ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT

GROUND INVESTIGATION REPORT (FACTUAL ACCOUNT OF FIELDWORK AND LABORATORY TESTING)

Report No A3039-23

June 2024

Issue No 1

Carried out for:
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Report No A3039-23

ISSUE No	DATE	STATUS	PREPARED BY	CHECKED BY	APPROVED BY
1	June 2024	Interim draft report	K Kosiorek MEarthSci (Hons) AIMMM FGS	M Stanley BSc (Hons) FGS CGeol EurGeol	M Stanley BSc (Hons) FGS CGeol EurGeol
1	mmm 2024	Final report			

SOCOTEC UK Limited was formerly known as Environmental Scientifics Group Limited. The Certificate of Incorporation on Change of Name was filed on 16 October 2017.

CONTENTS

1 INTRODUCTION

SOCOTEC UK Limited (SOCOTEC) was commissioned in December 2023 by SSE Hornsea Limited (SSE) to carry out a ground investigation at the Aldbrough Gas Storage facility, East Riding of Yorkshire. The investigation was required to obtain geotechnical information necessary to inform the design of a proposed electrolyser and open cycle gas turbine.

The investigation supervisor, on behalf of SSE, was Black & Veatch (U.K.) Limited (BV).

The scope of the investigation was specified by BV and comprised boreholes, laboratory testing and reporting. The fieldwork was carried out between 22 January and 15 February 2024.

The investigation was performed in accordance with the contract specification (Document reference: 416312.78.0101), and the general requirements of BS 5930:2015+A1 (2020), BS EN 1997-2 (2007), BS EN ISO 22475-1 (2021) and other relevant related standards identified.

This report presents a description of the ground investigation work carried out together with the factual records of the fieldwork and laboratory testing. It comprises the Factual Account section of a Ground Investigation Report (GIR), as defined in the UK Specification for Ground Investigation draft Third Edition (2022), also identified as the Factual Report section in BS 5930:2015+A1 (2020). The information is also presented in digital data format as defined in AGS 4.0.4 (2017).

2 SITE SETTING

2.1 Location and Description

Aldbrough Gas Storage facility is located approximately 2.5 km southeast of Aldbrough village centre, at National Grid reference TA 260370, see Site Location Plan in Appendix A.

The site comprises an area measuring approximately 300 by 250 m. It is generally level at an elevation of about 12 mOD.

The site is located within an industrial facility surrounded by primarily agricultural land. The site is bound to the north and east by agricultural fields, to the south by East Newton drain, and to the west by the Cess Dale drain. The North Sea coast is located approximately 1 km to the northeast of the site.

2.2 Published Geology

The published geological map for the area, BGS Sheet 73 (1998), and the BGS GeoIndex Onshore online viewer (2024) show the site located on Glacial Till deposits, described as a diamicton of Devensian age. Alluvium, described as clay, silt, sand and gravel is present in the southwestern margin of the site.

Bedrock is shown to be the Rowe Chalk Formation of Cretaceous age and described as white flint-bearing chalk.

3 FIELDWORK

3.1 General

The exploratory hole locations were selected by SSE and set out to coordinates specified by SSE. The positions were surveyed by SOCOTEC to National Grid and Ordnance Datum, and the locations are shown on the Exploratory Hole Location Plan in Appendix A.

All exploratory hole locations were surveyed for underground services, prior to any excavation, using a Cable Avoidance Tool (CAT) and PAS 128 Type B compliant, non-intrusive geophysical utility survey methods. Where applicable hand dug service inspection pits were then excavated to a depth of 1.20 m with simultaneous scanning using a CAT.

3.2 Exploratory Holes

The exploratory holes are listed in Table 1.

TABLE 1 SUMMARY OF EXPLORATORY HOLES

TYPE	QUANTITY	DEPTH RANGE (m)	REMARKS
Cable percussion boring	11	5.00 to 15.00	BVB-101 to BVB-111
Dynamic (windowless) sampling	4	2.45	BVB-112 to BVB-115

The exploratory hole logs are presented in Appendix B. These include descriptions of the strata encountered together with details of the equipment and methods used, sampling and field testing carried out, water depths and other field observations. Explanations of the terms and abbreviations used on the logs are given in the Key to Exploratory Hole Records in Appendix B, along with other explanatory information. The geological material descriptions are in accordance with BS 5930:2015+A1 (2020), following BS EN ISO 14688-1 (2018) and BS EN ISO 14689 (2018) for soils and rocks respectively.

Standard penetration tests (SPT) in the boreholes were carried out in accordance with BS EN ISO 22476-3+A1 (2011). The SPT hammer energy ratio certificates are included in Appendix B and the results are presented on the logs without any corrections to the measured blow-counts or derived N values.

Pocket penetrometer and hand vane tests were carried out on selected sample material from the exploratory holes. The results of these tests are included on the logs presented in Appendix B.

Geotechnical samples were transferred from site to the Doncaster office of SOCOTEC for temporary retention.

4 GEOTECHNICAL LABORATORY TESTING

Geotechnical laboratory testing of selected samples was scheduled by BV. The testing is in progress at the time of the issue of this report and is being carried out at the SOCOTEC Central laboratory, in accordance with test methods as stated within the test reports. The completed testing is listed in Table 2 and the results are presented in Appendix C.

TABLE 2 SUMMARY OF GEOTECHNICAL LABORATORY TESTS

TEST TYPE[1]	QUANTITY	REMARKS
Classification/index tests		
Water content	99	
Particle size distribution	23	By sieving and sedimentation

Note 1 : Test type names based on Thomas Telford (2022) Table 15.4 and Bill K.

5 REFERENCES

AGS: 2017: Electronic Transfer of Geotechnical and Geoenvironmental Data (Edition 4.0.4 February 2017). Association of Geotechnical and Geoenvironmental Specialists.

BGS England and Wales Sheet 73: 1998: Hornsea. 1:50000 geological map (Solid and Drift). British Geological Survey.

BGS GeoIndex Onshore: 2024. www.bgs.ac.uk. British Geological Survey.

BS 5930:2015+A1: 2020: Code of practice for ground investigations.

BS EN 1997-2: 2007 (Incorporating corrigendum June 2010): Eurocode 7 - Geotechnical design - Part 2 Ground investigation and testing.

BS EN ISO 14688-1:2018: Geotechnical investigation and testing - Identification and classification of soil - Part 1 Identification and description.

BS EN ISO 14688-2:2018: Geotechnical investigation and testing - Identification and classification of soil - Part 2 Principles for a classification.

BS EN ISO 22475-1: 2021: Geotechnical investigation and testing – Sampling methods and groundwater measurements - Part 1 Technical principles for the sampling of soil, rock and groundwater.

BS EN ISO 22476-3:2005+A1: 2011: Geotechnical investigation and testing - Field testing - Part 3 Standard penetration test.

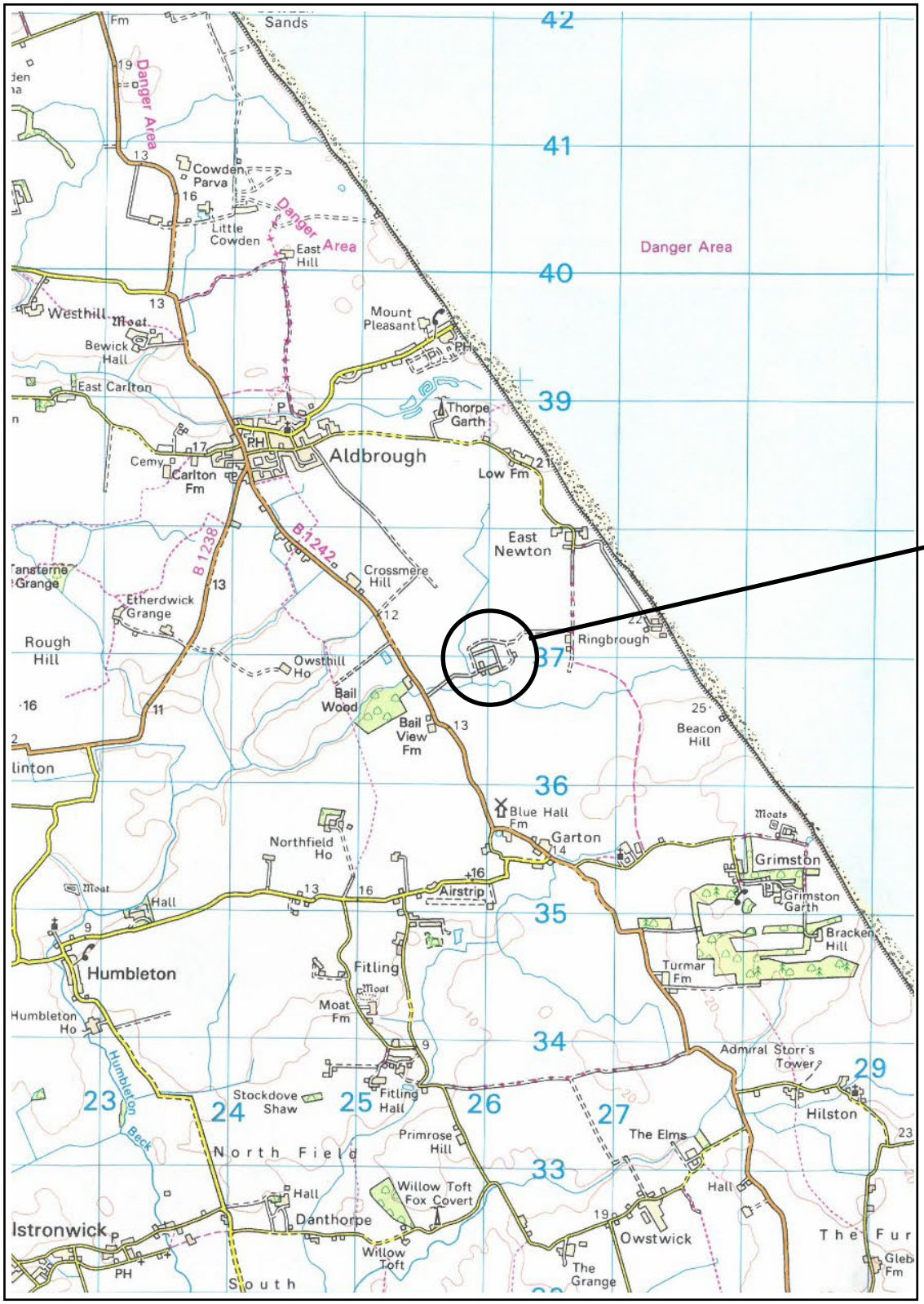
CS 229: 2020: Data for pavement assessment. Design Manual for Roads and Bridges. Highways England.

UK Specification for Ground Investigation. Third edition: 2022: ICE Publishing. Thomas Telford Ltd.

APPENDIX A
FIGURES AND DRAWINGS

Site Location Plan

SOCOTEC



Notes: Scale 1:50 000	Project	ALBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT	Figure A1
	Project No.	A3039-23	
	Carried out for	SSE Hornsea Limited	

N
W E
S

Notes:
Site Plan created using Professional incorporating Bing Maps included under licence with Bentley Ltd.

Scale:
1:1000

Surveyed By:
SOCOTEC UK Ltd

Surveyed Date:
February 2024

Key:

- Cable Percussion
- Dynamic (windowless) Sampling

EXPLORATORY HOLE LOCATION PLAN

SOCOTEC

Project ID:
A3039-23

Project Title:
ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT

Client:
SSE Hornsea Limited

Figure:
A2

APPENDIX B
EXPLORATORY HOLE RECORDS

Key to Exploratory Hole Records

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SAMPLES

Undisturbed

U	Driven tube sample	nominally 100 mm diameter and 100% recovery unless otherwise stated
UT	Driven thin wall tube sample	
TW	Pushed thin wall tube sample	
P	Pushed piston sample	
CBR	CBR mould sample	
BLK	Block sample	
C	Core sample (from rotary core) taken for laboratory testing.	

Disturbed

D	Small sample (including samples recovered from SPT)
B	Bulk sample
LB	Large Bulk sample (comprising more than one container as required)

Other

W	Water sample	
G	Gas sample	
ES	Soil sample	Environmental chemistry samples (in more than one container where appropriate)
EW	Water sample	

Comments to samples

Sequential sample reference numbers are assigned to every sample taken during hole construction.

NR - No Recovery. Used where tube sampling has been attempted but no sample obtained (for whatever reason).

Samples not shown on exploratory hole logs:

- subsamples / specimens taken for on-site testing, eg point load testing
- samples taken from borehole installations (ie water or gas) after hole construction

DYNAMIC SAMPLING

Dynamic sampling includes 'window' and 'windowless' sampling methods, with and without a sample liner respectively

DYS	Dynamic sampling range showing tube / liner recovery (rec.) and diameter. Material retained as separate samples.
L	Retained complete liner sample (with sample reference number)

IN SITU/FIELD TESTS

SPT S or SPT C	Standard Penetration Test, open shoe (S) or solid cone (C). The Standard Penetration Test is defined in BS EN ISO 22476-3:2005+A1:2011. The open shoe configuration is used without a sample liner unless shown otherwise. Samples recovered by SPT open shoe are shown as type D. The incremental blow counts are given in the Field Records column; each increment is 75 mm unless stated otherwise and any penetration under self-weight in mm (SW) is noted. Where the full 300 mm test drive is achieved the total number of blows for the test drive is presented as N = ** in the Test column. Where the test drive blows reach the limiting value (usually 50) the total blow count beyond the seating drive is given (without the N = prefix). See Note 7 also.
IV	*in situ*/field vane shear strength, peak (p) and remoulded (r), kPa
HV	Hand vane shear strength, peak (p) and remoulded (r), kPa
PP	Pocket penetrometer test, converted to shear strength, kPa
KFH, KRH, KPI	Permeability tests : KFH = falling head, KRH = rising head, KPI = packer inflow (water pressure test). Results presented on separate report sheets.
PID	VOC concentration using hand-held photo-ionisation detector, ppmv

DRILLING RECORDS

Classification of discontinuity state - as defined in BS 5930:2015+A1:2020

TCR	Total Core Recovery, %
SCR	Solid Core Recovery, %
RQD	Rock Quality Designation, %
If	Fracture spacing, mm - presented as minimum, mode (or 'typical' value) and maximum spacing.
FI	Fracture Index - presented as number of fractures per metre.
NI	Non-intact - used to indicate where the core is fragmented (ie non-Solid Core).
NA	Not-applicable - used where a measurement is inappropriate (eg for non-rock materials, zones of no recovery)
NIDD	Non-intact Drilling Induced – used to indicate where rock believed to be non-fractured in the ground has been recovered as Non-intact due to the drilling process. (Used only where specified)
NDP	No Discontinuities Present – used to indicate where core is non-fractured. (Used only where specified as alternative representation to showing a single If value for the depth range of non-fractured core.)
CRF	Core Recovered in the Following run (length in m) – used to indicate length adjustment to TCR (and SCR, RQD and If accordingly) where slipped/dropped core from a core run has been recovered in the subsequent run.
AZCL	Assessed Zone of Core Loss – used to indicate estimated depth range corresponding to core loss (for TCR<100 %). Assumed to be at the start of the core run where no judgement is possible. Not shown for core loss less than 5 %.

Flush returns – presented as estimated percentage in the Records column, with colour where relevant.

Notes:
See report text for full references of standards.
Updated Oct 2022 v1.4 col

Key

Key to Exploratory Hole Records

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GROUNDWATER

▼ Groundwater entry

▽ Depth to groundwater after observation period

INSTALLATIONS Any installations are shown on the Exploratory Hole Record in the rightmost Backfill column with appropriate graphic.

Standpipe/ piezometer

SP	Standpipe
SPIE	Standpipe piezometer
PPIE	Pneumatic piezometer
EPIE	Electronic piezometer

Plain Pipe 

Slotted Pipe 

Piezometer Tip 

Inclinometer or Slip Indicator

ICE	Biaxial inclinometer
ICM	Inclinometer tubing for use with probe
SLIP	Slip indicator

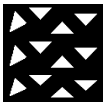
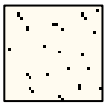
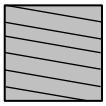
Settlement Points

ESET	Electronic settlement cell/gauge
ETM	Magnetic extensometer settlement point

Pressure Cells

EPCE	Electronic embedment pressure cell
PPCE	Electronic push-in pressure cell

INSTALLATION / BACKFILL LEGENDS A legend describing the installation is shown in the rightmost column. Legend symbols used to describe the backfill materials are indicated below.

Macadam 
Concrete 
Grout 
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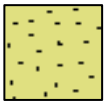
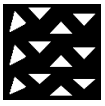
Sand 
Gravel 
Arisings 

STRATUM LEGENDS The legend symbols used for graphical representation of soils, rocks and other materials on the borehole logs are shown below. For soils with significant proportions of secondary soil types, a combination of two or more symbols is used.

Note that the Made Ground / Fill stratum legend does not differentiate between engineered and non-engineered anthropogenic materials.

Macadam 
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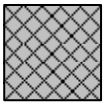
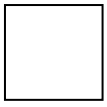
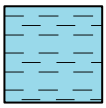
Made Ground / Fill 
Peat 
Void or No Information 

Clay 
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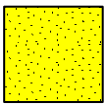
Sand 
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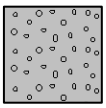
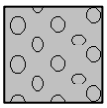
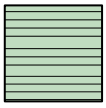
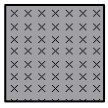
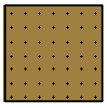
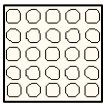
Cobbles 
Boulders 
Coal 

Mudstone 
Siltstone 
Sandstone 
Conglomerate 
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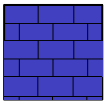
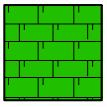
Limestone 
Chalk 

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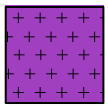
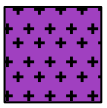
Igneous (Med) 
Igneous (Coarse) 
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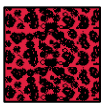
Tuff 

Notes:
See report text for full references of standards.
Updated Oct 2022 v1.4 col

Key

Key to Exploratory Hole Records

SOCOTEC

NOTES

1 **Geological materials** are described in accordance with BS 5930:2015+A1:2020, which is compliant with BS EN ISO 14688-1:2018 and 14689-1:2018 for soils and rocks respectively.

2 The **consistency** determined during description for fine soils (clay and silt) is reported for strata where undisturbed samples are available. Where the logger considers that the samples may not be representative of the in situ condition, for whatever reason, the reported consistency may be omitted, or qualified using the terms *Probably,* where the logger is reasonably confident of the assessment, or *Possibly,* where there is less certainty.

3 The presence of **very coarse particles** (cobbles and boulders) is included in the stratum descriptions on logs using the proportional terminology of BS 5930 where possible. However, due to their relatively large size in relation to the diameter of boreholes, and volumes of samples recovered, these records may not be fully representative of their size and frequency in the ground. Where sample mass precludes a reliable estimate of the proportion of very coarse particles, their presence may be described using undefined qualitative terms, eg occasional, frequent, etc, or by noting the number of cobbles/boulders observed.

4 The **declination of bedding and joints** is given with respect to the normal to the core axis, ie perpendicular to the direction of drilling. In a vertical borehole this will therefore correspond to the dip.

5 The assessment of **SCR, RQD and Fracture Spacing** excludes all non-natural fractures (ie drilling induced) where these can be positively identified.

6 Observations of discernible **groundwater entries** during the advancement of the exploratory hole are given at the foot of the log and in the Legend column. The absence of a recorded groundwater entry should not, however, be interpreted as a groundwater level below the base of the borehole. Under certain conditions groundwater entry may not be observed, for instance, drilling with water flush or overwater, or boring at a rate faster than water can accumulate in the borehole. Similarly, where water entry observations do exist, groundwater may also be present at higher elevations in the ground than where recorded in the borehole. In addition, where appropriate, water levels in the hole at the time of recovering individual samples or carrying out in situ tests and at shift changes are given in the Records column.

7 The borehole logs present the results of **Standard Penetration Tests** recorded in the field without correction or interpretation. However, in certain ground conditions (eg high hydraulic head or where very coarse particles are present) some judgement may be necessary in considering whether the results are representative of in situ mass conditions.

8 | Date | Time |
| --- | --- |
| Casing | Water |

Overnight pauses in hole progress are shown by a horizontal line together with records of casing depth and water level at the start and end of shift, together with the corresponding date and time. Casing depths and water levels are also shown at the time of tube sampling and Standard Penetration Tests.

REFERENCES

1 BS EN ISO 14688-1:2018 : Geotechnical investigation and testing - Identification and classification of soil. Part 1 Identification and description. British Standards Institution

2 BS EN ISO 14689 : 2018 : Geotechnical investigation and testing - Identification and classification of rock. British Standards Institution

3 BS EN ISO 22476-3:2005+A1 : 2011 : Geotechnical investigation and testing - Field testing. Part 3 Standard penetration test. British Standards Institution

4 BS 5930:2015+A1:2020 : Code of practice for ground investigations. British Standards Institution

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

SOCOTEC

Socotec uk
Progress close
Binley
Coventry
CV3 2TF

SPT Hammer Ref:	TH55
Test Date:	10/07/2023
Report Date:	27/07/2023
File Name:	TH55.spt
Test Operator:	RP

Instrumented Rod Data

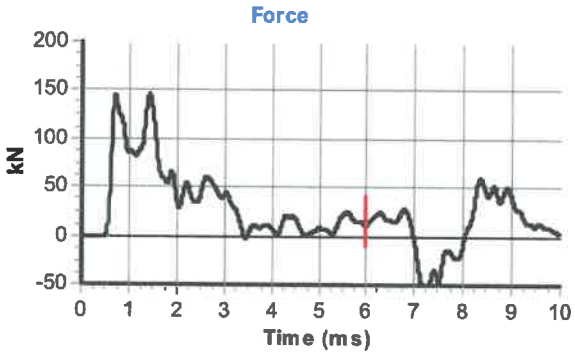
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.6
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	72570
Accelerometer No.2:	72571

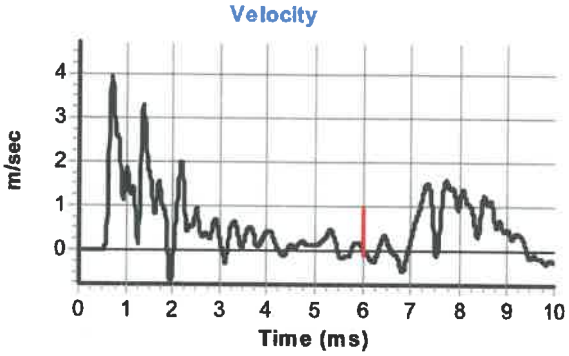
SPT Hammer Information

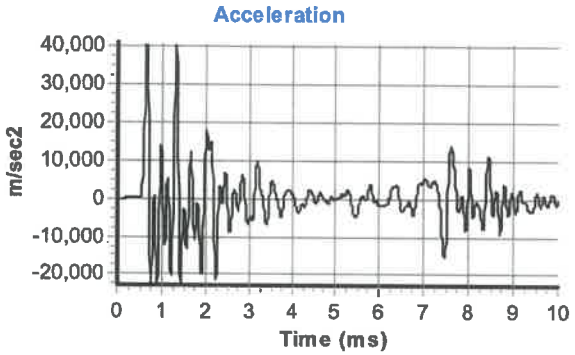
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	20.0

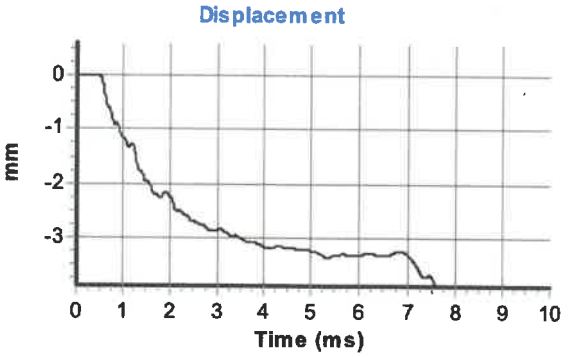
Comments / Location

TEST









Calculations

Area of Rod A (mm2):	983
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	331

Energy Ratio E_r (%): **70**

Signed: P.Phillips

Title: Depot Supervisor

SPT Hammer Energy Test Report

In accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	RP03
Test Date:	26/06/2023
Report Date:	26/06/2023
File Name:	RP03.spt
Test Operator:	CM

Instrumented Rod Data

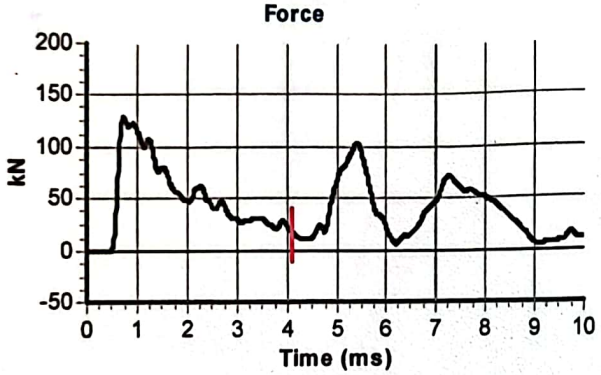
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.5
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	72572
Accelerometer No.2:	72757

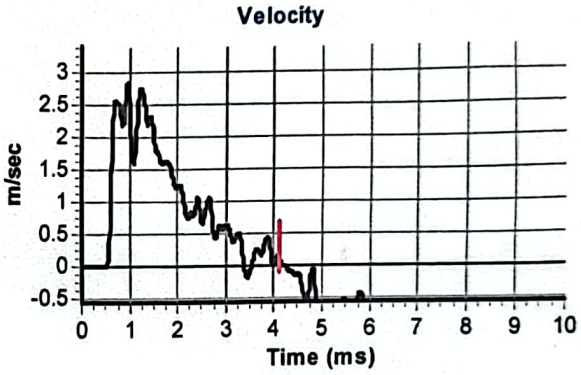
SPT Hammer Information

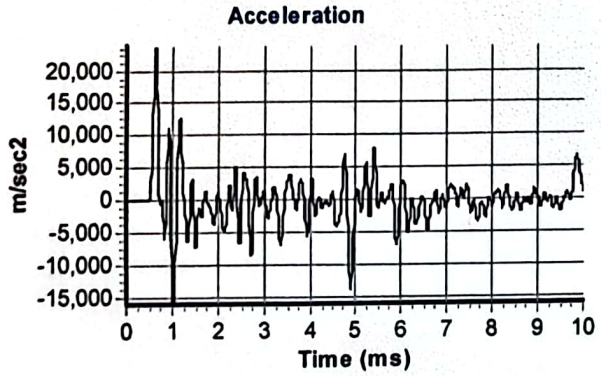
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

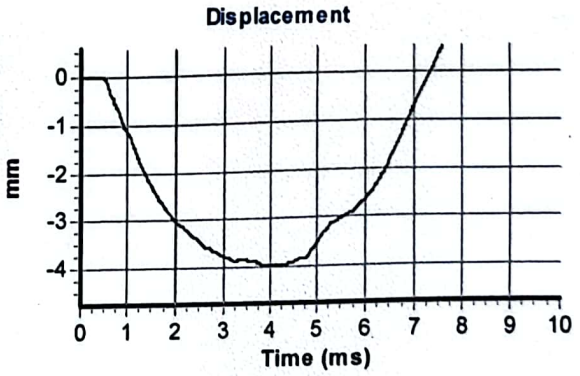
Comments / Location

R P DRILLING LTD - 85452









Calculations

Area of Rod A (mm2):	970
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	323

Energy Ratio E_r (%): **68**

Signed: C.McCLUSKEY

Title: FITTER

The recommended calibration interval is 12 months

Borehole Log

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SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks
M Stanley	0.00 - 1.20	24 Jan 24 - 24 Jan 24	Hand excavated inspection pit	Hand tools	KP/AB	TP	24 Jan 24	15.00	200	15.00	200		
Approved	1.20 - 15.00	24 Jan 24 - 25 Jan 24	Cable percussion boring	Dando 175	KP/AB	TP	24 Jan 24						

Ground Level	11.48 mOD
Coordinates	E 526124.00
National Grid	N 436893.99
System	OSGB

Date / Time Casing / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
	0.30	D 1										(0.50)			Dark brown gravelly silty fine to coarse SAND. Gravel is angular to subangular fine to coarse of limestone. (MADE GROUND)				
	0.30 - 0.40	B 2																	
	0.50	D 3										0.50	+10.98		Soft light brown mottled grey slightly sandy gravelly silty CLAY. Gravel is angular to subangular fine to medium of sandstone and mudstone. Occasional white specs (5-10mm) of chalk. (GLACIAL TILL)				
	0.50 - 0.70	B 4										(0.70)							
	1.00	D 5																	
	1.00 - 1.20	B 6		1.20 - 1.65	SPT S	N=10 (2,2/2,2,3,3)	1.20	Dry				1.20	+10.28		Firm light brown mottled grey slightly sandy gravelly silty CLAY. Gravel is angular to subangular fine to coarse of sandstone and mudstone. Occasional specks of chalk and coal. (GLACIAL TILL)				
	1.20	D 7		1.20	PP	ID TH55 Er 70% 50 kPa													
	1.20 - 1.70	B 8																	
	2.00 - 2.45	UT 9	75 blows 89% rec				2.00	Dry				(1.80)							
	2.00 - 2.40	B 10																	
	2.50	D 11		2.50	PP	144 kPa													
	2.75	D 12		2.75 - 3.20	SPT S	N=9 (2,2/2,2,2,3)	2.70	Dry											
	2.75 - 3.30	B 13				ID TH55 Er 70%						3.00	+8.48		Firm dark brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine to coarse of sandstone, coal and chalk. (GLACIAL TILL)				
	3.30 - 3.75	UT 14	43 blows 100% rec				3.30	Dry											
	3.30 - 3.80	B 15										(2.00)							
	4.50	D 16																	
	4.80	D 17		4.80 - 5.25	SPT S	N=12 (2,2/2,3,3,4)	4.80	Dry											
	4.80 - 5.30	B 18				ID TH55 Er 70%						5.00	+6.48		Firm to stiff dark brown mottled grey slightly sandy slightly gravelly Silty CLAY. Gravel is angular to subangular fine to coarse of sandstone, mudstone, chalk and coal. (GLACIAL TIL)				
				5.50	PP	125 kPa													
	6.00	D 19														6.00-6.30 1 No. subrounded cobble (100mm) of limestone			
	6.30 - 6.75	UT 20	50 blows 89% rec				6.30	Dry											
	6.30 - 6.80	B 22										(3.00)							
	6.80	D 21																	
	7.80	D 23		7.80 - 8.25	SPT S	N=21 (2,3/4,5,5,7)	7.80	Dry											
	7.80 - 8.00	B 24				ID TH55 Er 70%						8.00	+3.48		Stiff dark brownish grey slightly sandy gravelly silty CLAY. Gravel is angular to subrounded fine to coarse of sandstone, mudstone, coal and chalk. (GLACIAL TILL)				
	9.00	D 25																	
	9.30 - 9.75	UT 26	55 blows 89% rec				9.30	Dry											
	9.30 - 9.60	B 28																	
	9.80	D 27										(4.00)							

Hole continues on next sheet

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

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Scale 1:50

Printed 24 Jun 2024 12:26:35

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Borehole

BVB-101

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole		Casing		Depth Related Remarks		Ground Level	11.48 mOD
								Depth	Dia. (mm)	Depth	Dia. (mm)	Depth	Remarks	Coordinates	E 526124.00
M Stanley	0.00 - 1.20	24 Jan 24 - 24 Jan 24	Hand excavated inspection pit	Hand tools	KP/AB	TP	24 Jan 24							National Grid	N 436893.99
	1.20 - 15.00	24 Jan 24 - 25 Jan 24	Cable percussion boring	Dando 175	KP/AB	TP	24 Jan 24	15.00	200	15.00	200			System	OSGB
Approved															

Date / Casing	Time / Water	Samples: Depth	Type & No.	Records	Field Tests: Depth	Type	Records	Samp / Test: Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description: Main	Detail	Chisel.	Water Entry	Backfill
					10.00	PP	131 kPa									Stiff dark brownish grey slightly sandy gravelly silty CLAY. Gravel is angular to subrounded fine to coarse of sandstone, mudstone, coal and chalk. (GLACIAL TILL)				
		10.50	D 29																	
		10.80	D 30		10.80 - 11.25	SPT S	N=15 (3,4/4,4,3,4)	10.80	Dry											
		10.80 - 11.30	B 31				ID TH55 Er 70%													
		12.00	D 32										12.00	-0.52						
24 Jan 24	1630																			
12.30	Dry																			
25 Jan 24	0800	12.30 - 12.75	UT 33	59 blows 89% rec				12.30	Dry							Firm to stiff dark brownish grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine to medium of sandstone and mudstone with specks (5-25mm) of coal. (GLACIAL TILL)				
12.30	Dry	12.30 - 12.80	B 34																	
		13.50	D 35										(3.00)							
		13.80	D 36		13.80 - 14.25	SPT S	N=20 (2,4/4,5,5,6)	13.80	Dry											
		13.80 - 14.20	B 37		14.00	PP	ID TH55 Er 70% 144 kPa													
		14.40 - 15.00	B 38																	
25 Jan 24	1200																			
15.00	Dry	15.00	D 39										15.00	-3.52		END OF EXPLORATORY HOLE				15.00

General Remarks

Hard Boring / Chiselling
Depths | Duration (mins) | Tool

Groundwater Entries
No. | Depth | Remarks | Sealed

Notes
For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No. A3039-23
Carried out for SSE Hornsea Limited

Status DRAFT

Scale 1:50
Printed 24 Jun 2024 12:26:35

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Borehole **BVB-101**

Borehole Log

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SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks
M Stanley	0.00 - 1.20	22 Jan 24 - 22 Jan 24	Hand excavated inspection pit	Hand Tools	KP/AB	TP	22 Jan 24	15.00	200	15.00	200		
Approved	1.20 - 15.00	22 Jan 24 - 23 Jan 24	Cable percussion boring	Dando 175	KP/AB	TP	22 Jan 24						

Ground Level	11.70 mOD
Coordinates	E 526173.63
National Grid	N 436922.25
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
		0.30	D 1										(0.50)			Dark brown gravelly fine to coarse SAND. Gravel is angular to subangular fine to medium of grey limestone. (MADE GROUND)				
		0.30 - 0.40	B 2																	
		0.50	D 3										0.50	+11.20		Light orangish brown slightly gravelly silty fine to medium SAND. Gravel is angular to subrounded fine to medium of sandstone. Rare specs of coal and grey clay. (GLACIAL TILL)	0.45 weed membrane 0.50 gas membrane 0.50-0.70 Particle size distribution testing indicates slightly sandy slightly gravelly silty CLAY.			
		0.50 - 0.70	B 4										(0.70)							
		1.00	D 5																	
		1.00 - 1.20	B 6		1.20 - 1.65	SPT S	N=17 (2,4/4,4,4,5) ID TH55 Er 70%	1.20	Dry				1.20	+10.50		Firm light brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine to coarse of sandstone, coal and mudstone. Rare specks (5-20mm) of chalk. (GLACIAL TILL)				
		1.20	D 7																	
		1.20 - 1.80	B 8																	
		1.80	D 9		1.90	PP	188 kPa													
		2.00 - 2.45	UT 10	65 blows 89% rec				2.00	Dry											
		2.00 - 2.50	B 12																	
		2.50	D 11																	
		2.70	D 13		2.70 - 3.15	SPT S	N=13 (2,3/3,3,3,4) ID TH55 Er 70%	2.75	Dry				(2.80)							
		2.70 - 3.00	B 14																	
		3.00	D 15																	
					3.30	PP	81 kPa													
		3.50 - 3.95	UT 16	15 blows 100% rec				3.50	Dry											
		3.50 - 4.00	B 18																	
		4.00	D 17										4.00	+7.70		Firm to stiff dark brown slightly gravelly silty CLAY with closely spaced partings of soft grey silt. Gravel is angular to subrounded fine to medium of musdstone, sandstone, chalk and coal. (GLACIAL TILL)				
22 Jan 24	1600																			
5.00	Dry																			
23 Jan 24	0800	5.00	D 19		5.00 - 5.45	SPT S	N=16 (3,4/4,4,4,4) ID TH55 Er 70%	5.00	Dry											
5.00	Dry	5.00 - 5.20	B 20																	
		6.00	D 21										(4.00)							
		6.50 - 6.95	UT 22	75 blows 100% rec	6.50	PP	56 kPa													
		6.50 - 6.60	B 24					6.50	Dry											
		7.00	D 23																	
		7.50	D 25																	
		8.00	D 26		8.00 - 8.45	SPT S	N=16 (3,3/3,4,4,5) ID TH55 Er 70% 88 kPa	8.00	Dry				8.00	+3.70		Firm to stiff dark brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to medium of sandstone and mudstone. Occasional specks (5-25mm)of coal and chalk. (GLACIAL TILL)				
		8.00 - 8.20	B 27		8.00	PP														
		9.00	D 28																	
		9.50 - 9.95	UT 29	65 blows 100% rec				9.50	Dry											
		9.50 - 10.00	B 31																	
													(4.00)			Hole continues on next sheet				

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

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Borehole

BVB-102

Borehole Log

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SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks	Ground Level	11.70 mOD
M Stanley	0.00 - 1.20	22 Jan 24 - 22 Jan 24	Hand excavated inspection pit	Hand Tools	KP/AB	TP	22 Jan 24	15.00	200	15.00	200			Coordinates	E 526173.63
Approved	1.20 - 15.00	22 Jan 24 - 23 Jan 24	Cable percussion boring	Dando 175	KP/AB	TP	22 Jan 24							National Grid	N 436922.25
														System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
		10.00	D 30													Firm to stiff dark brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to medium of sandstone and mudstone. Occasional specks (5-25mm)of coal and chalk. (GLACIAL TILL)				
		10.50	D 32																	
		11.00	D 33		11.00 - 11.45	SPT S	N=18 (3,3/4,4,5,5)	11.00	Dry											
		11.00 - 11.20	B 34				ID TH55 Er 70%													
		12.00	D 35										12.00	-0.30						
		12.50 - 12.95	UT 36	54 blows 100% rec				12.50	Dry							Firm to stiff dark brown mottled grey slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to medium of sandstone, mudstone, chalk and coal. (GLACIAL TILL)				
		12.50 - 13.00	B 38																	
		13.00	D 37										(3.00)							
		14.00	D 39		14.00 - 14.45	SPT S	N=17 (3,4/4,4,4,5)	14.00	Dry											
		14.00 - 15.00	B 40				ID TH55 Er 70%													
23 Jan 24	1630																			
15.00	Dry												15.00	-3.30		END OF EXPLORATORY HOLE				15.00

General Remarks

Hard Boring / Chiselling
Depths | Duration (mins) | Tool

Groundwater Entries
No. | Depth | Remarks | Sealed

Notes
For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No. A3039-23
Carried out for SSE Hornsea Limited

Status DRAFT

Scale 1:50
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Borehole **BVB-102**

Borehole Log

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SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Remarks
M Stanley	0.00 - 1.20	25 Jan 24 - 25 Jan 24	Hand excavated inspection pit	Hand Tools	KP/AB	TP	25 Jan 24	15.00	200	15.00	200		
Approved	1.20 - 15.00	25 Jan 24 - 26 Jan 24	Cable percussion boring	Dando 175	KP/AB	TP	29 Jan 24						

Ground Level	11.76 mOD
Coordinates	E 526200.99
National Grid	N 436951.00
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
																Dark brown fine to coarse SAND and angular to subangular fine to coarse GRAVEL of brick, concrete sandstone and limestone. Occasional white specks of chalk and black specks of coal. (MADE GROUND)	0.45 gas membrane 0.50-0.70 gravelly sand			
		0.30	D 1										(0.70)							
		0.30 - 0.50	B 2																	
		0.50	D 3																	
		0.50 - 0.70	B 4										0.70	+11.06						
		1.00	D 5		1.00	PP	131 kPa									Soft to firm light orangish brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to coarse of sandstone and limestone. Occasional specks (5-25mm) of chalk. (ALLUVIUM)				
		1.00 - 1.20	B 6		1.20 - 1.65	SPT S	N=9 (2,2/2,2,2,3) ID TH55 Er 70%	1.20	Dry				(0.80)							
		1.20	D 7																	
		1.20 - 1.60	B 8										1.50	+10.26						
					2.00	PP	119 kPa									Soft to firm dark brown slightly gravelly silty CLAY. Gravel is angular to subrounded fine to medium of sandstone and mudstone and coal. Occasional specks of chalk. (ALLUVIUM)				
		2.50	D 9										(1.50)							
		2.75 - 3.20	UT 10	35 blows 100% rec				2.75	Dry											
		2.75 - 3.30	B 12																	
					3.00	PP	100 kPa						3.00	+8.76						
		3.30	D 11		3.30 - 3.75	SPT S	N=9 (1,1/1,2,3,3) ID TH55 Er 70%	3.30	Dry							Stiff light brown slightly sandy slightly gravelly silty CLAY with closely spaced partings of soft grey silt. Gravel is angular to subrounded fine to medium of sandstone, chalk and coal. (GLACIAL TILL)				
		3.30	D 13																	
		3.30 - 3.60	B 14																	
					4.00	PP	119 kPa													
		4.50	D 15										(3.00)							
		4.80 - 5.15	UT 16	55 blows 100% rec				4.80	Dry											
		4.80 - 5.20	B 17																	
		5.50	D 18																	
					6.00	PP	125 kPa						6.00	+5.76						
		6.30	D 19		6.30 - 6.75	SPT S	N=8 (2,2/2,2,2,2) ID TH55 Er 70%	6.30	Dry							Stiff dark brown slightly sandy slightly gravelly silty CLAY with some grey lamination. Gravel is angular to subangular fine to coarse of sandstone, chalk and coal. Rare greenish mottling present. (GLACIAL TILL)				
		6.30 - 6.80	B 20																	
25 Jan 24	1630																			
7.80	Dry																			
		7.80 - 8.25	UT 21	65 blows 100% rec				7.80	Dry											
26 Jan 24	0838	7.80 - 8.30	B 23																	
7.80	Dry				8.00	PP	156 kPa						(4.00)							
		8.30	D 22																	
		9.00	D 24																	
		9.30	D 25		9.30 - 9.75	SPT S	N=9 (2,2/2,2,2,3) ID TH55 Er 70%	9.30	Dry											
		9.30 - 9.80	B 26																	
													10.00	+1.76		Hole continues on next sheet				

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

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Scale 1:50

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Borehole

BVB-103

Borehole Log

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SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Remarks
M Stanley	0.00 - 1.20	25 Jan 24 - 25 Jan 24	Hand excavated inspection pit	Hand Tools	KP/AB	TP	25 Jan 24	15.00	200	15.00	200		
Approved	1.20 - 15.00	25 Jan 24 - 26 Jan 24	Cable percussion boring	Dando 175	KP/AB	TP	29 Jan 24						

Ground Level 11.76 mOD
Coordinates E 526200.99
National Grid N 436951.00
System OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
					10.00	PP	144 kPa									Stiff dark brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to medium of sandstone, chalk and coal. Occasional green mottling. (GLACIAL TILL)				
		10.50	D 27																	
		10.80 - 11.25	UT 28	68 blows 100% rec				10.80	Dry											
		10.80 - 11.20	B 30																	
		11.20	D 29																	
		12.00	D 31		12.00	PP	163 kPa													
		12.30	D 32		12.30 - 12.75	SPT S	N=8 (2,2/2,2,2,2)	12.30	Dry											
		12.30 - 12.80	B 33				ID TH55 Er 70%						(5.00)							
		13.50	D 34																	
		13.80 - 14.25	UT 35	45 blows 100% rec				13.80	Dry											
		13.80 - 14.30	B 37		14.00	PP	131 kPa													
		14.50	D 36																	
		14.50 - 15.00	B 38																	
26 Jan 24	1700				14.80	PP	156 kPa													
15.00	Dry												15.00	-3.24		END OF EXPLORATORY HOLE				15.00

General Remarks

Hard Boring / Chiselling
Depths | Duration (mins) | Tool

Groundwater Entries
No. | Depth | Remarks | Sealed

Notes
For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No. A3039-23
Carried out for SSE Hornsea Limited

Status DRAFT

Scale 1:50
Printed 24 Jun 2024 12:26:36

AGS

Borehole BVB-103

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks
M Stanley	0.00 - 1.20	30 Jan 24 - 30 Jan 24	Hand excavated inspection pit	Hand tools	KP/AB	MH	30 Jan 24	15.00	200	15.00	200		
Approved	1.20 - 15.00	30 Jan 24 - 31 Jan 24	Cable percussion boring	Dando 175	KP/AB	TP	31 Jan 24						

Ground Level	12.25 mOD
Coordinates	E 526221.19
National Grid	N 436992.28
System	OSGB

Date / Time Casing	Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
													0.10 (0.10)	+12.15		Light grey subangular medium to coarse GRAVEL of limestone. (MADE GROUND)	0.10 black plastic woven geofabric			
		0.30 - 0.50	B 1										(0.50)			Yellowish brown sandy silty angular to subrounded fine to coarse GRAVEL of chalk, chert, red brick and limestone with low cobble content. Cobbles are angular of brick.				
		0.50	D 2										0.60	+11.65		(FILL)				
		0.60 - 1.00	B 3										(0.60)			Soft light brown slightly sandy slightly gravelly CLAY with closely spaced partings of soft grey silt. Gravel is subrounded to well rounded fine to medium of limestone, chalk and mudstone. (Weathered GLACIAL TILL)	0.85 becoming firm with occasional medium gravel size pockets of green medium to coarse sand			
		1.00	D 4										1.20	+11.05		Soft to firm light brown slightly sandy slightly gravelly CLAY with closely spaced partings of soft grey silt. Gravel is angular to subrounded fine to medium of chalk and limestone. Sand is fine to coarse. (GLACIAL TILL)	1.00 1 No. subrounded cobble (100mm) of chalk			
		1.00 - 1.20	B 5		1.20 - 1.65	SPT S	N=9 (2,2/2,2,2,3) ID TH55 Er 70%	1.20	Dry											
		1.20	D 6																	
		1.20 - 1.70	B 7																	
		2.00 - 2.45	U 8	54 blows 100% rec	2.00	PP	125 kPa						(1.80)							
		2.00 - 2.50	B 10					2.00	Dry											
		2.50	D 9																	
		2.75	D 11		2.75 - 3.20	SPT S	N=11 (3,3/3,3,2,3) ID TH55 Er 70%	2.75	Dry											
		2.75 - 3.20	B 12										3.00	+9.25		Firm dark brown slightly sandy slightly gravelly CLAY with closely spaced soft grey silt. Gravel is angular to subrounded fine to medium of chalk, coal and limestone. (GLACIAL TILL)				
		3.30 - 3.45	UT 13	48 blows 100% rec				3.30	Dry											
		3.30 - 3.80	B 15																	
		3.50	D 14																	
					4.00	PP	144 kPa						(3.00)							
		4.80	D 16		4.80 - 5.25	SPT S	N=11 (2,2/2,2,3,4) ID TH55 Er 70%	4.80	Dry											
		4.80 - 5.30	B 17																	
30 Jan 24	1630												6.00	+6.25		Firm to stiff dark brown slightly sandy slightly gravelly CLAY with closely to medium spaced medium gravel size pockets of green silt. Gravel is angular to subrounded fine to medium of limestone, chalk and coal. (GLACIAL TILL)				
6.30	Dry	6.30 - 6.75	UT 18	38 blows 100% rec				6.30	Damp											
31 Jan 24	0900	6.30 - 6.80	B 20																	
6.30	Dry	6.80	D 19																	
		7.80	D 21		7.80 - 8.25	SPT S	N=11 (2,2/2,3,3,3) ID TH55 Er 70% 156 kPa	7.80	Dry											
		7.80 - 8.30	B 22		8.00	PP							(4.00)							
		9.30 - 9.75	UT 23	50 blows 10% rec				9.30	Dry											
		9.30 - 9.80	B 25																	
		9.80	D 24										10.00	+2.25						

Hole continues on next sheet

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

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Scale 1:50

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Borehole

BVB-104

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Remarks
M Stanley	0.00 - 1.20	30 Jan 24 - 30 Jan 24	Hand excavated inspection pit	Hand tools	KP/AB	MH	30 Jan 24	15.00	200	15.00	200		
Approved	1.20 - 15.00	30 Jan 24 - 31 Jan 24	Cable percussion boring	Dando 175	KP/AB	TP	31 Jan 24						

Ground Level	12.25 mOD
Coordinates	E 526221.19
National Grid	N 436992.28
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
		10.80 10.80 - 11.30	D 26 B 27		10.80 - 11.25	SPT S	N=18 (2,3/3,4,5,6) ID TH55 Er 70%	10.80	Dry							Firm to stiff dark brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to medium of chalk and coal. Sand is fine. Small pockets of greenish weathered sandstone. (GLACIAL TILL)				
					12.00	PP	175 kPa													
		12.30 - 12.75 12.30 - 12.80	UT 28 B 30	48 blows 100% rec				12.30	Dry				(5.00)							
		12.80	D 29																	
		13.80 - 14.30	B 31		13.80 - 14.25	SPT S	N=17 (3,3/4,4,4,5) ID TH55 Er 70%	13.80	Dry											
		14.30 - 15.00	B 32																	
31 Jan 24 15.00	1400 Dry				14.80	PP														
													15.00	-2.75		END OF EXPLORATORY HOLE				15.00

General Remarks

Hard Boring / Chiselling
Depths | Duration (mins) | Tool

Groundwater Entries
No. | Depth | Remarks | Sealed

Notes
For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status DRAFT

Scale 1:50
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Borehole **BVB-104**

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks	Ground Level	12.41 mOD
M Stanley	0.00 - 1.20	05 Feb 24 - 05 Feb 24	Hand excavated inspection pit	Hand tools	KP/AB	TP	16 Feb 24	15.00	200	15.00	200			Coordinates	E 526214.35
Approved	1.20 - 15.00	05 Feb 24 - 06 Feb 24	Cable percussion boring	Dando 175	KP/AB	TP	16 Feb 24							National Grid	N 437013.08
														System	OSGB

Date / Time Casing	Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
													(0.20)			Light grey angular to subangular medium to coarse GRAVEL of limestone. (MADE GROUND)				
		0.30	D 1										0.20	+12.21						
		0.30 - 0.50	B 2										(0.30)			Soft light brown slightly sandy gravelly CLAY with occasional closely spaced partings of grey silt. Gravel is angular to subrounded fine to coarse of limestone, red brick and chalk. (MADE GROUND)	0.50-0.70 Particle size distribution testing indicates very sandy silty GRAVEL.			
		0.50	D 3										0.50	+11.91						
		0.50 - 0.70	B 4										(0.70)			Soft light brown slightly sandy gravelly CLAY with occasional closely to medium spaced partings of grey silt. Gravel is angular to subangular medium to coarse of limestone, chalk and coal. (GLACIAL TILL)				
		1.00	D 5										1.20	+11.21						
		1.00 - 1.20	B 6													Firm to stiff light brown slightly sandy gravelly CLAY with occasional closely to medium spaced partings of grey and yellow silt. Gravel is angular to subrounded medium to coarse of chalk, coal and limestone. (GLACIAL TILL)				
		1.20 - 1.65	D 7		1.20 - 1.65	SPT S	N=8 (1,2/2,2,2,2) ID TH55 Er 70%	1.20	Dry											
		1.20 - 1.70	B 8		1.50	PP														
		2.00 - 2.45	UT 9	56 blows 100% rec				2.00	Dry											
		2.00 - 2.70	B 11																	
		2.50	D 10										(2.80)							
		2.75 - 3.20	D 12		2.75 - 3.20	SPT S	N=14 (3,3/3,3,4,4) ID TH55 Er 70%	2.75	Dry											
		2.75 - 3.30	B 13		3.00	PP														
		3.30	UT 14	54 blows 100% rec				3.30	Dry											
		3.30 - 3.80	B 16																	
		3.80	D 15										4.00	+8.41		Firm to stiff light brown slightly sandy slightly gravelly CLAY with occasional medium spaced partings of grey silt. Gravel is angular to subrounded fine to medium of limestone, chalk, coal and chert. (GLACIAL TILL)				
		4.80 - 5.25	D 17		4.80 - 5.25	SPT S	N=13 (2,3/3,3,3,4) ID TH55 Er 70%	4.80	Dry											
		4.80 - 5.30	B 18		5.00	PP														
													(4.00)							
		6.30 - 6.75	UT 19	56 blows 100% rec				4.80	Dry											
		6.30 - 6.80	B 21																	
05 Feb 24	1700																			
6.80	Dry	6.80	D 20																	
06 Feb 24	0800																			
6.80	Dry																			
		7.80 - 8.25	D 22		7.80 - 8.25	SPT S	N=14 (1,1/2,2,3,7) ID TH55 Er 70%	7.80	Dry											
		7.80 - 8.30	B 23		8.00	PP														
													8.00	+4.41		Stiff dark brown slightly sandy slightly gravelly CLAY with occasional closely spaced partings of grey silt. Gravel is angular to subrounded fine to medium of limestone, chalk and coal. (GLACIAL TILL)				
		9.30 - 9.75	UT 24	58 blows 100% rec				9.30	Dry											
		9.30 - 9.80	B 25																	
													(4.00)			Hole continues on next sheet				

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

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Scale 1:50

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Borehole

BVB-105

Borehole Log

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SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole		Casing		Depth Related Remarks		Ground Level	12.41 mOD
M Stanley	0.00 - 1.20	05 Feb 24 - 05 Feb 24	Hand excavated inspection pit	Hand tools	KP/AB	TP	16 Feb 24	Depth	Dia. (mm)	Depth	Dia. (mm)	Depth	Remarks	Coordinates	E 526214.35
Approved	1.20 - 15.00	05 Feb 24 - 06 Feb 24	Cable percussion boring	Dando 175	KP/AB	TP	16 Feb 24	15.00	200	15.00	200			National Grid	N 437013.08
														System	OSGB

Date / Casing	Time / Water	Samples: Depth	Type & No.	Records	Field Tests: Depth	Type	Records	Samp / Test: Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description: Main	Detail	Chisel.	Water Entry	Backfill
		10.80 - 11.25	D 26		10.80 - 11.25	SPT S	N=17 (3,3/3,4,5,5) ID TH55 Er 70%	10.80	Damp							Stiff dark brown slightly sandy slightly gravelly CLAY with occasional closely spaced partings of grey silt. Gravel is angular to subrounded fine to medium of limestone, chalk and coal. (GLACIAL TILL)			1	
		11.80	B 27																	
					12.00	PP							12.00	+0.41					1	
		12.30 - 12.75	UT 28	85 blows 100% rec				12.30	Damp							Stiff dark brown slightly sandy gravelly CLAY with occasional medium spaced partings of grey silt. Gravel is subangular to subrounded fine to coarse of limestone, chalk and coal. (GLACIAL TILL)				
		12.30 - 12.80	B 30																	
		12.80	D 29										(3.00)							
		13.80 - 14.25	D 31		13.80 - 14.25	SPT S	N=18 (3,4/4,4,5,5) ID TH55 Er 70%	13.80	Damp											
		13.80 - 14.30	B 32																	
		14.30 - 15.00	B 33																	
06 Feb 24 15.00	1500 Dry												15.00	-2.59		END OF EXPLORATORY HOLE				15.00

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed
1	12.00	Rose to 11.00 m after 20 minutes. Medium inflow	12.50

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No. A3039-23
Carried out for SSE Hornsea Limited

Status DRAFT

Scale 1:50
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Borehole **BVB-105**

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks
M Stanley	0.00 - 1.20	31 Jan 24 - 31 Jan 24	Hand excavated inspection pit	Hand tools	KP/AB	TP	31 Jan 24	15.00	200	15.00	200		
Approved	1.20 - 15.00	01 Feb 24 - 01 Feb 24	Cable percussion boring	Dando 175	KP/AB	TP	01 Feb 24						

Ground Level	12.62 mOD
Coordinates	E 526208.10
National Grid	N 437037.72
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
													(0.20)			Light grey angular to subangular medium to coarse GRAVEL of limestone. (MADE GROUND)	0.10 plastic woven geofabric cover			
		0.30	D 1										0.20	+12.42						
		0.30 - 0.50	B 2										(0.30)			Orangish brown slightly sandy angular to subangular fine to coarse GRAVEL of brick, limestone and coal. Sand is coarse. (MADE GROUND)				
		0.50	D 3										0.50	+12.12						
		0.50 - 1.20	B 4										(0.70)			Soft light brown slightly sandy slightly gravelly CLAY with closely to medium spaced partings of grey silt. Gravel is angular to subangular fine to medium of brick, limestone, coal and chalk. (MADE GROUND)				
31 Jan 24	1700																			
1.20	Dry	1.20	D 5		1.20 - 1.65	SPT S	N=9 (2,2/2,2,2,3)	1.20	Dry				1.20	+11.42		Firm light brown slightly sandy slightly gravelly CLAY with dark grey lamination of silt. Gravel is angular to subrounded fine to medium of limestone, chalk and coal. (GLACIAL TILL)				
01 Feb 24	0902	1.20 - 1.70	B 6				ID TH55 Er 70%													
1.20	Dry				1.50	PP														
		2.00 - 2.45	UT 7	55 blows 100% rec				2.00	Dry				(2.10)							
		2.00 - 2.70	B 9																	
		2.50	D 8																	
		2.75	D 10		2.75 - 3.20	SPT S	N=12 (2,2/3,3,3,3)	2.75	Dry											
		2.75 - 3.20	B 11				ID TH55 Er 70%													
					3.00	PP														
		3.30 - 3.75	UT 12	55 blows 100% rec				3.30	Dry				3.30	+9.32		Firm to stiff light brown slightly sandy slightly gravelly CLAY with closely to medium spaced grey partings of silt. Gravel is angular to subrounded fine to medium of chalk, limestone and coal. (GLACIAL TILL)				
		3.30 - 3.80	B 14														3.80-4.00 occasional fragments (10-100mm) of chalk			
		3.80	D 13										(1.70)							
		4.80	D 15		4.80 - 5.25	SPT S	N=15 (3,3/3,3,4,5)	4.80	Dry											
		4.80 - 5.30	B 16				ID TH55 Er 70%													
					5.00	PP							5.00	+7.62		Firm to stiff dark brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine to medium of chalk, coal and limestone. Occasional medium gravel size pockets of green weathered sandstone. (GLACIAL TILL)				
		6.30 - 6.75	UT 17	48 blows 67% rec				6.30	Dry				(1.80)							
		6.30 - 6.80	B 19																	
		6.80	D 18										6.80	+5.82		Firm to stiff dark brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine to medium of sandstone, chalk, coal and limestone. (GLACIAL TILL)				
													(1.20)							
		7.80	D 20		7.80 - 8.25	SPT S	N=13 (2,2/2,3,4,4)	7.80	Dry									1		
		7.80 - 8.30	B 21				ID TH55 Er 70%													
					8.00	PP							8.00	+4.62		Stiff dark brown slightly sandy slightly gravelly CLAY with occasional closely to medium spaced pockets of grey silt. Gravel is angular to subrounded fine to medium of chalk, coal and limestone. (GLACIAL TILL)				
		9.30 - 9.75	UT 22	64 blows 100% rec				9.30	Dry				(2.80)							
		9.30 - 9.80	B 24																	
		9.80	D 23																	

Hole continues on next sheet

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

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Scale 1:50

Printed 24 Jun 2024 12:26:38

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Borehole

BVB-106

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks
M Stanley	0.00 - 1.20	31 Jan 24 - 31 Jan 24	Hand excavated inspection pit	Hand tools	KP/AB	TP	31 Jan 24	15.00	200	15.00	200	10.80 - 15.00	Unable to take UT100 sample as too much water in borehole.
Approved	1.20 - 15.00	01 Feb 24 - 01 Feb 24	Cable percussion boring	Dando 175	KP/AB	TP	01 Jan 24						

Ground Level	12.62 mOD
Coordinates	E 526208.10
National Grid	N 437037.72
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
		10.80 10.80 - 11.30	D 25 B 26		10.80 - 11.25	SPT S	N=17 (2,3/3,3,5,6) ID TH55 Er 70%	10.80	Dry				10.80	+1.82		Stiff dark brown slightly sandy slightly gravelly CLAY with occasional closely to medium spaced pockets of grey silt. Gravel is angular to subrounded fine to medium of chalk, coal and limestone. (GLACIAL TILL)				
					12.00	PP										Firm dark brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrounded fine to medium of chalk, coal and limestone. (GLACIAL TILL)	10.80-15.00 very wet		1	
		12.30 12.30 - 12.80	D 27 B 28		12.30 - 12.75	SPT S	N=13 (2,3/3,3,3,4) ID TH55 Er 70%	12.30	8.00				(4.20)							
		13.80 13.80 - 14.30	D 29 B 30		13.80 - 14.25	SPT S	N=13 (4,4/4,3,4,2) ID TH55 Er 70%	13.80	8.00											
		14.30 - 15.00	B 31																	
01 Feb 24 15.00	1630 8.00												15.00	-2.38		END OF EXPLORATORY HOLE				15.00

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed
1	10.80	Rose to 8.00 m after 20 minutes. Medium inflow	11.00

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

DRAFT

Scale 1:50

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Borehole

BVB-106

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks
M Stanley	0.00 - 1.20	08 Feb 24 - 08 Feb 24	Hand excavated inspection pit	Hand tools	KP/DH	TP	16 Feb 24	15.00	200	15.00	200		
Approved	1.20 - 15.00	13 Feb 24 - 14 Feb 24	Cable percussion boring	Dando 175	KP/DH	TP	16 Feb 24						

Ground Level 11.85 mOD
Coordinates E 526176.40
National Grid N 437036.02
System OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
													(0.20)			Light grey angular to subrounded medium to coarse GRAVEL of limestone. (MADE GROUND)				
		0.30	D 1										0.20	+11.65						
		0.30 - 0.50	B 3										(0.30)			Orangish brown slightly sandy angular to subrounded medium to coarse GRAVEL of limestone, chalk, brick and coal. (MADE GROUND)				
		0.50	D 2										0.50	+11.35						
		0.70 - 0.90	B 5										(0.70)			Soft light brown slightly sandy gravelly CLAY with closely to medium spaced partings of grey silt. Gravel is angular to subangular medium to coarse of limestone, chalk and coal. (GLACIAL TILL)				
08 Feb 24	1700	1.00	D 4																	
1.20	Dry																			
		1.20 - 1.65	D 5		1.20 - 1.65	SPT S	N=9 (2,2/2,2,2,3)	1.20	Dry				1.20	+10.65						
13 Feb 24	1432	1.20 - 1.70	B 6				ID TH55 Er 70%									Soft to firm light brown slightly sandy gravelly CLAY with occasional closely to medium spaced partings of grey silt. Gravel is angular to subrounded fine to coarse of limestone, chalk, chert and coal. (GLACIAL TILL)				
1.20	Dry				1.50	PP														
		2.00 - 2.45	UT 7	49 blows 100% rec				2.00	Dry											
		2.00 - 2.50	B 9										(1.80)							
		2.50	D 8																	
		2.75 - 3.20	D 10		2.75 - 3.20	SPT S	N=10 (2,2/2,2,3,3)	2.75	Dry											
		2.75 - 3.20	B 11				ID TH55 Er 70%													
					3.00	PP							3.00	+8.85						
		3.30 - 3.75	UT 12	55 blows 100% rec				3.30	Dry							Firm light brown slightly sandy gravelly CLAY with occasional medium spaced partings of grey and yellow silt. Gravel is angular to subrounded fine to coarse of chert, chalk, limestone and coal. (GLACIAL TILL)				
		3.80	D 13																	
													(2.80)							
13 Feb 24	1700																			
4.80	Dry																			
		4.80 - 5.25	D 14		4.80 - 5.25	SPT S	N=12 (2,3/3,3,3,3)	4.80	Dry											
14 Feb 24	0838	4.80 - 5.30	B 15				ID TH55 Er 70%													
4.80	Dry				5.00	PP							5.80	+6.05						
		6.30 - 6.75	UT 16	70 blows 100% rec				6.30	Dry							Firm to stiff dark brown slightly sandy gravelly CLAY with occasional closely to medium spaced partings of grey silt. Gravel is angular to subangular fine to medium of sandstone, limestone coal and chalk. (GLACIAL TILL)				
		6.30 - 6.70	B 18																	
		6.80	D 17										(2.20)							
		7.80 - 8.25	D 19		7.80 - 8.25	SPT S	N=15 (3,3/3,3,4,5)	7.80	Dry											
		7.80 - 8.30	B 20				ID TH55 Er 70%													
					8.00	PP							8.00	+3.85		Stiff dark brown slightly sandy gravelly CLAY with occasional closely to medium spaced green and grey partings of silt. Gravel is subrounded to rounded fine to medium of limestone, chalk and coal. (GLACIAL TILL)	8.30 1 No. angular cobble (70-80mm) of chalk			
		9.30 - 9.75	UT 21	78 blows 100% rec				9.30	Dry											
		9.30 - 9.80	B 23																	
		9.80	D 22																	

Hole continues on next sheet

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No. A3039-23
Carried out for SSE Hornsea Limited

Status DRAFT

Scale 1:50
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AGS

Borehole BVB-107

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole		Casing		Depth Related Remarks	
M Stanley	0.00 - 1.20	08 Feb 24 - 08 Feb 24	Hand excavated inspection pit	Hand tools	KP/DH	TP	16 Feb 24	Depth	Dia. (mm)	Depth	Dia. (mm)	Depth	Remarks
Approved	1.20 - 15.00	13 Feb 24 - 14 Feb 24	Cable percussion boring	Dando 175	KP/DH	TP	16 Feb 24	15.00	200	15.00	200		

Ground Level	11.85 mOD
Coordinates	E 526176.40
National Grid	N 437036.02
System	OSGB

Date / Casing	Time / Water	Samples: Depth	Type & No.	Records	Field Tests: Depth	Type	Records	Samp / Test: Casing	Water	Coring: Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description: Main	Detail	Chisel.	Water Entry	Backfill
													(4.30)			Stiff dark brown slightly sandy gravelly CLAY with occasional closely to medium spaced green and grey partings of silt. Gravel is subrounded to rounded fine to medium of limestone, chalk and coal. (GLACIAL TILL)				
		10.80 - 11.25	D 24		10.80 - 11.25	SPT S	N=17 (3,4/4,4,4,5)	10.80	Dry											
		10.80 - 11.30	B 25				ID TH55 Er 70%													
					12.00	PP														
		12.30 - 12.75	UT 26	75 blows 100% rec				12.30	Dry				12.30	-0.45		Stiff dark brown slightly sandy gravelly CLAY with rare medium spaced partings of dark grey silt. Gravel is subangular to subrounded fine to medium of limestone, chalk and coal. (GLACIAL TILL)				
		12.30 - 12.80	B 28																	
		12.80	D 27																	
													(2.70)							
		13.80 - 14.25	D 29		13.80 - 14.25	SPT S	N=15 (3,3/3,3,4,5)	13.80	Dry											
		13.80 - 15.00	B 30				ID TH55 Er 70%													
14 Feb 24	1700												15.00	-3.15		END OF EXPLORATORY HOLE				15.00
15.00	Dry																			

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

DRAFT

Scale 1:50

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AGS

Borehole

BVB-107

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks
M Stanley	0.00 - 1.20	06 Feb 24 - 06 Feb 24	Hand excavated inspection pit	Hand tools	KP/DH	TP	07 Feb 24	15.00	200	15.00	200		
Approved	1.20 - 15.00	06 Feb 24 - 07 Feb 24	Cable percussion boring	Dando 175	KP/DH	TP	07 Feb 24						

Ground Level	12.92 mOD
Coordinates	E 526190.94
National Grid	N 437091.28
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
													(0.20)			Light grey sandy angular to subrounded fine to coarse GRAVEL of limestone. (MADE GROUND)				
		0.30	D 1										0.20	+12.72		Soft light brown slightly sandy gravelly CLAY with closely to medium spaced partings of grey silt. Gravel is angular to subangular fine to medium of limestone, chert and chalk. (GLACIAL TILL)				
		0.30 - 0.50	B 2																	
		0.50	D 3										(0.80)							
		1.00	D 4										1.00	+11.92		Firm light brown slightly sandy gravelly CLAY with closely to medium spaced partings of grey silt. Gravel is subrounded to rounded fine to medium of chalk, limestone and coal. (GLACIAL TILL)				
		1.00 - 1.20	B 5																	
		1.20 - 1.65	D 6		1.20 - 1.65	SPT S	N=9 (2,2/2,2,2,3) ID TH55 Er 70%	1.20	Dry											
		1.20 - 1.70	B 7		1.50	PP	88 kPa													
		2.00 - 2.45	UT 8	68 blows 100% rec				2.00	Dry											
		2.00 - 2.70	B 10																	
		2.50	D 9																	
06 Feb 24	1700	2.75 - 3.20	D 11		2.75 - 3.20	SPT S	N=13 (2,2/2,3,3,5) ID TH55 Er 70%	2.75	Dry											
3.00	Dry	2.75 - 3.20	B 12		3.00	PP	106 kPa						(4.00)							
07 Feb 24	0800																			
3.00	Dry	3.30 - 3.75	UT 13	48 blows 100% rec				3.30	Dry											
		3.30 - 3.80	B 15																	
		3.80	D 14																	
		4.80 - 5.25	D 16		4.80 - 5.25	SPT S	N=13 (2,3/3,3,3,4) ID TH55 Er 70%	4.80	Dry											
		4.80 - 5.30	B 17		5.00	PP	131 kPa						5.00	+7.92		Firm to stiff dark brown slightly sandy gravelly CLAY with medium spaced partings of grey silt. Gravel is subrounded to rounded fine to medium of chalk, limestone and coal. (GLACIAL TILL)				
		6.30 - 6.75	UT 18	56 blows 100% rec				6.30	Dry											
		6.30 - 6.80	B 19										(3.00)							
		7.80 - 8.25	D 20		7.80 - 8.25	SPT S	N=15 (3,3/3,4,4,4) ID TH55 Er 70%	7.80	Dry											
		7.80 - 8.30	B 21		8.00	PP	163 kPa						8.00	+4.92		Stiff dark brown slightly sandy slightly gravelly CLAY with occasional medium to coarse gravel size pockets of grey silt. Gravel is angular to subrounded fine to medium of chalk, coal and limestone. (GLACIAL TILL)			1	
		9.30 - 9.75	UT 22	56 blows 100% rec				9.30	Dry											
		9.30 - 9.80	B 24																1	
		9.80	D 23										(4.00)			Hole continues on next sheet				

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed
1	10.00	Rose to 9.00 m after 20 minutes. Medium inflow	10.50

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status DRAFT

Scale 1:50

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Borehole **BVB-108**

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Remarks
M Stanley	0.00 - 1.20	06 Feb 24 - 06 Feb 24	Hand excavated inspection pit	Hand tools	KP/DH	TP	07 Feb 24	15.00	200	15.00	200		
Approved	1.20 - 15.00	06 Feb 24 - 07 Feb 24	Cable percussion boring	Dando 175	KP/DH	TP	07 Feb 24						

Ground Level	12.92 mOD
Coordinates	E 526190.94
National Grid	N 437091.28
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
		10.80 - 11.25 10.80 - 11.30	D 25 B 26		10.80 - 11.25	SPT S	N=16 (3,3/3,4,4,5) ID TH55 Er 70%	10.80	Dry							Stiff dark brown slightly sandy slightly gravelly CLAY with occasional medium to coarse gravel size pockets of grey silt. Gravel is angular to subrounded fine to medium of chalk, coal and limestone. (GLACIAL TILL)				
					12.00	PP	169 kPa						12.00	+0.92						
		12.30 - 12.75 12.30 - 12.80	UT 27 B 29	58 blows 100% rec				12.30	9.00							Firm to stiff dark brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subrouned fine to medium of chalk, limestone and coal. (GLACIAL TILL)				
		12.80	D 28										(3.00)							
		13.80 - 14.25 13.80 - 14.30	D 30 B 31		13.80 - 14.25	SPT S	N=18 (2,3/3,4,5,6) ID TH55 Er 70%	13.80	Damp											
		14.30 - 15.00	B 32																	
07 Feb 24 15.00	1700 Dry												15.00	-2.08		END OF EXPLORATORY HOLE				15.00

General Remarks

Hard Boring / Chiselling
Depths | Duration (mins) | Tool

Groundwater Entries
No. | Depth | Remarks | Sealed

Notes
For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status DRAFT

Scale 1:50
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Borehole **BVB-108**

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks
M Stanley	0.00 - 1.20	08 Feb 24 - 08 Feb 24	Hand excavated inspection pit	Hand tools	KP/DH	TP	08 Feb 24	5.00	200	5.00	200		
Approved	1.20 - 5.25	08 Feb 24 - 08 Feb 24	Cable percussion boring	Dando 175	KP/DH	TP	08 Feb 24						

Ground Level	11.62 mOD
Coordinates	E 526105.00
National Grid	N 437088.67
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
													(0.20)			Light grey subangular to subrounded medium to coarse GRAVEL of limestone. (MADE GROUND)				
		0.30	D 1										0.20	+11.42						
		0.40 - 0.50	B 2										(0.20)			Dark grey angular to subangular fine to coarse GRAVEL of limestone, red brick and chalk. (MADE GROUND)				
		0.50	D 3										0.40	+11.22						
		0.70 - 1.20	B 4													Soft to firm light brown slightly sandy gravelly CLAY with closely to medium spaced partings of grey silt. Gravel is angular to subrounded fine to coarse of chalk, limestone and coal. (GLACIAL TILL)				
		1.00	D 5																	
		1.20 - 1.65	D 6		1.20 - 1.65	SPT S	N=8 (2,2/2,2,2,2) ID TH55 Er 70%	1.20	Dry											
		1.20 - 1.70	B 7																	
					1.50	PP	113 kPa													
		2.00 - 2.45	UT 8	54 blows 10% rec				2.00	Dry											
		2.50	D 9																	
		2.75 - 3.20	D 10		2.75 - 3.20	SPT S	N=11 (3,3/2,3,3,3) ID TH55 Er 70%	2.75	Dry											
		2.75 - 3.30	B 11										(4.85)							
					3.00	PP	125 kPa													
		3.30 - 3.75	UT 12	47 blows 100% rec				3.30	Dry											
		3.30 - 3.80	B 14																	
		3.80	D 13																	
					4.50	PP	150 kPa													
		4.80 - 5.25	D 15		4.80 - 5.25	SPT S	N=13 (2,3/3,3,3,4) ID TH55 Er 70%	4.80	Dry											
		4.80 - 5.25	B 16																	
08 Feb 24	1445												5.25	+6.37		END OF EXPLORATORY HOLE				5.25
5.00	Dry																			

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

DRAFT

Scale 1:50

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AGS

Borehole

BVB-109

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks
M Stanley	0.00 - 1.20	29 Jan 24 - 29 Jan 24	Hand excavated inspection pit	Hand tools	KP/AB	TP	29 Jan 24	5.00	200	5.00	200		
Approved	1.20 - 5.00	29 Jan 24 - 29 Jan 24	Cable percussion boring	Dando 175	KP/AB	TP	29 Jan 24						

Ground Level	12.30 mOD
Coordinates	E 526229.63
National Grid	N 436964.95
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
													(0.30)			Dark brown gravelly slightly clayey fine to coarse SAND. Gravel is angular to subangular fine to medium of limestone. (MADE GROUND)				
		0.30	D 1										0.30	+12.00						
		0.30 - 0.50	B 2										(0.20)			Firm to stiff light orangish brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to medium of chalk, coal and brick fragments. (MADE GROUND)				
		0.50	D 3										0.50	+11.80						
		0.50 - 0.70	B 4										(0.70)			Firm to stiff dark orangish brown slightly sandy slightly gravelly silty CLAY with closely spaced partings of soft grey silt. Gravel is angular to subangular fine to medium of chalk, coal and red brick. (GLACIAL TILL)				
		1.00	D 5										1.20	+11.10						
		1.00 - 1.20	B 6		1.20 - 1.65	SPT S	N=11 (2,2/2,3,3,3)	1.20	Dry							Stiff light orangish brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to medium of sandstone, chalk and coal. (GLACIAL TILL)				
		1.20	D 7		1.20	PP	ID TH55 Er 70% 125 kPa													
		1.20 - 1.70	B 8																	
		2.00 - 2.45	UT 10	35 blows 100% rec				2.00	Dry				(1.80)							
		2.00	D 9																	
		2.00 - 2.50	B 12																	
		2.50	D 11																	
		2.75	D 13		2.75 - 3.20	SPT S	N=11 (2,3/3,3,2,3)	2.75	Dry											
		2.75 - 3.20	B 14		3.00	PP	ID TH55 Er 70% 106 kPa						3.00	+9.30		Firm to stiff light brown slightly sandy slightly gravelly silty CLAY. Gravel is angular to subangular fine to medium of sandstone, chalk and coal. (GLACIAL TILL)				
		3.30 - 3.75	UT 15	45 blows 100% rec				3.30	Dry											
		3.80	D 16										(2.00)							
29 Jan 24	1700	4.80	D 17		4.80 - 5.25	SPT S	N=12 (2,2/2,3,3,4)	4.80	Dry											
5.00	Dry	4.80 - 5.00	B 18		5.00	PP	ID TH55 Er 70% 119 kPa						5.00	+7.30		END OF EXPLORATORY HOLE				5.00

General Remarks

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status DRAFT

Scale 1:50

Printed 24 Jun 2024 12:26:40

AGS

Borehole

BVB-110

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks
M Stanley	0.00 - 1.20	15 Feb 24 - 15 Feb 24	Hand excavated inspection pit	Hand Tools	KP/DH	TP	15 Feb 24	5.00	200	5.00	200		
Approved	1.20 - 5.00	15 Feb 24 - 15 Feb 24	Cable percussion boring	Dando 175	KP/DH	TP	15 Feb 24						

Ground Level	11.78 mOD
Coordinates	E 526203.48
National Grid	N 436982.84
System	OSGB

Date / Time Casing / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
												0.10 (0.10)	+11.68		Light grey angular to subangular medium to coarse GRAVEL of limestone. (MADE GROUND)				
	0.10 - 0.45	B 2										0.45 (0.35)	+11.33		Light brown sandy slightly clayey angular to subangular fine to coarse GRAVEL of limestone, red brick, chalk and coal. Sand is fine to medium. (MADE GROUND)	0.45-0.46 black gas membrane			
	0.30	D 1																	
	0.50	D 3																	
	0.50 - 1.20	B 4																	
												1.20 (0.75)			Soft dark brown slightly sandy gravelly CLAY with frequent closely spaced pockets of black silt. Gravel is angular to subrounded fine to coarse of chalk, red brick, limestone and chert. Sand is medium to coarse. (MADE GROUND)				
	1.00	D 5																	
	1.20 - 1.65	D 6		1.20 - 1.65	SPT S	N=10 (2,2/2,2,3,3)	1.20	Dry											
	1.20 - 1.70	B 7				ID TH55 Er 70%													
												2.00 (1.80)			Firm to stiff light brown slightly sandy gravelly CLAY with occasional medium spaced pockets of grey silt. Gravel is angular to subrounded fine to medium of limestone, chalk and coal. Sand is fine. Occasional pockets (10-20mm) of red sand. (GLACIAL TILL)				
	2.00 - 2.45	UT 8	54 blows 100% rec	2.00	PP	113 kPa													
	2.00 - 2.50	B 10					2.00	Dry											
	2.50	D 9																	
	2.75 - 3.20	D 12		2.75 - 3.20	SPT S	N=15 (3,3/3,4,4,4)	2.75	Dry											
	2.75 - 3.20	B 11				ID TH55 Er 70%													
												3.00 (2.00)			Firm to stiff light brown slightly sandy gravelly CLAY with occasional medium spaced pockets of grey silt. Gravel is angular to subrounded fine to medium of limestone, chalk and coal. Sand is fine to medium. (GLACIAL TILL)				
	3.30 - 3.75	UT 13	68 blows 100% rec				3.30	Dry											
	3.30 - 3.80	B 14																	
				4.00	PP	169 kPa													
15 Feb 24 1700	4.80 - 5.25	D 15		4.80 - 5.25	SPT S	N=17 (3,3/4,4,4,5)	4.80	Dry											
5.00 Dry	4.80 - 5.30	B 16		4.80	PP	ID TH55 Er 70% 175 kPa						5.00	+6.78		END OF EXPLORATORY HOLE				5.00

General Remarks

Termination Reason: Scheduled BH depth achieved

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

DRAFT

Scale 1:50

Printed 24 Jun 2024 12:26:40

AGS

Borehole

BVB-111

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Remarks
M Stanley	0.00 - 1.20	02 Feb 24 - 02 Feb 24	Hand excavated inspection pit	Hand tools	KP/AB	TP	05 Feb 24	2.00	86				
Approved	1.20 - 2.45	05 Feb 24 - 05 Feb 24	Dynamic (windowless) sampling	Competitor Dart	BW/CS	TP	05 Feb 24						

Ground Level	11.48 mOD
Coordinates	E 526165.14
National Grid	N 436901.25
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Samp / Test Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
		0.10 - 0.30	B 1										(0.10) 0.10	+11.38		Light grey subangular medium to coarse GRAVEL of limestone. (MADE GROUND)				
02 Feb 24	1400 Dry	1.00 - 2.00	B 4										(0.30) 0.40	+11.08		Firm reddish brown slightly sandy gravelly CLAY with low cobble content and occasional closely to medium spaced fine pockets of grey silt. Gravel is subangular to subrounded fine to coarse of chalk, limestone and chert. Cobbles (65-100mm) are subrounded of red brick. (REWORKED FILL)				
		1.20 - 1.65	D 2		1.20 - 1.65	SPT S	N=17 (2,2/4,3,4,6)		Dry							Firm reddish brown slightly sandy gravelly CLAY with closely spaced fine pockets of green silt. Gravel is angular to subrounded fine to medium of chalk, limestone and coal. (GLACIAL TILL)				
05 Feb 24	0745 Dry	1.20 - 2.00	DYS	100% rec, dia 77mm			ID RP03 Er 68%						(2.05)							
		1.50	D 3		1.50	PP														
		2.00 - 2.45	D 5		2.00 - 2.45	SPT S	N=17 (2,3/4,4,4,5)		Dry											
05 Feb 24	0930 Dry						ID RP03 Er 68%													
													2.45	+9.03		END OF EXPLORATORY HOLE				2.45

General Remarks

Termination Reason: Scheduled BH depth achieved

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

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Scale 1:50

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AGS

Borehole

BVB-112

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks
M Stanley	0.00 - 1.20	02 Feb 24 - 02 Feb 24	Hand excavated inspection pit	Hand tools	KP/AB	TP	06 Feb 24	2.00	86				
Approved	1.20 - 2.45	05 Feb 24 - 05 Feb 24	Dynamic (windowless) sampling	Competitor Dart	BW/CS	TP	06 Feb 24						

Ground Level	11.63 mOD
Coordinates	E 526203.00
National Grid	N 436929.00
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Samp / Test Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
		0.20 - 0.30	B 1										0.10 (0.10)	+11.53		Light grey angular to subangular medium to coarse GRAVEL of limestone. (MADE GROUND)				
													0.40 (0.30)	+11.23		Dark grey sandy angular to subrounded fine to coarse GRAVEL of limestone, chalk and coal. Rare wood fragments (5-15mm) (MADE GROUND)	0.40 gas membrane			
02 Feb 24	1600 Dry	1.00	B 2													Firm reddish brown slightly sandy gravelly silty CLAY with low cobble content. Gravel is angular to subrounded fine to medium of chalk, limestone, coal and chert. Cobbles (65-100) are subrounded of limestone. (GLACIAL TILL)				
		1.20 - 1.65	D 3		1.20 - 1.65	SPT S	N=18 (2,2/4,4,4,6)		Dry											
05 Feb 24	0745 Dry	1.20 - 2.00	DYS	100% rec, dia 77mm			ID RP03 Er 68%						(2.05)							
					1.50	PP														
		1.80	D 4																	
		2.00 - 2.45	D 5		2.00 - 2.45	SPT S	N=16 (2,2/4,4,3,5) ID RP03 Er 68%		Dry											
05 Feb 24	1028 Dry												2.45	+9.18		END OF EXPLORATORY HOLE				2.45

General Remarks

Termination Reason: Scheduled BH depth achieved

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

DRAFT

Scale 1:50

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AGS

Borehole

BVB-113

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole Depth	Hole Dia. (mm)	Casing Depth	Casing Dia. (mm)	Depth Related Remarks Depth	Depth Related Remarks Remarks
M Stanley	0.00 - 1.20 1.20 - 2.45	05 Feb 24 - 05 Feb 24 05 Feb 24 - 05 Feb 24	Hand excavated inspection pit Dynamic (windowless) sampling	Hand tools Competitor Dart	KP BW/CS	MH TP	30 Jan 24 05 Feb 24	2.00	86				
Approved													

Ground Level	12.34 mOD
Coordinates	E 526241.37
National Grid	N 436941.25
System	OSGB

Date / Casing	Time / Water	Samples Depth	Type & No.	Records	Field Tests Depth	Type	Records	Samp / Test Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description Main	Detail	Chisel.	Water Entry	Backfill
		0.20	D 1										0.10 (0.10)	+12.24		Light grey subangular medium to coarse GRAVEL of limestone. (MADE GROUND)				
		0.40 - 0.60	B 2										0.40 (0.30)	+11.94		Firm reddish brown slightly sandy gravelly CLAY with low cobble content. Gravel is subangular to subrounded fine to coarse of chalk, limestone and chert. Cobbles (100mm) are subrounded of red brick. (REWORKED FILL)	0.60-1.00 becoming stiff			
		0.80	D 3																	
		1.20 - 1.65	D 4		1.20 - 1.65	SPT S	N=8 (1,2/1,2,2,3) ID RP03 Er 68%		Dry							Firm reddish brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of chalk, limestone and chert. (GLACIAL TILL)				
		1.20 - 2.00	B 5																	
		1.20 - 2.00	DYS	100% rec, dia 77mm	1.50	PP							(2.05)							
		2.00 - 2.45	D 6		2.00 - 2.45	SPT S	N=19 (3,3/3,4,6,6) ID RP03 Er 68%		Dry											
05 Feb 24	1000 Dry												2.45	+9.89		END OF EXPLORATORY HOLE				2.45

General Remarks

Termination Reason: Scheduled BH depth achieved

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

DRAFT

Scale 1:50

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AGS

Borehole

BVB-114

Borehole Log

DRAFT

SOCOTEC

Checked	Depth	Dates	Method	Equipment	Rig Crew	Logger	Logged	Hole		Casing		Depth Related Remarks	
M Stanley	0.00 - 1.20 1.20 - 2.45	05 Feb 24 - 05 Feb 24 05 Feb 24 - 05 Feb 24	Hand excavated inspection pit Dynamic (windowless) sampling	Hand tools Competitor Dart	KP BW/CS	MH TP	30 Jan 24 05 Feb 24	Depth 2.00	Dia. (mm) 86	Depth	Dia. (mm)	Depth	Remarks
Approved													

Ground Level	12.78 mOD
Coordinates	E 526202.37
National Grid	N 437055.63
System	OSGB

Date / Casing	Time / Water	Samples: Depth	Type & No.	Records	Field Tests: Depth	Type	Records	Samp / Test: Casing	Water	Coring Depth (Diameter)	TCR % SCR % RQD %	Water added / Flush details	Depth (Thickness)	Level	Legend	Strata Description: Main	Detail	Chisel.	Water Entry	Backfill
		0.20	D 1										(0.15)			Light grey subangular medium to coarse GRAVEL of limestone. (MADE GROUND)				
		0.20 - 0.40	B 2										0.15	+12.63						
		0.50	D 3										(0.30)			Yellowish brown sandy silty subangular to subrounded fine to coarse GRAVEL of chalk, limestone, brick and chert with medium cobble content. Sand is medium to coarse. Cobbles (100mm) are subrounded of red brick and limestone. (FILL)				
		0.60 - 1.00	B 4										0.45	+12.33			0.80-1.00 becoming stiff			
		1.20 - 2.00	DYS	100% rec, dia 77mm	1.20 - 1.65	SPT S	N=17 (2,2/4,4,4,5) ID RP03 Er 68%		Dry							Firm reddish brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of limestone, chert and chalk. (GLACIAL TILL)				
		1.50	D 6		1.50	PP							(2.00)							
		2.00 - 2.45	D 5		2.00 - 2.45	SPT S	N=19 (2,3/3,5,5,6) ID RP03 Er 68%		Dry											
05 Feb 24	1020 Dry												2.45	+10.33		END OF EXPLORATORY HOLE				2.45

General Remarks

Termination Reason: Scheduled BH depth achieved

Hard Boring / Chiselling

Depths	Duration (mins)	Tool

Groundwater Entries

No.	Depth	Remarks	Sealed

Notes

For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Project	ALDBROUGH HYDROGEN PATHFINDER PROJECT PHASE 2 FEED PROJECT
Project No.	A3039-23
Carried out for	SSE Hornsea Limited

Status

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Scale 1:50

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Borehole

BVB-115

APPENDIX C
GEOTECHNICAL LABORATORY TEST RESULTS

Index Properties – Summary of Results	INDX (8 sheets)
Particle Size Distribution Analyses	PSD (23 sheets)

INDEX PROPERTIES - SUMMARY OF RESULTS

Hole No.	Sample No.	Depth (m) from	Depth (m) to	type	Soil Description	p Mg/m3	p_d Mg/m3	w %	< 425 µm sieve	W_L %	W_P %	I_P %	I_P # Penetration mm	I_P # Correlation	p_s Mg/m3	Remarks
BVB-101	2	0.30	0.40	B	Brown sandy gravelly CLAY.			12.5								
BVB-101	4	0.50	0.70	B	Orangish brown slightly sandy gravelly CLAY.			19.4								
BVB-101	6	1.00	1.20	B	Brown slightly sandy slightly gravelly CLAY.			20.3	92 h	42 a ▲	20	22				
BVB-101	10	2.00	2.40	B	Brown slightly gravelly sandy CLAY.			15.8								
BVB-101	17	4.80		D	Brown slightly gravelly CLAY.			15.3								
BVB-101	24	7.80	8.00	B	Brown slightly gravelly CLAY.			16.2								
BVB-101	28	9.30	9.60	B	Brown slightly gravelly CLAY.			16								
BVB-101	30	10.80		D	Brown slightly gravelly CLAY.			17.1								
BVB-101	38	14.40	15.00	B	Brown slightly gravelly CLAY.			24								
BVB-102	2	0.30	0.40	B	Brown sandy gravelly CLAY.			12.8								
BVB-102	4	0.50	0.70	B	Dark brown slightly sandy slightly gravelly silty CLAY.			14.7	80 h	35 a ▲	18	17				
BVB-102	6	1.00	1.20	B	Brown slightly gravelly sandy CLAY.			15.5								
BVB-102	8	1.20	1.80	B	Reddish brown slightly sandy slightly gravelly CLAY.			16.7								

General notes: All above tests carried out to BS EN ISO 17892 unless annotated otherwise. Cone type used 80g / 30 degrees. See Remarks for further details

Key : p bulk density, linear
pd dry density
w water content
▼ Water content decreased
▲ Water content increased

a 4 point cone test
b 1 point cone test
IP Plasticity Index
IP # Plasticity Index 1 point test
o oven dried prior to testing

WP Plastic limit
WL Liquid limit
NP non - plastic
* test carried out to BS1377 1990
d Deviation to standard, minimum mass requirement not achieved

<425um preparation
n from natural soil
s sieved specimen

ps particle density
-g = gas jar BS1377 2022 Part 9.2
-p = small pyknometer
h removed by hand

QA Ref
SLR 1
Rev 2.98
Mar 17

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Project No A3039-23

Project Name ALDBROUGH HYDROGEN PATHFINDER

Figure
INDX

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INDEX PROPERTIES - SUMMARY OF RESULTS

Hole No.	Sample No.	Depth (m) from	Depth (m) to	type	Soil Description	p Mg/m3	p_d Mg/m3	w %	< 425 µm sieve	W_L %	W_P %	I_P %	I_P # Penetration mm	I_P # Correlation	p_s Mg/m3	Remarks
BVB-102	12	2.00	2.50	B	Reddish brown slightly gravelly CLAY.			19.2								
BVB-102	14	2.70	3.00	B	Reddish brown slightly gravelly CLAY.			17.1								
BVB-102	20	5.00	5.20	B	Brown CLAY.			21.7								
BVB-102	24	6.50	6.60	B	Brown slightly gravelly CLAY.			19.6								
BVB-102	27	8.00	8.20	B	Brown slightly gravelly CLAY.			17.7								
BVB-102	34	11.00	11.20	B	Brown slightly gravelly CLAY.			16.4								
BVB-102	40	14.00	15.00	B	Brown sandy gravelly CLAY.			8.9								
BVB-103	2	0.30	0.50	B	Reddish brown sandy gravelly CLAY.			17.7								
BVB-103	4	0.50	0.70	B	Reddish brown sandy gravelly CLAY.			21.1								
BVB-103	6	1.00	1.20	B	Brown slightly gravelly sandy CLAY.			18.4								
BVB-103	8	1.20	1.60	B	Orangish brown slightly gravelly sandy CLAY.			15.6								
BVB-103	14	3.30	3.60	B	Brown slightly gravelly CLAY.			16.1								
BVB-103	20	6.30	6.80	B	Brown slightly gravelly CLAY.			22.1								

General notes: All above tests carried out to BS EN ISO 17892 unless annotated otherwise. Cone type used 80g / 30 degrees. See Remarks for further details

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a 4 point cone test
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d Deviation to standard, minimum mass requirement not achieved

<425um preparation
n from natural soil
s sieved specimen

ps particle density
-g = gas jar BS1377 2022 Part 9.2
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0001

SOCOTEC

Project No A3039-23

Project Name ALDBROUGH HYDROGEN PATHFINDER

Figure
INDX

Printed: 20/06/2024 09:37

INDEX PROPERTIES - SUMMARY OF RESULTS

Hole No.	Sample No.	Depth (m) from	Depth (m) to	type	Soil Description	p Mg/m3	p_d Mg/m3	w %	< 425 µm sieve	W_L %	W_P %	I_P %	I_P # Penetration mm	I_P # Correlation	p_s Mg/m3	Remarks
BVB-103	23	7.80	8.30	B	Dark brown slightly sandy slightly gravelly silty CLAY.			18.1	89 h	41 a ▲	19	22				
BVB-103	26	9.30	9.80	B	Brown slightly gravelly CLAY.			21.7								
BVB-103	33	12.30	12.80	B	Brown slightly gravelly CLAY.			20.9								
BVB-103	37	13.80	14.30	B	Brown slightly sandy slightly gravelly CLAY.			12.4								
BVB-103	38	14.50	15.00	B	Brown slightly gravelly CLAY.			12.8								
BVB-104	1	0.30	0.50	B	Brownish grey sandy clayey GRAVEL with medium cobble content.			7.3								
BVB-104	3	0.60	1.00	B	Brownish grey sandy gravelly CLAY.			14.7								
BVB-104	5	1.00	1.20	B	Brown slightly gravelly CLAY.			23.2								
BVB-104	10	2.00	2.50	B	Brown slightly gravelly CLAY.			14.3								
BVB-104	27	10.80	11.30	B	Reddish brown slightly gravelly CLAY.			20.5								
BVB-104	30	12.30	12.80	B	Brown slightly gravelly CLAY.			16.4								
BVB-104	31	13.80	14.30	B	Brown slightly gravelly CLAY.			13.4								
BVB-105	2	0.30	0.50	B	Brownish grey sandy gravelly CLAY.			6.6								

General notes: All above tests carried out to BS EN ISO 17892 unless annotated otherwise. Cone type used 80g / 30 degrees. See Remarks for further details

Key : p bulk density, linear
pd dry density
w water content
▼ Water content decreased
▲ Water content increased

a 4 point cone test
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Project No A3039-23

Project Name ALDBROUGH HYDROGEN PATHFINDER

Figure
INDX

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INDEX PROPERTIES - SUMMARY OF RESULTS

Hole No.	Sample No.	Depth (m) from	Depth (m) to	type	Soil Description	p Mg/m3	p_d Mg/m3	w %	< 425 µm sieve	W_L %	W_P %	I_P %	I_P # Penetration mm	I_P # Correlation	p_s Mg/m3	Remarks
BVB-105	4	0.50	0.70	B	Brown very sandy silty GRAVEL.			9.7								
BVB-105	6	1.00	1.20	B	Brown slightly gravelly CLAY.			25.2								
BVB-105	8	1.20	1.70	B	Reddish brown slightly gravelly CLAY.			21.5								
BVB-105	11	2.00	2.70	B	Reddish brown and dark grey slightly gravelly silty CLAY.			17.3								
BVB-105	13	2.75	3.30	B	Brown slightly sandy slightly gravelly silty CLAY.			17.1	85 n	32 a ▲	16	16				
BVB-105	16	3.30	3.80	B	Reddish brown slightly gravelly CLAY.			17.5								
BVB-105	22	7.80	8.25	D	Greyish brown slightly gravelly CLAY.			15.5								
BVB-105	26	10.80	11.25	D	Brown slightly gravelly CLAY.			23.9								
BVB-105	31	13.80	14.25	D	Brown CLAY.			24.6								
BVB-105	33	14.30	15.00	B	Brown slightly gravelly CLAY.			18.3								
BVB-106	2	0.30	0.50	B	Brownish grey sandy gravelly CLAY with medium cobble content.			6.5								
BVB-106	4	0.50	1.20	B	Greyish brown sandy gravelly CLAY.			10.7								
BVB-106	11	2.75	3.20	B	Reddish brown slightly gravelly CLAY.			18.7								

General notes: All above tests carried out to BS EN ISO 17892 unless annotated otherwise. Cone type used 80g / 30 degrees. See Remarks for further details

Key : p bulk density, linear
pd dry density
w water content
▼ Water content decreased
▲ Water content increased

a 4 point cone test
b 1 point cone test
IP Plasticity Index
IP # Plasticity Index 1 point test
o oven dried prior to testing

WP Plastic limit
WL Liquid limit
NP non - plastic
* test carried out to BS1377 1990
d Deviation to standard, minimum mass requirement not achieved

<425um preparation
n from natural soil
s sieved specimen

ps particle density
-g = gas jar BS1377 2022 Part 9.2
-p = small pyknometer
h removed by hand

QA Ref
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Rev 2.98
Mar 17

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SOCOTEC

Project No A3039-23

Project Name ALDBROUGH HYDROGEN PATHFINDER

Figure
INDX

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INDEX PROPERTIES - SUMMARY OF RESULTS

Hole No.	Sample No.	Depth (m) from	Depth (m) to	type	Soil Description	p Mg/m3	p_d Mg/m3	w %	< 425 µm sieve	W_L %	W_P %	I_P %	I_P # Penetration mm	I_P # Correlation	p_s Mg/m3	Remarks
BVB-106	16	4.80	5.30	B	Dark brown slightly gravelly silty CLAY.			16.8	80 h	32 a ▲	16	16				
BVB-106	19	6.30	6.80	B	Brown slightly gravelly CLAY.			16.5								
BVB-106	26	10.80	11.30	B	Brown slightly gravelly CLAY.			17.7								
BVB-106	30	13.80	14.30	B	Dark brown gravelly CLAY.			22.6	60 s	32 a ▲	16	16				
BVB-107	1	0.30		D	Reddish brown slightly gravelly sandy CLAY.			19.6								
BVB-107	2	0.50		D	Reddish brown slightly gravelly sandy CLAY.			16.5								
BVB-107	6	1.20	1.70	B	Reddish brown slightly gravelly CLAY.			24.7								
BVB-107	9	2.00	2.50	B	Brown slightly gravelly CLAY.			15.8								
BVB-107	20	7.80	8.30	B	Greyish brown slightly gravelly CLAY.			15.8								
BVB-107	23	9.30	9.80	B	Dark brown slightly sandy slightly gravelly silty CLAY.			16.8	83 h	31 a ▲	15	16				
BVB-107	30	13.80	15.00	B	Brown slightly sandy CLAY.			33.3	99 h	47 a ▲	21	26				
BVB-108	2	0.30	0.50	B	Brown slightly gravelly CLAY.			20.1								
BVB-108	5	1.00	1.20	B	Brown slightly gravelly CLAY.			19.9								

General notes: All above tests carried out to BS EN ISO 17892 unless annotated otherwise. Cone type used 80g / 30 degrees. See Remarks for further details

Key : p bulk density, linear
pd dry density
w water content
▼ Water content decreased
▲ Water content increased

a 4 point cone test
b 1 point cone test
IP Plasticity Index
IP # Plasticity Index 1 point test
o oven dried prior to testing

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WL Liquid limit
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* test carried out to BS1377 1990
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<425um preparation
n from natural soil
s sieved specimen

ps particle density
-g = gas jar BS1377 2022 Part 9.2
-p = small pyknometer
h removed by hand

QA Ref
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Rev 2.98
Mar 17

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0001

SOCOTEC

Project No A3039-23

Project Name ALDBROUGH HYDROGEN PATHFINDER

Figure
INDX

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INDEX PROPERTIES - SUMMARY OF RESULTS

Hole No.	Sample No.	Depth (m) from	Depth (m) to	type	Soil Description	p Mg/m3	p_d Mg/m3	w %	< 425 µm sieve	W_L %	W_P %	I_P %	I_P # Penetration mm	I_P # Correlation	p_s Mg/m3	Remarks
BVB-108	12	2.75	3.20	B	Brown slightly gravelly CLAY.			20.8								
BVB-108	15	3.30	3.80	B	Brown slightly gravelly silty CLAY.			21.3								
BVB-108	17	4.80	5.30	B	Dark brown slightly sandy slightly gravelly silty CLAY.			22.2	84 h	34 a ▲	18	16				
BVB-108	19	6.30	6.80	B	Brown slightly gravelly silty CLAY.			17								
BVB-108	26	10.80	11.30	B	Brown slightly gravelly silty CLAY.			21.3								
BVB-108	30	13.80	14.25	D	Brown slightly gravelly CLAY.			18.2								
BVB-108	32	14.30	15.00	B	Brown slightly gravelly CLAY.			15.1								
BVB-109	2	0.40	0.50	B	Brown slightly gravelly CLAY.			18.5								
BVB-109	3	0.50		D	Brown slightly gravelly CLAY.			22.9								
BVB-109	4	0.70	1.20	B	Dark brown slightly gravelly silty CLAY.			17.6	78 h	36 a ▲	18	18				
BVB-109	6	1.20	1.65	D	Brown slightly gravelly CLAY.			30.3								
BVB-109	15	4.80	5.25	D	Brown slightly gravelly CLAY.			28.3								
BVB-110	2	0.30	0.50	B	Greyish brown slightly gravelly CLAY.			18.1								

General notes: All above tests carried out to BS EN ISO 17892 unless annotated otherwise. Cone type used 80g / 30 degrees. See Remarks for further details

Key : p bulk density, linear
pd dry density
w water content
▼ Water content decreased
▲ Water content increased

a 4 point cone test
b 1 point cone test
IP Plasticity Index
IP # Plasticity Index 1 point test
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WP Plastic limit
WL Liquid limit
NP non - plastic
* test carried out to BS1377 1990
d Deviation to standard, minimum mass requirement not achieved

<425um preparation
n from natural soil
s sieved specimen

ps particle density
-g = gas jar BS1377 2022 Part 9.2
-p = small pyknometer
h removed by hand

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Project Name ALDBROUGH HYDROGEN PATHFINDER

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INDEX PROPERTIES - SUMMARY OF RESULTS

Hole No.	Sample No.	Depth (m) from	Depth (m) to	type	Soil Description	p Mg/m3	p_d Mg/m3	w %	< 425 µm sieve	W_L %	W_P %	I_P %	I_P # Penetration mm	I_P # Correlation	p_s Mg/m3	Remarks
BVB-110	6	1.00	1.20	B	Dark brown slightly sandy slightly gravelly silty CLAY.			25.7	87 h	56 a ▲	21	35				
BVB-110	18	4.80	5.00	B	Brown slightly gravelly CLAY.			17.5								
BVB-111	2	0.10	0.45	B	Brown sandy gravelly CLAY.			14.1								
BVB-111	3	0.50		D	Brown slightly sandy slightly gravelly CLAY.			18.5								
BVB-111	4	0.50	1.20	B	Dark brown slightly sandy slightly gravelly silty CLAY.			18.2	66 n	31 a ▲	16	15				
BVB-111	7	1.20	1.70	B	Brown slightly gravelly CLAY.			18.3								
BVB-111	11	2.75	3.20	B	Brown slightly gravelly CLAY.			19.1								
BVB-112	1	0.10	0.30	B	Greyish brown slightly gravelly CLAY.			21.5								
BVB-112	4	1.00	2.00	B	Greyish brown slightly sandy slightly gravelly silty CLAY.			19.3	76 h	37 a ▲	18	19				
BVB-112	2	1.20	1.65	D	Brown slightly gravelly CLAY.			15.7								
BVB-112	5	2.00	2.45	D	Light brown slightly gravelly silty CLAY.			16.7	87 so	36 b	18	18	19.4 19.4	1		
BVB-113	1	0.20	0.30	B	Brown sandy gravelly CLAY.			17.1								
BVB-113	2	1.20	1.65	D	Light brown slightly sandy slightly gravelly silty CLAY.			16.6	95 so	37 a ▲	18	19				

General notes: All above tests carried out to BS EN ISO 17892 unless annotated otherwise. Cone type used 80g / 30 degrees. See Remarks for further details

Key : p bulk density, linear
pd dry density
w water content
▼ Water content decreased
▲ Water content increased

a 4 point cone test
b 1 point cone test
IP Plasticity Index
IP # Plasticity Index 1 point test
o oven dried prior to testing

WP Plastic limit
WL Liquid limit
NP non - plastic
* test carried out to BS1377 1990
d Deviation to standard, minimum mass requirement not achieved

<425um preparation
n from natural soil
s sieved specimen

ps particle density
-g = gas jar BS1377 2022 Part 9.2
-p = small pyknometer
h removed by hand

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INDEX PROPERTIES - SUMMARY OF RESULTS

Hole No.	Sample No.	Depth (m) from	Depth (m) to	type	Soil Description	p Mg/m3	p_d Mg/m3	w %	< 425 µm sieve	W_L %	W_P %	I_P %	I_P # Penetration mm	I_P # Correlation	p_s Mg/m3	Remarks
BVB-113	5	2.00	2.45	D	Orangish brown slightly gravelly silty CLAY.			14.4	89 so	37 a ▲	18	19				
BVB-114	2	0.40	0.60	B	Brown slightly gravelly silty CLAY.			23.2	96 h	51 a ▲	23	28				
BVB-114	4	1.20	1.65	D	Brown slightly gravelly silty CLAY.			16								
BVB-114	5	1.20	2.00	B	Dark brown slightly sandy gravelly silty CLAY with occasional brick fragments.			16.3	78 h	36 a ▲	18	18				
BVB-114	6	2.00	2.45	D	Brown slightly gravelly silty CLAY.			18.5								
BVB-115	2	0.20	0.40	B	Grey sandy silty GRAVEL.			6.1								
BVB-115	4	0.60	1.00	B	Brown slightly sandy slightly gravelly silty CLAY.			21	91 h	50 a ▲	22	28				
BVB-115	5	2.00	2.45	D	Grey mottled light brown slightly sandy slightly gravelly silty CLAY.			15.6	89 so	37 a ▲	19	18				

General notes: All above tests carried out to BS EN ISO 17892 unless annotated otherwise. Cone type used 80g / 30 degrees. See Remarks for further details

Key : p bulk density, linear
pd dry density
w water content
▼ Water content decreased
▲ Water content increased

a 4 point cone test
b 1 point cone test
IP Plasticity Index
IP # Plasticity Index 1 point test
o oven dried prior to testing

WP Plastic limit
WL Liquid limit
NP non - plastic
* test carried out to BS1377 1990
d Deviation to standard, minimum mass requirement not achieved

<425um preparation
n from natural soil
s sieved specimen

ps particle density
-g = gas jar BS1377 2022 Part 9.2
-p = small pyknometer
h removed by hand

QA Ref
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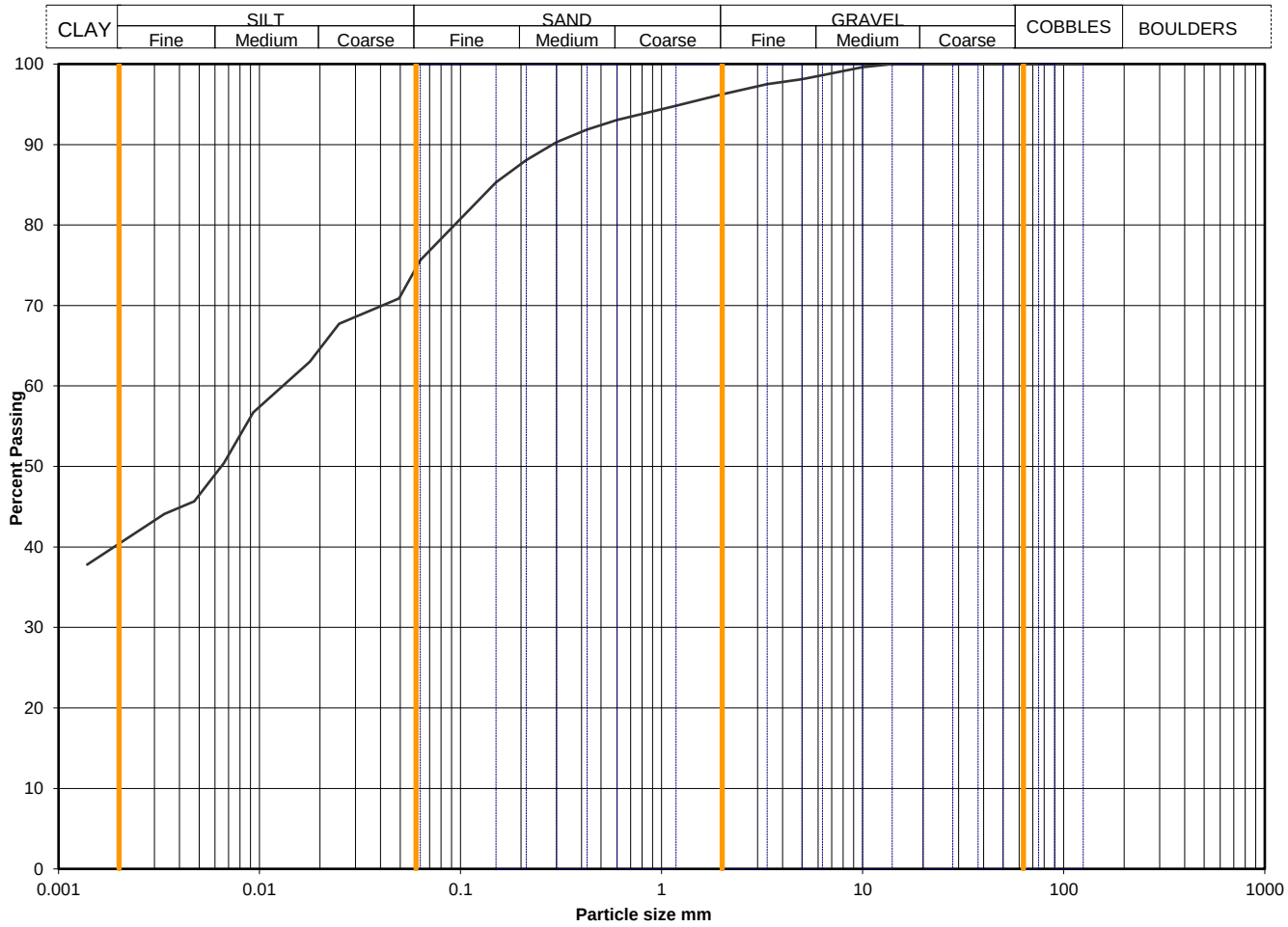
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240124101707

Hole No	BVB-101
Sample Depth (m BGL)	1.00 - 1.20
Sample Type and No	B6
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	76
90	100	0.0495	71
75	100	0.0351	69
63	100	0.0249	68
50	100	0.0178	63
37.5	100	0.0093	57
28	100	0.0066	50
20	100	0.0047	46
14	100	0.0034	44
10	100	0.0014	38
6.3	99		
5	98		
3.35	98		
2	96		
1.18	95	Particle density, Mg/m3	
0.6	93		
0.425	92	2.65 assumed	
0.3	90	Dry mass of sample, kg	
0.212	88		
0.15	85	0.8	
0.063	76		

Soil description	Brown slightly sandy slightly gravelly CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	4	4
*<63mm values to aid description only	Sand	21	21
	Silt	35	35
	Clay	40	40

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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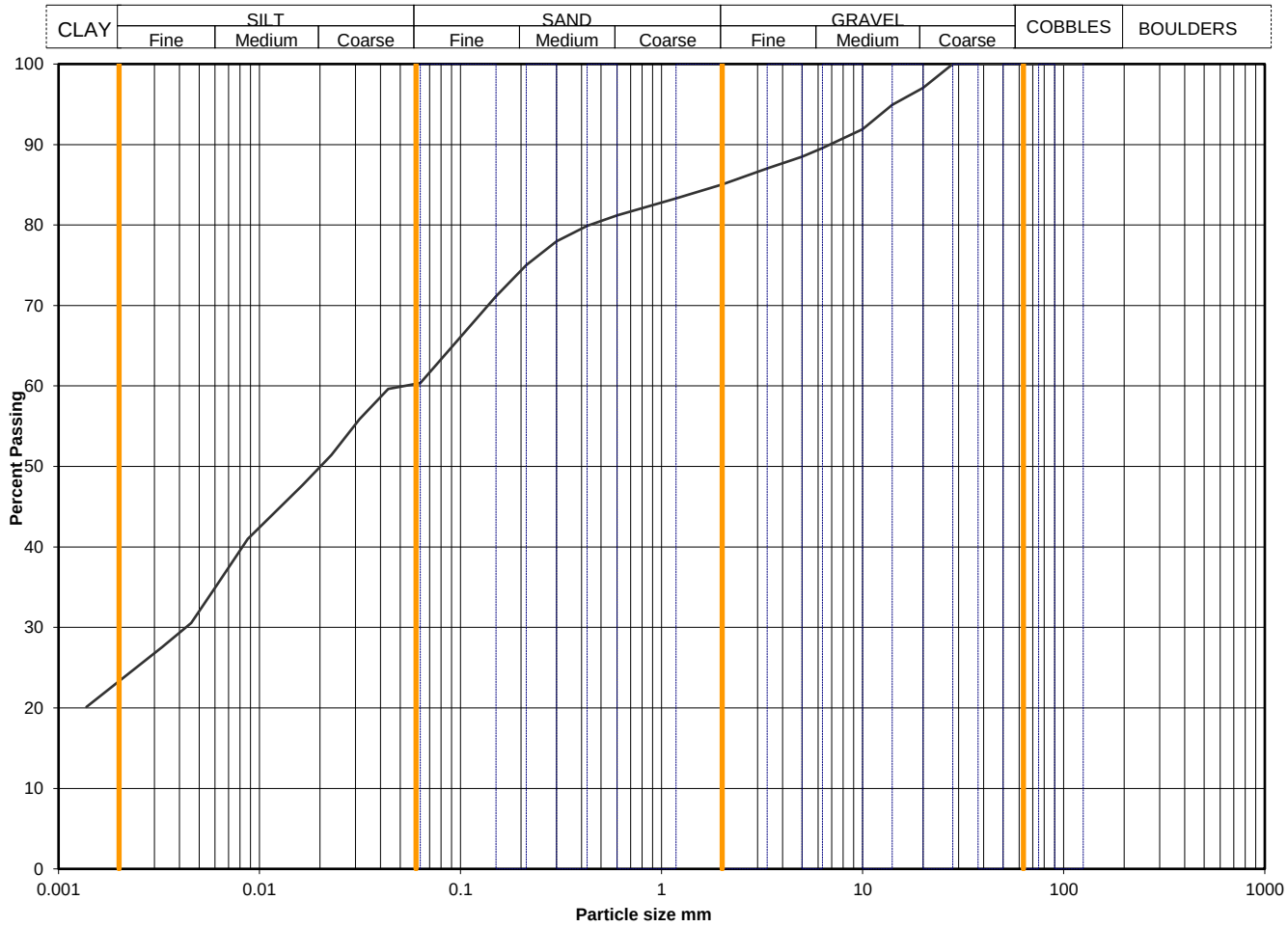
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	#9272955585850004

Hole No	BVB-102
Sample Depth (m BGL)	0.50 - 0.70
Sample Type and No	B4
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	60
90	100	0.0436	60
75	100	0.0314	56
63	100	0.0228	51
50	100	0.0164	48
37.5	100	0.0087	41
28	100	0.0063	36
20	97	0.0046	31
14	95	0.0033	28
10	92	0.0014	20
6.3	90		
5	88		
3.35	87		
2	85		
1.18	83	Particle density, Mg/m3	
0.6	81		
0.425	80	2.65 assumed	
0.3	78	Dry mass of sample, kg	
0.212	75		
0.15	71	3.3	
0.063	60		

Soil description	Dark brown slightly sandy slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	15	15
*<63mm values to aid description only	Sand	25	25
	Silt	37	37
	Clay	23	23

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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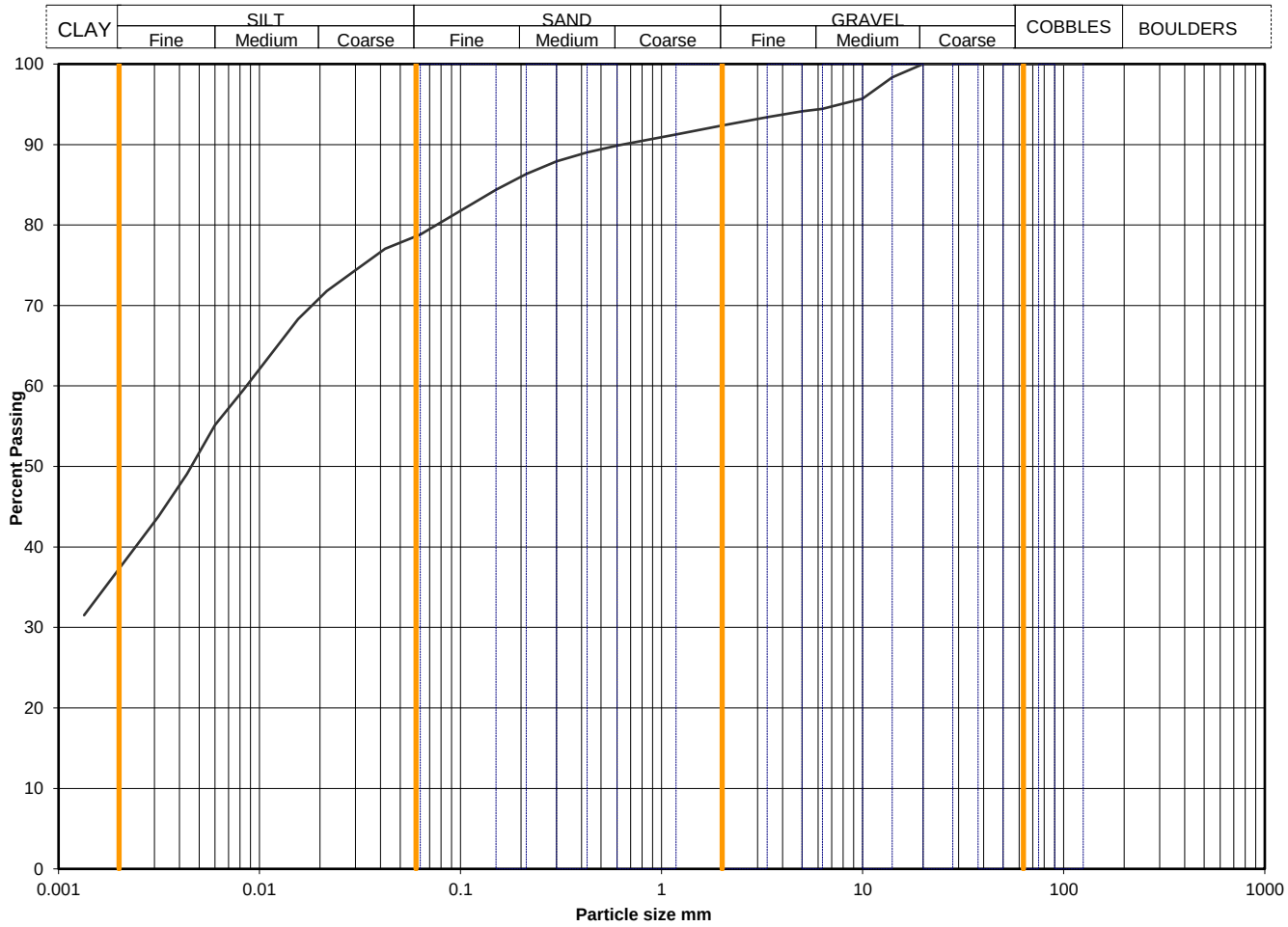
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240126091536

Hole No	BVB-103
Sample Depth (m BGL)	7.80 - 8.30
Sample Type and No	B23
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	79
90	100	0.0421	77
75	100	0.0302	74
63	100	0.0216	72
50	100	0.0155	68
37.5	100	0.0083	60
28	100	0.0060	55
20	100	0.0044	49
14	98	0.0031	44
10	96	0.0013	32
6.3	94		
5	94		
3.35	93		
2	92		
1.18	91	Particle density, Mg/m3	
0.6	90		
0.425	89	2.65 assumed	
0.3	88	Dry mass of sample, kg	
0.212	86		
0.15	84	0.9	
0.063	79		

Soil description	Dark brown slightly sandy slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	8	8
*<63mm values to aid description only	Sand	14	14
	Silt	42	42
	Clay	37	37

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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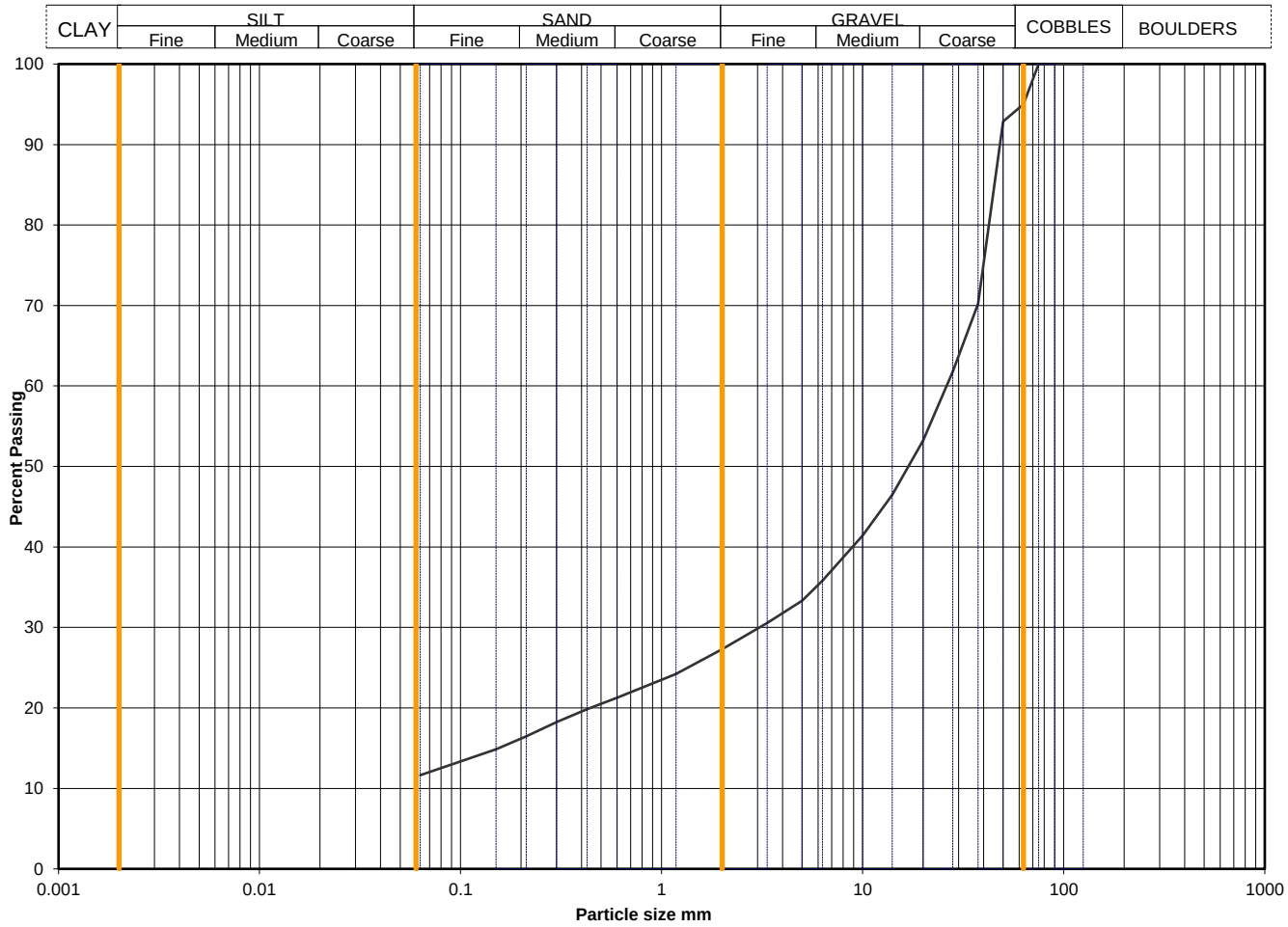
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240130102359

Hole No	BVB-104
Sample Depth (m BGL)	0.30 - 0.50
Sample Type and No	B1
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	95		
50	93		
37.5	70		
28	62		
20	53		
14	46		
10	41		
6.3	36		
5	33		
3.35	31		
2	27		
1.18	24		
0.6	21		
0.425	20		
0.3	18	Dry mass of sample, kg	
0.212	16	7.3	
0.15	15		
0.063	12		

Soil description	Brownish grey sandy clayey GRAVEL with medium cobble content.
Preparation / Pretreatment	Sieve: pre dried,
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	5	0
	Gravel	68	71
*<63mm values to aid description only	Sand	16	16
	Silt	silt+clay =	
	Clay	12	12

Uniformity Coefficient	D60 / D10	Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	none

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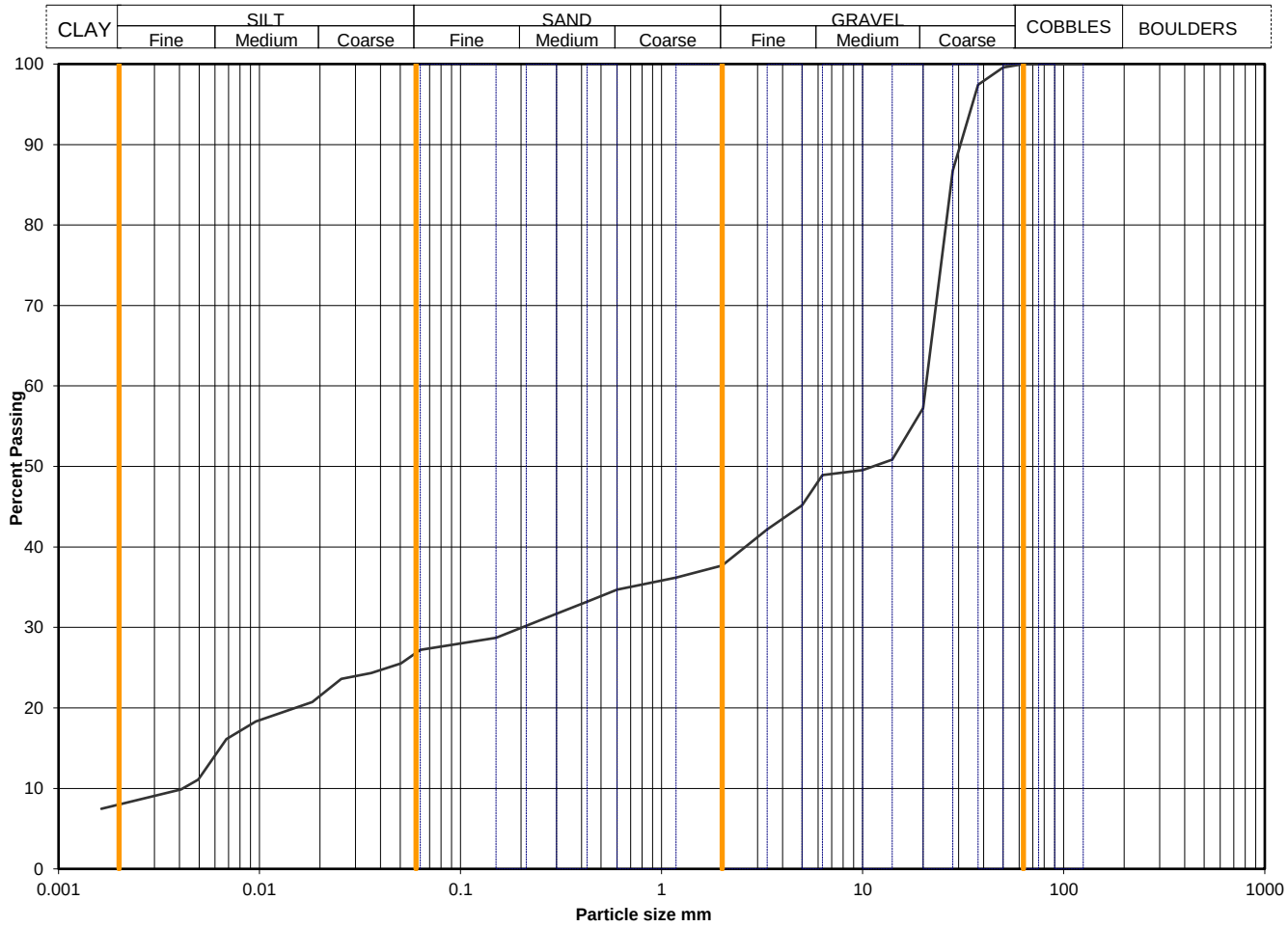
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240205070340

Hole No	BVB-105
Sample Depth (m BGL)	0.50 - 0.70
Sample Type and No	B4
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	27
90	100	0.0504	26
75	100	0.0359	24
63	100	0.0255	24
50	100	0.0183	21
37.5	97	0.0096	18
28	87	0.0068	16
20	57	0.0050	11
14	51	0.0041	10
10	50	0.0016	7
6.3	49		
5	45		
3.35	42		
2	38		
1.18	36	Particle density, Mg/m3	
0.6	35		
0.425	33	2.65 assumed	
0.3	32	Dry mass of sample, kg	
0.212	30		
0.15	29	9.4	
0.063	27		

Soil description	Brown very sandy silty GRAVEL.
Preparation / Pretreatment	Sieve: natural material Hydro:
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	62	62
*<63mm values to aid description only	Sand	11	11
	Silt	19	19
	Clay	8	8

Uniformity Coefficient D60 / D10	4976

Test Method		
	Sieving	
	Sedimentation	

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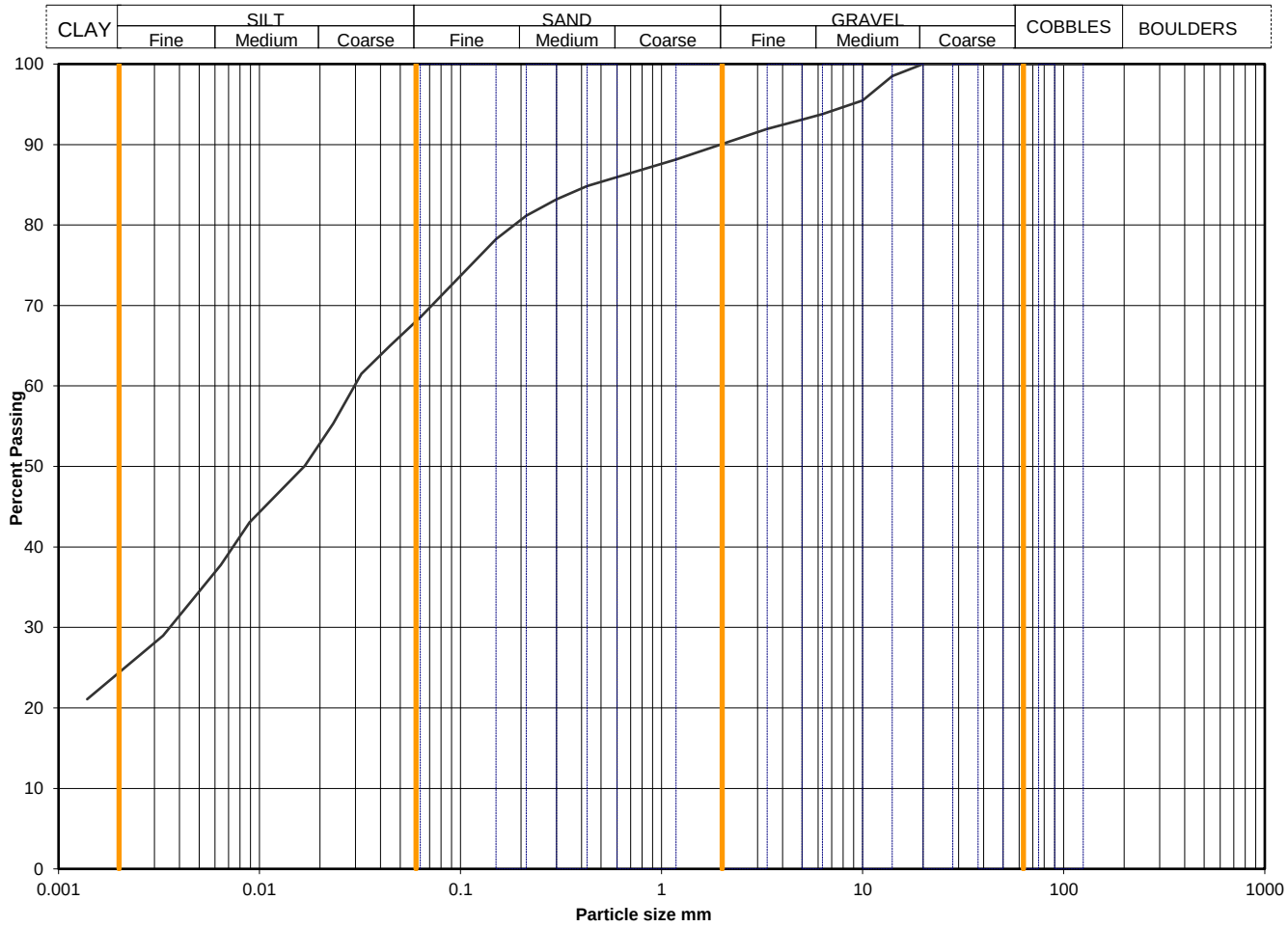
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240205070648

Hole No	BVB-105
Sample Depth (m BGL)	2.75 - 3.30
Sample Type and No	B13
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	69
90	100	0.0446	65
75	100	0.0321	62
63	100	0.0233	55
50	100	0.0168	50
37.5	100	0.0089	43
28	100	0.0064	38
20	100	0.0046	33
14	99	0.0033	29
10	95	0.0014	21
6.3	94		
5	93		
3.35	92		
2	90		
1.18	88	Particle density, Mg/m3	
0.6	86		
0.425	85	2.65 assumed	
0.3	83	Dry mass of sample, kg	
0.212	81		
0.15	78	1.0	
0.063	69		

Soil description	Brown slightly sandy slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	10	10
*<63mm values to aid description only	Sand	22	22
	Silt	44	44
	Clay	24	24

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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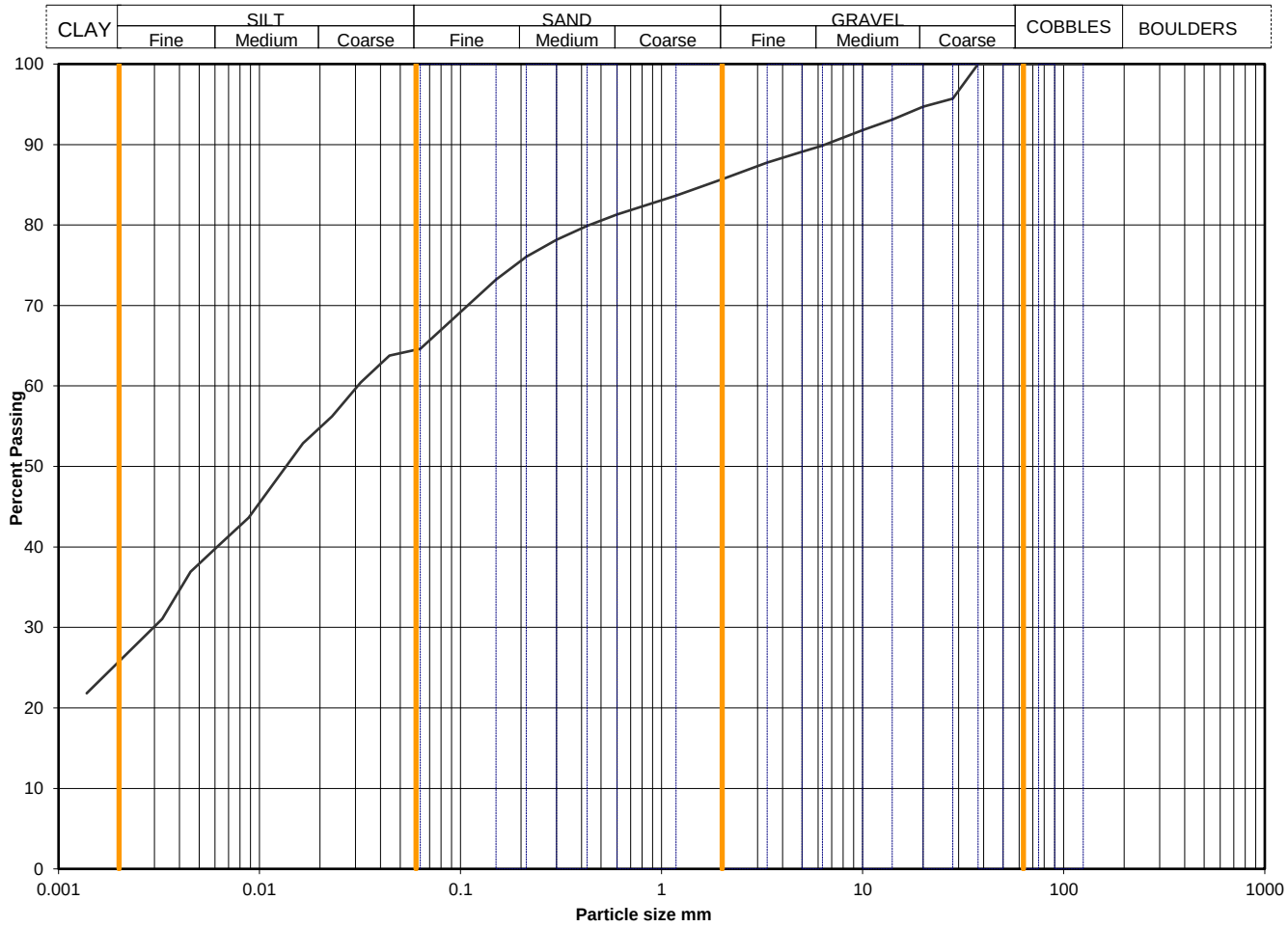
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240201110546

Hole No	BVB-106
Sample Depth (m BGL)	4.80 - 5.30
Sample Type and No	B16
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	65
90	100	0.0443	64
75	100	0.0318	60
63	100	0.0229	56
50	100	0.0164	53
37.5	100	0.0088	44
28	96	0.0063	40
20	95	0.0045	37
14	93	0.0033	31
10	92	0.0014	22
6.3	90		
5	89		
3.35	88		
2	86		
1.18	84	Particle density, Mg/m3	
0.6	81		
0.425	80	2.65 assumed	
0.3	78	Dry mass of sample, kg	
0.212	76		
0.15	73	2.0	
0.063	65		

Soil description	Dark brown slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, natural material Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	14	14
*<63mm values to aid description only	Sand	21	21
	Silt	39	39
	Clay	26	26

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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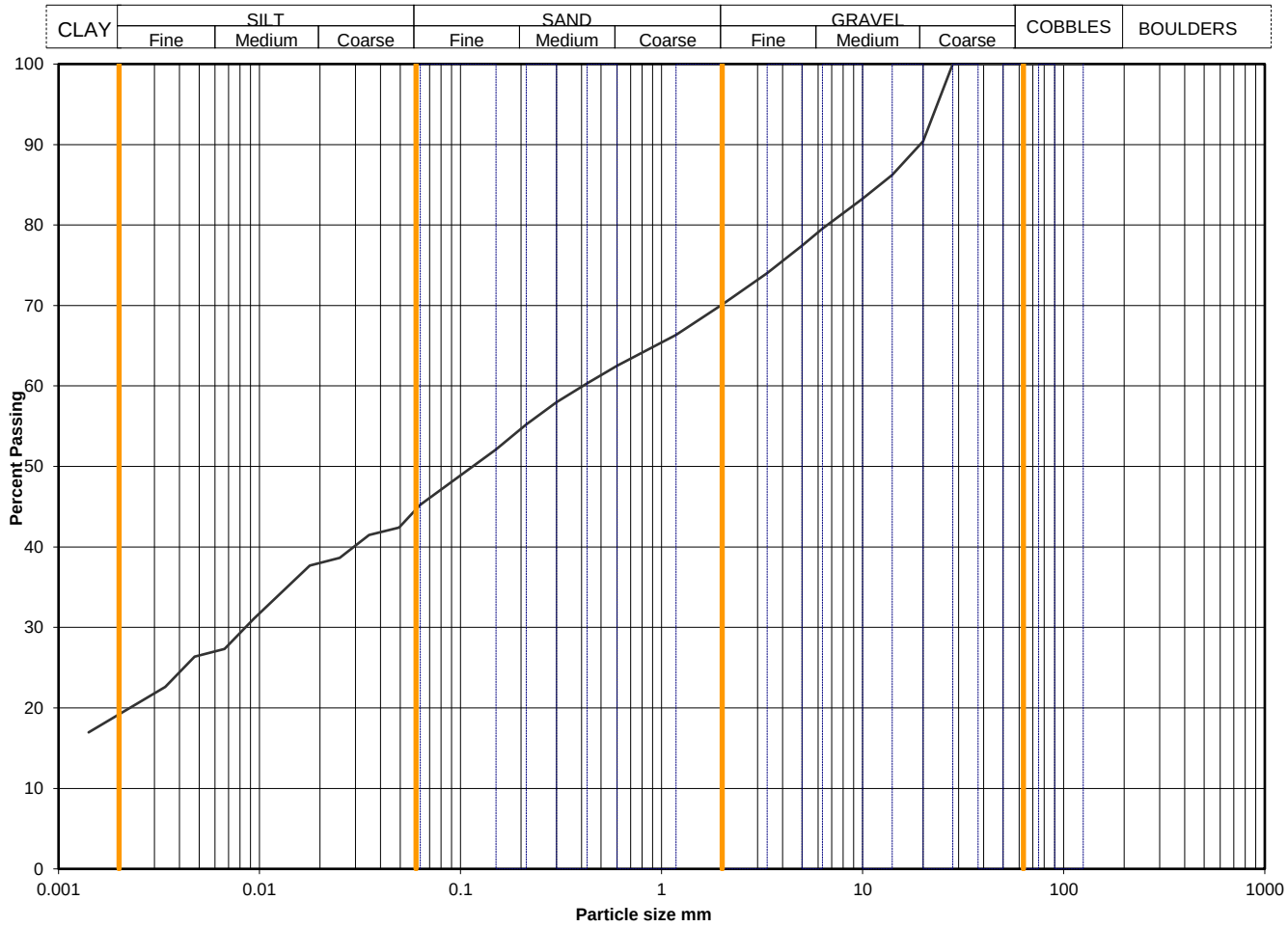
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240202075431

Hole No	BVB-106
Sample Depth (m BGL)	13.80 - 14.30
Sample Type and No	B30
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	45
90	100	0.0495	42
75	100	0.0351	41
63	100	0.0250	39
50	100	0.0178	38
37.5	100	0.0094	31
28	100	0.0067	27
20	90	0.0048	26
14	86	0.0034	23
10	83	0.0014	17
6.3	80		
5	77		
3.35	74		
2	70		
1.18	66	Particle density, Mg/m3	
0.6	63		
0.425	60	2.65 assumed	
0.3	58	Dry mass of sample, kg	
0.212	55		
0.15	52	0.8	
0.063	45		

Soil description	Dark brown gravelly CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	30	30
*<63mm values to aid description only	Sand	25	25
	Silt	26	26
	Clay	19	19

Uniformity Coefficient	D60 / D10	Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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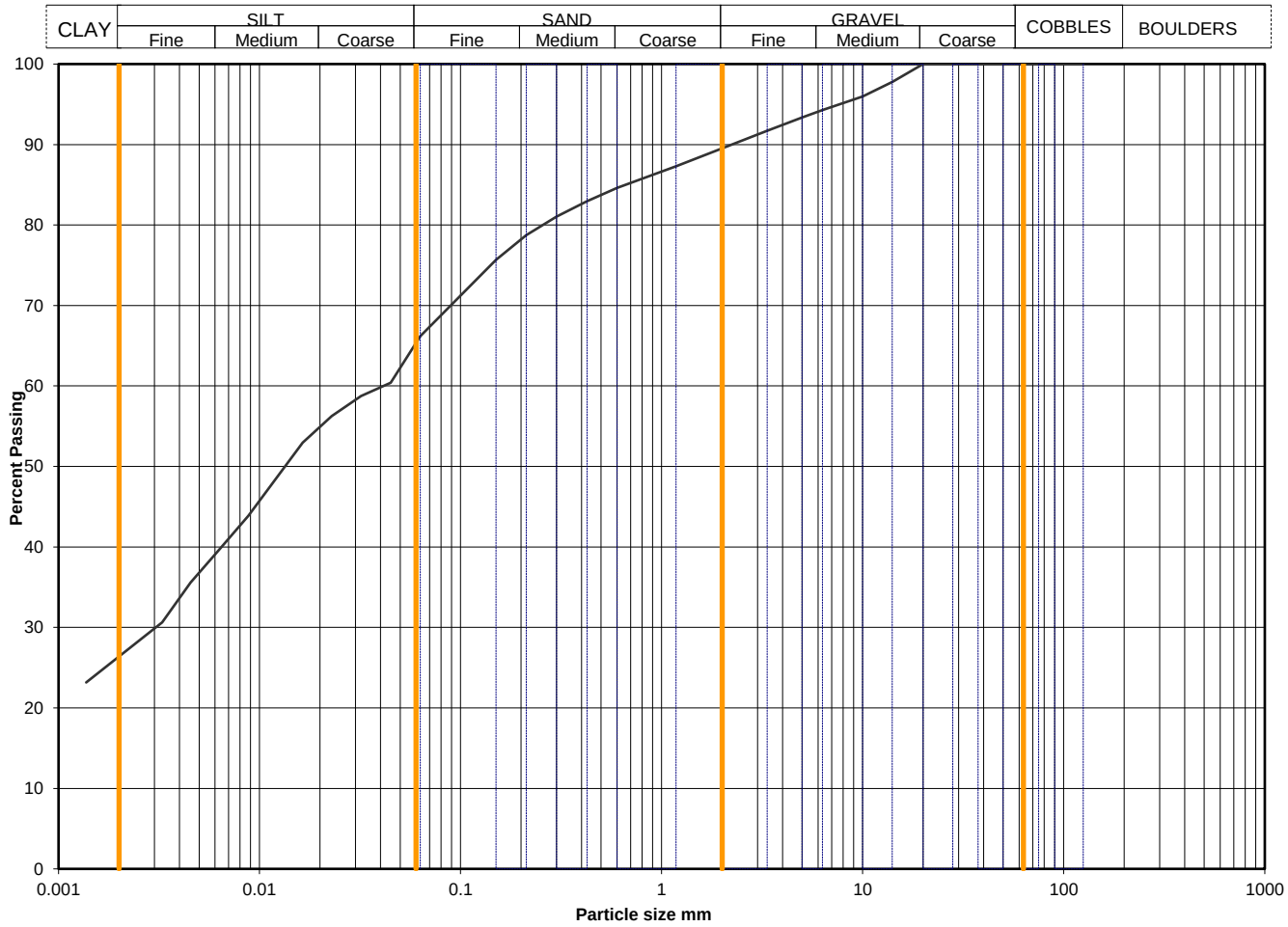
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240214113146

Hole No	BVB-107
Sample Depth (m BGL)	9.30 - 9.80
Sample Type and No	B23
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	66
90	100	0.0448	60
75	100	0.0319	59
63	100	0.0228	56
50	100	0.0164	53
37.5	100	0.0088	44
28	100	0.0063	40
20	100	0.0045	36
14	98	0.0033	31
10	96	0.0014	23
6.3	94		
5	93		
3.35	92		
2	90		
1.18	87	Particle density, Mg/m3	
0.6	85		
0.425	83	2.65 assumed	
0.3	81	Dry mass of sample, kg	
0.212	79		
0.15	76	0.9	
0.063	66		

Soil description	Dark brown slightly sandy slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	11	11
*<63mm values to aid description only	Sand	23	23
	Silt	40	40
	Clay	26	26

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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Figure
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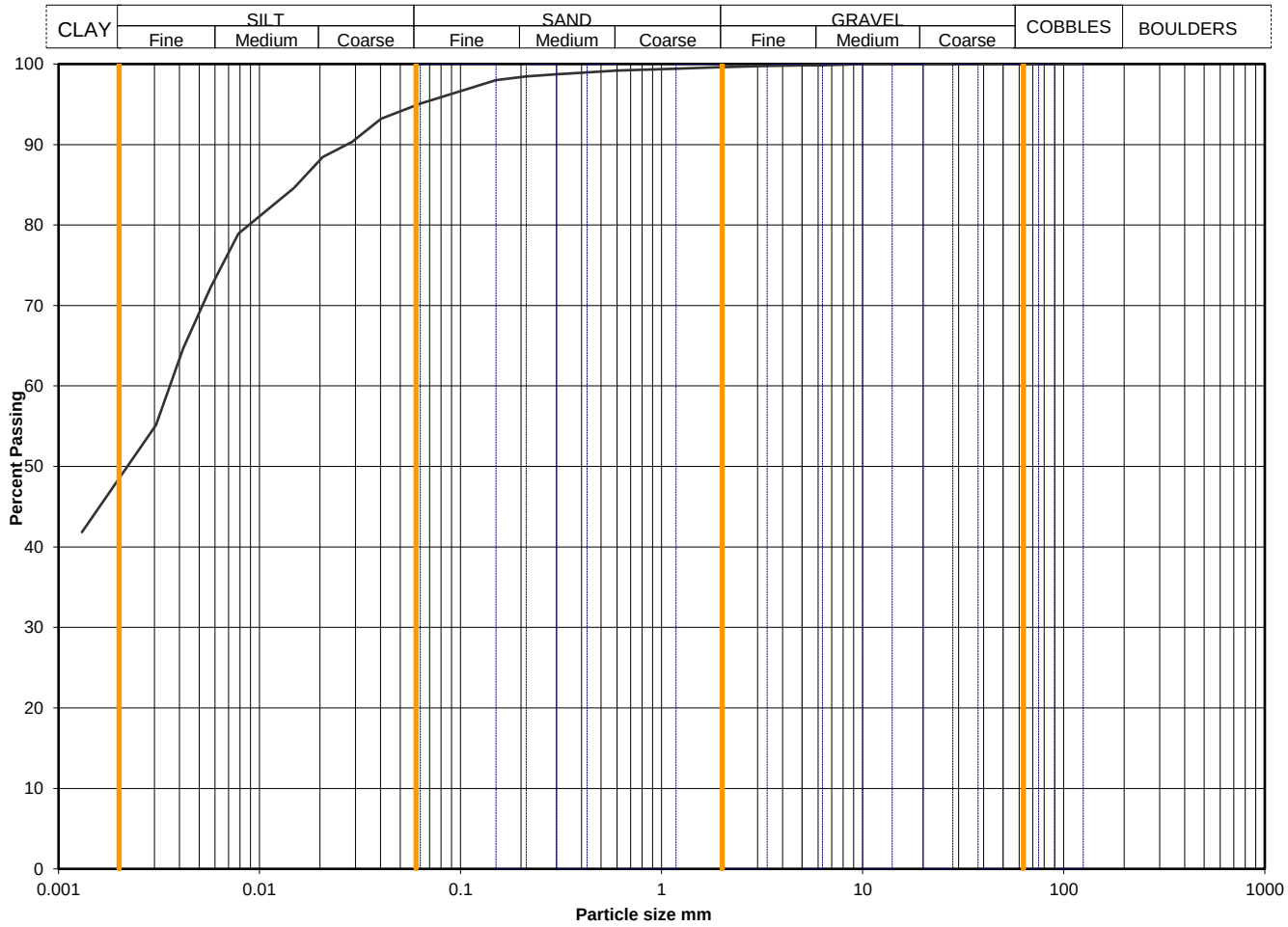
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240214014825

Hole No	BVB-107
Sample Depth (m BGL)	13.80 - 15.00
Sample Type and No	B30
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	95
90	100	0.0402	93
75	100	0.0288	90
63	100	0.0206	88
50	100	0.0148	85
37.5	100	0.0079	79
28	100	0.0057	72
20	100	0.0042	65
14	100	0.0031	55
10	100	0.0013	42
6.3	100		
5	100		
3.35	100		
2	100		
1.18	99	Particle density, Mg/m3	
0.6	99		
0.425	99	2.65 assumed	
0.3	99	Dry mass of sample, kg	
0.212	98		
0.15	98	0.5	
0.063	95		

Soil description	Brown slightly sandy CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	0	0
*<63mm values to aid description only	Sand	5	5
	Silt	47	47
	Clay	49	49

Uniformity Coefficient	D60 / D10	Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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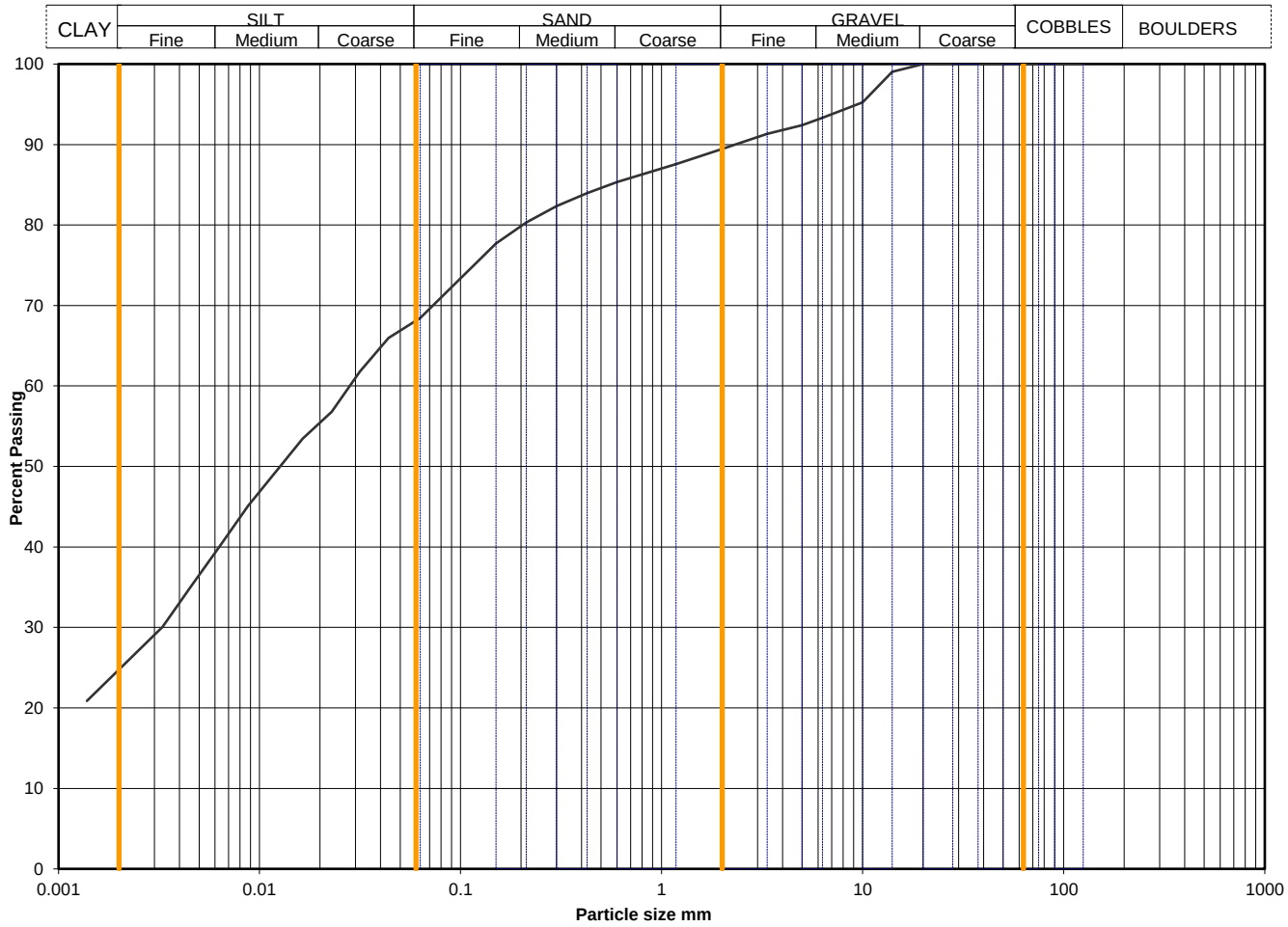
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240207112901

Hole No	BVB-108
Sample Depth (m BGL)	4.80 - 5.30
Sample Type and No	B17
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	68
90	100	0.0438	66
75	100	0.0316	62
63	100	0.0228	57
50	100	0.0164	53
37.5	100	0.0088	45
28	100	0.0063	40
20	100	0.0046	35
14	99	0.0033	30
10	95	0.0014	21
6.3	93		
5	92		
3.35	91		
2	89		
1.18	88	Particle density, Mg/m3	
0.6	85		
0.425	84	2.65 assumed	
0.3	82	Dry mass of sample, kg	
0.212	80		
0.15	78	0.8	
0.063	68		

Soil description	Dark brown slightly sandy slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	11	11
*<63mm values to aid description only	Sand	21	21
	Silt	44	44
	Clay	25	25

Uniformity Coefficient	**D60 / D10**	Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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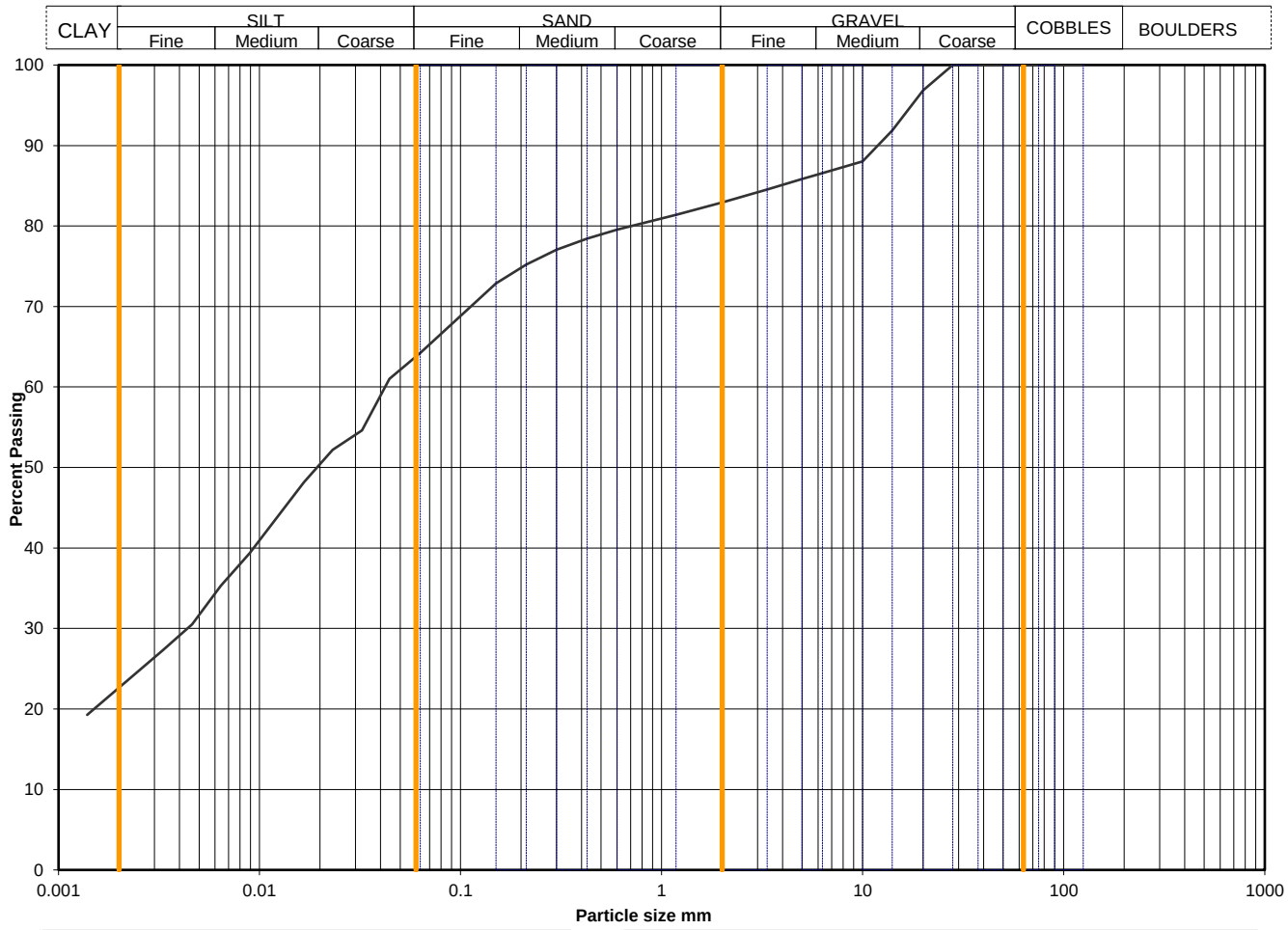
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240209073728

Hole No	BVB-109
Sample Depth (m BGL)	0.70 - 1.20
Sample Type and No	B4
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	64
90	100	0.0443	61
75	100	0.0323	55
63	100	0.0231	52
50	100	0.0166	48
37.5	100	0.0089	39
28	100	0.0064	35
20	97	0.0046	31
14	92	0.0033	27
10	88	0.0014	19
6.3	87		
5	86		
3.35	85		
2	83		
1.18	81	Particle density, Mg/m3	
0.6	80		
0.425	78	2.65 assumed	
0.3	77	Dry mass of sample, kg	
0.212	75		
0.15	73	0.9	
0.063	64		

Soil description	Dark brown slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	17	17
*<63mm values to aid description only	Sand	19	19
	Silt	42	42
	Clay	23	23

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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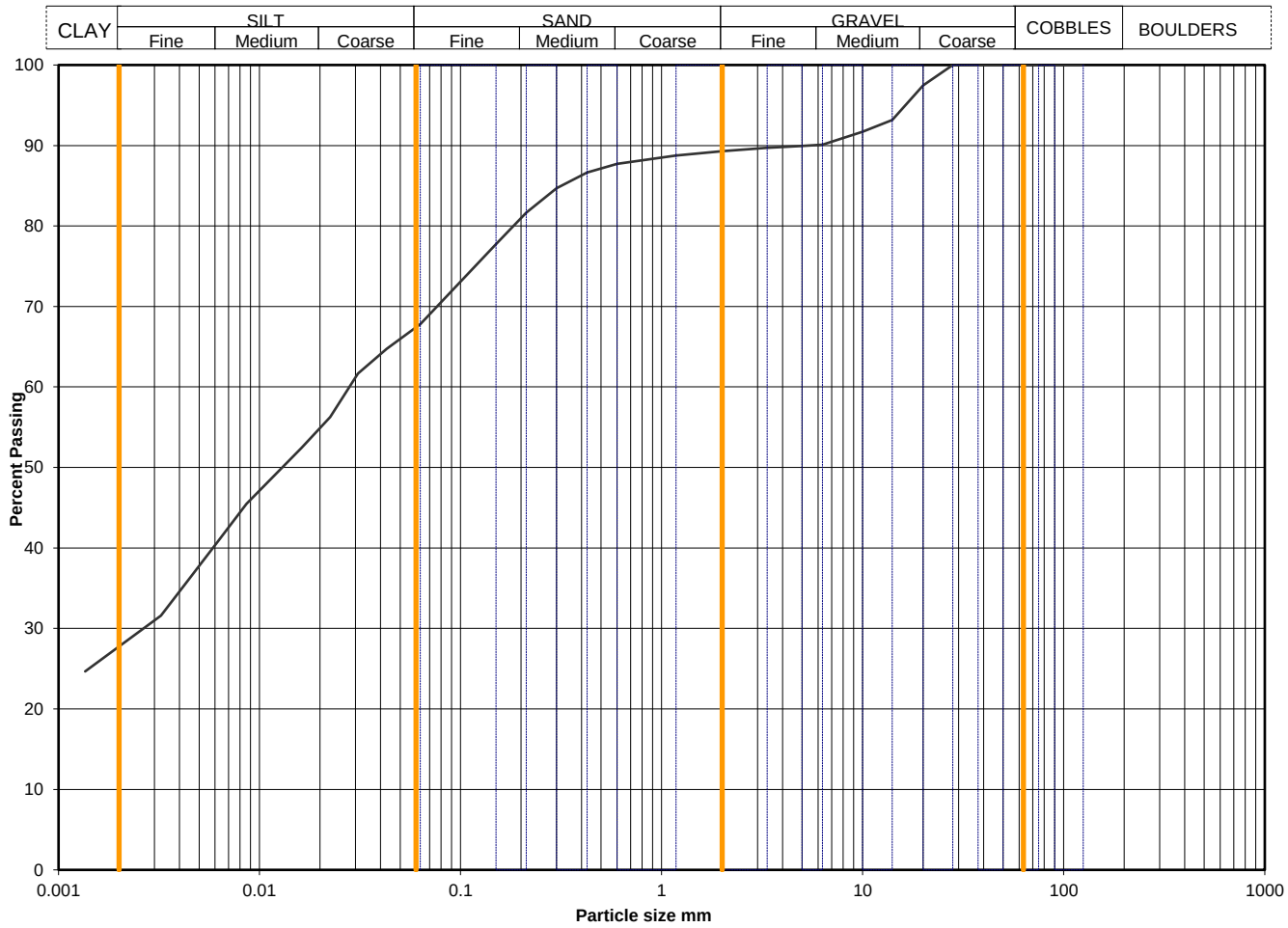
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240129024755

Hole No	BVB-110
Sample Depth (m BGL)	1.00 - 1.20
Sample Type and No	B6
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	68
90	100	0.0429	65
75	100	0.0308	62
63	100	0.0224	56
50	100	0.0161	52
37.5	100	0.0086	45
28	100	0.0062	41
20	97	0.0045	36
14	93	0.0032	32
10	92	0.0014	25
6.3	90		
5	90		
3.35	90		
2	89		
1.18	89	Particle density, Mg/m3	
0.6	88		
0.425	87	2.65 assumed	
0.3	85	Dry mass of sample, kg	
0.212	82		
0.15	78	0.8	
0.063	68		

Soil description	Dark brown slightly sandy slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	11	11
*<63mm values to aid description only	Sand	22	22
	Silt	40	40
	Clay	28	28

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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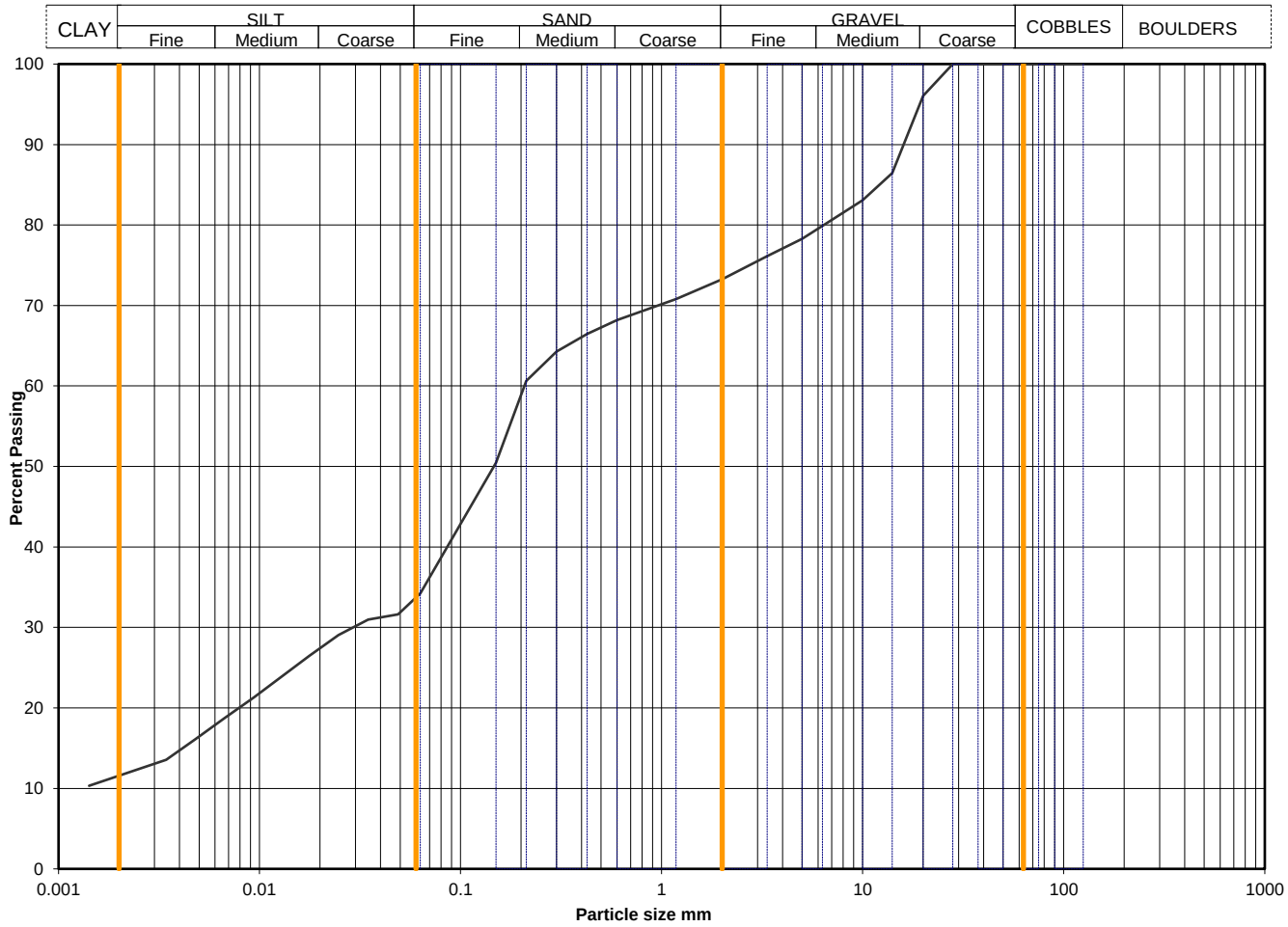
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-23-20240215110056

Hole No	BVB-111
Sample Depth (m BGL)	0.50 - 1.20
Sample Type and No	B4
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	34
90	100	0.0488	32
75	100	0.0346	31
63	100	0.0247	29
50	100	0.0177	26
37.5	100	0.0094	21
28	100	0.0067	19
20	96	0.0048	16
14	86	0.0034	14
10	83	0.0014	10
6.3	80		
5	78		
3.35	76		
2	73		
1.18	71	Particle density, Mg/m3	
0.6	68		
0.425	66	2.65 assumed	
0.3	64	Dry mass of sample, kg	
0.212	61		
0.15	50	0.9	
0.063	34		

Soil description	Dark brown slightly sandy slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	27	27
*<63mm values to aid description only	Sand	39	39
	Silt	23	23
	Clay	12	12

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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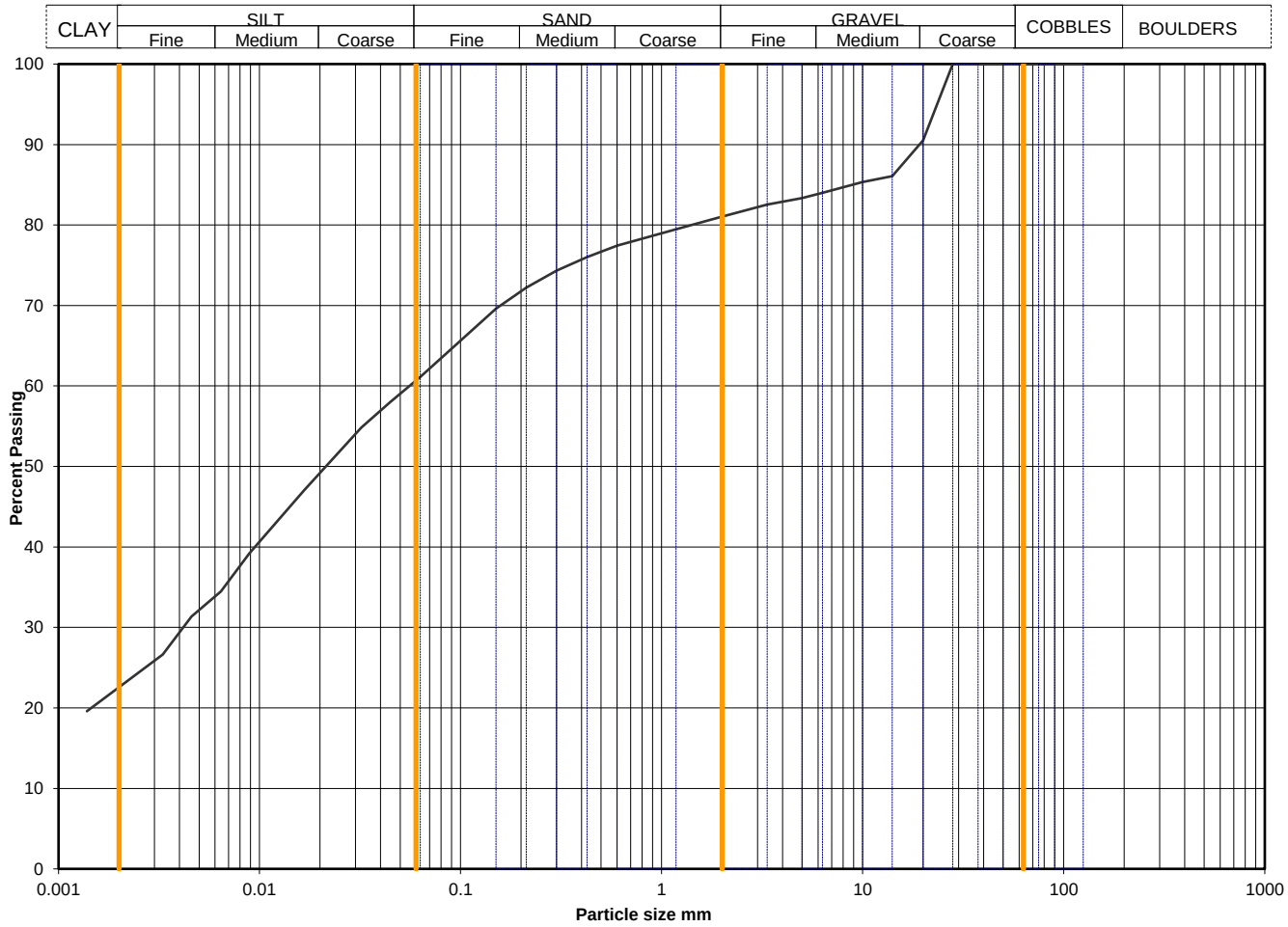
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	#1150422976880004

Hole No	BVB-112
Sample Depth (m BGL)	1.00 - 2.00
Sample Type and No	B4
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	61
90	100	0.0446	58
75	100	0.0321	55
63	100	0.0231	51
50	100	0.0166	47
37.5	100	0.0089	39
28	100	0.0064	34
20	91	0.0046	31
14	86	0.0033	27
10	85	0.0014	20
6.3	84		
5	83		
3.35	83		
2	81		
1.18	79	Particle density, Mg/m3	
0.6	77		
0.425	76	2.65 assumed	
0.3	74	Dry mass of sample, kg	
0.212	72		
0.15	70	0.8	
0.063	61		

Soil description	Greyish brown slightly sandy slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	19	19
*<63mm values to aid description only	Sand	20	20
	Silt	39	39
	Clay	23	23

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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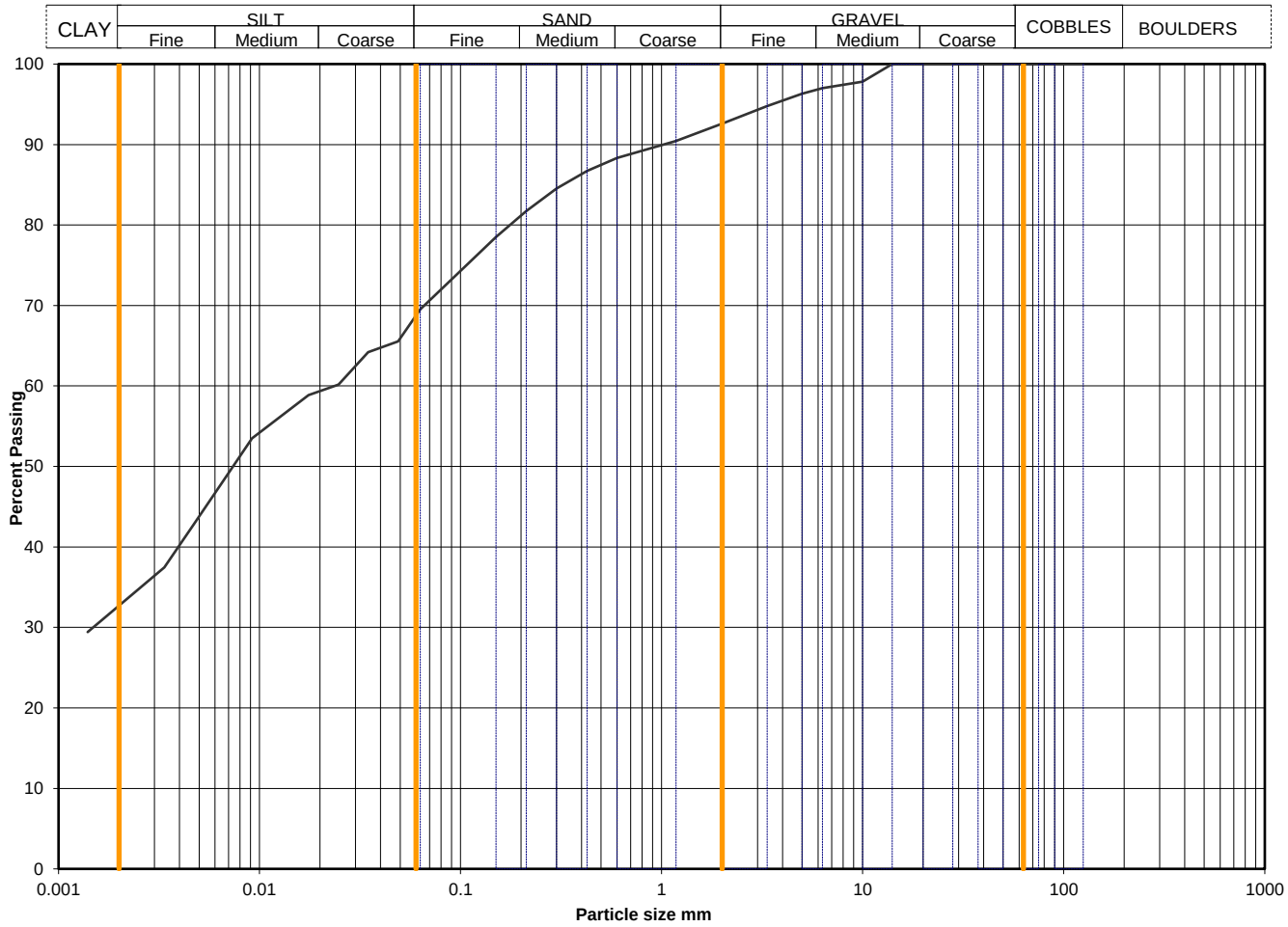
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	#1150422976880005

Hole No	BVB-112
Sample Depth (m BGL)	2.00 - 2.45
Sample Type and No	D5
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	70
90	100	0.0488	66
75	100	0.0346	64
63	100	0.0247	60
50	100	0.0175	59
37.5	100	0.0092	54
28	100	0.0066	48
20	100	0.0047	43
14	100	0.0034	37
10	98	0.0014	29
6.3	97		
5	96		
3.35	95		
2	93		
1.18	90	Particle density, Mg/m3	
0.6	88		
0.425	87	2.65 assumed	
0.3	85	Dry mass of sample, kg	
0.212	82		
0.15	79	0.1	
0.063	70		

Soil description	Light brown slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	8	8
*<63mm values to aid description only	Sand	23	23
	Silt	37	37
	Clay	33	33

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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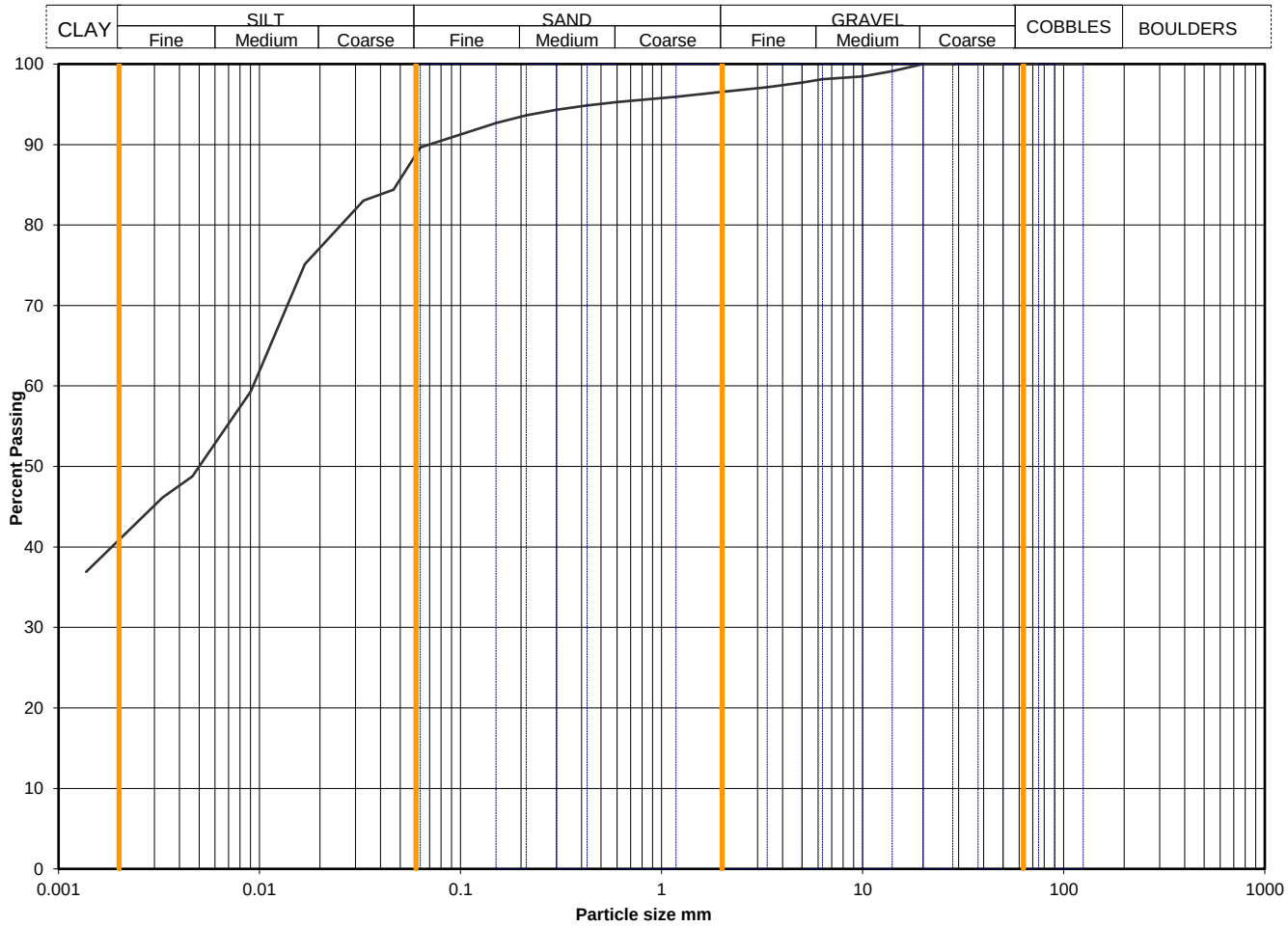
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	#5643923676400002

Hole No	BVB-113
Sample Depth (m BGL)	1.20 - 1.65
Sample Type and No	D2
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	90
90	100	0.0464	84
75	100	0.0329	83
63	100	0.0235	79
50	100	0.0168	75
37.5	100	0.0090	59
28	100	0.0065	54
20	100	0.0046	49
14	99	0.0033	46
10	98	0.0014	37
6.3	98		
5	98		
3.35	97		
2	97		
1.18	96	Particle density, Mg/m3	
0.6	95		
0.425	95	2.65 assumed	
0.3	94	Dry mass of sample, kg	
0.212	94		
0.15	93	0.4	
0.063	90		

Soil description	Light brown slightly sandy slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	3	3
*<63mm values to aid description only	Sand	7	7
	Silt	49	49
	Clay	41	41

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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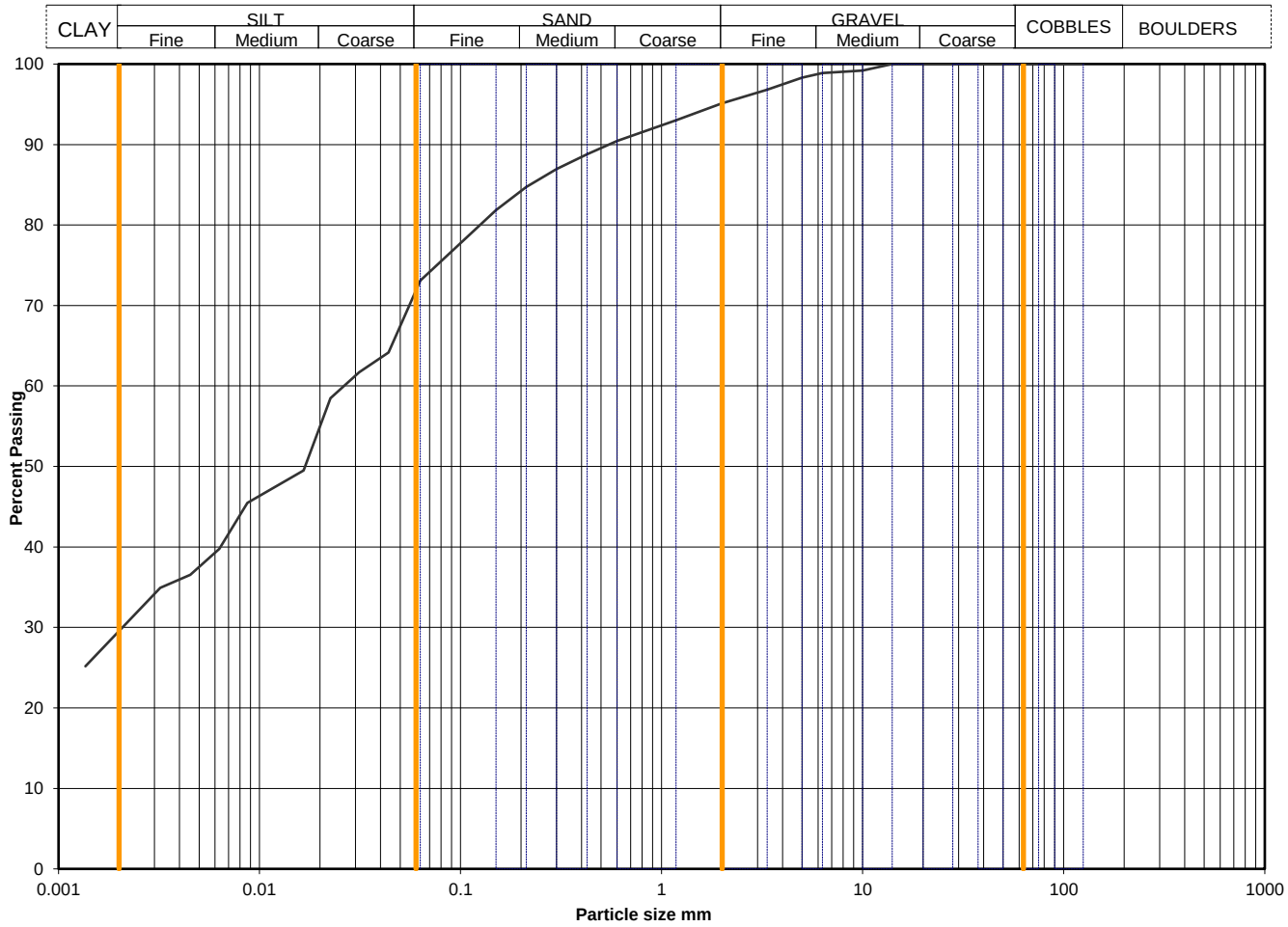
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	#5643923676400005

Hole No	BVB-113
Sample Depth (m BGL)	2.00 - 2.45
Sample Type and No	D5
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	73
90	100	0.0438	64
75	100	0.0313	62
63	100	0.0225	58
50	100	0.0166	50
37.5	100	0.0087	45
28	100	0.0063	40
20	100	0.0045	37
14	100	0.0032	35
10	99	0.0014	25
6.3	99		
5	98		
3.35	97		
2	95		
1.18	93	Particle density, Mg/m3	
0.6	90		
0.425	89	2.65 assumed	
0.3	87	Dry mass of sample, kg	
0.212	85		
0.15	82	0.1	
0.063	73		

Soil description	Orangish brown slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	5	5
*<63mm values to aid description only	Sand	22	22
	Silt	44	44
	Clay	30	30

Uniformity Coefficient	**D60 / D10**	Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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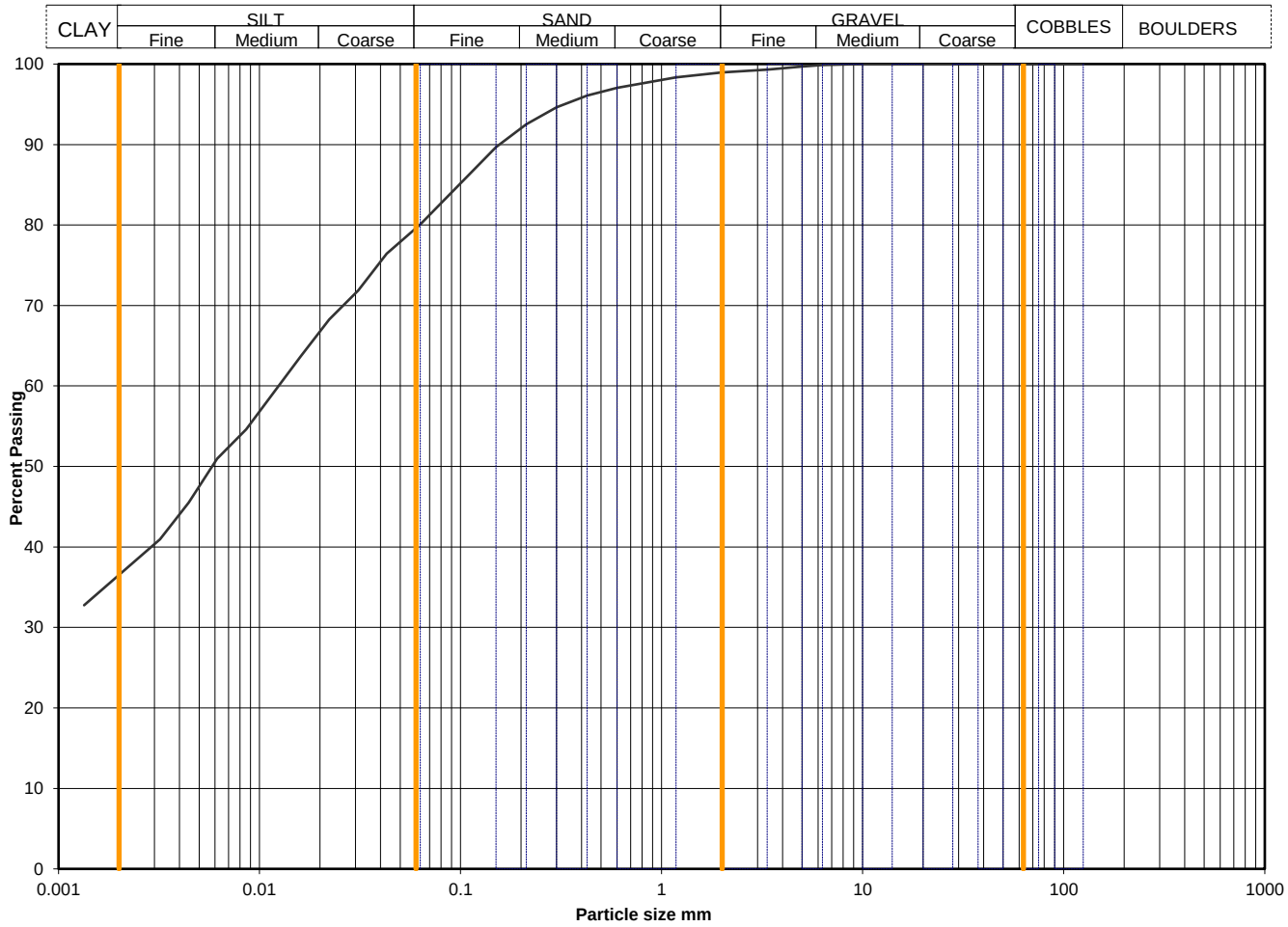
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-2320240130061653

Hole No	BVB-114
Sample Depth (m BGL)	0.40 - 0.60
Sample Type and No	B2
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	80
90	100	0.0429	76
75	100	0.0309	72
63	100	0.0222	68
50	100	0.0160	64
37.5	100	0.0086	55
28	100	0.0062	51
20	100	0.0044	46
14	100	0.0032	41
10	100	0.0013	33
6.3	100		
5	100		
3.35	99		
2	99		
1.18	98	Particle density, Mg/m3	
0.6	97		
0.425	96	2.65 assumed	
0.3	95	Dry mass of sample, kg	
0.212	93		
0.15	90	0.4	
0.063	80		

Soil description	Brown slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

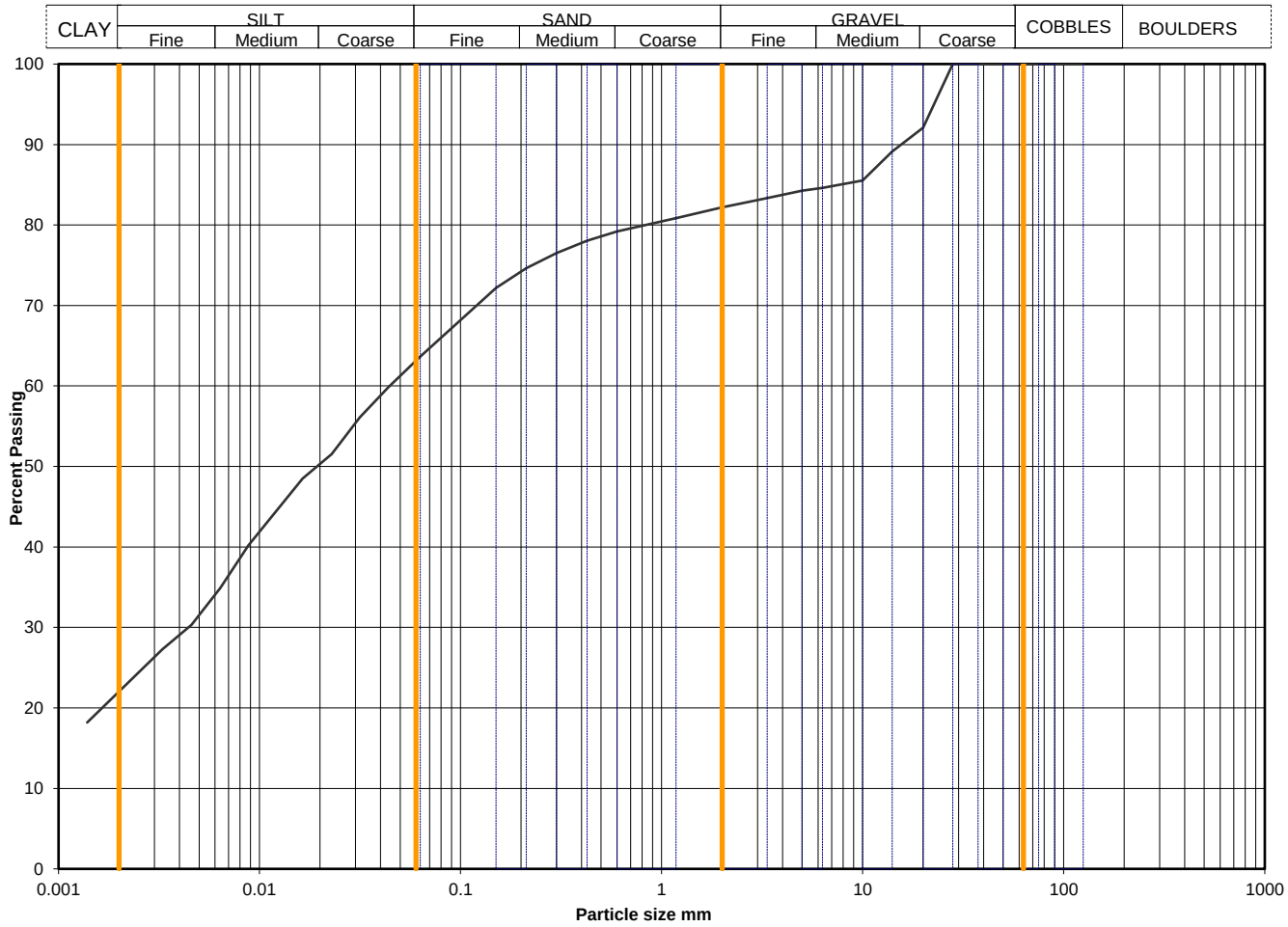
Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	1	1
*<63mm values to aid description only	Sand	19	19
	Silt	44	44
	Clay	37	37

Uniformity Coefficient	D60 / D10	Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	#4806347687160005

Hole No	BVB-114
Sample Depth (m BGL)	1.20 - 2.00
Sample Type and No	B5
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	64
90	100	0.0438	60
75	100	0.0316	56
63	100	0.0228	52
50	100	0.0164	49
37.5	100	0.0088	40
28	100	0.0064	35
20	92	0.0046	30
14	89	0.0033	27
10	86	0.0014	18
6.3	85		
5	84		
3.35	83		
2	82		
1.18	81	Particle density, Mg/m3	
0.6	79		
0.425	78	2.65 assumed	
0.3	77	Dry mass of sample, kg	
0.212	75		
0.15	72	1.0	
0.063	64		

Soil description	Dark brown slightly sandy gravelly silty CLAY with occasional brick fragments.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	18	18
*<63mm values to aid description only	Sand	19	19
	Silt	42	42
	Clay	22	22

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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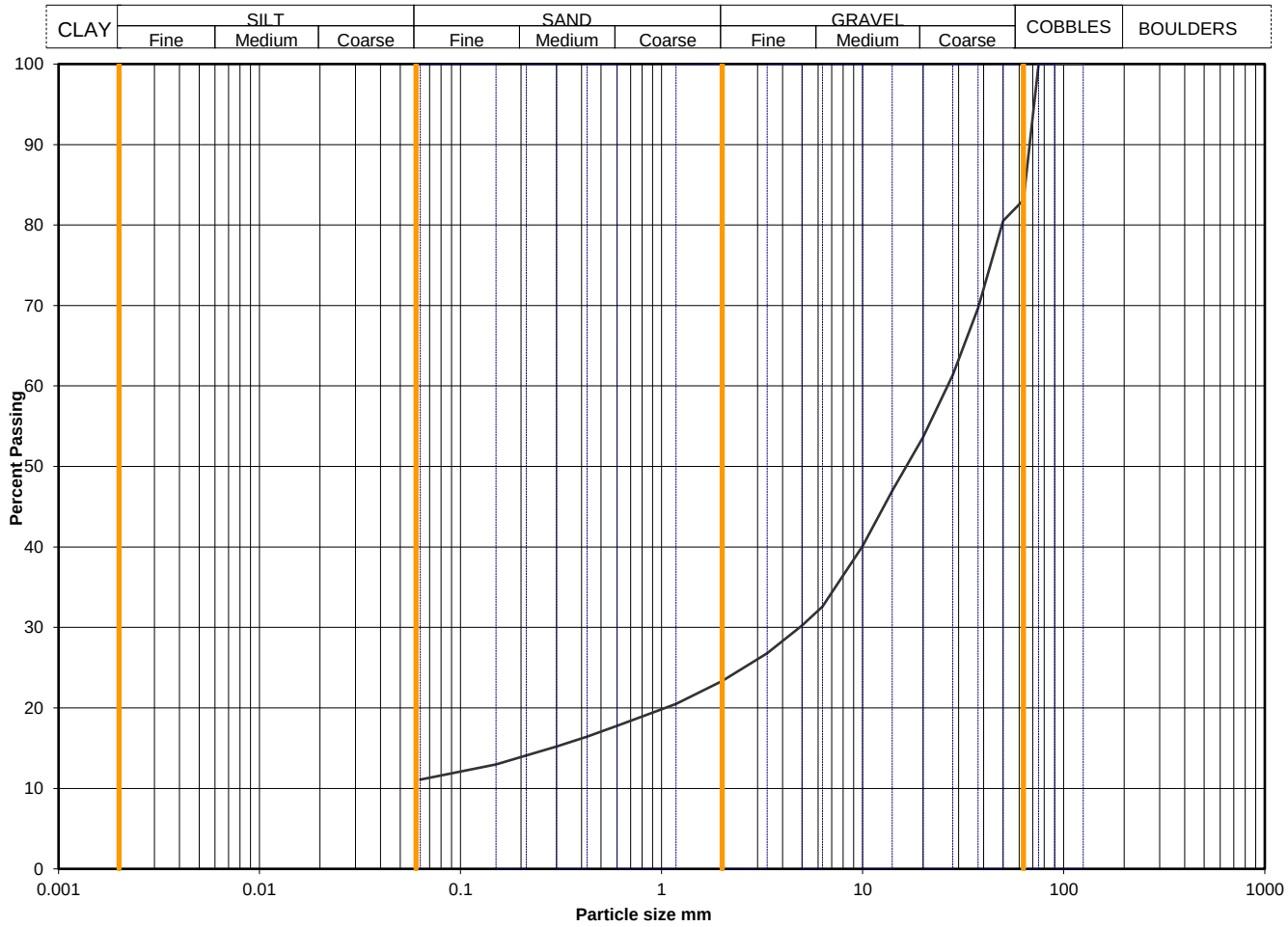
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-2320240130062130

Hole No	BVB-115
Sample Depth (m BGL)	0.20 - 0.40
Sample Type and No	B2
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	83		
50	81		
37.5	70		
28	61		
20	54		
14	47		
10	40		
6.3	33		
5	30		
3.35	27		
2	23		
1.18	20		
0.6	18		
0.425	16		
0.3	15	Dry mass of sample, kg	
0.212	14		
0.15	13	7.4	
0.063	11		

Soil description	Grey sandy silty GRAVEL.
Preparation / Pretreatment	Sieve: pre dried,
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	17	0
	Gravel	60	72
*<63mm values to aid description only	Sand	12	15
	Silt	silt+clay =	
	Clay	11	13

Uniformity Coefficient	D60 / D10	Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	none

QA Ref
SLR 2,9
Rev 2.23
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Project No A3039-23

Project Name ALDBROUGH HYDROGEN PATHFINDER

Figure
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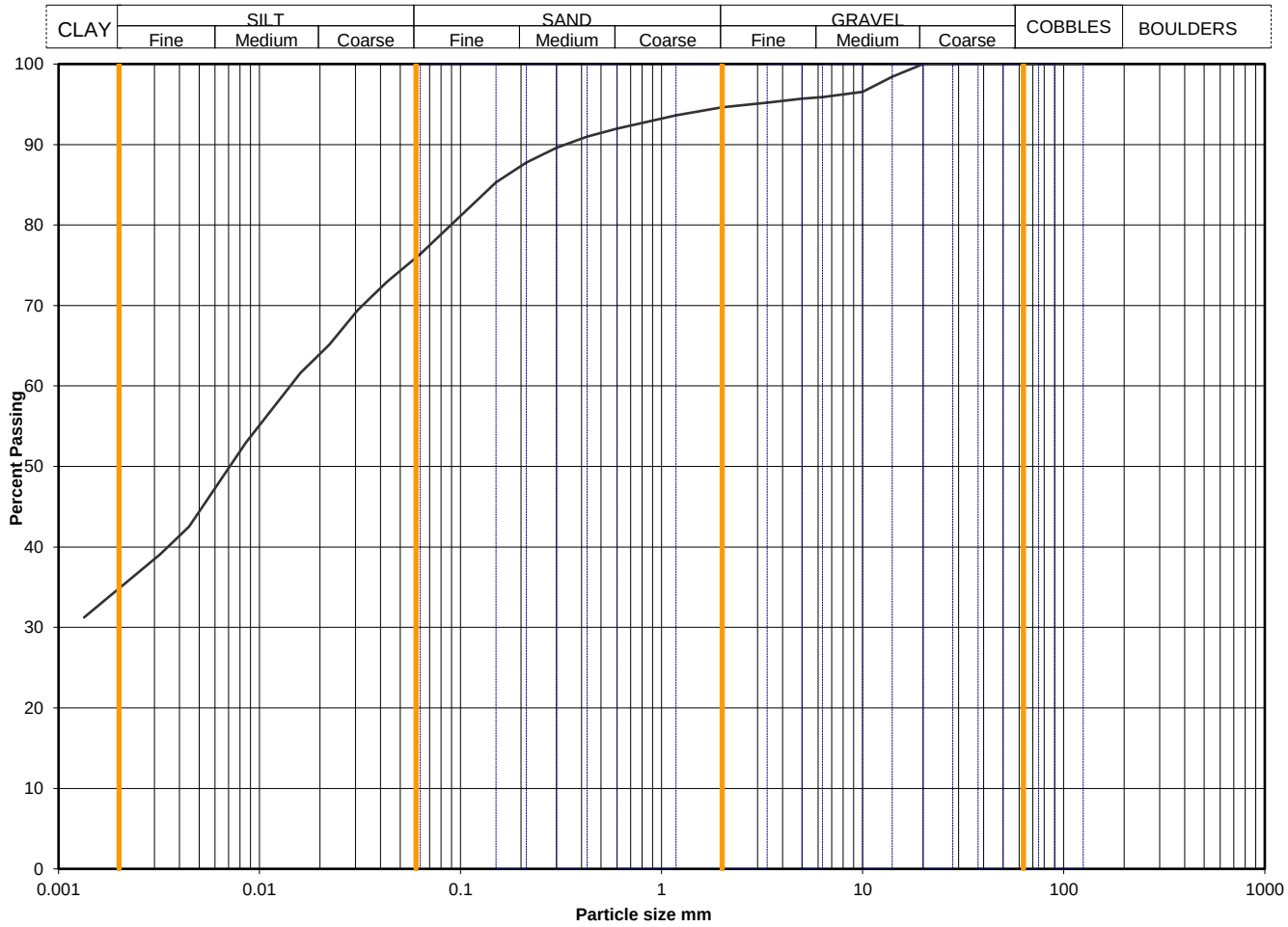
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	A3039-2320240130062205

Hole No	BVB-115
Sample Depth (m BGL)	0.60 - 1.00
Sample Type and No	B4
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	76
90	100	0.0429	73
75	100	0.0308	69
63	100	0.0222	65
50	100	0.0160	62
37.5	100	0.0086	53
28	100	0.0062	48
20	100	0.0045	43
14	98	0.0032	39
10	97	0.0013	31
6.3	96		
5	96		
3.35	95		
2	95		
1.18	94	Particle density, Mg/m3	
0.6	92		
0.425	91	2.65 assumed	
0.3	90	Dry mass of sample, kg	
0.212	88		
0.15	85	0.8	
0.063	76		

Soil description	Brown slightly sandy slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	5	5
*<63mm values to aid description only	Sand	18	18
	Silt	42	42
	Clay	35	35

Uniformity Coefficient	D60 / D10	Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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Project Name ALDBROUGH HYDROGEN PATHFINDER

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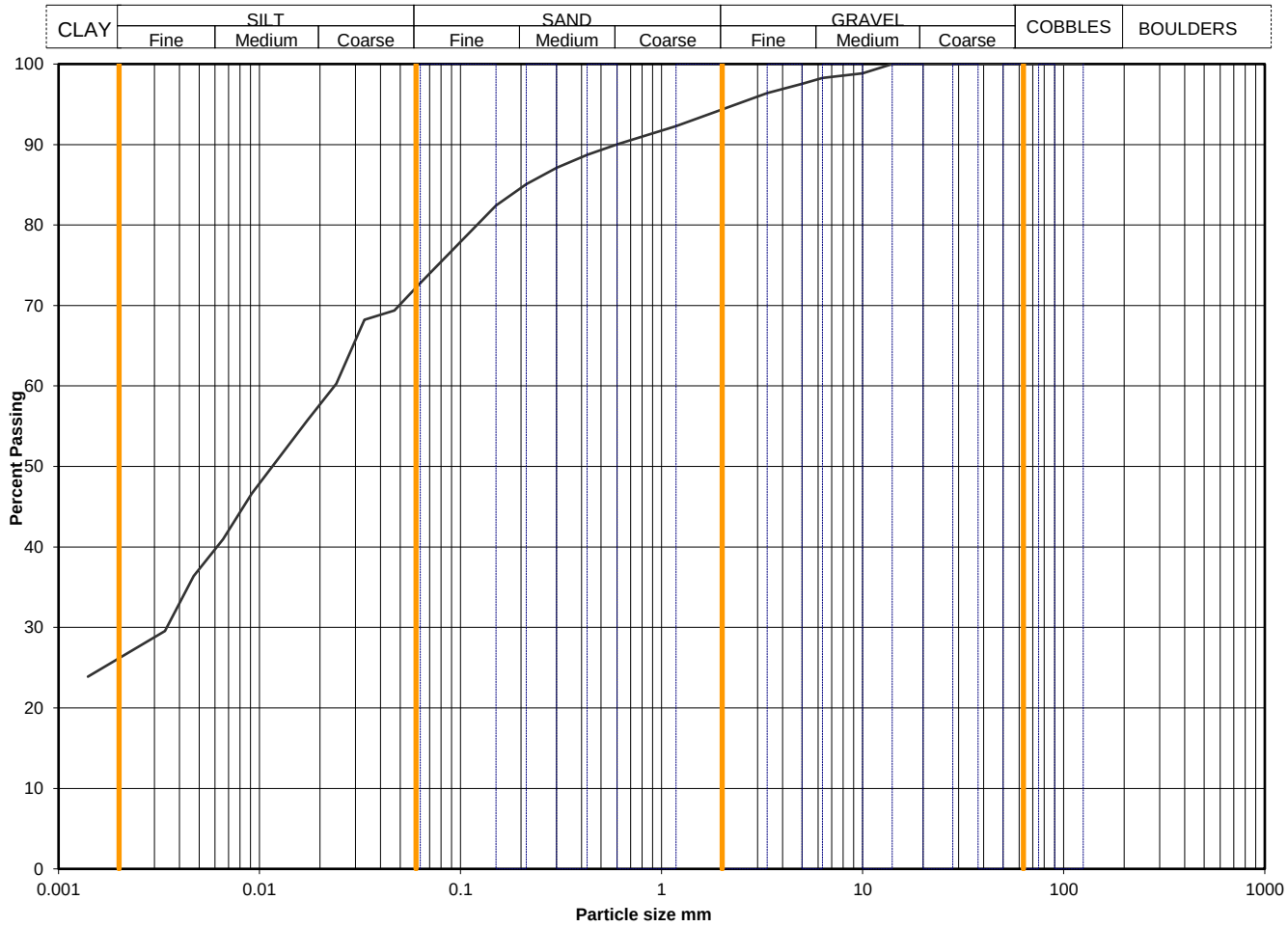
Particle Size Distribution Analysis

Sample Details:	SAMPLE ID:
	#1297703702600005

Hole No	BVB-115
Sample Depth (m BGL)	2.00 - 2.45
Sample Type and No	D5
Specimen Ref	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	73
90	100	0.0469	69
75	100	0.0333	68
63	100	0.0241	60
50	100	0.0173	56
37.5	100	0.0091	47
28	100	0.0066	41
20	100	0.0047	36
14	100	0.0034	30
10	99	0.0014	24
6.3	98		
5	98		
3.35	96		
2	94		
1.18	92	Particle density, Mg/m3	
0.6	90		
0.425	89	2.65 assumed	
0.3	87	Dry mass of sample, kg	
0.212	85		
0.15	82	0.4	
0.063	73		

Soil description	Grey mottled light brown slightly sandy slightly gravelly silty CLAY.
Preparation / Pretreatment	Sieve: pre dried, Hydro: as BS EN ISO 17892
Remarks	

Sample Proportions		Whole	*<63mm
	Cobbles / boulders	0	0
	Gravel	6	6
*<63mm values to aid description only	Sand	22	22
	Silt	47	47
	Clay	26	26

Uniformity Coefficient D60 / D10		Not applicable
Test Method	BS EN ISO 17892-4	
	Sieving	5.2 wet sieve
	Sedimentation	5.3 hydrometer

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