

 Risk Management Limited Unit 8 Paddock Barn Farm Godstone Road Caterham Surrey CR3 6SF		Borehole Log				Borehole No. DIS6 Sheet 1 of 1				
Project No. RML 6606		Coordinates:		Drilling Technique: Drive-in-Sampler		Level (m):				
Site Address: L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY		Date: 03/04/2018		Diameter (mm): 50		Scale: 1:50				
	Stratum Description	Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
					Depth (m)	Sample Type	Test Type	Results		
1	Paving Block Paving over Sand.		0.12		0.15	D1				
	MADE GROUND (crushed roadstone gravel).		0.40		0.50	D2				
	Superficial Clay Soft to firm, brown silty CLAY with pockets of orange-brown silt.		1.00		D3					
	Taplow Gravel Fine to coarse, sub-angular to sub-rounded GRAVEL with a little brown silty sand.		1.50		D4					
2	Borehole terminated at 1.70m depth		1.70							
3										
4										
5										
6										
7										
8										
9										
10										
Remarks: Service Pit excavated to 1.20m depth. Groundwater not noted during boring. Borehole terminated at 1.70m depth due to hard driving.					KEY D = Disturbed Sample U = Undisturbed Sample B = Bulk Sample W = Water Sample CPT = Cone Penetration Test SPT = Standard Penetration Test V = Vane Test PP = Pocket Penetrometer MEXE = Insitu CBR test					



Standard Penetration Test (SPT) versus Depth Profile

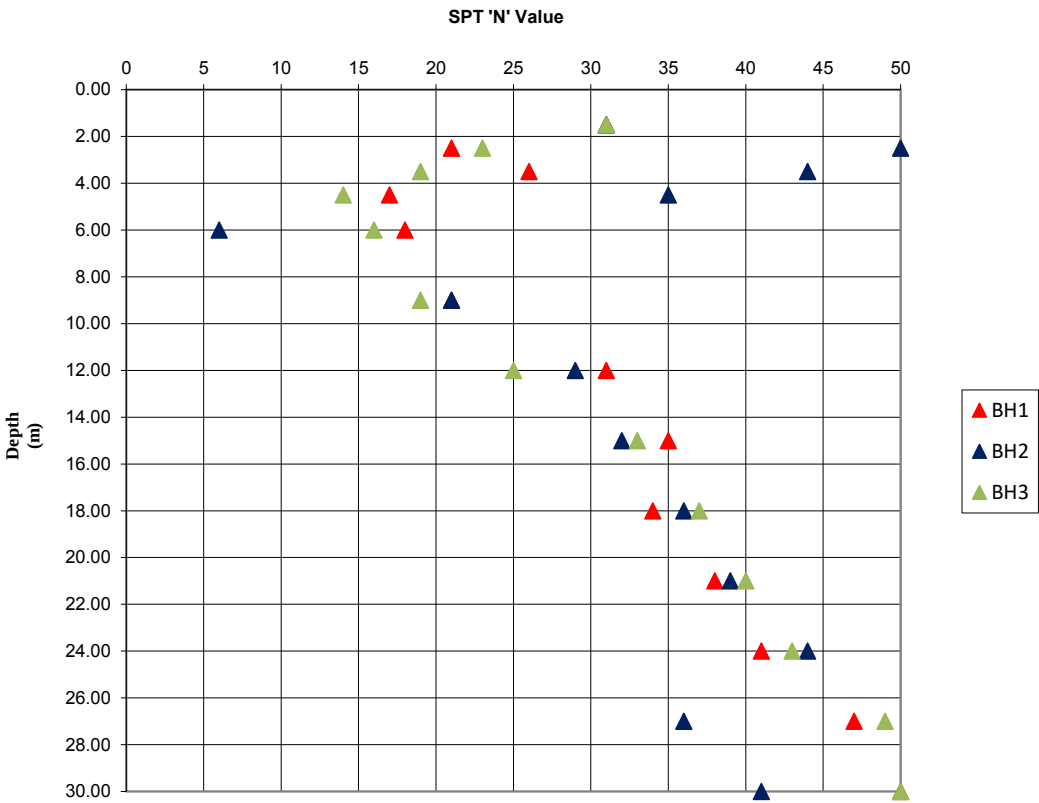
Risk Management Limited
 Tel : 01883 343572
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Project Name : L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY

Job No. : RML 6066

Date : May 2018

BH1		BH2		BH3	
Depth (m)	SPT 'N' value	Depth (m)	SPT 'N' value	Depth (m)	SPT 'N' value
1.50	31	1.50	31	1.50	31
2.50	21	2.50	50	2.50	23
3.50	26	3.50	44	3.50	19
4.50	17	4.50	35	4.50	14
6.00	18	6.00	6	6.00	16
9.00	21	9.00	21	9.00	19
12.00	31	12.00	29	12.00	25
15.00	35	15.00	32	15.00	33
18.00	34	18.00	36	18.00	37
21.00	38	21.00	39	21.00	40
24.00	41	24.00	44	24.00	43
27.00	47	27.00	36	27.00	49
30.00	50	30.00	41	30.00	50



NB : SPT 'N' values greater than 50 reported as 50 above

PROJECT NAME :		L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY		Date	May 2018
PROJECT NO:		RML 6066			
				Page	1 of 1

Sample Details			Description	Classification Tests					Density Tests		Undrained Triaxial Compression Test			Chemical Results				Other tests and comments
BH	Depth	Sample No.		MC	LL	PL	PI	<425 mic	Bulk	Dry	Cell Pressure	Deviator Stress	Mean Shear	pH	W/S SO ₄	Total SO ₄	Water SO ₄	
No.	(m)			(%)	(%)	(%)		(%)	(Mg/m ³)	(Mg/m ³)	kPa	kPa	Stress kPa		(g/l)	(%)	(g/l)	
BH1	1.00	D2	Brown, silty CLAY with pockets of orange-brown silt and fine to coarse sub-angular to rounded gravel.	20	62	20	42	100						9.0	0.08			Class CH
BH1	2.00	D3												8.6				
BH1	7.50	U1	Stiff, grey, fissured, silty CLAY with selenite crystals.	29					2.05	1.59	150	205	103					
BH1	16.50	U4	Very stiff, grey, fissured, silty CLAY with selenite crystals.	37					2.09	1.53	330	535	267					
BH1	25.50	U7	Stiff, grey, fissured, silty CLAY with selenite crystals.	36					2.00	1.47	450	192	96					
BH2	1.00	D3	Brown, silty CLAY with pockets of orange-brown silt and fine to coarse sub-angular to rounded gravel.	16	60	28	32	100										Class CH
BH2	3.00	D5												7.8	0.02			
BH2	10.50	U2	Stiff, grey, fissured, silty CLAY with selenite crystals.	26					2.03	1.61	210	191	95					
BH2	19.50	U5	Very stiff, grey, fissured, silty CLAY with selenite crystals.	27					2.13	1.68	390	491	245					
BH2	28.50	U8	Stiff, grey, fissured, silty CLAY with selenite crystals.	37					1.99	1.46	570	279	140					
BH3	0.50	D2												8.2				
BH3	8.00	D10												8.4	0.11			
BH3	13.50	U3	Very stiff, grey, fissured, silty CLAY with selenite crystals.	35					2.07	1.53	270	439	219					
BH3	22.50	U6	Stiff, grey, fissured, silty CLAY with selenite crystals.	26					2.11	1.67	450	241	121					
DIS1	0.50	D2												8.0				
DIS2	0.50	D2												8.7				
DIS3	0.15	D1												8.8				
DIS4	0.50	D2												8.0				
DIS6	0.50	D2												7.8				

SUMMARY OF GEOTECHNICAL TESTING



Results of Particle Size Distribution Tests

Project Name : L/a Axis House, Bath Road, Harlington, UB3 5AY

Project No. RML 6606

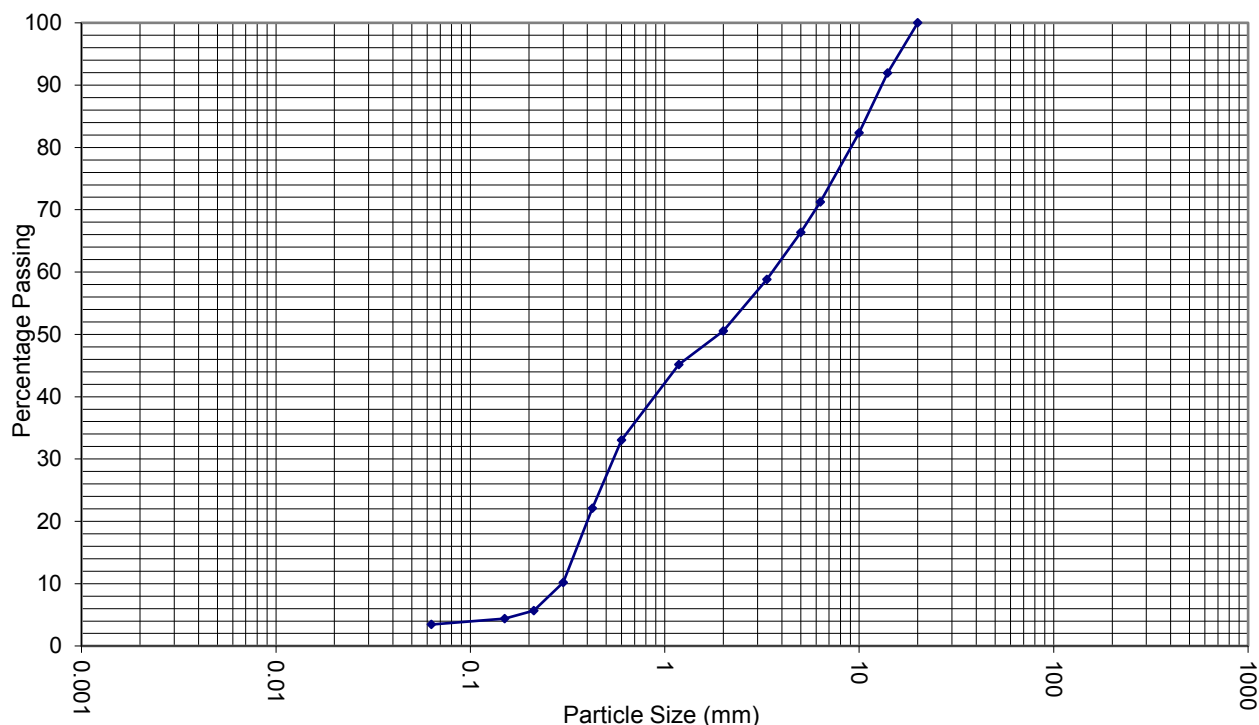
Borehole No. BH2

Sample No. D8

Depth (m) 6.00

Test Method : BS 1377 : Part 2 : 1990 : Clause 9

Sieve (mm)	Passing (%)	Sieve (mm)	Passing (%)
200	100	2	51
125	100	1.18	45
90	100	0.6	33
75	100	0.425	22
63	100	0.3	10
50	100	0.212	6
37.5	100	0.15	4
28	100	0.063	3
20	100	Pipette	
14	92	Particle Size	% Passing
10	82		
6.3	71		
5	66		
3.35	59		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Description :

Fine to medium, sub-angular to sub-rounded GRAVEL with brown silty SAND.



Results of Particle Size Distribution Tests

Project Name : L/a Axis House, Bath Road, Harlington, UB3 5AY

Project No. RML 6606

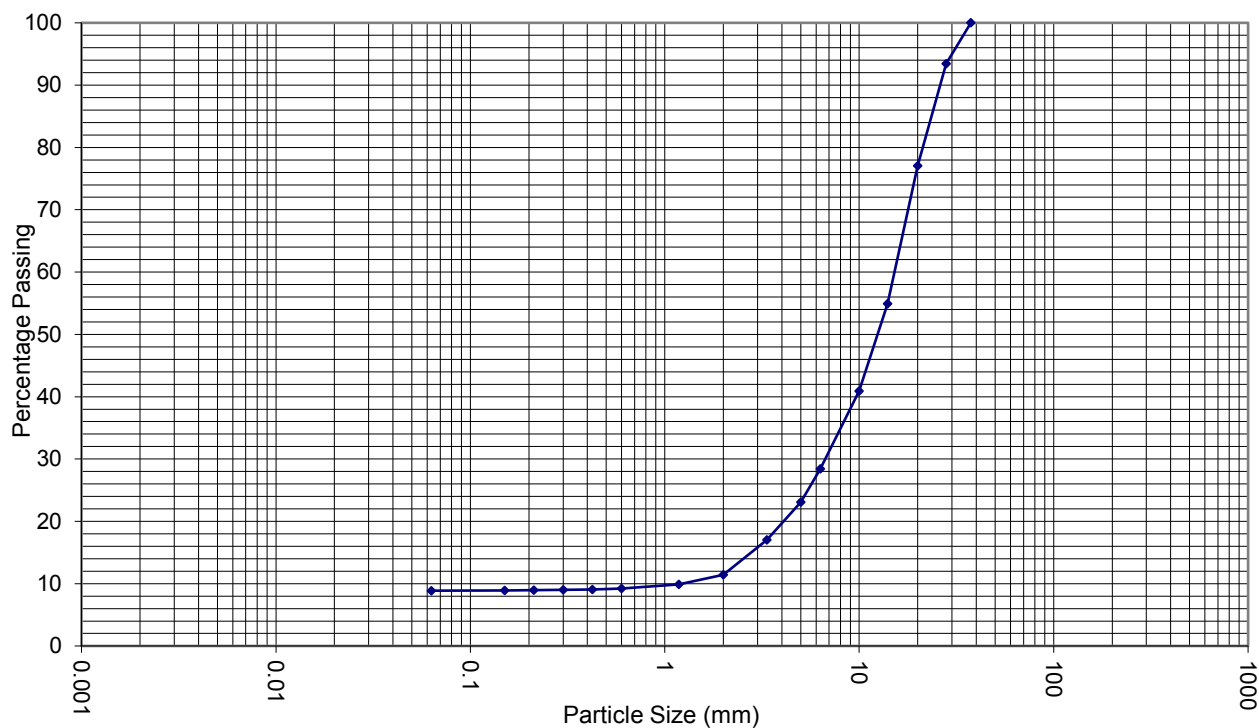
Borehole No. BH3

Sample No. D4

Depth (m) 2.00

Test Method : BS 1377 : Part 2 : 1990 : Clause 9

Sieve (mm)	Passing (%)	Sieve (mm)	Passing (%)
200	100	2	11
125	100	1.18	10
90	100	0.6	9
75	100	0.425	9
63	100	0.3	9
50	100	0.212	9
37.5	100	0.15	9
28	93	0.063	9
20	77	Pipette	
14	55	Particle Size	% Passing
10	41		
6.3	28		
5	23		
3.35	17		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Description :

Fine to coarse, sub-angular to sub-rounded GRAVEL with a little brown silty sand.



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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 18-17119

Issue: 1

Date of Issue: 23/04/2018

Contact: Malcolm Price

Customer Details: Risk Management Ltd
Unit 8
Paddock Barn Farm
Caterham
Surrey
CR3 6SF

Quotation No: Q14-00012

Order No: RML 6606

Customer Reference: RML 6606

Date Received: 17/04/2018

Date Approved: 23/04/2018

Details: L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY

Approved by:

Mike Varley, Technical Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)



Sample Summary

Report No.: 18-17119

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
132956	BH1 D2 1.00	03/04/2018	17/04/2018	Silty clayey loam	
132957	BH1 D3 2.00	03/04/2018	17/04/2018	Stones	
132958	BH2 D5 3.00	06/04/2018	17/04/2018	Stones	
132959	BH3 D2 0.50	04/04/2018	17/04/2018	Sandy silty loam	
132960	BH3 D10 8.00	05/04/2018	17/04/2018	Clay	
132961	DIS1 D2 0.50	03/04/2018	17/04/2018	Sandy silty loam and Stones	
132962	DIS2 D2 0.50	03/04/2018	17/04/2018	Loamy sand and Stones	
132963	DIS3 D1 0.15	03/04/2018	17/04/2018	Sand and Stones	
132964	DIS4 D2 0.50	03/04/2018	17/04/2018	Silty loam	
132965	DIS6 D2 0.50	03/04/2018	17/04/2018	Silty loam	

Results Summary

Report No.: 18-17119

ELAB Reference	132956	132957	132958	132959	132960	132961
Customer Reference	D2	D3	D5	D2	D10	D2
Sample ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	BH1	BH1	BH2	BH3	BH3	DIS1
Sample Depth (m)	1.00	2.00	3.00	0.50	8.00	0.50
Sampling Date	03/04/2018	03/04/2018	06/04/2018	04/04/2018	05/04/2018	03/04/2018

Determinand	Codes	Units	LOD						
Metals									
Arsenic	M	mg/kg	1	9.3	n/t	n/t	7.8	n/t	^ 10.4
Cadmium	M	mg/kg	0.5	< 0.5	n/t	n/t	< 0.5	n/t	^ < 0.5
Chromium	M	mg/kg	5	29.0	n/t	n/t	21.1	n/t	^ 29.4
Copper	M	mg/kg	5	28.3	n/t	n/t	11.8	n/t	^ 11.6
Lead	M	mg/kg	5	22.5	n/t	n/t	18.0	n/t	^ 17.3
Mercury	M	mg/kg	0.5	< 0.5	n/t	n/t	< 0.5	n/t	^ < 0.5
Nickel	M	mg/kg	5	25.6	n/t	n/t	15.4	n/t	^ 19.3
Selenium	M	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	^ < 1.0
Zinc	M	mg/kg	5	46.5	n/t	n/t	68.8	n/t	^ 63.1
Anions									
Water Soluble Sulphate	M	g/l	0.02	0.08	n/t	^ < 0.02	n/t	0.11	n/t
Inorganics									
Free Cyanide	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	n/t	n/t	< 0.8	n/t	< 0.8
Total Cyanide	M	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	^ < 1.0
Miscellaneous									
Acid Neutralisation Capacity	N	mol/kg	0.1	n/t	< 0.1	n/t	n/t	n/t	n/t
Loss On Ignition (450°C)	M	%	0.01	n/t	^ 0.03	n/t	n/t	n/t	n/t
Moisture Content	N	%	0.1	14.5	n/t	n/t	9.3	n/t	11.3
pH	M	pH units	0.1	9.0	^ 8.6	^ 7.8	8.2	8.4	^ 8.0
Stones Content	N	%	0.1	26.5	n/t	n/t	29.4	n/t	10.9
Total Organic Carbon	N	%	0.01	n/t	< 0.01	n/t	n/t	n/t	n/t
Phenols									
Phenol	M	mg/kg	1	< 1	n/t	n/t	< 1	n/t	^ < 1
M,P-Cresol	N	mg/kg	1	< 1	n/t	n/t	< 1	n/t	< 1
O-Cresol	N	mg/kg	1	< 1	n/t	n/t	< 1	n/t	< 1
3,4-Dimethylphenol	N	mg/kg	1	< 1	n/t	n/t	< 1	n/t	< 1
2,3-Dimethylphenol	M	mg/kg	1	< 1	n/t	n/t	< 1	n/t	^ < 1
2,3,5-trimethylphenol	M	mg/kg	1	< 1	n/t	n/t	< 1	n/t	^ < 1
Total Monohydric Phenols	N	mg/kg	5	< 5	n/t	n/t	< 5	n/t	< 5
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Fluorene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Anthracene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Fluoranthene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Pyrene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Chrysene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	n/t	n/t	0.1	n/t	^ < 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	n/t	n/t	< 0.1	n/t	^ < 0.1
Total PAH(16)	M	mg/kg	0.4	< 0.4	n/t	n/t	0.4	n/t	^ < 0.4
Total PAH (Including Coronene)	N	mg/kg	2	n/t	c < 2	n/t	n/t	n/t	n/t

Results Summary

Report No.: 18-17119

2683

ELAB Reference	132956	132957	132958	132959	132960	132961
Customer Reference	D2	D3	D5	D2	D10	D2
Sample ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	BH1	BH1	BH2	BH3	BH3	DIS1
Sample Depth (m)	1.00	2.00	3.00	0.50	8.00	0.50
Sampling Date	03/04/2018	03/04/2018	06/04/2018	04/04/2018	05/04/2018	03/04/2018

Determinand	Codes	Units	LOD						
BTEX									
Benzene	M	ug/kg	10	< 10.0	n/t	n/t	< 10.0	n/t	< 10.0
Toluene	M	ug/kg	10	< 10.0	n/t	n/t	< 10.0	n/t	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0	n/t	n/t	< 10.0	n/t	< 10.0
Xylenes	M	ug/kg	10	< 10.0	n/t	n/t	< 10.0	n/t	< 10.0
Total BTEX	M	mg/kg	0.01	n/t	< 0.01	n/t	n/t	n/t	n/t
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	2.8
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	n/t	n/t	< 1.0	n/t	2.8
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	< 5	n/t	n/t	n/t	n/t
PCB (ICES 7 congeners)									
PCB 28	M	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	n/t
PCB 52	M	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	n/t
PCB 101	M	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	n/t
PCB 118	M	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	n/t
PCB 153	M	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	n/t
PCB 138	M	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	n/t
PCB 180	M	mg/kg	0.01	< 0.01	n/t	n/t	< 0.01	n/t	n/t
PCB (Total of 7 Congeners)	M	mg/kg	0.03	< 0.03	< 0.03	n/t	< 0.03	n/t	n/t

Results Summary

Report No.: 18-17119

ELAB Reference	132962	132963	132964	132965
Customer Reference	D2	D1	D2	D2
Sample ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sample Location	DIS2	DIS3	DIS4	DIS6
Sample Depth (m)	0.50	0.15	0.50	0.50
Sampling Date	03/04/2018	03/04/2018	03/04/2018	03/04/2018

Determinand	Codes	Units	LOD				
Metals							
Arsenic	M	mg/kg	1	n/t	^ 6.6	13.5	15.3
Cadmium	M	mg/kg	0.5	n/t	^ 1.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	n/t	^ 8.9	40.1	47.5
Copper	M	mg/kg	5	n/t	^ 5.4	16.6	22.3
Lead	M	mg/kg	5	n/t	^ 26.1	20.7	15.7
Mercury	M	mg/kg	0.5	n/t	^ < 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	n/t	^ 8.3	26.6	44.6
Selenium	M	mg/kg	1	n/t	^ < 1.0	< 1.0	< 1.0
Zinc	M	mg/kg	5	n/t	^ 103	57.3	66.1
Anions							
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t	n/t	n/t
Inorganics							
Free Cyanide	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
Hexavalent Chromium	N	mg/kg	0.8	n/t	< 0.8	< 0.8	< 0.8
Total Cyanide	M	mg/kg	1	n/t	^ < 1.0	< 1.0	< 1.0
Miscellaneous							
Acid Neutralisation Capacity	N	mol/kg	0.1	< 0.1	n/t	n/t	n/t
Loss On Ignition (450°C)	M	%	0.01	^ 0.33	n/t	n/t	n/t
Moisture Content	N	%	0.1	n/t	2.7	18.5	18.8
pH	M	pH units	0.1	^ 8.7	^ 8.8	8.0	7.8
Stones Content	N	%	0.1	n/t	15.6	< 0.1	< 0.1
Total Organic Carbon	N	%	0.01	0.10	n/t	n/t	n/t
Phenols							
Phenol	M	mg/kg	1	n/t	^ < 1	< 1	< 1
M,P-Cresol	N	mg/kg	1	n/t	< 1	< 1	< 1
O-Cresol	N	mg/kg	1	n/t	< 1	< 1	< 1
3,4-Dimethylphenol	N	mg/kg	1	n/t	< 1	< 1	< 1
2,3-Dimethylphenol	M	mg/kg	1	n/t	^ < 1	< 1	< 1
2,3,5-trimethylphenol	M	mg/kg	1	n/t	^ < 1	< 1	< 1
Total Monohydric Phenols	N	mg/kg	5	n/t	< 5	< 5	< 5
Polyaromatic hydrocarbons							
Naphthalene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Fluorene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Anthracene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Pyrene	M	mg/kg	0.1	n/t	^ 0.1	< 0.1	< 0.1
Benzo(a)anthracene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Chrysene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Benzo (b) fluoranthene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	^ 0.2	< 0.1	< 0.1
Benzo (a) pyrene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	^ < 0.1	< 0.1	< 0.1
Total PAH(16)	M	mg/kg	0.4	n/t	^ 0.7	< 0.4	< 0.4
Total PAH (Including Coronene)	N	mg/kg	2	c < 2	n/t	n/t	n/t

Results Summary

Report No.: 18-17119

ELAB Reference	132962	132963	132964	132965
Customer Reference	D2	D1	D2	D2
Sample ID				
Sample Type	SOIL	SOIL	SOIL	SOIL
Sample Location	DIS2	DIS3	DIS4	DIS6
Sample Depth (m)	0.50	0.15	0.50	0.50
Sampling Date	03/04/2018	03/04/2018	03/04/2018	03/04/2018

Determinand	Codes	Units	LOD				
BTEX							
Benzene	M	ug/kg	10	n/t	< 10.0	< 10.0	< 10.0
Toluene	M	ug/kg	10	n/t	< 10.0	< 10.0	< 10.0
Ethylbenzene	M	ug/kg	10	n/t	< 10.0	< 10.0	< 10.0
Xylenes	M	ug/kg	10	n/t	< 10.0	< 10.0	< 10.0
Total BTEX	M	mg/kg	0.01	< 0.01	n/t	n/t	n/t
TPH CWG							
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	< 0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	< 0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	< 0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	< 0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
>C35-C40 Aromatic	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons							
Mineral Oil	U	mg/kg	5	41	n/t	n/t	n/t
PCB (ICES 7 congeners)							
PCB 28	M	mg/kg	0.01	n/t	^ < 0.01	< 0.01	n/t
PCB 52	M	mg/kg	0.01	n/t	^ < 0.01	< 0.01	n/t
PCB 101	M	mg/kg	0.01	n/t	^ < 0.01	< 0.01	n/t
PCB 118	M	mg/kg	0.01	n/t	^ < 0.01	< 0.01	n/t
PCB 153	M	mg/kg	0.01	n/t	^ < 0.01	< 0.01	n/t
PCB 138	M	mg/kg	0.01	n/t	^ < 0.01	< 0.01	n/t
PCB 180	M	mg/kg	0.01	n/t	^ < 0.01	< 0.01	n/t
PCB (Total of 7 Congeners)	M	mg/kg	0.03	< 0.03	^ < 0.03	< 0.03	n/t

Results Summary

Report No.: 18-17119

WAC Analysis

Elab Ref:	132962					Landfill Waste Acceptance Criteria Limits		
Sample Date:	03/04/2018					Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	DIS2 D2							
Depth (m)	0.5							
Site:	L/a Axis House, Bain Road, Harlington, Hayes, UB3 5AY							
Determinand		Code	Units					
Total Organic Carbon		N	%		0.10	3	5	6
Loss on Ignition		M	%		0.3	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		41	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			8.7	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate

Eluate Analysis

			10:1	10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg		
			mg/l	mg/kg			
Arsenic		N	< 0.005	< 0.05	0.5	2	25
Barium		N	0.239	2.39	20	100	300
Cadmium		N	< 0.001	< 0.01	0.04	1	5
Chromium		N	< 0.005	< 0.05	0.5	10	70
Copper		N	< 0.005	< 0.05	2	50	100
Mercury		N	< 0.005	< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005	< 0.05	0.5	10	30
Nickel		N	< 0.001	< 0.05	0.4	10	40
Lead		N	< 0.001	< 0.05	0.5	10	50
Antimony		N	< 0.005	< 0.05	0.06	0.7	5
Selenium		N	< 0.005	< 0.05	0.1	0.5	7
Zinc		N	< 0.005	< 0.05	4	50	200
Chloride		N	< 5	< 50	800	15000	25000
Fluoride		N	< 5	< 10	10	150	500
Sulphate		N	2	19.20	1000	20000	50000
Total Dissolved Solids		N	30	300.00	4000	60000	100000
Phenol Index		N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon		N	3.190	32.00	500	800	1000

Leach Test Information

pH		N	8.7				
Conductivity (uS/cm)		N	51				
Dry mass of test portion (g)			103.000				
Dry Matter (%)			97				
Moisture (%)			3				
Eluent Volume (ml)			1010				

Results are expressed on a dry weight basis, after correction for moisture content where applicable

Stated limits are for guidance only and ELAB cannot be held responsible for any discrepancies with current legislation

Results Summary

Report No.: 18-17119

2683

WAC Analysis

Elab Ref:	132957					Landfill Waste Acceptance Criteria Limits		
Sample Date:	03/04/2018					Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	BH1 D3							
Depth (m)	2							
Site:	L/a Axis House, Bain Road, Harlington, Hayes, UB3 5AY							
Determinand		Code	Units					
Total Organic Carbon		N	%		< 0.01	3	5	6
Loss on Ignition		M	%		0.0	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		< 5	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			8.6	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate

Eluate Analysis

			10:1	10:1	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg		
			mg/l	mg/kg			
Arsenic		N	< 0.005	< 0.05	0.5	2	25
Barium		N	< 0.005	< 0.05	20	100	300
Cadmium		N	< 0.001	< 0.01	0.04	1	5
Chromium		N	< 0.005	< 0.05	0.5	10	70
Copper		N	< 0.005	< 0.05	2	50	100
Mercury		N	< 0.005	< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005	< 0.05	0.5	10	30
Nickel		N	< 0.001	< 0.05	0.4	10	40
Lead		N	< 0.001	< 0.05	0.5	10	50
Antimony		N	< 0.005	< 0.05	0.06	0.7	5
Selenium		N	< 0.005	< 0.05	0.1	0.5	7
Zinc		N	< 0.005	< 0.05	4	50	200
Chloride		N	< 5	< 50	800	15000	25000
Fluoride		N	< 5	< 10	10	150	500
Sulphate		N	2	19.80	1000	20000	50000
Total Dissolved Solids		N	10	100.00	4000	60000	100000
Phenol Index		N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon		N	6.030	60.00	500	800	1000

Leach Test Information

pH		N	8.3				
Conductivity (uS/cm)		N	63				
Dry mass of test portion (g)			103.000				
Dry Matter (%)			98				
Moisture (%)			2				
Eluent Volume (ml)			1000				

Results are expressed on a dry weight basis, after correction for moisture content where applicable

Stated limits are for guidance only and ELAB cannot be held responsible for any discrepancies with current legislation



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Results Summary
Report No.: 18-17119

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
132956	1.00	BH1 D2	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
132959	0.50	BH3 D2	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
132961	0.50	DIS1 D2	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
132963	0.15	DIS3 D1	Brown sandy soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
132964	0.50	DIS4 D2	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
132965	0.50	DIS6 D2	Brown soil	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 18-17119

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Free cyanide	N	As submitted sample	19/04/2018	107	Colorimetry
Hexavalent chromium	N	As submitted sample	19/04/2018	110	Colorimetry
Aqua regia extractable metals	M	Air dried sample	19/04/2018	118	ICPMS
Phenols in solids	M	As submitted sample	19/04/2018	121	HPLC
PAH (GC-FID)	M	As submitted sample	19/04/2018	133	GC-FID
Water soluble anions	M	Air dried sample	19/04/2018	172	Ion Chromatography
Low range Aliphatic hydrocarbons soil	N	As submitted sample	19/04/2018	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	19/04/2018	181	GC-MS
Total cyanide	M	As submitted sample	19/04/2018	204	Colorimetry
Aliphatic hydrocarbons in soil	N	As submitted sample	19/04/2018	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	20/04/2018	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	19/04/2018	214	GC-FID
Asbestos identification	U	Air dried sample	19/04/2018	PMAN	Microscopy
Leachate					
Arsenic*	N		23/04/2018	101	ICPMS
Cadmium*	N		23/04/2018	101	ICPMS
Chromium*	N		23/04/2018	101	ICPMS
Lead*	N		23/04/2018	101	ICPMS
Nickel*	N		23/04/2018	101	ICPMS
Copper*	N		23/04/2018	101	ICPMS
Zinc*	N		23/04/2018	101	ICPMS
Mercury*	N		23/04/2018	101	ICPMS
Selenium*	N		23/04/2018	101	ICPMS
Antimony	N		23/04/2018	101	ICPMS
Barium*	N		23/04/2018	101	ICPMS
Molybdenum*	N		23/04/2018	101	ICPMS
pH Value*	N		23/04/2018	113	Electrometric
Electrical Conductivity*	N		23/04/2018	136	Probe
Dissolved Organic Carbon	N		23/04/2018	102	TOC analyser
Chloride*	N		23/04/2018	131	Ion Chromatography
Fluoride*	N		23/04/2018	131	Ion Chromatography
Sulphate*	N		23/04/2018	131	Ion Chromatography
Total Dissolved Solids	N		23/04/2018	144	Gravimetric
Phenol index	N		23/04/2018	121	HPLC
WAC Solids analysis	N				
pH Value**	M	Air dried sample	20/04/2018	113	Electrometric
Total Organic Carbon	N	Air dried sample	20/04/2018	210	IR
Loss on Ignition**	M	Air dried sample	20/04/2018	129	Gravimetric
Acid Neutralization Capacity to pH 7	N	Air dried sample	20/04/2018	NEN 737	Electrometric
Total BTEX**	M	As submitted sample	19/04/2018	181	GCMS
Mineral Oil**	U	As submitted sample	19/04/2018	117	GCFID
Total PCBs (7 congeners)	M	Air dried sample	19/04/2018	120	GCMS
Total PAH (17)**	N	As submitted sample	20/04/2018	133	GCFID

Tests marked N are not UKAS accredited

Report Information

Report No.: 18-17119

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C)

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage



Undrained Shear Strength versus Depth Profile

Risk Management Limited

Tel : 01883 343572

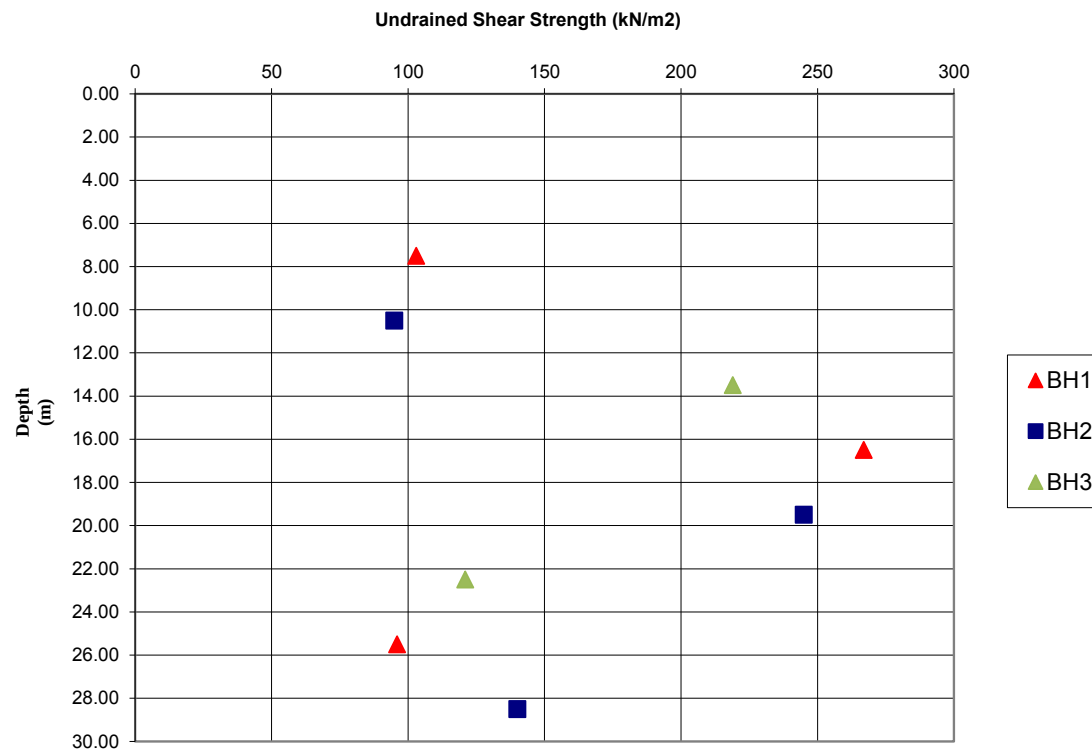
Fax : 01883 344060

Project Name : L/a Axis House, Bath Road, Harlington, Hayes, UB3 5AY

Job No. : RML 6066

Date : May 2018

BH1		BH2		BH3	
Depth (m)	Shear Strength (kN/m ²)	Depth (m)	Shear Strength (kN/m ²)	Depth (m)	Shear Strength (kN/m ²)
7.50	103	10.50	95	13.50	219
16.50	267	19.50	245	22.50	121
25.50	96	28.50	140		



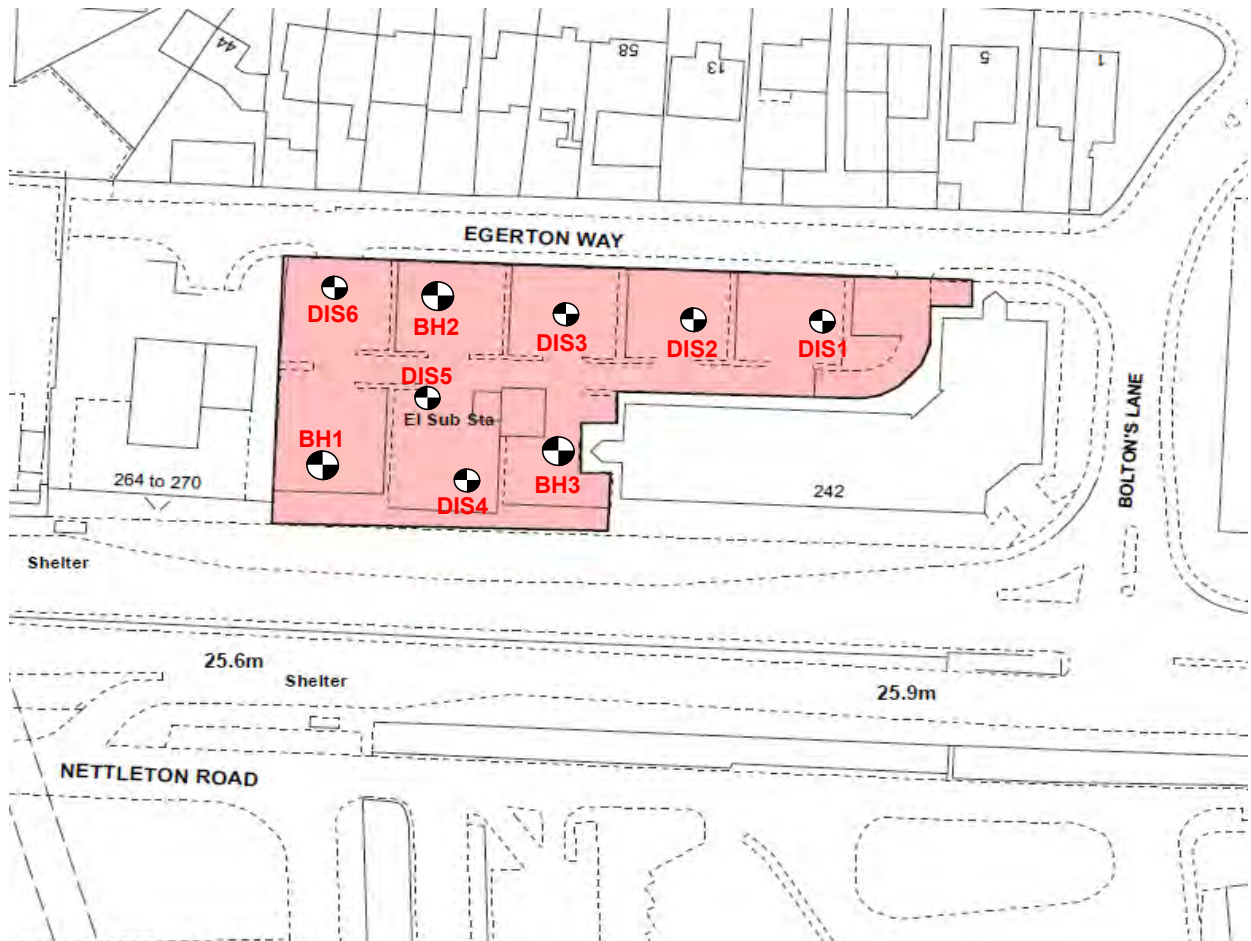


GROUNDWATER & GAS MONITORING RESULTS

[illegible]

KEY

Borehole Location

**RISK MANAGEMENT LIMITED**Tel : 01883 343572
Fax : 01883 344060

Title :

**SKETCH FIELDWORK
LOCATION PLAN**Project Location : L/a Axis House, Bath Road, Harlington, Hayes,
UB3 5AYReport
Date : May 2018

Scale : NTS

Drawn By : MSP

Drg. No. RML 6066 /1