

Geotechnical Survey Report

FSI Ref: 10809 Issue Date: July 2017

Client Name: Mr & Mrs Holmes Risk Address: Garden Flat

37 Redington Road

London NW3 7QY

Engineer: Bret Champion

Company: Pyle Consulting

Claim Ref: 8356

Director: Office Manager: CAD Technician: Martin Rush MSc FGS Louise Hiscock BSc (Hons) Perry Martin AMCIHT



Tyndales Farm, Southend Road, Woodham Mortimer, Web: www.fastrackgroup.co.uk

Key:
Trial Pit

Borehole

Scale:

NTS

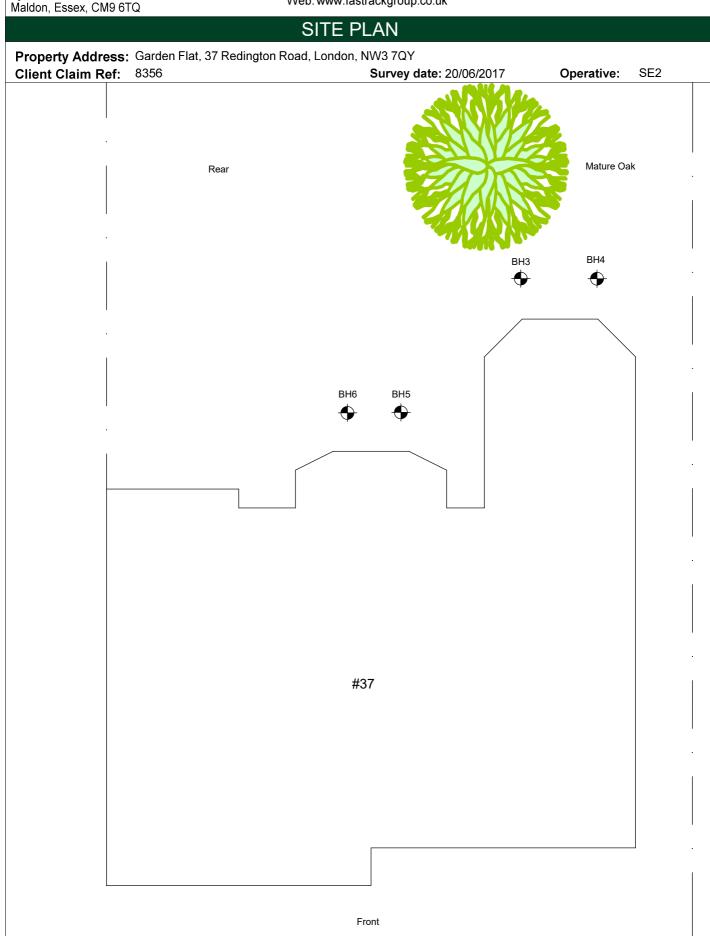
Drawn by:

SP

Telephone: 0844 3358908 Fax: 0844 3358907

Email:enquiries@fastrackgroup.co.uk

Appendix No: 1 FSI Ref: 10809



Surface Water Gully

Foul Water Gully

Tree (Conifer)

Tree (Deciduous)

Rain Water Pipe

Soil & Vent Pipe

Manholes



Fastrack Site Investigations Ltd Unit 9, Tyndales Farm Southend Road Maldon CM9 6TQ

Borehole Log

Borehole No.

Client:		Pyle Co	onsulting				Logged By SE2	у
Water Strikes			n Situ Testing	Depth	Legend	Stratum Description		
Strikes	Depth (m)	Туре	Results	(m)	×///×///×//	Grass over TOPSOIL		
				0.10	_×_ =	Mid/ light brown silty CLAY containing minor chalk pieces		1
					XX	ng. n 2. o o o o o o o o o o o o o o o o		
				0.30	XX	Mid/ light silty CLAY containing grey mottling		
					XX			
					XX			
					××			
					××_			
	1.00	D			×_×_×			,
	1.00		V (kPa) = 100		X_X_X	Noted to be firm to stiff at 1.00m		'
			V (kPa) = 98					
					× × -			
					XX			
					XX			
				1.80	<u> </u>	Mid brown silty CLAY containing grey mottling & sand poor	alcata	
					××	wild brown silty CLAT containing grey mottling & sand pot	Kets	
	2.00	D	V (kPa) = 92		XX			2
			V (kPa) = 96		××_			
				2.50	<u> </u>	Mid brown CLAY containing grey mottling & orange sand	pockets	-
						s.c C coag g.c.,c.ag a c.agc caa	positoto	
				2.00				
				2.80	X— —x =	Mid brown silty slightly gravelly CLAY containing orange s	and pockets	
	3.00	D			XX	Noted to become stiff at 3.00m		3
			V (kPa) = 124 V (kPa) = 128		XX	Protect to become our at 6.50m		
			V (M 4) 120		XX			
					XX			
					XX_X			
					XX			
				3.80	x	Mid brown silty sandy CLAY containing orange sand pock	ets	l
	4.00	D						4
	4.00		V (kPa) = 140					4
					X—————————————————————————————————————			
					XX			
					XX			
					XX			
				4.70	XX	Mid harring again CLAV		
						Mid brown sandy CLAY		
	5.00	D	V (kPa) = 128	5.00				5
			V (kPa) = 128 V (kPa) = 132					
ov" D	Disturbed C		\/ Insitu \/ana Tas	t MD		h Droho Toot		

MP - Mackintosh Probe Test

Key: D - Disturbed Sample V - Insitu Vane Test
Remarks: Borehole was closed at 5.00m

Borehole was noted to be moist from 4.70m on completion





Fastrack Site Investigations Ltd Unit 9, Tyndales Farm Southend Road Maldon CM9 6TQ

Borehole Log

Borehole No.
BH4

Client:		Pyle Cor	Logged By SE2							
Water	Samp	le and In	Situ Testing	Depth	Legend	Stratum Description				
Strikes	Depth (m)	Туре	Results	(m)	Logona					
				0.20		Dark brown TOPSOIL Mid brown silty clayey MADE GROUND containing minor b	rick & gravel			
				0.70	××-	Mid brown silty CLAY containing grey mottling & minor sand	d pockets			
	1.00	D	V (kPa) = 112 V (kPa) = 114		X - X - X - X - X - X - X - X - X - X -	Noted to be stiff at 1.00m		1		
	2.00	D	V (kPa) = 100 V (kPa) = 96	1.70		Mid brown silty sandy CLAY containing grey mottling & oran pockets Noted to become firm to stiff at 2.00m	nge sand	2		
	3.00	D	V (kPa) = 122 V (kPa) = 124		XX	Noted to become slightly sandy at 2.80m Noted to become stiff at 3.00m		3		
	4.00	D	V (kPa) = 140	3.70		Mid brown sandy CLAY containing orange sand pockets & mottling	minor grey	4		
	5.00	D	V (kPa) = 140	4.50 5.00	X X X X X X X X X X X X X X X X X X X	Dark brown/ silty sandy CLAY containing orange sand pock	cets	5		
(a):: 5	Disturbed Sa		V - Insitu Vane Tes	140	Martin	n Probe Test				

Key: D - Disturbed Sample V - Insitu Van Remarks: Borehole was closed at 5.00m

Borehole was noted to be dry on completion

AGS



8356

Fastrack Site Investigations Ltd Unit 9, Tyndales Farm Southend Road Maldon CM9 6TQ

Project No.

Borehole Log

Borehole No.

BH5

Sheet 1 of 1

Location: Garden Flat, 37 Redington Road, London, NW3 7QY

20/06/2017

Site Date:

Hole Type BH Scale

Client: Pyle Consulting

Project Name:

1:27 Logged By

lient:		Pyle Co	nsulting			SE2		
Nater Strikes			n Situ Testing	Depth (m)	Legend	Stratum Description		
tines	Depth (m)	Туре	Results	(111)		Grass over TOPSOIL		
				0.35				
					××	Brown silty CLAY		
				0.60	×	Mid/ light brown CLAY containing grey mottling		
	1.00	D	V (kPa) = 112			Noted to be stiff at 1.00m		
			V (kPa) = 112 V (kPa) = 116					
				1.40	X—————————————————————————————————————	Mid brown silty sandy CLAY containing grey mottling & minor sand pockets		
					X X X			
	2.00	D	V (kPa) = 124 V (kPa) = 128		X X X			
			, ,		X X X			
					X——X——X——X——X———X———X———X———X———X———X—			
	3.00	D			X—————————————————————————————————————			
	0.00		V (kPa) = 140		X—————————————————————————————————————			
					XXXXXXXXXX	No grey mottling present at 3.40m		
					X - X - X - X - X - X - X - X - X - X -			
	4.00	D	V (kPa) = 140		X x - x - x - x - x - x - x - x - x			
					X—————————————————————————————————————			
				4.60	X—————————————————————————————————————	Brown/ greenish sandy CLAY containing sand horizons		
	5.00	D	V (kPa) = 124 V (kPa) = 128	5.00				
y: D -	Disturbed S	ample	V - Insitu Vane Tes	t MP -	Mackintos	h Probe Test		

Remarks: Borehole was closed at 5.00m

Borehole was noted to dry on completion





8356

Project Name:

Fastrack Site Investigations Ltd Unit 9, Tyndales Farm Southend Road Maldon CM9 6TQ

Project No.

Borehole Log

20/06/2017

Site Date:

Borehole No. BH6 Sheet 1 of 1

Hole Type

ВН

10809 Location: Garden Flat, 37 Redington Road, London, NW3 7QY

Scale

1:27 Logged By

Water Samp		le and l	n Situ Testing	Depth					
rikes	Depth (m)	Type	Results	(m)	Legend	Stratum Description			
	1 ()	71				Grass over TOPSOIL		T	
				0.20		Dark brown silty clayey MADE GROUND containing brick	& gravel	-	
						Balk Brown sity dayey Whole Green's containing Brok	a graver		
				0.50					
				0.50	××	Mid brown silty CLAY containing grey mottling			
					××				
					××				
	1.00	D			×	Noted to be stiff at 1.00m			
			V (kPa) = 110 V (kPa) = 114		××	Protoco to be suit at 1.00m			
			. (=)		××				
					××				
					××				
				1.60	XX	Mid brown silty sandy CLAY containing grey mottling & ora	ange sand	1	
					<u>×</u> ×	pockets			
					XX				
	2.00	D	V (kPa) = 128		x=x				
			V (kPa) = 128 V (kPa) = 132		<u>x</u> x				
					XX-X				
					XX				
					XX				
					X———X				
					XX				
	3.00	D			XX				
			V (kPa) = 140		X———XŽ				
					X— —x î				
					X—X—X				
					X——X——X				
	4.00	D							
	4.00		V (kPa) = 140						
					~~~~×				
				4.50		Mid brown/ green sandy CLAY containing orange sand po	ckets		
	5.00	D	V (kPa) = 126	5.00					
			V (kPa) = 126 V (kPa) = 130						
				1					

Remarks: Borehole was closed at 5.00m, roots noted from 1.00m to 2.70m

Borehole was noted to be dry on completion



Tyndales Farm, Southend Road, Woodham Mortimer, Maldon, Essex, CM9 6TQ

Email: enquiries@fastrackgroup.co.uk Web: www.fastrackgroup.co.uk

#### LABORATORY RESULTS

Property Address: Garden Flat, 37 Redington Road, London, NW3 7QY

Client Claim Ref: 8356 Client: Pyle Consulting

SAI	MPLE DETAILS	ANALYSIS REQUESTED					
Investigation date:	20/06/2017	Moisture Content	J	PSD			
Sample details:	Bags as received	Liquid Limit	<b>_</b>	Soil Suction	<b>_</b>		
Samples received:	26/06/2017	Plastic Limit	<b>_</b>	Shear Strength			
Schedule recieved:	26/06/2017	Plasticity Index	$\checkmark$	Contamination			
Samples tested:	26/06/2017 - 12/07/2017	Root ID		Root/Tree DNA			
Results reported:	12/07/2017	Other (please state)					

#### **TEST DETAILS**

#### General

Sample descriptions were written in accordance with BS 5930:1999.

Samples were prepared in accordance with BS 1377: Part 1: 1990, section 7

Samples from this contract will be retained for 1 calender month following the issue of this report unless otherwise notified

Written approval is required from Fastrack Site Investigations Limited to reproduce report in full. The results shown within this report only relate to the samples tested

#### **Moisture Content**

Samples were tested in accordance with BS 1377: Part 2: 1990, section 3.2 (Oven drying method)

In accordance with Note 1 to paragraph 3.2.4 of BS 1377 Part 2 1990; these moisture contents have been corrected to give the equivalent moisture content of the fraction passing the 425µm sieve, to enable comparison with the liquid & plastic limits. (If condition of test is 'natural' the retained percentage is an estimated value, if condition is 'washed' the percentage is a measured value).

Samples are dried at 105-110°C unless otherwise stated.

#### **Atterberg Limits**

Samples were tested in accordance with BS 1377: Part 2: 1990, section 4.3 (4 drop LL), 4.4 (1 drop LL), 5.3 (PL) and 5.4 (PI) Test results on samples with a sand content, may show less accurate results. If condition of test is 'washed' results relate to the fraction passing the 425µm sieve only.

Driscoll's rules deem the soil to be desicated where the moisture content is less than the value calculated using driscoll's rule 1 and/or 2

## Particle Size Distribution

Samples were tested in accordance with BS 1377: Part 2: 1990 section 9.2 (Wet sieving method)

#### **Undrained Shear Stength**

Samples were prepared in accordance with BS 1377: Part 7: 1990 section 8.3 and testing in accordance with BS 1377: Part 7: 1990: section 8.4 (undrained shear strength in triaxial compression without measurement of pore pressure (UU))

### Soil Suction

Samples were prepared and tested based on the BRE digest No:IP4/93 (Corrected). 'A method of determining the state of desiccation in clay soils.' (Filter paper method).

Test results on samples with a sand or silt content, may show less accurate results. Deviation to standard procedure - Polythene bags are not used from weighing filter papers.



Tel: 0844 3358908

Email: enquiries@fastrackgroup.co.uk

Appendix No: FSI Ref:

3 10809

5.00m

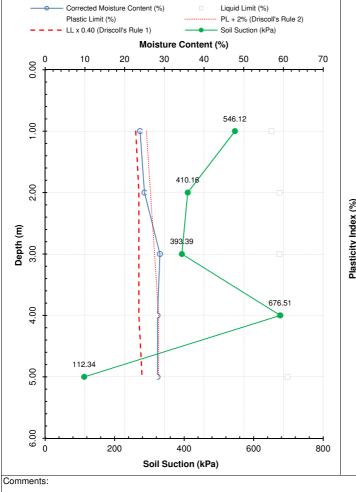
4.00m

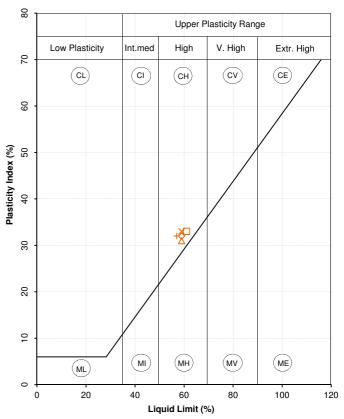
# LABORATORY RESULTS

Property Address: Garden Flat, 37 Redington Road, London, NW3 7QY

Client Claim Ref: 8356

									BORE	EHOLE 3
Depth	MC	Corr. MC	LL	PL	PI	Class	% Retained	Soil Suction	Condition of test	Soil Description
(m)	(%)	(%)	(%)	(%)	(%)		(425µm)	(kPa)		
1.00	23.9	23.9	57	25	32	CH	0	546.12	Natural	Orange sandy CLAY containing black mottle
2.00	25	25	59	26	33	CH	0	410.16	Natural	Orange sandy CLAY
3.00	28.9	28.9	59	27	32	CH	0	393.39	Natural	Orange sandy CLAY
4.00	28.3	28.3	59	28	31	CH	0	676.51	Natural	Brown/ orange sandy CLAY
5.00	28.3	28.3	61	28	33	СН	0	112.34	Natural	Brown/ orange sandy CLAY





2.00m

3.00m

Comments:			
Issued by:	Jade McLellan (Laboratory Supervisor)		
·			
	Lindsey Appleby-Bowers (Laboratory Technician)	Signed: L Appleby-Bowers	
	Page 2 of 5	<del></del>	
	rage 2 or 3		



Issued by:

Tel: 0844 3358908

Email: enquiries@fastrackgroup.co.uk

Appendix No: FSI Ref:

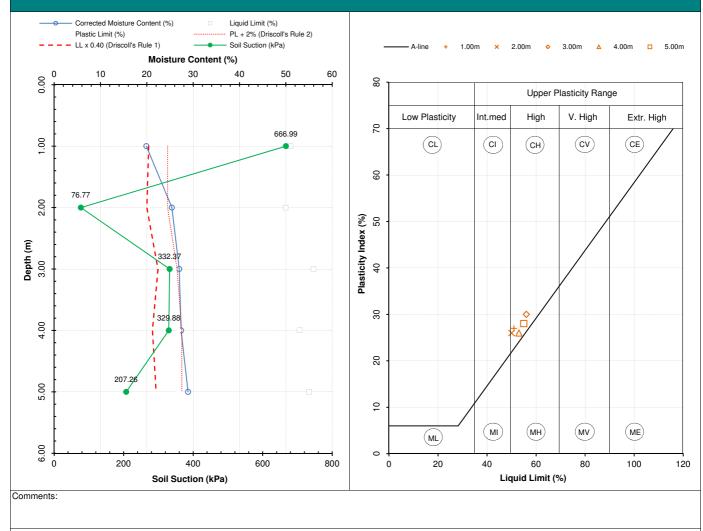
3 10809

## LABORATORY RESULTS

**Property Address:** Garden Flat, 37 Redington Road, London, NW3 7QY Client Claim Ref:

8356

									BOKE	:HOLE 4
Depth	МС	Corr. MC	LL	PL	PI	Class	% Retained	Soil Suction	Condition of test	Soil Description
(m)	(%)	(%)	(%)	(%)	(%)	Ö	(425µm)	(kPa)		·
1.00	19.9	19.9	51	24	27	CH	0	666.99	Natural	Brown sandy CLAY
2.00	25.4	25.4	50	24	26	CI/H	0	76.77	Natural	Orange sandy CLAY containing grey mottle
3.00	27	27	56	26	30	CH	0	332.37	Natural	Brown/ orange sandy CLAY
4.00	27.4	27.4	53	27	26	CH	0	329.88	Natural	Brown/ orange sandy CLAY
5.00	28.9	28.9	55	27	28	CH	0	207.26	Natural	Brown/ dark brown sandy CLAY



Jade McLellan (Laboratory Supervisor)

Lindsey Appleby-Bowers (Laboratory Technician)

Signed: L Appleby-Bowers

Page 3 of 5



Issued by:

Tel: 0844 3358908

Email: enquiries@fastrackgroup.co.uk

Appendix No: FSI Ref:

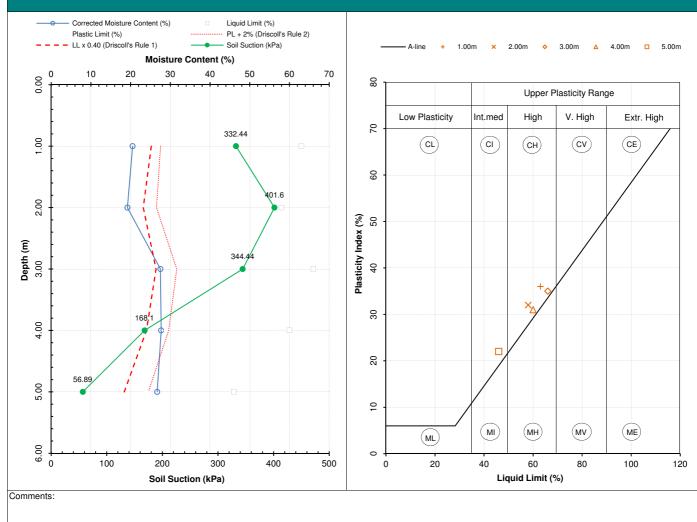
3 10809

## LABORATORY RESULTS

**Property Address:** Garden Flat, 37 Redington Road, London, NW3 7QY Client Claim Ref:

8356

									BORE	:HOLE 5
Depth	MC	Corr. MC	LL	PL	PI	Class	% Retained	Soil Suction	Condition of test	Soil Description
(m)	(%)	(%)	(%)	(%)	(%)	Ö	(425µm)	(kPa)		·
1.00	20.5	20.5	63	27	36	СН	0	332.44	Natural	Brown/ orange sandy CLAY
2.00	19.2	19.2	58	26	32	CH	0	401.6	Natural	Brown/ orange sandy CLAY
3.00	27.5	27.5	66	31	35	CH	0	344.44	Natural	Brown/ orange sandy CLAY
4.00	27.7	27.7	60	29	31	CH	0	168.1	Natural	Brown/ orange sandy CLAY
5.00	26.7	26.7	46	24	22	CI	0	56.89	Natural	Brown/ orange sandy CLAY



Signed: L Appleby-Bowers

Jade McLellan (Laboratory Supervisor)
Lindsey Appleby-Bowers (Laboratory Technician)



Tel: 0844 3358908

Email: enquiries@fastrackgroup.co.uk

Appendix No: FSI Ref:

3 10809

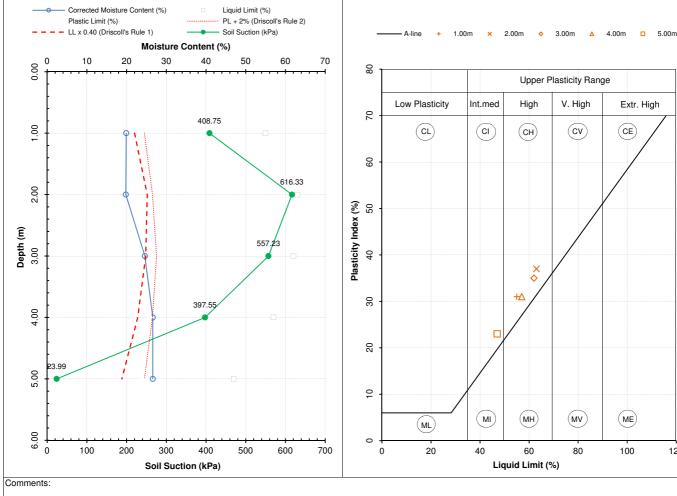
## LABORATORY RESULTS

**Property Address:** Garden Flat, 37 Redington Road, London, NW3 7QY **Client Claim Ref:** 

8356

120

									BORE	HOLE 6
Depth	МС	Corr. MC	LL	PL	PI	Class	% Retained		Condition of test	Soil Description
(m)	(%)	(%)	(%)	(%)	(%)	0	(425µm)	(kPa)		
1.00	19.9	19.9	55	24	31	CH	0	408.75	Natural	Brown sandy CLAY containing grey mottle
2.00	19.8	19.8	63	26	37	CH	0	616.33	Natural	Brown sandy CLAY containing grey mottle
3.00	24.6	24.6	62	27	35	CH	0	557.23	Natural	Brown/ orange sandy CLAY
4.00	26.6	26.6	57	26	31	CH	0	397.55	Natural	Orange sandy CLAY
5.00	26.6	26.6	47	24	23	CI	0	23.99	Natural	Brown sandy CLAY



Issued by: Jade McLellan (Laboratory Supervisor) Lindsey Appleby-Bowers (Laboratory Technician) Signed: L Appleby-Bowers