

**East Midlands Gateway
Phase 2 (EMG2)**

Document DCO 6.14C/MCO 6.14C

ENVIRONMENTAL STATEMENT

Technical Appendices

Appendix 14C

Minerals Safeguarding Assessment (EMG2)

October 2025

14

The East Midlands Gateway Phase 2
and Highway Order 202X and The East Midlands Gateway
Rail Freight and Highway (Amendment) Order 202X

[SEGRO.COM/SLPEMG2](https://segro.com/slpemg2)

SEGRO

Minerals Safeguarding Assessment

East Midlands Gateway Phase 2,
Land south of East Midlands
Airport, Derby

July 2024



CONTROL SHEET

CLIENT: SEGRO PLC

PROJECT TITLE: East Midlands Gateway Phase 2, Land South of East Midlands Airport

REPORT TITLE: Minerals Safeguarding Assessment

PROJECT REFERENCE: 148749

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EXECUTIVE SUMMARY

Site Details & Proposed Development	The site is located immediately south of East Midlands Airport and to the east of the village of Diseworth, centred on National Grid Reference 445940, 324550, within Leicestershire County Council. The site covers an area of c. 100 ha and is broadly rectangular in shape and can be accessed by vehicles and pedestrians from several access points. The site is currently occupied, comprising arable land with no structures aside from the overhead power lines in the west of the site and a telephone mast in the north-east. The land is divided into 20 individual fields with hedgerows marking their boundaries. The topography is undulating and generally falls towards the south, with an overall fall of c. 35 m from the northern to southern boundary. The development proposed includes construction of a number of warehouse, ancillary offices, associated services, access roads, parking and landscaping.
Objectives	The purpose of this report is to determine the possible presence of economic minerals and to prevent the sterilisation of minerals which may be needed within the plan period and beyond. This report therefore aims to undertake a desk based review of available information pertaining to the geological setting of the site. The assessment has been carried out in accordance with the Leicestershire Minerals and Waste Local Plan by which consideration must be given to the extraction of any identified mineral resources prior to any permanent redevelopment.
Conclusions	The assessment of the potential for mineral extraction beneath the site, in accordance with the Leicestershire Minerals and Waste Local Plan identifies the following potential resources are present on site: • Brick Clay (Mercia Mudstone) • Sand and Gravel (Glaciofluvial Deposits) • Sand and Gravel (Diseworth Sandstone) It is concluded that extraction of these resources is not economically viable on the site, the reasons for which are set out within the report.

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1.0 INTRODUCTION

Fairhurst have been appointed by SEGRO PLC (the 'client') to undertake a Mineral Safeguarding Assessment to support the DCO submission for the proposed development on a plot of land to the north east of Diseworth, Derby, approximate post code DE74 2TN, National Grid Reference 445940, 324550 (the 'site').

The development proposed includes construction of a number of warehouse, ancillary offices, associated services, access roads, parking and landscaping. The proposed development plan and site boundary is provided in Appendix A.

The site requires assessment in accordance with Minerals Safeguarding Areas (MSA) – Leicestershire County Council adopted the Leicestershire Minerals and Waste Local Plan (LMWLP) dated September 2019, by which consideration must be given to the extraction of any identified mineral resources prior to any permanent redevelopment, with a view of avoiding sterilisation of potential mineral assets.

The purpose of this report is to determine the possible presence of economic minerals and to prevent the sterilisation of minerals which may be needed within the plan period (2031) and beyond. This report therefore aims to undertake a desk-based review of available information pertaining to the geological setting of the site and should be read in conjunction with the associated reports:

- Geo-Environmental Preliminary Risk Assessment (148749/R6, July 2024).
- Geotechnical Investigation Report (148749/R7, July 2024).

2.0 SITE INFORMATION

2.1 Site Location and Description

The site is located south of East Midlands Airport, to the north east of the village of Diseworth and to the north-west of Junction 23a of the M1 motorway. The site has an area of approximately 100ha and currently comprises undeveloped (except overhead power lines to the west and telephone mast to the north-east) arable land with hedgerows and trees dividing the various fields. A public byway, known as Hyam's Lane, dissects the site from south-west to north-east.

The site is bounded to the north by Ashby Road (A453) with East Midlands Airport beyond. Donington Park Services, including a petrol station, is located immediately adjacent to the north-east. To the east lies an undeveloped parcel of land, the A42 and the M1. To the south the site is bounded by Long Holden public byway with fields situated beyond and to the south-west is the village of Diseworth, situated from adjacent.

The topography is undulating and generally falls towards the south, with an overall fall of c. 40 m from the northern to southern boundary. The highest point is at c. 92.6m AOD in the north-east corner of the site whilst the lowest is at c. 52.2m AOD located in the south-east corner.

The surrounding area is predominantly characterised by agricultural land with the exception of a commercial / light industrial park, East Midlands Airport, Donington Park Services and residential properties with gardens and commercial businesses within Diseworth.

2.2 Site History

A detailed review of the site history and immediate site surrounds has been undertaken within the Fairhurst Geo-Environmental and Geotechnical Preliminary Risk Assessment (148749/R5, May 2023). In summary, the review of historical mapping from Envirocheck confirmed the site to comprise predominantly agricultural fields to the earliest map available dated 1883. Numerous ponds have been identified, and a pump was introduced in 1921 in the north-east of the site. By 1975 all ponds were assumed to be infilled. No significant changes were noted herein.

The local area around the site appears to comprise agricultural land with ponds from the earliest available historical map dated 1883, with additional ponds in 1955 and an airfield in the north which later became known as East Midlands Airport. In 1966, the M1 motorway was constructed. Between 1972 and 1984, numerous ponds were assumed to be infilled, with tanks being noted 260m north-west of the site. Limited commercial buildings and a hotel was noted 100m north of the site with a junction linking the M1 to the A453 with further commercial buildings were constructed in 2000 along with Donington Park Service Station which is shown to comprise some earthworks as part of the development.

3.0 SOURCES OF INFORMATION

An intrusive ground investigation was undertaken by Structural Soils Ltd. between 5th September and 6th October 2022. A Factual Report has been produced and for the purpose of this report the exploratory hole logs and relevant laboratory test results have been included within Appendix D.

The following sources of information were reviewed as part of this Minerals Safeguarding Assessment and should be considered in conjunction with this report:

- British Geological Survey (BGS) online viewers (geology and hydrogeology) - <http://www.bgs.ac.uk/data/maps/>; accessed on the 26th May 2024.
- British Geological Survey (BGS), Geology of Britain (1:50,000 Sheet No. 141, Loughborough, Solid and Drift (dated 2001). - www.bgs.ac.uk, accessed on the 26th May 2024.
- British Geological Survey (BGS) Leicestershire and Rutland Mineral Resource Information in Support of National, Regional and Local Planning (2002).
- British Geological Survey (BGS) Leicestershire and Rutland Mineral Resource Map, 1:100,000 (dated 2002).
- Fairhurst Geo-Environmental and Geotechnical Preliminary Risk Assessment (148749/R6, July 2024).
- Fairhurst Ground Investigation Report (148749/R7, July 2024).
- Structural Soils Ground Investigation Logs contained within Appendix D.
- Leicestershire Minerals and Waste Local Plan (LMWLP) – adoption 2019 until 2031.

4.0 MINERALS SAFEGUARDING

4.1 Leicestershire Minerals and Waste Local Plan

As part of the Council's 'emerging plan' to create a new Local Plan for minerals and waste planning policy, the Leicestershire Minerals and Waste Local Plan (LMWLP) will provide the planning framework for Minerals and Waste development and set out the long-term vision through the plan period to 2031. This Minerals Safeguarding Assessment has been undertaken based on guidance contained within the proposed LMWLP.

It is understood that one of the main reserves in Leicestershire are construction aggregates, namely sand and gravel. Leicestershire has been a significant producer of aggregates, and the LMWLP aims to deliver 19.04 million tonnes of construction aggregates from primary sources to meet the identified needs of Leicestershire over the plan period. A set of 4 Minerals Objectives have been outlined in the LMWLP to ensure that the key delivery outcomes are achieved. The objectives pertinent to this Minerals Safeguarding Assessment are presented below:

- M1 – Supply of Sand and Gravel Aggregate

The County Council will ensure a steady and adequate supply of sand and gravel for aggregate purposes by:

- i) making provision over the plan period (2015 to 2031) for the extraction of some 19 million tonnes of sand and gravel
- ii) maintaining a landbank of at least 7 years based on the past 10 years average sales
- iii) giving priority to proposal for extraction to be worked as extensions to existing site operations

- M2 – Supply of Sand and Gravel Aggregate from Existing Sites

The County Council will make provision over the plan period (2015 to 2031) for the supply of sand and gravel for aggregate purposes from the following locations:

- i) the extraction of remaining permitted reserves at the following existing sites: Brooksby, Cadeby, Husbands Bosworth, Lockington and Shawell
- ii) the following extensions to existing sites as shown on the Policies Map Insects:
 - Brooksby - Spinney Farm and south of existing plant site
 - Cadeby – west of plant site; north of Brascote Lane; east of Newbold Road
 - Husbands Bosworth – Butt Lane northern extension
 - Shawell – western extension adjacent to Lutterworth Road; land south of Gibbet Lane to the west of the plant site; land to the south west of Cotesbach village; and eastern extension adjacent to Lutterworth Road north of Shawell village.

- M3 – Sand and Gravel Extraction (Unallocated Areas):

In unallocated areas, planning permission to extract sand and gravel for aggregate construction purposes provided that it is an extension to a permitted sand and gravel site or is needed to meet an identified shortfall in the landbank; a new quarry to replace an existing site nearing exhaustion; or would offer significant benefits than allocated sites.

- M5 - Brickclay

The County Council will ensure a steady and adequate supply of brick clay by:

- i) allowing extensions to existing sites where they are required to maintain a landbank of at least 25 years of permitted reserves to support the level of investment required to maintain and improve existing brick-making plant and equipment
 - ii) giving priority to proposals for extraction site where it can be demonstrated that production cannot be maintained from existing sites and appropriate extensions to existing site.
- M11 – Sand and gravel used for aggregate construction purposes within Minerals Safeguarding Areas in accordance with the Mineral and Waste Safeguarding documents, are to be protected from permanent sterilisation by other development.

The LMWLP also identifies a number of Allocated Sites to meet the need for primary aggregates. The subject site does not fall within the area of these Allocated Sites.

4.2 Geological Setting

The published British Geological Survey (BGS) 1:15,000 Sheet No. 141, Loughborough, Solid and Drift (dated 2001) and nearby BGS borehole records indicate that the geological setting of the site is as summarised below. An extract of the 1:15,000 geological map is provided in Appendix C.

The BGS maps indicate the site to be underlain by three superficial deposits; Head Deposit, Oadby Member and Glaciofluvial deposits. The Head Deposit is shown to surround the river in the north-west corner of the site and is described by BGS as clay, silt, sand and gravel although it is expected to be cohesive dominant given the cohesive nature of the surrounding soils. The Oadby Member is mapped as a long thin outcrop across the central area of the site as well as the north-east corner. The soils are described by BGS as Diamicton Till consisting of brown to grey clay with subordinate silt, sand and gravel where the gravel consists of chalk and flint and localised lenses of sand and gravel. The Glaciofluvial deposits are mapped across the majority of the northern half of the site. They are described by BGS as predominantly brown to red-brown sand and gravel with localised lenses of silt, clay or organic material.

The site is predominantly underlain by the Gunthorpe Member, comprising mudstone with subordinate dolomitic siltstone and fine-grained sandstones. It is considered that the upper zone of the Gunthorpe Member will be encountered as a weathered material consisting of clay with mudstone lithorelicts. The Diseworth Sandstone, a subgroup of the Gunthorpe Member, is shown to outcrop in the western, central and eastern areas of the site and is expected to be encountered at depth elsewhere. Based on the BGS map, the strata demonstrates a dip of 0.5 to the south.

Due to the absence of historical development on site, significant Made Ground deposits are not anticipated across the majority of the site. However, as identified in the walkover section, 2 No. infilled clay pits are situated on the northern boundary which were reportedly infilled with clay and brick rubble c.10 years prior to the Fairhurst visit.

A ground investigation was undertaken on site by Structural Soils in September 2022 under the instruction of Fairhurst to inform a Ground Investigation Report submitted in support of a pre-planning application. The intrusive works comprised 38 No. machine dug trial pits (TP01 to TP37, and TP39) to a maximum depth of 4.00 m bgl, 7 No. soakaway tests within the trial pits, 27 no. cable percussive boreholes with rotary follow-on (BH01 to BH27) to a maximum depth of 31.00 m bgl; 38 no. cable percussive boreholes (CP01 to CP28) to a maximum depth 17.21 m bgl; along with geotechnical and geo-environmental laboratory testing. The exploratory hole location plan and logs from this ground investigation are presented in Appendix D.

A summary of the ground conditions is included in Table 4-1 below.

Table 4-1: Ground Conditions Summary

Lithology	Location	Base of Lithology (m bgl)	Base of Lithology (m AOD)
Topsoil	All exploratory hole locations (aside from where Made Ground is encountered)	0.10 – 0.85	91.0 - 58.5
Made Ground	(BH04, BH12, BH25, CP27, TP08, TP25, and TP37)	0.20 – 3.00	86.0 – 53.0
Oadby Member	21 No. positions, most extensively found E-W through the centre of the site (cross section line B-B)	1.70 – 16.40	85.8 – 64.0
Glaciofluvial	61 No. Positions, most extensively found E-W through the centre of the site (cross section line B-B)	0.40 – 17.30	89.7 – 53.4
Weathered Gunthorpe Member	73 No. positions, less extensively present where significant superficials soils are found	1.40 – 18.50	88.2 – 51.0
Gunthorpe Member	33 No. positions	> 33.35	< 28.0

Please refer to the Fairhurst Ground Investigation Report (148749/R7) for full details of the ground conditions encountered.

4.3 Glaciofluvial Deposits

Glaciofluvial Deposits are a source of sand and gravel for extraction and have been identified on site during the ground investigation. The Leicestershire Minerals and Waste Local Plan states such deposits “are worked in Leicestershire, but they are exploited modestly due to the proximity of more readily worked river deposits” suggesting although the deposits are worked it is unlikely they are practically or economically viable to extract.

The Glaciofluvial Deposits encountered on site were found to comprise predominantly cohesive material interbedded with granular deposits meaning the take-home yield from these deposits would be very low with increased processing and sorting costs incurred.

Particle Size Distribution testing undertaken as part of the Fairhurst Ground Investigation indicates silt contents are 15-68% and clay contents are 5-21% for the granular Glaciofluvial strata suggesting the fines content of these deposits would be too high for economical extraction.

4.4 Brick Clay

The Leicestershire Minerals and Waste Local Plan (LMWLP) identifies the Mercia Mudstone as the principal brickclay resource in Leicestershire. The Gunthorpe Member, a subgroup of the Mercia Mudstone, is shown to underlay the entire site on the Mineral Plan Overlay included in Appendix B and, as shown in Table 4-1, was proven during the intrusive ground investigation. However, extraction of the deposit is not considered practical or economically viable given the following:

- the exploratory hole logs indicate horizons of siltstone and sandstone are interbedded within the mudstone meaning costly material processing and sorting would be required post excavation
- the economic and environmental cost of importing suitable fill material following extraction of the resource would make extraction unviable

- the site is not within close proximity of an existing brickworks therefore is not prioritised for extraction

Therefore, the Mercia Mudstone present on site is not seen as a viable resource suitable for extraction.

4.5 Diseworth Sandstone

The "Boundary of area assessed for sand and gravel at the indicated resource level" is indicated on site and is interpreted to represent outcrops of the Diseworth Sandstone based on comparison with the BGS 1:50,000 scale maps. Although these deposits are indicated to outcrop on site

In accordance with the LMWLP, proposals to extract reserves should be given priority to existing site operations. Current sites of extraction include Brooksby, Cadeby, Husbands Bosworth, Lockington and Shadwell. Since the subject site is not within these areas it is unlikely that the subject site will be considered appropriate or sustainable for extraction in accordance with the requirements of the LMWLP.

The ground investigation report found the Diseworth Sandstone is not extensive across the site with variable thicknesses found within the rotary borehole logs (0.15m to 2.15m). The results also suggest limited lateral continuity across the site where the sandstone strata are often interbedded with the mudstone/siltstone strata. As such, it is not considered practical or economically viable to extract the Diseworth Sandstone as a construction aggregate.

4.6 Groundwater

Shallow groundwater was identified on site during the ground investigation and it was concluded a groundwater body is present between depths of 1.25m and 15.32m bgl within the Glaciofluvial, Weathered Gunthorpe Member and Gunthorpe Member. This hinders resource extraction at this site as groundwater pumping would be required and there is increased risk of excavation instability.

5.0 CONCLUSION

Fairhurst have been appointed by SEGRO (the 'Client') to undertake a Mineral Safeguard Assessment to support a planning application for the proposed development.

Glaciofluvial Deposits composed of granular material (sand and gravel) have been identified on site and, although these soils are sporadically worked in the region, it is not considered the deposits on site will be economically viable to extract. This is due to the relatively unsorted nature of the deposits and their limited extent across the site.

The Gunthorpe Member, the principal bedrock across the site, is identified as a potential resource of brickclay. This report has deemed it unsuitable for extraction given the site's location as it is not close to existing clay pits, there would be an unacceptable environmental cost of importing replacement fill material and the deposit is interbedded with siltstone and sandstone increasing the material processing costs.

It is evident that the Diseworth Sandstone is not extensive across the site with variable thicknesses and limited lateral continuity of the sandstone which is interbedded with mudstone and siltstone strata. As such, it is not considered practical or economically viable to extract the Diseworth Sandstone as a construction aggregate.

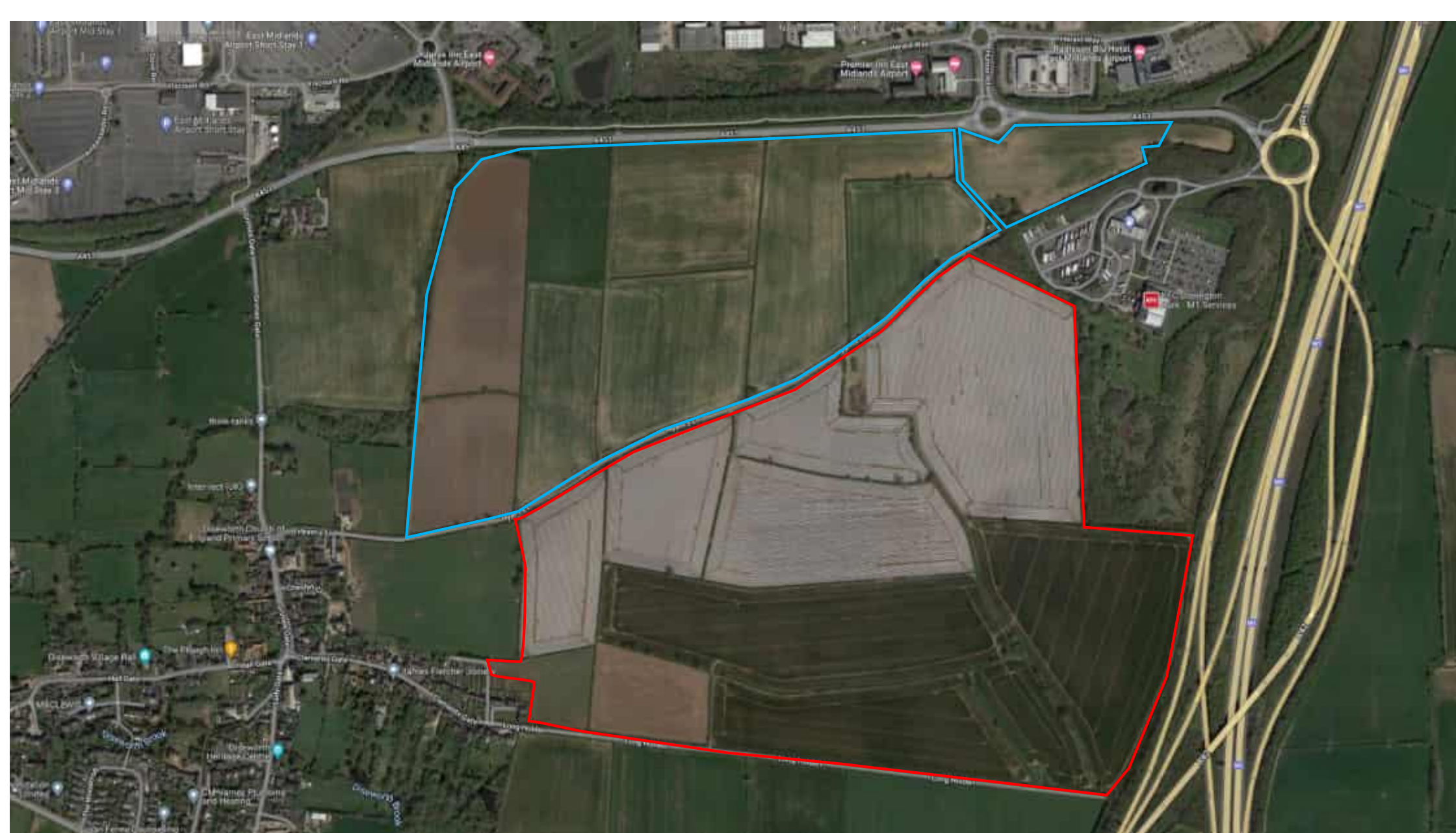
APPENDIX A

DEVELOPMENT PROPOSAL PLANS & DEVELOPMENT DRAWINGS

KEY

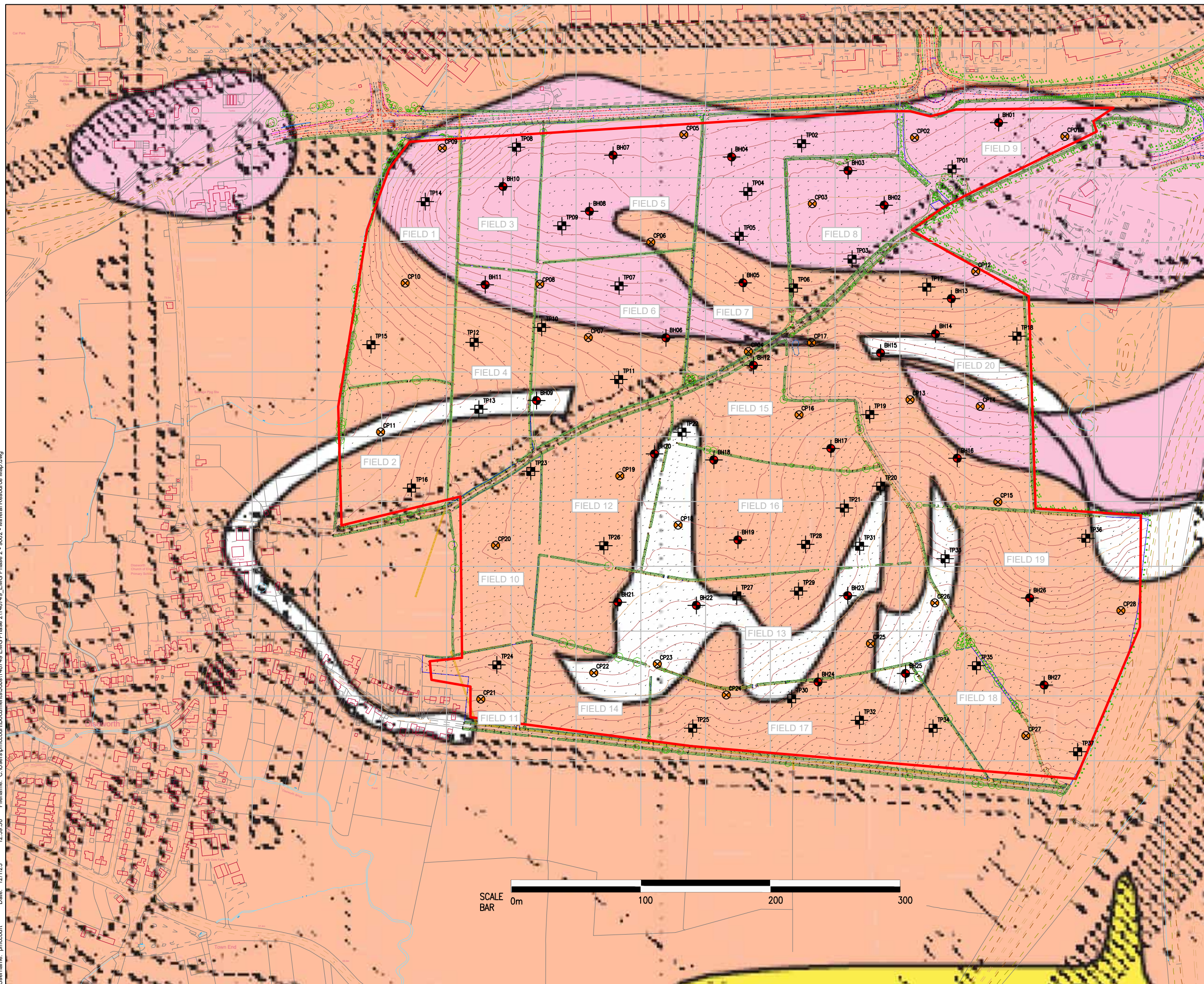
NORTH SITE

SOUTH SITE



APPENDIX B

MINERAL SAFEGUARDING MAP OVERLAY



DO NOT SCALE FROM THIS DRAWING

SAFETY HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARD/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING RISKS AND INFORMATION.

RISKS LISTED HERE ARE NOT EXHAUSTIVE. REFER TO DAF001.

CONSTRUCTION

MAINTENANCE

RESIDUAL DESIGN RISKS

FOR INFORMATION RELATING TO USE, CLEANING AND MAINTENANCE SEE THE HEALTH AND SAFETY FILE

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.

NOTES

1. DO NOT SCALE FROM THIS DRAWING.

2. DRAWING TO BE REPRODUCED IN COLOUR.

3. ALL DIMENSIONS IN m UNLESS OTHERWISE STATED.

SAND & GRAVEL

SUPERFICIAL DEPOSITS

SUB-ALLUVIAL: INFERRED RESOURCES

SUB-ALLUVIAL: INDICATED RESOURCES IN AREAS ASSESSED BY BGS

RIVER TERRACE DEPOSITS

GLACIOFLUVIAL DEPOSITS

BLOWN SAND

BOUNDARY OF AREA ASSESSED FOR SAND AND GRAVEL AT THE INDICATED RESOURCE LEVEL

BH0

ROTARY CORE BOREHOLE 30m

CP0

CABLE PERCUSSIVE BOREHOLE 15m

TP01/SA01

TRIAL PIT 3.5-4m / SOAKAWAY

Rev	Date	Description	Drawn	Chkd	Appd

Drawing Status

FOR INFORMATION

FAIRHURST

3rd Floor, The News Building, 3 London Bridge Street, London, SE1 9SG

Tel: 0141 204 8800 Fax: 0141 204 8801

SEGRO

Project Title

EMG PHASE 2

Drawing Title

EXPLORATORY HOLE LOCATION PLAN WITH MINERAL RESOURCE

Drawn

P. MCCOURT

Date

29/11/22

Designed

Date

Checked

Date

Approved

Date

A3

Scale

NTS

Fairhurst Ref

148749

Drawing Number

148749 - 9003

Revision

APPENDIX C

BGS BOREHOLE RECORD AND HISTORICAL BOREHOLE LOGS



British
Geological
Survey

Version 2.0.6.6

BGS ID: 218220 : BGS Reference: SK42NE80

British National Grid (27700) : 446900,325200

[Report an issue with this borehole](#)

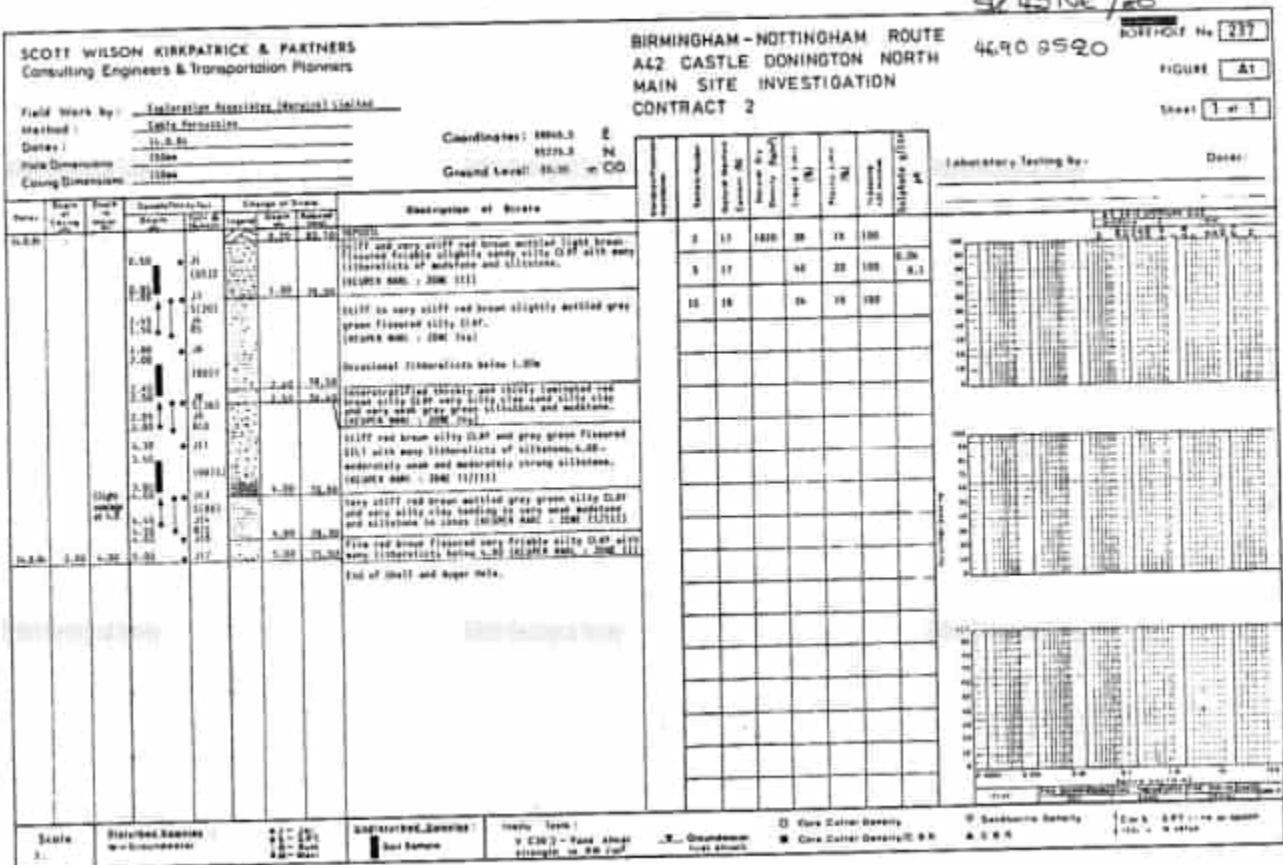
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Next >

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**British
Geological
Survey**

BGS ID: 218221 : BGS Reference: SK42NE81

British National Grid (27700) : 446890,325330

[Report an issue with this borehole](#)

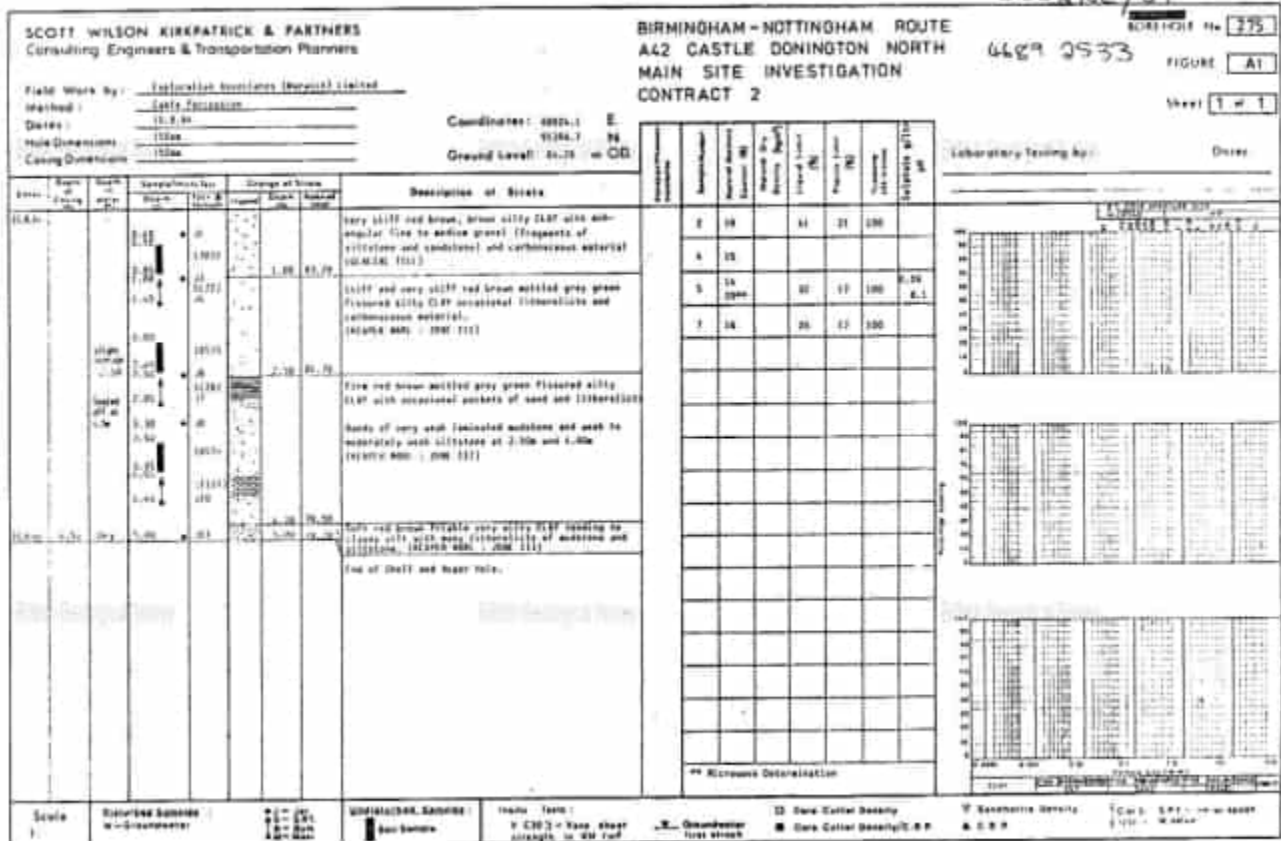
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Next >

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SK 45266 25262

SK 42NE/156

SR KINEN

Sampling		Properties			Strata						
Depth	Type	Strength kN m ²	w %	SPT N	Description	Depth	Level	Legend			
					turf over TOPSOIL	0.1	76.47				
0.40 0.50-0.95	D U(30)	95	21		Firm stiff brown and red brown silty very sandy CLAY with roots and occasional fine medium sub-angular - rounded rock fragments and gravel.	0.30	76.17				
1.50	D		18		Firm-stiff light red brown silty sandy CLAY with frequent fine-medium sub-rounded-rounded rock fragments and gravel. Slightly friable.	1.20	75.27				
2.00-2.45	U(75)	110	16								
2.45	D				Very stiff - hard friable red brown becoming grey brown silty sandy CLAY with abundant fine-medium weathered rock fragments and rounded gravel. Zones of weaker red brown friable very sandy clay noted at 2.45.	2.30	74.17				
3.00	D		18								
3.50-4.00	U(100)	145	16								
3.95	D		16								
4.50	D		15		Very stiff to hard dark grey and dark grey brown fissured silty slightly sandy CLAY with abundant fine-medium rock fragments, rounded gravel, and fine pockets of silt or sand (completely weathered rock fragments).	3.90	72.57				
5.0-5.40	U(120)										
6.00	D		13								
6.35 6.40	D										
Drill Run	Fluid Return	Core Recovery	F1	100	Strong grey and grey green limestone and siltstone BOULDERS (< 0.3 thick), with layers of very stiff dark red brown sandy CLAY, and fine medium and coarse sandstone, siltstone, flint and quartzite rounded - sub-rounded gravel towards base.	6.50	69.97				
7.20	100%	100%	-	-							
7.80	100%	100%	-	-							
8.30	100%	100%	-	-							
8.70	100%	100%	-	-							
8.80	100%	100%	-	-							
9.50	100%	70%	-	-							
9.80	100%	100%	-	-							
9.80	100%	100%	-	-							
					Continued from 10.00	10.00	66.47				
Drilling					Ground Water						
Type	From	To	Size	Fluid	Struck	Behaviour	Sealed	Date	Hole	Cased	Water
Shell & Auger	6.1	8.50	0.15	-		Stood at 5.40 overnight		18.3.81	GL	-	-
Rotary Core	8.50	15.00	0.075	water				18.3.81	4.50	NEL	NEL
								19.3.81	9.50	6.0	GL
Remarks Rock Chisel used to penetrate boulder 4.30-4.40 (0.5 hours) and 4.50-5.0 hard strata from 6.35-6.50 *No penetration possible											
Borehole Record					Project			Contract			
exploration associates					Department of Transport A564 Stoke - Derby Link Derby Southern Bypass Isley Walton to M1 Section Preliminary Site Investigation			52796			
								Borehole 89			
								Sheet 1 of 2			

Sampling		Properties			Strata		SK 42 NE/156				
Drill Run	Fluid Return	Core Recovery	FI	RDD	Description	Depth	Level	Legend			
10.00					Continued from 10.00	10.00	66.47				
	100%	*	-	-							
10.50					as above but with rounded and angular limestone, quartz and sandstone gravel in matrix of fine silty clay						
10.90	100%	100%	-	-							
11.00	100%	100%	-	-							
11.50					Dark reddish brown, fine grained very thinly bedded moderately weathered silty MUDSTONE weak to moderately weak, closely spaced joints with more highly weathered zones of fine silty CLAY and occasional bands of siltstone strong to strong siltstone (80mm)	11.10	65.37				
	100%	95%	4	70							
13.00					As above but slightly weathered and joints <20mm to 150mm i.e. extremely closely spaced to closely spaced.	13.00	63.47				
14.00											
15.00					End of Borehole	15.00	61.47				
Drilling					Ground Water						
Type	From	To	Size	Fluid	Struck	Behaviour	Sealed	Date	Note	Cased	Water
								21.3.01	10.50	10.00	G.L.
								24.3.01	15.00	10.50	G.L.
Remarks *Gravel and cobbles recovered after 15 attempts to core. Note: Most joints horizontal. Bedding within 5° of horizontal											
Borehole Record					Project			Contract			
exploration associates					Department of Transport A564 Stoke - Derby Link Derby Southern By Pass Isley Walton to M1 Section Preliminary Site Investigation			S2796 Borehole 119 Sheet 2 of 2			

SK 45407 25338

SK 42NE/157.

Sampling		Properties			Strata						
Depth	Type	Strength kN m ²	w %	SPT N	Description	Depth	Level	Legend			
0.30	0	80	19	11	Turf over TOPSOIL	G.L.	83.77				
0.50-0.90	U(70)				Soft-fine light brown and brown silty sandy CLAY with fine-medium strong angular rock fragments and fine gravel.	0.20	83.57				
					BOULDER	0.90	82.87				
1.50	0	9	11	11	Firm-Stiff friable light brown silty very sandy CLAY with fine medium and coarse angular rock fragments and gravel.	1.50	82.27				
2.00-2.45	SD										
2.80	0	19	19	11	Soft-Fine very friable light red brown very silty fine sandy CLAY/clayey sandy SILT and fine SAND. Shear surfaces within the silty CLAY.	2.80	80.97				
3.00-3.25	U(75)										
3.80	0	21	21	11	Firm friable red brown coarse sandy CLAY with black carbonaceous fragments.	3.70	80.97				
4.50-4.95	U(80)					4.80	78.97				
5.50	0	9	11	11	(Very dense) matrix of very stiff brown red brown and grey brown silty sandy CLAY, fine medium and coarse angular rock fragments, GRAVEL and COBBLES.						
6.00	SD										
7.30	S	15	200	11	Very weak weathered dark red brown SILTSTONE	8.30	75.47				
8.30	0					8.50	75.27				
8.50-8.65	SD										
Drill Run	Fluid Return	Core Recovery	F1	100							
	100%	85%	>25	101	As above, though broken in a matrix of fine silty clay and containing several pieces of rounded quartz gravel	9.5	74.27				
9.70-9.75	SD			300	See over Continued from 10.00	10.00	73.77				
Drilling					Ground Water						
Type	From	To	Size	Fluid	Struck	Behaviour	Sealed	Date	Hole	Cased	Water
Shell & Auger	G.L.	7.30	0.15	-	NIL	Water Flush returns lost at 11.00		25.3.81	G.L.	-	-
Rotary Core	7.30	7.50	0.072	water				25.3.81	7.00	7.00	NIL
Shell & Auger	7.50	8.50	0.15	-				26.3.81	8.5	8.3	7.3
Rotary Core	8.50	13.00	0.072	water				27.3.81	13.0	8.3	NIL
Remarks Rock chisel used from 0.9-1.5, 3.4-3.8, 5.0-5.8 (5.5 hours) 7.0-7.3, 7.5-8.5 (4 hours) ** No penetration. Standpipe installed to 13.0m with bottom 2m perforated and surrounded with gravel *** See be disturbed from casing installation											
Borehole Record					Project				Contract		
exploration associates					Department of Transport A564 Stoke - Derby Link Derby Southern By Pass Isley Walton to NI Section Preliminary Site Investigation				52796		
									Borehole 10 Sheet 1 of 2		

EX1

SK 42 NE/157

Sampling		Properties			Strata				
Drill Run	Fluid Return	Core Recovery	FI	ROO	Description	Depth	Level	Legend	
					Continued from 10.00	10.00	73.77		
11.00	100%	75%	15	35	Dark reddish brown fine grained, very thinly bedded and highly weathered silty MUDSTONE - very weak, occasional moderately weak, extremely closely bedded (420) with bands of grey green strong SILTSTONE.				
11.50	NIL	100%	10	65					
12.00	NIL	60%	clay	clay	Dark reddish brown silty CLAY with mudstone fragments.	11.00	72.17		
12.00	NIL	90%	15	NIL	Dark reddish brown becoming grey green fine grained highly weathered silty MUDSTONE becoming siltstone very weak with extremely closely spaced predominant horizontal joints. 2 vertical joints noted. 10 bands of grey green strong siltstone and bands of completely weathered siltstone and bands of fine silty clay (up to 200mm).	12.00	71.77		
13.00					End of Borehole	13.00	70.77		

Drilling					Ground Water						
Type	From	To	Size	Fluid	Struck	Behaviour	Sealed	Date	Hole	Cased	Water

Remarks Bedding with 5° of horizontal

Borehole Record	Project	Contract
exploration associates	Department of Transport 4564 Stoke - Derby Link Southern Derby By Pass Isley Walton to NI Section Preliminary Site Investigation	Contract S2796
		Borehole 10 Sheet 2 of 2

 British Geological Survey NATURAL SCIENCE RESEARCH COUNCIL						Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GEOTECHNICAL CONTRACT 2		Borehole Number RC1075		
Machine: Flush : Core Dia: mm: 100 Method :		Casing Diameter 140mm cased to 2.25m		Ground Level (mOD): 84.85	Client Highways Agency	Job Number WAL060099	Sheet 1/2			
		Location 448944 E 325438 N		Dates 23/01/2007- 24/01/2007	Engineer Asap					
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00	PIT		0	0	Groundwater was not apparent during boring (1) at 0.00m.			Inspection Pit.		V1
	OH		0	0			(1.20)			
1.20					23/01/2007 DRY	83.65	1.20	Open Hole.		
	95	0	0	0			(1.00)			
2.20			0	0	23/01/2007: 23/01/2007: 24/01/2007:	82.65	2.20	Firm locally fissured red brown slightly gravelly CLAY. Gravel is subrounded, fine to coarse of mudstone.		
							(0.75)			
2.05					25/01/07 44.50 SPT 25/75 152/247	81.90	2.05	Between 2.05m and 2.95m; moderately weak, light grey siltstone.		
	93	0	0	0				Off CLAY to very weak, red brown MUDSTONE, with widely spaced very thin to thin beds of light grey moderately strong siltstone. Discontinuities: extremely closely and very closely spaced, randomly orientated, rough and smooth, occasionally stained black.		
3.50-3.92 3.50					25/07/39.50 SPT 25/75 110/185			From 5.10m to 5.30m; assumed zone of core loss.		
	87	12	0	0						
5.10-5.36 5.10					25/50 SPT 25/75 6042					
	100	8	0	0			(8.85)			
5.50-6.72 6.50					25/50 SPT 25/75 50/16			From 8.10m to 8.45m; assumed zone of core loss.		
	78	10	7	0						
8.10-8.19 8.10					25/50 SPT 25/75 50/32					
	100	32	10	0						
9.50-8.71 9.50						75.25	9.50	Very weak to very stiff clay to moderately weak, red brown MUDSTONE, with widely spaced very thin and thin beds of weak and moderately strong, light grey SILTSTONE.		
Remarks									Scale (approx) 1:50	Logged By OP
									Figure No.	

 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL					Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GEOTECHNICAL INVESTIGATION - CONTRACT 2		Borehole Number RC1075			
Machine: Flush : Core Dia: mm: 76.2 Method :		Casing Diameter 140mm cased to 2.25m		Ground Level (mOD) 84.85	Client Highways Agency		Job Number WAL060099			
		Location 448944 E 325433 N		Dates 23/01/2007 - 24/01/2007	Engineer Asap		Sheet 2/2			
Depth (m)	TCR	SCR	RQD	FI	Field Records	Leq (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.30	67	15	0	0	P3			Moderately to widely interbedded zone I and zone II. Discontinuities: zone II areas - extremely closely fractured, randomly orientated, rough and smooth. Zone I areas - vertical, undulating, rough, occasionally black staining and clay infill, very closely to medium spaced. Horizontal and subhorizontal, rough and smooth, clean, moderately to widely spaced, 60 degrees, rough, with some black staining.		
11.10 11.10-11.20					25/50 SPT 25/75 50/21			From 11.10m to 11.50m; assumed zone of core loss.		
12.50	97	28	9	0						
13.10	100	40	15	0	P4		(7.50)			
14.10 14.10-14.21					25/50 SPT 25/75 50/37					
14.50	100	38	23	0	P5					
15.50	Sample / Tests		Casing Depth (m)	Water Depth (m)						
16.94-17.20	UR									
						67.55	17.20	Complete at 17.20m		
Remarks								Scale (approx) 1:50		Logged By OP
								Figure No.		

 British Geological Survey NATURAL SCIENCE AND RESEARCH COUNCIL				Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GI - CONTRACT 2		Trial Pit Number TP1069			
Excavation Method Trial Pit		Dimensions Location: 446847 E 325114 N		Ground Level (mOD) 92.45	Client Highways Agency	Job Number WAL060099			
				Dates 12/10/2006	Engineer Arup	Sheet 1/1			
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	B1		Trial pit was damp with dripping water at 2.80m (1) at 0.00m. 12/10/2006; 12/10/2006;	92.25	(0.20) 0.20	Grey brown slightly gravelly clayey TOPSOIL with frequent rootlets. Gravel is medium to coarse, subangular to subrounded of sandstone.			
1.00	B2			91.65	(0.50) 0.50	Soft to firm orange brown slightly sandy gravelly CLAY. Gravel is medium to coarse, subangular to subrounded of sandstone, quartz and occasional to some subangular to subrounded cobbles of quartz and sandstone. Occasional roots.			
1.50	D3					Firm to stiff pink brown locally slightly sandy CLAY with occasional to some mudstone lithorelics, locally friable. Occasional cobble sized pockets of green grey silt.			
2.00	B4			(2.00)		At 1.80m; pocket of slightly clayey medium grained sand. From 1.90m; locally laminated clay with frequent lithorelics. Occasional bands (up to 40mm thick) of moderately strong sandstone/siltstone.			
2.50	D5					Below 2.50m; locally a weak siltstone.			
3.00	B6			79.65	2.80	At ~ 2.80m; damp. Orange brown weak to moderately strong SILTSTONE. Retrieved as a silt with frequent lithorelics and cobbles of siltstone. Some bands of grey green siltstone.			
3.50	D7				(1.20)				
4.00	B8				78.45	4.00	Complete at 4.00m		
Plan 				Remarks Prior to excavation a Cable Avoidance Tool (CAT) survey was carried out. Services were not encountered. No visual or olfactory indication of contamination was observed. On completion the trial pit was backfilled with compacted arisings.					
				Scale (approx) 1:50		Logged By MW	Figure No.		

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SCOTT WILSON KIRKPATRICK & PARTNERS
Consulting Engineers & Transportation Planners

BIRMINGHAM - NOTTINGHAM ROUTE
A42 CASTLE DONINGTON NORTH
MAIN SITE INVESTIGATION
CONTRACT 2

SK 42 SE/ISS

BORE HOLE No 232

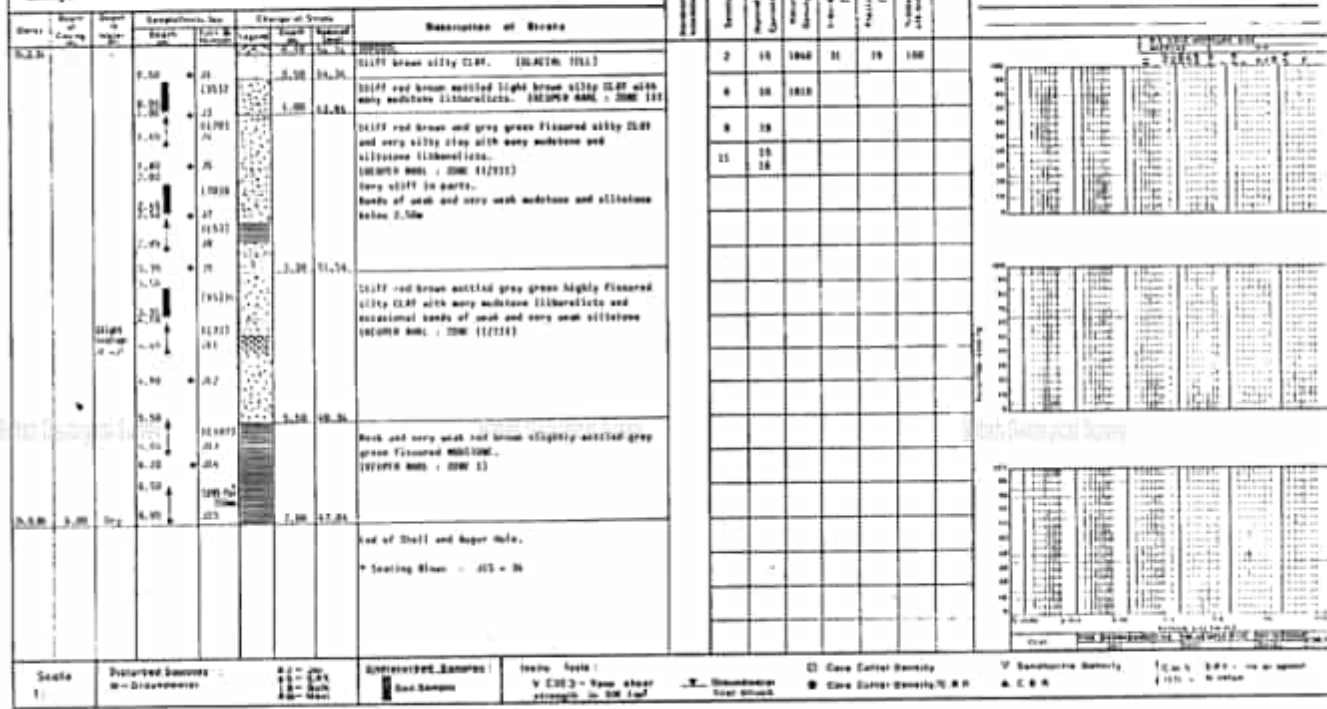
FIGURE A1

Sheet 1 of 1

Field Work By: Exploration Associates (UK) Ltd
Checked: J.S.S.
Drawn: J.S.S.
Scale Dimensions: 1:500
Coring Dimensions: 100mm

Coordinates: 46N 2.8 E
Ground Level: 54.8m = OD

Laboratory Testing By: Date:

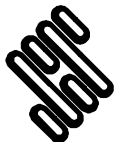


 British Geological Survey NATIONAL GEOSCIENCE ARCHIVE						Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GEOTECHNICAL CONTRACT 2		Borehole Number RC1064			
Machine: Flush :		Casing Diameter 140mm cased to 3.00m		Ground Level (mOD) 62.30		Client Highways Agency		Job Number WAL060099			
Core Dia: mm		Location 448759 E 324588 N		Dates 18/01/2007		Engineer Anup		Sheet 1/2			
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.00	PIT		0	0		61.10		Inspection Pit.			
	CH		0	0			(1.20)				
1.20							1.20	Open Hole			
	81	4	0	0			(1.80)				
3.00					25/11, 14, 19, 21 SPT 25/78 N=65	59.30	3.00	Generally stiff to very stiff (variably very weak mudstone with depth) extremely closely fissured red brown locally mottled grey green slightly gravelly CLAY. Gravel is angular to subangular, fine to medium lithologies of mudstone.			
	80	0	0	0				Between 3.00m and 4.50m; assumed zone of core loss.			
4.50-4.88							(3.50)				
4.50	00	0	0	0							
6.00-6.18					25/26, 50 SPT 25/75 76/105	55.80		Between 6.00m and 6.50m; non intact.			
6.00			0	0							
6.50			0	0			6.50	Generally very weak (variably very stiff clay to moderately weak) red brown calcareous MUDSTONE with rare very thin beds of mudstone. Between 5.50m and 7.50m; assumed zone of core loss. Recovered in very thin beds as very clayey angular fine to medium gravel. Fractures: where evident subvertical, extremely closely spaced, planar to irregular.			
6.50	100	0	0	0			(1.60)	Between 7.50m and 7.80m; non intact.			
7.50-7.69					25/29, 50 SPT 25/78 88/117	54.20					
7.50			0	0							
7.80			0	0							
8.10			0	0			8.10	Generally moderately weak (variably weak to moderately strong) red brown calcareous MUDSTONE. Fractures: horizontal, extremely closely to closely spaced, smooth, planar with soft clay infill up to 5mm; subvertical, locally very closely spaced, smooth, planar; frequent others irregular, apparently random strike.			
9.00-9.09	57	47	21	0	25/50 SPT 25/75 60/10 P1			Between 9.00m and 9.50m; with closely spaced very thin beds of moderately weak grey green siltstone. Fractures are horizontal, very closely to closely spaced, planar; rare subvertical, planar fractures.			
9.00			0	0			(2.90)				
9.20											
9.30											
Remarks									Scale (approx) 1:50	Logged By TL	Figure No.

 British Geological Survey NATURAL SCIENCE CENTRE						Site M1 WIDENING JUNCTION 21 TO 30 PRELIMINARY GEOTECHNICAL SURVEY - CONTRACT 2		Borehole Number RC1064			
Machine: Flashed : Core Dia: mm: 76.2 Method :		Casing Diameter 140mm cased to 3.00m		Ground Level (mOD) 62.30		Client Highways Agency		Job Number WAL060099			
		Location 448759 E 324528 N		Dates 18/01/2007		Engineer Asap		Sheet 2/2			
Depth (m)	TCR	SCR	RQD	FI	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
10.50	100	38	34	0	25/27.50 SPT 25/75 87/100 P2	51.40	(2.80)	Between 10.45m and 10.50m, thin bed of stiff silty clay.			
10.50-10.68			0	0			10.90	Moderately strong light grey green locally mottled red brown SILTSTONE with occasional rounded fine gravel size disintegration vugs. Fractures: subhorizontal, very closely to medium spaced, planar; vertical generally irregular.			
10.85			0	0							
10.90			0	0							
11.45			0	0	U1		(1.55)				
11.60	67	75	53	0							
12.00			0	0	P4	49.45	12.85	Weak to moderately weak red brown locally mottled grey green calcareous MUDSTONE with medium spaced thin beds of moderately strong light grey green siltstone. Fractures: horizontal, very closely to closely spaced, planar, occasionally undulating, subvertical, locally very closely spaced, planar to irregular; others irregular, apparently random strike.			
12.00-12.32			0	0							
12.75	91	58	24	0			12.15				
12.85											
13.50	Sample / Tests		Casing Depth (m)	Water Depth (m)			15.00	Complete at 15.00m			
14.05	P1										
18/01/2007: 18/01/2007:						47.30	15.00				
Remarks										Scale (approx) 1:50	Logged By TL
										Figure No.	

APPENDIX D

STRUCTURAL SOILS BOREHOLE LOGS & LAB TESTS



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH01
Contract Ref: 765514	Start: 05.09.22 End: 13.09.22	Ground Level (m AOD): 89.22	National Grid Co-ordinate: E:446551.3 N:325384.8		Sheet: 1 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
0.10-0.10	1	D									TOPSOIL	(0.35)	
0.10-0.30	2	B										0.35	
0.50-0.50	101	ES	1xT+1xJ+1xV								Very stiff reddish brown, mottled grey, slightly sandy slightly gravelly CLAY. Gravel is subangular fine to coarse mudstone lithorelics. (MERCIA MUDSTONE GROUP)		
0.50-0.50	3	D											
0.50-1.00	4	B											
1.00-1.00	102	ES	1xT+1xJ+1xV										
1.10-1.10	5	D											
1.20-1.50	6	UT _(UT100)	150 blows 83% recovery										
1.50-1.70	7	D											
1.70-1.70	8	D											
2.00-2.45			N=36										
2.00-2.45	10	SPT											
2.00-2.45	11	DSPT B										(4.10)	
2.70	12	D											
3.00-3.45			N=51										
3.00-3.45	15	SPT											
3.00-3.45	16	DSPT B											
3.70	17	D											
4.00-4.45			N=66								4.00-4.45m: becoming orangish in colour		
4.00-4.45	19	SPT DSPT										4.45	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
05/09/22	16:31	2.50	2.50	200	Dry	3.80	4.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Drilled using 200mm diameter tools and casing. 4. SPT hammers AR3104-2022 (E_r = 64.00%) , AR3830-2021 (E_r = 67.00%) used.				
06/09/22	07:52	2.50	2.50	200	Dry								
06/09/22	12:00	4.45	3.00	200	-								
13/09/22	09:00	4.45	None	200									
13/09/22	17:00	11.25	4.45	146	10.90								
14/09/22	08:30	11.25	4.45	146	5.90								
14/09/22	17:00	30.75	4.45	146	28.15								
									All dimensions in metres				
									Scale: 1:25				
Method Used:	Inspection pit + Cable Percussion + Rotary Corer			Plant Used:	Dando 3000 Mark 2 + Comacchio GEO 601		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	JAlton + RStan	Checked By:	

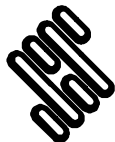
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Structural Soils Ltd, Branch Office - Castleford, The Potteries, Pottery Street, Castleford, West Yorkshire, WF10 1NJ. Tel: 01977-552255, Fax: 01977-552259, Web: www.soils.co.uk, Email: ask@soils.co.uk | 11/12/22 - 10:29 | TC9 |

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH01
Contract Ref:	Start: 05.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 13.09.22	89.22	E:446551.3 N:325384.8	3 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instru- mentation	Water	Description of Strata	Depth (Thick- ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
9.75-11.25 (0:05)	24	C		100	93	93		Air+Mist (Brown)			. . . 8.77-8.79m: 5° undulating rough abundant black stained >3mm silty clay. Extremely weak to weak reddish brown MUDSTONE. CIRIA GRADE III. Bedding fractures: Widely spaced, 0 to 10°, undulating, rough with occasional black staining. Rare clay infill. Occasional to abundant yellow staining. (MERCIA MUDSTONE GROUP) (stratum copied from 6.90m from previous sheet) . . . 9.26-9.29m: Weak grey siltstone. . . . 9.75-9.82m: Drilling disturbed.	10.48	
10.28-10.48				95	95	95		Air+Mist (Brown)			Extremely weak reddish brown thinly to thickly laminated MUDSTONE. Locally interbedded with weak grey siltstone. Bedding fractures: Closely to widely spaced, subhorizontal, planar, undulating, occasional to abundant black staining. (MERCIA MUDSTONE GROUP) . . . 11.04-11.14m: Interbedded with grey siltstone. . . . 11.25-11.36m: Gravelly silty clay.		
10.70-10.96	25	C						Air+Mist (Brown)			. . . 11.71-11.73m: Grey siltstone. . . . 11.80-11.96m: Extremely weak thickly laminated mudstone, interbedded with weak siltstone. . . . 11.91-11.96m: Clay		
11.25-12.75 (0:06) 11.38-11.70	26	C		100	65	54		Air+Mist (Brown)			. . . 12.28-12.46m: Siltstone and mudstone. . . . 12.55-12.75m: NI.		
12.75-14.25 (0:07)				100	95	89		Air+Mist (Brown)					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres		Scale: 1:25		
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 Mark 2 + Comacchio GEO 601		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	JAlton + RStan	Checked By:	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH01
Contract Ref: 765514	Start: 05.09.22 End: 13.09.22	Ground Level (m AOD): 89.22	National Grid Co-ordinate: E:446551.3 N:325384.8		Sheet: 4 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
14.25-15.75 (0:04)	27	C		100	95	89		Air+Mist (Brown)			Extremely weak reddish brown thinly to thickly laminated MUDSTONE. Locally interbedded with weak grey siltstone. Bedding fractures: Closely to widely spaced, subhorizontal, planar, undulating, occasional to abundant black staining. (MERCIA MUDSTONE GROUP) (<i>stratum copied from 10.48m from previous sheet</i>) ... 13.50-13.53m: Grey siltstone. ... 13.53-13.55m: Sandstone. ... 13.55-13.57m: 4°, clay infill. ... 13.57m: Thinly interlaminated with siltstone (<10mm) ... 13.86-13.89m: 11°, incipient, planar, rough, abundant black staining. ... 13.86-13.90m: Siltstone. ... 13.89-14.07m: 88°, incipient, planar, rough, occasional black staining. ... 14.25-14.45m: AZCL. ... 14.71-14.72m: 5°, clay infill, undulating, rough. ... 14.87-14.89m: 9°, clay infill, undulating, rough. ... 15.38-15.46m: Clay. ... 15.38-15.59m: Locally interbedded with reddish clay. ... 15.59-15.64m and 15.70-15.75m: NI. ... 15.75-15.83m: Grey siltstone. ... 15.83-15.85m: Planar, rough, clay infill. ... 15.90-16.08m: 82°, undulating, rough, abundant black staining, incipient. ... 15.95-16.23: Clay and mudstone. ... 16.35-16.37: Clay and mudstone. ... 16.38-16.59m: 63°, undulating, rough, occasional black staining, incipient. ... 16.45-16.79: Clay and mudstone. ... 16.51-16.65m: 66° undulating rough occasional black staining incipient. ... 16.89-16.95m: Clay, siltstone and mudstone. ... 17.05-17.16m: 83° undulating ough abundant black staining incipient.	(6.77)	
14.26-14.50													
14.56-14.69	28	C											
15.38-15.47	29	D		87	75	75		Air+Mist (Brown)					
15.75-17.25 (0:04)													
16.23-16.34	30	C		100	86	71		Air+Mist (Brown)					
17.25-18.75 (0:05)				100	82	73		Air+Mist (Brown)			Extremely weak to weak unbedded MUDSTONE. Occasional grey siltstone beds (<90mm). GRADE II. (MERCIA MUDSTONE GROUP) ... 17.25-17.31m: NI. ... 17.51-17.57m: NI. Rare black staining on discontinuity surfaces. ... 17.70-17.73m: NI. Thinly laminated. <i>Description on next sheet</i>	17.25	

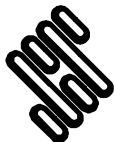
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
Method Used: Inspection pit + Cable Percussion + Rotary Corer		Plant Used: Dando 3000 Mark 2 + Comacchio GEO 601		Drilled By: Jonny Hutt + Sam Carter		Logged By: JAilton + RStan		Checked By:		AGS
						All dimensions in metres			Scale: 1:25	

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH01
Contract Ref:	Start: 05.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 13.09.22	89.22	E:446551.3 N:325384.8	5 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instru- mentation	Water	Description of Strata	Depth (Thick- ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
17.93-18.18	31	C		100	82	73		Air+Mist (Brown)			. . . 17.73-17.93m: 77° undulating rough abundant black staining and occasional yellow staining. Extremely weak to weak unbedded MUDSTONE. Occasional grey siltstone beds (<90mm). GRADE II. (MERCIA MUDSTONE GROUP) . . . 17.25-17.31m: NI.(<i>stratum copied from</i> 17.25m from previous sheet) . . . 18.18-18.22m: 15° planar rough occasional black staining. . . . 18.20-8.30m: 60° undulating rough abundant black staining. . . . 18.30-18.36m: Clay. . . . 18.42-18.43m: 7° planar rough occasional black staining. . . . 18.42-18.50m: 70° undulating rough abundant black staining. . . . 18.50-18.56m: 35° planar rough abundant black staining. . . . 18.67-18.73m: Grey siltstone. . . . 18.78-19.05m: 87° planar rough rare black staining incipient. . . . 19.50-19.52m: Grey siltstone. . . . 19.62-19.67m: Grey siltstone. . . . 19.96-20.03m: 52° undulating rough occasional black staining incipient.	(3.00)	
18.75-20.25 (0:04)				↕	↕	↕		↕					
19.50-19.82	32	C		100	100	100		Air+Mist (Brown)				20.25	
20.25-21.75 (0:06)				↕	↕	↕		↕			Extremely weak reddish brown, mottled grey, unbedded MUDSTONE. Occasional to frequent, closely spaced beds of grey siltstone. (MERCIA MUDSTONE GROUP) . . . 20.25-20.51m: Medium strong grey siltstone. . . . 20.80-21.05m: Thinly and thickly cross laminate.		
21.14-21.37	33	C		100	100	100		Air+Mist (Brown)					
21.37-21.58	34	C									. . . 21.37-21.80m: Medium strong grey siltstone.		
21.75-23.25 (0:05)				↕	↕	↕		↕			. . . 21.64-21.70m: 23°, undulating, rough, >3mm clay infill, occasional black staining. . . . 21.80-21.92m: Medium strong grey siltstone.	(3.23)	
				100	100	100		Air+Mist (Brown)					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
									All dimensions in metres Scale: 1:25		
Method Used: Inspection pit + Cable Percussion +			Plant Used: Dando 3000 Mark 2 + Comacchio GEO 601		Drilled By: Jonny Hutt + Sam Carter		Logged By: JAlton + RStan				



STRUCTURAL SOILS

DRAFT

BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH01
Contract Ref: 765514	Start: 05.09.22 End: 13.09.22	Ground Level (m AOD): 89.22	National Grid Co-ordinate: E:446551.3 N:325384.8		Sheet: 6 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
22.51-22.76	35	C		100	100	100		Air+Mist (Brown)			Extremely weak reddish brown, mottled grey, unbedded MUDSTONE. Occasional to frequent, closely spaced beds of grey siltstone. (MERCIA MUDSTONE GROUP) ... 20.25-20.51m: Medium strong grey siltstone. (stratum copied from 20.25m from previous sheet)		
23.25-24.75 (0:07)												23.48	
23.68-24.02	36	C		100	100	100		Air+Mist (Brown)			Weak to medium strong reddish brown, mottled grey, fine and medium grained silty SANDSTONE. Frequent beds of grey siltstone. (MERCIA MUDSTONE GROUP)	(0.64)	
24.75-26.25 (0:06)											Weak reddish brown, mottled grey, unbedded MUDSTONE. Occasional to frequent beds of grey siltstone. (MERCIA MUDSTONE GROUP)		
24.75-24.98	37	C		100	100	100		Air+Mist (Brown)			... 25.39-25.46m: 39° undulating rough occasionally yellow staining incipient fracture. ... 25.40-25.46m: 26° undulating rough occasionally yellow staining incipient fracture. ... 25.44-25.49m: 29° undulating rough occasionally yellow stained incipient fracture.		
26.25-27.75 (0:06)				100	100	100		Air+Mist (Brown)			... 26.41-26.46m: Medium strong grey siltstone. ... 26.67-26.72m: Medium strong grey siltstone.		

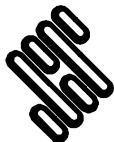
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

BOREHOLE LOG

Contract:			Client:		Borehole:
EMG Phase 2			SEGRO		BH01
Contract Ref:	Start: 05.09.22	Ground Level (m AOD):	National Grid Co-ordinate:		Sheet:
765514	End: 13.09.22	89.22	E:446551.3 N:325384.8		7 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instru- mentation	Water	Description of Strata	Depth (Thick- ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
27.23-27.49	38	C		100	100	100		Air+Mist (Brown)			Weak reddish brown, mottled grey, unbedded MUDSTONE. Occasional to frequent beds of grey siltstone. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 24.12m from previous sheet)</i> ... 27.13-27.26m: Weak to medium strong grey siltstone. ... 27.25-27.30m: 21° planar rough occasional yellow staining incipient. ... 27.26-27.48m: Reddish brown sandy MUDSTONE. ... 27.88-27.92m: 20° planar rough. Rare black staining incipient. ... 28.13-28.23m: Weak grey siltstone.	(6.63)	
27.75-29.25 (0:07)													
28.61-29.00	39	C		100	100	100		Air+Mist (Brown)					
29.25-30.75 (0:05)											... 29.28-29.78m: Interbedded with weak grey siltstone.		
29.76-29.98	40	C		97	97	97		Air+Mist (Brown)			... 30.26-30.32m: Medium strong grey siltstone. ... 30.41-30.49m: 51° undulating rough occasionally stained yellow, incipient.		
												30.75	
											Borehole terminated at 30.75m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres		Scale: 1:25		
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 Mark 2 + Comacchio GEO 601		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	JAlton + RStan	Checked By:	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH02
Contract Ref: 765514	Start: 06.09.22 End: 15.09.22	Ground Level (m AOD): 77.03	National Grid Co-ordinate: E:446011.8 N:324862.5		Sheet: 1 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
0.30	1	D									TOPSOIL	0.20	
0.30-0.50	2	B									Firm to stiff brown slightly sandy gravelly CLAY. Low boulder content. Gravel is angular to rounded coarse sandstone and mudstone.	0.40	
0.50	101	ES	1xT+1xJ+1xV								Very stiff dark brown slightly sandy slightly gravelly clayey SILT. Sand is fine and coarse. Gravel is subangular and subrounded quartzite, sandstone and siltstone.	(0.60)	
0.70	3	D										1.00	
0.70-1.00	4	B											
1.00	102	ES	1xT+1xJ+1xV								Very stiff reddish brown slightly sandy slightly gravelly CLAY. Sand is fine and medium and mudstone derived. Gravel is angular to subangular fine and medium extremely weak mudstone lithorelics. (MERCIA MUDSTONE GROUP)		
1.20	5	D									1.00-4.15m: frequent thin laminae (<2mm) of siltstone.		
1.20-1.55	6	UT _(UT100)	150 blows 100% recovery										
1.55-1.65	7	D											
1.70	8	D											
2.00-2.45			N=35										
2.00-2.45	10	SPT											
2.00-2.45	11	DSPT B											
2.70	12	D											
3.00-3.36		SPT	6,8/16,19,15 for 60mm										
3.00-3.36	14	DSPT											
3.00-3.36	15	B											
3.70-3.70	16	D											
4.00-5.00 (0:07)													
4.00-4.42		SPT	3,8/12,14,14,10 for 40mm	45	0	0					AZCL. (MERCIA MUDSTONE GROUP)	(0.55)	AZCL
4.00-4.42	18	DSPT											

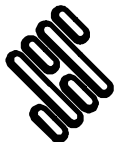
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
06/09/22	17:49	3.40	3.00	200	Dry	3.00	3.40	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Drilled using 200mm diameter tools and casing. 4. SPT hammers AR3104-2022 (E_r = 64.00%) , AR3830-2021 (E_r = 67.00%) used.		
07/09/22	08:06	3.40	3.00	200	Dry	3.40	4.00	00:45			
07/09/22	11:00	4.00	2.00	200	-						
16/09/22	08:50	8.00	4.00	146	6.40						
16/09/22	15:25	21.50	4.00	146	20.60						
15/09/22	14:00	4.00	None	200	3.50						
15/09/22	17:00	8.00	4.00	146	7.65						
									All dimensions in metres		Scale: 1:25
Method Used:	Inspection pit + Cable Percussion +			Plant Used: Dando 3000 + Comacchio GEO 601		Drilled By: Jonny Hutt + Sam Carter		Logged By: DNeylon + JAlton		Checked By:	

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH02
Contract Ref:	Start: 06.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 15.09.22	77.03	E:446011.8 N:324862.5	2 of 12

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres		Scale: 1:25		
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 601		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	DNeylon + JAlton	Checked By:	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH02
Contract Ref: 765514	Start: 06.09.22 End: 15.09.22	Ground Level (m AOD): 77.03	National Grid Co-ordinate: E:446011.8 N:324862.5		Sheet: 3 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
9.50-11.00 (0:00)				97	15	0		(Brown)			mudstone. Extremely weak reddish brown MUDSTONE thinly interbedded with very weak greenish grey siltstone and beds of reddish brown thinly laminated clay. GRADE II. (MERCIA MUDSTONE GROUP) (stratum copied from 8.25m from previous sheet) . . . 9.50-10.10m: No siltstone laminae / beds.	(2.05)	
10.60	24	D		97	45	20		(Brown)			. . . 10.10-10.15m: NI. . . . 10.15m: Siltstone.	10.30	
11.00-12.50 (0:00)											Extremely weak reddish brown MUDSTONE. GRADE II. Fractures: Very closely spaced, randomly orientated, smooth, planar, undulating, black staining on surfaces. (MERCIA MUDSTONE GROUP) . . . 10.30-10.80m: Frequent fine to coarse gravel size pockets of greenish grey siltstone. . . . 10.30-13.55m: Heavily fissured with sample breaking easily when handled. . . . 11.20-12.00m: Occasional fine to medium gravel size pockets of greenish grey siltstone.		
11.50-11.75	25	C		100	67	20		(Brown)			. . . 12.25-12.30m: Reddish brown very sandy CLAY.	(3.85)	
12.50-14.00 (0:00)				100	80	40		(Brown)					

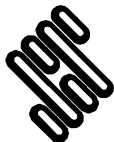
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
Method Used: Inspection pit + Cable Percussion + Rotary Corer						Plant Used: Dando 3000 + Comacchio GEO 601			All dimensions in metres Scale: 1:25
Drilled By: Jonny Hutt + Sam Carter						Logged By: DNeylon + JAlton			
Checked By:						Checked By:			

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH02
Contract Ref:	Start: 06.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 15.09.22	77.03	E:446011.8 N:324862.5	4 of 12

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			



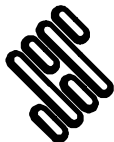
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH02
Contract Ref: 765514	Start: 06.09.22 End: 15.09.22	Ground Level (m AOD): 77.03	National Grid Co-ordinate: E:446011.8 N:324862.5		Sheet: 5 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
18.50-20.00 (0:00)				97	59	30		(Brown)			Very weak reddish brown MUDSTONE. GRADE II. Fractures: Closely spaced, randomly orientated, smooth, undulating, black staining on surfaces. (MERCIA MUDSTONE GROUP) (stratum copied from 17.55m from previous sheet)		
19.55-19.65	30	C		100	53	40		(Brown)			... 18.15-18.20m: Very clayey angular to subangular fine gravel of mudstone. ... 18.35-18.40m: Extremely weak greenish grey siltstone. ... 18.95-19.00m: Stiff greenish grey silt. ... 19.00-19.10m: Firm laminated reddish brown gravelly CLAY. Gravel is angular fine mudstone lithorelicts.	(3.95)	
20.00-21.50 (0:00)											... 19.45-19.55m: Weak greenish grey fine grained sandstone.		
21.00-21.10	31	C		90	73	55		(Brown)			... 19.95-20.00m: Greenish grey siltstone. ... 20.50-20.55m: Coarse gravel size pockets of greenish grey siltstone.		
												21.50	
											Cable percussion borehole terminated at 21.50m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 3000 + Comacchio GEO 601			All dimensions in metres	
Drilled By: Jonny Hutt + Sam Carter						Logged By: DNeylon + JAlton			Scale: 1:25	
						Checked By:				

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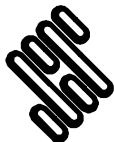


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH03
Contract Ref: 765514	Start: 07.09.22 End: 21.09.22	Ground Level (m AOD): 76.90	National Grid Co-ordinate: E:446012.3 N:324864.8		Sheet: 1 of 11

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
0.40-0.40 0.40-0.60 0.50-0.50 0.60-1.00 0.70-0.70	1 2 101 4 3	D B ES B D	1xT+1xJ+1xV								TOPSOIL	(0.35)	
1.00-1.00 1.00-1.45 1.00-1.00 1.00-1.45 1.00-1.45	5 102 7 8	D SPT ES DSPT B	N=25 1xT+1xJ+1xV								Stiff reddish brown, mottled grey, slightly sandy gravelly CLAY. Gravel is subangular fine to coarse of mudstone and siltstone lithorelics. Low cobble content of tabular siltstone. Frequent beds (<300mm) of silt / siltstone. (MERCIA MUDSTONE GROUP)	0.35	
1.70-1.70	9	D											
2.00-2.45 2.00-2.45 2.00-2.45	11 12	SPT DSPT B	N=31								... Below 2.00m: Very stiff.	(4.15)	
2.70-2.70	13	D											
3.00-3.44 3.00-3.44 3.00-3.45	15 16	SPT DSPT B	6,8/8,15,15,12 for 60mm										
3.70-3.70	17	D											
4.00-5.00 (0:00) 4.00-4.39 4.00-4.39	19	SPT DSPT	4,5/12,15,17,6 for 15mm	45	0	0		(Brown)			... 4.00-4.50m: AZCL.	4.50	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
07/09/22	17:10	4.00	3.00	200	-	3.50	4.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Drilled using 200mm diameter tools and casing. 4. Borehole backfilled with bentonite upon completion. 5. SPT hammer AR3104-2022 ($E_r = 64.00\%$) used.	
20/09/22	13:15	4.00	0.00	200	3.80					
20/09/22		14.00	4.00	146	13.60					
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 3000 Mark 2 + Comacchio Geo 602			All dimensions in metres	
Drilled By: Jonny Hutt + Sam Carter						Logged By: JAlton + RStan			Scale: 1:25	
Checked By:						Checked By:				

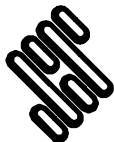


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH03
Contract Ref: 765514	Start: 07.09.22 End: 21.09.22	Ground Level (m AOD): 76.90	National Grid Co-ordinate: E:446012.3 N:324864.8		Sheet: 2 of 11

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
4.80	20	D		45	0	0		(Brown)			Firm to stiff thinly to thickly laminated, locally very thinly bedded, reddish brown silty CLAY with occasional to frequent angular to subangular fine to medium gravel size lithorelics of mudstone. Occasional laminae (5 to 10mm) of extremely weak siltstone. GRADE III. (MERCIA MUDSTONE GROUP)	(2.30)	
5.00-6.50 (0:00)													
5.80	21	D		100	10	0		(Brown)					
6.50-8.00 (0:00)											. . . 5.72-5.76m: Very weak light grey siltstone. . . . 6.22-6.28m: Very weak light grey siltstone. . . . 6.39-6.46m: Very weak thinly to thickly laminated reddish brown mudstone. Bedding fractures are extremely closely spaced, 0°, undulating, smooth, <1mm soft clay on surfaces. . . . 6.59-6.71m: Extremely weak thickly to very thinly bedded light greenish grey siltstone. Bedding fractures are extremely closely spaced, undulating, smooth, with a little clay smear and occasional black specks on surfaces. Extremely weak, locally very weak, very thinly bedded reddish brown MUDSTONE. GRADE II. Discontinuities: Extremely closely to closely spaced, randomly orientated, undulating, smooth, black stained, locally clean. Rare thin clay smears on surfaces. (MERCIA MUDSTONE GROUP) . . . 7.01-7.04m: Siltstone recovered as gravelly clay. . . . 7.11-7.28m: 75° to 80° undulating rough discontinuity with 1m clay on surfaces. . . . 7.30-7.33m: Moderately weak light greenish grey siltstone. . . . 7.33-7.60m: 80° to 90° undulating rough clean discontinuity. . . . 7.78-7.86m: Band of extremely weak light greenish grey siltstone. . . . 8.05-8.30m: 80°-90° undulating smooth black stained discontinuity.	6.80	
7.10	22	D		93	6	0		(Brown)					
8.00-9.50 (0:00)							NI 30 90						
8.50	23	D		97	11	0		(Brown)				(3.30)	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

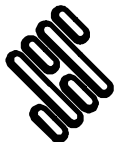


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH03
Contract Ref: 765514	Start: 07.09.22 End: 21.09.22	Ground Level (m AOD): 76.90	National Grid Co-ordinate: E:446012.3 N:324864.8		Sheet: 3 of 11

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
9.43 9.50-11.00 (0:00)	24	C		97	11	0	NI 30 90	(Brown)			8.87-8.93m: 60°-70° undulating smooth black stained discontinuity. Extremely weak, locally very weak, very thinly bedded reddish brown MUDSTONE. GRADE II. Discontinuities: Extremely closely to closely spaced, randomly orientated, undulating, smooth, black stained, locally clean. Rare thin clay smears on surfaces. (MERCIA MUDSTONE GROUP) (stratum copied from 6.80m from previous sheet)		
9.94	25	C						(Brown)			9.40-9.50m: 40°-50° undulating smooth black stained discontinuity.	10.10	
11.00-12.50 (0:00)				100	53	38	NI 70 300	(Brown)			Very weak very thinly to medium bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Very closely to medium spaced, 0° to 5°, undulating, smooth, locally black stained, occasionally clean. GRADE II. (MERCIA MUDSTONE GROUP) 10.10-10.27m: 75° undulating smooth, locally black stained, discontinuity, with a little clay smear on surfaces. 10.46-10.49m: Very weak light greenish grey siltstone. 10.47-10.56m: 65° undulating smooth black stained discontinuity.	(1.10)	
11.45	26	C		97	68	51	NI 20 120	(Brown)			10.56-10.73m: Randomly orientated extremely closely to very closely spaced undulating smooth clean discontinuities. 10.70-11.00m: Occasional 3-5mm diameter light grey reduction spots. 10.80-10.86m: 40° undulating smooth discontinuity with a little clay smear on surfaces. 10.90-10.95m: Randomly orientated extremely closely to very closely spaced undulating smooth clean locally black stained discontinuities.	11.20	
12.50-14.00 (0:00)				97	37	8		(Brown)			Extremely weak thinly laminated to thinly bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Extremely closely to closely spaced, 0° to 5°, undulating, smooth, locally rough, clean, locally black stained (MERCIA MUDSTONE GROUP) 11.40-11.43m: Very weak light greenish grey siltstone. 11.45-12.00m: Occasional fine to medium gravel size light greenish grey siltstone inclusions. 11.79-11.80m: 2 no laminae (<2mm) of extremely weak light greenish grey siltstone.	(2.18)	
												13.38	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			

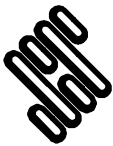


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH03
Contract Ref: 765514	Start: 07.09.22 End: 21.09.22	Ground Level (m AOD): 76.90	National Grid Co-ordinate: E:446012.3 N:324864.8		Sheet: 4 of 11

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
13.83	27	C		97	37	8		(Brown)			12.25-12.30m: Weak light greenish grey siltstone. 12.30-12.50m: Rare light greenish grey reduction spots. 12.30-13.20m: Extremely closely to very closely spaced randomly orientated undulating smooth, locally rough, clean, locally black stained discontinuities. 13.00m: Thin lamination (<5mm) of extremely weak siltstone. 13.15-13.18m: Moderately weak greenish grey siltstone. Extremely weak to very weak very thinly to thinly bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Very closely to closely spaced, 0° to 15°, undulating, smooth, black stained, with occasional black specks. (MERCIA MUDSTONE GROUP) (stratum copied from 13.38m from previous sheet)	(3.49)	
14.00-15.50 (0:00)													
15.17	28	C		100	70	15	NI 20 120	(Brown)			13.50-13.58m: Extremely weak light greenish grey clayey siltstone. 13.58-13.61m: Very weak light greenish grey siltstone. 13.71-13.74m: Very weak light greenish grey siltstone. 14.48-14.68m: 85° to 90° undulating rough discontinuity with frequent black specks. 14.62-14.67m: 45° undulating rough discontinuity with frequent black specks. 14.80-14.81m: Extremely weak light greenish grey siltstone. 14.97-15.00m: Weak light greenish grey siltstone. 15.01-15.21m: Frequent thin laminae (<5mm) of extremely weak to very weak siltstone. 15.34-15.50m: 80° to 90° undulating smooth black stained discontinuity. 15.50-15.55m: 70° undulating smooth clean discontinuity locally black stained. 15.66-15.72m: Drilling disturbed. 15.73-15.82m: 50° undulating smooth discontinuity with 1mm clay infill. 15.82-15.86m: Very weak light greenish grey siltstone. 16.13-16.52m: Extremely to very closely spaced, randomly orientated black stained, locally clean, discontinuities. Occasional black specks on surfaces. 16.32-16.48m: 80° to 90° undulating smooth black stained discontinuity. 16.48-16.51m: (Soft to firm) light greenish grey gravelly silt.		
15.50-17.00 (0:00)												16.87	
16.00	29	C		97	40	27		(Brown)					
17.00-18.50 (0:00)				100	63	37	NI 50 230	(Brown)					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			



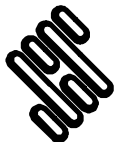
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH03
Contract Ref: 765514	Start: 07.09.22 End: 21.09.22	Ground Level (m AOD): 76.90	National Grid Co-ordinate: E:446012.3 N:324864.8		Sheet: 5 of 11

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
18.28	30	C		100	63	37		(Brown)			16.60-16.82m: Thinly and thickly laminated. 17.04-17.06m: Weak light greenish grey siltstone. 17.10-17.38m: 2 no parallel 80° very closely spaced undulating smooth black stained discontinuity. 17.37-17.41m: Extremely closely spaced thick laminae (<10mm) of very weak light greenish grey siltstone. 17.53-17.58m: Very weak light greenish grey siltstone. 17.88-18.00m: 85° undulating smooth clean discontinuity. Very weak, locally extremely weak, thickly laminated to thinly bedded, locally medium bedded, reddish brown MUDSTONE. GRADE II Bedding fractures: Extremely closely to medium spaced, 0° to 10°, planar and undulating, smooth, clean, locally with black specks on surfaces. (MERCIA MUDSTONE GROUP) (stratum copied from 16.87m from previous sheet)	(3.13)	
18.50-20.00 (0:00)							NI 50 230						
19.30	31	C		100	49	28		(Brown)			18.21-18.25m: Weak light greenish grey siltstone. 18.350-18.95m: Extremely closely to very closely spaced, randomly orientated clean discontinuity with occasional black specks on surfaces. 18.55-18.92m: 85° to 90° undulating smooth discontinuity with occasional black specks. 18.98-19.20m: 85° to 90° undulating smooth discontinuity with occasional black specks. 19.07-19.12m: 30° undulating smooth discontinuity with occasional black specks. 19.20-19.27m: 60° undulating smooth discontinuity with occasional black specks. 19.60-20.00m: 85° undulating rough discontinuity with frequent black specks. 19.83-19.88m: Very weak light greenish grey siltstone. Cable percussion borehole terminated at 20.00m depth.	20.00	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

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Structural Soils Ltd, Branch Office - Castleford: The Potteries, Pottery Street, Castleford, West Yorkshire, WF10 1NJ. Tel: 01977-552255, Fax: 01977-552299, Web: www.sols.co.uk, Email: ask@sols.co.uk | 11/12/22 - 10:30 | TC9 |



STRUCTURAL SOILS

DRAFT

BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH04
Contract Ref: 765514	Start: 09.09.22 End: 26.09.22	Ground Level (m AOD): 76.87	National Grid Co-ordinate: E:446012.8 N:324872.6		Sheet: 1 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
0.10 0.10 0.10-0.30	1 101 2	D ES B	1xT+1xJ+1xV								TOPSOIL	(1.20)	
0.80 0.80-1.10 0.90 0.90-1.20 1.00 1.00 1.20-1.65 1.20-1.65	3 4 5 6 102 103 7	D B D B ES ES SPT B	1xT+1xJ+1xV 1xT+1xJ+1xV N=17								Firm to stiff dark brown sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of mudstone. Cobbles are subangular to well rounded (<100mm). 1.20-1.60m: With frequently thin laminae (<3mm) of extremely weak light bluish grey mudstone / siltstone.	(0.40) 1.60	
1.70 2.00 2.00-2.45	8 104 9	D ES UT _(UT100)	1xT+1xJ+1xV 53 blows 100% recovery								Firm reddish brown slightly sandy slightly gravelly CLAY with occasional fine and medium gravel size pockets of grey silty sand. Sand is fine and mudstone derived. Gravel is angular and subangular fine extremely weak mudstone lithorelics. (MERCIA MUDSTONE GROUP)	(1.10)	
2.70 3.00-3.45 3.00 3.00-3.45 3.00-3.45	10 105 12 13	D SPT ES DSPT B	N=36 1xT+1xJ+1xV								Very stiff reddish brown slightly gravelly sandy CLAY with frequent fine and medium gravel sized pockets and lenses up to 25mm in width of grey silty sand. Sand is fine and medium and mudstone derived. Gravel is angular and subangular fine extremely weak to very weak mudstone lithorelics with relic laminae observed on some of the fragments. Destructured mudstone Grade IVa. (GUNTORPE MEMBER) (MERCIA MUDSTONE GROUP)	2.70 (2.30)	
3.70 4.00-4.38 4.00-4.38 4.00-4.45	14 16 17	D SPT DSPT B	4,8/10,18,22 for 75mm										

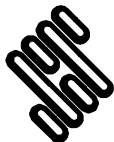
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
09/09/22	14:01	1.20	None	200	Dry	4.70	5.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 200mm casing and tools. 4. Borehole installed with 50mm standpipe upon completion. Response zone 6.00m to 30.00m. 5. SPT hammer AR3104-2022 ($E_s = 64.00\%$) used.	
12/09/22		1.20	None	200	-					
12/09/22	13:42	5.31	3.00	200	Dry					
22/09/22	08:30	5.00	5.00	200	4.90					
22/09/22	16:30	30.30	5.00	146	20.90					
23/09/22	08:15	30.30	5.00	146	10.90					
23/09/22	16:30	30.30	None	146	-					
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 3000 + Comacchio GEO 601			Drilled By: Jonny Hutt + Sam Carter	
									Logged By: DNeylon + JAlton	
									Checked By: AGS	
									All dimensions in metres Scale: 1:25	

BOREHOLE LOG

Contract:			Client:		Borehole:
EMG Phase 2			SEGRO		BH04
Contract Ref:	Start: 09.09.22	Ground Level (m AOD):	National Grid Co-ordinate:		Sheet:
765514	End: 26.09.22	76.87	E:446012.8 N:324872.6		2 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
4.70	18	D										5.00	
5.00-6.30 (0:05) 5.00-5.31 5.00-5.31	20	SPT DSPT	15,10/18,21,11 for 35mm	69	3	0		Air+Mist (Brown)			Very stiff reddish brown slightly sandy gravelly CLAY. Sand is fine to coarse mudstone derived. Gravel is angular extremely weak mudstone lithorleics. GRADE IVa. (MERCIA MUDSTONE GROUP) . . . 5.10-5.30m: trace thick laminae and very closely spaced thin laminae (<4mm) of extremely weak mudstone. . . . 5.30-5.38m: weak greenish grey thickly laminated fine grained sandstone.	(1.90)	
6.00	29	D									. . . 6.20-6.25m and 6.35-6.40m: extremely weak thickly laminated mudstone . . . below 6.40m: frequent fine to coarse gravel size pockets of greenish grey sandy silt. . . . 6.70-6.80m: Weak greenish thickly laminated grey sandstone.	6.90	
6.30-7.80 (0:03)											Extremely weak greenish grey SILTSTONE. Fractures: Very closely spaced, incipient, smooth, planar, with black specks on surfaces.		
7.05-7.23	30	C		93	60	56		Air+Mist (Brown)			Extremely weak reddish brown MUDSTONE. GRADE II. Fractures: Closely spaced, randomly orientated, smooth, planar, tight, with black staining on surfaces. (MERCIA MUDSTONE GROUP)		
7.80-9.30 (0:05)												(2.60)	
8.80	31	D		100	48	27		Air+Mist (Brown)			. . . 8.70-9.10m: fine to medium gravel size pockets and lenses (<10mm) of greenish grey siltstone.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres	Scale:	1:25		
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 601		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	DNeylon + JAlton	Checked By:	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH04
Contract Ref: 765514	Start: 09.09.22 End: 26.09.22	Ground Level (m AOD): 76.87	National Grid Co-ordinate: E:446012.8 N:324872.6		Sheet: 3 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
9.30-10.80 (0:06)				100	48	27					Extremely weak reddish brown MUDSTONE. GRADE II. Fractures: Closely spaced, randomly orientated, smooth, planar, tight, with black staining on surfaces. (MERCIA MUDSTONE GROUP) (stratum copied from 6.90m from previous sheet) ... 9.10-9.15m: gravelly clay.	9.50	
10.15-10.20	32	C		100	60	33		Air+Mist (Brown)			Extremely weak reddish brown MUDSTONE, recovered as clayey sandy angular to subangular fine to coarse gravel. GRADE III. (MERCIA MUDSTONE GROUP)	9.95	
10.80-12.30 (0:06)											Extremely weak reddish brown MUDSTONE with fine gravel size pockets and lenses (<20mm) of greenish grey siltstone with black specks. GRADE II. Bedding fractures: Closely spaced, smooth, undulating, with frequent black staining along surfaces Fracture set 2: Very closely spaced, randomly orientated, smooth, undulating, with black staining on fracture surfaces. (MERCIA MUDSTONE GROUP) ... below 10.80m: no randomly orientated fractures. ... 11.15-11.20m: extremely weak greenish grey siltstone. ... 11.20-11.40m: very sandy clayey gravel. Gravel is angular to subangular mudstone.	(1.45)	
11.40-11.70	33	C		97	62	51		Air+Mist (Brown)				11.40	
12.30-13.80 (0:04)											Extremely weak reddish brown MUDSTONE with fine to medium gravel size pockets of greenish grey siltstone. GRADE II. Bedding fractures: Medium to widely spaced, rough, undulating, infilled with greenish grey sandy gravel of angular to subangular fine to medium siltstone (likely to laminae of siltstone). Fracture set 2: Closely spaced, randomly orientated, undulating, smooth, with occasional black staining along surfaces. (MERCIA MUDSTONE GROUP)		
12.90-13.00	34	C		97	78	45		Air+Mist (Brown)					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
Method Used: Inspection pit + Cable Percussion +		Plant Used: Dando 3000 + Comacchio GEO 601		Drilled By: Jonny Hutt + Sam Carter		Logged By: DNeylon + JAlton		Checked By: AGS		
						All dimensions in metres		Scale: 1:25		

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH04
Contract Ref:	Start: 09.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 26.09.22	76.87	E:446012.8 N:324872.6	4 of 16

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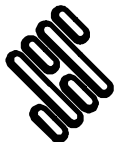
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH04
Contract Ref:	Start: 09.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 26.09.22	76.87	E:446012.8 N:324872.6	5 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instru- mentation	Water	Description of Strata	Depth (Thick- ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
18.20 18.30-19.80 (0:05)	37	D		100 ▼ ▲	21 ▼ ▲	0 ▼ ▲		▼ ▲			... below 17.85m: increased proportion of fractures.	18.30	
				▲	▲	▲		▲			Extremely weak reddish brown MUDSTONE with fine to medium gravel size pockets of greenish grey siltstone. GRADE II. (MERCIA MUDSTONE GROUP)	(0.50)	
											... 18.30-18.45m: approximate 85° smooth, planar fracture, with black staining along surfaces.	18.80	
19.05-19.25	38	C		100 	97 	45 		Air+Mist (Brown) 			Medium strong greenish grey fine grained SANDSTONE. Partially weathered. (MERCIA MUDSTONE GROUP)	19.05	
											... below 19.00m: verging towards siltstone. Bedding fractures infilled with silty sand.		
19.80-21.30 (0:05)				▼ 	▼ 	▼ 		▼ 			Extremely weak reddish brown MUDSTONE. GRADE II. Fractures: Closely spaced, randomly orientated, rough, undulating, with dark brown staining along surfaces. Occasional fine to medium gravel size pockets of siltstone. (MERCIA MUDSTONE GROUP)	(1.60)	
20.80-20.90	39	C		100 	67 	55 		Air+Mist (Brown) 			Weak to medium strong greenish grey fine grained SANDSTONE with frequent black specks. (MERCIA MUDSTONE GROUP)	20.65	
											(0.30)		
											20.95		
21.30-22.80 (0:06)				▼ 	▼ 	▼ 		▼ 		Extremely weak reddish brown MUDSTONE closely interbedded with extremely weak greenish grey SILTSTONE. Bedding fractures: Closely spaced, rough, undulating. (MERCIA MUDSTONE GROUP)	(0.55)		
											21.50		
										Weak to medium strong greenish grey fine grained SANDSTONE with frequent black specks. Bedding fractures: Closely spaced, rough, undulating. (MERCIA MUDSTONE GROUP)	(0.70)		
22.20-22.45	40	C		100 	75 	51 		Air+Mist (Brown) 			22.20		
										Description on next sheet	(0.40)		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH04
Contract Ref: 765514	Start: 09.09.22 End: 26.09.22	Ground Level (m AOD): 76.87	National Grid Co-ordinate: E:446012.8 N:324872.6		Sheet: 6 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
22.80-24.30 (0:05)				100	75	51					Extremely weak reddish brown MUDSTONE randomly transitioning with greenish grey SILTSTONE. GRADE II. Fractures: Closely spaced, randomly orientated, rough, undulating, with frequent black staining along surfaces and frequent black specks on siltstone. (MERCIA MUDSTONE GROUP) (stratum copied from 22.20m from previous sheet)	22.60	
											Very stiff reddish brown sandy slightly gravelly CLAY. Sand is fine, mudstone derived. Gravel is angular to subangular fine to medium mudstone lithorelics. GRADE IVa. (MERCIA MUDSTONE GROUP) . . . 23.05-23.15m: band of thickly cross laminated greenish grey sandstone. . . below 23.15m: randomly interspersed with stiff greenish grey sandy silt.	(1.00)	
24.00-24.10	41	C		100	40	23		Air+Mist (Brown)			Extremely weak reddish brown MUSTONE. Bedding fractures: Closely spaced, rough, undulating. (MERCIA MUDSTONE GROUP) . . . below 24.25m: becoming slightly interbedded/interspersed with greenish grey siltstone.	23.60	
24.30-25.80 (0:06)											Extremely weak greenish grey SILTSTONE. With incipient fractures observed on breaking up the core - yellow staining along surfaces. (MERCIA MUDSTONE GROUP)	(0.75)	
											Extremely weak reddish brown MUDSTONE. GRADE II. (MERCIA MUDSTONE GROUP) . . . 24.80-25.30m: frequent fine gravel size pockets of extremely weak greenish grey siltstone.	24.35	
25.25-25.60	42	C		100	100	97		Air+Mist (Brown)			Extremely weak greenish grey SILTSTONE. With incipient fractures observed on breaking up the core - yellow staining along surfaces. (MERCIA MUDSTONE GROUP)	(0.45)	
25.80-27.30 (0:06)											Extremely weak reddish brown MUDSTONE. GRADE II. (MERCIA MUDSTONE GROUP) . . . below 25.90m: Bedding fractures: Widely to medium spaced, smooth, planar, with black staining along fracture surfaces.	24.80	
25.90-26.25	43	C									Extremely weak reddish brown MUDSTONE. GRADE II. (MERCIA MUDSTONE GROUP) . . . below 26.50-26.85m: fractures: very closely spaced, randomly orientated, rough, undulating, and closely interbedded with extremely weak greenish grey siltstone.		
26.60-28.30	44	C		100	60	49		Air+Mist (Brown)				(4.30)	

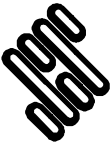
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
Method Used: Inspection pit + Cable Percussion + Rotary Corer		Plant Used: Dando 3000 + Comacchio GEO 601		Drilled By: Jonny Hutt + Sam Carter		Logged By: DNeylon + JAlton		Checked By: AGS		
						All dimensions in metres			Scale: 1:25	

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH04
Contract Ref:	Start: 09.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 26.09.22	76.87	E:446012.8 N:324872.6	7 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend					
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)											
27.30-28.80 (0:05)	45	C		100	60	49		Air+Mist (Brown)			Extremely weak reddish brown MUDSTONE. GRADE II. (MERCIA MUDSTONE GROUP) ... 24.80-25.30m: frequent fine gravel size pockets of extremely weak greenish grey siltstone. (<i>stratum copied from 24.80m from previous sheet</i>) ... 27.20-27.30m: extremely weak to weak greenish grey siltstone. ... 27.30-27.40m: recovered as very sandy clayey fine to medium gravel. Gravel is angular to subangular mudstone. GRADE III. ... 27.70-27.75m: extremely weak greenish grey fine grained sandstone. ... below 27.90m: fine to coarse gravel size pockets of extremely weak greenish grey siltstone.	29.10						
28.80-30.30 (0:06)				100	83	80												
29.55-29.75				97	77	70												
											Extremely weak greenish grey SILTSTONE. (MERCIA MUDSTONE GROUP) ... 29.20-29.25m: thickly cross laminated sandstone with fine to medium sand size vugs. ... 29.35-29.38m: sandstone with fine to medium gravel size vugs.	29.40						
											Extremely weak reddish brown MUDSTONE. (MERCIA MUDSTONE GROUP)	30.00						
											Weak greenish grey fine to medium grained SANDSTONE with abundant fine to medium sand sized vugs. (MERCIA MUDSTONE GROUP) ... below 30.20m: verging towards extremely weak siltstone. Borehole terminated at 30.30m depth.	30.30						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
									All dimensions in metres	Scale:	1:25
Method Used:	Inspection pit + Cable Percussion +		Plant Used:	Dando 3000 + Comacchio GEO 601		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	DNeylon + JAlton	
									Checked By:		



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH05
Contract Ref: 765514	Start: 09.09.22 End: 14.09.22	Ground Level (m AOD): 76.91	National Grid Co-ordinate: E:446018.3 N:324889.5		Sheet: 1 of 12

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.10-0.10 0.10-0.10 0.10-0.30	1 101 2	D ES B	1xT+1xJ+1xV							TOPSOIL	(0.30) 0.30	
0.50-0.50 0.50-0.80 0.60-0.60	3 4 102	D B ES	1xT+1xJ+1xV							Soft to firm orangish brown sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of mudstone. Cobbles are subangular to well rounded (<90mm).		
0.90-0.90 0.90-1.20 1.00-1.00	5 6 103	D B ES	1xT+1xJ+1xV									
1.20-1.65 1.20-1.65 1.20-1.65	8 8 9	SPT DSPT B	N=17								(2.50)	
1.70-1.70	10	D										
2.00-2.45	11	UT _(UT100)	80 blows 78% recovery									
2.45-2.55	12	D								NO RECOVERY - driller notes, obstruction, possibly sandstone or mudstone boulder.		
2.70-2.70	13	D									2.80	
3.00-3.30 3.00-3.30 3.00-3.30	15 15 16	SPT DSPT B	3,4/20,30 for 75mm									
4.00-4.26		SPT(c)	11,14/26,24 for 45mm								(1.70)	
											4.50	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
08/09/22	17:11	9.50	9.00	200	Dry	3.20	3.70	01:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 200mm casing and tools, then down to 150mm from 11.50m. 4. Borehole installed with a 50mm standpipe upon completion. 5. SPT hammer AR3104-2022 (E _s = 64.00%) used.	
14/09/22	08:00	25.00	None	200	9.00	9.00	9.50	01:00		
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 3000 + Comacchio GEO 205			Logged By: JAlton + RSenior	Checked By: AGS

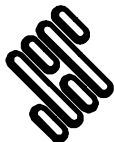
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BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH05
Contract Ref:	Start: 09.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 14.09.22	76.91	E:446018.3 N:324889.5	4 of 12

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend	
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
13.50-13.79		SPT	7,12/18,32 for 60mm							Open hole drilling. SAND AND GRAVEL (Driller's Description) <i>(stratum copied from 13.00m from previous sheet)</i>	(1.70)		
14.00-14.09		SPT	25/50 for 40mm										
14.00	39	D											
15.00-16.00		SPT	25/50 for 50mm	↑	↑	↑				Open hole drilling. MUDSTONE (Driller's Description) (MERCIA MUDSTONE GROUP)	(0.30)		
15.00-15.12		SPT									Extremely weak thickly laminated to very thinly bedded reddish brown MUDSTONE. GRADE II Bedding fractures: Closely spaced, 0° to 5°, undulating, smooth, clean. (MERCIA MUDSTONE GROUP) ... 15.00-15.40m: AZCL.	(0.70)	
15.00	40	D											
15.50	41	D			60	16	10	↑ NI NI NI					
15.78-15.90	42	C						↑			Extremely weak thinly bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Closely spaced, 0° to 5°, undulating, smooth, clean. (MERCIA MUDSTONE GROUP) ... 16.10-16.45m: AZCL.		
16.00-17.50				↓	↓	↓				... 16.45-16.73m: NI, recovered as clayey gravel.			
				↑	↑	↑							
16.73-16.87	43	C		63	63	13	NI 600 200			... 17.02-17.05m: Moderately weak light grey siltstone. ... 17.10m: Thin lamination (<3mm) of weak grey siltstone. ... 17.17-17.19m: Weak grey siltstone.	(3.40)		
17.24	44	D											
17.50-19.00				↓	↓	↓							
17.70-17.84	45	C		93	93	24	↓						
							↑						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres		Scale: 1:25		
Method Used:	Inspection pit + Cable Percussion + Data Log			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By:	Jonny Hutt + Luke Pugh		Logged By:	JAlton + RSenior	Checked By:	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH06
Contract Ref: 765514	Start: 28.09.22 End: 10.10.22	Ground Level (m AOD): 80.29	National Grid Co-ordinate: E:446038.9 N:325052.6		Sheet: 1 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
0.10 0.10-0.20 0.20	1 2 101	D B ES									TOPSOIL	(0.30) 0.30	
0.70 0.70-1.00 0.80	3 4 102	D B ES									Stiff fissured grey, mottled brown, slightly sandy slightly gravelly CLAY with pockets of chalk. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded of mixed lithologies including sandstone, siltstone and quartz.		
1.20 1.20-1.50	5 6	D UT _(UT100)	150 blows 100% recovery										
1.50-1.60	7	D										(2.70)	
1.80	8	D											
2.00-2.45 2.00-2.45 2.00-2.45	10 11	SPT DSPT B	N=16										
2.70	12	D											
3.00-3.45 3.00-3.45	13 14	UT _(UT100) B	150 blows 0% recovery								Firm to stiff fissured dark grey slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone, siltstone, mudstone and occasional chalk.		
3.70	15	D											
4.00-4.45 4.00-4.45 4.00-4.45	17 18	SPT DSPT B	N=15										

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks					
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)						
28/09/22	18:05	8.00	7.50	200	Dry	18.00	18.50	01:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 200mm casing and tools. 4. SPT hammer AR3104-2022 ($E_r = 64.00\%$) used.					
29/09/22	07:44	8.00	7.50	200	Dry									
29/09/22	17:48	18.50	18.50	200	Dry									
03/10/22	12:00	18.50	0.00	200	6.20									
03/10/22	16:30	18.50	17.00	200	Dry									
04/10/22	08:30	18.50	17.00	200	15.50									
04/10/22	17:00	30.80	None	146	-				All dimensions in metres		Scale: 1:25			
Method Used:	Inspection pit + Cable Percussion + Rotary Corer			Plant Used:	Dando 3000 + Comacchio GEO 601		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	DNeylon + RStan		Checked By:	

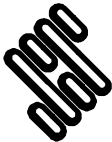
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BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH06
Contract Ref:	Start: 28.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 10.10.22	80.29	E:446038.9 N:325052.6	2 of 12

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
Method Used: Inspection pit + Cable Percussion +			Plant Used: Dando 3000 + Comacchio GEO 601		Drilled By: Jonny Hutt + Sam Carter		Logged By: DNeylon + RStan		Checked By:		



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH06
Contract Ref: 765514	Start: 28.09.22 End: 10.10.22	Ground Level (m AOD): 80.29	National Grid Co-ordinate: E:446038.9 N:325052.6		Sheet: 3 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
9.00-9.45	31 32	SPT	N=30								Firm to stiff fissured dark grey slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone, siltstone, mudstone and occasional chalk. <i>(stratum copied from 3.00m from previous sheet)</i>	(13.40)	
9.00-9.45		DSPT											
9.00-9.45		B											
10.30	33	D	150 blows 89% recovery										
10.50-10.95	34	UT _(UT100)											
10.95-11.05	35	D											
11.70	36	D	N=27										
12.00-12.45	38 39	SPT											
12.00-12.45		DSPT											
12.00-12.45		B											
13.30	40	D											

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

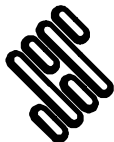
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BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH06
Contract Ref:	Start: 28.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 10.10.22	80.29	E:446038.9 N:325052.6	5 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
18.00-18.26		SPT	10,15/24,26 for 60mm								Stiff to very stiff reddish brown gravelly sandy silty CLAY. Sand is fine. Gravel is angular to subangular fine to coarse of mudstone lithorelics. Occasional pockets of grey siltstone. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 17.30m from previous sheet)</i>	18.50	
18.00-18.26	52	DSPT											
18.00-18.50	53	B											
18.50-18.80 (0:02)				↑	↑	↑							
18.50-18.72		SPT	8,17/34,16 for 30mm	100	50	0		Air+Mist (Brown)			Extremely weak reddish brown MUDSTONE, recovered as angular to subangular gravel with occasional fragments of greenish grey siltstone. GRADE III. (MERCIA MUDSTONE GROUP)	(0.40)	
18.50-18.72	55	DSPT		↑	↑	↑		↑				18.90	
18.55-18.70	56	C											
18.80-20.30 (0:03)												(0.40)	
19.30-19.50	57	C									Extremely weak reddish brown MUDSTONE. GRADE II. Fractures: Closely spaced, randomly orientated, smooth, undulating, with occasional black staining along some surfaces. (MERCIA MUDSTONE GROUP)	19.30	
				93	40	10		Air+Mist (Brown)			Extremely greenish grey fine to medium grained SANDSTONE with frequent fine to coarse sand sized vugs. (MERCIA MUDSTONE GROUP) ... 19.70-19.75m: Extremely weak reddish brown MUDSTONE with rough planar fractures either side up to 5mm infilled with sandy clay. ... 19.75m: Verging towards a very weak to medium strong and no vugs. ... 20.10-20.30m: Becoming very weak reddish brown mudstone.	(1.65)	
20.30-21.80 (0:06)				↑	↑	↑		↑				20.95	
21.00-21.15	58	C		67	46	18		Air+Mist (Brown)			Very weak reddish brown MUDSTONE. GRADE II. Fractures: Closely spaced, randomly orientated, with yellow staining on surfaces. (MERCIA MUDSTONE GROUP) ... 20.95m: Reddish brown sandy clay.	(0.30)	
												21.25	
												21.40	
											Very weak greenish grey fine to medium grained SANDSTONE. Bedding fractures: Closely spaced, planar, with yellow staining on surfaces. (MERCIA MUDSTONE GROUP)	(0.40)	
21.80-23.30 (0:04)				↑	↑	↑		↑				21.80	
				93	27	15		Air+Mist (Brown)			Very stiff reddish brown slightly sandy slightly gravelly CLAY with occasional fine to medium gravel size pockets of greenish grey silt. GRADE IVa. (MERCIA MUDSTONE GROUP)	(0.60)	
											Extremely weak greenish grey SILTSTONE interspersed with reddish brown mudstone verging towards a silt	22.40	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH06
Contract Ref: 765514	Start: 28.09.22 End: 10.10.22	Ground Level (m AOD): 80.29	National Grid Co-ordinate: E:446038.9 N:325052.6		Sheet: 6 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
22.90-23.05	59	C		93	27	15		Air+Mist (Brown)			interspersed with clay. (MERCIA MUDSTONE GROUP) Very stiff reddish brown sandy CLAY. Sand is fine and derived from mudstone and siltstone. GRADE IVa. (MERCIA MUDSTONE GROUP) (stratum copied from 22.40m from previous sheet)	(0.40)	
23.30-24.80 (0:05)											Extremely weak greenish grey SILTSTONE thinly interbedded with reddish brown MUDSTONE. (MERCIA MUDSTONE GROUP) Very weak reddish brown MUDSTONE with occasional fine to medium gravel size pockets of greenish grey siltstone. GRADE II. Bedding fractures: Medium to closely spaced, rough, undulating. (MERCIA MUDSTONE GROUP) ... 23.35m: Recovered as sandy fine gravel of siltstone and mudstone. ... 23.60-23.70m: Greenish grey siltstone.	22.80 23.05 (2.80)	x x x x x x x x x x x x x x x x
24.50-24.65	60	C		97	59	14		Air+Mist (Brown)					
24.80-26.30 (0:05)													
25.85-25.95	61	C		100	48	0		Air+Mist (Brown)			... 25.25-25.30m: Greenish grey siltstone. ... 25.35-25.40m: Greenish grey siltstone.	25.85	
26.30-27.80 (0:05)											Weak to medium strong greenish grey thinly cross laminated SANDSTONE. (MERCIA MUDSTONE GROUP) Extremely weak to very weak reddish brown MUDSTONE with occasional fine to medium gravel size pockets of greenish grey siltstone. GRADE II. (MERCIA MUDSTONE GROUP) ... 26.35-26.55m: Interspersed with laminae and lenses (<10mm) of greenish grey siltstone.	26.05	
				100	77	57		Air+Mist (Brown)				(1.80)	

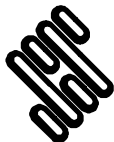
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			

BOREHOLE LOG

Contract:			Client:		Borehole:
EMG Phase 2			SEGRO		BH06
Contract Ref:	Start: 28.09.22	Ground Level (m AOD):	National Grid Co-ordinate:		Sheet:
765514	End: 10.10.22	80.29	E:446038.9 N:325052.6		7 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instru- mentation	Water	Description of Strata	Depth (Thick- ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
27.10-27.30	62	C		100	77	57		Air+Mist (Brown)			... 26.95-27.15m: Very closely spaced, randomly orientated, smooth, undulating, fractures. Extremely weak to very weak reddish brown MUDSTONE with occasional fine to medium gravel size pockets of greenish grey siltstone. GRADE II. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 26.05m from previous sheet)</i>	27.85	
27.80-29.30 (0:05)											Very weak greenish grey SILTSTONE. Bedding fractures: Very closely spaced, rough, planar, infilled with clayey sand. (MERCIA MUDSTONE GROUP) ... 27.98-28.02m: Clayey gravelly sand. ... 28.10-28.20m: Interspersed with lense (<2mm) of reddish brown clay. ... 28.25m: Verging towards a sandy silt.	(0.55)	x x
28.40-28.70	63	C		100	87	60		Air+Mist (Brown)			Extremely weak reddish brown MUDSTONE with occasional fine to medium gravel size pockets of greenish grey siltstone. GRADE II. (MERCIA MUDSTONE GROUP) ... 28.80-28.83m: Sandy clay. ... 28.83-28.83m: Sandy clay. ... 29.08-29.19m: Weak thickly laminated siltstone.	(1.15)	
29.30-30.80 (0:05)											Very weak greenish grey SILTSTONE with frequent gravel size pockets and laminae (<10mm) of reddish brown clay. (MERCIA MUDSTONE GROUP)	(0.40)	x x x x x x x x x x x x x x x x x x x x
30.10-30.40	64	C		97	90	83		Air+Mist (Brown)			Extremely weak reddish brown MUDSTONE with occasional fine to medium gravel size pockets of greenish grey siltstone. GRADE II. (MERCIA MUDSTONE GROUP) ... 30.40-30.45m: Sandy clay.	(0.85)	
											Borehole terminated at 30.80m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres		Scale: 1:25		
Method Used:	Inspection pit + Cable Percussion +		Plant Used:	Dando 3000 + Comacchio GEO 601			Drilled By:	Jonny Hutt + Sam Carter		Logged By:	DNeylon + RStan	Checked By:	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH07
Contract Ref: 765514	Start: 21.09.22 End: 26.09.22	Ground Level (m AOD): 87.23	National Grid Co-ordinate: E:445957.0 N:325334.7		Sheet: 1 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.00	1	D								TOPSOIL	0.10	
0.00-0.10	3	B								Very stiff orangish brown slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithology including quartzite, metamorphic rock, sandstone and rare mudstone.	(0.30)	
0.10	4	D										
0.10-0.40	6	B								Stiff to very stiff reddish brown slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is angular and subangular fine to coarse of mudstone. Occasional pockets of grey fine grained siltstone. (MERCIA MUDSTONE GROUP)	0.40	
0.20	5	ES										
0.40	7	D										
0.40-1.00	9	B										
0.50	2	ES										
0.50	8	ES										
1.00	10	ES										
1.20	11	D										
1.20-1.65		SPT	N=36									
1.20-1.65	12	DSPT										
1.20-1.70	13	B										
2.00-2.45		SPT	N=49									
2.00-2.45	15	DSPT										
2.00-2.50	16	B										
2.50	17	D									(4.45)	
3.00-3.45		SPT	N=50									
3.00-3.45	18	DSPT										
3.00-3.50	19	B										
3.50	20	D										
4.00-4.31		SPT	11,14/19,24,7 for 28mm									
4.00-4.45	21	DSPT										
4.00-4.50	22	B										

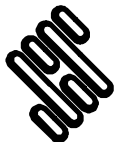
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
						4.30	4.50	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 200mm casing and tools. 4. Borehole drilled using 150mm tools and casing. 5. Groundwater struck at 11.00m. Rose to 8.90m after 20 minutes. 6. Borehole backfilled with bentonite upon completion.	
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 3000 + Comacchio GEO 205			Logged By: JAlton + RStan	Checked By: AGS

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH07
Contract Ref:	Start: 21.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 26.09.22	87.23	E:445957.0 N:325334.7	2 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend		
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)							
4.50-5.50 4.50-4.67 4.50-4.95	24	SPT DSPT	19,6/42,8 for 5mm	↑	↑	↑				Extremely weak reddish brown, local thickly laminate, MUDSTONE. Occasional pockets and laminae of very weak to weak fine grained siltstone. GRADE IVb. Bedding fractures: Closely to widely spaced, planar, rough, locally with clay infill. (MERCIA MUDSTONE GROUP) ... 4.95-5.21m: NI, recovered as gravel. ... 5.14-5.50m: frequent grey silstson. ... 5.29m: clay infill (<3mm). ... 5.50-5.65m: AZCL ... 5.65-6.17m: NI, recovered as gravel.	4.85			
					45	29	20				NI NI 200			
5.30-5.50 5.50-7.00	25	C		↓	↓	↓	↓				... 6.17-6.36m: thinly and thickly laminated. ... 6.42-6.54m: NI, recovered as gravel of mudstone and siltstone. ... 6.72-6.86m: thinly and thickly interlaminated with weak grey siltstone. ... 7.00-7.12m: grey siltstone	(2.45)		
					90	37	19			NI NI 580				
6.86-7.00 7.00-8.50	26	C		↓	↓	↓	↓							
					↑	↑	↑			↑				
7.30-7.46	27	C		↓	↓	↓	↓				Extremely weak to weak reddish brown MUDSTONE. Fractures: Very closely to closely spaced, randomly orientated, planar, rarely undulating, smooth and rough, with abundant black staining. (MERCIA MUDSTONE GROUP)		7.30	
					100	43	36			NI NI 30				
8.50-12.00				↓	↓	↓	↓				(2.78)			
				43	0	0	NI NI 20		... 8.88-8.99m: grey siltstone.					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)				
									All dimensions in metres	Scale: 1:25		
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By:	Martin	Logged By:	JAlton + RStan	Checked By:	



STRUCTURAL SOILS

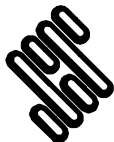
DRAFT

BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH07
Contract Ref: 765514	Start: 21.09.22 End: 26.09.22	Ground Level (m AOD): 87.23	National Grid Co-ordinate: E:445957.0 N:325334.7		Sheet: 3 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
9.00-9.25	28	C					NI NI 20			Extremely weak to weak reddish brown MUDSTONE. Fractures: Very closely to closely spaced, randomly orientated, planar, rarely undulating, smooth and rough, with abundant black staining. (MERCIA MUDSTONE GROUP) (stratum copied from 7.30m from previous sheet)		
10.00-11.00										... 10.00-10.17m: NI.	10.08	
10.16-10.44	29	C		43 100	0 84	0 73	NI NI 250			Extremely weak thinly and thickly laminated MUDSTONE. With widely spaced laminae and pockets of grey siltstone. Occasional grey reduction spots (< 5mm). GRADE III. Bedding fractures: Widely and very widely spaced, 0-10°, planar, rough, clean. (MERCIA MUDSTONE GROUP) ... 10.44-10.45m: grey siltstone.		
11.00-12.50										... 11.00-11.03m: grey siltstone. ... 11.00-11.10m: NI.	(2.57)	
11.10-11.40	30	C					NI NI 70			... 11.74-11.75m: grey siltstone. ... 11.94-11.99m, thinly interlaminated with grey siltstone.		
12.50-14.00											12.65	
12.50-12.65	31	C		87	10	10	NI 10 80			Extremely weak reddish brown, locally thinly laminated, MUDSTONE. Occasional pockets of grey siltstone. GRADE III. (MERCIA MUDSTONE GROUP)		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			



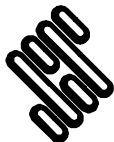
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH07
Contract Ref: 765514	Start: 21.09.22 End: 26.09.22	Ground Level (m AOD): 87.23	National Grid Co-ordinate: E:445957.0 N:325334.7		Sheet: 4 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
14.65-15.00	32	C		87	10	10	NI 10 80			Extremely weak reddish brown, locally thinly laminated, MUDSTONE. Occasional pockets of grey siltstone. GRADE III. (MERCIA MUDSTONE GROUP) (stratum copied from 12.65m from previous sheet) ... 13.80-14.00m, AZCL.		
15.00-17.00							NI 45			... 15.32-15.50m, thickly interlaminated with grey siltstone.	(5.85)	
16.25-16.50	33	C		75	14	14	NI 40			... 16.03-16.20m, thickly interlaminated with grey siltstone.		
17.00-18.50				100	3	0	NI 150			... 16.77-16.89m, thickly interlaminated with grey siltstone.		
										... 17.78-17.99m, thickly laminated.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres			Scale: 1:25	
Method Used:	Inspection pit + Cable Percussion + Rotary Core			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By: Martin Sneedie		Logged By: JAlton + RStan	Checked By:			

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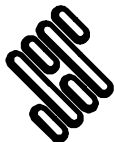


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH08
Contract Ref: 765514	Start: 06.09.22 End: 28.09.22	Ground Level (m AOD): 88.31	National Grid Co-ordinate: E:445920.7 N:325248.3		Sheet: 1 of 15

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.00	1	D	1xT+1xJ+1xV							TOPSOIL	0.30	
0.00-0.10	3	B										
0.05	2	ES										
0.10	4	D										
0.10-0.30	6	B	1xT+1xJ+1xV							Stiff dark reddish brown slightly gravelly sandy SILT with low cobble content of subrounded quartzite. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of mixed lithologies of sandstone, siltstone and quartzite.	(0.60)	
0.20	5	ES										
0.30	7	D										
0.30-0.90	9	B										
0.50	8	ES	1xT+1xJ+1xV							Stiff reddish brown, mottled grey, slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of mixed lithologies of sandstone and quartzite.	(0.60)	
0.90	10	D										
0.90-1.20	12	B										
1.00	11	ES										
1.00	5	D	DSPT B							Stiff greenish brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of mixed lithologies of sandstone, siltstone and quartzite.	1.50	
1.20-1.65	13	DSPT										
1.20-1.70	14	B										
1.70	15	D										
1.80	16	ES	1xT+1xJ+1xV									
2.00-2.45	17	UT										
2.50	18	D										
2.50-3.00	19	B										
3.00-3.45	20	DSPT	N=23								(3.00)	
3.00-3.50	21	B										
3.50	16	D										
4.00-4.45	23	SPT										
4.00-4.45		UT										
4.50												

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)				
06/09/22	15:30	2.00	2.00	150	-	7.80	8.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 200mm tools and casing. 4. Groundwater struck at 8.00m depth, rising to 4.55m depth after 20 minutes. 5. Groundwater struck at 19.00m depth. Fast inflow. 6. SPT hammer AR3469-2022 ($E_r = 84.00\%$) used.			
07/09/22	07:30	2.00	2.00	150	-							
07/09/22	17:00	8.50	8.50	150	-							
27/09/22		17.00	None	150	8.40							
27/09/22		30.50	17.00	150								
									All dimensions in metres			
Method Used: Cable Percussion + Rotary Cored				Plant Used: Dando 3000 + Comacchio GEO 205			Drilled By: Ben Wilson + Martin Sneedie		Logged By: RSenior + RStan		Checked By:	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH08
Contract Ref: 765514	Start: 06.09.22 End: 28.09.22	Ground Level (m AOD): 88.31	National Grid Co-ordinate: E:445920.7 N:325248.3		Sheet: 2 of 15

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
4.50 4.50-5.00 4.60	24 26 25	D B ES	1xT+1xJ+1xV							Stiff to very stiff reddish brown slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mudstone. Occasional pockets of grey siltstone (<300mm). GRADE IVb. (MERCIA MUDSTONE GROUP)		
5.00-5.45 5.00-5.50	27 28	DSPT B										
5.50	22	D										
6.00-6.45 6.00-6.45 6.00-6.50	30 31	SPT DSPT B	N=25								(3.50)	
6.50	32	D										
7.00-7.45 7.00-7.50	33 34	DSPT B										
7.50-7.95 7.50	35	SPT D	N=27									
8.00-9.50 8.00-8.45	36	DSPT								Strong light greyish green SILTSTONE. Drilling disturbed, recovered as subangular to subrounded fine to coarse gravel size fragments. GRADE II. (MERCIA MUDSTONE GROUP)	8.00 8.15 8.32	
8.60	37	D		97	7	7	NI 20 100			Stiff thinly to thickly laminated reddish brown silty CLAY with occasional subangular fine to medium gravel size mudstone lithorelics. GRADE IVa. (MERCIA MUDSTONE GROUP) Description on next sheet		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

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BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH08
Contract Ref:	Start: 06.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 28.09.22	88.31	E:445920.7 N:325248.3	4 of 15

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
13.60	40	D		60	0	0				stained black with frequent black specks. Extremely weak to very weak very thinly to thinly bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Very closely to closely spaced, 0° to 5°, undulating, smooth and rough, clean, locally stained black. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 11.30m from previous sheet)</i> ... 13.75-14.00m: Drilling disturbed, recovered as clayey angular to subangular fine to medium gravel of mudstone. ... 14.00-14.25m: Drilling disturbed, recovered as clayey angular to subangular fine to medium gravel of mudstone. ... 14.10-14.15m: Light greenish grey siltstone band recovered as clayey gravel. ... 14.40-14.80m: Discontinuities are very closely spaced randomly orientated undulating rough and smooth locally black stained and locally with a little clay smear on surfaces. Occasional reduction spots <20mm.		
14.00-15.00				↓	↓	↓						
14.40	41	D		145	48	30				... 14.65-15.27m: 80° to 90° undulating smooth and rough lack stained discontinuity. ... 15.08-15.12m: 20° Undulating smooth black stained discontinuity.	15.20	
				↓	↓	↓					(0.30)	
15.33-15.41	42	C										
15.50-17.00				↑	↑	↑				Very weak to weak very thinly to thinly bedded light greenish grey SILTSTONE. GRADE II. Bedding fractures: Very closely to closely spaced, 0° to 10°, undulating, smooth, with 1-5mm soft clay on surfaces. (MERCIA MUDSTONE GROUP) ... 15.20-15.23m: Extremely weak light greenish grey siltstone.	15.50	
							NI 20 100					
16.00	43	D		97	9	0				Extremely weak to very weak thickly laminated to thinly bedded reddish brown MUDSTONE. GRADE II to III. Bedding fractures: Very closely to closely spaced, locally extremely closely spaced, undulating, smooth and rough, clean, with occasional clay smear on surfaces. (MERCIA MUDSTONE GROUP) ... 15.50-15.83m: Discontinuities are extremely closely to very closely spaced randomly orientated undulating smooth and rough clean with occasional black specks on surfaces. ... 16.02-16.17m: 85° to 90° undulating smooth clean discontinuity. ... 16.32-16.62m: 85° to 90° undulating smooth black stained discontinuity. ... 16.67-16.74m: 80° to 85° undulating smooth black stained discontinuity. ... 16.74-16.80m: Very weak to weak thickly laminated light greenish grey siltstone. ... 16.80-17.00m: Recovered as stiff thinly to thickly laminated reddish brown clay, possibly drilling disturbed.		
				↓	↓	↓						
17.00-18.50				↑	↑	↑						
				97	63	37						

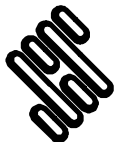
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres	Scale: 1:25			
Method Used:	Cable Percussion + Rotary Cored			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By:	Ben Wilson + Martin		Logged By:	RSenior + RStan	Checked By:	

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH08
Contract Ref:	Start: 06.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 28.09.22	88.31	E:445920.7 N:325248.3	5 of 15

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres	Scale: 1:25			
Method Used:	Cable Percussion + Rotary Cored			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By:	Ben Wilson + Martin		Logged By:	RSenior + RStan	Checked By:	

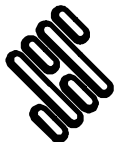


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH09
Contract Ref: 765514	Start: 16.09.22 End: 26.09.22	Ground Level (m AOD): 74.23	National Grid Co-ordinate: E:445839.0 N:324955.9		Sheet: 1 of 14

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.00-0.00	1	D								TOPSOIL		
0.00-0.20	3	B									(0.40)	
0.10-0.10	2	ES	1xT+1xJ+1xV									
0.20-0.20	4	D									0.40	
0.20-0.40	6	B										
0.30-0.30	5	ES	1xT+1xJ+1xV									
0.40-0.40	7	D										
0.40-0.80	9	B										
0.50-0.50	8	ES	1xT+1xJ+1xV							Stiff thinly laminated dark and light brown, mottled orangish brown, slightly sandy gravelly CLAY. Gravel is fine to coarse of mudstone and metamorphic rock. Sand is fine to coarse.	(0.80)	
0.80-0.80	10	D										
0.80-1.20	12	B									1.20	
1.00-1.00	11	ES	1xT+1xJ+1xV									
1.20-1.65		SPT	N=10									
1.20-1.65	13	DSPT										
1.20-1.70	14	B										
1.40	15	ES										
1.70	16	D										
1.80	17	ES										
2.00-2.45	18	UT	42 blows 100% recovery									
2.50	19	D										
2.50-3.00	20	B									(2.80)	
3.00	21	ES	N=15									
3.00-3.45	22	SPT										
3.00-3.45	23	DSPT										
3.00-3.50		B										
3.50	24	D										
3.80	25	ES										
4.00-4.45	26	UT	36 blows 100% recovery								4.00	
										Brown slightly gravelly clayey SAND. Sand is fine to coarse. Gravel is subangular and subrounded fine and medium mudstone and sandstone.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
20/09/22	16:00	9.00	7.50	N/R	8.65	8.80	9.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 200mm tools and casing. 4. Groundwater encountered at 11.60m depth. Rose to 7.10m after 30 minutes. 5. Borehole installed with a dual install of 19mm and 50mm standpipe upon completion.
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 2000 Mark 2 + Comacchio GEO 405			All dimensions in metres
Drilled By: Chris Jobson + Marc Pearson						Logged By: JAlton + RStan			Scale: 1:25
Checked By: AGS									



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH09
Contract Ref: 765514	Start: 16.09.22 End: 26.09.22	Ground Level (m AOD): 74.23	National Grid Co-ordinate: E:445839.0 N:324955.9		Sheet: 3 of 14

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
9.00-9.28	42	SPT	15,10/24,26 for 70mm							... 9.00-9.40m: AZCL. ??? SPT	9.40	
9.00		DSPT										
9.77-10.01	43	C								Weak grey SILTSTONE. Occasional laminae of extremely weak reddish brown mudstone. GRADE III. Bedding fractures: closely spaced, incipient, undulating, rough. (MERCIA MUDSTONE GROUP) ... 9.40-9.65m: Extremely weak mudstone. ... 10.00-10.03m: 9° undulating smooth clean. ... 10.12-10.13m: 5° undulating smooth clean. ... 10.33-10.38m: NI. ... 10.33-10.41m: Mottled grey and reddish brown siltstone and mudstone. Fracture bedding closely spaced 0-10° undulating smooth possible incipient. ... 10.44-10.45m: 7° undulating rough partial yellow stained. ... 10.50-10.65m: AZCL. ... 10.65-10.92m: NI. ... 10.68-10.75m: 36° undulating rough occasionally yellow stained. ... 10.86-10.88m: 4° undulating rough infill clayey silt and mudstone lithorelicts. ... 11.17-11.19m: Band of MUDSTONE recovered as angular gravel. Fine to coarse.	(2.20)	
11.21-11.60	44	C									11.60	
12.00-13.50												
12.79-12.97	45	C		100	95	95				Extremely weak, locally weak, reddish brown MUDSTONE. Frequent laminae of grey siltstone and occasional reddish brown fine grained sandstone. Bedding fractures: widely spaced, 0-10°, planar, rough, rarely undulating, with some black, locally yellow, staining. (MERCIA MUDSTONE GROUP) ... 11.98-12.00m: Grey siltstone. ... 12.54-13.21m: Sandstone fine grained interbedded with grey siltstone and local mudstone.		

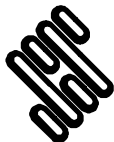
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH09
Contract Ref:	Start: 16.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 26.09.22	74.23	E:445839.0 N:324955.9	5 of 14

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
18.00-19.50 18.06-18.33	50	C		↑	↑	↑				Extremely weak, locally weak, reddish brown MUDSTONE. Frequent laminae of grey siltstone and occasional reddish brown fine grained sandstone. Bedding fractures: widely spaced, 0-10°, planar, rough, rarely undulating, with some black, locally yellow, staining. (MERCIA MUDSTONE GROUP) (stratum copied from 11.60m from previous sheet) ... 18.00-18.06m: NI. ... 18.00-18.37m: Occasional pockets of reddish brown fine sand. ... 18.32-19.81m: 13° >3mm open with sandy silt infill. (reddish brown) ... 18.33-18.34m: 4° planar rough <3mm open fine reddish brown sand infill. ... 18.57-18.86m: NI due to difference rocks and ?? level: weak sandy MUDSTONE and weak to medium strong siltstone interbedded. Recovery as silty sandy gravel of mudstone and siltstone. ... 18.57-19.06m: Interbeds siltstone.mudstone. ... 19.40-19.50m: NI. ... 19.50-19.60m: AZCL. ... 19.60-19.71m: Pockets reddish brown fine sand and partings. ... 19.82-19.96m: Band of grey siltstone.		
19.50-21.00				↓	↓	↓						
19.96-20.38	51	C		82	79	61				... 20.38-20.40m: NI due to weakness. Lithorelicts of grey siltstone, 4° planar rough due to weakness. ... 20.40-20.65m: Bands of grey siltstone. ... 20.55-20.56m: 5° undulating rough reddish brown silty CLAY infill (up to 4mm) >3mm ??. ... 20.65-20.85m: Interbedding grey siltstone and mudstone.	21.00	
21.00-22.50				↓	↓	↓						
21.97-22.19	52	C		100	93	93				Extremely weak to weak reddish brown fine grained SANDSTONE. Rare pockets of weak grey siltstone. Locally with laminae of reddish brown mudstone. (MERCIA MUDSTONE GROUP) ... 21.26-21.37m: NI due to weakness. ... 21.40-21.62m: Mudstone. ... 21.53-21.68m: 79° undulating rough clean possible induce.	(1.78)	
				↓	↓	↓						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			

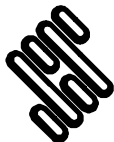


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH09
Contract Ref: 765514	Start: 16.09.22 End: 26.09.22	Ground Level (m AOD): 74.23	National Grid Co-ordinate: E:445839.0 N:324955.9		Sheet: 6 of 14

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
22.50-24.00				↑	↑	↑				... 22.50-22.60m: AZCL.		
										... 22.71-22.76m: NI due to weakness.	22.78	
22.98-23.29	53	C		89	85	80				Weak, local very weak, reddish brown MUDSTONE. Occasional laminae of weak reddish brown fine grained sandstone. GRADE II. (MERCIA MUDSTONE GROUP)		
										... 22.78m: Weak local very weak slightly carbonate unbedded fine MUDSTONE. Occasional bedded of reddish brown weak fine grained sandstone.		
24.00-25.50				↑	↑	↑				... 22.89-22.90m: 6° planar rough clean, possible induce.		
										... 22.99-23.03m: 2° undulating rough clean slightly fine sand infill.		
24.58-24.84	54	C		97	95	89				... 23.53-23.55m: 9° planar rough >3mm fine sand infill, clean.		
										... 23.82-23.93m: Weak sandstone.		
										... 23.93-24.00m: AZCL.		
										... 24.00-24.05m: AZCL.		
										... 24.34m: 3° undulating rough induce.		
										... 24.42m24.45m: NI due to weakness.		
										... 24.42-24.63m: Planar rough.		
										... 24.82-24.91m: Planar rough.	(4.22)	
										... 25.35-25.50m: Pockets of fine sand.		
25.50-27.00				↑	↑	↑				... 25.57m: Slightly sandy occasional pockets of reddish brown fine sand.		
										... 26.27-26.28m: Extremely weak sandstone mottled with grey siltstone. (band and pockets)		
25.98-26.28	55	C		100	100	84				... 26.89-27.00m: Drilling disturbed.	27.00	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH09
Contract Ref: 765514	Start: 16.09.22 End: 26.09.22	Ground Level (m AOD): 74.23	National Grid Co-ordinate: E:445839.0 N:324955.9		Sheet: 7 of 14

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
27.00-28.50	56	C		↑	↑	↑				Extremely weak reddish brown, locally mottled grey, MUDSTONE. GRADE III. Bedding fractures: 0-10°, closely spaced, planar, rough, clean. (MERCIA MUDSTONE GROUP) ... 27.00m: Extremely weak reddish brown local mottled grey unbedded slightly carbonate fine MUDSTONE. Fracture bedding 0-10° planar rough clean. Fracture 60-70 undulating rough clean, CIRIA GRADE III) ... 27.00-27.08m: NI. ... 27.07-27.09m dept: 3° planar rough clean. ... 27.18-27.19m: 8° planar rough clean. ... 27.28-27.29m: 6° undulating rough clean. ... 27.32-27.34m: Undulating rough silty lithorelicts. ... 27.55-27.57m: 8° undulating rough clean. ... 27.65-27.73m: NI. ... 27.73-27.74m: 4° planar rough clean. ... 27.83-27.84m: 5° planar rough clean. ... 27.83-27.87m: NI. ... 27.92-28.06m: 69° undulating rough clean. ... 28.07-28.30m: 64° undulating rough clean. ... 28.36-28.50m: NI. ... 28.61-28.63m: 14° undulating rough clean. ... 28.84-28.87m: 7° undulating rough clean. ... 28.94-30.00m: Grey siltstone interbedding with mudstone., ... 29.00-29.07m: 28° undulating rough clean. ... 29.16-29.28m: NI, recover as silty gravel of mudstone and siltstone angular. ... 29.36-29.37m: 4° undulating rough clean. ... 29.43-29.44m: 6° undulating rough clean. ... 29.64-29.65m: 6° planar rough clean. ... 29.80-29.81m: 3° planar rough clean. ... 29.95-29.96m: Planar rough clean. Borehole terminated at 30.00m depth.	(3.00)	
27.35-27.56				100	88	67						
28.50-30.00	57	C		↑	↑	↑					30.00	
29.44-29.65				100	95	77						

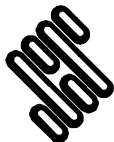
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres	Scale: 1:25			
Method Used:	Inspection pit + Cable Percussion + Rotary Corer			Plant Used:	Dando 2000 Mark 2 + Comacchio GEO 405 Sonic		Drilled By:	Chris Jobson + Marc Pearson		Logged By:	JAilton + RStan	Checked By:	

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH10
Contract Ref:	Start: 27.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 28.09.22	87.35	E:445787.3 N:325286.2	1 of 12

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Boring Progress and Water Observations						General Remarks					
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth						
27/09/22		17.20	2.20	150	-						
28/09/22		17.20	2.20	150	15.50						
28/09/22		20.20	None	150	-						
						All dimensions in metres		Scale:	1:25		
Method Used:	Dynamic sampling + Rotary Cored		Plant Used:	Comacchio GEO 205		Drilled By:	Marc Pearson	Logged By:	RSenior	Checked By:	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH11
Contract Ref: 765514	Start: 27.09.22 End: 30.09.22	Ground Level (m AOD): 79.89	National Grid Co-ordinate: E:445759.5 N:325134.8		Sheet: 1 of 13

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.10-0.10	1	ES	1xT+1xJ+1xV							TOPSOIL	(0.80)	
0.50-0.50	2	B										
0.50-0.50	3	D									0.80	
0.80-0.80	4	ES	1xT+1xJ+1xV							Firm to stiff dark orangish brown slightly sandy gravelly CLAY. Sand is fine to medium. Gravel is subangular to rounded fine to coarse of mudstone, siltstone and sandstone.	(0.40)	
1.00-1.00	5	B									1.20	
1.10-1.10	6	D										
1.20-1.65	7	UT	90 blows							Very stiff greyish brown slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse of sandstone, chalk, quartzite and mudstone.	(1.30)	
1.70	8	D										
2.00-2.45		SPT	N=20									
2.00	10	D										
2.00-2.50	11	B									2.50	
										Firm greyish brown, locally reddish brown, slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded predominantly fine, occasional medium to coarse, of chalk, sandstone and mudstone.	(3.20)	
3.00-3.45	12	UT	70 blows									
3.00	13	D										
3.00	14	ES										
3.50-4.00	15	B										
4.00-4.45		SPT	N=24									
4.00	17	D										
4.00-4.50	18	B										

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
27/09/22		7.50	7.50	200	-	10.00	10.50	01:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 200mm tools and casing. 4. Groundwater struck at 9.00m depth, rising to 8.40m depth after 20 minutes. 5. Groundwater struck at 21.00m depth. Rose to 18.70m after 20 minutes. 6. Borehole installed with 50mm standpipe upon		
28/09/22		7.50	7.50	200	-	10.50	11.00	01:00			
28/09/22		12.50	12.50	200	11.45	11.00	11.50	01:00			
						11.50	12.00	01:00			
						12.00	12.50	01:00			
									All dimensions in metres		Scale: 1:25
Method Used: Inspection pit + Cable Percussion +		Plant Used: Dando 2000 + Comacchio GEO 205		Drilled By: Mathew Heath +		Logged By: DNeylon + JAlton		Checked By:			



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH11
Contract Ref: 765514	Start: 27.09.22 End: 30.09.22	Ground Level (m AOD): 79.89	National Grid Co-ordinate: E:445759.5 N:325134.8		Sheet: 2 of 13

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
5.00-5.45 5.00	19 20	UT D	80 blows							Firm greyish brown, locally reddish brown, slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded predominantly fine, occasional medium to coarse, of chalk, sandstone and mudstone. <i>(stratum copied from 2.50m from previous sheet)</i>		
5.50 5.50-6.00 5.70	21 23 22	ES B D									5.70	
6.00-6.45 6.00 6.00-6.50	25 26	SPT D B	N=27							Firm greyish brown slightly sandy slightly gravelly CLAY. Sand is fine. Gravel is subangular to subrounded fine of chalk and occasionally mudstone.		
7.00	27	D									(3.30)	
7.50-7.95	28	UT	90 blows 100% recovery									
8.00	29	D										
											9.00	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)				
									completion.			
									All dimensions in metres		Scale: 1:25	
Method Used:	Inspection pit + Cable Percussion + Rotary Corer			Plant Used:	Dando 2000 + Comacchio GEO 205		Drilled By:	Mathew Heath + Lee Smith	Logged By:	DNeylon + JAlton	Checked By:	

GINT LIBRARY_V10_01.GLB LibVersion: v8.07 | Log COMPOSITE LOG - A4P | 765514, EAST MIDLAND AIRPORT.GPJ - v10_01. Structural Soils Ltd, Branch Office - Castleford, The Potteries, Pottery Street, Castleford, West Yorkshire, WF10 1NJ. Tel: 01977-552255, Fax: 01977-552299, Web: www.soils.co.uk, Email: ask@soils.co.uk | 11/12/22 - 10:35 | TC9 |

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH11
Contract Ref:	Start: 27.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 30.09.22	79.89	E:445759.5 N:325134.8	3 of 13

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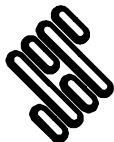
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)				
									All dimensions in metres		Scale: 1:25	
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 2000 + Comacchio GEO 205		Drilled By:	Mathew Heath +	Logged By:	DNeylon + JAlton	Checked By:	

BOREHOLE LOG

Contract:			Client:		Borehole:
EMG Phase 2			SEGRO		BH11
Contract Ref:		Start: 27.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514		End: 30.09.22	79.89	E:445759.5 N:325134.8	4 of 13

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instru- mentation	Water	Description of Strata	Depth (Thick- ness)	Material Graphic Legend			
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)								
13.50-15.00	41	C		↑	↑	↑	↑			AZCL.	13.73	AZCL			
													Extremely weak reddish brown MUDSTONE. NI, recovery as slightly clayey angular to subangular fine to medium gravel. Occasional laminae of grey siltstone. GRADE IVa. (MERCIA MUDSTONE GROUP)	(0.28)	
14.09-14.29				85	53	47	NI 150 210						Extremely weak to weak reddish brown MUDSTONE. Occasional laminae of greenish grey siltstone. Frequent calcite pockets (< 40x30x30mm). GRADE III. Bedding fractures: 0-10°, closely spaced, planar, rough, occasionally with silty clay infill. (MERCIA MUDSTONE GROUP) ... 14.09-14.10m: 9° planar rough clean. ... 14.29-14.33m: 5° undulating rough clean silty clay infill. ... 14.41-14.61m: Grey siltstone. ... 14.47-14.49m: 7° undulating rough clean silty clay infill. ... 14.55-14.56m: 3° planar rough clean. ... 14.67-14.68m: 4° planar rough clean. ... 14.82m: NI, recovery as sandy angular gravel. ... 15.05-15.14m: Reddish brown mudstone. ... 15.12-15.13m: 6° planar rough clean. ... 15.36-15.43m: NI recovery as angular fine to coarse gravel. ... 15.41-15.46m: 27° undulating rough clean. ... 15.45-15.59m: 68° undulating rough. Occasionally yellow stained. ... 15.51-15.52m: 5° planar rough. Occasionally yellow stained. ... 15.70-16.11m: 7° planar rough. ... 16.25-16.38m: 50° undulating rough clean.	14.01	
15.00-16.50	42	C		↑	↑	↑	↑					(3.26)			
15.12-15.43				100	95	90	NI 180 310								
16.50-18.00				↑	↑	↑	↑			... 16.50-16.65m: AZCL.					
														... 16.95-17.19m: Weak grey siltstone.	
														... 17.19-17.27m: NI.	17.27
17.56-17.75	43	C		↓	↓	↓	↓			Extremely weak to weak reddish brown MUDSTONE. Rare to occasional grey pockets of siltstone. GRADE II. Fractures: Widely and extremely widely spaced, 0-10°, planar, rough clean. (MERCIA MUDSTONE GROUP) ... 17.48-17.56m: NI. ... 17.84-18.06m: NI, mottled with grey siltstone.					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)				
									All dimensions in metres		Scale: 1:25	
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 2000 + Comacchio GEO 205		Drilled By:	Mathew Heath +	Logged By:	DNeylon + JAlton	Checked By:	

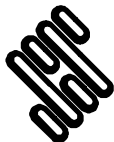


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH11
Contract Ref: 765514	Start: 27.09.22 End: 30.09.22	Ground Level (m AOD): 79.89	National Grid Co-ordinate: E:445759.5 N:325134.8		Sheet: 6 of 13

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
22.50-23.50 22.50-22.73	47	C		100	78	78	NI NI 320			Extremely weak to weak reddish brown MUDSTONE. Rare to occasional grey pockets of siltstone. GRADE II. Fractures: Widely and extremely widely spaced, 0-10°, planar, rough clean. (MERCIA MUDSTONE GROUP) (stratum copied from 17.27m from previous sheet) ... 23.30-23.41m: Grey siltstone. ... 23.38-23.50m: NI. ... 23.77-23.78m: 5° planar rough clean. ... 23.90-23.92m: 8° undulating rough clean.		
23.50-25.00												
24.02-24.20	48	C		100	97	91	NI 80 323			... 24.23-24.38m: 74° undulating rough. Rare laminae of siltstone. ... 24.35-24.41m: 52° planar rough clean. ... 24.35-24.44m: 52° and 57° intersecting planar rough clean discontinuities. ... 24.43-24.53m: 48° planar rough clean. ... 24.67-24.68m: 4° planar rough clean. ... 24.76-24.84m: NI.		
25.00-26.50 25.16-25.47	49	C		100	83	83	NI NI 480			Very weak reddish brown MUDSTONE. Locally grey siltstone. GRADE II. Fractures: randomly orientated, closely to widely spaced, undulating, rough, clean. Occasional laminae and pockets of grey siltstone. (MERCIA MUDSTONE GROUP) ... 25.14-25.18m: 8° undulating rough clean. ... 25.50-25.65m: 7° occasional laminae of siltstone. ... 25.50-25.70m: Occasional laminae of siltstone. ... 25.50-25.74m: 69° undulating rough clean. ... 25.72-25.81m: 85° undulating rough clean. ... 25.75-25.85m: 44° undulating rough clean. ... 25.83-25.92m: 52° undulating rough clean. ... 25.86-25.98m: 5° planar rough clean. ... 26.20-26.22m: 14° planar rough clean. ... 26.37-26.61m: Grey siltstone.	25.00	
26.50-28.00 26.59-26.80	50	C		100	67	57	NI 80 480			... 26.78-26.86m: 39° planar rough clean.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
Method Used: Inspection pit + Cable Percussion + Rotary Corer						Plant Used: Dando 2000 + Comacchio GEO 205			All dimensions in metres	
Drilled By: Mathew Heath + Lee Smith						Logged By: DNeylon + JAlton			Scale: 1:25	
						Checked By:				



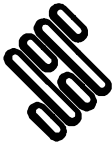
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH12
Contract Ref: 765514	Start: 26.09.22 End: 30.09.22	Ground Level (m AOD): 80.23	National Grid Co-ordinate: E:446174.0 N:325010.3		Sheet: 1 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
0.00-0.20	1	B	1xT+1xJ+1xV								TOPSOIL	0.20	
0.10	101	ES									Firm fissured dark greyish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of sandstone, siltstone and quartz.		
0.10	2	D											
0.40	3	D	100 blows 100% recovery										
0.40-0.60	4	B											
1.00	5	D	N=14										
1.00-1.20	6	B											
1.20-1.40	7	UT _(UT100)											
1.40-1.50	8	D	150 blows 78% recovery										
1.70	9	D											
2.00-2.45	11	SPT											
2.00-2.45	12	DSPT	N=15								Firm fissured greyish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone, quartz and siltstone.	(3.70)	
2.00-2.45	12	B											
2.70	13	D											
3.00-3.45	14	UT _(UT100)											
3.45-3.55	15	D											
3.70	16	D											
4.00-4.45	18	SPT									3.90		
4.00-4.45	19	DSPT											
4.00-4.45	19	B											

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks						
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)							
26/09/22	17:15	3.90	3.00	200	Dry	16.50	16.70	01:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 200mm tools and casing. 4. Borehole installed with a 50mm standpipe. 5. SPT hammer AR3104-2022 ($E_i = 64.00\%$) used.						
27/09/22	08:26	4.00	3.00	200	Dry										
27/09/22	17:33	16.50	16.50	200	14.00										
28/09/22	08:14	16.50	16.50	200	14.10										
28/09/22	10:54	16.80	16.50	200	-										
29/09/22	15:30	16.80	16.50	200	15.50										
29/09/22	17:00	23.30	16.50	146	20.70										
30/09/22	08:30	23.30	16.50	146	6.80										
Method Used:		Inspection pit + Cable Percussion + Rotary Corer		Plant Used:		Dando 3000 + Comacchio Geo 602		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	RSenior + RStan		Checked By:	

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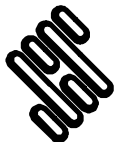
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO			Borehole: BH12
Contract Ref: 765514		Start: 26.09.22 End: 30.09.22	Ground Level (m AOD): 80.23	National Grid Co-ordinate: E:446174.0 N:325010.3		Sheet: 2 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
4.70	20	D	80 blows 89% recovery								Firm fissured greyish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone, quartz and siltstone. (stratum copied from 3.90m from previous sheet)		
5.00-5.45	21	UT _(UT100)											
5.45-5.55	22	D											
5.70	23	D											
6.00-6.45			N=24										
6.00-6.45	25	SPT											
6.00-6.45	26	DSPT B											
7.30	27	D	150 blows 100% recovery										
7.50-7.95	28	UT _(UT100)											
8.70	29	D											

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
30/09/22	13:30	30.80	None	146	-						
									All dimensions in metres		
Method Used: Inspection pit + Cable Percussion +			Plant Used: Dando 3000 + Comacchio Geo 602			Drilled By: Jonny Hutt + Sam Carter		Logged By: RSenior + RStan		Checked By:	

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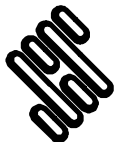
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH12
Contract Ref: 765514	Start: 26.09.22 End: 30.09.22	Ground Level (m AOD): 80.23	National Grid Co-ordinate: E:446174.0 N:325010.3		Sheet: 4 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
13.50-13.84		SPT	7,9/16,23,11 for 40mm								Firm fissured sandy SILT. (stratum copied from 13.00m from previous sheet)		x x x x
13.50-13.84	41	DSPT											x x x x
13.50-13.95	42	B											x x x x
14.70	43	D										(2.50)	x x x x
15.00-15.45		SPT	N=41										x x x x
15.00-15.45	45	DSPT											x x x x
15.00-15.45	46	B											x x x x
15.50-16.00	47	B										15.50	x x x x
16.30	48	D											x x x x
16.50-17.30 (0:03)													x x x x
16.50-16.72		SPT	7,9/50 for 70mm										x x x x
16.50-16.72	50	DSPT											x x x x
16.50-16.80	51	B		57	30	0							x x x x
16.70-16.84		SPT	25/50 for 75mm										x x x x
16.70-16.84	53	DSPT											x x x x
17.11-17.20	54	C											x x x x
17.30-18.80 (0:05)				97	53	37							x x x x
17.91-18.01	55	C											x x x x

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

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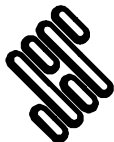


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH12
Contract Ref: 765514	Start: 26.09.22 End: 30.09.22	Ground Level (m AOD): 80.23	National Grid Co-ordinate: E:446174.0 N:325010.3		Sheet: 5 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
18.80-20.30 (0:05)	56	C		97	53	37		Air+Mist (Brown)			Medium strong thinly bedded light greenish grey SILTSTONE. GRADE I. Bedding fractures: Closely spaced, 0° to 10°, undulating, rough, clean, locally black stained. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 17.93m from previous sheet)</i> ... 18.08-18.18m: 40° undulating rough clean rough clean discontinuity. ... 18.64-18.80m: Extremely weak reddish brown mudstone. ... 18.90-19.15m: Very weak very thinly bedded reddish brown mudstone.	(1.54)	x x x x
19.15-19.30								Air+Mist (Brown)				19.47	x x x x
20.30-21.80 (0:04)	57	C		100	79	47		Air+Mist (Brown)			Very weak thinly to medium bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: closely to medium spaced, 0° to 5°, planar to undulating, smooth and rough, clean, locally lightly stained black. (MERCIA MUDSTONE GROUP) ... 19.75-19.85m: Weak light grey siltstone. ... 19.80-19.98m: 80° to 90° undulating rough lightly black stained discontinuity. ... 20.17-20.30m: 85° to 90° undulating rough clean discontinuity. ... 20.30-20.70m: occasional medium to coarse gravel size siltstone inclusions.	(1.76)	
20.50-20.77								Air+Mist (Brown)			... 20.85-21.20m: 80° undulating smooth discontinuity with <1mm of silt on surfaces. ... 21.02-21.23m: extremely weak light greenish grey siltstone. ... 21.07-21.23m: extremely weak light greenish grey siltstone.	21.23	
21.80-23.30 (0:05)				98	44	37		Air+Mist (Brown)			Stiff very thinly to thickly bedded reddish brown silty CLAY with occasional subangular fine to medium gravel size mudstone lithorelics. (MERCIA MUDSTONE GROUP) ... 21.76-21.80m: very weak light greenish grey siltstone.	(0.57)	x x x x
				97	90	52		Air+Mist (Brown)			Extremely weak to very weak thinly bedded light grey SILTSTONE. GRADE II. Bedding fractures: Closely spaced, undulating and stepped, rough, clean, locally stained orangish brown. (MERCIA MUDSTONE GROUP) <i>Description on next sheet</i>	(0.36)	x x x x
												22.16	x x x x

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
Method Used: Inspection pit + Cable Percussion + Rotary Corer		Plant Used: Dando 3000 + Comacchio Geo 602		Drilled By: Jonny Hutt + Sam Carter		Logged By: RSenior + RStan		Checked By: AGS		
						All dimensions in metres			Scale: 1:25	

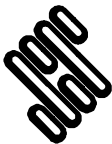


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH12
Contract Ref: 765514	Start: 26.09.22 End: 30.09.22	Ground Level (m AOD): 80.23	National Grid Co-ordinate: E:446174.0 N:325010.3		Sheet: 7 of 12

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
27.80-29.30 (0:04)				99	73	61		Air+Mist (Brown)			Very weak to weak very thinly to thickly bedded light greenish grey SILTSTONE. GRADE II. Bedding fracture: Very closely to closely spaced, 0° to 5°, undulating, rough, with <1mm clay on surfaces. (MERCIA MUDSTONE GROUP) (stratum copied from 26.80m from previous sheet) ... 27.03-27.04m: firm reddish brown silty clay.	(0.50)	x x x x
28.78-29.00	62	C						Air+Mist (Brown)			Very weak thinly to medium bedded reddish brown silty MUDSTONE. GRADE II. Bedding fractures: Closely to medium spaced, 0° to 10°, undulating, rough, clean, locally with <1mm clay smear on surfaces. (MERCIA MUDSTONE GROUP) ... 27.73-28.00m: light greenish grey siltstone. ... 27.97-28.05m: weak light greenish grey siltstone. ... 28.18-28.29m: 70° undulating rough discontinuity with <1mm clay smear of surfaces. ... 28.68-28.86m: Very weak thinly bedded light greenish grey siltstone.	(2.00)	x x x x
29.30-30.80 (0:04)								Air+Mist (Brown)			... 29.16-29.18m: moderately weak light greenish grey siltstone.	29.30	x x x x
30.33-30.50	63	C						Air+Mist (Brown)			Extremely weak to very weak thinly to medium bedded reddish brown silty MUDSTONE. GRADE II. Bedding fractures: Closely to medium spaced, 0° to 15°, undulating, rough, clean, locally with <1mm clay on surfaces. (MERCIA MUDSTONE GROUP) ... 29.30-29.35m: Drilling disturbed. NI / soft gravelly clay. ... 29.37-29.42m: 30° undulating rough clean locally black stained discontinuity. ... 29.45-29.50m: 25° undulating rough clean locally light stained orangish brown discontinuity. ... 29.45-29.80m: Occasional fine to medium gravel size siltstone inclusions. ... 30.20m-30.23m: 20° undulating smooth lightly orange stained discontinuity locally with <1mm clay on surfaces. Borehole terminated at 30.80m depth.	(1.50)	x x x x
												30.80	x x x x

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH13
Contract Ref: 765514	Start: 20.09.22 End: 23.09.22	Ground Level (m AOD): 88.03	National Grid Co-ordinate: E:446479.7 N:325113.2		Sheet: 1 of 14

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.10 0.10-0.20 0.20	1 2 101	D B ES	1xT+1xJ+1xV							TOPSOIL	(0.30) 0.30	
0.50 0.50 0.50-0.70	102 3 4	ES D B	1xT+1xJ+1xV							Firm orangish brown very gravelly sandy SILT. Sand is fine to coarse, predominantly coarse. Gravel is subangular and subrounded fine to coarse of mixed lithologies. Occasional roots and pockets of organic matter (<5mm).	(0.90) 1.20	
1.20 1.20-1.65 1.20-1.65 1.20-1.65	5 7 8	D SPT DSPT B	N=20							Firm to stiff reddish brown slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of mixed lithologies.	(0.50) 1.70	
1.80 2.00-2.45 2.00-2.45 2.00-2.45	9 11 12	D SPT DSPT B	N=7							Stiff reddish brown mottled grey slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of mixed lithologies.	(1.90) 3.60	
2.70 3.00-3.45	13 14	D UT _(UT100)	62 blows 94% recovery									
3.45-3.55 3.70	15 16	D D										
4.00-4.45 4.00-4.45 4.00-4.45	18 19	SPT DSPT B	N=20							Stiff reddish brown mottled grey slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of mixed lithologies.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
20/09/22	16:08	9.00	7.50	200	8.00	8.70	9.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Groundwater struck at 9.00m depth, rising to 8.00m depth after 20 minutes. 4. Borehole drilled using 200mm tools and casing. 5. SPT hammer AR3104-2022 ($E_i = 64.00\%$) used.	
23/09/22		28.50	None	150	-					
23/09/22		30.00	None	150	-					
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 3000 Mark 2 + Comacchio GEO 205			All dimensions in metres	
Drilled By: Jonny Hutt + L Bramford						Logged By: DNeylon + RStan			Scale: 1:25	
Checked By: AGS										

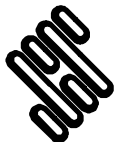
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BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH13
Contract Ref:	Start: 20.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 23.09.22	88.03	E:446479.7 N:325113.2	4 of 14

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instru- mentation	Water	Description of Strata	Depth (Thick- ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
13.50-15.00	39	C		↑	↑	↑				... 13.45-13.48m: extremely weak greenish grey siltstone.	13.55	
13.85-13.97				Extremely weak reddish brown thinly laminated MUDSTONE. With fine to medium gravel size pockets of greenish grey siltstone. GRADE III. (MERCIA MUDSTONE GROUP)	(0.50)							
				Extremely weak reddish brown MUDSTONE. GRADE II. Fractures: Very closely spaced, randomly orientated, smooth, planar. (MERCIA MUDSTONE GROUP)	14.05							
				Extremely weak reddish brown MUDSTONE. GRADE II. Fractures: Very closely spaced, randomly orientated, smooth, planar. (MERCIA MUDSTONE GROUP)	(0.50)							
15.00-16.50	40	D		90	50	0				... 14.50-14.55m: greenish grey siltstone with bedding fractures infilled with reddish brown very gravelly clay.	14.55	
				Extremely weak reddish brown MUDSTONE. Occasional fine to medium gravel size pockets of greenish grey siltstone. GRADE II. Fractures: Closely spaced, randomly orientated. (MERCIA MUDSTONE GROUP)	(0.55)							
				Extremely weak reddish brown MUDSTONE. Occasional fine to medium gravel size pockets of greenish grey siltstone. GRADE II. Fractures: Closely spaced, randomly orientated. (MERCIA MUDSTONE GROUP)	15.10							
				Reddish brown very clayey sandy angular to subangular fine to coarse GRAVEL of extremely weak mudstone lithorelics. GRADE III. (MERCIA MUDSTONE GROUP)	(0.30)							
15.30	40	D		90	50	0				Reddish brown very clayey sandy angular to subangular fine to coarse GRAVEL of extremely weak mudstone lithorelics. GRADE III. (MERCIA MUDSTONE GROUP)	15.40	
Very stiff slightly sandy gravelly CLAY. Sand is fine to coarse mudstone derived. Gravel is angular to subangular fine to coarse mudstone lithorelics. (MERCIA MUDSTONE GROUP)				(0.30)								
Very stiff slightly sandy gravelly CLAY. Sand is fine to coarse mudstone derived. Gravel is angular to subangular fine to coarse mudstone lithorelics. (MERCIA MUDSTONE GROUP)				15.70								
Stiff greenish grey slightly gravelly thinly laminated SILT. (MERCIA MUDSTONE GROUP)				15.85								
16.50-18.00	41	C		90	50	0				Extremely weak greenish grey SILTSTONE. (MERCIA MUDSTONE GROUP)	15.95	
				Extremely weak greenish grey SILTSTONE. (MERCIA MUDSTONE GROUP)	(0.55)							
				Extremely weak reddish brown MUDSTONE. GRADE II. Fractures: Closely spaced, randomly orientated, with black specks on surfaces. (MERCIA MUDSTONE GROUP)	16.50							
				Extremely weak reddish brown MUDSTONE recovered NI. GRADE II. Fractures: Very closely spaced, randomly orientated, with dark brown staining. (MERCIA MUDSTONE GROUP)	(0.45)							
17.20-17.30	41	C		93	25	0				Extremely weak reddish brown MUDSTONE. GRADE II. (MERCIA MUDSTONE GROUP)	16.95	
				Extremely weak reddish brown MUDSTONE. GRADE II. (MERCIA MUDSTONE GROUP)	(0.35)							
				Extremely weak reddish brown MUDSTONE thickly interlaminated with greenish grey fine grained SANDSTONE and SILTSTONE. (MERCIA MUDSTONE GROUP)	17.30							
										Description on next sheet	17.55	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres			Scale: 1:25	
Method Used: Inspection pit + Cable Percussion +		Plant Used: Dando 3000 Mark 2 + Comacchio GEO 205		Drilled By: Jonny Hutt + L Bramford		Logged By: DNeylon + RStan		Checked By:					



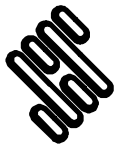
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH13
Contract Ref: 765514	Start: 20.09.22 End: 23.09.22	Ground Level (m AOD): 88.03	National Grid Co-ordinate: E:446479.7 N:325113.2		Sheet: 5 of 14

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
18.00-19.50	42	C		↑	↑	↑				Extremely weak reddish brown MUDSTONE. GRADE II. Fractures: Closely spaced, randomly orientated. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 17.55m from previous sheet)</i> ... 8.15-18.30m: Thinly interlaminated with greenish grey siltstone.	(1.40)	
18.45-18.70				97	50	43					18.95	
19.50-21.00				↓	↓	↓				Stiff reddish brown slightly sandy gravelly CLAY, with frequent thick laminae (<10m) of greenish grey silt. Sand is fine to medium and mudstone derived. Gravel is angular to subangular fine to coarse mudstone lithorelics. GRADE IVa. (MERCIA MUDSTONE GROUP)	(0.40)	
										Black greenish grey thinly cross laminated SANDSTONE. (MERCIA MUDSTONE GROUP)	19.35	
20.20-20.35	43	C		90	57	48				Extremely weak reddish brown MUDSTONE. GRADE II. (MERCIA MUDSTONE GROUP) ... 19.65-19.70m: Weak greenish grey siltstone. ... 19.95-20.20m: Bedding fractures: very closely spaced, rough, undulating, infilled with subangular gravel. ... 20.30m: Becoming very weak with closely spaced randomly orientated rough undulating fractures, with occasional black staining on fracture surfaces.		
21.00-22.50				107	27	15				... 21.00m: Closely spaced randomly orientated smooth undulating fractures with occasional black staining along surfaces. ... 21.95-22.20m: Rough undulating bedding fractures, infilled (<50mm) with sandy gravel.	(3.00)	
22.35-22.50	44	C		↓	↓	↓					22.50	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 3000 Mark 2 + Comacchio GEO 205			All dimensions in metres Scale: 1:25
Drilled By: Jonny Hutt + L Bramford						Logged By: DNeylon + RStan			
Checked By:						Checked By:			

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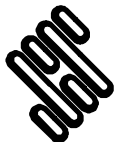
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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH13
Contract Ref: 765514	Start: 20.09.22 End: 23.09.22	Ground Level (m AOD): 88.03	National Grid Co-ordinate: E:446479.7 N:325113.2		Sheet: 6 of 14

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
22.50-24.00	45	C		↑	↑	↑				Weak greenish grey fine to medium grained SANDSTONE with fine to medium and size vugs. (MERCIA MUDSTONE GROUP)	22.75	
22.63-22.85				97	21	13				Extremely weak reddish brown MUDSTONE. Fractures: Very closely to closely spaced, randomly orientated, undulating, with dark brown staining on surfaces. (MERCIA MUDSTONE GROUP) ... 23.05-23.15m: Greenish grey siltstone. ... 23.15-23.70m: Rough undulating fracture, approximately 80°, with dark brown staining along the fracture surface.	(1.60)	
24.00-25.50				↓	↓	↓				... 23.70-23.80m: Extremely weak greenish grey thinly laminated siltstone.	24.35	
24.82-25.12	46	C		90	47	29				Weak greenish grey fine to medium gained SANDSTONE with fine to medium sand size vugs. (MERCIA MUDSTONE GROUP)	(0.45)	
25.50-27.00				↓	↓	↓				Extremely weak reddish brown MUDSTONE thinly interbedded with greenish grey SILTSTONE. Bedding fractures: Closely spaced, rough, infilled with reddish brown gravelly clay and green silt. (MERCIA MUDSTONE GROUP) 24.95-25.00m: Bedding fracture infilled (<100mm) with reddish brown clay. ... 25.45m: Thinly interbedded.	(0.70)	
26.50-26.72	47	C		93	29	23				Weak to medium strong greenish grey fine to medium grained SANDSTONE. (MERCIA MUDSTONE GROUP) 25.65-25.80m: Interspersed with reddish brown siltstone. 25.90m: Abundant fine to medium sand size vugs, Very stiff reddish brown slightly sandy CLAY. Sand is fine mudstone derived. GRADE IVb. (MERCIA MUDSTONE GROUP) 26.38-26.45m: Weak greenish grey fine to medium grained sandstone with fine to medium sand size vugs.	(0.50)	
				↓	↓	↓					(1.45)	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

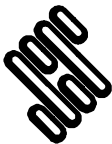


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH14
Contract Ref: 765514	Start: 15.09.22 End: 27.09.22	Ground Level (m AOD): 84.68	National Grid Co-ordinate: E:446455.2 N:325059.0		Sheet: 1 of 11

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
0.10 0.10-0.30 0.20	1 2 101	D B ES	1xT+1xJ+1xV								TOPSOIL	(0.40) 0.40	
0.50 0.70 0.70-0.90	102 3 4	ES D B	1xT+1xJ+1xV								Stiff reddish brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including quartzite, metamorphic rock, sandstone.	(1.30) 1.70	
1.00 1.20 1.20-1.50	103 5 6	ES D UT _(UT100)	1xT+1xJ+1xV 150 blows 83% recovery								Firm reddish brown sandy SILT. Sand is fine to coarse, predominately coarse.	(1.10) 2.80	
1.50-1.63 1.80 2.00-2.45 2.00-2.45 2.00-2.45	7 8 10 11	D D SPT DSPT B	N=12								Stiff reddish brown thinly and thickly laminated sandy SILT. Sand is fine to coarse.	(1.50) 4.30	
2.90 3.00-3.45 3.00-3.50	12 13 15	D UT _(UT100) B	150 blows 89% recovery										
3.45-3.55 3.70 4.00-4.45 4.00-4.45 4.00-4.45	14 16 18 19	D D SPT DSPT B	N=31										
Description on next sheet													

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
21/09/22	17:34	12.76	12.00	200	10.80	12.30	12.50	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 200mm tools and casing, then 146mm casing from 12.00m onwards. 4. 200 litres of water added added between 9.00m and 12.00m to aid drilling. 5. Borehole installed with 50mm standpipe upon completion.	
26/09/22	10:00	12.50	12.50	200	9.20					
26/09/22	16:30	21.90	12.50	146	-					
27/09/22	09:00	21.90	12.00	146	9.20					
27/09/22	16:30	24.90	None	146	-					
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 3000 + Comacchio GEO 601			Logged By: JAlton + RSenior	Checked By: AGS

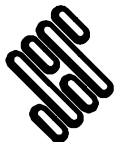


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH14
Contract Ref: 765514	Start: 15.09.22 End: 27.09.22	Ground Level (m AOD): 84.68	National Grid Co-ordinate: E:446455.2 N:325059.0		Sheet: 2 of 11

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
4.70	20	D	N=15								Stiff fissured reddish brown, mottled grey, sandy SILT. Sand is fine to coarse. (stratum copied from 4.30m from previous sheet)	(1.70)	
5.00-5.45	22	SPT											
5.00-5.45	23	DSPT B											
5.70	24	D	N=37								Stiff dark brown fissured slightly sandy gravelly SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including quartzite, metamorphic rock, sandstone.	(1.20)	
6.00-6.45	26	SPT B											
6.00-6.45													
7.30	27	D	N=32								Stiff dark brown sandy SILT. Sand is fine to coarse.	(2.50)	
7.50-7.95	29	SPT											
7.50-7.95	30	DSPT B											
8.70	31	D											

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
									6. SPT hammer AR3104-2022 ($E_s = 64.00\%$) used.	
Method Used: Inspection pit + Cable Percussion + Rotary Core		Plant Used: Dando 3000 + Comacchio GEO 601		Drilled By: Jonny Hutt + Sam Carter		Logged By: JAlton + RSenior		Checked By: AGS		



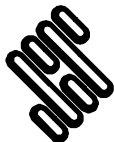
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH14
Contract Ref: 765514	Start: 15.09.22 End: 27.09.22	Ground Level (m AOD): 84.68	National Grid Co-ordinate: E:446455.2 N:325059.0		Sheet: 3 of 11

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
9.00-9.45	33 34	SPT	N=31								Stiff dark brown sandy SILT. Sand is fine to coarse. <i>(stratum copied from 7.20m from previous sheet)</i>	9.70	
9.00-9.45		DSPT											
9.00-9.45		B											
10.30	35	D	N=29								Stiff dark reddish brown slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subrounded and subangular fine to coarse of mixed lithologies including quartzite, metamorphic rock, sandstone and mudstone.	(1.50)	
10.50-10.95	37 38	SPT											
10.50-10.95		DSPT											
11.70	39	D	3,6/10,11,15,14 for 55mm								Stiff to very stiff reddish brown, mottled light greenish grey, silty gravelly CLAY. Gravel is angular to subangular fine to coarse lithorelics of mudstone. With occasional pockets of grey siltstone. GRADE IVb. (MERCIA MUDSTONE GROUP)	(1.30)	
12.00-12.43	41 42	SPT											
12.00-12.43		DSPT											
12.50-12.90 (0:01)	44 45	SPT	13,12/24,26 for 65mm	50	0	0		Air+Mist (Brown)			AZCL (MERCIA MUDSTONE GROUP)	12.70	AZCL
12.50-12.77		DSPT									Stiff to very stiff thickly laminated to very thinly bedded reddish brown, mottled light greenish grey, silty CLAY with frequent angular to subangular fine to medium gravel size lithorelics of mudstone. GRADE III. (MERCIA MUDSTONE GROUP)	12.90	
12.80		D											
12.90-14.40 (0:05)				93	43	0	NI 30 80	Air+Mist (Brown)			Description on next sheet 13.32-13.55m: 85°-90° undulating rough black stained locally orangish brown	(1.10)	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

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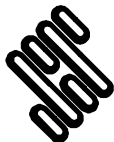


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH14
Contract Ref: 765514	Start: 15.09.22 End: 27.09.22	Ground Level (m AOD): 84.68	National Grid Co-ordinate: E:446455.2 N:325059.0		Sheet: 4 of 11

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
13.90	46	D		93	43	0	NI 30 80	Air+Mist (Brown)			stained discontinuity. Extremely weak to very weak thickly laminated to thinly bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Very close to closely spaced, 0° to 5°, undulating, smooth, locally stained black and orangish brown. Fracture set 2: Extremely closely to very closely spaced, randomly orientated, smooth and rough, locally black and orangish brown stained. (MERCIA MUDSTONE GROUP) (<i>stratum copied from 12.90m from previous sheet</i>)	14.00	
14.40-15.90 (0:05)												(0.35)	
14.62-14.78	47	C									... 13.59-13.61m: Very weak light greenish grey siltstone. ... 13.60-13.80m: 60° undulating smooth clean locally orangish brown stained discontinuity. ... 13.98-14.00m: Very weak light greenish grey siltstone with occasional black specks on discontinuity surfaces.	14.35	
15.90-17.40 (0:06)											Very stiff thickly laminated to very thinly bedded reddish brown CLAY. Frequent angular to subangular fine to medium gravel size lithorelics. GRADE III. (MERCIA MUDSTONE GROUP) ... 14.10-14.12m: Stiff light greenish grey silt.		
16.63-16.75	48	C		97	73	20	NI 50 130	Air+Mist (Brown)			Extremely weak to very weak thickly laminated to thinly bedded reddish brown, mottled light greenish grey, MUDSTONE. Bedding fracture: Very closely to closely spaced, locally extremely closely spaced, undulating, smooth, clean, locally rough, with occasional black staining on surfaces. (MERCIA MUDSTONE GROUP) ... 14.78-14.85m: Weak silty mudstone. ... 15.08-15.42m: 85° to 90° undulating smooth orangish brown stained and black speckled discontinuity. ... 15.29-15.36m: 50° undulating smooth locally orangish brown stained discontinuity with rare black specks. ... 15.60-15.62m: Extremely weak light greenish grey siltstone. ... 15.69-15.70m: Extremely weak light greenish grey siltstone. ... 15.75-15.90m: Extremely weak and thinly laminated mudstone. ... 15.95-15.97m: Strong light grey siltstone. ... 16.14-16.16m: Strong light grey siltstone. ... 16.27-16.30m: Strong light grey siltstone.	(4.75)	
17.40-18.90 (0:05)													
				100	47	27		Air+Mist (Brown)					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			



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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH14
Contract Ref: 765514	Start: 15.09.22 End: 27.09.22	Ground Level (m AOD): 84.68	National Grid Co-ordinate: E:446455.2 N:325059.0		Sheet: 5 of 11

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
18.44-18.63	50	C		100	47	27	NI 50 130	Air+Mist (Brown)			 16.30-16.39m: Drilling disturbed, recovered as (soft) gravelly clay. 16.48-16.58m: 90° undulating smooth clean, locally lightly stained orange. 16.59-16.60m: Light greenish grey siltstone. 16.84-17.06m: 75° undulating smooth black stained discontinuity. 17.05-17.15m: 80°-90° undulating smooth black stained locally orangish brown stained discontinuity. 17.27-17.29m: Extremely weak light greenish grey siltstone. 17.40-17.50m: Drilling disturbed, recovered as angular fine to coarse gravel size fragments. 17.50-17.65m: 85° to 90° undulating rough discontinuity with frequent black specks on surface. 17.65-17.80m: 90° undulating rough black stained discontinuity. 17.80-19.10m: extremely closely to very closely spaced, randomly orientated, undulating, smooth and rough, clean and black stained discontinuities. Extremely weak to very weak thickly laminated to thinly bedded reddish brown, mottled light greenish grey, MUDSTONE. Bedding fracture: Very closely to closely spaced, locally extremely closely spaced, undulating, smooth, clean, locally rough, with occasional black staining on surfaces. (MERCIA MUDSTONE GROUP) (stratum copied from 14.35m from previous sheet)	19.10	
18.90-20.40 (0:05)													
19.50-19.80	51	C		100	72	45	NI 80 300	Air+Mist (Brown)				(1.65)	
20.40-21.90 (0:05)													
20.40-20.53	52	C										20.75	
20.80-21.05	53	C		100	97	81	NI 120 260	Air+Mist (Brown)				(1.00)	
21.90-23.40 (0:05)				100	53	17	NI 60 260	Air+Mist (Brown)				21.75	
												21.90	
												(0.62)	

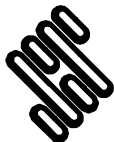
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
Method Used: Inspection pit + Cable Percussion + Rotary Corer		Plant Used: Dando 3000 + Comacchio GEO 601		Drilled By: Jonny Hutt + Sam Carter		Logged By: JAilton + RSenior		Checked By: AGS		
						All dimensions in metres			Scale: 1:25	

BOREHOLE LOG

Contract:			Client:		Borehole:
EMG Phase 2			SEGRO		BH14
Contract Ref:	Start: 15.09.22	Ground Level (m AOD):	National Grid Co-ordinate:		Sheet:
765514	End: 27.09.22	84.68	E:446455.2 N:325059.0		6 of 11

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres		Scale: 1:25		
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 601		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	JAlton + RSenior	Checked By:	



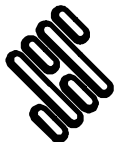
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO			Borehole: BH15		
Contract Ref: 765514		Start: 22.09.22 End: 29.09.22	Ground Level (m AOD): 81.49		National Grid Co-ordinate: E:446370.2 N:325029.4		Sheet: 1 of 13	

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
0.10 0.10 0.10-0.30	1 101 2	D ES B	1xT+1xJ+1xV								TOPSOIL	(0.40)	
0.60 0.70 0.70-0.90	102 3 4	ES D B	1xT+1xJ+1xV								Stiff reddish brown sandy very gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of mixed lithologies including sandstone, siltstone and mudstone.	0.40	
1.20 1.20-1.50	5 6	D UT _(UT100)	150 blows 83% recovery									(2.20)	
1.50-1.60	7	D											
1.70	8	D											
2.00-2.45 2.00-2.45 2.00-2.45	10 11	SPT DSPT B	N=30									2.60	
2.60-3.00	12	B									Greyish brown sandy silty very angular to subangular coarse GRAVEL of mixed lithologies including sandstone and quartz. Sand is fine to coarse.	(0.40)	
3.00-3.45 3.00-3.45 3.00-3.45	14 15	SPT DSPT B	N=30								Medium dense to dense greyish brown silty SAND.	(0.45)	
3.70	16	D									Dense greyish brown slightly gravelly silty fine to coarse SAND. Gravel is fine of mixed lithologies including sandstone and siltstone.	3.45	
4.00-4.45 4.00-4.45	18	SPT(c) B	N=32										

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks						
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)							
23/09/22	07:42	3.45	3.00	200	Dry	9.20	9.60	01:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 200mm tools and casing, then using 109.5mm tools from 14.00m. 4. 200 litres of water added from 3.00m to 12.00m to aid drilling. 5. Borehole backfilled with a bentonite seal upon completion.						
23/09/22	15:00	12.00	12.00	200	9.10	11.20	11.70	01:00							
26/09/22	09:20	12.00	12.00	200	6.60	13.30	13.80	01:00							
26/09/22	13:24	13.80	13.50	200	-										
29/09/22	09:45	26.35	13.50	146	6.40										
28/09/22	11:00	14.00	13.50	200	12.50										
28/09/22	17:00	26.35	13.50	146	24.50										
29/09/22	08:30	26.35	13.50	146	6.40										
Method Used:		Inspection pit + Cable Percussion + Rotary Corer		Plant Used:		Dando 3000 + Comacchio GEO 601		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	DNartey + RStan		Checked By:	

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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH15
Contract Ref: 765514	Start: 22.09.22 End: 29.09.22	Ground Level (m AOD): 81.49	National Grid Co-ordinate: E:446370.2 N:325029.4		Sheet: 2 of 13

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
4.70	19	D	N=33								Dense greyish brown slightly gravelly silty fine to coarse SAND. Gravel is fine of mixed lithologies including sandstone and siltstone. (stratum copied from 3.45m from previous sheet) ... Below 5.00m: Gravelly.	(2.55)	
5.00-5.45 5.00-5.45	21	SPT(c) B											
5.70	22	D	N=33								Medium dense to dense orangish brown very gravelly silty fine to coarse SAND. Gravel is fine of mixed lithologies including sandstone, siltstone and limestone.	6.00	
6.00-6.45 6.00-6.45	24	SPT(c) B											
7.30	25	D	N=26								Stiff laminated reddish brown, mottled grey, slightly sandy gravelly SILT. Sand is fine to coarse, predominantly coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone, siltstone, mudstone and coal. Low cobble content of flint.	(2.30)	
7.50-7.95 7.50-7.95 7.50-7.95	27 28	SPT DSPT B											
8.70	29	D										8.30	
												(0.90)	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
29/09/22	17:00	30.85	None	146	-					
									6. SPT hammer AR3104-2022 (E_r = 64.00%) used.	
									All dimensions in metres	
Method Used: Inspection pit + Cable Percussion +				Plant Used: Dando 3000 + Comacchio GEO 601			Drilled By: Jonny Hutt + Sam Carter		Logged By: DNartey + RStan	
									Checked By:	
										

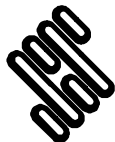
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BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH15
Contract Ref:	Start: 22.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 29.09.22	81.49	E:446370.2 N:325029.4	3 of 13

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
9.00-9.32		SPT	4,5/7,26,17 for 20mm									9.20	
9.00-9.32 9.00-9.32	31 32	DSPT B									Cobbles and boulders of flint.	(0.40)	
											Medium dense orangish brown silty sandy angular to subangular fine to coarse GRAVEL of mixed lithologies including sandstone, siltstone and flint. Sand is fine to coarse.	9.60	
10.30	33	D											
10.50-10.95 10.50-10.95 10.50-10.95	35 36	SPT DSPT B	N=23									(2.10)	
11.20-11.70	37	B									... 11.20-11.70m: Low cobble content of subrounded flint.	11.70	
11.80	38	D									Stiff reddish brown, mottled grey, gravelly sandy SILT. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of mixed lithologies including mudstone and flint.	(0.75)	
12.00-12.45 12.00-12.45 12.00-12.45	40 41	SPT DSPT B	N=36									12.45	
12.50	42	W									Stiff reddish brown, mottled grey, gravelly sandy SILT. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of mixed lithologies including mudstone and flint.	12.70	
13.30	43	D									Stiff to very stiff reddish brown gravelly sandy SILT. Sand is fine. Gravel is angular to subangular fine of mudstone. Occasional band and pockets of grey siltstone. (MERCIA MUDSTONE GROUP)	(1.30)	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres		Scale: 1:25		
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 601		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	DNartey + RStan	Checked By:	



STRUCTURAL SOILS

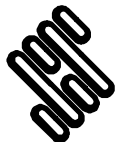
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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH15
Contract Ref: 765514	Start: 22.09.22 End: 29.09.22	Ground Level (m AOD): 81.49	National Grid Co-ordinate: E:446370.2 N:325029.4		Sheet: 4 of 13

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
13.50-13.80		SPT	3,4/19,31 for 75mm								Stiff to very stiff reddish brown gravelly sandy SILT. Sand is fine. Gravel is angular to subangular fine of mudstone. Occasional band and pockets of grey siltstone. (MERCIA MUDSTONE GROUP) (<i>stratum copied from 12.70m from previous sheet</i>)	14.00	
13.50-13.80	45	DSPT											
13.50-13.80	46	B											
13.80-14.02		SPT	25/26,24 for 70mm										
13.80-14.02	48	DSPT											
14.00-14.35 (0:02)				100	14	0	NI	Air+Mist (Brown)			Extremely weak reddish brown MUDSTONE. GRADE III.		
14.20-14.30	49	D					NI				Fractures: Very closely spaced, randomly orientated, planar, locally NI, rough, frequently black stained. (MERCIA MUDSTONE GROUP)	(1.08)	
14.30-14.35	50	C					NI				... 14.33-14.35m: Grey siltstone.		
14.35-15.85 (0:05)											... 14.35-15.08m: NI, recovered as angular fine to coarse gravel, with abundant black stained on surface. Fractures are randomly orientated, predominantly 0-10°, planar, rough, abundant black staining, silty clay infill.	15.08	
15.29-15.39	51	C		100	25	13	NI 100	Air+Mist (Brown)			Extremely weak to weak reddish brown silty MUDSTONE.		
15.85-17.35 (0:04)											Fractures: Closely spaced, 0-10°, planar, rough, frequently black stained. (MERCIA MUDSTONE GROUP)		
16.59-16.87	52	C									... 15.08-15.09m: 6° planar rough with silty clay infill (<3mm).		
17.35-18.85 (0:04)											... 15.10-15.30m: NI, fractures are randomly orientated with abundant black staining.		
17.49-17.69	53	C									... 15.32-15.40m: 22° planar rough with abundant black staining, with clayey silt infill (<3mm).		
											... 15.74-15.85m: NI, fractures are randomly orientated with abundant black staining on discontinue surface.		
											... 15.85-15.98m: 86° undulating rough abundant black staining.		
											... 15.98-15.99m depth; 7° undulating rough abundant black staining.		
											... 15.99-16.26m: Weak and medium strong grey siltstone.		
											... 16.01-16.02m: 5° planar rough abundant black staining.		
											... 16.04-16.05m: 3° planar rough, occasional brown staining.		
											... 16.14-16.15m: 6° undulating rough clean.		
											... 16.23-16.24m: 6° undulating rough clean.		
											... 16.27-16.28m: 4° undulating grough clean.	(4.90)	
											... 16.30-16.31m: 5° planar rough abundant black staining.		
											... 16.35-16.40m: NI, recovered as silty angular fine to medium gravel.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		



STRUCTURAL SOILS

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BOREHOLE LOG

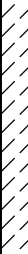
Contract: EMG Phase 2			Client: SEGRO		Borehole: BH15
Contract Ref: 765514	Start: 22.09.22 End: 29.09.22	Ground Level (m AOD): 81.49	National Grid Co-ordinate: E:446370.2 N:325029.4		Sheet: 5 of 13

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
18.85-20.35 (0:06)				100	92	66	15 350 830	Air+Mist (Brown)			16.40-16.46m: 84° planar rough abundant black staining. 16.46-16.50m: NI, recovered as clayey silty angular fine to medium gravel. 16.50-16.59m: 82° undulating rough abundant black staining. 16.59-16.60m: 5° planar rough abundant black staining. 17.12-17.14m: Grey siltstone. 17.16-17.18m: NI, recovered as silty sandy gravel. 17.18-17.24m: Grey siltstone. 17.35-17.43m: 43° undulating rough occasional black staining. 17.79-18.20m: Weak grey siltstone. 17.95-17.99m: 12° undulating rough occasional brown staining. 17.98-17.99m: 4° undulating rough occasional brown staining. Extremely weak to weak reddish brown silty MUDSTONE. Fractures: Closely spaced, 0-10°, planar, rough, frequently black stained. (MERCIA MUDSTONE GROUP)		
19.61-19.89	54	C		100	100	96	70 120 490	Air+Mist (Brown)			15.08-15.09m: 6° planar rough with silty clay infill (<3mm).(stratum copied from 15.08m from previous sheet) 18.02-18.05m: 15° planar rough abundant brown staining. 18.07-18.08m: 6° undulating grough abundant brown staining. 18.16-18.17m: 5° undulating rough abundant brown and yellow staining. 18.20-18.23m: NI. 18.20-18.66m: Grey mottled reddish brown siltstone interbedded with mudstone. 18.32-18.38m: 29° planar rough occasional black staining. 18.98-19.00m: NI. 19.01-19.26m: Medium strong grey siltstone. 19.11-19.13m: 9° planar rough occasional brown staining. 19.26-19.97m: Grey mottled reddish brown siltstone and mudstone. 19.34-19.41m: 40° planar rough abundant black staining. 19.59-19.64m: 27° planar rough clean.	19.98	
20.35-21.85 (0:06)												(0.44)	
20.51-20.69	55	C										20.42	
21.85-23.35 (0:05)				100	77	77	NI NI NI	Air+Mist (Brown)				(1.48)	
22.03-22.26	56	C		100	97	97	NI NI NI	Air+Mist (Brown)			Very weak to weak reddish brown silty sandy MUDSTONE. GRADE II. (MERCIA MUDSTONE GROUP) Very weak to weak reddish brown, mottled grey, fine and medium grained SANDSTONE, interbedded with grey siltstone. (MERCIA MUDSTONE GROUP)	21.90	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
Method Used: Inspection pit + Cable Percussion +		Plant Used: Dando 3000 + Comacchio GEO 601		Drilled By: Jonny Hutt + Sam Carter		Logged By: DNartey + RStan		Checked By: 		
						All dimensions in metres		Scale: 1:25		

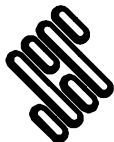


BOREHOLE LOG

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
23.35-24.85 (0:06)	57	C		100	97	97	NI NI NI	Air+Mist (Brown)			... 21.50-21.90m: NI.	(7.62)	
24.20-24.51				95	92	67	60 80 NI	Air+Mist (Brown)			... 22.26-22.28m: Reddish brown fine to medium grained sandstone.		
24.85-26.35 (0:06)				100	100	100	NI NI NI	Air+Mist (Brown)			Very weak to weak reddish brown MUDSTONE. Occasional pockets and laminae of grey siltstone. Rare laminae of reddish brown fine to medium grained sandstone. GRADE II. (MERCIA MUDSTONE GROUP) (stratum copied from 21.90m from previous sheet)		
25.55-25.91				100	98	98	NI NI NI	Air+Mist (Brown)			... 23.35-23.40m: 43° undulating rough clean.		
26.35-27.85 (0:06)	59	C		100	98	98	NI NI NI	Air+Mist (Brown)			... 23.41-23.43m: 9° planar rough brown stained.		
26.60-26.90				100	98	98	NI NI NI	Air+Mist (Brown)			... 23.48-23.52m: 33° planar rough brown stained.		
											... 23.53-23.56m: 16° planar rough brown stained.		
											... 24.66-24.78m: With laminae of grey siltstone.		
											... 25.20-25.43m: Grey mottled reddish brown siltstone and mudstone.		
											... 25.60-25.71m: Pockets grey siltstone.		
											... 25.98-26.65m: Weak fine grained sandstone.		
											... 26.65-27.05m: Grey siltstone.		
											... 26.90-26.93m: NI.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres		Scale: 1:25		
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 601		Drilled By:	Jonny Hutt + Sam Carter		Logged By:	DNartey + RStan	Checked By:	 AGS

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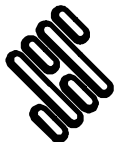
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH15
Contract Ref: 765514	Start: 22.09.22 End: 29.09.22	Ground Level (m AOD): 81.49	National Grid Co-ordinate: E:446370.2 N:325029.4		Sheet: 7 of 13

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
27.85-29.35 (0:06)	60	C		100	98	98	NI	Air+Mist (Brown)			Very weak to weak reddish brown MUDSTONE. Occasional pockets and laminae of grey siltstone. Rare laminae of reddish brown fine to medium grained sandstone. GRADE II. (MERCIA MUDSTONE GROUP) (stratum copied from 21.90m from previous sheet) ... 27.34-27.38m: Grey siltstone. ... 27.47-27.75m: Weak grey siltstone. ... 27.75-27.85m: Sandy mudstone.		
28.43-28.68				100	100	100	NI	Air+Mist (Brown)			... 28.08-28.14m: Medium strong grey siltstone. ... 28.14-28.60m: Grey mottled reddish brown siltstone. ... 28.36-28.43m: 35° planar rough brown stained. ... 28.95-28.97m: Reddish brown fine grained sandstone.		
29.35-30.85 (0:04)				100	100	100	NI	Air+Mist (Brown)			Weak reddish brown fine and medium grained SANDSTONE. Occasional pockets and laminae of grey siltstone and very weak reddish brown mudstone. (MERCIA MUDSTONE GROUP) ... 30.03-30.18m: Reddish brown mudstone.	29.52	
29.35-30.85	61	C		100	100	100		Air+Mist (Brown)			... 30.82-30.85m: Grey siltstone. Borehole terminated at 30.85m depth.	(1.33) 30.85	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

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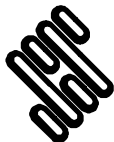
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH16
Contract Ref: 765514	Start: 15.09.22 End: 15.09.22	Ground Level (m AOD): 73.98	National Grid Co-ordinate: E:446488.6 N:324866.7		Sheet: 1 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.00-4.50										TOPSOIL		
0.20	1	D									(0.60)	
0.20-0.40	2	B									0.60	
0.70	3	D								Firm reddish brown gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of quartzite and sandstone.	(0.30)	
0.70-0.80	4	B									0.90	
1.00-1.20	5	B								Stiff reddish brown slightly gravelly sandy CLAY. Sand is fine to coarse, predominant coarse. Gravel is subangular to subrounded fine to coarse of metamorphic rocks, sandstone and occasional quartzite.	(0.40)	
1.20-1.40	6	UT _(UT100)	150 blows 100% recovery								1.30	
1.40-1.50	7	D								Stiff to very stiff reddish brown slightly gravelly sandy CLAY. Sand is fine. Gravel is angular to subangular of mudstone lithorelics. GRADE IVb. (MERCIA MUDSTONE GROUP)		
1.70	8	D										
2.00-2.45			N=32									
2.00-2.45	10	SPT										
2.00-2.45	11	DSPT B										
2.70	12	D										
3.00-3.43		SPT	9,9/9,13,16,12 for 55mm								(3.20)	
3.00-3.43	14	DSPT										
3.00-3.45	15	B										
3.70	16	D										
4.00-4.36		SPT	9,12/16,18,16 for 60mm									
4.00-4.36	18	DSPT										
4.50												

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)				
16/09/22	16:00	4.00	3.00	200	-	3.60	4.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. SPT hammer AR3104-2022 ($E_r = 64.00\%$) used.			
20/09/22		4.50	None	N/R	3.20							
21/09/22		14.00	None	N/R	5.30							
21/08/32		20.00	None	N/R	13.00							
All dimensions in metres			Scale:			1:25						
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Unknown		Drilled By: Jonny Hutt		Logged By: DNartey + DNeylon	Checked By:		

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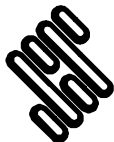
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH16
Contract Ref: 765514	Start: 15.09.22	Ground Level (m AOD): 73.98	National Grid Co-ordinate: E:446488.6 N:324866.7		Sheet: 5 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
18.50-20.00	32	C		80	32	28				Extremely weak to very weak greenish grey SILTSTONE closely interbedded with extremely weak reddish brown MUDSTONE. (MERCIA MUDSTONE GROUP) (stratum copied from 17.70m from previous sheet)	(0.70)	
18.70-18.90				93	17	17				Extremely weak reddish brown MUDSTONE with occasional fine to coarse gravel size pockets of greenish grey siltstone. Bedding fractures: Medium spaced, rough, undulating, infilled with sandy clay. Fracture set 2: rough, planar, infilled with clayey sand. (MERCIA MUDSTONE GROUP) ... 18.70-18.80m: Extremely weak greenish grey thickly cross laminated SILTSTONE with thin laminae (<2mm) of SANDSTONE.	(1.60)	
										Borehole terminated at 20.00m depth.	20.00	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres			Scale: 1:25	
Method Used:	Inspection pit + Cable Percussion + Rotary Corer			Plant Used:	Dando 3000 + Unknown		Drilled By: Jonny Hutt		Logged By: DNartey + DNeylon	Checked By:			

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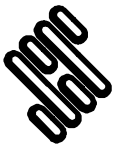
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH17
Contract Ref: 765514	Start: 15.09.22 End: 16.09.22	Ground Level (m AOD): 74.45	National Grid Co-ordinate: E:446293.6 N:324881.8		Sheet: 1 of 10

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.20	1	D	1xT+1xJ+1xV							TOPSOIL	0.20	
0.20	101	ES								Firm dark yellowish brown slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular and subrounded, fine to coarse of mixed lithologies including quartzite and siltstone. ... Below 1.80m: Stiff.		
0.20-0.50	2	B										
0.50	102	ES	1xT+1xJ+1xV									
0.90	3	D	1xT+1xJ+1xV							Soft to firm reddish brown very sandy SILT. Sand is fine to coarse.	(1.30)	
0.90-1.20	4	B										
1.00	103	ES										
1.20-1.65	5	UT _(UT100)	32 blows 100% recovery								1.50	
1.70	6	D	N=13							Medium dense dark brown mottled grey silty SAND. Sand is fine to coarse.	(1.10)	
2.00-2.45	8	SPT										
2.00-2.45	9	DSPT B									2.60	
2.70	10	D	N=16							Stiff to very stiff reddish brown, mottled grey, sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular and subangular fine to coarse of mudstone. Occasional pockets of grey silt (<20mm). (MERCIA MUDSTONE GROUP)	(1.30)	
3.00-3.45	12	SPT										
3.00-3.45	13	DSPT B									3.90	
3.90	14	D	6,10/12,13,13,12 for 60mm									
3.90	27	W										
4.00-4.44	16	DSPT										
4.00-4.44	17	B										

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
15/09/22	15:14	5.45	4.50	200	Dry	5.50	6.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. SPT hammer AR3104-2022 ($E_s = 64.00\%$) used.	
16/09/22	08:24	5.00	4.50	200	3.90					
16/09/22	09:55	6.30	None	200	-					
21/09/22		6.00	None	N/R	1.60					
22/09/22		21.00	None	N/R	1.80					
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 3000 + Unknown			All dimensions in metres Scale: 1:25	
Drilled By: Jonny Hutt						Logged By: DNartey + RStan			Checked By:	

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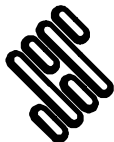


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH17
Contract Ref: 765514	Start: 15.09.22 End: 16.09.22	Ground Level (m AOD): 74.45	National Grid Co-ordinate: E:446293.6 N:324881.8		Sheet: 3 of 10

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
9.00-10.50				↑	↑	↑				... 8.95-9.00m: Pocket of silty clay. Extremely weak MUDSTONE. Occasional pockets and laminae of grey siltstone. GRADE III. Fractures: Very closely spaced, randomly orientated, incipient, undulating, smooth and rough, with occasional black staining on surface. (MERCIA MUDSTONE GROUP) (<i>stratum copied from 7.30m from previous sheet</i>) ... 9.11-10.03m: Thin laminated, locally mottled grey, interlaminated with grey siltstone. ... 9.13-9.16m: Clay mudstone. ... 9.32-9.37m: Dark laminae of mudstone and siltstone. ... 9.46-9.54m: Grey siltstone. ... 9.93-10.03m: Recovery as sandy gravel.	(5.51)	
10.21-10.41	29	C		↑	↑	↑						
10.50-12.00				↑	↑	↑				... 10.45-10.50m: NI. ... 10.50-10.64m: NI with band of weak grey siltstone.		
10.90-11.20	30	C		↑	↑	↑				... 10.80-10.96m: 71° planar rough clean.		
12.00-13.50				↑	↑	↑				... 11.95-12.00m: NI. ... 12.00-12.27m: NI.		
12.41-12.61	31	C		↑	↑	↑				... 12.19-12.27m: Thinly laminated. ... 12.27-12.29m: Bedding fracture, 5° undulating rough silty clay infill. ... 12.27-12.39m: 85° planar rough yellow and grey stained. ... 12.34-12.49m: Thinly laminated greenish grey siltstone, with occasional yellow staining. ... 12.49-12.81m: Weak. ... 12.75-12.95m: 63° planar rough with calcite infill (<3mm). Extremely weak reddish brown slightly sandy MUDSTONE interbedded with weak to medium strong grey SILTSTONE. Occasional calcite bands (<3mm). GRADE III. (MERCIA MUDSTONE GROUP) <i>Description on next sheet</i>	12.81	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
Method Used: Inspection pit + Cable Percussion + Rotary Corer						Plant Used: Dando 3000 + Unknown			All dimensions in metres	
Drilled By: Jonny Hutt						Logged By: DNartey + RStan			Scale: 1:25	
Checked By:										



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH18
Contract Ref: 765514	Start: 15.09.22 End: 06.10.22	Ground Level (m AOD): 77.62	National Grid Co-ordinate: E:446112.9 N:324864.2		Sheet: 1 of 12

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.00	1	D								TOPSOIL		
0.00-0.20	3	B									0.20	
0.10	2	ES										
0.20	4	D										
0.20-0.40	6	B										
0.30	5	ES										
0.40	7	D										
0.50	10	D										
0.50	8	ES										
0.50-0.80	9	B										
0.80-1.20	12	B										
1.00	11	ES										
1.20-1.65		SPT	N=18									
1.20-1.65	13	DSPT										
1.20-1.70	14	B										
1.70	15	D										
2.00	16	ES										
2.00-2.45	17	UT _(UT100)	95 blows 100% recovery								(3.90)	
2.50	18	D										
2.50-3.00	20	B										
2.60	19	ES										
3.00	21	ES										
3.00-3.45		SPT	N=23									
3.00-3.45	22	DSPT										
3.00-3.50	23	B										
3.50	24	D										
4.00	25	ES										
4.00-4.45	26	UT _(UT100)	116 blows 100% recovery								4.10	
										Firm light brown mottled reddish brown fissured slightly gravelly sandy CLAY. Sand is fine to coarse, predominant coarse. Gravel is angular and subangular fine to coarse of mixed lithology.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
16/09/22	08:30	7.50	6.00	200	5.80	7.30	7.50	00:30		
20/09/22		9.00	None	N/R	6.30	8.50	9.00	01:00		
21/09/22		25.50	None	N/R	6.20					

BOREHOLE LOG

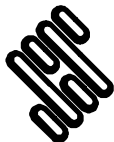
Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH18
Contract Ref:	Start: 15.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 06.10.22	77.62	E:446112.9 N:324864.2	3 of 12

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instru- mentation	Water	Description of Strata	Depth (Thick- ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
9.00-10.50 9.00-9.21	46	SPT	18,7/31,19 for 42mm	↑	↑	↑				AZCL. (MERCIA MUDSTONE GROUP)	(0.40)	AZCL
9.00-9.45		DSPT									Reddish brown clayey angular to subangular fine to coarse GRAVEL of mudstone. Sand is fine to coarse and mudstone derived. Gravels and matrix showing traces of thin laminated. GRADE III. (MERCIA MUDSTONE GROUP)	
9.90	47	D		80	15	0					10.15	
10.50-12.00				↓	↓	↓				Very weak greenish grey SILTSTONE. Bedding fractures: Very closely spaced, rough, undulating. (MERCIA MUDSTONE GROUP) ... 10.40-10.45m: Extremely weak reddish brown mudstone.	(0.35) 10.50	
11.10-11.30	48	C		87	63	41				Very weak reddish brown MUDSTONE with occasional fine to medium gravel size pockets of greenish grey siltstone. GRADE II. (MERCIA MUDSTONE GROUP)	(1.05)	
12.00-13.50				↓	↓	↓				Extremely weak reddish brown MUDSTONE very thinly to thickly interlaminated with very weak greenish grey SILTSTONE. Bedding fractures: Very closely spaced, rough, undulating, infilled with reddish brown clay. (MERCIA MUDSTONE GROUP) ... 11.65-11.70m: Moderately weak light reddish brown sandstone.	11.55 (0.45) 12.00	
12.60	49	D		100	39	0				Very weak reddish brown MUDSTONE with occasional fine to medium gravel size pockets of greenish grey siltstone. GRADE II. Fractures: Closely spaced, randomly orientated. (MERCIA MUDSTONE GROUP) ... 12.15-12.25m: Recovered as sandy angular fine to coarse gravel, verging towards GRADE III.	(1.25)	
				↓	↓	↓				Description on next sheet	13.25	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)				
									All dimensions in metres		Scale: 1:25	
Method Used:	Inspection pit + Cable Percussion +		Plant Used:	Dando 3000 + Comacchio GEO 205			Drilled By:	???	Logged By:	DNeylon + JAlton	Checked By:	

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH18
Contract Ref:	Start: 15.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 06.10.22	77.62	E:446112.9 N:324864.2	4 of 12



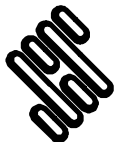
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH19
Contract Ref: 765514	Start: 14.09.22 End: 16.09.22	Ground Level (m AOD): 76.63	National Grid Co-ordinate: E:446150.1 N:324740.8		Sheet: 1 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.10 0.10-0.30 0.20	1 2 101	D B ES	1xT+1xJ+1xV							TOPSOIL	(0.35) 0.35	
0.90 0.90-1.20 1.00	3 4 102	D B ES	1xT+1xJ+1xV							Stiff reddish brown, mottled grey, slightly gravelly sandy CLAY. Gravel is angular to subangular fine to coarse sandstone and mudstone lithorelics. GRADE IVa. (MERCIA MUDSTONE GROUP)		
1.20-1.65	5	UT _(UT100)	150 blows 78% recovery									
1.65-1.75	6	D										
1.90 2.00-2.45 2.00-2.45 2.00-2.45	7 10 9	D SPT B DSPT	N=27									
2.70	11	D									(4.65)	
3.00-3.44 3.00-3.44 3.00-3.45	13 14	SPT DSPT B	6,7/10,13,13,14 for 65mm									
3.70	15	D										
4.00-4.44 4.00-4.44 4.00-4.45	17 18	SPT DSPT B	10,13/13,13,13,11 for 60mm							... 4.35-4.45m: medium strong grey siltstone		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
14/09/22	16:21	5.00	3.00	200	Dry				1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. SPT hammer AR3104-2022 ($E_r = 64.00\%$) used.	
16/09/22	08:00	5.00	5.00	114	Dry					
16/09/22	17:00	20.00	5.00	114	Dry					
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 3000 + Comacchio GEO 205			All dimensions in metres	
Drilled By: Jonny Hutt + Martin Sneed						Logged By: AJones + RSenior			Scale: 1:25	
Checked By: AGS						Checked By: AGS				

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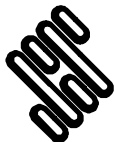


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH20
Contract Ref: 765514	Start: 15.09.22	Ground Level (m AOD): 76.91	National Grid Co-ordinate: E:446017.0 N:324870.9		Sheet: 1 of 16
End: 15.09.22					

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
0.00-0.20	1	B									TOPSOIL		
0.10	101	ES	1xT+1xJ+1xV									(0.40)	
0.10	2	D											
0.25	3	D											
0.25-0.40	4	B										0.40	
0.30	102	ES	1xT+1xJ+1xV								Firm reddish brown slightly gravelly sandy SILT. Sand is fine to coarse, predominantly coarse. Gravel is subangular to subrounded fine to coarse of quartzite .		
0.60	103	ES	1xT+1xJ+1xV										
0.60	5	D											
0.60-0.90	6	B										(1.10)	
1.00	104	ES	1xT+1xJ+1xV										
1.00	7	D											
1.00-1.20	8	B											
1.20-1.65		SPT	N=15										
1.20-1.65	10	DSPT											
1.20-1.65	11	B										1.50	
1.60-1.80	12	B									Firm reddish brown, mottled grey, slightly gravelly sandy CLAY. Sand is fine to coarse, predominantly coarse. Gravel is angular to subangular fine of mudstone as lithorelics. GRADE IVa. (MERCIA MUDSTONE GROUP)		
1.80	13	D											
2.00-2.45	14	UT _(UT100)	120 blows 89% recovery									(1.20)	
2.45-2.55	15	D											
2.80	16	D											
3.00-3.45		SPT	N=30								Extremely weak reddish brown fine grained MUDSTONE with rare greenish grey laminae and pockets of siltstone. GRADE IVb. (MERCIA MUDSTONE GROUP)		
3.00-3.45	18	DSPT											
3.00-3.45	19	B											
3.70	20	D											
4.00-4.41		SPT	7,9/10,13,18,9 for 30mm										
4.00-4.41	22	DSPT											
4.00-4.45	23	B											

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
15/09/22	12:00	5.00	4.50	200	-				1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. SPT hammer AR3104-2022 (E_r = 64.00%) used.				
20/09/22		10.70	None	N/R	9.80								
21/09/22		21.00	None	N/R	8.30								
21/09/22		30.00	None	N/R	25.90								
									All dimensions in metres		Scale: 1:25		
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By:	Jonny Hutt		Logged By:	DNartey + DNeylon	Checked By:	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH20
Contract Ref: 765514	Start: 15.09.22 End: 15.09.22	Ground Level (m AOD): 76.91	National Grid Co-ordinate: E:446017.0 N:324870.9		Sheet: 2 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
4.70	24	D	12,13/16,21,17 for 55mm								Extremely weak reddish brown fine grained MUDSTONE with rare greenish grey laminae and pockets of siltstone. GRADE IVb. (MERCIA MUDSTONE GROUP) (stratum copied from 2.70m from previous sheet)	5.20	
5.00-5.36		SPT											
5.00-5.36	26	DSPT											
5.20-6.00													
5.48-5.65	28	C		69	25	25		Air+Mist (Red/Grey Mudstone)			Extremely weak reddish brown MUDSTONE with frequent beds of greenish grey siltstone. GRADE II. Fractures: Extremely closely spaced, randomly orientated, planar, smooth, with frequent black and yellow stained. (MERCIA MUDSTONE GROUP) ... 5.20-5.45m: AZCL. ... 5.45-5.75m: NI. ... 6.55-6.72m: 60° planar smooth clean. ... 6.70-7.10m: 9° undulating rough with black and yellow staining. GRADE II. ... 6.90-7.00m: 60° planar smooth clean.	(2.30)	
6.00-7.50													
7.25-7.40	29	C					NI 20 150	Air+Mist (Red/Grey Mudstone)					
7.50-9.00				100	9	9							
8.24	30	D		100	67	60	NI 30 70	Air+Mist (Red/Grey Mudstone)			Extremely weak to very weak indistinctly and very thinly bedded reddish brown MUDSTONE. With beds of thinly laminated greenish grey siltstone. Fracture Set 1: Randomly orientated, very closely spaced, planar and undulating, smooth and rough, with black and yellow staining. Fracture Set 2: 45°, closely spaced, planar, smooth, with black and yellow staining. (MERCIA MUDSTONE GROUP) ... 8.90-8.95m: Greenish grey siltstone.	7.50	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
								</			

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH20
Contract Ref:	Start: 15.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 15.09.22	76.91	E:446017.0 N:324870.9	4 of 16

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres	Scale: 1:25			
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By:	Jonny Hutt		Logged By:	DNartey + DNeylon	Checked By:	

BOREHOLE LOG

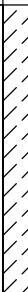
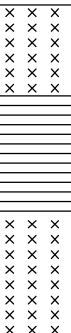
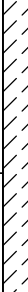
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EMG Phase 2		SEGRO		BH20
Contract Ref:	Start: 15.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 15.09.22	76.91	E:446017.0 N:324870.9	5 of 16

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres	Scale: 1:25			
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By:	Jonny Hutt		Logged By:	DNartey + DNeylon	Checked By:	

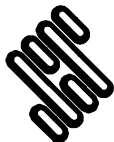


BOREHOLE LOG

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend	
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)							
22.50-24.00	40	C		↑	↑	↑		↑			Extremely weak reddish brown MUDSTONE with occasional gravel size pockets of greenish grey siltstone. Medium interbedded with extremely weak to very weak greenish grey SILTSTONE. GRADE II. Bedding fractures: Medium spaced, rough, undulating, infilled with red sandy clay. (MERCIA MUDSTONE GROUP) (stratum copied from 22.00m from previous sheet) ... 22.70-22.95m: Siltstone.	(2.95)		
23.25-23.40				100	40	0		Air+Mist (Red Mudstone)						... 23.70-23.95m: Extremely weak siltstone verging towards silt.
24.00-25.50				↓	↓	↓		↓						... 24.10-24.25m: Siltstone.
24.35-24.55				100	69	21		Air+Mist (Red Mudstone)						
25.50-27.00	42	C		↓	↓	↓		↓			Extremely weak reddish brown fine grained SANDSTONE. Fractures: Closely spaced, randomly orientated, smooth, undulating. (MERCIA MUDSTONE GROUP)	(1.15)		
26.65-26.90				97	93	83		Air+Mist (Red Mudstone)						Extremely weak reddish brown MUDSTONE very thinly interbedded with extremely weak greenish grey SILTSTONE. GRADE II. ... 26.25m: Sandstone.
				↓	↓	↓		↓						
											Description on next sheet			

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres	Scale:	1:25		
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By:	Jonny Hutt		Logged By:	DNartey + DNeylon	Checked By:	

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Structural Soils Ltd, Branch Office - Castleford: The Potteries, Pottery Street, Castleford, West Yorkshire, WF10 1NJ. Tel: 01977-552255, Fax: 01977-552299, Web: www.solis.co.uk, Email: ask@solis.co.uk | 11/12/22 - 10:41 | TC9 |



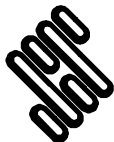
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH20
Contract Ref: 765514	Start: 15.09.22 End: 15.09.22	Ground Level (m AOD): 76.91	National Grid Co-ordinate: E:446017.0 N:324870.9		Sheet: 7 of 16

Depth (m)	Samples & Testing			Mechanical Log				Flush Returns & Details	Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
27.00-28.50	43	C		100	87	30		Air+Mist (Red Mudstone)			Medium strong greenish grey thinly to thickly laminated SANDSTONE. (MERCIA MUDSTONE GROUP) (stratum copied from 26.90m from previous sheet)	27.10	
27.85-28.15											Extremely weak reddish brown MUDSTONE with abundant fine to medium gravel size pockets of greenish grey siltstone. GRADE II. (MERCIA MUDSTONE GROUP) . . . 27.10-27.40m: 70°, smooth, planar fracture.	(0.75)	
28.50-30.00	44	C		87	50	28		Air+Mist (Red Mudstone)			Weak reddish brown fine grained SANDSTONE with occasional fine to medium gravel size pockets of greenish grey siltstone. (MERCIA MUDSTONE GROUP)	27.85	
29.40-29.60											. . . 28.80m: Bedding fracture is infilled with subangular gravel of reddish mudstone.	(1.45)	
											. . . 29.20-29.50m: Thinly cross laminated.	29.30	
											Extremely weak reddish brown fine grained SANDSTONE. (MERCIA MUDSTONE GROUP)	(0.70)	
											. . . 29.95m: Greenish grey siltstone. Borehole terminated at 30.00m depth.	30.00	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

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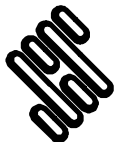
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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH21
Contract Ref: 765514	Start: 14.09.22 End: 16.09.22	Ground Level (m AOD): 75.56	National Grid Co-ordinate: E:445964.3 N:324644.9		Sheet: 1 of 16

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.10	1	D								TOPSOIL	(0.30)	
0.10-0.30	2	B									0.30	
0.20	101	ES	1xT+1xJ+1xV									
0.40	102	ES	1xT+1xJ+1xV							Stiff orangish brown, mottled grey, slightly gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse extremely weak mudstone and siltstone lithorelics and occasional sandstone. GRADE IVa. (MERCIA MUDSTONE GROUP)	(0.50)	
0.40	3	D										
0.40-0.60	4	B									0.80	
0.80	5	D										
0.80-1.20	6	B								Stiff to very stiff reddish brown slightly gravelly silty CLAY. Sand is predominantly coarse. Gravel is subangular fine to coarse of extremely weak mudstone and siltstone lithorelics and occasional sandstone. GRADE IVa. (MERCIA MUDSTONE GROUP)		
1.00	103	ES	1xT+1xJ+1xV									
1.20-1.65		SPT	N=14									
1.20-1.65	8	DSPT										
1.20-1.65	9	B										
1.70	10	D										
2.00-2.40	11	UT _(UT100)	150 blows 88% recovery									
2.40-2.50	12	D										
2.70	13	D									(3.70)	
3.00-3.40		SPT	5,10/10,13,18,9 for 20mm									
3.00-3.40	15	DSPT								... below 3.00m: becoming very stiff.		
3.00-3.45	16	B										
3.70	17	D										
4.00-4.37		SPT	6,8/13,20,17 for 65mm									
4.00-4.37	19	DSPT										
											4.50	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
13/09/22	16:44	1.90	1.90	200	Dry				1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. SPT hammer AR3104-2022 ($E_r = 64.00\%$) used.				
14/09/22	07:46	1.90	1.90	200	Dry								
20/09/22		10.30	None	N/R	3.00								
16/09/22		4.50	4.50	200	Dry								
16/09/22		30.00	4.50	114	26.00								
									All dimensions in metres	Scale: 1:25			
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By:	Jonny Hutt + Luke		Logged By:	JAlton + RSenior	Checked By:	

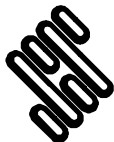


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH21
Contract Ref: 765514	Start: 14.09.22 End: 16.09.22	Ground Level (m AOD): 75.56	National Grid Co-ordinate: E:445964.3 N:324644.9		Sheet: 3 of 16

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
9.00-10.50 9.00-9.27	26	C		97	61	43				Extremely weak to very weak very thinly to thinly bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Very closely to closely spaced, 0° to 10°, undulating, smooth and rough, clean, with rare black specks. (MERCIA MUDSTONE GROUP) (<i>stratum copied from 5.20m from previous sheet</i>) ... 9.27m: Thick laminae (15mm) of very weak light greenish grey siltstone. ... 9.69-9.78m: 50° undulating rough black stained discontinuity. ... 10.00-10.20m: 85° to 90° undulating rough black stained discontinuity. ... 10.13-10.320m: 50° undulating rough discontinuity with frequent black specks. ... 10.35-10.50m: With very closely spaced randomly orientated undulating smooth and rough discontinuities with occasional black specks. ... 10.50-10.55m: Moderately weak light grey siltstone. ... 10.72-10.80m: 50° undulating smooth discontinuity with <1mm clay on surfaces. ... 10.72-10.89m: Discontinuities are closely to very closely spaced randomly orientated undulating smooth and rough clean locally stained black. ... 10.89-11.00m: Thinly and thickly laminated.		
10.50-12.00							NI 60 170					
11.02-11.17	27	C		95	80	69				Very weak thinly to medium bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Very closely to medium spaced, 0°, undulating, smooth, clean, locally with a little clay smear on surfaces. (MERCIA MUDSTONE GROUP) ... 11.29-11.35m: Coarse gravel size siltstone inclusion. ... 11.38-11.42m: Extremely weak light greenish grey siltstone. ... 12.00-12.20m: AZCL. ... 12.20-12.30m: Thickly laminated. ... 12.30-12.50m: Drilling disturbed, recovered as clayey gravel. ... 12.50-12.65m: Thickly laminated.	11.17	
11.56-11.76	28	C					NI 60 200				(1.48)	
12.00-13.50											12.65	
				87	47	17	NI NI 90			Stiff thinly and thickly laminated silty CLAY with frequent angular to subangular fine to medium gravel size lithorelics. GRADE III. (MERCIA MUDSTONE GROUP) ... 12.70-12.72m: Thick laminae of stiff light greenish grey silt. ... 12.86-13.07m: Thinly laminated to very thickly bedded stiff to very stiff light greenish grey clay. ... 13.08-13.15m: Thin bed of moderately weak light greenish grey siltstone.	(0.50)	
13.28-13.42	29	C					NI 60 170				13.15	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
									All dimensions in metres		
Method Used: Inspection pit + Cable Percussion +		Plant Used: Dando 3000 + Comacchio GEO 205		Drilled By: Jonny Hutt + Luke		Logged By: JAlton + RSenior		Checked By:			

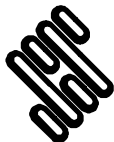


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH21
Contract Ref: 765514	Start: 14.09.22 End: 16.09.22	Ground Level (m AOD): 75.56	National Grid Co-ordinate: E:445964.3 N:324644.9		Sheet: 7 of 16

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
27.00-28.50	39	C		↑	↑	↑				... 25.93-25.97m: 25° undulating smooth lightly black stained discontinuity. ... 26.02-26.15m: 80°-90° undulating rough clean discontinuity. ... 26.40-26.50m: Weak light greenish grey siltstone with 85° undulating rough clean locally orangish brown stained discontinuity. ... 26.65-26.68m: 15° undulating rough black stained discontinuity. Extremely weak to very weak thinly to medium bedded reddish brown, mottled light greenish grey, silty MUDSTONE. GRADE II. Bedding fractures: Closely to medium spaced, 0° to 10°, undulating, rough, stained, orangish brown, locally with <1mm silt on surfaces. (MERCIA MUDSTONE GROUP) (stratum copied from 25.22m from previous sheet) ... 27.10-27.12m: Weak light grey siltstone. ... 27.18-27.21m: Weak light grey siltstone. ... 27.30-27.34m: 2 no very thin bands of weak light grey siltstone. ... 27.48-27.60m: 85°-90° undulating rough discontinuity with light orangish brown staining over lower 30mm. ... 28.13-28.33m: 60°-90° curved undulating rough clean discontinuity. ... 28.69-28.79m: Very weak light greenish grey siltstone. ... 28.97-29.00m: 0°-25° undulating smooth clean discontinuity locally with <1mm silt on surfaces. ... 29.35-29.43m: Extremely weak to very weak light greenish grey siltstone. ... 29.37-29.45m: 40° undulating rough discontinuity with 1-2mm of firm clay on surfaces. ... 29.60-29.77m: Very stiff reddish brown silty clay. ... 29.80-30.00m: 70° undulating rough clean discontinuity.	(4.78)	
27.28-29.46				97	80	60						
28.50-30.00	40	C		↑	↑	↑	NI 150 380			Borehole terminated at 30.00m depth.	30.00	
29.00-29.32				97	69	57						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)				
									All dimensions in metres			
Method Used: Inspection pit + Cable Percussion + Rotary Corer			Plant Used: Dando 3000 + Comacchio GEO 205			Drilled By: Jonny Hutt + Luke Ramford			Logged By: JAlton + RSenior		Checked By:	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH22
Contract Ref: 765514	Start: 13.09.22 End: 15.09.22	Ground Level (m AOD): 73.80	National Grid Co-ordinate: E:446085.7 N:324639.6		Sheet: 1 of 12

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.20 0.20-0.50	1 2	D B								TOPSOIL	(0.30) 0.30	
0.50 0.60	101 102	ES ES	1xT+1xJ+1xV 1xT+1xJ+1xV							Firm dark brown slightly gravelly sandy SILT. Sand is fine to coarse, predominantly coarse. Gravel is subangular to subrounded fine to coarse of sandstone, mudstone and occasional quartzite.	0.55	
0.80 0.80-1.20	3 4	D B								Stiff orangish brown, mottled grey, sandy gravelly silty CLAY. Sand is fine to coarse, predominantly coarse. Gravel is subangular to subrounded fine to coarse of extremely weak mudstone, siltstone and occasionally sandstone, lithorelics. GRADE IVa. (MERCIA MUDSTONE GROUP) ... Below 1.00m: Reddish brown		
1.20-1.65	5	UT _(UT100)	150 blows 67% recovery									
1.65-1.75 1.70	6 7	D D										
2.00-2.45 2.00-2.45 2.00-2.45	10 9	SPT B DSPT	N=22								(3.45)	
2.70	11	D										
3.00-3.39 3.00-3.39 3.00-3.45	13 14	SPT DSPT B	8,8/10,18,18,4 for 10mm									
3.70	15	D										
4.00-5.00 4.00-4.37		SPT								Description on next sheet	4.00	
4.00-4.37 4.30-4.40	17 18	DSPT C	5,11/14,26,10 for 65mm	100	90	16	NI NI 110					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
13/09/22	14:00	4.00	3.00	200	Dry				1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. SPT hammer AR3104-2022 (E _r = 64.00%) used.		
15/09/22	08:00	4.00	4.00	114	2.30						
15/09/22	15:15	20.00	4.00	114	16.00						
									All dimensions in metres		Scale: 1:25
Method Used:	Inspection pit + Cable Percussion + Rotary Corer			Plant Used: Dando 3000 + Comacchio GEO 205			Drilled By: Jonny Hutt + Luke Ramford	Logged By: DNartey + RSenior		Checked By:	

GINT_LIBRARY_V10_01.GLB LibVersion: v8_07_001 PnVersion: v8_07 | Log COMPOSITE LOG - A4P | 765514, EAST MIDLAND AIRPORT.GPJ - V10_01.
Structural Soils Ltd, Branch Office - Castleford, The Potteries, Pottery Street, Castleford, West Yorkshire, WF10 1NU. Tel: 01977-552255, Fax: 01977-552299, Web: www.soils.co.uk, Email: ask@soils.co.uk | 11/12/22 - 10:42 | TC9 |

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH22
Contract Ref:	Start: 13.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 15.09.22	73.80	E:446085.7 N:324639.6	2 of 12

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
4.90 5.00-6.50	19	D		100 ▼ ▲	90 ▼ ▲	16 ▼ ▲				... 4.42-4.80m: NI with extremely closely spaced randomly orientated planar and undulating smooth clean locally black stained discontinuities. ... 4.46-4.55m: Extremely weak light greenish grey siltstone. Very weak very thinly to thinly bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Very closely spaced, 0° to 10°, undulating, smooth, clean, locally with a little clay smear on surfaces and locally with black non-penetrative staining. (MERCIA MUDSTONE GROUP)	(2.29)	
5.50	20	D		100	87	37	NI NI 110			... 4.00-4.15m: NI with extremely closely spaced randomly orientated planar and undulating smooth clean locally black stained discontinuities.(stratum copied from 4.00m from previous sheet) ... 4.65-4.73m: Extremely closely spaced bands of very weak greenish grey siltstone. ... 4.78-4.82m: Strong grey siltstone. ... 5.00-5.20m: AZCL. ... 5.35-5.40m: NI recovered as clayey angular fine to medium gravel.		
6.30-6.50 6.50-8.00	21	C		▼ ▲	▼ ▲	▼ ▲	▲ ▼			... 5.45-5.50m: NI recovered as clayey angular fine to medium gravel. ... 5.59-5.95m: NI recovered as clayey angular fine to medium gravel. ... 5.89-6.29m: Extremely closely to very closely spaced thin and thick laminae (3 to 20mm) of light grey siltstone.	6.29	
6.80	22	D		100	97	43				Very weak to weak thinly to medium bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Closely spaced, 0° to 5°, undulating, smooth with frequent black non-penetrative staining. (MERCIA MUDSTONE GROUP)		
7.35	23	D		▼ ▲	▼ ▲	▼ ▲	NI 80 230			... 6.50-6.58m: 40° undulating smooth discontinuity with 1mm clay infill on surfaces. ... 6.69-6.85m: 65° undulating smooth discontinuity with black non-penetrative staining on surfaces. ... 6.71-6.88m: 40° to 75° undulating smooth discontinuity with black non-penetrative staining on surfaces. ... 6.84-6.91m: Undulating smooth discontinuity with black non-penetrative staining on surfaces. ... 6.93-6.97m: 10° to 20° undulating smooth black stained discontinuity. ... 7.02-7.18m: 30° to 50° undulating smooth black stained discontinuity. ... 7.17-7.23m: 40° undulating smooth discontinuity with 1mm clay infill on surfaces. ... 7.20-7.36m: 50° undulating rough clean discontinuity. ... 7.35-7.45m: NI with extremely closely to very closely spaced randomly orientated undulating smooth clean locally black stained discontinuities.	(5.11)	
8.00-9.50 8.33-8.44	24	C		100	97	12						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
Method Used: Inspection pit + Cable Percussion +			Plant Used: Dando 3000 + Comacchio GEO 205		Drilled By: Jonny Hutt + Luke		Logged By: DNartey + RSenior		Checked By:		

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH22
Contract Ref:	Start: 13.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 15.09.22	73.80	E:446085.7 N:324639.6	4 of 12

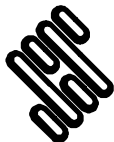
Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thick- ness)	Material Graphic Legend	
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)						
13.50	31	D		100	96	47				(MERCIA MUDSTONE GROUP) ... 11.50-11.68m: Stiff thinly to thickly laminated reddish brown clay with occasional mudstone lithorelicts. ... 11.88-12.17m: Stiff thickly laminated reddish brown mottled light grey clay.	(3.40)		
14.00-15.50										Extremely weak thinly bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Closely spaced, 0° to 5°, undulating, rough with a little clay smear on surfaces.			
14.42-14.57	32	C		100	92	53	NI 60 180			(MERCIA MUDSTONE GROUP) ... 12.66-12.71m: 2 no. parallel extremely closely spaced undulating rough clean discontinuities. ... 12.71-12.75m: 35° undulating smooth discontinuity with a little clay smear on surfaces. ... 12.72-13.20m: 80° to 90° undulating / stepped rough locally black stained discontinuity. ... 12.90-12.92m: 5° to 15° undulating rough black stained discontinuity. ... 13.29-13.42m: Thick laminae to very thin beds (20-30mm) of moderately weak grey siltstone. ... 13.32-13.60m: Bedding fractures are 5° to 15° undulating rough locally smooth mainly clean locally with a little clay smear on surfaces. ... 13.42-13.62m: Stiff very thinly bedded reddish brown clay with occasional angular to subangular fine to medium gravel size lithorelicts.			
15.00	33	D								Extremely weak to very weak very thinly to thinly bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Very closely to closely spaced, 0° to 5°, planar and undulating, smooth and rough, clean with occasional clay smear on surfaces.	16.00		
15.50-17.00										(MERCIA MUDSTONE GROUP) <i>(stratum copied from 12.60m from previous sheet)</i> ... 13.62-13.64m: Occasional 5 to 10mm diameter grey reduction spots. ... 13.63-13.69m: 50° planar smooth clean discontinuity. ... 13.65-13.75m: 40° planar smooth clean discontinuity with 1mm soft clay on surfaces. ... 13.78-13.83m: 85° undulating smooth black stained discontinuity. ... 13.80-14.00m: 85° to 90° undulating smooth black stained discontinuity. ... 14.00-14.15m: Drilling disturbed, NI, recovered as gravel. ... 14.15-14.32m: 85° to 90° undulating rough black stained discontinuity. ... 14.30-14.45m: Occasional fine to medium gravel size light grey siltstone inclusions. ... 14.57-14.66m: 85° to 90° undulating smooth black stained discontinuity.			
15.90	34	D		100	90	62	NI 80 200			. . . 14.60-14.90m: Extremely closely to very closely spaced randomly orientated undulating smooth black stained discontinuities.			
16.28-16.43	35	C									(4.00)		
17.00-18.50													
17.68-17.78	36	C		100	93	39							

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH22
Contract Ref:	Start: 13.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 15.09.22	73.80	E:446085.7 N:324639.6	5 of 12

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
18.20	37	D		100	93	39				 14.93-14.98m: Extremely weak light grey siltstone. 14.98-15.13m: Thinly to thickly laminated stiff reddish brown clay interbedded with extremely weak mudstone. 15.14-15.15m: Extremely weak siltstone. 15.45-15.50m: Extremely weak siltstone. 15.55-15.65m: Moderately weak thickly laminated greenish grey siltstone. 15.65-16.00m: Extremely weak thickly laminated reddish brown mudstone.		
18.50-20.00				↓	↓	↓						
18.80-18.90	38	C		100	98	43	NI 80 200					
19.50	39	D		↓	↓	↓	↓					
										 16.01-16.05m: Weak light grey siltstone. 16.05-16.24m: 80° to 85° undulating rough yellow brown stained discontinuity. 16.43-16.48m: 40° undulating rough yellow brown stained discontinuity. 16.48-16.51m: 30° undulating rough clean discontinuity. 16.53-16.56m: 15° undulating smooth yellow brown stained discontinuity. 16.54-16.60m: 80° undulating smooth clean discontinuity. 16.60-16.64m: Drilling disturbed, NI, recovered as gravel. 16.65-16.90m: 75° to 85° undulating rough yellow brown stained discontinuity. 16.77-16.84m: 40° undulating smooth clean discontinuity. 16.90-17.00m: AZCL. 17.15-17.32m: 60° to 85° curved undulating rough clean discontinuity. 17.28-17.31m: 70° undulating smooth yellow brown stained discontinuity. 17.31-17.40m: Randomly orientated extremely closely spaced undulating rough yellow brown stained discontinuities. 17.58-17.62m: 15° undulating smooth yellow brown stained discontinuity. 17.72-17.80m: Occasional 2-5mm diameter grey reduction spots. 17.75-17.80m depth: 30° undulating smooth yellow brown stained discontinuity. 17.82-17.89m: 75° to 85° undulating smooth yellow brown stained discontinuity. 17.94-18.02: 60° undulating smooth yellow brown stained discontinuity. Very weak thinly bedded reddish brown MUDSTONE. GRADE II. Bedding fractures: Closely spaced, 0° to 5°, planar and undulating, smooth, occasional yellowish brown staining on surfaces. (MERCIA MUDSTONE GROUP) (stratum copied from 16.00m from previous sheet) 18.00-18.10m: Randomly orientated extremely closely spaced undulating smooth clean discontinuities.	20.00	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			



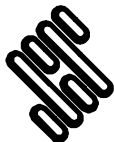
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO			Borehole: BH22		
Contract Ref: 765514		Start: 13.09.22 End: 15.09.22	Ground Level (m AOD): 73.80		National Grid Co-ordinate: E:446085.7 N:324639.6		Sheet: 6 of 12	

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
										... 18.10-18.26m: 75° undulating smooth yellow brown stained discontinuity. ... 18.12-18.15m: 30° undulating smooth yellow brown stained discontinuity. ... 18.25-18.40m: Weak grey siltstone. ... 18.25-18.40m: 60° undulating smooth clean discontinuity locally lightly stained yellow brown. ... 18.68-18.76m: 80° to 90° undulating rough clean discontinuity. ... 18.78-18.80m: Moderately weak light grey siltstone. ... 19.11-19.30m: 50° undulating rough clean discontinuity. ... 19.30-19.33m: Extremely weak light grey siltstone. ... 19.40-19.48m: 5 no. parallel extremely closely spaced 80° to 85° undulating rough clean discontinuities. ... 19.55-19.57m: Very weak light grey siltstone. ... 19.57-19.60m: 20° undulating smooth clean discontinuity. ... 19.60-19.79m: 70° undulating smooth yellow brown stained discontinuity. ... 19.68-19.72m: 25° undulating smooth yellow brown stained discontinuity. ... 19.81-19.85m: 50° undulating smooth discontinuity with a little clay smear on surfaces. ... 19.83-19.87m: 20° planar smooth clean discontinuity. Borehole terminated at 20.00m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres			Scale: 1:25	
Method Used:		Inspection pit + Cable Percussion + Rotary Cored		Plant Used: Dando 3000 + Comacchio GEO 205		Drilled By: Jonny Hutt + Luke Bamford		Logged By: DNartey + RSenior		Checked By:			

GINT LIBRARY_V10_01.GLB LibVersion: v8.07.001 PnVersion: v8.07 | Log COMPOSITE LOG - A4P | 765514, EAST MIDLAND AIRPORT.GPJ - v10_01. Structural Soils Ltd, Branch Office - Castleford, The Potteries, Pottery Street, Castleford, West Yorkshire, WF10 1NJ. Tel: 01977-552255, Fax: 01977-552299, Web: www.soils.co.uk, Email: ask@soils.co.uk | 11/12/22 - 10:42 | TC9 |



STRUCTURAL SOILS

DRAFT

BOREHOLE LOG

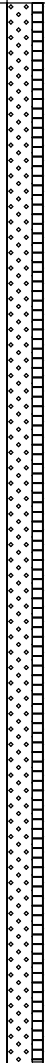
Contract: EMG Phase 2			Client: SEGRO		Borehole: BH23
Contract Ref: 765514	Start: 13.09.22 End: 14.09.22	Ground Level (m AOD): 70.77	National Grid Co-ordinate: E:446319.7 N:324654.7		Sheet: 1 of 16

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.10 0.10 0.10-0.30	1 101 2	D ES B	1xT+1xJ+1xV							TOPSOIL	(0.40)	
0.60 0.70 0.70-1.00	102 3 4	ES D B	1xT+1xJ+1xV							Very stiff reddish brown slightly sandy slightly gravelly CLAY. Sand is fine and medium and mudstone derived. Gravel is angular and subangular fine of extremely weak to very weak mudstone lithorelics. Occasional fine and medium gravel size pockets of grey silty sand. GRADE IVa. (MERCIA MUDSTONE GROUP)	(0.60)	
1.00 1.20 1.20-1.50	103 5 6	ES D UT _(UT100)	1xT+1xJ+1xV 150 blows 100% recovery							Very stiff reddish brown slightly sandy slightly gravelly CLAY with frequent laminae (<10mm) of very weak to weak brown sandstone. Sand is fine and medium and mudstone derived. Gravel is angular and subangular fine to coarse of extremely weak to very weak mudstone lithorelics and weak fine grained sandstone. GRADE III verging towards GRADE IVb. (MERCIA MUDSTONE GROUP)	1.00 (1.00)	
1.50-1.60 1.70	7 8	D D									2.00	
2.00-2.45 2.00-2.45 2.00-2.45	10 11	SPT DSPT B	N=40							Very stiff reddish brown slightly sandy slightly gravelly CLAY with frequent fine and medium gravel size pockets of grey silty sand. Sand is fine and mudstone derived. Gravel is angular and subangular fine to coarse of extremely weak to very weak mudstone lithorelics and weak fine grained sandstone. GRADE IVb. (MERCIA MUDSTONE GROUP)	(1.30)	
2.50-2.88 2.50-2.88 2.50-3.00	13 14	SPT DSPT B	8,12/13,14,23 for 75mm								3.30	
3.00-3.37 3.00-3.37 3.30-4.80	16	SPT DSPT	9,14/15,17,18 for 70mm							AZCL. (MERCIA MUDSTONE GROUP)	3.50	AZCL
3.90	25	D		80	33	0				Very stiff reddish brown slightly sandy gravelly CLAY. Sand is fine to medium and mudstone derived. Gravel is fine to coarse angular to subangular extremely weak mudstone. GRADE III. (MERCIA MUDSTONE GROUP) Extremely weak reddish brown MUDSTONE. GRADE II Fractures: Very closely spaced, randomly orientated, rough, undulating, dark brown staining on surfaces.. (MERCIA MUDSTONE GROUP)	3.75 (0.90)	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
12/09/22	16:33	2.50	1.50	200	Dry	2.50	3.00	00:45	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. SPT hammer AR3104-2022 (E _r = 64.00%) used.	
14/09/22		15.30	4.00	114	-					
Method Used: Inspection pit + Cable Percussion + Rotary Corer						Plant Used: Dando 3000 + Comacchio GEO 205			All dimensions in metres	
Drilled By: Jonny Hutt						Logged By: DNartey + DNeylon			Scale: 1:25	
Checked By: AGS										

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH23
Contract Ref:	Start: 13.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 14.09.22	70.77	E:446319.7 N:324654.7	2 of 16

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instru- mentation	Water	Description of Strata	Depth (Thick- ness)	Material Graphic Legend				
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)									
4.80-6.30	26	D		80	33	0					4.65					
				▼	▼	▼				Extremely weak greenish grey SILTSTONE. (MERCIA MUDSTONE GROUP)	4.80					
				▲	▲	▲				Extremely weak reddish brown thickly laminated MUDSTONE with very closely spaced laminae and very thin beds (<25mm) of gravelly clay. GRADE II verging towards GRADE III. (MERCIA MUDSTONE GROUP)	(0.65)					
5.20																
				97	21	0				Extremely weak greenish grey thinly laminated SILTSTONE. (MERCIA MUDSTONE GROUP)	5.55					
										Very stiff reddish brown lightly sandy slightly gravelly CLAY. Sand is fine to medium and mudstone derived. Gravel is fine to medium mudstone lithorelics. GRADE III. (MERCIA MUDSTONE GROUP)	(0.55)					
											6.10					
6.30-7.80				▼	▼	▼				Extremely weak reddish brown thinly laminated MUDSTONE. GRADE II verging towards GRADE III. (MERCIA MUDSTONE GROUP)	6.30					
										AZCL. (MERCIA MUDSTONE GROUP)	(0.70)					
6.80-7.17	27	SPT	2,9/11,14,25 for 70mm								7.00					
											Extremely weak reddish brown MUDSTONE. GRADE II. (MERCIA MUDSTONE GROUP) ... 7.00-7.40m: Thinly laminated.					
7.20							53	18	0			... 7.40-7.45m: Thinly laminated greenish grey silt. ... 7.45-7.55m: Extremely weak greenish grey thinly laminated siltstone. ... 7.55-7.85m: Thickly laminated.				
												... 7.85-8.20m: Very closely spaced randomly orientated rough undulating fractures with black staining on surfaces.				
7.80-9.30							▲	▲	▲							
8.40	28	D		100	9	0				... 8.35-8.65m: Extremely closely spaced rough planar bedding fractures and very closely spaced randomly orientated rough undulating fractures with dark brown staining on surfaces. ... 8.65-8.70m: Thinly laminated greenish grey silt. ... 8.70-8.95m: Recovered as gravel.						

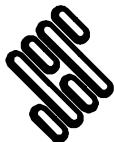
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres	Scale: 1:25			
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By:	Jonny Hutt		Logged By:	DNartey + DNeylon	Checked By:	

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH23
Contract Ref:	Start: 13.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 14.09.22	70.77	E:446319.7 N:324654.7	4 of 16

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Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres	Scale: 1:25			
Method Used:	Inspection pit + Cable Percussion +			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By:	Jonny Hutt		Logged By:	DNartey + DNeylon	Checked By:	



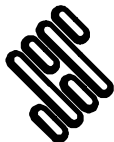
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH23
Contract Ref: 765514	Start: 13.09.22 End: 14.09.22	Ground Level (m AOD): 70.77	National Grid Co-ordinate: E:446319.7 N:324654.7		Sheet: 6 of 16

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
22.80-24.30	38	C		100	41	35				Extremely weak reddish brown MUDSTONE with frequent fine to coarse gravel size pockets of greenish grey siltstone. GRADE II. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 21.65m from previous sheet)</i> ... 22.50-22.55m: Recovered as clayey gravel. ... 22.90-23.15m: Recovered as sandy clayey gravel.	(1.85)	
23.65-24.00				97	67	43				Extremely weak reddish brown MUDSTONE, verging towards very stiff clay. GRADE II. (MERCIA MUDSTONE GROUP)	23.50	
24.30-25.80										Very stiff reddish brown slightly sandy CLAY. GRADE IVb. (MERCIA MUDSTONE GROUP)	(1.00)	
25.40-25.65	39	C		100	20	0				Extremely weak greenish grey thinly interbedded SILTSTONE and fine grained SANDSTONE. Bedding fractures: Closely spaced, rough, undulating, infilled with sandy fine to medium gravel of siltstone. (MERCIA MUDSTONE GROUP)	(0.35)	x x x x
25.80-27.30										Very stiff reddish brown slightly sandy slightly gravelly CLAY. Sand is fine to medium mudstone derived. Gravel is angular fine to coarse mudstone lithorelics. GRADE III verging towards GRADE II. (MERCIA MUDSTONE GROUP)	24.50	x x x x
26.85-27.15				100	20	0				Extremely weak greenish grey thickly interlaminated SILTSTONE and fine grained SANDSTONE. Bedding fractures: Closely spaced, rough, undulating, infilled with sandy fine to medium gravel. (MERCIA MUDSTONE GROUP) <i>Description on next sheet</i>	(0.35)	x x x x

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

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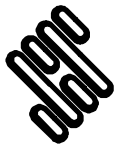
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH23
Contract Ref: 765514	Start: 13.09.22 End: 14.09.22	Ground Level (m AOD): 70.77	National Grid Co-ordinate: E:446319.7 N:324654.7		Sheet: 7 of 16

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
27.30-28.80	41	C		100	20	0				Very stiff reddish brown slightly sandy slightly gravelly CLAY. Sand is fine to medium mudstone derived. Gravel is fine to coarse angular mudstone lithorelics. GRADE III verging towards GRADE II. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 26.70m from previous sheet)</i>	(0.85)	
27.60-27.80				93	71	50				Very weak reddish brown MUDSTONE with closely spaced, planar, gypsum veins, typically between 5 to 20mm thickness. (MERCIA MUDSTONE GROUP)	27.55	
28.80-30.30	42	C								... 28.55-29.25m: Becoming weak and light reddish brown.	(2.77)	
28.80-29.05										... 29.25-29.40m: Greenish grey siltstone. ... 29.40m: Becoming very weak to extremely weak.		
				100	85	75					30.32	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
									All dimensions in metres		Scale: 1:25
Method Used:	Inspection pit + Cable Percussion + Rotary Core			Plant Used:	Dando 3000 + Comacchio GEO 205		Drilled By: Jonny Hutt		Logged By: DNartey + DNeylon	Checked By:	

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STRUCTURAL SOILS

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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH24
Contract Ref: 765514	Start: 12.09.22 End: 14.09.22	Ground Level (m AOD): 67.02	National Grid Co-ordinate: E:446273.4 N:324520.3		Sheet: 1 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend			
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)								
0.00-0.00	1	D	1xT+1xJ+1xV							TOPSOIL					
0.00-0.10	3	B													
0.05-0.05	2	ES									(0.40)				
0.10-0.10	4	D									0.40				
0.10-0.40	6	B	1xT+1xJ+1xV							Firm light orangish brown gravelly CLAY. Gravel is angular to subrounded fine to medium of mudstone.	(0.60)				
0.20-0.20	5	ES													
0.40-0.40	7	D													
0.40-1.00	9	B													
0.50-0.50	8	ES	1xT+1xJ+1xV								1.00				
1.00-1.00	10	ES	1xT+1xJ+1xV							Firm thinly laminated orangish brown, mottled grey, slightly sandy gravelly CLAY. Sand is fine to medium. Gravel is fine to medium of mudstone. ... 1.00-1.20m: possible mercia mudstone. Possible extremely weathered to destructured mudstone. Dense greenish grey gravelly silty fine to medium SAND. Gravel is angular and subangular fine to coarse strong siltstone. Frequent fine and medium gravel size pockets and lenses (<15mm) of brown silty sand. GRADE III. (MERCIA MUDSTONE GROUP)	1.20				
1.20-1.65		SPT	N=49												
1.20-1.65	12	DSPT													
1.20-1.70	13	B									(0.80)				
1.70	14	D									2.00				
2.00	15	ES	N=45							Very stiff reddish brown slightly sandy slightly gravelly CLAY. Sand is fine to medium and mudstone derived. Gravel is angular to subangular fine mudstone lithorelics. GRADE IVa. (MERCIA MUDSTONE GROUP)	(1.50)				
2.00-2.45		SPT													
2.00-2.45	16	DSPT													
2.00-2.50	17	B													
2.50	18	D													
3.00	19	ES	3,9/14,23,13 for 43mm								3.50				
3.00-3.34		SPT													
3.00-3.45	20	DSPT													
3.00-3.50	21	B								Extremely weak reddish brown MUDSTONE. Recovered as slightly clayey sandy fine to coarse angular gravel. Occasional thin and thick laminae of grey siltstone. Fractures: Randomly orientated, very closely spaced, undulating rough to undulating smooth, abundant black staining. (MERCIA MUDSTONE GROUP) ... 3.50-3.75m: NI, clayey sandy gravel. ... 4.00-4.23m: NI, silty sandy gravel.					
3.50-5.00		D	7,15/26,24 for 50mm												
3.50	22	SPT													
3.50-3.78		D													
3.50-3.95	23	DSPT													
				100	0	0	3								
							15								

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
14/09/22		9.00	3.50	114	Dry	3.30	3.50	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m.	
15/09/22		9.00	3.40	114	Dry					
Method Used: Inspection pit + Cable Percussion + Rotary Core						Plant Used: Dando 2000 Mark2 + Comacchio GEO 205			All dimensions in metres	
Drilled By: Chris Jobson						Logged By: JAlton + RStan			Scale: 1:25	
Checked By: AGS										

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BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH24
Contract Ref:	Start: 12.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 14.09.22	67.02	E:446273.4 N:324520.3	4 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instru- mentation	Water	Description of Strata	Depth (Thick- ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
13.74-13.95	32	D		100	88	84				. . . 13.31-13.45m: 54° planar rough occasional black staining. . . . 13.36-13.37m: 4° planar rough occasional black staining. Weak reddish brown MUDSTONE. Occasionally interbedded with weak to medium strong siltstone. GRADE II. Fractures: 80-90° and 0-10°, planar, rough, occasional black staining. (MERCIA MUDSTONE GROUP) . . . 13.30-13.74m: medium strong fragmented siltstone.(<i>stratum copied from 13.30m from previous sheet</i>) . . . 13.63-13.65m: 9° planar rough occasional black staining. . . . 13.91-14.59m: 82° planar rough occasional black staining. . . . 14.51-14.55m: weak siltstone. . . . 14.70-14.80m: NI, recovered as angular gravel. . . . 14.80-14.99m: NI, fractures randomly orientated and 40-50° closely spaced planar rough clean. . . . 15.15-15.80m: Grey weak and medium strong siltstone. . . . 15.67-15.92m: reddish brown mottled grey mudstone and siltstone. . . . 16.04-16.22m: 86° undulating rough rare black staining. . . . 16.34-16.50m: grey siltstone. . . . 16.78-16.86m: grey siltstone. . . . 17.03-17.05m: grey siltstone. . . . 17.12-17.15m: grey siltstone. . . . 17.22-17.23m: 8° planar rough clean. . . . 17.23-17.31m: grey siltstone. . . . 17.80-17.86m: NI. . . . 17.80-18.30m: grey siltstone.		
14.80-16.30				↓	↓	↓						
15.21-15.45	33	C		100	87	82						
16.30-17.80				↓	↓	↓						
16.81-17.08	34	C		100	100	100						
17.80-19.30				↓	↓	↓						

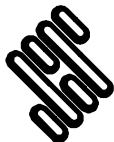
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres			Scale: 1:25	
Method Used: Inspection pit + Cable Percussion +		Plant Used: Dando 2000 Mark2 + Comacchio GEO 205		Drilled By: Chris Jobson		Logged By: JAlton + RStan		Checked By:					

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH24
Contract Ref:	Start: 12.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 14.09.22	67.02	E:446273.4 N:324520.3	5 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instru- mentation	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
19.13-19.30	35	C		↓ 100	↓ 91	↓ 81				... 17.93-17.97m: thinly laminated siltstone. ... 17.97-18.00m: 8° undulating rough occasional black staining. Weak reddish brown MUDSTONE. Occasionally interbedded with weak to medium strong siltstone. GRADE II. Fractures: 80-90° and 0-10°, planar, rough, occasional black staining. (MERCIA MUDSTONE GROUP) ... 13.30-13.74m: medium strong fragmented siltstone.(stratum copied from 13.30m from previous sheet) ... 18-07-18.08m: 4° planar rough occasional black staining. ... 18.15-18.26m: 44° planar rough clean. ... 18.60-18.62m: NI.		
19.30-20.80	36	C		↑	↑	↑				... 18.70-18.72m: 9° planar rough occasional black staining. ... 18.87-18.90m: 10° planar rough occasional black specks. ... 19.00-19.05m: 21° undulating smooth, polished, occasional yellow staining. ... 19.13-19.14m: 4° planar rough clean. ... 19.30-19.67m: interbedded weak fine siltstone. ... 19.77-19.81m: 69° undulating rough calcite infill <3mm. ... 19.82-20.29m: 79° planar rough clean. ... 20.31-20.42m: 56° undulating rough clean. ... 20.45-20.42m: 56° undulating rough clean. ... 20.56-20.57m: 7° planar rough occasional black staining. ... 20.68-20.69m: 9° planar rough clean.	20.80	
19.30-19.57				↓	↓	↓						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres			Scale: 1:25	
Method Used: Inspection pit + Cable Percussion +		Plant Used: Dando 2000 Mark2 + Comacchio GEO 205		Drilled By: Chris Jobson		Logged By: JAlton + RStan		Checked By:					

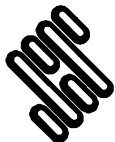


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH25
Contract Ref: 765514	Start: 12.09.22 End: 15.09.22	Ground Level (m AOD): 63.15	National Grid Co-ordinate: E:446409.0 N:324534.7		Sheet: 1 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.00-0.00	1	D								TOPSOIL		
0.00-0.10	3	B									(0.40)	
0.05-0.05	2	ES	1xT+1xJ+1xV									
0.10-0.10	4	D									0.40	
0.10-0.40	6	B										
0.20-0.20	5	ES	1xT+1xJ+1xV									
0.40-0.40	7	D										
0.40-1.00	9	B										
0.50-0.50	8	ES	1xT+1xJ+1xV								(0.60)	
											1.00	
1.00-1.00	10	ES	1xT+1xJ+1xV								1.20	
1.20-1.20	11	D										
1.20-1.65	12	SPT	N=15									
1.20-1.65	12	DSPT										
1.20-1.70	13	B										
1.70	14	D										
2.00	15	ES										
2.00-2.45	16	SPT	N=19								(1.80)	
2.00-2.45	16	DSPT										
2.00-2.50	17	B										
2.50	18	D										
3.00	19	ES										
3.00-3.36	20	SPT	5,18/18,18,14 for 57mm									
3.00-3.45	21	DSPT									(0.50)	
3.00-3.50	21	B									3.50	
3.50-5.00	22	D										
3.50	22	SPT	7,18/21,29 for 72mm								(0.45)	
3.50-3.79	23	DSPT										
3.50-3.96	23										3.95	
				87	21	0						
4.25	25	C										

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
						3.30	3.50	00:30			
									1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m.		
									All dimensions in metres		
Method Used: Inspection pit + Cable Percussion +				Plant Used: Dando 2000 Mark2 + Comacchio GEO 205		Drilled By: Chris Jobson +		Logged By: DNeylon + JAlton		Checked By:	

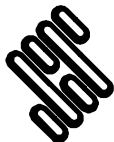


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH25
Contract Ref: 765514	Start: 12.09.22 End: 15.09.22	Ground Level (m AOD): 63.15	National Grid Co-ordinate: E:446409.0 N:324534.7		Sheet: 2 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
5.00-6.50				87	21	0				Extremely weak reddish brown MUDSTONE. GRADE II. Fractures: Very closely spaced, randomly orientated, rough, undulating, dark brown staining on surfaces. (MERCIA MUDSTONE GROUP) (stratum copied from 3.95m from previous sheet)	(1.35)	
											5.30	
				97	8	0				Stiff reddish brown slightly sandy gravelly CLAY with occasional fine to medium gravel sized pockets and lenses (<15mm) of greenish grey silt. Sand is fine to coarse and mudstone derived. Gravel is fine to medium angular to subangular mudstone and siltstone lithorelics. GRADE III. (MERCIA MUDSTONE GROUP) ... 5.75-5.90m: Extremely weak mudstone.	(0.85)	
											6.15	
6.35-6.45	26	C								Extremely weak reddish brown MUDSTONE. GRADE II. Bedding fractures: Closely spaced, rough, undulating. Fracture set 2: Very closely spaced, randomly orientated, rough, undulating, dark brown staining on surfaces. (MERCIA MUDSTONE GROUP)		
6.50-8.00										... 6.90-7.00m: Thinly cross laminated greenish grey siltstone.		
				87	64	58						
											(3.00)	
7.84-8.00	27	C										
8.00-9.50												
				100	59	53						
8.60-8.70	28	C								... 8.70-8.85m: Thinly laminated greenish grey siltstone.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
Method Used: Inspection pit + Cable Percussion + Rotary Core				Plant Used: Dando 2000 Mark2 + Comacchio GEO 205		Drilled By: Chris Jobson + Marc Pearson		Logged By: DNeylon + JAlton		Checked By:	



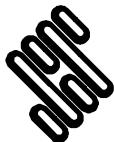
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH25
Contract Ref: 765514	Start: 12.09.22 End: 15.09.22	Ground Level (m AOD): 63.15	National Grid Co-ordinate: E:446409.0 N:324534.7		Sheet: 5 of 11

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
18.50-20.00	36	C		93	68	47				Extremely weak reddish brown MUDSTONE with occasional fine to coarse gravel size pockets of greenish grey siltstone. GRADE II. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 17.55m from previous sheet)</i> ... 18.10-18.25m: Recovered as sandy gravel with trace thick interlaminae with greenish grey extremely weak siltstone. Suspected interlaminated zone, verging towards GRADE III.	(1.51)	
18.70-18.85											19.06	
				100	30	0				Stiff reddish brown slightly sandy CLAY with occasional fine to medium gravel size pockets of greenish grey silt. GRADE IVb. (MERCIA MUDSTONE GROUP)	(0.54)	
										Very weak greenish grey SILTSTONE. (MERCIA MUDSTONE GROUP) ... 19.60-19.75m: 85°, rough undulating fractures. ... 19.85-19.90m: Band of greenish grey sandy silt.	(0.40)	
										Borehole terminated at 20.00m depth.	20.00	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
Method Used: Inspection pit + Cable Percussion + Rotary Core			Plant Used: Dando 2000 Mark2 + Comacchio GEO 205			Drilled By: Chris Jobson + Marc Pearson		Logged By: DNeylon + JAlton	Checked By:	

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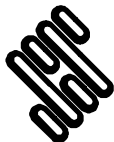
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH26
Contract Ref: 765514	Start: 09.09.22 End: 20.09.22	Ground Level (m AOD): 66.17	National Grid Co-ordinate: E:446600.8 N:324651.0		Sheet: 1 of 10

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
0.00	1	D								TOPSOIL	0.10	
0.10	2	D								Stiff reddish brown sandy CLAY with occasional greenish grey pockets (<2mm) of silt. Sand is fine to coarse. (MERCIA MUDSTONE GROUP)	(2.40)	
0.10-0.40	3	B										
0.20	101	ES										
0.40	4	D										
0.40-1.00	5	B										
0.50	102	ES										
1.00	103	ES	N=25								(2.40)	
1.00	6	D										
1.00-1.20	7	B										
1.20-1.65	8	SPT										
1.20-1.65	9	DSPT										
1.20-1.70		B										
1.70	10	D									(2.50)	
2.00	104	ES	150 blows 78% recovery									
2.00-2.45	11	UT										
2.50	12	D										
2.50-3.00	13	B										
3.00-3.45												
3.00-3.45	14	SPT	N=25								(2.00)	
3.00-3.45	15	DSPT										
3.00-3.50		B										
3.50	16	D									(2.00)	
4.00-4.45	17	UT	150 blows									
4.00-4.50	18	B										
4.50												

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
14/09/22	08:00	5.00	5.00	114	Dry	4.80	5.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m.	
14/09/22	17:00	21.00	5.00	114	Dry					
Method Used: Cable Percussion + Rotary Cored						Plant Used: Dando 3000 + Unimog 405			All dimensions in metres	
						Drilled By: ???			Scale: 1:25	
						Logged By: DNartey + RStan			Checked By:	

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BOREHOLE LOG

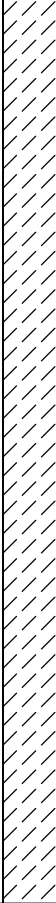
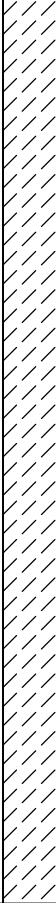
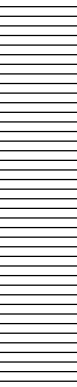
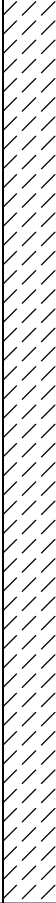
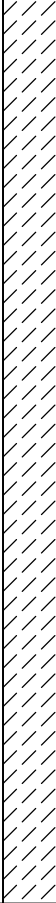
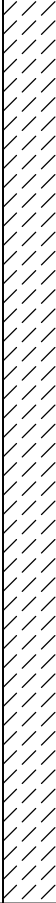
Contract: EMG Phase 2			Client: SEGRO		Borehole: BH26
Contract Ref: 765514	Start: 09.09.22 End: 20.09.22	Ground Level (m AOD): 66.17	National Grid Co-ordinate: E:446600.8 N:324651.0		Sheet: 2 of 10

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
4.50 4.50-4.85	19	D SPT	8,14/28,22,51 for 50mm							Very stiff reddish brown slightly sandy slightly gravelly CLAY. Sand is fine and medium and mudstone derive. Gravel is angular and subangular fine and medium extremely weak mudstone lithorelics. Occasional fine and medium gravel size pockets of grey silty sand and trace evidence of bedding. GRADE IVa. (MERCIA MUDSTONE GROUP)	(0.50)	
4.50-4.95 4.50-5.00	20 21	DSPT B									5.00	
5.00-6.00 5.00-5.17		SPT	19,6/39,11 for 8mm	↑	↑	↑				Extremely weak reddish brown MUDSTONE with frequent fine gravel size pockets and laminae (<15mm) of greenish grey siltstone, recovered as angular fragments with matrix of clayey sand. (MERCIA MUDSTONE GROUP)	(0.50)	
5.50	23	D		85	8	0					5.50	
6.00-7.50				↑	↑	↑				Extremely weak reddish brown MUDSTONE. GRADE II. Bedding fractures: Very closely spaced, smooth, undulating, black staining. Fracture set 2: Randomly orientated, very closely spaced, smooth, planar, black staining on surfaces. (MERCIA MUDSTONE GROUP)	(1.00)	
6.35	24	D									6.50	
7.50-9.00				↑	↑	↑				Extremely weak reddish brown MUDSTONE recovered as angular fragments with matrix of clayey sand. With gravel size fragments of greenish grey siltstone. GRADE II. (MERCIA MUDSTONE GROUP) ... 6.90-7.10m: Extremely weak siltstone.	(0.60)	
7.90	25	D									7.10	
				↑	↑	↑				Extremely weak reddish brown MUDSTONE with fine to medium gravel size pockets of greenish grey siltstone. GRADE II. Bedding fractures: Closely spaced, smooth, planar, black staining on surfaces. Fracture set 2: Randomly orientated, smooth, planar. (MERCIA MUDSTONE GROUP) ... 7.55-7.60m: Greenish grey siltstone.		
				93	41	29					(2.85)	
				↓	↓	↓				... 8.50-8.60m: Recovered as angular gravel, suspected bedding fracture.		

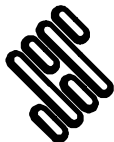
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH26
Contract Ref:	Start: 09.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 20.09.22	66.17	E:446600.8 N:324651.0	5 of 10

Depth (m)	Samples & Testing			Mechanical Log				Backfill	Water	Description of Strata	Depth (Thick ness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
18.00-19.50	36	D		↑	↑	↑				Extremely weak thinly to thickly laminated reddish brown MUDSTONE, thinly interbedded with extremely weak thinly to thickly cross laminated greenish grey SILTSTONE. GRADE II. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 17.60m from previous sheet)</i> . . . 18.00-18.90m: Randomly orientated rough planar fractures.	(1.30)	
18.50												
	37	C		90	7	0				Extremely weak reddish brown MUDSTONE with frequent fine to medium gravel size pockets of greenish grey siltstone. (MERCIA MUDSTONE GROUP) . . . 18.90-19.30m: Randomly orientated planar fractures.	(1.30)	
19.50-21.00	37	C		↓	↓	↓				Extremely weak thinly to thickly cross laminated greenish grey SILTSTONE with closely spaced laminae (<15mm) of sandstone. (MERCIA MUDSTONE GROUP)	(0.80)	
19.50-19.90												
	37	C		80	73	60					21.00	
	37	C		↓	↓	↓						

Boring Percussion and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH27
Contract Ref: 765514	Start: 12.09.22 End: 14.09.22	Ground Level (m AOD): 59.09	National Grid Co-ordinate: E:446622.8 N:324516.7		Sheet: 1 of 17

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend				
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)									
0.10-0.10	101	ES	1xT+1xJ+1xV							TOPSOIL	(0.30)					
0.40-0.40	102	ES	1xT+1xJ+1xV							Firm to stiff reddish brown slightly sandy gravelly CLAY. Sand is fine to medium. Gravel is angular to subrounded fine to coarse of mudstone. (MERCIA MUDSTONE GROUP)	(0.90)					
1.20-2.20	1	SPT DSPT	N=9	↑	↑	↑				Very stiff brown slightly sandy gravelly CLAY. Sand is fine to coarse and mudstone derived. Gravel is angular to subangular fine to coarse mudstone and siltstone lithorelics. Frequent randomly orientated fractures with black staining on surfaces. GRADE IVa. (MERCIA MUDSTONE GROUP)	1.20					
1.20-1.65																
1.20-1.20																
1.90-2.00	103	ES	6,8/12,21,17 for 30mm	↑	↑	↑					(1.55)					
2.00-2.10	4	D														
2.10-2.20	5	C														
2.20-3.00		SPT		↑	↑	↑										
2.20-2.53																
2.80-2.90	106	ES									(1.45)					
2.90-3.00	7	D	↓	↓	↓											
3.00-3.40	8	D	↑	↑	↑											
3.10-3.20																
3.40-4.90																

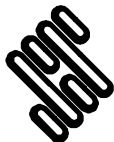
Boring Progress and Water Observations						General Remarks						
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth							
13/09/22		4.90	None	N/R	3.90							
14/09/22		22.80	None	114	2.90							
						All dimensions in metres		Scale:	1:25			
Method Used:	Inspection pit + Dynamic sampling +			Plant Used:	Comacchio GEO 205		Drilled By:	???	Logged By:	DNeylon + JAlton	Checked By:	

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH27
Contract Ref:	Start: 12.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 14.09.22	59.09	E:446622.8 N:324516.7	2 of 17

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Boring Progress and Water Observations						General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	
All dimensions in metres						Scale: 1:25
Method Used:	Inspection pit + Dynamic sampling +		Plant Used:	Comacchio GEO 205		Drilled By: ???
						Logged By: DNeylon + JAlton
						Checked By: 



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: BH27
Contract Ref: 765514	Start: 12.09.22 End: 14.09.22	Ground Level (m AOD): 59.09	National Grid Co-ordinate: E:446622.8 N:324516.7		Sheet: 6 of 17

Depth (m)	Samples & Testing			Mechanical Log				Backfill & Instrumentation	Water	Description of Strata	Depth (Thickness)	Material Graphic Legend
	No	Type	Results	TCR (%)	SCR (%)	RQD (%)	If (mm)					
22.80-24.30				83	83	63				Very weak reddish brown MUDSTONE with closely to very closely spaced, up to 40mm, but generally 5mm to 20mm, of crystallised gypsum, generally parallel with bedding. GRADE I. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 21.10m from previous sheet)</i>		
23.50-23.80	32	C		100	70	61						
24.30-25.80												
24.60	33	C		97	97	97					(8.20)	
25.80-27.30				100	100	100						
										... 26.30-26.50m: Extremely weak greenish grey siltstone.		

Boring Progress and Water Observations						General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth		
						All dimensions in metres	Scale: 1:25
Method Used: Inspection pit + Dynamic sampling + Rotary Core	Plant Used: Comacchio GEO 205			Drilled By: ???	Logged By: DNeylon + JAlton	Checked By:	

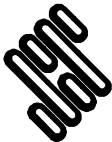
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BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		BH27
Contract Ref:	Start: 12.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 14.09.22	59.09	E:446622.8 N:324516.7	7 of 17

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Boring Progress and Water Observations						General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	
All dimensions in metres						Scale: 1:25
Method Used:	Inspection pit + Dynamic sampling +		Plant Used:	Comacchio GEO 205		Drilled By: ???
						Logged By: DNeylon + JAlton
						Checked By: 



STRUCTURAL SOILS

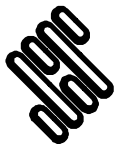
DRAFT

BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP01
Contract Ref: 765514	Start: 05.09.22 End: 06.09.22	Ground Level (m AOD): 91.40	National Grid Co-ordinate: E:446654.8 N:325363.5		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10	1	ES	1xT+1xJ+1xV			TOPSOIL ... 0.20-0.40m: becomes stiff	0.40	
0.50	2	ES	1xT+1xJ+1xV			... 0.30-0.40m: With low cobble content. Cobbles are subangular of sandstone (<250x150x100mm).	0.65	
1.00	3	ES	1xT+1xJ+1xV			Stiff dark reddish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of quartzite and sandstone.		
1.20-1.65	4	SPT	N=18			Stiff dark reddish brown slight sandy CLAY with low cobble content. Cobbles are subangular of dark grey siltstone (<150x90x80mm). Occasional light greenish grey reduction spots.		
1.20-1.65	5	DSPT B				(MERCIA MUDSTONE GROUP)		
1.80	6	D	N=30			... 0.65m: Cobbles are subangular of dark grey siltstone (<230x150x100mm).		
2.00-2.45	7	SPT						
2.00-2.45	8	DSPT B						
2.80	9	D						
3.00-3.31	10	SPT	13,12/18,22,10 for 5mm					
3.00-3.30	11	DSPT B						
3.80	12	D						
4.00-4.45	13	SPT	N=50					
4.00-4.45	14	DSPT B						
4.80	15	D						
5.00-5.38	16	SPT	6,10/10,10,20,10 for 5mm			... 5.00-7.95m: very stiff		
5.00-5.30	17	DSPT B						
5.80	18	D						
6.00-6.45	19	SPT	N=49					
6.00-6.45	20	DSPT B						
6.80	21	D						
7.50-7.81		SPT	6,8/17,23,10 for 5mm					
7.50-7.81	22	DSPT				Cable percussion borehole terminated at 7.81m depth.	7.81	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
05/09/22	17:00	1.20	-		Dry	3.30	3.50	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Drilled using 150mm diameter tools and casing. 4. No groundwater encountered during drilling. 5. Borehole installed with 50mm standpipe on completion. 6. SPT hammer JB05-2022 ($E_r = 68.00\%$) used.
06/09/22	08:00	1.20	-		Dry	5.60	6.00	00:30	
06/09/22	14:00	7.81	3.00	150	Dry				
Method Used: Inspection pit + Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2000			Drilled By: William Nevin			Logged By: GKalahar		Checked By: AGS	



STRUCTURAL SOILS

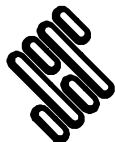
DRAFT

BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP02
Contract Ref: 765514	Start: 07.09.22 End: 07.09.22	Ground Level (m AOD): 87.79	National Grid Co-ordinate: E:446423.0 N:325361.8		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.50	1	ES	1xT+1xJ+1xV			TOPSOIL ... 0.20-0.35m: stiff	0.35	
0.50	2	D				Stiff dark reddish brown slightly sandy gravelly CLAY. Occasional fine to coarse gravel size pockets and lenses (<10mm) of greenish grey sandy silt with trace laminae and brown bands up to 3mm. Sand is fine and medium and mudstone derived. Gravel is angular and subangular fine to coarse of extremely weak mudstone. (MERCIA MUDSTONE GROUP)	(1.25)	
1.00	3	ES	1xT+1xJ+1xV					
1.00	4	D						
1.20-1.65	5	SPT	N=21					
1.20-1.65	6	DSPT					1.60	
1.20-1.70	6	B						
1.80	7	D				Very stiff dark reddish brown slightly sandy gravelly CLAY. Occasional fine to coarse gravel sized pockets of greenish grey sandy silt. Sand is fine and medium and mudstone derived. Gravel is angular and subangular fine to coarse of mudstone. (MERCIA MUDSTONE GROUP)		
2.00-2.45	8	UT _(UT100)	60 blows 100% recovery					
2.60	9	D						
2.60-3.00	10	B						
3.00-3.41		SPT	5,5/13,13,15,9 for 35mm			... 3.00-3.30m: verging towards Grade III with extremely weak to very weak mudstone and occasional fine gravel size fragments of dark brown fossilised organic matter.		
3.00-3.40	11	DSPT						
3.00-3.50	12	B					(4.40)	
3.80	13	D						
4.00-4.45	14	UT _(UT100)	90 blows 100% recovery					
4.60	15	D						
4.60-5.00	16	B						
5.00-5.31		SPT	5,7/12,28,10 for 5mm			... 5.00-5.30m: occasional fine gravel size fragments of dark brown fossilised organic matter.		
5.00-5.30	17	DSPT						
5.00-5.50	18	B						
5.80	19	D					6.00	
6.00-6.37		SPT	8,14/25,25,25 for 70mm			Very stiff dark reddish brown slightly sandy gravelly CLAY with infrequent beds (<30mm) of light greenish grey siltstone. Sand is fine to coarse and mudstone derived. Gravel is angular and subangular fine to coarse extremely weak mudstone and siltstone. (MERCIA MUDSTONE GROUP)		
6.00-6.40	20	DSPT						
6.00-6.50	21	B					(1.63)	
6.80	22	D				... 7.00-7.63m: gravel size fraction extremely weak to very weak		
7.50-7.63		SPT	25/75 for 55mm				7.63	
7.50-7.63	23	DSPT				Cable percussion borehole terminated at 7.63m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
07/09/22	16:00	7.63	1.50	150	-	3.40 6.80	3.60 7.00	00:30 00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Drilled using 150mm diameter tools and casing. 4. Groundwater strike at 6.00m. Rise to 5.70m after 20 minutes. 5. Borehole backfilled with bentonite on completion. 6. SPT hammer JB05-2022 (E _s = 68.00%) used.
Method Used: Inspection pit + Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2000		Drilled By: W Nevins		Logged By: RStan		Checked By:			



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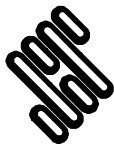
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP03
Contract Ref: 765514	Start: 08.09.22 End: 08.09.22	Ground Level (m AOD): 90.21	National Grid Co-ordinate: E:446264.9 N:325259.7		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic Legend
Depth	No	Type	Results					
0.10 0.20	1 2	ES D	1xT+1xJ+1xV			TOPSOIL ... 0.20-0.35m: becoming stiff.	0.35	
0.50 0.50	3 4	ES D	1xT+1xJ+1xV			Stiff dark orangish brown slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of quartzite, sandstone and flint.	0.70	
1.00 1.00 1.00 1.20	5 6 7 8	B ES D B	1xT+1xJ+1xV			Stiff to very stiff dark reddish brown slightly sandy slightly gravelly CLAY with frequent rootlets (<1mm) and occasional fine gravel size pockets of greenish grey silt. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite, flint and sandstone. Occasional fine gravel size pockets of dark brown decayed organic matter.	(0.50) 1.20	
1.20-1.65 1.20-1.70 1.20-1.65 1.80 2.00-2.45	9 10 11 12	SPT B DSPT D UT _(UT100)	N=16 120 blows 100% recovery			... 0.80-1.20m: occasional lenses (<10mm) of dark reddish brown fine to coarse sand Very stiff dark reddish brown slightly sandy gravelly CLAY with occasional beds and lenses (<25mm) of greenish grey sandy silt with trace laminae and brown silt bands (<3mm). Sand is fine and medium and mudstone derived. Gravel is angular and subangular fine to coarse of extremely weak mudstone. (MERCIA MUDSTONE GROUP) ... 2.60-3.00m: friable ... 3.00-6.50m: frequent gravel size pockets of greenish grey sandy silt		
2.60 2.60-3.00	13 14	D B						
3.00-3.45 3.00-3.45 3.00-3.50	15 16	SPT DSPT B	N=53					
3.80 4.00-4.40	17 18	D UT _(UT100)	150 blows 100% recovery				(5.30)	
4.00 4.40-5.00	19 20	D B						
5.00-5.45 5.00-5.45 5.00-5.50	21 22	SPT DSPT B	N=45					
5.80 6.00-6.45 6.00-6.45 6.00-6.50	23 24 25	D SPT DSPT B	N=60				6.50	
6.80 7.00-7.25	26 27	D SPT	8,15/40,60 for 20mm			Very stiff dark reddish brown slightly sandy gravelly CLAY with occasional beds (<20mm) of light greenish grey siltstone. Sand is fine to coarse. Gravel is angular and subangular fine to coarse of extremely weak mudstone and siltstone. (MERCIA MUDSTONE GROUP)	(1.11)	
7.00-7.25 7.00-7.30 7.30-7.61	28 29	DSPT B SPT	13,12/20,40,15 for 10mm				7.61	
7.30-7.61	29	DSPT				Cable percussion borehole terminated at 7.61m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
08/09/22	18:00	7.00	1.50	150	Dry	2.60	3.00	00:30		
08/09/22	08:00	7.00	1.50	150	Dry	7.00	7.30	00:30		
09/09/22	09:00	7.61	1.50	150	Dry					
									1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Drilled using 150mm diameter tools and casing. 4. No groundwater encountered during drilling. 5. Borehole backfilled with bentonite on completion. 6. SPT hammer JB05-2022 (E_r = 68.00%) used.	
									All dimensions in metres	Scale: 1:50
Method Used: Cable percussion			Plant Used: Dando 2000			Drilled By: W Nevins			Logged By: RStan	Checked By: 

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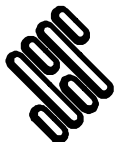
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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP04
Contract Ref: 765514	Start: 12.09.22 End: 13.09.22	Ground Level (m AOD): 81.74	National Grid Co-ordinate: E:446165.0 N:325032.0		Sheet: 1 of 2

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.50	3	B				TOPSOIL	0.30	
0.50	1	ES				Stiff brown slightly gravelly sandy CLAY with occasional rootlets up to 1mm in diameter. Sand is fine and medium. Gravel is angular to subrounded fine and medium of mudstone and sandstone. ... 0.85-1.00m: low cobble content. Cobbles (<100mm x 70mm x 40mm) are subrounded quartzite.	(1.90)	
0.50	2	D						
0.50-1.00	6	B						
1.00	4	ES						
1.00	5	D						
1.20-1.65		SPT	N=11					
1.20-1.65	7	DSPT						
1.20-1.70	8	B						
1.80	9	D						
2.00-2.45	10	UT _(UT100)	80 blows 100% recovery					
2.60	11	D				Stiff brownish grey occasionally mottled with brown and reddish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mudstone, sandstone, siltstone, chalk and unknown metamorphic rock.	2.20	
2.60-3.00	12	B						
3.00-3.45		SPT	N=19					
3.00-3.45	13	DSPT						
3.00-3.50	14	B						
3.80	15	D						
4.00-4.45	16	UT _(UT100)	90 blows 100% recovery					
4.60	17	D						
4.60-5.00	18	B						
5.00-5.45		SPT	N=35					
5.00-5.45	19	DSPT						
5.00-5.50	20	B						
5.80	21	D				... below 6.60m: becoming very stiff		
6.00-6.45	22	UT _(UT100)	110 blows 100% recovery					
6.60	23	D						
6.60-7.00	24	B						
7.00-7.45		SPT	N=37					
7.00-7.45	25	DSPT						
7.00-7.50	26	B						
7.80	27	D						
8.00-8.45		SPT	N=35					
8.00-8.45	28	DSPT						
8.00-8.50	29	B						
8.80	30	D						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
12/09/22	18:00	11.00	3.00	150	-				1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Drilled using 150mm diameter tools and casing. 4. Groundwater strike at 17m. Rose to 10.20m after 20 minutes. 5. Borehole was backfilled with bentonite seal upon completion. 6. SPT hammer JB05-2022 ($E_r = 68.00\%$) used. All dimensions in metres Scale: 1:50
13/09/22	08:00	11.00	3.00	150	-				
13/09/22	18:00	17.00	13.50	150	12.10				
14/09/22	08:00	13.50	13.50	150	11.00				
14/09/22	11:00	15.00	15.00	150	-				
Method Used: Inspection pit + Cable percussion	Plant Used: Dando 2000		Drilled By: Will Nevins		Logged By: GKalaher		Checked By: AGS		



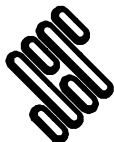
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP05
Contract Ref: 765514	Start: 27.09.22 End: 27.09.22	Ground Level (m AOD): 85.91	National Grid Co-ordinate: E:446066.5 N:325366.2		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.50	1	B				TOPSOIL	0.30	
0.00-0.30	101	ES						
0.30-0.30	2	D						
0.50-1.00	3	B						
0.50-0.50	102	ES						
0.70-0.70	4	D						
1.00-1.00	103	ES						
1.20-1.65	5	UT	18 blows 100% recovery					
1.65-1.75	6	D						
2.00-2.45		SPT	4,9/9,13,13,15 for 70mm					
2.00-2.45	7.1	DSPT						
2.00-2.45	8	B						
2.75-2.75	9	D						
3.00-3.44		SPT	6,11/13,12,12,16 for 65mm					
3.00-3.45	10.1	DSPT						
3.00-3.45	11	B						
3.75-3.75	12	D						
4.00-4.39		SPT	4,6/14,15,17,6 for 10mm					
4.00-4.45	13.1	DSPT						
4.00-4.45	14	B						
4.75-4.75	15	D						
5.00-5.30		SPT	8,10/15,31,4 for 0mm					
5.00-5.45	16.1	DSPT						
5.00-5.45	17	B						
5.75	18	D						
6.00-6.25		SPT	10,15/36,14 for 25mm					
6.00-6.45	19.1	DSPT						
6.20-6.41		SPT	25/38,62 for 60mm					
6.20	104	ES						
6.20-6.65	20.1	DSPT						
						Cable percussion borehole terminated at 6.41m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
27/09/22	14:00	6.41	6.20	150	Dry	6.00	6.20	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Drilled using 150mm diameter tools and casing. 4. No groundwater encountered during drilling. 5. Borehole backfilled with bentonite. 6. SPT hammer DS5-1-22 ($E_r = 61.00\%$) used.	
									All dimensions in metres Scale: 1:50	
Method Used:	Inspection pit + Cable percussion			Plant Used: Dando 2000			Drilled By: Nathan Topping	Logged By: RStan	Checked By:	

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BOREHOLE LOG

Contract: EMG Phase 2		Client: SEGRO		Borehole: CP06
Contract Ref: 765514	Start: 28.09.22 End: 29.09.22	Ground Level (m AOD): 87.01	National Grid Co-ordinate: E:446015.6 N:325200.5	Sheet: 1 of 2

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.50	1	B				TOPSOIL	0.30	
0.00-0.10	101	ES						
0.20	2	D						
0.50-1.00	3	B						
0.50	102	ES					(1.00)	
0.70	4	D						
1.00	103	ES					1.30	
1.20-1.65	5	UT	80 blows 40% recovery					
1.30	104	ES						
1.65	6	D						
2.00-2.45		SPT	N=23					
2.00-2.45	7	DSPT						
2.00-2.45	8	D						
2.75	9	D						
3.00-3.45	10	UT	28 blows 50% recovery				(4.65)	
3.65	11	D						
4.00-4.45		SPT	N=30					
4.00-4.45	12	DSPT						
4.00-4.45	13	B						
4.75	14	D						
5.00-5.45	15	UT	26 blows 50% recovery					
5.65	16	D					5.95	
6.00-6.45		SPT	N=37					
6.00	105	ES						
6.00	17	DSPT					(1.75)	
6.00	18	B						
7.00	19	D						
7.50-7.95	20	UT	50 blows 20% recovery				7.70	
7.70	106	ES						
8.50	21	D						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
28/09/22	18:00	11.26	11.00	150	Dry	10.60	11.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. Groundwater struck at 9.00m depth, rising to 7.20m depth after 20 minutes. 5. Borehole installed with 50mm standpipe. 6. SPT hammer DS5-1-22 ($E_s = 61.00\%$) used.
29/09/22	08:00	11.26	11.00	150	-				
29/09/22	11:00	11.26	11.00	150	-				
Method Used: Inspection pit + Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2000		Drilled By: Nathan Topping		Logged By: RStan		Checked By:			

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BOREHOLE LOG

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
9.00-9.45 9.00-9.45 9.00	22 23	SPT DSPT B	N=66			Stiff to very stiff reddish brown sandy gravelly silty CLAY. Sand is fine. Gravel is angular to subangular fine to coarse of mudstone. Occasional bands of grey siltstone. (MERCIA MUDSTONE GROUP) <i>(stratum copied from 7.70m from previous sheet)</i>	(3.56)	
10.00	24	D						
10.50-10.83		SPT	12,12/24,51,20 for 30mm					
10.50-10.83	25	DSPT						
11.00-11.26		SPT	12,14/29,71 for 50mm					
11.00 11.00-11.26	107 26	ES DSPT				Cable percussion borehole terminated at 11.26m depth.	11.26	

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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP07
Contract Ref: 765514	Start: 30.09.22 End: 03.10.22	Ground Level (m AOD): 78.15	National Grid Co-ordinate: E:445919.0 N:325053.4		Sheet: 1 of 2

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.00	1	D				TOPSOIL	0.30	
0.10-0.20	2	B						
0.20-0.20	101	ES	1xT+1xJ+1xV			Soft to firm greenish brown mottled grey slightly sandy gravelly CLAY. Sand is fine to medium. Gravel is subangular to rounded fine to coarse of quartzite, chalk, mudstone, sandstone and coal. Occasional cobbles (< 100mm) of quartzite and sandstone.		
0.40-0.40	102	ES	1xT+1xJ+1xV					
0.60-0.60	3	D						
0.60-0.80	4	B						
1.30	5	D						
1.50-1.95	6	UT _(UT100)	150 blows 89% recovery					
2.30	7	D						
2.50-2.95		SPT	N=20					
2.50-2.95	10	B						
2.50-2.95	9	DSPT						
3.20	11	D						
3.50-3.95	12	UT _(UT100)	100 blows 89% recovery					
3.50-3.95	13	D						
4.30	14	D						
4.50-4.95		SPT	N=21					
4.50-4.95	16	DSPT						
4.50-4.95	17	B						
5.70	18	D						
6.00-6.45	19	UT _(UT100)	100 blows 93% recovery					
6.45-6.55	20	D						
7.30	21	D						
7.50-7.95		SPT	N=20					
7.50-7.95	23	DSPT						
7.50-7.95	24	B						
8.70	25	D						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
30/09/22	18:00	8.00	7.50	200	Dry	13.50	14.00	01:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Drilled using 150mm diameter tools and casing. 4. Groundwater struck at 13.40m depth, rising to 8.40m depth after 20 minutes. 5. Borehole backfilled with bentonite upon completion. 6. SPT hammer AR3104-2022 (E_r = 64.00%) used. All dimensions in metres Scale: 1:50		
03/10/22	08:00	8.00	7.50	200	Dry						
03/10/22	15:00	14.21	9.00	200	-						
Method Used: Inspection pit + Cable percussion			Plant Used: Dando 3000			Drilled By: Jonny Hutt		Logged By: RStan			Checked By:

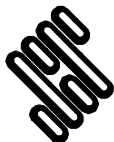
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BOREHOLE LOG

Contract:			Client:		Borehole:
EMG Phase 2			SEGRO		CP07
Contract Ref:		Start: 30.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514		End: 03.10.22	78.15	E:445919.0 N:325053.4	2 of 2

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic Legend
Depth	No	Type	Results					
9.00-9.45	26	UT _(UT100)	100 blows 100% recovery			Soft to firm greenish brown mottled grey slightly sandy gravelly CLAY. Sand is fine to medium. Gravel is subangular to rounded fine to coarse of quartzite, chalk, mudstone, sandstone and coal. Occasional cobbles (< 100mm) of quartzite and sandstone. <i>(stratum copied from 0.30m from previous sheet)</i>		
9.45-9.55	27	D						
10.30	28	D						
10.50-10.95		SPT	N=43					
10.50-10.95	30	DSPT						
10.50-10.95	31	B						
11.70	32	D						
12.00-12.30	33	UT _(UT100)	150 blows 83% recovery					
12.30-12.40	34	D						
13.40	35	D						
13.50-13.78		SPT	21,4/32,40,28 for 40mm					
13.50-13.78	37	DSPT				Light brownish grey slightly sandy clayey SILT. Sand is fine.	13.30	
13.50-13.80	38	B				Extremely weak reddish brown mottled grey MUDSTONE. (MERCIA MUDSTONE GROUP)	13.50	
13.50	39	EW					(0.71)	
13.50	39	W						
14.00-14.21		SPT	25/54,46 for 60mm			Cable percussion borehole terminated at 14.21m depth.		
14.00-14.21	41	DSPT						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres	Scale: 1:50			
Method Used:	Inspection pit + Cable percussion			Plant Used:	Dando 3000		Drilled By:	Jonny Hutt		Logged By:	RStan	Checked By:	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP08
Contract Ref: 765514	Start: 06.09.22 End: 08.09.22	Ground Level (m AOD): ---	National Grid Co-ordinate: ---		Sheet: 1 of 2

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic Legend
Depth	No	Type	Results					
0.30-0.50	1	B	1xT+1xJ+1xV			TOPSOIL	(0.85)	
0.50	2	D				Reddish brown gravelly SAND. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of quartzite and rare chalk.	0.85	
0.50	3	ES						
1.00-1.20	4	B	1xT+1xJ+1xV			Very stiff brown slightly sandy gravelly SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium of chalk and quartzite.	(0.55)	
1.00	5	D					1.40	
1.00	6	ES					1.80	
2.00-2.50	13	B	49 blows 100% recovery			Stiff brown mottled grey and locally reddish brown slightly gravelly CLAY. Gravel is subangular to subrounded fine and medium of quartzite and chalk.	(0.90)	
2.50	14	D					2.70	
3.00-3.45	15	U ₍₁₀₀₎	N=23			Very stiff brown mottled grey thinly and thickly laminated CLAY.	(0.50)	
							3.20	
3.50	16	D				Brown slightly gravelly clayey fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartzite and other lithologies.	(0.80)	
							4.00	
4.00-4.45	18	SPT	N=25			Stiff brown mottled grey thinly and thickly laminated CLAY. Locally slightly gravelly, gravel is subangular and subrounded of mixed lithologies.	(2.10)	
4.00-4.45	19	DSPT					6.10	
4.00-4.50	20	B						
4.50	21	D				Stiff brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of quartzite and other lithologies.	6.45	
5.00-5.50	22	D	N=27			Medium dense reddish brown slightly gravelly silty fine and medium SAND. Gravel is subangular to subrounded fine to coarse of quartzite and other lithologies. ... 7.10-8.50m: with fine gravel to cobble size pockets (<100mm x 70mm x 30mm) of yellowish brown sand and some fine to coarse gravel size pockets of grey clay.	(2.05)	
6.00-6.45	24	SPT				Description on next sheet	8.50	
6.00-6.45	25	DSPT						
6.00-6.50	26	B						
6.50	27	D					(1.00)	
7.00	29	SPT						
7.50-7.95	30	DSPT						
7.50-7.95	31	B						
8.00	32	D						
8.50	32	D						

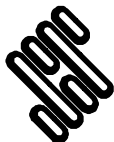
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
06/09/22	18:00	2.00	2.00	150	-	9.30	12.30	05:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Drilled using 150mm diameter tools and casing. 4. No groundwater encountered during drilling. 5. Borehole backfilled with bentonite on completion. 6. SPT hammer AR3469-2022 ($E_r = 84.00\%$) used.	
07/09/22	07:30	2.00	2.00	150	-					
07/09/22	17:00	8.50	8.50	150	-					
08/09/22	08:00	8.50	8.50	150	5.80					
07/09/22	15:00	12.63	12.00	150	-					

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		CP08
Contract Ref:	Start: 06.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 08.09.22	---	---	2 of 2

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic Legend
Depth	No	Type	Results					
9.00-9.45		SPT	N=37		Dense brown mottled reddish brown slightly gravelly silty fine to coarse SAND with occasional bands (<50mm) of strong grey siltstone. Gravel is subangular to subrounded fine to coarse of quartzite and siltstone. <i>(stratum copied from 8.50m from previous sheet)</i> Stiff grey mottled reddish brown slightly sandy slightly gravelly CLAY interbedded with reddish brown gravelly clayey SAND. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of quartzite and rare siltstone. Very stiff brown mottled reddish brown sandy gravelly SILT with occasional to frequent fine and medium gravel size pockets of grey silty clay. Sand is fine to coarse. Gravel is subangular to subrounded fine and medium of quartzite, coal and other mixed lithologies.	9.50		
9.00-9.45	34	DSPT						
9.00-9.50	35	B						
9.50	36	D						
9.90-10.22		SPT	4,10/13,28,9 for 20mm			9.90		
9.90-10.22	38	DSPT						
9.90-10.20	39	B						
10.20	40	D						
10.50	41	D				(2.73)		
11.00-11.45		SPT	N=69					
11.00-11.45	43	DSPT						
11.00-11.50	44	B						
11.50-11.91		SPT	10,13/19,24,32,25 for 30mm					
11.50-11.91	46	DSPT						
11.50-12.00	47	B						
12.00	48	D						
12.10-12.50		SPT	10,14/21,26,26,27 for 25mm					
12.10-12.50	50	DSPT						
12.30	51	D		12.63				
12.30-12.63		SPT	12,12/25,40,35 for 30mm					
12.30-12.63	53	DSPT						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres	Scale: 1:50			
Method Used:	Inspection pit + Cable percussion			Plant Used:	Dando 2000 Mark 2		Drilled By:	Ben Wilson		Logged By:	RStan	Checked By:	



STRUCTURAL SOILS

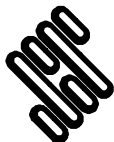
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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP09
Contract Ref: 765514	Start: 29.09.22 End: 29.09.22	Ground Level (m AOD): 77.24	National Grid Co-ordinate: E:445693.6 N:325345.4		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.50	1	B				TOPSOIL	0.30	
0.01	101	ES						
0.20	2	D						
0.50-1.00	3	D						
0.50	102	ES						
0.70	4	D						
1.00	103	ES						
1.20-1.65		SPT	N=11					
1.20-1.65	5	DSPT						
1.20-1.65	6	B						
1.75	7	D					(3.00)	
2.00-2.45	8	UT	28 blows 80% recovery					
2.45	9	D						
3.00-3.29		SPT	7,8/10,90 for 60mm				3.30	
3.00-3.45	10	DSPT						
3.00-3.45	11	B						
3.30	104	ES					3.75	
3.75	12	D						
3.75	105	ES						
4.00-4.45		SPT	N=31					
4.00-4.45	13	DSPT						
4.00-4.45	14	B						
4.75	15	D					(2.35)	
5.00-5.45		SPT	N=22					
5.00-5.45	16	DSPT						
5.00-5.45	17	B						
5.75	18	D						
6.00-6.45		SPT	N=78				6.10	
6.00-6.45	19	DSPT						
6.00-6.45	20	B						
7.00	21	D					(2.55)	
7.50-7.95		SPT	N=81					
7.50-7.95	22	DSPT						
7.50-7.95	23	B						
8.00-8.36		SPT	25/31,24,26,21 for 60mm					
8.00	106	ES						
8.00-8.36	24	DSPT						
8.40-8.65		SPT	25/26,32,54,8 for 0mm				8.65	
8.40-8.65	25	DSPT				Cable percussion borehole terminated at 8.65m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
29/09/22	17:00	8.65	8.40	150	Dry	7.60 8.00	8.00 8.40	00:30 00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. No groundwater encountered during drilling. 5. Borehole backfilled with bentonite upon completion. 6. SPT hammer DS5-1-22 ($E_s = 61.00\%$) used.
Method Used: Inspection pit + Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2000			Drilled By: Nathan Topping			Logged By: GKalaher		Checked By: AGS	



STRUCTURAL SOILS

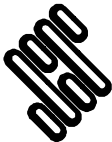
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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP10
Contract Ref: 765514	Start: 29.09.22 End: 30.09.22	Ground Level (m AOD): 75.02	National Grid Co-ordinate: E:445636.3 N:325137.2		Sheet: 1 of 2

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10-0.20	1	B				TOPSOIL	0.20	
0.10	2	D				Stiff brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone, mudstone and quartz.	(0.60)	
0.10	101	ES	1xT+1xJ+1xV				0.80	
0.30-0.60	3	B						
0.30	102	ES	1xT+1xJ+1xV					
0.50	4	D				Stiff light brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of sandstone, siltstone, mudstone and chalk.		
0.90-1.20	5	B						
0.90	103	ES	1xT+1xJ+1xV					
1.00	6	D						
1.50-1.95		SPT	N=25					
1.50-1.95	8	DSPT					(2.00)	
1.50-1.95	9	B						
2.50-2.95	10	UT _(UT100)	125 blows 100% recovery				2.80	
2.95-3.05	11	D				Stiff fissured greyish brown slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone and siltstone.		
3.00-3.30	12	B						
3.00	104	ES	1xT+1xJ+1xV				(1.20)	
3.50-3.95		SPT	N=37					
3.50-3.95	14	DSPT						
3.50-3.95	15	B					4.00	
4.00	16	D				Stiff brown mottled grey sandy gravelly CLAY. Sand is fine to coarse. Gravel is fine of mixed lithologies including sandstone, siltstone, flint.		
4.00-4.40	17	B						
4.00	105	ES	1xT+1xJ+1xV					
4.50-4.95	18	UT _(UT100)	150 blows 100% recovery					
4.95-5.10	19	D						
5.50	20	D					(3.30)	
6.00-6.12		SPT	25/100 for 75mm					
6.00-6.12	22	DSPT						
6.00-6.50	23	B						
7.00	24	D						
7.30	106	ES	1xT+1xJ+1xV			Stiff reddish brown mottled grey gravelly sandy silty CLAY. Sand is fine. Gravel is fine of mudstone and siltstone.	7.30	
7.50-7.83		SPT	6,10/25,25,50 for 30mm				(0.70)	
7.50-7.83	26	DSPT					8.00	
7.50-8.00	27	B				Reddish brown sandy subangular to subrounded, predominantly coarse, GRAVEL of mixed lithologies including sandstone, mudstone, siltstone and flint. Sand is fine to coarse. With low cobble content of flint.		
8.00-8.50	28	B					(0.50)	
8.50-9.00	29	B				Description on next sheet	8.50	
8.50	30	D						
8.50	107	ES	1xT+1xJ+1xV					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)				
29/09/22	17:00	7.83	7.50	150	7.30	6.00	6.20	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. Not enough sample between 7.30 and 7.50 to take geotechnical sample. 5. Groundwater strike at 10.30m. Rose to 7.10m in 20 minutes. 6. Borehole installed with 50mm standpipe on			
30/09/22	08:00	7.83	7.50	150	5.10	8.00	8.50	01:00				
30/09/22	13:00	10.84	9.00	150	4.40							
									All dimensions in metres		Scale: 1:50	
Method Used:	Inspection pit + Cable percussion			Plant Used:	Dando 2500		Drilled By:	Robert Foster	Logged By:	RStan	Checked By:	



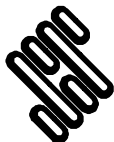
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP10
Contract Ref: 765514	Start: 29.09.22 End: 30.09.22	Ground Level (m AOD): 75.02	National Grid Co-ordinate: E:445636.3 N:325137.2		Sheet: 2 of 2

Samples and In-situ Tests				Water	Backfill & Instru- mentation	Description of Strata	Depth (Thick- ness)	Material Graphic Legend
Depth	No	Type	Results					
9.00-9.29	32 33	SPT	8,16/40,60 for 65mm			Stiff to very stiff reddish brown gravelly sandy silty CLAY. Sand is fine. Gravel is fine angular to subangular of mudstone. Occasional bands of grey siltstone. (MERCIA MUDSTONE GROUP) (stratum copied from 8.50m from previous sheet)	(2.34)	
9.00-9.29		DSPT						
9.00-9.50		B						
10.00	34	D	13,12/20,30,50 for 70mm				10.84	
10.50-10.84	SPT							
10.50-10.84	DSPT							
Cable percussion borehole terminated at 10.84m depth.								

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
7. SPT hammers AR1862-2022 (E_r = %) , AR2153-2022 (E_r = 60.00%) used.										
						All dimensions in metres			Scale: 1:50	
Method Used:	Inspection pit + Cable percussion			Plant Used: Dando 2500			Drilled By: Robert Foster	Logged By: RStan	Checked By:	

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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP11
Contract Ref: 765514	Start: 30.09.22 End: 03.10.22	Ground Level (m AOD): 68.97	National Grid Co-ordinate: E:445598.3 N:324907.3		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.50	1	B				TOPSOIL	0.30	
0.00	2	D						
0.01	101	ES				Stiff reddish brown mottled grey slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine of mixed lithologies including sandstone, siltstone and mudstone.		
0.30	102	ES						
0.50-1.00	3	B						
0.70	4	D						
1.00-1.65	103	ES						
1.20-1.65		SPT	N=29					
1.20-1.65	5	DSPT						
1.20-1.65	6	B						
1.75	7	D						
2.00-2.45	8	UT	29 blows 40% recovery					
2.65	9	D						
3.00-3.45		SPT	N=67					
3.00-3.45	10	DSPT					(5.90)	
3.00-3.45	11	B						
3.75	12	D						
4.00-4.45		SPT	N=94					
4.00-4.45	13	DSPT						
4.00-4.45	14	B						
4.75	15	D						
5.00-5.45		SPT	N=90					
5.00-5.45	16	DSPT						
5.00-5.45	17	B						
5.75	18	D						
6.00-6.45		SPT	9,7/13,15,27,45 for 70mm				6.20	
6.00-6.45	19	DSPT				Stiff to very stiff reddish brown gravelly sandy silty CLAY. Sand is fine. Gravel is angular to subangular of mudstone. Occasional pockets of grey siltstone. (MERCIA MUDSTONE GROUP)	(1.09)	
6.00-6.45	20	B						
6.75	21	D						
7.00-7.29		SPT	16,9/41,44,15 for 10mm				7.29	
7.00-7.29	22	DSPT				Cable percussion borehole terminated at 7.29m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
30/09/22	17:00	6.00	6.00	150	Dry	3.50	3.90	00:40	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. No groundwater encountered during drilling. 5. Borehole installed with 50mm standpipe upon completion. 6. SPT hammer DS5-1-22 ($E_s = 61.00\%$) used.
03/10/22	08:00	6.00	6.00	150	-	6.50	7.00	00:30	
03/10/22	11:00	7.29	7.00	150	-				
Method Used: Inspection pit + Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2000			Drilled By: Nathan Topping			Logged By: RStan		Checked By: AGS	



BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP12
Contract Ref: 765514	Start: 30.09.22 End: 30.09.22	Ground Level (m AOD): 89.36	National Grid Co-ordinate: E:446517.1 N:325155.1		Sheet: 1 of 2

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.50	1	B	N=13			TOPSOIL	0.40	
0.10-0.10	101	ES				Firm dark reddish brown mottled grey gravelly sandy silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone, limestone and quartz.		
0.30-0.30	2	B						
0.50-1.00	3	B						
0.50-0.50	102	ES						
0.70	4	D						
1.00-1.00	103	ES						
1.20-1.65		SPT						
1.20-1.65	5	DSPT						
1.20-1.65	6	B	N=8			(4.50)		
1.75-1.75	7	D						
2.00-2.45	8	UT						
2.75-2.75	9	D						
3.00-3.45		SPT						
3.00-3.45	10	DSPT						
3.00-3.45	11	B						
3.75-3.75	12	D						N=4
4.00-4.45	13	UT						
4.65-4.65	14	UT						
5.00-5.45		SPT						
5.00-5.45	15	NR						
5.00-5.45	16	B						
5.75	17	D	N=36			6.20		
6.00-6.45		SPT						
6.00-6.45	18	DSPT						
6.00-6.50	19	B						
7.00	20	D						
7.50-7.94		SPT						
7.50-7.94	21	DSPT						
7.50-8.00	22	B						4,10/16,24,29,31 for 60mm
8.50	23	D						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
05/10/22	17:00	9.36	9.00	150	-	8.80	9.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. SPT hammer DS5-1-22 ($E_i = 61.00\%$) used.
									All dimensions in metres Scale: 1:50
Method Used: Cable percussion			Plant Used: Dando 2000			Drilled By: Nathan Topping	Logged By: RStan	Checked By:	

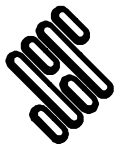
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BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		CP12
Contract Ref:	Start: 30.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 30.09.22	89.36	E:446517.1 N:325155.1	2 of 2

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
9.00-9.36	104 24	SPT	10,11/26,37,37 for 60mm				9.36	
9.00 9.00-9.36		ES DSPT				Cable percussion borehole terminated at 9.36m depth.		

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STRUCTURAL SOILS

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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP13
Contract Ref: 765514	Start: 05.10.22 End: 05.10.22	Ground Level (m AOD): 77.14	National Grid Co-ordinate: E:446416.1 N:324961.0		Sheet: 1 of 2

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic Legend
Depth	No	Type	Results					
0.10	1	D	1xT+1xJ+1xV 1xT+1xJ+1xV			TOPSOIL	0.30	
0.10-0.20	2	B						
0.20	101	ES						
0.40	102	ES						
0.60	3	D						
0.60-0.80	4	B	N=10			Soft light orangish brown slightly sandy gravelly SILT. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of sandstone and mudstone.	(1.40)	
1.20	5	D						
1.50-1.95		SPT						
1.50-1.95	7	B						
1.50-1.95	7	B				1xT+1xJ+1xV		
1.80-2.00	8	B						
1.80	103	ES						
2.40	9	D	1xT+1xJ+1xV N=9			Firm light orangish brown slightly sandy gravelly SILT. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of sandstone and mudstone.	(1.70)	
2.40	104	ES						
2.50-2.95		SPT						
2.50-2.95	11	DSPT						
2.50-2.95	12	B				N=12		
2.50-2.95	12	B						
3.00	23	W						
3.30	13	D						
3.50-3.95		SPT						
3.50-3.95	15	DSPT	N=5			Stiff becoming very stiff reddish brown mottled grey slightly sandy gravelly CLAY. Sand is mudstone derived fine to coarse. Gravel is subrounded to rounded of siltstone, sandstone and mudstone. Occasional bluish grey silt beds up to 5cm thick.	(0.60)	
3.50-3.95	16	B						
4.00-4.50	17	B						
4.50-4.95	19	SPT(c)						
4.50-4.95		B						
5.70	20	D	N=31			Medium dense multicolored (greenish blue, red, white, grey) slightly sandy clayey rounded to subangular fine to coarse GRAVEL of siltstone, mudstone, sandstone, quartzite and chalk with low cobble content. Sand is fine to coarse. Cobbles are subrounded of siltstone, quartzite and sandstone up to 10cm in size.	(1.40)	
6.00-6.45		SPT						
6.00-6.45	22	DSPT						
6.00-6.20	24	B						
6.20-6.45	25	B				6,9/11,20,19 for 60mm		
7.30	26	D						
7.50-7.86		SPT(c)						
7.50-7.95	28	B						
8.30	29	D						
8.50-8.72		SPT	25/42,58 for 70mm					
8.50-8.72	31	DSPT						

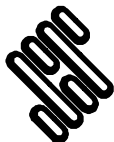
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
05/10/22	18:36	6.00	6.00	200	4.10	5.80	6.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. SPT hammer AR3104-2022 ($E_r = 64.00\%$) used.
06/10/22	07:35	6.00	6.00	200	3.10	8.50	9.00	01:00	
06/10/22	16:00	9.24	8.50	200	-				
Method Used: Inspection pit + Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 3000		Drilled By: Jonny Hutt		Logged By: RStan		Checked By: AGS			

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		CP13
Contract Ref:	Start: 05.10.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 05.10.22	77.14	E:446416.1 N:324961.0	2 of 2

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
8.50-9.00	32	B	20, 5/34, 56, 10 for 10mm		///		9.24	
9.00-9.24		SPT						
9.00-9.24	34	DSPT				Cable percussion borehole terminated at 9.24m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									All dimensions in metres		Scale: 1:50		
Method Used:	Inspection pit + Cable percussion			Plant Used:	Dando 3000		Drilled By:	Jonny Hutt		Logged By:	RStan	Checked By:	



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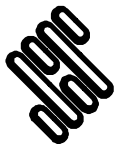
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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP14
Contract Ref: 765514	Start: 04.10.22 End: 04.10.22	Ground Level (m AOD): 78.39	National Grid Co-ordinate: E:446524.3 N:324946.9		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.50	1	B				TOPSOIL		
0.10	101	ES					0.40	
0.30-0.50	2	D						
0.50-1.00	4	B				Stiff dark reddish brown gravelly sandy SILT. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of mixed lithologies including sandstone, siltstone, mudstone and quartz.	(0.50)	
0.50	102	ES					0.90	
0.70	3	D						
1.00	103	ES				Stiff reddish brown, mottled grey, slightly gravelly sandy SILT. Gravel is angular to subangular fine of mixed lithologies including siltstone and mudstone.		
1.20-1.65	5	UT						
1.65	6	UT						
2.00-2.45		SPT	N=16					
2.00-2.45	7	DSPT					(2.90)	
2.00-2.45	8	B						
2.75	9	D						
3.00-3.45		SPT	N=17					
3.00-3.45	10	DSPT						
3.00-3.45	11	B					3.80	
3.75	12	D						
3.80	104	ES				Firm orangish brown, occasionally gravelly, sandy silty CLAY. Sand is fine. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone and siltstone.	(0.60)	
3.80	105	ES						
4.00-4.45		SPT	N=26				4.40	
4.00-4.45	14	B				Medium dense orangish brown very sandy silty angular to subangular fine to coarse GRAVEL of predominantly flint. With low cobble content. Sand is fine.	(0.90)	
5.00-5.45		SPT(c)	N=42					
5.00-5.45	16	B					5.30	
6.00-6.45		SPT	N=55			Very stiff reddish brown sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse, occasional cobbles, of mudstone. (MERCIA MUDSTONE GROUP)	(1.60)	
6.00-6.45	17	B						
6.40-6.45	18	B					6.90	
7.00	19	D				Very stiff reddish brown gravelly sandy silty CLAY. Gravel is angular to subangular fine of mudstone. Occasional pocket of grey siltstone. (MERCIA MUDSTONE GROUP)	(1.50)	
7.50-7.95		SPT	6,11/13,20,32,35 for 70mm					
7.50-7.95	20	DSPT						
7.50-7.95	21	B						
8.00-8.40		SPT	10,14/18,28,41,13 for 20mm				8.40	
8.00-8.40	22	DSPT				Cable percussion borehole terminated at 8.40m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
04/10/22	16:00	8.40	8.00	150	-	4.50	5.00	00:50	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. SPT hammer AR3104-2022 ($E_r = 64.00\%$) used.
						7.50	8.00	00:30	
Method Used: Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2000			Drilled By: Jonny Hutt			Logged By: RStan		Checked By:	



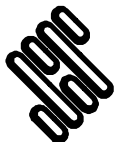
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP15
Contract Ref: 765514	Start: 03.10.22 End: 03.10.22	Ground Level (m AOD): 71.98	National Grid Co-ordinate: E:446551.5 N:324799.4		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.50	1	B				TOPSOIL	0.20	
0.10	101	ES				Stiff reddish brown slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone, siltstone and quartz.		
0.30	2	D						
0.50-1.00	3	B						
0.50	102	ES					(1.10)	
0.70	4	D				Stiff reddish brown mottled grey slightly gravelly sandy silty CLAY. Sand is fine. Gravel is angular to subangular fine to coarse of mixed lithologies including siltstone and mudstone.		
1.00	103	ES					1.30	
1.20-1.65	5	UT						
1.30	104	ES					(1.00)	
1.65	6	D				Stiff to very stiff reddish brown gravelly sandy silty CLAY. Gravel is angular to subangular fine to coarse of mudstone. Occasional pockets of grey mudstone and siltstone. (MERCIA MUDSTONE GROUP)		
2.00-2.45		SPT	N=9				2.30	
2.00-2.45	7	DSPT						
2.00-2.45	8	B						
2.30	105	ES						
2.75	9	D						
3.00-3.45		SPT	N=12					
3.00-3.45	10	DSPT						
3.00-3.45	11	B						
3.75	12	D						
4.00-4.45		SPT	N=75					
4.00-4.45	13	DSPT						
4.00-4.45	14	B						
4.75	15	D						
5.00-5.45		SPT	N=48					
5.00-5.45	16	DSPT					(5.96)	
5.00-5.45	17	B						
5.75	18	D						
6.00-6.45		SPT	N=38					
6.00-6.45	19	DSPT						
6.00-6.45	20	B						
7.00	21	D				10,15/21,32,47 for 60mm		
7.50-7.86		SPT						
7.50-7.95	22	DSPT						
7.50-8.00	23	B						
8.00-8.26		SPT	14,11/30,48,22 for 20mm				8.26	
8.00	106	ES						
8.00-8.26	24	DSPT				Cable percussion borehole terminated at 8.26m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
03/10/22	16:00	8.26	8.00	150	Dry	7.50	8.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. No groundwater encountered during drilling. 5. Borehole backfilled with bentonite upon completion. 6. SPT hammer DS5-1-22 ($E_r = 61.00\%$) used.	
									All dimensions in metres Scale: 1:50	
Method Used:	Inspection pit + Cable percussion			Plant Used: Dando 2000			Drilled By: Nathan Topping	Logged By: RStan	Checked By:	

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BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP16
Contract Ref: 765514	Start: 04.10.22 End: 04.10.22	Ground Level (m AOD): 77.24	National Grid Co-ordinate: E:446244.3 N:324933.8		Sheet: 1 of 2

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10-0.30	1	B				TOPSOIL	0.35	
0.10	101	ES	1xT+1xJ+1xV			Stiff orange brown gravelly sandy silty CLAY. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone, quartz, chalk and siltstone.		
0.40-0.70	2	B						
0.50	3	D						
0.50	102	ES	1xT+1xJ+1xV					
0.90-1.20	4	B						
1.00	5	D						
1.00	103	ES	1xT+1xJ+1xV					
1.50-1.94		SPT	N=49					
1.50-1.94	7	DSPT					(3.05)	
1.50-1.94	8	B						
2.50-2.95	9	UT _(UT100)	100 blows 100% recovery			Stiff dark reddish brown mottled grey gravelly sandy silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone, siltstone, mudstone.		
2.95-3.10	10	D						
3.40	11	D						
3.40	104	ES	N=19					
3.50-3.95		SPT						
3.50-3.95	13	DSPT						
3.50-3.95	14	B						
4.50-4.95	15	UT _(UT100)	100 blows 100% recovery				(2.35)	
5.00	16	D						
5.50	17	D						
5.80	105	ES	1xT+1xJ+1xV			Stiff grey very sandy silty CLAY. Sand is fine to coarse.	5.75	
6.00-6.45		SPT	N=65					
6.00-6.45	19	DSPT						
6.00-6.45	20	B						
7.00	21	D					(3.25)	
7.50-7.95	22	UT _(UT100)	125 blows 100% recovery					
8.00	23	D						
8.50	24	D						
							9.00	

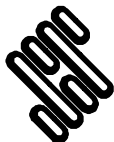
Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
04/10/22	17:00	3.10	2.50	150	Dry	10.50	11.00	01:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. 15 litres of water added between 1.20m and 2.50m to aid drilling. 5. No groundwater encountered during drilling. 6. SPT hammer AR1862-2022 ($E_r = \%$) used.
05/10/22	08:00	3.10	2.50	150	Dry				
05/10/22	17:15	11.15	10.50	150	-				
06/10/22	08:00	11.15	10.50	150	9.25				
06/10/22	11:15	11.15	10.50	150	-				
Method Used: Inspection pit + Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2500			Drilled By: Robert Foster			Logged By: RStan		Checked By: AGS	

BOREHOLE LOG

Contract:		Client:		Borehole:
EMG Phase 2		SEGRO		CP16
Contract Ref:	Start: 04.10.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:
765514	End: 04.10.22	77.24	E:446244.3 N:324933.8	2 of 2

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
9.00-9.45 9.00	106	SPT ES	N=48 1xT+1xJ+1xV			Stiff reddish brown mottled grey gravelly sandy silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including sandstone, siltstone and mudstone. (MERCIA MUDSTONE GROUP)	(1.00)	
9.00-9.45 9.00-9.45	26 27	DSPT B						
10.00-10.50 10.00	28 107	B ES	1xT+1xJ+1xV				(1.15)	
10.50-10.70		SPT	25/50,50 for 55mm					
10.50-10.70 10.50-11.00	30 31	DSPT B				Cable percussion borehole terminated at 11.15m depth.	11.15	
10.50-11.00 11.00-11.15		SPT	25/60,40 for 40mm					
11.00-11.15 11.00-11.15	33	DSPT						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks							
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)								
									All dimensions in metres							
Method Used:		Inspection pit + Cable percussion		Plant Used:		Dando 2500		Drilled By:		Robert Foster	Logged By:		RStan	Checked By:		AGS

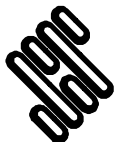


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP17
Contract Ref: 765514	Start: 15.09.22 End: 05.10.22	Ground Level (m AOD): 82.31	National Grid Co-ordinate: E:446263.8 N:325045.2		Sheet: 1 of 2

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00	1	D				TOPSOIL	0.30	
0.00-0.00	2	B						
0.10	1	D						
0.10-0.20	2	B						
0.10	101	ES	1xT+1xJ+1xV					
0.20	101	ES	1xT+1xJ+1xV					
0.40	102	ES						
0.60	3	D						
0.60-0.80	4	B						
1.20	5	D						
1.50-1.70	6	UT _(UT100)	100 blows 100% recovery					
1.70-1.80	7	D						
2.30	8	D						
2.50-2.95		SPT	N=25			... Below 2.50m: becoming stiff.	(5.10)	
2.50-2.95	10	DSPT						
2.50-2.95	11	B						
3.30	12	D						
3.50-3.95	13	UT _(UT100)	100 blows 89% recovery					
3.50-3.95	14	D						
3.95-4.05	14	D						
4.30	15	D						
4.50-4.95		SPT	N=35					
4.50-4.95	17	DSPT						
4.50-4.95	18	B						
5.50	103	ES	1xT+1xJ+1xV				5.40	
5.70	19	D						
6.00-6.45		SPT	N=25					
6.00-6.45	21	DSPT						
6.00-6.45	22	B						
7.30	23	D						
7.50-7.95	24	UT _(UT100)	80 blows 89% recovery			... Below 7.30m: slightly sandy slightly gravelly. Gravels decreasing in size.	(5.30)	
7.95-8.05	25	D						
8.70	26	D						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
04/10/22	17:45	16.00	16.00	200	12.10	16.60	17.00	01:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. Water added between 15.00m and 16.00m to aid drilling. 5. No groundwater encountered during drilling. 6. Borehole installed with 50mm standpipe upon completion.
05/10/22	08:15	16.00	16.00	200	10.40				
05/10/22	12:00	17.21	16.50	200	-				
Method Used: Inspection pit + Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 3000		Drilled By: Jonny Hutt		Logged By: RStan		Checked By:			



STRUCTURAL SOILS

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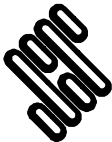
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP17
Contract Ref: 765514	Start: 15.09.22 End: 05.10.22	Ground Level (m AOD): 82.31	National Grid Co-ordinate: E:446263.8 N:325045.2		Sheet: 2 of 2

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend	
Depth	No	Type	Results						
9.00-9.45 9.00-9.45 9.00-9.45	28 29	SPT DSPT B	N=44			Light reddish brown mottled grey sandy gravelly SILT. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of mudstone and sandstone. Low cobble content (<80mm) of mudstone and sandstone. Frequent bluish grey siltstone beds (<50mm thick). (stratum copied from 5.40m from previous sheet)	10.70		
10.30 10.50-10.95 10.50-10.95 10.50-10.95 10.80		30 32 33 104	D SPT DSPT B ES						N=60 1xT+1xJ+1xV
11.70 12.00-12.45 12.00-12.45 12.00-12.45			34 36 37						D SPT DSPT B
13.30 13.50-13.95 13.50-13.95 13.50-13.95	38 40 41					D SPT DSPT B	N=56		
14.70 15.00-15.45 15.00-15.45						42 44	D SPT(c) B	N=48	
16.30 16.50-16.88 16.50-16.88 16.50-16.90 17.00-17.21							45 47 48 48 50	D SPT DSPT B SPT DSPT	8,17/26,32,42 for 75mm 25/46,54 for 65mm
17.00-17.21								Cable percussion borehole terminated at 17.21m depth.	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks				
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)					
									7. SPT hammer AR3104-2022 (E_r = 64.00%) used.				
									All dimensions in metres				
									Scale: 1:50				
Method Used:	Inspection pit + Cable percussion			Plant Used:	Dando 3000		Drilled By:	Jonny Hutt		Logged By:	RStan	Checked By:	

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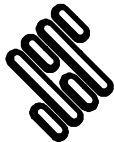
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP18
Contract Ref: 765514	Start: 04.10.22 End: 04.10.22	Ground Level (m AOD): 76.81	National Grid Co-ordinate: E:446057.8 N:324763.5		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic Legend
Depth	No	Type	Results					
0.10-0.30	1	B				TOPSOIL	0.35	
0.10	101	ES	1xT+1xJ+1xV			Stiff to very stiff reddish brown gravelly sandy silty CLAY. Sand is fine to coarse. Gravel is angular to subangular fine of mudstone. Occasional pockets of grey siltstone. (MERCIA MUDSTONE GROUP)		
0.40-0.70	2	B						
0.50	3	D						
0.50	102	ES	1xT+1xJ+1xV					
0.90-1.20	4	B						
1.00	5	D						
1.00	103	ES	1xT+1xJ+1xV					
1.50-1.95		SPT	N=24					
1.50-1.95		DSPT						
1.50-1.95	8	B						
2.50-2.95	9	UT _(UT100)	125 blows 100% recovery				(4.50)	
3.00	10	D						
3.50-3.91		SPT	6,10/16,25,36,23 for 35mm					
3.50-3.91	12	DSPT						
3.50-3.91	13	B						
4.50-4.85		SPT	15,10/17,27,56 for 70mm					
4.50	104	ES	1xT+1xJ+1xV				4.85	
4.50-4.85	15	DSPT				Cable percussion borehole terminated at 4.85m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
04/10/22	13:15	4.85	3.00	150	Dry	3.50	4.50	01:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. 15 litres of water added between 1.20m and 4.50m to aid drilling. 5. No groundwater encountered during drilling. 6. Borehole backfilled with bentonite upon completion. 7. SPT hammer AR1862-2022 (E = %) used.	
									All dimensions in metres Scale: 1:50	
Method Used:	Inspection pit + Cable percussion			Plant Used: Dando 2500			Drilled By: Robert Foster	Logged By: RStan	Checked By:	

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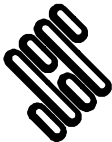
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP19
Contract Ref: 765514	Start: 30.09.22 End: 30.09.22	Ground Level (m AOD): 76.75	National Grid Co-ordinate: E:445967.7 N:324839.4		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10-0.30	1	B				TOPSOIL	0.30	
0.10	101	ES	1xT+1xJ+1xV			Stiff dark orange brown slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is angular to subangular fine of mixed lithologies including sandstone and siltstone.	(0.60)	
0.40-0.70	2	B						
0.50	3	D						
0.50	102	ES	1xT+1xJ+1xV			Stiff to very stiff reddish brown gravelly sandy silty CLAY. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of mudstone, occasionally bands of grey siltstone. (MERCIA MUDSTONE GROUP)	0.90	
0.90-1.20	4	B						
1.00	5	D						
1.00	103	ES	1xT+1xJ+1xV					
1.50-1.95		SPT	N=25					
1.50-1.95		DSPT						
1.50-1.98	8	B						
2.50-2.95	9	UT _(UT100)	100 blows 100% recovery				(3.97)	
3.00	10	D						
3.50-3.93		SPT	7,12/17,23,28,32 for 55mm					
3.50-3.93	12	DSPT						
3.50-3.93	13	B						
4.50-4.87		SPT	8,10/20,30,50 for 70mm					
4.50	104	ES	1xT+1xJ+1xV				4.87	
4.50-4.87	15	DSPT				Cable percussion borehole terminated at 4.87m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
03/10/22	16:30	4.87	3.00	150	Dry	3.50	4.50	01:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. 20 litres of water between 1.20m to 4.50 meters to aid drilling. 5. No groundwater encountered during drilling. 6. Borehole backfilled with bentonite on completion. 7. SPT hammer AR1862-2022 (E_t = %) used.		
									All dimensions in metres		Scale: 1:50
Method Used:	Inspection pit + Cable percussion			Plant Used: Dando 2500			Drilled By: Robert Foster	Logged By: RStan		Checked By:	

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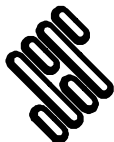
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP20
Contract Ref: 765514	Start: 30.09.22 End: 03.10.22	Ground Level (m AOD): 75.98	National Grid Co-ordinate: E:445775.9 N:324732.4		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10-0.30	1	B				TOPSOIL		
0.10	101	ES	1xT+1xJ+1xV				0.40	
0.40-0.70	2	B				Stiff dark orangish brown slightly gravelly sandy silty CLAY. Sand is fine to coarse. Gravel is angular to subangular fine of mixed lithologies including sandstone and siltstone.		
0.50	3	D					0.80	
0.50	102	ES	1xT+1xJ+1xV					
0.90-1.20	4	B				Stiff to very stiff reddish brown gravelly sandy silty CLAY. Sand is fine. Gravel is angular to subangular fine to coarse of mudstone, occasional bands of grey siltstone. (MERCIA MUDSTONE GROUP)		
1.00	5	D						
1.00	103	ES	1xT+1xJ+1xV					
1.50-1.95		SPT	N=26					
1.50-1.95		DSPT						
1.50-1.95	8	B						
2.50-2.95	9	UT _(UT100)	100 blows 67% recovery				(3.99)	
3.00	10	D						
3.50-3.91		SPT	5,12/20,25,35,20 for 35mm					
3.50-3.91	12	DSPT						
3.50-3.91	13	B						
4.50-4.79		SPT	10,15/40,60 for 75mm				4.79	
4.50-4.79	15	DSPT				Cable percussion borehole terminated at 4.79m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)				
03/10/22	13:00	4.79	3.00	150	Dry	3.50	4.50	01:00	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. 20 litres of water added between 1.20m and 4.50m to aid drilling. 5. No groundwater encountered during drilling. 6. Borehole backfilled with bentonite on completion. 7. SPT hammer AR1862-2022 (E_r = %) used.			
									All dimensions in metres		Scale: 1:50	
Method Used:	Inspection pit + Cable percussion			Plant Used:	Dando 2500		Drilled By:	Robert Foster	Logged By:	RStan	Checked By:	

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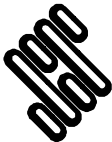
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP21
Contract Ref: 765514	Start: 04.10.22 End: 04.10.22	Ground Level (m AOD): 68.05	National Grid Co-ordinate: E:445752.9 N:324495.1		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10	1	ES				TOPSOIL	(0.50)	
0.50	2	ES				Firm light reddish brown slightly sandy gravelly CLAY. Sand is fine to medium and mudstone derived. Gravel is subangular to rounded fine to coarse of siltstone and mudstone. Occasional gravel size bluish grey silt pockets (<50mm). (MERCIA MUDSTONE GROUP) ... 3.60-4.80m: clay becoming stiff. ... 4.80-5.30m: clay becoming very stiff.	0.50	
0.50	3	B						
0.50	4	D						
1.00	5	B						
1.00	6	D						
1.00	7	B						
1.20-1.65	8	U	35 blows					
1.70	9	D						
2.00-2.45		SPT	N=23					
2.00-2.45	10	DSPT						
2.00-2.50	11	B						
2.80	12	D					(4.88)	
3.00-3.45	13	U	120 blows					
3.70	14	D						
4.00-4.45		SPT	N=100					
4.00-4.40	15	DSPT						
4.00-4.50	16	B						
4.80	17	D						
5.00-5.38		SPT	13,12/27,30,43 for 75mm					
5.00-5.38	18	DSPT					5.38	
						Cable percussion borehole terminated at 5.38m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks										
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)											
03/10/22	08:00	0.50	3.00	150	Dry	4.70	5.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. No groundwater encountered during drilling. 5. Borehole installed with 50mm standpipe upon completion. 6. SPT hammer JB05-2022 (E_r = 68.00%) used.										
03/10/22	18:00	5.38	5.00	150	Dry														
04/10/22	08:00	5.38	5.00	150	Dry														
04/10/22	11:00	5.38	5.00	150	Dry														
									All dimensions in metres										
Method Used:		Inspection pit + Cable percussion		Plant Used:		Dando 2500		Drilled By:		Will Nevins		Logged By:		RStan		Checked By:			

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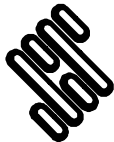
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP22
Contract Ref: 765514		Start: 04.10.22 End: 04.10.22	Ground Level (m AOD): ---	National Grid Co-ordinate: ---	Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10	101	ES				TOPSOIL.	(0.50)	
0.50	3	D				Very stiff reddish brown slightly sandy CLAY with frequent lithorelics of mudstone and light grey siltstone. Locally grading to extremely weak mudstone. (MERCIA MUDSTONE GROUP)	0.50	
0.50	4	B						
0.50	102	ES						
1.00	5	D						
1.00	6	B						
1.20-1.65	7	U	50 blows					
1.70	8	D						
2.00-2.45		SPT	N=50					
2.00-2.50	10	B						
2.00-2.45	9	DSPT						
2.50	11	D					(4.80)	
3.00-3.45	12	U	150 blows					
4.00-4.42		SPT	5,7/10,20,33,37 for 40mm					
4.00-4.45	14	DSPT						
4.00-4.50	15	B						
4.50	16	D						
5.00-5.30		SPT	10,15/42,58 for 75mm				5.30	
5.00-5.30	17	DSPT				Cable percussion borehole terminated at 5.30m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
04/10/22	18:00	5.30	3.00	150	Dry	4.50	5.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. No groundwater encountered during drilling. 5. SPT hammer JB05-2022 ($E_i = 68.00\%$) used.
Method Used: Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2000			Drilled By: Will Nevins			Logged By: RStan		Checked By: AGS	

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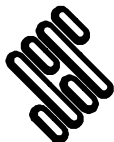
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP23
Contract Ref: 765514	Start: 22.09.22 End: 23.09.22	Ground Level (m AOD): 71.31	National Grid Co-ordinate: E:446025.7 N:324549.2		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10	1	ES				TOPSOIL.	(0.60)	
0.50	2	B				Very stiff reddish brown slightly sandy CLAY with occasional lithorelics of mudstone. (MERCIA MUDSTONE GROUP)	0.60	
0.50	3	D						
0.60	4	ES						
1.00	5	B						
1.00	6	D						
1.20-1.65	7	UT						
1.70	8	D						
2.00-2.45		SPT	N=22			. . . 2.00m: With occasional gravel size pocket/lense (<15mm) of greenish grey sandy silt.		
2.00-2.50	10	B						
2.00-2.45	9	DSPT					(4.00)	
2.80	11	D						
3.00-3.45	12	UT	140 blows					
3.50	13	D						
4.00-4.43		SPT	10,15/16,17,29,38 for 50mm					
4.00-4.43	14	DSPT						
4.00-4.50	15	B					4.60	
4.80-5.00	16	B				Very stiff reddish brown slightly sandy CLAY with frequent lithorelics of mudstone and light grey siltstone. Locally grading to extremely weak mudstone. (MERCIA MUDSTONE GROUP)	(0.81)	
4.80	17	D						
5.00-5.41		SPT	15,10/22,21,25,32 for 45mm					
5.00-5.41	18	DSPT				Cable percussion borehole terminated at 5.41m depth.	5.41	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
22/09/22	18:00	2.00	1.50	150	Dry				
23/09/22	08:00	2.00	1.50	150	Dry				1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm diameter tools and casing. 4. Groundwater strike at 5.40m. Did not rise after 20 minutes. 5. Borehole backfilled with bentonite upon completion. 6. SPT hammer JB05-2022 (E _s = 68.00%) used.
23/09/22	15:00	5.41	1.50	150	5.37				
Method Used: Inspection pit + Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2000		Drilled By: Matthew Heath		Logged By: RStan		Checked By:			

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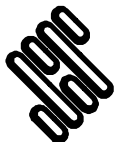
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP24
Contract Ref: 765514	Start: 26.09.22 End: 26.09.22	Ground Level (m AOD): 69.09	National Grid Co-ordinate: E:446132.1 N:324501.5		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10	1	ES				TOPSOIL (TOPSOIL)	0.30	
0.50	2	B				Very stiff dark brown slightly sandy CLAY. Sand is fine to medium and mudstone derived. (MERCIA MUDSTONE GROUP)	0.70	
0.50	3	D						
0.60	4	ES						
1.00	5	B						
1.00	6	D				Stiff reddish brown slightly sandy CLAY with frequent fine to coarse gravel size pockets and lenses (<10mm) of greenish grey sandy silt. Sand is fine to coarse and mudstone derived. (MERCIA MUDSTONE GROUP)	(1.30)	
1.20-1.65	7	UT	60 blows					
1.70	8	D					2.00	
2.00-2.45		SPT	N=42			Firm reddish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse and mudstone derived. Gravel is angular to subangular fine to medium of mudstone lithorelics. (MERCIA MUDSTONE GROUP)		
2.00	10	D						
2.00-2.50	11	B					(1.10)	
2.00-2.45	9	DSPT						
2.80	12	D				Very stiff reddish brown slightly sandy slightly gravelly CLAY with frequent fine to medium gravel size pockets and lenses(<15mm) of greenish grey sandy silt. Sand is fine to medium and mudstone derived. Gravel is angular fine to medium of mudstone lithorelics. (MERCIA MUDSTONE GROUP)	3.10	
3.00-3.45	13	UT	150 blows					
3.50	14	D						
3.50-4.00	15	B						
4.00-4.41		SPT	5,10/17,25,34,24 for 30mm				(2.30)	
4.00-4.41	16	DSPT						
4.00-4.50	17	B						
4.80	18	D						
5.00-5.40		SPT	7,8/16,33,34,17 for 20mm					
5.00-5.40	19	DSPT					5.40	
Cable percussion borehole terminated at 5.40m depth.								

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
26/09/22	16:00	5.40	4.50	150	Dry				1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m 3. Borehole drilled using 150mm tools and casing. 4. No groundwater encountered. 5. Borehole backfilled with bentonite upon completion. 6. SPT hammer JB05-2022 ($E_r = 68.00\%$) used.
Method Used: Inspection pit + Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2000		Drilled By: Mathew Heath		Logged By: RStan		Checked By:			

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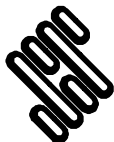
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP25
Contract Ref: 765514	Start: 21.09.22 End: 22.09.22	Ground Level (m AOD): 67.07	National Grid Co-ordinate: E:446354.7 N:324580.7		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.10	1	ES				TOPSOIL		
0.10	2	D					0.40	
0.10-0.40	3	B						
0.30	4	D						
0.50	5	D						
0.50	6	ES						
0.50	7	D						
0.90-1.00	8	B						
1.00	9	ES						
1.00	10	D						
1.00-1.20	11	B						
1.20-1.65		SPT	N=50				(2.40)	
1.20-1.65	12	DSPT						
1.20-1.70	13	B						
1.90	14	D						
2.00-2.45	15	UT	150 blows					
2.50	16	D					2.80	
2.80-3.00	17	B					3.00	
2.90	18	D						
3.00-3.45		SPT	N=56					
3.00-3.45	19	DSPT						
3.00-3.50	20	B						
3.80	21	D						
4.00-4.45	22	UT						
4.50	23	D						
5.00-5.39		SPT	8,17/20,26,37,17 for 15mm				(3.88)	
5.00-5.40	24	DSPT						
5.00-5.40	25	B						
6.00	26	D						
6.50-6.88		SPT	10,15/23,31,40,6 for 5mm					
6.50-6.88	27	DSPT					6.88	
						Cable percussion borehole terminated at 6.88m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)				
21/09/22	18:00	3.00	3.00	150	Dry				1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm diameter tools and casing. 4. No groundwater encountered during drilling. 5. Borehole backfilled with bentonite upon completion. 6. SPT hammer JB05-2022 (E_r = 68.00%) used.			
22/09/22	08:00	3.00	3.00	150	Dry							
22/09/22	13:00	6.88	6.00	150	Dry							
									All dimensions in metres		Scale: 1:50	
Method Used:	Inspection pit + Cable percussion			Plant Used:	Dando 2000		Drilled By:	Matthew Heath	Logged By:	RStan	Checked By:	

GINT LIBRARY_V10_01.GLB LibVersion: v8_07 | Log CABLE PERCUSSION LOG - A4P | 765514 EAST MIDLAND AIRPORT.GPJ - V10_01.
Structural Soils Ltd, Branch Office - Castleford: The Potteries, West Yorkshire, WF10 1NJ. Tel: 01977-552255, Fax: 01977-552299, Web: www.soils.co.uk | 11/12/22 - 18:42 | TC9 |



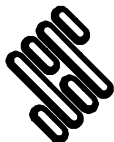
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP26
Contract Ref: 765514	Start: 16.09.22 End: 21.09.22	Ground Level (m AOD): 77.19	National Grid Co-ordinate: E:446017.7 N:324866.7		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10	1	ES				TOPSOIL	0.10	
0.10	2	D				Stiff dark brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subrounded to rounded fine to coarse predominantly fine and medium of quartzite and mudstone.		
0.10-0.40	3	B						
0.30	4	ES					(1.40)	
0.30	5	D						
0.50	6	ES						
0.50	7	D					1.50	
0.50	8	B						
1.00	9	ES						
1.00	10	D						
1.00	11	B						
1.20-1.65		SPT	N=10			Stiff dark orangish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint, quartzite sandstone and siltstone. Occasional patches (up to 4x4mm) and fragments (3x3mm) of black organic carbonated plant remain.		
1.20-1.65	12	DSPT						
1.20-1.70	13	B						
1.80	14	D					(1.60)	
2.00-2.45	15	UT _(UT100)	30 blows 100% recovery					
2.60	16	D				Stiff dark reddish brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of light grey siltstone. (MERCIA MUDSTONE GROUP)		
2.60-3.00	17	B					3.10	
3.00-3.45		SPT	N=10					
3.00-3.45	18	DSPT					(0.90)	
3.00-3.50	19	B						
3.80	20	D				Very stiff dark orangish brown, mottled reddish brown, slightly sandy CLAY. Occasional very thin lens of light grey siltstone. (MERCIA MUDSTONE GROUP)	4.00	
4.00-4.38		SPT	5,8/10,15,50 for 75mm					
4.00-4.40	21	DSPT						
4.00-4.50	22	B						
4.00	23	D						
5.00-5.35		SPT	5,10/20,30,35 for 45mm				(2.76)	
5.00-5.40	24	DSPT						
5.00-5.50	25	B						
6.00	26	D						
6.50-6.76		SPT	8,17/33,47,20 for 10mm				6.76	
6.50-6.76	27	DSPT				Cable percussion borehole terminated at 6.76m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks										
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)											
16/09/22	16:00	5.00	3.00	150	Dry	4.50	5.00	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. Groundwater strike at 4.60m. 5. Borehole backfilled with bentonite upon completion. 6. SPT hammer JB05-2022 (E_r = 68.00%) used.										
21/09/22	08:00	5.00	3.00	150	4.60														
21/09/22	11:00	6.76	6.00	150	Dry														
											All dimensions in metres								
Method Used:		Inspection pit + Cable percussion		Plant Used:		Dando 2000		Drilled By:		Will Nevins		Logged By:		RStan		Checked By:			

GINT LIBRARY V10.01.GLB LibVersion: v8.07 | Log CABLE PERCUSSION LOG - A4P | 765514 EAST MIDLAND AIRPORT GPJ - V10.01.
Structural Soils Ltd, Branch Office - Castleford: The Potteries, Pottery Street, Castleford, West Yorkshire, WF10 1NJ. Tel: 01977-552255, Fax: 01977-552299, Web: www.soils.co.uk, Email: ask@soils.co.uk | 11/12/22 - 18:42 | TC9 |

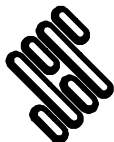


BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP27
Contract Ref: 765514	Start: 15.09.22 End: 15.09.22	Ground Level (m AOD): 76.99	National Grid Co-ordinate: E:446017.4 N:324865.5		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10	1	ES				TOPSOIL	0.30	
0.10	2	D						
0.50	3	ES				Firm dark brown mottled grey and locally dark blue and grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse flint, sandstone, siltstone and quartz. Moderate hydrocarbon odour observed. (MADE GROUND - REWORKED)		
0.50	4	D						
0.50	5	B						
1.00	6	ES						
1.00	7	D						
1.00-1.65	8	B						
1.20-1.65		SPT	N=8					
1.20-1.70	10	B					(2.70)	
1.20-1.65	9	DSPT						
1.80	11	D						
2.00	12	ES						
2.00	13	D				... 2.15-2.25m: becoming very soft with strong hydrocarbon odour and iridescent sheen to extracted materials.		
2.00-2.45		SPT	N=8			... 2.50-3.00m: occasional grey organic roots and rootlet remnants.		
2.00-2.45	14	DSPT						
2.00-2.50	15	B						
2.80	16	D					3.00	
3.00-3.45		SPT	N=58			Very stiff reddish brown slightly sandy slightly gravelly CLAY with frequent fine and medium size pockets of green grey sandy silt. Sand is fine and medium and mudstone derived. Gravel is angular and subangular fine to coarse of mudstone lithorelics. (MERCIA MUDSTONE GROUP)		
3.00-3.45	17	DSPT						
3.00	18	ES						
3.00	19	D					(1.95)	
3.00-3.50	20	B						
3.80	21	D						
4.00-4.35		SPT	10,15/15,20,40 for 45mm					
4.00-4.40	22	DSPT						
4.00	23	ES						
4.00	24	D						
4.60-4.95		SPT	15,10/20,30,25 for 45mm				4.95	
4.60-4.95	25	DSPT				Cable percussion borehole terminated at 4.95m depth.		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
15/09/22	18:00	4.95	3.00	150	Dry	4.40	4.60	00:30	
All dimensions in metres									Scale: 1:50
Method Used: Inspection pit + Cable percussion	Plant Used: Dando 2000		Drilled By: Will Nevins		Logged By: RStan		Checked By:		



STRUCTURAL SOILS

DRAFT

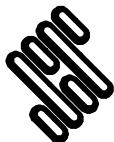
BOREHOLE LOG

Contract: EMG Phase 2			Client: SEGRO		Borehole: CP28
Contract Ref: 765514	Start: 14.09.22 End: 15.09.22	Ground Level (m AOD): 77.04	National Grid Co-ordinate: E:446017.1 N:324863.4		Sheet: 1 of 1

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.00-0.50	3	B				TOPSOIL	(0.50)	
0.50	1	ES				Stiff reddish brown slightly sandy silty CLAY. Sand is fine to coarse. (MERCIA MUDSTONE GROUP)	0.50	
0.50	2	D					(0.50)	
0.50-1.00	6	B					1.00	
1.00	4	ES						
1.00	5	D				Stiff reddish brown slightly gravelly slightly sandy silty CLAY. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of flint and mudstone. Occasional pockets (<10mmx5mm) of greenish grey siltstone. (MERCIA MUDSTONE GROUP)		
1.20-1.65		SPT	N=11					
1.20-1.65	7	DSPT					(1.50)	
1.20-1.70	8	B						
1.80	9	D				Stiff to very stiff reddish brown slightly sandy silty CLAY. Sand is fine to coarse. Occasional pockets of greenish grey siltstone. (MERCIA MUDSTONE GROUP)		
2.00-2.45	10	UT-NR _(UT100)	55 blows 0% recovery				2.50	
2.50-2.95		SPT	N=13					
2.50-2.95	11	DSPT						
2.50-2.90	12	B						
2.90	13	D						
3.10-3.45	14	UT _(UT100)	150 blows 129% recovery					
3.60	15	D					(2.50)	
3.60-4.00	16	B						
4.00-4.42		SPT	6,12/13,17,33,35 for 40mm					
4.00-4.42	17	DSPT						
4.60-5.00		SPT	13,12/20,20,30,30 for 20mm					
4.60-5.00	18	DSPT					5.00	
Cable percussion borehole terminated at 5.00m depth.								

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
14/09/22	18:00	3.60	3.00	150	Dry	4.40	4.60	00:30	1. Position cleared using CAT and Genny. 2. Hand dug inspection pit to 1.20m. 3. Borehole drilled using 150mm tools and casing. 4. No groundwater encountered during drilling. 5. Borehole installed with 150mm standpipe upon completion. 6. SPT hammer JB05-2022 (E_r = 68.00%) used.		
15/09/22	08:00	3.60	3.00	150	Dry						
15/09/22	11:00	5.00	3.00	150	Dry						
									All dimensions in metres		
									Scale: 1:50		
Method Used: Inspection pit + Cable percussion		Plant Used: Dando 2000				Drilled By: Will Nevins		Logged By: RStan		Checked By:	

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Structural Soils Ltd, Branch Office - Castleford: The Potteries, Pottery Street, Castleford, West Yorkshire, WF10 1NL. Tel: 01977-552255, Fax: 01977-552299, Web: www.soils.co.uk | 11/12/22 - 18:43 | TC9 |

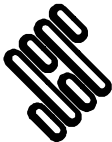


TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP01
Contract Ref: 765514	Start: 27.09.22 End: 27.09.22	Ground Level (m AOD): ---	National Grid Co-ordinate: ---		Sheet: 1 of 2

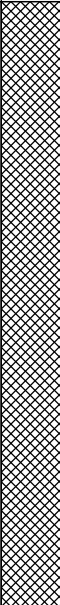
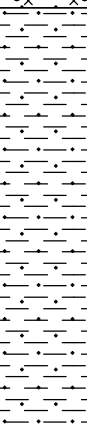
Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10	1	ES	c _u => 140			TOPSOIL	0.20	
0.10	2	D				Very stiff dark orangish reddish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of quartzite.	(0.30)	
0.30	3	ES					0.50	
0.30	4	D						
0.30-0.40	5	LB				Very stiff dark reddish brown slightly sandy CLAY with frequent beds (<40mm) of extremely weak and very weak light greenish grey siltstone. (MERCIA MUDSTONE GROUP)	(1.50)	
0.60	6	ES						
0.60	7	D						
0.60-0.70	8	LB						
0.60		V				... 1.90-2.00m: Thin bed (<100mm) of very weak light grey siltstone.	2.00	
Trial pit terminated at 2.00m depth.								

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation. 3. Soakaway carried out at 2.00m.			
All dimensions in metres		Scale: 1:25			
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		



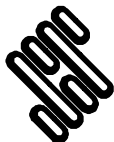
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP02
Contract Ref: 765514	Start: 27.09.22 End: 27.09.22	Ground Level (m AOD): ---	National Grid Co-ordinate: ---		Sheet: 1 of 3

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.15 0.15	1 2	ES D	c _u => 140			TOPSOIL	(0.30) 0.30	
0.40 0.40 0.40-0.50	3 4 5	ES D LB				Very stiff dark orangish brown slightly sandy slightly gravelly clayey SILT. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite and flint.	(0.30) 0.60	
0.70 0.70 0.70-0.80 0.70	6 7 8	ES D LB V				Very stiff dark reddish brown slightly sandy CLAY with frequent lithorelics (20x20mm) of mudstone with occasional very thin beds (<30mm) of very weak light greenish grey siltstone. (MERCIA MUDSTONE GROUP)	(1.40) 2.00	
Trial pit terminated at 2.00m depth.								

Plan (Not to Scale) Bearing → 90°		General Remarks 1. All faces similar and stable. 2. No groundwater encountered during excavation. 3. Soakaway carried out at 2.00m.	
All dimensions in metres		Scale:	1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:

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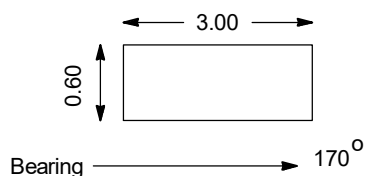


TRIAL PIT LOG

Contract: EMG Phase 2		Client: SEGRO		Trial Pit: TP03
Contract Ref: 765514	Start: 03.10.22 End: 03.10.22	Ground Level (m AOD): ---	National Grid Co-ordinate: ---	Sheet: 1 of 5

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.15 0.15	1 2	ES D	$c_u = 52/54$			TOPSOIL.	(0.30) 0.30	
0.40 0.40 0.40-0.50	3 4 5	ES D B				Light orangish brown very gravelly SAND. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of flint and quartz.	(0.50) 0.80	
1.00 1.00 1.00-1.10	6 7 8	ES D B				Stiff dark orangish reddish brown slightly sandy slightly gravelly clayey SILT. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of flint and quartz. (MERCIA MUDSTONE GROUP)	(0.50) 1.30	
1.50 1.50-1.60 1.50 1.60	10 11 9	D B ES V				Stiff dark reddish brown slightly sandy slightly gravelly CLAY with frequent lenses of reddish brown gravelly fine to coarse sand with occasional to frequent pockets (<50x50mm) of green silt. (MERCIA MUDSTONE GROUP)	(2.20) 3.50	
						... 2.00m: Sand lenses absent. Occasional pockets (<100x50mm) of reddish brown sand.		
3.00 3.20 3.40-3.50	12 13	D B				... 3.00m: Firm, low cobble content and occasional boulders. Cobbles (<200x150x100mm) subangular siltstone. Boulders (<450x350x100mm) subangular siltstone.		
						Trial pit terminated at 3.50m depth.		

Plan (Not to Scale)



General Remarks

1. All faces similar and stable.
2. No groundwater encountered during excavation.

All dimensions in metres

Scale: **1:25**

Method Used:

Machine dug

Plant Used:

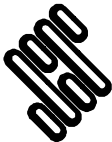
Tracked excavator

Logged By:

GKalaher

Checked By:





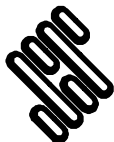
TRIAL PIT LOG

Contract: EMG Phase 2		Client: SEGRO		Trial Pit: TP05
Contract Ref: 765514	Start: 03.10.22 End: 03.10.22	Ground Level (m AOD): ---	National Grid Co-ordinate: ---	Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20 0.20	1 2	D ES				TOPSOIL.	(0.40) 0.40	
0.50 0.50 0.50-0.60	3 4 5	D ES B				Very stiff dark yellowish brown slightly sandy slightly gravelly clayey SILT with occasional lenses (100x30mm) and pockets (<30x30mm) of reddish brown fine to coarse sand. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartz and flint.	(0.90) 1.30	
0.80		V	$c_u > 140$					
1.50 1.50 1.50-1.60	6 7 8	ES D B				Very stiff dark brown mottled light grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartz, siltstone, mudstone, sandstone and chalk. With occasional pockets (<30x30mm) of orange and yellow silt/sand.	(1.90) 3.20	
2.00		V	$c_u = 120$					
2.80		V	$c_u = 110$					
3.00-3.10 3.00	10 9	B D						
						Trial pit terminated at 3.20m depth.		

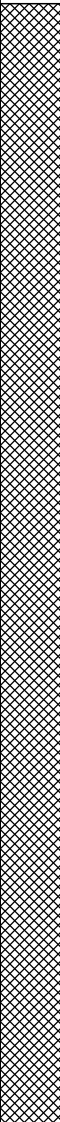
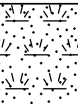
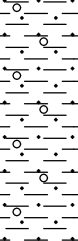
Plan (Not to Scale) 3.20 0.60 Bearing 75°		General Remarks 1. All faces similar and stable. 2. No groundwater encountered during excavation.	
All dimensions in metres		Scale: 1:23	
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:

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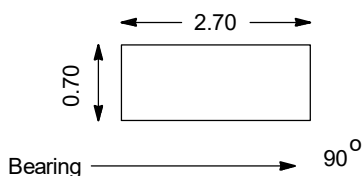


TRIAL PIT LOG

Contract: EMG Phase 2		Client: SEGRO		Trial Pit: TP06
Contract Ref: 765514	Start: 03.10.22 End: 03.10.22	Ground Level (m AOD): ---	National Grid Co-ordinate: ---	Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick- ness)	Material Graphic Legend		
Depth	No	Type	Results							
0.15 0.15	1 2	ES D	c _u =100			TOPSOIL	(0.35) 0.35			
0.40 0.40 0.40-0.50	3 4 5	ES D B				Dark orangish brown gravelly fine to coarse SAND. Gravel is subangular to rounded fine to coarse of quartz, flint and mudstone.	(0.30) 0.65			
0.80 0.80 0.80-0.90 0.80	6 7 8	ES D B V				Stiff dark orangish reddish brown slightly sandy slightly gravelly CLAY with occasional local frequent pockets (<40mm) of silt. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartz, sandstone, siltstone, flint and mudstone.	(0.85) 1.50			
1.60 1.60-1.70 1.60	10 11 9	D B ES				Dark orangish brown gravelly fine to coarse SAND with medium cobble content and occasional thin beds (<20mm) of stiff orangish brown slightly sandy silty clay. Gravel is angular to rounded fine to coarse of siltstone, quartz and flint.	(0.50) 2.00			
2.10 2.10 2.10-2.20	12 13 14	ES D B				Dark yellowish brown sandy GRAVEL with medium cobble and low boulder content. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of siltstone, quartz, mudstone, sandstone and flint. Cobbles and boulders (<450mm) are subangular to subrounded of siltstone.	(1.70) 3.70			
3.50	15	D				. . . Below 3.40m: Medium boulder content (<600x400x200m)				
Trial pit terminated at 3.70m depth.										

Plan (Not to Scale)



General Remarks

1. All faces similar and stable.
2. No groundwater encountered during excavation.

All dimensions in metres

Scale: **1:25**

Method Used:

Machine dug

Plant Used:

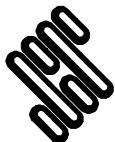
Tracked excavator

Logged By:

GKalaher

Checked By:



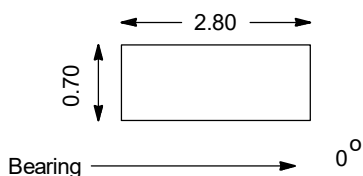


TRIAL PIT LOG

Contract: EMG Phase 2		Client: SEGRO		Trial Pit: TP08
Contract Ref: 765514	Start: 04.10.22 End: 04.10.22	Ground Level (m AOD): 84.97	National Grid Co-ordinate: E:445808.1 N:325346.7	Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20 0.20	1 2	ES D				TOPSOIL: Firm dark brown slightly sandy slightly gravelly silty CLAY with low cobble content. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of quartzite, flint, brick, glass and ceramic tile. Cobbles (<215x100x65mm) are angular of full and half brick.	(0.40) 0.40	
0.50 0.50 0.50-0.60	3 4 5	ES D LB				MADE GROUND: Reddish brown gravelly silty fine to coarse SAND with low cobble content. Gravel is angular to rounded fine to coarse of brick, tile, quartzite and mudstone. Cobbles (<215x100x65mm) are angular of full and half brick, with occasional concrete blocks (<400x150x120mm).	(1.80)	
1.50 1.50 1.50-1.60	6 7 8	ES D LB				... below 2.00m: frequent cobbles of full and half brick, and occasional fragments of rope.	2.20	
2.40 2.40 2.40-2.50	10 11 12	ES D LB				POSSIBLE MADE GROUND: Firm to stiff dark reddish brown, locally dark grey, slightly sandy slightly gravelly clayey SILT. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of quartzite and flint.	(0.60) 2.80	
2.90-3.00 2.90	13 14	LB D				Stiff dark reddish brown mottled light grey slightly sandy CLAY. Sand is fine to coarse. (MERCIA MUDSTONE GROUP)	(0.40) 3.20	
Trial pit terminated at 3.20m depth.								

Plan (Not to Scale)



General Remarks

1. All faces similar and stable.
2. No groundwater encountered during excavation.

All dimensions in metres

Scale: **1:25**

Method Used:

Hand dug

Plant Used:

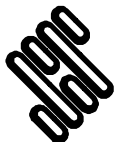
Hand tools

Logged By:

GKalaher

Checked By:





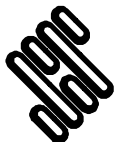
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP09
Contract Ref: 765514	Start: 04.10.22 End: 04.10.22	Ground Level (m AOD): 87.60	National Grid Co-ordinate: E:445878.0 N:325225.7		Sheet: 1 of 3

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic Legend
Depth	No	Type	Results					
0.20 0.20	1 2	ES D	c _u =110		TOPSOIL	(0.35) 0.35		
0.60 0.60 0.60-0.70 0.60	3 4 5	ES D LB V			Stiff to very stiff dark greyish brown slightly sandy slightly gravelly silty CLAY. Sand of fine to coarse. Gravel is angular to rounded fine to coarse of flint and quartzite.	(0.75) 1.10		
1.30 1.30 1.30-1.40	6 7 8	ES D LB			Firm to stiff dark reddish brown mottled greenish grey slightly sandy gravelly silty CLAY. With abundant pockets (<100x30mm) of yellow orange and red silt with occasional lenses (<50mm) of reddish brown fine to coarse sand.	(2.60)		
					. . . below 1.80m: firm, locally soft and firm.			
					. . . below 2.70m: with medium cobble and boulder content. Cobbles (<200x150x100mm) are subangular and subrounded of siltstone. Boulders (<350x250x150mm) are subangular of siltstone.			
3.30 3.30-3.40	10 9	D LB				3.70		
								Trial pit terminated at 3.70m depth.

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
		All dimensions in metres		Scale:	1:25
Method Used: Hand dug	Plant Used: Hand tools	Logged By: GKalaher	Checked By:		

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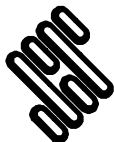
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP10
Contract Ref: 765514	Start: 04.10.22 End: 04.10.22	Ground Level (m AOD): 77.53	National Grid Co-ordinate: E:445846.9 N:325068.8		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20	1	ES				TOPSOIL	(0.40)	
0.20	2	D					0.40	
0.50	3	ES				Stiff dark yellowish orangish brown slightly sandy gravelly CLAY. With frequent pockets (<40x40mm) of reddish brown fine to coarse sand. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite, mudstone and flint.	(0.30)	
0.50	4	D					0.70	
0.50-0.60	5	LB						
0.80	6	ES				Very stiff dark orangish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite, flint and chalk.	(0.55)	
0.80	7	D					1.25	
0.80-0.90	8	LB						
1.40	10	D				Very stiff friable light yellowish brown mottled grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of chalk and siltstone with occasional pockets (20x10mm) of yellow and orange silt.	(0.75)	
1.40-1.50	11	LB					2.00	
1.40	9	ES						
2.10	12	ES				Stiff dark brown mottled grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of siltstone, flint, chalk and mudstone, with occasional pockets (<20x20mm) of orange and yellow silt.	(1.20)	
2.10	13	D						
2.10-2.20	14	LB				. . . below 2.50m: stiff to very stiff.		
3.10	15	D					3.20	
						Trial pit terminated at 3.20m depth.		

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation. 3. Ceramic land drain 1.00-1.10m depth.			
		All dimensions in metres		Scale:	1:25
Method Used: Hand dug	Plant Used: Hand tools	Logged By: GKalaher	Checked By:		

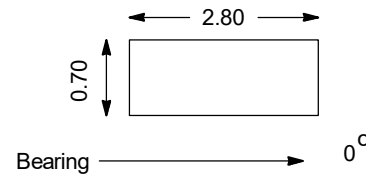
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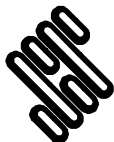
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP11
Contract Ref: 765514	Start: 04.10.22 End: 04.10.22	Ground Level (m AOD): 77.02	National Grid Co-ordinate: E:445965.8 N:324988.4		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20 0.20	1 2	ES D				TOPSOIL	(0.40) 0.40	
0.60 0.60 0.60-0.70	3 4 5	ES D B				Compact dark orangish brown slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of quartzite.	(0.60) 1.00	
1.20 1.20 1.20-1.30	6 7 8	ES D B				Stiff dark orangish brown and greyish brown slightly sandy slightly gravelly clayey SILT. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of flint, quartzite and chalk.	(0.70) 1.70	
1.80 1.80-1.90 1.80	10 11 9	D B ES				Stiff dark orangish brown mottled grey slightly sandy slightly gravelly CLAY. With frequent lenses (<50mm) of reddish brown fine to coarse sand with frequent pockets (<50x30mm) of yellow and orange silt. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite, siltstone, mudstone, chalk and flint.	(1.50) 3.20	
3.30 3.30 3.30	12 13 14	ES D B				Dark orangish brown gravelly clayey SAND with occasional very thin beds (<30mm) of firm slightly sandy silty clay.	(0.30) 3.50	
						Trial pit terminated at 3.50m depth.		

Plan (Not to Scale) 	General Remarks 1. All faces similar and stable. 2. No groundwater encountered during excavation.			
All dimensions in metres		Scale: 1:25		
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:	

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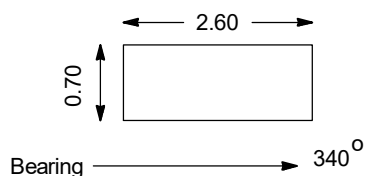


TRIAL PIT LOG

Contract: EMG Phase 2		Client: SEGRO		Trial Pit: TP12
Contract Ref: 765514	Start: 04.10.22 End: 04.10.22	Ground Level (m AOD): 73.79	National Grid Co-ordinate: E:445742.7 N:325045.7	Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20 0.20	1 2	ES D				TOPSOIL	(0.40) 0.40	
0.50 0.50 0.50-0.60	3 4 5	ES D B				Stiff dark yellowish brown sandy slightly gravelly SILT. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartz and flint. ... Below 0.60m: very stiff clayey SILT	(0.60) 1.00	
1.10 1.10 1.20-1.30 1.20	6 7 8 8	ES D B V	$c_u \geq 140$			Very stiff dark yellowish reddish brown mottled light grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint, chalk and quartz. ... 1.45m: thin bands (<50mm) of reddish brown gravelly fine to coarse sand.	(0.80) 1.80	
2.00 2.00 2.00 2.00	10 11 9 9	D B ES V	$c_u = 120$			Stiff dark greyish brown mottled bluish grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of flint, chalk and quartz.	(1.90)	
3.50	12	D					3.70	
Trial pit terminated at 3.70m depth.								

Plan (Not to Scale)



General Remarks

1. All faces similar and stable.
2. No groundwater encountered during excavation.

All dimensions in metres

Scale: **1:25**

Method Used:

Machine dug

Plant Used:

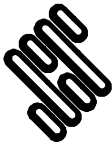
Tracked excavator

Logged By:

GKalaher

Checked By:

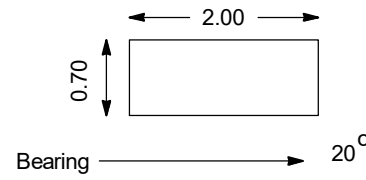




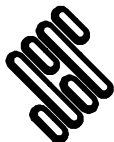
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP15
Contract Ref: 765514	Start: 29.09.22 End: 29.09.22	Ground Level (m AOD): 69.53	National Grid Co-ordinate: E:445583.3 N:325042.1		Sheet: 1 of 2

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.30 0.30	1 2	ES D				TOPSOIL	(0.50) 0.50	
0.60 0.60 0.60-0.70	3 4 5	ES D B				Firm dark yellowish orangish brown slightly sandy gravelly clayey SILT. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of flint and quartzite with occasional lenses (<50mm) of reddish brown fine to coarse sand.	(0.80) 1.30	
1.50 1.50 1.50-1.60	6 7 8	ES D B				Firm to stiff dark brown mottled light grey slightly sandy gravelly CLAY with high cobble content. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of quartzite, flint and siltstone. Cobbles (<200x150x110mm) are subangular of siltstone.	(0.70) 2.00	
						Trial pit terminated at 2.00m depth.		

Plan (Not to Scale) 	General Remarks 1. All faces similar and stable. 2. No groundwater encountered during excavation. 3. Soakaway carried out at 2.00m.			
All dimensions in metres		Scale: 1:25		
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:	

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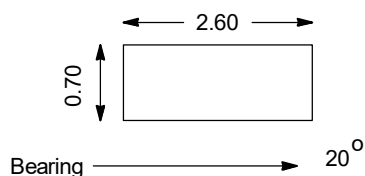


TRIAL PIT LOG

Contract: EMG Phase 2		Client: SEGRO		Trial Pit: TP16
Contract Ref: 765514	Start: 29.09.22 End: 29.09.22	Ground Level (m AOD): 72.11	National Grid Co-ordinate: E:445645.8 N:324820.9	Sheet: 1 of 5

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20	1	ES				TOPSOIL	(0.30)	
0.20	2	D					0.30	
0.40	3	ES				Compact dark orangish brown slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite.	(0.35)	
0.40	4	D						
0.40-0.50	5	LB					0.65	
0.70	6	ES				Very stiff dark reddish brown slightly sandy silty CLAY. Sand is fine to coarse.		
0.70	7	D					0.85	
0.70-0.80	8	LB				Stiff to very stiff locally friable dark reddish brown and light grey slightly sandy CLAY. With frequent very thin beds (<40mm) of very weak light grey siltstone.	(0.45)	
1.00	10	D						
1.00-1.10	11	LB						
1.00	9	ES	$c_u \geq 140$				1.30	
1.00		V						
1.40	12	ES				Stiff friable dark reddish brown locally mottled light grey slightly sandy CLAY. With occasional mudstone lithorelics (<10x10mm).		
1.40	13	D						
1.40-1.50	14	LB	$c_u = 110$					
1.40		V						
2.10	15	D				... below 2.00m: with frequent very thin beds (<40mm) of extremely weak and very weak reddish brown mudstone and siltstone.	(1.90)	
2.80	16	D				... 2.70-2.90m: thin bed (<200mm) of extremely weak and very weak light greenish grey siltstone.	3.20	
3.30-3.40	17	LB				Extremely weak locally friable dark reddish brown MUDSTONE.	(0.50)	
3.30	18	D					3.70	
						Trial pit terminated at 3.70m depth.		

Plan (Not to Scale)



General Remarks

1. All faces similar and stable.
2. No groundwater encountered during excavation.

All dimensions in metres

Scale: **1:25**

Method Used:

Machine dug

Plant Used:

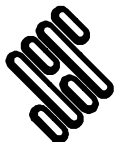
Tracked excavator

Logged By:

GKalaher

Checked By:





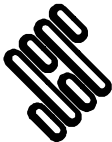
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP17
Contract Ref: 765514	Start: 28.09.22 End: 28.09.22	Ground Level (m AOD): 89.01	National Grid Co-ordinate: E:446441.7 N:325131.0		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20 0.20	1 2	ES D				TOPSOIL	(0.40) 0.40	
0.50 0.50 0.50-0.60	3 4 6	ES D LB				Orangish brown very gravelly silty SAND. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite, mudstone and flint.	(0.35) 0.75	
0.80 0.80 0.80-0.90	7 8 9	ES D LB				Very stiff dark greyish brown slightly sandy slightly gravelly silty CLAY with occasional very thin lenses (<100mm) of reddish brown gravelly fine to coarse sand. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite and flint, chalk, siltstone and sandstone with frequent pockets (<30x30mm) of orange and yellow silt.	(2.45)	
2.00		V	$c_u=120$			... 2.50m: Cobble (<260x150x110mm) of subangular flint.		
2.80-2.90 2.80 2.80	10 11	LB D V	$c_u=107$					
						Trial pit terminated at 3.20m depth.	3.20	

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
		All dimensions in metres		Scale:	1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

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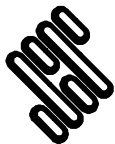
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP18
Contract Ref: 765514	Start: 28.09.22 End: 28.09.22	Ground Level (m AOD): 84.13	National Grid Co-ordinate: E:446580.8 N:325055.4		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20	1	ES	c _u =50/80			TOPSOIL (TOPSOIL)	(0.35)	
0.20	2	D					0.35	
0.40	3	ES				Firm dark orangish brown slightly gravelly sandy SILT. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite and flint.	0.60	
0.40	4	D						
0.40-0.50	5	LB						
0.70	6	ES				Very stiff dark reddish brown slightly sandy slightly gravelly CLAY. With low cobble content. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite, mudstone and flint. Cobbles (<130x80x70mm) and subrounded of quartzite.	(0.90)	
0.70	7	D						
0.70-0.80	8	LB					1.50	
1.70	10	D				Stiff dark reddish brown slightly sandy gravelly silty CLAY. With medium cobble and boulder content. With frequent pockets (<30x30mm) and thin lenses (<15x100mm) of orange silt and yellow sand. Cobbles (<200x120x100mm) are subangular and subrounded of siltstone. Boulders (<400x300x150mm) are subangular and subrounded of siltstone. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite, siltstone and sandstone. With occasional subrounded nodules (<90x60x40mm) of mudstone.	(0.70)	
1.70-1.80	11	LB						
1.70	9	ES					2.20	
1.70		V				Trial pit terminated at 2.20m depth.		

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation. 3. Soakaway carried out at 2.20m.			
		All dimensions in metres		Scale:	1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

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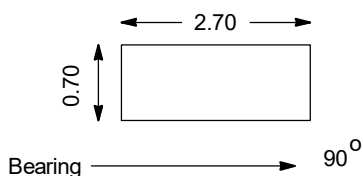


TRIAL PIT LOG

Contract: EMG Phase 2		Client: SEGRO		Trial Pit: TP19
Contract Ref: 765514	Start: 28.09.22 End: 28.09.22	Ground Level (m AOD): 75.72	National Grid Co-ordinate: E:446353.6 N:324934.2	Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.15 0.15	1 2	ES D	$c_u > 140$			TOPSOIL	(0.30) 0.30	
0.40 0.40 0.40	3 4 5	ES D LB				Stiff dark orangish brown slightly sandy slightly gravelly clayey SILT. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartz and flint.	(0.50) 0.80	
0.90 0.90 0.90 0.90	6 7 8 8	ES D LB V				Stiff to very stiff dark brown mottled grey yellow and orange slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of quartzite, siltstone, sandstone and flint.	(0.80) 1.60	
1.70 1.70 1.70	10 11 9	D LB ES				Stiff dark reddish brown mottled grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite. ... 1.80m: Boulder (<200x200x150mm) of subangular siltstone.	(0.30) 1.90	
2.00 2.00 2.00	12 13 14	ES D LB				Stiff yellowish orangish brown mottled grey slightly sandy SILT. Locally sandy. Sand is fine to coarse. ... 2.50m: Firm and stiff with occasional thin lenses (<100mm) of firm dark orangish brown mottled grey silty clay. Locally with frequent pockets of (<100mmx80mm) of black organic carbonaceous plant remains.	(2.00) 3.90	
3.90 3.95 3.95	17 15 16	LB ES D				Dark brown gravelly clayey SAND with occasional very thin lenses (<25mm) of firm dark brown slightly sandy silty clay. Sand is fine to coarse. Gravel is subangular to rounded fine to medium of quartzite, mudstone and flint. Trial pit terminated at 4.00m depth.	4.00	

Plan (Not to Scale)



General Remarks

- All faces similar and stable.
- Water seepage at 3.20m-3.90m - rose 5cm - 20min.

All dimensions in metres

Scale: **1:25**

Method Used:

Machine dug

Plant Used:

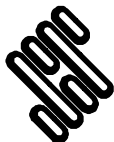
Tracked excavator

Logged By:

GKalaher

Checked By:





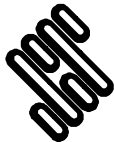
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP21
Contract Ref: 765514	Start: 06.10.22 End: 06.10.22	Ground Level (m AOD): 72.83	National Grid Co-ordinate: E:446314.3 N:324790.0		Sheet: 1 of 5

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.15 0.15	1 2	ES D	c _u => 140			TOPSOIL.	(0.30) 0.30	
0.50 0.50	3 4	ES D				Very stiff dark reddish brown mottled grey slightly sandy CLAY. Sand is fine to coarse with occasional very thin beds (<25mm) of very weak light grey siltstone. (MERCIA MUDSTONE GROUP) ... Below 0.80m, friable.	(0.70) 1.00	
1.10 1.10 1.10-1.20 1.10	6 7 8	ES D B V				Stiff to very stiff friable dark reddish brown slightly sandy CLAY with frequent beds (<40mm) of extremely weak dark reddish brown mudstone and very weak light grey siltstone. (MERCIA MUDSTONE GROUP) ... Below 2.90m: grading to extremely weak mudstone.	(2.20) 3.20	
3.10-3.20 3.20	9 10	B D				Trial pit terminated at 3.20m depth.		

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
		All dimensions in metres		Scale:	1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

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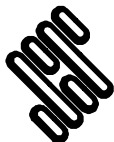
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP22
Contract Ref: 765514	Start: 05.10.22 End: 05.10.22	Ground Level (m AOD): 71.96	National Grid Co-ordinate: E:445927.4 N:324535.6		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.15 0.15	1 2	ES D				TOPSOIL	(0.30) 0.30	
0.40 0.40 0.50-0.50	3 4 5	ES D B				Stiff yellowish brown and orangish brown slightly sandy slightly gravelly clayey SILT. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartz and flint.	(0.90) 1.20	
1.30 1.30 1.30-1.40	6 7 8	ES D B				Firm stiff dark orangish reddish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of quartz, flint, chalk, siltstone, sandstone and mudstone, with frequent pockets (<50x30) of yellow and orange silt and sand with occasional very thin lenses (<40mm) of red brown fine to coarse sand.	(2.10) 3.30	
3.40 3.40-3.50 3.40	10 11 9	D B ES				Dark orangish brown slightly gravelly silty SAND. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartz and flint.	(0.30) 3.60	
						Trial pit terminated at 3.60m depth.		

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
		All dimensions in metres		Scale:	1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

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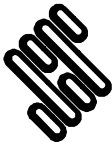
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP23
Contract Ref: 765514	Start: 05.10.22 End: 05.10.22	Ground Level (m AOD): 71.31	National Grid Co-ordinate: E:446025.7 N:324549.2		Sheet: 1 of 3

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic Legend	
Depth	No	Type	Results						
0.20 0.20	1 2	ES D	c _u =120		TOPSOIL	(0.40) 0.40			
0.50 0.50 0.50-0.60 0.70-1.00	3 4 5 8	ES D B B			Very stiff dark reddish brown slightly sandy slightly gravelly clayey SILT. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of quartz and flint.	(0.40) 0.80			
0.90 0.90 0.90	6 7	ES D V			Stiff to very stiff friable dark reddish brown slightly sandy CLAY with occasional very thin beds (<25mm) of light greenish grey siltstone. (MERCIA MUDSTONE GROUP)	(2.40)			
2.90-3.00 3.00	9 10	B D				3.20			
Trial pit terminated at 3.20m depth.									

Plan (Not to Scale) Bearing 30°		General Remarks 1. All faces similar and stable. 2. No groundwater encountered during excavation.	
		All dimensions in metres	Scale: 1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:

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TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP24
Contract Ref: 765514	Start: 05.10.22 End: 05.10.22	Ground Level (m AOD): 69.09	National Grid Co-ordinate: E:446132.1 N:324501.5		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend					
Depth	No	Type	Results										
0.05	1	ES	c _u =110			TOPSOIL	0.10						
0.05	2	D				Compact dark yellowish brown slightly sandy slightly gravelly SILT with low cobble content. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of quartz and flint. Cobbles (<100x90x60mm) are rounded of quartz.	(0.40)						
0.30	3	ES				Stiff to very stiff friable dark reddish brown and light grey slightly sandy CLAY with frequent very thin beds (<60mm) of very weak light grey siltstone. Sand is fine to coarse. (MERCIA MUDSTONE GROUP)	0.50						
0.30	4	D											
0.30-0.40	5	B											
0.60	6	ES	c _u =120					Stiff to very stiff dark reddish brown slightly sandy CLAY with frequent very thin beds (<40mm) of extremely weak to very weak dark reddish brown mudstone. (MERCIA MUDSTONE GROUP)	(0.60)				
0.60	7	D											
0.60-0.70	8	B											
0.60		V							1.10				
1.20	10	D	c _u =120							Stiff to very stiff dark reddish brown slightly sandy CLAY with frequent very thin beds (<40mm) of extremely weak to very weak dark reddish brown mudstone. (MERCIA MUDSTONE GROUP)	(2.00)		
1.20-1.30	11	B											
1.20	9	ES											
1.20		V											

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
All dimensions in metres		Scale: 1:25			
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

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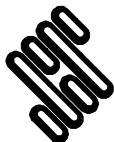
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP25
Contract Ref: 765514	Start: 27.09.22 End: 27.09.22	Ground Level (m AOD): 65.37	National Grid Co-ordinate: E:446080.2 N:324450.2		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20 0.20	1 2	ES D				TOPSOIL	(0.40) 0.40	
0.60 0.60 0.60-0.70	3 4 5	ES D LB				Very stiff dark orangish brown slightly sandy slightly gravelly SILT. Sand is fine to coarse. Gravel is subangular fine to coarse of quartzite with occasional pockets (<10x10m) of black organic carbonised plant remains.	(0.50) 0.90	
1.10 1.10 1.10-1.20	6 7 8	ES D LB				Firm to stiff dark reddish brown, mottled grey, slightly sandy CLAY with occasional very thin beds (<30mm) of very weak light grey siltstone with frequent mudstone lithorelics. (<20x20mm) (MERCIA MUDSTONE GROUP)	(0.90) 1.80	
2.00 2.00-2.10 2.00	10 11 9	D LB ES				Stiff to very stiff friable dark reddish brown slightly sandy CLAY with frequent very thin beds (<40mm) of very weak reddish brown mudstone and light greenish grey siltstone. Sand is fine to coarse. (MERCIA MUDSTONE GROUP)	(1.30) 3.10	
3.20 3.20	12 13	ES D				Very stiff locally friable dark reddish brown slightly sandy CLAY with frequent very thin beds (<30mm) of very weak light grey siltstone. (MERCIA MUDSTONE GROUP) Trial pit terminated at 3.20m depth.	3.20	

Plan (Not to Scale) Bearing → 100°		General Remarks 1. All faces similar and stable. 2. No groundwater encountered during excavation.	
All dimensions in metres		Scale: 1:25	
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:

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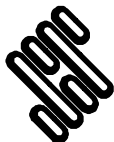
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP26
Contract Ref: 765514	Start: 30.09.22 End: 30.09.22	Ground Level (m AOD): 76.87	National Grid Co-ordinate: E:445943.0 N:324731.8		Sheet: 1 of 3

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic Legend
Depth	No	Type	Results					
0.20 0.20	1 2	ES D	c _u =>140			TOPSOIL	(0.40) 0.40	
0.60 0.60 0.60 0.60	3 4 5	ES D LB V				Very stiff dark purplish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of siltstone.	(0.55) 0.95	
1.10 1.10 1.10	6 7 8	ES D LB				Stiff dark purplish brown mottled light grey and greenish grey slightly sandy CLAY. With frequent mudstone lithorelics (<10x10mm). With occasional thick laminae (<20mm) and very thin beds (<30mm) of extremely weak light greenish grey siltstone. (MERCIA MUDSTONE GROUP)	(0.55) 1.50	
1.60 1.60 1.60	10 11 9	D LB ES				Stiff to very stiff friable dark reddish brown mottled greenish grey slightly sandy CLAY. With occasional very thin beds (<30mm) of very weak dark reddish brown mudstone and light greenish grey siltstone. With frequent mudstone lithorelics (<20x20mm). (MERCIA MUDSTONE GROUP)	(0.50) 2.00	
Trial pit terminated at 2.00m depth.								

Plan (Not to Scale) 2.00 0.70 Bearing 120°		General Remarks 1. All faces similar and stable. 2. No groundwater encountered during excavation. 3. Soakaway carried out at 2.00m.	
All dimensions in metres		Scale: 1:25	
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:

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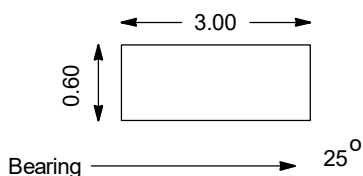


TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP27
Contract Ref: 765514	Start: 26.09.22 End: 26.09.22	Ground Level (m AOD): 74.42	National Grid Co-ordinate: E:446148.2 N:324654.3		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20 0.20 0.20-0.30	1 2 3	ES D B	$c_u \Rightarrow 140$			TOPSOIL.	(0.40)	
0.50 0.50 0.50-0.60	4 5 6	ES D B				Very stiff light brown and light grey slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is angular to subangular tabular of siltstone. (MERCIA MUDSTONE GROUP)	0.40	
0.70 0.70 0.70-0.80	7 8 9	ES D B				Very stiff dark reddish brown slightly sandy CLAY with occasional mudstone lithorelics. (<10x10m) Sand is fine to coarse. (MERCIA MUDSTONE GROUP)	0.65	
0.70		V					(0.85)	
1.60 1.60 1.60-1.70	10 11 12	ES D B				Stiff to very stiff friable dark reddish brown slightly sandy CLAY with frequent mudstone lithorelics with occasional very thin beds (<25mm) of light grey siltstone. (MERCIA MUDSTONE GROUP)	1.50	
1.60		V					(1.50)	
2.60-2.70 2.60	13 14	B D				... 2.50m: With frequent thick laminate to very thin beds (<30mm) of reddish brown mudstone.	3.00	
						Trial pit terminated at 3.00m depth.		

Plan (Not to Scale)

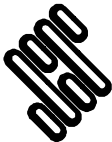


General Remarks

1. All faces similar and stable.
2. No groundwater encountered during excavation.

All dimensions in metres

Scale: **1:25**Method
Used:**Machine dug**Plant
Used:**Tracked excavator**Logged
By:**GKalaher**Checked
By:



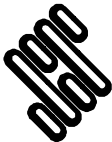
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP28
Contract Ref: 765514	Start: 06.10.22 End: 06.10.22	Ground Level (m AOD): 74.20	National Grid Co-ordinate: E:446254.6 N:324734.0		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.15 0.15	1 2	ES D				TOPSOIL.	(0.30) 0.30	
0.50 0.50 0.50-0.60 0.50	3 4 5	ES D B V	$c_u > 140$			Very stiff dark brown slightly sandy CLAY. Sand is fine to coarse.	(0.70) 1.00	
1.10 1.10 1.10-1.20 1.10	6 7 8	ES D B V	$c_u = 110$			Stiff to very stiff friable dark reddish brown and light greenish grey slightly sandy CLAY with frequent closely to medium spaced very thin beds (<40mm) of very weak light greenish grey siltstone. (MERCIA MUDSTONE GROUP)	(2.30)	
3.30-3.40 3.35 3.35	11 10 9	B D ES				Extremely weak dark reddish brown MUDSTONE. (MERCIA MUDSTONE GROUP) Trial pit terminated at 3.40m depth.	3.30 3.40	
						... Below 2.00m: Occasional siltstone and frequent extremely weak reddish brown mudstone beds.		

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
		All dimensions in metres		Scale:	1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

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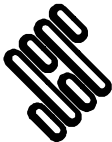
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP29
Contract Ref: 765514	Start: 26.09.22 End: 26.09.22	Ground Level (m AOD): 73.09	National Grid Co-ordinate: E:446243.6 N:324661.8		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20 0.20 0.20-0.30	1 2 3	ES D B				TOPSOIL	(0.35) 0.35	
0.50 0.50 0.50-0.60	4 5 6	ES D B				Stiff to very stiff dark orangish reddish brown slightly sandy slightly gravelly clayey SILT. Sand is fine to coarse. Gravel is subangular fine to coarse of mudstone and quartz. ... Below 0.70m: Friable.	(0.95) 1.30	
1.40 1.40 1.40-1.50	7 8 9	ES D B				Stiff dark reddish brown slightly sandy CLAY with frequent mudstone lithorelics. (<30x30m) with occasional thin beds (<40mm) of light greenish grey siltstone. (spacing - 300 to 800mm) (MERCIA MUDSTONE GROUP) ... Below 1.60m: Friable.	(1.80) 3.10	
2.40-2.50 2.40	10 11	B D				... Below 2.80m: With occasional thin to thick laminae (<20mm) of orangish brown SILT.		
						Trial pit terminated at 3.10m depth.		

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
		All dimensions in metres		Scale:	1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

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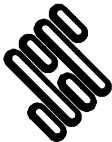
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP30
Contract Ref: 765514		Start: 22.09.22 End: 22.09.22	Ground Level (m AOD): 66.68	National Grid Co-ordinate: E:446232.9 N:324495.5	Sheet: 1 of 3

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						TOPSOIL	0.20	
0.20-0.20	1	ES	1xT+1xJ+1xV			Very stiff dark reddish brown slightly sandy slightly gravelly SILT. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of sandstone and siltstone.		
0.20-0.20	2	D						
0.20-0.35	3	LB						
0.40-0.40	4	ES	1xT+1xJ+1xV				(0.60)	
0.40-0.40	5	D						
0.40-0.40	6	LB					0.80	
0.90-0.90	7	ES	1xT+1xJ+1xV			Stiff dark reddish brown friable slightly sandy CLAY. Sand is fine to coarse. Occasional very thin beds (<30mm) of light greenish grey siltstone. (MERCIA MUDSTONE GROUP)		
0.90-0.90	8	D						
0.90-0.90	9	LB					(0.45)	
							1.25	
1.30-1.40	12	LB				Extremely weak dark reddish brown friable MUDSTONE with frequent very thin beds (<40mm) of very weak light greenish grey siltstone. (MERCIA MUDSTONE GROUP)		
1.40-1.40	10	ES	1xT+1xJ+1xV					
1.40-1.40	11	D					(0.75)	
							2.00	
						Trial pit terminated at 2.00m depth.		

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
		All dimensions in metres		Scale:	1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

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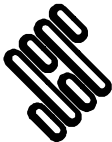
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP31
Contract Ref: 765514	Start: 06.10.22 End: 06.10.22	Ground Level (m AOD): 70.79	National Grid Co-ordinate: E:446338.0 N:324723.9		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.15 0.15	1 2	ES D	$c_u=120$			TOPSOIL	(0.30) 0.30	
0.40 0.40 0.40 0.50-0.60	3 4 5 5	ES D V B				Very stiff dark reddish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subrounded to rounded fine to coarse of quartz.	(0.50) 0.80	
0.90 0.90 0.90-1.00 0.90	6 7 8 8	ES D B V				Stiff to very stiff friable dark orangish reddish brown slightly sandy CLAY with frequent mudstone lithorelics (<15x15mm) with occasional very thin beds (<60mm) of very weak light greenish grey siltstone and frequent very thin beds (<60mm) of extremely weak to very weak reddish brown mudstone. (MERCIA MUDSTONE GROUP)	(2.40) 3.20	
2.90 2.90-3.00 2.90	10 11 9	D B ES				Trial pit terminated at 3.20m depth.		

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
All dimensions in metres		Scale: 1:25			
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

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TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP32
Contract Ref: 765514	Start: 23.09.22 End: 23.09.22	Ground Level (m AOD): 64.32	National Grid Co-ordinate: E:446337.6 N:324462.3		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thick ness)	Material Graphic Legend		
Depth	No	Type	Results							
0.20	1	ES	c _u =90/105		TOPSOIL	(0.35)				
0.20	2	D				Very stiff dark brown slightly sandy CLAY with frequent very thin beds (<30mm) of extremely weak light grey siltstone.		0.35		
0.20-0.30	3	B						(0.55)		
0.50	4	ES								
0.50	5	D				Stiff to very stiff dark orangish reddish brown slightly sandy CLAY. Sand is fine to coarse. (MERCIA MUDSTONE GROUP)		0.90		
0.50-0.60	6	B								
1.10	7	ES	c _u =90		Stiff to very stiff friable dark reddish brown slightly sandy CLAY with frequent mudstone lithorelics (<20x20mm) with occasional very thin beds (<30mm) of extremely weak brown mudstone. Sand is fine to coarse. (MERCIA MUDSTONE GROUP)			(0.90)		
1.10	8	D								
1.10-1.20	9	B								
1.10		V								
1.80		V			1.80					
2.00	10	ES					(1.20)			
2.00	11	D								
2.00-2.10	12	B								
					3.00					
					Trial pit terminated at 3.00m depth.					

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
		All dimensions in metres		Scale:	1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

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TRIAL PIT LOG

Contract:		Client:		Trial Pit:	
EMG Phase 2		SEGRO		TP33	
Contract Ref:	Start: 21.09.22	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:	
765514	End: 21.09.22	66.58	E:446469.7 N:324711.9	1 of 4	

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
						TOPSOIL	(0.35)	
0.20-0.20	1	ES	1xT+1xJ+1xV				0.35	
0.20-0.20	2	D						
0.20-0.35	3	LB						
0.40-0.40	4	ES	1xT+1xJ+1xV					
0.40-0.40	5	D						
0.40		V	c _u =140					
						Very stiff reddish brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular and subangular fine to coarse of mudstone and siltstone. (MERCIA MUDSTONE GROUP) . . . 0.50-0.60m: thin bedded (up to 100mm) of extremely weak light grey siltstone. . . . 0.50-1.40m: become friable. . . . 0.75-1.40m: frequent mudstone lithorelicts (up to 25x25x30mm) and thick laminate of extremely weak mudstone (up to 20mm)	(1.05)	
1.20-1.20	6	D						
1.20-1.40	7	LB					1.40	
						Extremely weak dark reddish brown friable MUDSTONE. Occasional closely spaced thin beds (<40mm) of light greenish grey siltstone. (MERCIA MUDSTONE GROUP)		
1.50-1.50	8	ES	1xT+1xJ+1xV					
1.50-1.50	9	D						
1.50		V	c _u =150					
							(1.40)	
2.20-2.80	10	LB						
2.20-2.20	11	D					2.80	
						Extremely weak dark reddish brown MUDSTONE. Occasional thin beds of extremely weak and very weak light greenish grey siltstone. (MERCIA MUDSTONE GROUP)	(0.40)	
2.90-2.90	12	ES	1xT+1xJ+1xV					
2.90-2.90	13	D						
2.90-3.20	14	LB					3.20	
						Trial pit terminated at 3.20m depth.		

Plan (Not to Scale)		General Remarks	
		1. All faces similar and stable. 2. No groundwater encountered during excavation.	
		All dimensions in metres Scale: 1:25	
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By: AGS



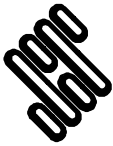
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP34
Contract Ref: 765514	Start: 23.09.22 End: 23.09.22	Ground Level (m AOD): 60.51	National Grid Co-ordinate: E:446451.3 N:324450.0		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20 0.20 0.20-0.30	1 2 3	ES D B				TOPSOIL	(0.40) 0.40	
0.50 0.50 0.50-0.60	4 5 6	ES D B				Firm to stiff dark reddish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of siltstone. (MERCIA MUDSTONE GROUP)	(0.80) 1.20	
1.30 1.30 1.30-1.40	7 8 9	ES D B				... 1.00-1.10m: Very thin bed (<100mm) of very weak light greenish grey siltstone. Stiff to very stiff friable dark reddish brown slightly sandy CLAY with frequent mudstone lithorelics. (<30x30mm) (MERCIA MUDSTONE GROUP)	(0.80) 2.00	
2.10 2.10 2.10-2.20	10 11 12	ES D B				Extremely weak dark purplish brown MUDSTONE with occasional light greenish grey reduction horizons. (<20mm) (MERCIA MUDSTONE GROUP) ... 2.30-2.45m: Extremely weak light greenish grey siltstone. ... 2.60m: Friable.	(1.10) 3.10	
						Trial pit terminated at 3.10m depth.		

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
		All dimensions in metres		Scale:	1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

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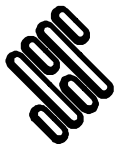
TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP35
Contract Ref: 765514	Start: 23.09.22 End: 23.09.22	Ground Level (m AOD): 59.52	National Grid Co-ordinate: E:446518.6 N:324546.7		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20	1	ES				TOPSOIL	(0.30)	
0.20	2	D					0.30	
0.20-0.30	3	B				Compact friable dark orangish brown slightly sandy SILT. Sand is fine to coarse with occasional pockets (<40x30) of light grey silt and black organic carbonaceous material.		
0.40	4	ES						
0.40-0.50	5	B					(0.80)	
							1.10	
1.10		V	$c_u=110/116$			Stiff dark orangish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of quartz and flint. Occasional pockets (<30x30mm) of yellow and grey silt. ... 1.30m: Locally with frequent thin lenses (<20mm) of light yellow and orange silt. Becoming firm to stiff.		
1.20	6	ES					(0.50)	
1.20	7	D						
1.20-1.30	8	B	$c_u=56/70/90$			Firm to stiff dark reddish brown mottled light grey slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of light grey siltstone. (MERCIA MUDSTONE GROUP)	1.60	
1.30		V						
1.60		V	$c_u=40$					
1.75	10	D				... 2.50m: Stiff.		
1.75-1.85	11	B					(1.20)	
1.75	9	ES						
							2.80	
2.50		V	$c_u=52$			Very stiff friable dark reddish brown CLAY with abundant mudstone and siltstone lithorelics (<50x50mm). (MERCIA MUDSTONE GROUP) ... 2.80m: Groundwater seepage (low inflow insufficient for water sample) No significant/measurable rise. ... 3.00m: Becoming firm to stiff with frequent thin beds (<30mm) of light greenish grey siltstone. ... 3.2-3.40m: Friable.		
							(0.60)	
							3.40	
						Trial pit terminated at 3.40m depth.		

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation.			
Method Used: Machine dug		Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:	

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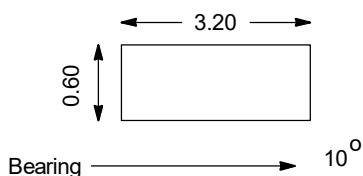


TRIAL PIT LOG

Contract: EMG Phase 2		Client: SEGRO		Trial Pit: TP36
Contract Ref: 765514	Start: 23.09.22 End: 23.09.22	Ground Level (m AOD): 71.78	National Grid Co-ordinate: E:446687.0 N:324743.3	Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10-0.20	3	B				TOPSOIL	(0.30)	
0.20	1	ES					0.30	
0.20	2	D						
0.45	4	ES				Stiff to very stiff dark reddish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of quartz and mudstone.	(0.45)	
0.45	5	D					0.75	
0.45	6	B						
0.80	7	ES				Stiff to very stiff dark reddish brown slightly sandy slightly gravelly CLAY with occasional very thin (<60mm) beds of very weak light grey siltstone. Sand is fine to coarse. Gravel is subangular fine to coarse of siltstone. (MERCIA MUDSTONE GROUP)	(0.35)	
0.80	8	D					1.10	
0.80-0.90	9	B						
1.10-1.30	12	B				Stiff to very stiff friable dark orangish brown slightly sandy slightly gravelly CLAY with frequent thin to thick laminae (<15mm) of orange silt, with occasional very thin beds (<30mm) of light greenish grey siltstone with occasional pockets (<4x4mm) of black organic carbonaceous plant remains. (MERCIA MUDSTONE GROUP) ... Below 1.30m: Reddish brown.	(0.80)	
1.30	10	ES					1.90	
1.30	11	D						
2.00	13	ES				Stiff dark reddish brown slightly sandy CLAY with frequent mudstone lithorelics (<25x25mm). Sand is fine to coarse. With frequent very thin beds (<35mm) of light grey and brown siltstone. (MERCIA MUDSTONE GROUP)	(0.80)	
2.00	14	D						
2.00-2.10	15	B						
2.00		V	c _r =62			... 2.50-2.70m: Thin bed (<200mm) of very weak light greenish grey siltstone.	2.70	
2.70-2.80	18	B				Extremely weak dark reddish brown locally light grey MUDSTONE. (MERCIA MUDSTONE GROUP)	2.80	
2.75	16	ES						
2.75	17	D				Trial pit terminated at 2.80m depth.		

Plan (Not to Scale)



General Remarks

1. All faces similar and stable.
2. No groundwater encountered during excavation.

All dimensions in metres

Scale: **1:25**

Method Used:

Machine dug

Plant Used:

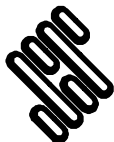
Tracked excavator

Logged By:

GKalaher

Checked By:





TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP37
Contract Ref: 765514	Start: 21.09.22 End: 21.09.22	Ground Level (m AOD): 55.37	National Grid Co-ordinate: E:446674.7 N:324413.8		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.10-0.10	1	ES	1xT+1xJ+1xV			Stiff dark brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of quartzite, granodiorite, siltstone and glass and ceramic tile and plastic sheet. (MADE GROUND - TOPSOIL)	(0.30)	
0.10-0.10	2	D					0.30	
0.10-0.10	3	LB				Stiff dark brown slightly gravelly slightly sandy CLAY. Sand is fine to coarse. Gravel is subangular and subrounded fine to coarse of quartzite and flint. ... 0.80-0.90m: gravel is subangular fine to coarse of flint.		
0.40-0.40	4	ES	1xT+1xJ+1xV					
0.40-0.40	5	D					(0.60)	
0.60		V	$c_u=90$				0.90	
1.00		V	$c_u=110$			Stiff dark brown, locally mottled dark grey, slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse of quartzite, sandstone, siltstone.		
1.10-1.10	6	ES	1xT+1xJ+1xV				(0.45)	
1.10-1.10	7	D						
1.10-1.10	8	LB					1.35	
1.40-1.40	10	D				Firm multicoloured (dark brown, light brown, yellowish brown and grey) slightly gravelly sandy SILT, locally silty clay. Sand is fine to coarse. Gravel is angular and subangular fine to coarse of flint, sandstone and siltstone ... 1.60-2.00m: becoming firm to stiff silty CLAY. Occasional very thin beds of fine to coarse sand.		
1.40-1.40	9	ES	1xT+1xJ+1xV					
1.40		V	$c_u=38$				(0.65)	
1.50-1.50	11	LB					2.00	
Trial pit terminated at 2.00m depth.								

Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. No groundwater encountered during excavation. 3. Soakaway carried out at 2.00m.			
		All dimensions in metres		Scale:	1:25
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKalaher	Checked By:		

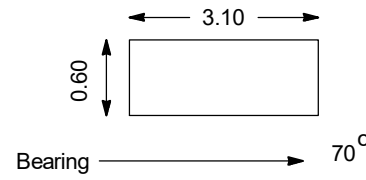
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TRIAL PIT LOG

Contract: EMG Phase 2			Client: SEGRO		Trial Pit: TP39
Contract Ref: 765514	Start: 26.09.22 End: 26.09.22	Ground Level (m AOD): ---	National Grid Co-ordinate: ---		Sheet: 1 of 3

Samples and In-situ Tests				Water	Backfill	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.15	1	ES				TOPSOIL	(0.30)	
0.15	2	D					0.30	
0.15-0.25	3	B						
0.40	4	ES				Very stiff dark brown slightly sandy slightly gravelly silty CLAY. Sand s fine to coarse. Gravel is subangular to rounded fine to coarse of quartz and mudstone.	0.55	
0.40	5	D						
0.40-0.50	6	B				Firm to stiff thinly to thickly laminated dark brown slightly sandy CLAY. Sand is fine to coarse.		
0.70	7	ES				. . . 0.80m: Stiff greyish brown.	(0.65)	
0.70	8	D						
0.70-0.80	9	B					1.20	
1.30	10	ES				Firm dark greyish brown and reddish brown slightly sandy gravelly silty CLAY with frequent pockets (<40x40mm) and thick laminae of yellow and orange silt. Sand is fine to coarse. Gravel is subangular to rounded fine to coarse of quartzite.	(0.40)	
1.30	11	D						
1.30-1.40	12	B					1.60	
1.80	13	ES				Firm to stiff dark reddish brown mottled light grey slightly sandy CLAY with frequent mudstone lithorelics (<30x30mm) with occasional very thin beds (<30mm) of extremely weak to very weak light grey siltstone. (MERCIA MUDSTONE GROUP)	(1.20)	
1.80	14	D						
1.80-1.90	15	B					2.80	
2.90	16	ES				Firm to stiff friable dark reddish brown slightly sandy silty CLAY with abundant mudstone lithorelics (<60x60x30mm). (MERCIA MUDSTONE GROUP)		
2.90	17	D				. . . 3.00m: With frequent very thin beds (<50mm) of mudstone and siltstone.	(0.80)	
2.90-3.00	18	B					3.60	
						Trial pit terminated at 3.60m depth.		

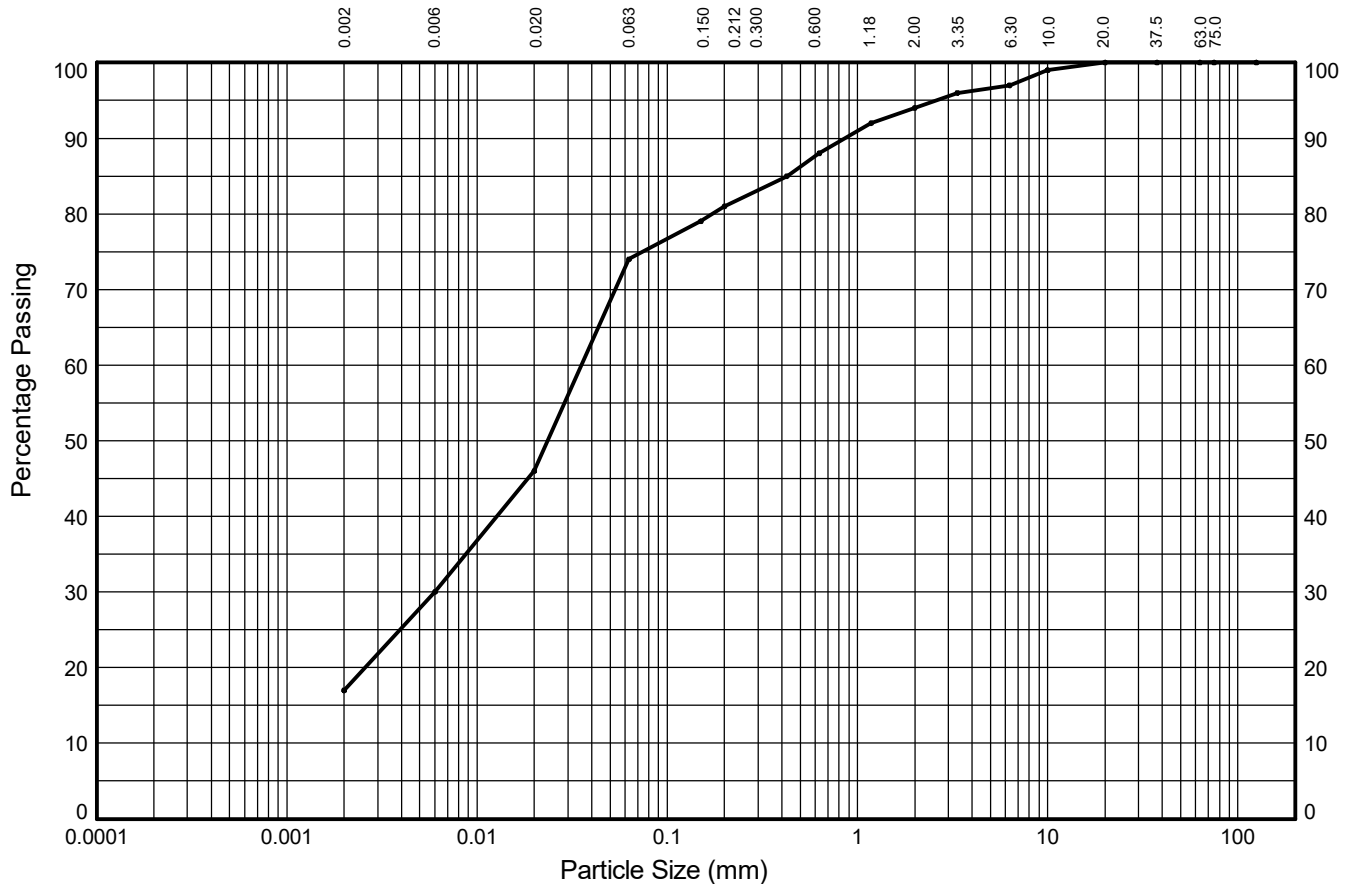
Plan (Not to Scale)		General Remarks			
		1. All faces similar and stable. 2. Water strike at 2.80m.			
All dimensions in metres		Scale: 1:25			
Method Used: Machine dug	Plant Used: Tracked excavator	Logged By: GKavanagh	Checked By:		

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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

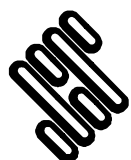
Borehole: **BH04** Sample Ref: **10** Sample Type: **D** Depth (m): **2.70**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	13%	16%	28%	7%	7%	6%	3%	3%	0%	
	SILT			SAND			GRAVEL			
17%	57%			20%			6%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	46	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.006
37.5	100	0.006	30	D ₅₀ (mm)	0.024
20.0	100			D ₆₀ (mm)	0.035
10.0	99			D ₈₅ (mm)	0.425
6.30	97	0.002	17	D ₉₀ (mm)	0.862
3.35	96			C _U	NA
2.00	94			C _C	NA
1.18	92	Sedimentation sample was not pre-treated			
0.630	88	Soil Description: Red brown slightly gravelly slightly sandy clayey SILT			
0.425	85				
0.200	81				
0.150	79				
0.063	74				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



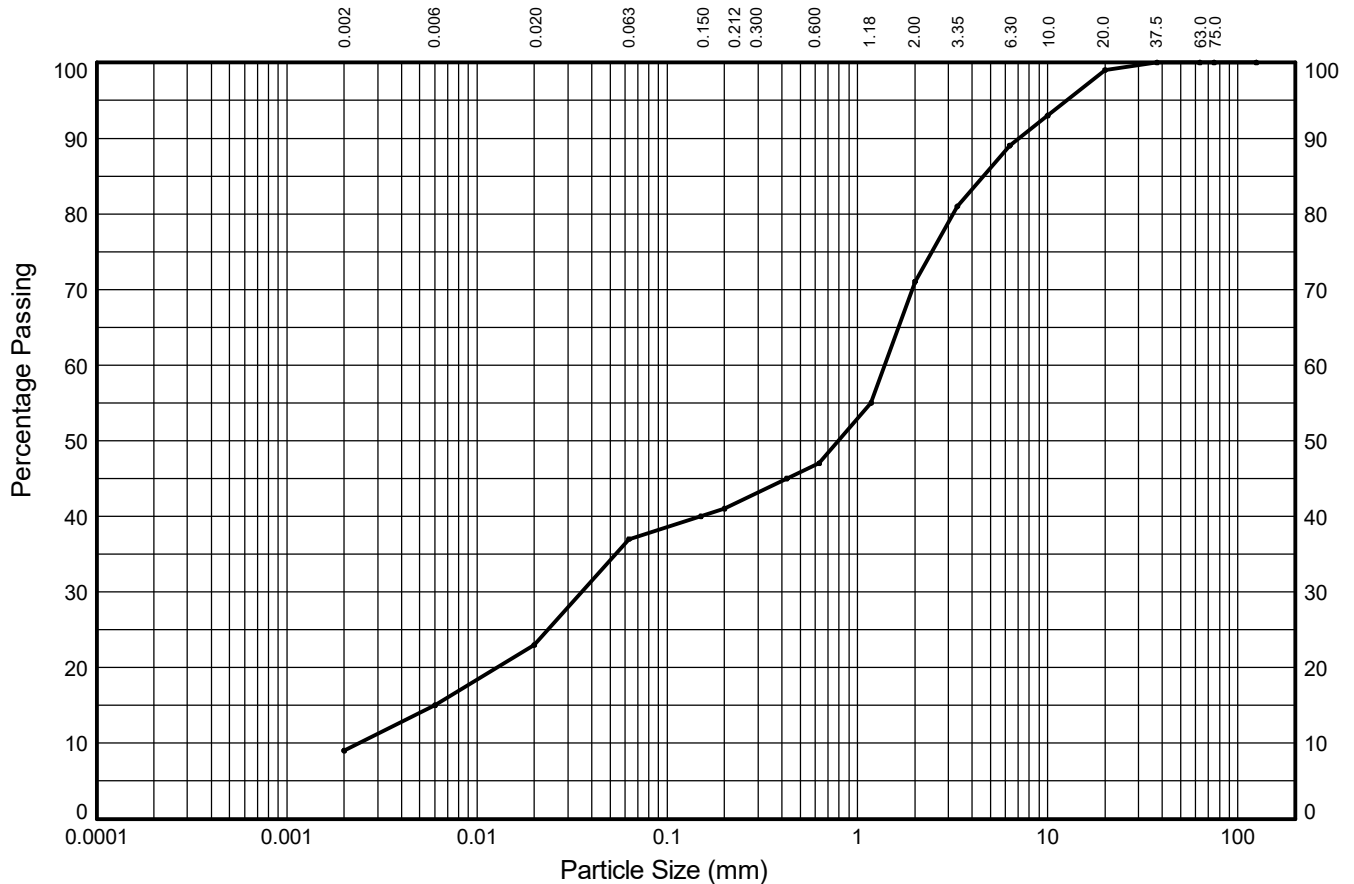
STRUCTURAL SOILS
The Potteries
Pottery Street
Castleford
W. Yorkshire WF10 1NJ

Compiled By		Date
		27/02/23
Contract	Contract Ref:	
EMG Phase 2	765514	

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

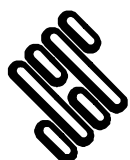
Borehole: **BH05** Sample Ref: **20** Sample Type: **B** Depth (m): **5.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	6%	8%	14%	4%	6%	24%	18%	10%	1%	
	SILT			SAND			GRAVEL			
9%	28%			34%			29%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients		
125.0	100	0.02	23	D ₁₀ (mm)	0.002	
75.0	100			D ₁₅ (mm)	0.006	
63.0	100	0.006	15	D ₃₀ (mm)	0.035	
37.5	100			D ₅₀ (mm)	0.797	
20.0	99			D ₆₀ (mm)	1.392	
10.0	93	0.002	9	D ₈₅ (mm)	4.594	
6.30	89			D ₉₀ (mm)	7.071	
3.35	81			C _U	579	
2.00	71	C _C		0.38		
1.18	55	Sedimentation sample was not pre-treated				
0.630	47					
0.425	45	Soil Description: Brown slightly gravelly slightly sandy clayey SILT				
0.200	41					
0.150	40					
0.063	37					

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



STRUCTURAL SOILS
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Compiled By

Lorna Whitworth

LORNA WHITWORTH

Date

27/02/23

Contract

EMG Phase 2

Contract Ref:

765514



PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

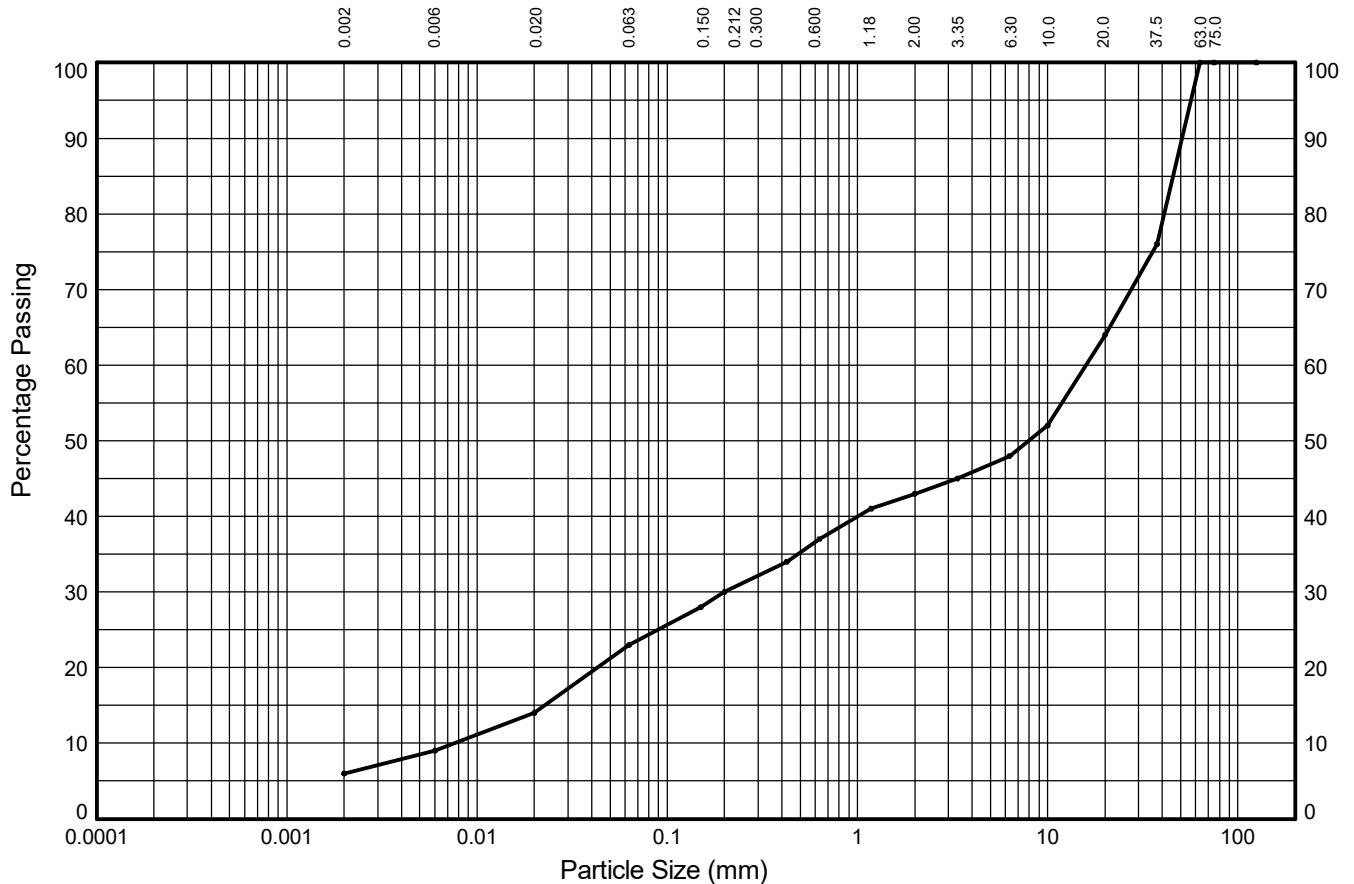
NON-STANDARD TEST

Borehole: **BH05**

Sample Ref: **28**

Sample Type: **B**

Depth (m): **7.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	3%	5%	9%	7%	7%	6%	5%	16%	36%	
	SILT			SAND			GRAVEL			
6%	17%			20%			57%			0%

Test Sieve (mm)	Percent Passing (%)
125.0	100
75.0	100
63.0	100
37.5	76
20.0	64
10.0	52
6.30	48
3.35	45
2.00	43
1.18	41
0.630	37
0.425	34
0.200	30
0.150	28
0.063	23

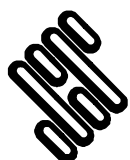
Particle Diameter (mm)	Percent Passing (%)
0.02	14
0.006	9
0.002	6
Sedimentation sample was not pre-treated	

Coefficients	
D ₁₀ (mm)	0.008
D ₁₅ (mm)	0.023
D ₃₀ (mm)	0.200
D ₅₀ (mm)	7.937
D ₆₀ (mm)	15.874
D ₈₅ (mm)	45.554
D ₉₀ (mm)	50.753
C _U	2080
C _C	0.33

Soil Description:

Brown sandy clayey silty GRAVEL

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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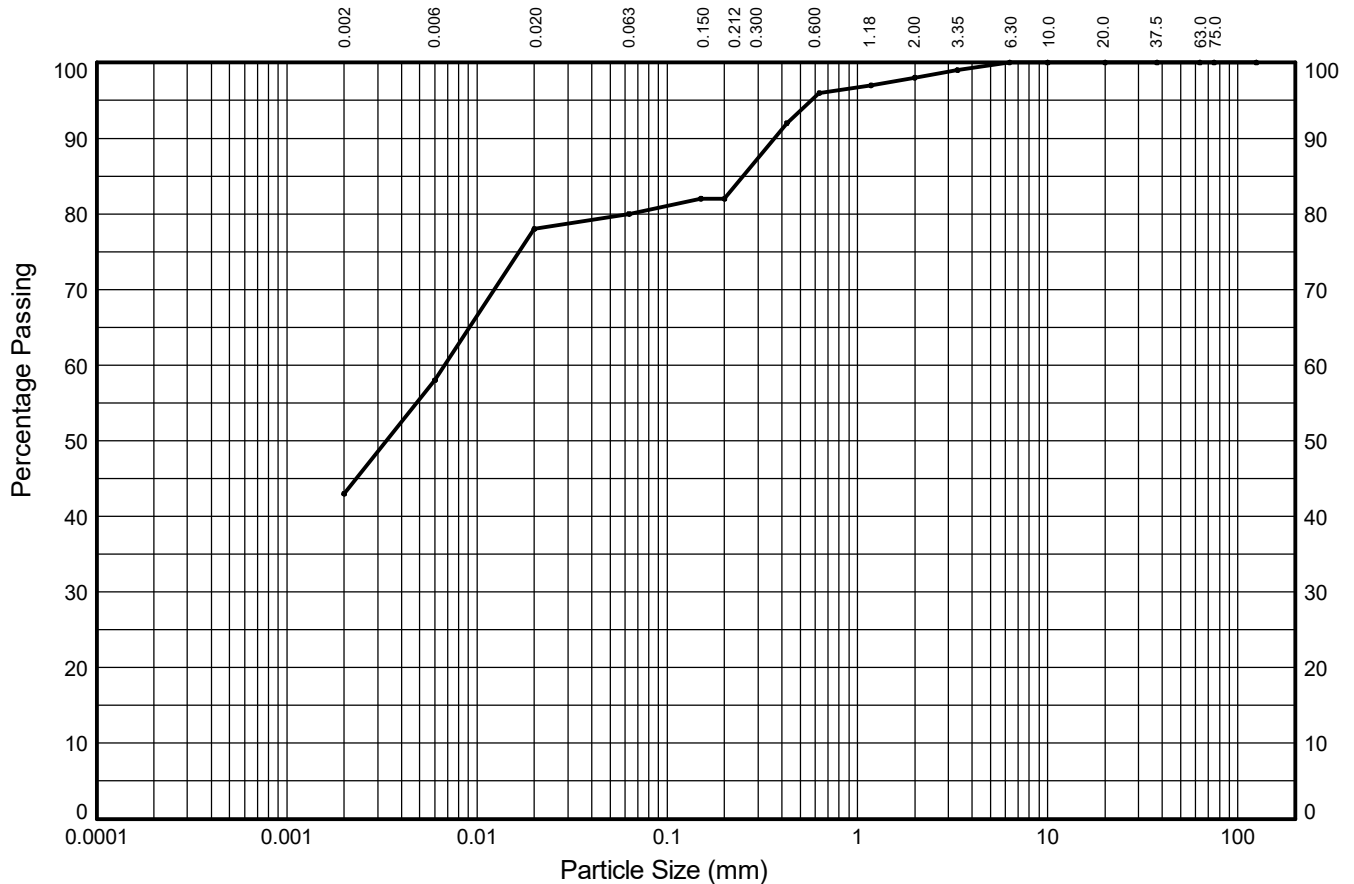
765514



PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

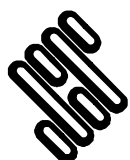
Borehole: **BH06** Sample Ref: **11** Sample Type: **B** Depth (m): **2.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	15%	20%	2%	2%	14%	2%	2%	0%	0%	
	SILT			SAND			GRAVEL			
43%	37%			18%			2%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients		
125.0	100	0.02	78	D ₁₀ (mm)	NA	
75.0	100			D ₁₅ (mm)	NA	
63.0	100			D ₃₀ (mm)	NA	
37.5	100	0.006	58	D ₅₀ (mm)	0.003	
20.0	100			D ₆₀ (mm)	0.007	
10.0	100			D ₈₅ (mm)	0.251	
6.30	100	0.002	43	D ₉₀ (mm)	0.366	
3.35	99			Sedimentation sample was not pre-treated	C _U	NA
2.00	98				C _C	NA
1.18	97					
0.630	96					
0.425	92					
0.200	82					
0.150	82					
0.063	80					
Soil Description: Brown slightly gravelly slightly sandy silty CLAY						

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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PARTICLE SIZE DISTRIBUTION TEST

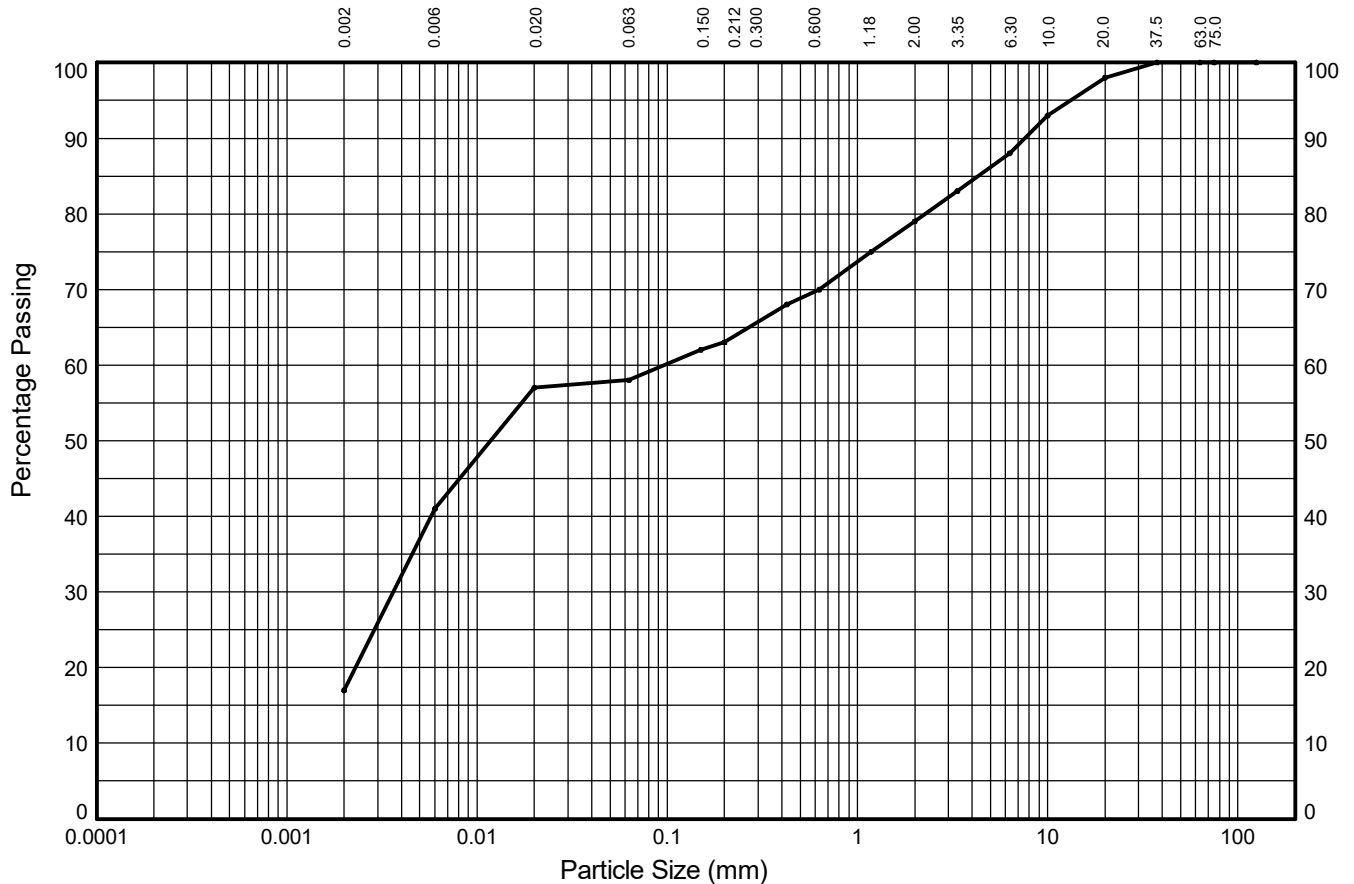
In accordance with clauses 9.2, 9.4 of BS1377:Part 2:1990

Borehole: **BH08**

Sample Ref: **19**

Sample Type: **B**

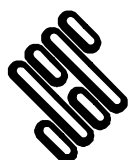
Depth (m): **4.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	24%	16%	1%	5%	7%	9%	9%	10%	2%	
	SILT			SAND			GRAVEL			
17%	41%			21%			21%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	57	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.004
37.5	100	0.006	41	D ₅₀ (mm)	0.012
20.0	98			D ₆₀ (mm)	0.097
10.0	93			D ₈₅ (mm)	4.313
6.30	88	0.002	17	D ₉₀ (mm)	7.579
3.35	83			C _U	NA
2.00	79			C _C	NA
1.18	75	Sedimentation sample was not pre-treated			
0.600	68	Soil Description: Brown slightly gravelly slightly sandy clayey SILT			
0.425					
0.212					
0.150	62				
0.063	58				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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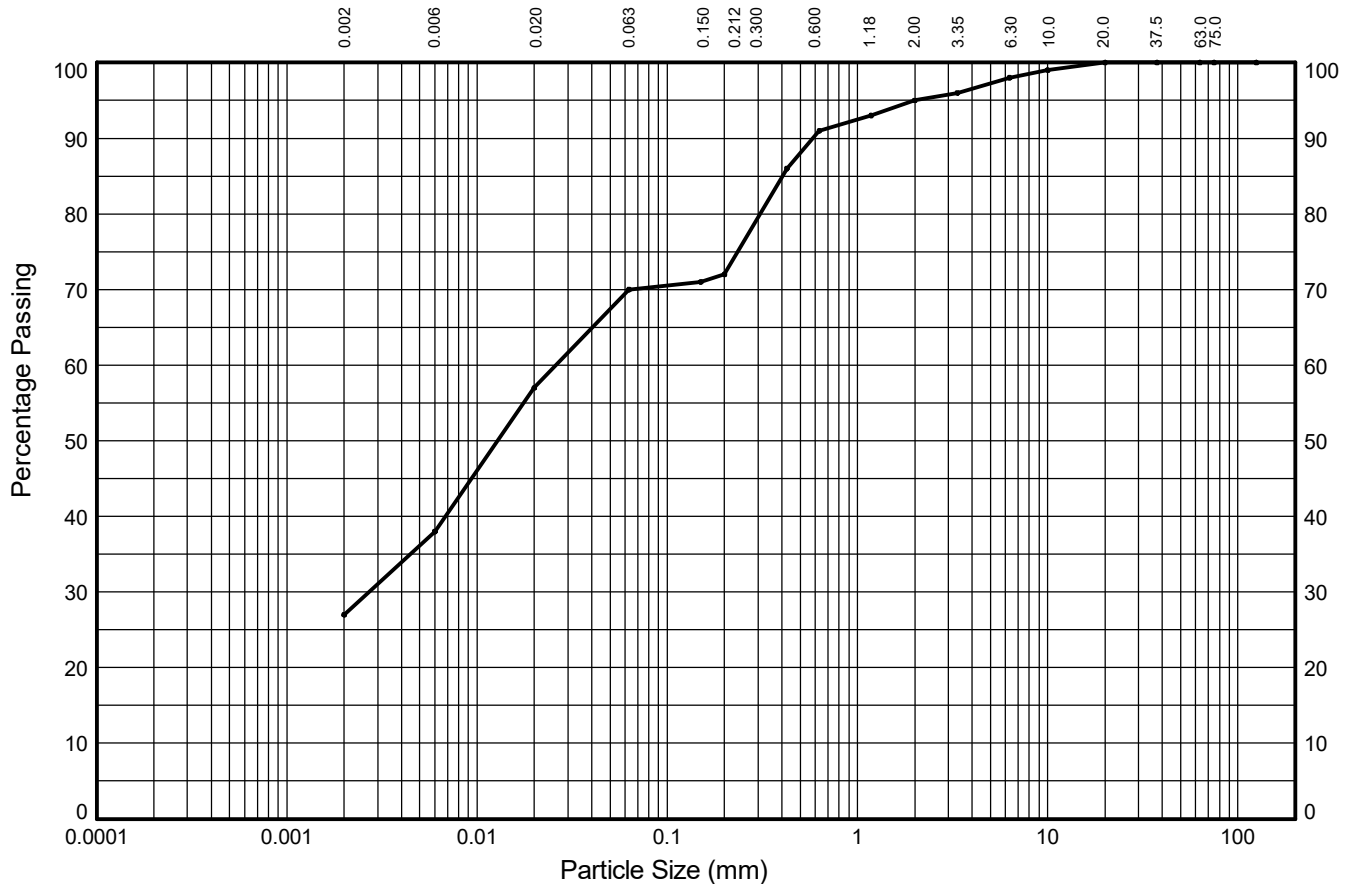
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

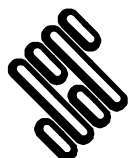
Borehole: **BH09** Sample Ref: **20** Sample Type: **B** Depth (m): **2.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	11%	19%	13%	2%	19%	4%	3%	2%	0%	
	SILT			SAND			GRAVEL			
27%	43%			25%			5%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	57	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.003
37.5	100	0.006	38	D ₅₀ (mm)	0.013
20.0	100			D ₆₀ (mm)	0.026
10.0	99			D ₈₅ (mm)	0.403
6.30	98	0.002	27	D ₉₀ (mm)	0.582
3.35	96			C _U	NA
2.00	95			C _C	NA
1.18	93	Sedimentation sample was not pre-treated			
0.630	91				
0.425	86				
0.200	72				
0.150	71				
0.063	70	Soil Description: Brown/red slightly gravelly slightly sandy clayey SILT			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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Contract

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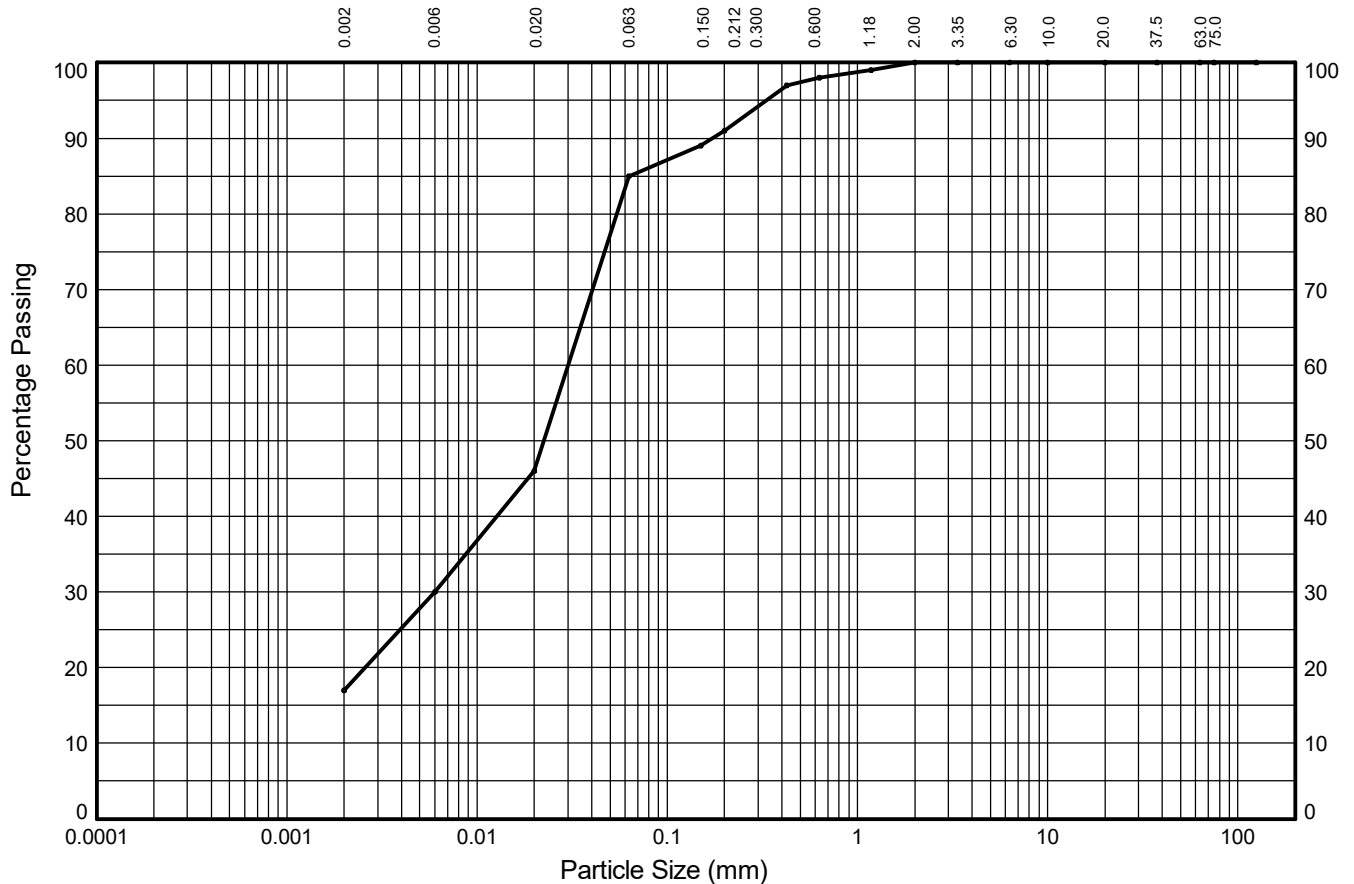
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

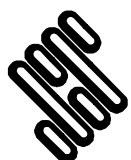
Borehole: **BH09** Sample Ref: **28** Sample Type: **B** Depth (m): **4.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	13%	16%	39%	6%	7%	2%	0%	0%	0%	
	SILT			SAND			GRAVEL			
17%	68%			15%			0%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients		
125.0	100	0.02	46	D ₁₀ (mm)	NA	
75.0	100			D ₁₅ (mm)	NA	
63.0	100			D ₃₀ (mm)	0.006	
37.5	100	0.006	30	D ₅₀ (mm)	0.022	
20.0	100			D ₆₀ (mm)	0.030	
10.0	100			D ₈₅ (mm)	0.063	
6.30	100	0.002	17	D ₉₀ (mm)	0.173	
3.35	100			Sedimentation sample was not pre-treated	C _U	NA
2.00	100				C _C	NA
1.18	99					
0.630	98					
0.425	97					
0.200	91					
0.150	89					
0.063	85					
Soil Description: Red brown slightly sandy clayey SILT						

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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PARTICLE SIZE DISTRIBUTION TEST

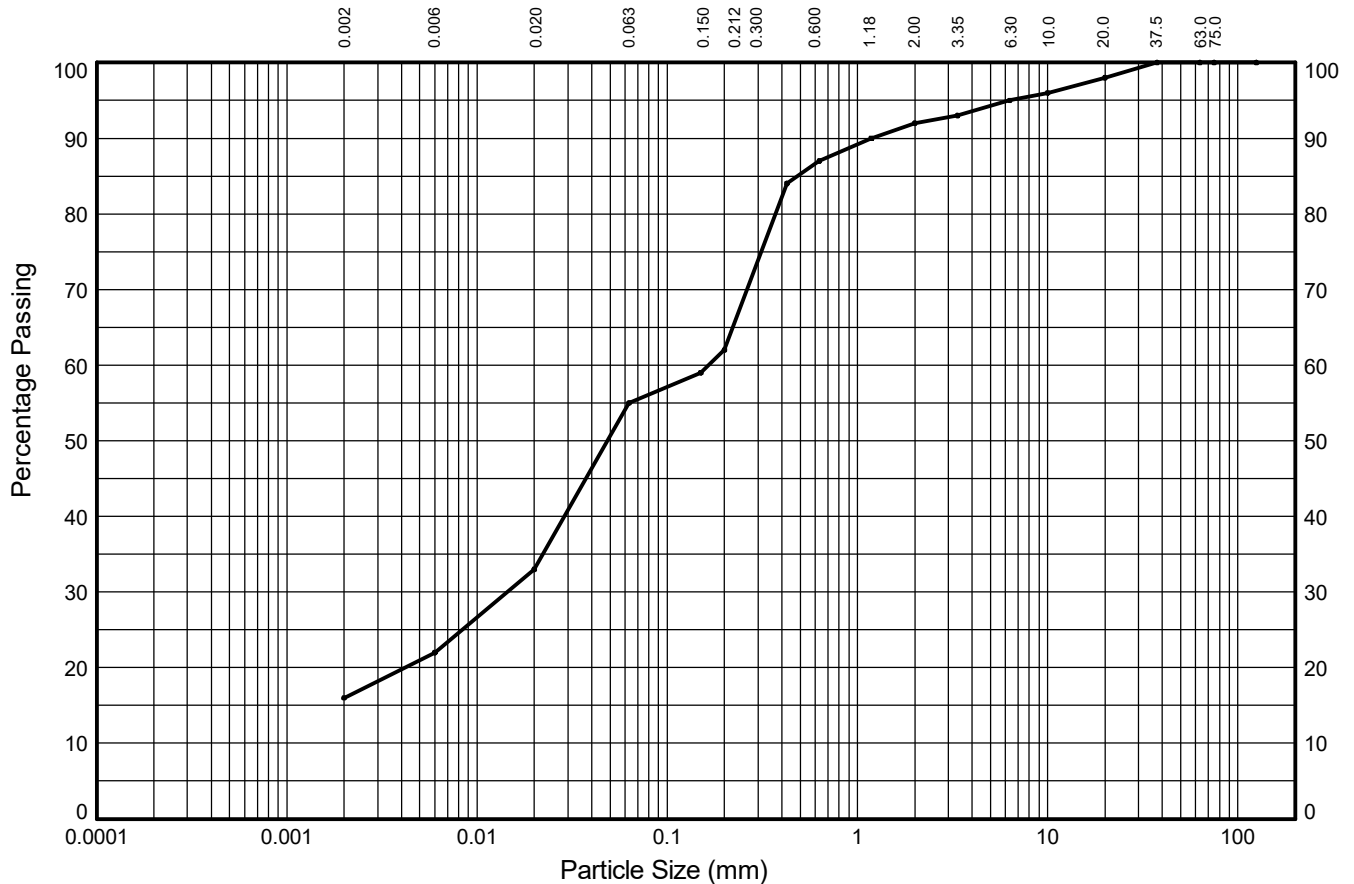
In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Borehole: **BH10**

Sample Ref: **5**

Sample Type: **B**

Depth (m): **0.70**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	6%	11%	22%	7%	25%	5%	3%	3%	2%	
	SILT			SAND			GRAVEL			
16%	39%			37%			8%			0%

Test Sieve (mm)	Percent Passing (%)
125.0	100
75.0	100
63.0	100
37.5	100
20.0	98
10.0	96
6.30	95
3.35	93
2.00	92
1.18	90
0.630	87
0.425	84
0.200	62
0.150	59
0.063	55

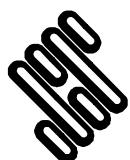
Particle Diameter (mm)	Percent Passing (%)
0.02	33
0.006	22
0.002	16
Sedimentation sample was not pre-treated	

Coefficients	
D ₁₀ (mm)	NA
D ₁₅ (mm)	NA
D ₃₀ (mm)	0.014
D ₅₀ (mm)	0.049
D ₆₀ (mm)	0.165
D ₈₅ (mm)	0.485
D ₉₀ (mm)	1.180
C _u	NA
C _c	NA

Soil Description:

Brown grey slightly gravelly sandy clayey SILT

Key: C_u = Uniformity coefficient. C_c = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

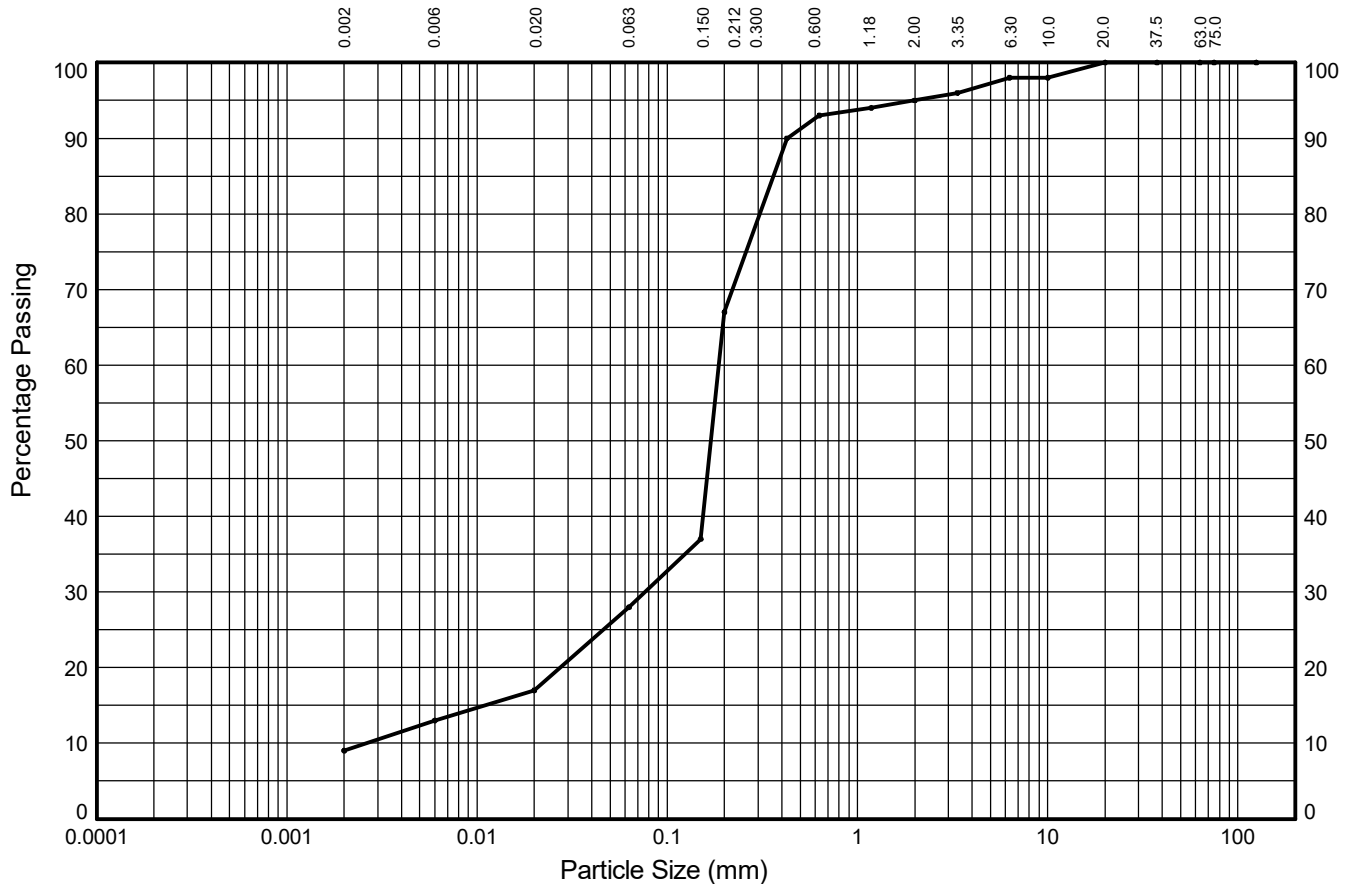
NON-STANDARD TEST

Borehole: **BH10**

Sample Ref: **6**

Sample Type: **D**

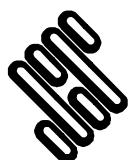
Depth (m): **0.90**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	4%	4%	11%	39%	26%	2%	3%	2%	0%	
	SILT			SAND			GRAVEL			
9%	19%			67%			5%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	17	D ₁₀ (mm)	0.003
75.0	100			D ₁₅ (mm)	0.011
63.0	100			D ₃₀ (mm)	0.076
37.5	100	0.006	13	D ₅₀ (mm)	0.170
20.0	100			D ₆₀ (mm)	0.187
10.0	98			D ₈₅ (mm)	0.361
6.30	98	0.002	9	D ₉₀ (mm)	0.425
3.35	96			C _U	71
2.00	95			C _C	12
1.18	94	Sedimentation sample was not pre-treated			
0.630	93				
0.425	90				
0.200	67				
0.150	37				
0.063	28	Soil Description: Brown gravelly clayey silty SAND			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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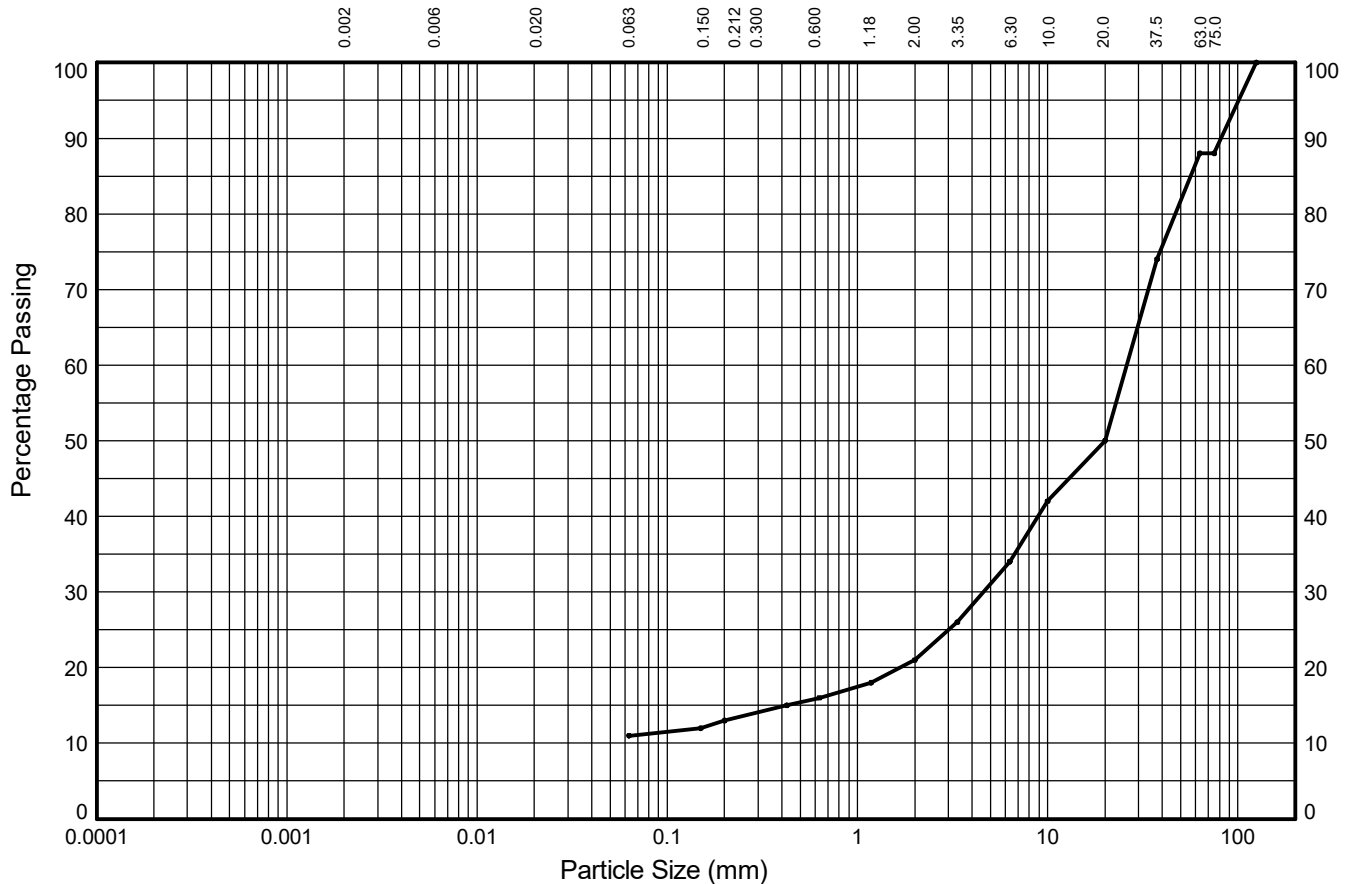


PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2 of BS EN ISO 17892:Part 4:2016

NON-STANDARD TEST

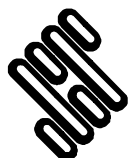
Borehole: **BH12** Sample Ref: **47** Sample Type: **B** Depth (m): **15.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	-	-	-	2%	3%	5%	13%	16%	38%	
	SILT			SAND			GRAVEL			
11%				10%			67%			12%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100			D ₁₀ (mm)	NA
75.0	88			D ₁₅ (mm)	0.425
63.0	88			D ₃₀ (mm)	4.594
37.5	74			D ₅₀ (mm)	20.000
20.0	50			D ₆₀ (mm)	25.988
10.0	42			D ₈₅ (mm)	56.372
6.30	34			D ₉₀ (mm)	81.665
3.35	26			C _U	NA
2.00	21			C _C	NA
1.18	18			Sedimentation sample was not pre-treated Soil Description: Brown sandy silty/clayey GRAVEL with medium cobble content	
0.630	16				
0.425	15				
0.200	13				
0.150	12				
0.063	11				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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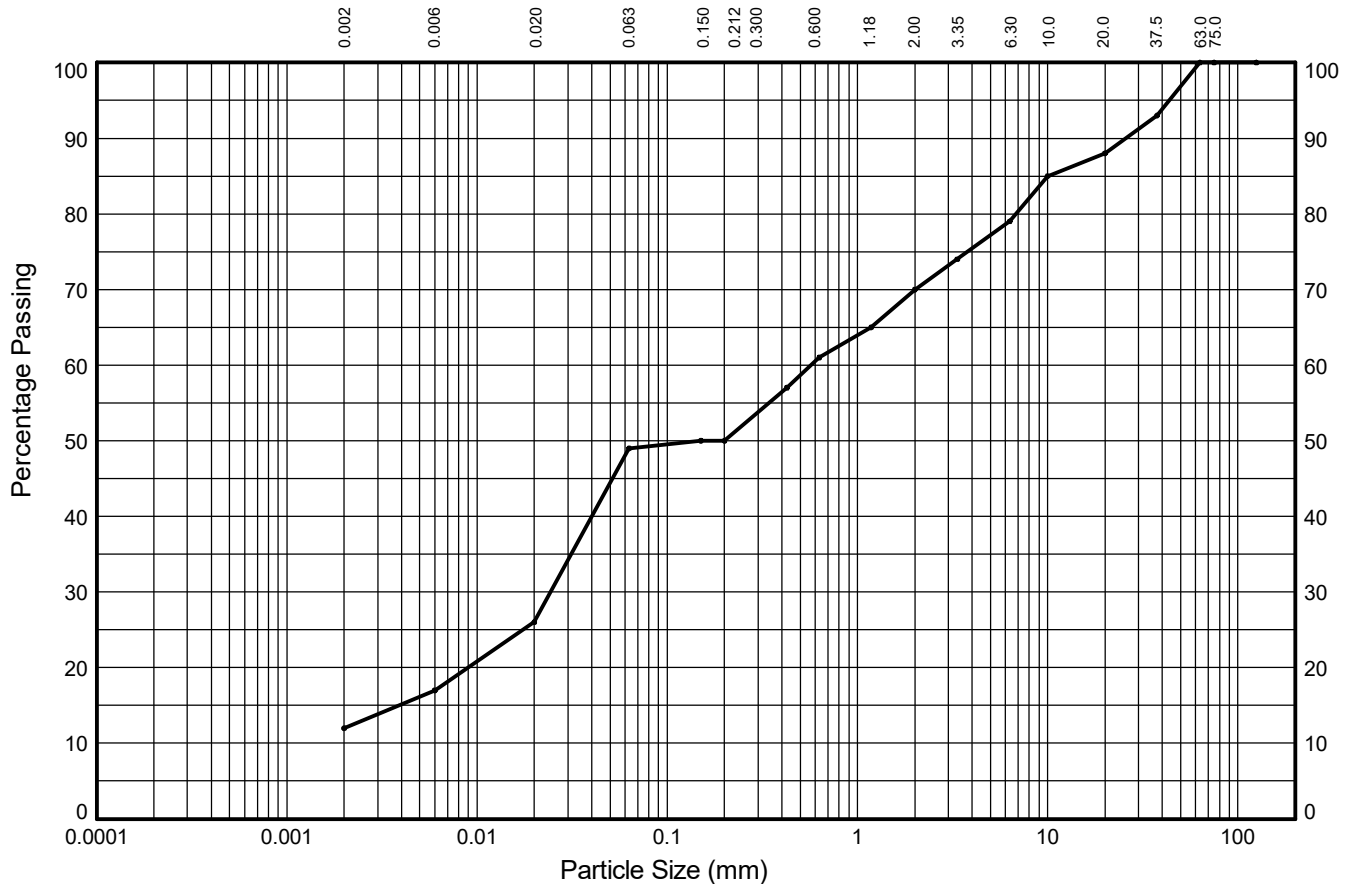
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Borehole: **BH13** Sample Ref: **26** Sample Type: **B** Depth (m): **6.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	5%	9%	23%	1%	11%	9%	9%	9%	12%	
	SILT			SAND			GRAVEL			
12%	37%			21%			30%			0%

Test Sieve (mm)	Percent Passing (%)
125.0	100
75.0	100
63.0	100
37.5	93
20.0	88
10.0	85
6.30	79
3.35	74
2.00	70
1.18	65
0.630	61
0.425	57
0.200	50
0.150	50
0.063	49

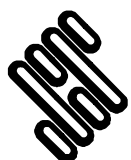
Particle Diameter (mm)	Percent Passing (%)
0.02	26
0.006	17
0.002	12
Sedimentation sample was not pre-treated	

Coefficients	
D ₁₀ (mm)	NA
D ₁₅ (mm)	0.004
D ₃₀ (mm)	0.024
D ₅₀ (mm)	0.150
D ₆₀ (mm)	0.571
D ₈₅ (mm)	10.000
D ₉₀ (mm)	25.718
C _u	NA
C _c	NA

Soil Description:

Brown/red slightly sandy slightly gravelly clayey SILT

Key: C_u = Uniformity coefficient. C_c = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

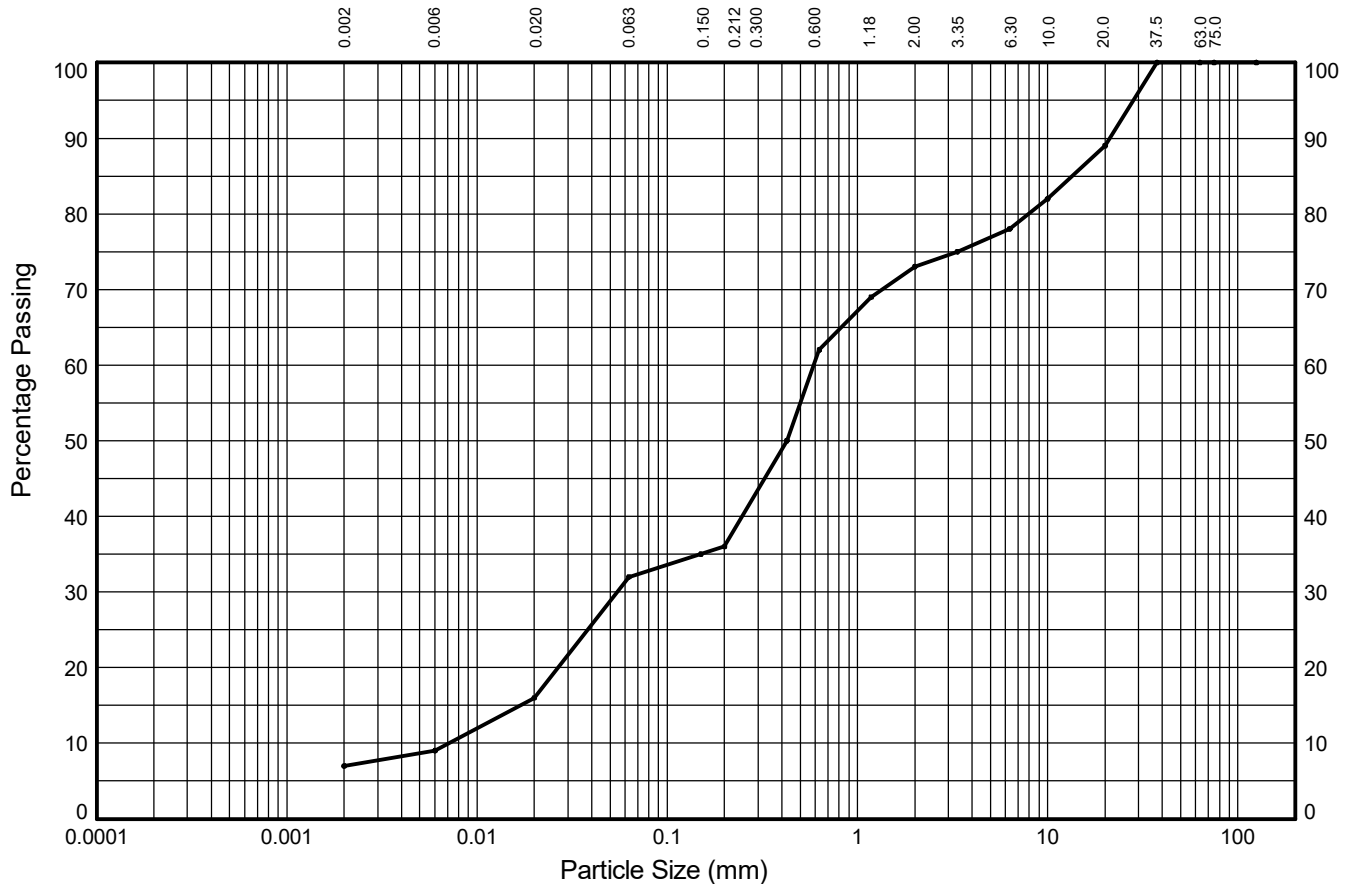
NON-STANDARD TEST

Borehole: **BH14**

Sample Ref: **26**

Sample Type: **B**

Depth (m): **6.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	2%	7%	16%	4%	26%	11%	5%	11%	11%	
	SILT			SAND			GRAVEL			
7%	25%			41%			27%			0%

Test Sieve (mm)	Percent Passing (%)
125.0	100
75.0	100
63.0	100
37.5	100
20.0	89
10.0	82
6.30	78
3.35	75
2.00	73
1.18	69
0.630	62
0.425	50
0.200	36
0.150	35
0.063	32

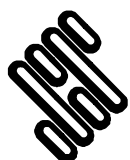
Particle Diameter (mm)	Percent Passing (%)
0.02	16
0.006	9
0.002	7
Sedimentation sample was not pre-treated	

Coefficients	
D ₁₀ (mm)	0.007
D ₁₅ (mm)	0.017
D ₃₀ (mm)	0.055
D ₅₀ (mm)	0.425
D ₆₀ (mm)	0.590
D ₈₅ (mm)	13.459
D ₉₀ (mm)	21.176
C _u	83
C _c	0.71

Soil Description:

Brown very gravelly clayey very silty SAND

Key: C_u = Uniformity coefficient. C_c = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

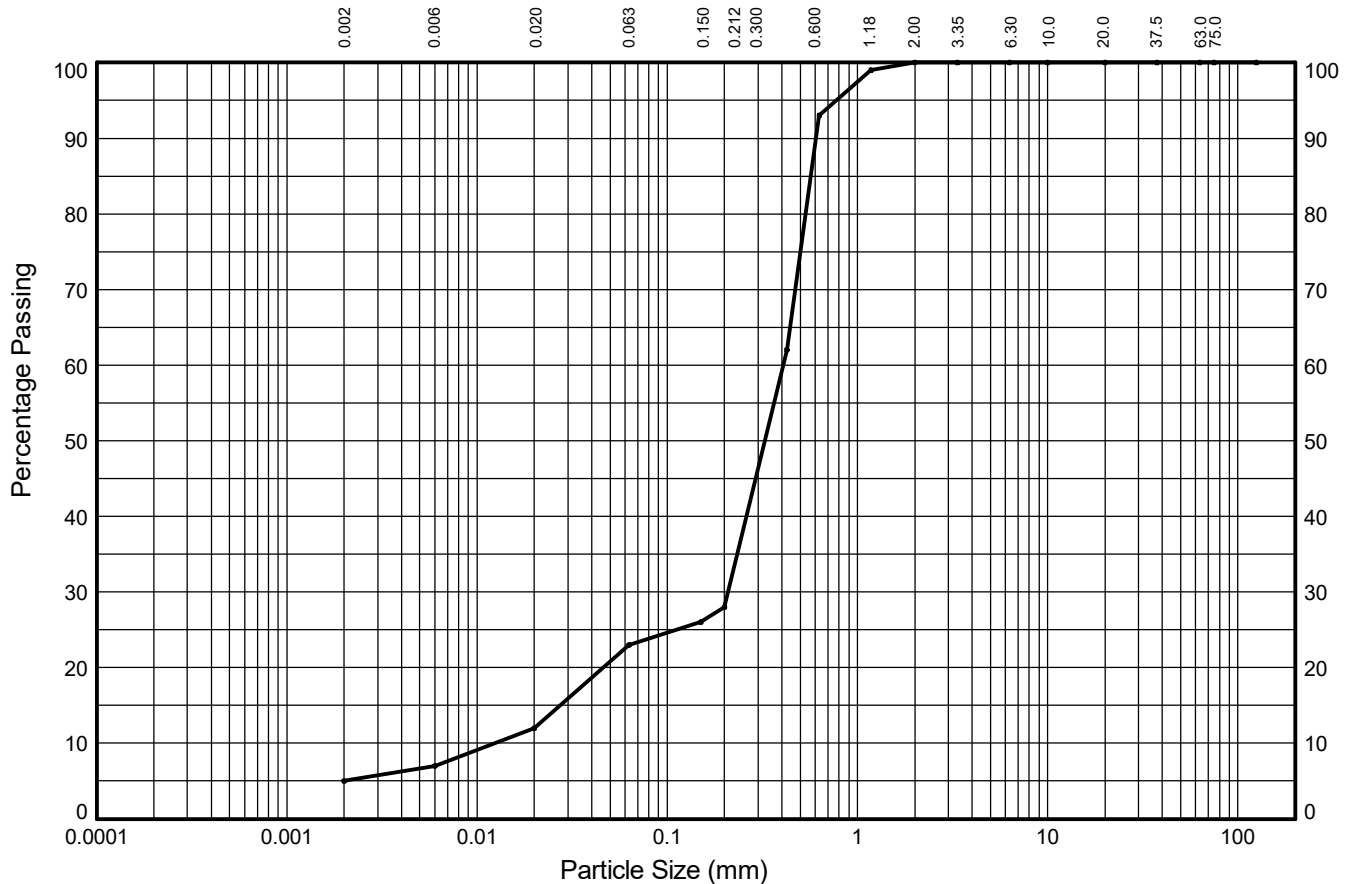
NON-STANDARD TEST

Borehole: **BH15**

Sample Ref: **24**

Sample Type: **B**

Depth (m): **6.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	2%	5%	11%	5%	65%	7%	0%	0%	0%	
	SILT			SAND			GRAVEL			
5%	18%			77%			0%			0%

Test Sieve (mm)	Percent Passing (%)
125.0	100
75.0	100
63.0	100
37.5	100
20.0	100
10.0	100
6.30	100
3.35	100
2.00	100
1.18	99
0.630	93
0.425	62
0.200	28
0.150	26
0.063	23

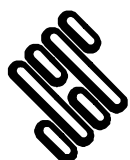
Particle Diameter (mm)	Percent Passing (%)
0.02	12
0.006	7
0.002	5
Sedimentation sample was not pre-treated	

Coefficients	
D ₁₀ (mm)	0.012
D ₁₅ (mm)	0.027
D ₃₀ (mm)	0.209
D ₅₀ (mm)	0.326
D ₆₀ (mm)	0.407
D ₈₅ (mm)	0.569
D ₉₀ (mm)	0.606
C _U	33
C _C	9

Soil Description:

Brown clayey silty SAND

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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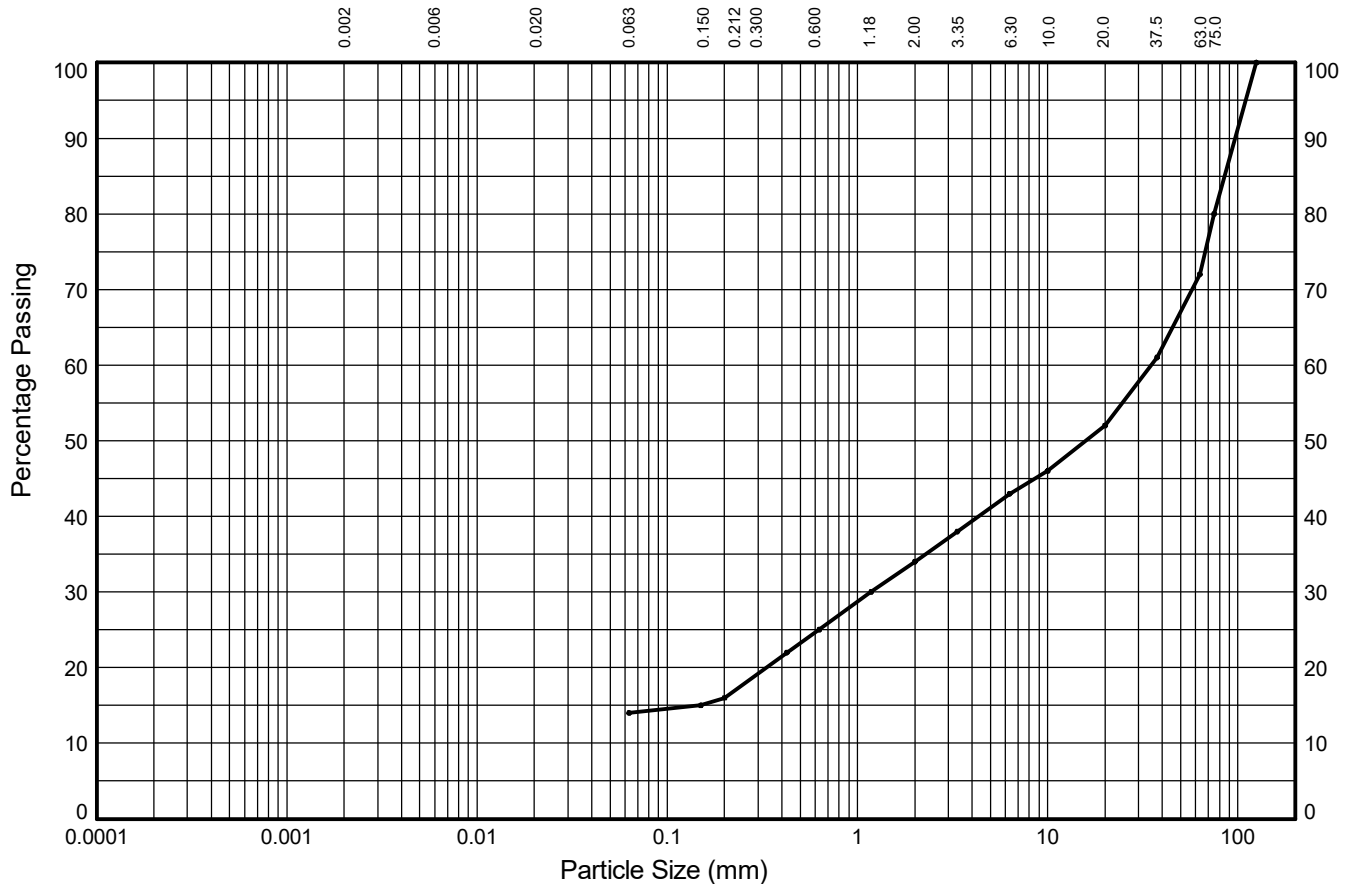


PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2 of BS EN ISO 17892:Part 4:2016

NON-STANDARD TEST

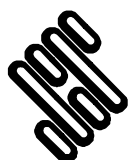
Borehole: **BH15** Sample Ref: **36** Sample Type: **B** Depth (m): **10.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	-	-	-	2%	9%	9%	9%	9%	20%	
	SILT			SAND			GRAVEL			
14%				20%			38%			28%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100			D ₁₀ (mm)	NA
75.0	80			D ₁₅ (mm)	0.150
63.0	72			D ₃₀ (mm)	1.180
37.5	61			D ₅₀ (mm)	15.874
20.0	52			D ₆₀ (mm)	34.970
10.0	46			D ₈₅ (mm)	85.216
6.30	43			D ₉₀ (mm)	96.825
3.35	38			C _U	NA
2.00	34			C _C	NA
1.18	30			Sedimentation sample was not pre-treated Soil Description: Red brown sandy silty/clayey GRAVEL with high cobble content	
0.630	25				
0.425	22				
0.200	16				
0.150	15				
0.063	14				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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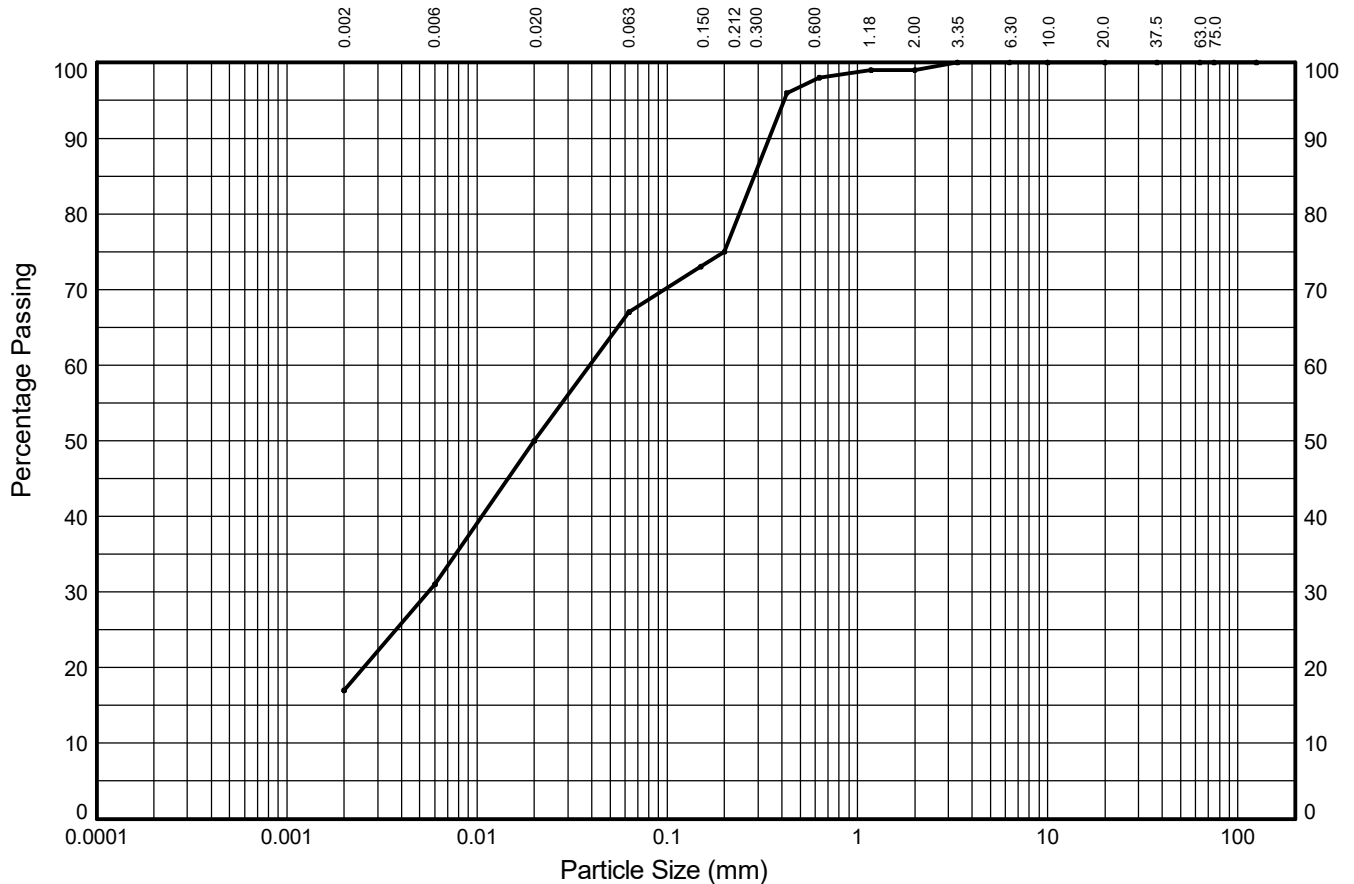
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<i>Laura Schramm</i>		27/02/23
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Borehole: **BH17** Sample Ref: **13** Sample Type: **B** Depth (m): **3.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	14%	19%	17%	8%	23%	1%	1%	0%	0%	
	SILT			SAND			GRAVEL			
17%	50%			32%			1%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	50	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.006
37.5	100	0.006	31	D ₅₀ (mm)	0.020
20.0	100			D ₆₀ (mm)	0.039
10.0	100			D ₈₅ (mm)	0.286
6.30	100	0.002	17	D ₉₀ (mm)	0.343
3.35	100			C _U	NA
2.00	99			C _C	NA
1.18	99	Sedimentation sample was not pre-treated			
0.630	98				
0.425	96				
0.200	75				
0.150	73				
0.063	67				

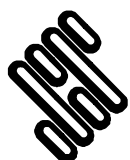
Soil Description:

Brown slightly gravelly slightly sandy clayey SILT

Soil Description:

Brown slightly gravelly slightly sandy clayey SILT

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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PARTICLE SIZE DISTRIBUTION TEST

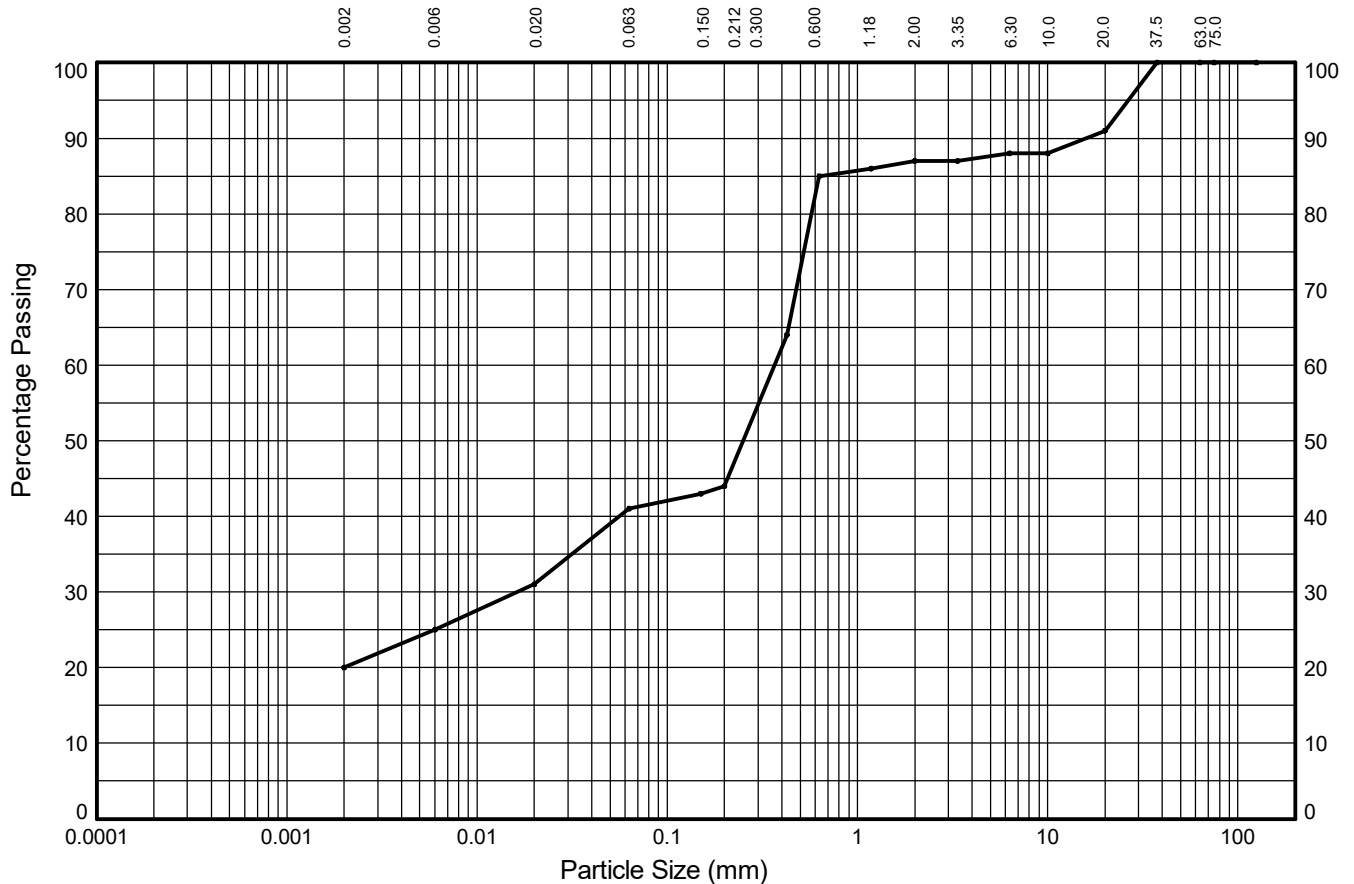
In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Borehole: **BH20**

Sample Ref: **6**

Sample Type: **B**

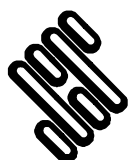
Depth (m): **0.60**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	5%	6%	10%	3%	41%	2%	1%	3%	9%	
	SILT			SAND			GRAVEL			
20%	21%			46%			13%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	31	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.016
37.5	100	0.006	25	D ₅₀ (mm)	0.251
20.0	91			D ₆₀ (mm)	0.366
10.0	88			D ₈₅ (mm)	0.630
6.30	88	0.002	20	D ₉₀ (mm)	15.874
3.35	87			C _U	NA
2.00	87			C _C	NA
1.18	86	Sedimentation sample was not pre-treated			
0.630	85	Soil Description: Brown/red slightly gravelly sandy clayey SILT			
0.425	64				
0.200	44				
0.150	43				
0.063	41				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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PARTICLE SIZE DISTRIBUTION TEST

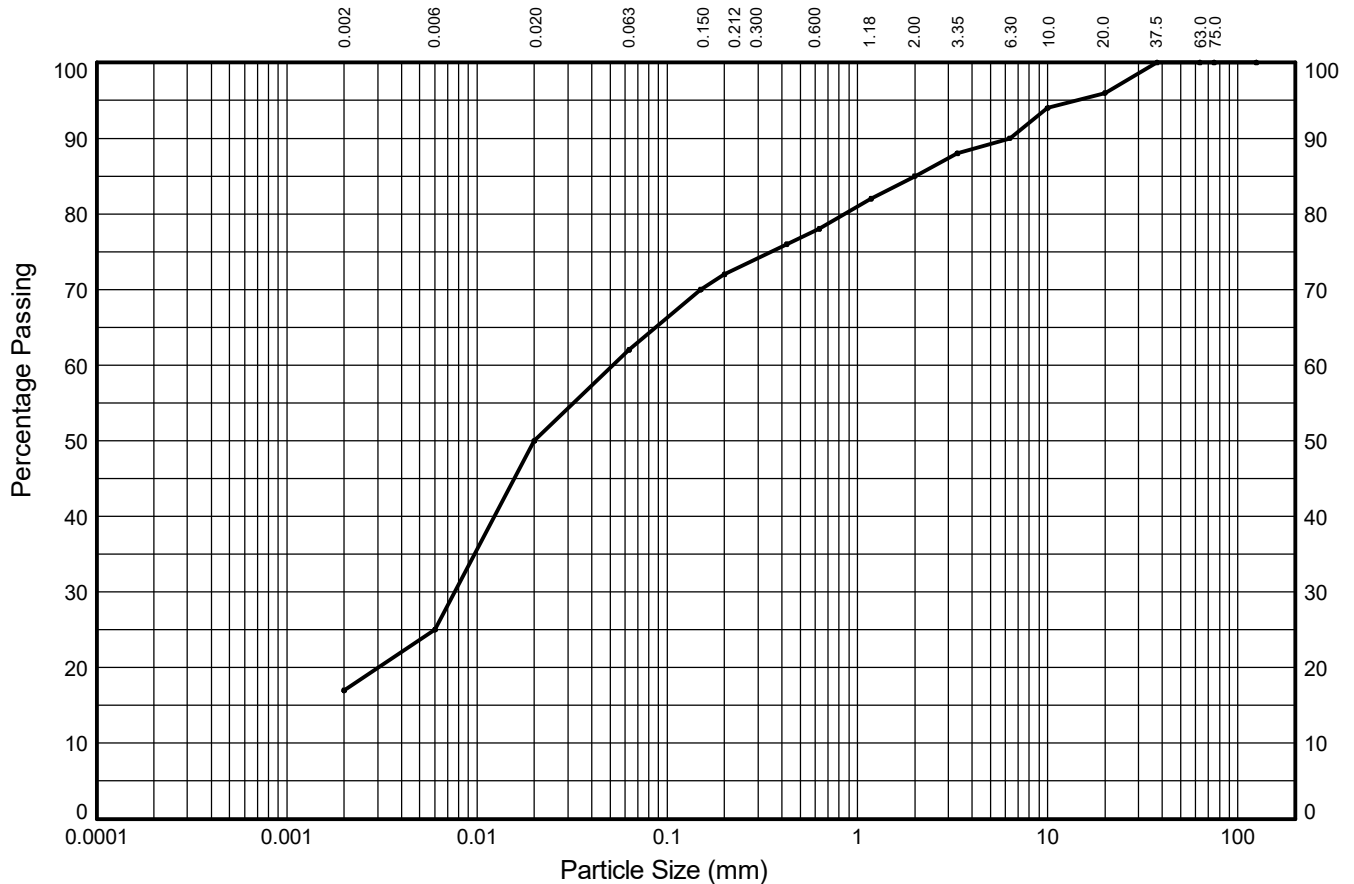
In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Borehole: **BH21**

Sample Ref: **17**

Sample Type: **D**

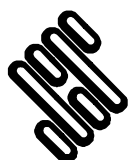
Depth (m): **3.70**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	9%	24%	12%	10%	6%	7%	5%	6%	4%	
	SILT			SAND			GRAVEL			
17%	45%			23%			15%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	50	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.008
37.5	100	0.006	25	D ₅₀ (mm)	0.020
20.0	96			D ₆₀ (mm)	0.052
10.0	94			D ₈₅ (mm)	2.000
6.30	90	0.002	17	D ₉₀ (mm)	6.300
3.35	88			C _U	NA
2.00	85			C _C	NA
1.18	82	Sedimentation sample was not pre-treated			
0.630	78	Soil Description: Brown slightly gravelly slightly sandy clayey SILT			
0.425	76				
0.200	72				
0.150	70				
0.063	62				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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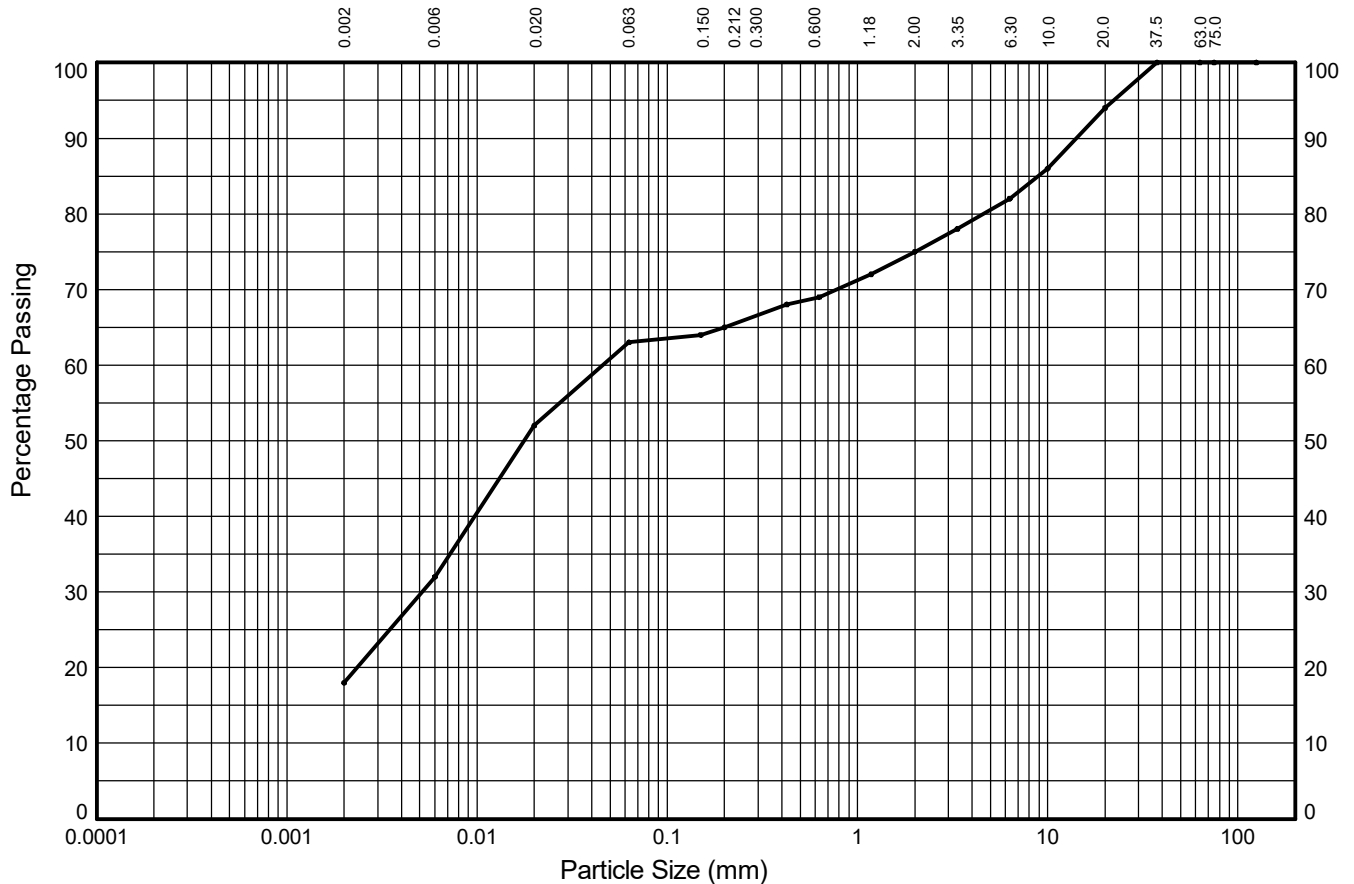
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In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

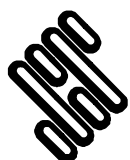
Borehole: **BH22** Sample Ref: **14** Sample Type: **B** Depth (m): **3.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	14%	20%	11%	2%	4%	6%	7%	12%	6%	
	SILT			SAND			GRAVEL			
18%	45%			12%			25%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	52	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.005
37.5	100	0.006	32	D ₅₀ (mm)	0.018
20.0	94			D ₆₀ (mm)	0.046
10.0	86			D ₈₅ (mm)	8.909
6.30	82	0.002	18	D ₉₀ (mm)	14.142
3.35	78			C _U	NA
2.00	75			C _C	NA
1.18	72	Sedimentation sample was not pre-treated			
0.630	69				
0.425	68				
0.200	65				
0.150	64				
0.063	63	Soil Description: Brown slightly sandy slightly gravelly clayey SILT			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

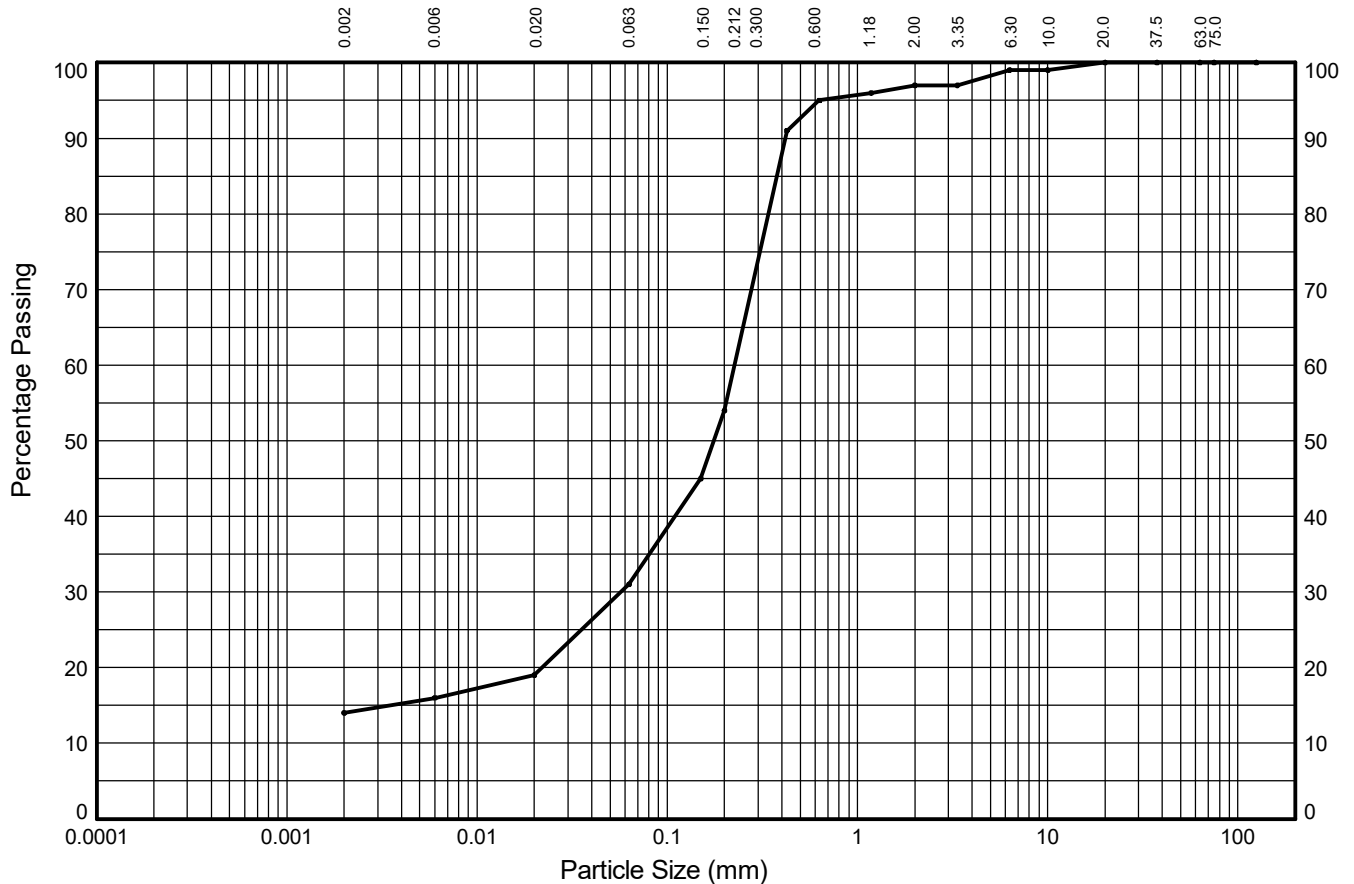
NON-STANDARD TEST

Borehole: **BH25**

Sample Ref: **13**

Sample Type: **B**

Depth (m): **1.20**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	2%	3%	12%	23%	41%	2%	2%	1%	0%	
	SILT			SAND			GRAVEL			
14%	17%			66%			3%			0%

Test Sieve (mm)	Percent Passing (%)
125.0	100
75.0	100
63.0	100
37.5	100
20.0	100
10.0	99
6.30	99
3.35	97
2.00	97
1.18	96
0.630	95
0.425	91
0.200	54
0.150	45
0.063	31

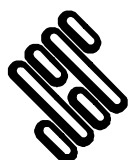
Particle Diameter (mm)	Percent Passing (%)
0.02	19
0.006	16
0.002	14
Sedimentation sample was not pre-treated	

Coefficients	
D ₁₀ (mm)	NA
D ₁₅ (mm)	0.003
D ₃₀ (mm)	0.057
D ₅₀ (mm)	0.176
D ₆₀ (mm)	0.226
D ₈₅ (mm)	0.376
D ₉₀ (mm)	0.416
C _u	NA
C _c	NA

Soil Description:

Brown red slightly gravelly clayey silty SAND

Key: C_u = Uniformity coefficient. C_c = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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PARTICLE SIZE DISTRIBUTION TEST

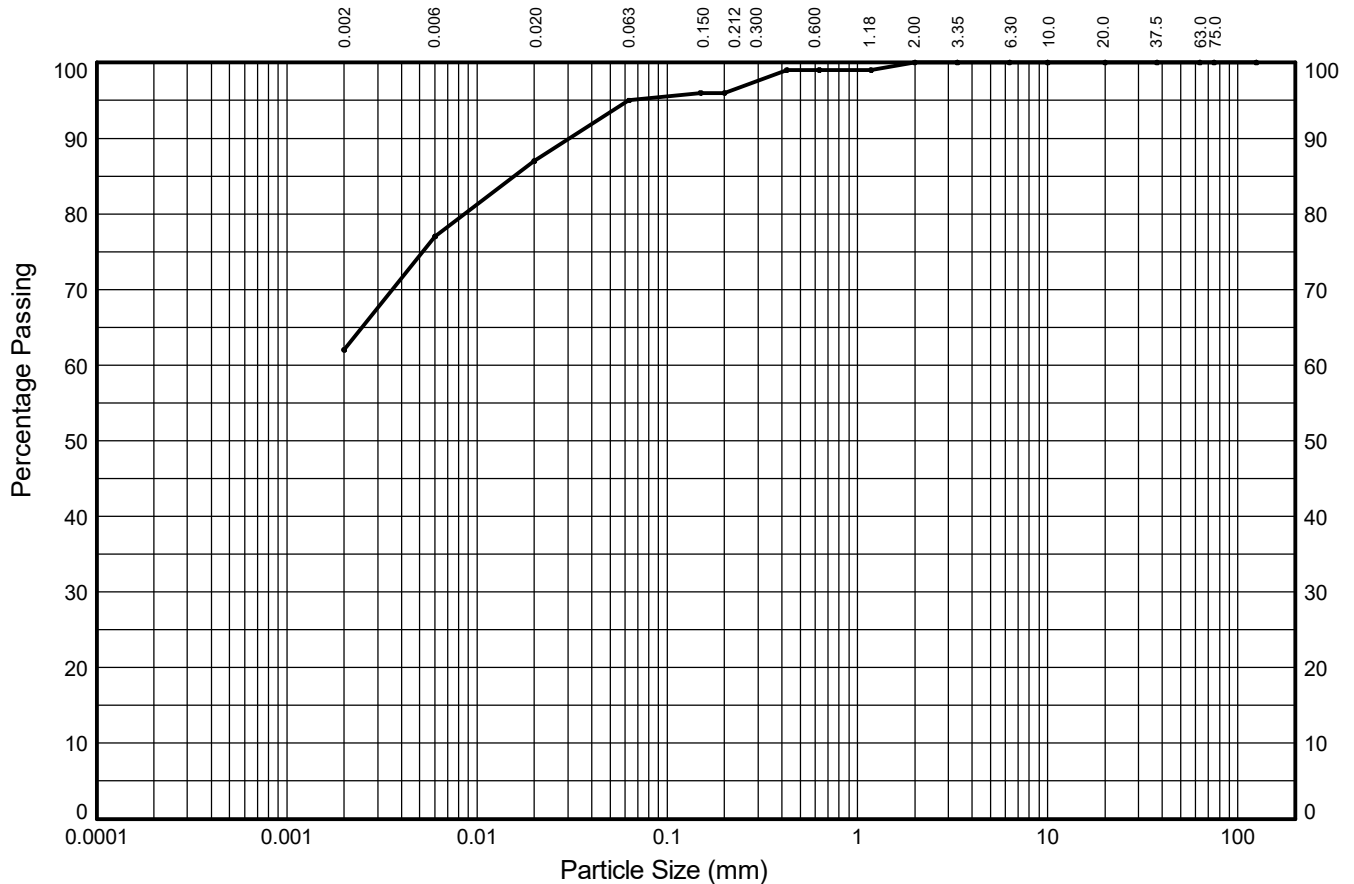
In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Borehole: **BH26**

Sample Ref: **3**

Sample Type: **B**

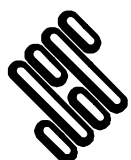
Depth (m): **0.10**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	15%	10%	8%	1%	3%	1%	0%	0%	0%	
	SILT			SAND			GRAVEL			
62%	33%			5%			0%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	87	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	NA
37.5	100	0.006	77	D ₅₀ (mm)	NA
20.0	100			D ₆₀ (mm)	NA
10.0	100			D ₈₅ (mm)	0.016
6.30	100	0.002	62	D ₉₀ (mm)	0.031
3.35	100			C _U	NA
2.00	100			C _C	NA
1.18	99	Sedimentation sample was not pre-treated			
0.630	99				
0.425	99				
0.200	96				
0.150	96				
0.063	95	Soil Description: Brown slightly sandy silty CLAY			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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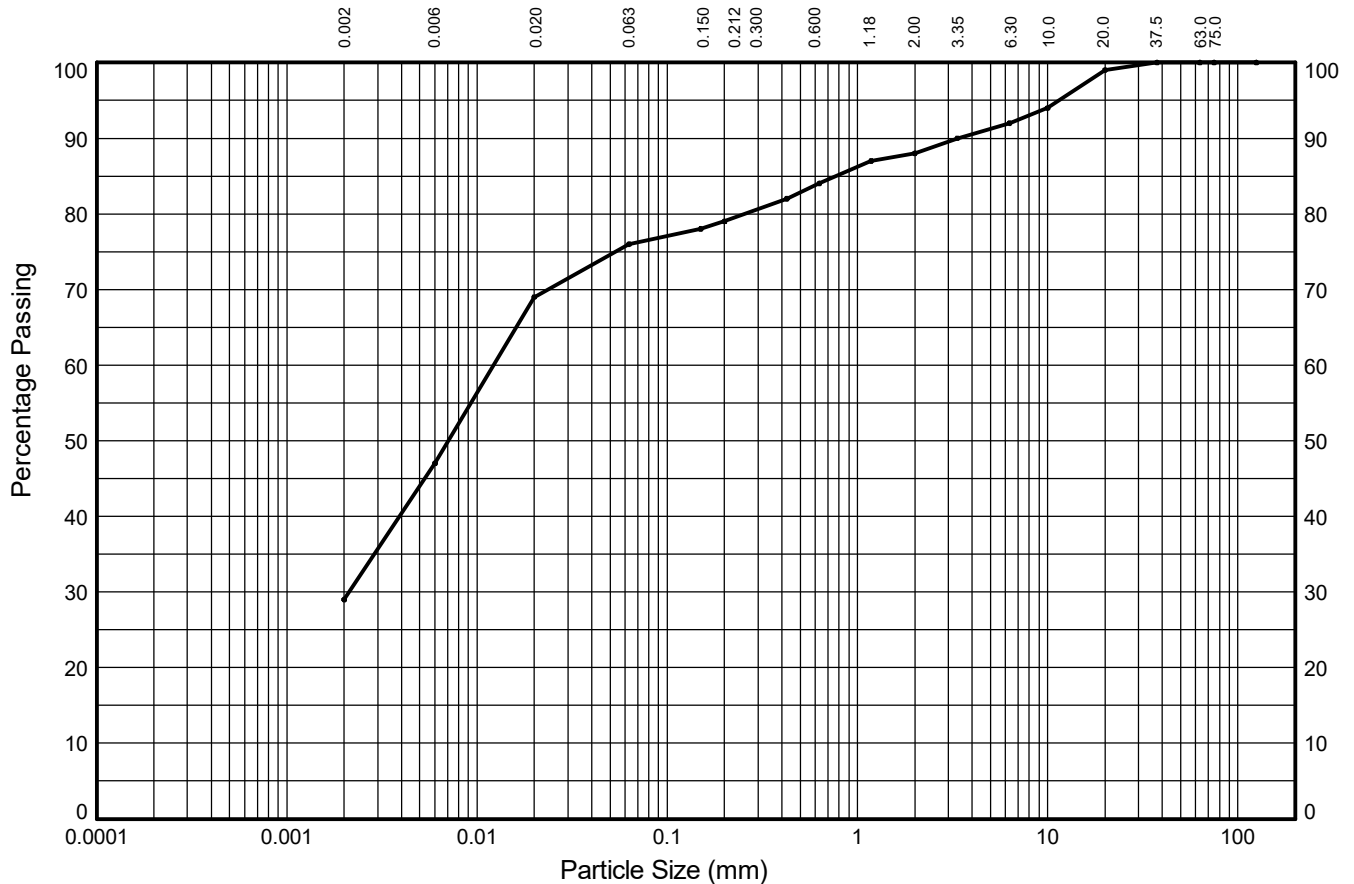
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Position ID: **CP03** Sample Ref: **16** Sample Type: **B** Depth (m): **3.00**

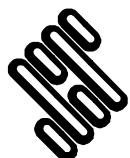


CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	18%	22%	7%	3%	5%	4%	4%	7%	1%	
	SILT			SAND			GRAVEL			
29%	47%			12%			12%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	69	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100	0.006	47	D ₃₀ (mm)	0.002
37.5	100			D ₅₀ (mm)	0.007
20.0	99	0.002	29	D ₆₀ (mm)	0.012
10.0	94			D ₈₅ (mm)	0.777
6.30	92	Sedimentation sample was not pre-treated		D ₉₀ (mm)	3.350
3.35	90			C _U	NA
2.00	88	C _C NA			
1.18	87				
0.630	84				
0.425	82				
0.200	79				
0.150	78				
0.063	76				

Soil Description:
Brown slightly gravelly slightly sandy clayey SILT

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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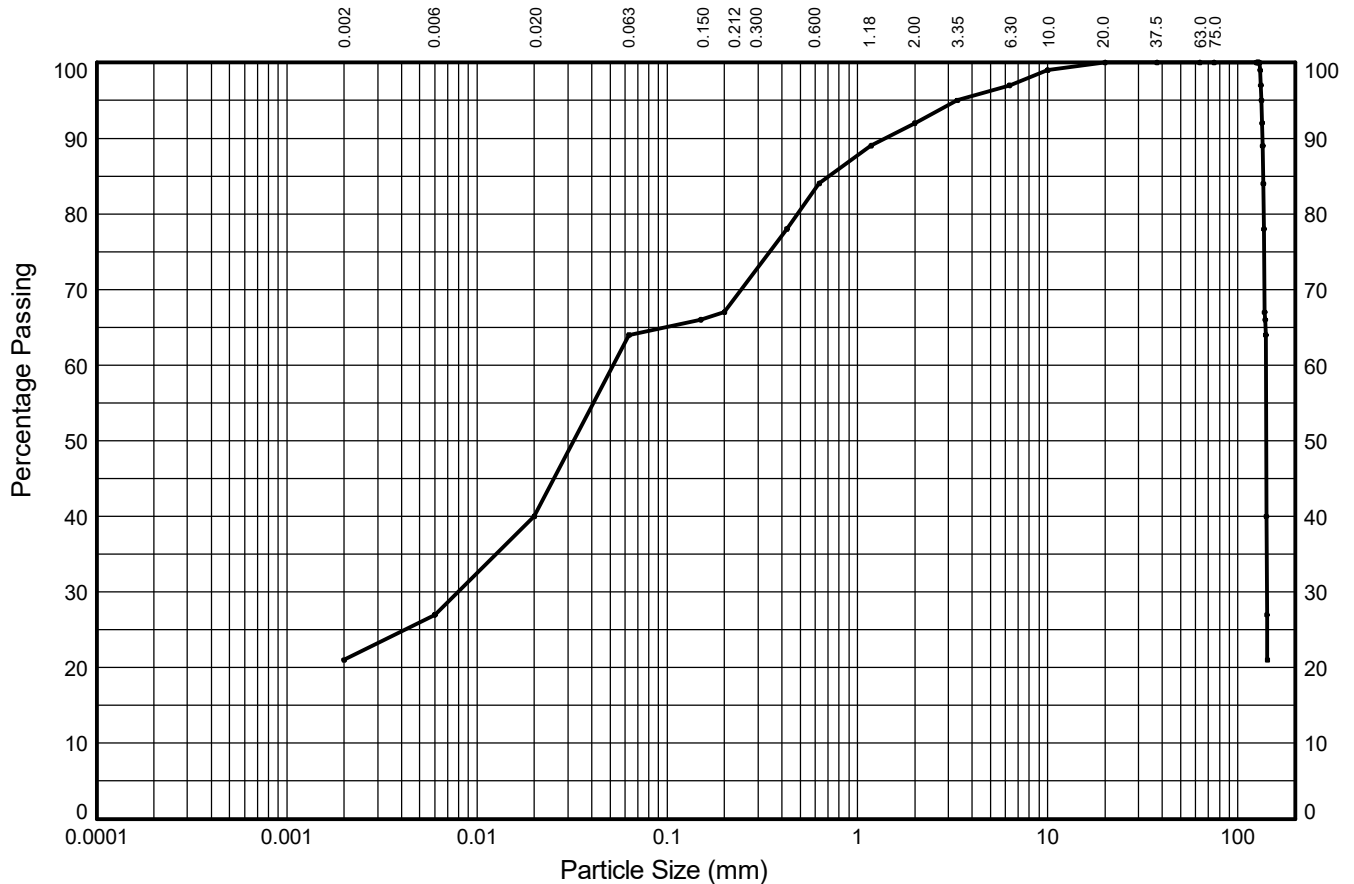
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In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

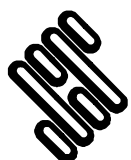
Position ID: **CP04** Sample Ref: **54** Sample Type: **B** Depth (m): **16.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	6%	13%	24%	3%	17%	8%	5%	3%	0%	
	SILT			SAND			GRAVEL			
21%	43%			28%			8%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients		
125.0	100	0.02	40	D ₁₀ (mm)	NA	
75.0	100			D ₁₅ (mm)	NA	
63.0	100	0.006	27	D ₃₀ (mm)	0.008	
37.5	100			D ₅₀ (mm)	0.032	
20.0	100			D ₆₀ (mm)	0.052	
10.0	99	0.002	21	D ₈₅ (mm)	0.714	
6.30	97			D ₉₀ (mm)	1.407	
3.35	95	Sedimentation sample was not pre-treated		C _U	NA	
2.00	92			C _C	NA	
1.18	89	Soil Description: Brown slightly gravelly slightly sandy clayey SILT				
0.630	84					
0.425	78					
0.200	67					
0.150	66					
0.063	64					

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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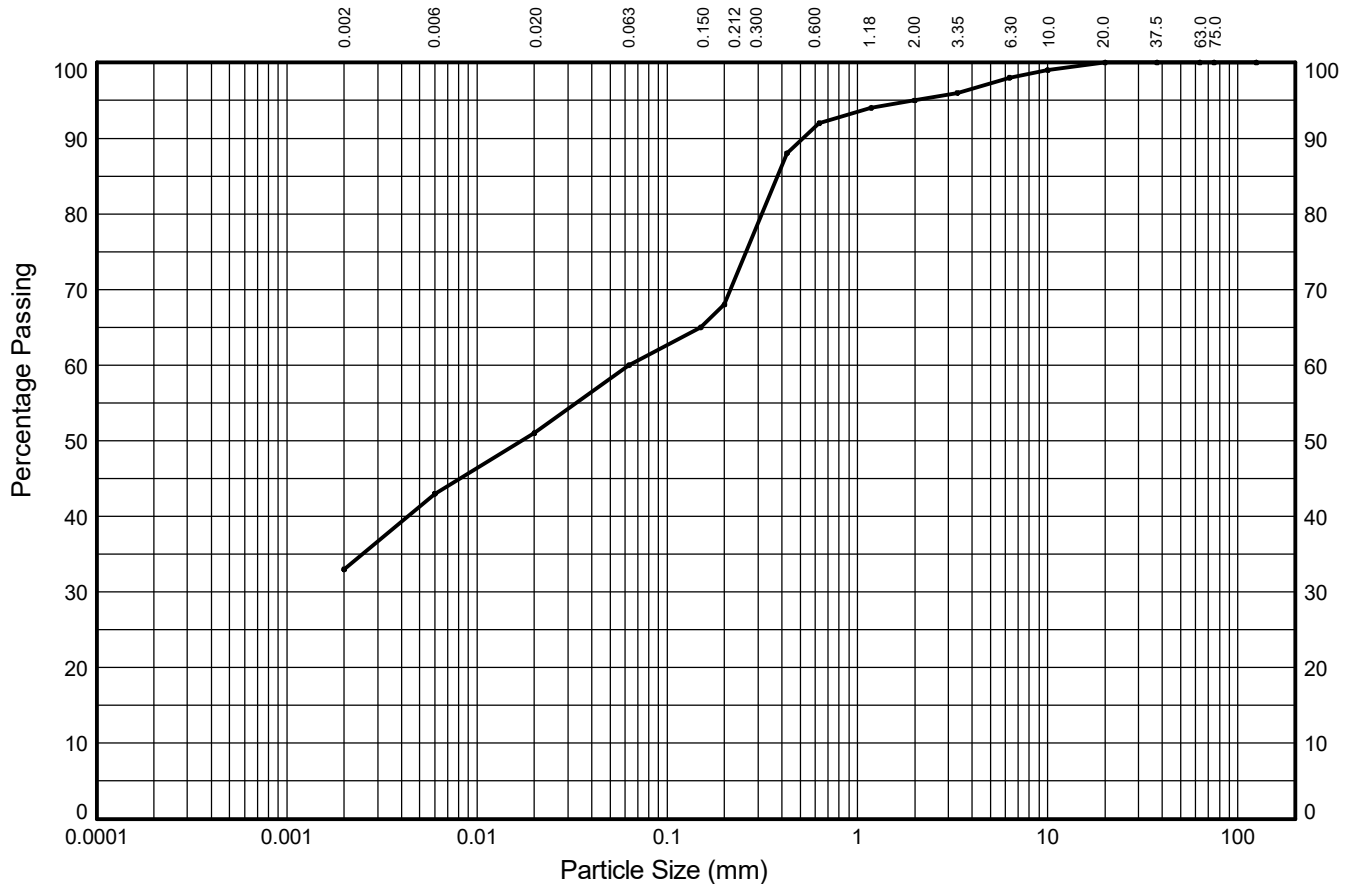
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Position ID: **CP05** Sample Ref: **3** Sample Type: **B** Depth (m): **0.50**



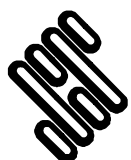
CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	10%	8%	9%	8%	24%	3%	3%	2%	0%	
	SILT			SAND			GRAVEL			
33%	27%			35%			5%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	51	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	NA
37.5	100			D ₅₀ (mm)	0.017
20.0	100	0.006	43	D ₆₀ (mm)	0.063
10.0	99			D ₈₅ (mm)	0.380
6.30	98			D ₉₀ (mm)	0.517
3.35	96			C _U	NA
2.00	95	0.002	33	C _C	NA
1.18	94			Sedimentation sample was not pre-treated	
0.630	92				
0.425	88				
0.200	68				
0.150	65				
0.063	60				

Soil Description:

Brown red slightly gravelly sandy silty CLAY

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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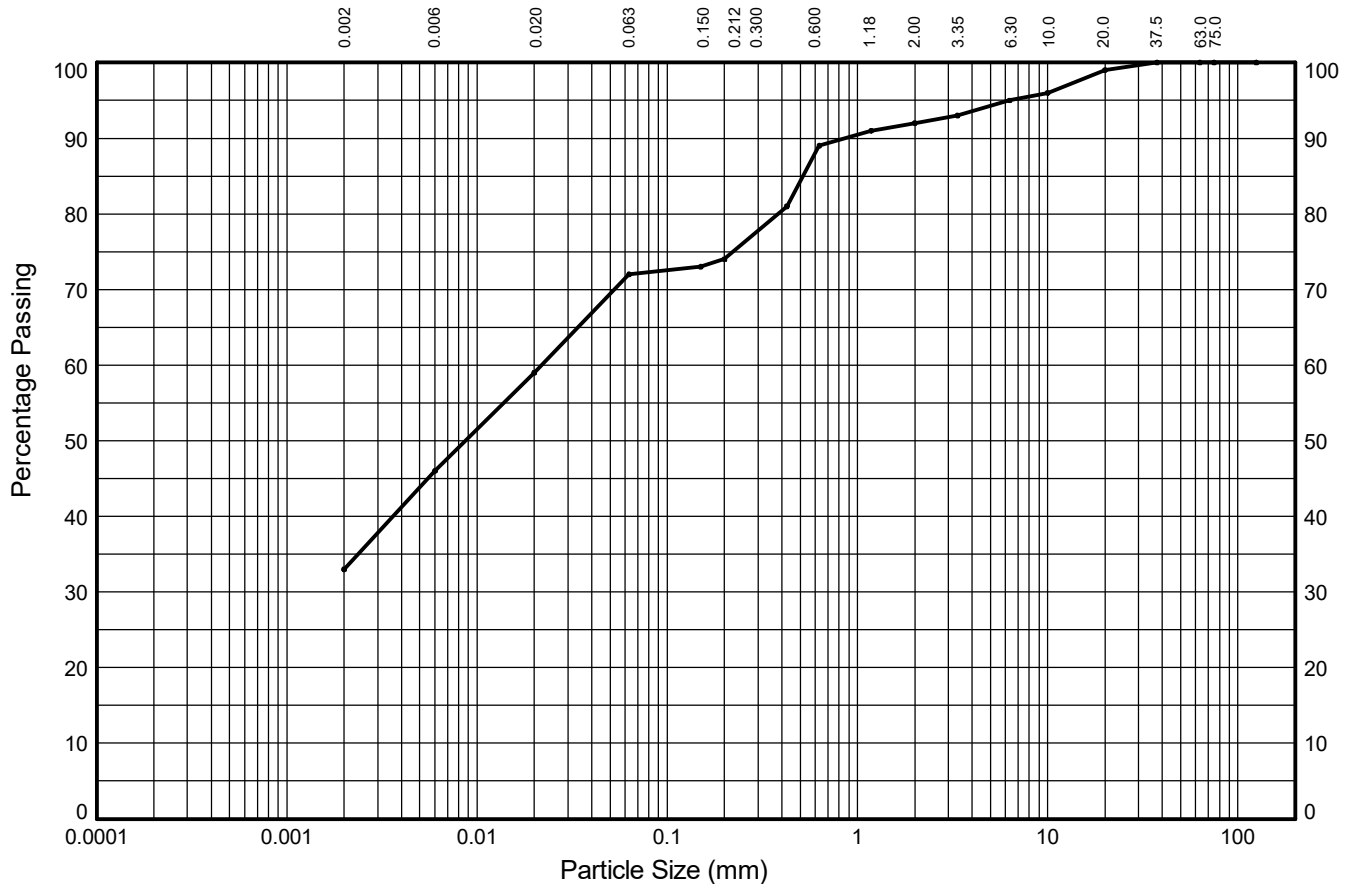
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In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

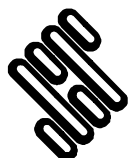
Position ID: **CP07** Sample Ref: **10** Sample Type: **B** Depth (m): **2.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	13%	13%	13%	2%	15%	3%	3%	4%	1%	
	SILT			SAND			GRAVEL			
33%	39%			20%			8%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	59	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	NA
37.5	100	0.006	46	D ₅₀ (mm)	0.009
20.0	99			D ₆₀ (mm)	0.022
10.0	96			D ₈₅ (mm)	0.517
6.30	95	0.002	33	D ₉₀ (mm)	0.862
3.35	93			C _U	NA
2.00	92			C _C	NA
1.18	91	Sedimentation sample was not pre-treated			
0.630	89				
0.425	81				
0.200	74				
0.150	73				
0.063	72	Soil Description: Brown slightly gravelly slightly sandy clayey SILT			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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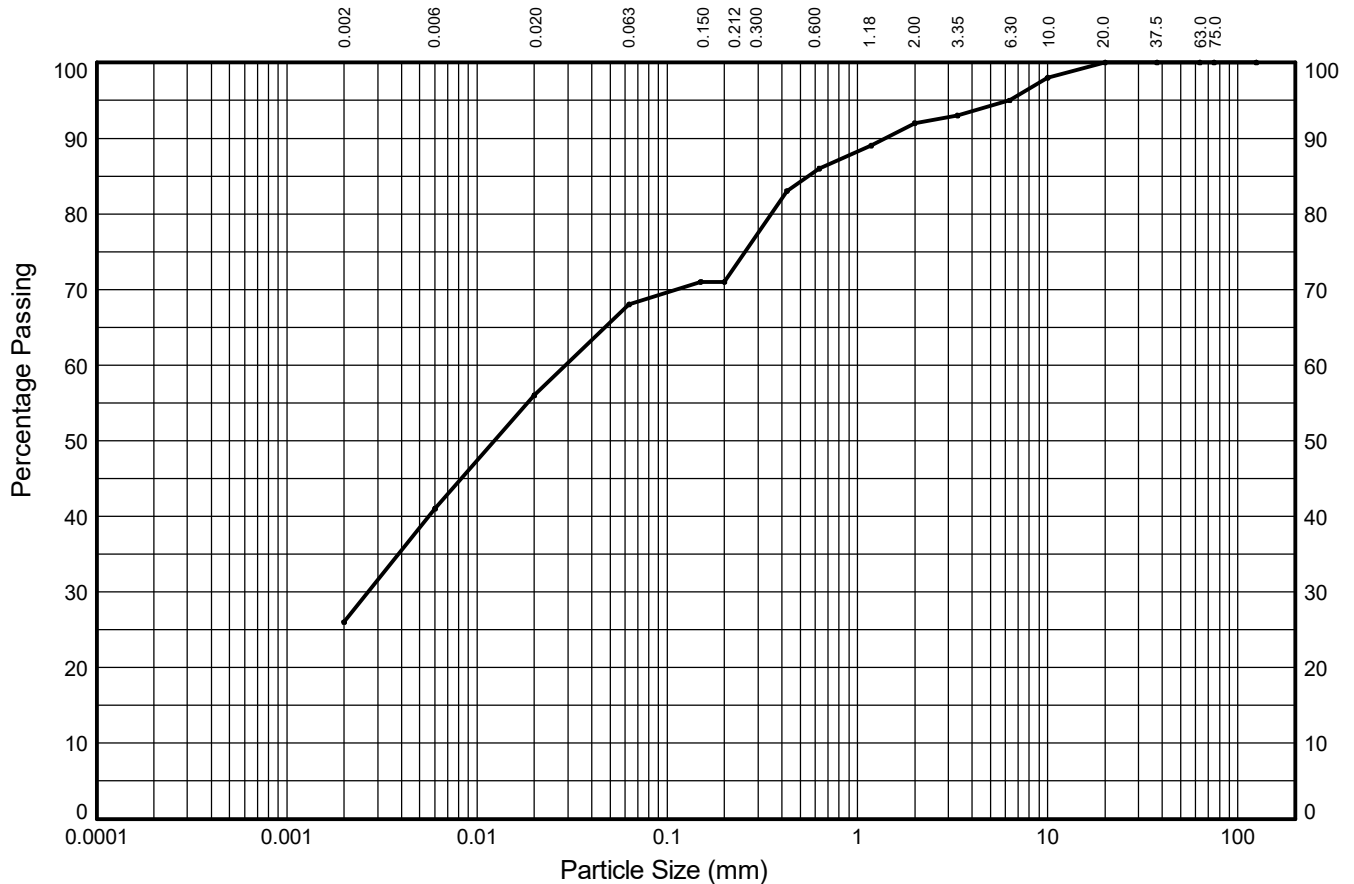
765514



PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

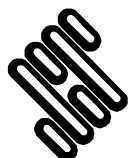
Position ID: **CP07** Sample Ref: **17** Sample Type: **B** Depth (m): **4.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	15%	15%	12%	3%	15%	6%	3%	5%	0%	
	SILT			SAND			GRAVEL			
26%	42%			24%			8%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	56	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.003
37.5	100	0.006	41	D ₅₀ (mm)	0.012
20.0	100			D ₆₀ (mm)	0.029
10.0	98			D ₈₅ (mm)	0.553
6.30	95	0.002	26	D ₉₀ (mm)	1.407
3.35	93			C _U	NA
2.00	92			C _C	NA
1.18	89	Sedimentation sample was not pre-treated			
0.630	86	Soil Description: Brown slightly gravelly slightly sandy clayey SILT			
0.425	83				
0.200	71				
0.150	71				
0.063	68				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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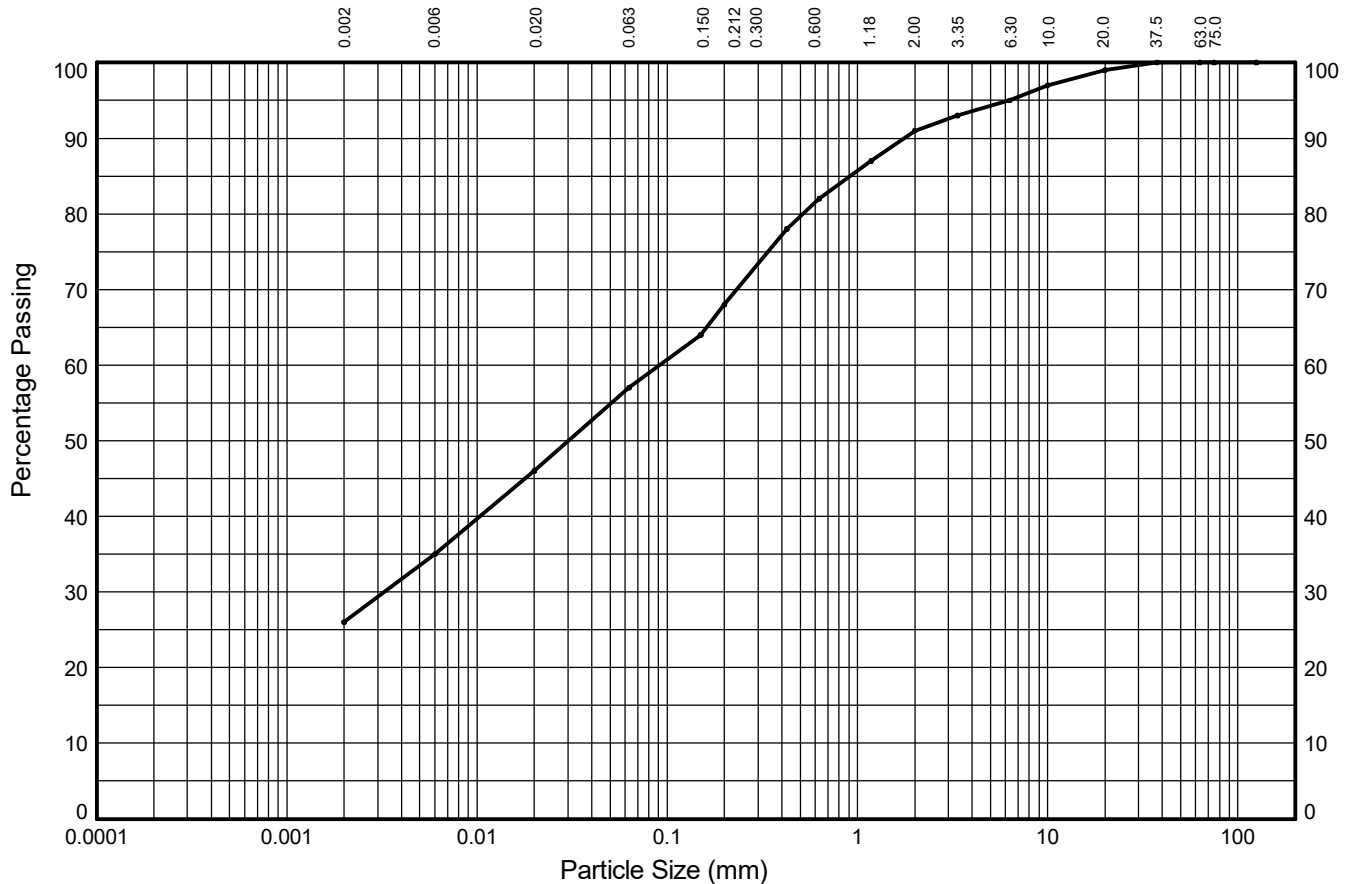
765514



PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

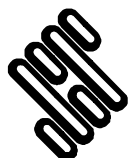
Position ID: **CP08** Sample Ref: **19** Sample Type: **B** Depth (m): **4.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	9%	11%	11%	11%	14%	9%	4%	4%	1%	
	SILT			SAND			GRAVEL			
26%	31%			34%			9%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	46	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.003
37.5	100	0.006	35	D ₅₀ (mm)	0.030
20.0	99			D ₆₀ (mm)	0.091
10.0	97			D ₈₅ (mm)	0.918
6.30	95	0.002	26	D ₉₀ (mm)	1.753
3.35	93			C _U	NA
2.00	91			C _C	NA
1.18	87	Sedimentation sample was not pre-treated			
0.630	82				
0.425	78				
0.200	68				
0.150	64				
0.063	57	Soil Description: Brown slightly gravelly slightly sandy clayey SILT			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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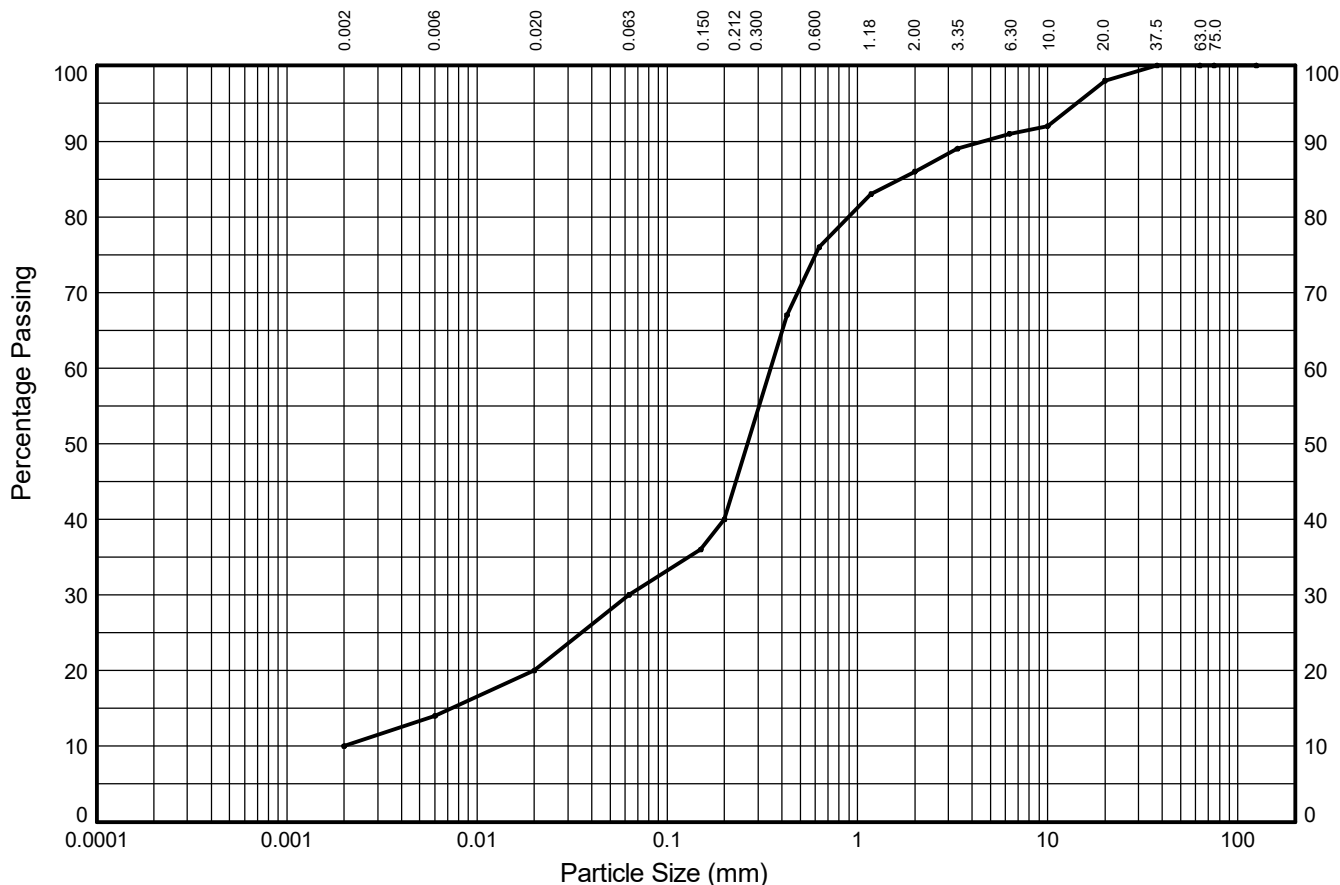
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

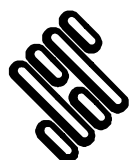
Position ID: **CP08** Sample Ref: **30** Sample Type: **B** Depth (m): **7.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	4%	6%	10%	10%	36%	10%	5%	7%	2%	
	SILT			SAND			GRAVEL			
10%	20%			56%			14%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	20	D ₁₀ (mm)	0.002
75.0	100			D ₁₅ (mm)	0.007
63.0	100			D ₃₀ (mm)	0.063
37.5	100	0.006	14	D ₅₀ (mm)	0.264
20.0	98			D ₆₀ (mm)	0.350
10.0	92			D ₈₅ (mm)	1.677
6.30	91	0.002	10	D ₉₀ (mm)	4.594
3.35	89			C _U	175
2.00	86			C _C	6
1.18	83	Sedimentation sample was not pre-treated			
0.630	76				
0.425	67				
0.200	40				
0.150	36				
0.063	30	Soil Description: Brown red gravelly clayey silty SAND			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

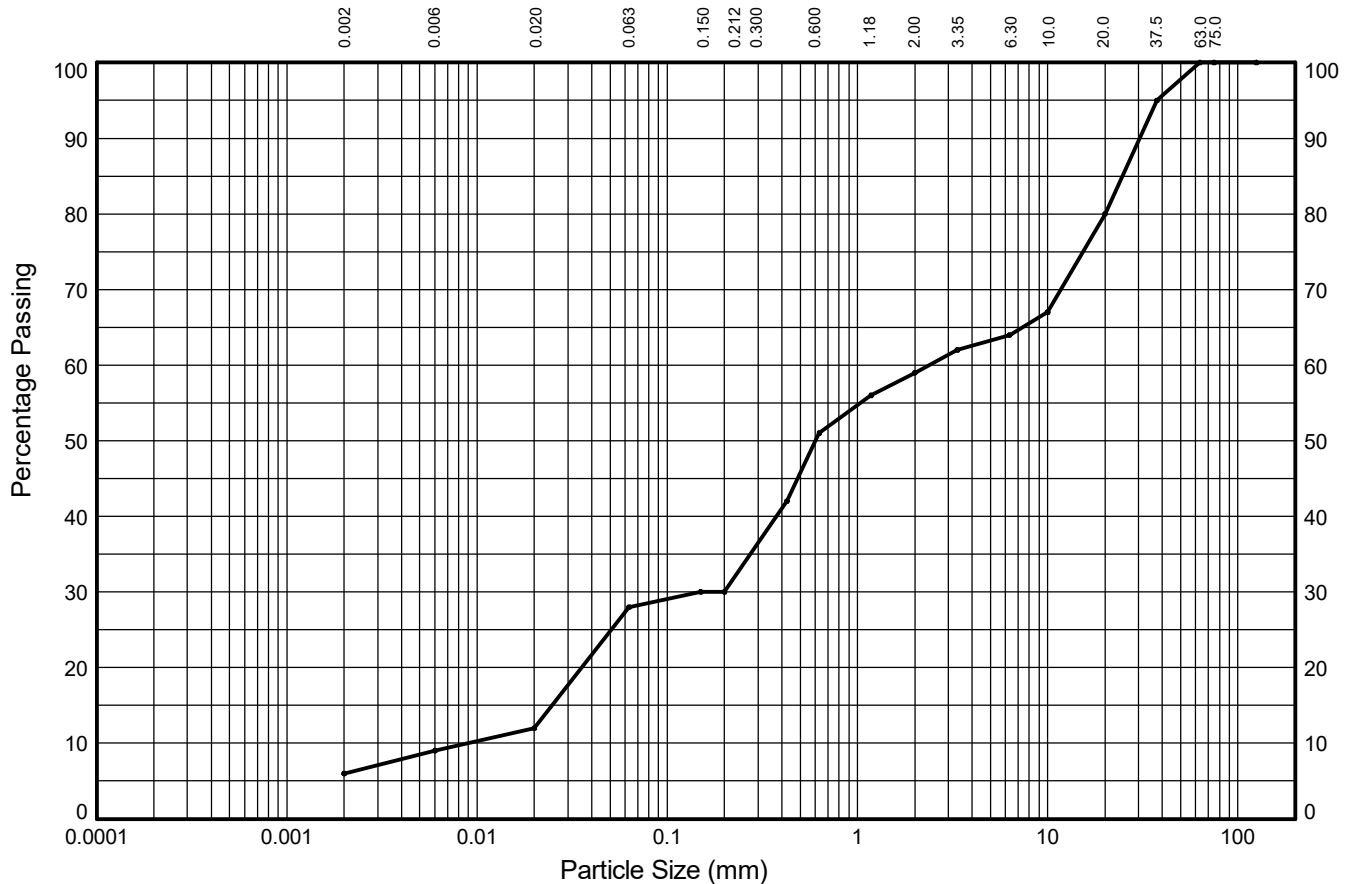
NON-STANDARD TEST

Position ID: **CP08**

Sample Ref: **35**

Sample Type: **B**

Depth (m): **9.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	3%	3%	16%	2%	21%	8%	5%	16%	20%	
	SILT			SAND			GRAVEL			
6%	22%			31%			41%			0%

Test Sieve (mm)	Percent Passing (%)
125.0	100
75.0	100
63.0	100
37.5	95
20.0	80
10.0	67
6.30	64
3.35	62
2.00	59
1.18	56
0.630	51
0.425	42
0.200	30
0.150	30
0.063	28

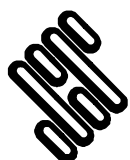
Particle Diameter (mm)	Percent Passing (%)
0.02	12
0.006	9
0.002	6
Sedimentation sample was not pre-treated	

Coefficients	
D ₁₀ (mm)	0.009
D ₁₅ (mm)	0.025
D ₃₀ (mm)	0.150
D ₅₀ (mm)	0.603
D ₆₀ (mm)	2.375
D ₈₅ (mm)	24.662
D ₉₀ (mm)	30.411
C _u	265
C _c	1

Soil Description:

Brown very sandy clayey very silty GRAVEL

Key: C_u = Uniformity coefficient. C_c = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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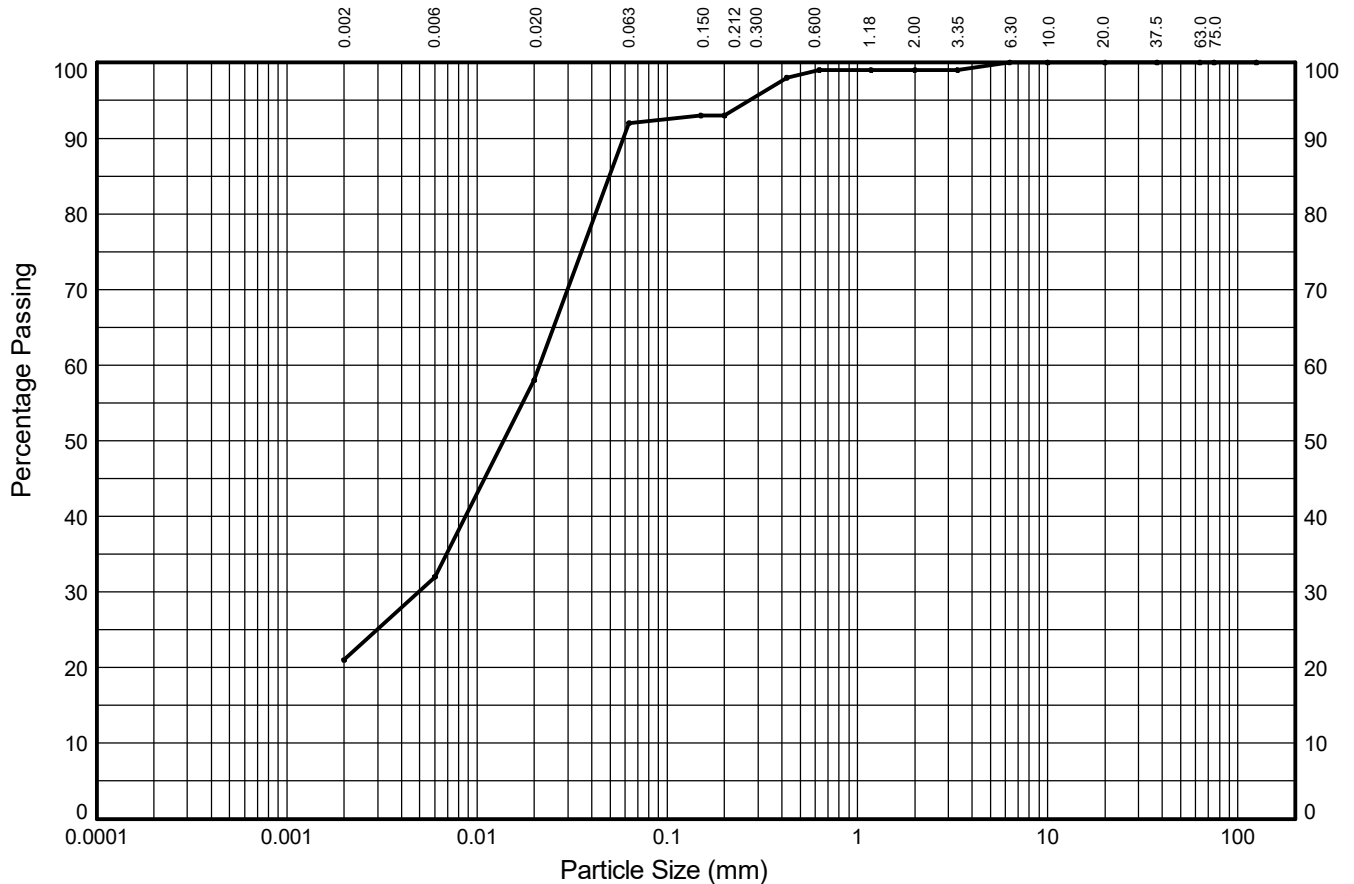
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

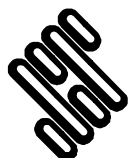
Position ID: **CP09** Sample Ref: **14** Sample Type: **B** Depth (m): **4.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	12%	25%	34%	1%	6%	0%	1%	0%	0%	
	SILT			SAND			GRAVEL			
21%	71%			7%			1%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients		
125.0	100	0.02	58	D ₁₀ (mm)	NA	
75.0	100			D ₁₅ (mm)	NA	
63.0	100			D ₃₀ (mm)	0.005	
37.5	100	0.006	32	D ₅₀ (mm)	0.014	
20.0	100			D ₆₀ (mm)	0.021	
10.0	100			D ₈₅ (mm)	0.050	
6.30	100	0.002	21	D ₉₀ (mm)	0.059	
3.35	99			Sedimentation sample was not pre-treated	C _U	NA
2.00	99				C _C	NA
1.18	99					
0.630	99					
0.425	98					
0.200	93					
0.150	93					
0.063	92					
Soil Description: Brown/red slightly gravelly slightly sandy clayey SILT						

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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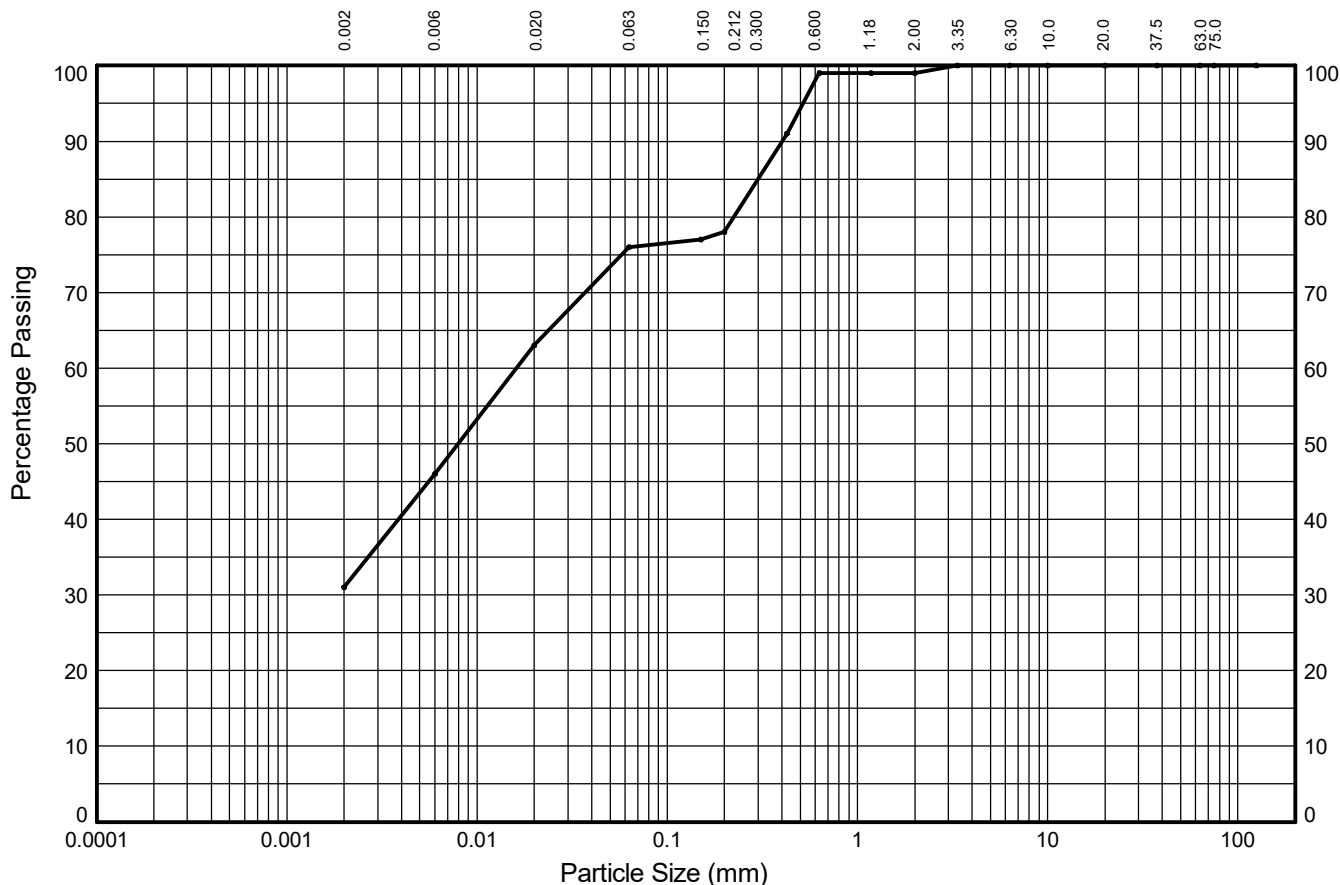
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Position ID: **CP11** Sample Ref: **6** Sample Type: **B** Depth (m): **1.20**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	15%	17%	13%	2%	21%	0%	1%	0%	0%	
	SILT			SAND			GRAVEL			
31%	45%			23%			1%			0%

Test Sieve (mm)	Percent Passing (%)
125.0	100
75.0	100
63.0	100
37.5	100
20.0	100
10.0	100
6.3	100
3.35	100
2.0	99
1.18	99
0.63	99
0.425	91
0.200	78
0.150	77
0.063	76

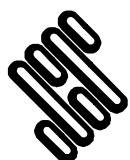
Particle Diameter (mm)	Percent Passing (%)
0.02	63
0.006	46
0.002	31
Sedimentation sample was not pre-treated	

Coefficients	
D ₁₀ (mm)	NA
D ₁₅ (mm)	NA
D ₃₀ (mm)	NA
D ₅₀ (mm)	0.008
D ₆₀ (mm)	0.016
D ₈₅ (mm)	0.300
D ₉₀ (mm)	0.401
C _u	NA
C _c	NA

Soil Description:

Brown/red slightly gravelly slightly sandy clayey SILT

Key: C_u = Uniformity coefficient. C_c = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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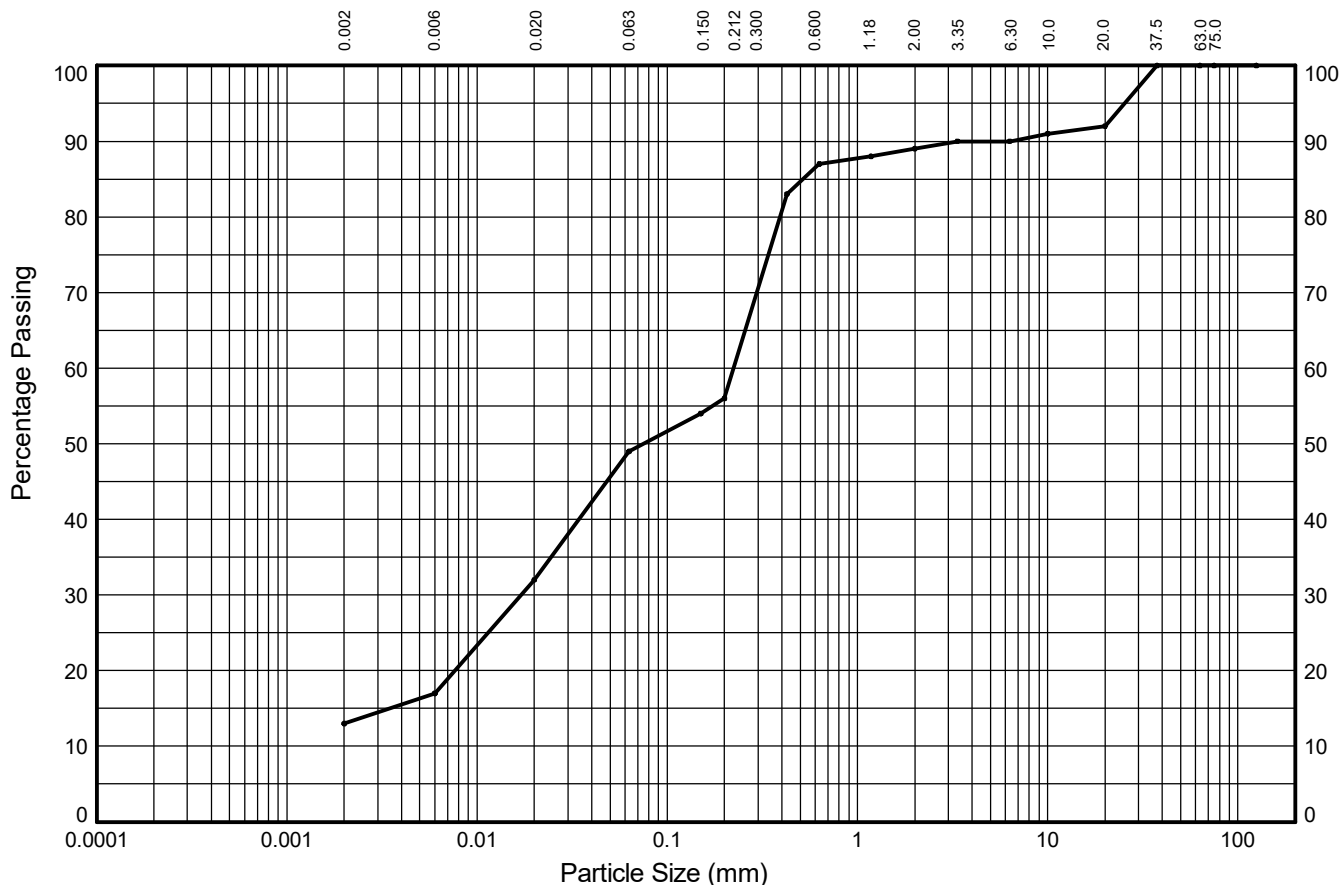
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Position ID: **CP13** Sample Ref: **4** Sample Type: **B** Depth (m): **0.60**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	4%	15%	17%	7%	31%	2%	1%	2%	8%	
	SILT			SAND			GRAVEL			
13%	36%			40%			11%			0%

Test Sieve (mm)	Percent Passing (%)
125.0	100
75.0	100
63.0	100
37.5	100
20.0	92
10.0	91
6.30	90
3.35	90
2.00	89
1.18	88
0.630	87
0.425	83
0.200	56
0.150	54
0.063	49

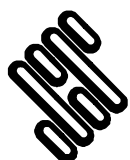
Particle Diameter (mm)	Percent Passing (%)
0.02	32
0.006	17
0.002	13
Sedimentation sample was not pre-treated	

Coefficients	
D ₁₀ (mm)	NA
D ₁₅ (mm)	0.003
D ₃₀ (mm)	0.017
D ₅₀ (mm)	0.075
D ₆₀ (mm)	0.224
D ₈₅ (mm)	0.517
D ₉₀ (mm)	3.350
C _U	NA
C _C	NA

Soil Description:

Brown red slightly gravelly sandy clayey SILT

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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PARTICLE SIZE DISTRIBUTION TEST

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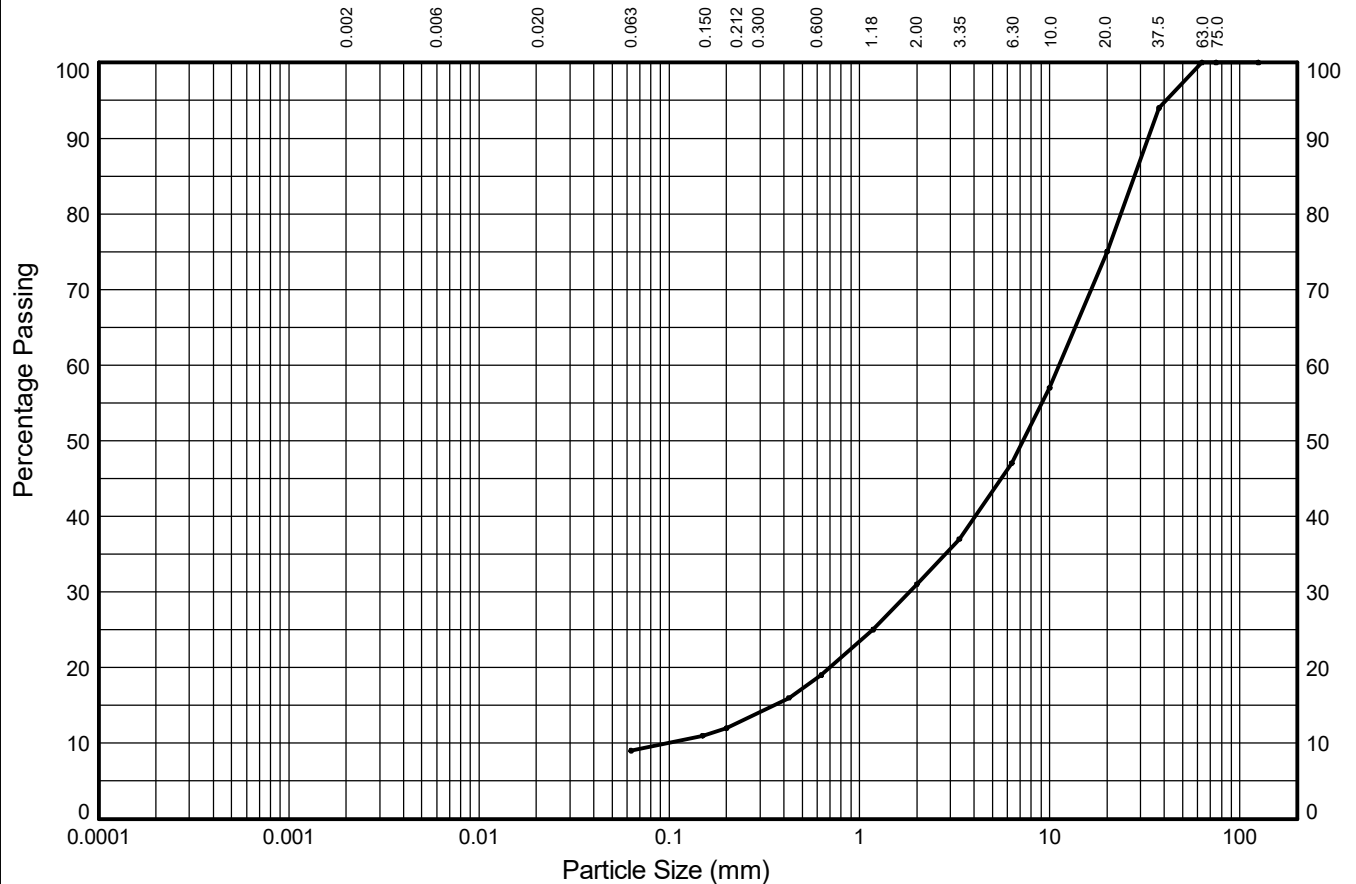
NON-STANDARD TEST

Position ID: **CP13**

Sample Ref: **19**

Sample Type: **B**

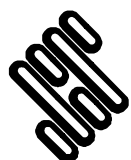
Depth (m): **4.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	-	-	-	3%	7%	12%	16%	28%	25%	
	SILT			SAND			GRAVEL			
9%				22%			69%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100			D ₁₀ (mm)	0.097
75.0	100			D ₁₅ (mm)	0.352
63.0	100			D ₃₀ (mm)	1.832
37.5	94			D ₅₀ (mm)	7.237
20.0	75			D ₆₀ (mm)	11.225
10.0	57			D ₈₅ (mm)	27.843
6.30	47			D ₉₀ (mm)	32.852
3.35	37			C _u	115
2.00	31			C _c	3
1.18	25			Sedimentation sample was not pre-treated Soil Description: Brown sandy silty/clayey GRAVEL	
0.630	19				
0.425	16				
0.200	12				
0.150	11				
0.063	9				

Key: C_u = Uniformity coefficient. C_c = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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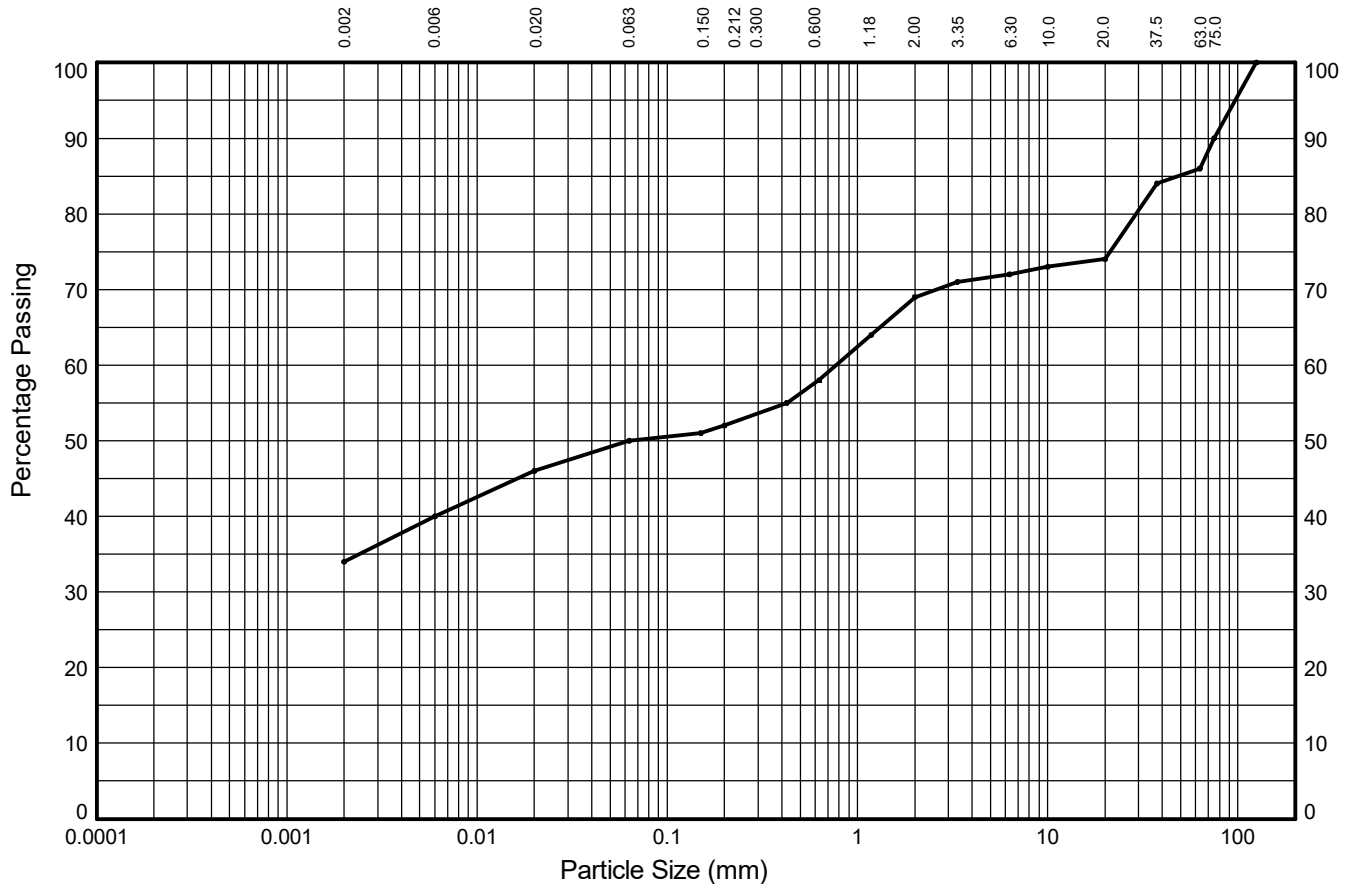
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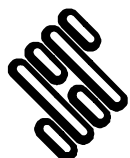
Position ID: **CP14** Sample Ref: **18** Sample Type: **B** Depth (m): **6.40**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	6%	6%	4%	2%	6%	11%	3%	2%	12%	
	SILT			SAND			GRAVEL			
34%	16%			19%			17%			14%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	46	D ₁₀ (mm)	NA
75.0	90			D ₁₅ (mm)	NA
63.0	86			D ₃₀ (mm)	NA
37.5	84	0.006	40	D ₅₀ (mm)	0.063
20.0	74			D ₆₀ (mm)	0.777
10.0	73			D ₈₅ (mm)	48.606
6.30	72	0.002	34	D ₉₀ (mm)	75.000
3.35	71			C _U	NA
2.00	69			C _C	NA
1.18	64	Sedimentation sample was not pre-treated			
0.630	58	Soil Description: Brown slightly gravelly slightly sandy silty CLAY with medium cobble content			
0.425	55				
0.200	52				
0.150	51				
0.063	50				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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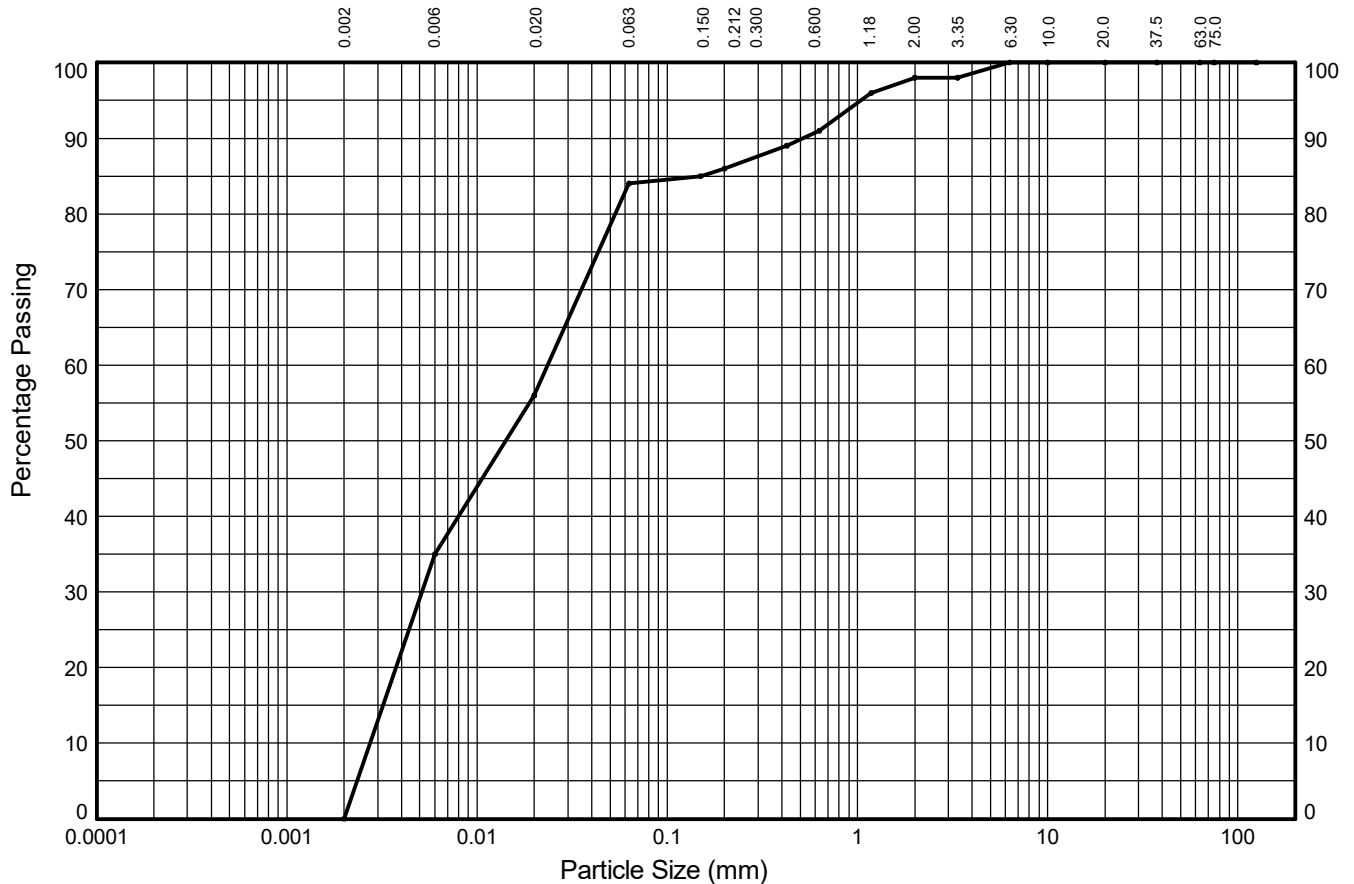
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In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

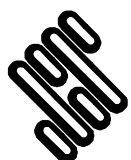
Position ID: **CP15** Sample Ref: **11** Sample Type: **B** Depth (m): **3.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	35%	21%	28%	2%	5%	7%	2%	0%	0%	
	SILT			SAND			GRAVEL			
0%	84%			14%			2%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients		
125.0	100	0.02	56	D ₁₀ (mm)	0.003	
75.0	100			D ₁₅ (mm)	0.003	
63.0	100	0.006	35	D ₃₀ (mm)	0.005	
37.5	100			D ₅₀ (mm)	0.014	
20.0	100			D ₆₀ (mm)	0.024	
10.0	100	0.002	0	D ₈₅ (mm)	0.150	
6.30	100			D ₉₀ (mm)	0.517	
3.35	98	Sedimentation sample was not pre-treated		C _U	8.6	
2.00	98			C _C	0.41	
1.18	96	Soil Description: Brown/red slightly gravelly slightly sandy SILT				
0.630	91					
0.425	89					
0.200	86					
0.150	85					
0.063	84					

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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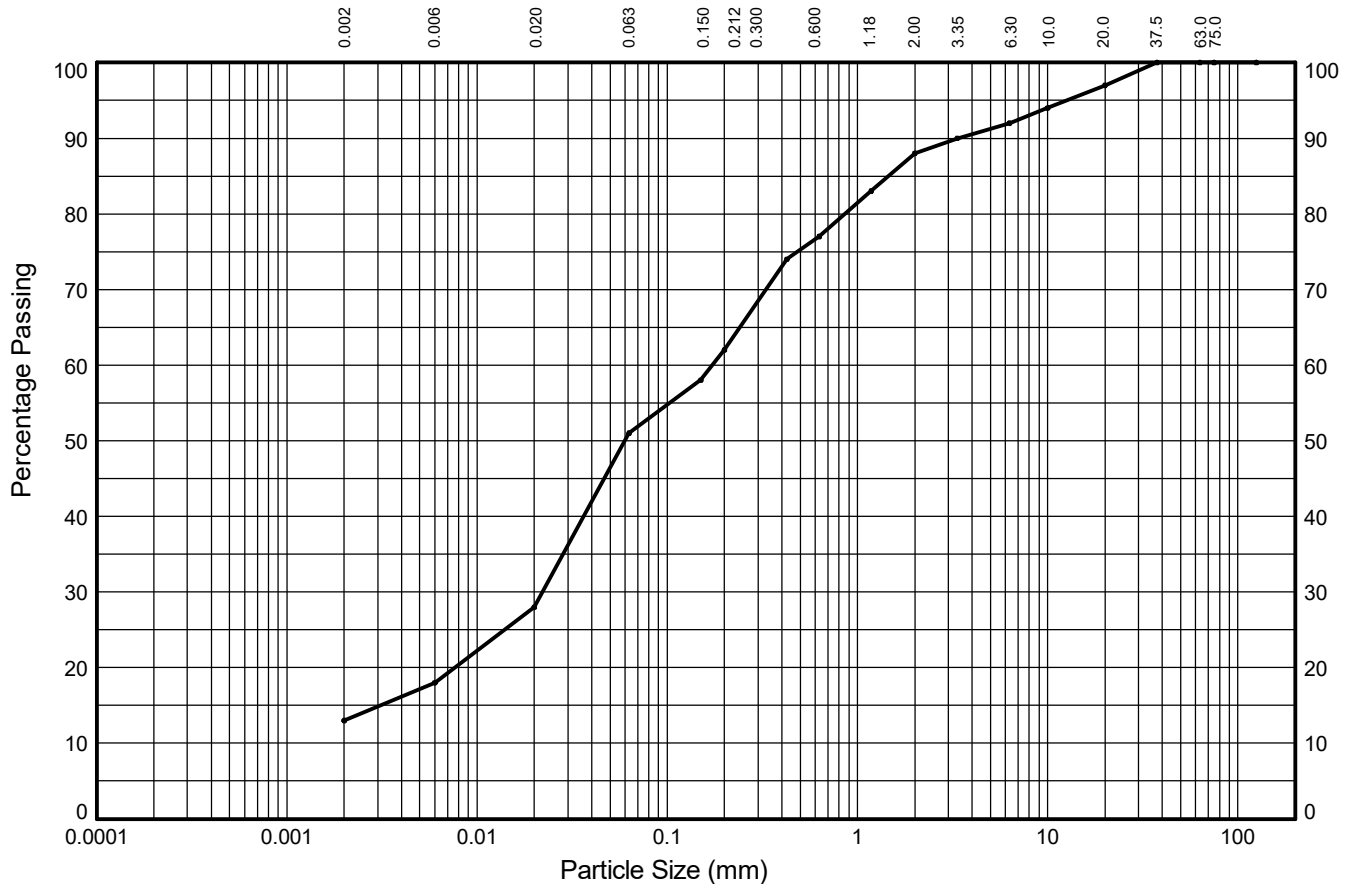
765514



PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

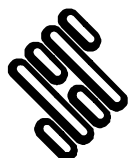
Position ID: **CP17** Sample Ref: **22** Sample Type: **B** Depth (m): **6.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	5%	10%	23%	11%	15%	11%	4%	5%	3%	
	SILT			SAND			GRAVEL			
13%	38%			37%			12%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	28	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	0.003
63.0	100			D ₃₀ (mm)	0.022
37.5	100	0.006	18	D ₅₀ (mm)	0.060
20.0	97			D ₆₀ (mm)	0.173
10.0	94			D ₈₅ (mm)	1.457
6.30	92	0.002	13	D ₉₀ (mm)	3.350
3.35	90			C _U	NA
2.00	88			C _C	NA
1.18	83	Sedimentation sample was not pre-treated			
0.630	77	Soil Description: Brown slightly gravelly slightly sandy clayey SILT			
0.425	74				
0.200	62				
0.150	58				
0.063	51				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



STRUCTURAL SOILS
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W. Yorkshire WF10 1NJ

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Contract Ref:

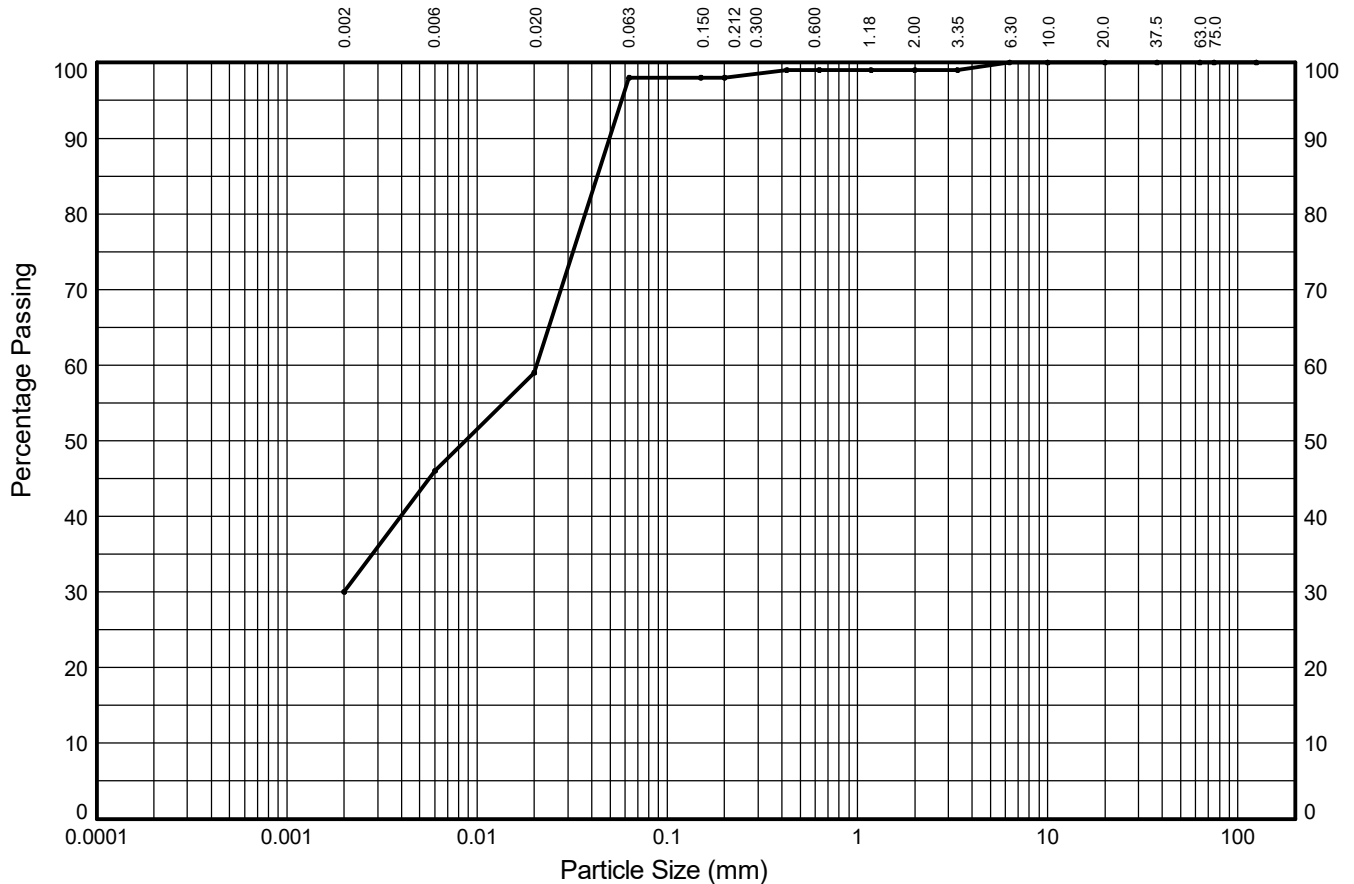
765514



PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

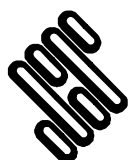
Position ID: **CP18** Sample Ref: **4** Sample Type: **B** Depth (m): **0.90**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	16%	13%	39%	0%	1%	0%	1%	0%	0%	
	SILT			SAND			GRAVEL			
30%	68%			1%			1%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients		
125.0	100	0.02	59	D ₁₀ (mm)	NA	
75.0	100			D ₁₅ (mm)	NA	
63.0	100			D ₃₀ (mm)	0.002	
37.5	100	0.006	46	D ₅₀ (mm)	0.009	
20.0	100			D ₆₀ (mm)	0.021	
10.0	100			D ₈₅ (mm)	0.043	
6.30	100	0.002	30	D ₉₀ (mm)	0.050	
3.35	99			Sedimentation sample was not pre-treated	C _U	NA
2.00	99				C _C	NA
1.18	99					
0.630	99					
0.425	99					
0.200	98					
0.150	98					
0.063	98					
Soil Description: Brown slightly gravelly slightly sandy clayey SILT						

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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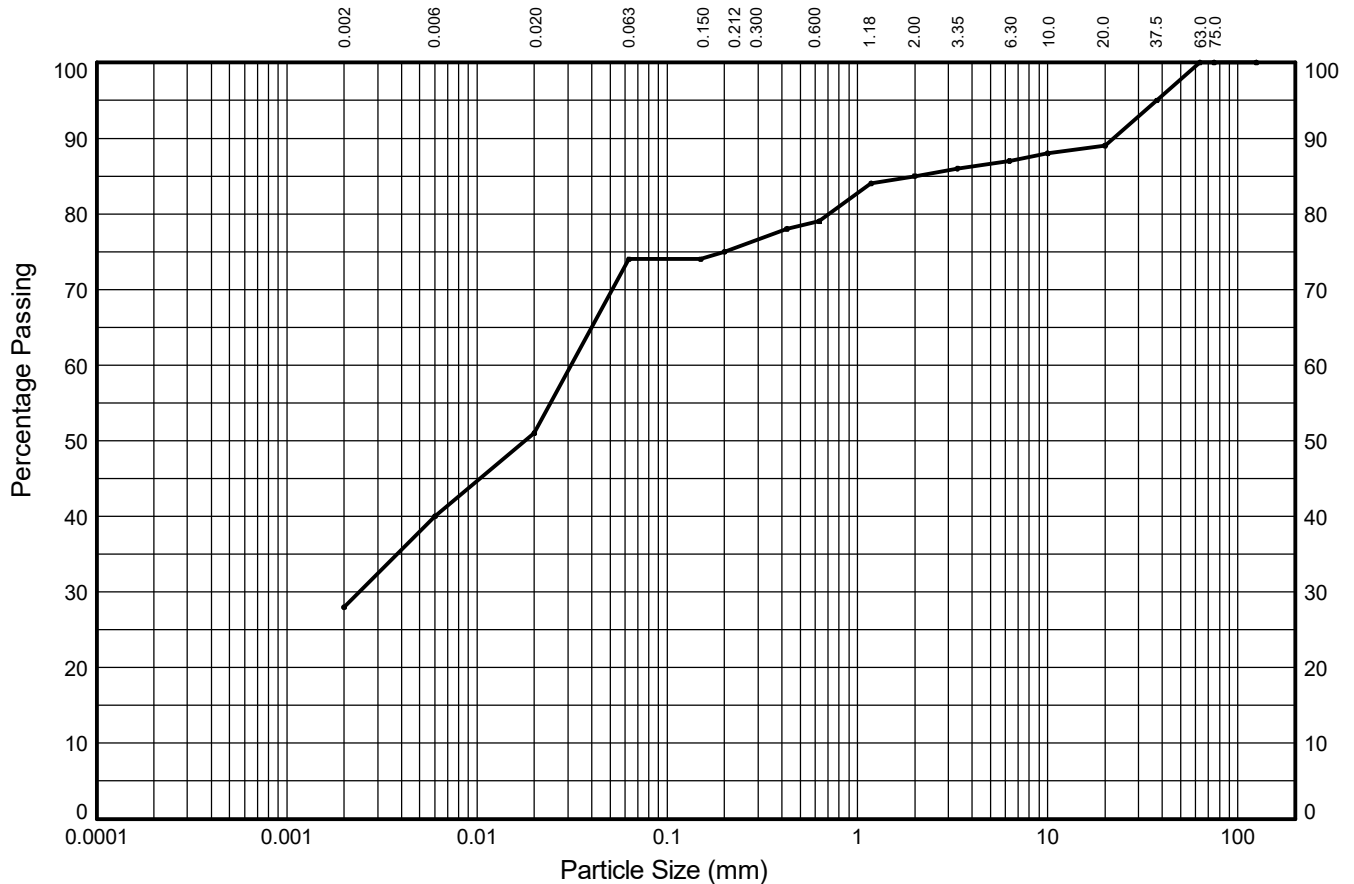
765514



PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

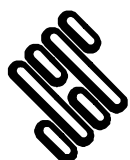
Position ID: **CP22** Sample Ref: **4** Sample Type: **B** Depth (m): **0.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	12%	11%	23%	1%	4%	6%	2%	2%	11%	
	SILT			SAND			GRAVEL			
28%	46%			11%			15%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	51	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.002
37.5	95	0.006	40	D ₅₀ (mm)	0.018
20.0	89			D ₆₀ (mm)	0.031
10.0	88			D ₈₅ (mm)	2.000
6.30	87	0.002	28	D ₉₀ (mm)	22.209
3.35	86			C _U	NA
2.00	85			C _C	NA
1.18	84	Sedimentation sample was not pre-treated			
0.630	79				
0.425	78				
0.200	75				
0.150	74				
0.063	74	Soil Description: Brown slightly sandy slightly gravelly clayey SILT			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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PARTICLE SIZE DISTRIBUTION TEST

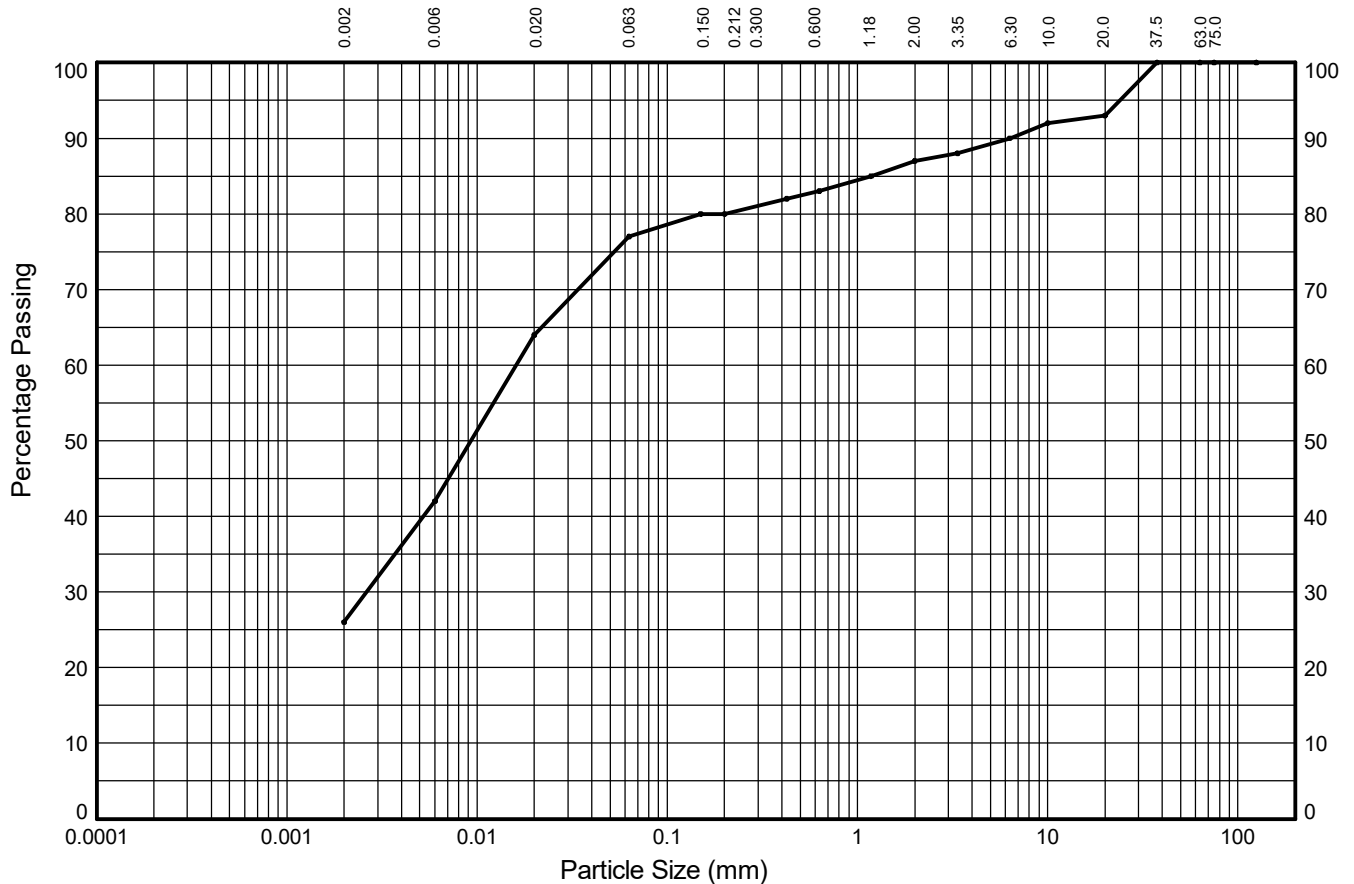
In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Position ID: **CP24**

Sample Ref: **5**

Sample Type: **B**

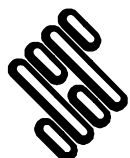
Depth (m): **1.00**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	16%	22%	13%	3%	3%	4%	3%	3%	7%	
	SILT			SAND			GRAVEL			
26%	51%			10%			13%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	64	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.003
37.5	100	0.006	42	D ₅₀ (mm)	0.009
20.0	93			D ₆₀ (mm)	0.016
10.0	92			D ₈₅ (mm)	1.180
6.30	90	0.002	26	D ₉₀ (mm)	6.300
3.35	88			C _U	NA
2.00	87			C _C	NA
1.18	85	Sedimentation sample was not pre-treated			
0.630	83				
0.425	82				
0.200	80				
0.150	80				
0.063	77	Soil Description: Brown red slightly sandy slightly gravelly clayey SILT			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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Laura Schramm

LAURA SCHRAMM

27/02/23

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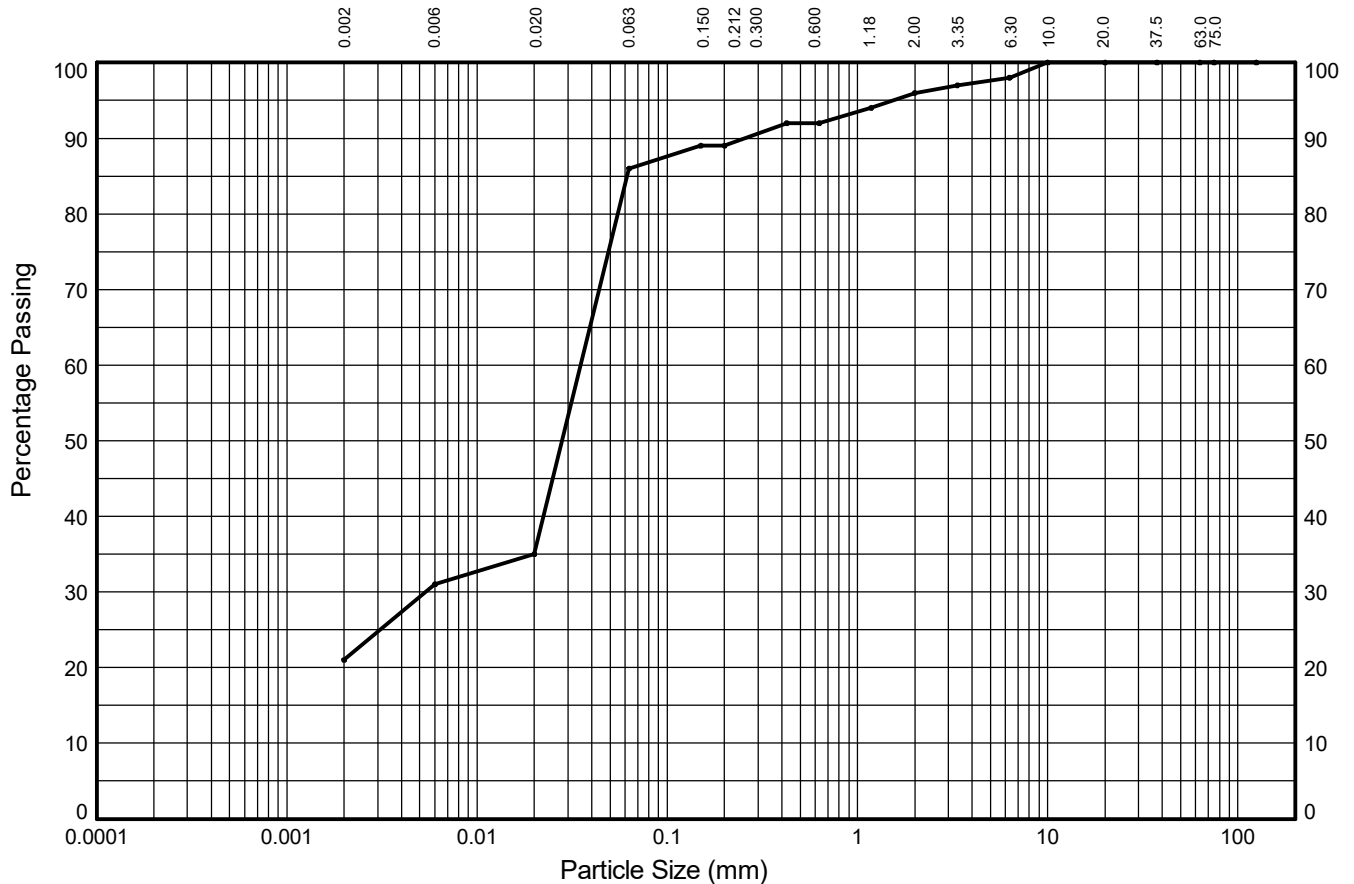
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

Trial Pit: **TP02** Sample Ref: **7** Sample Type: **D** Depth (m): **0.70**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	10%	4%	51%	3%	3%	4%	2%	2%	0%	
	SILT			SAND			GRAVEL			
21%	65%			10%			4%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	35	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.005
37.5	100			D ₅₀ (mm)	0.028
20.0	100	0.006	31	D ₆₀ (mm)	0.035
10.0	100			D ₈₅ (mm)	0.062
6.30	98			D ₉₀ (mm)	0.257
3.35	97			C _U	NA
2.00	96	0.002	21	C _C	NA
1.18	94			Sedimentation sample was not pre-treated	
0.630	92				
0.425	92				
0.200	89				
0.150	89				
0.063	86				

Soil Description:

Red brown slightly gravelly slightly sandy slightly clayey SILT

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018

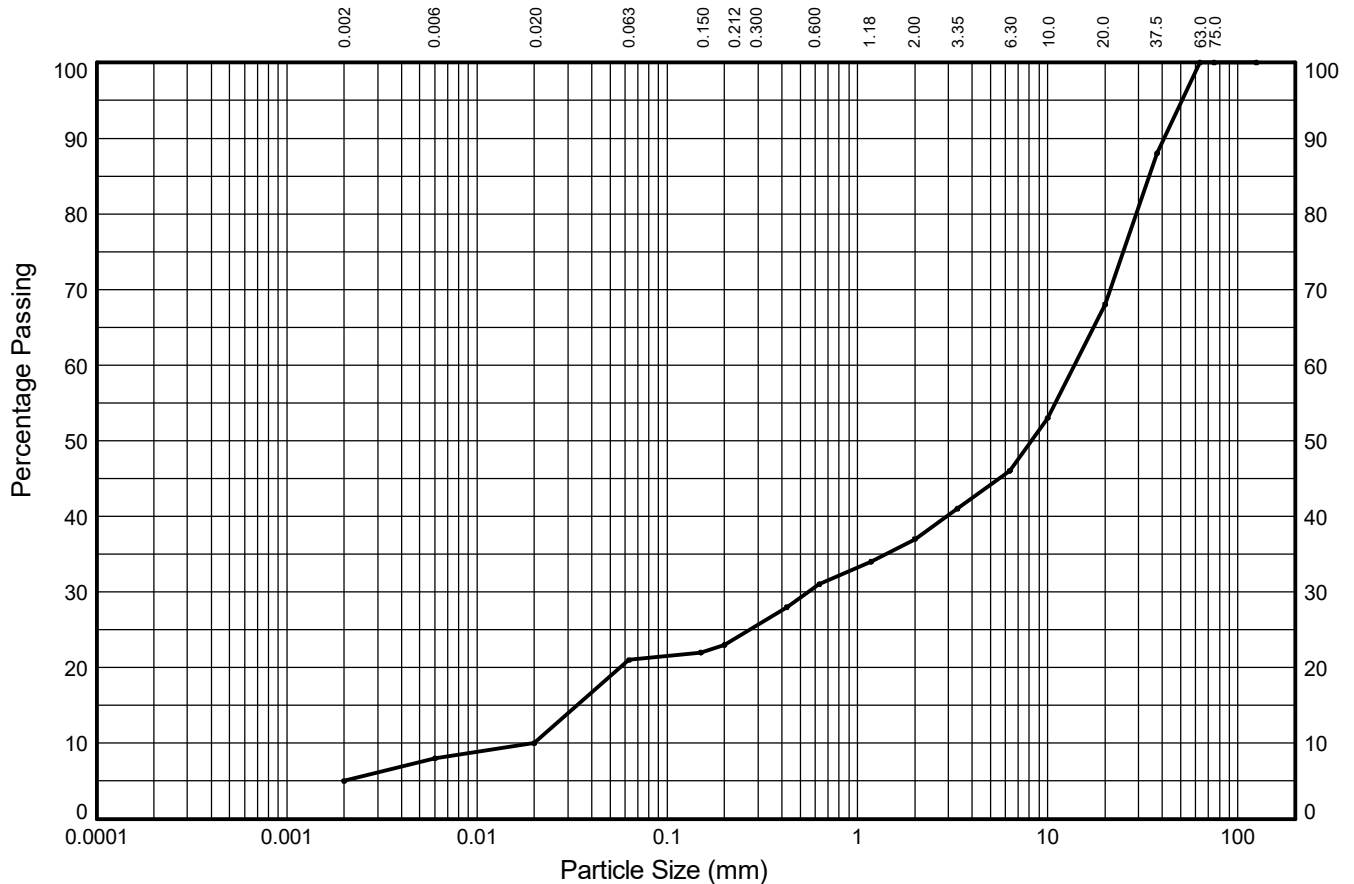
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			27/02/23
	Contract		Contract Ref:
	EMG Phase 2		765514

PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

NON-STANDARD TEST

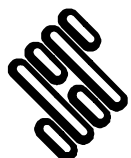
Trial Pit: **TP06** Sample Ref: **14** Sample Type: **B** Depth (m): **2.10**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	3%	2%	11%	2%	8%	6%	9%	22%	32%	
	SILT			SAND			GRAVEL			
5%	16%			16%			63%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	10	D ₁₀ (mm)	0.020
75.0	100			D ₁₅ (mm)	0.034
63.0	100	0.006	8	D ₃₀ (mm)	0.553
37.5	88			D ₅₀ (mm)	8.204
20.0	68			D ₆₀ (mm)	13.819
10.0	53			D ₈₅ (mm)	34.126
6.30	46	0.002	5	D ₉₀ (mm)	40.887
3.35	41			C _U	691
2.00	37	Sedimentation sample was not pre-treated		C _C	1
1.18	34				
0.630	31	Soil Description: Brown sandy clayey silty GRAVEL			
0.425	28				
0.200	23				
0.150	22				
0.063	21				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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LAURA SCHRAMM

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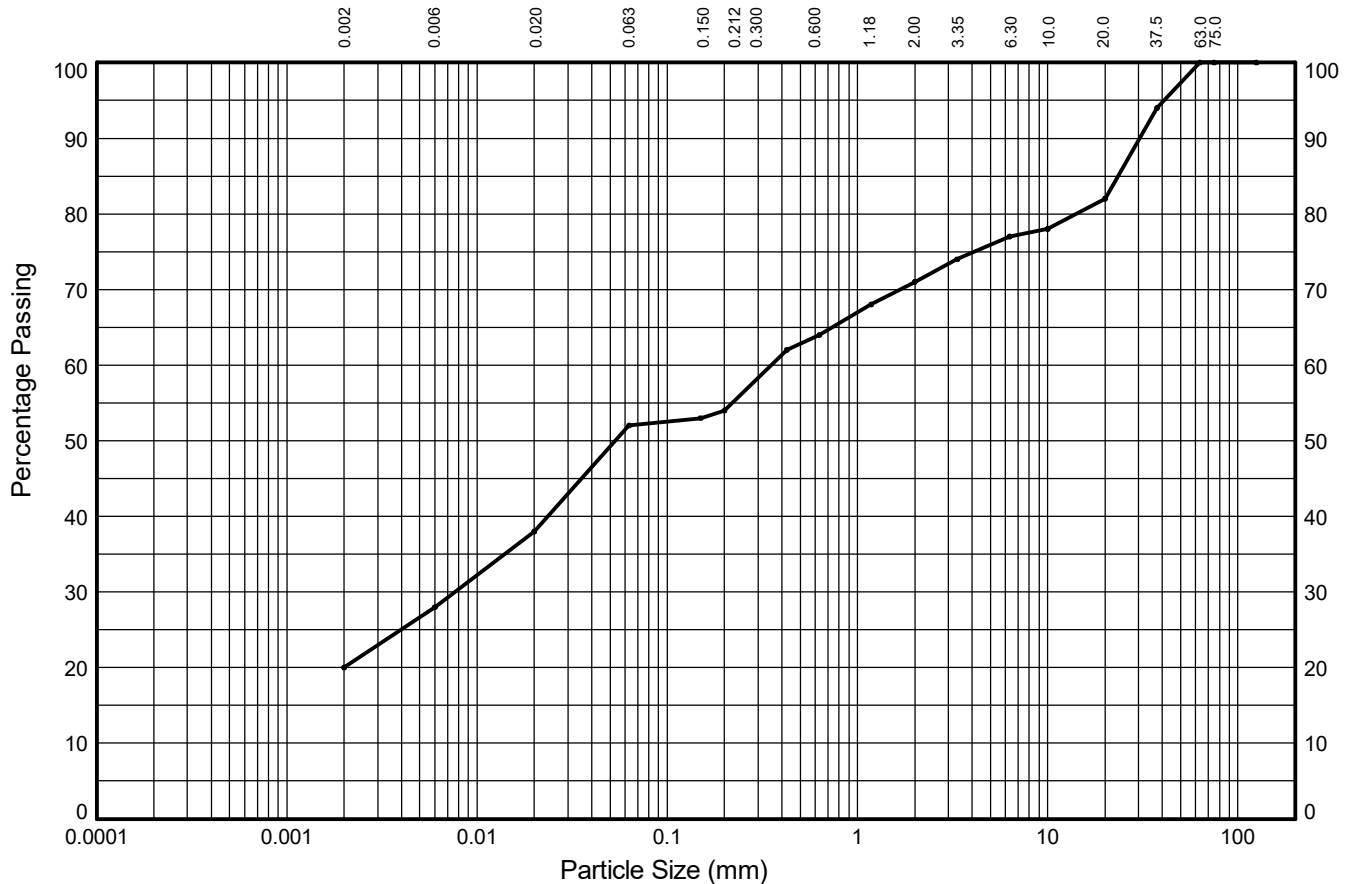
765514



PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

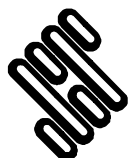
Trial Pit: **TP08** Sample Ref: **5** Sample Type: **LB** Depth (m): **0.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	8%	10%	14%	2%	10%	7%	6%	5%	18%	
	SILT			SAND			GRAVEL			
20%	32%			19%			29%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	38	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.008
37.5	94	0.006	28	D ₅₀ (mm)	0.053
20.0	82			D ₆₀ (mm)	0.352
10.0	78			D ₈₅ (mm)	23.403
6.30	77	0.002	20	D ₉₀ (mm)	30.411
3.35	74			C _U	NA
2.00	71			C _C	NA
1.18	68	Sedimentation sample was not pre-treated			
0.630	64	Soil Description: Brown slightly sandy slightly gravelly clayey SILT			
0.425	62				
0.200	54				
0.150	53				
0.063	52				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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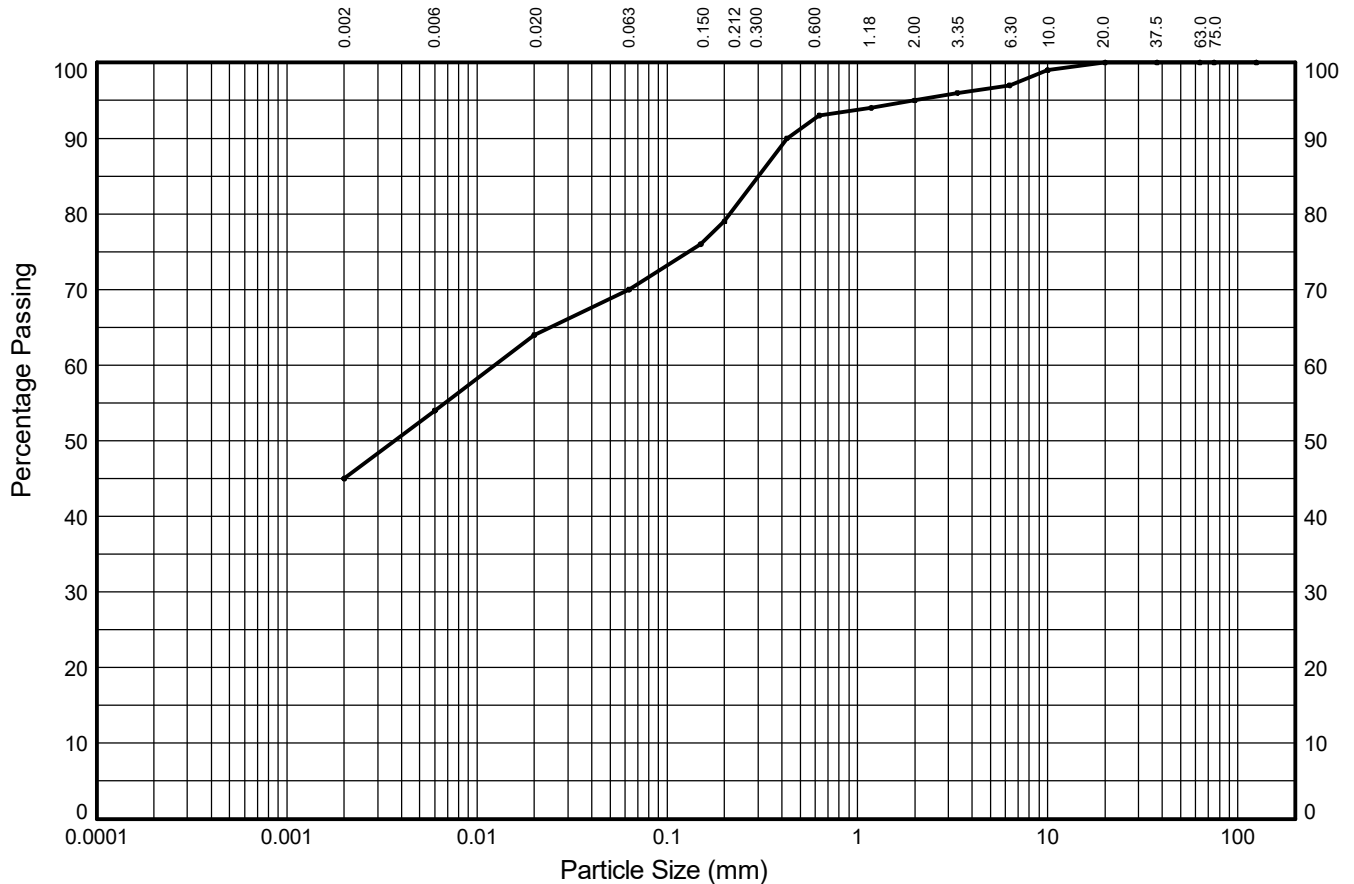
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

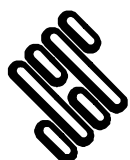
Trial Pit: **TP09** Sample Ref: **5** Sample Type: **LB** Depth (m): **0.60**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	9%	10%	6%	9%	14%	2%	2%	3%	0%	
	SILT			SAND			GRAVEL			
45%	25%			25%			5%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	64	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	NA
37.5	100	0.006	54	D ₅₀ (mm)	0.004
20.0	100			D ₆₀ (mm)	0.012
10.0	99			D ₈₅ (mm)	0.302
6.30	97	0.002	45	D ₉₀ (mm)	0.425
3.35	96			C _U	NA
2.00	95			C _C	NA
1.18	94	Sedimentation sample was not pre-treated			
0.630	93				
0.425	90				
0.200	79				
0.150	76				
0.063	70	Soil Description: Brown slightly gravelly slightly sandy silty CLAY			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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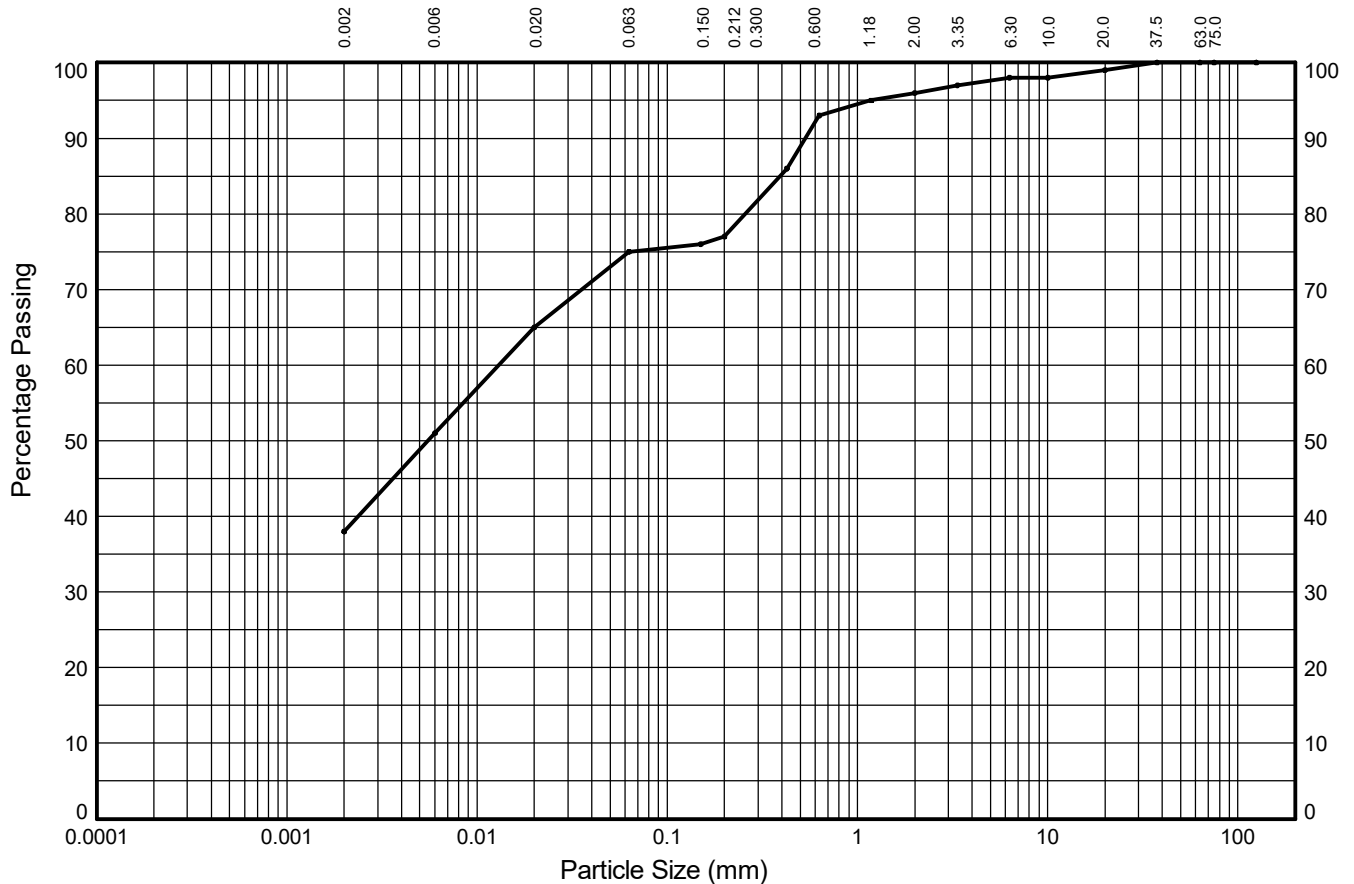
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<i>Laura Schramm</i>		27/02/23
Contract	Contract Ref:	
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

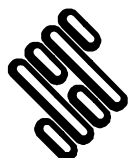
Trial Pit: **TP10** Sample Ref: **11** Sample Type: **LB** Depth (m): **1.40**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	13%	14%	10%	2%	16%	3%	2%	1%	1%	
	SILT			SAND			GRAVEL			
38%	37%			21%			4%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	65	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	NA
37.5	100	0.006	51	D ₅₀ (mm)	0.006
20.0	99			D ₆₀ (mm)	0.013
10.0	98			D ₈₅ (mm)	0.391
6.30	98	0.002	38	D ₉₀ (mm)	0.532
3.35	97			C _U	NA
2.00	96			C _C	NA
1.18	95	Sedimentation sample was not pre-treated			
0.630	93				
0.425	86				
0.200	77				
0.150	76				
0.063	75	Soil Description: Brown slightly gravelly slightly sandy silty CLAY			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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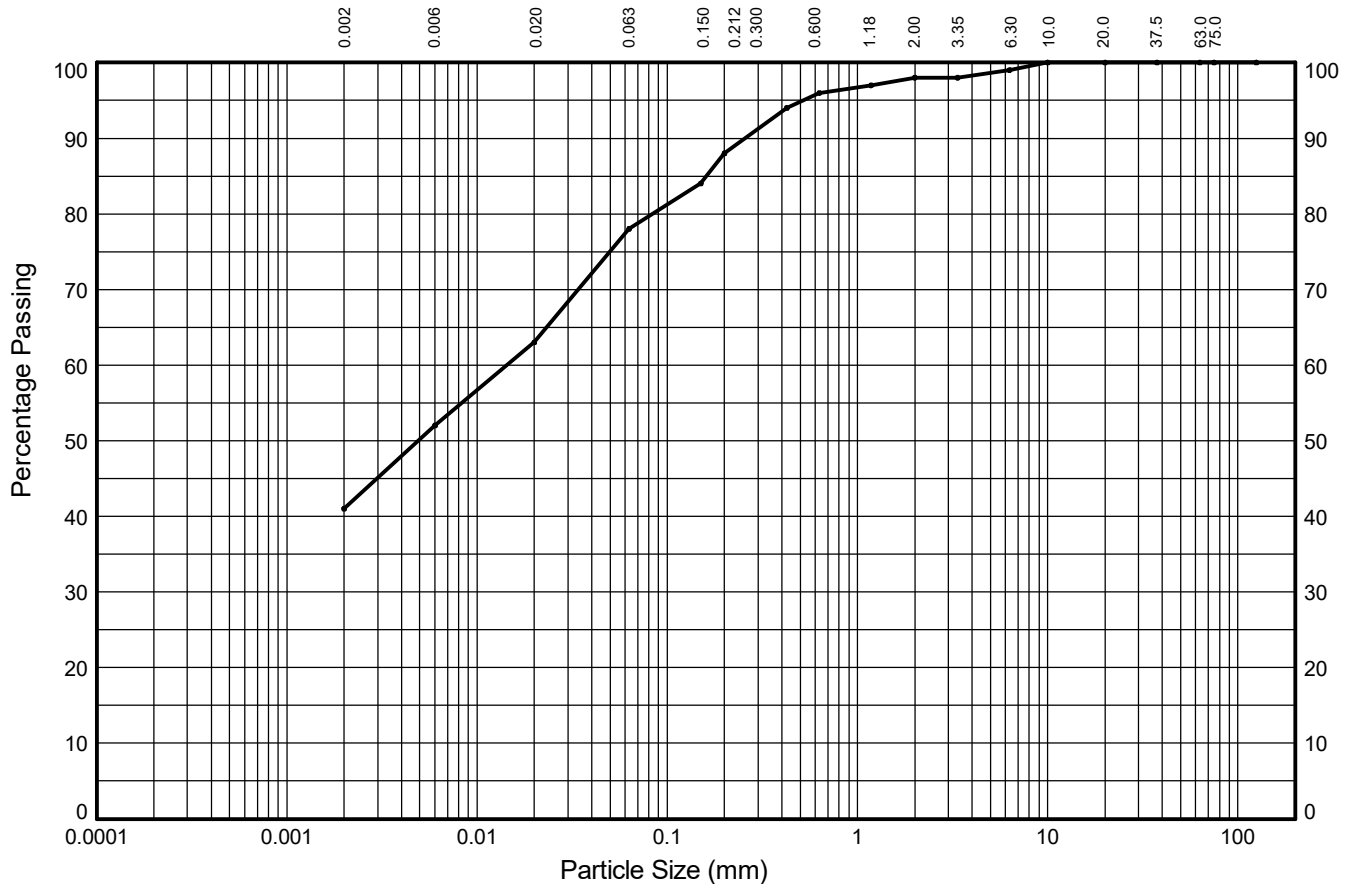
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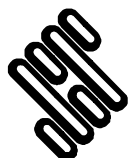
Trial Pit: **TP11** Sample Ref: **8** Sample Type: **B** Depth (m): **1.20**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	11%	11%	15%	10%	8%	2%	1%	1%	0%	
	SILT			SAND			GRAVEL			
41%	37%			20%			2%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	63	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	NA
37.5	100	0.006	52	D ₅₀ (mm)	0.005
20.0	100			D ₆₀ (mm)	0.014
10.0	100			D ₈₅ (mm)	0.161
6.30	99	0.002	41	D ₉₀ (mm)	0.257
3.35	98			C _U	NA
2.00	98			C _C	NA
1.18	97	Sedimentation sample was not pre-treated			
0.630	96	Soil Description: Brown slightly gravelly slightly sandy silty CLAY			
0.425	94				
0.200	88				
0.150	84				
0.063	78				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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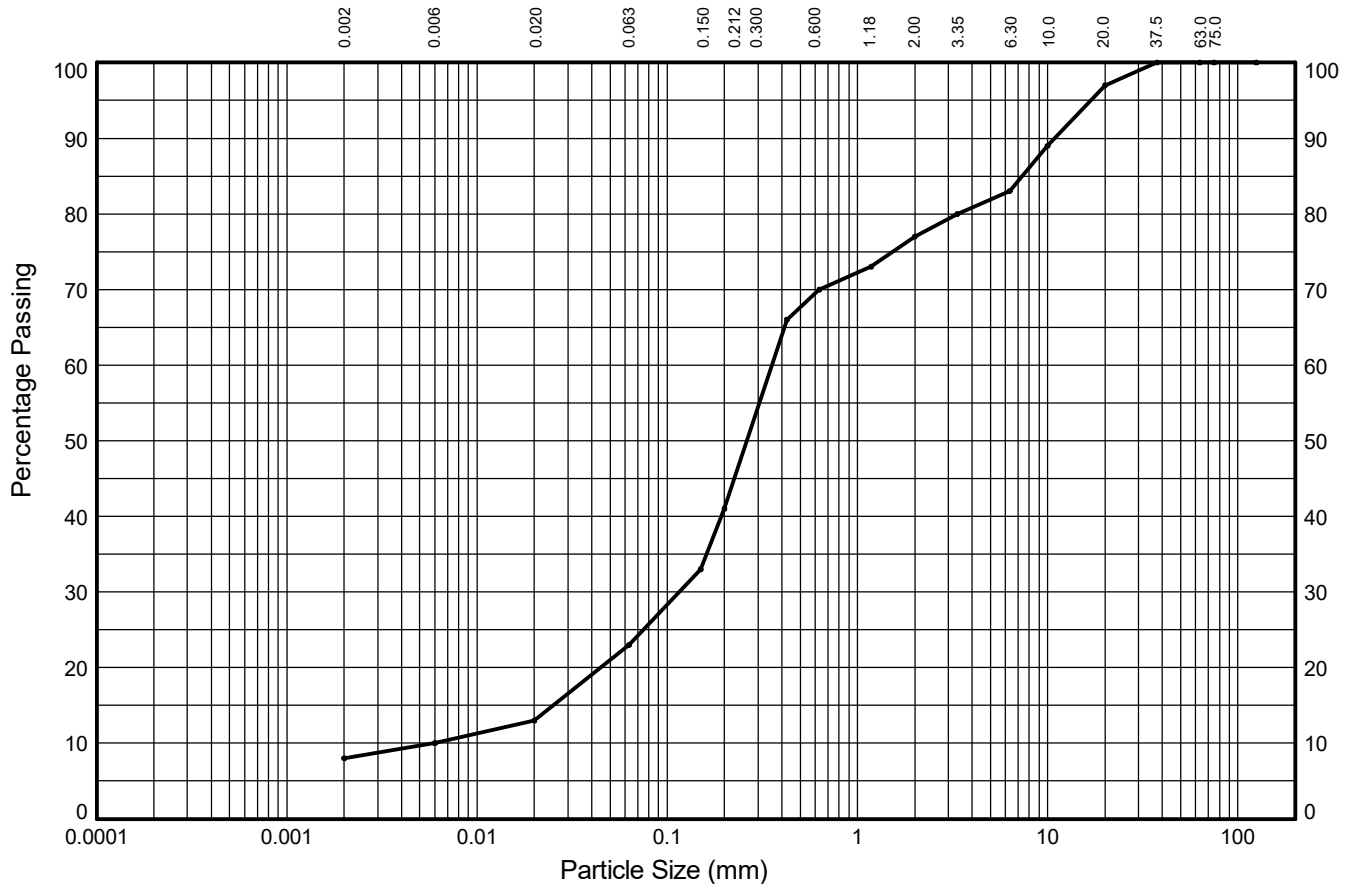
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

NON-STANDARD TEST

Trial Pit: **TP13** Sample Ref: **5** Sample Type: **D** Depth (m): **1.00**



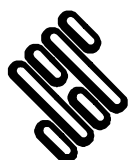
CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	2%	3%	10%	18%	29%	7%	6%	14%	3%	
	SILT			SAND			GRAVEL			
8%	15%			54%			23%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients		
125.0	100	0.02	13	D ₁₀ (mm)	0.006	
75.0	100			D ₁₅ (mm)	0.025	
63.0	100	0.006	10	D ₃₀ (mm)	0.116	
37.5	100			D ₅₀ (mm)	0.262	
20.0	97			D ₆₀ (mm)	0.355	
10.0	89	0.002	8	D ₈₅ (mm)	7.349	
6.30	83			D ₉₀ (mm)	10.905	
3.35	80			C _U	59	
2.00	77	C _C		6		
1.18	73	Sedimentation sample was not pre-treated				
0.630	70					
0.425	66					
0.200	41					
0.150	33					
0.063	23					

Soil Description:

Brown very gravelly clayey silty SAND

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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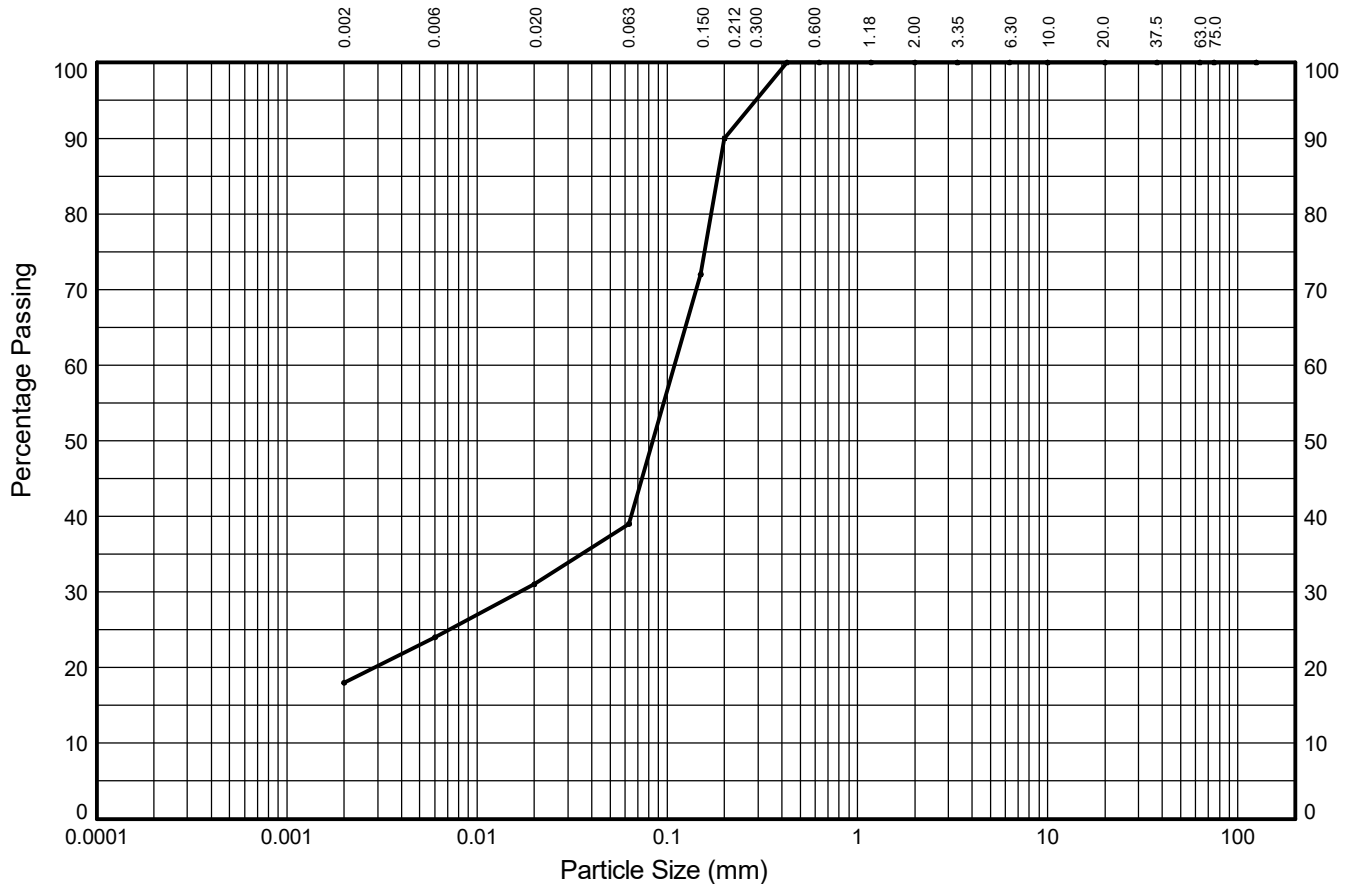
Compiled By		Date
<i>Laura Schramm</i>		27/02/23
Contract	Contract Ref:	
EMG Phase 2	765514	



PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

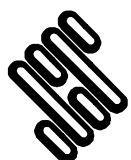
Trial Pit: **TP13** Sample Ref: **12** Sample Type: **B** Depth (m): **2.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	6%	7%	8%	51%	10%	0%	0%	0%	0%	
	SILT			SAND			GRAVEL			
18%	21%			61%			0%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	31	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.017
37.5	100	0.006	24	D ₅₀ (mm)	0.084
20.0	100			D ₆₀ (mm)	0.109
10.0	100			D ₈₅ (mm)	0.185
6.30	100	0.002	18	D ₉₀ (mm)	0.200
3.35	100			C _U	NA
2.00	100			C _C	NA
1.18	100	Sedimentation sample was not pre-treated			
0.630	100	Soil Description: Brown sandy clayey SILT			
0.425	100				
0.200	90				
0.150	72				
0.063	39				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



STRUCTURAL SOILS
The Potteries
Pottery Street
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LORNA WHITWORTH

Date

27/02/23

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EMG Phase 2

Contract Ref:

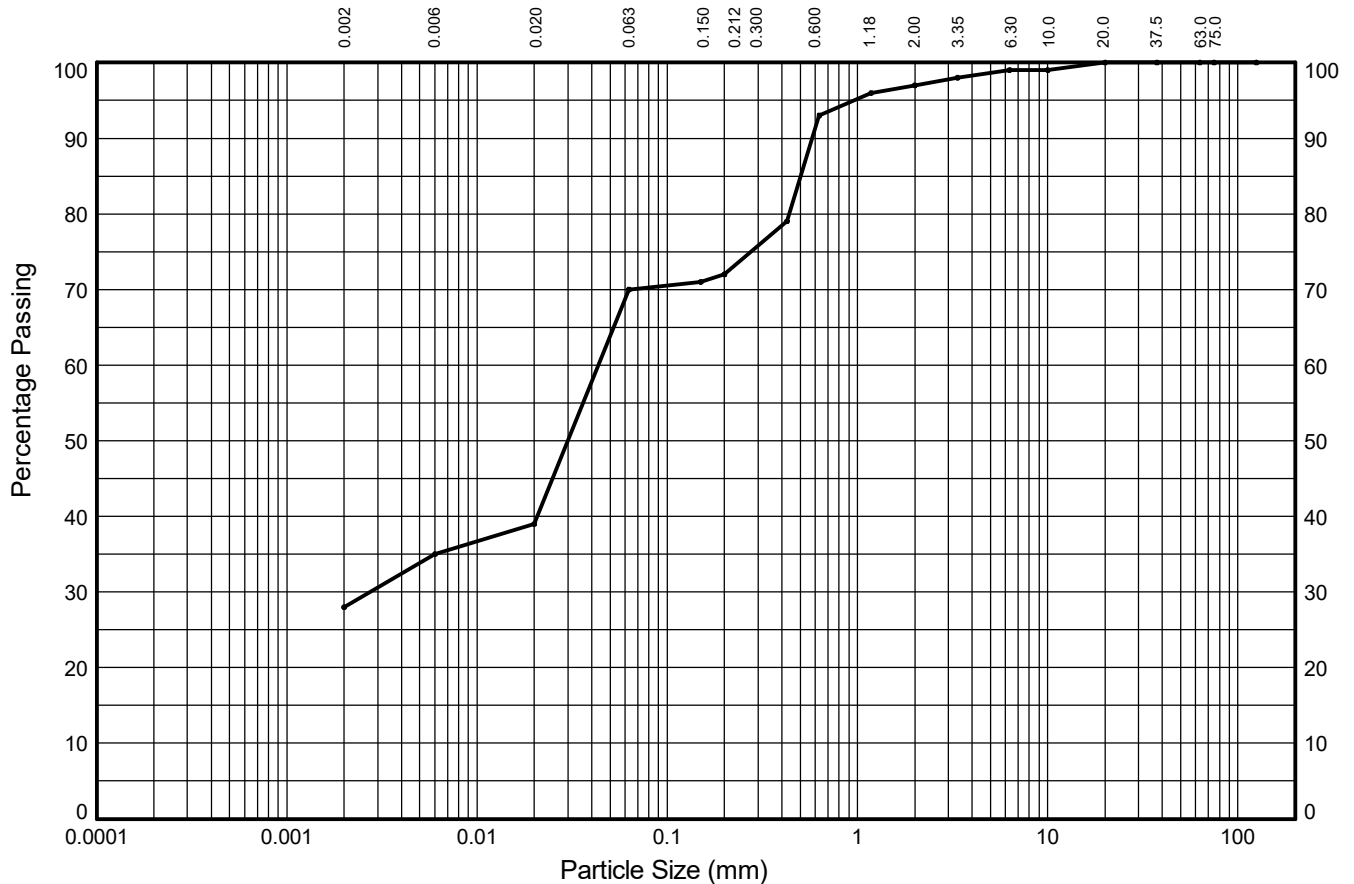
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PARTICLE SIZE DISTRIBUTION TEST

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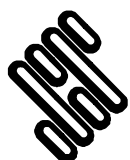
Trial Pit: **TP15** Sample Ref: **5** Sample Type: **B** Depth (m): **0.60**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	7%	4%	31%	2%	21%	4%	2%	1%	0%	
	SILT			SAND			GRAVEL			
28%	42%			27%			3%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	39	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.003
37.5	100	0.006	35	D ₅₀ (mm)	0.030
20.0	100			D ₆₀ (mm)	0.044
10.0	99			D ₈₅ (mm)	0.503
6.30	99	0.002	28	D ₉₀ (mm)	0.579
3.35	98			C _U	NA
2.00	97			C _C	NA
1.18	96	Sedimentation sample was not pre-treated			
0.630	93	Soil Description: Brown slightly gravelly slightly sandy clayey SILT			
0.425	79				
0.200	72				
0.150	71				
0.063	70				

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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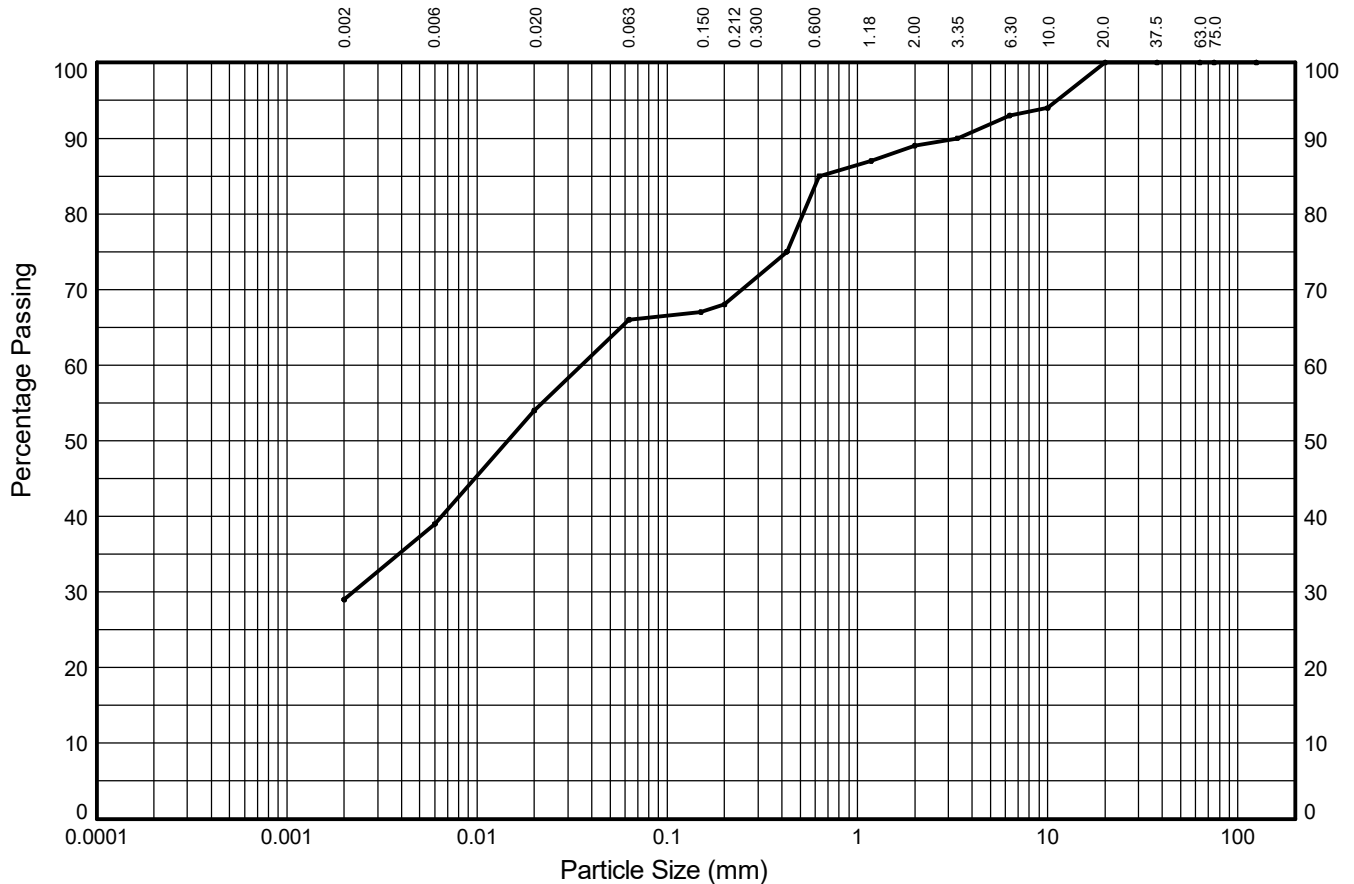
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PARTICLE SIZE DISTRIBUTION TEST

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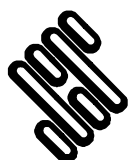
Trial Pit: **TP18** Sample Ref: **11** Sample Type: **LB** Depth (m): **1.70**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	10%	15%	12%	2%	17%	4%	4%	7%	0%	
	SILT			SAND			GRAVEL			
29%	37%			23%			11%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	54	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	0.002
37.5	100	0.006	39	D ₅₀ (mm)	0.015
20.0	100			D ₆₀ (mm)	0.035
10.0	94			D ₈₅ (mm)	0.630
6.30	93	0.002	29	D ₉₀ (mm)	3.350
3.35	90			C _U	NA
2.00	89			C _C	NA
1.18	87	Sedimentation sample was not pre-treated			
0.630	85				
0.425	75				
0.200	68				
0.150	67				
0.063	66	Soil Description: Brown slightly gravelly slightly sandy clayey SILT			

Key: C_u = Uniformity coefficient. C_c = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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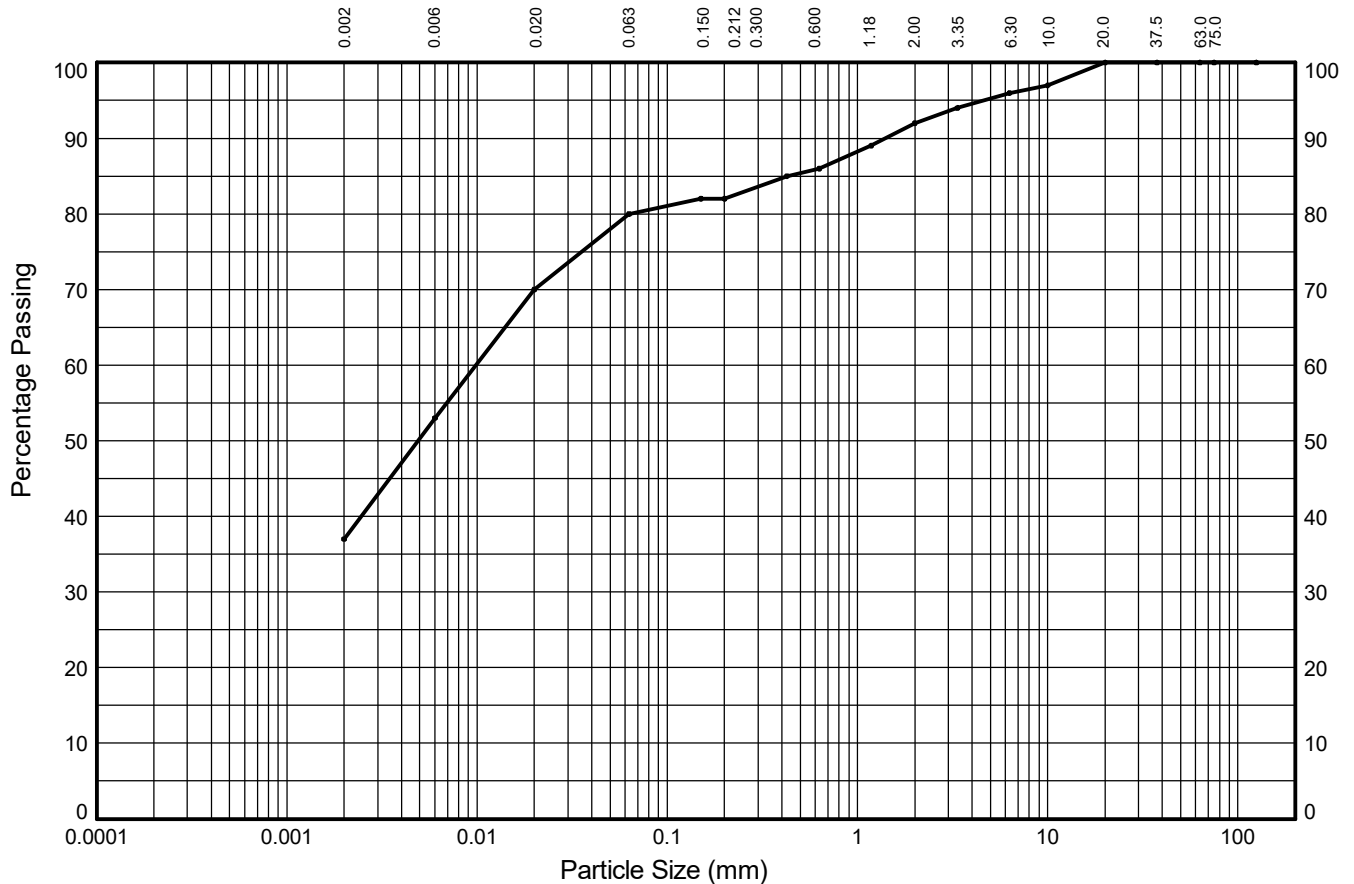
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PARTICLE SIZE DISTRIBUTION TEST

In accordance with clauses 5.2, 5.4 of BS EN ISO 17892:Part 4:2016

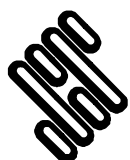
Trial Pit: **TP29** Sample Ref: **5** Sample Type: **D** Depth (m): **0.50**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	16%	17%	10%	2%	4%	6%	4%	4%	0%	
	SILT			SAND			GRAVEL			
37%	43%			12%			8%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	70	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	NA
63.0	100			D ₃₀ (mm)	NA
37.5	100	0.006	53	D ₅₀ (mm)	0.005
20.0	100			D ₆₀ (mm)	0.010
10.0	97			D ₈₅ (mm)	0.425
6.30	96	0.002	37	D ₉₀ (mm)	1.407
3.35	94			C _U	NA
2.00	92			C _C	NA
1.18	89	Sedimentation sample was not pre-treated			
0.630	86				
0.425	85				
0.200	82				
0.150	82				
0.063	80	Soil Description: Brown slightly gravelly slightly sandy clayey SILT			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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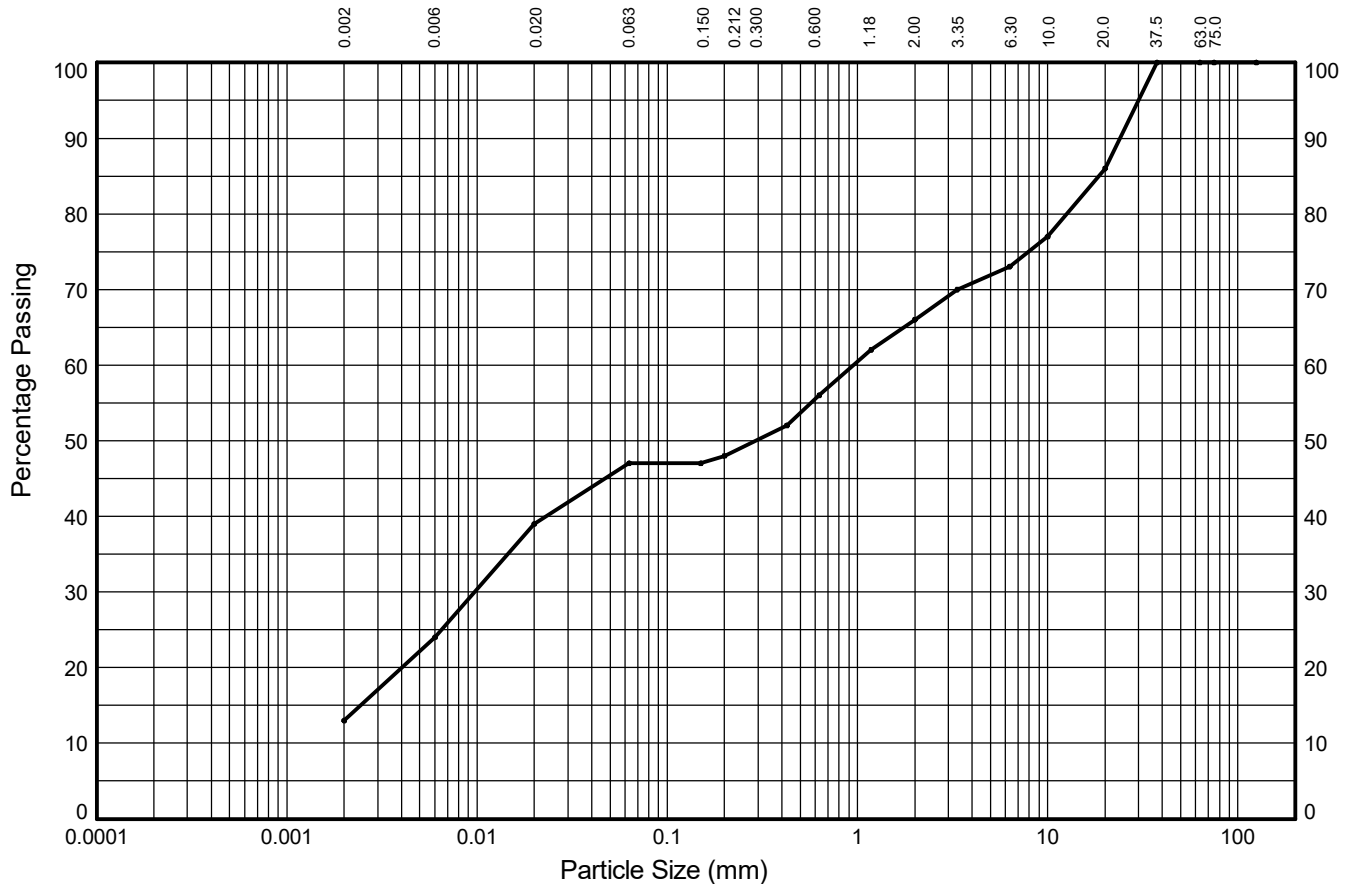
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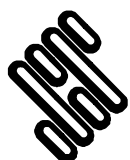
Trial Pit: **TP36** Sample Ref: **18** Sample Type: **B** Depth (m): **2.70**



CLAY	fine	medium	coarse	fine	medium	coarse	fine	medium	coarse	COBBLES
	11%	15%	8%	1%	8%	10%	7%	13%	14%	
	SILT			SAND			GRAVEL			
13%	34%			19%			34%			0%

Test Sieve (mm)	Percent Passing (%)	Particle Diameter (mm)	Percent Passing (%)	Coefficients	
125.0	100	0.02	39	D ₁₀ (mm)	NA
75.0	100			D ₁₅ (mm)	0.002
63.0	100			D ₃₀ (mm)	0.010
37.5	100	0.006	24	D ₅₀ (mm)	0.292
20.0	86			D ₆₀ (mm)	0.957
10.0	77			D ₈₅ (mm)	18.517
6.30	73	0.002	13	D ₉₀ (mm)	23.935
3.35	70			C _U	NA
2.00	66			C _C	NA
1.18	62	Sedimentation sample was not pre-treated			
0.630	56				
0.425	52				
0.200	48				
0.150	47				
0.063	47	Soil Description: Brown slightly sandy slightly gravelly clayey SILT			

Key: C_U = Uniformity coefficient. C_C = Coefficient of curvature as defined in BS EN ISO 14688-2:2018



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