

SITE INVESTIGATION REPORT

46 Avenue Road
London
NW8 6HS

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SITE INVESTIGATION REPORT

46 Avenue Road
London
NW8 6HS

Prepared for: Brightwood Properties Limited

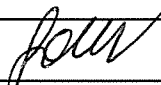
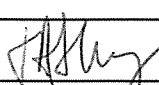

Concept: 11/2390- FR 01

15/08/2011

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			Signature			
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			Signature			
			Amendment Record (Detail)			
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			Name			
			Signature			

CONCEPT SITE INVESTIGATIONS

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CONCEPT SITE INVESTIGATIONS

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CONCEPT SITE INVESTIGATIONS

1. PROJECT PARTICULARS

Site Location:	46 Avenue Road, London NW8 6HS
Client:	Brightwood Properties Limited
Engineer:	RDK Consultant Ltd
Date of Fieldwork:	06/07/2011 - 08/07/2011

2. SCOPE OF WORKS

- 3 No Cable Percussion Boreholes to a maximum depth of 25.00m
- Geotechnical and Chemical Laboratory Testing

3. DESCRIPTION OF WORKS

3.1 Cable Percussion Boreholes

3 No. Cable Percussion Boreholes (BH01, BH02 & BH03) were drilled to a maximum depth of 25.00m below existing ground level using standard cable percussion boring techniques with 150mm diameter equipment. Inspection pits to locate potential underground services were hand excavated to 1.20m prior to boring commencing.

Bulk samples were taken in the made ground and granular material. Undisturbed 102mm nominal diameter (U102) samples were taken in cohesive material when possible using a down-hole sliding hammer at 3.00m intervals.

Standard penetration tests (SPT) were carried out at 3.00m intervals following each undisturbed sample. The resulting SPT N values are presented in the relevant borehole records. Where an SPT using the split shoe sampler was not possible, because of the granular nature of the material, a solid cone was used.

Small, disturbed samples were either retrieved from the cutting shoe or material was collected within the SPT split spoon sampler. Small disturbed samples were also collected between the SPT and the following attempt for an undisturbed sample. Plastic tubs, borosilicate jars and vial samples for chemical analysis were taken at each change in strata and where visual or olfactory evidence of contamination was noted or as instructed by the Engineer.

Groundwater observations, carried out during the fieldworks are reported in the relevant borehole log presented in Section 6.

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3.2 Standpipe Installations

Monitoring standpipes were installed in boreholes as follows:

	Diameter of Installation	Type of Installation	Base (m bgl)	Top RZ (m bgl)	Bottom RZ (m bgl)
BH01	50mm	GW	8.00	1.00	8.00
BH02	50mm	GW	8.00	1.00	8.00
BH03	50mm	GW	10.00	1.00	10.00

GW - Groundwater standpipe,
RZ – Response Zone

Table 3.1 Monitoring Installation Details

Groundwater monitoring was carried out by Concept subsequent to completion of the site works. Monitoring results are presented in Section 7 of this report.

3.3 Logging / Laboratory Testing

Logging of all soil samples was carried out in accordance with BS 5930:1999 incorporating Amendment No.2 (Aug '10).

All geotechnical testing is performed at Concept Site Investigations laboratory in accordance with BS1377:1990 unless otherwise stated in the report. Concept is accredited by UKAS for tests where the UKAS logo is appended to the individual test report or summary. Approved signatories for laboratory testing are as follows:

- JR – Jon Roberts (Quality Manager)
- KM – Kasia Mazerant (Laboratory Manager)
- JF – Justyna Fokt (Senior Laboratory Technician)

Where subcontracted analysis has been carried out, the details of the laboratory (and accreditation where applicable) are shown in the individual test report or summary.

The laboratory test results are presented in tabular formats in Section 8 of this report.

All chemical testing has been carried out by Scientifics in accordance with the requirements of UKAS ISO17025 and ISO17020. The results are presented in tabular format in Section 9 of this report.

3.4 Setting Out

The locations of all exploratory holes and the trial pits were agreed with the Engineer and set out prior to commencement of the site works.

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The locations of the boreholes and trial pits are shown in the Exploratory Hole Location Plan in Section 5 of this report.

REFERENCES

British Standards Institution, (1999) Code of practice for site investigations, British Standard BS 5930: 1999 incorporating Amendment No.2 (Aug '10), BSI, London

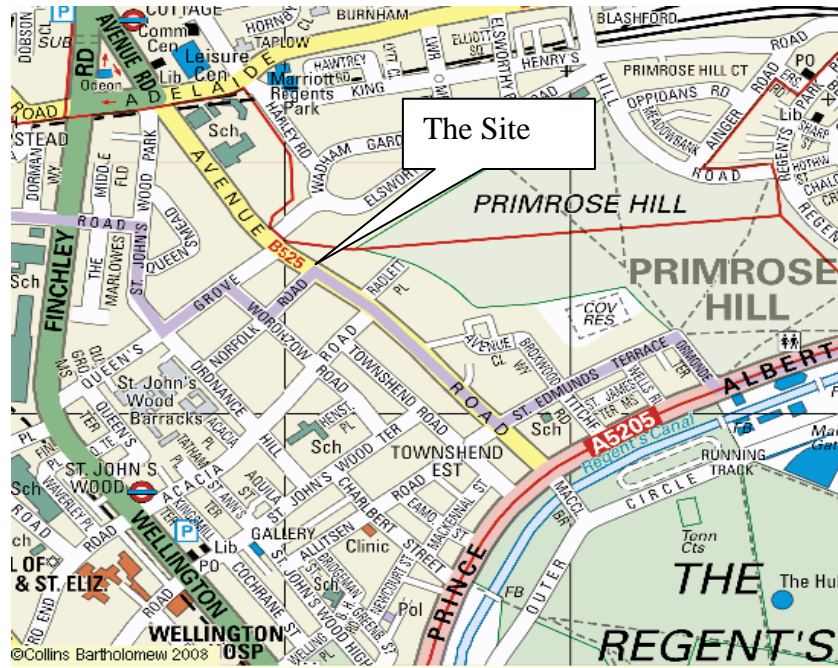
British Standards Institution, (2001) Investigation of potentially contaminated sites, British Standard BS10175: 2001, BSI, London.

Specification for Ground Investigation, (1999) Site Investigation Steering Group, Thomas Telford, London

British Geological Survey (1996) London and the Thames Valley 4th Edition, London HMSO

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4. SITE LOCATION PLAN



Not to Scale © Crown Copyright reserved

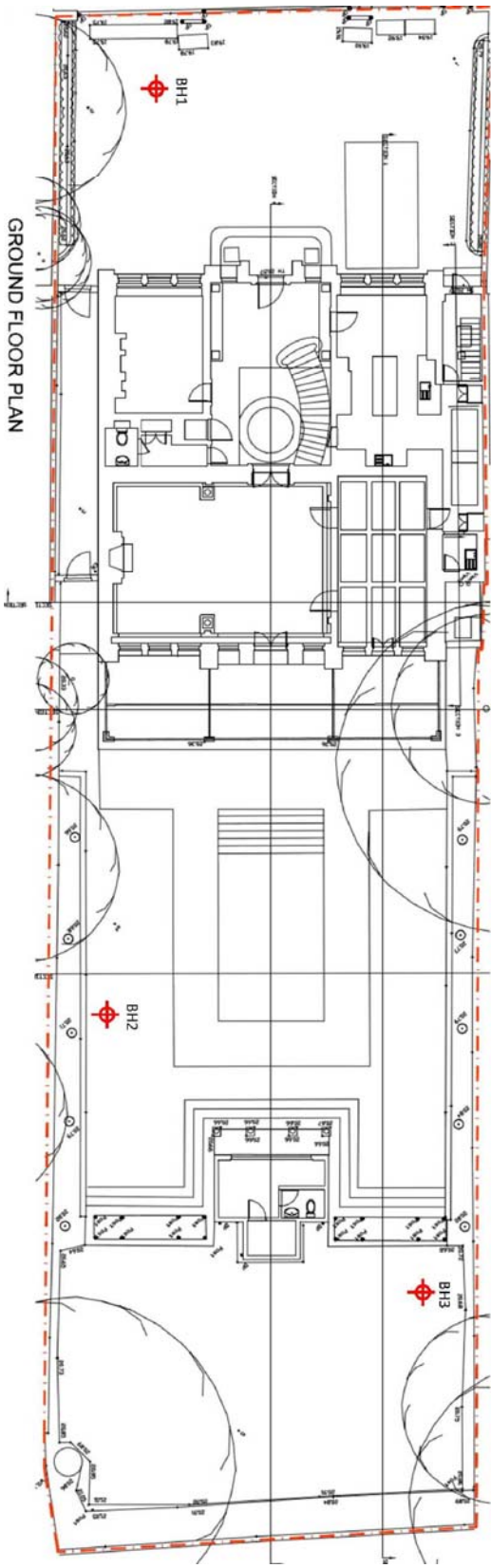
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5. EXPLORATORY HOLE LOCATION PLAN

NOTES

1. This drawing should not be scaled.

BH	LEVEL (mOD)
BH01	43.20
BH02	43.40
BH03	44.00



KEY

	BH - Cable Percussion Borehole
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No	Revision	Drawn	Checked	Passed	Date

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Client:	Brightwood Properties Limited						
Project:	46 Avenue Road, London NW8 6HS						
Title:	Exploratory Hole Location Plan						
Dwg. No.:	11/2390						
Status:	Issue						
Scale:	NTS						
Drawn	OS	Checked	MD	Passed	MD	Date	July 2011

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6. CABLE PERCUSSION BOREHOLE LOGS

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Borehole No

BH01

Project
46 Avenue Road, London NW8 6HS

Job No 11/2390	Date Started 05/07/11 Date Completed 06/07/11	Ground Level (mOD) 43.20	Co-Ordinates	Final Depth 25.00m
Client Brightwood Properties Limited			Method/ Plant Used Cable Percussion	Sheet 1 of 3

PROGRESS			STRATA				SAMPLES & TESTS			Field Records	Instrument/ Backfill		
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result				
05/07/11		Dry	43.07		0.13	Granite paving over coarse sand. (MADE GROUND)	0.50	B01					
			42.85		0.35						Type 1 gravel. (MADE GROUND)	0.50	ES02
			42.45		0.75						Brown gravelly CLAY with brick and concrete fragments. (MADE GROUND)	1.00	D03
			42.10		1.10						Greyish brown mottled orange slightly sandy slightly gravelly CLAY with frequent brick and rare concrete fragments. Gravel is subangular to rounded fine to coarse gravel. (MADE GROUND)	1.50-1.95	U04
05/07/11 06/07/11	2.80	Dry			(1.40)	Firm, brown slightly sandy slightly silty CLAY with occasional black flecks and cream highly calcareous silt nodules (10x10mm).	2.00	D05					
			40.70		2.50	Stiff, extremely closely fissured brown CLAY with rare bluish grey staining along fissures and rootlet tracks. (LONDON CLAY FORMATION)	2.50	D06					
						... with rare pockets of orangish brown and orange slightly sandy silt (50x60mm) below 4.00m	3.00-3.45	D07	N6	1 / 1, 2, 1, 2			
						... with occasional selenite crystals at 4.50m	3.00						
					5.00	... becoming mottled bluish grey and silty at 5.00m	4.00	D08					
					5.50	... with occasional selenite crystals at 5.50m	4.50-4.95	U09	32 blows	... Rare rootlets of live appearance encountered to 4.50m depth			
					6.00	... becoming slightly sandy with occasional selenite crystals at 6.00m	5.00	D10					
					6.00-6.45		6.00	D12	N18	2, 2 / 4, 4, 4, 6			
					7.00	... becoming brown below 7.00m	7.00	D13					
					7.50-7.95		7.50-7.95	U14	42 blows				
					8.00	... with occasional pockets of orangish brown silt (5x5mm) below 8.00m	8.00	D15					
					8.50		8.50	D16					
					9.00-9.45		9.00	D17	N22	2, 3 / 4, 6, 6, 6			
					10.00		10.00	D18					

Chiselling (m)			Water Added (m)			GENERAL REMARKS 1. An inspection pit was hand excavated to 1.20m below ground level prior to boring commencing. 2. Ø150mm casing used from ground level to 2.80m below ground level. 3. Ø50mm monitoring well installed at 8.00m depth, slotted between 1.00m and 8.00m depth. 4. Borehole backfilled with bentonite pellets between 25.00m and 8.00m, pea shingle with geosoc between 8.00m and 1.00m and with bentonite pellets from 1.00m to 0.30m depth. Concrete with stopcock cover installed between 0.30m and ground level.
From	To	Hours	From	To		

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Borehole No

BH01

Project
46 Avenue Road, London NW8 6HS

Job No 11/2390	Date Started 05/07/11 Date Completed 06/07/11	Ground Level (mOD) 43.20	Co-Ordinates	Final Depth 25.00m
Client Brightwood Properties Limited			Method/ Plant Used Cable Percussion	Sheet 2 of 3

PROGRESS			STRATA				SAMPLES & TESTS			Field Records	Instrument/ Backfill
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result		
						... becoming greyish brown with occasional bioturbation at 10.00m	10.50-10.95	U19	44 blows		
							11.00	D20			
							11.50	D21			
							12.00-12.45	D22			
							12.00	N25	3, 3 / 5, 6, 6, 8		
							13.00	D23			
						... becoming slightly micaceous below 13.00m	13.50-13.95	U24	70 blows		
					(22.50)		14.00	D25			
							14.50	D26			
							15.00-15.45	D27			
							15.00	N27	3, 4 / 6, 6, 7, 8		
							16.00	D28			
						... becoming brownish grey slightly sandy with occasional bioturbation at 16.00m	16.50-16.95	U29	74 blows		
							17.00	D30			
						... with pockets of dark grey fine silty sand (50x70mm) at 17.00m	17.50	D31			
							18.00-18.45	D32			
						... with pockets of dark grey and light brown fine silty sand (10x10mm) at 18.00m	18.00	N30	4, 5 / 6, 7, 8, 9		
							19.00	D33			
							19.50-19.95	U34	100 blows	No Recovery	
							19.50-20.00	B35			
						... with a band of claystone between 19.55m and 19.80m	20.00-20.45	U36	80 blows		

Chiselling (m)			Water Added (m)		GENERAL REMARKS
From	To	Hours	From	To	

Issue No. 02	Driller SW	
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Borehole No

BH01

Project
46 Avenue Road, London NW8 6HS

Job No 11/2390	Date Started 05/07/11 Date Completed 06/07/11	Ground Level (mOD) 43.20	Co-Ordinates	Final Depth 25.00m
Client Brightwood Properties Limited			Method/ Plant Used Cable Percussion	Sheet 3 of 3

PROGRESS			STRATA				SAMPLES & TESTS			Field Records	Instrument/ Backfill			
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result					
06/07/11	2.80	Dry	18.20		25.00	... becoming very closely fissured below 20.00m	20.50	D37		3, 4 / 7, 8, 9, 11				
						... with shell inprint (10x20mm) below 20.50m	21.00	D38						
							21.50-21.95	D39	N35					
							21.50							
											22.50	D40		
											23.00-23.45	U41	100 blows	
											23.50	D42		
											24.00	D43		
					24.50-24.95	D44	N38	4, 6 / 7, 9, 10, 12						
					24.50									
						... with pockets of dark grey fine silty sand (20x25mm) at 24.50m								
						End of Borehole								

Chiselling (m)			Water Added (m)		GENERAL REMARKS
From	To	Hours	From	To	

Issue No. 02	Driller SW	
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Borehole No

BH02

Project
46 Avenue Road, London NW8 6HS

Job No 11/2390	Date Started 07/07/11 Date Completed 08/07/11	Ground Level (mOD) 43.40	Co-Ordinates	Final Depth 8.00m
Client Brightwood Properties Limited			Method/ Plant Used Cable Percussion	Sheet 1 of 1

PROGRESS			STRATA				SAMPLES & TESTS			Field Records	Instrument/ Backfill
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result		
07/07/11		Dry	43.12		0.28	Turf over brown silty SAND. (MADE GROUND)	0.50	ES01			
07/07/11			43.04		0.36 (0.59)	Pea shingle. (MADE GROUND)	0.50	B02			
			42.45		0.95	Brown silty gravelly CLAY with brick and plastic fragments. (MADE GROUND)	1.00	D03			
07/07/11		Dry	42.10		1.30	Soft, brown locally grey CLAY with rare cream silt nodules (2x2mm).	1.30	ES04			
08/07/11	1.80	Dry				Firm, brown mottled bluish grey CLAY with rare pockets of orangish brown silt (10x20mm). (LONDON CLAY FORMATION)	1.50	U05	22 blows		
						... with rare pockets of reddish orange silt (10x20mm), pockets of light brown fine silty sand (10x5mm) rare selenite crystals at 3.00m	2.00	D06			
						... becoming rarely mottled bluish grey with occasional selenite crystals and rare black flecks at 4.00m	2.50	D07			
					(6.70)	... becoming extremely closely fissured with pyrite nodules (5x10mm) at 4.50m	3.00-3.45	D08		N11	1, 2 / 1, 2, 3, 5
						... with bluish grey staining along rootlet tracks at 5.00m	3.00				
						... becoming brown below 5.50m	4.00	D09			
						... becoming bluish brown slightly micaceous with rare selenite crystals below 6.00m	4.50-4.95	U10	44 blows		... Rootlets of live appearance encountered at 5.00m depth
							5.00	D11			
							5.00	D12			
							5.50	D13		N16	2, 2 / 3, 3, 5, 5
							6.00-6.45	D14			
							6.00				
							7.00	D14			
							7.50-7.95	U15	62 blows		
08/07/11	1.80	Dry	35.40		8.00	End of Borehole	8.00	D16			

Chiselling (m)			Water Added (m)			GENERAL REMARKS 1. An inspection pit was hand excavated to 1.20m below ground level prior to boring commencing. 2. Ø150mm casing used from ground level to 1.80m below ground level. 3. Water seepage encountered at 0.70m below ground level, standing at 0.62m depth. 4. Ø50mm monitoring well installed at 8.00m depth, slotted between 1.00m and 8.00m depth. 5. Borehole backfilled with pea shingle with geosoc between 8.00m and 1.00m and with bentonite pellets from 1.00m to 0.30m depth. Concrete with stopcock cover installed between 0.30m and ground level.
From	To	Hours	From	To		

Issue No. 02	Driller SW	
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Borehole No

BH03

Project
46 Avenue Road, London NW8 6HS

Job No 11/2390	Date Started 06/07/11 Date Completed 07/07/11	Ground Level (mOD) 44.00	Co-Ordinates	Final Depth 15.00m
Client Brightwood Properties Limited			Method/ Plant Used Cable Percussion	Sheet 1 of 2

PROGRESS			STRATA				SAMPLES & TESTS			Field Records	Instrument/ Backfill
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result		
06/07/11		Dry	43.89		0.11	Turf over brown sandy CLAY.	0.20	ES01			
			43.64		0.36	(TOPSOIL)	0.50	B02			
			43.53		0.47	Brown gravelly CLAY with brick fragments. (MADE GROUND)					
06/07/11	1.80	Dry				Firm, brown silty gravelly CLAY.	1.00	ES03		1, 1 / 1, 2, 2, 2	
07/07/11		Dry				Firm, brown mottled orangish brown slightly sandy CLAY with occasional selenite crystals. (LONDON CLAY FORMATION)	1.00	D04			
						... with occasional sand to fine gravel size iron stained nodules at 1.50m	1.50	D05	N7		
							2.50	D06			
						... becoming locally mottled bluish grey with occasional pockets of orangish brown silt (25x30mm) at 2.50m	3.00-3.45	U07	38 blows		... Rootlets of live appearance encountered at 3.00m depth
						... becoming extremely closely fissured with rare pockets of orange silt and light brown fine silty sand (10x5mm) below 3.00m	3.00	D08			
							3.50	D08			
							4.00	D09			
							4.50-4.95	D10	N12		1, 2 / 2, 3, 3, 4
						... becoming brown below 5.50m	5.50	D11			
					... with rare reddish brown staining at 6.00m	6.00-6.45	U12	48 blows			
						6.50	D13				
						7.00	D14				
						7.50-7.95	D15	N22	2, 3 / 5, 5, 6, 6		
					(14.53)	7.50					
						8.50	D16				
					... with occasional selenite crystals at 8.50m	9.00-9.45	U17	70 blows			
						9.50	D18				
						10.00	D19				
						... becoming stiff and extremely closely fissured greyish brown with occasional pockets of orange silt (10x15mm) below					

Chiselling (m)			Water Added (m)		GENERAL REMARKS 1. An inspection pit was hand excavated to 1.20m below ground level prior to boring commencing. 2. Ø150mm casing used from ground level to 1.80m below ground level. 3. Ø50mm monitoring well installed at 10.00m depth, slotted between 1.00m and 10.00m depth. 4. Borehole backfilled with bentonite pellets between 15.00m and 10.00m, pea shingle with geosoc between 10.00m and 1.00m and with bentonite pellets from 1.00m to 0.30m depth. Concrete with stopcock cover installed between 0.30m and ground level.
From	To	Hours	From	To	

Issue No. 02	Driller SW	
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Borehole No

BH03

Project
46 Avenue Road, London NW8 6HS

Job No 11/2390	Date Started 06/07/11 Date Completed 07/07/11	Ground Level (mOD) 44.00	Co-Ordinates	Final Depth 15.00m
Client Brightwood Properties Limited			Method/ Plant Used Cable Percussion	Sheet 2 of 2

PROGRESS			STRATA				SAMPLES & TESTS			Field Records	Instrument/ Backfill
Date	Casing	Water	Level (mOD)	Legend	Depth (Thickness)	Strata Description	Depth (m)	Type No	Test Result		
07/07/11	1.80	Dry	29.00		15.00	9.50m ... becoming grey at 10.00m	10.50-10.95 10.50	D20	N25	3, 4 / 5, 5, 7, 8	
						... becoming grey at 11.50m	11.50	D21			
						... becoming very closely fissured below 12.50m	12.50-12.95	U22	76 blows		
						... with rare bioturbation at 13.00m	13.00	D23			
						... with rare pockets of dark grey fine silty sand (10x10mm) at 14.00m	14.00	D24			
						... with a band of claystone between 14.10m and 14.20m	14.50-14.95 14.50	D25	N31	4, 5 / 6, 8, 8, 9	
						End of Borehole					

Chiselling (m)			Water Added (m)		GENERAL REMARKS
From	To	Hours	From	To	

Issue No. 02	Driller SW	
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CONCEPT SITE INVESTIGATIONS

7. GROUNDWATER MONITORING RESULTS

Borehole	Depth of Installation	Date of Installation	Type	Top	Bottom	Date & Time	Depth (mbgl)	Depth (mOD)	Remarks
BH01	8.00	06/07/2011	SP	1.00	8.00	15/07/2011 11:15:00	7.88		
	8.00	06/07/2011	SP	1.00	8.00	29/07/2011 11:30:00	7.09		
BH02	8.00	08/07/2011	SP	1.00	8.00	15/07/2011 11:25:00	0.54		
	8.00	08/07/2011	SP	1.00	8.00	29/07/2011 11:30:00	0.56		
BH03	10.00	07/07/2011	SP	1.00	10.00	15/07/2011 11:35:00	4.75		
	10.00	07/07/2011	SP	1.00	10.00	29/07/2011 11:30:00	0.80		

GENERAL REMARKS

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GROUNDWATER MONITORING

Project: 46 Avenue Road, London NW8 6HS

Client: Brightwood Properties Limited

Job No: 11/2390

8. LABORATORY TEST RESULTS

CONCEPT SITE INVESTIGATIONS

Test Type	No. of Pages
Moisture Content & Atterberg Limits	3
Bulk & Dry Density	
Particle Density	
Particle Size Distribution & Sedimentation	14
Electrochemical Tests	1
Compaction Tests	
California Bearing Ratio	
One-dimensional consolidation/swelling	
Shearbox (60mm)	
Shearbox (300mm)	
Quick Undrained Triaxial	3

CONCEPT SITE INVESTIGATIONS

Site Name:	46 Avenue Road, London NW8 6HS	Job No.:	11/2390
Client:	Brightwood Properties Limited	Date Reported:	11/08/2011

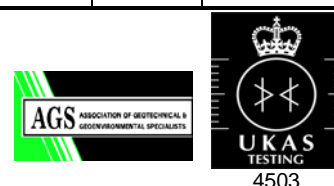
Summary Test Report Determination of Moisture Content and Liquid and Plastic Limits

Borehole No.	Sample Type	Sample No.	Depth m	Description	Natural Moisture Content %	¹ Passing 425 µm sieve %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Remarks
BH02	D	06	2.00	Brown mottled bluish grey CLAY with rare pockets of orangish brown silt (2x4mm)	31	100	76	26	50	
BH02	D	07	2.50	Brown mottled bluish grey CLAY with rare pockets of orangish brown silt (2x5mm) and selenite crystals	34	100	71	26	45	
BH02	D	08	3.00	Brown mottled bluish grey CLAY with rare pockets of reddish orange silt (2x3mm) and selenite crystals	35	100	69	27	42	
BH02	D	09	4.00	Brown CLAY with occasional selenite crystals and rare black flecks	35	100	84	28	56	
BH02	U	10	4.50	Extremely closely fissured brown CLAY with occasional selenite crystals, bluish grey staining along rootlet tracks, pyrite nodules (5x10mm), pockets of orange silt (30x20mm) rare rootlets of live appearance	32	100	78	26	52	
BH02	D	13	6.00	Brown CLAY with occasional selenite crystals	32	100	70	24	46	
BH02	U	15	7.50	Extremely closely fissured brown CLAY with occasional selenite crystals and oxidization along fissures	29	100	80	22	58	

BS 1377: Part 2: Clause 4.4: 1990 Determination of the liquid limit by the cone penetrometer method.

BS 1377: Part 2: Clause 5: 1990 Determination of the plastic limit and plasticity index.

BS 1377: Part 2: Clause 3.2: 1990 Determination of the moisture content by the oven drying method.



Date - samples received: 11/07/2011	Checked by: K.M.
Date - samples tested: 05/08/2011	Date: 11/08/2011

Approved Signatories: J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)

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PARTICLE SIZE DISTRIBUTION

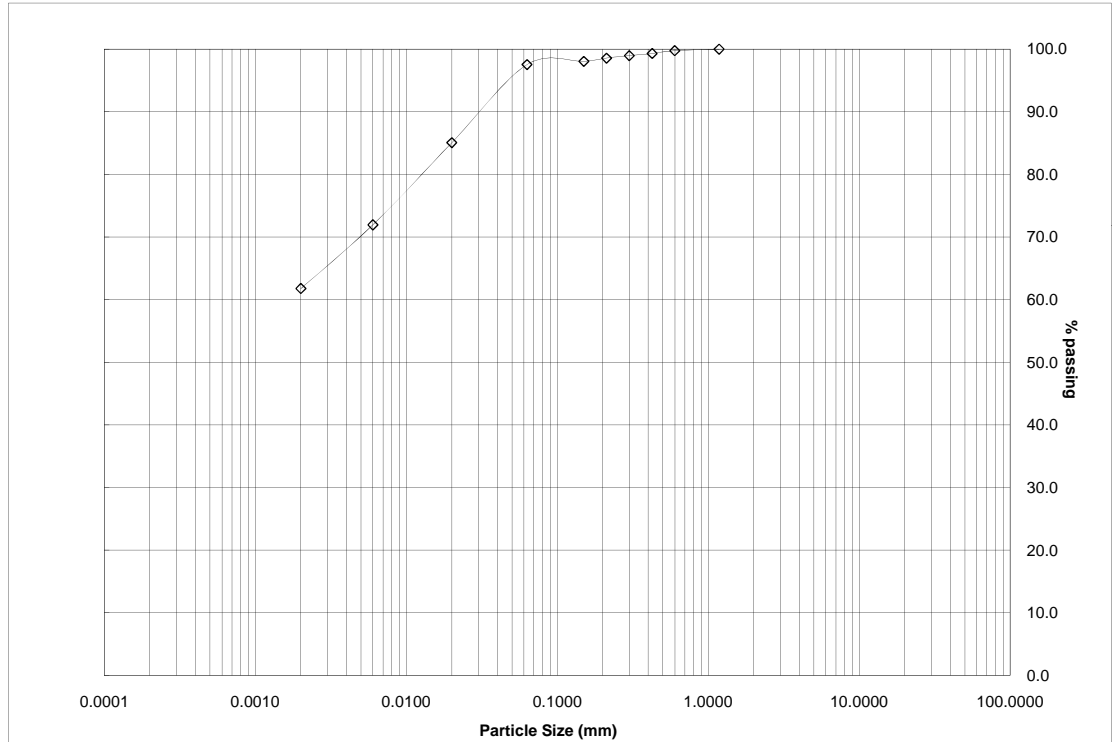
TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS			Job Number: 11/2390	
Client: Brightwood Properties Limited			Date Reported: 11/08/2011	
Borehole No: BH01	Sample Type/No. D 05	Depth: 2.00 m	Method/type: Pipette	

Soil Description:

Brown slightly sandy CLAY with occasional black flecks and pockets of cream silt (2x15mm)

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	99
0.300	99
0.212	99
0.150	98
0.063	98



Particle Proportions %	
Cobbles	
Gravel	
Sand	2.5
Silt and Clay	97.5

CLAY	F	M	C	F	M	C	F	M	C	COBBLES
	SILT			SAND			GRAVEL			

BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
 BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
 BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	09/08/2011	
Approved Signatories:	J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)	
Checked by:	K.M.	Date: 11/08/2011



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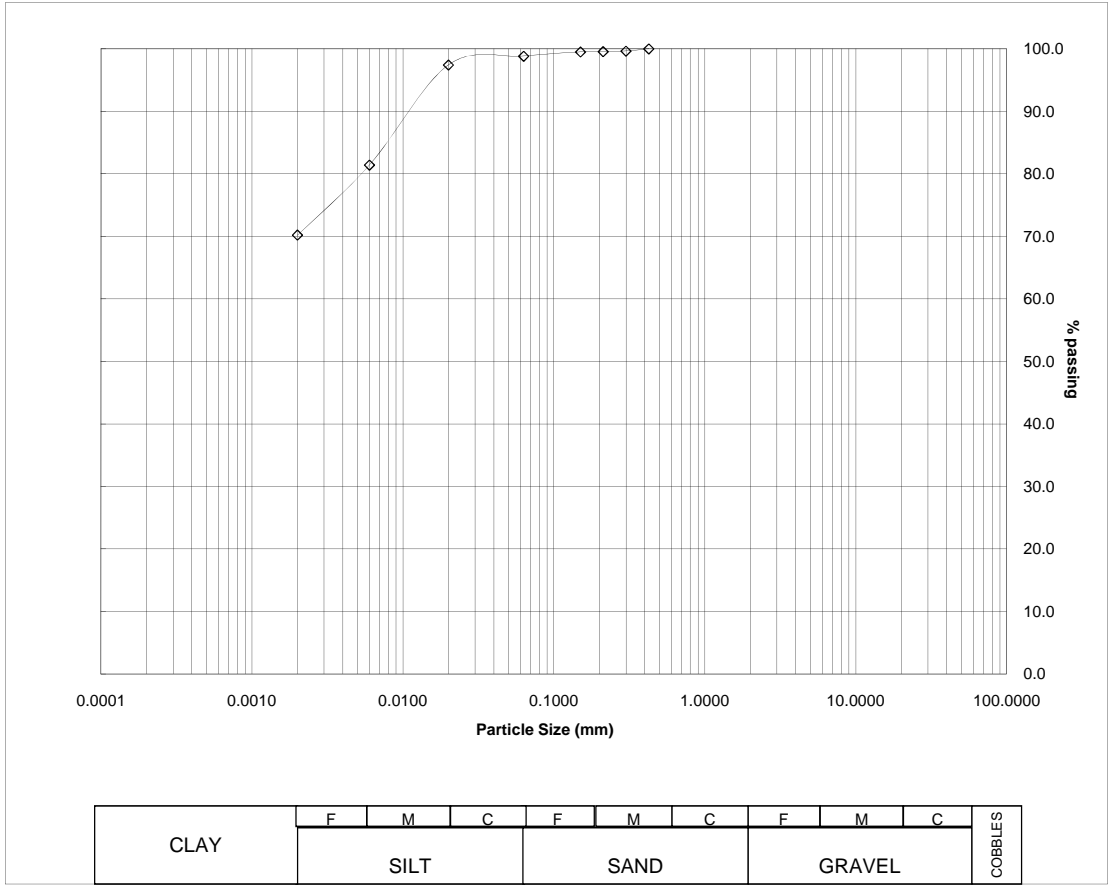
PARTICLE SIZE DISTRIBUTION

TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS			Job Number: 11/2390	
Client: Brightwood Properties Limited			Date Reported: 11/08/2011	
Borehole No: BH01	Sample Type/No. D 07	Depth: 3.00 m	Method/type:	Pipette

Soil Description:
Brown locally mottled bluish grey CLAY

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	100
0.300	100
0.212	100
0.150	99
0.063	99



Particle Proportions %	
Cobbles	
Gravel	
Sand	1.2
Silt and Clay	98.8

BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
 BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
 BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	09/08/2011	
Approved Signatories: J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)		
Checked by:	K.M.	Date: 11/08/2011



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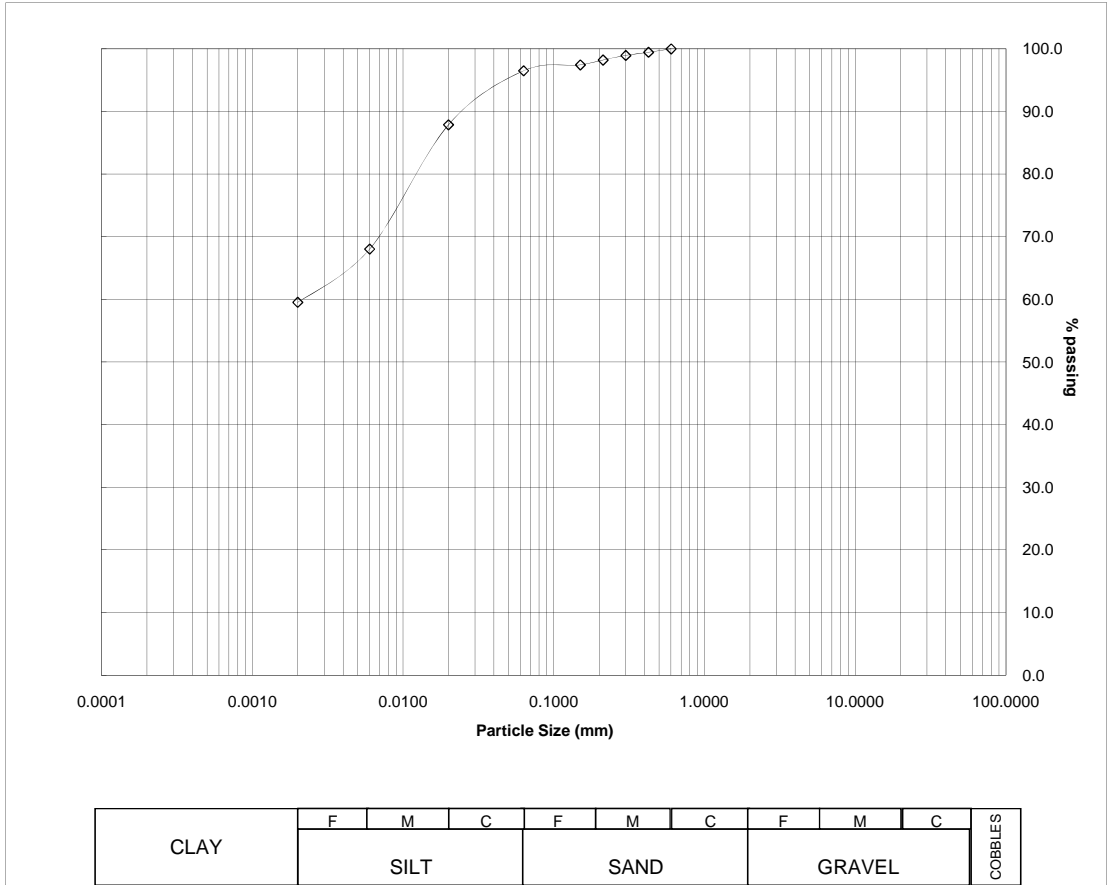
PARTICLE SIZE DISTRIBUTION

TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS			Job Number: 11/2390	
Client: Brightwood Properties Limited			Date Reported: 15/08/2011	
Borehole No: BH01	Sample Type/No.: U 09	Depth: 4.50 m	Method/type:	Pipette

Soil Description:
 Extremely closely fissured orangish brown CLAY with bluish grey staining along fissures, occasional selenite crystals, rare pockets of orange fine sand and rare rootlets (semi-decayed and of live appearance)

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	99
0.300	99
0.212	98
0.150	97
0.063	97



Particle Proportions %	
Cobbles	
Gravel	
Sand	3.5
Silt and Clay	96.5

CLAY	F	M	C	F	M	C	F	M	C	GRAVEL	COBBLES
	SILT			SAND							

BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
 BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
 BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	10/08/2011	
Approved Signatories:	J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)	
Checked by:	K.M.	Date: 11/08/2011



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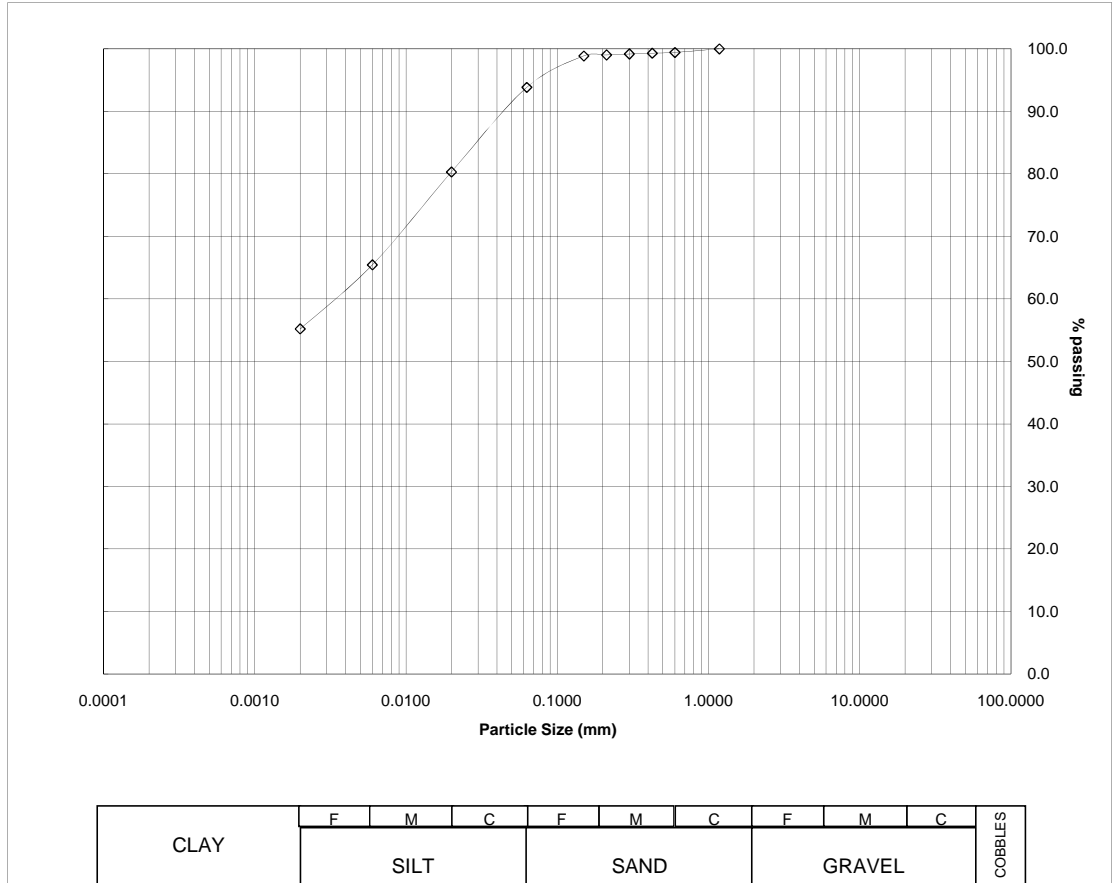
PARTICLE SIZE DISTRIBUTION

TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS				Job Number: 11/2390	
Client: Brightwood Properties Limited				Date Reported: 11/08/2011	
Borehole No: BH01	Sample Type/No. D 12	Depth: 6.00 m	Method/type: Pipette		

Soil Description:
Brown slightly sandy CLAY with occasional selenite crystals

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	99
0.425	99
0.300	99
0.212	99
0.150	99
0.063	94



Particle Proportions %	
Cobbles	
Gravel	
Sand	6.2
Silt and Clay	93.8

CLAY	F	M	C	F	M	C	F	M	C	COBBLES
	SILT			SAND			GRAVEL			

BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
 BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
 BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	09/08/2011	
Approved Signatories: J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)		
Checked by:	K.M.	Date: 11/08/2011



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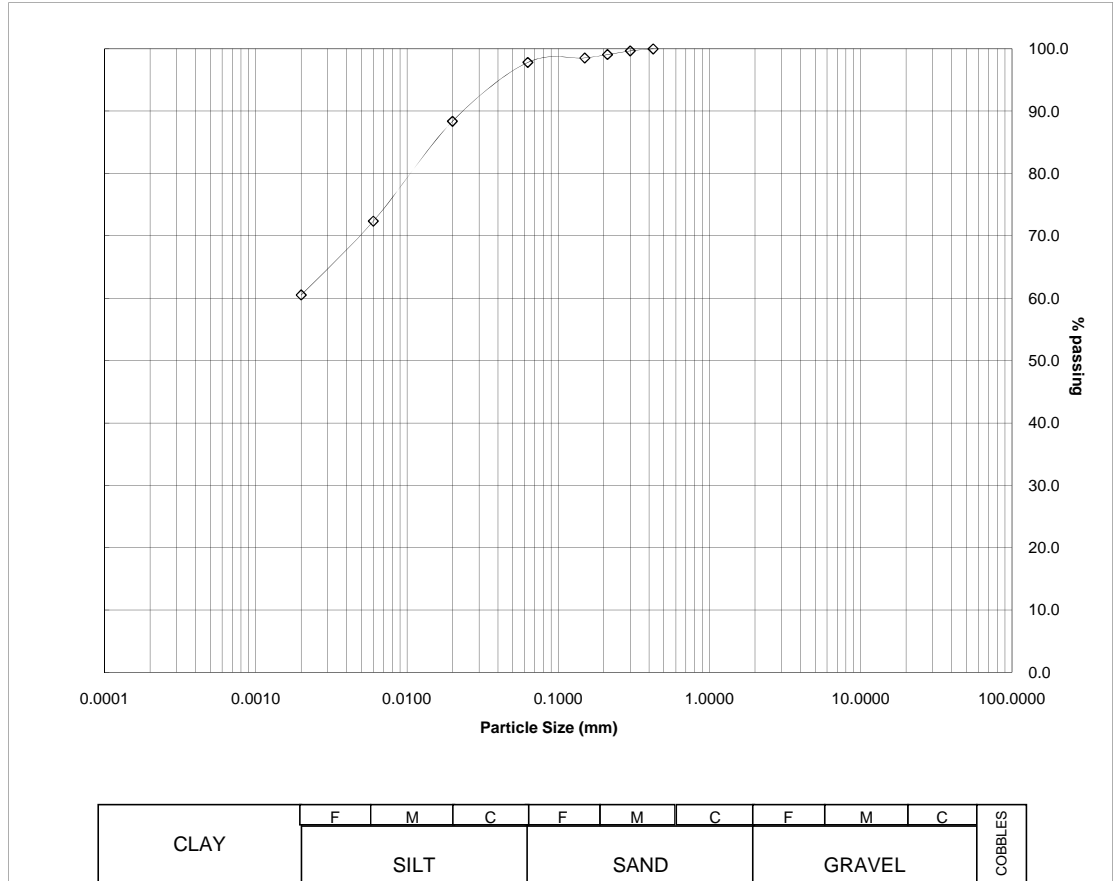
TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS			Job Number: 11/2390		
Client: Brightwood Properties Limited			Date Reported: 11/08/2011		
Borehole No: BH01	Sample Type/No. U 14	Depth: 7.50 m	Method/type: Pipette		

Soil Description:

Extremely closely fissured brown CLAY with occasional selenite crystals, rare pockets of orange fine silty sand (40x30mm)

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	100
0.300	100
0.212	99
0.150	99
0.063	98



Particle Proportions %	
Cobbles	
Gravel	
Sand	2.2
Silt and Clay	97.8

CLAY	F	M	C	F	M	C	F	M	C	COBBLES
	SILT			SAND			GRAVEL			

- BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
- BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
- BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	10/08/2011	
Approved Signatories:	J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)	
Checked by:	K.M.	Date: 11/08/2011



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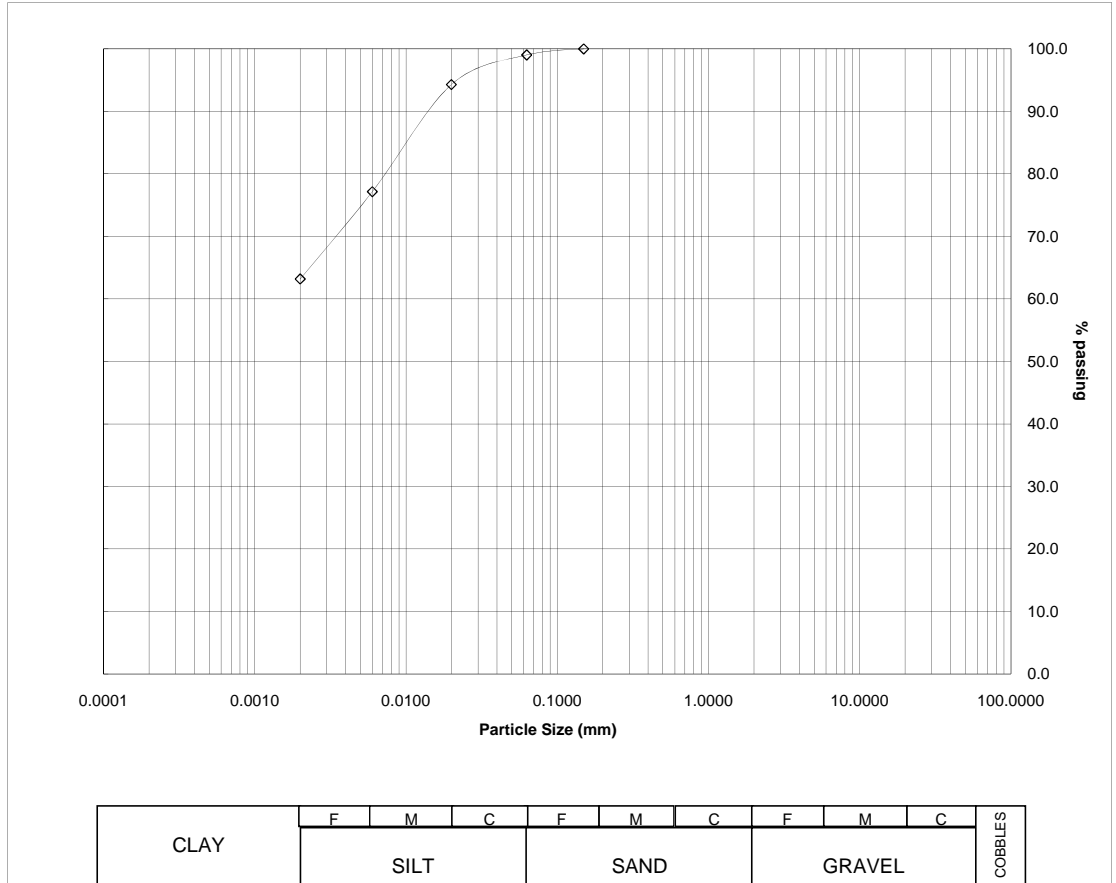
PARTICLE SIZE DISTRIBUTION

TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS			Job Number: 11/2390	
Client: Brightwood Properties Limited			Date Reported: 11/08/2011	
Borehole No: BH02	Sample Type/No. D 06	Depth: 2.00 m	Method/type: Pipette	

Soil Description:
Brown mottled bluish grey CLAY with rare pockets of orangish brown silt (2x4mm)

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	100
0.300	100
0.212	100
0.150	100
0.063	99



Particle Proportions %	
Cobbles	
Gravel	
Sand	1.0
Silt and Clay	99.0

BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
 BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
 BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	09/08/2011	
Approved Signatories: J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)		
Checked by:	K.M.	Date: 11/08/2011



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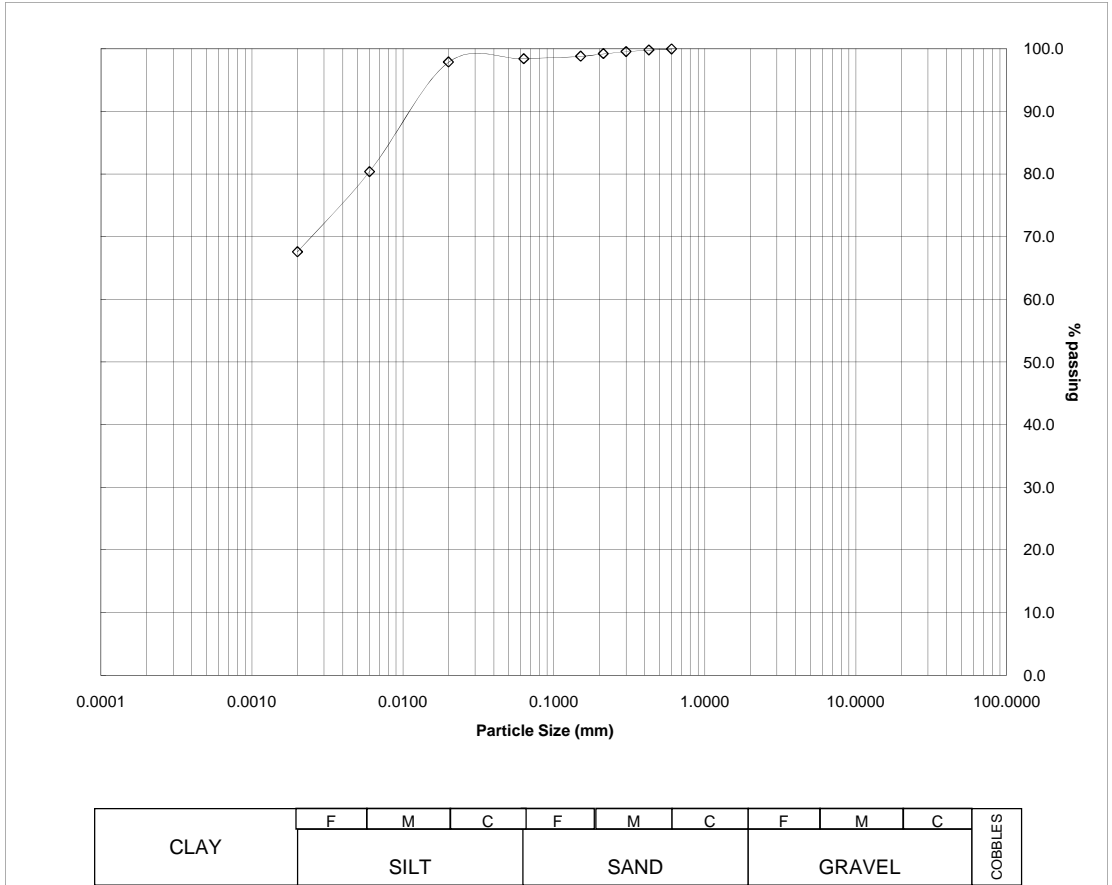
PARTICLE SIZE DISTRIBUTION

TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS			Job Number: 11/2390	
Client: Brightwood Properties Limited			Date Reported: 11/08/2011	
Borehole No: BH02	Sample Type/No. D 08	Depth: 3.00 m	Method/type: Pipette	

Soil Description:
Brown mottled bluish grey CLAY with rare pockets of reddish orange silt (2x3mm) and selenite crystals

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	100
0.300	100
0.212	99
0.150	99
0.063	98



Particle Proportions %	
Cobbles	
Gravel	
Sand	1.6
Silt and Clay	98.4

CLAY	F	M	C	F	M	C	F	M	C	GRAVEL	COBBLES
	SILT			SAND							

BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
 BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
 BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	09/08/2011	
Approved Signatories: J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)		
Checked by:	K.M.	Date: 11/08/2011



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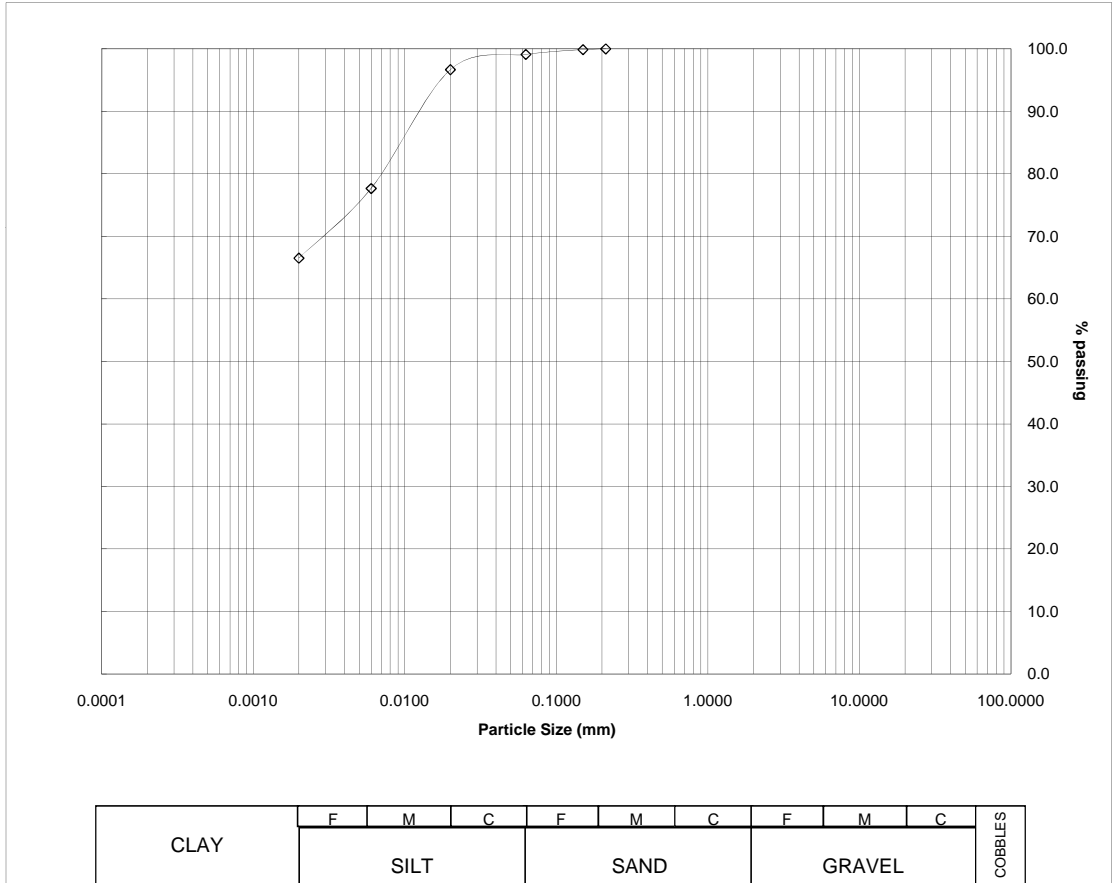
PARTICLE SIZE DISTRIBUTION

TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS			Job Number: 11/2390	
Client: Brightwood Properties Limited			Date Reported: 11/08/2011	
Borehole No: BH02	Sample Type/No. U 10	Depth: 4.50 m	Method/type: Pipette	

Soil Description:
Extremely closely fissured brown CLAY with occasional selenite crystals, bluish grey staining along rootlet tracks, pyrite nodules (5x10mm), pockets of orange silt (30x20mm) rare rootlets of live appearance

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	100
0.300	100
0.212	100
0.150	100
0.063	99



Particle Proportions %	
Cobbles	
Gravel	
Sand	0.9
Silt and Clay	99.1

CLAY	F	M	C	F	M	C	F	M	C	COBBLES
	SILT			SAND			GRAVEL			

BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
 BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
 BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	10/08/2011	
Approved Signatories: J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)		
Checked by:	K.M.	Date: 11/08/2011



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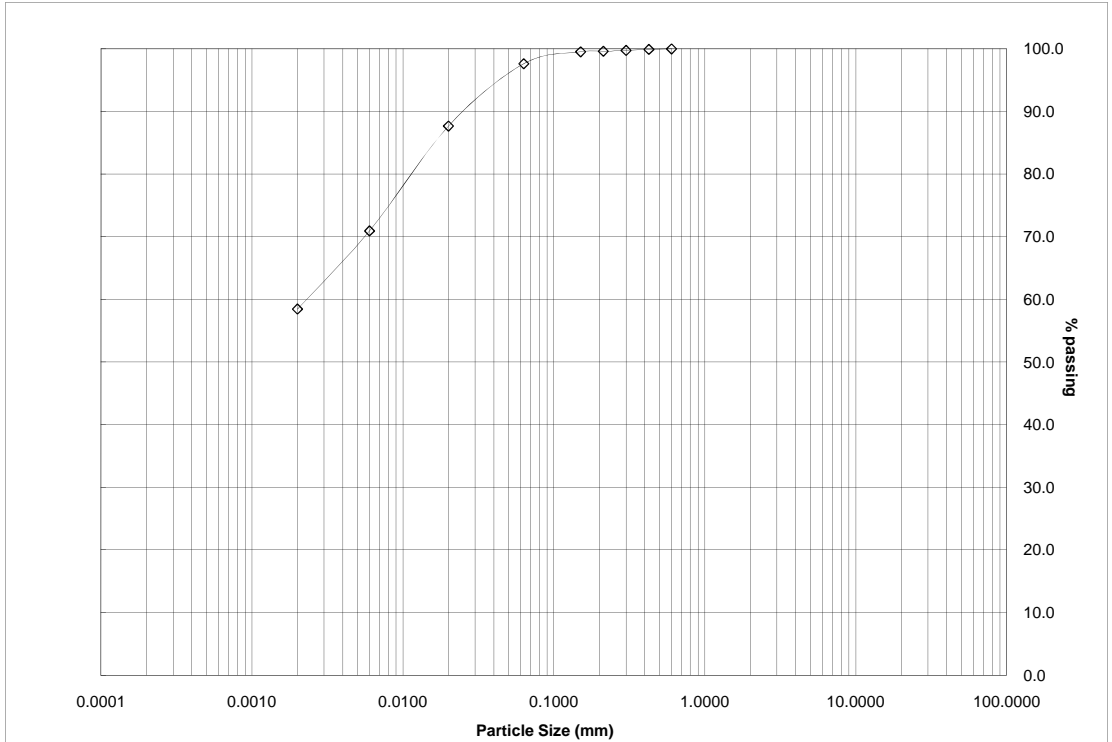
PARTICLE SIZE DISTRIBUTION

TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS				Job Number: 11/2390	
Client: Brightwood Properties Limited				Date Reported: 11/08/2011	
Borehole No: BH02	Sample Type/No.: D 13	Depth: 6.00 m		Method/type:	Pipette

Soil Description:
 Brown CLAY with occasional selenite crystals

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	100
0.300	100
0.212	100
0.150	100
0.063	98



Particle Proportions %	
Cobbles	
Gravel	
Sand	2.4
Silt and Clay	97.6

CLAY	F	M	C	F	M	C	F	M	C	COBBLES
	SILT			SAND			GRAVEL			

BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
 BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
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Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	09/08/2011	
Approved Signatories: J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)		
Checked by:	K.M.	Date: 11/08/2011



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PARTICLE SIZE DISTRIBUTION

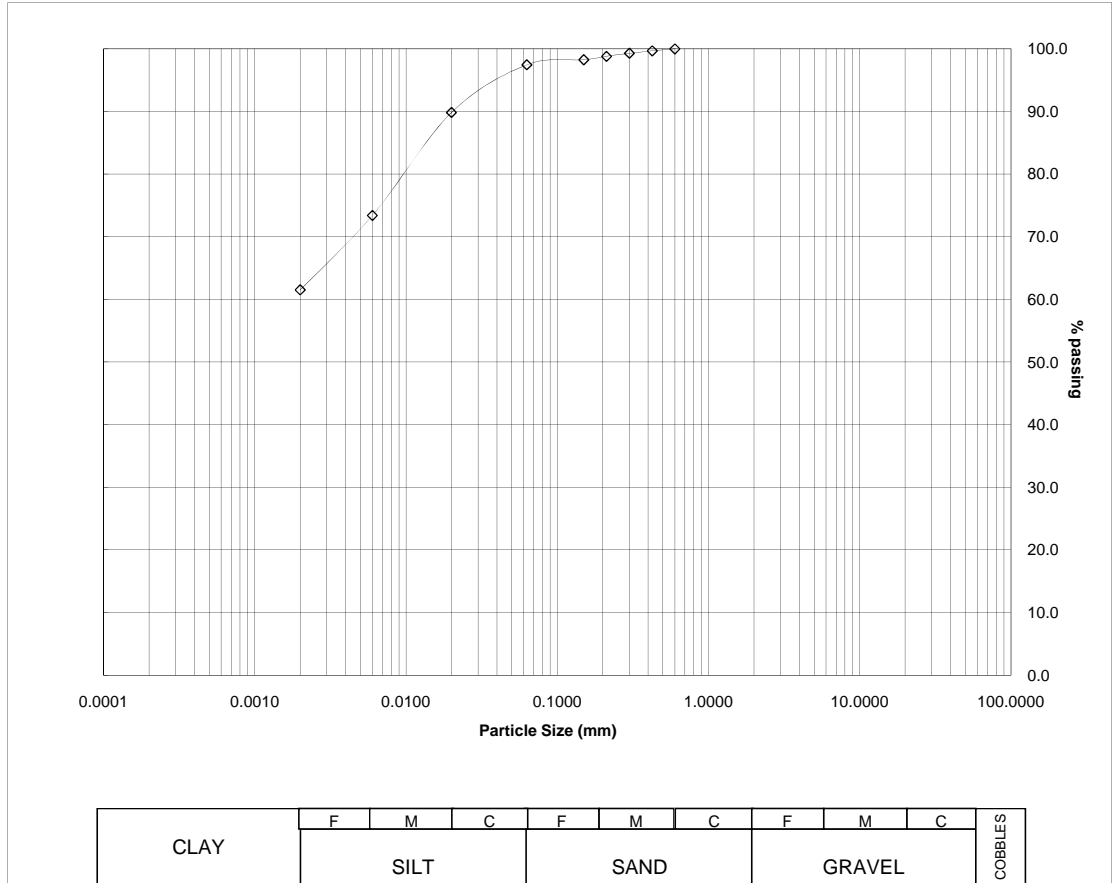
TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS			Job Number: 11/2390	
Client: Brightwood Properties Limited			Date Reported: 11/08/2011	
Borehole No: BH02	Sample Type/No.: U 15	Depth: 7.50 m	Method/type:	Pipette

Soil Description:

Extremely closely fissured brown CLAY with occasional selenite crystals and oxidization along fissures

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	100
0.300	99
0.212	99
0.150	98
0.063	97



Particle Proportions %	
Cobbles	
Gravel	
Sand	2.5
Silt and Clay	97.5

CLAY	F	M	C	F	M	C	F	M	C	COBBLES
	SILT			SAND			GRAVEL			

- BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
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Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	10/08/2011	
Approved Signatories:	J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)	
Checked by:	K.M.	Date: 11/08/2011



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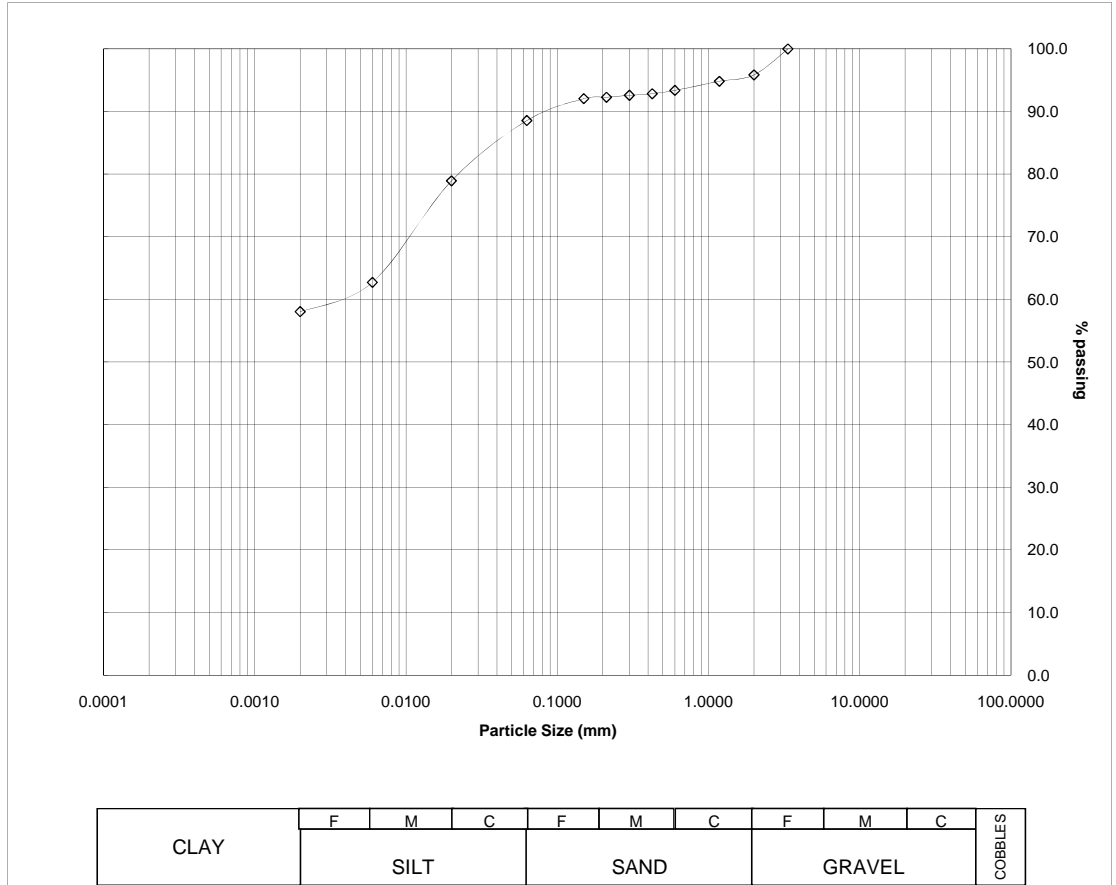
PARTICLE SIZE DISTRIBUTION

TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS			Job Number: 11/2390	
Client: Brightwood Properties Limited			Date Reported: 11/08/2011	
Borehole No: BH03	Sample Type/No.: D 05	Depth: 1.50 m	Method/type: Pipette	

Soil Description:
 Brown mottled orangish brown slightly sandy CLAY with occasional pockets of orangish brown silt, selenite crystals and sand to fine gravel size iron stained nodules

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	96
1.180	95
0.600	93
0.425	93
0.300	93
0.212	92
0.150	92
0.063	89



Particle Proportions %	
Cobbles	
Gravel	4.2
Sand	7.3
Silt and Clay	88.6

BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
 BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
 BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	10/08/2011	
Approved Signatories: J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)		
Checked by:	K.M.	Date: 11/08/2011



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PARTICLE SIZE DISTRIBUTION

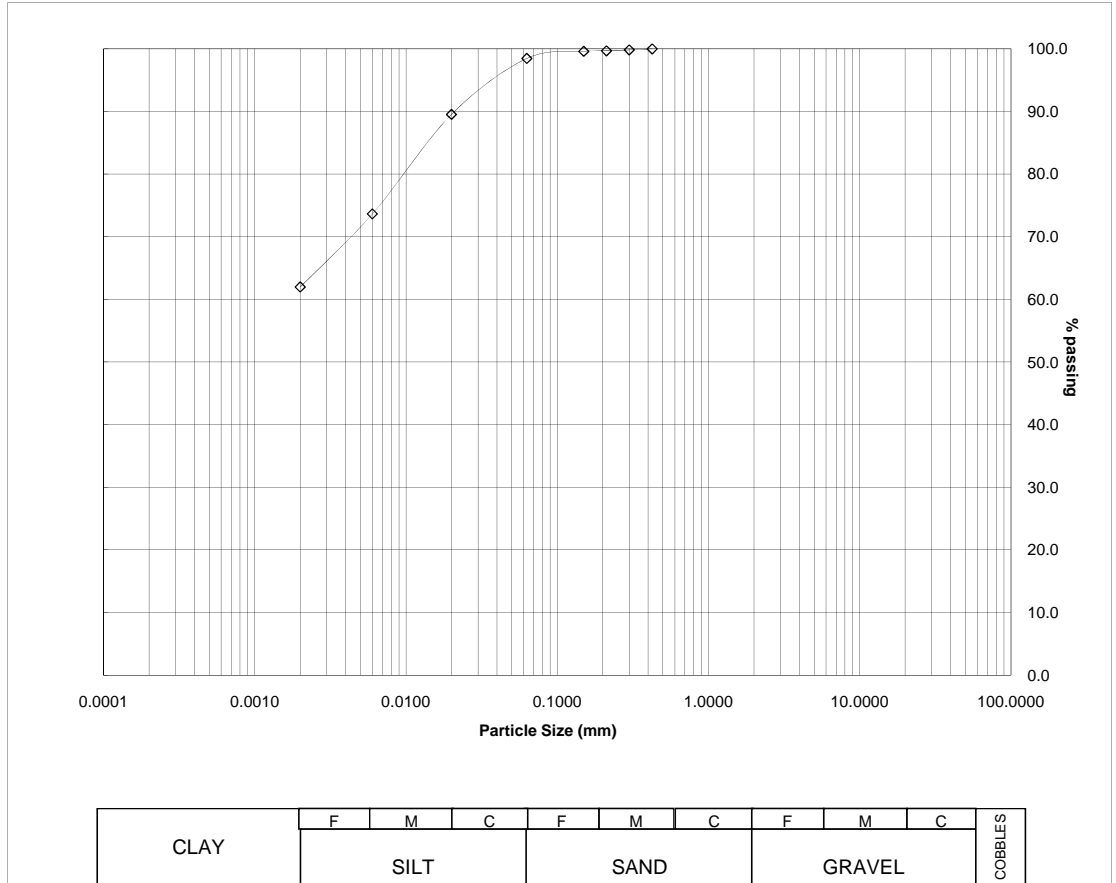
TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS			Job Number: 11/2390	
Client: Brightwood Properties Limited			Date Reported: 11/08/2011	
Borehole No: BH03	Sample Type/No. D 06	Depth: 2.50 m	Method/type:	Pipette

Soil Description:

Brown locally mottled bluish grey CLAY with occasional pockets of orangish brown silt (3x10mm) and rare selenite crystals

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	100
0.300	100
0.212	100
0.150	100
0.063	98



Particle Proportions %	
Cobbles	
Gravel	
Sand	1.5
Silt and Clay	98.5

CLAY	F	M	C	F	M	C	F	M	C	GRAVEL	COBBLES
	SILT			SAND							

- BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
- BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
- BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	09/08/2011	
Approved Signatories:	J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)	
Checked by:	K.M.	Date: 11/08/2011



4503



CONCEPT SITE INVESTIGATIONS

Unit 8 Warple Mews Warple Way London W3 0RF

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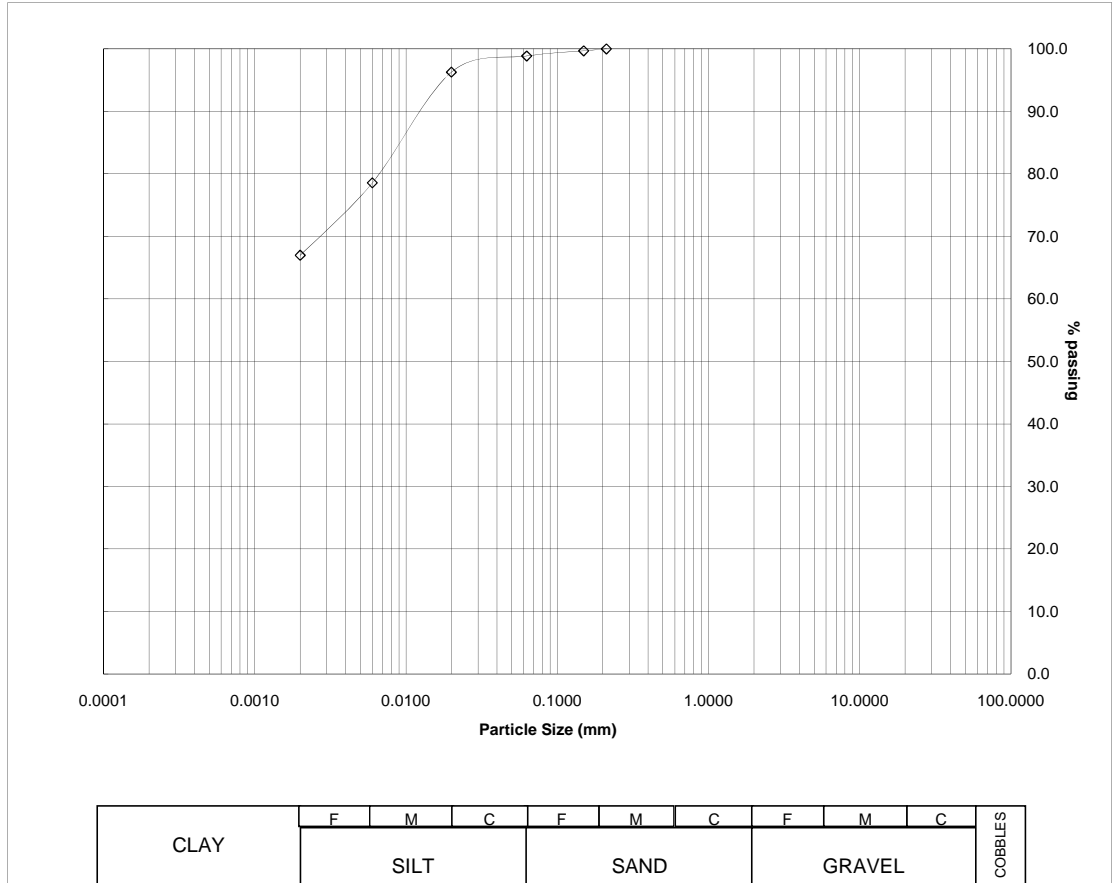
PARTICLE SIZE DISTRIBUTION

TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS			Job Number: 11/2390	
Client: Brightwood Properties Limited			Date Reported: 11/08/2011	
Borehole No: BH03	Sample Type/No.: U 07	Depth: 3.00 m	Method/type: Pipette	

Soil Description:
Extremely closely fissured brown CLAY with occasional selenite crystals, bluish grey staining along rootlet tracks, rare pockets of orange silt (20x10mm), pockets of light brown fine silty sand (10x5mm) and rootlets of live appearance

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	100
0.300	100
0.212	100
0.150	100
0.063	99



Particle Proportions %	
Cobbles	
Gravel	
Sand	1.1
Silt and Clay	98.9

CLAY	F	M	C	F	M	C	F	M	C	COBBLES
	SILT			SAND			GRAVEL			

BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
 BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
 BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	10/08/2011	
Approved Signatories: J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)		
Checked by:	K.M.	Date: 11/08/2011



4503



CONCEPT SITE INVESTIGATIONS

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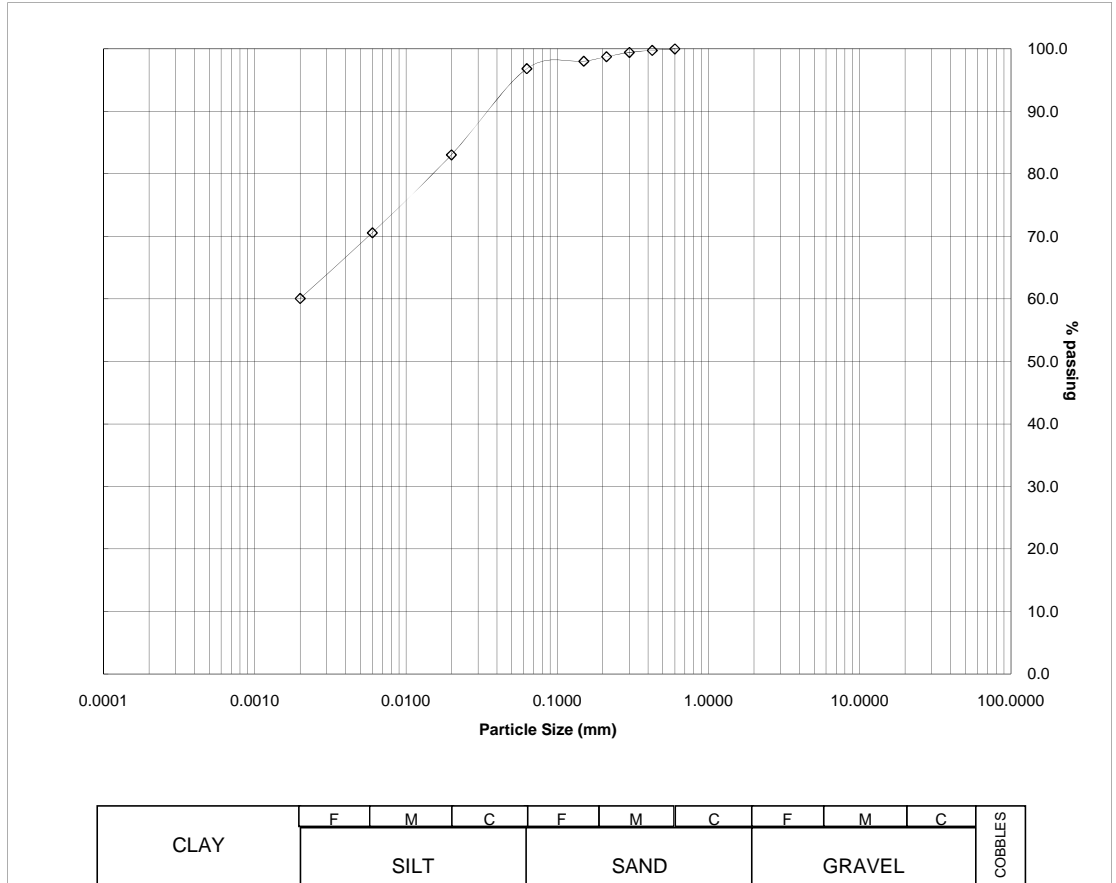
PARTICLE SIZE DISTRIBUTION

TEST REPORT

Site Name: 46 Avenue Road, London NW8 6HS				Job Number: 11/2390	
Client: Brightwood Properties Limited				Date Reported: 11/08/2011	
Borehole No: BH03	Sample Type/No. U 12	Depth: 6.00 m	Method/type: Pipette		

Soil Description:
Extremely closely fissured brown CLAY with occasional pockets of orangish brown fine sand (20x20mm), selenite crystals and oxidization along fissures

BS Test Sieves	
Size (mm)	% Passing
75.000	100
63.000	100
50.000	100
37.500	100
28.000	100
20.000	100
14.000	100
10.000	100
6.300	100
5.000	100
3.350	100
2.000	100
1.180	100
0.600	100
0.425	100
0.300	99
0.212	99
0.150	98
0.063	97







Particle Proportions %	
Cobbles	
Gravel	
Sand	3.2
Silt and Clay	96.8



CLAY	F	M	C	F	M	C	F	M	C	COBBLES
	SILT			SAND			GRAVEL			

BS 1377: Part 2: Clause 9.2: 1990 Determination of particle size distribution - wet sieving method.
 BS 1377: Part 2: Clause 9.3: 1990 Determination of particle size distribution - dry sieving method.
 BS 1377: Part 2: Clause 9.4: 1990 Determination of sedimentation by the pipette method.

Date - samples received:	11/07/2011	Remarks:
Date - samples tested:	10/08/2011	
Approved Signatories: J Roberts - JR (Quality Mngr) - K Mazerant - KM (Lab Mngr) - J Fokt - JF (Snr Tech)		
Checked by:	K.M.	Date: 11/08/2011

CONCEPT SITE INVESTIGATIONS				Summary Test Report - Undrained Triaxial Compression (Single-Stage)						Date Reported:		15/08/2011		
				BS 1377 : Part 7: 1990 Clause 8						Job No.:		11/2390		
Site Location:			46 Avenue Road, London NW8 6HS				Client: Brightwood Properties Limited							
BH No.	Sample Type	Sample No	Depth top (m)	Description	Cell pressure kN/m ²	Strain at failure %	Bulk Density Mg/m ³	Dry Density Mg/m ³	NMC %	Max Dev. Stress kPa	Shear Strength kPa	Mode of failure/Comments		
BH01	U	04	1.50	Orangish brown mottled brown CLAY with occasional angular to subrounded medium and coarse flint gravel and rootlets of live appearance	60	12.4	1.984	1.549	28	148	74	Plastic		
BH01	U	09	4.50	Extremely closely fissured orangish brown CLAY with bluish grey staining along the fissures, occasional selenite crystals, rare pockets of orange fine sand and rare rootlets (semi-decayed and of live appearance)	150	12.8	1.967	1.542	28	177	88	Brittle with plastic deformation		
BH01	U	14	7.50	Extremely closely fissured brown CLAY with occasional selenite crystals, rare pockets of orange fine silty sand (40x30mm) and pyrite nodules	240	5.5	1.963	1.542	27	257	128	Brittle		
BH01	U	19	10.50	Extremely closely fissured brownish grey CLAY with rare bioturbation	330	5.5	1.984	1.549	28	245	122	Brittle		
BH01	U	24	13.50	Extremely closely fissured brownish grey CLAY with occasional oxidization along fissures, rare claystone (30x30mm), shell fragments (10x10mm) and bioturbation	420	3.9	1.985	1.559	27	307	153	Brittle		
BH01	U	29	16.50	Extremely closely fissured grey CLAY with occasional oxidization along fissures and rare dark grey and light brown fine silty sand (5x10mm)	510	3.6	1.943	1.542	26	213	106	Brittle		
BH01	U	36	20.00	Very closely fissured grey CLAY with occasional bioturbation and rare pockets of dark grey fine silty sand (15x15mm)	615	6.2	2.030	1.622	25	381	190	Brittle		
BH01	U	41	23.00	Very closely fissured grey CLAY with occasional pockets of dark grey fine silty sand (20x20mm) and bioturbation	705	5.1	2.041	1.655	23	535	268	Brittle		
Date - samples received: 11/07/2011					CONCEPT Unit 8 Warple Mews Warple Way London W3 0RF Tel: 020 8811 2880 Fax: 020 8811 2881 Email: Lab@conceptconsultants.co.uk								 	
Date - samples tested: 04/08/2011														
Approved Signatories: J Roberts (Quality Mngr) - K Mazerant (Lab Mngr) - J Fokt - JF (Snr Tech)														
Checked by: K.M. Date: 11/08/2011														

CONCEPT SITE INVESTIGATIONS				Summary Test Report - Undrained Triaxial Compression (Single-Stage)						Date Reported:		11/08/2011	
				BS 1377 : Part 7: 1990 Clause 8						Job No.:		11/2390	
Site Location:			46 Avenue Road, London NW8 6HS				Client: Brightwood Properties Limited						
BH No.	Sample Type	Sample No	Depth top (m)	Description	Cell pressure kN/m ²	Strain at failure %	Bulk Density Mg/m ³	Dry Density Mg/m ³	NMC %	Max Dev. Stress kPa	Shear Strength kPa	Mode of failure/Comments	
BH02	U	05	1.50	Orangish brown CLAY with bluish grey staining along rootlet tracks, occasional roots (<3mm) and frequent rootlets of live appearance	45	15.8	1.956	1.496	31	105	52	Plastic with brittle failure	
BH02	U	10	4.50	Extremely closely fissured brown CLAY with occasional selenite crystals, bluish grey staining along rootlet tracks, pyrite nodules (5x10mm), pockets of orange silt (30x20mm) rare rootlets of live appearance	150	9.6	1.902	1.445	32	193	96	Plastic with brittle failure	
BH02	U	15	7.50	Extremely closely fissured brown CLAY with occasional selenite crystals, oxidization along fissures and a band of orange fine sand between 7.52 and 7.54m	240	4.9	1.959	1.515	29	247	124	Brittle	
Date - samples received: 11/07/2011					CONCEPT Unit 8 Warple Mews Warple Way London W3 0RF Tel: 020 8811 2880 Fax: 020 8811 2881 Email: Lab@conceptconsultants.co.uk					 ASSOCIATION OF GEOTECHNICAL & GEONVIRONMENTAL SPECIALISTS		 4503	
Date - samples tested: 04/08/2011													
Approved Signatories: J Roberts (Quality Mngr) - K Mazerant (Lab Mngr) - J Fokt - JF (Snr Tech)													
Checked by: K.M.		Date: 11/08/2011											

CONCEPT SITE INVESTIGATIONS				Summary Test Report - Undrained Triaxial Compression (Single-Stage)						Date Reported:		11/08/2011	
				BS 1377 : Part 7: 1990 Clause 8						Job No.:		11/2390	
Site Location:			46 Avenue Road, London NW8 6HS				Client: Brightwood Properties Limited						
BH No.	Sample Type	Sample No	Depth top (m)	Description	Cell pressure kN/m2	Strain at failure %	Bulk Density Mg/m3	Dry Density Mg/m3	NMC %	Max Dev. Stress kPa	Shear Strength kPa	Mode of failure/Comments	
BH03	U	07	3.00	Extremely closely fissured brown CLAY with occasional selenite crystals, bluish grey staining along rootlet tracks, rare pockets of orange silt (20x10mm), pockets of light brown fine silty sand (10x5mm) and rootlets of live appearance	105	6.3	1.943	1.495	30	204	102	Brittle	
BH03	U	12	6.00	Extremely closely fissured brown CLAY with occasional pockets of orangish brown fine sand (20x20mm), selenite crystals and oxidization along fissures	195	6.2	1.963	1.523	29	204	102	Brittle	
BH03	U	17	9.00	Extremely closely fissured brown CLAY with occasional selenite crystals, oxidization along fissures and rare pyritised wood fragment (5x10mm)	285	4.8	1.971	1.541	28	296	148	Brittle	
BH03	U	22	12.50	Very closely fissured brownish grey CLAY with rare selenite crystals, pockets of light brown and dark grey fine silty sand (10x15mm) and bioturbation	390	4.5	1.977	1.546	28	361	181	Brittle	
Date - samples received: 11/07/2011					CONCEPT Unit 8 Warple Mews Warple Way London W3 0RF Tel: 020 8811 2880 Fax: 020 8811 2881 Email: Lab@conceptconsultants.co.uk								
Date - samples tested: 08/08/2011													
Approved Signatories: J Roberts (Quality Mngr) - K Mazerant (Lab Mngr) - J Fokt - JF (Snr Tech)													
Checked by: K.M. Date: 11/08/2011													

CONCEPT SITE INVESTIGATIONS

9. CHEMICAL TEST RESULTS

TEST REPORT

SOIL SAMPLE ANALYSIS



Report No. EFS/116196 (Ver. 1)

Concept Consultants
Unit 8
Warple Mews
Warple Way
Acton
London
W3 ORF
W3 ORF

Site: 46 Avenue Road, London NW8 6HS

The 1 sample described in this report were logged for analysis by Scientifics on 20-Jul-2011. This report supersedes any versions previously issued by the laboratory.

The analysis was completed by: 27-Jul-2011

Tests where the accreditation is set to N or No, and any individual data items marked with a * are not UKAS accredited
Any opinions or interpretations expressed herein are outside the scope of any UKAS accreditation held by Scientifics.

The following tables are contained in this report:

Table 1 Main Analysis Results (Pages 2 to 3)
Table of PAH (MS-SIM) (80) Results (Page 4)
Table of PCB Congener Results (Page 5)
GC-FID Chromatograms (Page 6)
Table of Asbestos Screening Results (Page 7)
Analytical and Deviating Sample Overview (Page 8)
Table of Method Descriptions (Page 9)
Table of Report Notes (Page 10)

On behalf of
Scientifics :
Andrew Timms

Operations Manager

Date of Issue: 27-Jul-2011

Tests marked 'N' have been subcontracted to another laboratory.

Scientifics accepts no responsibility for any sampling not carried out by our personnel.

Where individual results are flagged see report notes for status.

Polycyclic Aromatic Hydrocarbons GC/MS (SIM)

Customer and Site Details:	Concept Consultants: 46 Avenue Road, London NW8 6HS		
Sample Details:	BH02 0.5	Job Number:	S11_6196
LIMS ID Number:	CL1128966	Date Booked in:	20-Jul-11
QC Batch Number:	111600	Date Extracted:	26-Jul-11
Quantitation File:	Initial Calibration	Date Analysed:	26-Jul-11
Directory:	2511PAH.GC5\	Matrix:	Soil
Dilution:	1.0	Ext Method:	Ultrasonic

UKAS accredited?: Yes

Target Compounds	CAS #	R.T. (min)	Concentration mg/kg	% Fit
Naphthalene	91-20-3	-	< 0.08	-
Acenaphthylene	208-96-8	-	< 0.08	-
Acenaphthene	83-32-9	-	< 0.08	-
Fluorene	86-73-7	-	< 0.08	-
Phenanthrene	85-01-8	-	< 0.08	-
Anthracene	120-12-7	-	< 0.08	-
Fluoranthene	206-44-0	-	< 0.08	-
Pyrene	129-00-0	-	< 0.08	-
Benzo[a]anthracene	56-55-3	-	< 0.08	-
Chrysene	218-01-9	-	< 0.08	-
Benzo[b]fluoranthene	205-99-2	-	< 0.08	-
Benzo[k]fluoranthene	207-08-9	-	< 0.08	-
Benzo[a]pyrene	50-32-8	-	< 0.08	-
Indeno[1,2,3-cd]pyrene	193-39-5	-	< 0.08	-
Dibenzo[a,h]anthracene	53-70-3	-	< 0.08	-
Benzo[g,h,i]perylene	191-24-2	-	< 0.08	-
Total (USEPA16) PAHs	-	-	< 1.28	-

"M" denotes that % fit has been manually interpreted

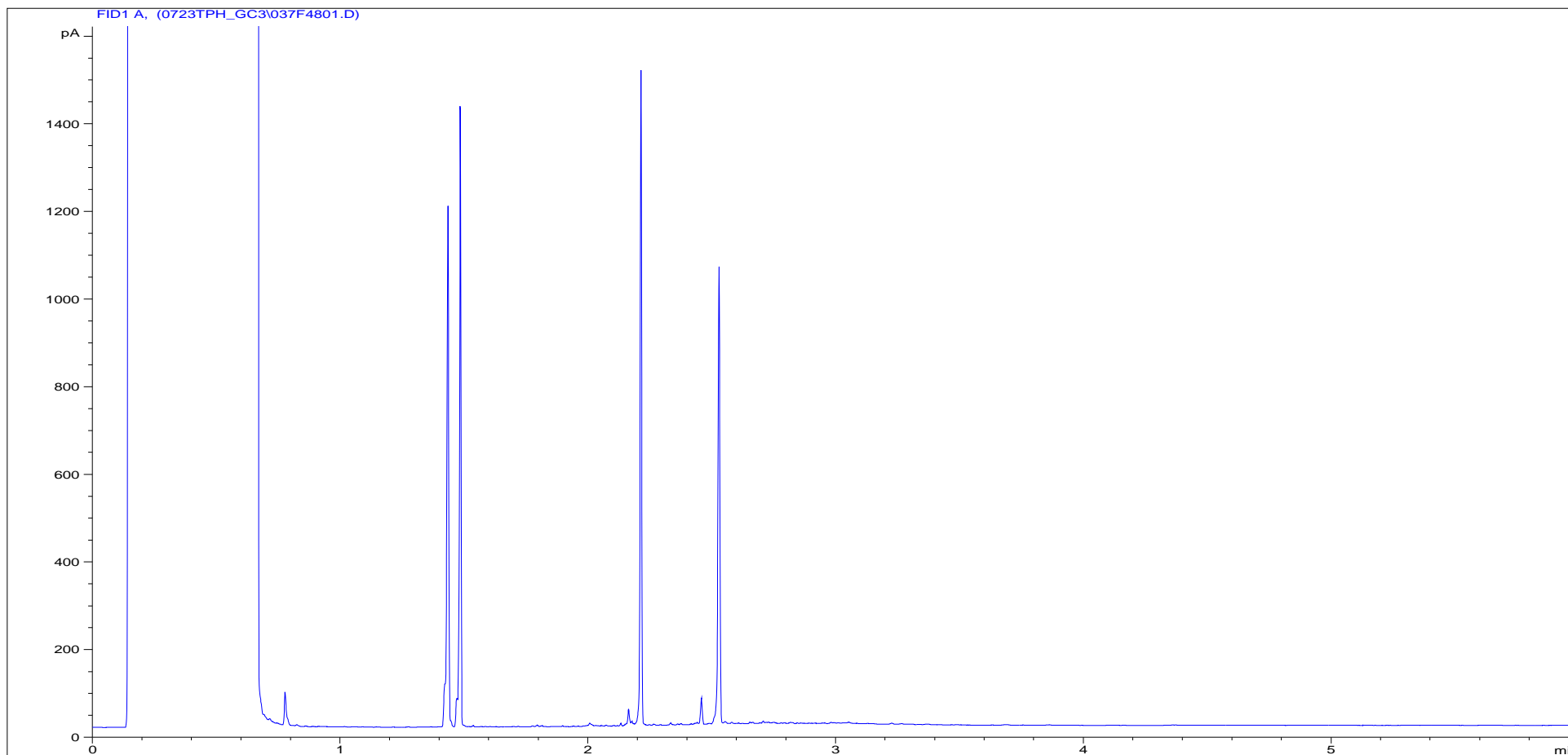
Internal Standards	% Area
1,4-Dichlorobenzene-d4	NA
Naphthalene-d8	103
Acenaphthene-d10	103
Phenanthrene-d10	107
Chrysene-d12	118
Perylene-d12	142

Surrogates	% Rec
Nitrobenzene-d5	NA
2-Fluorobiphenyl	100
Terphenyl-d14	113

Concentrations are reported on a wet weight basis.

The Total PAH result is the sum of non-rounded individual PAH results and therefore may differ to the sum of the rounded individual PAH results printed above. By convention, where any one or more result is a "less than", the total is expressed as a "less than" and includes the "less than" concentration within the total.

Petroleum Hydrocarbons (C8 to C40) by GC/FID



Sample ID:	CL1128966	Job Number:	S11_6196
Multiplier:	8	Client:	Concept Consultants
Dilution:	1	Site:	46 Avenue Road, London NW8 6HS
Acquisition Method:	5UL_RUNF.M	Client Sample Ref:	BH02 0.5
Acquisition Date/Time:	23-Jul-11		
Datafile:	D:\TES\DATA\Y2011\JULY2011\0723TPH_GC3\037F4801.D		

Where individual results are flagged see report notes for status.

Customer Concept Consultants
Site 46 Avenue Road, London NW8 6HS
Report No S116196

Consignment No 22160
Date Logged 20-Jul-2011

Report Due 27-Jul-2011

ID Number	Description	MethodID	BTEXHSA	Cust.Serv	ELESULP	ICPBOR	ICPMSS	PAHMSUS	PCBSCONR	PHEHPLC	PHSOIL	SEAPI	SFAS	Sub002a	TEM	TPHFDUS	W/LM59							
																		Sampled	BTEX-HSA analysis	REPORT A	Elemental Sulphur	Boron (H20 Soluble)	Arsenic (MS)	Cadmium (MS)
Accredited to ISO17025																								
CL/1128966	BH02 0.5	12/07/11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							

Note: For analysis where the Report Due date is greater than 7 days (Volatiles, PAH, Pesticides, PCB, Phenols, Herbicides) or 2 days (BOD) after the sampling date, although we will do our utmost to prioritise your samples, they may become deviant whilst being processed in the Laboratory.

In this instance, please contact the Laboratory immediately should you wish to discuss how you would like us to proceed. If you do not respond within 24 hours, we will proceed as originally requested.

Deviating Sample Key	
A	The sample was received in an inappropriate container for this analysis
B	The sample was received without the correct preservation for this analysis
C	Headspace present in the sample container
D	The sampling date was not supplied so holding time may be compromised - applicable to all analysis
E	Sample processing did not commence within the appropriate holding time

Requested Analysis Key	
Green	Analysis Required
Yellow	Analysis dependant upon trigger result - Note: due date may be affected if triggered
White	No analysis scheduled
Light Blue	Analysis Subcontracted

Where individual results are flagged see report notes for status

Method Descriptions

Matrix	MethodID	Analysis Basis	Method Description
Soil	BTEXHSA	As Received	Determination of Benzene, Toluene, Ethyl benzene and Xylenes (BTEX) by Headspace GCFID
Soil	ELESULP	Air Dried	Determination of Elemental Sulphur using Solvent Extraction followed by HPLC detection.
Soil	ICPBOR	Air Dried	Determination of Boron in soil samples by hot water extraction followed by ICPOES detection
Soil	ICPMSS	Air Dried	Determination of Metals in soil samples by aqua regia digestion followed by ICPMS
Soil	PAHMSUS	As Received	Determination of Polycyclic Aromatic Hydrocarbons (PAH) by hexane/acetone extraction followed by GCMS detection
Soil	PCBUSECDAR	As Received	Determination of Polychlorinated Biphenyl (PCB) congeners/arocloris by hexane/acetone extraction followed by GCECD detection
Soil	PHEHPLC	As Received	Determination of Phenols by methanol extraction followed by HPLC detection
Soil	PHSOIL	As Received	Determination of pH of 2.5:1 deionised water to soil extracts using pH probe.
Soil	SFAPI	As Received	Segmented flow analysis with colorimetric detection
Soil	SFAS	As Received	Segmented flow analysis with colorimetric detection
Soil	SubCon*	*	Contact Laboratory for details of the methodology used by the sub-contractor.
Soil	TEM	Air Dried	Determination of % Toluene Extractable Material by gravimetric analysis
Soil	TPHFIDUS	As Received	Determination of hexane/acetone extractable Hydrocarbons in soil with GCFID detection.
Soil	WSLM59	Air Dried	Determination of Organic Carbon in soil using sulphurous Acid digestion followed by high temperature combustion and IR detection

Where individual results are flagged see report notes for status.

Report Notes

Generic Notes

Soil/Solid Analysis

Unless stated otherwise,

- Results expressed as mg/kg have been calculated on an air dried basis
- Sulphate analysis not conducted in accordance with BS1377
- Water Soluble Sulphate is on a 2:1 water:soil extract

Waters Analysis

Unless stated otherwise results are expressed as mg/l

Nil: Where "Nil" has been entered against Total Alkalinity or Total Acidity this indicates that a measurement was not required due to the inherent pH of the sample.

Oil analysis specific

Unless stated otherwise,

- Results are expressed as mg/kg
- SG is expressed as g/cm³@ 15°C

Gas (Tedlar bag) Analysis

Unless stated otherwise, results are expressed as ug/l

Asbestos Analysis

CH Denotes Chrysotile

CR Denotes Crocidolite

AM Denotes Amosite

NAIS No Asbestos Identified in Sample

Symbol Reference

^ Sub-contracted analysis. Note: The accreditation status is that assigned by the subcontract laboratory.

\$\$ Unable to analyse due to the nature of the sample

¶ Samples submitted for this analyte were not preserved on site in accordance with laboratory protocols.

This may have resulted in deterioration of the sample(s) during transit to the laboratory.

Consequently the reported data may not represent the concentration of the target analyte present in the sample at the time of sampling

¥ Results for guidance only due to possible interference

& Blank corrected result

I.S Insufficient sample to complete requested analysis

I.S(g) Insufficient sample to re-analyse, results for guidance only

Intf Unable to analyse due to interferences

N.D Not determined

N.Det Not detected

Req Analysis requested, see attached sheets for results

▮ Raised detection limit due to nature of the sample

* All accreditation has been removed by the laboratory for this result

‡ MCERTS accreditation has been removed for this result

Note: The Laboratory may only claim that data is accredited when all of the requirements of our Quality System have been met. Where these requirements have not been met the laboratory may elect to include the data in its final report and remove the accreditation from individual data items if it believes that the validity of the data has not been affected. If further details are required of the circumstances which have led to the removal of accreditation then please do not hesitate to contact the laboratory.

END OF REPORT

Where individual results are flagged see report notes for status.