

TQ09SE		TQ18NW
2006		2006
1:10,000		1:10,000

Order Number: 230074002_1_1
Customer Ref: RML 7119
National Grid Reference: 510290, 190290
Slice: A
Site Area (Ha): 0.14
Search Buffer (m): 1000

53, Joel Street, NORTHWOOD, HA6 1NZ

VectorMap Local

Published 2019

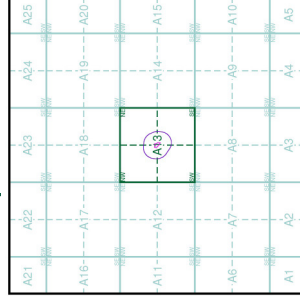
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a digital vector map at a nominal scale of 1:10,000, covering the whole of Great Britain. The map has been converted to a raster format by OS. VectorMap Local is derived from large-scale information surveyed at 1:250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10,000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

TO08SE	TO19SW
2019	2019
Variable	Variable
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TO08NE	TO19NW
2019	2019
Variable	Variable

Historical Map - Slice A

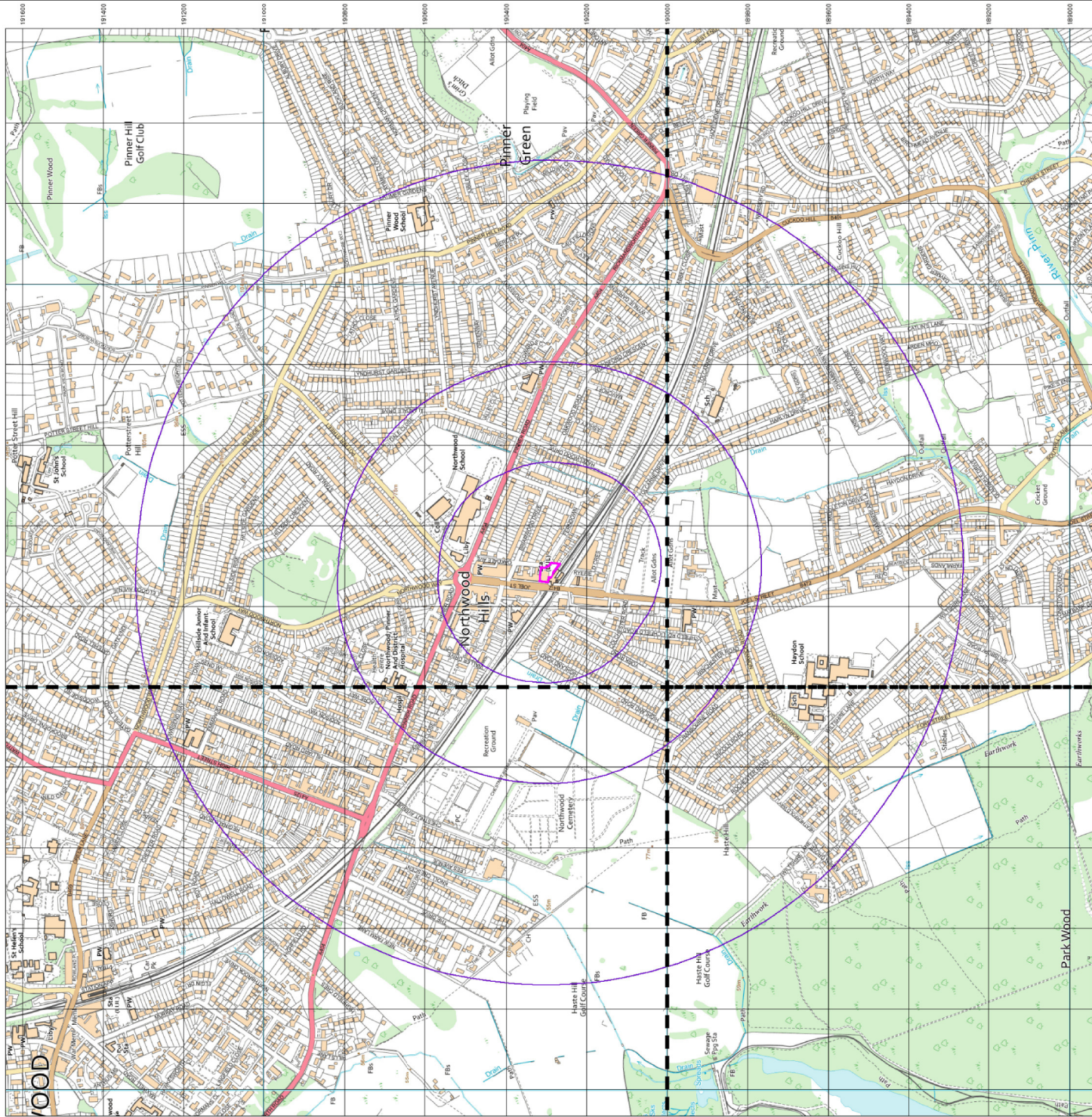


Order Details

Order Number: 230074002_1_1
Customer Ref: RML 7119
National Grid Reference: 510290, 190290
Slice: A
Site Area (Ha): 0.14
Search Buffer (m): 1000

Site Details

53, Joel Street, NORTHWOOD, HA6 1NZ





	Title : GENERAL SITE PHOTOGRAPHS JANUARY 2020	Report Date : January 2020
RISK MANAGEMENT LIMITED Tel : 01883 343572	Project Name : 53 Joel Street, Northwood, London, HA6 1NZ	Plate 1 Job No : RML 7119



	Title : GENERAL SITE PHOTOGRAPHS JANUARY 2020	Report Date : January 2020
RISK MANAGEMENT LIMITED Tel : 01883 343572	Project Name : 53 Joel Street, Northwood, London, HA6 1NZ	Plate 2 Job No : RML 7119

Borehole Log

Borehole No.
BH1
Sheet 1 of 2

Project No.	RML 7119	Coordinates:		Drilling Technique:	Cable Percussion Rig	Level (m):	
Site Address:	53 Joel Street, Northwood. HA6 1NZ	Date:	23/01/2020	Diameter (mm):	150	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		
	Tarmac over Roadstone		0.30							
	MADE GROUND (dark brown silty clay with brick fragments, concrete and gravel).		0.60		0.50	D1				
1	Weathered London Clay Soft to firm brown mottled silty CLAY.				1.00	D2				
					1.50		SPT	N=8 (1,1/2,2,2,2)		
2					2.00	D3				
	<i>becoming firm to stiff and brown-grey in colour from 2.00m depth</i>				2.50	U1		(50 blows)		
3					3.00	D4				
					3.50		SPT	N=12 (2,2/2,3,3,4)		
4					4.00	D5				
					4.50	U2		(65 blows)		
5	London Clay Stiff grey silty CLAY.		4.90		5.00	D7				
					5.50		SPT	N=20 (2,3/4,5,5,6)		
6					6.50	D6				
					7.00	U3		(80 blows)		
7					7.50	D8				
					8.00	D9				
8	<i>becoming sandy from 8.00m depth</i>				8.50		SPT	N=32 (4,6/6,7,8,11)		
9					9.50	D10				
10	Continued on next sheet				10.00	U4		(100 blows)		

Remarks:	Service Pit excavated to 1.20m depth. Groundwater not noted during boring.	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	
-----------------	--	--	---

Borehole Log

Borehole No.
BH1
Sheet 2 of 2

Project No.	RML 7119	Coordinates:		Drilling Technique:	Cable Percussion Rig	Level (m):	
Site Address:	53 Joel Street, Northwood. HA6 1NZ	Date:	23/01/2020	Diameter (mm):	150	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		
11 <										

Remarks:	Service Pit excavated to 1.20m depth. Groundwater not noted during boring.	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	
----------	--	--	---

 Risk Management Limited Unit 10 Coopers Place Combe Lane Godalming Surrey GU8 5SZ		Borehole Log				Borehole No. DIS1 Sheet 1 of 1				
Project No. RML 7119		Coordinates:			Drilling Technique: Light Percussion Rig		Level (m):			
Site Address: 53 Joel Street, Northwood. HA6 1NZ				Date: 13/01/2020		Diameter (mm): 85		Scale: 1:50		
Stratum Description		Legend	Depth (m)	Level (m)	Samples and In Situ Testing				Water Strikes	Well
Tarmac			0.10		0.15	D1				
MADE GROUND (crushed stone and brick fill with occasional roots).			0.35		0.50	D2				
Weathered London Clay Soft to firm brown silty CLAY with pockets of orange-brown and grey silt and occasional selenite crystals. becoming firm from 1.00m depth					1.00	D3				
					1.50	D4				
					2.00	D5				
					2.50	D6				
					3.00	D7				
					3.50	D8				
					4.00	D9				
					4.50	D10				
					5.00	D11				
becoming dark brown in colour from 5.00m depth					5.50	D12				
London Clay Firm grey silty CLAY with selenite crystals.			5.60		6.00	D13				
					6.50	D14				
Borehole terminated at 7.00m depth			7.00		7.00	D15				

Borehole Log

Borehole No.

DIS2

Sheet 1 of 1

[illegible]

Remarks:	Service Pit excavated to 1.20m depth. Groundwater not noted during boring.
----------	--

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
MEXF = Insitu CBR test



Borehole Log

Borehole No.

DIS3

Sheet 1 of 1

[illegible]

Remarks:	Service Pit excavated to 1.20m depth. Groundwater not noted during boring.
----------	--

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
MEXF = Insitu CBR test



 Risk Management Limited Unit 10 Coopers Place Combe Lane Godalming Surrey GU8 5SZ		Borehole Log				Borehole No. DIS4 Sheet 1 of 1				
Project No. RML 7119		Coordinates:		Drilling Technique: Hand Excavated		Level (m):				
Site Address: 53 Joel Street, Northwood. HA6 1NZ			Date: 13/01/2020		Diameter (mm):		Scale: 1:50			
1 2 3 4 5 6 7 8 9 10	Stratum Description		Legend	Depth (m)	Level (m)	Samples and In Situ Testing			Water Strikes	Well
	Tarmac			0.15		0.15	D1			
	MADE GROUND (crushed stone, gravel, brick fragments and pieces of concrete).			0.30						
	MADE GROUND (brown silty sandy clay with gravel, brick fragments and pieces of concrete).			0.80		0.50	D2			
	Borehole terminated at 0.80m depth					0.80	D3			
Remarks: Borehole terminated at 0.80m due to concrete obstructions.					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					

 Risk Management Limited Unit 10 Coopers Place Combe Lane Godalming Surrey GU8 5SZ		Borehole Log				Borehole No. DIS5 Sheet 1 of 1				
Project No. RML 7119		Coordinates:		Drilling Technique: Hand Excavated		Level (m):				
Site Address: 53 Joel Street, Northwood. HA6 1NZ			Date: 13/01/2020		Diameter (mm):		Scale: 1:50			
1 2 3 4 5 6 7 8 9 10	Stratum Description		Legend	Depth (m)	Level (m)	Samples and In Situ Testing			Water Strikes	Well
	Tarmac			0.15		0.15	D1			
	MADE GROUND (brown silty sandy clay with gravel, brick fragments, pieces of concrete and roots).			0.80		0.50	D2			
	1.00				1.00	D3				
	Fine to coarse sub-angular to sub-rounded GRAVEL with brown clayey sand and roots.									
	Borehole terminated at 1.00m depth									
Remarks: Service Pit excavated to 1.00m depth. Groundwater not noted during boring. Roots in evidence until at least 1.00m depth.					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					

Borehole Log

Borehole No.
DIS6
Sheet 1 of 1

Project No.	RML 7119	Coordinates:		Drilling Technique:	Hand Excavated	Level (m):	
Site Address:	53 Joel Street, Northwood. HA6 1NZ	Date:	13/01/2020	Diameter (mm):		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		
	Tarmac		0.10		0.15	D1				
	MADE GROUND (brown silty sandy clay with gravel, brick fragments, pieces of concrete and roots).		0.80		0.50	D2				
1			1.00		1.00	D3				
	Fine to coarse sub-angular to sub-rounded GRAVEL with brown clayey sand and roots.									
2	Borehole terminated at 1.00m depth									
3										
4										
5										
6										
7										
8										
9										
10										

Remarks:	Service Pit excavated to 1.00m depth. Groundwater not noted during boring. Roots in evidence until at least 1.00m depth.	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	
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FALLING HEAD PERMEABILITY TEST

Risk Management Limited
Tel : 01883 343572

Project Name : 53 Joel Street, Northwood, London, HA6 1NZ

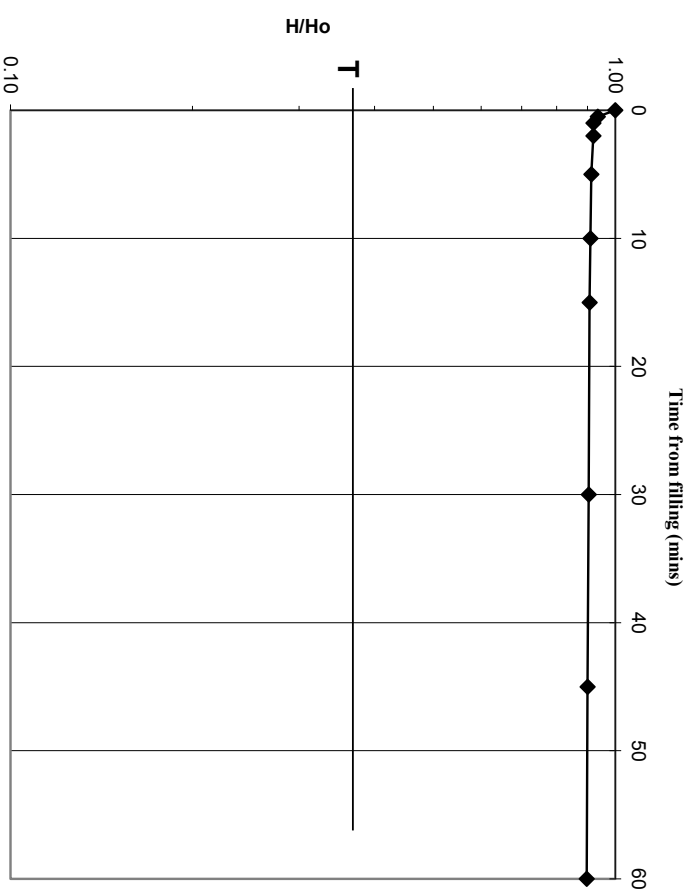
SOAKAWAY TEST SA1 (DIS1)

Job No. RML 7119

Date : February 2020

Test Depth		$H_0 =$	
3.1		3.10	
Depth (m)	Time (mins)	H	H/ H_0
0.000	0	3.10	1.00
0.200	0.5	2.90	0.94
0.250	1	2.85	0.92
0.250	2	2.85	0.92
0.270	5	2.83	0.91
0.280	10	2.82	0.91
0.290	15	2.81	0.91
0.300	30	2.80	0.90
0.310	45	2.79	0.90
0.320	60	2.78	0.90

Diameter of pipe = 0.054 (m)
Area (A) = 0.0023 (m²)
Intake factor (F) = 0.15
Basic Time Factor (T) = N/A (min)
Permeability (k) = N/A m/sec





Standard Penetration Test (SPT) versus Depth Profile

Risk Management Limited
Tel : 01883 343572

Project Name :

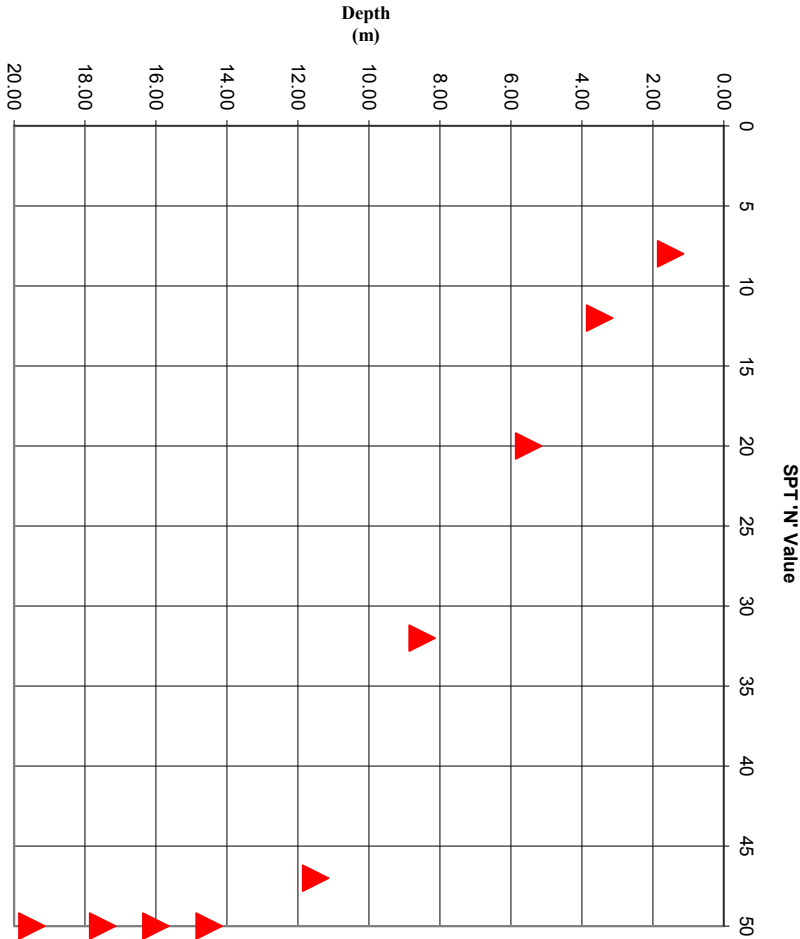
53 Joel Street, Northwood, London, HA6 1NZ

Job No. : RML 7119

Date : February 2020

BH1

Depth (m)	SPT 'N' value				
1.50	8				
3.50	12				
5.50	20				
8.50	32				
11.50	47				
14.50	50				
16.00	50				
17.50	50				
19.50	50				



▲ BH1

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

PROJECT NAME : 53 Joel Street, Northwood, London, HA6 1NZ
PROJECT NO: RML 7119

Sample Details			Description	Classification Tests				Density Tests		Undrained Triaxial Compression Tests			Chemical Results			Other tests and comments			
BH No.	Depth (m)	Sample No.		MC (%)	LL (%)	PL (%)	PI	<425 mic (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Cell Pressure kPa	Deviator Stress kPa	Mean Shear Stress kPa	pH	W/S SO ₄ (g/l)		Total SO ₄ (%)	Water SO ₄ (g/l)	
																		Class CE	
BH1	1.00	D2		40	93	30	63	100											Class CV
BH1	2.00	D3		31	72	24	48	100											
BH1	2.50	U1		31					1.94	1.48	50	142	71						
BH1	4.50	U2		34					1.94	1.45	90	275	138						
BH1	7.00	U3		23					2.03	1.65	140	317	159						
BH1	10.00	U4		22					2.00	1.64	200	159	80						
BH1	13.00	U5		15					2.16	1.87	260	351	176						
BH1	19.00	U6		15					1.90	1.66	380	98	49						
DIS1	0.50	D2													7.0	0.16			
DIS1	1.50	D4													6.2	0.09			
DIS2	1.00	D3													8.1				
DIS3	0.15	D1													8.7				
DIS4	0.50	D2													8.7				
DIS5	0.15	D1													5.8				
DIS6	1.00	D3													4.5				

SUMMARY OF GEOTECHNICAL TESTING



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
Telephone: (01424) 718618

cs@elab-uk.co.uk
info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 20-26583

Issue: 1

Date of Issue: 22/01/2020

Contact: Malcolm Price

Customer Details: Risk Management Ltd
10 Coopers Place
Combe Lane
Godalming
Surrey GU8 5SZ

Quotation No: Q19-01475

Order No: RML 7119

Customer Reference: RML 7119

Date Received: 16/01/2020

Date Approved: 22/01/2020

Details: 53 Joel Street, Northwood, HA6 1NZ

Approved by: 

Mike Varley, Technical Manager

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

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Sample Summary

Report No.: 20-26583, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
194482	DIS1 D2 0.50	13/01/2020	16/01/2020	Clay	
194483	DIS1 D4 1.50	13/01/2020	16/01/2020	Clayey loam	
194484	DIS2 D3 1.00	13/01/2020	16/01/2020	Clay	
194485	DIS3 D1 0.15	13/01/2020	16/01/2020	Sandy silty loam	
194486	DIS4 D2 0.50	13/01/2020	16/01/2020	Sandy silty loam	
194487	DIS5 D1 0.15	13/01/2020	16/01/2020	Silty loam	
194488	DIS6 D3 1.00	13/01/2020	16/01/2020	Sandy loam	

Results Summary

2683

Report No.: 20-26583, issue number 1

ELAB Reference	194482	194483	194484	194485	194486
Customer Reference	D2	D4	D3	D1	D2
Sample ID					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	DIS1	DIS1	DIS2	DIS3	DIS4
Sample Depth (m)	0.50	1.50	1.00	0.15	0.50
Sampling Date	13/01/2020	13/01/2020	13/01/2020	13/01/2020	13/01/2020

Determinand	Codes	Units	LOD					
Soil sample preparation parameters								
Moisture Content	N	%	0.1	n/t	n/t	n/t	12.6	8.5
Stones Content	N	%	0.1	n/t	n/t	n/t	54.8	53.6
Material removed	N	%	0.1	< 0.1	< 0.1	< 0.1	54.8	53.6
Description of Inert material removed	N		0	None	None	None	Stones	Stones
Metals								
Arsenic	M	mg/kg	1	n/t	n/t	n/t	14.2	14.3
Cadmium	M	mg/kg	0.5	n/t	n/t	n/t	0.8	0.6
Chromium	M	mg/kg	5	n/t	n/t	n/t	46.6	34.9
Copper	M	mg/kg	5	n/t	n/t	n/t	49.6	49.4
Lead	M	mg/kg	5	n/t	n/t	n/t	108	125
Mercury	M	mg/kg	0.5	n/t	n/t	n/t	< 0.5	< 0.5
Nickel	M	mg/kg	5	n/t	n/t	n/t	23.8	15.4
Selenium	M	mg/kg	1	n/t	n/t	n/t	< 1.0	< 1.0
Zinc	M	mg/kg	5	n/t	n/t	n/t	118	106
Anions								
Water Soluble Sulphate	M	g/l	0.02	0.16	0.09	n/t	n/t	n/t
Inorganics								
Free Cyanide	N	mg/kg	1	n/t	n/t	n/t	< 1.0	< 1.0
Hexavalent Chromium	N	mg/kg	0.8	n/t	n/t	n/t	< 0.8	< 0.8
Total Cyanide	M	mg/kg	1	n/t	n/t	n/t	< 1.0	< 1.0
Miscellaneous								
Acid Neutralisation Capacity	N	mol/kg	0.1	< 0.1	n/t	< 0.1	n/t	n/t
Loss On Ignition (450°C)	M	%	0.01	4.36	n/t	4.33	n/t	n/t
pH	M	pH units	0.1	7.0	6.2	8.1	8.7	8.7
Soil Organic Matter	U	%	0.1	n/t	n/t	n/t	7.1	7.1
Total Organic Carbon	N	%	0.01	0.38	n/t	1.0	n/t	n/t
Phenols								
Phenol	M	mg/kg	1	n/t	n/t	n/t	1	< 1
M,P-Cresol	N	mg/kg	1	n/t	n/t	n/t	< 1	< 1
O-Cresol	N	mg/kg	1	n/t	n/t	n/t	4	1
3,4-Dimethylphenol	N	mg/kg	1	n/t	n/t	n/t	< 1	1
2,3-Dimethylphenol	M	mg/kg	1	n/t	n/t	n/t	< 1	2
2,3,5-trimethylphenol	M	mg/kg	1	n/t	n/t	n/t	< 1	< 1
Total Monohydric Phenols	N	mg/kg	5	n/t	n/t	n/t	6	< 5

Results Summary

Report No.: 20-26583, issue number 1

ELAB Reference	194482	194483	194484	194485	194486
Customer Reference	D2	D4	D3	D1	D2
Sample ID					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	DIS1	DIS1	DIS2	DIS3	DIS4
Sample Depth (m)	0.50	1.50	1.00	0.15	0.50
Sampling Date	13/01/2020	13/01/2020	13/01/2020	13/01/2020	13/01/2020

Determinand	Codes	Units	LOD					
Polyaromatic hydrocarbons								
Naphthalene	M	mg/kg	0.1	n/t	n/t	n/t	3.0	0.6
Acenaphthylene	M	mg/kg	0.1	n/t	n/t	n/t	6.6	4.8
Acenaphthene	M	mg/kg	0.1	n/t	n/t	n/t	15.0	1.1
Fluorene	M	mg/kg	0.1	n/t	n/t	n/t	27.4	1.8
Phenanthrene	M	mg/kg	0.1	n/t	n/t	n/t	119	16.7
Anthracene	M	mg/kg	0.1	n/t	n/t	n/t	32.8	5.8
Fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	106	34.6
Pyrene	M	mg/kg	0.1	n/t	n/t	n/t	81.2	29.9
Benzo(a)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	43.8	21.7
Chrysene	M	mg/kg	0.1	n/t	n/t	n/t	43.1	20.0
Benzo(b)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	37.2	22.9
Benzo(k)fluoranthene	M	mg/kg	0.1	n/t	n/t	n/t	34.8	19.3
Benzo(a)pyrene	M	mg/kg	0.1	n/t	n/t	n/t	41.0	23.6
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	n/t	n/t	n/t	28.0	18.2
Dibenzo(a,h)anthracene	M	mg/kg	0.1	n/t	n/t	n/t	7.4	4.4
Benzo[g,h,i]perylene	M	mg/kg	0.1	n/t	n/t	n/t	24.5	17.1
Total PAH(16)	M	mg/kg	0.4	n/t	n/t	n/t	650	242
Total PAH (Including Coronene GC-FID)	N	mg/kg	2	c < 2	n/t	c < 2	n/t	n/t
BTEX								
Benzene	N	ug/kg	10	n/t	n/t	n/t	< 10.0	< 10.0
Toluene	N	ug/kg	10	n/t	n/t	n/t	< 10.0	< 10.0
Ethylbenzene	N	ug/kg	10	n/t	n/t	n/t	< 10.0	< 10.0
Xylenes	N	ug/kg	10	n/t	n/t	n/t	< 10.0	< 10.0
MTBE	N	ug/kg	10	n/t	n/t	n/t	< 10.0	< 10.0
Total BTEX	N	mg/kg	0.01	c < 0.01	n/t	c < 0.01	n/t	n/t
TPH CWG								
>C5-C6 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	n/t	n/t	n/t	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	n/t	n/t	n/t	< 1.0	< 1.0
>C10-C12 Aliphatic	M	mg/kg	1	n/t	n/t	n/t	1.2	< 1.0
>C12-C16 Aliphatic	M	mg/kg	1	n/t	n/t	n/t	6.3	1.8
>C16-C21 Aliphatic	M	mg/kg	1	n/t	n/t	n/t	11.7	4.0
>C21-C35 Aliphatic	M	mg/kg	1	n/t	n/t	n/t	198	128
>C35-C40 Aliphatic	M	mg/kg	1	n/t	n/t	n/t	70.5	84.5
Total aliphatic hydrocarbons (>C5 - C40)	N	mg/kg	1	n/t	n/t	n/t	288	219
>C5-C7 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	n/t	n/t	n/t	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	n/t	n/t	n/t	1.0	< 1.0
>C10-C12 Aromatic	M	mg/kg	1	n/t	n/t	n/t	5.3	1.5
>C12-C16 Aromatic	M	mg/kg	1	n/t	n/t	n/t	81.0	13.5
>C16-C21 Aromatic	M	mg/kg	1	n/t	n/t	n/t	240	72.6
>C21-C35 Aromatic	M	mg/kg	1	n/t	n/t	n/t	685	886
>C35-C40 Aromatic	M	mg/kg	1	n/t	n/t	n/t	256	456
Total aromatic hydrocarbons (>C5 - C40)	N	mg/kg	1	n/t	n/t	n/t	1270	1430
Total petroleum hydrocarbons (>C5 - C40)	N	mg/kg	1	n/t	n/t	n/t	1560	1650
Total Petroleum Hydrocarbons								
Mineral Oil	M	mg/kg	5	c^ 15	n/t	c^ 12	n/t	n/t
PCB (ICES 7 congeners)								
PCB (Total of 7 Congeners)	M	mg/kg	0.03	c < 0.03	n/t	c < 0.03	n/t	n/t



Results Summary

2683

Report No.: 20-26583, issue number 1

ELAB Reference	194487	194488
Customer Reference	D1	D3
Sample ID		
Sample Type	SOIL	SOIL
Sample Location	DIS5	DIS6
Sample Depth (m)	0.15	1.00
Sampling Date	13/01/2020	13/01/2020

Determinand	Codes	Units	LOD		
Soil sample preparation parameters					
Moisture Content	N	%	0.1	25.3	12.9
Stones Content	N	%	0.1	20.1	45.9
Material removed	N	%	0.1	20.1	45.9
Description of Inert material removed	N		0	Stones	Stones
Metals					
Arsenic	M	mg/kg	1	36.3	21.7
Cadmium	M	mg/kg	0.5	32.8	6.0
Chromium	M	mg/kg	5	160	68.3
Copper	M	mg/kg	5	435	130
Lead	M	mg/kg	5	661	210
Mercury	M	mg/kg	0.5	2.4	< 0.5
Nickel	M	mg/kg	5	96.8	37.4
Selenium	M	mg/kg	1	1.7	< 1.0
Zinc	M	mg/kg	5	973	268
Anions					
Water Soluble Sulphate	M	g/l	0.02	n/t	n/t
Inorganics					
Free Cyanide	N	mg/kg	1	< 1.0	< 1.0
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8
Total Cyanide	M	mg/kg	1	1.5	< 1.0
Miscellaneous					
Acid Neutralisation Capacity	N	mol/kg	0.1	n/t	n/t
Loss On Ignition (450°C)	M	%	0.01	n/t	n/t
pH	M	pH units	0.1	7.9	9.0
Soil Organic Matter	U	%	0.1	5.8	4.5
Total Organic Carbon	N	%	0.01	n/t	n/t
Phenols					
Phenol	M	mg/kg	1	< 1	< 1
M,P-Cresol	N	mg/kg	1	< 1	< 1
O-Cresol	N	mg/kg	1	< 1	< 1
3,4-Dimethylphenol	N	mg/kg	1	< 1	< 1
2,3-Dimethylphenol	M	mg/kg	1	< 1	< 1
2,3,5-trimethylphenol	M	mg/kg	1	< 1	< 1
Total Monohydric Phenols	N	mg/kg	5	< 5	< 5

Results Summary

Report No.: 20-26583, issue number 1

ELAB Reference	194487	194488
Customer Reference	D1	D3
Sample ID		
Sample Type	SOIL	SOIL
Sample Location	DIS5	DIS6
Sample Depth (m)	0.15	1.00
Sampling Date	13/01/2020	13/01/2020

Determinand	Codes	Units	LOD		
Polyaromatic hydrocarbons					
Naphthalene	M	mg/kg	0.1	0.2	0.4
Acenaphthylene	M	mg/kg	0.1	0.3	0.9
Acenaphthene	M	mg/kg	0.1	0.6	2.6
Fluorene	M	mg/kg	0.1	0.6	1.7
Phenanthrene	M	mg/kg	0.1	6.3	20.5
Anthracene	M	mg/kg	0.1	1.6	6.0
Fluoranthene	M	mg/kg	0.1	10.9	41.5
Pyrene	M	mg/kg	0.1	8.8	33.4
Benzo(a)anthracene	M	mg/kg	0.1	5.5	23.1
Chrysene	M	mg/kg	0.1	5.4	22.7
Benzo(b)fluoranthene	M	mg/kg	0.1	5.5	23.8
Benzo(k)fluoranthene	M	mg/kg	0.1	5.2	20.8
Benzo(a)pyrene	M	mg/kg	0.1	5.7	24.2
Indeno(1,2,3-cd)pyrene	M	mg/kg	0.1	4.4	19.3
Dibenzo(a,h)anthracene	M	mg/kg	0.1	1.2	4.7
Benzo[g,h,i]perylene	M	mg/kg	0.1	4.1	18.0
Total PAH(16)	M	mg/kg	0.4	66.2	263
Total PAH (Including Coronene GC-FID)	N	mg/kg	2	n/t	n/t
BTEX					
Benzene	N	ug/kg	10	< 10.0	< 10.0
Toluene	N	ug/kg	10	< 10.0	< 10.0
Ethylbenzene	N	ug/kg	10	< 10.0	< 10.0
Xylenes	N	ug/kg	10	< 10.0	< 10.0
MTBE	N	ug/kg	10	< 10.0	< 10.0
Total BTEX	N	mg/kg	0.01	n/t	n/t
TPH CWG					
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0
>C10-C12 Aliphatic	M	mg/kg	1	< 1.0	< 1.0
>C12-C16 Aliphatic	M	mg/kg	1	< 1.0	< 1.0
>C16-C21 Aliphatic	M	mg/kg	1	< 1.0	1.7
>C21-C35 Aliphatic	M	mg/kg	1	12.2	42.7
>C35-C40 Aliphatic	M	mg/kg	1	5.3	29.6
Total aliphatic hydrocarbons (>C5 - C40)	N	mg/kg	1	18.6	75.2
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0
>C10-C12 Aromatic	M	mg/kg	1	< 1.0	1.1
>C12-C16 Aromatic	M	mg/kg	1	1.7	8.6
>C16-C21 Aromatic	M	mg/kg	1	6.6	53.6
>C21-C35 Aromatic	M	mg/kg	1	102	509
>C35-C40 Aromatic	M	mg/kg	1	28.9	194
Total aromatic hydrocarbons (>C5 - C40)	N	mg/kg	1	141	768
Total petroleum hydrocarbons (>C5 - C40)	N	mg/kg	1	159	843
Total Petroleum Hydrocarbons					
Mineral Oil	M	mg/kg	5	n/t	n/t
PCB (ICES 7 congeners)					
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t

Results Summary

2683

Report No.: 20-26583, issue number 1

WAC Analysis

Elab Ref:	194484					Landfill Waste Acceptance Criteria Limits*		
Sample Date:	13/01/2020					Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	DIS2 D3							
Depth (m)	1							
Site:	53 Joel Street, Northwood, HA6 1NZ							
Determinand		Code	Units					
Total Organic Carbon		N	%		1.00	3	5	6
Loss on Ignition		M	%		4.3	--	--	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		12	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			8.1	--	>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	0.025	0.25	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	0.005	< 0.05	0.4	10	40
Lead		N	0.002	< 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	0.011	0.11	4	50	200
Chloride		N	14	138.00	800	15000	25000
Fluoride		N	< 5	< 10	10	150	500
Sulphate		N	26	261.00	1000	20000	50000
Total Dissolved Solids		N	127	1270.00	4000	60000	100000
Phenol Index		N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon		N	31.400	314.00	500	800	1000

Leach Test Information

pH		N	7.6				
Conductivity (uS/cm)		N	190				
Dry mass of test portion (g)			101.000				
Dry Matter (%)			74				
Moisture (%)			36				
Eluent Volume (ml)			936				

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

* Stated limits are for guidance only, and not for conformity assessment.

Results Summary

Report No.: 20-26583, issue number 1

WAC Analysis

Elab Ref:	194482					Landfill Waste Acceptance Criteria Limits*		
Sample Date:	13/01/2020					Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	DIS1 D2							
Depth (m)	0.5							
Site:	53 Joel Street, Northwood, HA6 1NZ							
Determinand		Code	Units					
Total Organic Carbon		N	%		0.38	3	5	6
Loss on Ignition		M	%		4.4	--	--	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		15	500	--	--
Total (of 17) PAHs		N	mg/kg		< 2	100	--	--
pH		M			7.0	--	>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	0.003	< 0.05	0.4	10	40
Lead	N	0.003	< 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	0.009	0.09	4	50	200
Chloride	N	20	200.00	800	15000	25000
Fluoride	N	< 5	< 10	10	150	500
Sulphate	N	35	349.00	1000	20000	50000
Total Dissolved Solids	N	125	1250.00	4000	60000	100000
Phenol Index	N	< 0.01	< 0.10	1	-	-
Dissolved Organic Carbon	N	19.800	198.00	500	800	1000

Leach Test Information

pH	N	7.2				
Conductivity (uS/cm)	N	186				
Dry mass of test portion (g)		101.000				
Dry Matter (%)		75				
Moisture (%)		34				
Eluent Volume (ml)		939				

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

* Stated limits are for guidance only, and not for conformity assessment.



Unit A2, Windmill Road, Ponswood Industrial Estate, St Leonards on Sea, East Sussex, TN38 9BY
Tel: +44 (0)1424 718618, Email: info@elab-uk.co.uk, Web: www.elab-uk.co.uk

Results Summary
Report No.: 20-26583, issue number 1

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 (%)
194485	0.15	DIS3 D1	Brown Soil,Stones,Clinker	No asbestos detected	n/t	n/t	n/t	n/t
194486	0.50	DIS4 D2	Brown Soil,Stones	No asbestos detected	n/t	n/t	n/t	n/t
194487	0.15	DIS5 D1	Brown Soil,Stones,Tar	No asbestos detected	n/t	n/t	n/t	n/t
194488	1.00	DIS6 D3	Brown Soil,Stones,Tar	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 20-26583, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Free cyanide	N	As submitted sample	17/01/2020	107	Colorimetry
Hexavalent chromium	N	As submitted sample	17/01/2020	110	Colorimetry
Aqua regia extractable metals	M	Air dried sample	17/01/2020	118	ICPMS
Phenols in solids	M	As submitted sample	17/01/2020	121	HPLC
PAH (GC-FID)	M	As submitted sample	17/01/2020	133	GC-FID
Water soluble anions	M	Air dried sample	17/01/2020	172	Ion Chromatography
Low range Aliphatic hydrocarbons soil	N	As submitted sample	20/01/2020	181	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	20/01/2020	181	GC-MS
Total cyanide	M	As submitted sample	17/01/2020	204	Colorimetry
TPH CWG soil by gc-gc	M	As submitted sample	16/01/2020	214	
Soil organic matter	U	Air dried sample	21/01/2020	BS1377:P3	Titrimetry
Asbestos identification	U	Air dried sample	20/01/2020	PMAN	Microscopy
Leachate					
Arsenic	N		21/01/2020	101	ICPMS
Cadmium	N		21/01/2020	101	ICPMS
Chromium	N		21/01/2020	101	ICPMS
Lead	N		21/01/2020	101	ICPMS
Nickel	N		21/01/2020	101	ICPMS
Copper	N		21/01/2020	101	ICPMS
Zinc	N		21/01/2020	101	ICPMS
Mercury	N		21/01/2020	101	ICPMS
Selenium	N		21/01/2020	101	ICPMS
Antimony	N		21/01/2020	101	ICPMS
Barium	N		21/01/2020	101	ICPMS
Molybdenum	N		21/01/2020	101	ICPMS
pH Value	N		21/01/2020	113	Electrometric
Electrical Conductivity	N		21/01/2020	136	Probe
Dissolved Organic Carbon	N		21/01/2020	102	TOC analyser
Chloride	N		21/01/2020	131	Ion Chromatography
Fluoride	N		21/01/2020	131	Ion Chromatography
Sulphate	N		21/01/2020	131	Ion Chromatography
Total Dissolved Solids	N		21/01/2020	144	Gravimetric
Phenol index	N		21/01/2020	121	HPLC
WAC Solids analysis					
pH Value	M	Air dried sample	21/01/2020	113	Electrometric
Total Organic Carbon	N	Air dried sample	20/01/2020	210	IR
Loss on Ignition	M	Air dried sample	21/01/2020	129	Gravimetric
Acid Neutralization Capacity to pH 7	N	Air dried sample	21/01/2020	NEN 737	Electrometric
Total BTEX	N	As submitted sample	20/01/2020	181	GCMS
Mineral Oil	M	As submitted sample	17/01/2020	117	GCFID
Total PCBs (7 congeners)	M	Air dried sample	17/01/2020	120	GCMS
Total PAH (17)	N	As submitted sample	21/01/2020	133	GCFID

Tests marked N are not UKAS accredited

Report Information

Report No.: 20-26583, issue number 1

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), and are uncorrected for inert material removed.

ELAB are unable to provide an interpretation or opinion on the content of this report.

The results relate only to the sample received.

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

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

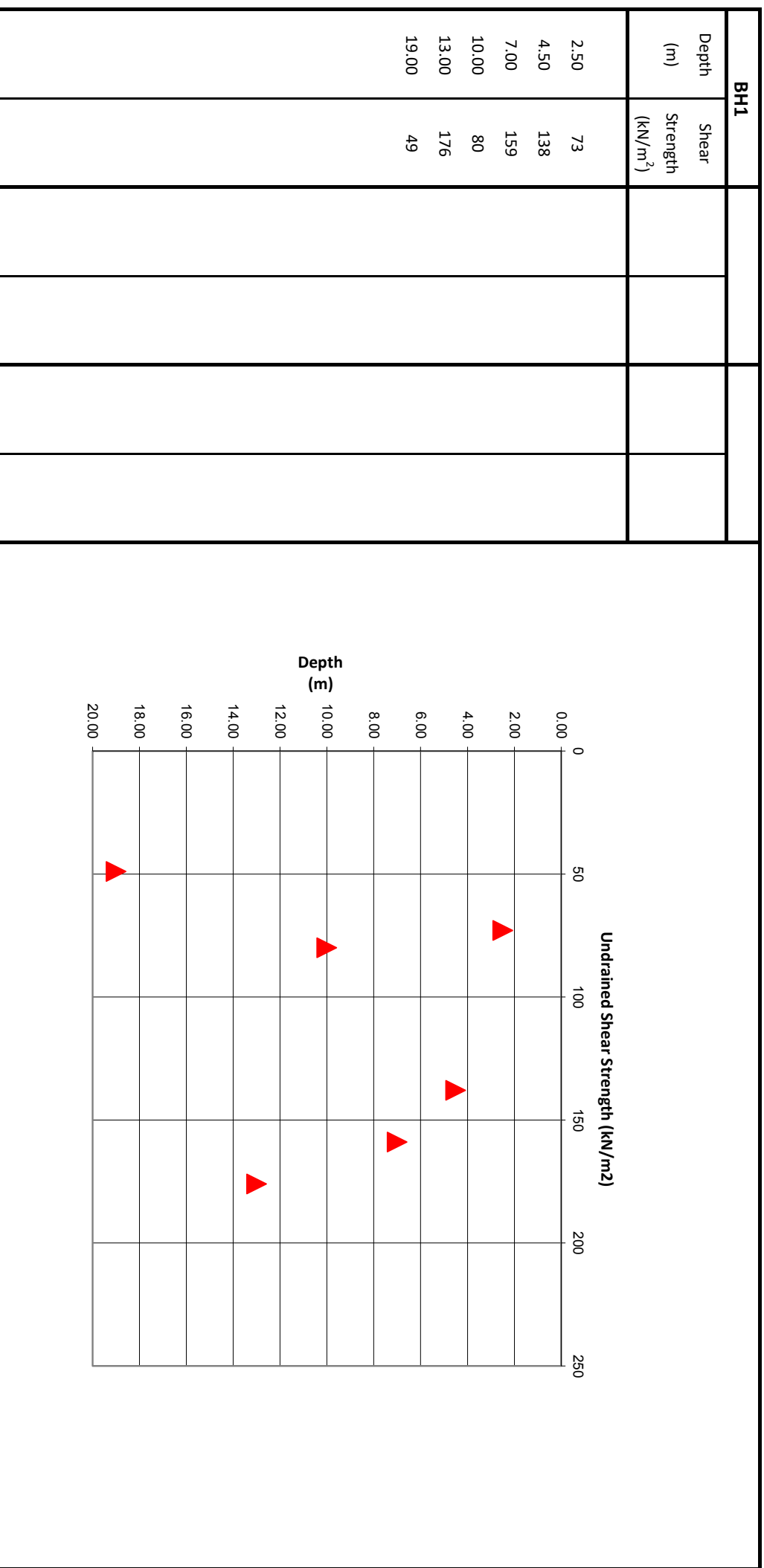
Undrained Shear Strength versus Depth Profile

Risk Management Limited
Tel : 01883 343572

Project Name : 53 Joel Street, Northwood, London, HA6 1NZ

Job No. : RML 7119

Date : February 2020

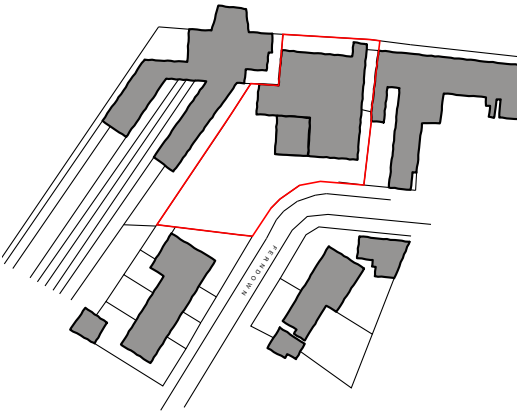




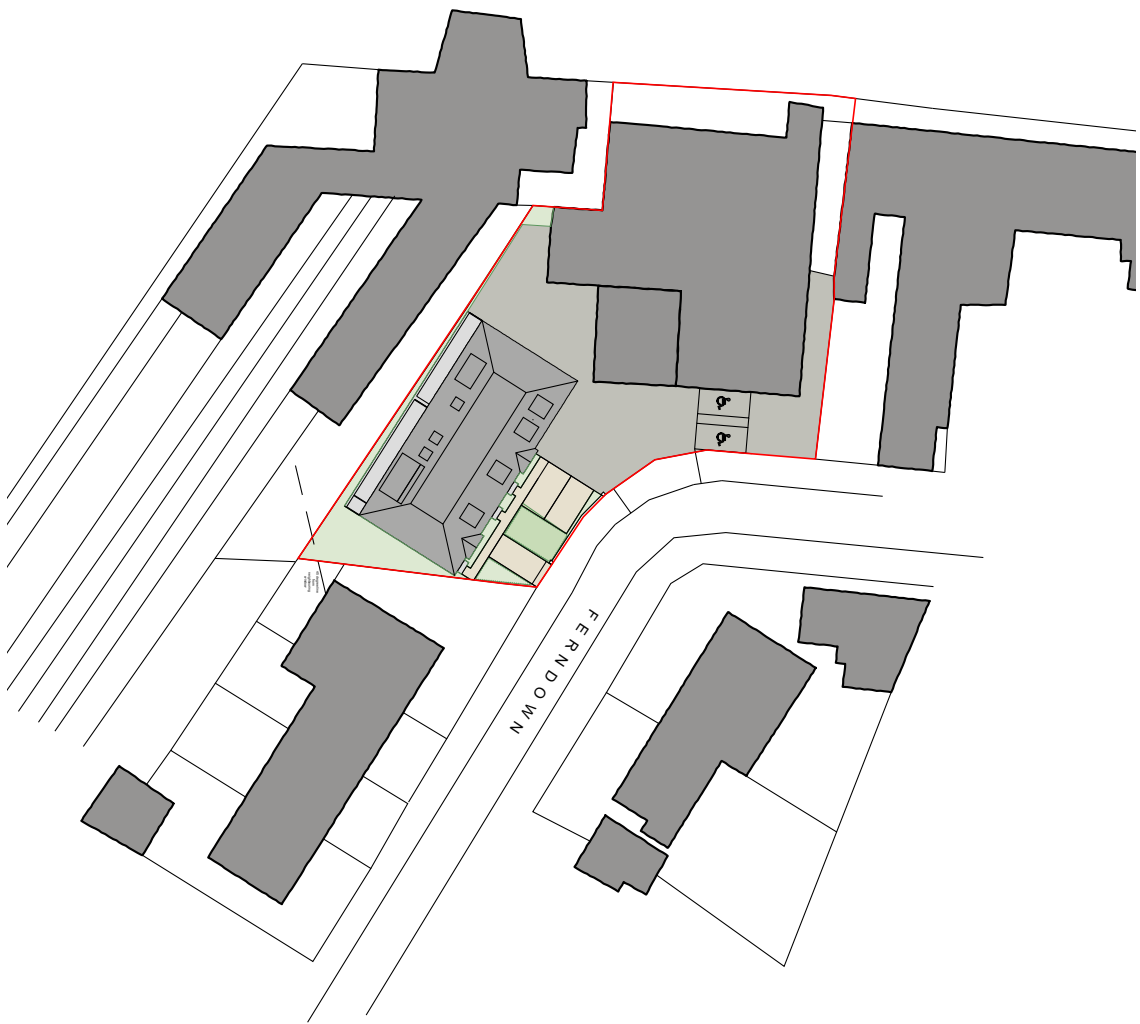
GROUNDWATER & GAS MONITORING RESULTS

Project No. :	RML 7119
Date :	February 2020

[illegible]



Location Plan Scale 1:1250



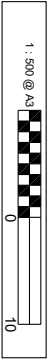
Rev	Date	Description

**Fluent**
ARCHITECTURAL DESIGN SERVICES

FLUENT
ARCHITECTURAL DESIGN SERVICES
221 CLARE ROAD, STAINES
MIDDLESEX TW19 7EF
E-MAIL: n.millin@fluentads.co.uk
WEB: [FLUENTADS.CO.UK](http://fluentads.co.uk)

Joel Street
Northwood

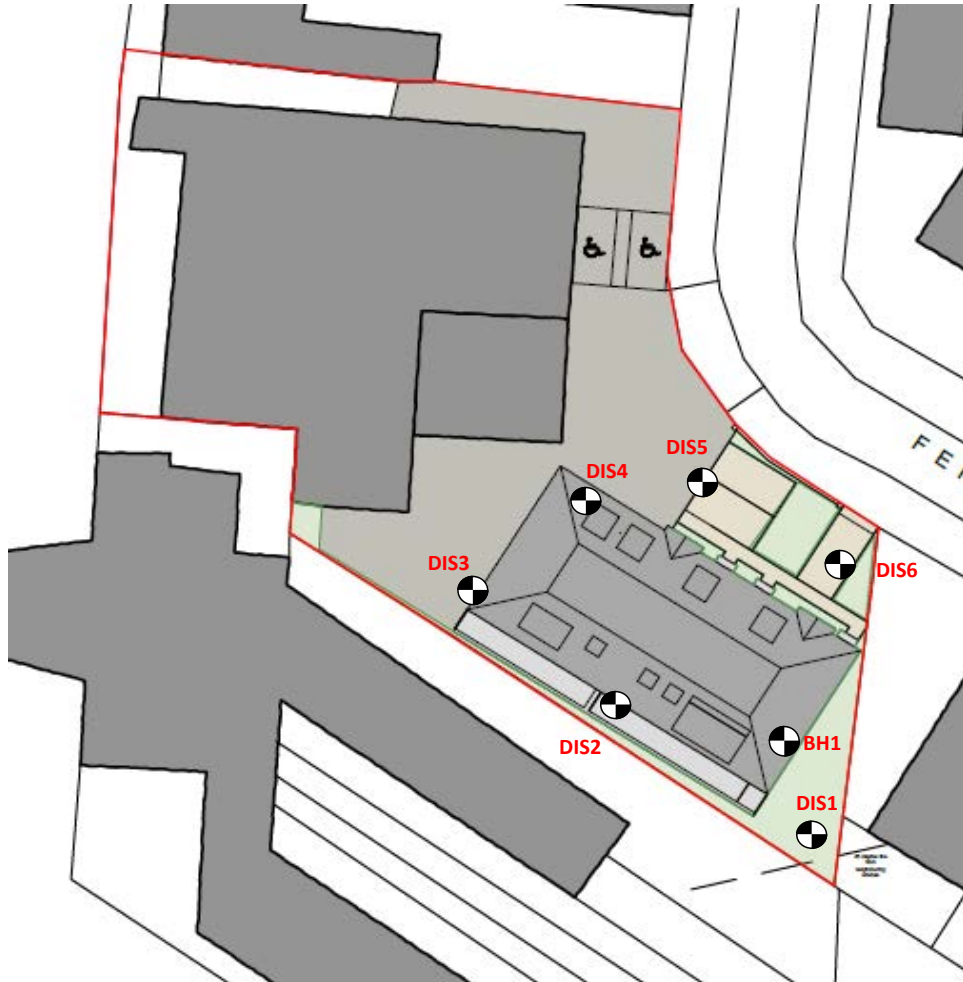
Site Layout & Location Plan



Scale	Dwg No.
1:500 @ A3	FLU.653.02
Date	Rev
05.01.18	W
Drawn	
N.Millin	

KEY

Borehole Location



RISK MANAGEMENT LIMITED
Unit 10 Coopers Place, Combe Lane,
Godalming, Surrey GU8 5SZ
Tel : 01883 343572

Title :

**SKETCH FIELDWORK
LOCATION PLAN**

Project Location : 53 Joel Street, Northwood, London, HA6 1NZ

Report
Date : February 2020

Scale : NTS

Drawn By : MSP

Drg. No. RML 7119 /1