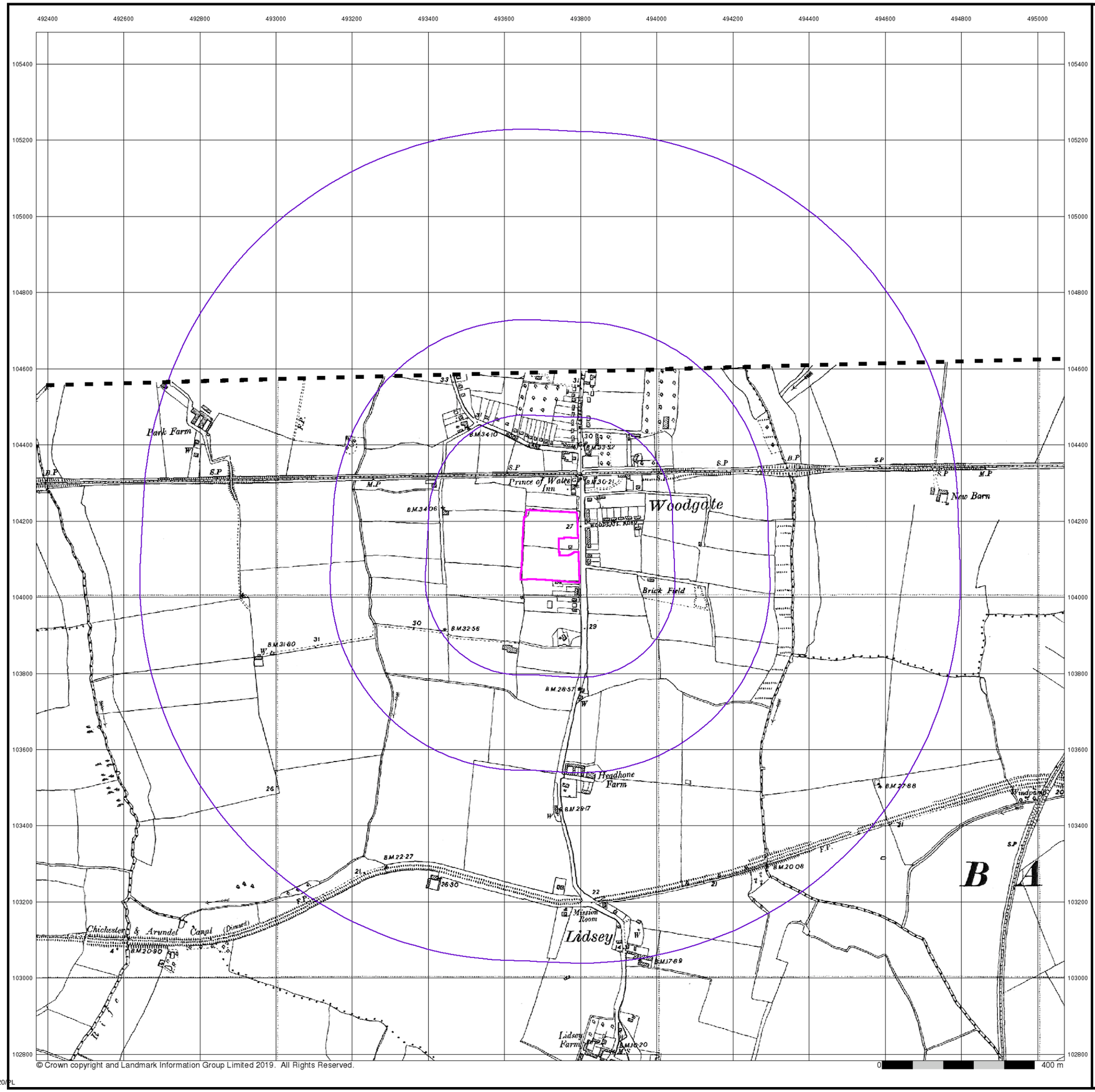

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Geo-Environmental
Sussex
Published 1951
Source map scale - 1:10,560

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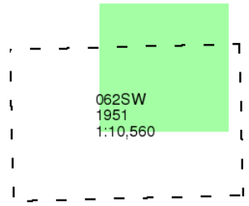
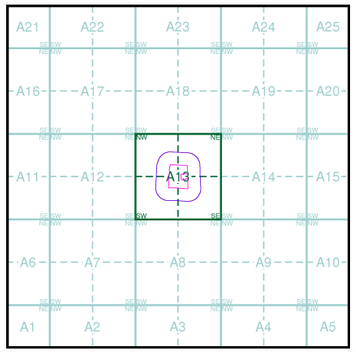
Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

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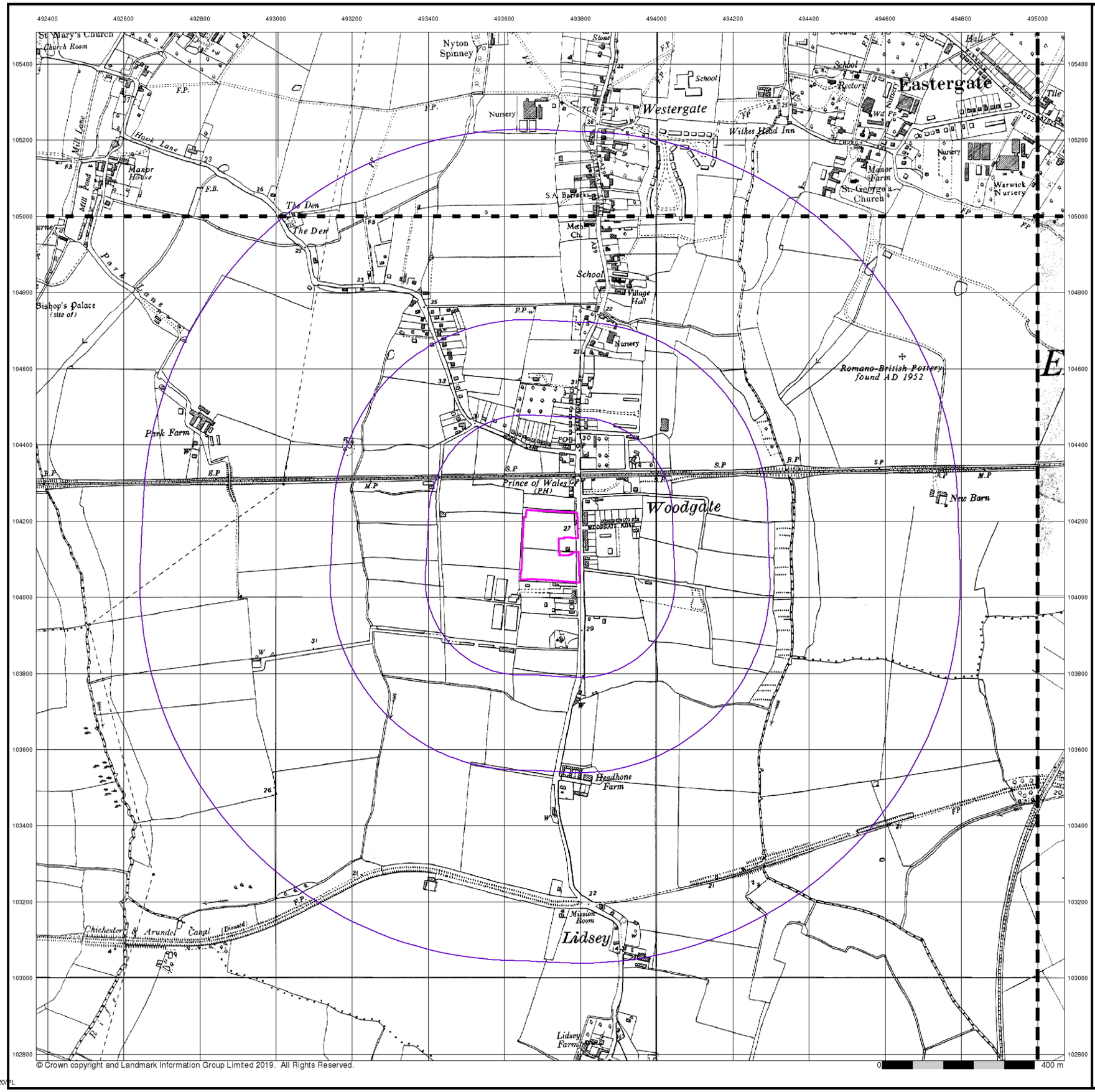
Web: www.envirocheck.co.uk



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Geo-Environmental

Ordnance Survey Plan

Published 1961 - 1962

Source map scale - 1:10,000

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Map Name(s) and Date(s)

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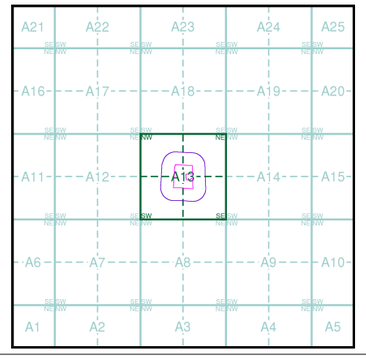
SU90SW 1961 1:10,560	SU90SE 1962 1:10,560

Historical Map - Slice A



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Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

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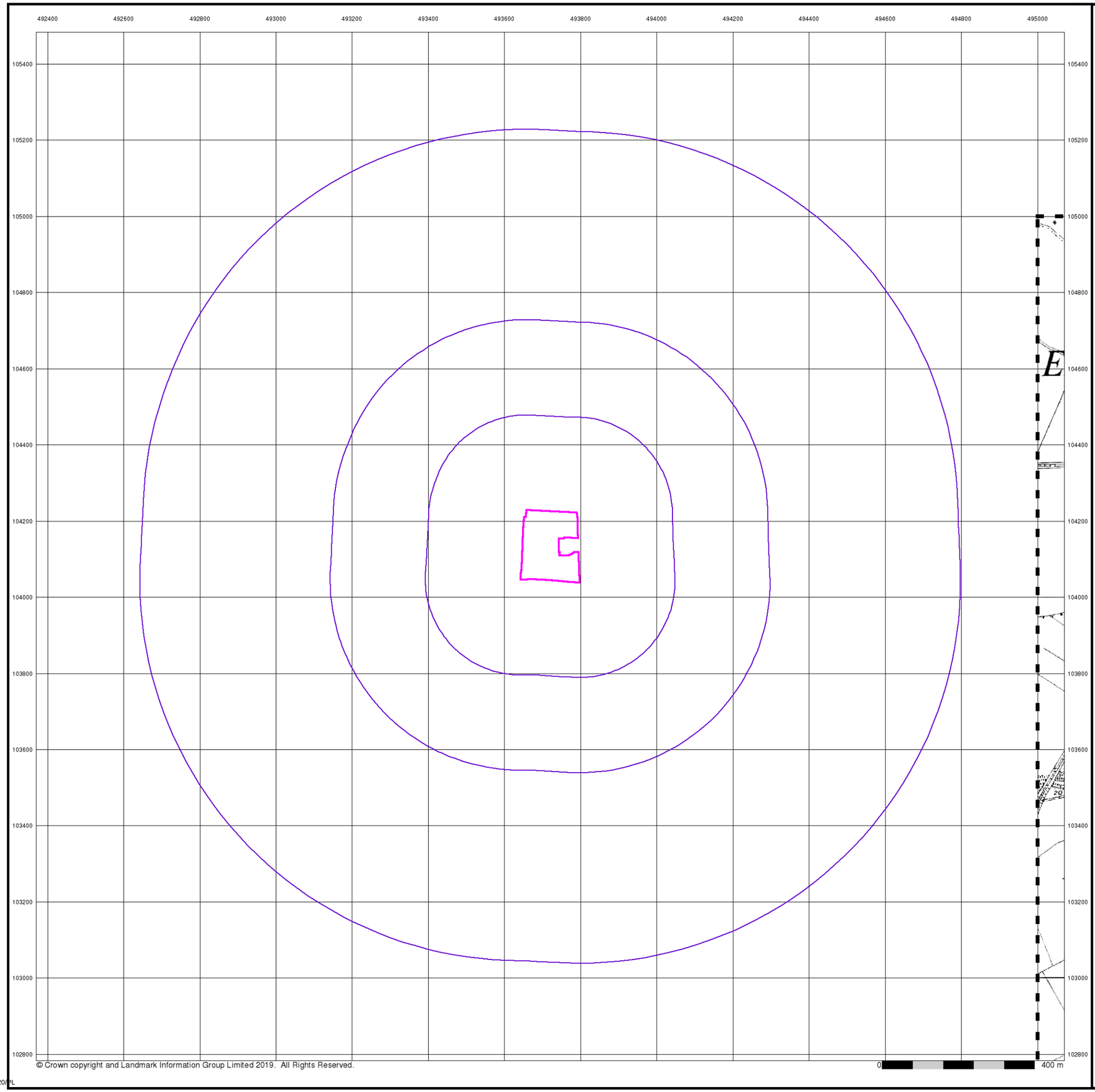

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Geo-Environmental
Ordnance Survey Plan
Published 1967
Source map scale - 1:10,000

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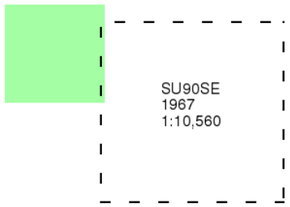
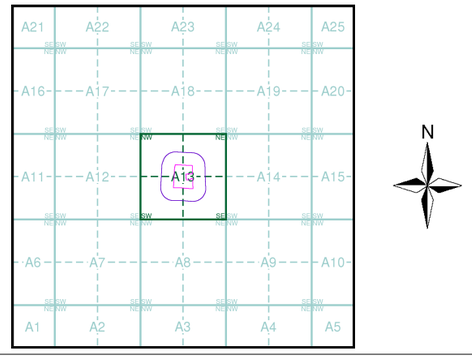
Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

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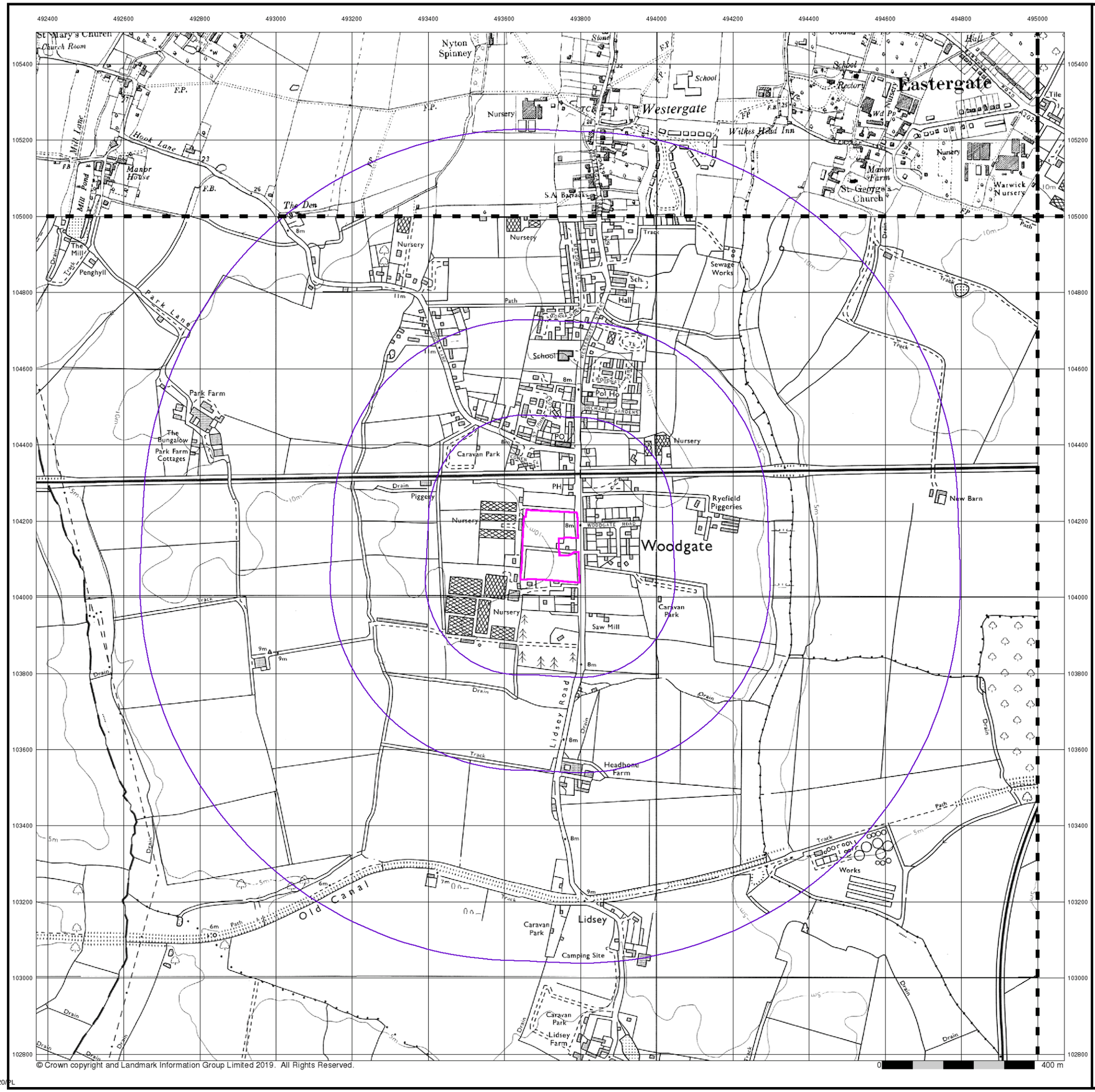

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0 400 m

Geo-Environmental

Ordnance Survey Plan

Published 1970 - 1979

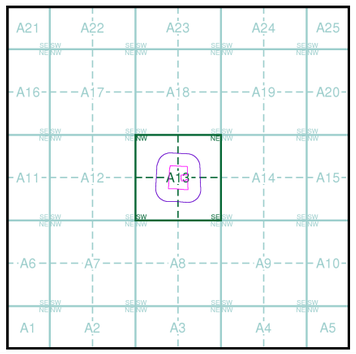
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SU90NW 1970 1:10,560	SU90NE 1979 1:10,000
SU90SW 1979 1:10,000	

Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

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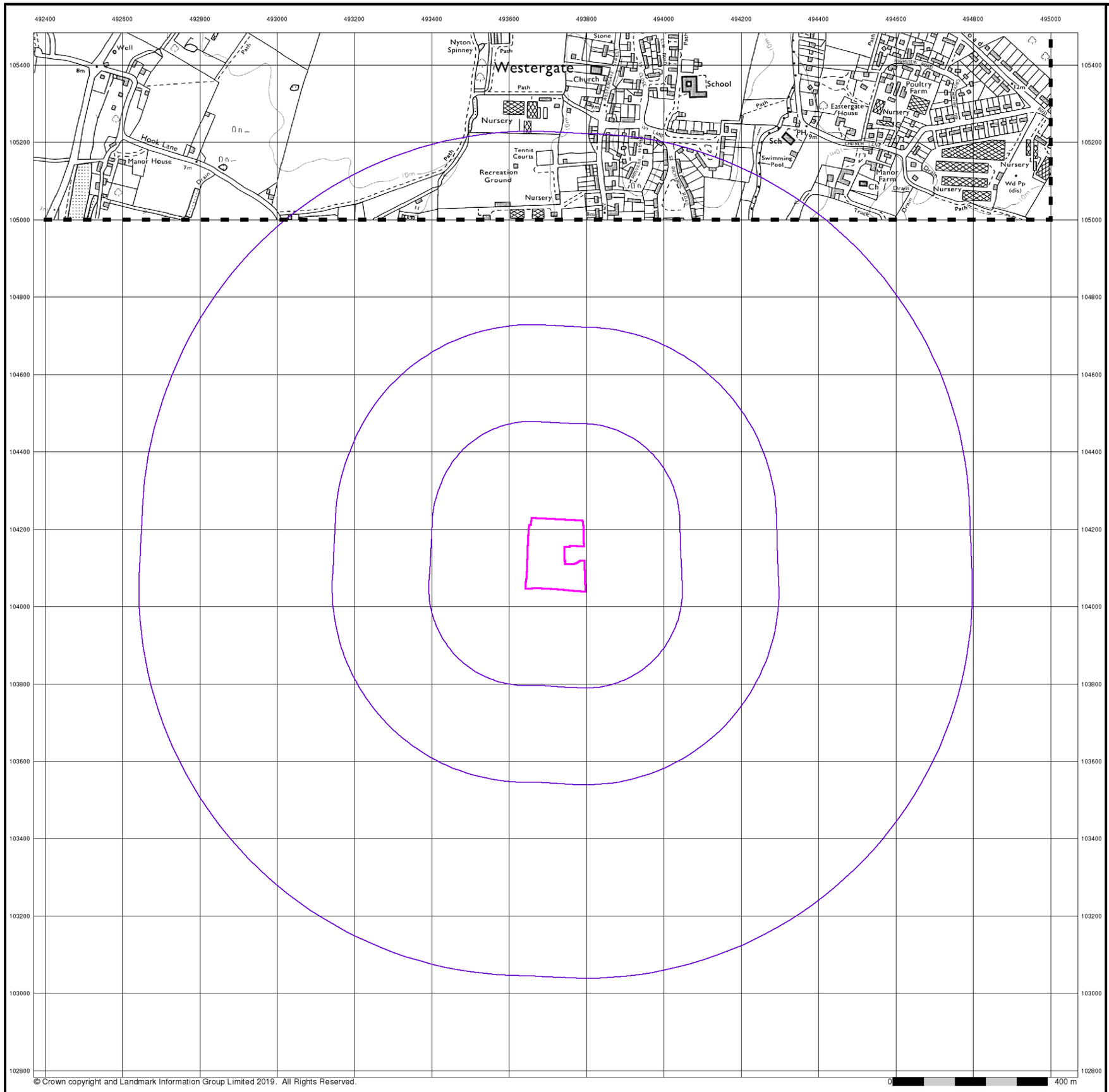

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Geo-Environmental

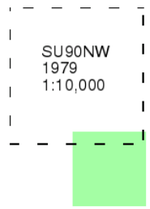
Ordnance Survey Plan

Published 1979

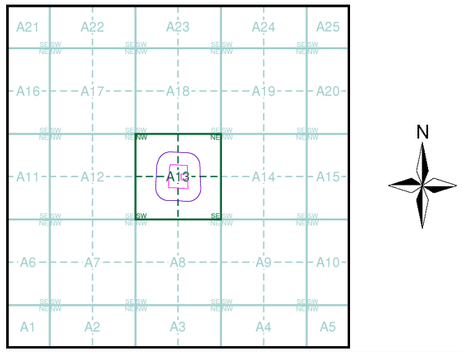
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

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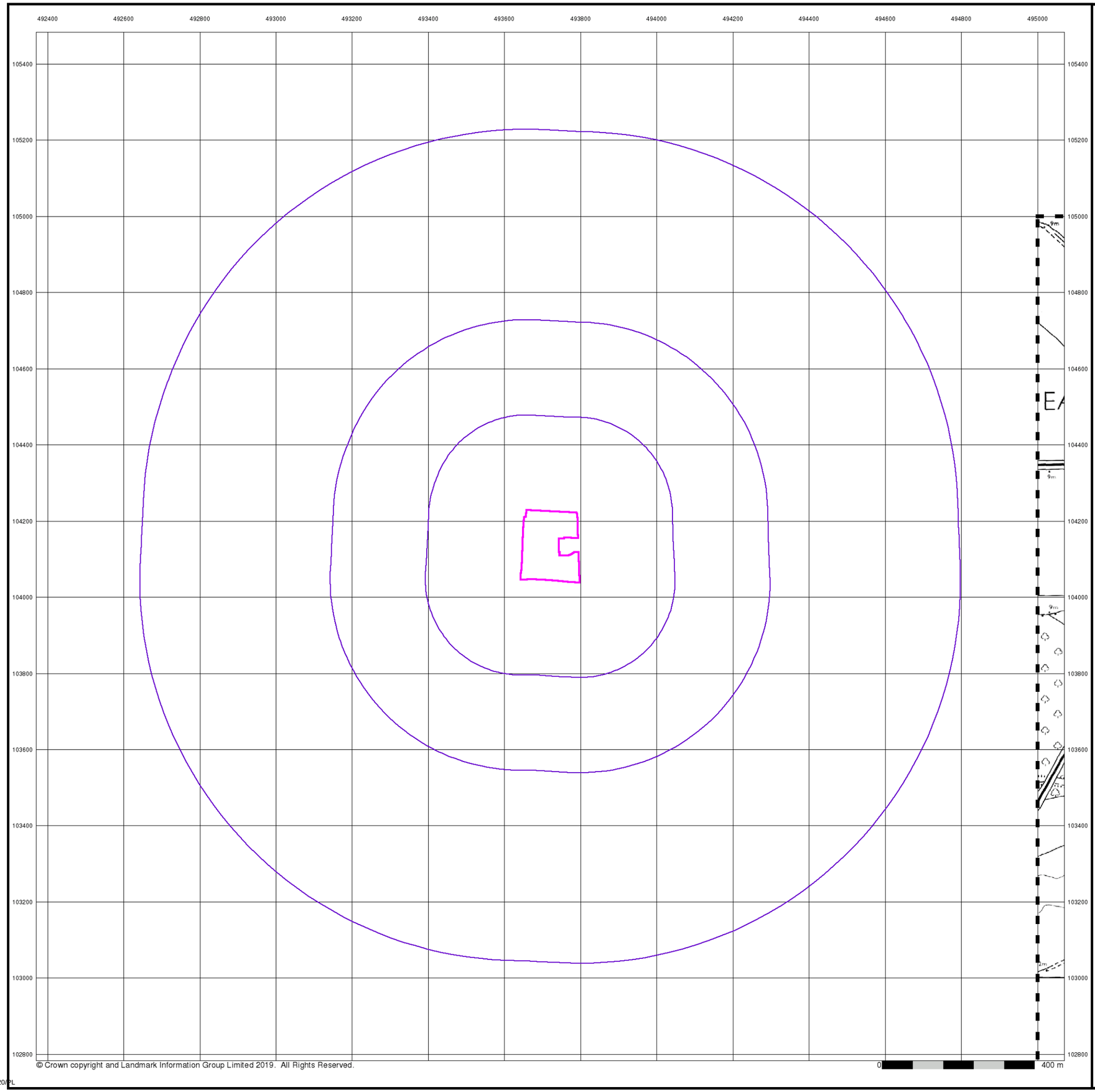

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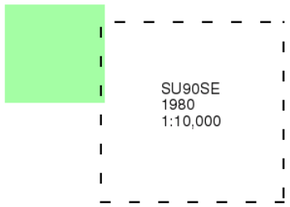
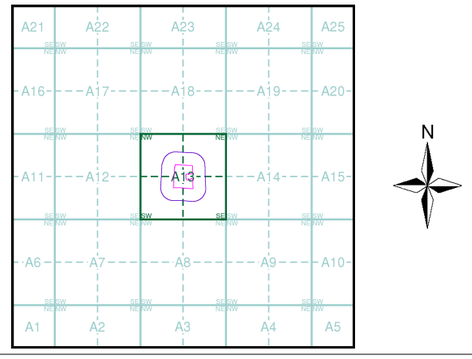
Geo-Environmental
Ordnance Survey Plan
Published 1980
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

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Geo-Environmental

Ordnance Survey Plan

Published 1992 - 1993

Source map scale - 1:10,000

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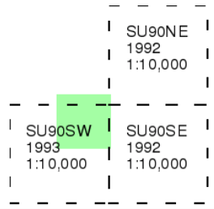
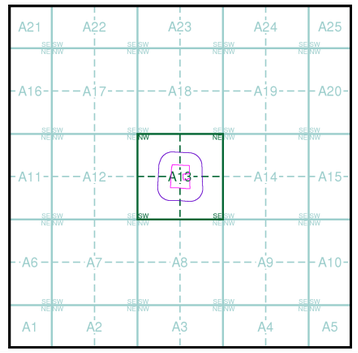
Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

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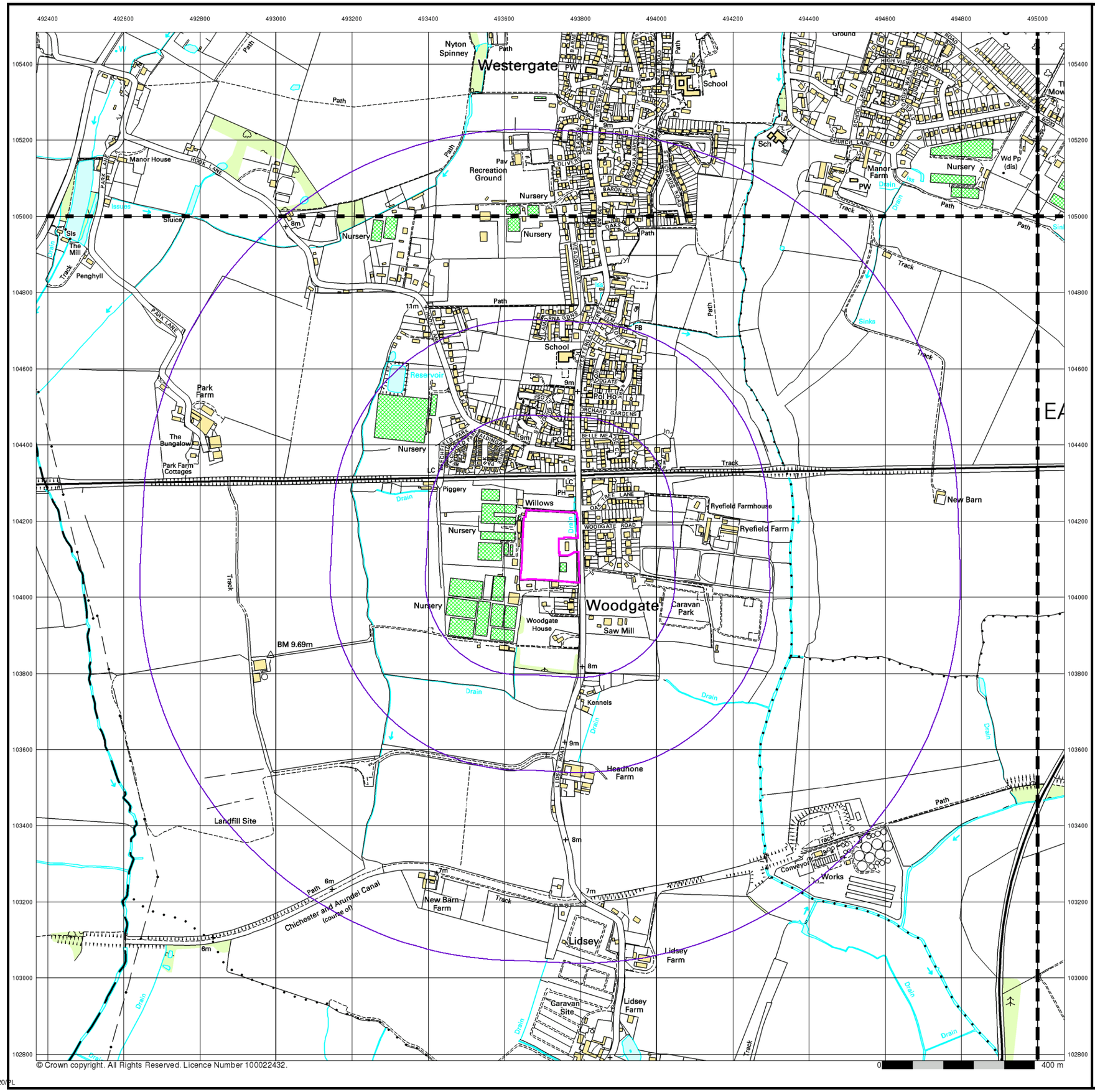

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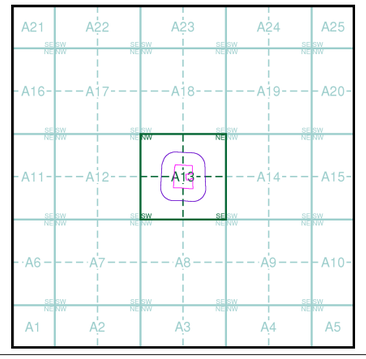
Geo-Environmental
10k Raster Mapping
Published 2000
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SU90NW 2000 1:10,000	SU90NE 2000 1:10,000
SU90SW 2000 1:10,000	SU90SE 2000 1:10,000

Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

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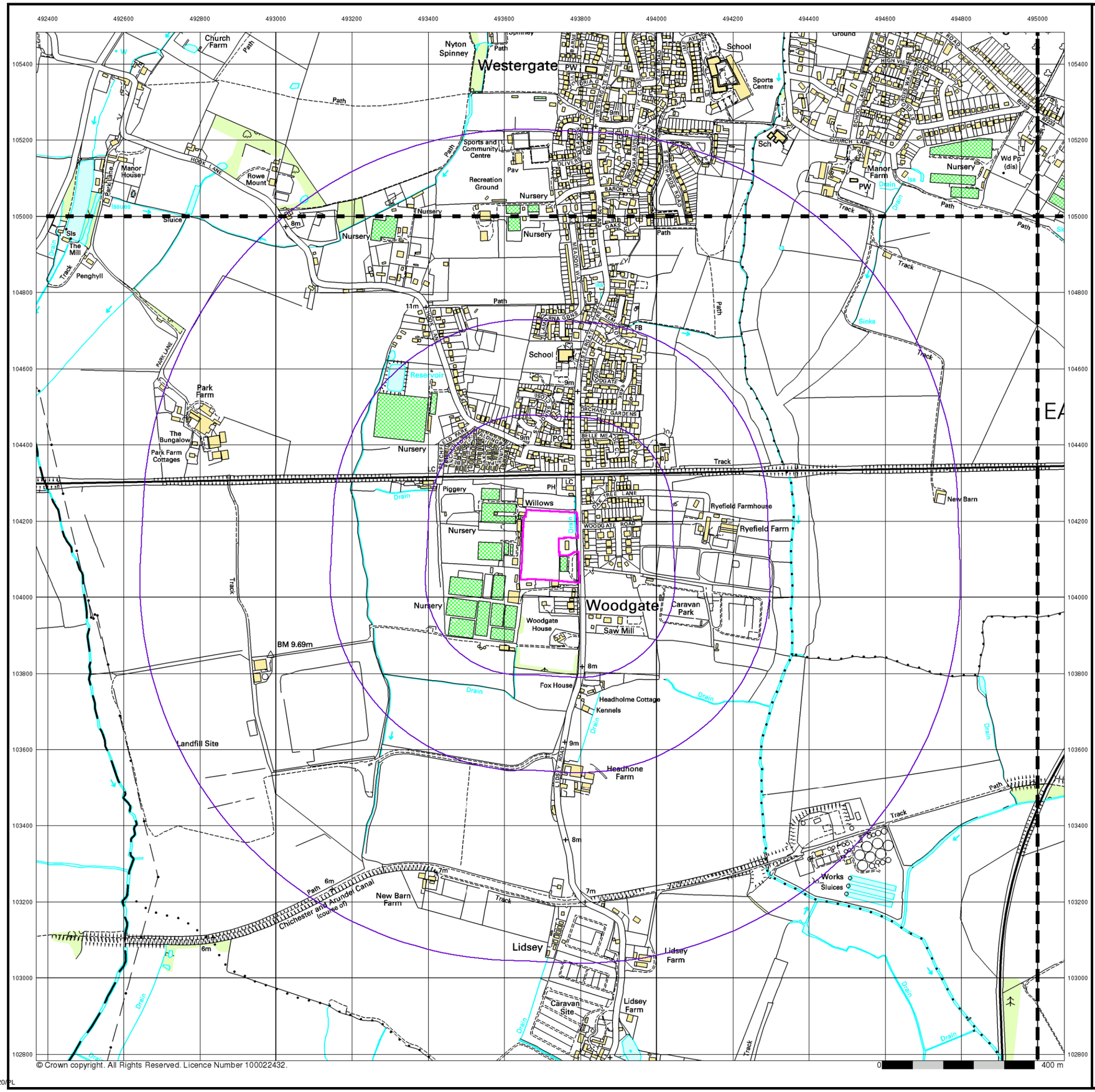

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Geo-Environmental
10k Raster Mapping
Published 2006
Source map scale - 1:10,000

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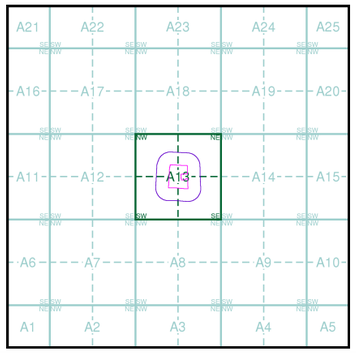
Map Name(s) and Date(s)

SU90NW 2006 1:10,000	SU90NE 2006 1:10,000
SU90SW 2006 1:10,000	SU90SE 2006 1:10,000

Historical Map - Slice A



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Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

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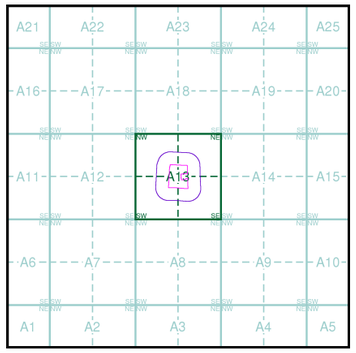
Geo-Environmental
VectorMap Local
Published 2019
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 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)

SU90NW 2019 Variable	SU90NE 2019 Variable
SU90SW 2019 Variable	SU90SE 2019 Variable

Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

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APPENDIX B

Exploratory Hole Logs & DCP Results

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Trial Pit Log	TrialPit No TP1 Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493775.63 - 104050.83 Level: 9.00	Date 19/08/2019
Location: Woodgate, West Sussex			Dimensions (m): Depth 3.00	Scale 1:25
Client:	Thakeham Client Limited			Logged GE

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Dark grey silty sand with ash, brick and concrete. MADE GROUND
				0.25	8.75		Very stiff brown and orange brown mottled silty sandy CLAY. RIVER TERRACE DEPOSITS
	0.50 0.50	D PP	PP=4.5kg/cm2	0.60	8.40		Firm brown very sandy silty CLAY. RIVER TERRACE DEPOSITS
	1.00 1.00	D PP	PP=2.5kg/cm2				
				1.30	7.70		Orange brown and grey mottled very sandy silty CLAY with abundant fine flint gravel. RIVER TERRACE DEPOSITS
	1.50 1.50	D PP	PP=2kg/cm2				
▼				1.80	7.20		Orange brown silty fine to medium SAND. RIVER TERRACE DEPOSITS
	2.00	D					
	2.50	D					
				3.00	6.00		End of Pit at 3.00m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)
1.85	0.00

Remarks Groundwater encountered at 1.85m bgl, backfilled with arisings.

Stability

AGS

Geo-Environmental

Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
TP2
Sheet 1 of 1

Project Name: Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493774.62 - 104078.16 Level: 8.99	Date 19/08/2019
Location: Woodgate, West Sussex		Dimensions (m):	Scale 1:25
Client: Thakeham Client Limited		Depth 2.00	Logged GE

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Dark grey silty sand with ash, brick and concrete. MADE GROUND
				0.25	8.74		Very stiff brown and orange brown mottled silty sandy CLAY. RIVER TERRACE DEPOSITS
	0.50 0.50	D PP	PP=5kg/cm2	0.60	8.39		Firm brown very sandy silty CLAY. RIVER TERRACE DEPOSITS
	1.00 1.00	D PP	PP=2kg/cm2				
				1.30	7.69		Orange brown and grey mottled very sandy silty CLAY with abundant fine chert gravel. RIVER TERRACE DEPOSITS
	1.50 1.50	D PP	PP=2.5kg/cm2				
▼				1.80	7.19		Orange brown silty fine to medium SAND. RIVER TERRACE DEPOSITS
	2.00	D		2.00	6.99		End of Pit at 2.00m

1 2 3 4 5

Water Strikes: Depth Strike	Rose to (mbgl)
1.90	0.00

Remarks Groundwater encountered at 1.90m bgl, backfilled with arisings.

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Trial Pit Log	TrialPit No TP3 Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493698.54 - 104096.26 Level: 9.23	Date 19/08/2019
Location: Woodgate, West Sussex			Dimensions (m): Depth 2.20	Scale 1:25
Client:	Thakeham Client Limited			Logged GE

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.15	9.08		Grass overlying dark brown silty sand with rootlets. TOPSOIL
	0.50 0.50	D PP	PP=5kg/cm2	0.70	8.53		Very stiff possibly desiccated very sandy silty CLAY. RIVER TERRACE DEPOSITS
	1.00 1.00	D PP	PP=2.5kg/cm2	1.90	7.33		Firm to stiff orange brown and grey mottled sandy silty CLAY with occasional fine to coarse sub-angular chert gravel. RIVER TERRACE DEPOSITS
	1.50 1.50	D PP	PP=2.5kg/cm2	2.20	7.03		Orange brown silty fine to medium SAND. RIVER TERRACE DEPOSITS
	2.00	D					End of Pit at 2.20m

1
2
3
4
5

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks Groundwater not encountered, backfilled with arisings.

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Trial Pit Log	TrialPit No TP4 Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493701.48 - 104146.65 Level: 9.21	Date 19/08/2019
Location: Woodgate, West Sussex			Dimensions (m): Depth 2.70	Scale 1:25
Client:	Thakeham Client Limited			Logged GE

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.15	9.06		Grass overlying dark brown silty sand with rootlets. TOPSOIL
	0.50	D		0.70	8.51		Firm to stiff orange brown very sandy CLAY with occasional fine to medium chert gravel. RIVER TERRACE DEPOSITS
	1.00 1.00	D PP	PP=2.5kg/cm2				Firm to stiff orange brown and grey mottled sandy silty CLAY with occasional fine to coarse sub-angular chert gravel. RIVER TERRACE DEPOSITS
	1.50 1.50	D PP	PP=2kg/cm2	1.70	7.50		Orange brown silty fine to medium SAND. RIVER TERRACE DEPOSITS
▼	2.00	D					
	2.50	D		2.70	6.50		End of Pit at 2.70m

1 2 3 4 5

Water Strikes: Depth Strike	Rose to (mbgl)
1.90	0.00

Remarks Groundwater encountered at 1.90m bgl, backfilled with arisings.

Stability

AGS

Geo-Environmental

Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
TP5
Sheet 1 of 1

Project Name: Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493660.94 - 104174.25 Level: 9.09	Date 19/08/2019
Location: Woodgate, West Sussex		Dimensions (m):	Scale 1:25
Client: Thakeham Client Limited		Depth 2.00	Logged GE

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Grass overlying dark brown silty sand with rootlets. TOPSOIL
				0.20	8.89		Stiff orange brown mottled sandy silty CLAY. RIVER TERRACE DEPOSITS
	0.50 0.50	D PP	PP=5kg/cm2				
				0.70	8.39		Firm to stiff orange brown and grey mottled slightly sandy silty CLAY. RIVER TERRACE DEPOSITS
	1.00 1.00	D PP	PP=2.5kg/cm2				
				1.40	7.69		Firm orange brown and grey mottled CLAY with fine to medium sub-angular chert gravel. RIVER TERRACE DEPOSITS
	1.50 1.50	D PP	PP=2.5kg/cm2	1.60	7.49		Orange brown very silty damp fine to medium SAND. RIVER TERRACE DEPOSITS
▼	2.00	D		2.00	7.09		End of Pit at 2.00m

1 2 3 4 5

Water Strikes: Depth Strike	Rose to (mbgl)
1.90	1.95

Remarks Groundwater encountered at 1.90m bgl, standing at 1.95m bgl after sixty minutes. Backfilled with arisings.

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Trial Pit Log	TrialPit No TP6 Sheet 1 of 1
Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493749.45 - 104169.18 Level: 8.65	Date 19/08/2019
Location: Woodgate, West Sussex			Dimensions (m):	Scale 1:25
Client:	Thakeham Client Limited		Depth 2.10	Logged GE

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	8.50		Grass overlying dark brown silty sand with rootlets and occasional chalk and shingle. TOPSOIL
	0.50	PP	PP=3.6kg/cm2				Firm to stiff orange brown silty sandy CLAY with abundant fine chert gravel, becoming fine to medium between 1.3m and 1.4m. RIVER TERRACE DEPOSITS
	1.00	PP	PP=2.25kg/cm2				
				1.40	7.25		Orange brown silty fine to medium SAND. RIVER TERRACE DEPOSITS
▼				2.10	6.55		End of Pit at 2.10m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)
2.00	0.00

Remarks Groundwater encountered at 2.0m bgl, backfilled with arisings.

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	# Borehole Log	Borehole No. **WS1** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords:	493760E - 104218N	Hole Type WLS
Location:	Woodgate, West Sussex		Level:	8.42	Scale 1:25
Client:	Thakeham Client Limited		Dates:	19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	
		0.10	ES					Grass overlying dark brown silty sand with rootlets TOPSOIL	
					0.20	8.22		Brown and grey mottled slightly sandy very clayey SILT with occasional rootlets and rare fine to coarse sub angular chert gravel RIVER TERRACE DEPOSITS	
		0.50 0.50	D ES						
					0.85	7.57		Soft orange brown and grey mottled silty CLAY with occasional fine to coarse sub angular chert gravel RIVER TERRACE DEPOSITS	
		1.00 1.00	D PP	0.8kg/cm2	1.00	7.42		Orange brown mottled medium SAND RIVER TERRACE DEPOSITS	1
		1.50	D						
		2.00	D						2
		2.50	D		2.50	5.92		Brown medium to coarse SAND with occasional fine to medium sub angular chert gravel RIVER TERRACE DEPOSITS	
		3.00	D						3
		3.50 3.50	D PP	2.5kg/cm2	3.50	4.92		Stiff grey silty CLAY LONDON CLAY *...Collapsed to 3.5m on completion*	
		4.00 4.00	D PP	2.5kg/cm2	4.00	4.42		End of Borehole at 4.00m	4
									5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		1.90	1.23		

Remarks

Groundwater encountered at 1.90m bgl, standing at 1.23m after twenty minutes. Standpipe installed to 3.50m bgl.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS2** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords:	493724E - 104053N	Hole Type WLS
Location:	Woodgate, West Sussex		Level:	9.25	Scale 1:25
Client:	Thakeham Client Limited		Dates:	19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	ES		0.30	8.95		Grass overlying brown silty sand with rootlets TOPSOIL
		0.50 0.50	D ES		0.55	8.70		Light brown sandy SILT RIVER TERRACE DEPOSITS
		1.00 1.00	D PP	2.0kg/cm2	1.30	7.95		Stiff orange brown and grey mottled sandy silty CLAY RIVER TERRACE DEPOSITS
		1.50 1.50	D PP	1.0kg/cm2	1.95	7.30		Firm brown sandy CLAY with abundant fine to coarse sub angular chert gravel RIVER TERRACE DEPOSITS
		2.00	D					Brown SAND RIVER TERRACE DEPOSITS
		2.50	D					*...Collapsed to 2.5m on completion*
		3.00	D					
		3.50	D					
		4.00	D		4.00	5.25		End of Borehole at 4.00m

1 2 3 4 5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		3.00	1.20		

Remarks

Groundwater encountered at 3.00m bgl, standing at 1.20m bgl after twenty mintues. Standpipe installed to 3.70m bgl.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS3** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords:	493666E - 104053N	Hole Type WLS
Location:	Woodgate, West Sussex		Level:	9.29	Scale 1:25
Client:	Thakeham Client Limited		Dates:	19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.25	9.04		Grass overlying brown sandy silt TOPSOIL	
		0.50 0.50 0.50	D ES PP	3.0kg/cm2				Stiff orange brown and grey mottled sandy CLAY with rootlets RIVER TERRACE DEPOSITS	
		1.00 1.00	D PP	1.5kg/cm2					1
		1.50 1.50	D PP	2.0kg/cm2					
					1.80	7.49		Brown SAND RIVER TERRACE DEPOSITS	
		2.00	D						2
		2.50	D					*...Collapsed to 2.5m on completion*	
		3.00	D						3
		3.50	D						
		4.00	D		4.00	5.29		End of Borehole at 4.00m	4
									5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		3.00	2.50		

Remarks

Groundwater encountered at 3.00m bgl, standing at 2.50m bgl after twenty minutes. Standpipe installed to 2.50m bgl.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS4** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords:	493661E - 104149N	Hole Type WLS
Location:	Woodgate, West Sussex		Level:	9.37	Scale 1:25
Client:	Thakeham Client Limited		Dates:	19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	ES		0.25	9.12		Grass overlying brown sandy silt with rootlets TOPSOIL
		0.50 0.50	D ES		0.70	8.67		Brown clayey sandy silt with rootlets RIVER TERRACE DEPOSITS
		1.00 1.00	D PP	4.5kg/cm2				Very stiff becoming stiff orange brown and grey mottled slightly sandy silty CLAY RIVER TERRACE DEPOSITS
		1.50 1.50	D PP	2.7kg/cm2	1.80	7.57		Orange brown mottled SAND RIVER TERRACE DEPOSITS
		2.00	D					
	▼	2.50	D					*...collapsed to 2.50m on completion*
	▽	3.00	D					
		3.50	D					
		4.00	D		3.90 4.00	5.47 5.37		Orange brown sand with occasional fine to coarse chert gravel RIVER TERRACE DEPOSITS End of Borehole at 4.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		3.00	2.50		

Remarks

Groundwater encountered at 3.00m bgl, standing at 2.50m bgl after twenty minutes. Backfilled with arisings.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS5** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords:	493711E - 104105N	Hole Type WLS
Location:	Woodgate, West Sussex		Level:	9.17	Scale 1:25
Client:	Thakeham Client Limited		Dates:	19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.25	8.92		Brown sandy silt with rootlets TOPSOIL	
		0.50 0.50	D ES		0.50	8.67		Brown slightly clayey sandy SILT RIVER TERRACE DEPOSITS	
		1.00 1.00	D PP	3.0kg/cm2				Very stiff orange brown mottled slightly silty sandy CLAY RIVER TERRACE DEPOSITS	1
		1.50 1.50	D PP	2.5kg/cm2	1.20	7.97		Stiff brown sandy silty CLAY with rare chert gravel RIVER TERRACE DEPOSITS	
		2.00	D		1.70	7.47		Orange brown SAND RIVER TERRACE DEPOSITS	2
		2.50	D					*...Collapsed to 2.3m on completion*	
		3.00	D						3
		3.50	D						
		4.00	D		4.00	5.17		End of Borehole at 4.00m	4
									5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		3.00	2.30		

Remarks

Groundwater encountered at 3.00m bgl, standing at 2.30m bgl after twenty minutes. Backfilled with arisings.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS6** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493662E - 104219N	Hole Type WLS
Location:	Woodgate, West Sussex		Level: 9.16	Scale 1:25
Client:	Thakeham Client Limited		Dates: 19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.20	ES		0.25	8.91		Grass overlying brown silty sand with rootlets and rare flint gravel TOPSOIL
		0.50 0.50 0.50	D ES PP	2.5kg/cm2				Stiff becoming firm orange brown mottled silty sandy CLAY with rare rootlets RIVER TERRACE DEPOSITS
		1.00 1.00	D PP	1.0kg/cm2	1.10	8.06		
		1.50	D		1.50	7.66		Firm brown silty CLAY with frequent to abundant fine to medium sub angular chert gravel RIVER TERRACE DEPOSITS
		2.00	D					Brown medium SAND RIVER TERRACE DEPOSITS
		2.50	D					
		3.00	D					
		3.50	D					*...Collapsed to 3.5m on completion*
		4.00	D		3.80 4.00	5.36 5.16		Brown SAND with frequent fine to coarse sub-angular chert gravel RIVER TERRACE DEPOSITS End of Borehole at 4.00m

1 2 3 4 5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		2.00	1.70		

Remarks

Groundwater encountered at 2.00m bgl, standing at 1.70m bgl after twenty minutes. Standpipe installed to 3.50m bgl.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS7** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords:	493772E - 104149N	Hole Type WLS
Location:	Woodgate, West Sussex		Level:	8.86	Scale 1:25
Client:	Thakeham Client Limited		Dates:	19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES					Dark brown reworked sandy silt MADE GROUND	
					0.40	8.46			
		0.50	D		0.45	8.41		Reworked chalk MADE GROUND	
		0.50	ES					Very stiff becoming stiff brown possibly desiccated sandy CLAY with fine roots and rootlets RIVER TERRACE DEPOSITS	
		1.00	D						1
		1.00	PP	4.5kg/cm2					
		1.50	D		1.50	7.36		Brown SAND RIVER TERRACE DEPOSITS	
		1.50	PP	2.5kg/cm2					
	▼	2.00	D					*...Collapsed to 2m on completion*	2
		2.50	D						
					2.92	5.94		Brown SAND with occasional fine to coarse sub angular chert gravel RIVER TERRACE DEPOSITS	
		3.00	D						3
		3.50	D		3.50	5.36		Stiff grey silty CLAY LONDON CLAY	
		3.50	PP	1.8kg/cm2					
		4.00	D		4.00	4.86		End of Borehole at 4.00m	4
		4.00	PP	2.0kg/cm2					
									5

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		2.00	2.00		

Remarks

Groundwater encountered at 2.00m bgl, standing at 2.00m bgl after twenty minutes. Backfilled with arisings.

AGS

Penetration Data Report

Project Name: DCP 1

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	110	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	110	0.00					
2	1	1	170	60.00					
3	1	2	240	70.00					
4	1	3	270	30.00					
5	1	4	330	60.00					
6	1	5	370	40.00					
7	1	6	400	30.00					
8	1	7	420	20.00					
9	1	8	440	20.00					
10	1	9	470	30.00					
11	1	10	480	10.00					
12	1	11	500	20.00					
13	1	12	520	20.00					
14	1	13	540	20.00					
15	1	14	570	30.00					
16	1	15	600	30.00					
17	1	16	630	30.00					
18	1	17	670	40.00					
19	1	18	710	40.00					
20	1	19	780	70.00					
21	1	20	860	80.00					
22	1	21	920	60.00					
23	1	22	970	50.00					

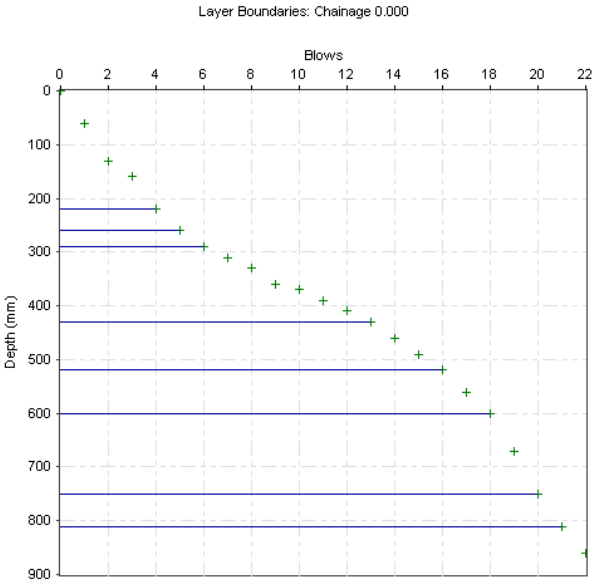
ARUN DISTRICT COUNCIL AL/46/20/PL

UK DCP V3.1

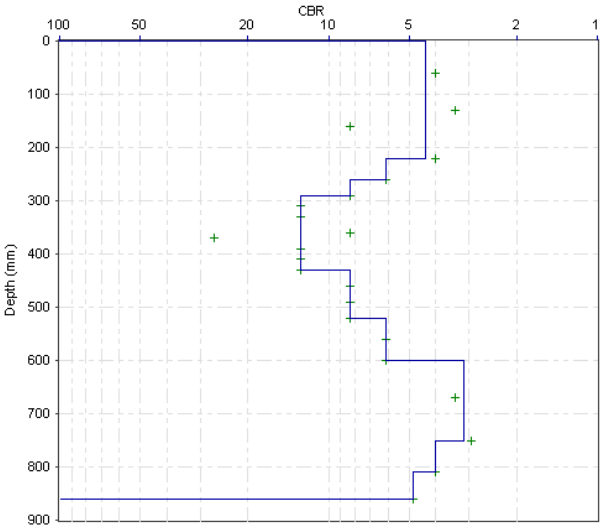
DCP Layer Strength Analysis Report

Project Name: DCP 1

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	110	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	55.00	4	220	220
2	40.00	6	40	260
3	30.00	8	30	290
4	20.00	13	140	430
5	30.00	8	90	520
6	40.00	6	80	600
7	75.00	3	150	750
8	60.00	4	60	810
9	50.00	5	50	860

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/46/20/PL

Penetration Data Report

Project Name: DCP 2

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	75	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	75	0.00					
2	1	1	160	85.00					
3	1	2	210	50.00					
4	1	3	260	50.00					
5	1	4	310	50.00					
6	1	5	365	55.00					
7	1	6	405	40.00					
8	1	7	435	30.00					
9	1	8	455	20.00					
10	1	9	480	25.00					
11	1	10	500	20.00					
12	1	11	525	25.00					
13	1	12	550	25.00					
14	1	13	580	30.00					
15	1	14	610	30.00					
16	1	15	635	25.00					
17	1	16	670	35.00					
18	1	17	700	30.00					
19	1	18	750	50.00					
20	1	19	790	40.00					
21	1	20	830	40.00					
22	1	21	870	40.00					
23	1	22	900	30.00					
24	1	23	940	40.00					
25	1	24	970	30.00					

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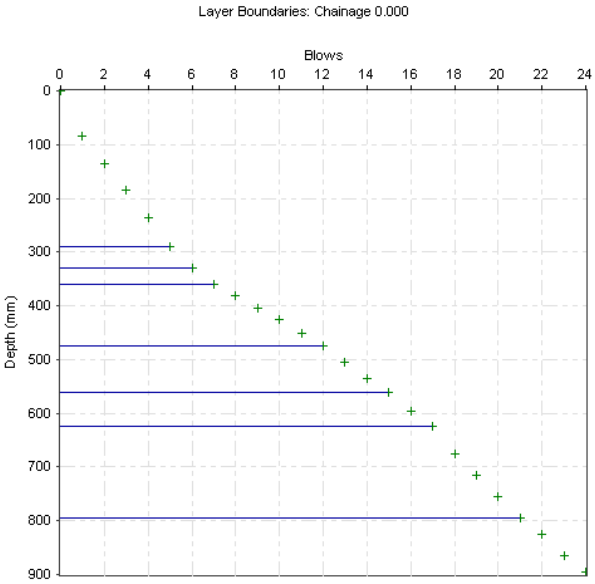
UK DCP V3.1

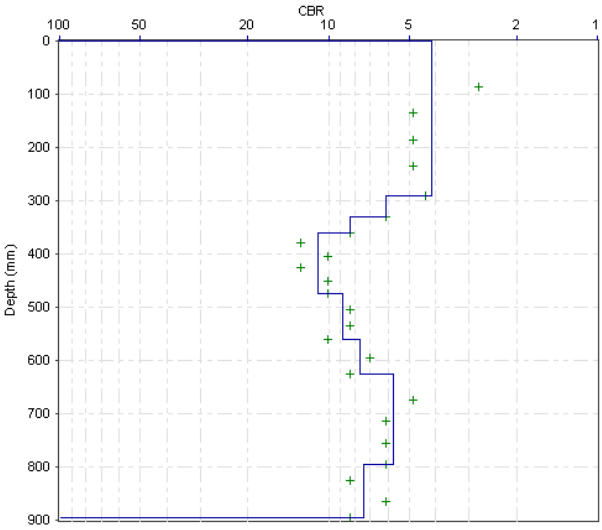
DCP Layer Strength Analysis Report

Project Name: DCP 2

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	75	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	58.00	4	290	290
2	40.00	6	40	330
3	30.00	8	30	360
4	23.00	11	115	475
5	28.33	9	85	560
6	32.50	8	65	625
7	42.50	6	170	795
8	33.33	7	100	895

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/46/20/PL

Penetration Data Report

Project Name: DCP 3

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	100	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	100	0.00					
2	1	1	170	70.00					
3	1	2	270	100.00					
4	1	3	320	50.00					
5	1	4	370	50.00					
6	1	5	390	20.00					
7	1	6	410	20.00					
8	1	7	435	25.00					
9	1	8	455	20.00					
10	1	9	475	20.00					
11	1	10	495	20.00					
12	1	11	520	25.00					
13	1	12	540	20.00					
14	1	13	560	20.00					
15	1	14	590	30.00					
16	1	15	620	30.00					
17	1	16	645	25.00					
18	1	17	680	35.00					
19	1	18	710	30.00					
20	1	19	745	35.00					
21	1	20	780	35.00					
22	1	21	820	40.00					
23	1	22	865	45.00					
24	1	23	910	45.00					
25	1	24	950	40.00					

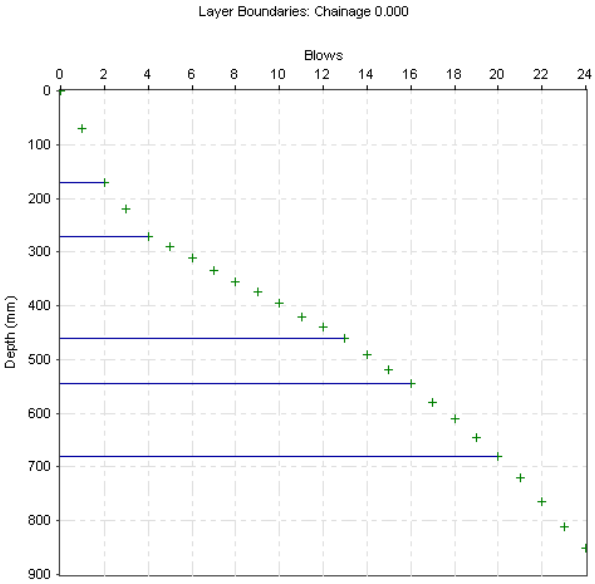
ARUN DISTRICT COUNCIL AL/46/20/PL

UK DCP V3.1

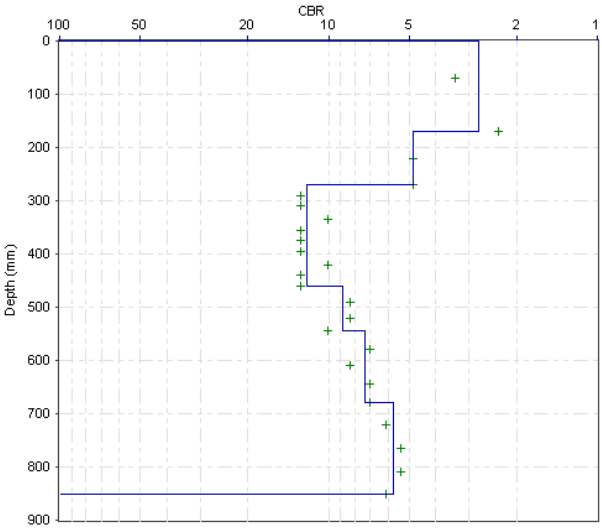
DCP Layer Strength Analysis Report

Project Name: DCP 3

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	100	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	85.00	3	170	170
2	50.00	5	100	270
3	21.11	12	190	460
4	28.33	9	85	545
5	33.75	7	135	680
6	42.50	6	170	850

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/46/20/PL

Penetration Data Report

Project Name: DCP 4

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	105	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	105	0.00	26	1	25	640	10.00
2	1	1	210	105.00	27	1	26	650	10.00
3	1	2	260	50.00	28	1	27	660	10.00
4	1	3	300	40.00	29	1	28	680	20.00
5	1	4	340	40.00	30	1	29	690	10.00
6	1	5	360	20.00	31	1	30	700	10.00
7	1	6	385	25.00	32	1	31	710	10.00
8	1	7	400	15.00	33	1	32	720	10.00
9	1	8	420	20.00	34	1	33	730	10.00
10	1	9	440	20.00	35	1	34	740	10.00
11	1	10	455	15.00	36	1	35	750	10.00
12	1	11	470	15.00	37	1	36	770	20.00
13	1	12	490	20.00	38	1	37	780	10.00
14	1	13	505	15.00	39	1	38	800	20.00
15	1	14	520	15.00	40	1	39	820	20.00
16	1	15	530	10.00	41	1	40	840	20.00
17	1	16	540	10.00	42	1	41	860	20.00
18	1	17	550	10.00	43	1	42	875	15.00
19	1	18	560	10.00	44	1	43	920	45.00
20	1	19	580	20.00	45	1	44	950	30.00
21	1	20	590	10.00	46	1	45	975	25.00
22	1	21	600	10.00					
23	1	22	610	10.00					
24	1	23	620	10.00					
25	1	24	630	10.00					

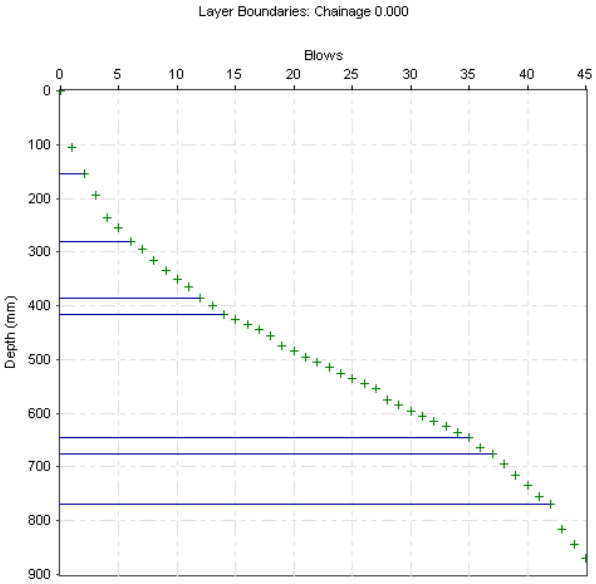
ARUN DISTRICT COUNCIL AL/46/20/PL

UK DCP V3.1

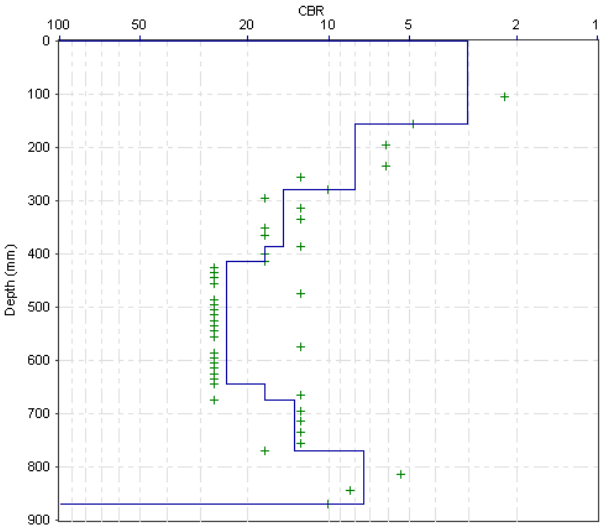
DCP Layer Strength Analysis Report

Project Name: DCP 4

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	105	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	77.50	3	155	155
2	31.25	8	125	280
3	17.50	15	105	385
4	15.00	17	30	415
5	10.95	24	230	645
6	15.00	17	30	675
7	19.00	13	95	770
8	33.33	7	100	870

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/46/20/PL

Penetration Data Report

Project Name: DCP 5

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	85	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	85	0.00	26	1	25	470	10.00
2	1	1	140	55.00	27	1	26	485	15.00
3	1	2	170	30.00	28	1	27	505	20.00
4	1	3	190	20.00	29	1	28	520	15.00
5	1	4	210	20.00	30	1	29	530	10.00
6	1	5	225	15.00	31	1	30	540	10.00
7	1	6	240	15.00	32	1	31	560	20.00
8	1	7	250	10.00	33	1	32	580	20.00
9	1	8	265	15.00	34	1	33	600	20.00
10	1	9	280	15.00	35	1	34	615	15.00
11	1	10	295	15.00	36	1	35	630	15.00
12	1	11	305	10.00	37	1	36	650	20.00
13	1	12	320	15.00	38	1	37	670	20.00
14	1	13	330	10.00	39	1	38	690	20.00
15	1	14	340	10.00	40	1	39	710	20.00
16	1	15	350	10.00	41	1	40	730	20.00
17	1	16	360	10.00	42	1	41	760	30.00
18	1	17	375	15.00	43	1	42	785	25.00
19	1	18	385	10.00	44	1	43	810	25.00
20	1	19	400	15.00	45	1	44	840	30.00
21	1	20	410	10.00	46	1	45	870	30.00
22	1	21	420	10.00	47	1	46	900	30.00
23	1	22	430	10.00	48	1	47	940	40.00
24	1	23	450	20.00	49	1	48	980	40.00
25	1	24	460	10.00					

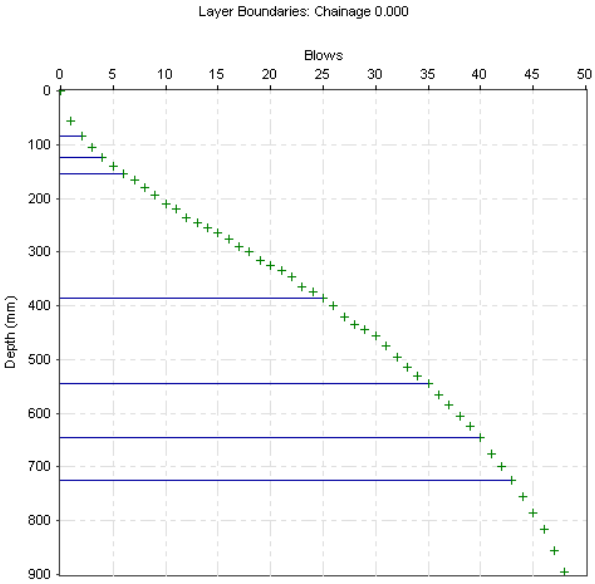
ARUN DISTRICT COUNCIL AL/46/20/PL

UK DCP V3.1

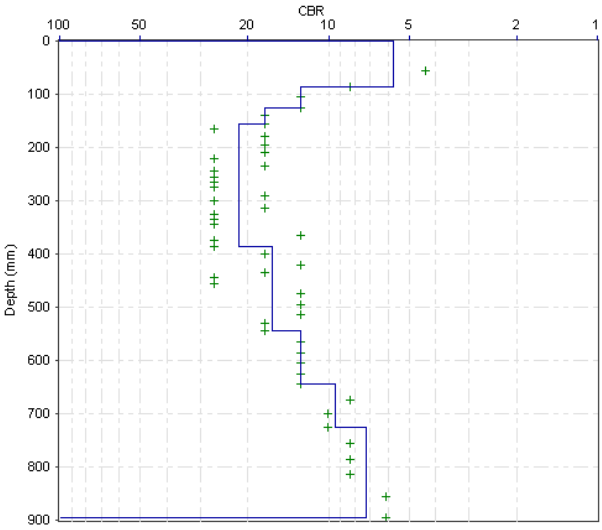
DCP Layer Strength Analysis Report

Project Name: DCP 5

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	85	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	42.50	6	85	85
2	20.00	13	40	125
3	15.00	17	30	155
4	12.11	22	230	385
5	16.00	16	160	545
6	20.00	13	100	645
7	26.67	9	80	725
8	34.00	7	170	895

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/46/20/PL

Penetration Data Report

Project Name: DCP 6

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	80	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	80	0.00	26	1	43	530	10.00
2	10	10	90	1.00	27	1	44	540	10.00
3	10	20	100	1.00	28	1	45	555	15.00
4	1	21	110	10.00	29	1	46	575	20.00
5	1	22	125	15.00	30	1	47	600	25.00
6	1	23	145	20.00	31	1	48	625	25.00
7	1	24	165	20.00	32	1	49	655	30.00
8	1	25	185	20.00	33	1	50	675	20.00
9	1	26	195	10.00	34	1	51	695	20.00
10	1	27	210	15.00	35	1	52	720	25.00
11	1	28	230	20.00	36	1	53	750	30.00
12	1	29	250	20.00	37	1	54	775	25.00
13	1	30	270	20.00	38	1	55	810	35.00
14	1	31	295	25.00	39	1	56	840	30.00
15	1	32	315	20.00	40	1	57	870	30.00
16	1	33	335	20.00	41	1	58	900	30.00
17	1	34	355	20.00	42	1	59	935	35.00
18	1	35	375	20.00	43	1	60	965	30.00
19	1	36	395	20.00					
20	1	37	410	15.00					
21	1	38	430	20.00					
22	1	39	450	20.00					
23	1	40	480	30.00					
24	1	41	500	20.00					
25	1	42	520	20.00					

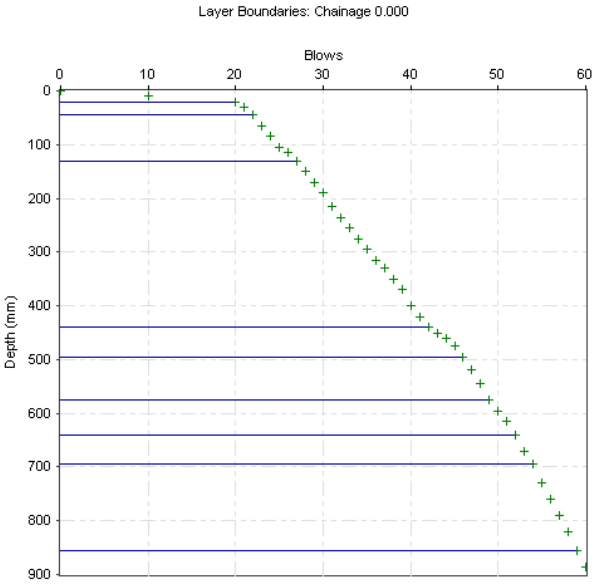
ARUN DISTRICT COUNCIL AL/46/20/PL

UK DCP V3.1

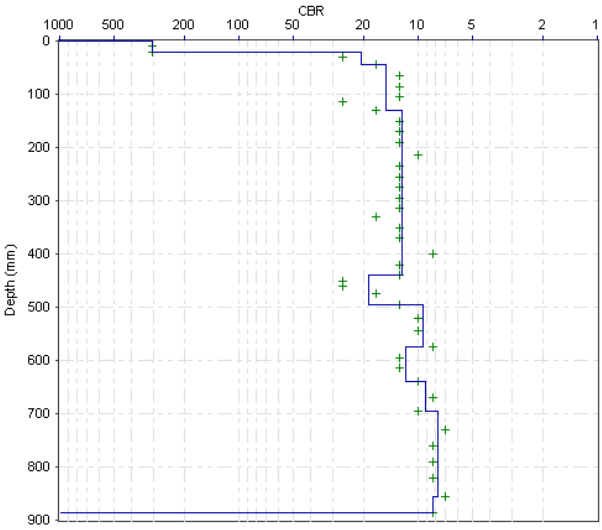
DCP Layer Strength Analysis Report

Project Name: DCP 6

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	80	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	1.00	302	20	20
2	12.50	21	25	45
3	17.00	15	85	130
4	20.67	12	310	440
5	13.75	19	55	495
6	26.67	9	80	575
7	21.67	12	65	640
8	27.50	9	55	695
9	32.00	8	160	855
10	30.00	8	30	885

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/46/20/PL

APPENDIX C

Groundwater/Ground Gas Monitoring Assessment

ARUN DISTRICT COUNCIL AL/46/20/PL

Project: Lidsey Road, Woodgate
Ref: GE18390
Client: Thakeham Client Limited

Geo-Environmental

Location	Date	Time (sec)	CH_4 (%)	CO_2 (%)	O_2 (%)	Flow (l/hr)	VOC (ppm)	Pressure (mb)	GWL (m bgl)	GSV/Qhgs		Characteristic Situation		CS1 Limiting Value Check			NHBC			
										CH_4	CO_2	BS8485 & C665		Flow	CH_4	CO_2	CH_4		CO_2	
												CH_4	CO_2				GSV	Conc.	GSV	Conc.
WS1	29/08/19	0	0.0	0.0	20.9	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	10	0.0	0.9	20.5	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	20	0.0	1.4	20.0	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	30	0.0	1.5	19.9	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	60	0.0	1.7	19.6	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	90	0.0	1.7	19.7	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	120	0.0	1.7	19.7	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	180	0.0	1.7	19.7	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	0	0.0	0.0	20.9	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	10	0.0	0.9	20.4	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	20	0.0	1.3	20.0	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	30	0.0	1.6	19.8	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	60	0.0	1.7	19.8	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	90	0.0	1.7	19.8	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	120	0.0	1.7	19.8	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	180	0.0	1.7	19.8	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	0	0.0	0.0	20.9	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	10	0.0	0.5	20.3	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	20	0.0	0.5	20.2	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	30	0.0	0.6	20.1	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	60	0.0	0.6	20.1	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	90	0.0	0.6	20.1	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	120	0.0	0.6	20.1	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	180	0.0	0.6	20.1	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	0	0.0	0.0	20.9	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	10	0.0	0.6	20.7	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	20	0.0	0.7	20.3	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	30	0.0	0.8	20.2	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	60	0.0	0.8	20.2	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	90	0.0	0.8	20.2	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	120	0.0	0.8	20.2	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	180	0.0	0.8	20.2	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	0	0.0	0.0	20.9	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	10	0.0	1.8	15.6	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	20	0.0	1.9	12.8	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	30	0.0	2.1	12.6	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	60	0.0	2.2	13.7	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	90	0.0	2.2	14.0	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	120	0.0	2.4	15.1	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	180	0.0	2.4	15.1	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	0	0.0	0.0	20.9	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	10	0.0	1.9	19.9	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	20	0.0	2.0	19.7	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	30	0.0	2.0	18.6	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	60	0.0	2.0	18.6	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN

ARUN DISTRICT COUNCIL AL/46/20/PL

Project: Lidsey Road, Woodgate
Ref: GE18390
Client: Thakeham Client Limited

Geo-Environmental

Location	Date	Time (sec)	CH_4 (%)	CO_2 (%)	O_2 (%)	Flow (l/hr)	VOC (ppm)	Pressure (mb)	GWL (m bgl)	GSV/Qhgs		Characteristic Situation		CS1 Limiting Value Check			NHBC			
										CH_4	CO_2	BS8485 & C665		Flow	CH_4	CO_2	CH_4		CO_2	
												CH_4	CO_2				GSV	Conc.	GSV	Conc.
WS2	01/10/19	90	0.0	2.0	18.6	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	120	0.0	2.0	18.6	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	180	0.0	2.0	18.6	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	0	0.0	0.0	20.9	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	10	0.0	0.9	18.5	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	20	0.0	0.9	18.2	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	30	0.0	0.9	18.2	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	60	0.0	0.9	18.2	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	90	0.0	0.9	18.2	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	120	0.0	0.9	18.2	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	180	0.0	0.9	18.4	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	0	0.0	0.0	20.9	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	10	0.0	0.5	19.6	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	20	0.0	0.6	19.2	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	30	0.0	0.6	19.2	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	60	0.0	0.6	19.0	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	90	0.0	0.6	19.0	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	120	0.0	0.6	19.1	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	180	0.0	0.6	19.0	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN

APPENDIX D

Geotechnical Laboratory Results

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THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number:	19-24791
Issue:	1
Date of Issue:	13/09/2019
Contact:	James Phaure
Customer Details:	K4 Soils Laboratory Ltd Unit 8 Watford HertfordshireWD18 9RU
Quotation No:	Q16-00568
Order No:	Not Supplied
Customer Reference:	27060
Date Received:	11/09/2019
Date Approved:	13/09/2019
Details:	Land Off Lidsey Road, Woodgate
Approved by:	

John Wilson, Quality 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.: 19-24791, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
183673	TP1 3 1.00	Not Provided	11/09/2019	Silty loam	a
183674	TP3 3 1.00	Not Provided	11/09/2019	Silty loam	a
183675	TP4 5 2.00	Not Provided	11/09/2019	Sand	a
183676	TP5 4 1.50	Not Provided	11/09/2019	Sandy loam	a
183677	TP6 1 1.00	Not Provided	11/09/2019	Silty loam	a
183678	WS1 5 1.50	Not Provided	11/09/2019	Loamy sand	a
183679	WS2 5 1.50	Not Provided	11/09/2019	Silty loam	a

Results Summary

Report No.: 19-24791, issue number 1

			ELAB Reference	183673	183674	183675	183676	183677
			Customer Reference	3	3	5	4	1
			Sample ID					
			Sample Type	DISTURBED	DISTURBED	DISTURBED	DISTURBED	DISTURBED
			Sample Location	TP1	TP3	TP4	TP5	TP6
			Sample Depth (m)	1.00	1.00	2.00	1.50	1.00
			Sampling Date	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
Determinand	**Codes**	**Units**	**LOD**					
Soil sample preparation parameters								
Moisture Content	N	%	0.1	18.0	19.3	21.6	18.1	21.0
Stones Content	N	%	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Material removed	N	%	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Description of Inert material removed	N		0	None	None	None	None	None
Anions								
Water Soluble Chloride	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40
Water Soluble Nitrate	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Water Soluble Sulphate	M	mg/kg	40	< 40	< 40	< 40	< 40	< 40
Inorganics								
Ammonia as NH4	N	mg/kg	0.1	3.0	3.1	3.1	1.5	1.6
Total Sulphur	N	%	0.01	0.01	0.01	0.01	0.01	0.01
Acid Soluble Sulphate (SO4)	U	%	0.02	0.04	0.04	0.03	0.03	0.04
Miscellaneous								
pH	M	pH units	0.1	8.3	8.1	5.9	6.8	7.1

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 19-24791, issue number 1

			ELAB Reference	183678	183679
			Customer Reference	5	5
			Sample ID		
			Sample Type	DISTURBED	DISTURBED
			Sample Location	WS1	WS2
			Sample Depth (m)	1.50	1.50
			Sampling Date	Not Provided	Not Provided
Determinand	**Codes**	**Units**	**LOD**		
Soil sample preparation parameters					
Moisture Content	N	%	0.1	21.8	14.4
Stones Content	N	%	0.1	< 0.1	46.4
Material removed	N	%	0.1	< 0.1	46.4
Description of Inert material removed	N		0	None	Stones
Anions					
Water Soluble Chloride	M	mg/kg	40	< 40	< 40
Water Soluble Nitrate	M	mg/kg	40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	< 0.02
Water Soluble Sulphate	M	mg/kg	40	< 40	< 40
Inorganics					
Ammonia as NH4	N	mg/kg	0.1	1.6	1.5
Total Sulphur	N	%	0.01	< 0.01	0.01
Acid Soluble Sulphate (SO4)	U	%	0.02	0.03	0.04
Miscellaneous					
pH	M	pH units	0.1	8.1	8.1

Tests marked N are not UKAS accredited.
The Environmental Laboratory Ltd. Reg. No. 3882193

Method Summary

Report No.: 19-24791, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Ammonia in soil	N	As submitted sample	12/09/2019		
pH	M	Air dried sample	12/09/2019	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	13/09/2019	115	Ion Chromatography
Water soluble anions	M	Air dried sample	12/09/2019	172	Ion Chromatography
Total organic carbon/Total sulphur	N	Air dried sample	12/09/2019	216	IR

Tests marked N are not UKAS accredited

Report Information

Report No.: 19-24791, 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

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

Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
27060	Land Off Lidsey Road, Woodgate	Samples received	29/08/2019
		Schedule received	06/09/2019
Project No.	Client	Project started	30/08/2019
GE18390	GESL	Testing Started	06/09/2019

Hole No.	Sample Ref	Sample Top m	Sample Base m	Sample Type	Soil Description	NMC %	Passing 425µm %	LL %	PL %	PI %	Remarks
TP1	3	1.00	-	D	Orangish brown slightly gravelly slightly sandy silty CLAY with traces of rootlets (gravel is fmc and sub-angular)	15	90	42	18	24	
TP2	4	1.50	-	D	Greyish brown slightly sandy gravelly silty CLAY (gravel is fmc and sub-angular to sub-rounded)	20	63	38	18	20	Sample washed to obtain test fraction
TP3	2	0.50	-	D	Light brown fine sandy very silty CLAY with frequent roots and rootlets	12					
TP3	3	1.00	-	D	Greyish brown slightly mottled orangish brown slightly sandy silty CLAY	20	100	40	18	22	
TP3	4	1.50	-	D	Greyish brown mottled orangish brown slightly sandy slightly gravelly silty CLAY (gravel is fm and sub-angular)	16					
TP4	3	1.00	-	D	Orangish brown sandy silty CLAY with traces of rootlets and rare fine gravel	19	98	42	18	24	
TP5	4	1.50	-	D	Light grey mottled orange slightly gravelly silty sandy CLAY (gravel is fm and sub-angular)	18	79	32	16	16	
WS2	4	1.00	-	D	Brown and orangish brown mottled slightly gravelly slightly fine sandy silty CLAY with occasional black flecks (gravel is fm and sub-angular)	20	96	40	18	22	
WS2	5	1.50	-	D	Orangish brown sandy gravelly silty CLAY (gravel is fmc and sub-angular)	13	56	38	19	19	Sample washed to obtain test fraction
WS3	4	1.00	-	D	Brown and orange mottled slightly gravelly sandy silty CLAY with occasional black flecks (gravel is fmc and sub-angular)	19	75	38	16	22	
WS4	3	0.50	-	D	Light brown fine sandy very silty CLAY with occasional roots and rootlets	12					
WS4	4	1.00	-	D	Brown, orange and light grey mottled slightly gravelly slightly sandy silty CLAY (gravel is fmc and angular to sub-angular)	17	89	44	16	28	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0

UKAS TESTING
2519

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved
Initials **J.P**
Date: 23/09/2019

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R1(b)

Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
27060	Land Off Lidsey Road, Woodgate	Samples received	29/08/2019
		Schedule received	06/09/2019
Project No.	Client	Project started	30/08/2019
GE18390	GESL	Testing Started	06/09/2019

Hole No.	Sample Ref	Sample Top m	Sample Base m	Sample Type	Soil Description	NMC %	Passing 425µm %	LL %	PL %	PI %	Remarks
WS4	5	1.50	-	D	Orangish brown mottled bluish grey slightly gravelly sandy silty CLAY with traces of rootlets (gravel is fm and sub-angular)	13					
WS5	3	0.50	-	D	Light brown fine sandy very silty CLAY with occasional rootlets	14					
WS5	4	1.00	-	D	Brown and orange mottled slightly gravelly fine sandy silty CLAY with occasional black flecks (gravel is fine and sub-angular)	20	95	39	18	21	
WS5	5	1.50	-	D	Grey sandy gravelly silty CLAY (gravel is fmc and sub-angular to sub-rounded)	14					
WS7	3	0.50	-	D	Light brown fine sandy very silty CLAY with traces of roots and rootlets	10					
WS7	4	1.00	-	D	Brown and orange mottled slightly gravelly slightly sandy silty CLAY with occasional black flecks and traces of rootlets (gravel is fine and sub-angular)	16	98	50	19	31	
WS7	5	1.50	-	D	Brown and orange mottled slightly gravelly slightly sandy silty CLAY with occasional roots and rootlets (gravel is fm and sub-angular)	17					
TP6	1	1.00	-	D	Brown and orange mottled slightly mottled slightly gravelly fine sandy silty CLAY (gravel is fm and sub-angular)	21	96	39	19	20	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0

UKAS TESTING 2519

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

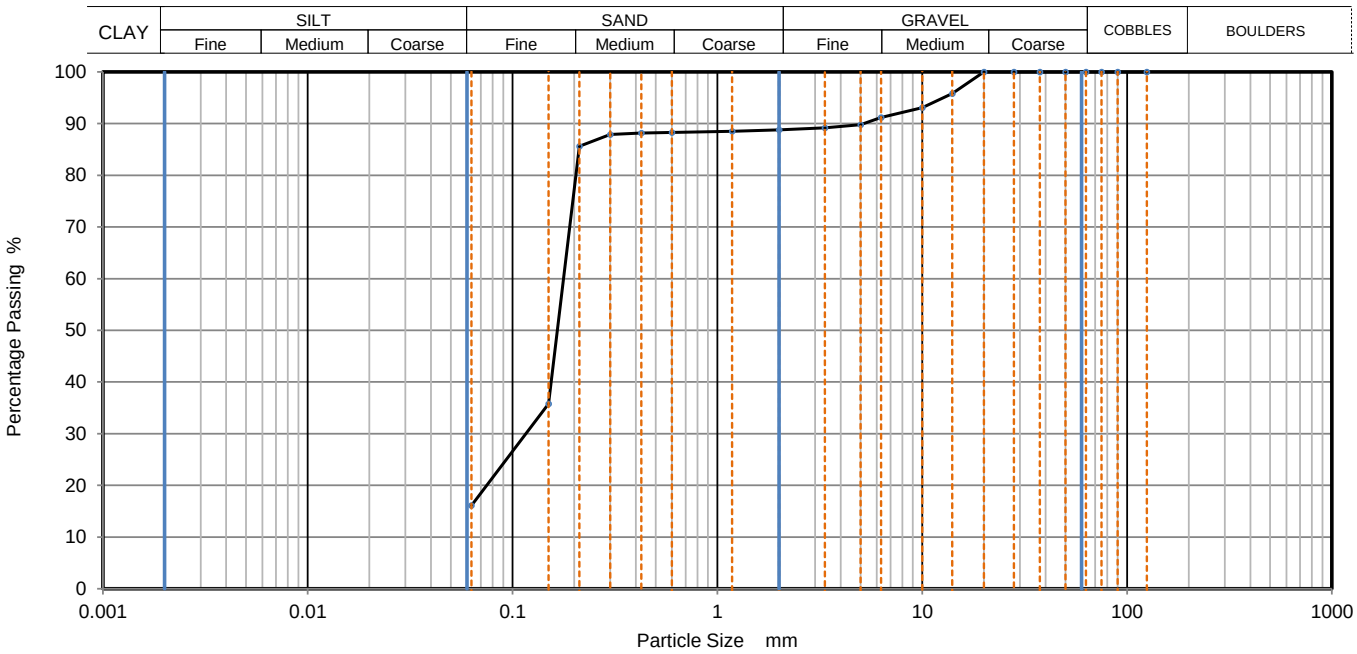
Checked and Approved
Initials J.P
Date: 23/09/2019

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R1(b)

PARTICLE SIZE DISTRIBUTION

				Job Ref	27060
				Borehole/Pit No.	TP4
Site Name	Land Off Lidsey Road, Woodgate			Sample No.	5
Project No.	GE18390	Client	GESL	Depth Top	2.00 m
Soil Description	Light brown gravelly SAND with occasional lumps of sandy clay (gravel is fm and sub-angular to sub-rounded)			Depth Base	- m
				Sample Type	D
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	30/08/2019
				Date tested	09/09/2019



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	96		
10	93		
6.3	91		
5	90		
3.35	89		
2	89		
1.18	89		
0.6	88		
0.425	88		
0.3	88		
0.212	86		
0.15	36		
0.063	16		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	11.2
Sand	72.7
Fines <0.063mm	16.1

Grading Analysis		
D100	mm	
D60	mm	0.177
D30	mm	0.116
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below

K4 Soils Laboratory
Unit 8, Olds Close, Watford, Herts, WD18 9RU
Email: james@k4soils.com
Tel: 01923 711288

UKAS TESTING 2519

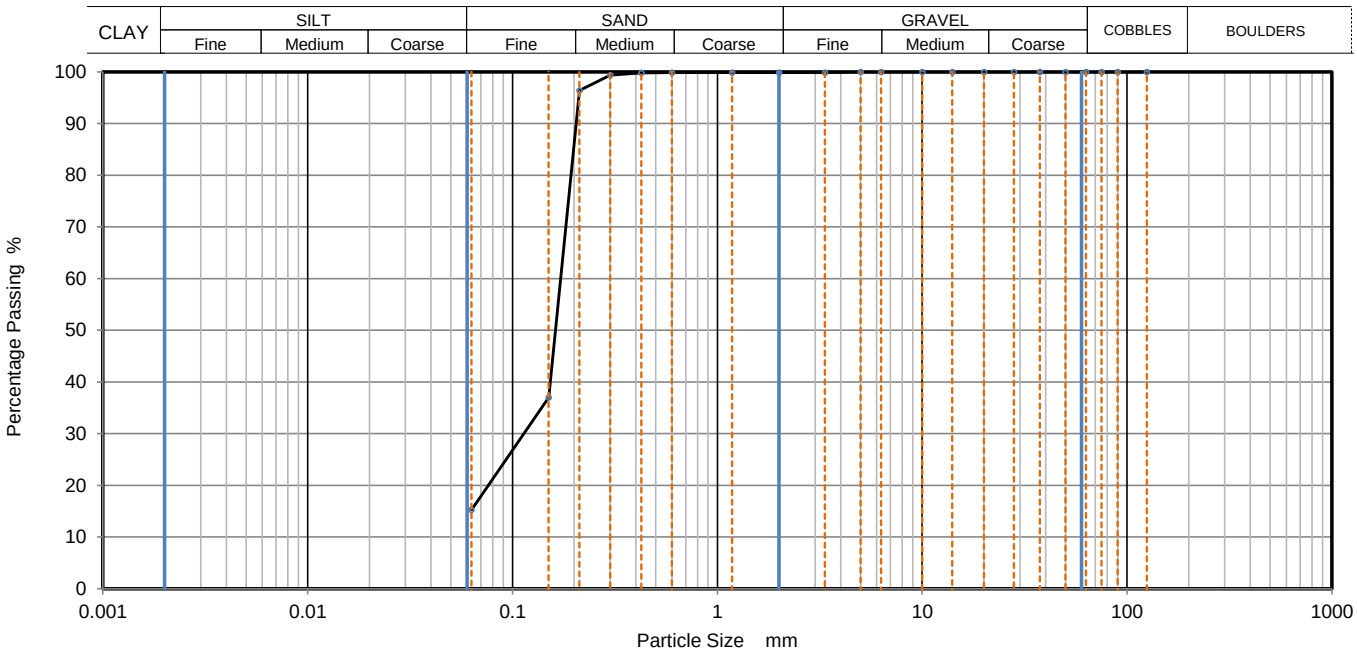
Checked and Approved
Initials: **J.P**
Date: 12/09/2019

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R3

PARTICLE SIZE DISTRIBUTION

				Job Ref	27060
				Borehole/Pit No.	WS1
Site Name	Land Off Lidsey Road, Woodgate			Sample No.	5
Project No.	GE18390	Client	GESL	Depth Top	1.50 m
Soil Description	Light brown silty SAND			Depth Base	- m
				Sample Type	D
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	30/08/2019
				Date tested	09/09/2019



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	99		
0.212	96		
0.15	37		
0.063	15		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.1
Sand	84.6
Fines <0.063mm	15.3

Grading Analysis		
D100	mm	
D60	mm	0.172
D30	mm	0.113
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below

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Email: james@k4soils.com
Tel: 01923 711288

UKAS TESTING 2519

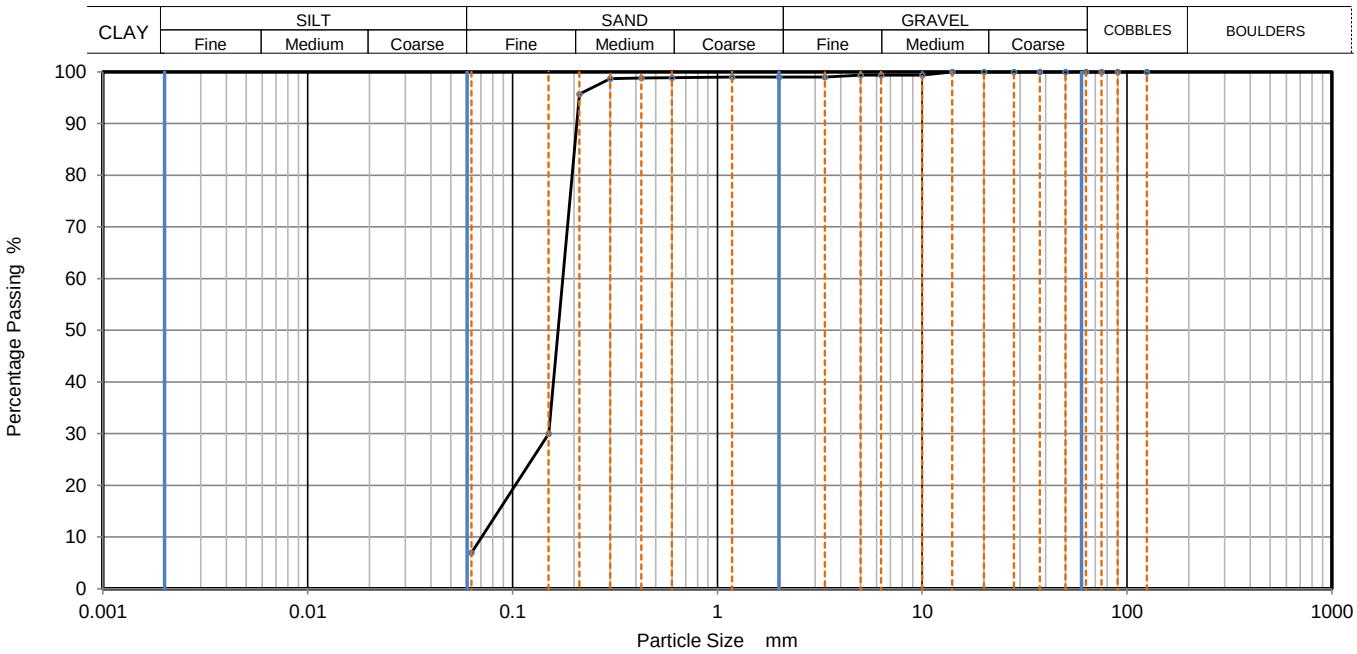
Checked and Approved
Initials: **J.P**
Date: 12/09/2019

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R3

PARTICLE SIZE DISTRIBUTION

				Job Ref	27060
				Borehole/Pit No.	WS3
Site Name	Land Off Lidsey Road, Woodgate			Sample No.	6
Project No.	GE18390	Client	GESL	Depth Top	2.00 m
Soil Description	Light brown silty SAND with rare fm sub-angular gravel			Depth Base	- m
				Sample Type	D
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	30/08/2019
				Date tested	09/09/2019



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	99		
3.35	99		
2	99		
1.18	99		
0.6	99		
0.425	99		
0.3	99		
0.212	96		
0.15	30		
0.063	7		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	1.0
Sand	91.9
Fines <0.063mm	7.0

Grading Analysis		
D100	mm	
D60	mm	0.176
D30	mm	0.15
D10	mm	0.0705
Uniformity Coefficient		2.5
Curvature Coefficient		1.8

Remarks

Preparation and testing in accordance with BS1377 unless noted below

K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

Checked and Approved

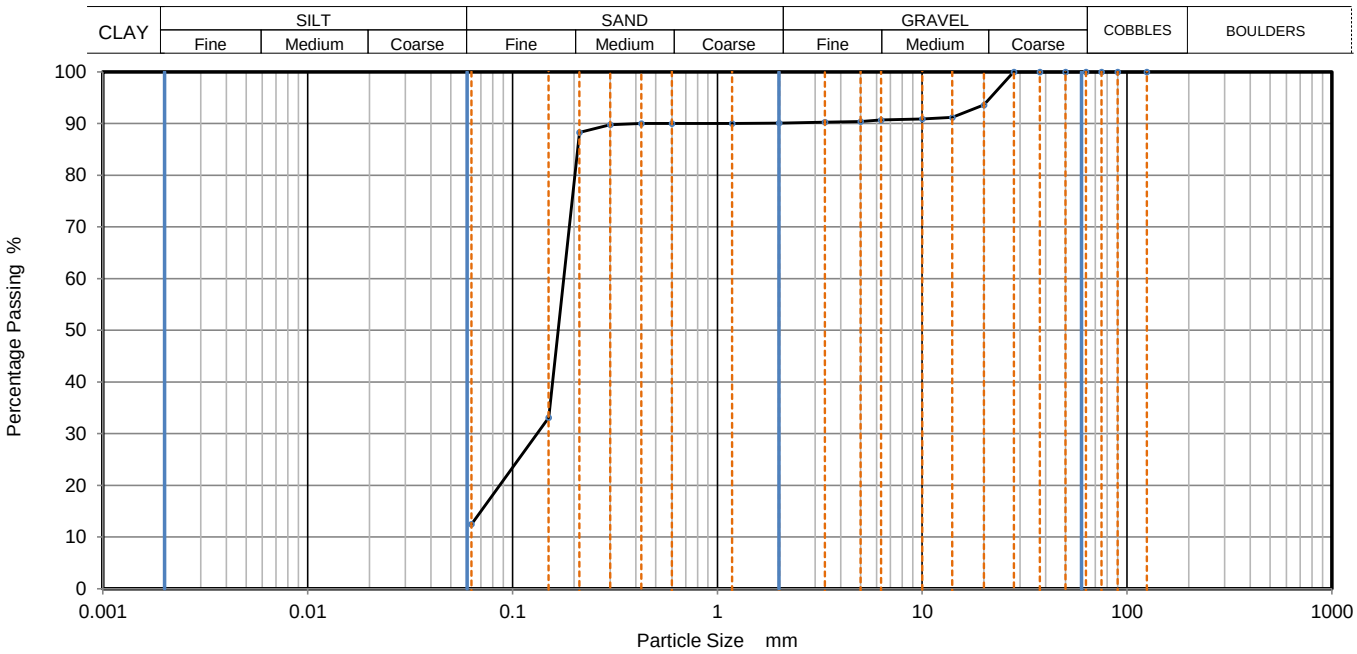
Initials: **J.P**

Date: 12/09/2019

MSF-5-R3

PARTICLE SIZE DISTRIBUTION

				Job Ref	27060
				Borehole/Pit No.	WS5
Site Name	Land Off Lidsey Road, Woodgate			Sample No.	6
Project No.	GE18390	Client	GESL	Depth Top	2.00 m
Soil Description	Light brown gravelly silty SAND (gravel is fmc and sub-angular)			Depth Base	- m
				Sample Type	D
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	30/08/2019
				Date tested	09/09/2019



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	94		
14	91		
10	91		
6.3	91		
5	90		
3.35	90		
2	90		
1.18	90		
0.6	90		
0.425	90		
0.3	90		
0.212	88		
0.15	33		
0.063	13		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	9.9
Sand	77.6
Fines <0.063mm	12.5

Grading Analysis		
D100	mm	
D60	mm	0.178
D30	mm	0.132
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below

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Unit 8, Olds Close, Watford, Herts, WD18 9RU
Email: james@k4soils.com
Tel: 01923 711288

Checked and Approved
Initials: **J.P**
Date: 12/09/2019

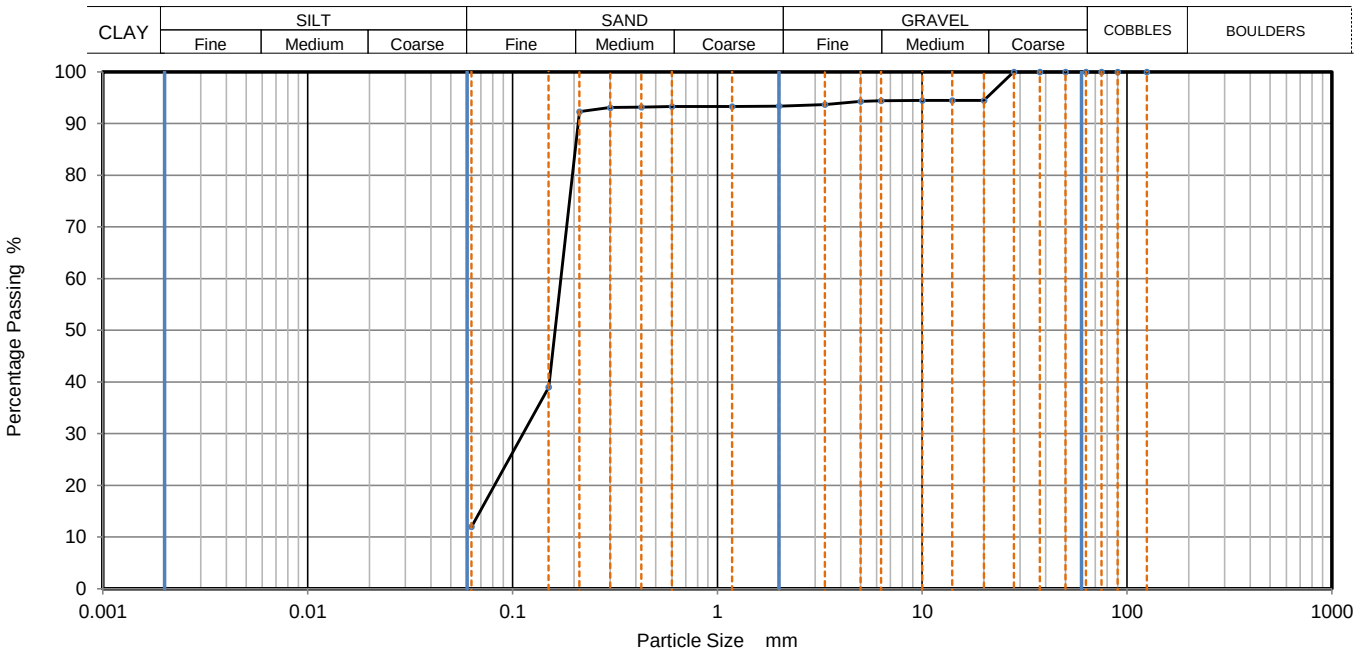
UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R3

PARTICLE SIZE DISTRIBUTION

				Job Ref	27060
				Borehole/Pit No.	WS6
Site Name	Land Off Lidsey Road, Woodgate			Sample No.	5
Project No.	GE18390	Client	GESL	Depth Top	1.50 m
Soil Description	Orangish brown gravelly silty SAND (gravel is fmc and sub-angular to sub-rounded)			Depth Base	- m
				Sample Type	D
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	30/08/2019
				Date tested	09/09/2019



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	95		
14	95		
10	95		
6.3	94		
5	94		
3.35	94		
2	93		
1.18	93		
0.6	93		
0.425	93		
0.3	93		
0.212	92		
0.15	39		
0.063	12		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	6.6
Sand	81.5
Fines <0.063mm	12.0

Grading Analysis		
D100	mm	
D60	mm	0.172
D30	mm	0.112
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

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Tel: 01923 711288

UKAS TESTING 2519

Checked and Approved

Initials: **J.P**

Date: 12/09/2019

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R3

California Bearing Ratio (CBR)

Site Name	Land Off Lidsey Road, Woodgate			Job Ref	27060
				Borehole/Pit No.	TP DCP1
				Sample No.	1
Project No.	GE18390	Client	GESL	Depth Top	0.50 m
Soil Description	Light brown slightly sandy silty CLAY with frequent rootlets, rare fm sub-angular flint gravel and fm chalk fragments			Depth Base	- m
				Sample Type	B
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377 : Part 4 : 1990, clause 7			Project Started	30/08/2019
				Date Tested	12/09/2019

Specimen Preparation

Condition: REMOULDED

Details: Recompacted with specified standard effort using 2.5kg rammer

Material retained on 20mm sieve removed: 0.0 %

Initial Specimen details

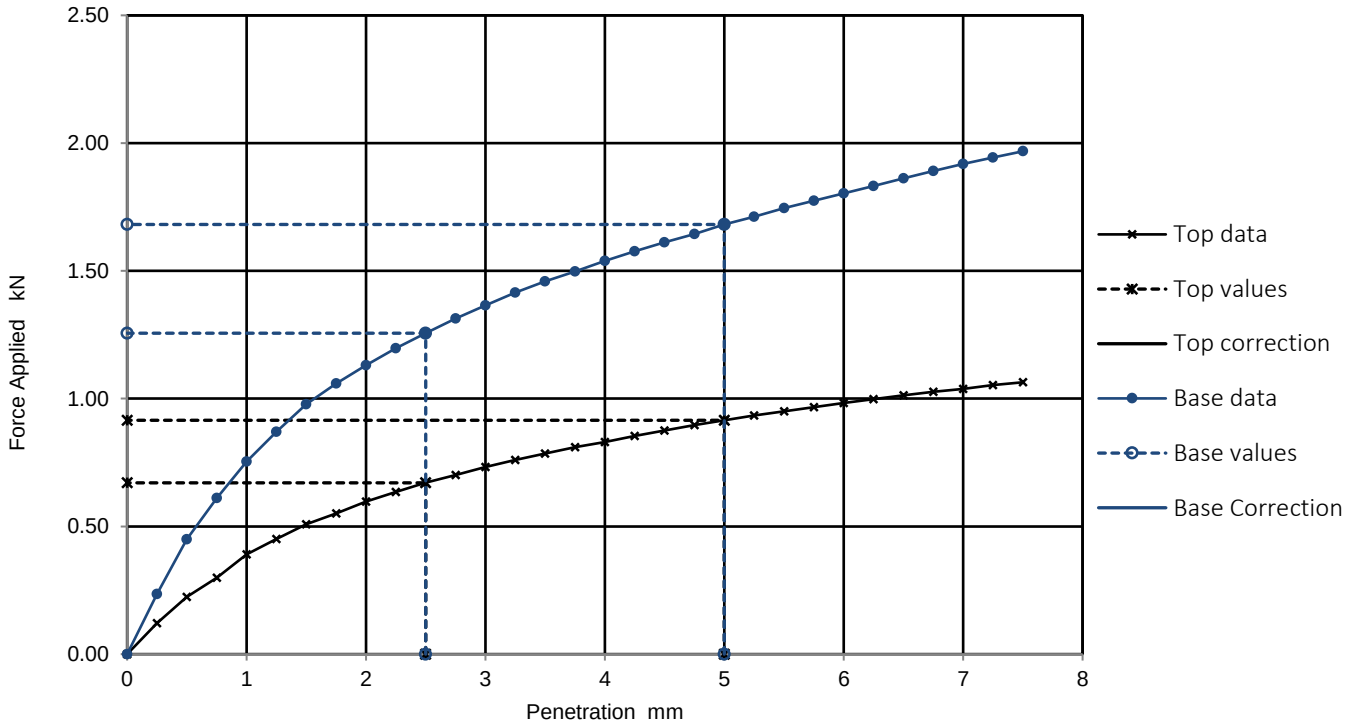
Bulk density	1.93	Mg/m3
Dry density	1.66	Mg/m3
Moisture content	17	%

Soaking details

Period of soaking	5	days
Time to surface	5	days
Amount of swell recorded	1.22	mm

Surcharge applied: 6 kg, 4 kPa

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	5.1	4.6	5.1	N/A	23
BASE	No	9.5	8.4	9.5		21

Remarks

1

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

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Checked and Approved

Initials: **J.P**

Date: 23/09/2019

UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R16

California Bearing Ratio (CBR)

Site Name	Land Off Lidsey Road, Woodgate			Job Ref	27060
				Borehole/Pit No.	TP DCP4
Project No.	GE18390	Client	GESL	Sample No.	1
				Depth Top	0.50 m
Soil Description	Light brown slightly sandy silty CLAY with occasional rootlets			Depth Base	- m
				Sample Type	B
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377 : Part 4 : 1990, clause 7			Project Started	30/08/2019
				Date Tested	10/09/2019

Specimen Preparation

Condition: REMOULDED

Details: Recompacted with specified standard effort using 2.5kg rammer

Material retained on 20mm sieve removed: 0.0 %

Initial Specimen details

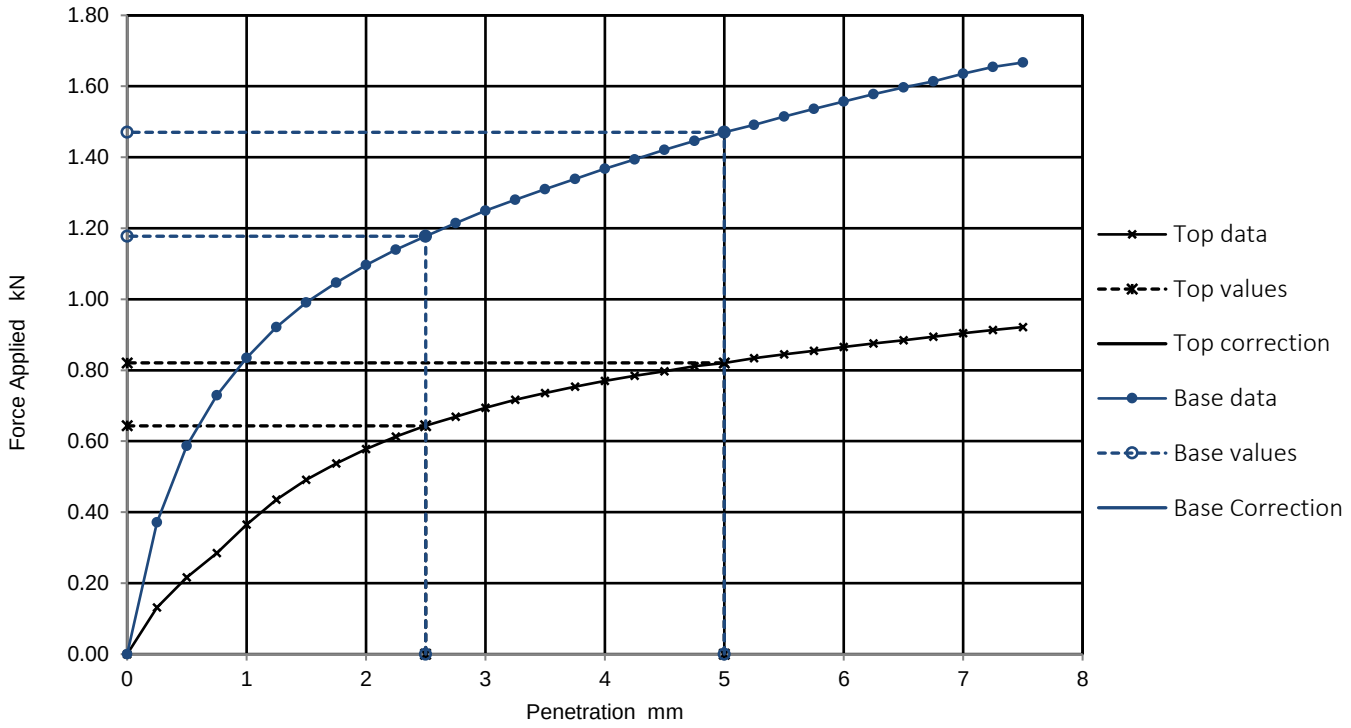
Bulk density	1.90	Mg/m3
Dry density	1.60	Mg/m3
Moisture content	19	%

Soaking details

Period of soaking	5	days
Time to surface	5	days
Amount of swell recorded	1.20	mm

Surcharge applied: 6 kg, 4 kPa

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	4.9	4.1	4.9	N/A	23
BASE	No	8.9	7.4	8.9		23

Remarks

1

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved

Initials: **J.P**

Date: 23/09/2019

UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R16

California Bearing Ratio (CBR)

Site Name	Land Off Lidsey Road, Woodgate			Job Ref	27060
				Borehole/Pit No.	TP DCP6
Project No.	GE18390	Client	GESL	Sample No.	1
				Depth Top	0.50 m
Soil Description	Brown mottled bluish grey slightly gravelly silty CLAY (gravel is fmc and angular to rounded)			Depth Base	- m
				Sample Type	B
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377 : Part 4 : 1990, clause 7			Project Started	30/08/2019
				Date Tested	12/09/2019

Specimen Preparation

Condition: REMOULDED

Details: Recompacted with specified standard effort using 2.5kg rammer

Material retained on 20mm sieve removed: 1.6 %

Initial Specimen details

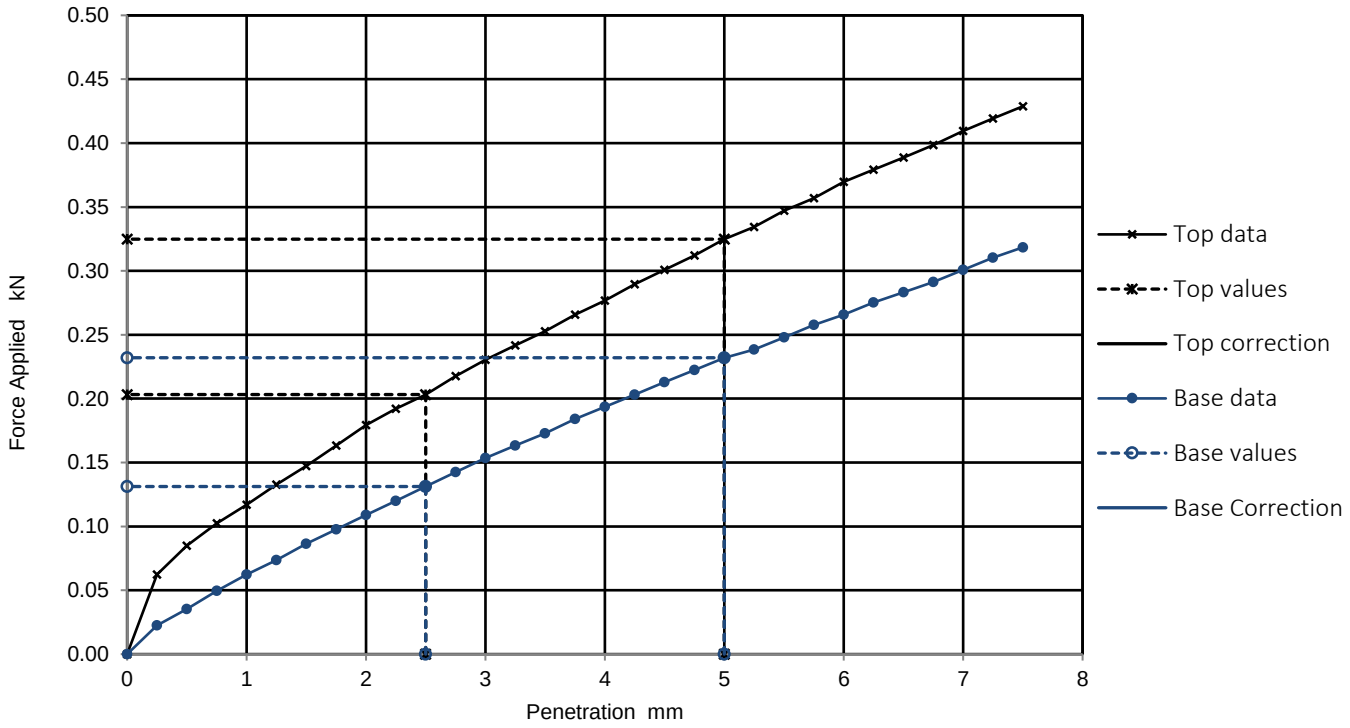
Bulk density	2.00	Mg/m3
Dry density	1.65	Mg/m3
Moisture content	21	%

Soaking details

Period of soaking	5	days
Time to surface	5	days
Amount of swell recorded	0.00	mm

Surcharge applied: 6 kg, 4 kPa

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, %				Moisture Content %
		2.5mm	5mm	Highest	Average	
TOP	No	1.5	1.6	1.6	N/A	23
BASE	No	1.0	1.2	1.2		23

Remarks

1

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved

Initials: **J.P**

Date: 23/09/2019

UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R16

APPENDIX E

Geochemical Laboratory Results

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Cuckfield Road
Hurstpierpoint
West Sussex
BN6 9GL

t: 01273 832972

e: anthony@gesl.net

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 19-55773

Project / Site name:	Lidsey Road, Woodgate	**Samples received on:**	21/08/2019
Your job number:	GE18390	**Samples instructed on:**	21/08/2019
Your order number:		**Analysis completed by:**	29/08/2019
Report Issue Number:	1	**Report issued on:**	29/08/2019
Samples Analysed:	8 soil samples		

Signed: K. Lewicka

Katarzyna Lewicka
Head of Reporting Section
For & on behalf of i2 Analytical Ltd.

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

ARUN DISTRICT COUNCIL AL/46/20/PL
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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297239	1297240	1297241	1297242	1297243
Sample Reference				TP1	TP2	WS1	WS2	WS3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.10	0.50	0.20
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	35	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	3.5	5.2	13	7.8	12
Total mass of sample received	kg	0.001	NONE	1.3	1.4	0.88	1.1	1.0
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.5	9.8	6.0	6.8	5.6
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	520	1400	550	260	460
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	150	540	58	37	120
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.074	0.27	0.029	0.018	0.058
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	73.8	270	29.2	18.4	58.0
Sulphide	mg/kg	1	MCERTS	3.8	4.7	< 1.0	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	30	170	30	4.1	8.3
Elemental Sulphur	mg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC)	%	0.1	MCERTS	3.7	3.6	2.3	0.3	1.1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.68	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	7.1	2.7	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	23	1.5	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	27	1.6	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	180	20	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	58	5.9	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	280	69	0.32	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	270	67	0.31	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	140	50	0.19	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	89	37	0.19	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	140	83	0.30	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	54	21	0.08	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	120	64	0.21	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	63	35	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	16	11	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	68	39	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	1520	510	1.60	< 0.80	< 0.80

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Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297239	1297240	1297241	1297242	1297243
Sample Reference				TP1	TP2	WS1	WS2	WS3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.10	0.50	0.20
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.1	12	8.2	4.5	6.2
Barium (aqua regia extractable)	mg/kg	1	MCERTS	54	290	80	57	60
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.68	2.4	0.70	0.51	0.66
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.9	0.4	< 0.2	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.4	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	54	24	19	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	36	11	7.6	9.4
Lead (aqua regia extractable)	mg/kg	1	MCERTS	18	66	32	9.2	19
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	11	15	9.8	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	18	42	35	25	28
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	29	110	62	33	45
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	77	6.5	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	260	20	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	210	32	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	280	160	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	820	220	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	24	4.9	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	360	14	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	2900	270	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	6400	1200	16	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	9600	1400	17	< 10	< 10

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Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297239	1297240	1297241	1297242	1297243
Sample Reference				TP1	TP2	WS1	WS2	WS3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.10	0.50	0.20
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Organochlorine Pesticides (OCP)								
Aldrin	ug/kg	10	NONE	-	-	< 10	-	< 10
BHC-alpha (benzene hexachloride)	ug/kg	10	NONE	-	-	< 10	-	< 10
BHC-beta	ug/kg	10	NONE	-	-	< 10	-	< 10
BHC-delta	ug/kg	10	NONE	-	-	< 10	-	< 10
BHC-gamma (Lindane, gamma HCH)	ug/kg	10	NONE	-	-	< 10	-	< 10
Chlordane-cis	ug/kg	10	NONE	-	-	< 10	-	< 10
Chlordane-trans	ug/kg	10	NONE	-	-	< 10	-	< 10
Chlorothalonil	ug/kg	10	NONE	-	-	< 10	-	< 10
DDD-o,p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
DDD-p,p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
DDE-o, p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
DDE-p,p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
DDT-o,p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
DDT-p,p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
Dichlorobenzonitrile, 2,6-	ug/kg	10	NONE	-	-	< 10	-	< 10
Dieldrin	ug/kg	10	NONE	-	-	< 10	-	< 10
Endosulfan I (alpha isomer)	ug/kg	10	NONE	-	-	< 10	-	< 10
Endosulfan II (beta isomer)	ug/kg	10	NONE	-	-	< 10	-	< 10
Endosulfan sulfate	ug/kg	10	NONE	-	-	< 10	-	< 10
Endrin	ug/kg	10	NONE	-	-	< 10	-	< 10
Endrin aldehyde	ug/kg	10	NONE	-	-	< 10	-	< 10
Endrin ketone	ug/kg	10	NONE	-	-	< 10	-	< 10
Heptachlor	ug/kg	10	NONE	-	-	< 10	-	< 10
Heptachlor exo-epoxide	ug/kg	10	NONE	-	-	< 10	-	< 10
Hexachlorobenzene	ug/kg	10	NONE	-	-	< 10	-	< 10
Hexachlorobutadiene	ug/kg	10	NONE	-	-	< 10	-	< 10
Isodrin	ug/kg	10	NONE	-	-	< 10	-	< 10
Methoxychlor, p,p'-	ug/kg	10	NONE	-	-	< 10	-	< 10
Pentachlorobenzene	ug/kg	10	NONE	-	-	< 10	-	< 10
Tecnazene	ug/kg	10	NONE	-	-	< 10	-	< 10
Tetrachlorobenzene, 1,2,4,5-	ug/kg	10	NONE	-	-	< 10	-	< 10
Trichlorobenzene, 1,2,3-	ug/kg	10	NONE	-	-	< 10	-	< 10
Trichlorobenzene, 1,3,5-	ug/kg	10	NONE	-	-	< 10	-	< 10
Trifluralin	ug/kg	10	NONE	-	-	< 10	-	< 10

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Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297244	1297245	1297246		
Sample Reference				WS4	WS7	WS6		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.20	0.20		
Date Sampled				Deviating	Deviating	Deviating		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	15	7.4	11		
Total mass of sample received	kg	0.001	NONE	1.4	1.0	1.3		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	5.4	7.3	6.5		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Total Sulphate as SO_4	mg/kg	50	MCERTS	550	520	610		
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	56	39	130		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.028	0.020	0.063		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	28.1	19.7	63.1		
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	13	3.0	7.6		
Elemental Sulphur	mg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0		
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.4	1.6	1.3		
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.18	< 0.05		
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.60	< 0.05		
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.52	< 0.05		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.50	< 0.05		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.39	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.66	< 0.05		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.22	< 0.05		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.42	< 0.05		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.25	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.35	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	4.09	< 0.80		

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Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297244	1297245	1297246		
Sample Reference				WS4	WS7	WS6		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.20	0.20		
Date Sampled				Deviating	Deviating	Deviating		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.7	10	7.4		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	67	130	73		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.67	1.1	0.72		
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.5	0.3		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.3	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	24	23		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	24	11		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	22	69	28		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	11	16	14		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	29	32	31		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	43	99	40		

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10		

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10		

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Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297244	1297245	1297246		
Sample Reference				WS4	WS7	WS6		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.20	0.20		
Date Sampled				Deviating	Deviating	Deviating		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Organochlorine Pesticides (OCP)								
Aldrin	ug/kg	10	NONE	< 10	-	< 10		
BHC-alpha (benzene hexachloride)	ug/kg	10	NONE	< 10	-	< 10		
BHC-beta	ug/kg	10	NONE	< 10	-	< 10		
BHC-delta	ug/kg	10	NONE	< 10	-	< 10		
BHC-gamma (Lindane, gamma HCH)	ug/kg	10	NONE	< 10	-	< 10		
Chlordane-cis	ug/kg	10	NONE	< 10	-	< 10		
Chlordane-trans	ug/kg	10	NONE	< 10	-	< 10		
Chlorothalonil	ug/kg	10	NONE	< 10	-	< 10		
DDD-o,p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
DDD-p,p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
DDE-o, p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
DDE-p,p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
DDT-o,p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
DDT-p,p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
Dichlorobenzonitrile, 2,6-	ug/kg	10	NONE	< 10	-	< 10		
Dieldrin	ug/kg	10	NONE	< 10	-	< 10		
Endosulfan I (alpha isomer)	ug/kg	10	NONE	< 10	-	< 10		
Endosulfan II (beta isomer)	ug/kg	10	NONE	< 10	-	< 10		
Endosulfan sulfate	ug/kg	10	NONE	< 10	-	< 10		
Endrin	ug/kg	10	NONE	< 10	-	< 10		
Endrin aldehyde	ug/kg	10	NONE	< 10	-	< 10		
Endrin ketone	ug/kg	10	NONE	< 10	-	< 10		
Heptachlor	ug/kg	10	NONE	< 10	-	< 10		
Heptachlor exo-epoxide	ug/kg	10	NONE	< 10	-	< 10		
Hexachlorobenzene	ug/kg	10	NONE	< 10	-	< 10		
Hexachlorobutadiene	ug/kg	10	NONE	< 10	-	< 10		
Isodrin	ug/kg	10	NONE	< 10	-	< 10		
Methoxychlor, p,p'-	ug/kg	10	NONE	< 10	-	< 10		
Pentachlorobenzene	ug/kg	10	NONE	< 10	-	< 10		
Tecnazene	ug/kg	10	NONE	< 10	-	< 10		
Tetrachlorobenzene, 1,2,4,5-	ug/kg	10	NONE	< 10	-	< 10		
Trichlorobenzene, 1,2,3-	ug/kg	10	NONE	< 10	-	< 10		
Trichlorobenzene, 1,3,5-	ug/kg	10	NONE	< 10	-	< 10		
Trifluralin	ug/kg	10	NONE	< 10	-	< 10		

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Analytical Report Number : 19-55773

Project / Site name: Lidsey Road, Woodgate

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1297239	TP1	None Supplied	0.10	Brown gravelly sand with vegetation and stones.
1297240	TP2	None Supplied	0.10	Grey sand with gravel and vegetation.
1297241	WS1	None Supplied	0.10	Light grey loam and clay with gravel and vegetation.
1297242	WS2	None Supplied	0.50	Brown sand with vegetation.
1297243	WS3	None Supplied	0.20	Brown sand with vegetation.
1297244	WS4	None Supplied	0.20	Brown sand with vegetation.
1297245	WS7	None Supplied	0.20	Grey sand with vegetation.
1297246	WS6	None Supplied	0.20	Grey sandy clay with vegetation.

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Analytical Report Number : 19-55773

Project / Site name: Lidsey Road, Woodgate

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in acetonitrile followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organochlorine Pesticides in soil by GC MS/MS	Detemination of Pesticides in soil by GC MS/MS	Organochlorine Pesticides in soil by GC MS/MS	L055B-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS

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Analytical Report Number : 19-55773

Project / Site name: Lidsey Road, Woodgate

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Sample Deviation Report

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
TP1		S	19-55773	1297239	a			
TP2		S	19-55773	1297240	a			
WS1		S	19-55773	1297241	a			
WS2		S	19-55773	1297242	a			
WS3		S	19-55773	1297243	a			
WS4		S	19-55773	1297244	a			
WS6		S	19-55773	1297246	a			
WS7		S	19-55773	1297245	a			

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

TEST CERTIFICATE

Specification for Topsoil

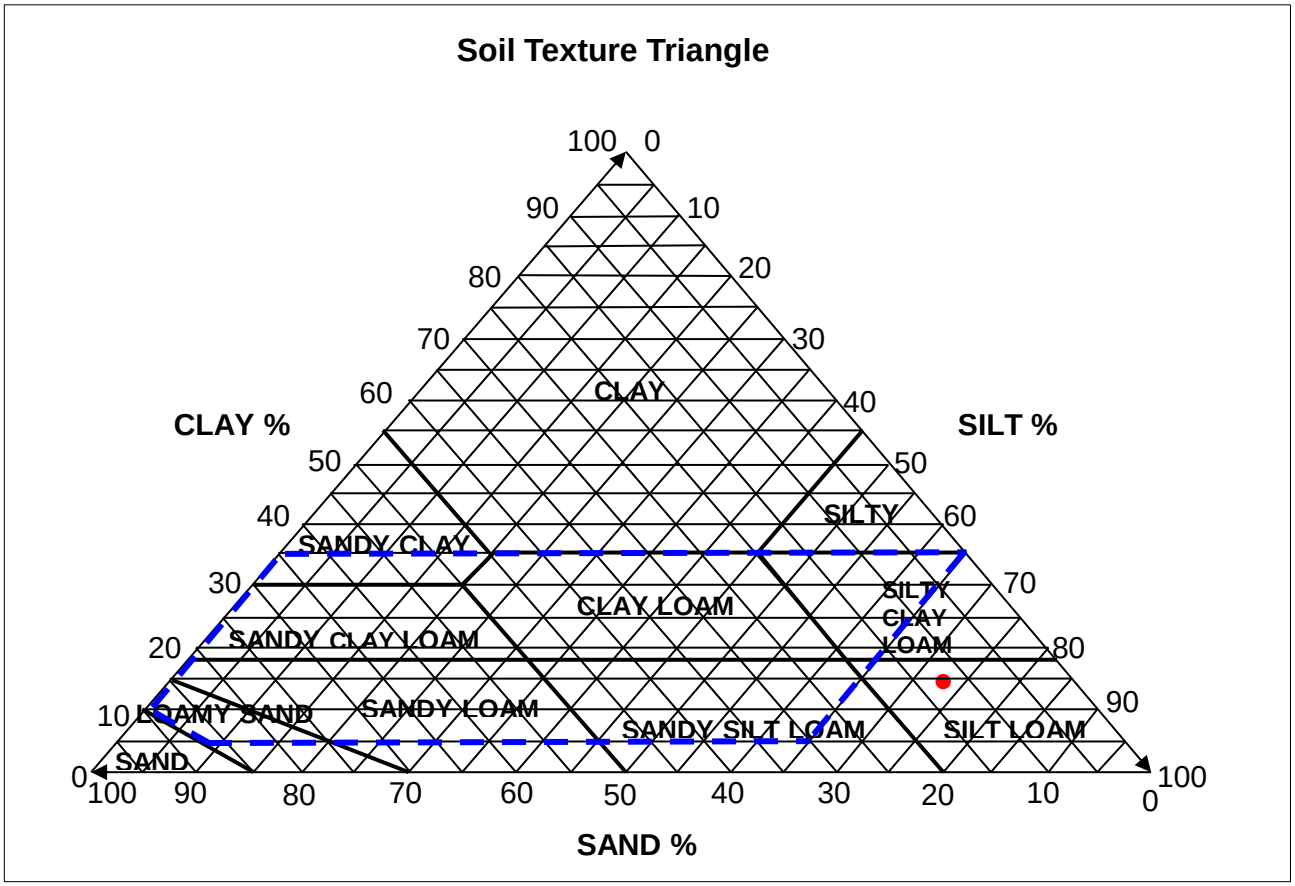
i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

Tested in Accordance with: BS 3882: 2015

Client:	Geo-Environmental Services Ltd	Client Reference:	GE18390
Client Address:	Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL	Job Number:	19-55777
		Date Sampled:	Not Given
		Date Received:	21/08/2019
Contact:	Anthony Potter	Date Tested:	23/08/2019
Site Name:	Lidsey Road, Woodgate	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

Laboratory Reference:	1297286	Depth Top [m]:	0.10
Hole No.:	TP3	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	SILT LOAM		



Sample Proportion	% dry mass
Sand	12.9
Silt	71.5
Clay	15.6

Remarks:

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 02/09/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd **GF 286.3**

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The results included within the report are representative of the samples submitted for analysis.
This analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."

"All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request."

TEST CERTIFICATE

Specification for Topsoil

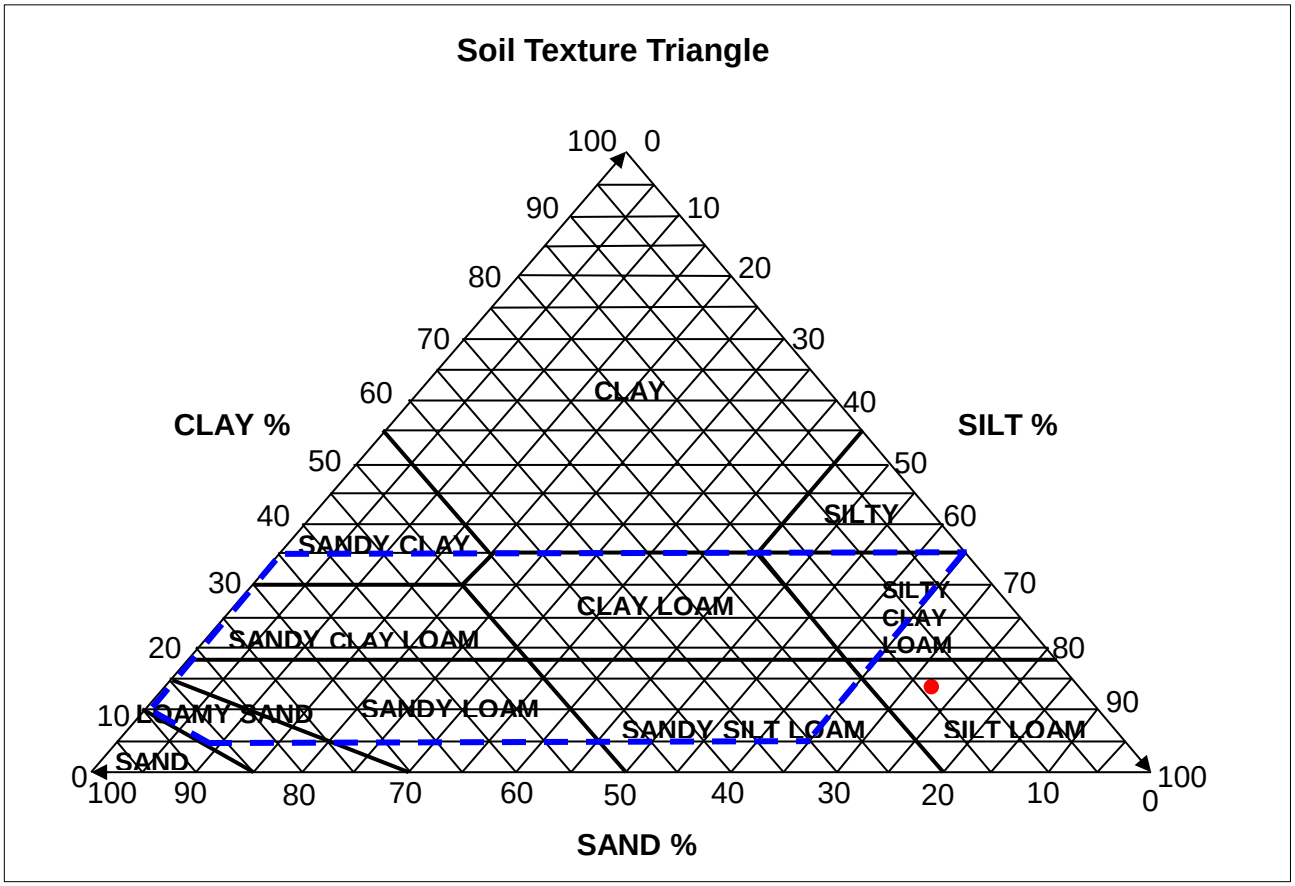
i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

Tested in Accordance with: BS 3882: 2015

Client:	Geo-Environmental Services Ltd	Client Reference:	GE18390
Client Address:	Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL	Job Number:	19-55777
		Date Sampled:	Not Given
		Date Received:	21/08/2019
Contact:	Anthony Potter	Date Tested:	23/08/2019
Site Name:	Lidsey Road, Woodgate	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

Laboratory Reference:	1297287	Depth Top [m]:	0.10
Hole No.:	TP4	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	SILT LOAM		



Sample Proportion	% dry mass
Sand	14.4
Silt	70.8
Clay	14.8

Remarks:

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 02/09/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd **GF 286.3**

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The results included within the report are representative of the samples submitted for analysis.
This analysis was carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."

"All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request."

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Specification for Topsoil

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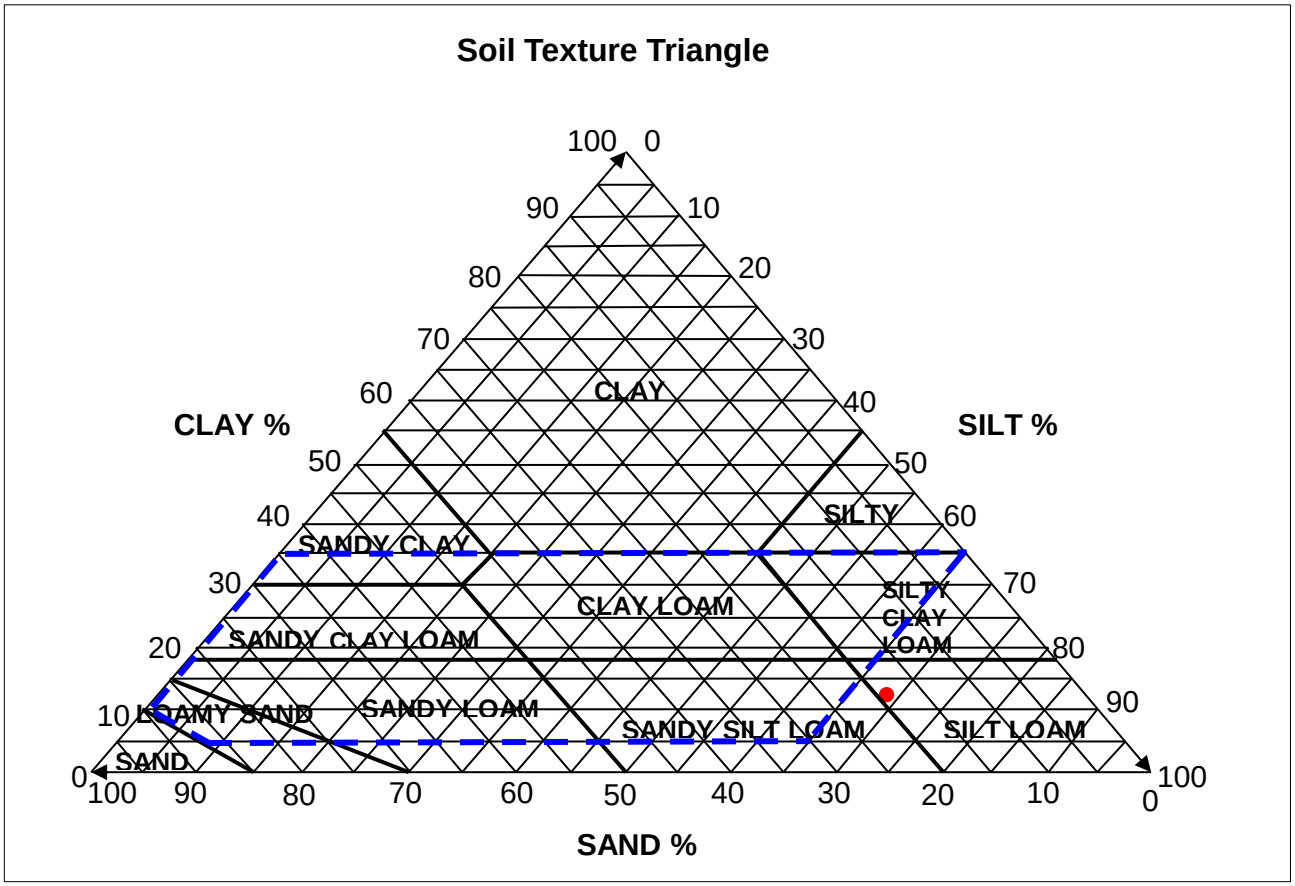
Tested in Accordance with: BS 3882: 2015

Client:	Geo-Environmental Services Ltd	Client Reference:	GE18390
Client Address:	Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL	Job Number:	19-55777
		Date Sampled:	Not Given
		Date Received:	21/08/2019
Contact:	Anthony Potter	Date Tested:	23/08/2019
Site Name:	Lidsey Road, Woodgate	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

Laboratory Reference:	1297288	Depth Top [m]:	0.10
Hole No.:	TP5	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	SILT LOAM		



Sample Proportion	% dry mass
Sand	19.3
Silt	67.2
Clay	13.5

Remarks:

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 02/09/2019

Signed: Darren Berrill
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TEST CERTIFICATE

Specification for Topsoil

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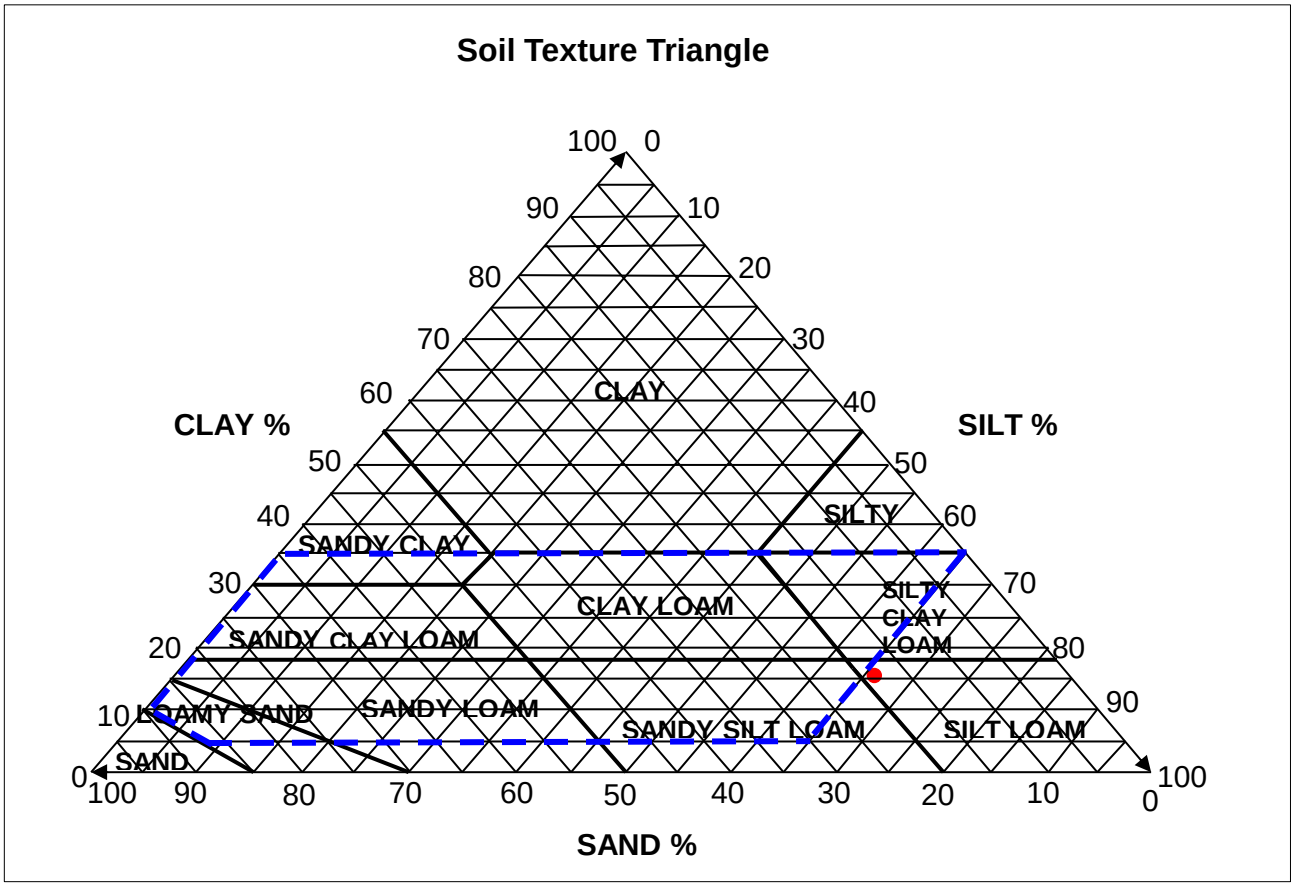
Croxley Green Business Park
Watford Herts WD18 8YS

Tested in Accordance with: BS 3882: 2015

Client:	Geo-Environmental Services Ltd	Client Reference:	GE18390
Client Address:	Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL	Job Number:	19-55777
		Date Sampled:	Not Given
		Date Received:	21/08/2019
Contact:	Anthony Potter	Date Tested:	23/08/2019
Site Name:	Lidsey Road, Woodgate	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

Laboratory Reference:	1297289	Depth Top [m]:	0.15
Hole No.:	TP6	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	SILT LOAM		



Sample Proportion	% dry mass
Sand	18.9
Silt	64.5
Clay	16.6

Remarks:

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 02/09/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd **GF 286.3**

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t: 01273 832972

e: anthony@gesl.net

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Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 19-55777

Project / Site name:	Lidsey Road, Woodgate	**Samples received on:**	21/08/2019
Your job number:	GE18390	**Samples instructed on:**	21/08/2019
Your order number:		**Analysis completed by:**	02/09/2019
Report Issue Number:	1	**Report issued on:**	02/09/2019
Samples Analysed:	4 soil samples		

Signed: Karoline Marek

Karolina Marek
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

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Certificate of Analysis

BS 3882:2015 Specification For Topsoil

	Fail BS 3882							**client**	
Report No:	**19-55777**							**Geo-Environmental Services Ltd**	
Location	Lidsey Road, Woodgate								
Lab Reference (Sample Number)	1297286							01273 832972	
Sampling Date	Deviating								
Sample ID	TP3								
Depth (m)	**0.10**			**Compliant with range (Y/N)**					
		unit	**Result**	**Multi-P**	**Acid**	**Calc**	**Low-F**	**Low-F(a)**	**Low-F(c)**
Soil texture	<2mm fraction	%w/w	SILT LOAM	N	N	N	N	N	N
Maximum coarse fragment content:	>2mm	%w/w	2.60	Y	Y	Y	Y	Y	Y
	>20mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	>50mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
Mass loss on ignition		%	3.50						
	Clay 5-20%		Y	Y	Y	Y	Y	Y	Y
	Clay 20-35%		-	-	-	-	-	-	-
Soil pH:		pH	7.90	Y	N	Y	Y	N	Y
Carbonate:		%w/w	3.30	-	-	Y	-	-	Y
Available plant nutrients	Nitrogen	%w/w	0.04	N	N	N	-	-	-
	Extractable Phosphate (as P)	mg/l	8.20	N	N	N	Y	Y	Y
	Extractable Potassium	mg/l	75.10	N	N	N	-	-	-
	Extractable Magnesium	mg/l	120.00	Y	Y	Y	-	-	-
Carbon: Nitrogen Ratio:		:1	47.00	N	N	N	N	N	N
Conductivity		us/cm	1700.00	Y	-	-	-	-	-
Phytotoxic contaminants:	** Total Zinc	mg/kg	38.00	Y	Y	Y	Y	Y	Y
	** Total Copper	mg/kg	15.00	Y	Y	Y	Y	Y	Y
	** Total Nickel	mg/kg	15.00	Y	Y	Y	Y	Y	Y
Visible contaminants:	>2mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Plastics	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Sharps	no. in 1 kg	0.00	Y	Y	Y	Y	Y	Y
Compliancy:				Fail	Fail	Fail	Fail	Fail	Fail

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

** = MCERTS accrediited

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Watford, WD18 8YS

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Fax: 01923 237404
email:reception@i2analytical.com

Certificate of Analysis

BS 3882:2015 Specification For Topsoil

Pass BS 3882 for Low fertility;

client	**Geo-Environmental Services Ltd**
Report No:	**19-55777**
Location	Lidsey Road, Woodgate
Lab Reference (Sample Number)	1297287
Sampling Date	Deviating
Sample ID	TP4
Depth (m)	**0.10**
	01273 832972

		unit	Result	Multi-P	Acid	Calc	Low-F	Low-F(a)	Low-F(c)
				Compliant with range (Y/N)					
Soil texture	<2mm fraction	%w/w	SILT LOAM	Y	Y	Y	Y	Y	Y
Maximum coarse fragment content:	>2mm	%w/w	7.70	Y	Y	Y	Y	Y	Y
	>20mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	>50mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
Mass loss on ignition		%	5.20						
	Clay 5-20%		Y	Y	Y	Y	Y	Y	Y
	Clay 20-35%		-	-	-	-	-	-	-
Soil pH:		pH	6.90	Y	N	N	Y	N	N
Carbonate:		%w/w	23.00	-	-	Y	-	-	Y
Available plant nutrients	Nitrogen	%w/w	0.20	Y	Y	Y	-	-	-
	Extractable Phosphate (as P)	mg/l	6.70	N	N	N	Y	Y	Y
	Extractable Potassium	mg/l	205.00	Y	Y	Y	-	-	-
	Extractable Magnesium	mg/l	200.00	Y	Y	Y	-	-	-
Carbon: Nitrogen Ratio:		:1	15.00	Y	Y	Y	Y	Y	Y
Conductivity		us/cm	1600.00	Y	-	-	-	-	-
Phytotoxic contaminants:	** Total Zinc	mg/kg	40.00	Y	Y	Y	Y	Y	Y
	** Total Copper	mg/kg	15.00	Y	Y	Y	Y	Y	Y
	** Total Nickel	mg/kg	12.00	Y	Y	Y	Y	Y	Y
Visible contaminants:	>2mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Plastics	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Sharps	no. in 1 kg	0.00	Y	Y	Y	Y	Y	Y
Compliancy:				Fail	Fail	Fail	Pass	Fail	Fail

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

Iss No 19-55777-1 Lidsey Road, Woodgate GE18390

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Certificate of Analysis

BS 3882:2015 Specification For Topsoil

	Fail BS 3882							**client**	
Report No:	**19-55777**							**Geo-Environmental Services Ltd**	
Location	Lidsey Road, Woodgate								
Lab Reference (Sample Number)	1297288							01273 832972	
Sampling Date	Deviating								
Sample ID	TP5								
Depth (m)	**0.10**			**Compliant with range (Y/N)**					
		unit	**Result**	**Multi-P**	**Acid**	**Calc**	**Low-F**	**Low-F(a)**	**Low-F(c)**
Soil texture	<2mm fraction	%w/w	SILT LOAM	N	N	N	N	N	N
Maximum coarse fragment content:	>2mm	%w/w	1.60	Y	Y	Y	Y	Y	Y
	>20mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	>50mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
Mass loss on ignition		%	5.50						
	Clay 5-20%		Y	Y	Y	Y	Y	Y	Y
	Clay 20-35%		-	-	-	-	-	-	-
Soil pH:		pH	6.10	Y	N	N	Y	N	N
Carbonate:		%w/w	3.90	-	-	Y	-	-	Y
Available plant nutrients	Nitrogen	%w/w	0.14	N	N	N	-	-	-
	Extractable Phosphate (as P)	mg/l	5.20	N	N	N	Y	Y	Y
	Extractable Potassium	mg/l	119.00	N	N	N	-	-	-
	Extractable Magnesium	mg/l	180.00	Y	Y	Y	-	-	-
Carbon: Nitrogen Ratio:		:1	23.00	N	N	N	Y	Y	N
Conductivity		us/cm	1600.00	Y	-	-	-	-	-
Phytotoxic contaminants:	** Total Zinc	mg/kg	39.00	Y	Y	Y	Y	Y	Y
	** Total Copper	mg/kg	14.00	Y	Y	Y	Y	Y	Y
	** Total Nickel	mg/kg	16.00	Y	Y	Y	Y	Y	Y
Visible contaminants:	>2mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Plastics	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Sharps	no. in 1 kg	0.00	Y	Y	Y	Y	Y	Y
Compliancy:				Fail	Fail	Fail	Fail	Fail	Fail

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Certificate of Analysis

BS 3882:2015 Specification For Topsoil

	Fail BS 3882							**client**	
Report No:	**19-55777**							**Geo-Environmental Services Ltd**	
Location	Lidsey Road, Woodgate								
Lab Reference (Sample Number)	1297289							01273 832972	
Sampling Date	Deviating								
Sample ID	TP6								
Depth (m)	**0.15**			**Compliant with range (Y/N)**					
		unit	**Result**	**Multi-P**	**Acid**	**Calc**	**Low-F**	**Low-F(a)**	**Low-F(c)**
Soil texture	<2mm fraction	%w/w	SILT LOAM	N	N	N	N	N	N
Maximum coarse fragment content:	>2mm	%w/w	0.70	Y	Y	Y	Y	Y	Y
	>20mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	>50mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
Mass loss on ignition		%	4.00						
	Clay 5-20%		Y	Y	Y	Y	Y	Y	Y
	Clay 20-35%		-	-	-	-	-	-	-
Soil pH:		pH	6.50	Y	N	N	Y	N	N
Carbonate:		%w/w	3.90	-	-	Y	-	-	Y
Available plant nutrients	Nitrogen	%w/w	0.09	N	N	N	-	-	-
	Extractable Phosphate (as P)	mg/l	5.70	N	N	N	Y	Y	Y
	Extractable Potassium	mg/l	76.40	N	N	N	-	-	-
	Extractable Magnesium	mg/l	150.00	Y	Y	Y	-	-	-
Carbon: Nitrogen Ratio:		:1	27.00	N	N	N	Y	Y	N
Conductivity		us/cm	1700.00	Y	-	-	-	-	-
Phytotoxic contaminants:	** Total Zinc	mg/kg	33.00	Y	Y	Y	Y	Y	Y
	** Total Copper	mg/kg	14.00	Y	Y	Y	Y	Y	Y
	** Total Nickel	mg/kg	15.00	Y	Y	Y	Y	Y	Y
Visible contaminants:	>2mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Plastics	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Sharps	no. in 1 kg	0.00	Y	Y	Y	Y	Y	Y
Compliancy:				Fail	Fail	Fail	Fail	Fail	Fail

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ARUN DISTRICT COUNCIL AL/46/20/PL

Analytical Report Number : 19-55777

Project / Site name: Lidsey Road, Woodgate

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1297286	TP3	None Supplied	0.10	Brown sandy loam with vegetation.
1297287	TP4	None Supplied	0.10	Brown sandy loam with vegetation.
1297288	TP5	None Supplied	0.10	Brown sandy loam with vegetation.
1297289	TP6	None Supplied	0.15	Brown sandy loam with vegetation.

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Analytical Report Number : 19-55777

Project / Site name: Lidsey Road, Woodgate

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Carbon to Nitrogen Ratio (Topsoil - BS3882:2015)	Carbon to Nitrogen ratio (:1) calculated using Loss on Ignition.	BS3882:2015	L01TS2015	W	NONE
Carbonate (Topsoil - BS3882)	Determination of Carbonate as per BS 3882:2015.	BS3882:2015	L034-PL	D	NONE
Coarse Fragment and Contaminant Analysis	Determination of >2mm contaminants	BS3882:2007 & BS8601:2013 & PAS 100:2005	L01TS	D	NONE
Conductivity (BS3882/BS8601)	Determination of the conductivity of soil in accordance with BS 3882:2007 methodology	BS3882:2007 & BS8601:2013	L099-PL	D	NONE
Extractable/Available Metals (BS3882/BS8601)	Determiation of the extractable metals in soil, in accordance with BS3882:2007 methodology.	BS3882:2007 & BS8601:2013	L038-PL	D	NONE
Geotechnical Testing in Soil	See attached geotechnical report	See attached geotechnical report		W	NONE
Kjeldahl nitrogen in soil	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 &	L087-PL	D	NONE
Mass loss on ignition (Topsoil - BS3882)	Determination of Loss on Ignition as per BS 3882:2015.	BS3882:2015	L047-PL	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Nitrogen (TKN)	Determination of total nitrogen by Kjeldahl method.	BS3882:2007	L087-PL	D	NONE
pH (BS3882/BS8601)	Determination of the pH of soil in accordance with BS 3882:2007 methodology	BS3882:2007 & BS8601:2013	L099-PL	D	NONE
Phosphorus as PO4 (BS3882/BS8601)	Determiation of the extractable phosphorus in soil, in accordance with BS3882:2007 methodology.	BS3882:2015 & BS8601:2013	L082-PL	D	NONE
Sodium (exchangeable %)	Determination of exchangeable sodium (%) by calculation, in accordance with BS3882:2007 methodology.	BS3882:2007	L028-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Textural Classification (BS3882/BS8601)	Determination of the textural classifcation of soil following BS3882:2007 methodology.	BS3882:2007 & BS8601:2013	L01TS	D	NONE
Textural Classification Diagram	Textural classification Diagram	BS3882:2015		D	NONE

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Analytical Report Number : 19-55777

Project / Site name: Lidsey Road, Woodgate

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Topsoil	See attached report.	BS 3882: 2015	PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Sample Deviation Report

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
TP3		S	19-55777	1297286	a			
TP4		S	19-55777	1297287	a			
TP5		S	19-55777	1297288	a			
TP6		S	19-55777	1297289	a			

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

ARUN DISTRICT COUNCIL AL/46/20/PL

ATKINS CatWasteSoil

Classification Assessment Tool of Soil Wastes - Hazard Summary Sheet

Site Name	Lidsey Road, Woodgate
Location	Woodgate, West Sussex
Site ID	Woodgate
Job Number	GE18390
Date	10/2/2019
User Name	anthony.potter@gesl.net
Company Name	Geo-Environmental Services Limited

Hole ID	Sample Depth	Hazardous Waste Y/N	HP1	HP2	HP3	HP4	HP5	HP6	HP7	HP8	HP9
TP1	0.1	Y	No	No	No	No	No	No	Yes	No	No
TP2	0.1	Y	No	No	No	No	No	No	Yes	No	No
WS1	0.1	N	No	No	No	No	No	No	No	No	No
WS2	0.5	N	No	No	No	No	No	No	No	No	No
WS3	0.2	N	No	No	No	No	No	No	No	No	No
WS4	0.2	N	No	No	No	No	No	No	No	No	No
WS7	0.2	N	No	No	No	No	No	No	No	No	No
WS6	0.2	N	No	No	No	No	No	No	No	No	No

This output data has been generated by the CAT-Waste Soil waste classification tool provided by Atkins Consultants Ltd and J.McArdle Contracts and should be read in conjuntion with the standard Terms and Conditions

14:37 04/10/2019

ARUN DISTRICT COUNCIL AL/46/20/PL

ATKINS CatWasteSoil

Site Name	Lidsey Road, Woodgate
Location	Woodgate, West Sussex
Site ID	Woodgate
Job Number	GE18390
Date	10/2/2019
User Name	anthony.potter@gesl.net
Company Name	Geo-Environmental Services Limited

Hole ID	Sample Depth	Hazardous Waste Y/N	HP10	HP11	HP12	HP13	HP14	HP15	HP16
TP1	0.1	Y	No	Yes	No	No	No	No	No
TP2	0.1	Y	No	Yes	No	No	No	No	No
WS1	0.1	N	No	No	No	No	No	No	No
WS2	0.5	N	No	No	No	No	No	No	No
WS3	0.2	N	No	No	No	No	No	No	No
WS4	0.2	N	No	No	No	No	No	No	No
WS7	0.2	N	No	No	No	No	No	No	No
WS6	0.2	N	No	No	No	No	No	No	No

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14:37 04/10/2019

APPENDIX F

Window Sampler & Trial Pit Photographs

Name	Lindsey Road, Woodgate
ID	GE18390
Client	Thakeham Client
Engineer	
Anthony Potter	anthony.potter@gesl.net
Location	Woodgate, West Sussex
Date	19/08/2019
Geo-Environmental's Project Manager	
Anthony Potter	anthony.potter@gesl.net

Hole

Hole ID	WS1

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*
	Ws1

Hole ID	WS6

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*

	Ws6

Hole ID WS4

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*
	Ws4

Hole ID WS5

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*

	Ws5

Hole ID WS2

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*
	Ws2

Hole ID WS3

Photo of Window Sampler Soil

(1 record)

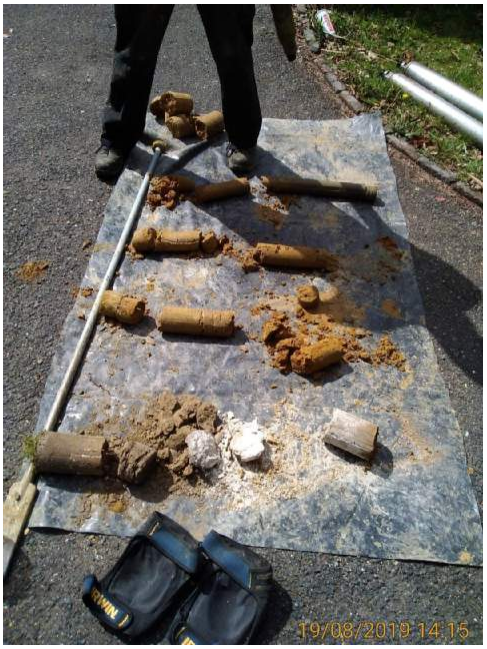
Window Sampler Photo	*Description*

	Ws3

Hole ID WS7

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*
	Ws7

Hole ID TP1

Photo of Pit

Photo of Reinstated Position

No data

Hole ID	TP2

Photo of Pit

Photo of Reinstated Position

No data

Hole ID	TP3

Photo of Pit

Photo of Spoil

Photo of Reinstated Position

No data

Hole ID	TP4

Photo of Pit

Photo of Spoil

Photo of Reinstated Position

No data

Hole ID	TP5

Photo of Pit

Photo of Reinstated Position

No data

Hole ID	TP5

Photo of Pit

Photo of Spoil

Photo of Reinstated Position

No data