

Countryside Properties (UK) Ltd, Places for People Developments and Places for People Ltd
c/o
Mr M Jones
Countryside Properties (UK) Ltd
Penman House
1 Penman Way
Grove Park
Leicester
LE19 1SY

18/12/24
AJP Ref: M224-159

Dear Mark

GEOTECHNICAL GROUND INVESTIGATION AND ASSESSMENT LEICESTER ROAD, EARL SHILTON

Further to your recent instruction AJP Midlands Ltd (AJP) have undertaken a geotechnical assessment following additional ground investigation works at the site known as 'Leicester Road, Earl Shilton'.

The proposed development is understood to comprise approximately 133no. low-rise residential dwellings with private gardens, parking, roads and areas of public open space. Additional ground investigation has been undertaken by PP to confirm the findings of the existing site investigation undertaken by RSK Environment Limited (RSK) and to determine the deeper ground conditions in the south of the site to aid in the design of piled foundations.

The site is located to north of Keats Lane and to the west of Leicester Road, Earl Shilton and comprises four agricultural fields. The land covers approximately 9.45 hectares.

This letter report should be read in conjunction with the following reports:

- RSK Environment Limited - Phase 2 Geo-environmental and Geotechnical Site Investigation, report ref. 252719-R01(01), dated 5 October 2022.

Summary of RSK Environment Limited Phase 2 Geo-environmental and Geotechnical Site Investigation Report (October 2022)

The following is a summary of the findings of the Phase II Geo-environmental and Geotechnical Site Investigation Report undertaken by RSK Environment Limited (RSK) in October 2022, reference 252719-R01(01). For full details reference should be made to the above report.

The site is located to the north of Earl Shilton and covers 9.45 hectares and comprises several open fields used for pasture. The surrounding area to the north and west comprises agricultural land, and horse stables. East of the site Leicester Road is present and to the south residential dwellings and allotments associated with Keats Lane and High Tor East are present.

Ground conditions anticipated at the site were superficial deposits of the Wigston Member/Wolston Sand and Gravel to the south of the site, underlain by the Gunthorpe Member comprising mudstone.

consulting
engineers

RSK carried out an intrusive investigation between 18 and 22 July 2022 and monitoring of borehole installation between 28 July and 26 August 2022.

The ground investigation comprised

- 12no. window sample boreholes
- 26no. machine excavated trial pits
- 6no. land rover plunger method CBR tests

The exploratory holes revealed the site to be underlain by a variable thickness between 0.11m and 0.65m of agricultural topsoil overlying agricultural subsoil between 0.13m and 0.40m. The topsoil comprised a granular layer with significant root content and anthropogenic inclusions of brick and glass fragments were occasionally encountered.

Made Ground was encountered in the southern area of the site beneath the topsoil comprising a greyish brown slightly gravelly sand and soft brownish grey mottled orangish brown slightly gravelly sandy clay with a low cobble content of brick and occasional relict root fragments and glass with a proven thickness between 0.35m and 0.90m.

The Wigston Sand and Gravel Member is present in the south of the site and was not encountered in the north-west of the site. The Wigston Sand and Gravel Member typically comprised very loose to medium dense brown, orangish brown or reddish brown clayey gravelly sands with frequent quartzite and flint gravels with a proven thickness between 0.10m and 6.05m. SPT 'N' values recorded in the Wigston Sand and Gravel Member ranged from 1 to 30 through the unit.

The Gunthorpe Member as encountered in holes where the Wigston Sand and Gravel Member was full penetrated or absent. The Gunthorpe Member typically comprised firm to very stiff reddish brown with occasional light grey mottling slightly sandy slightly gravelly clay. The proven thickness of the Gunthorpe Member is recorded to be between 0.20m and 3.70m and it was proven to the full depth of investigation at 5.00m bgl.

Groundwater was typically encountered as seepages within the granular superficial deposits between 1.60m and 4.70m begl. Groundwater monitoring was undertaken and recorded groundwater at depths of between 4.72 and 4.76m begl within the Wigston Sand and Gravel Member. No groundwater was encountered within the Gunthorpe Member during the monitoring period.

No visual or olfactory of soil contamination was noted on site. No visual evidence of asbestos was encountered during the site works, nor detected in the ten samples screened for asbestos.

No exceedances were reported when compared to the RSK GAC for a residential with home grown produce end-use and a soil organic matter of 1%. Therefore, the on-site soils are suitable for reuse and no remediation or capping is required. No samples were found to have hazardous properties and therefore if applicable the waste would require disposal at a suitably permitted inert or non-hazardous waste landfill.

The pond in the centre of the site and the groundwater within the Secondary A and B aquifers associated with the superficial and bedrock deposits have been outlined as the controlled water receptors within the preliminary CSM. The aquifers below the site are of low sensitivity due to secondary status and the lack of potable groundwater abstractions within a 2km of the site. Therefore, the aquifers are not considered as significant receptors but potential pathways. The on-site pond is considered a key receptor and so the use of Drinking Water Standards is discounted. The samples tested for soil leachates indicated exceedances of copper, lead, nickel and zinc when

compared to RSKs GAC. This suggests leaching of contaminants into the groundwater may be occurring. The exceedances were recorded in the made ground encountered in the southern field and therefore do not represent the natural soils underlying the site. The natural soils exhibited marginal exceedances of nickel and zinc and greater exceedances of copper and lead over both Environmental Quality Standards (EQS) and Predicted No Effect Concentration (PNEC). The exceedances are above the soil background levels within the area but are not excessively high and do not exceed soil screening values for human health. RSK tested two samples of groundwater from the pond and no exceedances of nickel or zinc were detected when compared to the site specific PNEC. The marginal exceedances of copper from nearby soils are not considered a significant risk to the pond.

PE and PVC water supply pipes are expected to be suitable for use on the development.

There were no elevated levels of ground gas recorded across the site, the site has been characterised as CS1 and no gas protection measures are required. Elevated concentrations of carbon monoxide (19 to 23 ppm) were recorded within boreholes WS01, WS08 and WS12 during the first monitoring visits. Overtime these concentrations reduced significantly and indicates the oxygen introduction during drilling / monitoring well installation had caused an initial spike in bacteriological activity rather than being a continuous source on site. No further consideration is given to carbon monoxide.

Selected samples were tested as part of a preliminary waste assessment. No samples were found to have hazardous properties suggesting if the on-site soils require disposal, then they can be disposed of at a suitable permitted inert or non-hazardous waste landfill. Out of the ten samples screened, asbestos was not detected nor was it detected visibly on site.

Based on the recorded water-soluble sulphate and pH of the natural soils below the site is characterised as DS-1 and the ACEC Class as AC-1. This equates to a DC-1 classification and as such in GEN01 RC35 concrete would be suitable for unreinforced and reinforced concrete

Infiltration tests were carried out in three locations within the Gunthorpe Member in the location of the proposed SuDS features. The results of the majority of infiltrations tests recorded insignificant infiltration to calculate an infiltration rate. An infiltration rate of 1.62×10^{-6} was recorded in one of the test locations.

The north of the site, firm to stiff clays of the Gunthorpe Member at relatively shallow depths may allow for the use of conventional spread footings. Due to the prevailing conditions in the south conventional spread footings would not be suitable without prior treatment/ground improvement, therefore consideration should be given to the use of piles taken through the unsuitable superficial deposits and into the competent Gunthorpe Member. The clays have been characterised as medium volume change potential so deepening for trees and the use of heave precautions will be required where plots are positioned close to trees. The Wigston Sand and Gravel Member varies highly and based on results from SPTs and shear vanes the soils are soft and loose and will provide a low bearing capacity. An alternative foundation solution will need to be required.

The CSM model has not been included as part of the geotechnical report review.

Additional Ground Investigation 2023

Additional ground investigation was undertaken between 27 and 30 November 2023 and comprised a total of 19no. machine excavated trial pits to a maximum depth of 4.10m below existing ground

level (begl)(TP16), 3no. cable percussive boreholes to a maximum depth of 15.00m begl (BH01 and BH02) and 7no. window sample boreholes to a maximum depth of 5.00m begl(WS01 to WS03). The exploratory hole location plan and exploratory hole logs are appended to this report.

Representative samples of the soils were obtained and submitted for laboratory geotechnical testing in respect of foundation design and concrete classification.

Grass over topsoil was encountered from surface in all exploratory hole locations to depths between 0.20m begl and 0.50m begl and generally comprised dark brown sandy slightly gravelly to gravelly slightly clayey to clayey topsoil with frequent rootlets. The gravel is recorded to be subrounded to rounded fine to medium quartzite, sandstone, and mudstone.

The Wigston Sand and Gravel Member was identified beneath the topsoil in exploratory hole locations BH01, BH02, TP01 to TP12, TP18, WS01 to WS05, in the south of the site, and comprised loose to medium dense dark orangish brown to reddish brown slightly clayey to clayey slightly gravelly to gravelly sand.

In BH01 loose slightly silty occasionally gravelly sand and loose to medium dense slightly gravelly sand was recorded between depths of 0.50m to 9.10m begl (BH01). The gravel comprised subrounded to rounded fine to coarse quartzite and mudstone. In BH02 and WS05, cohesive superficial deposits were encountered beneath the topsoil comprising firm dark orangish brown slightly sandy occasionally gravelly clay between 0.30m and 1.90m begl. The gravel comprised subrounded to rounded fine to coarse sandstone and mudstone.

Corrected SPT N-60 values within the Wigston Sand and Gravel Member were recorded to be between 8 and 18 at 1.00m begl and 6 and 20 at 2.00m begl, 1 and 11 at 3.00m begl, 3 and 17 at 4.00m begl, 2 and 4 at 5.00m begl, 3 at 6.00m begl, 1 at 7.00m begl and 25 at 8.00m begl.

Beneath the Wigston Sand and Gravel Member, the Gunthorpe Member was encountered in BH01 to BH03, TP02, TP06, TP08 to TP19, WS02, WS04 to WS07 between 0.30m begl (TP13 and TP15) to a maximum depth of 15.00m begl (BH01 and BH02).

In the south of the site the Gunthorpe Member comprised soft to stiff dark reddish/orangish brown slightly sandy to sandy clay, stiff to very stiff dark reddish brown slightly sandy slightly gravelly clay, very stiff dark reddish brown slightly sandy slightly silty clay and very stiff thinly laminated dark orangish brown slightly silty clay. The gravel comprised subrounded to rounded fine to coarse mudstone.

In the north east of the site the Gunthorpe Member comprised soft to stiff orangish brown mottled bluish grey occasionally sandy clay and soft to firm dark reddish/orangish brown mottled greenish grey slightly sandy to very sandy slightly gravelly to gravelly clay. The gravel was recorded to be subrounded to rounded fine to coarse mudstone and quartzite.

In the north of the site the Gunthorpe Member comprised firm light grey mottled dark reddish brown sandy slightly gravelly clay, firm dark reddish brown mottled light grey slightly gravelly clay. The gravel comprised subrounded to rounded fine to coarse mudstone and quartzite. Friable stiff dark reddish brown mottled light grey sandy clay was encountered in TP13 to TP15 between 1.30m and 2.00m begl.

Corrected SPT N-60 values within the Gunthorpe Member were recorded to be between 7 and 12 at 1.00m begl, 5 and 33 at 2.00m begl, 9 and 61 at 3.00m begl, 13 and 49 at 4.00m begl, 61 at 5.00m begl, 19 at 6.00m begl, 39 at 8.00m begl, 21 at 9.00m begl, 52 at 10.00m begl to 15.00m begl at 1.00m intervals.

Bedrock of the Gunthorpe Member recorded as extremely weak dark reddish brown mottled greenish grey mudstone, was encountered in BH03, TP07 to TP10, TP12, TP16 to TP19 between depths of 2.80m begl (TP18) to a maximum depth of 12.00m begl (BH03).

Corrected SPT N-60 values within the extremely weak mudstone of the Gunthorpe Member were recorded to be 52 at 1.00m intervals between 5.00m begl and 12.00m begl.

Groundwater seepages were recorded within the Gunthorpe member in TP06 to TP09, TP16, TP17 between 2.00m and 3.40m begl. Groundwater strikes were recorded within the Wigston Sand and Gravel Member and Gunthorpe Member in WS01 to WS04 and WS06 between 2.00m and 4.00m begl.

Engineer verified logs of the exploratory holes and an exploratory hole location plan have been attached for reference.

Foundation Recommendations

Across the centre of the site (plots 28 to 37, plots and 49 to 63 and plots 64 to 93) the firm to stiff Gunthorpe Member is present at relatively shallow depths. A shallow strip foundation would be suitable as suggested by the RSK Phase II report for the proposed low-rise residential development. An allowable bearing pressure of 100kN/m² should be achievable at a depth of between 1.00m and 2.00m begl within the underlying minimum firm to stiff Gunthorpe Member. Foundations should be deepened to extend through any soft or loose natural soils to at least 200mm into minimum firm to stiff natural soils. The Gunthorpe Member is recorded to be of medium volume potential in accordance with NHBC Chapter 4.2, a minimum founding depth of 0.90m begl could be adopted but due to the ground conditions across the site a founding depth of between 1.00m and 2.00m begl should be implemented.

The ground conditions encountered in the north-east of the site (plots 01 to 21) comprised soft clays and loose sand to approximately 2.50m begl. Below this depth firm clays of the Gunthorpe Member were encountered. Foundation depths should be deepened to at least 2.50m begl and deep trench fill foundations would be the most appropriate type of foundation and an allowable bearing pressure of 100kN/m² should be achievable at a depth of between 2.50m and 3.00m begl. Deep trench fill foundations should be deepened to extend through any soft or loose natural soils to at least 200mm into minimum firm to stiff natural soils.

The ground conditions recorded in the southern field (plots 94 to 133) encountered very loose to loose granular Wigston Sand and Gravel Member deposits to a maximum depth of 9.10m begl (BH01). Trial pits undertaken in TP02 to TP04 encountered granular deposits which were unstable during the excavation process. Due to the poor bearing capacity and instability of the excavations traditional foundations are unlikely to be suitable. The near surface Wigston Sand and Gravel Member soils are recorded to be predominantly non-plastic as such the site will not be affected by tree influence.

As such, an alternative foundation solution will be required for plots in this area. Piles extend beyond the superficial granular deposits of the Wigston Sand and Gravel Member bearing on the underlying Gunthorpe Member could be adopted. Consultation with a specialist piling contractor is recommended to determine the most suitable pile type and depth. Alternatively, vibro replacement ground improvement to enable the use of shallow reinforced footings could be undertaken as the additional investigation has shown the soils in this part of the site are mainly granular and as such deepening due to trees will not be required over most of the area. The exceptions are BH02 where clay was present near surface to a depth of 1.9m and WS04 where superficial clay was present from

0.7-1.65m and the weathered bedrock clay was present from 2.0m. In these areas potential deepening for the effect of trees may preclude the use of vibro replacement as the foundation solution.

Given the presence of hedgerows and trees around the site boundaries, and cohesive soils in the north and north-east of the site, deepening of foundations due to tree influence may be required. A tree survey of existing trees should be undertaken, and tree influence contours should be constructed during detailed foundation design for any trees to be retained or removed, and for new plantings. Heave precautions will be required where the depth of the tree influence exceeds 1.50m begl.

Laboratory geotechnical testing has been undertaken to provide further strength parameters for detailed design. A summary of the results of the quick undrained single stage triaxial testing is tabulated below:

Location	Depth (m)	Material	Shear Strength (CU)
BH01	6.00-6.50	Extremely weak MUDSTONE. (Gunthorpe Member)	Material is too friable unsuitable for testing
BH01	10.00-10.45	Stiff dark reddish brown CLAY. (Gunthorpe Member)	192 kPa
BH02	7.00-7.45	Very stiff dark orangish brown CLAY (Gunthorpe Member)	161 kPa
BH02	9.00-9.45	Very stiff dark orangish brown CLAY (Gunthorpe Member)	202 kPa
BH03	4.00-4.45	Firm orangish brown mottled bluish grey CLAY (Gunthorpe Member)	128 kPa

The results confirm an increase in strength with increasing depth within the Gunthorpe Member.

Based on the recorded water-soluble sulphate (<10mg/l to 58mg/l) and pH (8.1-8.8) the natural soils below the site (assuming mobile groundwater conditions) it can be assumed that DS-1 and the ACEC Class as AC-1 (in accordance with BRE Special Digest 1 (2005)). This equates to an AC-1 classification and as such in accordance with BS 8500 GEN1 concrete or RC25/30 (if reinforced) would be suitable for below ground unreinforced and reinforced concrete respectively.

Further Works

The only further work considered to be potentially required is infiltration tests within the Wigston Sand and Gravel Member in the south of the site to determine the infiltration rate of these soils if soakaway drainage is being considered.

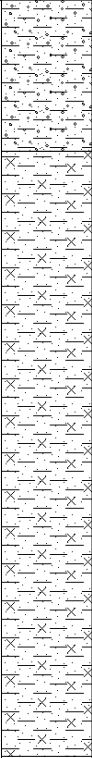
It is hoped that we have fully understood your requirements. Should you require any clarification of the above or would like to discuss the recommendations please do not hesitate to contact us.

Yours sincerely

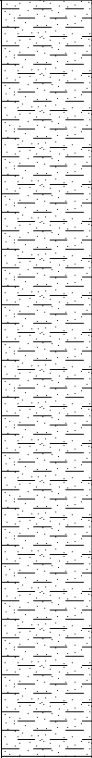


Chris Storey
Director
For and on behalf and AJP Midlands Limited,

				Cable Percussive Borehole Log				Borehole No. BH01 Sheet 1 of 2	
Project Name: Leicester Road, Earl Shilton				Project No. 11925		Co-ords:		Hole Type CP	
Location: Leicestershire				Level:		Scale 1:50			
Client: Countryside Properties (UK) Ltd				Dates: 27/11/2023		Logged By ZC			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.70 - 1.10	B		0.50			Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.	
		1.20	SPT	N=8 (1,1/1,3,2,2)				Dark orangish brown clayey slightly gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to medium quartzite.	1
		2.00	SPT	N=7 (1,1/1,2,2,2)				(WIGSTON MEMBER) Below 1.20m, loose.	2
		2.80 - 3.00	B		2.50			Dark reddish brown slightly silty SAND with frequent bands of sandy clay.	
		3.00	SPT	N=10 (2,2/2,2,3,3)				(WIGSTON MEMBER) Below 3.00m, loose.	3
		4.00 - 4.50	B						4
		4.00	SPT	N=7 (1,1/2,2,1,2)					
		5.00	SPT	N=4 (1,1/1,1,1,1)					5
		6.00	SPT	N=3 (1,0/1,1,1,0)					6
		7.00	SPT	N=1 (1,0/0,1,0,0)					7
		8.00	SPT	N=24 (3,3/6,6,6,6)			Below 8.00m, medium dense.	8	
		9.00	SPT	N=20 (2,3/4,5,5,6)	9.10				9
		9.50 - 10.00	B				Stiff dark reddish brown slightly sandy slightly gravelly CLAY. Gravel is subrounded to rounded fine to coarse mudstone.		
		10.00 - 10.45	U				(GUNTORPE MEMBER)	10	
Continued on Next Sheet									
Remarks 1) Location CAT scanned prior to drilling. 2) Groundwater was not encountered. 3) Borehole backfilled with arisings.									
									

				Cable Percussive Borehole Log				Borehole No. BH01 Sheet 2 of 2	
Project Name: Leicester Road, Earl Shilton				Project No. 11925		Co-ords:		Hole Type CP	
Location: Leicestershire				Level:		Scale 1:50			
Client: Countryside Properties (UK) Ltd				Dates: 27/11/2023		Logged By ZC			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		11.00	D SPT	50 (12,13/50 for 195mm)	11.00			Very stiff dark reddish brown slightly sandy slightly silty CLAY. (GUNTHORPE MEMBER)	11
		11.00							
		12.00	SPT	50 (9,9/50 for 200mm)					12
		13.00	SPT	50 (13,12/50 for 150mm)					13
		14.00	SPT	50 (8,8/50 for 200mm)					14
		15.00	SPT	50 (21,4/50 for 80mm)	15.00			End of Borehole at 15.00m	15
									16
									17
									18
									19
									20
Remarks 1) Location CAT scanned prior to drilling. 2) Groundwater was not encountered. 3) Borehole backfilled with arisings.									

				Cable Percussive Borehole Log				Borehole No. BH02 Sheet 1 of 2	
Project Name: Leicester Road, Earl Shilton				Project No. 11925		Co-ords:		Hole Type CP	
Location: Leicestershire				Level:		Scale 1:50			
Client: Countryside Properties (UK) Ltd				Dates: 28/11/2023		Logged By ZC			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.35						Grass over soft dark brown sandy gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.	
		1.20 - 1.68 1.20 1.50 - 1.90	D SPT B	N=10 (2,2/2,2,3,3)				Firm dark orangish brown slightly sandy gravelly CLAY. Gravel is subrounded to rounded fine to coarse sandstone and mudstone. (WIGSTON MEMBER) <i>Below 1.20m, stiff.</i>	1
		2.00 - 2.45 2.00	B SPT	N=6 (1,2/1,2,1,2)	1.90			Loose dark orangish brown slightly silty slightly gravelly fine to coarse SAND with pockets of silty sandy clay. Gravel is subrounded to rounded fine to medium quartzite. (WIGSTON MEMBER)	2
		3.00	SPT	N=1 (1,1/0,1,0,0)					3
		4.00	SPT	N=3 (1,1/0,1,0,2)					4
		5.00 - 5.45 5.00	D SPT	N=2 (1,1/0,0,0,2)					5
		6.00	SPT	N=18 (2,2/4,4,5,5)	6.00			Very stiff thinly laminated dark orangish brown slightly silty CLAY. (GUNTHORPE MEMBER)	6
		6.50 - 7.00	B						7
		7.00 - 7.45	U						8
		8.00	SPT	N=38 (5,5/8,8,10,12)					9
		9.00 - 9.45	U					10	
		10.00	SPT	N=46 (5,7/11,11,12,12)	10.00			Continued on Next Sheet	
Remarks 1) Location CAT scanned prior to drilling. 2) Groundwater was not encountered. 3) Borehole backfilled with arisings.									

					Cable Percussive Borehole Log			Borehole No. BH02 Sheet 2 of 2	
Project Name: Leicester Road, Earl Shilton					Project No. 11925		Co-ords:		Hole Type CP
Location: Leicestershire					Level:			Scale 1:50	
Client: Countryside Properties (UK) Ltd					Dates: 28/11/2023			Logged By ZC	
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		11.00	SPT	49 (7,7/49 for 150mm)	15.00			Very Stiff dark reddish brown slightly sandy CLAY. (GUNTHORPE MEMBER)	11
		12.00	SPT	50 (16,9/50 for 140mm)					12
		13.00	SPT	50 (8,15/50 for 115mm)					13
		14.00	SPT	50 (7,18/50 for 125mm)					14
		15.00 - 15.45 15.00	D SPT	50 (16,9/50 for 135mm)					15
								End of Borehole at 15.00m	15
									16
									17
									18
									19
									20
Remarks 1) Location CAT scanned prior to drilling. 2) Groundwater was not encountered. 3) Borehole backfilled with arisings.									

				Cable Percussive Borehole Log				Borehole No. BH03 Sheet 1 of 2			
Project Name: Leicester Road, Earl Shilton				Project No. 11925		Co-ords:		Hole Type CP			
Location: Leicestershire				Level:		Scale 1:50					
Client: Countryside Properties (UK) Ltd				Dates: 29/11/2023		Logged By ZC					
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
		Depth (m)	Type	Results							
		0.60 - 1.00	B		0.50			Grass over soft dark brown sandy gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.		1	
		1.20 - 1.65 1.20 1.50 - 2.00	D SPT B	N=7 (1,1/1,2,2,2)	1.10						Firm orangish brown mottled bluish grey CLAY.
		2.00	SPT	N=9 (2,2/2,2,3,2)							
		3.00	SPT	N=15 (2,2/4,3,4,4)						2	
		4.00 - 4.50	U								
		5.00	SPT	50 (11,9/50 for 210mm)	5.00			Extremely weak dark reddish brown mottled greenish grey MUDSTONE.		3	
		6.00 - 6.50	U								
		7.00 - 7.45 7.00	D SPT	50 (12,13/50 for 225mm)						4	
		8.00	SPT	50 (10,12/50 for 220mm)							
		9.00	SPT	50 (11,14/50 for 90mm)						5	
										6	
										7	
										8	
										9	
										10	
Continued on Next Sheet											
Remarks 1) Location CAT scanned prior to drilling. 2) Groundwater was not encountered. 3) Borehole backfilled with arisings.											

					Cable Percussive Borehole Log				Borehole No. BH03 Sheet 2 of 2	
Project Name: Leicester Road, Earl Shilton					Project No. 11925		Co-ords:		Hole Type CP	
Location: Leicestershire					Level:		Scale 1:50		Logged By ZC	
Client: Countryside Properties (UK) Ltd					Dates: 29/11/2023					
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		10.00	SPT	50 (25 for 75mm/50 for 80mm)	13.00				11	
	11.00	SPT	50 (25 for 75mm/50 for 190mm)	12						
	12.00	SPT	50 (10,11/50 for 95mm)			Below 12.00m, weak.				
								End of Borehole at 13.00m	13	
									14	
									15	
									16	
									17	
									18	
									19	
									20	
Remarks										
1) Location CAT scanned prior to drilling. 2) Groundwater was not encountered. 3) Borehole backfilled with arisings.										

Trial Pit Log

TrialPit No

TP01

Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
29/11/2023

Location: Leicestershire

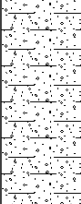
Dimensions
(m):

Scale
1:25

Client: Countryside Properties (UK) Ltd

Depth
3.70

Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES		0.40			Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.	
				1.10			Dark reddish brown slightly gravelly clayey fine to coarse SAND. Gravel is fine to medium subrounded to rounded quartzite. (WIGSTON MEMBER)	1
	2.00	D					Dark orangish brown fine to coarse SAND. (WIGSTON MEMBER)	
							Below 2.00m, occasional pockets of sandy clay. HVP= 46.	2
				3.70			End of Pit at 3.70m	3
								4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion

Stability:



Trial Pit Log

Trial Pit No
TP02
Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
29/11/2023

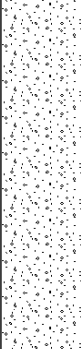
Location: Leicestershire

Dimensions (m):
3.00
1.00
Depth 4.00

Scale
1:25

Logged
ZC

Client: Countryside Properties (UK) Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.50	ES		0.40			Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.	
							Dark reddish brown slightly gravelly fine to coarse SAND. Gravel is fine to medium subrounded to rounded quartzite. (WIGSTON MEMBER) <i>Below 1.00m, occasional pockets sandy clay.</i>	1
				1.60			Dark orangish brown fine to coarse SAND. (WIGSTON MEMBER)	2
	3.80 3.80	ES	HVP=62	3.70 4.00			Firm dark reddish brown slightly sandy CLAY. (GUNTORPE MEMBER)	4
							End of Pit at 4.00m	5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion

Stability: Collapsed below 0.20m.



Trial Pit Log

Trial Pit No

TP03

Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
29/11/2023

Location: Leicestershire

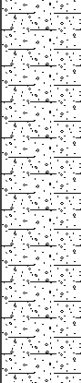
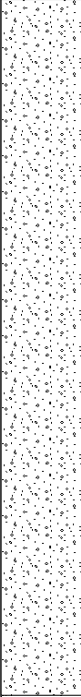
Dimensions (m): 3.00

Scale
1:25

Client: Countryside Properties (UK) Ltd

Depth
4.00

Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40			Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.	
				1.70			Dark orangish brown slightly clayey gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to medium quartzite. (WIGSTON MEMBER)	1
				4.00			Light orangish brown slightly gravelly fine to coarse SAND. Gravel is subrounded fine to coarse quartzite. (WIGSTON MEMBER) <i>Below 2.00m, occasional pockets of clayey sand.</i>	2
							End of Pit at 4.00m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion

Stability: Collapsed below 1.00m.



Trial Pit Log

TrialPit No
TP04
Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
29/11/2023

Location: Leicestershire

Dimensions (m):
2.50
1.50
Depth
3.00

Scale
1:25

Logged
ZC

Client: Countryside Properties (UK) Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40			Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.	
				1.20			Dark orangish brown slightly clayey slightly gravelly fine to coarse SAND. Gravel is subrounded fine to coarse quartzite. (WIGSTON MEMBER)	1
	1.50	D		2.00			Light grey mottled dark brown slightly clayey gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to coarse quartzite. (WIGSTON MEMBER)	2
	2.50	D		3.00			Light orangish brown mottled light grey fine to coarse SAND. (WIGSTON MEMBER) <i>Below 2.00m, damp stata</i> <i>Below 2.50m, frequent pockets of firm sandy clay. HVP=42.</i>	3
							End of Pit at 3.00m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion

Stability: Collapsed below 1.00m.



Trial Pit Log

Trial Pit No

TP05

Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
29/11/2023

Location: Leicestershire

Dimensions (m): 3.00

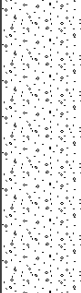
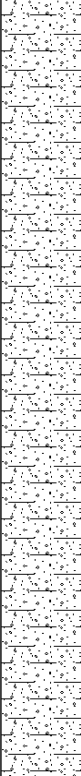
Depth
4.00

1.00

Scale
1:25

Logged
ZC

Client: Countryside Properties (UK) Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.80	ES		0.40			Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.	
				1.40			Dark orangish brown slightly gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to medium quartzite. (WIGSTON MEMBER)	1
							Dark reddish brown slightly clayey gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to coarse quartzite. (WIGSTON MEMBER)	2
							Below 2.50m, occasional poskets of firm sandy clay.	3
				4.00			End of Pit at 4.00m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion

Stability:



Trial Pit Log

Trial Pit No

TP06

Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
29/11/2023

Location: Leicestershire

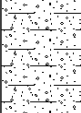
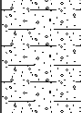
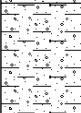
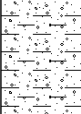
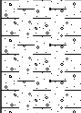
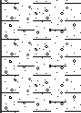
Dimensions (m): 3.00

Scale
1:25

Client: Countryside Properties (UK) Ltd

Depth
4.00

Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.30	ES		0.40			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
							Dark orangish brown slightly clayey gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to coarse quartzite. (WIGSTON MEMBER)	1
	1.50		HVP=62	1.60			<i>Below 1.20m, reddish brown, clayey.</i>	
	1.80	ES					Firm dark reddish brown mottled greenish grey slightly sandy gravelly CLAY. Gravel subrounded to rounded fine to coarse mudstone (GUNTHORPE MEMBER)	2
	2.00		HVP=52					
	2.50	D					<i>Below 3.00m, frequent bands of fine to coarse sand.</i>	3
				4.00				
							End of Pit at 4.00m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater seepage encountered during excavation at 2.00m begl. 3) Excavation backfilled with arisings upon completion

Stability:



Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
29/11/2023

Location: Leicestershire

Dimensions (m):

3.00

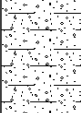
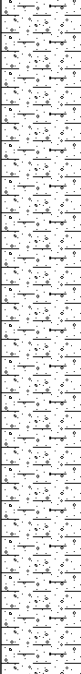
Scale
1:25

Client: Countryside Properties (UK) Ltd

Depth
3.90

1.00

Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.70	ES		0.40			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
							Dark orangish brown slightly clayey gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to coarse quartzite.	
							(WIGSTON MEMBER) <i>Below 0.60m, occasional pockets of firm sandy clay. HVP=50</i>	1
	1.30	D		1.10			Firm dark reddish brown mottled greenish grey slightly sandy slightly gravelly CLAY. Gravel subrounded to rounded fine to medium mudstone.	
							(GUNTORPE MEMBER)	2
	3.00 3.00	D	HVP=66	3.40			Extremely weak dark reddish brown mottled greenish grey MUDSTONE recovered as slightly clayey gravel.	3
				3.90			(GUNTORPE MEMBER)	
							End of Pit at 3.90m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater seepage encountered during excavation at 2.80m begl. 3) Excavation backfilled with arisings upon completion



Stability:



Trial Pit Log

TrialPit No

TP09

Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
29/11/2023

Location: Leicestershire

Dimensions (m): 3.00

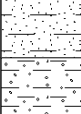
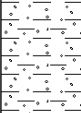
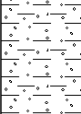
Scale
1:25

Client: Countryside Properties (UK) Ltd

Depth
3.90

1.00

Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
				1.00			Dark reddish brown slightly clayey gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to coarse quartzite. (WIGSTON MEMBER)	
	1.20 1.30	D ES					Firm dark reddish brown mottled greenish grey slightly sandy slightly gravelly CLAY. Gravel subrounded to rounded fine to medium mudstone and quartzite. (GUNTHORPE MEMBER)	1
	1.60		HVP=84				Below 1.60m, stiff.	
	2.10 2.20	D	HVP=111				Extremely weak dark reddish brown mottled greenish grey MUDSTONE recovered as slightly clayey gravel. (GUNTHORPE MEMBER)	2
				3.20				3
	3.80	D		3.90			End of Pit at 3.90m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater seepage encountered during excavation at 3.20m begl. 3) Excavation backfilled with arisings upon completion

Stability:

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
29/11/2023

Location: Leicestershire

Dimensions (m): 3.00

Scale
1:25

Client: Countryside Properties (UK) Ltd

Depth
3.80

1.00

Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
				1.20			Dark reddish brown mottled light brown slightly clayey gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to coarse quartzite. (WIGSTON MEMBER)	1
	1.40 1.50	D	HVP=34				Soft dark reddish brown mottled greenish grey slightly sandy gravelly CLAY. Gravel subrounded to rounded fine to coarse mudstone and quartzite. (GUNTORPE MEMBER)	2
	2.50		HVP=54				<i>Below 2.50m, firm.</i>	
							<i>Below 3.00m, difficult to excavate.</i>	3
	3.30		HVP=40	3.30			Extremely weak dark reddish brown mottled greenish grey MUDSTONE recovered as slightly clayey gravel. (GUNTORPE MEMBER)	
				3.80			End of Pit at 3.80m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion

Stability:

Trial Pit Log

TrialPit No

TP11

Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
30/11/2023

Location: Leicestershire

Dimensions
(m):

3.00

Scale
1:25

Client: Countryside Properties (UK) Ltd

Depth
3.60

Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
	0.50	ES		0.70			Dark reddish brown mottled light grey slightly clayey slightly gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to coarse quartzite.	
	0.80		HVP=44				(WIGSTON MEMBER) Firm light grey mottled dark reddish brown sandy slightly gravelly CLAY. Gravel subrounded to rounded fine to coarse mudstone and quartzite.	1
	1.10		HVP=48				(GUNTORPE MEMBER)	
	2.10	D		2.00			Firm dark reddish brown mottled light grey slightly gravelly CLAY. Gravel subrounded to rounded fine to coarse mudstone.	2
							(GUNTORPE MEMBER)	
				3.60			End of Pit at 3.60m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion

Stability:



Trial Pit Log

Trial Pit No
TP12
Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

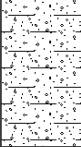
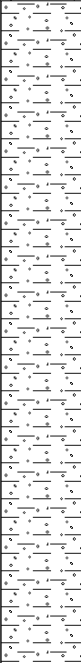
Date
30/11/2023

Location: Leicestershire

Dimensions (m): 2.00
Depth 3.70

Scale
1:25
Logged
ZC

Client: Countryside Properties (UK) Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.50			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
				1.00			Dark brown mottled dark grey slightly clayey gravelly fine to coarse SAND. Gravel is subrounded to rounded fine to coarse quartzite. (WIGSTON MEMBER)	1
	1.30		HVP=75				Firm dark reddish brown mottled light grey slightly gravelly CLAY. Gravel subrounded to rounded fine to coarse mudstone. (GUNTORPE MEMBER)	
	1.50	ES						2
				3.20			Extremely weak dark reddish brown mottled greenish grey MUDSTONE recovered as slightly clayey gravel. (GUNTORPE MEMBER)	3
				3.70			End of Pit at 3.70m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion



Stability:

Trial Pit Log

Trial Pit No

TP13

Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
30/11/2023

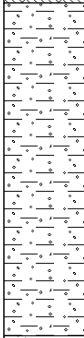
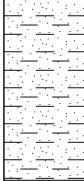
Location: Leicestershire

Dimensions (m): 2.00
Depth 2.00

Scale
1:25

Logged
ZC

Client: Countryside Properties (UK) Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.60 0.70	ES	HVP=70	0.30			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
				1.40			Firm dark reddish brown mottled light grey slightly gravelly CLAY. Gravel is subrounded to rounded fine to medium quartzite. (GUNTORPE MEMBER)	1
				2.00			Friable stiff dark reddish brown mottled light grey sandy CLAY. (GUNTORPE MEMBER)	2
							End of Pit at 2.00m	3
								4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion

Stability:



Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
30/11/2023

Location: Leicestershire

Dimensions (m): 2.00

Scale
1:25

Client: Countryside Properties (UK) Ltd

Depth
1.90

0.60

Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.50		HVP=30	0.30			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
	0.70	D					Soft dark reddish brown mottled light grey slightly gravelly CLAY. Gravel subrounded to rounded fine to medium quartzite.	
							(GUNTHORPE MEMBER)	
							Below 1.00m, stiff.	1
	1.90	ES		1.80 1.90			Friable stiff dark reddish brown mottled light grey sandy CLAY.	
							(GUNTHORPE MEMBER)	2
							End of Pit at 1.90m	
								3
								4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion

Stability:

Trial Pit Log

Trial Pit No

TP15

Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
30/11/2023

Location: Leicestershire

Dimensions (m): 2.00

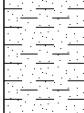
Scale
1:25

Client: Countryside Properties (UK) Ltd

Depth
1.70

0.60

Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES		0.30			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
	1.00		HVP=78	1.30			Firm dark reddish brown mottled light grey slightly gravelly CLAY. Gravel subrounded to rounded fine to medium quartzite. (GUNTORPE MEMBER)	1
				1.70			Friable stiff dark reddish brown mottled light grey sandy CLAY. (GUNTORPE MEMBER)	
							End of Pit at 1.70m	2
								3
								4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion

Stability:



Trial Pit Log

Trial Pit No
TP16
Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
30/11/2023

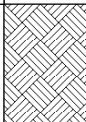
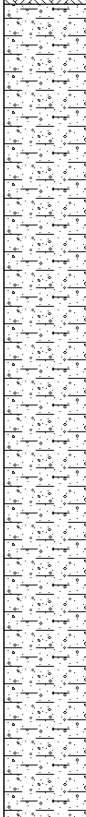
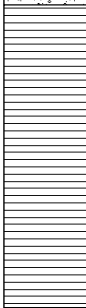
Location: Leicestershire

Dimensions (m):
3.00
1.00
Depth
4.10

Scale
1:25

Logged
ZC

Client: Countryside Properties (UK) Ltd

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.30	ES		0.40			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
	0.80	D					Firm dark orangish brown slightly sandy slightly gravelly CLAY. Gravel subrounded to rounded fine to coarse quartzite. (GUNTHORPE MEMBER)	1
	1.70		HVP=74					2
	3.30	ES		3.10			Extremely weak dark reddish brown mottled greenish grey MUDSTONE recovered as slightly clayey gravel. (GUNTHORPE MEMBER)	3
				4.10			End of Pit at 4.10m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater seepage encountered during excavation at 3.00m begl. 3) Excavation backfilled with arisings upon completion



Stability:

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
30/11/2023

Location: Leicestershire

Dimensions (m):

3.00

Scale
1:25

Client: Countryside Properties (UK) Ltd

Depth
3.70

1.00

Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.40			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
	1.00	ES					Soft light orangish brown very sandy gravelly CLAY. Gravel subrounded to rounded fine to medium mudstone and quartzite. (GUNTHORPE MEMBER)	1
	2.00		HVP=60				Below 2.00m, firm.	2
	3.30		HVP=54	3.20			Firm dark reddish brown mottled greenish grey sandy CLAY. (GUNTHORPE MEMBER)	3
	3.70	D		3.50			Extremely weak dark reddish brown mottled greenish grey MUDSTONE recovered as slightly clayey gravel. (GUNTHORPE MEMBER)	4
				3.70			End of Pit at 3.70m	5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater seepage encountered during excavation at 3.40m begl. 3) Excavation backfilled with arisings upon completion

Stability:



Trial Pit Log

TrialPit No
TP18
Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
30/11/2023

Location: Leicestershire

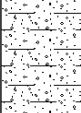
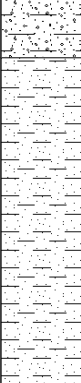
Dimensions (m): 3.00

Scale
1:25

Client: Countryside Properties (UK) Ltd

Depth
3.70

Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES					Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
	0.60	ES		0.40			Dark orangish brown slightly clayey gravelly fine to coarse SAND. Gravel is fine to medium subrounded to rounded fine to medium quartzite and mudstone. (WIGSTON MEMBER)	
	1.10		HVP=68	1.00			Firm dark reddish brown mottled light grey sandy CLAY. (GUNTORPE MEMBER)	1
	2.30		HVP=98	2.10			Stiff dark reddish brown mottled light greenish grey slightly sandy CLAY. (GUNTORPE MEMBER)	2
	2.50	D		2.80			Extremely weak dark reddish brown mottled greenish grey MUDSTONE recovered as slightly clayey gravel. (GUNTORPE MEMBER)	3
				3.70			End of Pit at 3.70m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater not encountered during excavation. 3) Excavation backfilled with arisings upon completion



Stability:

Trial Pit Log

TrialPit No

TP19

Sheet 1 of 1

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords: -
Level:

Date
30/11/2023

Location: Leicestershire

Dimensions (m): 3.00

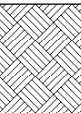
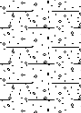
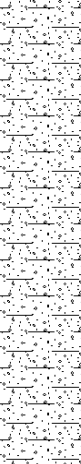
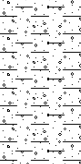
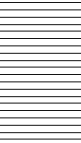
Scale
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Client: Countryside Properties (UK) Ltd

Depth
3.50

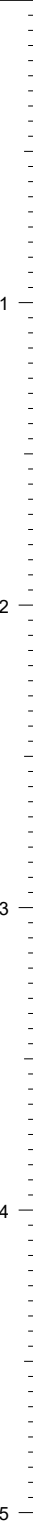
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Logged
ZC

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.30	ES		0.40			Grass over soft dark brown slightly clayey slightly gravelly sandy TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite, sandstone and mudstone.	
							Dark orangish brown slightly clayey gravelly fine to coarse SAND. Gravel is fine to medium subrounded to rounded fine to medium quartzite and mudstone. (WIGSTON MEMBER)	1
	1.50	ES					Between 1.10m and 1.60m, band of stiff dark reddish brown mottled light grey sandy slightly gravelly CLAY.	
				2.40			Firm dark reddish brown sandy gravelly CLAY. Gravelly subrounded to rounded fine to coarse quartzite. (GUNTORPE MEMBER)	2
	2.70		HVP=40				Extremely weak dark reddish brown mottled greenish grey MUDSTONE recovered as slightly clayey gravel. (GUNTORPE MEMBER)	3
				3.50			End of Pit at 3.50m	4
								5

Remarks: 1) Trial pit location CAT scanned before drilling commenced. 2) Groundwater seepage encountered during excavation at 3.00m begl. 3) Excavation backfilled with arisings upon completion

Stability:

					Borehole Log			Borehole No. WS01 Sheet 1 of 1	
Project Name: Leicester Road, Earl Shilton					Project No. 11925		Co-ords:		Hole Type WS
Location: Leicestershire					Level:		Scale 1:25		
Client: Countryside Properties (UK) Ltd					Dates: 28/11/2023		Logged By ZC		
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.30		 Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.		
							 Dark orangish brown clayey gravelly fine to coarse SAND with frequent rootlets. (WIGSTON MEMBER)		
		0.80	D						
		1.00	SPT	N=15 (2,2/3,3,4,5)	1.00		 Medium dense dark grey mottled light grey fine to coarse SAND.		
					1.20		 Light orangish brown slightly clayey slightly gravelly fine to coarse SAND. Gravel is subrounded fine to coarse quartzite. (WIGSTON MEMBER) <i>Below 1.40m, loss of gravel.</i>		
		2.00	SPT	N=16 (3,3/3,4,4,5)			 <i>Below 2.00m, occasional bands of clayey sand.</i>		
		3.00	SPT	N=9 (1,2/2,3,2,2)			 <i>At 3.00m, loose.</i>	3	
		4.00	SPT	N=14 (2,3/3,3,4,4)				4	
		5.00	SPT	N=3 (1,0/1,0,1,1)	5.00		 End of Borehole at 5.00m	5	
Remarks 1) Location CAT scanned prior to drilling. 2) Groundwater was encountered at 3.00m begl, rise to 2.43m begl. 3) Borehole backfilled with arisings.									

Borehole Log

Borehole No.

WS02

Sheet 1 of 2

Project Name: Leicester Road, Earl Shilton

Project No.
11925

Co-ords:

Hole Type
WS

Location: Leicestershire

Level:

Scale
1:25

Client: Countryside Properties (UK) Ltd

Dates: 28/11/2023

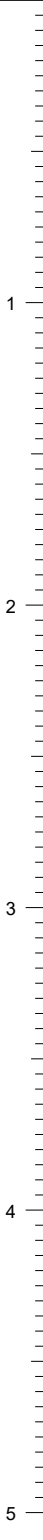
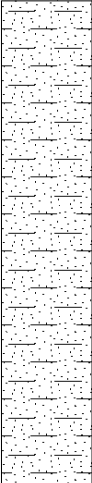
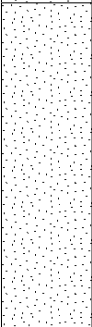
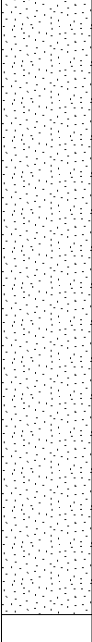
Logged By
ZC

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30	ES		0.50			Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.	
		0.80	ES					Light grey slightly gravelly SAND. Gravel is subrounded to rounded fine to medium quartzite.	
		1.00	SPT	N=12 (1,2/2,3,3,4)				(WIGSTON MEMBER)	
								<i>At 1.00m, medium dense.</i>	1
		1.50	D		1.40			Light orangish brown clayey fine to medium SAND.	
								(WIGSTON MEMBER)	
		2.00	SPT	N=7 (2,1/2,2,1,2)	2.30			<i>At 2.00m, loose.</i>	2
								Stiff dark orangish brown sandy CLAY.	
		2.70		HVP=70				(GUNTHORPE MEMBER)	
		3.00	SPT	N=16 (2,3/3,4,4,5)				<i>Below 3.00m, very stiff.</i>	3
		3.50		HVP=110					
		4.00		HVP=40					
		4.00	SPT	N=22 (3,4/5,5,6,6)					4
					5.00				
								Continued on Next Sheet	5

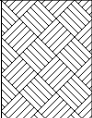
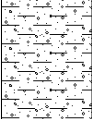
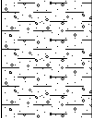
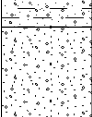
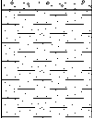
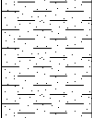
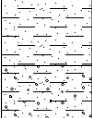
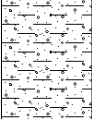
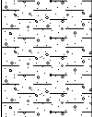
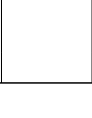
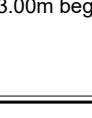
Remarks

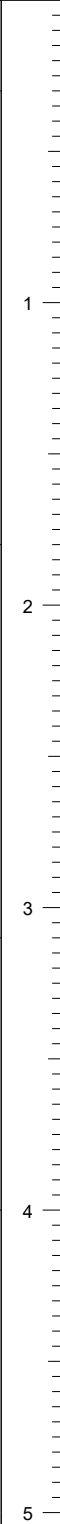
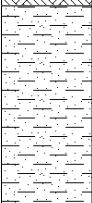
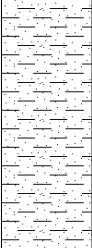
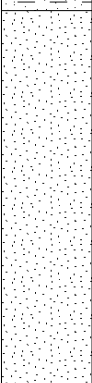
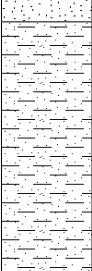
1) Location CAT scanned prior to drilling. 2) Groundwater was encountered at 2.00m begl, rise to 1.02m begl. 3) Borehole backfilled with arisings.

					Borehole Log				Borehole No. WS02 Sheet 2 of 2		
Project Name: Leicester Road, Earl Shilton					Project No. 11925		Co-ords:			Hole Type WS	
Location: Leicestershire					Level:			Scale 1:25			
Client: Countryside Properties (UK) Ltd					Dates: 28/11/2023			Logged By ZC			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
		Depth (m)	Type	Results							
		5.00	SPT	N=50 (4,7/50 for 245mm)				End of Borehole at 5.00m			
									6		
									7		
									8		
									9		
									10		
Remarks 1) Location CAT scanned prior to drilling. 2) Groundwater was encountered at 2.00m begl, rise to 1.02m begl. 3) Borehole backfilled with arisings.											

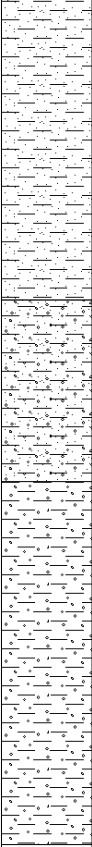
					Borehole Log			Borehole No. WS03 Sheet 1 of 1	
Project Name: Leicester Road, Earl Shilton					Project No. 11925		Co-ords:		Hole Type WS
Location: Leicestershire					Level:			Scale 1:25	
Client: Countryside Properties (UK) Ltd					Dates: 28/11/2023			Logged By ZC	
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30			Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.	
								Dark orangish brown slightly clayey fine to coarse SAND. (WIGSTON MEMBER)	
		0.80	ES						
		1.00	SPT	N=12 (3,3/3,3,3,3)				<i>Below 1.00m, medium dense.</i>	
		1.50	ES						
		2.00	SPT	N=11 (2,2/2,3,3,3)	1.90			Medium dense dark orangish brown fine to coarse SAND with frequent bands of clayey sand. (WIGSTON MEMBER)	
		3.00	SPT	N=4 (1,2/1,1,1,1)				<i>Below 3.00m, loose.</i>	
		4.00	SPT	N=6 (1,0/1,1,2,2)					
		4.50	ES						
		5.00	SPT	N=3 (1,0/1,0,1,1)	5.00			End of Borehole at 5.00m	
Remarks 1) Location CAT scanned prior to drilling. 2) Groundwater was encountered at 3.00m begl, rise to 2.43m begl. 3) Borehole backfilled with arisings.									

				Borehole Log				Borehole No. WS04 Sheet 1 of 1	
Project Name: Leicester Road, Earl Shilton				Project No. 11925		Co-ords:		Hole Type WS	
Location: Leicestershire				Level:		Scale 1:25		Logged By ZC	
Client: Countryside Properties (UK) Ltd				Dates: 28/11/2023					

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
					0.40			Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.		
					0.70			Light brown slightly clayey fine to coarse SAND with frequent rootlets.		
		0.80						(WIGSTON MEMBER)		
		0.90	ES		HVP=40					
		1.00	SPT		N=13 (1,2/3,3,3,4)					Firm light grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is subrounded to rounded fine to medium quartzite.
		1.10	D					(WIGSTON MEMBER)		
								<i>Below 1.00m, stiff.</i>		
						1.65				<i>Between 1.60-1.65m, band of fine to coarse sand.</i>
										Light grey slightly gravelly SAND. Gravel is subrounded to rounded fine to medium quartzite.
		2.00	SPT		N=4 (1,0/1,1,1,1,1)	2.00		(WIGSTON MEMBER)		
							Soft dark orangish brown slightly sandy CLAY.			
						(GUNTORPE MEMBER)				
										
							Very stiff dark reddish brown slightly sandy slightly gravelly CLAY. Gravel is subrounded to rounded fine to coarse mudstone.			
						(GUNTORPE MEMBER)				
										
										
										
										
										
										
										

				Borehole Log				Borehole No. WS05 Sheet 1 of 1	
Project Name: Leicester Road, Earl Shilton				Project No. 11925		Co-ords:		Hole Type WS	
Location: Leicestershire				Level:		Scale 1:25			
Client: Countryside Properties (UK) Ltd				Dates: 28/11/2023		Logged By ZC			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30		 Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.		
		0.60	ES			 Soft orangish brown sandy CLAY with frequent rootlets. (WIGSTON MEMBER)			
		1.00	SPT	N=13 (1,2/3,4,3,3)		 Below 1.00m, stiff.			
		2.00	SPT	N=10 (2,2/2,2,3,3)	1.80	 Medium dense dark orangish brown fine to coarse SAND. (WIGSTON MEMBER)			
		3.00	SPT	N=7 (1,1/1,2,2,2)	3.10	 Firm dark orangish brown slightly sandy CLAY. (GUNTHORPE MEMBER)			
		4.00	SPT	N=11 (2,3/3,2,3,3)	4.00		 End of Borehole at 4.00m	4	
Remarks 1) Location CAT scanned prior to drilling. 2) Groundwater was not encountered. 3) Borehole backfilled with arisings.									

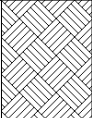
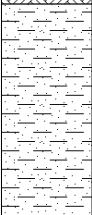
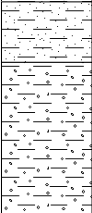
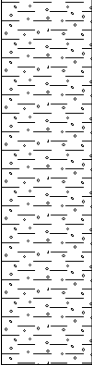
				Borehole Log				Borehole No. WS06 Sheet 1 of 1	
Project Name: Leicester Road, Earl Shilton				Project No. 11925		Co-ords:		Hole Type WS	
Location: Leicestershire				Level:		Scale 1:25		Logged By ZC	
Client: Countryside Properties (UK) Ltd				Dates: 28/11/2023					

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	ES		0.20		 Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.		1
						Firm light brown mottled orangish brown sandy CLAY with frequent rootlets. (GUNTHORPE MEMBER) <i>Below 0.60m, light brown.</i>			
		1.00	SPT	N=8 (1,1/2,2,2,2)		<i>Below 1.00m, stiff.</i>			
		1.20	D		1.20	Firm dark orangish brown mottled light grey sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse mudstone and sandstone. (GUNTHORPE MEMBER)			
		2.00	SPT	N=27 (4,5/5,6,7,9)	1.80	Stiff dark reddish brown slightly gravelly CLAY. Gravel is subrounded to rounded fine to medium mudstone. (GUNTHORPE MEMBER) <i>Below 2.00m, very stiff.</i>			
		3.00	SPT	N=50 (8,11/50 for 275mm)	3.00		End of Borehole at 3.00m		3
									4
									5

Remarks

1) Location CAT scanned prior to drilling. 2) Groundwater was encountered at 3.00m begl, rise to 2.43m begl. 3) Borehole backfilled with arisings.



				Borehole Log				Borehole No. WS07 Sheet 1 of 1	
Project Name: Leicester Road, Earl Shilton				Project No. 11925		Co-ords:		Hole Type WS	
Location: Leicestershire				Level:		Scale 1:25			
Client: Countryside Properties (UK) Ltd				Dates: 28/11/2023		Logged By ZC			
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.40			Grass over soft dark brown sandy slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is subrounded to rounded fine to medium quartzite.	
								Firm orangish brown sandy CLAY. (GUNTHORPE MEMBER)	
		1.00 1.00	ES SPT	N=10 (1,2/2,2,3,3)	1.10			Stiff dark reddish brown slightly sandy CLAY. (GUNTHORPE MEMBER)	
		1.40	D		1.30			Stiff dark reddish brown slightly gravelly CLAY. Gravel is subrounded to rounded fine to medium mudstone. (GUNTHORPE MEMBER)	
		2.00	SPT	N=15 (2,3/3,3,4,5)					
		3.00	SPT	N=50 (7,10/50 for 265mm)	3.00			End of Borehole at 3.00m	3
									4
									5
Remarks 1) Location CAT scanned prior to drilling. 2) Groundwater was not encountered. 3) Borehole backfilled with arisings.									

SUMMARY OF CHEMICAL TESTS ON SOIL

Location	Depth m	Sample Ref	Sample Type	pH Value	Total Acid Soluble Sulphate as SO ₄ %	Water Soluble Sulphate as SO ₄ 2:1 Water:Soil Extract g/l	Total Sulphur %	Water Soluble Chloride g/l	Water Soluble Nitrate g/l	Magnesium g/l	Organic Content %	Mass Loss on Ignition %	Carbonate Content %
BH01	4.00-4.50	10	B	8.1	-	0.058	-	-	-	-	-	-	-
BH01	9.50-10.00	21	B	8.6	-	< 0.010	-	-	-	-	-	-	-
BH02	5.00-5.45	6	D	8.7	-	0.015	-	-	-	-	-	-	-
BH02	6.50-7.00	8	B	8.8	-	0.023	-	-	-	-	-	-	-
BH03	7.00-7.38	10	D	8.8	-	< 0.010	-	-	-	-	-	-	-
TP09	3.80		D	8.7	-	0.037	-	-	-	-	-	-	-

Tested by Eurofins Chemtest Ltd : MCERTS / UKAS No 2183

Checked and Approved by:



J A Reynolds - Director
21/12/2023

Project Number:

GEO / 39483

Project Name:

**LEICESTER ROAD, EARL SHILTON
11925**

GEOLABS®

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03 January 2024

Report No : GEO/39483/01

Page 1 of 1

For the attention of Ms Z Chand

Our ref **GEO / 39483**
Your Ref **11925**

Date samples received 01/12/2023
Date written instructions received 05/12/2023
Date testing commenced 06/12/2023
Date of sample disposal 31/01/2024

Project **LEICESTER ROAD, EARL SHILTON**

Further to your instructions we have pleasure in enclosing the results of the tests you requested in the attached figures.

LABORATORY TEST REPORT

Item No	Test Quantity	Description
1	~	Geotechnical Test Summary
~	10	Water Content
2	6	Liquid & Plastic Limits
3	~	Geochemical Test Summary
~	6	BRE SD1 Suite A - Natural ground
4	4	Unconsolidated Undrained Triaxial Compression

Any opinions or interpretations expressed herein are outside the scope of UKAS accreditation. All results contained in this report are provisional unless signed by an approved signatory. The results contained in this report relate only to samples received in the laboratory and are tested 'as received' unless otherwise stated. This report should not be reproduced, except in full, without the written approval of the laboratory. The results reported are applicable only to the test items received by the laboratory.

All the necessary data required by the documented test procedures has been recorded and will be stored for a period of not less than 6 years. This data will be issued to yourselves at your request. All samples will be disposed of after the date shown above. Written confirmation will be required to retain the samples beyond this period and a storage charge may be applied.

We trust that the above meets your requirements and should you require any further information or assistance, please do not hesitate to contact us.

Yours faithfully
on behalf of **GEOLABS Limited**



J A Reynolds
Director

SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC	LL	PL	PI	<425 µm	Bulk	Dry	Condition	Cell Pressure	Deviator Stress	Shear Stress	pH	2:1 W/S SO4	W/S Mg	
					%	%	%	%	%	Mg/m³	Mg/m³		kPa	kPa	kPa		g/L	mg/L	
BH01	4.00-4.50	10	B													8.1	0.058		
BH01	9.50-10.00	21	B													8.6	< 0.010		
BH01	10.00-10.45	23	U	Firm reddish brown CLAY.	15.8					2.21	1.91	Undisturbed	200	385	192				
BH02	5.00-5.45	6	D													8.7	0.015		
BH02	6.50-7.00	8	B													8.8	0.023		
BH02	7.00-7.45	10	U	Firm reddish brown CLAY.	17.5					2.19	1.86	Undisturbed	140	323	161				
BH02	9.00-9.45	12	U	Firm reddish brown CLAY.	19.7					2.12	1.77	Undisturbed	180	405	202				
BH03	4.00-4.45	5	U	Firm reddish brown mottled grey CLAY.	16.7					2.01	1.72	Undisturbed	80	255	128				
BH03	7.00-7.38	10	D													8.8	< 0.010		
TP04	1.50		D	Grey mottled greyish brown slightly clayey SAND with some fine to medium gravel.	16.7		NP		90										

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

NP=Non Plastic

Checked and Approved by



J A Reynolds - Director
03/01/2024

Project Number:

GEO / 39483

Project Name:

**LEICESTER ROAD, EARL SHILTON
11925**



SUMMARY OF GEOTECHNICAL TESTING

Sample details					Classification Tests					Density Tests		Undrained Triaxial Compression				Chemical Tests			Other tests and comments
Location	Depth (m)	Sample Ref	Type	Description	WC	LL	PL	PI	<425 µm	Bulk	Dry	Condition	Cell Pressure	Deviator Stress	Shear Stress	pH	2:1 W/S SO4	W/S Mg	
					%	%	%	%	%	Mg/m³	Mg/m³		kPa	kPa	kPa		g/L	mg/L	
TP07	1.30		D	Reddish brown mottled light grey slightly sandy CLAY with rare fine to coarse gravel.	25.6	42	18	24	97										
TP09	3.80		D													8.7	0.037		
TP10	1.50		D	Orangish brown mottled greyish brown and dark brown sandy CLAY with rare fine to coarse gravel.	17.0	40	15	25	98										
TP11	2.10		D	Orangish brown mottled greyish brown and light grey slightly sandy CLAY with rare fine to medium gravel.	22.8	42	18	24	99										
TP14	0.70		D	Orangish brown mottled light grey slightly sandy CLAY with rare fine gravel.	24.4	51	21	30	99										
WS07	1.50		D	Reddish brown mottled light grey slightly sandy CLAY.	24.1	47	18	29	100										

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

NP=Non Plastic

Checked and Approved by



J A Reynolds - Director
03/01/2024

Project Number:

GEO / 39483

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**LEICESTER ROAD, EARL SHILTON
11925**



LIQUID AND PLASTIC LIMITS

Location TP04
Depth (m) 1.50
Sample Type D

Description:

Grey mottled greyish brown slightly clayey SAND with some fine to medium gravel.

Preparation : Particles >425µm removed by wet sieving and air drying.

Water Content : (BS EN ISO 17892-1:2014+A1:2022) 16.7 %

Measured percentage passing 425µm sieve : 90 %

Liquid Limit - Fall Cone Method (cone angle 30°) : Not Determined

Plastic Limit : Non-Plastic

Equivalent Water Content of material passing 425µm sieve : 19 %

Sample was determined to be Non-Plastic after preparation

Tested by AD
Checked and Approved by



J A Reynolds - Director
03/01/2024

Project Number:

GEO / 39483

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**LEICESTER ROAD, EARL SHILTON
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LIQUID AND PLASTIC LIMITS

Location TP07
Depth (m) 1.30
Sample Type D

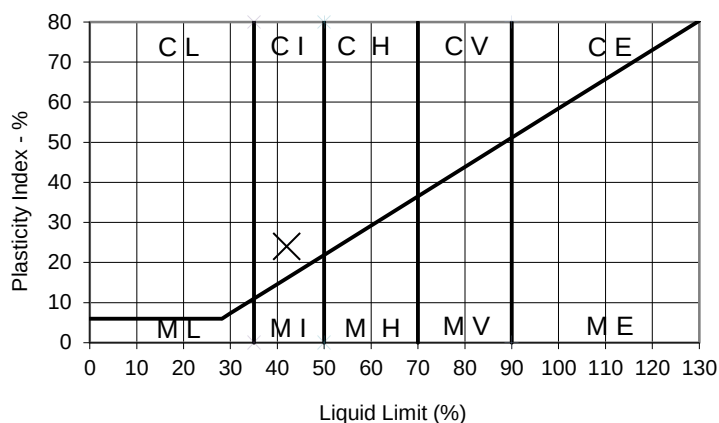
Description:

Reddish brown mottled light grey slightly sandy CLAY with rare fine to coarse gravel.

Preparation : Sample as received with discrete coarse particles removed by hand.

Water Content : (BS EN ISO 17892-1:2014+A1:2022) 25.6 %
Estimated percentage passing 425µm sieve : 97 %
*Liquid Limit - Fall Cone 1 point Method (cone angle 30°) : 42 %
Plastic Limit : 18 %
Plasticity Index : 24 %

Equivalent Water Content of material passing 425µm sieve : 26.3 %
Liquidity Index : 0.35

***One point liquid limit test readings**

Cone penetration 21.2 mm
Water content 43.2 %
One point method correlation factor : BS 1377-2 : 2022 : 5.3.2 0.981

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11925**



LIQUID AND PLASTIC LIMITS

Location TP10
Depth (m) 1.50
Sample Type D

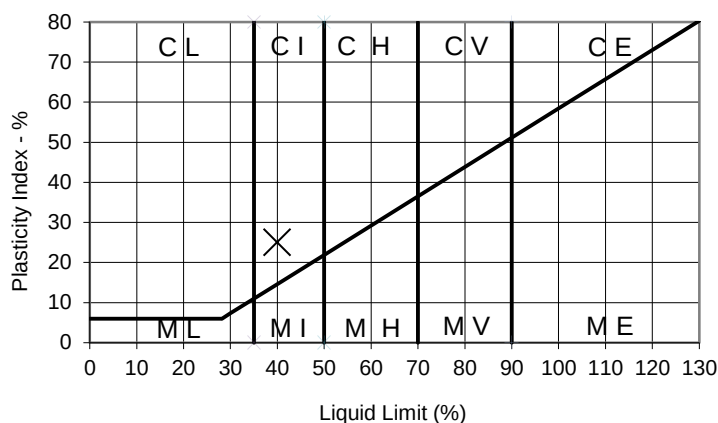
Description:

Orangish brown mottled greyish brown and dark brown sandy
CLAY with rare fine to coarse gravel.

Preparation : Sample as received with discrete coarse particles removed by hand.

Water Content : (BS EN ISO 17892-1:2014+A1:2022) 17.0 %
Estimated percentage passing 425µm sieve : 98 %
*Liquid Limit - Fall Cone 1 point Method (cone angle 30°) : 40 %
Plastic Limit : 15 %
Plasticity Index : 25 %

Equivalent Water Content of material passing 425µm sieve : 17.4 %
Liquidity Index : 0.10

***One point liquid limit test readings**

Cone penetration 19.0 mm
Water content 39.7 %
One point method correlation factor : BS 1377-2 : 2022 : 5.3.2 1.019

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11925**



LIQUID AND PLASTIC LIMITS

Location TP11
Depth (m) 2.10
Sample Type D

Description:

Orangish brown mottled greyish brown and light grey slightly sandy CLAY with rare fine to medium gravel.

Preparation : Sample as received with discrete coarse particles removed by hand.

Water Content : (BS EN ISO 17892-1:2014+A1:2022) 22.8 %

Estimated percentage passing 425µm sieve : 99 %

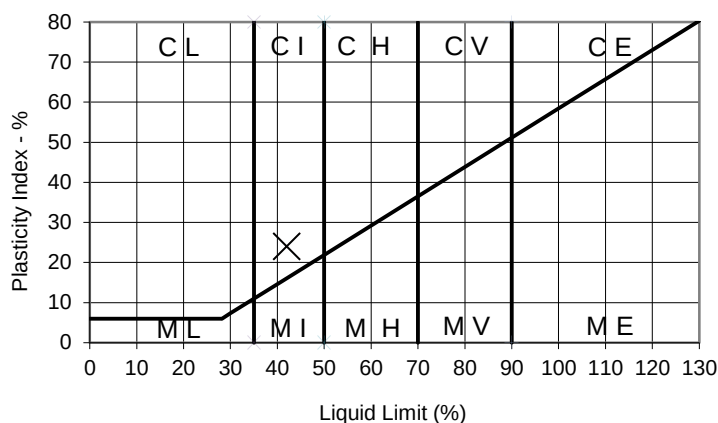
*Liquid Limit - Fall Cone 1 point Method (cone angle 30°) : 42 %

Plastic Limit : 18 %

Plasticity Index : 24 %

Equivalent Water Content of material passing 425µm sieve : 23.1 %

Liquidity Index : 0.21

***One point liquid limit test readings**

Cone penetration 21.7 mm

Water content 42.9 %

One point method correlation factor : BS 1377-2 : 2022 : 5.3.2 0.972

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LIQUID AND PLASTIC LIMITS

Location TP14
Depth (m) 0.70
Sample Type D

Description:

Orangish brown mottled light grey slightly sandy CLAY with rare fine gravel.

Preparation : Sample as received with discrete coarse particles removed by hand.

Water Content : (BS EN ISO 17892-1:2014+A1:2022) 24.4 %

Estimated percentage passing 425µm sieve : 99 %

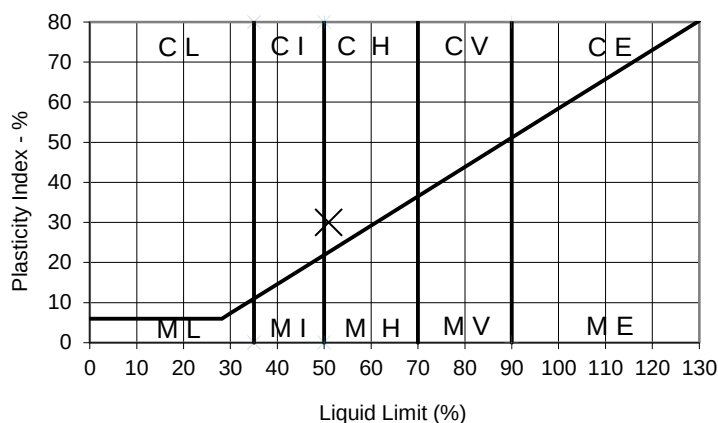
*Liquid Limit - Fall Cone 1 point Method (cone angle 30°) : 51 %

Plastic Limit : 21 %

Plasticity Index : 30 %

Equivalent Water Content of material passing 425µm sieve : 24.7 %

Liquidity Index : 0.12

***One point liquid limit test readings**

Cone penetration 18.8 mm

Water content 49.4 %

One point method correlation factor : BS 1377-2 : 2022 : 5.3.2 1.024

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LIQUID AND PLASTIC LIMITS

Location WS07
Depth (m) 1.50
Sample Type D

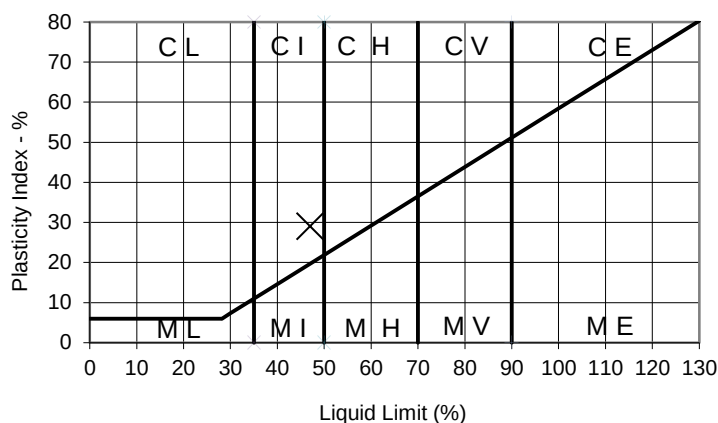
Description:

Reddish brown mottled light grey slightly sandy CLAY.

Preparation : Sample as received.

Water Content : (BS EN ISO 17892-1:2014+A1:2022) 24.1 %
Estimated percentage passing 425µm sieve : 100 %
*Liquid Limit - Fall Cone 1 point Method (cone angle 30°) : 47 %
Plastic Limit : 18 %
Plasticity Index : 29 %

Equivalent Water Content of material passing 425µm sieve : 24.1 %
Liquidity Index : 0.21

***One point liquid limit test readings**

Cone penetration 22.2 mm
Water content 48.4 %
One point method correlation factor : BS 1377-2 : 2022 : 5.3.2 0.965

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03/01/2024

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SUMMARY OF CHEMICAL TESTS ON SOIL

Location	Depth m	Sample Ref	Sample Type	pH Value	Total Acid Soluble Sulphate as SO ₄ %	Water Soluble Sulphate as SO ₄ 2:1 Water:Soil Extract g/l	Total Sulphur %	Water Soluble Chloride g/l	Water Soluble Nitrate g/l	Magnesium g/l	Organic Content %	Mass Loss on Ignition %	Carbonate Content %
BH01	4.00-4.50	10	B	8.1	-	0.058	-	-	-	-	-	-	-
BH01	9.50-10.00	21	B	8.6	-	< 0.010	-	-	-	-	-	-	-
BH02	5.00-5.45	6	D	8.7	-	0.015	-	-	-	-	-	-	-
BH02	6.50-7.00	8	B	8.8	-	0.023	-	-	-	-	-	-	-
BH03	7.00-7.38	10	D	8.8	-	< 0.010	-	-	-	-	-	-	-
TP09	3.80		D	8.7	-	0.037	-	-	-	-	-	-	-

Tested by Eurofins Chemtest Ltd : MCERTS / UKAS No 2183

Checked and Approved by:



J A Reynolds - Director
21/12/2023

Project Number:

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**LEICESTER ROAD, EARL SHILTON
11925**

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UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

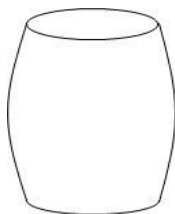
Location BH01
Sample Ref 23
Depth (m) 10.00-10.45
Sample Type U

Description:

Firm reddish brown CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	202.6
Diameter (mm)	103.7
Water content (%)	15.8
Bulk density (Mg/m ³)	2.21
Dry density (Mg/m ³)	1.91
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	202.3
Membrane correction (kPa)	0.9
Mean rate of shear (%/min)	2.0
Cell pressure (kPa)	200
Strain at failure (%)	14.8
Maximum deviator stress (kPa)	385
Shear Stress Cu (kPa)	192

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

164

Tested by DF
Checked and Approved by

J A Reynolds - Director
03/01/2024

Project Number:

GEO / 39483

Project Name:

**LEICESTER ROAD, EARL SHILTON
11925**

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location BH02
Sample Ref 10
Depth (m) 7.00-7.45
Sample Type U

Description:

Firm reddish brown CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	202.5
Diameter (mm)	103.6
Water content (%)	17.5
Bulk density (Mg/m ³)	2.19
Dry density (Mg/m ³)	1.86
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	202.2
Membrane correction (kPa)	0.9
Mean rate of shear (%/min)	2.0
Cell pressure (kPa)	140
Strain at failure (%)	14.8
Maximum deviator stress (kPa)	323
Shear Stress Cu (kPa)	161

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

74

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03/01/2024

Project Number:

GEO / 39483

Project Name:

**LEICESTER ROAD, EARL SHILTON
11925**

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

Location BH02
Sample Ref 12
Depth (m) 9.00-9.45
Sample Type U

Description:

Firm reddish brown CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	202.5
Diameter (mm)	103.7
Water content (%)	19.7
Bulk density (Mg/m ³)	2.12
Dry density (Mg/m ³)	1.77
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	201.8
Membrane correction (kPa)	0.9
Mean rate of shear (%/min)	2.0
Cell pressure (kPa)	180
Strain at failure (%)	14.4
Maximum deviator stress (kPa)	405
Shear Stress Cu (kPa)	202

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

63

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J A Reynolds - Director
03/01/2024

Project Number:

GEO / 39483

Project Name:

**LEICESTER ROAD, EARL SHILTON
11925**

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

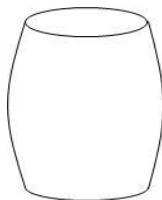
Location BH03
Sample Ref 5
Depth (m) 4.00-4.45
Sample Type U

Description:

Firm reddish brown mottled grey CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	202.3
Diameter (mm)	103.4
Water content (%)	16.7
Bulk density (Mg/m ³)	2.01
Dry density (Mg/m ³)	1.72
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	202.1
Membrane correction (kPa)	0.8
Mean rate of shear (%/min)	2.0
Cell pressure (kPa)	80
Strain at failure (%)	12.9
Maximum deviator stress (kPa)	255
Shear Stress Cu (kPa)	128

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

78

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