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BN11 2EN

Our ref: 5993  
4 November 2025

Dear Megan,

Land east of Mousdell Close, Ashington.

Thank you for forwarding the comments from the EHO (pollution) at Horsham District Council. I have the following comments / responses.

1. Appendix B (Borehole & Trial Pit Records) contains duplicate WS Records. Amended report attached.
2. We do not usually provide logs for CBR locations. However, each CBR is provided with a soil description.
3. The laboratory is Mcerts accredited, as shown on their result sheets.
4. It is clearly stated on the 'Contaminants in Soil' sheet that all units are mg/kg dry weight of soil unless otherwise stated, except for pH which is dimensionless (under the table on the right hand side).
5. We consider the level of contaminant testing is acceptable given the past history of the site and the fact that the land has never carried development. No discoloured or odorous soils were noted during the investigation.
6. The material is not Made Ground. Near surface soils often contain black carbonaceous material which is a naturally occurring substance.
7. We have not identified a potential source of ground gas either on site or outwith the site boundary. Standpipes were installed to provide certainty.
8. The Made Ground is associated with a backfilled reservoir. No such features exist on the subject site and it is considered highly unlikely that the backfilling operation would have encroached onto the subject site.
9. Appendix G included in amended report.

Yours sincerely

R G Chapman



## LAND EAST OF MOUSDELL CLOSE ASHINGTON

### Phase II Geoenvironmental Assessment

Client  
Rocco Homes

Report No. 5993-2 v2

4th November 2025



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# **LAND EAST OF MOUSDELL CLOSE ASHINGTON**

## **Phase II Geoenvironmental Assessment**

### **Synopsis**

An investigation has been carried out on land east of Mousdell Close, Ashington on the instructions of Rocco Homes. A Phase I Environmental Assessment<sup>1</sup> has been prepared for the site and should be read in conjunction with this report.

The purpose of the investigation was to determine the ground conditions and to provide recommendations in respect of foundation design and other geoenvironmental matters for the proposed residential development.

Three boreholes and twelve continuous open drive (windowless) samplers were carried out, supported by a programme of in situ and laboratory testing.

Conventional spread foundations are envisioned for the new houses and appropriate design data is provided. Chemical analysis revealed insufficient contamination to prejudice the development.

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<sup>1</sup> Report No. 5993-1; Phase I Environmental Assessment, Land east of Mousdell Close, Ashington; AP Geotechnics Ltd; 22 August 2025

# 1

## **Site description**

The area under investigation is an irregularly shaped, albeit rectilinear plot of land which extends to some 2.2 hectares. The site comprises an open field laid to rough pasture with no permanent structures present (although a horse box was situated on the northern boundary).

The current general arrangement is shown on Figure 1 at Appendix A.

A full site description is contained in the Phase I report to which the reader is referred.

# 2

## **Development proposals**

It is intended to erect 74 dwellings with associated landscaping, open space, parking and creation of a new vehicular access from Rectory Lane. The proposed general arrangement is given at Figure 2 of Appendix A.

Loadings were not available during preparation of this report but they are expected to be light to moderate.

# 3

## **Geology**

Published records of the British Geological Survey (BGS) indicate the vast majority of the site to lie on material of the Weald Clay Formation. Superficial Head deposits are mapped in the far south of the site and extend to the west, south and south east.

## 4

### Field work

The extent of the field work was agreed with the Client and comprised three boreholes advanced by light percussive techniques to a maximum depth of 16.5 m. In addition, 12 continuous open drive (windowless) samplers were bored to a maximum depth of 4.0 m. The original intention had been to drill the cable percussive boreholes to a depth of 25 m but this proved unachievable in the ground conditions encountered. Five machine excavated trial pits were carried out to give a more detailed description of the near surface soils and to carry out soakaway tests.

The approximate location of all exploratory points is shown on Figure 1 at Appendix A.

Representative soil samples were recovered from the cable percussive boreholes and soakaway trial pits for subsequent laboratory examination and testing whilst a continuous column of soil was recovered from the windowless samplers. Standard Penetration Tests (SPT) were carried out as appropriate. Details of the strata encountered are provided on the Borehole and Trial Pit Records at Appendix B; together with particulars of the samples recovered, groundwater observations and SPT results. The profile of SPT with depth is also presented at Figure 3 of Appendix A.

To aid pavement design, eight in situ California Bearing Ratio (CBR) tests were carried out with the results presented at Appendix C.

Soakaway testing, generally in accordance with BRE Digest 365<sup>2</sup> was carried out in five locations. The results are presented at Appendix D.

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<sup>2</sup> BRE Digest 365. *Soakaway design*, Building Research Establishment, September 1991

Standpipes were installed in WSI, 6 & 9 to allow monitoring of groundwater levels and soil gas concentrations. The results to date are available at Appendix E.

## 5

### Laboratory testing

The following laboratory tests were conducted on soil samples recovered during the field work:-

- Natural moisture content: to assess the in situ condition of the soil.
- Liquid and Plastic Limits: to classify cohesive soil into behavioural groups.
- Unconsolidated undrained triaxial compression: to determine the shear strength of cohesive material under immediate loading and thus to assess its load bearing capacity.
- Soluble sulphate and pH value: for the specification of buried concrete.
- Contamination: chemical analyses to detect the presence of contaminants as indicated by the Environmental Assessment, viz:-

Metals & metalloids: Total arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc.

Water soluble boron.

Organic: Speciated petroleum hydrocarbons with aliphatic/aromatic split and BTEX & MTBE, speciated polycyclic aromatic hydrocarbons (PAH) and phenols.

Others: Asbestos screen and waste acceptance criteria (WAC).

Results of these tests are presented at Appendix F and the original chemical laboratory test certificates are available at Appendix G.

# 6

## Ground conditions

### 6.1

#### Stratigraphy

The stratigraphy of the site as revealed by the investigation is shown in detail at Appendix B and is described in general terms hereafter.

##### 6.1.1

##### Superficial material

All locations were advanced through a surface layer of vegetation which was underlain by either topsoil or a brown sandy clay, often containing roots and rootlets. The topsoil / sandy clay was locally underlain by a dark orange brown and grey or mottled brown slightly sandy to sandy clay with black carbonaceous material which was observed to a maximum depth of 0.70 m in SAI.

##### 6.1.2

##### Weald Clay Formation

Underlying the superficial material were a series of clay layers considered to represent the Weald Clay Formation. The Weald Clay was represented by various coloured clays including orange brown, brown, grey, red brown and grey blue and were noted to be locally slightly sandy to sandy. Some of the deeper horizons contained sandy laminations. The sole exception to the foregoing was a 1.90 m thick layer of grey blue sand recorded in BH3 between 8.2 and 10.1 m depth.

In situ testing and visual assessment indicates the clay to be initially firm, quickly becoming stiff to very stiff with depth. Triaxial testing tended to underestimate the shear strength due to premature failure caused by sand partings and layers. Atterberg Limits performed on samples of the Weald Clay indicate it to have a variable plasticity, ranging from low to high.

## **6.2**

### **Groundwater**

Groundwater was encountered in BH3, WS3, WS5 & WS9 at depths ranging from 2.0 m in WS3 to 8.2 m depth in BH3. In addition, the speed of drilling, addition of water to aid the drilling process and use of casing to support the bore may have masked any small inflows and impinged upon the accuracy of the observations. More onerous conditions may therefore be revealed in construction excavations.

Standpipe readings taken during subsequent monitoring visits have recorded groundwater at less than a metre in WS1 & WS9 whilst WS6 was dry on the first two visits but water levels have slowly risen since.

## **7**

### **Discussion**

#### **7.1**

##### **General**

The site remained undeveloped throughout the entirety of the historical mapping history and remains undeveloped to the present day. However, there is still a very low possibility that pockets of Made Ground may be present, even though not detected by this investigation.

## 7.2

### Spread foundations

The superficial material is not considered suitable as a bearing stratum due to its variability in both composition and compaction. In addition, it was laterally impersistent across the site.

Laboratory tests revealed the near surface Weald Clay to have a variable plasticity, ranging from low to high with a corresponding low to medium volume change potential as defined by the NHBC, thus rendering it susceptible to shrinkage and swelling movements associated with changes in moisture content. A minimum depth of 0.75 - 0.90 m is recommended by the NHBC for clays with low to medium volume change potential although experience suggests a depth of at least 1.0 m to be more prudent for foundations to place them below the zone of normal seasonal variations. Tree root action can cause shrinkage and swelling of the subsoil to considerable depth as shown by the NHBC<sup>3</sup> and others. Foundation depths close to trees (removed, existing and proposed) should therefore comply with NHBC guidelines and be below the depth of visible roots and the associated zone of capillary suction.

Based upon the data provided by in situ and laboratory testing, a net allowable bearing capacity of 120 kPa is available for conventional strip foundations up to 1.2 m wide at minimum 1.0 m depth. Total settlement of these foundations is not expected to exceed 25 mm, with approximately one quarter occurring immediately load is applied and the remainder at gradually decreasing rate over the ensuing years.

Differential settlement between footings of similar loading and geometry is not expected to exceed about half of the total value.

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<sup>3</sup> NHBC Standards Chapter 4.2 Building near trees. National House Building Council, April 2003

The clay will quickly degrade on exposure, especially if there is water present. Foundations should therefore be cast immediately the excavation is complete unless protected by a layer of blinding concrete.

It may theoretically be possible to use narrow strip footings to carry light structural loads. However, we recommend that a minimum width of 0.45 m be employed for strip foundations, increasing to maintain a minimum aspect ratio (depth/breadth) of 3 for deeper foundations. If trench fill construction is employed, their vertical faces should be cast against a layer of compressible material where within the influence of root action to minimise heave forces should any of the trees die or be otherwise removed. A polythene slip membrane can also be incorporated to minimise uplift.

## 7.3

### **Ground floor slabs**

The Topsoil and plasticity of the near surface material precludes the use of ground bearing floor slabs and suspended ground floor construction is recommended. A void of 250 mm thickness should be incorporated beneath the suspended slab in accordance with NHBC recommendations, assuming precast concrete or timber flooring.

## 7.4

### **Excavations**

The Weald Clay will be able to maintain vertical excavated faces of moderate height in the short term although it is surcharged by unstable Topsoil. All excavations should therefore be supported at all times unless battered to a safe angle of repose. In any event, excavations to greater than 1.2 m depth should be supported at all times.

Provision of adequate support is especially important for the safety of personnel when required to work in or close to excavations. Temporary and permanent works should be designed to resist the additional lateral earth pressures arising from any superimposed loads in addition to those generated by the soil itself, without significant deformation.

Groundwater observations during the investigation and on subsequent monitoring visits suggests that general construction excavations should remain above the local groundwater level. However, a perched water table appears to be present (as recorded in the standpipes) in the near surface material, but this is expected to be controlled by conventional pumping from shallow sumps.

## 7.5

### **Pavement construction**

The results of the eight in situ California Bearing Ratio (CBR) tests are presented at Appendix C and show values ranging from 1.8 % to 4.3 %, depending on the particular composition and moisture content of the material under test.

It is well documented that CBR values decrease as soil moisture content increases. Unless efficient sub - grade drainage is installed and can be guaranteed to perform throughout the life of the proposed pavement, it is likely that the sub - grade moisture content will increase in service, leading to a reduction in the CBR value. Therefore, although the test results may be used as a guide for pavement design, it would be prudent to allow a reduction to reflect the in - service condition beneath the pavement to a value of some 1.5 % for design purposes.

Where low CBR values are anticipated, consideration could be given to the use of a capping layer of compacted granular fill. As a rule of thumb, a 300 mm thick layer of suitable granular fill can double the design CBR.

The formation should be inspected on exposure and any unsuitable material replaced with suitable compacted fill. Proof rolling of the formation will provide a more uniform surface for construction, although this will not improve the properties of the material at depth.

It is recommended that flexible construction techniques such as block paving or wholly bituminous materials are employed due to the possibility of post - construction movement. This type of construction is better able to accommodate movement and can be more easily realigned should deformations become unacceptable.

## 7.6

### Surface water drainage

Soakaway testing, generally in accordance with BRE Digest 365, was carried out at five locations with the results available at Appendix D. The infiltration rates were negligible, despite the length of time allowed for the test (overnight). Shallow, surface water soakaways are not therefore recommended at this site.

## 7.7

### Contaminant analysis

#### 7.7.1

##### Solid phase

Contaminant testing was undertaken on selected soil samples and the results have been compared with the limited number of CLEA<sup>4</sup> Soil Guideline Values (SGVs) for residential land use with plant uptake that have been published to date. Where not available from that

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<sup>4</sup> *The Contaminated Land Exposure Assessment Model, Department for Environment, Food and Rural Affairs, The Environment Agency, R & D Publications SGV 1 et al., March 2002*

source, reference has also been made to the LQM/CIEH S4ULs for Human Health Risk Assessment<sup>5</sup>. Appropriate trigger levels are given with the results at Appendix F and the original analytical laboratory result sheets are presented at Appendix G.

Analysis for metals/metalloids revealed all determinants to be below the triggers for residential land use with plant uptake.

No SGV exists for lead (the old SGV of 450 mg/kg having been withdrawn) and LQM have not calculated one. However, provisional Category 4 Screening Levels (C4SLs) have been published by Defra which suggest a maximum concentration of 210 mg/kg lead for residential land use with plant uptake (a number of different concentrations have been published, dependant on differing exposure scenarios). No lead was recorded above this value in any sample.

No phenols were recorded above the limit of detection for the test of 1 mg/kg.

No TPH was recorded above the limits of detection for the tests.

No BTEX or MTBE was recorded above the limits of detection for the tests.

Analysis for speciated PAH recorded the vast majority of individual PAHs below the limit of detection for the test of 0.05 mg/kg. Of the seven samples analysed, only two recorded any individual PAHs above the limit of detection for the test, but at very low concentrations and far below the relevant S4ULs.

No asbestos fibres were detected in the seven samples tested.

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<sup>5</sup> *The LQM/CIEH S4ULs for Human Health Risk Assessment. Land Quality Press, 2015*

## **7.7.2**

### **Gas phase**

The standpipes installed in WSI, 6 & 9 are being monitored for gas flow rate and concentrations of oxygen, methane, carbon dioxide, carbon monoxide and hydrogen sulphide. A note is also being made of the weather conditions at the time of reading. Results thus far have recorded negligible concentrations of carbon dioxide and no methane present. The results to date are available at Appendix E.

## **7.7.3**

### **Waste Acceptance Criteria (WAC)**

Three samples were subject to the WAC full solid waste suite and the WAC single stage leachate suite. The results have been compared to the criteria contained in the Landfill Regulations 2002 as amended and are presented at Appendix F.

Within the solid waste suite, all results were within the Inert Waste Landfill criteria limits.

Similarly, parameters determined on the compliance leaching test were also within the Inert Waste Landfill criteria limits.

The contamination test results and the WAC results should be forwarded to the contractor appointed to remove arisings from site. Transfer notes and chain of custody sheets should be retained for all spoil removed from site.

## 7.8

### Conclusion

The Phase I Environmental Assessment concluded there to be a low risk of contamination arising from past or present site usage and activities in the surrounding area also constitute a low risk of significant contamination migrating to the subject site. The potential for ground gas, principally methane and carbon dioxide migrating to the subject site or emanating thereon was assessed as low to negligible.

Laboratory analysis of soil samples recovered during the intrusive investigation have not revealed any significant concentrations of either organic or inorganic contamination. Similarly, gas monitoring undertaken to date has not recorded any significantly elevated carbon dioxide or methane.

Although not anticipated to be present, as with any site, areas of Made Ground not identified during the intrusive investigation may come to light during the redevelopment phase. Should any Made Ground, discoloured or odorous soils be encountered then AP Geotechnics should be informed and work stopped in that area.

## 7.9

### Buried concrete

Laboratory tests on soil samples yielded a maximum soluble sulphate concentration of 0.40 g/l which results in a Design Sulphate Class<sup>6</sup> of DS-1.

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<sup>6</sup> *Concrete in aggressive ground. BRE Special Digest 1. Building Research Establishment, 2005*

The groundwater is considered to be mobile and all pH determinations were greater than 5.5. Therefore the Aggressive Chemical Environment for Concrete, ACEC, is classed as AC-I.

R G Chapman  
AP GEOTECHNICS LTD.  
4th November 2025

This report has been prepared for the sole and specific use of Rocco Homes for the purpose of the proposed development on land to the east of Mousdell Close, Ashington RH20 3AR and should not be relied upon by any third party. Any other persons who use any information contained herein without the written permission of AP GEOTECHNICS LTD. do so at their own risk.

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# PROCEDURAL NOTES for GROUND INVESTIGATIONS

## General

This report has been prepared generally in accordance with CLR 11: Model Procedures for the Management of Land Contamination (Defra & Environment Agency 2004).

This report is based upon data obtained from field descriptions of the strata and examination of the samples by an engineer, together with the results of in situ and laboratory tests as appropriate. Responsibility cannot be accepted for variations in ground conditions between and around any of the exploratory points that is not revealed by the data. Whilst the report may offer an opinion on the ground conditions between exploratory points and below the depth of investigation, this is for guidance only and no liability is accepted for its accuracy. Unless specifically included in the report, it should be assumed that no testing has been carried out in respect of asbestos or Japanese Knotweed and no liability will be inferred or accepted.

## Drilling procedure

Boring by light cable percussion drilling allows the ground conditions to be reasonably well established. However, a certain amount of disturbance is inevitable and some mixing of soils can occur.

## Sampling procedure

"Undisturbed" samples of predominantly cohesive soils are taken with a 100mm diameter open tube sampler, generally in accordance with BS 5930: 1999.

Where appropriate, or where an undisturbed sample is unsuccessful, disturbed samples are recovered and sealed into polythene bags.

Groundwater samples are taken when water is encountered in sufficient quantity.

## Standard penetration tests

The test is conducted generally in accordance with BS 1377: Part 9: 1990. The sampler tube is subject to a seating drive of 150mm into the soil at the base of the borehole. Results are given on the Borehole Records as the number of blows required to drive the sampler tube a further 300mm and this is known as the "N" value. Where the driving resistance is such that full penetration is not achieved, the test is generally terminated after 50 blows and the actual distance penetrated is recorded.

## Groundwater

Groundwater observations necessarily reflect the conditions encountered at the time of the exploratory work. Long term monitoring of standpipes is usually required to establish an equilibrium water level since the normal rate of boring is too fast to permit steady state conditions to be achieved.

Groundwater levels are subject to variations caused by changes in drainage conditions and seasonal climatic changes.

Water may necessarily be added to advance the bore whilst casing may be required to maintain an open hole. These can both mask subsequent groundwater observations and are therefore noted on the individual Borehole Record.

# APPENDICES

## A Figures

- Figure 1: Approximate Exploratory Hole Locations
- Figure 2: Proposed Development
- Figure 3: SPT Profile

## B Borehole and Trial Pit Records

- Symbols and Abbreviations
- Borehole Records
- Trial Pit Records

## C California Bearing Ratio Test Results

- California Bearing Ratio

## D Soakaway Test Results

- BRE DIGEST 365 - Soil Infiltration Rate

## E Standpipe Records

- Gas Emissions and Water Levels

## F Laboratory Test Results

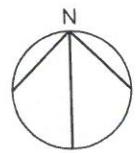
- Summary of Geotechnics Test
- Contaminants in Soil
- Waste Acceptance Criteria (WAC)

## G Original Testing House Certificates

- Analytical Reports

## APPENDIX A

## FIGURES



Land East of Mousdell Close,  
Ashington, West Sussex,  
RH20 3GS

**Approximate Exploratory Hole Locations**

Scale: as shown



Scale  
1:250 @ A3  
metres 2 4 6 8 10

Figure 1

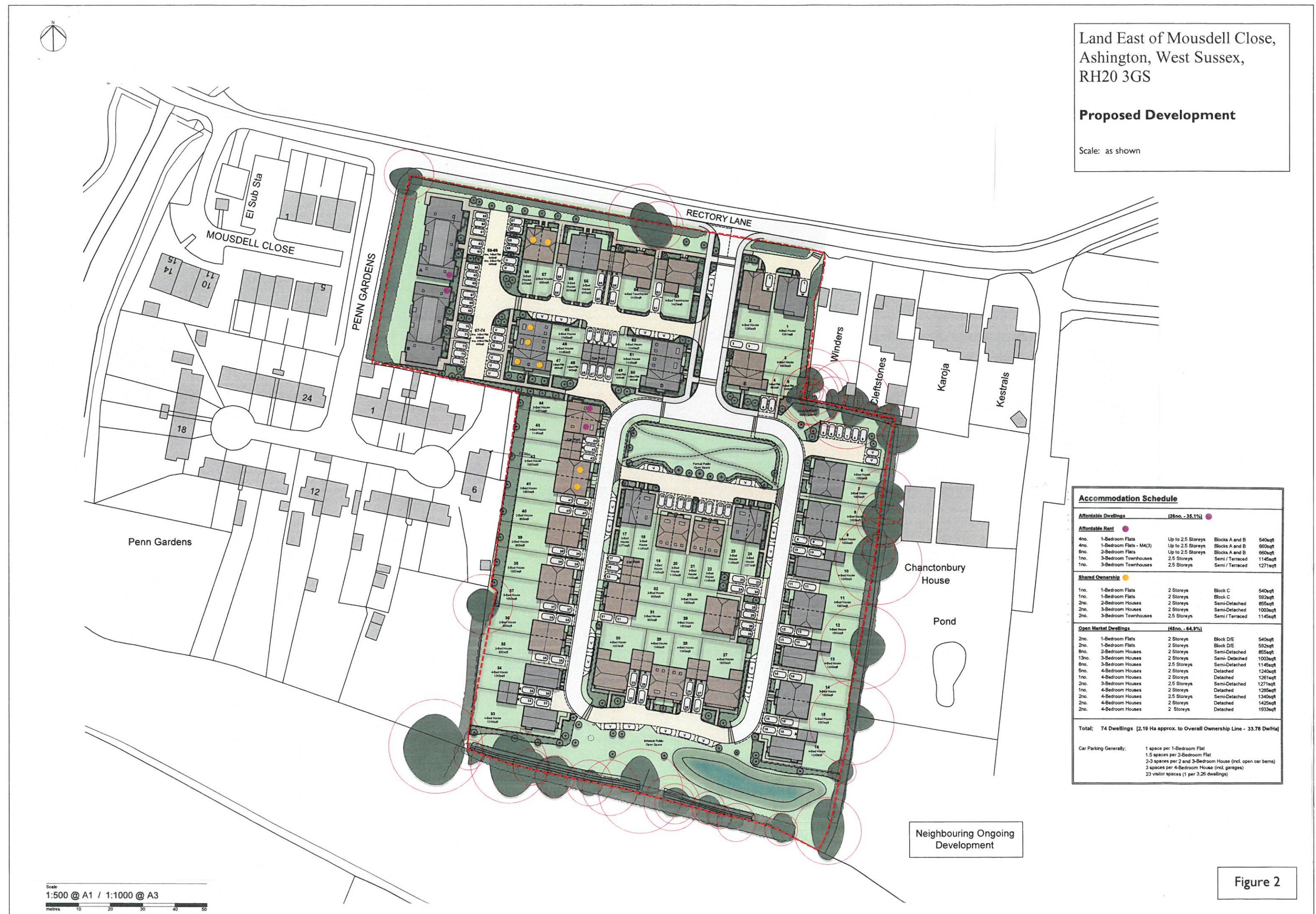


Figure 2

## APPENDIX B

BOREHOLE AND TRIAL PIT RECORDS

# SYMBOLS and ABBREVIATIONS

## Samples

### Undisturbed

- U Standard open drive "undisturbed"  
102mm dia. in boreholes  
38mm dia. in trial pits, window sampler  
and hand auger
- T Thin wall open drive
- P Piston
- CBR CBR mould
- L Windowless sampler liner

### Disturbed

- D Small
- B Bulk
- W Water
- C Contaminants: plastic tub
- J Contaminants: brown glass jar

## In situ tests

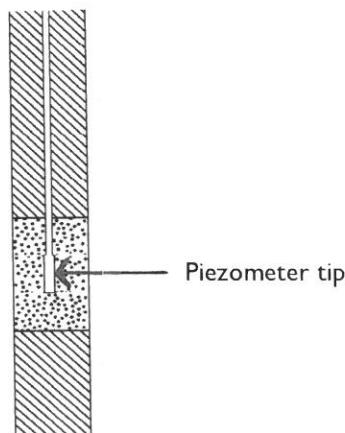
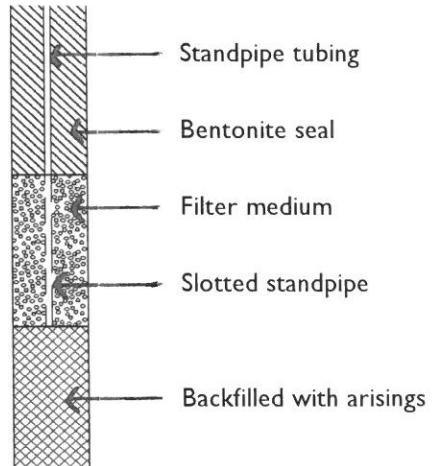
- SPT Standard Penetration Test, open shoe  
solid cone  
N value is number of blows for 300mm  
penetration.  
Blow count also given as seating drive  
followed by four increments of 75mm.

V ( ) Vane test ( $c_u$  kPa)

P ( ) Hand penetrometer ( $c_u$  kg/cm<sup>2</sup>)

M ( ) Mexe probe (CBR %)

## Standpipes



## Water records

$\nabla_2$  Standing level

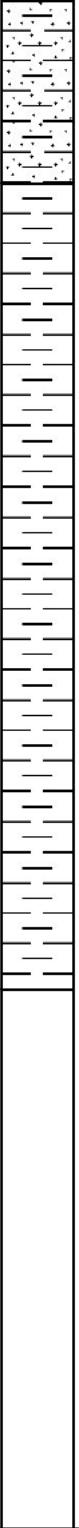
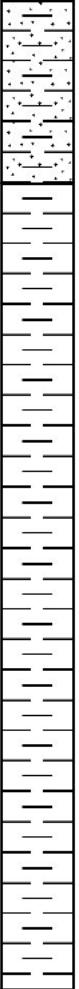
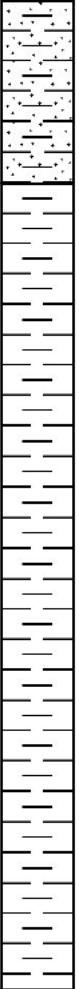
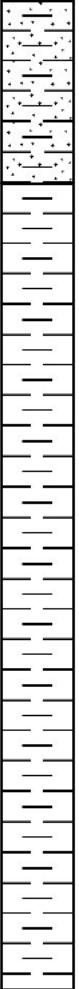
$\nabla_2$  Depth encountered

suffix identifies separate strikes

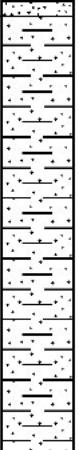
 <p><b>A P G E O T E C H N I C S</b></p> <p>T 01932 848460 F 01932 851255 E mail@apgeotechnics.co.uk</p>						<b>Site</b> LAND TO THE EAST OF MOUSDELL CLOSE, ASHINGTON	<b>Borehole Number</b> <b>BH1</b>		
<b>Boring Method</b> Cable Percussion		<b>Casing Diameter</b> 150mm cased to 2.50m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes	<b>Job Number</b> 5993		
		<b>Location</b> See site plan		<b>Dates</b> 23/06/2025- 24/06/2025		<b>Engineer</b>	<b>Sheet</b> 1/2		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1					(0.30) 0.30	Vegetation over brown sandy TOPSOIL		
1.00	D2					(0.60) 0.90	Soft to firm mottled brown slightly sandy CLAY with black carbonaceous material		
1.50-1.95	SPT N=14		DRY	2,3/3,4,3,4		(0.50) 1.40	Firm orange brown and brown mottled sandy CLAY		
2.00	D3		DRY	2,3/5,7,8,8		(0.70) 2.10	Firm orange brown, brown and grey mottled slightly sandy CLAY		
2.50-2.95 2.50-3.00	SPT N=28 B1		DRY	3,3/5,6,6,6			Stiff to very stiff red brown and grey CLAY		
3.50-3.95 3.50-4.00	SPT N=23 B2	2.50	DRY	3,4/6,7,8,8		(2.80)			
4.50-4.95	SPT N=29	2.50	DRY	6,8/11,13,17,9		4.90	Firm to stiff grey blue and red brown mottled slightly sandy CLAY		
6.00-6.40 6.00-6.50	SPT 50/245 B3	2.50	DRY	100 blows		(2.20)			
7.50-7.85	U1	2.50	DRY	100 blows		(1.50)	Very stiff red brown and grey mottled CLAY		
7.90	D4								
9.00-9.39	SPT 50/235	2.50	DRY	11,12/13,14,14,9		8.60	Very stiff grey CLAY with sandy laminations		
<b>Remarks</b> No further progress Water added to aid drilling Slow progress from 11.0 to 11.4 m depth Waiting for gate code and flattening high vegetation - 1.25 hrs Borehole backfilled with arisings Excavating from 0.00m to 1.20m for 1.0 hour.								Scale (approx)	Logged By
								1:50	Ijs
								<b>Figure No.</b> 5993.BH1	

 <p><b>A P G E O T E C H N I C S</b></p> <p>T 01932 848460 F 01932 851255 E mail@apgeotechnics.co.uk</p>						<b>Site</b> LAND TO THE EAST OF MOUSDELL CLOSE, ASHINGTON	<b>Borehole Number</b> <b>BH1</b>		
<b>Boring Method</b> Cable Percussion		<b>Casing Diameter</b> 150mm cased to 2.50m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes	<b>Job Number</b> 5993		
		<b>Location</b> See site plan		<b>Dates</b> 23/06/2025- 24/06/2025		<b>Engineer</b>	<b>Sheet</b> 2/2		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.50-10.65 10.70	U2 D5	2.50	DRY	100 blows		(4.10)	Very stiff grey CLAY with sandy laminations		
12.00-12.37 12.00-12.50	SPT 25*/145 50/225 B4	2.50	DRY	13,12/15,17,18 23/06/2025:DRY 24/06/2025:DRY		12.70	Very stiff red brown and grey CLAY		
13.50-13.81	SPT 50/155	2.50	DRY	7,15/19,23,8		(3.80)			
15.00-15.30 15.00-15.50	SPT 25*/145 50/155 B5	2.50	DRY	10,15/18,26,6 24/06/2025:DRY		16.50	Terminated at 16.50m		
16.50-16.80	SPT 25*/145 50/155	2.50	DRY	11,14/19,25,6					
<b>Remarks</b> No further progress Water added to aid drilling Slow progress from 11.0 to 11.4 m depth Waiting for gate code and flattening high vegetation - 1.25 hrs Borehole backfilled with arisings							<b>Scale (approx)</b> 1:50	<b>Logged By</b> ljs	
							<b>Figure No.</b> 5993.BH1		

 <p><b>A P G E O T E C H N I C S</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<b>Site</b> LAND TO THE EAST OF MOUSDELL CLOSE, ASHINGTON	<b>Borehole Number</b> <b>BH2</b>		
<b>Boring Method</b> Cable Percussion		<b>Casing Diameter</b> 150mm cased to 2.50m			<b>Ground Level (mOD)</b>	<b>Client</b> Rocco Homes	<b>Job Number</b> 5993		
		<b>Location</b> See site plan			<b>Dates</b> 24/06/2025- 25/06/2025	<b>Engineer</b>	<b>Sheet</b> 1/2		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D1					(0.40) 0.40	Vegetation over brown sandy CLAY with roots		
0.50	D2						Firm to stiff orange brown, brown and grey mottled slightly sandy CLAY with rootlets observed to 1 m depth		
1.00	D3								
1.50-1.95	SPT N=25		DRY	3,4/5,6,7,7		(2.20)			
2.50-0.70	U1		DRY	100 blows		2.60			
2.75	D4		DRY			(0.90)	Very stiff yellow, orange brown, brown and blue grey CLAY		
3.50-3.88	SPT 50/230	2.50	DRY	7,13/14,14,15,7		3.50	Stiff grey blue and brown sandy CLAY		
3.50-4.00	B1		DRY			(1.20)			
4.50-4.95	U2	2.50	DRY	100 blows		4.70	Very stiff grey blue and brown CLAY with sandy laminations		
5.00	D5								
6.00-6.45	SPT 50/295	2.50	DRY	7,8/12,13,13,12					
6.00-6.50	B2		DRY						
7.50-7.93	SPT 50/275	2.50	DRY	6,11/13,14,15,8		(6.50)			
9.00-9.32	SPT 50/165	2.50	DRY	11,14/18,23,9					
9.00-9.50	B3		DRY						
<b>Remarks</b> Borehole backfilled with arisings Water added to aid drilling Slow progress between 8.2 and 8.5 m depth - 1 hr Slow progress between 14.1 and 14.7 m depth - 1 hr Chiselling from 8.20m to 8.50m for 1.0 hour. Excavating from 0.00m to 1.20m for 1.0 hour.								Scale (approx)	Logged By
								1:50	Ijs
								<b>Figure No.</b> 5993.BH2	

 <p><b>A P G E O T E C H N I C S</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>							<b>Site</b> LAND TO THE EAST OF MOUSDELL CLOSE, ASHINGTON	<b>Borehole Number</b> <b>BH2</b>
<b>Boring Method</b> Cable Percussion		<b>Casing Diameter</b> 150mm cased to 2.50m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993
		<b>Location</b> See site plan		<b>Dates</b> 24/06/2025- 25/06/2025		<b>Engineer</b>		<b>Sheet</b> 2/2
<b>Depth (m)</b>	<b>Sample / Tests</b>	<b>Casing Depth (m)</b>	<b>Water Depth (m)</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>	<b>Legend</b>
								
10.50-11.00	B4			24/06/2025:DRY			Very stiff grey blue and brown CLAY with sandy laminations	
10.50-10.84	SPT 50/185	2.50	DRY	25/06/2025:DRY 9,14/17,20,13		11.20	Stiff to very stiff red brown and blue grey CLAY	
12.00-12.35 12.00-12.50	SPT 49/195 B5	2.50	DRY	11,13/16,21,12				
13.50-13.65	SPT 85*/60 17/85	2.50	DRY	25,60/17		(5.30)		
14.50-15.00	B6							
15.00-15.27	SPT 25*/110 50/155	2.50	DRY	16,9/18,26,6				
16.50-16.81	SPT 47/155	2.50	DRY	25/06/2025:DRY 11,13/19,24,4		16.50	Complete at 16.50m	
<b>Remarks</b> Borehole backfilled with arisings Water added to aid drilling Slow progress between 8.2 and 8.5 m depth - 1 hr Slow progress between 14.1 and 14.7 m depth - 1 hr Chiselling from 14.10m to 14.70m for 1.0 hour.								<b>Scale (approx)</b> 1:50
								<b>Logged By</b> ljs
								<b>Figure No.</b> 5993.BH2

 <p><b>A P G E O T E C H N I C S</b></p> <p>T 01932 848460 F 01932 851255 E mail@apgeotechnics.co.uk</p>						<b>Site</b> LAND TO THE EAST OF MOUSDELL CLOSE, ASHINGTON	<b>Borehole Number</b> <b>BH3</b>		
<b>Boring Method</b> Cable Percussion		<b>Casing Diameter</b> 150mm cased to 10.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes	<b>Job Number</b> 5993		
		<b>Location</b> See site plan		<b>Dates</b> 25/06/2025- 26/06/2025		<b>Engineer</b>	<b>Sheet</b> 1/2		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D1					(0.30) 0.30	Vegetation over brown sandy TOPSOIL		
0.50	D2					(1.10)	Firm brown grey sandy CLAY		
1.00	D3					1.40			
1.50-1.95	U1		DRY	60 blows			Firm to stiff orange brown, brown and grey blue slightly sandy CLAY		
2.00	D4								
2.50-2.95 2.50-3.00	SPT N=33 B1	2.50	DRY	4,5/6,8,8,11		(2.70)			
3.50-3.95	U2	2.50	DRY	70 blows					
4.00	D5					4.10	Very stiff blue grey and brown mottled slightly sandy to sandy CLAY		
4.50-4.95 4.50-5.00	SPT N=49 B2	2.50	DRY	5,9/11,12,12,14					
6.00-6.45	U3	2.50	DRY	100 blows		(4.10)			
6.50	D6								
7.50-7.89 7.50-8.00	SPT 50/235 B3	2.50	DRY	6,10/12,12,19,7  fast(1) at 8.20m, rose to 7.30m in 20 mins.		8.20	Very dense grey blue SAND		
9.00-9.44 9.00-9.50	SPT 50/290 B4	2.50	DRY	5,8/11,13,14,12		(1.90)			
<b>Remarks</b> Water added to aid drilling. Borehole was backfilled with arisings Excavating from 0.00m to 1.20m for 1.0 hour.							<b>Scale (approx)</b> 1:50	<b>Logged By</b> ljs	
							<b>Figure No.</b> 5993.BH3		

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<p><b>Site</b>  LAND TO THE EAST OF MOUSDELL CLOSE,  ASHINGTON</p>			<b>Borehole Number</b> <b>BH3</b>
<b>Boring Method</b> Cable Percussion		<b>Casing Diameter</b> 150mm cased to 10.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993	
		<b>Location</b> See site plan		<b>Dates</b> 25/06/2025- 26/06/2025		<b>Engineer</b>		<b>Sheet</b> 2/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	<b>Description</b>		Legend
10.50-10.94 10.50-11.00	SPT 50/290 B5	2.50	DRY	6,10/12,12,15,11		10.10  (2.90)	Stiff grey blue and brown sandy CLAY		
12.00-12.30 12.00-12.50	SPT 50/150 B6	2.50	DRY	7,15/21,29  26/06/2025:DRY		13.00	Complete at 13.00m		
<b>Remarks</b> Water added to aid drilling. Borehole was backfilled with arisings Chiselling from 12.60m to 13.00m for 1.0 hour.								<b>Scale (approx)</b> 1:50	<b>Logged By</b> ljs
								<b>Figure No.</b> 5993.BH3	

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<p><b>Site</b>  LAND TO THE EAST OF MOUSDELL CLOSE,  ASHINGTON</p>			<b>Number</b> <b>WS1</b>		
<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993			
		<b>Location</b> See site plan		<b>Dates</b> 26/06/2025		<b>Engineer</b>		<b>Sheet</b> 1/9			
<b>Depth (m)</b>	<b>Sample / Tests</b>	<b>Water Depth (m)</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>		<b>Legend</b>	<b>Water</b>		
0.00-1.00 0.20 1.00 1.00-1.45 1.00-2.00	L1 C1 D1 SPT(C) N=12 L2		90% recovery  100% recovery 3/2,3,4,3		(0.50) 0.50	Vegetation over brown sandy TOPSOIL  Firm to stiff brown grey mottled CLAY					
2.00-3.00 2.00-2.45	L3 SPT(C) N=17	DRY	90% recovery 6/3,5,4,5		(3.50)						
3.00-4.00 3.00-3.45	L4 SPT(C) N=17	DRY	80% recovery 5/3,4,5,5								
4.00-4.45	SPT(C) N=44	DRY	12/8,9,12,15	4.00		Complete at 4.00m					
<b>Remarks</b> Borehole was dry Strata depths approximate where recovery <100%								<b>Scale (approx)</b> 1:25	<b>Logged By</b> ljs		
								<b>Figure No.</b> 5993.WS1			

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<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993			
		<b>Location</b> See site plan		<b>Dates</b> 26/06/2025		<b>Engineer</b>		<b>Sheet</b> 2/9			
<b>Depth (m)</b>	<b>Sample / Tests</b>	<b>Water Depth (m)</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>		<b>Legend</b>	<b>Water</b>		
0.00-1.00	L1		70% recovery		(0.30)	Brown silty TOPSOIL					
0.40	C1				0.30	Firm to stiff orange brown and grey mottled CLAY					
1.00-2.00 1.00-1.45	L2 SPT(C) N=9	DRY	90% recovery 3/2,2,3,2								
1.50	D1										
2.00-3.00 2.00-2.45	L3 SPT(C) N=7	DRY	90% recovery 3/1,2,2,2		(3.70)						
3.00-4.00 3.00-3.45	L4 SPT(C) N=16	DRY	100% recovery 5/3,4,4,5								
4.00-4.45	SPT(C) N=42	DRY	9/7,8,10,17	4.00		Complete at 4.00m					
<b>Remarks</b> Strata depths approximate where recovery <100% Borehole was dry								<b>Scale (approx)</b> 1:25	<b>Logged By</b> ljs		
								<b>Figure No.</b> 5993.WS2			

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<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993			
		<b>Location</b> See site plan		<b>Dates</b> 26/06/2025		<b>Engineer</b>		<b>Sheet</b> 3/9			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	<b>Description</b>		Legend	Water		
0.00-1.00	L1		90% recovery		(0.50)	Brown silty TOPSOIL					
0.50-1.00	C1				0.50	Firm to stiff orange brown and grey mottled CLAY					
1.00-2.00 1.00-1.45	L2 SPT(C) N=7	DRY	100% recovery 3/1,2,2,2		(1.50)						
2.00-2.45	SPT(C) N=56	DRY	Water strike(1) at 2.00m. 26/06/2025:2.00m 12/16,11,12,17		2.00	Terminated at 2.00m			✓1		
<b>Remarks</b> Strata depths approximate where recovery <100% Refused @ 2.00 m, terminated								<b>Scale (approx)</b> 1:25	<b>Logged By</b> ljs		
								<b>Figure No.</b> 5993.WS3			

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<p><b>Site</b>  LAND TO THE EAST OF MOUSDELL CLOSE,  ASHINGTON</p>		<p><b>Number</b>  <b>WS4</b></p>			
<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993			
		<b>Location</b> See site plan		<b>Dates</b> 26/06/2025		<b>Engineer</b>		<b>Sheet</b> 4/9			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water		
0.00-1.00	L1		100% recovery			Brown silty TOPSOIL					
0.30	C1				(0.60)	Firm to stiff orange brown and grey mottled CLAY					
1.00 1.00-1.45 1.00-2.00	D1 SPT(C) N=11 L2	DRY	100% recovery 3/1,3,3,4		0.60						
2.00-3.00 2.00-2.45	L3 SPT(C) N=26	DRY	80% recovery 8/4,7,7,8		(2.40)						
3.00-3.30	SPT(C) 56/150	DRY	27/24,32		3.00	Complete at 3.00m					
<b>Remarks</b> Strata depths approximate where recovery <100% Borehole was dry								Scale (approx)	Logged By		
								1:25	Ijs		
								<b>Figure No.</b> 5993.WS4			

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<p><b>Site</b>  LAND TO THE EAST OF MOUSDELL CLOSE,  ASHINGTON</p>		<b>Number</b> <b>WS5</b>		
<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993		
		<b>Location</b> See site plan		<b>Dates</b> 26/06/2025		<b>Engineer</b>		<b>Sheet</b> 5/9		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	<b>Description</b>		<b>Legend</b> 		
0.00-1.00	L1		100% recovery		(0.40)	Brown silty TOPSOIL				
0.50	C1				0.40	Firm to stiff orange brown and grey mottled CLAY				
1.00-2.00 1.00-1.45	L2 SPT(C) N=13	DRY	90% recovery 3/2,3,4,4		(2.40)					
2.00-2.80 2.00-2.45	L3 SPT(C) N=21	DRY	80% recovery 7/5,5,5,6							
			Water strike(1) at 2.80m. 26/06/2025: 1.79m							
2.80-3.25	SPT(C) N=53	2.80	31/10,13,15,15		2.80	Terminated at 2.80m				
<b>Remarks</b> Strata depths approximate where recovery <100% Refused @ 2.80 m, terminated								<b>Scale (approx)</b> 1:25 <b>Logged By</b> ljs		
								<b>Figure No.</b> 5993.WS5		

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<p><b>Site</b>  LAND TO THE EAST OF MOUSDELL CLOSE,  ASHINGTON</p>		<p><b>Number</b>  <b>WS6</b></p>			
<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993			
		<b>Location</b> See site plan		<b>Dates</b> 26/06/2025		<b>Engineer</b>		<b>Sheet</b> 6/9			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	<b>Description</b>		Legend	Water		
0.00-1.00	L1		100% recovery		(0.30) 0.30	Brown silty TOPSOIL					
1.00-2.00 1.00-1.45	L2 SPT(C) N=15	DRY	100% recovery 4/3,4,4,4		(2.70)	Firm to stiff orange brown and grey mottled CLAY					
2.00-3.00 2.00-2.45	L3 SPT(C) N=37	DRY	80% recovery 8/7,10,10,10		3.00	Terminated at 3.00m					
3.00-3.30	SPT(C) 57/150	DRY	32/27,30								
<b>Remarks</b> Refused @ 3.00 m, terminated Strata depths approximate where recovery <100% Borehole was dry								<b>Scale (approx)</b> 1:25	<b>Logged By</b> ljs		
								<b>Figure No.</b> 5993.WS6			

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<p><b>Site</b>  LAND TO THE EAST OF MOUSDELL CLOSE,  ASHINGTON</p>		<p><b>Number</b>  <b>WS7</b></p>			
<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993			
		<b>Location</b> See site plan		<b>Dates</b> 27/06/2025		<b>Engineer</b>		<b>Sheet</b> 7/9			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water		
0.00-1.00	L1		100% recovery		(0.30) 0.30	Brown silty TOPSOIL					
1.00-1.50 1.00-1.45 1.00-2.00	C1 SPT(C) N=19 L2	DRY	90% recovery 4/3,5,5,6		(2.40)	Firm to stiff orange brown and grey mottled CLAY					
1.50	D1				2.70	Terminated at 2.70m					
2.00-2.70 2.00-2.45	L3 SPT(C) N=31	DRY	70% recovery 7/5,7,10,9								
2.70-3.08	SPT(C) 66/225	DRY	31/20,22,24								
<b>Remarks</b> Borehole was dry Refused @ 2.70 m, terminated Strata depths approximate where recovery <100%								<b>Scale (approx)</b> 1:25	<b>Logged By</b> ljs		
								<b>Figure No.</b> 5993.WS7			

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<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes	
		<b>Location</b> See site plan		<b>Dates</b> 27/06/2025		<b>Engineer</b>	
<b>Depth (m)</b>	<b>Sample / Tests</b>	<b>Water Depth (m)</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>	
0.00-1.00	L1		90% recovery		(0.20) 0.20	Brown silty TOPSOIL	
0.30	C1					Firm to stiff orange brown and grey mottled CLAY	
1.00-2.00 1.00-1.45	L2 SPT(C) N=19	DRY	80% recovery 6/3,5,5,6		(1.80)		
2.00-2.45	SPT(C) N=56	DRY	14/7,12,17,20		2.00	Terminated at 2.00m	
<b>Remarks</b> Refused @ 2.00 m, terminated Strata depths approximate where recovery <100% Borehole was dry							<b>Scale (approx)</b> 1:25
							<b>Logged By</b> ljs
							<b>Figure No.</b> 5993.WS8

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<p><b>Site</b>  LAND TO THE EAST OF MOUSDELL CLOSE,  ASHINGTON</p>		<b>Number</b> <b>WS9</b>		
<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993		
		<b>Location</b> See site plan		<b>Dates</b> 27/06/2025		<b>Engineer</b>		<b>Sheet</b> 9/9		
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	<b>Description</b>		<b>Legend</b> 		
0.00-1.00 0.10	L1 C1		100% recovery		(0.40) 0.40	Brown silty TOPSOIL				
1.00-2.00 1.00-1.45	L2 SPT(C) N=9	DRY	100% recovery 3/2,2,2,3		(1.60)	Firm to stiff orange brown and grey mottled CLAY				
2.00-3.00 2.00-2.45	L3 SPT(C) N=29	DRY	70% recovery 9/7,9,6,7  Water strike(1) at 2.50m.		2.00  (1.00)	Firm to stiff orange brown sandy CLAY with a little gravel				
3.00-3.68	SPT(C) 72/525	2.42	27/06/2025:1.80m  32/21,24,27		3.00	Terminated at 3.00m				
<b>Remarks</b> Refused @ 3.00 m, terminated Strata depths approximate where recovery <100%								<b>Scale (approx)</b> 1:25 <b>Logged By</b> ljs		
								<b>Figure No.</b> 5993.WS9		

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<p><b>Site</b>  LAND TO THE EAST OF MOUSDELL CLOSE,  ASHINGTON</p>			<b>Number</b> <b>WS10</b>		
<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993			
		<b>Location</b> See site plan		<b>Dates</b> 27/06/2025		<b>Engineer</b>		<b>Sheet</b> 1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	<b>Description</b>		Legend	Water		
0.00-1.00	L1		90% recovery		(0.40)	Brown silty TOPSOIL					
1.00-2.00 1.00-1.45	L2 SPT(C) N=14	DRY	80% recovery 3/2,3,4,5		0.40	Firm to stiff orange brown and grey mottled CLAY					
2.00 2.00-2.45 2.00-3.00	D1 SPT(C) N=37 L3	DRY	90% recovery 7/5,8,10,14		(2.60)						
3.00-3.38	SPT(C) 60/225	DRY	25/18,20,22		3.00	Terminated at 3.00m					
<b>Remarks</b> Strata depths approximate where recovery <100% Refused @ 3.00 m, terminated Borehole was dry								Scale (approx)	Logged By		
								1:25	ljs		
								<b>Figure No.</b> 5993.WS10			

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<p><b>Site</b>  LAND TO THE EAST OF MOUSDELL CLOSE,  ASHINGTON</p>			<b>Number</b> <b>WS11</b>		
<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993			
		<b>Location</b> See site plan		<b>Dates</b> 27/06/2025		<b>Engineer</b>		<b>Sheet</b> 1/1			
<b>Depth (m)</b>	<b>Sample / Tests</b>	<b>Water Depth (m)</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>		<b>Legend</b>	<b>Water</b>		
0.00-1.00	L1		60% recovery		(0.30)	Brown silty TOPSOIL					
0.40	C1				0.30	Firm to stiff orange brown and grey mottled CLAY					
1.00-2.00 1.00-1.45	L2 SPT(C) N=9	DRY	100% recovery 2/1,2,3,3								
2.00-3.00 2.00-2.45	L3 SPT(C) N=25	DRY	100% recovery 6/4,6,7,8		(3.70)						
3.00-4.00 3.00-3.45	L4 SPT(C) N=29	DRY	80% recovery 9/5,8,7,9								
4.00-4.38	SPT(C) 67/225	DRY	17/17,23,27		4.00	Complete at 4.00m					
<b>Remarks</b> Borehole was dry Strata depths approximate where recovery <100%								<b>Scale (approx)</b> 1:25	<b>Logged By</b> ljs		
								<b>Figure No.</b> 5993.WS11			

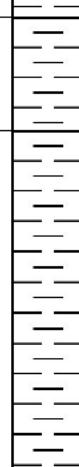
 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<p><b>Site</b>  LAND TO THE EAST OF MOUSDELL CLOSE,  ASHINGTON</p>			<b>Number</b> <b>WS12</b>		
<b>Excavation Method</b> Drive-in Windowless Sampler		<b>Dimensions</b> 115mm to 1.00m		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993			
		<b>Location</b> See site plan		<b>Dates</b> 27/06/2025		<b>Engineer</b>		<b>Sheet</b> 1/1			
<b>Depth (m)</b>	<b>Sample / Tests</b>	<b>Water Depth (m)</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>		<b>Legend</b>	<b>Water</b>		
0.00-1.00	L1		90% recovery		(0.40)	Vegetation over brown sandy TOPSOIL					
0.50-1.00	C1				0.40	Firm to stiff orange brown and grey mottled CLAY					
1.00-2.00 1.00-1.45	L2 SPT(C) N=12	DRY	100% recovery 2/2,2,4,4		(2.60)						
2.00-3.00 2.00-2.45	L3 SPT(C) N=12	DRY	100% recovery 5/3,2,3,4								
3.00-3.45	SPT(C) N=62	DRY	17/12,14,17,19		3.00	Terminated at 3.00m					
<b>Remarks</b> Borehole was dry Refused @ 3.00 m, terminated Strata depths approximate where recovery <100%								<b>Scale (approx)</b> 1:25	<b>Logged By</b> ljs		
								<b>Figure No.</b> 5993.WS12			

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<b>Site</b> LAND TO THE EAST OF MOUSDELL CLOSE, ASHINGTON	<b>Trial Pit Number</b> <b>SA-1</b>
<b>Excavation Method</b> Trial Pit		<b>Dimensions</b>		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes	<b>Job Number</b> 5993
		<b>Location</b> See site plan		<b>Dates</b> 23/06/2025		<b>Engineer</b>	<b>Sheet</b> 1/1
<b>Depth (m)</b>	<b>Sample / Tests</b>	<b>Water Depth (m)</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>	<b>Legend</b>
							Water
0.50	D1				(0.25) 0.25 (0.45) 0.70 (1.30) 2.00	Vegetation over TOPSOIL  ...roots @ 0.20 m  Firm dark orange brown and grey sandy CLAY with some black carbonaceous material  Very stiff grey CLAY with local orange brown mottling  Complete at 2.00m	
1.00	D2						
1.50	D3						
2.00	D4						
<b>Plan</b>						<b>Remarks</b> Trial pit dry and backfilled with arisings	
						<b>Scale (approx)</b> 1:20	<b>Logged By</b> ljs
						<b>Figure No.</b> 5993.SA-1	

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<b>Site</b> LAND TO THE EAST OF MOUSDELL CLOSE, ASHINGTON	<b>Trial Pit Number</b> <b>SA-2</b>
<b>Excavation Method</b> Trial Pit		<b>Dimensions</b>		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes	<b>Job Number</b> 5993
		<b>Location</b> See site plan		<b>Dates</b> 23/06/2025		<b>Engineer</b>	<b>Sheet</b> 1/1
<b>Depth (m)</b>	<b>Sample / Tests</b>	<b>Water Depth (m)</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>	<b>Legend</b>
							Water
0.50	D1				(0.26)	Vegetation over TOPSOIL	
1.00	D2				0.26	Firm to stiff orange brown, brown and grey mottled slightly sandy CLAY	
1.50	D3				(1.94)		
2.00	D4				2.20	Complete at 2.20m	
<b>Plan</b>						<b>Remarks</b>	
						Trial pit dry and backfilled with arisings	
						<b>Scale (approx)</b>	<b>Logged By</b>
						1:20	Ijs
						<b>Figure No.</b>	5993.SA-2

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<b>Site</b> LAND TO THE EAST OF MOUSDELL CLOSE, ASHINGTON	<b>Trial Pit Number</b> <b>SA-3</b>
<b>Excavation Method</b> Trial Pit		<b>Dimensions</b>		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes	<b>Job Number</b> 5993
		<b>Location</b> See site plan		<b>Dates</b> 23/06/2025		<b>Engineer</b>	<b>Sheet</b> 1/1
<b>Depth (m)</b>	<b>Sample / Tests</b>	<b>Water Depth (m)</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>	<b>Legend</b>
0.35	D1				(0.40) 0.40 (0.65)	Vegetation over brown sandy CLAY with rootlets and rare gravel ...roots from 0.18 m to 0.25 m Firm orange brown and grey mottled slightly sandy CLAY	
1.00	D2				1.05	Very stiff grey CLAY with local orange brown mottling	
1.50	D3				(0.95)		
2.00	D4				2.00	Complete at 2.00m	
<b>Plan</b>						<b>Remarks</b> Trial pit dry and backfilled with arisings	
						<b>Scale (approx)</b> 1:20	<b>Logged By</b> ljs
						<b>Figure No.</b> 5993.SA-3	

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<b>Site</b> LAND TO THE EAST OF MOUSDELL CLOSE, ASHINGTON	<b>Trial Pit Number</b> <b>SA-4</b>
<b>Excavation Method</b> Trial Pit		<b>Dimensions</b>		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes	<b>Job Number</b> 5993
		<b>Location</b> See site plan		<b>Dates</b> 23/06/2025		<b>Engineer</b>	<b>Sheet</b> 1/1
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend
0.50	D1				(0.24) 0.24 (1.16)	Vegetation over TOPSOIL ....roots from 0.10 m to 0.40 m  Firm to stiff orange brown, brown and grey mottled slightly sandy CLAY	
1.00	D2				1.40	Very stiff grey CLAY with local orange brown mottling. Rootlets noted to 1.5 m depth	
1.50	D3				(0.60)		
2.00	D4				2.00	Complete at 2.00m	
<b>Plan</b>						<b>Remarks</b> Trial pit dry and backfilled with arisings	
						<b>Scale (approx)</b> 1:20	<b>Logged By</b> ljs
						<b>Figure No.</b> 5993.SA-4	

 <p><b>A P GEOTECHNICS</b></p> <p><b>T</b> 01932 848460  <b>F</b> 01932 851255  <b>E</b> mail@apgeotechnics.co.uk</p>						<p><b>Site</b>  LAND TO THE EAST OF MOUSDELL CLOSE,  ASHINGTON</p>		<b>Trial Pit Number</b> <b>SA-5</b>
<b>Excavation Method</b> Trial Pit		<b>Dimensions</b>		<b>Ground Level (mOD)</b>		<b>Client</b> Rocco Homes		<b>Job Number</b> 5993
		<b>Location</b> See site plan		<b>Dates</b> 23/06/2025		<b>Engineer</b>		<b>Sheet</b> 1/1
<b>Depth (m)</b>	<b>Sample / Tests</b>	<b>Water Depth (m)</b>	<b>Field Records</b>	<b>Level (mOD)</b>	<b>Depth (m) (Thickness)</b>	<b>Description</b>		<b>Legend</b>
								Water
0.50	D1				(0.13) 0.13	Vegetation over TOPSOIL		
0.75	D2				(0.67)	Firm to stiff orange brown and brown grey mottled slightly sandy CLAY with rootlets ....roots @ 0.22 m		
1.50	D3				0.80 (0.30)	Firm brown slightly sandy CLAY		
2.00	D4				1.10 (0.90)	Firm to stiff orange brown, brown and grey mottled slightly sandy CLAY ...becoming very stiff		
					2.00	Complete at 2.00m		
<b>Plan</b>						<b>Remarks</b> Trial pit dry and backfilled with arisings		
						<b>Scale (approx)</b>	<b>Logged By</b>	<b>Figure No.</b>
						1:20	Ijs	5993.SA-5

## APPENDIX C

CALIFORNIA BEARING RATIO TEST RESULTS

# CALIFORNIA BEARING RATIO

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 1/8

Loc'n	Sample	Depth (m)
<b>CBR I</b>		<b>0.5</b>

Description	
Firm orange brown and grey mottled slightly sandy CLAY	

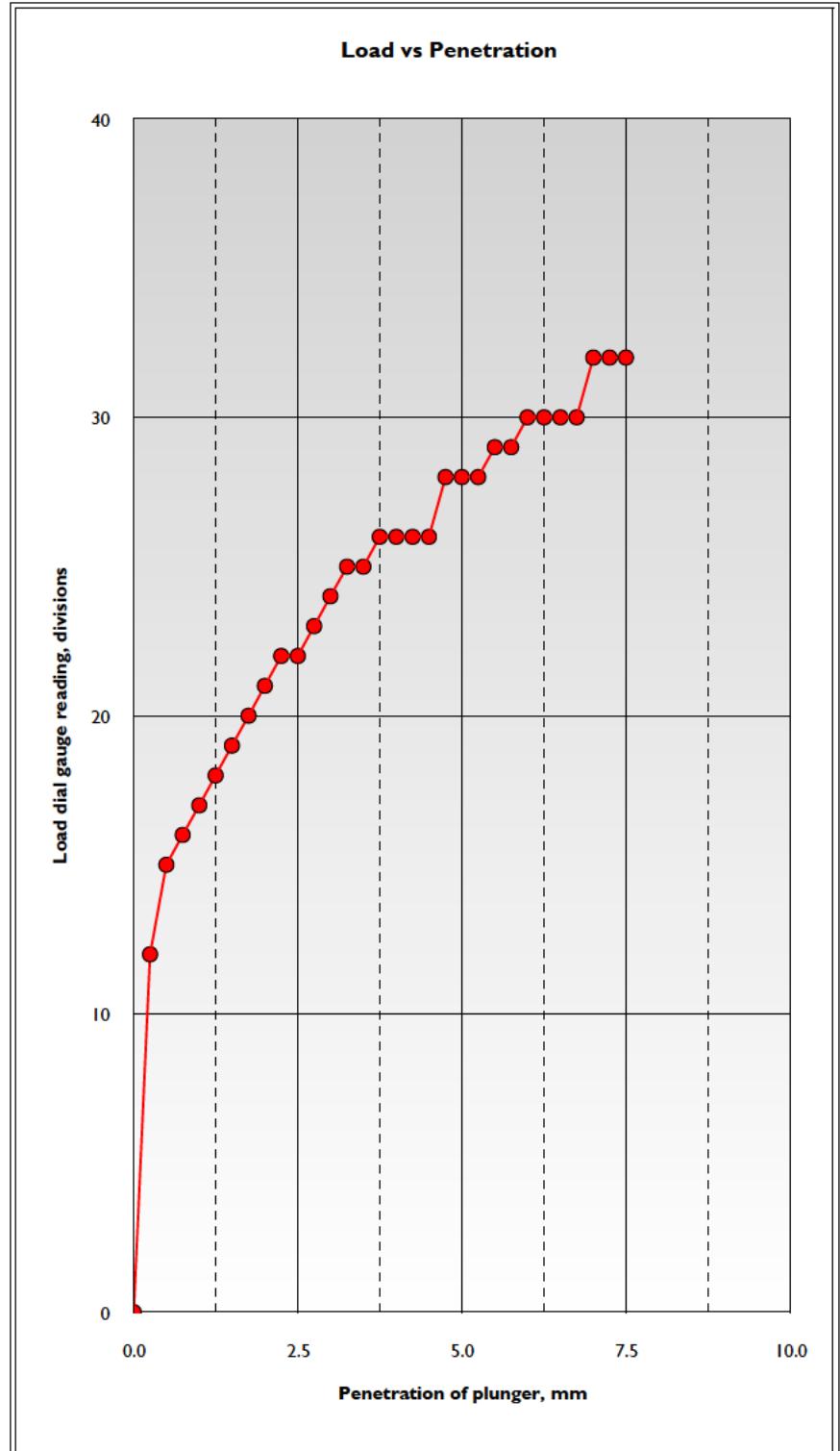
Sample Preparation	
<b>In situ</b>	
Undisturbed	
Remoulded	
Recompacted	2.5kg
	4.5kg

Penetration mm	Load Dial Gauge, div	
	top	bottom
0.00	0	
0.25	12	
0.50	15	
0.75	16	
1.00	17	
1.25	18	
1.50	19	
1.75	20	
2.00	21	
2.25	22	
2.50	22	
2.75	23	
3.00	24	
3.25	25	
3.50	25	
3.75	26	
4.00	26	
4.25	26	
4.50	26	
4.75	28	
5.00	28	
5.25	28	
5.50	29	
5.75	29	
6.00	30	
6.25	30	
6.50	30	
6.75	30	
7.00	32	
7.25	32	
7.50	32	
Surcharge, kg	9	
Seating Load, N	50	
Proving Ring Factor, N/div	13.164	

Particles larger than 20 mm may be present  
within the test area.

CBR at 2.5mm = (Dial reading x ring factor)/132.4

CBR at 5.0mm = (Dial reading x ring factor)/199.6



Moisture Cont. %	Density, Mg/m <sup>3</sup>		% retained at 20mm
	Bulk	Dry	
11			

C B R	Penet'n	Top	Bottom
	2.5mm	2.2	
	5.0mm	1.8	

# CALIFORNIA BEARING RATIO

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 2/8

Loc'n	Sample	Depth (m)
CBR 2		0.5

Description	
Firm orange brown and grey mottled slightly sandy CLAY	

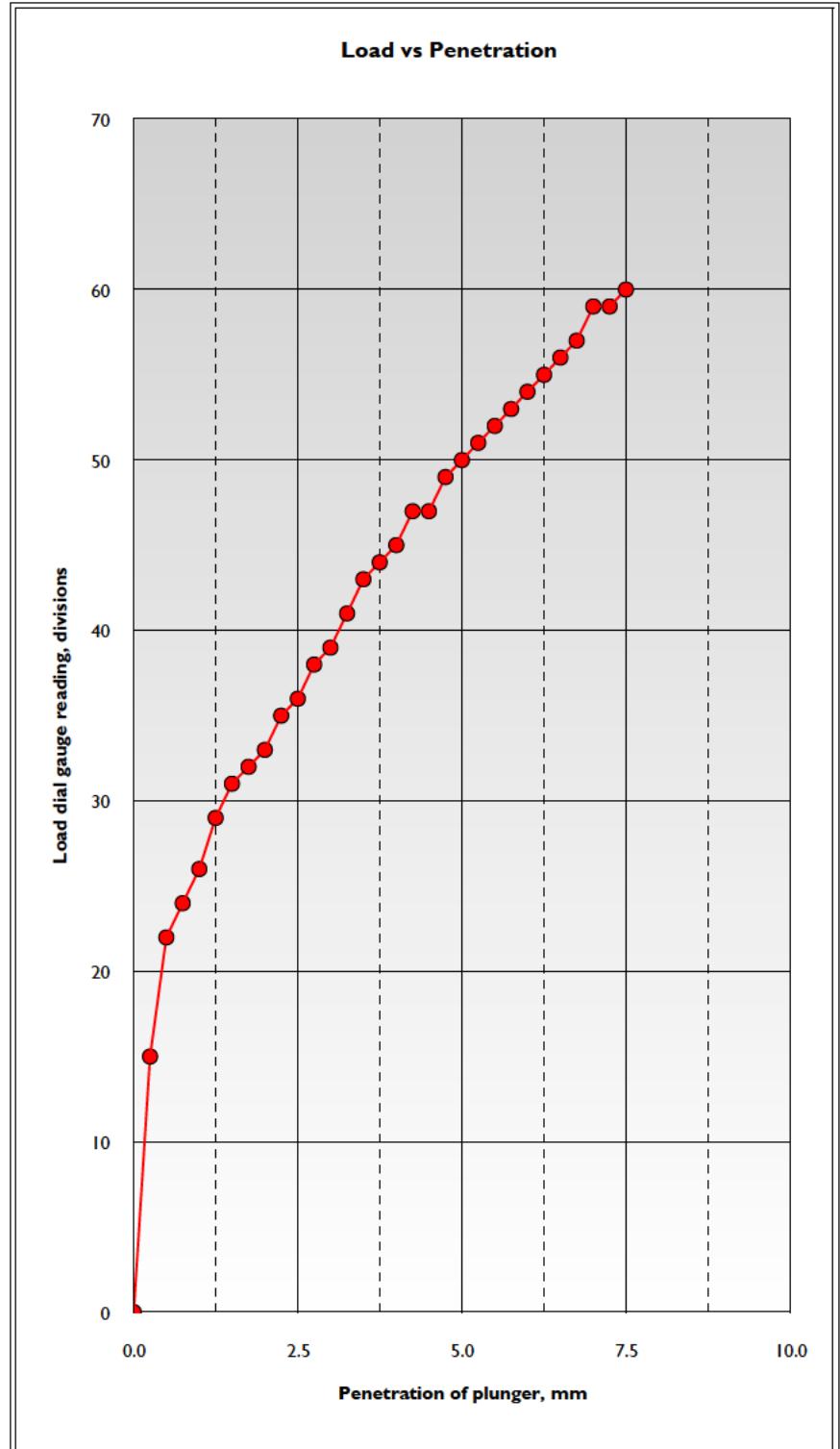
Sample Preparation	
<b>In situ</b>	
Undisturbed	
Remoulded	
Recompacted	2.5kg 4.5kg

Penetration mm	Load Dial Gauge, div	
	top	bottom
0.00	0	
0.25	15	
0.50	22	
0.75	24	
1.00	26	
1.25	29	
1.50	31	
1.75	32	
2.00	33	
2.25	35	
2.50	36	
2.75	38	
3.00	39	
3.25	41	
3.50	43	
3.75	44	
4.00	45	
4.25	47	
4.50	47	
4.75	49	
5.00	50	
5.25	51	
5.50	52	
5.75	53	
6.00	54	
6.25	55	
6.50	56	
6.75	57	
7.00	59	
7.25	59	
7.50	60	
Surcharge, kg	9	
Seating Load, N	50	
Proving Ring Factor, N/div	13.164	

Particles larger than 20 mm may be present  
within the test area.

CBR at 2.5mm = (Dial reading x ring factor)/132.4

CBR at 5.0mm = (Dial reading x ring factor)/199.6



Moisture Cont. %	Density, Mg/m <sup>3</sup>		% retained at 20mm
	Bulk	Dry	
17			

C B R	Penet'n	Top	Bottom
	2.5mm	3.6	
	5.0mm	3.3	

# CALIFORNIA BEARING RATIO

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 3/8

Loc'n	Sample	Depth (m)
CBR 3		0.5

Description	
Firm orange brown and grey mottled slightly sandy CLAY	

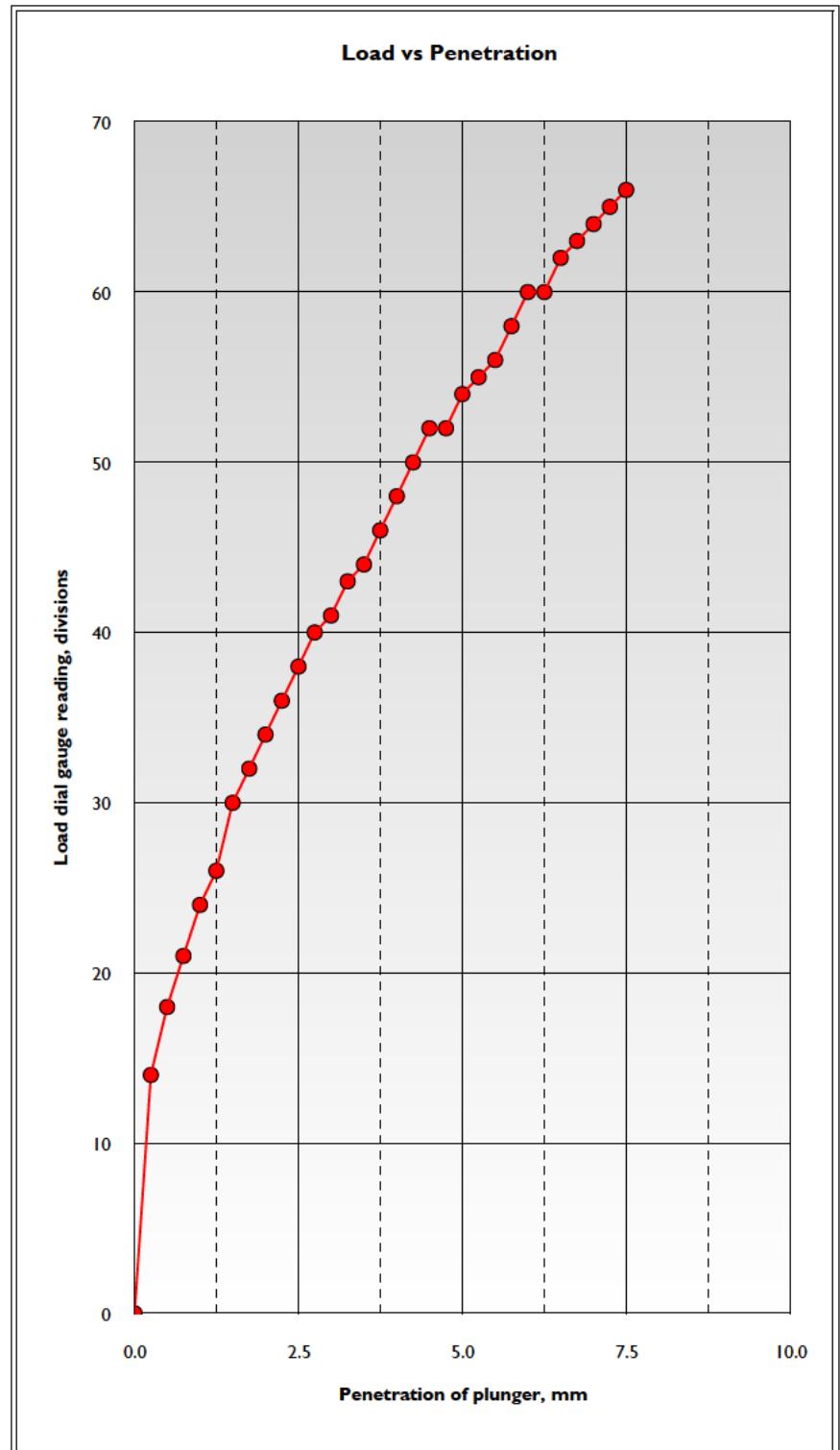
Sample Preparation	
<b>In situ</b>	
Undisturbed	
Remoulded	
Recompacted	2.5kg 4.5kg

Penetration mm	Load Dial Gauge, div	
	top	bottom
0.00	0	
0.25	14	
0.50	18	
0.75	21	
1.00	24	
1.25	26	
1.50	30	
1.75	32	
2.00	34	
2.25	36	
2.50	38	
2.75	40	
3.00	41	
3.25	43	
3.50	44	
3.75	46	
4.00	48	
4.25	50	
4.50	52	
4.75	52	
5.00	54	
5.25	55	
5.50	56	
5.75	58	
6.00	60	
6.25	60	
6.50	62	
6.75	63	
7.00	64	
7.25	65	
7.50	66	
Surcharge, kg	9	
Seating Load, N	50	
Proving Ring Factor, N/div	13.164	

Particles larger than 20 mm may be present  
within the test area.

CBR at 2.5mm = (Dial reading x ring factor)/132.4

CBR at 5.0mm = (Dial reading x ring factor)/199.6



Moisture Cont. %	Density, Mg/m <sup>3</sup>		% retained at 20mm
	Bulk	Dry	
16			

C B R	Penet'n	Top	Bottom
	2.5mm	3.8	
	5.0mm	3.6	

# CALIFORNIA BEARING RATIO

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 4/8

Loc'n	Sample	Depth (m)
<b>CBR 4</b>		<b>0.5</b>

Description	
Firm orange brown and grey mottled slightly sandy CLAY	

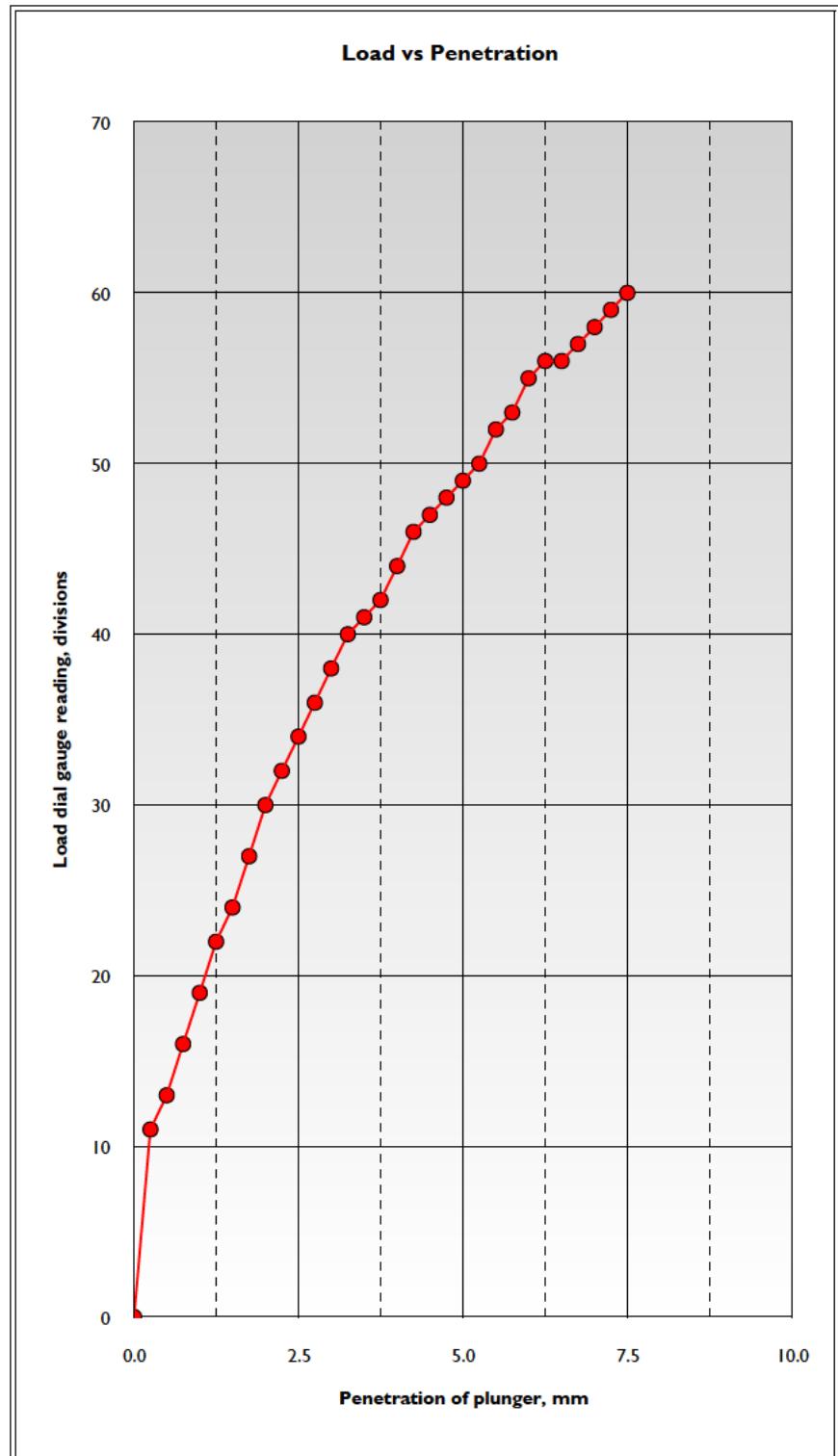
Sample Preparation	
<b>In situ</b>	
Undisturbed	
Remoulded	
Recompacted	2.5kg 4.5kg

Penetration mm	Load Dial Gauge, div	
	top	bottom
0.00	0	
0.25	11	
0.50	13	
0.75	16	
1.00	19	
1.25	22	
1.50	24	
1.75	27	
2.00	30	
2.25	32	
2.50	34	
2.75	36	
3.00	38	
3.25	40	
3.50	41	
3.75	42	
4.00	44	
4.25	46	
4.50	47	
4.75	48	
5.00	49	
5.25	50	
5.50	52	
5.75	53	
6.00	55	
6.25	56	
6.50	56	
6.75	57	
7.00	58	
7.25	59	
7.50	60	
Surcharge, kg	9	
Seating Load, N	50	
Proving Ring Factor, N/div	13.164	

Particles larger than 20 mm may be present  
within the test area.

CBR at 2.5mm = (Dial reading x ring factor)/132.4

CBR at 5.0mm = (Dial reading x ring factor)/199.6



Moisture Cont. %	Density, Mg/m <sup>3</sup>		% retained at 20mm
	Bulk	Dry	
17			

C B R	Penet'n	Top	Bottom
	2.5mm	3.4	
	5.0mm	3.2	

# CALIFORNIA BEARING RATIO

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 5/8

Loc'n	Sample	Depth (m)
CBR 5		0.5

Description	
Firm orange brown and grey mottled slightly sandy CLAY	

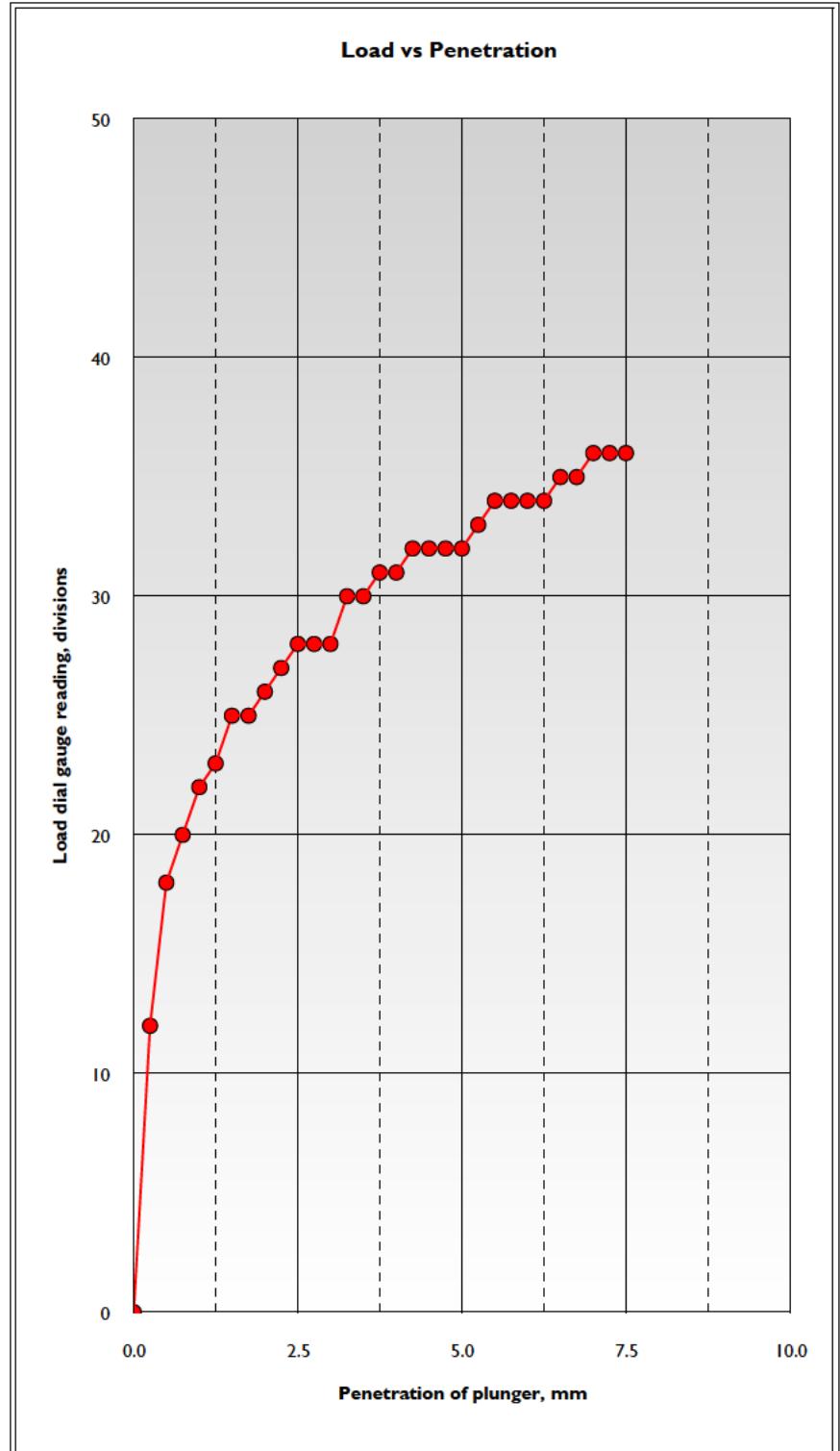
Sample Preparation	
<b>In situ</b>	
Undisturbed	
Remoulded	
Recompacted	2.5kg 4.5kg

Penetration mm	Load Dial Gauge, div	
	top	bottom
0.00	0	
0.25	12	
0.50	18	
0.75	20	
1.00	22	
1.25	23	
1.50	25	
1.75	25	
2.00	26	
2.25	27	
2.50	28	
2.75	28	
3.00	28	
3.25	30	
3.50	30	
3.75	31	
4.00	31	
4.25	32	
4.50	32	
4.75	32	
5.00	32	
5.25	33	
5.50	34	
5.75	34	
6.00	34	
6.25	34	
6.50	35	
6.75	35	
7.00	36	
7.25	36	
7.50	36	
Surcharge, kg	9	
Seating Load, N	50	
Proving Ring Factor, N/div	13.164	

Particles larger than 20 mm may be present  
within the test area.

CBR at 2.5mm = (Dial reading x ring factor)/132.4

CBR at 5.0mm = (Dial reading x ring factor)/199.6



Moisture Cont. %	Density, Mg/m <sup>3</sup>		% retained at 20mm
	Bulk	Dry	
21			

C B R	Penet'n	Top	Bottom
	2.5mm	2.8	
	5.0mm	2.1	

# CALIFORNIA BEARING RATIO

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 6/8

Loc'n	Sample	Depth (m)
<b>CBR 6</b>		<b>0.5</b>

Description	
Firm orange brown and grey mottled slightly sandy CLAY	

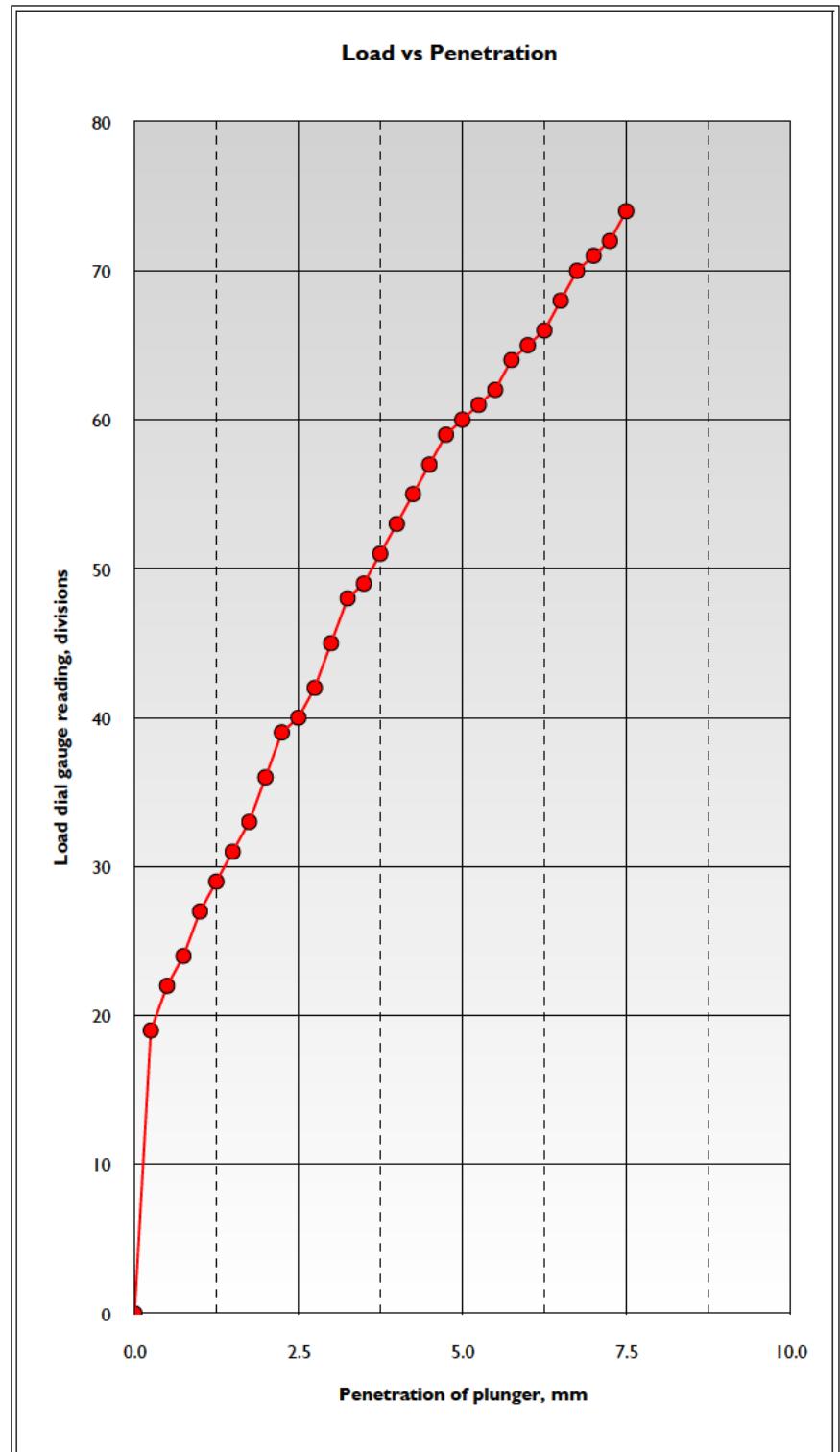
Sample Preparation	
<b>In situ</b>	
Undisturbed	
Remoulded	
Recompacted	2.5kg 4.5kg

Penetration mm	Load Dial Gauge, div	
	top	bottom
0.00	0	
0.25	19	
0.50	22	
0.75	24	
1.00	27	
1.25	29	
1.50	31	
1.75	33	
2.00	36	
2.25	39	
2.50	40	
2.75	42	
3.00	45	
3.25	48	
3.50	49	
3.75	51	
4.00	53	
4.25	55	
4.50	57	
4.75	59	
5.00	60	
5.25	61	
5.50	62	
5.75	64	
6.00	65	
6.25	66	
6.50	68	
6.75	70	
7.00	71	
7.25	72	
7.50	74	
Surcharge, kg	9	
Seating Load, N	50	
Proving Ring Factor, N/div	13.164	

Particles larger than 20 mm may be present  
within the test area.

CBR at 2.5mm = (Dial reading x ring factor)/132.4

CBR at 5.0mm = (Dial reading x ring factor)/199.6



Moisture Cont. %	Density, Mg/m <sup>3</sup>		% retained at 20mm
	Bulk	Dry	
<b>26</b>			

C B R	Penet'n	Top	Bottom
	2.5mm	<b>4.0</b>	
	5.0mm	<b>4.0</b>	

# CALIFORNIA BEARING RATIO

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 7/8

Loc'n	Sample	Depth (m)
<b>CBR 7</b>		<b>0.5</b>

Description	
Firm orange brown and grey mottled slightly sandy CLAY	

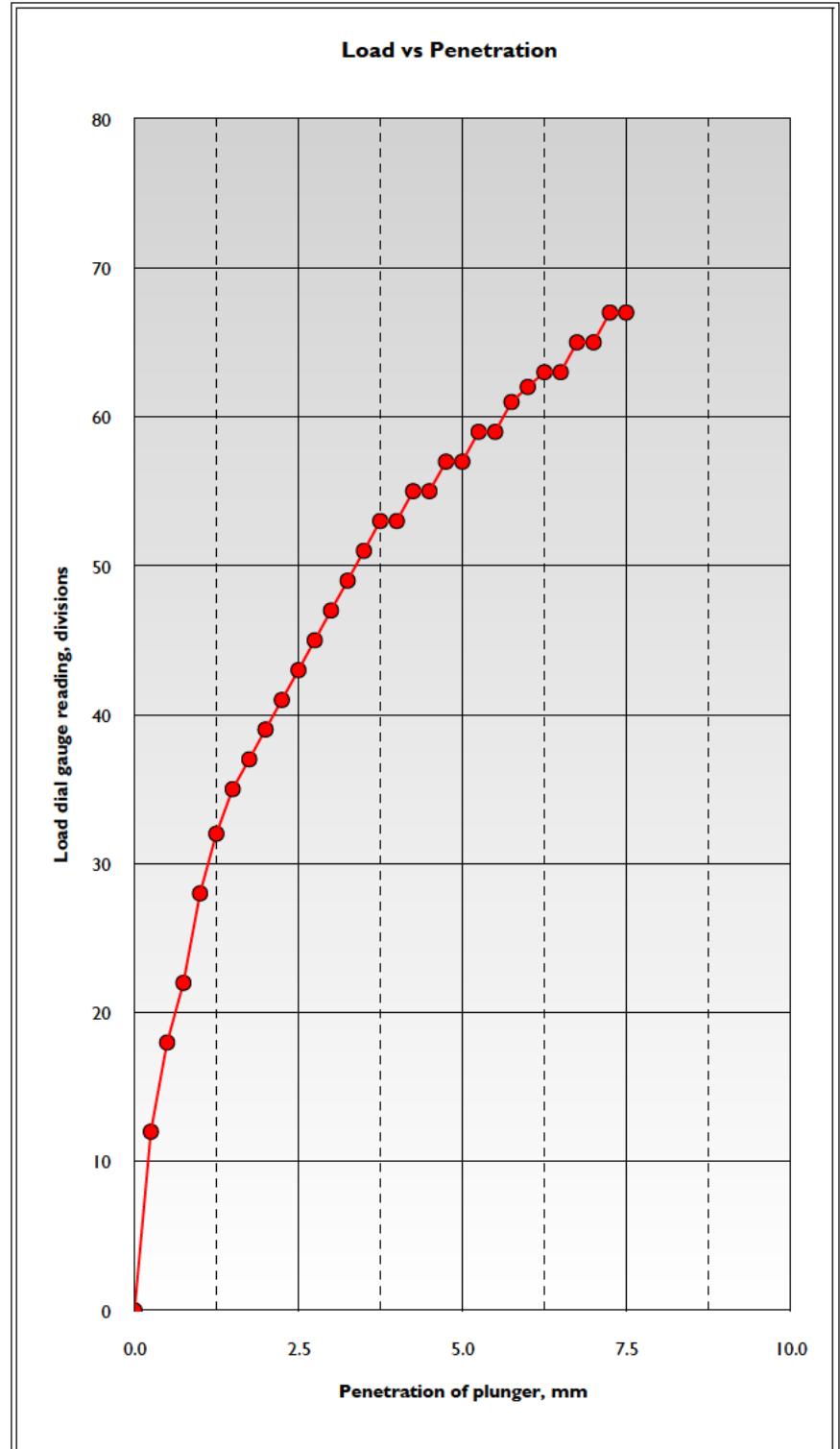
Sample Preparation	
<b>In situ</b>	
Undisturbed	
Remoulded	
Recompacted	2.5kg
	4.5kg

Penetration mm	Load Dial Gauge, div	
	top	bottom
0.00	0	
0.25	12	
0.50	18	
0.75	22	
1.00	28	
1.25	32	
1.50	35	
1.75	37	
2.00	39	
2.25	41	
2.50	43	
2.75	45	
3.00	47	
3.25	49	
3.50	51	
3.75	53	
4.00	53	
4.25	55	
4.50	55	
4.75	57	
5.00	57	
5.25	59	
5.50	59	
5.75	61	
6.00	62	
6.25	63	
6.50	63	
6.75	65	
7.00	65	
7.25	67	
7.50	67	
Surcharge, kg	9	
Seating Load, N	50	
Proving Ring Factor, N/div	13.164	

Particles larger than 20 mm may be present  
within the test area.

CBR at 2.5mm = (Dial reading x ring factor)/132.4

CBR at 5.0mm = (Dial reading x ring factor)/199.6



Moisture Cont. %	Density, Mg/m <sup>3</sup>		% retained at 20mm
	Bulk	Dry	
19			

C B R	Penet'n	Top	Bottom
	2.5mm	4.3	
	5.0mm	3.8	

# CALIFORNIA BEARING RATIO

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 8/8

Loc'n	Sample	Depth (m)
<b>CBR 8</b>		<b>0.5</b>

Description	
Firm orange brown and grey mottled slightly sandy CLAY	

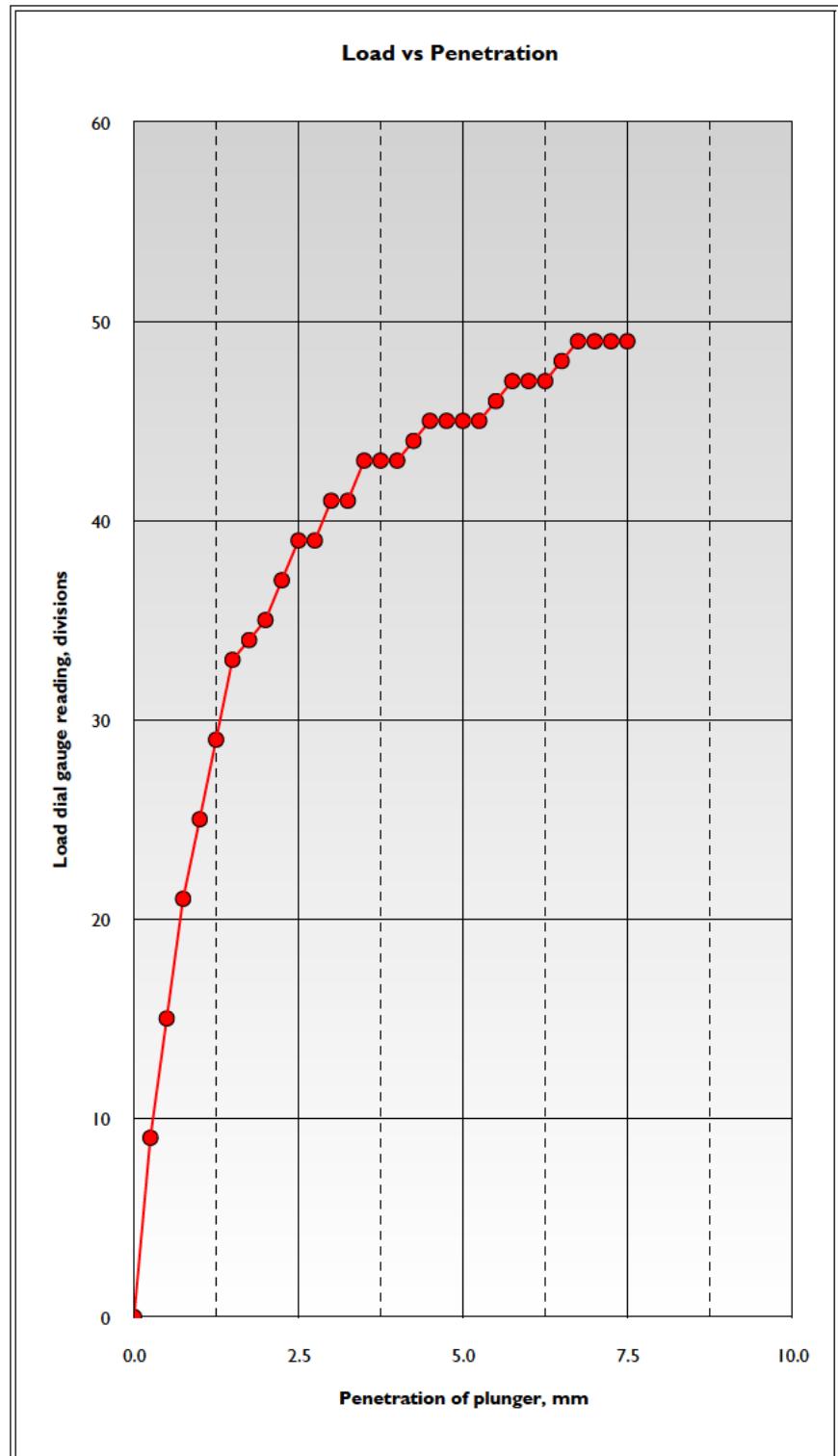
Sample Preparation	
<b>In situ</b>	
Undisturbed	
Remoulded	
Recompacted	2.5kg 4.5kg

Penetration mm	Load Dial Gauge, div	
	top	bottom
0.00	0	
0.25	9	
0.50	15	
0.75	21	
1.00	25	
1.25	29	
1.50	33	
1.75	34	
2.00	35	
2.25	37	
2.50	39	
2.75	39	
3.00	41	
3.25	41	
3.50	43	
3.75	43	
4.00	43	
4.25	44	
4.50	45	
4.75	45	
5.00	45	
5.25	45	
5.50	46	
5.75	47	
6.00	47	
6.25	47	
6.50	48	
6.75	49	
7.00	49	
7.25	49	
7.50	49	
Surcharge, kg	9	
Seating Load, N	50	
Proving Ring Factor, N/div	13.164	

Particles larger than 20 mm may be present  
within the test area.

CBR at 2.5mm = (Dial reading x ring factor)/132.4

CBR at 5.0mm = (Dial reading x ring factor)/199.6



Moisture Cont. %	Density, Mg/m³		% retained at 20mm
	Bulk	Dry	
20			

C B R	Penet'n	Top	Bottom
	2.5mm	3.9	
	5.0mm	3.0	

## APPENDIX D

### SOAKAWAY TEST RESULTS

# SOAKAWAY TEST RESULTS

## BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

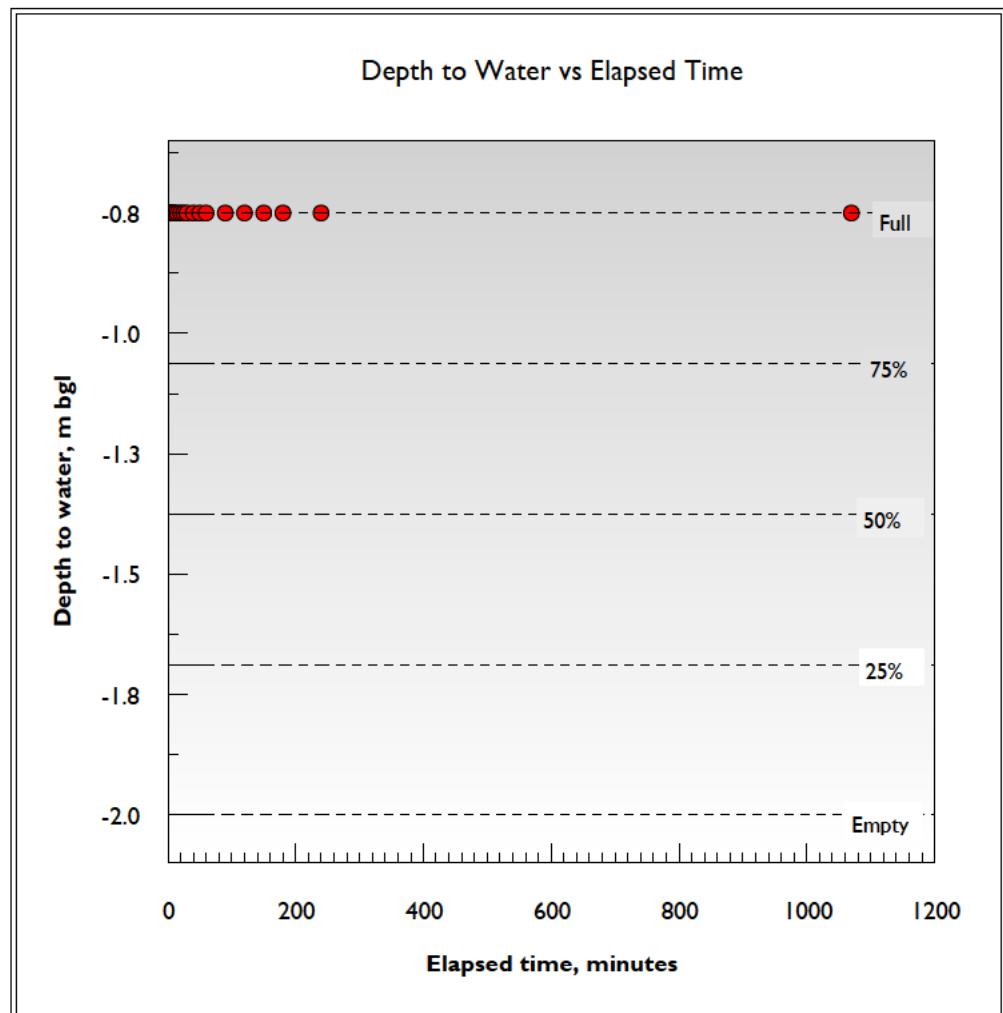
Project No: 5993-2  
 Sheet No: 1/1

SA	I
Test No.	I
Depth, m	2.00
Length, m	1.80
Width, m	0.50

Description of stratum under test	
Weald Formation	

Depth to water prior to test, m below g.l.
pit dry

Elapsed Time min	Depth to Water m
0.0	0.750
1.0	0.750
2.0	0.750
3.0	0.750
4.0	0.750
5.0	0.750
6.0	0.750
7.0	0.750
8.0	0.750
9.0	0.750
10.0	0.750
15.0	0.750
20.0	0.750
25.0	0.750
30.0	0.750
40.0	0.750
50.0	0.750
60.0	0.750
90.0	0.750
120.0	0.750
150.0	0.750
180.0	0.750
240.0	0.750
1070.0	0.750



$$f = (V75-V25)/A50(T75-T25)$$

$$V75-V25 = 0.56 \text{ m}^3$$

$$A50 = 3.78 \text{ m}^2$$

$$T75-T25 = \text{indeterminate min}$$

$$f = \text{indeterminate m/s}$$

# SOAKAWAY TEST RESULTS

## BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

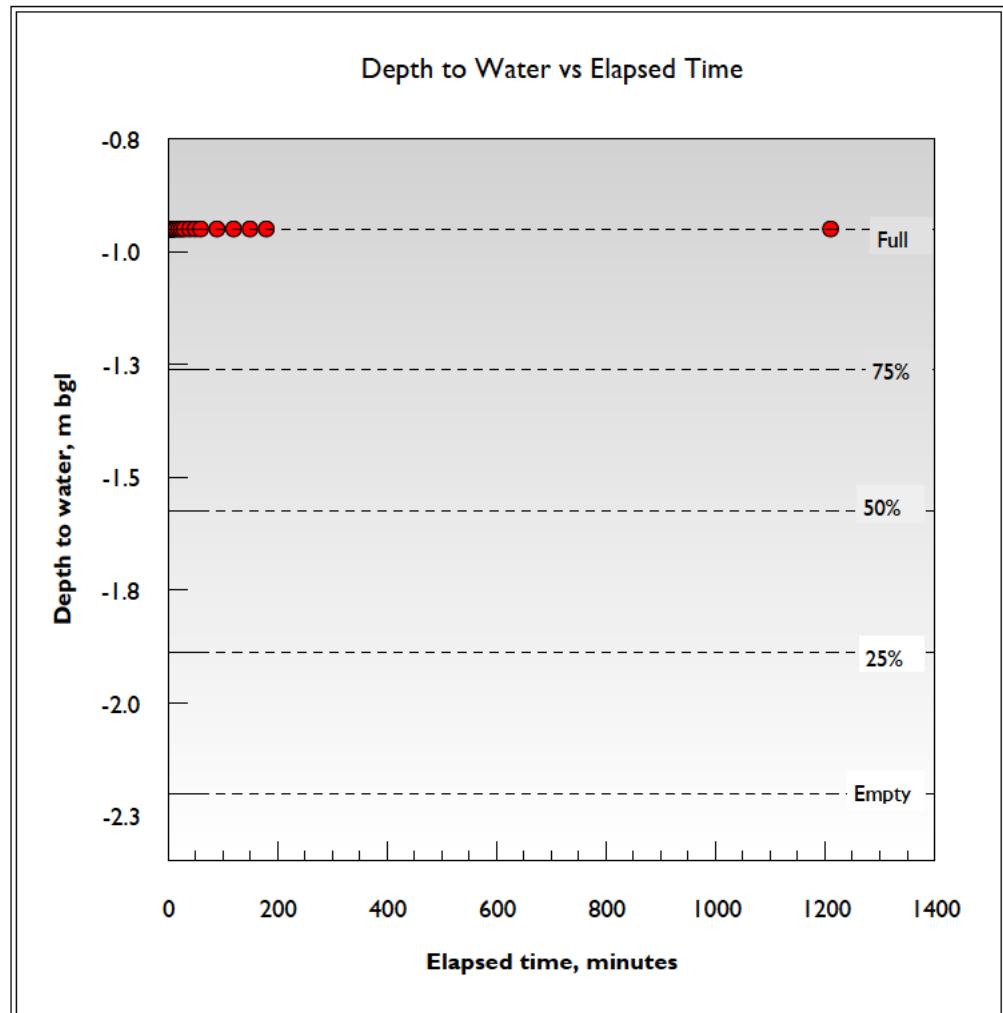
Project No: 5993-2  
 Sheet No: 1/1

SA	2
Test No.	1
Depth, m	2.20
Length, m	1.80
Width, m	0.50

Description of stratum under test	
Weald Formation	

Depth to water prior to test, m below g.l.
pit dry

Elapsed Time min	Depth to Water m
0.0	0.950
1.0	0.950
2.0	0.950
3.0	0.950
4.0	0.950
5.0	0.950
6.0	0.950
7.0	0.950
8.0	0.950
9.0	0.950
10.0	0.950
15.0	0.950
20.0	0.950
25.0	0.950
30.0	0.950
40.0	0.950
50.0	0.950
60.0	0.950
90.0	0.950
120.0	0.950
150.0	0.950
180.0	0.950
1210.0	0.950



$$f = (V75-V25)/A50(T75-T25)$$

$$V75-V25 = 0.56 \text{ m}^3$$

$$A50 = 3.78 \text{ m}^2$$

$$T75-T25 = \text{indeterminate} \text{ min}$$

$$f = \text{indeterminate} \text{ m/s}$$

# SOAKAWAY TEST RESULTS

## BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

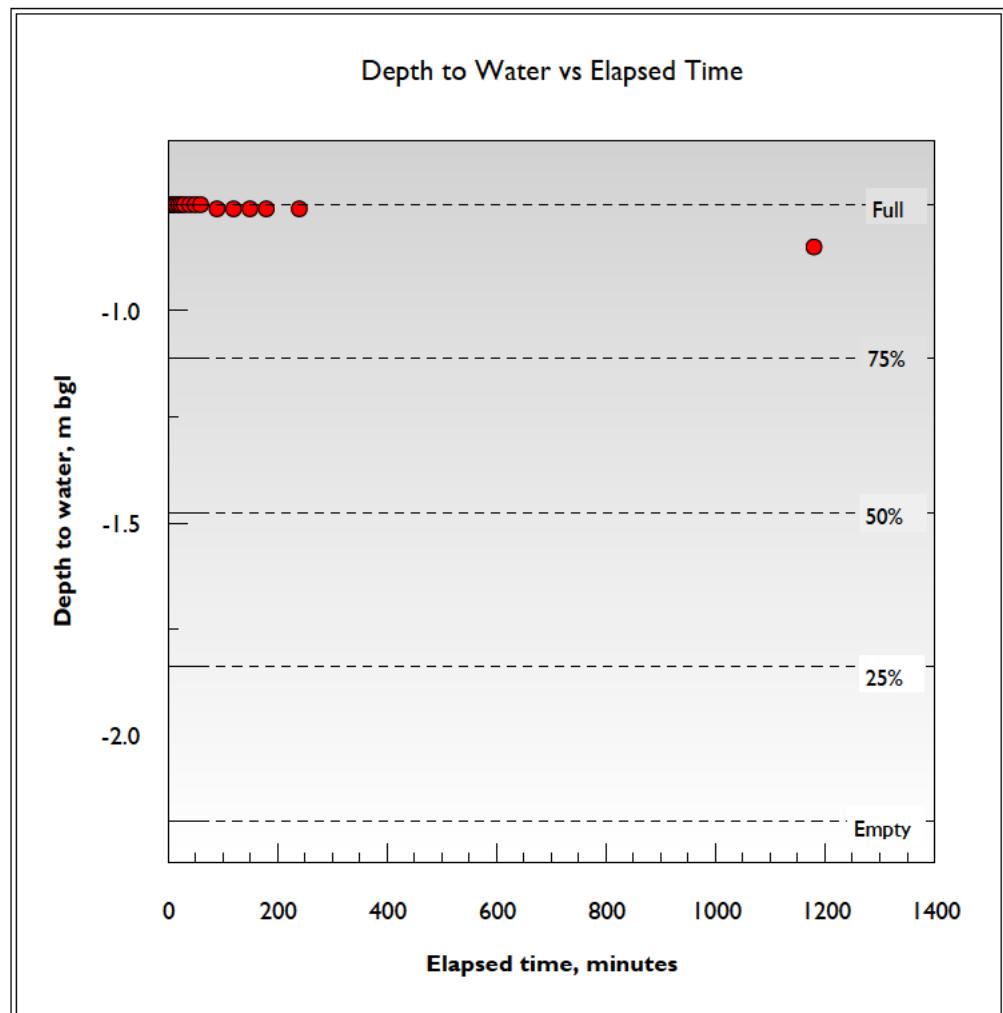
Project No: 5993-2  
 Sheet No: 1/1

SA	3
Test No.	1
Depth, m	2.20
Length, m	1.80
Width, m	0.50

Description of stratum under test	
Weald Formation	

Depth to water prior to test, m below g.l.
pit dry

Elapsed Time min	Depth to Water m
0.0	0.750
1.0	0.750
2.0	0.750
3.0	0.750
4.0	0.750
5.0	0.750
6.0	0.750
7.0	0.750
8.0	0.750
9.0	0.750
10.0	0.750
15.0	0.750
20.0	0.750
25.0	0.750
30.0	0.750
40.0	0.750
50.0	0.750
60.0	0.750
90.0	0.760
120.0	0.760
150.0	0.760
180.0	0.760
240.0	0.760
1180.0	0.850



$$f = (V75-V25)/A50(T75-T25)$$

$$V75-V25 = 0.65 \text{ m}^3$$

$$A50 = 4.24 \text{ m}^2$$

$$T75-T25 = \text{indeterminate min}$$

$$f = \text{indeterminate m/s}$$

# SOAKAWAY TEST RESULTS

## BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
 Client: Rocco Homes

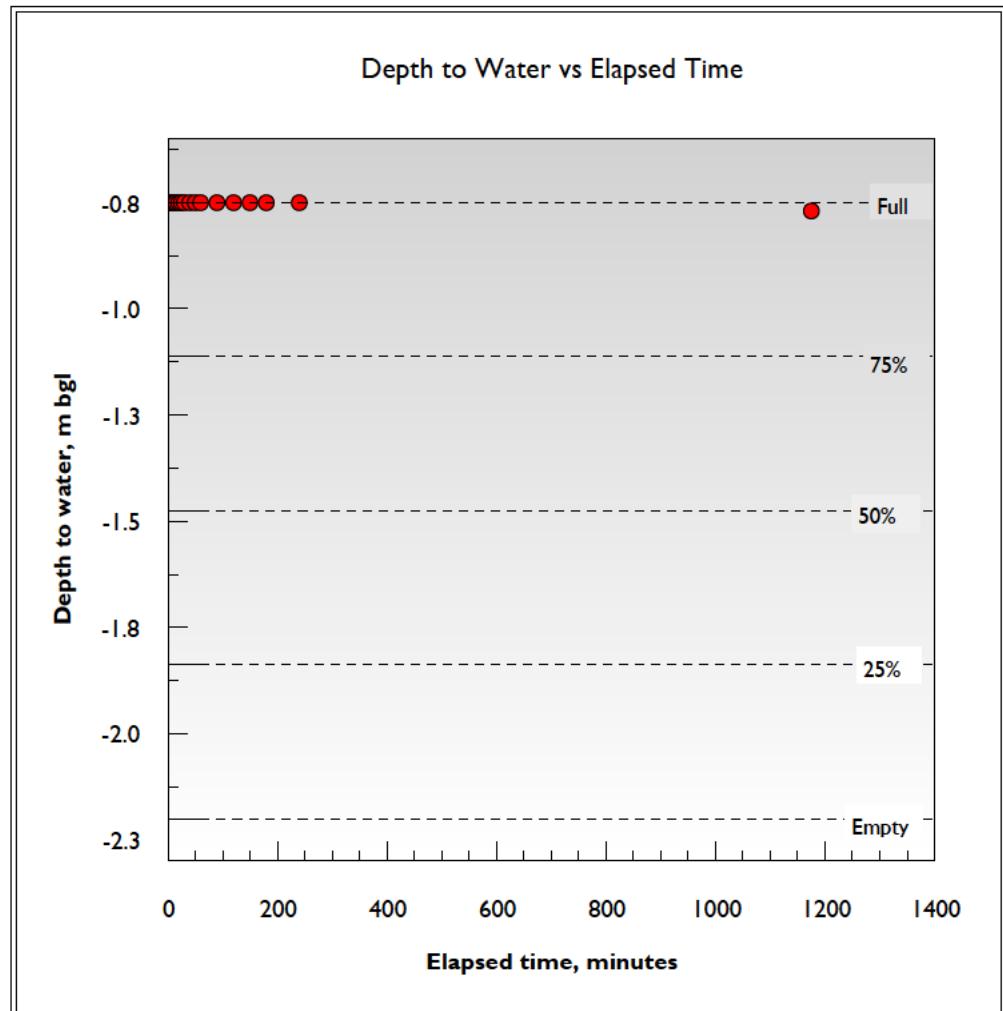
Project No: 5993-2  
 Sheet No: 1/1

SA	4
Test No.	1
Depth, m	2.20
Length, m	1.80
Width, m	0.50

Description of stratum under test	
Weald Formation	

Depth to water prior to test, m below g.l.
pit dry

Elapsed Time min	Depth to Water m
0.0	0.750
1.0	0.750
2.0	0.750
3.0	0.750
4.0	0.750
5.0	0.750
6.0	0.750
7.0	0.750
8.0	0.750
9.0	0.750
10.0	0.750
15.0	0.750
20.0	0.750
25.0	0.750
30.0	0.750
40.0	0.750
50.0	0.750
60.0	0.750
90.0	0.750
120.0	0.750
150.0	0.750
180.0	0.750
240.0	0.750
1175.0	0.770



$$f = (V75-V25)/A50(T75-T25)$$

$$V75-V25 = 0.65 \text{ m}^3$$

$$A50 = 4.24 \text{ m}^2$$

$$T75-T25 = \text{indeterminate min}$$

$$f = \text{indeterminate m/s}$$

## SOAKAWAY TEST RESULTS

## BRE DIGEST 365 - SOIL INFILTRATION RATE

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON  
Client: Rocco Homes

Project No: 5993-2  
Sheet No: 1/1

<b>SA</b>	<b>5</b>
Test No.	1
Depth, m	2.00
Length, m	1.80
Width, m	0.50

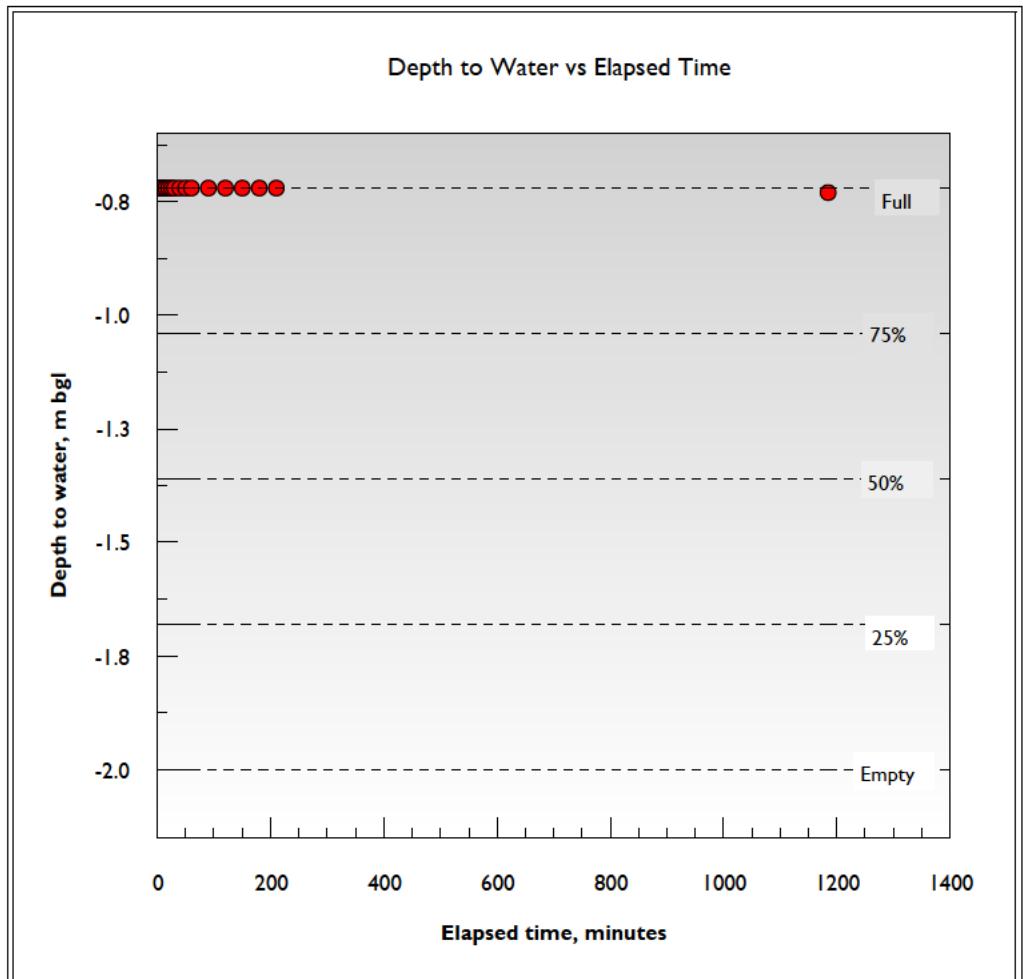
#### Description of stratum under test

## Weald Formation

Depth to water prior to test, m below g.l.

Depth to water prior to  
test, m below g.l.

Elapsed Time min	Depth to Water m
0.0	0.720
1.0	0.720
2.0	0.720
3.0	0.720
4.0	0.720
5.0	0.720
6.0	0.720
7.0	0.720
8.0	0.720
9.0	0.720
10.0	0.720
15.0	0.720
20.0	0.720
25.0	0.720
30.0	0.720
40.0	0.720
50.0	0.720
60.0	0.720
90.0	0.720
120.0	0.720
150.0	0.720
180.0	0.720
210.0	0.720
1185.0	0.730



$$f = (V75-V25)/A50(T75-T25)$$

V75-V25 =	0.58 m <sup>3</sup>
A50 =	3.84 m <sup>2</sup>
T75-T25 =	1700 min

$$f = 1.47 \times 10^{-6} \text{ m/s}$$

## APPENDIX E

STANDPIPE RECORDS

# STANDPIPE RECORDS

## GAS EMISSIONS AND WATER LEVELS

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON

Client: Rocco Homes

Project No: 5993-2

Sheet No: 1/2

Date		Measurement	Units	Location							
				WS1		WS6		WS9			
				Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady
Temp. °C	23		Flow rate	l/hr	0.0	0.0	0.0	0.0	0.0	0.0	
	Atmos. mb		Methane	%	0.0	0.0	0.0	0.0	0.0	0.0	
			Carbon dioxide	%	0.8	0.6	0.7	0.5	0.4	0.3	
	Cloud		Carbon monoxide	ppm	0	0	0	0	0	0	
	Sun		Hydrogen sulphide	ppm	0	0	0	0	0	0	
	Rainfall		Oxygen	%	20.3	20.4	20.3	20.5	20.8	20.7	
			PID reading	ppm	0	0	0	0	0	0	
			Water level	m bgl	1.27		Dry @ 2.70		0.85		

Date		Measurement	Units	Location							
				WS1		WS6		WS9			
				Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady
Temp. °C	25		Flow rate	l/hr	0.0	0.0	0.0	0.0	0.0	0.0	
	Atmos. mb		Methane	%	0.0	0.0	0.0	0.0	0.0	0.0	
			Carbon dioxide	%	0.8	0.6	0.8	0.5	0.6	0.6	
	Cloud		Carbon monoxide	ppm	0	0	0	0	0	0	
	Sun		Hydrogen sulphide	ppm	0	0	0	0	0	0	
	Rainfall		Oxygen	%	20.5	20.5	20.4	20.5	20.5	20.5	
			PID reading	ppm	0	0	0	0	0	0	
			Water level	m bgl	0.71		Dry @ 2.70		0.96		

Date		Measurement	Units	Location							
				WS1		WS6		WS9			
				Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady
Temp. °C	24		Flow rate	l/hr	0.0	0.0	0.0	0.0	0.0	0.0	
	Atmos. mb		Methane	%	0.0	0.0	0.0	0.0	0.0	0.0	
			Carbon dioxide	%	0.8	0.9	1.0	0.7	0.7	0.6	
	Cloud		Carbon monoxide	ppm	0	0	0	0	0	0	
	Sun		Hydrogen sulphide	ppm	0	0	0	0	0	0	
	Rainfall		Oxygen	%	20.4	20.2	20.2	20.4	20.5	20.5	
			PID reading	ppm	0	0	0	0	0	0	
			Water level	m bgl	0.93		2.46		1.08		

Date		Measurement	Units	Location							
				WS1		WS6		WS9			
				Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady
Temp. °C	18		Flow rate	l/hr	0.0	0.0	0.0	0.0	0.0	0.0	
	Atmos. mb		Methane	%	0.0	0.0	0.0	0.0	0.0	0.0	
			Carbon dioxide	%	0.8	0.9	0.8	0.3	0.6	0.5	
	Cloud		Carbon monoxide	ppm	0	0	0	0	0	0	
	Sun		Hydrogen sulphide	ppm	0	0	0	0	0	0	
	Rainfall		Oxygen	%	20.1	19.5	20.0	20.4	20.4	20.3	
			PID reading	ppm	0	0	0	0	0	0	
			Water level	m bgl	1.05		0.52		0.87		

Readings taken with GFM435 manufactured by Gas Data Ltd.

# STANDPIPE RECORDS

## GAS EMISSIONS AND WATER LEVELS

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON

Client: Rocco Homes

Project No: 5993-2

Sheet No: 2/2

Date		Measurement	Units	Location							
				WS1		WS6		WS9			
				Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady
Temp. °C	20	Flow rate	l/hr	0.0	0.0	0.0	0.0	0.0	0.0		
	Atmos. mb	Methane	%	0.0	0.0	0.0	0.0	0.0	0.0		
		Carbon dioxide	%	1.2	0.8	0.9	0.5	0.6	0.4		
	Cloud	Carbon monoxide	ppm	0	0	0	0	0	0		
	Sun	Hydrogen sulphide	ppm	0	0	0	0	0	0		
	Rainfall	Oxygen	%	19.8	20.1	20.0	20.3	20.4	20.4		
		PID reading	ppm	0	0	0	0	0	0		
		Water level	m bgl	0.96		0.44		0.70			

Date		Measurement	Units	Location							
				Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady
Temp. °C		Flow rate	l/hr								
	Atmos. mb	Methane	%								
		Carbon dioxide	%								
	Cloud	Carbon monoxide	ppm								
	Sun	Hydrogen sulphide	ppm								
	Rainfall	Oxygen	%								
		PID reading	ppm								
		Water level	m bgl								

Date		Measurement	Units	Location							
				Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady
Temp. °C		Flow rate	l/hr								
	Atmos. mb	Methane	%								
		Carbon dioxide	%								
	Cloud	Carbon monoxide	ppm								
	Sun	Hydrogen sulphide	ppm								
	Rainfall	Oxygen	%								
		PID reading	ppm								
		Water level	m bgl								

Date		Measurement	Units	Location							
				Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady
Temp. °C		Flow rate	l/hr								
	Atmos. mb	Methane	%								
		Carbon dioxide	%								
	Cloud	Carbon monoxide	ppm								
	Sun	Hydrogen sulphide	ppm								
	Rainfall	Oxygen	%								
		PID reading	ppm								
		Water level	m bgl								

Readings taken with GFM435 manufactured by Gas Data Ltd.

## APPENDIX F

### LABORATORY TEST RESULTS

## SUMMARY OF GEOTECHNICAL TESTS

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON, RH20 3AR  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 1/2

Location	Sample No	Depth m	Description	CLASSIFICATION							TRIAXIAL COMPRESSION - TOTAL STRESS							CHEMICAL	
				Natural Moisture Content %	Liquid Limit %	Plastic Limit %	Plast. Index %	Passing 425µm %	Mod. Plast. Index %	Class	Type	Moisture Content %	Bulk Density Mg/m³	Radial Stress kPa	Deviator Stress kPa	Cohesion cu, kPa assuming Øu = 0	Water g/l	Soil (Sol) g/l	pH
BHI	DI	0.50	Soft to firm mottled brown slightly sandy CLAY with black carbonaceous material	17	31	17	14	96	13	CL							0.10	7.23	
	D3	2.00	Firm orange brown, brown and grey mottled slightly sandy CLAY	17	42	15	27	100		CI							0.23	7.58	
	UI	7.50	Very stiff red brown and grey mottled CLAY	14															
	U2	10.50	Very stiff grey CLAY with sandy laminations	9													0.15	7.44	
BH2	D3	1.00	Firm to stiff orange brown, brown and grey mottled slightly sandy CLAY	21	52	25	27	100		CH							0.19	7.48	
	UI	2.50	Very stiff yellow, orange brown, brown and blue grey CLAY	8															
	U2	4.50	Very stiff grey blue and brown CLAY with sandy horizons	26															
	B3	9.00	Very stiff grey blue and brown CLAY with sandy horizons	18	24	7	17	100		CL							0.34	7.55	
	B5	12.00	Stiff to very stiff red brown and blue grey CLAY	16	36	16	20	100		CI									

Note: Soil Classification based upon unmodified Plasticity Index

## SUMMARY OF GEOTECHNICAL TESTS

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON, RH20 3AR  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 2/2

Location	Sample No	Depth m	Description	CLASSIFICATION							TRIAXIAL COMPRESSION - TOTAL STRESS							CHEMICAL	
				Natural Moisture Content %	Liquid Limit %	Plastic Limit %	Plast. Index %	Passing 425µm %	Mod. Plast. Index %	Class	Type	Moisture Content %	Bulk Density Mg/m³	Radial Stress kPa	Deviator Stress kPa	Cohesion cu, kPa assuming Øu = 0	Water g/l	Soil (Sol) g/l	pH
BH3	D3	1.00	Firm brown grey sandy CLAY	13	45	18	27	100		CI	UU 102	17	2.01	30	88	44	0.27	7.61	
	U1	1.50	Firm orange brown, brown and grey blue slightly sandy CLAY	17	33	13	20	100		CL									
	U2	3.50	Firm orange brown, brown and grey blue slightly sandy CLAY																
	U3	6.00	Very stiff grey and brown mottled slightly sandy to sandy CLAY (premature failure)																
WS1	D1	1.00	Firm brown grey mottled CLAY	19	50	19	31	100		CI/CH	UU 102	19	2.02	70	144	57	0.08	7.38	
WS2	D1	1.50	Firm orange brown and grey mottled CLAY	16	41	15	26	100		CI									
WS4	D1	1.00	Firm orange brown and grey mottled CLAY	21	53	25	28	100		CH									
WS7	D1	1.50	Firm to stiff orange brown and grey mottled CLAY	18	38	12	26	100		CI	UU 102	15	2.09	120	148	74	0.17	7.40	
WS10	D1	2.00	Firm to stiff orange brown and grey mottled CLAY	15	46	19	27	100		CI									

Note: Soil Classification based upon unmodified Plasticity Index

## CONTAMINANTS IN SOIL

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON, RH20 3AR  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 1/1

Location	Sample	Depth m	Arsenic	Cadmium	Chromium trivalent	Copper	Lead	Mercury inorganic	Nickel	Selenium	Zinc	Boron	Chromium hexavalent	Phenols	Sulphate	TPH by GCMS						pH		
																water sol.	water sol.	tot. monohydric	water sol.	C8 - C10	C10 - C12	C12 - C16	C16 - C21	C21 - C35
WS1	CI	0.20	12	<0.2	18	9.1	19	<0.3	6.6	1.7	44	1		<1.0										
WS2	CI	0.40	14	<0.2	20	8.1	18	<0.3	6.6	1.4	43	0.9		<1.0										
WS4	CI	0.30	30	<0.2	18	14	14	<0.3	9.5	3.5	68	0.4		<1.0										
WS5	CI	0.50	12	<0.2	20	8.8	12	<0.3	5.2	1.2	33	0.6		<1.0										
WS8	CI	0.30	7.5	<0.2	22	11	15	<0.3	5.9	<1.0	22	0.6		<1.0										
WS9	CI	0.10	11	<0.2	16	9.1	21	<0.3	5.2	<1.0	37	0.6		<1.0										
WS11	CI	0.40	13	<0.2	19	9.8	26	<0.3	6.3	1.4	47	0.7		<1.0										
S4UL <sup>1</sup>	residential <sup>3</sup>	37	11	910	2400			40	180	250	3700	290	6	380										
	residential <sup>3a</sup>	40	85	910	7100			56	180	430	40000	11000	6	1200										
	commercial	640	190	8600	68000			1100	980	12000	730000	240000	33	1300										
	POS resi <sup>4</sup>	79	120	1500	12000			120	230	1100	81000	21000	7.7											
CLEA <sup>2</sup>	residential	32						170	130	350														
	commercial	640						3600	1800	13000														

Notes

1. S4UL given at 6% soil organic matter

2. CLEA SGVs given at 6% soil organic matter

3. Residential with plant uptake

3a. Residential without plant uptake

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All units are mg/kg dry weight of soil unless otherwise stated, except for pH which is dimensionless

Exceptions denoted thus: Residential

XX

Commercial

XX

## CONTAMINANTS IN SOIL

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON, RH20 3AR  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 1/1

Speciated Total Petroleum Hydrocarbons (Aromatic / Aliphatic Split with BTEX)											
Determinand	Location Sample Depth, m	WS1 CI 0.20	WS2 CI 0.40	WS4 CI 0.30	WS5 CI 0.50	WS8 CI 0.30	WS9 CI 0.10	WS11 CI 0.40	LQM/CIEH S4UL		
		residential	allotments	commercial							
<b>Aromatic Hydrocarbons</b>											
C5 - C7	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	300	57	86000
>C7 - C8	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	660	120	180000
>C8 - C10	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	190	51	17000
>C10 - C12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	380	74	34000
>C12 - C16	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	660	130	38000
>C16 - C21	<10	<10	<10	<10	<10	<10	<10	<10	930	260	28000
>C21 - C35	<10	<10	<10	<10	<10	<10	<10	<10	1700	1600	28000
<b>Total Aromatic Hydrocarbons</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>			
<b>Aliphatic Hydrocarbons</b>											
C5 - C6	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	160	3900	12000
>C6 - C8	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	530	13000	40000
>C8 - C10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	150	1700	11000
>C10 - C12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	760	7300	47000
>C12 - C16	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4300	13000	90000
>C16 - C21	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0			
>C21 - C35	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0			
<b>Total Aliphatic Hydrocarbons</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>			
<b>Total Petroleum Hydrocarbons</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>	<b>&lt;10</b>			
<b>BTEX</b>											
Benzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	370	75	90000
Toluene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	660000	120000	180000000
Ethyl Benzene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	260000	91000	27000000
p & m-xylene	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0			
o-xylene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	310000	160000	30000000
MTBE (Methyl Tertiary Butyl Ether)	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0			

Notes

Total = Sum of compounds above detection limit.

S4UL given at 6% soil organic matter

\*Results given as total of (ortho), (meta) and (para) xylene. SGV given is the lowest permissible value for any xylene compound

Exceptions denoted thus:

Residential

XX

Commercial

XX

## CONTAMINANTS IN SOIL

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON, RH20 3AR  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 1/1

Speciated Polyaromatic Hydrocarbons by GCMS													
Location Sample Depth, m	WS1 CI 0.20	WS2 CI 0.40	WS4 CI 0.30	WS5 CI 0.50	WS8 CI 0.30	WS9 CI 0.10	WS11 CI 0.40						LQM/CIEH S4UL <sup>3</sup>
	residential4	residential5	allotments	commercial									
Determinand	Concentration, mg/kg												
<b>PAH</b>													
Naphthalene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					13	13
Acenaphthylene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					920	6000
Acenaphthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					1100	6000
Fluorene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					860	4500
Phenanthrene	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					440	1500
Anthracene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					11000	37000
Fluoranthene	0.14	0.13	<0.05	<0.05	<0.05	<0.05	<0.05					890	1600
Pyrene	0.12	0.11	<0.05	<0.05	<0.05	<0.05	<0.05					2000	3800
Benzo(a)anthracene	0.06	0.05	<0.05	<0.05	<0.05	<0.05	<0.05					13	15
Chrysene	0.08	0.06	<0.05	<0.05	<0.05	<0.05	<0.05					27	32
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					3.7	4.0
Benzo(k)fluoranthene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					100	110
Benzo(a)pyrene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					3	3.2
Indeno(1,2,3-cd)pyrene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					41	46
Dibenzo(ah)anthracene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					0.3	0.32
Benzo(ghi)perylene	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05					350	360
<b>Total PAH (16)</b>	<b>&lt;0.80</b>	<b>&lt;0.80</b>	<b>&lt;0.80</b>	<b>&lt;0.80</b>	<b>&lt;0.80</b>	<b>&lt;0.80</b>	<b>&lt;0.80</b>						

Notes

1. Total PAH = Sum of EPA16 identified components
2. The results are expressed as mg/kg dry weight soil after correction for moisture content
3. S4UL given at 6% soil organic matter
4. Residential with plant uptake
5. Residential without plant uptake

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Exceptions denoted thus: Residential XX  
 Commercial XX

# CONTAMINANTS IN SOIL

Project: LAND EAST OF MOUSDELL CLOSE, ASHINGTON, RH20 3AR  
 Client: Rocco Homes

Project No: 5993-2  
 Sheet No: 1/1

Location	Sample	Depth m	Asbestos identification		
			Description of matrix	Overall percentage of asbestos identified (approx.)	Type of asbestos identified
WS1	CI	0.20	Brown loam		none detected
WS2	CI	0.40	Brown loam with vegetation		none detected
WS4	CI	0.30	Brown loam and clay with gravel		none detected
ES5	CI	0.50	Brown clay and loam with vegetation		none detected
WS8	CI	0.30	Brown clay and loam with vegetation		none detected
WS9	CI	0.10	Brown loam with vegetation		none detected
WS11	CI	0.40	Brown loam with vegetation		none detected



## i2 Analytical

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### Waste Acceptance Criteria Analytical Results

Report No:	25-035959					
				Client: AP Geotechnics Ltd		
Location	Ashington					
Lab Reference (Sample Number)	607053			Landfill Waste Acceptance Criteria		
Sampling Date	samptdate>null			Limits		
Sample ID	WS3 C1			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	0.50-1.00					
<b>Solid Waste Analysis</b>						
TOC (‰)**	0.2			3%	5%	6%
Loss on Ignition (%) **	2.4					10%
BTEX (µg/kg) **	< 10			6000	--	--
Sum of PCBs (mg/kg) **	< 0.007			1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10			500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--
pH (units)**	7.7			--	>6	--
Acid Neutralisation Capacity (mmol / kg)	1.2			--	To be evaluated	To be evaluated
<b>Eluate Analysis</b>						
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)			10:1	Limit values for compliance leaching test		
			mg/l	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
mg/kg						
Arsenic *	< 0.00100			< 0.0100	0.5	2
Barium *	0.00121			0.0121	20	100
Cadmium *	< 0.000100			< 0.00100	0.04	1
Chromium *	0.00097			0.0097	0.5	10
Copper *	0.0047			0.047	2	50
Mercury *	< 0.000500			< 0.00500	0.01	0.2
Molybdenum *	0.000663			0.00663	0.5	10
Nickel *	< 0.00030			< 0.0030	0.4	10
Lead *	< 0.0010			< 0.010	0.5	10
Antimony *	0.002			0.02	0.06	0.7
Selenium *	< 0.0040			< 0.040	0.1	0.5
Zinc *	0.0028			0.028	4	50
Chloride *	1.2			12	800	15000
Fluoride*	0.17			1.7	10	150
Sulphate *	2.5			25	1000	20000
TDS*	17			170	4000	60000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-
DOC	6.11			61.1	500	800
<b>Leach Test Information</b>						
Stone Content (%)	< 0.1					
Sample Mass (kg)	1.2					
Dry Matter (%)	86					
Moisture (%)	14					
Results are expressed on a dry weight basis, after correction for moisture content where applicable.	*= UKAS accredited (liquid eluate analysis only)					
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation	** = MCERTS accredited					

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.  
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



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### Waste Acceptance Criteria Analytical Results

Report No:	25-035959					
				Client: AP Geotechnics Ltd		
Location	Ashington					
Lab Reference (Sample Number)	607054			Landfill Waste Acceptance Criteria		
Sampling Date	samptdate>null			Limits		
Sample ID	WS7 C1			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	1.00-1.50					
<b>Solid Waste Analysis</b>						
TOC (‰)**	< 0.1				3%	5%
Loss on Ignition (%) **	2.5					10%
BTEX (µg/kg) **	< 10				6000	--
Sum of PCBs (mg/kg) **	< 0.007				1	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--
pH (units)**	5.7				--	>6
Acid Neutralisation Capacity (mmol / kg)	-12				--	To be evaluated
<b>Eluate Analysis</b>						
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)			10:1	mg/l	10:1	Limit values for compliance leaching test
						using BS EN 12457-2 at L/S 10 l/kg (mg/kg)
Arsenic *	< 0.00100				< 0.0100	0.5
Barium *	0.00621				0.0621	20
Cadmium *	< 0.000100				< 0.00100	0.04
Chromium *	0.0017				0.017	0.5
Copper *	0.0099				0.099	2
Mercury *	< 0.0000500				< 0.00500	0.01
Molybdenum *	0.000526				0.00526	0.5
Nickel *	< 0.00030				< 0.0030	0.4
Lead *	< 0.0010				< 0.010	0.5
Antimony *	< 0.0017				< 0.017	0.06
Selenium *	< 0.0040				< 0.040	0.1
Zinc *	0.0077				0.077	4
Chloride *	1.4				14	800
Fluoride*	0.3				3	10
Sulphate *	2				20	1000
TDS*	11				110	4000
Phenol Index (Monohydric Phenols) *	< 0.010				< 0.10	1
DOC	2.74				27.4	500
						800
						1000
<b>Leach Test Information</b>						
Stone Content (%)	< 0.1					
Sample Mass (kg)	1.2					
Dry Matter (%)	87					
Moisture (%)	13					
Results are expressed on a dry weight basis, after correction for moisture content where applicable.	*= UKAS accredited (liquid eluate analysis only)					
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation	** = MCERTS accredited					

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.  
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



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### Waste Acceptance Criteria Analytical Results

Report No:	25-035959					
				Client: AP Geotechnics Ltd		
Location	Ashington					
Lab Reference (Sample Number)	607055			Landfill Waste Acceptance Criteria		
Sampling Date	samptdate>null			Limits		
Sample ID	WS12 C1			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	0.50-1.00					
<b>Solid Waste Analysis</b>						
TOC (‰)**	0.2				3%	5%
Loss on Ignition (%) **	3.3					10%
BTEX (µg/kg) **	< 10				6000	--
Sum of PCBs (mg/kg) **	< 0.007				1	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--
Total PAH (WAC-17) (mg/kg)	< 0.85				100	--
pH (units)**	7.5				--	>6
Acid Neutralisation Capacity (mmol / kg)	0.53				--	To be evaluated
<b>Eluate Analysis</b>						
10:1			10:1		Limit values for compliance leaching test	
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)			mg/l		using BS EN 12457-2 at L/S 10 l/kg (mg/kg)	
			mg/kg			
Arsenic *	< 0.00100			< 0.0100	0.5	2
Barium *	0.00682			0.0682	20	100
Cadmium *	< 0.000100			< 0.00100	0.04	1
Chromium *	0.0025			0.025	0.5	10
Copper *	0.013			0.13	2	50
Mercury *	< 0.000500			< 0.00500	0.01	0.2
Molybdenum *	0.000609			0.00609	0.5	10
Nickel *	< 0.00030			< 0.0030	0.4	10
Lead *	< 0.0010			< 0.010	0.5	10
Antimony *	< 0.0017			< 0.017	0.06	0.7
Selenium *	< 0.0040			< 0.040	0.1	0.5
Zinc *	0.016			0.16	4	50
Chloride *	1			10	800	15000
Fluoride*	0.15			1.5	10	150
Sulphate *	0.97			9.7	1000	20000
TDS*	16			160	4000	60000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-
DOC	5.03			50.3	500	800
<b>Leach Test Information</b>						
Stone Content (%)	< 0.1					
Sample Mass (kg)	1.2					
Dry Matter (%)	84					
Moisture (%)	16					
Results are expressed on a dry weight basis, after correction for moisture content where applicable.						
*= UKAS accredited (liquid eluate analysis only)						
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation						
** = MCERTS accredited						

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.  
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.

## **APPENDIX G**

**ORIGINAL TESTING HOUSE CERTIFICATES**



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## Analytical Report Number : 25-035957

<b>Project / Site name:</b>	Ashington	<b>Samples received on:</b>	08/07/2025
<b>Your job number:</b>	5993	<b>Samples instructed on/ Analysis started on:</b>	08/07/2025
<b>Your order number:</b>		<b>Analysis completed by:</b>	17/07/2025
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	17/07/2025
<b>Samples Analysed:</b>	7 soil samples		

Signed: [REDACTED]

Rafal Szczepańczyk  
Technical Reviewer  
**For & on behalf of i2 Analytical Ltd.**

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

Excel copies of reports are only valid when accompanied by this PDF certificate.

Retention period for records and reports is minimum 6 years from the date of issue of the final report.

Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.

Application of uncertainty of measurement would provide a range within which the true result lies.

An estimate of measurement uncertainty can be provided on request.



4041



Analytical Report Number: 25-035957

Project / Site name: Ashington

Lab Sample Number	607030	607031	607032	607033	607034
Sample Reference	WS1	WS2	WS4	WS5	WS8
Sample Number	C1	C1	C1	C1	C1
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.20	0.40	0.30	0.50	0.30
Date Sampled	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	10	8.5	9.2	13	11
Total mass of sample received	kg	0.1	NONE	0.9	0.9	0.9	0.9	0.9

**Asbestos**

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	PKU	PKU	PKU	PKU	PKU
Analysis completed	N/A	N/A	N/A	15/07/2025	15/07/2025	15/07/2025	15/07/2025	15/07/2025

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.14	0.13	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.12	0.11	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.06	0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.08	0.06	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.05	0.05	0.05	0.05	0.05

**Total PAH**

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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**Heavy Metals / Metalloids**

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	14	30	12	7.5
Boron (water soluble)	mg/kg	0.2	MCERTS	1	0.9	0.4	0.6	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	20	18	20	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.1	8.1	14	8.8	11
Lead (aqua regia extractable)	mg/kg	1	MCERTS	19	18	14	12	15
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.6	6.6	9.5	5.2	5.9
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.7	1.4	3.5	1.2	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	44	43	68	33	22



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Analytical Report Number: 25-035957

Project / Site name: Ashington

Lab Sample Number	607030	607031	607032	607033	607034
Sample Reference	WS1	WS2	WS4	WS5	WS8
Sample Number	C1	C1	C1	C1	C1
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.20	0.40	0.30	0.50	0.30
Date Sampled	07/07/2025	07/07/2025	07/07/2025	07/07/2025	07/07/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

**Petroleum Hydrocarbons**

TPHCWG - Aliphatic >EC5 - EC6 <sub>HS_1D_AL</sub>	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 <sub>HS_1D_AL</sub>	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 <sub>HS_1D_AL</sub>	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH CU 1D AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 EH CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 <sub>HS_1D_AR</sub>	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 <sub>HS_1D_AR</sub>	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 <sub>HS_1D_AR</sub>	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

**VOCs**

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



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Analytical Report Number: 25-035957

Project / Site name: Ashington

Lab Sample Number	607035	607036		
Sample Reference	WS9	WS11		
Sample Number	C1	C1		
Water Matrix	N/A	N/A		
Depth (m)	0.10	0.40		
Date Sampled	07/07/2025	07/07/2025		
Time Taken	None Supplied	None Supplied		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Test Limit of detection</b>	<b>Test Accreditation Status</b>	

Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	13
Total mass of sample received	kg	0.1	NONE	0.9	0.9

**Asbestos**

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	PKU	PKU
Analysis completed	N/A	N/A	N/A	15/07/2025	15/07/2025

**Total Phenols**

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
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**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05

**Total PAH**

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80
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**Heavy Metals / Metalloids**

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	13
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.1	9.8
Lead (aqua regia extractable)	mg/kg	1	MCERTS	21	26
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	5.2	6.3
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1.4
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	37	47



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Analytical Report Number: 25-035957

Project / Site name: Ashington

Lab Sample Number	607035	607036		
Sample Reference	WS9	WS11		
Sample Number	C1	C1		
Water Matrix	N/A	N/A		
Depth (m)	0.10	0.40		
Date Sampled	07/07/2025	07/07/2025		
Time Taken	None Supplied	None Supplied		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Test Limit of detection</b>	<b>Test Accreditation Status</b>	

**Petroleum Hydrocarbons**

TPHCWG - Aliphatic >EC5 - EC6 <sub>HS_1D_AL</sub>	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 <sub>HS_1D_AL</sub>	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 <sub>HS_1D_AL</sub>	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH CU 1D AL	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 EH CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 <sub>HS_1D_AR</sub>	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 <sub>HS_1D_AR</sub>	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 <sub>HS_1D_AR</sub>	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10

**VOCs**

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



**Analytical Report Number : 25-035957**

**Project / Site name: Ashington**

\* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
607030	WS1	C1	0.2	Brown loam
607031	WS2	C1	0.4	Brown loam with vegetation
607032	WS4	C1	0.3	Brown loam and clay with gravel
607033	WS5	C1	0.5	Brown clay and loam with vegetation
607034	WS8	C1	0.3	Brown clay and loam with vegetation
607035	WS9	C1	0.1	Brown loam with vegetation
607036	WS11	C1	0.4	Brown loam with vegetation



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**Analytical Report Number : 25-035957****Project / Site name: Ashington****Water matrix abbreviations:****Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)****Final Sewage Effluent (FSE) Landfill Leachate (LL)**

<b>Analytical Test Name</b>	<b>Analytical Method Description</b>	<b>Analytical Method Reference</b>	<b>Method number</b>	<b>Wet / Dry Analysis</b>	<b>Accreditation Status</b>
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEx and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

**For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).****For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).****For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.****Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.****Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.**

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



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## Analytical Report Number : 25-035959

<b>Project / Site name:</b>	Ashington	<b>Samples received on:</b>	08/07/2025
<b>Your job number:</b>	5993	<b>Samples instructed on/ Analysis started on:</b>	08/07/2025
<b>Your order number:</b>		<b>Analysis completed by:</b>	16/07/2025
<b>Report Issue Number:</b>	1	<b>Report issued on:</b>	16/07/2025
<b>Samples Analysed:</b>	3 10:1 WAC samples		

Signed: [REDACTED]

Rafal Szczepańczyk  
Technical Reviewer  
**For & on behalf of i2 Analytical Ltd.**

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

Excel copies of reports are only valid when accompanied by this PDF certificate.

Retention period for records and reports is minimum 6 years from the date of issue of the final report.

Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.

Application of uncertainty of measurement would provide a range within which the true result lies.

An estimate of measurement uncertainty can be provided on request.



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Analytical Report Number: 25-035959

Project / Site name: Ashington

Lab Sample Number	607053	607054	607055		
Sample Reference	WS3	WS7	WS12		
Sample Number	C1	C1	C1		
Water Matrix	N/A	N/A	N/A		
Depth (m)	0.50-1.00	1.00-1.50	0.50-1.00		
Date Sampled	Deviating	Deviating	Deviating		
Time Taken	None Supplied	None Supplied	None Supplied		
<b>Analytical Parameter (Soil Analysis)</b>	<b>Units</b>	<b>Test Limit of detection</b>	<b>Test Accreditation Status</b>		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	13	16
Total mass of sample received	kg	0.1	NONE	1.2	1.2	1.2

**General Inorganics**

pH (L005B)	pH Units	N/A	MCERTS	7.7	5.7	7.5
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.2	< 0.1	0.2
Loss on Ignition @ 450°C	%	0.2	MCERTS	2.4	2.5	3.3
Acid Neutralisation Capacity	mmol/kg	-9999	NONE	1.2	-12	0.53

**Speciated PAHs**

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05

**Total PAH**

Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85	< 0.85
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**Petroleum Hydrocarbons**

Mineral Oil (EC10 - EC40) EH CU 1D AL	mg/kg	10	NONE	< 10	< 10	< 10
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**VOCs**

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0

Total BTEX	µg/kg	10	MCERTS	< 10	< 10	< 10
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Analytical Report Number: 25-035959

Project / Site name: Ashington

Lab Sample Number	607053	607054	607055			
Sample Reference	WS3	WS7	WS12			
Sample Number	C1	C1	C1			
Water Matrix	N/A	N/A	N/A			
Depth (m)	0.50-1.00	1.00-1.50	0.50-1.00			
Date Sampled	Deviating	Deviating	Deviating			
Time Taken	None Supplied	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			

## PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



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### Waste Acceptance Criteria Analytical Results

Report No:	25-035959					
				Client: AP Geotechnics Ltd		
Location	Ashington					
Lab Reference (Sample Number)	607053			Landfill Waste Acceptance Criteria		
Sampling Date	samptdate>null			Limits		
Sample ID	WS3 C1			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	0.50-1.00					
<b>Solid Waste Analysis</b>						
TOC (‰)**	0.2			3%	5%	6%
Loss on Ignition (%) **	2.4					10%
BTEX (µg/kg) **	< 10			6000	--	--
Sum of PCBs (mg/kg) **	< 0.007			1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10			500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--
pH (units)**	7.7			--	>6	--
Acid Neutralisation Capacity (mmol / kg)	1.2			--	To be evaluated	To be evaluated
<b>Eluate Analysis</b>						
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)			10:1	Limit values for compliance leaching test		
			mg/l	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
mg/kg						
Arsenic *	< 0.00100			< 0.0100	0.5	2
Barium *	0.00121			0.0121	20	100
Cadmium *	< 0.000100			< 0.00100	0.04	1
Chromium *	0.00097			0.0097	0.5	10
Copper *	0.0047			0.047	2	50
Mercury *	< 0.000500			< 0.00500	0.01	0.2
Molybdenum *	0.000663			0.00663	0.5	10
Nickel *	< 0.00030			< 0.0030	0.4	10
Lead *	< 0.0010			< 0.010	0.5	10
Antimony *	0.002			0.02	0.06	0.7
Selenium *	< 0.0040			< 0.040	0.1	0.5
Zinc *	0.0028			0.028	4	50
Chloride *	1.2			12	800	15000
Fluoride*	0.17			1.7	10	150
Sulphate *	2.5			25	1000	20000
TDS*	17			170	4000	60000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-
DOC	6.11			61.1	500	800
<b>Leach Test Information</b>						
Stone Content (%)	< 0.1					
Sample Mass (kg)	1.2					
Dry Matter (%)	86					
Moisture (%)	14					
Results are expressed on a dry weight basis, after correction for moisture content where applicable.	*= UKAS accredited (liquid eluate analysis only)					
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation	** = MCERTS accredited					

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.  
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



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### Waste Acceptance Criteria Analytical Results

Report No:	25-035959					
				Client: AP Geotechnics Ltd		
Location	Ashington					
Lab Reference (Sample Number)	607054			Landfill Waste Acceptance Criteria		
Sampling Date	samptdate>null			Limits		
Sample ID	WS7 C1			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	1.00-1.50					
<b>Solid Waste Analysis</b>						
TOC (‰)**	< 0.1			3%	5%	6%
Loss on Ignition (%) **	2.5					10%
BTEX (µg/kg) **	< 10			6000	--	--
Sum of PCBs (mg/kg) **	< 0.007			1	--	--
Mineral Oil (mg/kg) EH_1D CU AL	< 10			500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--
pH (units)**	5.7			--	>6	--
Acid Neutralisation Capacity (mmol / kg)	-12			--	To be evaluated	To be evaluated
<b>Eluate Analysis</b>						
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)			10:1	Limit values for compliance leaching test		
			mg/l	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
mg/kg						
Arsenic *	< 0.00100			< 0.0100	0.5	2
Barium *	0.00621			0.0621	20	100
Cadmium *	< 0.000100			< 0.00100	0.04	1
Chromium *	0.0017			0.017	0.5	10
Copper *	0.0099			0.099	2	50
Mercury *	< 0.000500			< 0.00500	0.01	0.2
Molybdenum *	0.000526			0.00526	0.5	10
Nickel *	< 0.00030			< 0.0030	0.4	10
Lead *	< 0.0010			< 0.010	0.5	10
Antimony *	< 0.0017			< 0.017	0.06	0.7
Selenium *	< 0.0040			< 0.040	0.1	0.5
Zinc *	0.0077			0.077	4	50
Chloride *	1.4			14	800	15000
Fluoride*	0.3			3	10	150
Sulphate *	2			20	1000	20000
TDS*	11			110	4000	60000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-
DOC	2.74			27.4	500	800
<b>Leach Test Information</b>						
Stone Content (%)	< 0.1					
Sample Mass (kg)	1.2					
Dry Matter (%)	87					
Moisture (%)	13					
Results are expressed on a dry weight basis, after correction for moisture content where applicable.						
*= UKAS accredited (liquid eluate analysis only)						
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation						
** = MCERTS accredited						

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.  
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



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### Waste Acceptance Criteria Analytical Results

Report No:	25-035959					
				Client: AP Geotechnics Ltd		
Location	Ashington					
Lab Reference (Sample Number)	607055			Landfill Waste Acceptance Criteria		
Sampling Date	samptdate>null			Limits		
Sample ID	WS12 C1			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Depth (m)	0.50-1.00					
<b>Solid Waste Analysis</b>						
TOC (‰)**	0.2			3%	5%	6%
Loss on Ignition (%) **	3.3					10%
BTEX (µg/kg) **	< 10			6000	--	--
Sum of PCBs (mg/kg) **	< 0.007			1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10			500	--	--
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--
pH (units)**	7.5			--	>6	--
Acid Neutralisation Capacity (mmol / kg)	0.53			--	To be evaluated	To be evaluated
<b>Eluate Analysis</b>						
10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)			mg/l	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
mg/kg						
Arsenic *	< 0.00100			< 0.0100	0.5	2
Barium *	0.00682			0.0682	20	100
Cadmium *	< 0.000100			< 0.00100	0.04	1
Chromium *	0.0025			0.025	0.5	10
Copper *	0.013			0.13	2	50
Mercury *	< 0.000500			< 0.00500	0.01	0.2
Molybdenum *	0.000609			0.00609	0.5	10
Nickel *	< 0.00030			< 0.0030	0.4	10
Lead *	< 0.0010			< 0.010	0.5	10
Antimony *	< 0.0017			< 0.017	0.06	0.7
Selenium *	< 0.0040			< 0.040	0.1	0.5
Zinc *	0.016			0.16	4	50
Chloride *	1			10	800	15000
Fluoride*	0.15			1.5	10	150
Sulphate *	0.97			9.7	1000	20000
TDS*	16			160	4000	60000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-
DOC	5.03			50.3	500	800
<b>Leach Test Information</b>						
Stone Content (%)	< 0.1					
Sample Mass (kg)	1.2					
Dry Matter (%)	84					
Moisture (%)	16					
Results are expressed on a dry weight basis, after correction for moisture content where applicable.	*= UKAS accredited (liquid eluate analysis only)					
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation	** = MCERTS accredited					

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.  
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.



**Analytical Report Number : 25-035959**

**Project / Site name: Ashington**

\* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
607053	WS3	C1	0.50-1.00	Brown clay and loam with gravel and vegetation
607054	WS7	C1	1.00-1.50	Brown clay and loam
607055	WS12	C1	0.50-1.00	Brown clay and loam



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**Analytical Report Number : 25-035959****Project / Site name: Ashington****Water matrix abbreviations:****Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)****Final Sewage Effluent (FSE) Landfill Leachate (LL)**

<b>Analytical Test Name</b>	<b>Analytical Method Description</b>	<b>Analytical Method Reference</b>	<b>Method number</b>	<b>Wet / Dry Analysis</b>	<b>Accreditation Status</b>
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by electrometric measurement	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031B	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination	L033B	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR Analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
One stage WAC 10:1 leachate preparation	One stage batch test at a liquid to solid ratio of 10 L/kg	BS EN 12457-2-2002	L043B	W	ISO 17025
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance on Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	NONE
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025



Analytical Report Number : 25-035959

Project / Site name: Ashington

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



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## Sample Deviation Report



Analytical Report Number : 25-035959

Project / Site name: Ashington

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS12	C1	L	607055	ab	Chloride 10:1 WAC	L082B	a
WS12	C1	L	607055	ab	Dissolved organic carbon 10:1 WAC	L037B	a
WS12	C1	L	607055	ab	Fluoride 10:1 WAC	L033B	a
WS12	C1	L	607055	ab	Metals in leachate by ICP-OES	L039B	a
WS12	C1	L	607055	ab	Monohydric phenols 10:1 WAC	L080-PL	a
WS12	C1	L	607055	ab	One stage WAC 10:1 leachate preparation	L043B	ab
WS12	C1	L	607055	ab	Total dissolved solids 10:1 WAC	L031B	a
WS12	C1	L	607055	ab	WAC Leachate 10:1	L043B	a
WS12	C1	S	607055	ab	Acid neutralisation capacity of soil	L046B	a
WS12	C1	S	607055	ab	BTEX and/or Volatile organic compounds in soil	L073B	a
WS12	C1	S	607055	ab	Loss on ignition of soil @ 450°C	L047-PL	a
WS12	C1	S	607055	ab	Moisture Content	L019B	a
WS12	C1	S	607055	ab	PCB's By GC-MS in soil	L027B	a
WS12	C1	S	607055	ab	Sample preparation	L019B	a
WS12	C1	S	607055	ab	Soil Descriptions	L019B	a
WS12	C1	S	607055	ab	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	a
WS12	C1	S	607055	ab	Stones content of soil	L019B	a
WS12	C1	S	607055	ab	Total organic carbon (Automated) in soil	L009B	a
WS12	C1	S	607055	ab	Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	L076B/L088-PL	a
WS12	C1	S	607055	ab	pH at 20°C in soil	L005B	a
WS3	C1	L	607053	ab	Chloride 10:1 WAC	L082B	a
WS3	C1	L	607053	ab	Dissolved organic carbon 10:1 WAC	L037B	a
WS3	C1	L	607053	ab	Fluoride 10:1 WAC	L033B	a
WS3	C1	L	607053	ab	Metals in leachate by ICP-OES	L039B	a
WS3	C1	L	607053	ab	Monohydric phenols 10:1 WAC	L080-PL	a
WS3	C1	L	607053	ab	One stage WAC 10:1 leachate preparation	L043B	ab
WS3	C1	L	607053	ab	Total dissolved solids 10:1 WAC	L031B	a
WS3	C1	L	607053	ab	WAC Leachate 10:1	L043B	a
WS3	C1	S	607053	ab	Acid neutralisation capacity of soil	L046B	a
WS3	C1	S	607053	ab	BTEX and/or Volatile organic compounds in soil	L073B	a
WS3	C1	S	607053	ab	Loss on ignition of soil @ 450°C	L047-PL	a
WS3	C1	S	607053	ab	Moisture Content	L019B	a
WS3	C1	S	607053	ab	PCB's By GC-MS in soil	L027B	a
WS3	C1	S	607053	ab	Sample preparation	L019B	a
WS3	C1	S	607053	ab	Soil Descriptions	L019B	a
WS3	C1	S	607053	ab	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	a
WS3	C1	S	607053	ab	Stones content of soil	L019B	a
WS3	C1	S	607053	ab	Total organic carbon (Automated) in soil	L009B	a
WS3	C1	S	607053	ab	Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	L076B/L088-PL	a
WS3	C1	S	607053	ab	pH at 20°C in soil	L005B	a
WS7	C1	L	607054	ab	Chloride 10:1 WAC	L082B	a
WS7	C1	L	607054	ab	Dissolved organic carbon 10:1 WAC	L037B	a
WS7	C1	L	607054	ab	Fluoride 10:1 WAC	L033B	a
WS7	C1	L	607054	ab	Metals in leachate by ICP-OES	L039B	a
WS7	C1	L	607054	ab	Monohydric phenols 10:1 WAC	L080-PL	a
WS7	C1	L	607054	ab	One stage WAC 10:1 leachate preparation	L043B	ab
WS7	C1	L	607054	ab	Total dissolved solids 10:1 WAC	L031B	a
WS7	C1	L	607054	ab	WAC Leachate 10:1	L043B	a
WS7	C1	S	607054	ab	Acid neutralisation capacity of soil	L046B	a
WS7	C1	S	607054	ab	BTEX and/or Volatile organic compounds in soil	L073B	a
WS7	C1	S	607054	ab	Loss on ignition of soil @ 450°C	L047-PL	a
WS7	C1	S	607054	ab	Moisture Content	L019B	a
WS7	C1	S	607054	ab	PCB's By GC-MS in soil	L027B	a
WS7	C1	S	607054	ab	Sample preparation	L019B	a
WS7	C1	S	607054	ab	Soil Descriptions	L019B	a
WS7	C1	S	607054	ab	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	a



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## Sample Deviation Report

**Analytical Report Number : 25-035959****Project / Site name: Ashington**

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS7	C1	S	607054	ab	Stones content of soil	L019B	a
WS7	C1	S	607054	ab	Total organic carbon (Automated) in soil	L009B	a
WS7	C1	S	607054	ab	Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	L076B/L088-PL	a
WS7	C1	S	607054	ab	pH at 20°C in soil	L005B	a