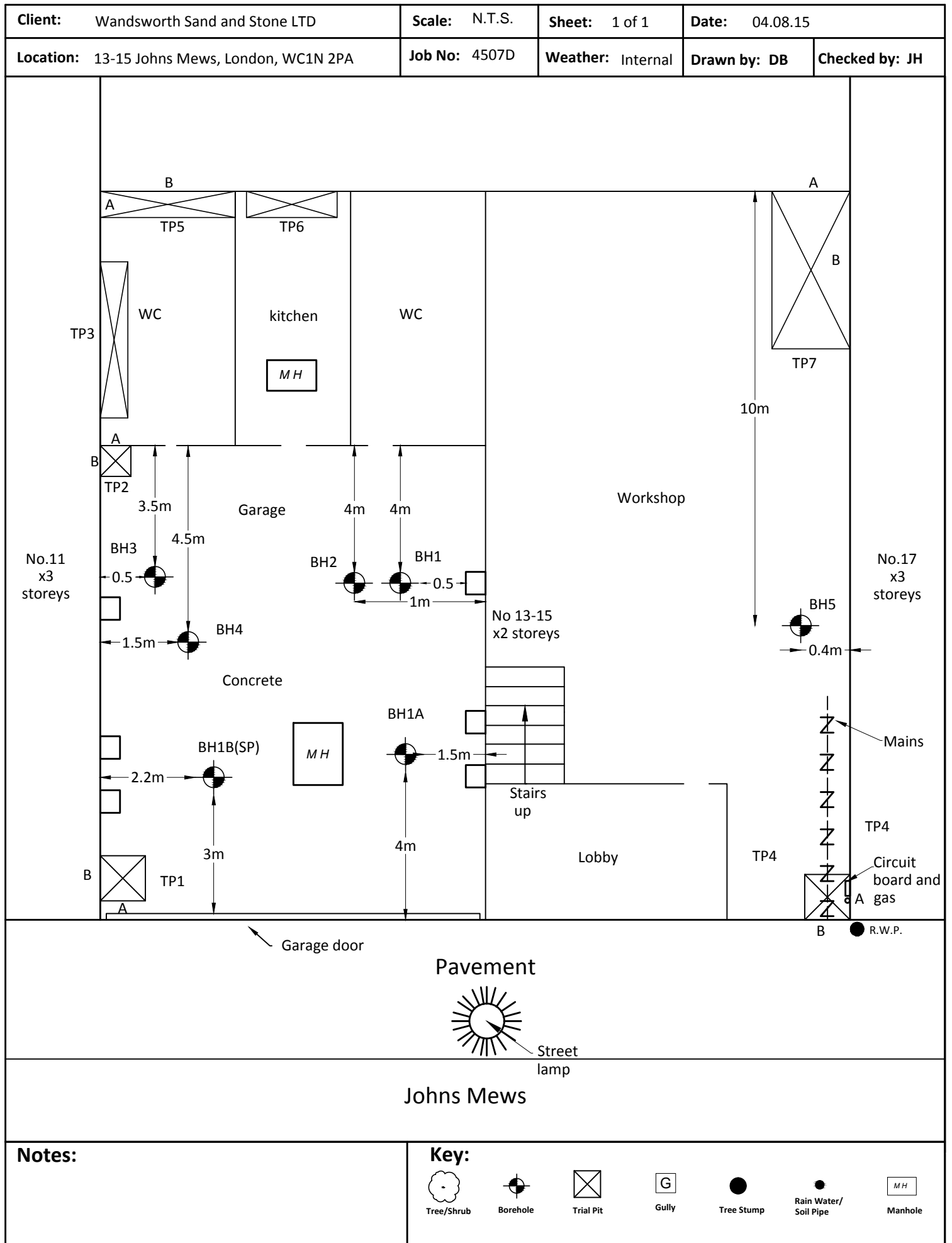
Addendum Factual Report



Site	13-15 Johns Mews, London, WC1N 2PA
Client	Wandsworth Sand and Stone LTD
Date	04 th August 2015
Our Ref	FACT/4507D

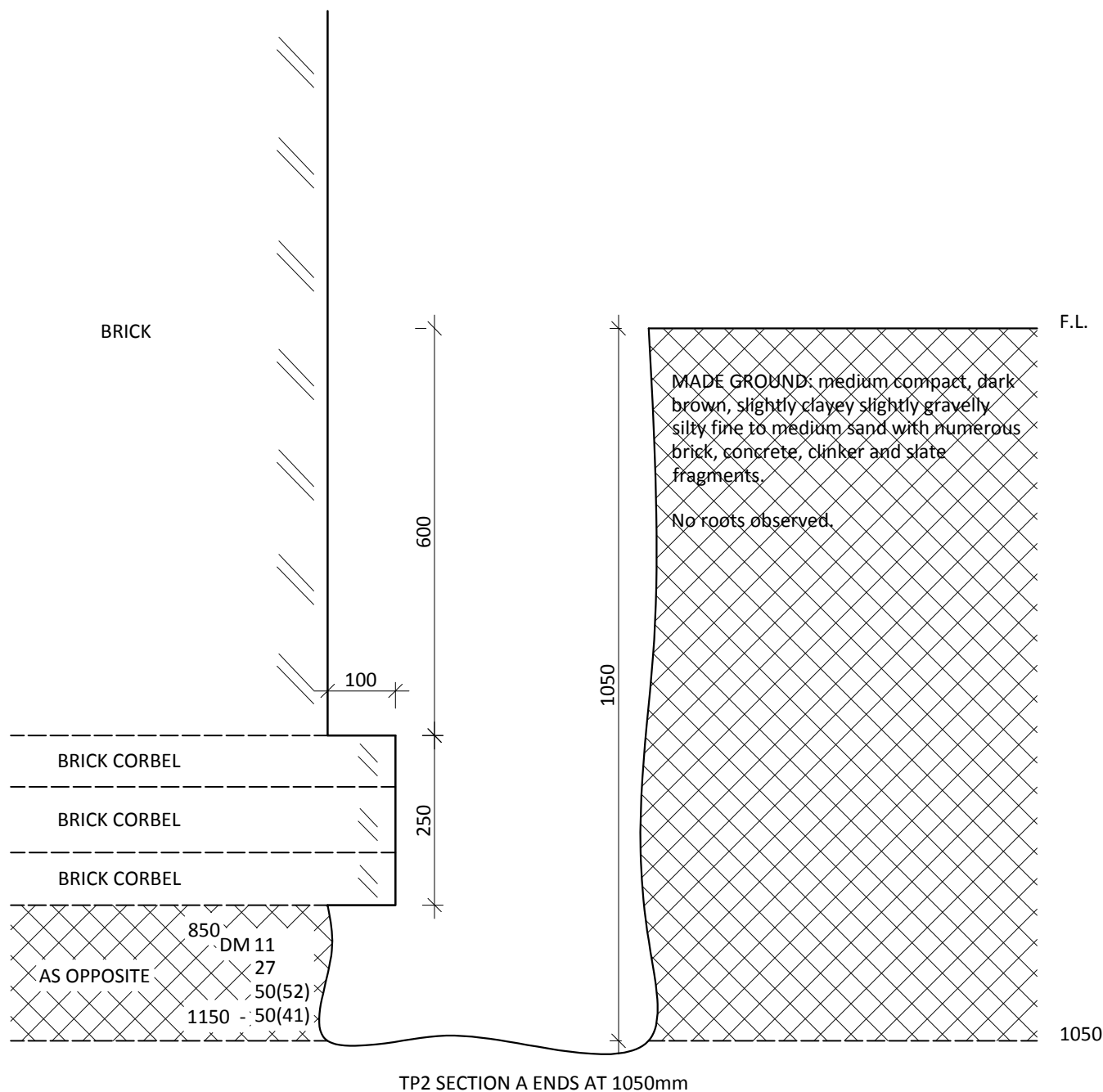
Chelmer Site Investigation Laboratories Ltd

Unit 15 East Hanningfield Industrial Estate, Old Church Road, East Hanningfield, Essex CM3 8AB
Essex: 01245 400930 | London: 0203 67409136 | info@siteinvestigations.co.uk | www.siteinvestigations.com



Client: Wandsworth Sand and Stone LTD	Scale: N.T.S.	Sheet No: 1 of 2	Date: 04.08.15
Location: 13-15 Johns Mews, London, WC1N 2PA	Job No: 4507D	Trial Pit No: 2	Weather: Internal
Excavation Method: Hand Tools		Drawn by: DB	Checked by: JH

SECTION A



Remarks: Excavated by others.

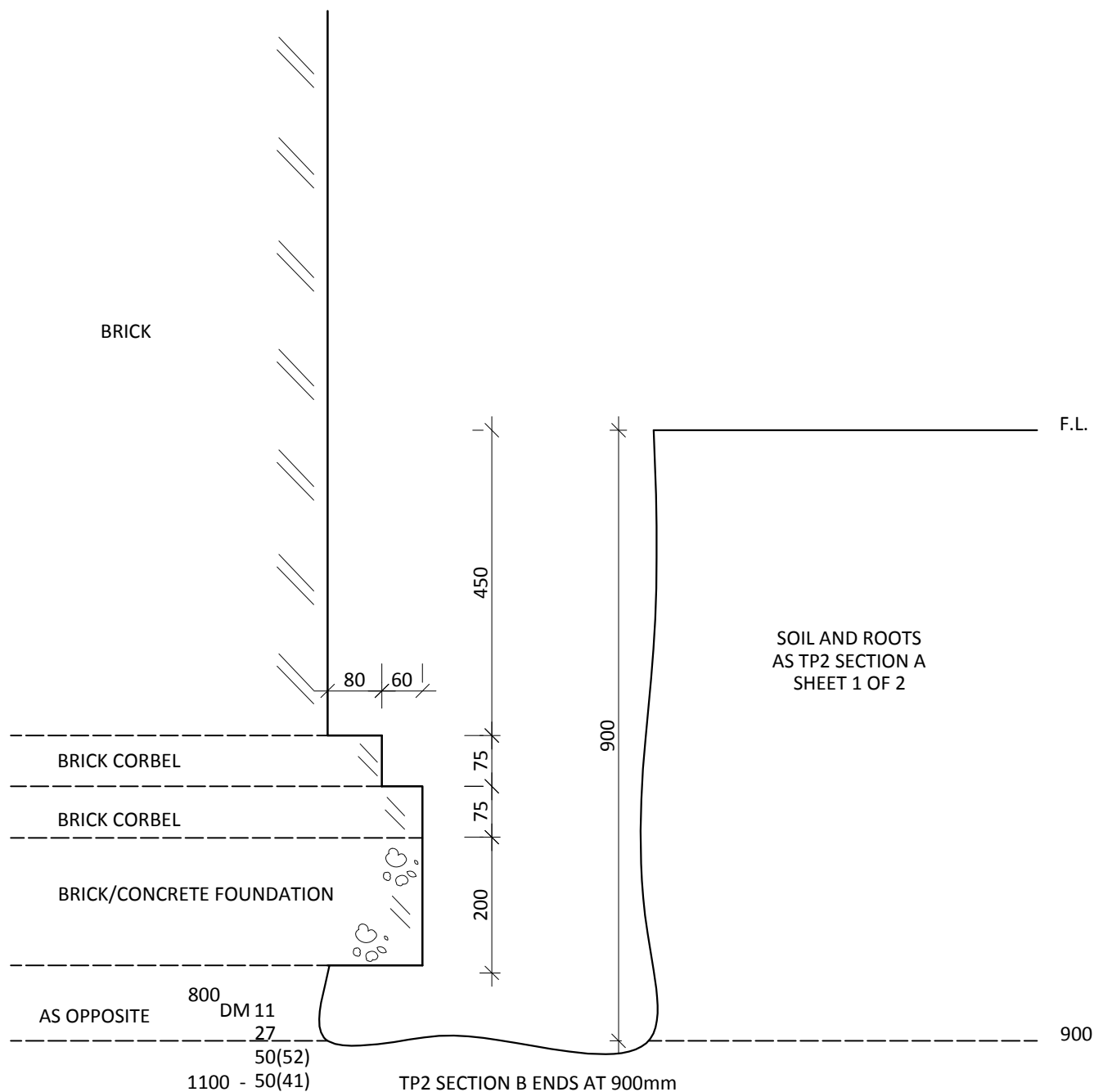
Key:

D Small disturbed sample
B Bulk disturbed sample
U Undisturbed sample (U100)
N Standard Penetration Test Blow Count

J Jar sample
V Pilcon Vane (kPa)
M Mackintosh Probe
W Water Sample

Client: Wandsworth Sand and Stone LTD	Scale: N.T.S.	Sheet No: 2 of 2	Date: 04.08.15
Location: 13-15 Johns Mews, London, WC1N 2PA	Job No: 4507D	Trial Pit No: 2	Weather: Internal
Excavation Method: Hand Tools		Drawn by: DB	Checked by: JH

SECTION B



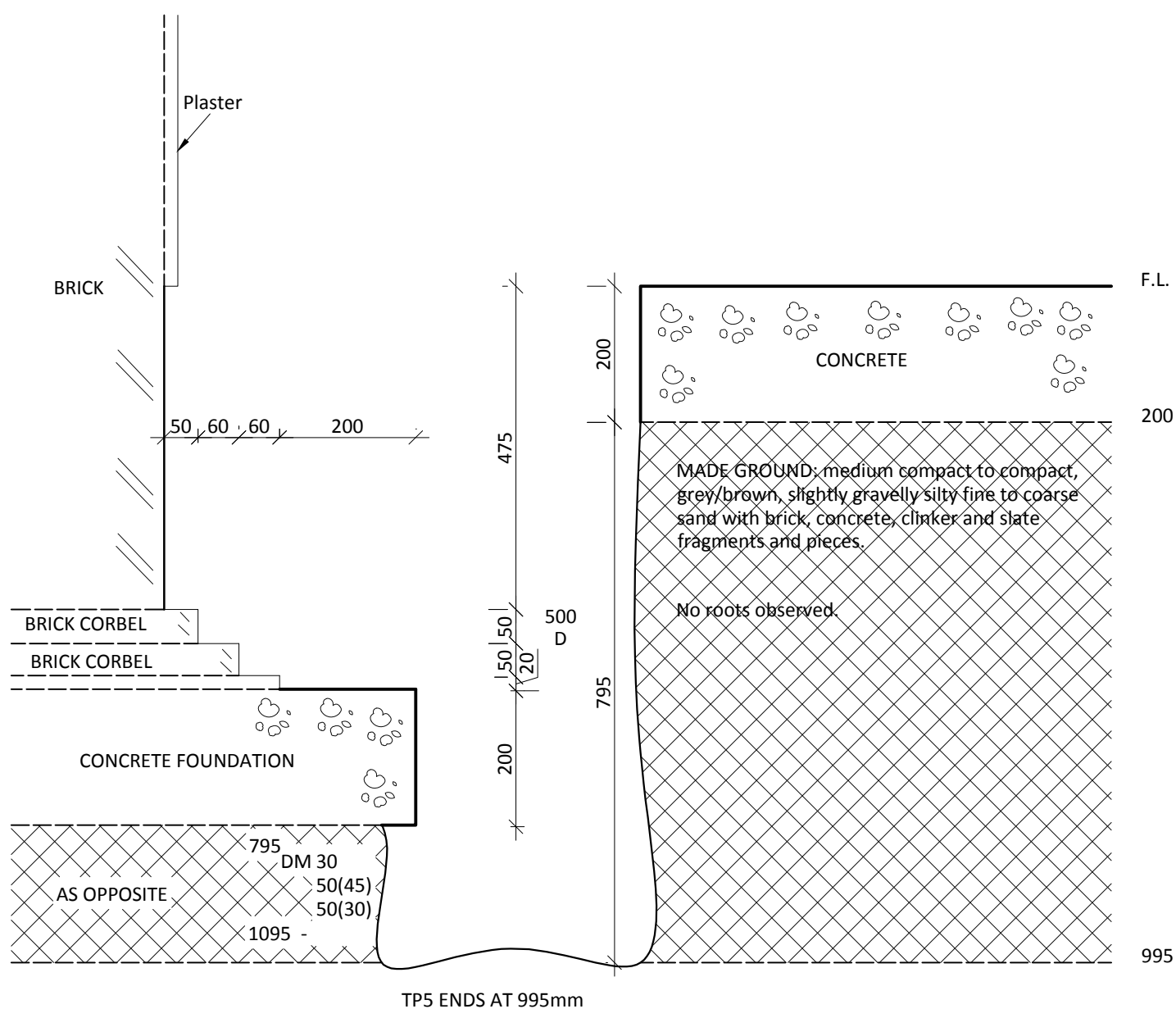
Remarks: Excavated by others.

Key:

D Small disturbed sample
B Bulk disturbed sample
U Undisturbed sample (U100)
N Standard Penetration Test Blow Count

J Jar sample
V Pilcon Vane (kPa)
M Mackintosh Probe
W Water Sample

Client: Wandsworth Sand and Stone LTD	Scale: N.T.S.	Sheet No: 1 of 1	Date: 04.08.15
Location: 13-15 Johns Mews, London, WC1N 2PA	Job No: 4507D	Trial Pit No: 5	Weather: Internal
Excavation Method: Hand Tools		Drawn by: DB	Checked by: JH

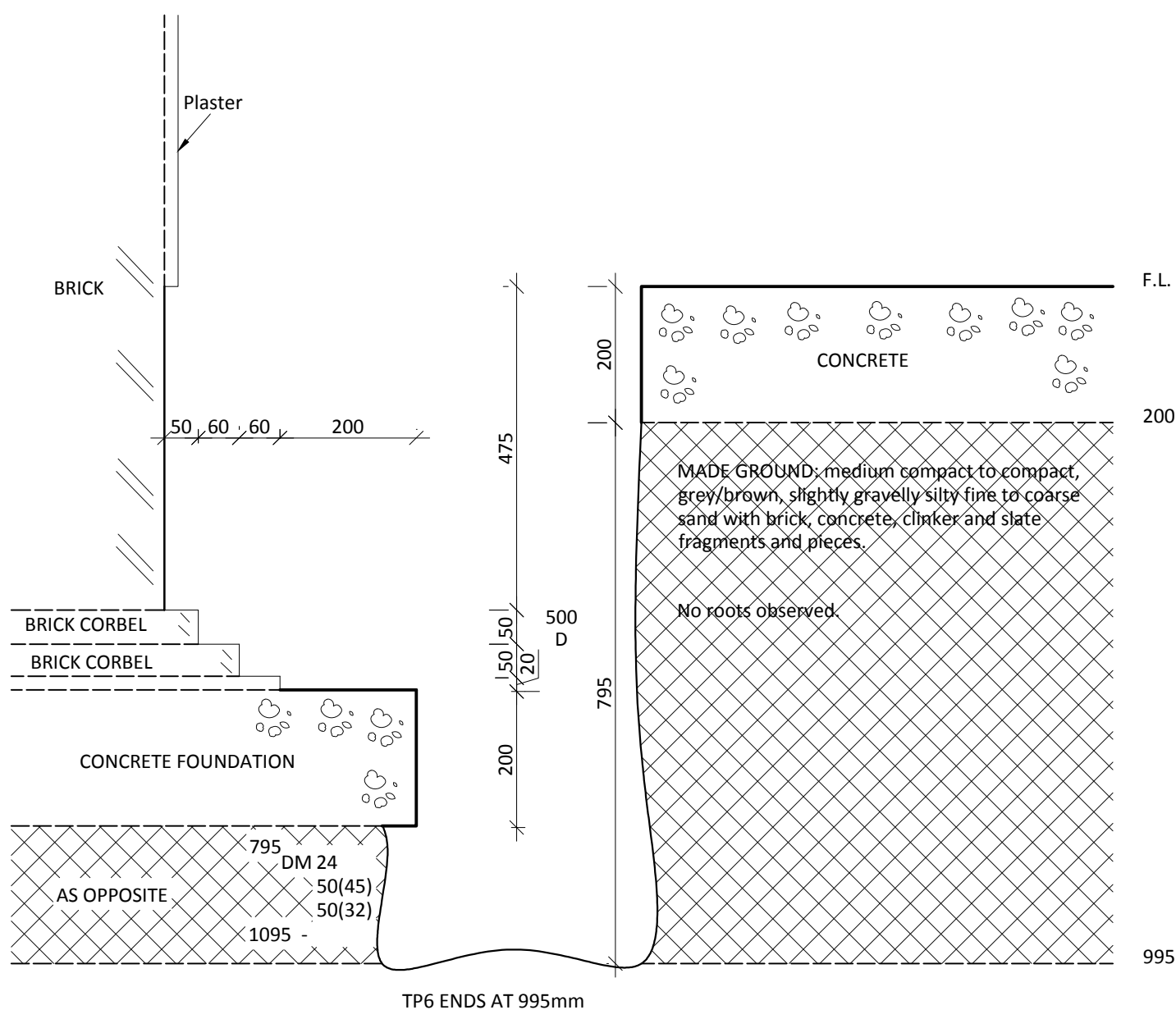


Remarks: Excavated by others.
Sections A and B are the same.

Key:

- D** Small disturbed sample
- B** Bulk disturbed sample
- U** Undisturbed sample (U100)
- N** Standard Penetration Test Blow Count
- J** Jar sample
- V** Pilcon Vane (kPa)
- M** Mackintosh Probe
- W** Water Sample

Client: Wandsworth Sand and Stone LTD	Scale: N.T.S.	Sheet No: 1 of 1	Date: 04.08.15
Location: 13-15 Johns Mews, London, WC1N 2PA	Job No: 4507D	Trial Pit No: 6	Weather: Internal
Excavation Method: Hand Tools		Drawn by: DB	Checked by: JH



Remarks: Excavated by others.

Key:

D Small disturbed sample

B Bulk disturbed sample

U Undisturbed sample (U100)

N Standard Penetration Test Blow Count

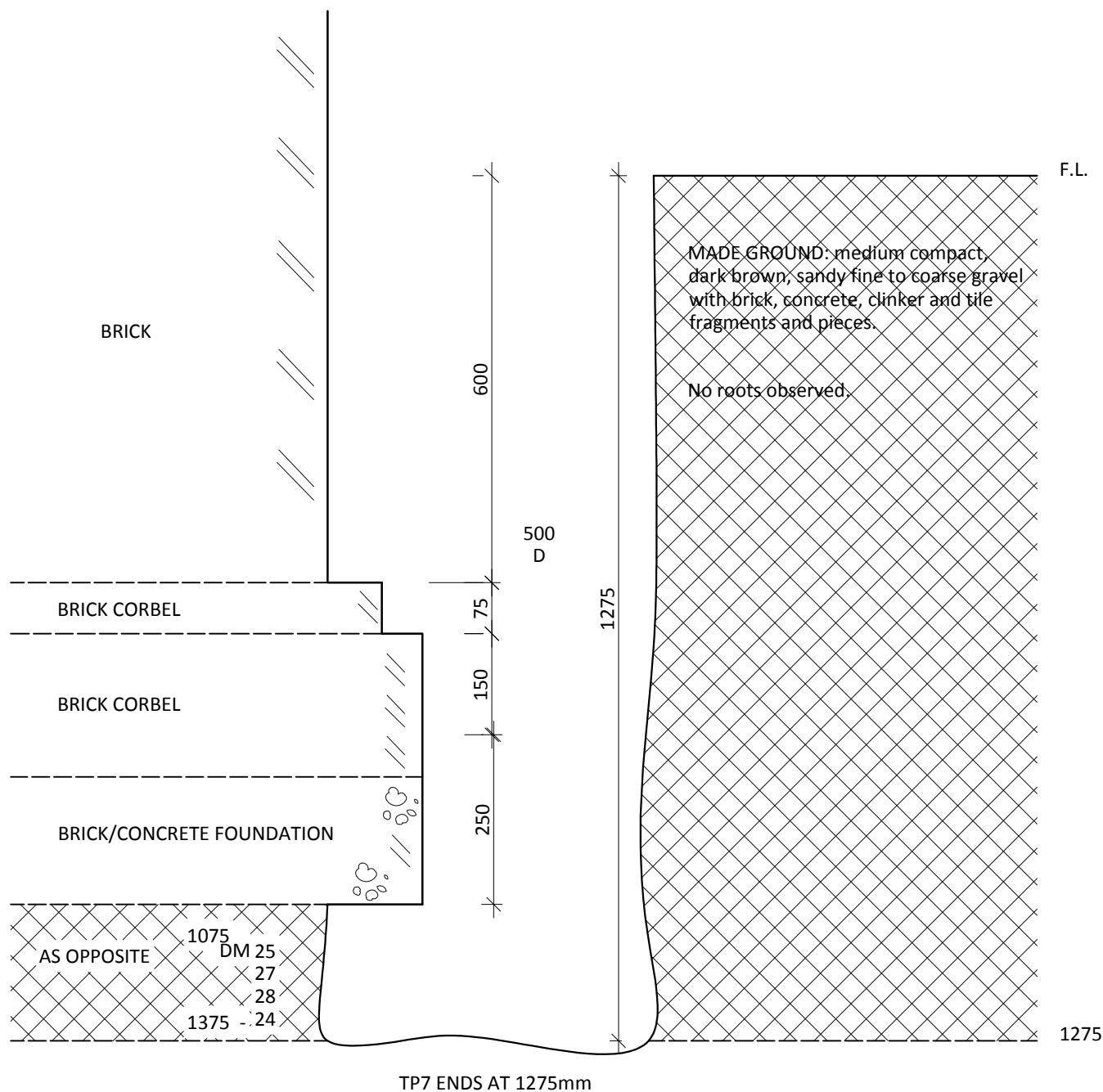
J Jar sample

V Pilcon Vane (kPa)

M Mackintosh Probe

W Water Sample

Client: Wandsworth Sand and Stone LTD	Scale: N.T.S.	Sheet No: 1 of 1	Date: 04.08.15
Location: 13-15 Johns Mews, London, WC1N 2PA	Job No: 4507D	Trial Pit No: 7	Weather: Internal
Excavation Method: Hand Tools		Drawn by: DB	Checked by: JH



Remarks: Excavated by others.

Key:

D Small disturbed sample
B Bulk disturbed sample
U Undisturbed sample (U100)
N Standard Penetration Test Blow Count

J Jar sample
V Pilcon Vane (kPa)
M Mackintosh Probe
W Water Sample

Client: JM13 Ltd	Scale: N.T.S.	Sheet No: 2 of 2	Weather: Showers	Date: 18.08.15
Site: 13 - 15 John Mews, London, WC1N 2PA	Job No: 4507D	Borehole No: BH5	Boring method: Cable Percussive Rig	

Depth (m)	Water (m)	Casing (m)	<u>Groundwater Encountered</u>
1.0	1.0	1.0	Depth strike: 4.5m
2.0	2.0	2.0	
3.0	3.0	3.0	Casing depth: 4.5m
4.0	4.0	4.0	
5.0	5.0	5.0	Rose to 4.2m
6.0	6.0	6.0	
7.0	Dry		Sealed out at 6.0m
8.0	Dry		
9.0	Dry		Water level at start of boring: dry
10.0	Dry		
11.0	Dry		Water level of finished of boring: dry
12.0	Dry		

Borehole cased to: 6m

Piezometer/Standpipe: Standpipe

Pit/Chiselling: Chiseled from ground level to 1.m for 1 hour

Water Added: 100 litres added from 4.0m to 5.7m

Notes:



Laboratory Report



Site | 13-15 Johns Mews, London, WC1N 2PA

Client | JM13 Ltd

Date | 05-Aug-15

Our Ref | CSI4507D

CGL Ref | CGL4507D

Chelmer Site Investigation Laboratories Ltd

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Content Summary

This report contains all test results as indicated on the test instruction/summary.

CGL Reference : CGL4507D

Client Reference : CSI4507D

For the attention of : JM13 Ltd

This report comprises of the following : 1 Cover Page

- 1 Inside Cover/Contents Page
- 2 Particle Size Distribution - Wet Sieving Charts
- 4 Pages of BRE SD1 Results
- 1 Limitations of Report Page

Notes :

General

Please refer to report summary notes for details pertaining to methods undertaken and their subsequent accreditations

Samples were supplied by Chelmer Site Investigations

All tests performed in-house unless otherwise stated

Deviant Samples

Samples were received in suitable containers Yes

A date and time of sampling was provided Yes

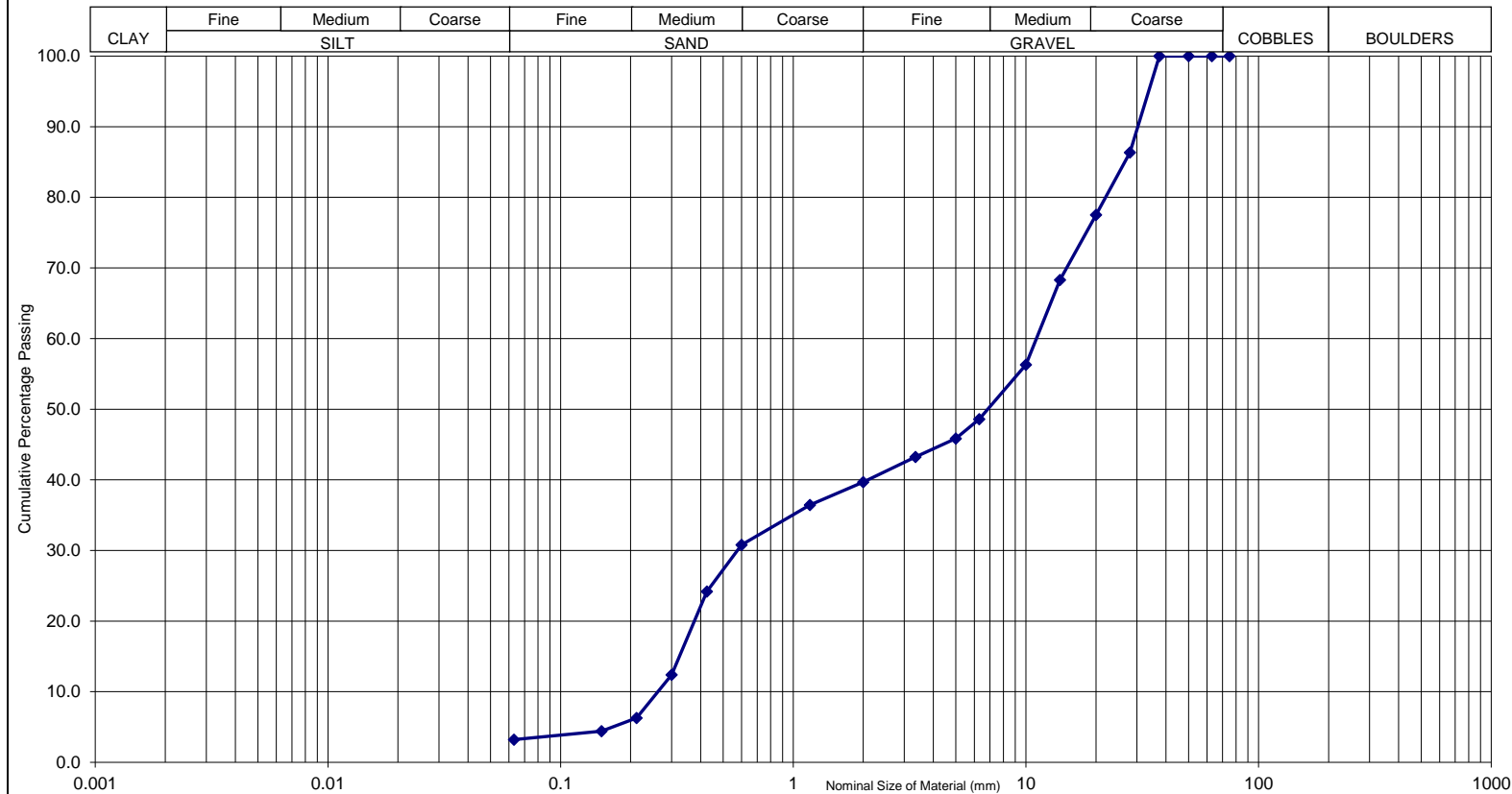
Arrived damaged and/or denatured No

PARTICLE SIZE DISTRIBUTION

BS 1377-2:1990



Job Number : CGL4507D	Site Name : 13-15 Johns Mews, London, WC1N 2PA	Type of Sieving : Washed
Sample Number : BH5	Soil Description : Brown, silty very sandy fine to coarse GRAVEL..	Date : 25-Aug-15
Depth (m) : 4.00		Tested By : HS
Sample UID : 65448		Laboratory : Chelmer Geotechnical CM3 8AB



Sieve Size (mm)	% Passing
90.0	100.0
75.0	100.0
63.0	100.0
50.0	100.0
37.5	100.0
28.0	86.3
20.0	77.5
14.0	68.3
10.0	56.3
6.3	48.6
5.0	45.9
3.35	43.2
2.00	39.7
1.18	36.4
0.600	30.8
0.425	24.2
0.300	12.4
0.212	6.3
0.150	4.4
0.063	3.2



Calculations :- $f = \frac{(M_1 - M_2) + P}{M_1} \times 100$
 $f = 100P/M_1$ (dry sieving)

f = Percentage of fines passing 0.063mm
M₁ = Mass of dried test sample before washing (kg)
M₂ = Mass of dried residue retained on the 0.063m (kg)
P = Mass of screened material remaining in the pan (kg)

Comments :-

Checked By :- MC Date Checked :- 26-Aug-15

PARTICLE SIZE DISTRIBUTION

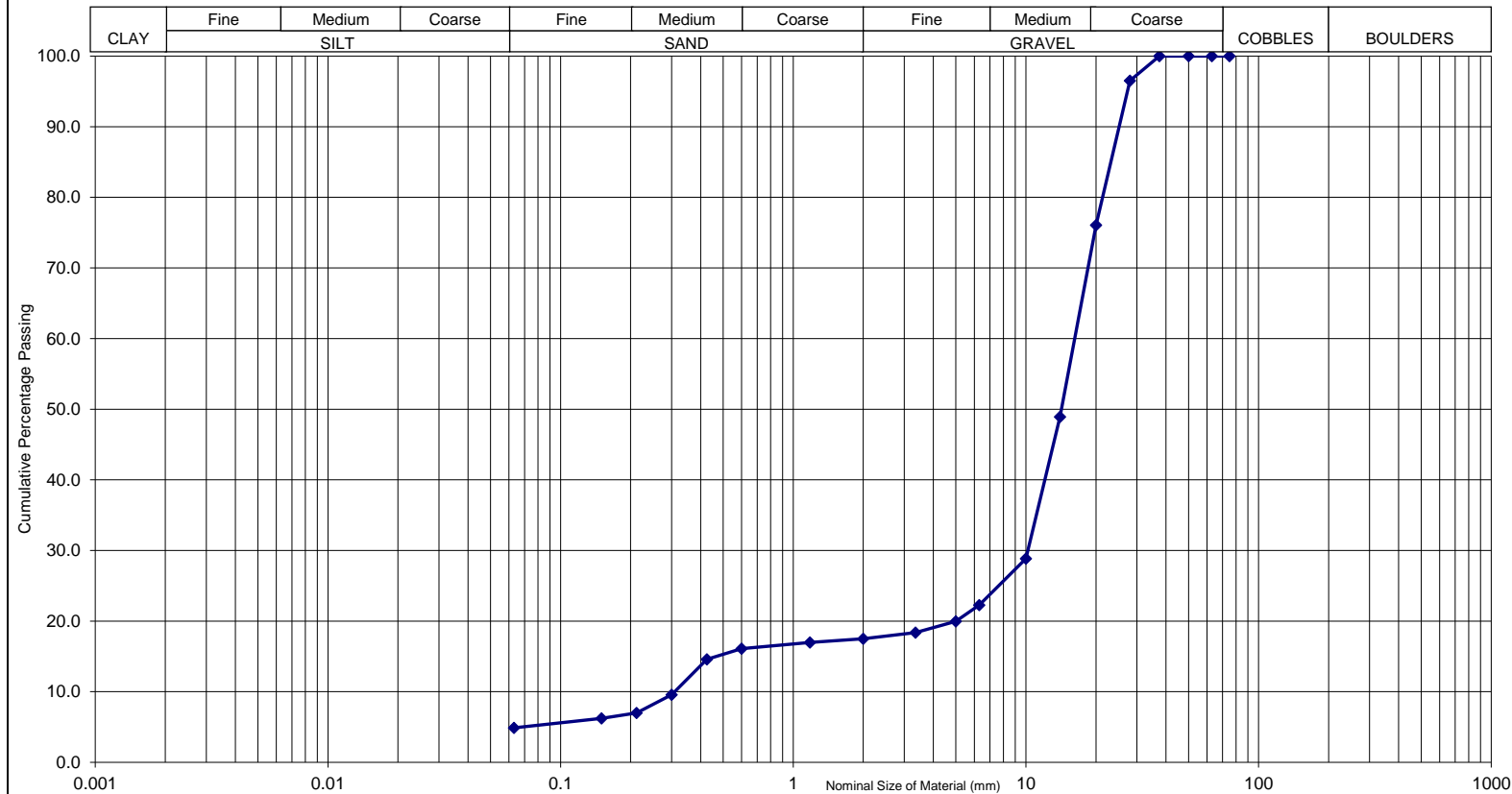
BS 1377-2:1990



Job Number : CGL4507D
 Sample Number : BH5
 Depth (m) : 5.00
 Sample UID : 65449

Site Name : 13-15 Johns Mews, London, WC1N 2PA
 Soil Description : Brown, silty sandy fine to coarse GRAVEL.

Type of Sieving : Washed
 Date : 25-Aug-15
 Tested By : HS
 Laboratory : Chelmer Geotechnical CM3 8AB



Sieve Size (mm)	% Passing
90.0	100.0
75.0	100.0
63.0	100.0
50.0	100.0
37.5	100.0
28.0	96.5
20.0	76.1
14.0	48.9
10.0	28.8
6.3	22.3
5.0	20.0
3.35	18.4
2.00	17.5
1.18	17.0
0.600	16.1
0.425	14.6
0.300	9.6
0.212	7.0
0.150	6.2
0.063	4.9



Calculations :-

$$f = \frac{(M_1 - M_2) + P}{M_1} \times 100$$

$$f = 100P/M_1 \text{ (dry sieving)}$$

f = Percentage of fines passing 0.063mm
 M₁ = Mass of dried test sample before washing (kg)
 M₂ = Mass of dried residue retained on the 0.063m (kg)
 P = Mass of screened material remaining in the pan (kg)

Comments :-

Checked By :- MC

Date Checked :- 26-Aug-15



Mark Collyer
Chelmer Site Investigation Laboratories Ltd
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East Hanningfield Industrial Estate
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Essex
CM3 8AB



QTS Environmental Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410
russell.jarvis@qtsenvironmental.com

QTS Environmental Report No: 15-34350

Site Reference: 13-15 John Mews, London, WC1N 2PA

Project / Job Ref: CGL4507D

Order No: 4881

Sample Receipt Date: 07/08/2015

Sample Scheduled Date: 07/08/2015

Report Issue Number: 1

Reporting Date: 12/08/2015

Authorised by:

Russell Jarvis
Director

On behalf of QTS Environmental Ltd

A handwritten signature in black ink, appearing to read 'R Jarvis'.

Authorised by:

Kevin Old
Director

On behalf of QTS Environmental Ltd

A handwritten signature in black ink, appearing to read 'K Old'.



QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate						
QTS Environmental Report No: 15-34350	Date Sampled	04/08/15	04/08/15	04/08/15		
Chelmer Site Investigation Laboratories Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: 13-15 John Mews, London, WC1N 2PA	TP / BH No	64908	64911	64913		
Project / Job Ref: CGL4507D	Additional Refs	TP3	TP5	TP6		
Order No: 4881	Depth (m)	U/S 0.925	U/S 0.795	U/S 0.795		
Reporting Date: 12/08/2015	QTSE Sample No	161523	161524	161525		

Determinand	Unit	RL	Accreditation					
pH	pH Units	N/a	MCERTS	6.2	6.4	6.3		
Total Sulphate as SO ₄	mg/kg	< 200	NONE	4934	3058	3702		
Total Sulphate as SO ₄	%	< 0.02	NONE	0.49	0.31	0.37		
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	543	138	186		
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.54	0.14	0.19		
Total Sulphur	%	< 0.02	NONE	0.16	0.10	0.13		
Ammonium as NH ₄	mg/kg	< 0.5	NONE	9.3	5.4	6.6		
W/S Chloride (2:1)	mg/kg	< 1	MCERTS	61	29	28		
Water Soluble Nitrate (2:1) as NO ₃	mg/kg	< 3	MCERTS	1980	241	170		
W/S Magnesium	mg/l	< 0.1	NONE	1.4	1.4	1.8		

Analytical results are expressed on a dry weight basis where samples are dried at less than 30°C
Analysis carried out on the dried sample is corrected for the stone content
Subcontracted analysis ^(S)



QTS Environmental Ltd
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Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - Sample Descriptions	
QTS Environmental Report No: 15-34350	
Chelmer Site Investigation Laboratories Ltd	
Site Reference: 13-15 John Mews, London, WC1N 2PA	
Project / Job Ref: CGL4507D	
Order No: 4881	
Reporting Date: 12/08/2015	

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
161523	64908	TP3	U/S 0.925	13	Brown gravelly sand with rubble
161524	64911	TP5	U/S 0.795	4.4	Brown gravelly sand with brick and rubble
161525	64913	TP6	U/S 0.795	4.8	Brown gravelly sand with concrete

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample ^{1/S}
Unsuitable Sample ^{U/S}



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Tel : 01622 850410



Soil Analysis Certificate - Methodology & Miscellaneous Information				
QTS Environmental Report No: 15-34350				
Chelmer Site Investigation Laboratories Ltd				
Site Reference: 13-15 John Mews, London, WC1N 2PA				
Project / Job Ref: CGL4507D				
Order No: 4881				
Reporting Date: 12/08/2015				

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



8284



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Where our involvement consists exclusively of testing samples, the results and comments (if provided) relate only to the samples tested.

Any samples that are deemed to be subject to deviation will be recorded as such within the test summary.

REPORT NOTES

Equipment Used

Hand tools, Mechanical Concrete Breaker and Spade, Hand Augers, 100mm/150mm diameter Mechanical Flight Auger Rig, GEO205 Flight Auger Rig, Window Sampling Rig, and Large or Limited Access Shell & Auger Rig upon request and/or access permitting.

On Site Tests

By Pilcon Shear-Vane Tester (kN/m²) in clay soils, and/or Mackintosh Probe in granular soils or made ground and/or upon request Continuous Dynamic Probe Testing and Standard Penetration Testing.

Note:

Details reported in trial-pits and boreholes relate to positions investigated only as instructed by the client or engineer on the date shown.

We are therefore unable to accept any responsibility for changes in soil conditions not investigated i.e. variations due to climate, season, vegetation and varying ground water levels.

Full terms and conditions are available upon request.