

Factual Ground Investigation Report

Sandown Quarry,
Aldridge, Walsall

Byrne Looby

June 2022



Factual Ground Investigation Report



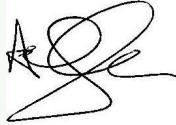
Sandown Quarry,
Aldridge, Walsall

Contract: C10259

Reference: C10259-FGIR

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Issue:	Date:	Description:	
P01	30/06/22	First issue	

EXECUTIVE SUMMARY

Site Address	175 Stubbers Green Rd, Aldridge, Walsall WS9 8BL.
Current Site Use	The site comprises of an active quarry.
Published Geology	The published geology for the site, based on records provided by the British Geological Society, indicates the west of the site to be underlain by Glacial Till. No superficial deposits are noted to the east of the site. The whole site is underlain by bedrock strata of the Etruria Formation - Mudstone, Sandstone and Conglomerate.
Intrusive Works	Intrusive works comprised of seven rotary boreholes by open hole and cored drilling, with in situ permeability testing in one location and the installation of six groundwater monitoring wells.
Sampling and Testing	Chemical and geotechnical laboratory testing was carried out on selected samples as scheduled by Byrne Looby.
Disclaimer. This Executive Summary should be read in conjunction with Exploration & Testing Associates Limited's Ground Investigation Report, reference C10259-FGIR, of which it forms part.	

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1.0 INTRODUCTION

1.1 Introduction

Exploration & Testing Associates Limited (Exploration) was instructed by Byrne Looby, on behalf of Booth Ventures (the Client), to undertake an investigation to establish ground and groundwater conditions at the site.

This report has been prepared for the sole use of the Client for the purposes set out above. No third-party duty of care or reliance on this document is offered and the use of information within this report by any third party is at their own risk. This document shall not be reproduced in any form without the prior written permission of Exploration.

The information contained within this report is based on conditions at the time of investigation and there may be site factors which have not been disclosed within this document. It should be noted that groundwater levels may vary due to seasonal or other conditions.

1.2 Scope of Work

The scope of work was set out by the Client at tender stage and comprised the following:

- Seven rotary boreholes with associated sampling and in situ testing;
- The installation of groundwater monitoring wells;
- Geotechnical and chemical laboratory testing.

This document is intended to provide a factual account of the work undertaken and present the data obtained during the ground investigation.

2.0 SITE DESCRIPTION

2.1 Site Location

The site is located approximately 1.5km to the northwest of the town of Aldridge, near Walsall in the West Midlands and may be located by National Grid Reference 404416 301939.

A Site Location Plan is presented in Appendix 1 as drawing reference C10259-SLP_P01.

2.2 Site Description

The site is irregular in shape comprising of an area of approximately 30 hectares.

At the time of the investigation the site comprised an active quarry. Topography was variable, with the centre of the quarry at 94mAOD, rising to 140mAOD in the east, 134mAOD in the north and approximately 130mAOD in the west and south.

The site was bounded by Stubbers Green Road to the west and southwest, the Daw End Branch canal to the east and an industrial access road to the north.

2.3 Published Geology

The published geology for the site, based on records provided by the British Geological Society (BGS), indicates the west of the site to be underlain by Glacial Till. No superficial deposits are noted to the east of the site. The whole site is underlain by bedrock strata of the Etruria Formation - Mudstone, Sandstone and Conglomerate.

3.0 GROUND INVESTIGATION

3.1 Intrusive Investigation

The intrusive investigation was carried out between 24th March and 27th April 2022 and was undertaken in general accordance with published guidance BS 5930:2015+A1:2020 and BS 10175:2011+A2:2017.

The work undertaken comprised the following:

- Service clearance of all locations;
- Seven (7 No.) rotary boreholes by coring or open hole;
- Variable (rising) head testing in one location;
- The installation of six (6 No.) groundwater monitoring wells; and
- Representative sampling for laboratory testing.

The exploratory hole locations were set out based on an indicative plan issued in advance by the Client. Dual boreholes were drilled at two locations to install shallow (S) and deep (D) standpipes. An Exploratory Hole Location Plan is provided in Appendix 1 as drawing reference C10259-EHLP_P01.

The depths of the exploratory holes, descriptions of strata encountered and comments on groundwater conditions are provided in Appendix 2, together with photographic records of the core obtained.

Representative undisturbed and disturbed samples were taken at the depths shown on the exploratory hole records with selected samples dispatched to the laboratory for testing.

3.2 Sampling Strategy

Representative samples were obtained in order provide suitable material for laboratory testing to establish:

- The geotechnical properties of the underlying soils/rock.

4.0 LABORATORY TESTING

4.1 Testing Strategy

The geotechnical laboratory testing was scheduled by the Client.

4.2 Geotechnical Laboratory Testing

All samples were prepared in accordance with BS 1377-1:2016 by a UKAS accredited laboratory, with representative sub-samples taken for testing as necessary.

The following tests carried out were:

- One (1 No.) water contents
- One (1 No.) Atterberg Limits;
- Two (2 No.) particle size distributions by wet sieve;
- One (1 No.) particle density;
- One (1 No.) BRE suite – brownfield without pyrite.

Samples from the bedrock were also examined as to their suitability for laboratory permeability testing but were found to be unsuitable.

The results are provided in Appendix 3 as Test Report 59763.

5.0 REFERENCES

British Geological Survey. Geology of Britain Viewer (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>), accessed 28th June 2022.

British Geological Survey, Sheet No. 154, 'Lichfield', solid, 1:63,360 scale, published 1964.

British Geological Survey, Sheet No. 154, 'Lichfield', drift, 1:63,360 scale, published 1971.

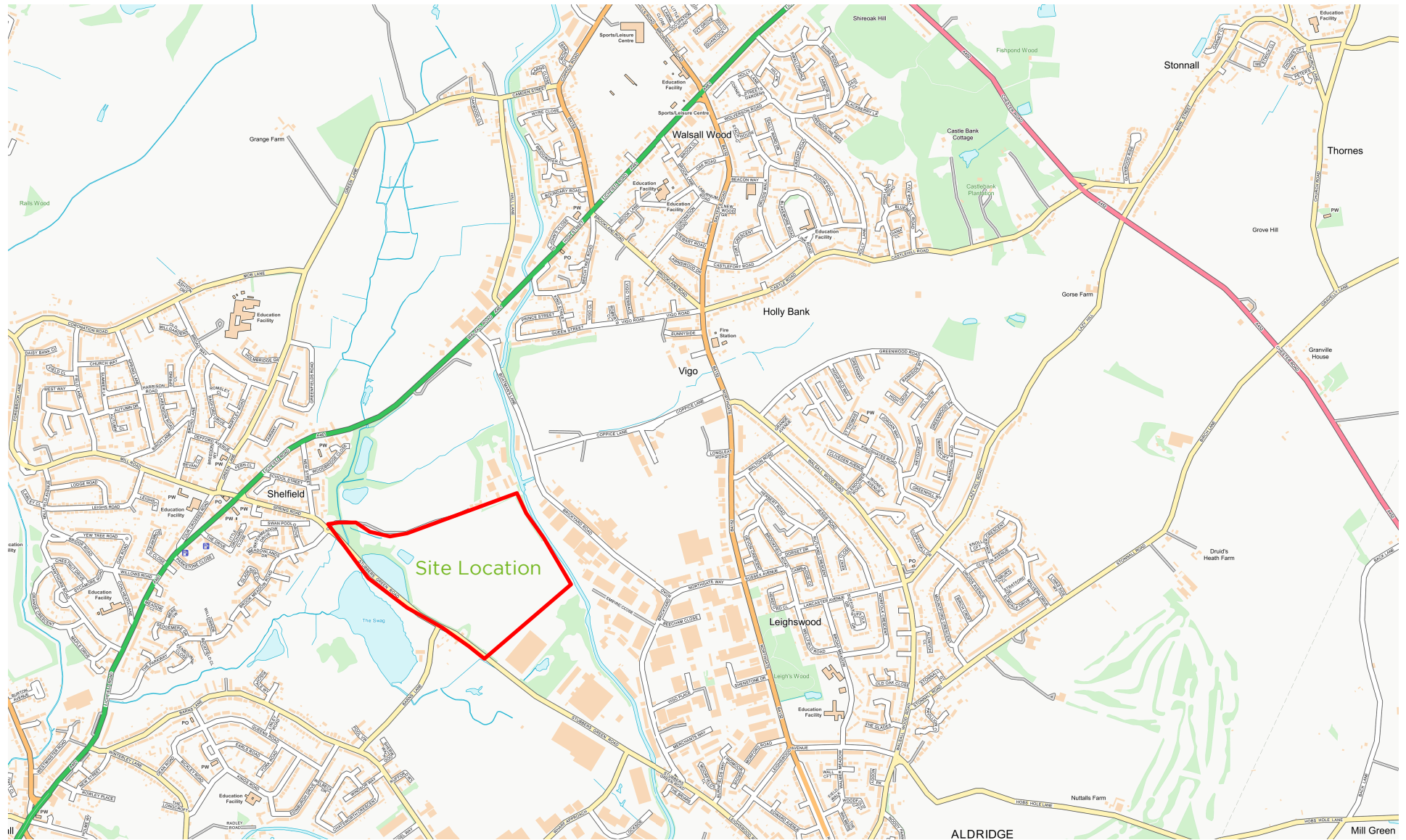
BS 1377-1:2016, '*Methods of test for soils for civil engineering purposes – Part 1: General requirements and sample preparation*', British Standards Institute, 2016.

BS 5930:2015+A1:2020 'Code of practice for ground investigations.' British Standards Institute, 2020.

BS 10175:2011+A2:2017 'Investigation of potentially contaminated sites. Code of practice', British Standards Institute, 2017.

APPENDIX 1: DRAWINGS





Client: Byrne Looby
 Contract: Sandown Quarry
 Contract No.: C10259

Title: Site Location Plan
 Drawing: C10259.SLP_1
 Date: 28/06/2022



Legend Key

- Locations By Type - RC
- Locations By Type - RO

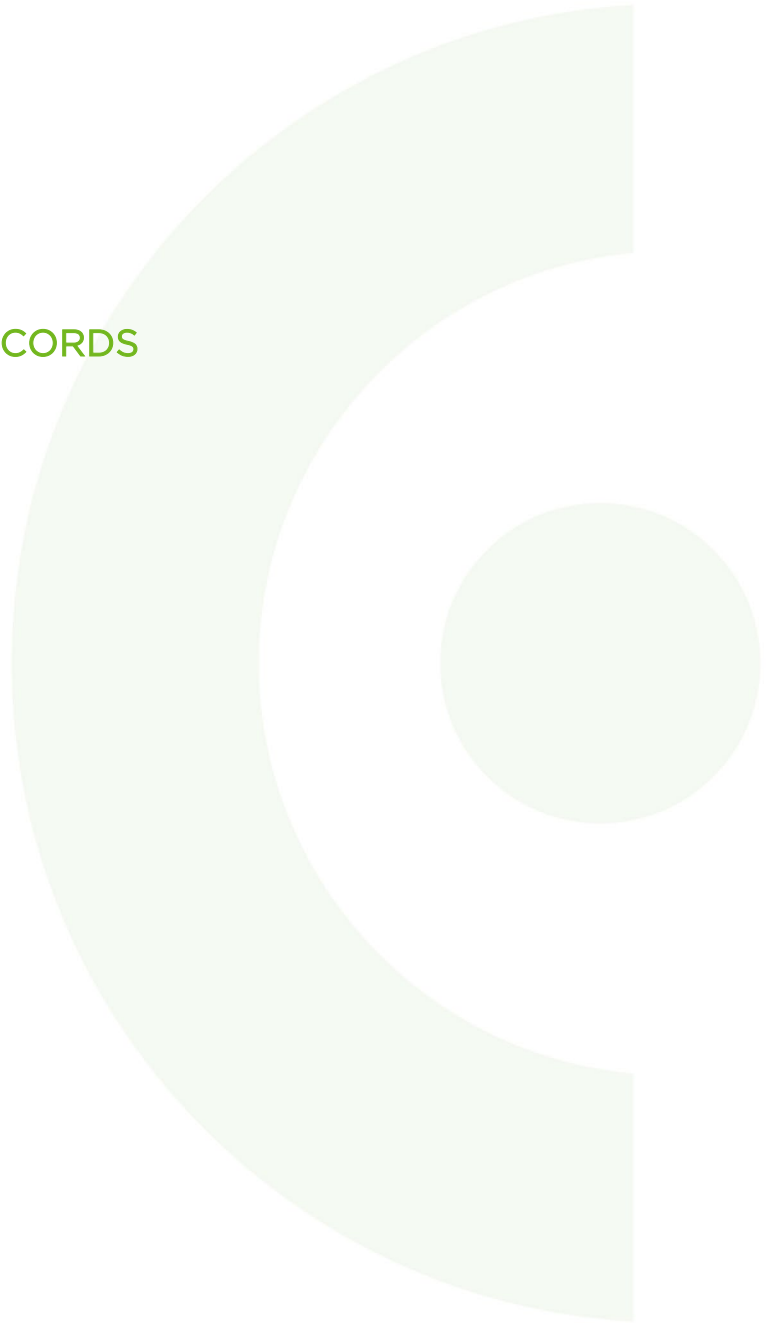


Client: Byrne Looby
Contract: Sandown Quarry
Contract No.: C10259

Title: Exploratory Hole Location Plan
Drawing: C10259.EHLP_1
Date: 28/06/2022



APPENDIX 2: ENGINEERING RECORDS



Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 29/03/2022 - 30/03/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404638.99 N301972.32	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54	
Borehole Number BH22-01	Hole Type RO	Level 140.85m AoD	Logged By JS	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND: Overburden/backfill (Drillers Description)	1
													2
													3
													4
													5
													6
													7
													8

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
52.30	140	1.50	140									0.00	52.30	Mist	Red		100

Remarks
1. 15:00-15:30-Awaiting install instructions.

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 29/03/2022 - 30/03/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404638.99 N301972.32	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54	
Borehole Number BH22-01	Hole Type RO	Level 140.85m AoD	Logged By JS	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND: Overburden/backfill (Drillers Description)	9
													10
													11
													12
													13
													14
													15
													16

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
52.30	140	1.50	140									0.00	52.30	Mist	Red		100

Remarks
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Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404638.99 N301972.32		
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54		
Borehole Number BH22-01	Hole Type RO	Level 140.85m AoD		Logged By JS	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND: Overburden/backfill (Drillers Description)	17
													18
													19
													20
													21
													22
													23
									24.00	116.85			24

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
52.30	140	1.50	140									0.00	52.30	Mist	Red		100

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Borehole Number BH22-01	Hole Type RO	Level 140.85m AoD		Logged By JS	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												Mudstone (Drillers Description)	25
													26
													27
													28
													29
													30
													31
													32

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
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					TCR	SCR	RQD						
												Mudstone (Drillers Description)	33
													34
													35
													36
													37
													38
													39
													40

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
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Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												Mudstone (Drillers Description)	41
													42
													43
													44
													45
													46
													47
													48

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
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Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54	
Borehole Number BH22-01	Hole Type RO	Level 140.85m AoD	Logged By JS	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												Mudstone (Drillers Description)	49
													50
													51
													52
									52.30	88.55		End of Borehole at 52.30m	53
													54
													55
													56

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
52.30	140	1.50	140									0.00	52.30	Mist	Red		100

Remarks
1. 15:00-15:30-Awaiting install instructions.

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 19/04/2022 - 27/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404267.52 N302142.63	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54	
Borehole Number BH22-02D	Hole Type RC	Level 134.53m AoD	Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND (Drillers Description)	1
													2
													3
													4
													5
													6
													7
													8

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
65.30	140	50.10	140					0.00	4.50			0.00	4.50	Mist	Red		100
								4.50	48.00			4.50	48.00	Mist	Red		80
								48.00	65.30			48.00	65.30	Mist	Red		100

Remarks
 1. Low loader unavailable on 14./04/22 - 5 hours standing. 2. Low loader arrives at 12pm on 17/04/22 - 4 hours standing 3. Fill water bowser 4 x 0.5 hours. 4. Collect extra casing 7 hours

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 19/04/2022 - 27/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404267.52 N302142.63	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54	
Borehole Number BH22-02D	Hole Type RC	Level 134.53m AoD	Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND (Drillers Description)	9
													10
													11
													12
													13
													14
									15.00	119.53		Marl (Drillers Description)	15
													16

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
65.30	140	50.10	140									0.00	4.50	Mist	Red		100
												4.50	48.00	Mist	Red		80
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Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54		
Borehole Number BH22-02D	Hole Type RC	Level 134.53m AoD		Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												Marl (Drillers Description)	17
													18
													19
													20
													21
													22
													23
													24

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
65.30	140	50.10	140									0.00	4.50	Mist	Red		100
												4.50	48.00	Mist	Red		80
												48.00	65.30	Mist	Red		100

Remarks
 1. Low loader unavailable on 14./04/22 - 5 hours standing. 2. Low loader arrives at 12pm on 17/04/22 - 4 hours standing 3. Fill water bowser 4 x 0.5 hours. 4. Collect extra casing 7 hours

Rotary Core Log

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Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404267.52 N302142.63		
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54		
Borehole Number BH22-02D	Hole Type RC	Level 134.53m AoD		Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												Marl (Drillers Description)	25
													26
													27
													28
													29
													30
													31
													32

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
65.30	140	50.10	140									0.00	4.50	Mist	Red		100
												4.50	48.00	Mist	Red		80
												48.00	65.30	Mist	Red		100

Remarks
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Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 19/04/2022 - 27/04/2022		
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404267.52 N302142.63		
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54		
Borehole Number BH22-02D	Hole Type RC	Level 134.53m AoD		Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												Marl (Drillers Description)	33
													34
													35
													36
													37
													38
													39
													40

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
65.30	140	50.10	140									0.00	4.50	Mist	Red		100
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												48.00	65.30	Mist	Red		100

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Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54	
Borehole Number BH22-02D	Hole Type RC	Level 134.53m AoD	Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												Marl (Drillers Description)	41
		45.00 - 48.00							45.00	89.53		Extremely weak reddish brown MUDSTONE with rare greenish grey pockets up to 20mm in size. Discontinuities are horizontal closely spaced undulating rough with no infill.	45
				6								Below 45.51m bgl: Occasional light grey and greenish grey pockets up to 70mm in size. Between 45.61m and 47.09m bgl: Very closely spaced interbedding bands of firm reddish brown slightly sandy slightly gravelly CLAY. Gravel is angular fine to coarse mudstone.	46
					97	69	32					Below 45.90m bgl: Occasional light grey and yellowish brown pockets up to 70mm in size. Below 46.00m bgl: Discontinuities are medium spaced. Between 46.11m and 46.29m bgl: Very weak.	47
		47.74 - 48.00	C1	4					47.09	87.44		Very weak reddish brown MUDSTONE with rare yellowish brown pockets up to 40mm in size. Discontinuities are horizontal closely spaced to medium spaced, undulating rough and planar rough with occasional clay infill up to 25mm.	47
		48.00 - 50.80							48.00	86.53		Between 47.56m and 47.74m bgl: Firm reddish brown slightly sandy	48

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
65.30	140	50.10	140									0.00	4.50	Mist	Red		100
												4.50	48.00	Mist	Red		80
												48.00	65.30	Mist	Red		100

Remarks
 1. Low loader unavailable on 14./04/22 - 5 hours standing. 2. Low loader arrives at 12pm on 17/04/22 - 4 hours standing 3. Fill water bowser 4 x 0.5 hours. 4. Collect extra casing 7 hours

Sheet 6 of 9

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 19/04/2022 - 27/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404267.52 N302142.63	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54	
Borehole Number BH22-02D	Hole Type RC	Level 134.53m AoD	Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
		50.80 - 53.80		9	98	67	35		48.26	86.27		Very weak reddish brown MUDSTONE with rare yellowish brown pockets up to 40mm in size. Discontinuities are horizontal closely spaced to medium spaced, undulating rough and planar rough with occasional clay infill up to 25mm. <i>Between 47.56m and 47.74m bgl: Firm reddish brown slightly sandy slightly gravelly CLAY.</i>	49
		53.80 - 55.30		2					50.31	84.22		Extremely weak reddish brown MUDSTONE with rare light grey and yellowish brown pockets up to 50mm in size. Discontinuity set 1 are horizontal to subhorizontal closely to medium spaced planar rough and undulating rough with clay smear. <i>Below 48.70m bgl: Discontinuity set 2 are vertical, closely to medium spaced, undulating rough and planar rough.</i> <i>Below 49.17m bgl: Discontinuities are horizontal and sub-vertical, very closely spaced, planar undulating and planar smooth with clay smear.</i>	50
		55.30 - 58.30		AZCL					52.27	82.26		Extremely weak reddish brown MUDSTONE with abundant light grey and yellowish brown streaking. Discontinuities are horizontal and sub-horizontal, closely spaced, planar smooth with clay infill up to 25mm. <i>Between 52.96m and 53.07m bgl: Vertical fracture, planar smooth with no infill.</i> <i>Below 53.07m bgl: Very weak and discontinuities have no infill.</i>	52
		55.30 - 58.30		5	51	49	31		52.27	82.26			53
		55.30 - 58.30		4	96	87	80		54.09	80.44		Extremely weak reddish brown MUDSTONE. Discontinuities are horizontal and sub-vertical, closely spaced, undulating rough with clay infill up to 25mm. <i>Below 54.39m bgl: With occasional light grey streaking. Discontinuities are stepped rough.</i>	54
		55.30 - 58.30		AZCL					55.85	78.68		<i>Between 55.30m and 55.85m bgl: Assumed zone of core loss.</i>	55
		55.85 - 55.99	C2									Extremely weak to very weak reddish	56

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
65.30	140	50.10	140									0.00	4.50	Mist	Red		100
												4.50	48.00	Mist	Red		80
												48.00	65.30	Mist	Red		100

Remarks
 1. Low loader unavailable on 14./04/22 - 5 hours standing. 2. Low loader arrives at 12pm on 17/04/22 - 4 hours standing 3. Fill water bowser 4 x 0.5 hours. 4. Collect extra casing 7 hours

Sheet 7 of 9

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 19/04/2022 - 27/04/2022		
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404267.52 N302142.63		
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54		
Borehole Number BH22-02D	Hole Type RC	Level 134.53m AoD		Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
		58.30 - 61.30		10					57.11	77.42		Extremely weak to very weak reddish brown mottled light grey MUDSTONE. Discontinuity set 1 are horizontal to sub-vertical, closely spaced, planar smooth and planar rough with clay infill up to 15mm. Discontinuity set 2 are 60-80 degrees rough, medium spaced and clean. <i>Below 56.63m bgl: Extremely weak.</i>	57
				4	82	66	48		58.10	76.43		Extremely weak reddish brown MUDSTONE. Discontinuities are horizontal, very closely to closely spaced, planar rough with clay infill up to 40mm. <i>Below 57.51m bgl: Discontinuities are no infill.</i> <i>Below 57.96m bgl: Very weak reddish brown with light grey streaks. Discontinuities are horizontal and sub-vertical.</i>	58
		61.30 - 64.30		2					61.30	73.23		Very weak reddish brown MUDSTONE with rare pockets of light grey up to 50mm in size. Discontinuity set 1 are horizontal and sub-horizontal, closely spaced, planar smooth with clay infill up to 10mm. <i>Below 59.41m bgl: Extremely weak. Discontinuities are very closely spaced with clay infill up to 30mm.</i> <i>Between 59.49m and 59.59m bgl: Recovered as gravelly clay.</i> <i>Between 59.65m and 59.81m bgl: Recovered as clayey gravel.</i> <i>Below 59.65m bgl: Reddish brown and light grey.</i> <i>Below 59.98m bgl: Very weak reddish brown with light grey pockets on fractures.</i> <i>Below 60.24m bgl: Extremely weak with no light grey. Discontinuity set 2, 45 degrees, medium spaced, undulating rough, clean with grey staining</i>	59
				7	93	85	52		63.27	71.26		Very weak to weak reddish brown MUDSTONE. Discontinuities are horizontal and sub-vertical closely spaced to medium spaced, planar smooth with occasional clay infill up to 20mm. <i>Between 62.00m and 62.05m bgl: Recovered as gravelly clay.</i> <i>Between 62.05m and 63.11m bgl: Extremely weak, reddish brown and light grey.</i>	60
				6	100	99	83						61
				5								Strong dark purplish grey fine to coarse SANDSTONE. Discontinuities are horizontal, closely to medium spaced, planar smooth with no infill.	62
													63
													64

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
65.30	140	50.10	140									0.00	4.50	Mist	Red		100
												4.50	48.00	Mist	Red		80
												48.00	65.30	Mist	Red		100

Remarks
 1. Low loader unavailable on 14./04/22 - 5 hours standing. 2. Low loader arrives at 12pm on 17/04/22 - 4 hours standing 3. Fill water bowser 4 x 0.5 hours. 4. Collect extra casing 7 hours

Sheet 8 of 9

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 19/04/2022 - 27/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404267.52 N302142.63	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54	
Borehole Number BH22-02D	Hole Type RC	Level 134.53m AoD	Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
		64.30 - 64.64 64.30 - 65.30	C3						64.64	69.89		<p>Strong dark purplish grey fine to coarse SANDSTONE. Discontinuities are horizontal, closely to medium spaced, planar smooth with no infill.</p> <p><i>Between 64.15m and 64.51m bgl: Occasional <10mm band of pebbles which include sandstone and quartzite.</i></p> <p><i>Between 64.30m and 64.64m bgl: Vertical 1mm quartzite vein.</i></p> <p>Very weak to weak dark purplish reddish brown MUDSTONE with rare light grey and dark grey streaks. Discontinuities are horizontal, very closely spaced, planar smooth and planar rough with clay infill up to 10mm.</p> <p><i>Between 65.02m and 65.14m bgl: Sub-vertical, planar smooth fracture with clay infill up to 20mm.</i></p> <p>End of Borehole at 65.30m</p>	65
				6					65.30	69.23			66
													67
													68
													69
													70
													71
													72

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
65.30	140	50.10	140					0.00	4.50			0.00	4.50	Mist	Red		100
								4.50	48.00			4.50	48.00	Mist	Red		80
								48.00	65.30			48.00	65.30	Mist	Red		100

Remarks
 1. Low loader unavailable on 14./04/22 - 5 hours standing. 2. Low loader arrives at 12pm on 17/04/22 - 4 hours standing 3. Fill water bowser 4 x 0.5 hours. 4. Collect extra casing 7 hours

Sheet 9 of 9



BH22-02D, core run 1: 45.00m—48.00m bgl.



BH22-02D, core run 2: 48.00m—50.80m bgl.

Contract: Sandown Quarry

Contract No.: C10259

Client: Byrne Looby

Title: Rotary Core Photographs

Drawing: C10259_SP_01

Date: 22/04/22





BH22-02D, core runs 3 & 4: 50.80m—55.30m bgl.



BH22-02D, core run 5: 55.30m—58.30m bgl.

Contract: Sandown Quarry

Contract No.: C10259

Client: Byrne Looby

Title: Rotary Core Photographs

Drawing: C10259_SP_01

Date: 25/04/22





BH22-02D, core run 6: 58.30m—61.30m bgl.



BH22-02D, core run 7: 61.30m—64.30m bgl.

Contract: Sandown Quarry

Contract No.: C10259

Client: Byrne Looby

Title: Rotary Core Photographs

Drawing: C10259_SP_01

Date: 26/04/22





BH22-02D, core run 8: 64.30m—65.30m bgl.

Contract: Sandown Quarry

Contract No.: C10259

Client: Byrne Looby

Title: Rotary Core Photographs

Drawing: C10259_SP_01

Date: 26/04/22



Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 27/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404257.44 N302144.26	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT54-6	
Borehole Number BH22-02S	Hole Type RO	Level 134.41m AoD	Logged By PS	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
		0.00 - 17.00										MADE GROUND (Drillers Description).	1
													2
													3
													4
													5
													6
													7
													8

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
17.00	140	1.50	140									0.00	17.00	Mist	Red		100

Remarks

Sheet 1 of 3

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 27/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404257.44 N302144.26	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT54-6	
Borehole Number BH22-02S	Hole Type RO	Level 134.41m AoD		Logged By PS	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND (Drillers Description).	9
													10
													11
													12
													13
													14
									15.00	119.41		Marl (Drillers Description).	15
													16

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
17.00	140	1.50	140									0.00	17.00	Mist	Red		100

Remarks

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 27/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404257.44 N302144.26	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT54-6	
Borehole Number BH22-02S	Hole Type RO	Level 134.41m AoD	Logged By PS	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
									17.00	117.41		Marl (Drillers Description).	
												End of Borehole at 17.00m	17
													18
													19
													20
													21
													22
													23
													24

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
17.00	140	1.50	140									0.00	17.00	Mist	Red		100

Remarks	Sheet 3 of 3
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Rotary Core Log

Project Name: Sandown Quarry			Client: Byrne Looby			Date: 11/04/2022			
Location: Walsall			Contractor: Exploration & Testing			Co-ords: E404113.58 N301953.40			
Project No. : C10259			Crew Name: ACE Drilling			Drilling Equipment: Bertta GT-54			
Borehole Number BH22-03		Hole Type RO		Level 130.49m AoD		Logged By PS		Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring				Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD	Diameter Recovery (SPT)					
		1.20 - 2.20	U1						1.20	129.29		MADE GROUND (Drillers Description).	1
		1.70	D1									From 1.20-2.00m bgl: Drive sample: MADE GROUND: Firm to stiff reddish brown and light grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse quartzite and sandstone.	2
		SPT(S): N=27 (4,4/6,7,6,8)					(27)		2.20	128.29		MADE GROUND (Drillers Description).	3
		5.50 - 6.50	B1						5.50	124.99		From 5.50-6.50m bgl: Drive sample: MADE GROUND: Orangish brown slightly clayey slightly gravelly fine to coarse SAND with <50mm pockets of clay. Gravel is subangular to subrounded fine to coarse sandstone and mudstone.	6
									6.50	123.99		MADE GROUND (Drillers Description).	7
													8

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
15.00	140	4.50	140									0.00	15.00	Mist	Red		90

Remarks
0.5 hours dayworks for induction

Sheet 1 of 2

Rotary Core Log

Project Name: Sandown Quarry			Client: Byrne Looby			Date: 11/04/2022			
Location: Walsall			Contractor: Exploration & Testing			Co-ords: E404113.58 N301953.40			
Project No. : C10259			Crew Name: ACE Drilling			Drilling Equipment: Bertta GT-54			
Borehole Number BH22-03		Hole Type RO		Level 130.49m AoD		Logged By PS		Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
		SPT(S): 50 (25 for 75mm/50 for 10mm)							10.60	119.89		MADE GROUND (Drillers Description).	9
												Marl (Driller Description). <i>At 10.60m bgl: Drive sample, refused and continued with open hole</i>	10
													11
													12
													13
													14
									15.00	115.49		End of Borehole at 15.00m	15
													16

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
15.00	140	4.50	140									0.00	15.00	Mist	Red		90

Remarks
0.5 hours dayworks for induction

Sheet 2 of 2



BH22-03, Drive Samples: 1.20m—2.20m & 5.50m- 6.50 m bgl.

Contract: Sandown Quarry

Contract No.: C10259

Client: Byrne Looby

Title: Rotary Core Photographs

Drawing: C10259_SP_01

Date: 13/04/22



Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 11/04/2022 - 12/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404288.79 N301772.65	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54	
Borehole Number BH22-04D	Hole Type RO	Level 127.47m AoD	Logged By PS/TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND (Drillers Description)	1
													2
													3
													4
													5
													6
													7
													8

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
42.00	140	2.00	140									0.00	42.00	Mist	Red		100

Remarks

Sheet 1 of 6

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 11/04/2022 - 12/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404288.79 N301772.65	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54	
Borehole Number BH22-04D	Hole Type RO	Level 127.47m AoD		Logged By PS/TY	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND (Drillers Description)	9
													10
													11
													12
													13
													14
													15
													16

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
42.00	140	2.00	140									0.00	42.00	Mist	Red		100

Remarks

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 11/04/2022 - 12/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404288.79 N301772.65	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54	
Borehole Number BH22-04D	Hole Type RO	Level 127.47m AoD		Logged By PS/TY	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND (Drillers Description)	17
													18
													19
													20
													21
													22
													23
													24

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
42.00	140	2.00	140									0.00	42.00	Mist	Red		100

Remarks

Sheet 3 of 6

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 11/04/2022 - 12/04/2022		
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404288.79 N301772.65		
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54		
Borehole Number BH22-04D	Hole Type RO	Level 127.47m AoD		Logged By PS/TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
									25.50	101.97		MADE GROUND (Drillers Description)	25
												Marl (Drillers Description)	26
													27
													28
													29
													30
													31
													32

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
42.00	140	2.00	140									0.00	42.00	Mist	Red		100

Remarks

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 11/04/2022 - 12/04/2022		
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404288.79 N301772.65		
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54		
Borehole Number BH22-04D	Hole Type RO	Level 127.47m AoD		Logged By PS/TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												Marl (Drillers Description)	33
													34
													35
													36
													37
													38
													39
													40

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
42.00	140	2.00	140									0.00	42.00	Mist	Red		100

Remarks

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 11/04/2022 - 12/04/2022		
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404288.79 N301772.65		
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54		
Borehole Number BH22-04D	Hole Type RO	Level 127.47m AoD		Logged By PS/TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												Marl (Drillers Description)	41
								42.00	85.47			End of Borehole at 42.00m	42
													43
													44
													45
													46
													47
													48

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
42.00	140	2.00	140									0.00	42.00	Mist	Red		100

Remarks

Sheet 6 of 6

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 13/04/2022		
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404282.56 N301772.85		
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54		
Borehole Number BH22-04S	Hole Type RO	Level 131.38m AoD		Logged By PS	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND (Drillers Description).	1
													2
													3
													4
													5
													6
													7
													8

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
27.50	140	2.00	140									0.00	27.50	Mist	Red		100

Remarks

Sheet 1 of 4

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 13/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404282.56 N301772.85	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54	
Borehole Number BH22-04S	Hole Type RO	Level 131.38m AoD		Logged By PS	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND (Drillers Description).	9
													10
													11
													12
													13
													14
													15
													16

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
27.50	140	2.00	140									0.00	27.50	Mist	Red		100

Remarks

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 13/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404282.56 N301772.85	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54	
Borehole Number BH22-04S	Hole Type RO	Level 131.38m AoD		Logged By PS	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND (Drillers Description).	17
													18
													19
													20
													21
													22
													23
													24

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
27.50	140	2.00	140									0.00	27.50	Mist	Red		100

Remarks

Sheet 3 of 4

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 13/04/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404282.56 N301772.85	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta GT-54	
Borehole Number BH22-04S	Hole Type RO	Level 131.38m AoD	Logged By PS	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
												MADE GROUND (Drillers Description).	25
								25.50	105.88			Marl (Drillers Description).	26
									27.50	103.88		End of Borehole at 27.50m	28
													29
													30
													31
													32

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
27.50	140	2.00	140									0.00	27.50	Mist	Red		100

Remarks

Sheet 4 of 4

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 24/03/2022 - 28/03/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404416.26 N301939.01	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54	
Borehole Number BH22-05	Hole Type RC	Level 94.40m AoD	Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
		0.90 - 1.90			0	0	0					MADE GROUND (Drillers Description).	1
		1.90 - 2.50			0	0	0						2
		2.50 - 4.00			0	0	0						3
		4.00 - 5.50			0	0	0						4
		5.50 - 7.00											5
				AZCL	8	7	0						6
		7.00 - 8.50			0				6.88	87.52		Extremely weak to very weak dark reddish brown clayey MUDSTONE with light grey pockets up to 15mm in size.	7
				AZCL					7.31	87.10		Very weak to weak brown, reddish brown fine grained SANDSTONE with rare angular fine and medium quartzite inclusions and rare bands of mudstone <30mm. Discontinuities are horizontal very	8
					10	79	39	8					

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
25.00	140	7.00	140									0.90	8.50	Mist	Red		80
												8.50	25.00	Mist	Red		75

Remarks
 1. 3hr dayworks moving equipment to location. Rig standing for 1hr due to soft ground conditions 2. 2hr dayworks to input rods, blow out water and undertake rising head and pull rods and casing.

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 24/03/2022 - 28/03/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404416.26 N301939.01	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54	
Borehole Number BH22-05	Hole Type RC	Level 94.40m AoD	Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description			
					TCR	SCR	RQD								
[Pattern]		8.50 - 10.00		7					8.56	85.84	[Pattern]	Very weak to weak brown, reddish brown fine grained SANDSTONE with rare angular fine and medium quartzite inclusions and rare bands of mudstone <30mm. Discontinuities are horizontal very closely spaced undulating rough with no infill. <i>Between 7.54m and 7.69m bgl: Clayey gravel. At 8.18m bgl: Discontinuity is vertical rough and clean.</i> Assumed zone of core loss	9		
				AZCL	25	25	11		9.62	84.78	[Pattern]	Very weak dark reddish brown streaked light grey MUDSTONE with rare yellowish brown pockets up to 30mm in size. Discontinuities are horizontal very closely to closely spaced planar smooth with no infill.	10		
		10.00 - 11.50		6					10.43	83.98	[Pattern]	<i>Below 10.05m bgl: Discontinuities have occasional clay infill up to 5mm.</i> Very weak to weak reddish brown fine to coarse SANDSTONE with rare bluish grey bands <15mm, rare bands of mudstone <30mm, and rare angular fine quartzite gravels. Discontinuities are sub-horizontal closely spaced planar smooth with no infill.	11		
				3	100	97	61		12.30	82.10	[Pattern]	<i>Below 10.90m bgl: Sandstone is fine and medium and dark grey. Below 11.12m bgl: Closely spaced, interbedding bands <100mm of conglomerate Below 11.32m bgl: Fine grained sandstone. No coarse sandstone bands. Below 11.45m bgl: Discontinuities have clay smears.</i>	12		
		11.50 - 13.00		7					13.12	81.28	[Pattern]	Weak locally very weak dark grey SILTSTONE with occasional relic rootlet systems. Discontinuities are horizontal closely spaced planar rough with no infill. <i>At 12.63m bgl: Vertical discontinuity, rough with slight clay infill.</i>	13		
				12					13.12	81.28	[Pattern]	Extremely weak reddish brown MUDSTONE. Discontinuities are horizontal, very closely and closely spaced, planar rough and undulating rough with clay infill up to 15mm. <i>Between 13.35 and 13.83m bgl: Soft reddish brown gravelly CLAY. Gravel is angular fine to coarse extremely weak mudstone. Below 13.83m bgl: Extremely weak to very weak, discontinuities are horizontal to subhorizontal.</i>	14		
		13.00 - 14.50		6					14.50	79.90	[Pattern]	Assumed zone of core loss.	15		
				AZCL	41	36	36		15.39	79.02	[Pattern]	Extremely weak and very weak reddish brown MUDSTONE. Discontinuity set 1, horizontal closely spaced, planar rough with clay infill up to 20mm.	16		
		16.00 - 17.00		NI											

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
25.00	140	7.00	140					0.90	8.50			8.50	25.00	Mist	Red		80
														Mist	Red		75

Remarks
 1. 3hr dayworks moving equipment to location. Rig standing for 1hr due to soft ground conditions
 2. 2hr dayworks to input rods, blow out water and undertake rising head and pull rods and casing.

Sheet 2 of 4

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 24/03/2022 - 28/03/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404416.26 N301939.01	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54	
Borehole Number BH22-05	Hole Type RC	Level 94.40m AoD	Logged By TY	Scale 1:40	Status FINAL

Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
		17.00 - 18.00			100	97	87					Extremely weak and very weak reddish brown MUDSTONE. Discontinuity set 1, horizontal closely spaced, planar rough with clay infill up to 20mm. <i>Below 16.00m bgl: Weak locally very weak. Discontinuity set 1 are medium spaced. Discontinuity set 2 are 45 degrees, medium spaced, planar rough and planar stepped with no infill.</i>	17
		18.00 - 19.00		3	100	84	76		18.07	76.33		<i>Below 17.11m bgl: Very weak to weak. Discontinuity set 1 are sub horizontal, closely to medium spaced, smooth with no infill.</i>	18
		19.00 - 22.00		0 NI 2	100	71	66		19.00	75.40		Very weak to weak brown and light grey MUDSTONE. Discontinuities are sub-horizontal, closely spaced, planar rough and undulating rough with no infill. <i>Between 18.21m and 18.42m bgl: Extremely weak recovered as non-intact</i>	19
				AZCL								Assumed zone of core loss.	20
		22.00 - 23.00			31	18	10		21.06	73.34		Very weak reddish brown mottled yellowish brown with occasional light grey streaks MUDSTONE. Discontinuities are sub horizontal, closely spaced, planar smooth and undulating rough with clay smear. <i>Below 21.29m bgl: Occasional bands <15mm of gravelly clay</i>	21
		23.00 - 24.00		9	84	56	23		23.00	71.40		<i>Below 22.49m bgl: Extremely weak, reddish brown and light grey with occasional yellowish brown pockets up to 20mm.</i>	22
		24.00 - 25.00			99	99	99					Weak, locally very weak, reddish brown MUDSTONE. Discontinuities are subhorizontal, closely spaces, planar smooth and clean <i>Below 23.00m bgl: Very weak to weak reddish brown rarely mottled light grey. Discontinuities are horizontal, closely spaced, planar smooth with clay infill up to 10mm. Between 23.20m and 23.45m bgl: Very weak with abundant light grey mottling</i>	23
													24

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
25.00	140	7.00	140									0.90 8.50	8.50 25.00	Mist Mist	Red Red		80 75

Remarks
1. 3hr dayworks moving equipment to location. Rig standing for 1hr due to soft ground conditions 2. 2hr dayworks to input rods, blow out water and undertake rising head and pull rods and casing.

Sheet 3 of 4

Rotary Core Log

Project Name: Sandown Quarry		Client: Byrne Looby		Date: 24/03/2022 - 28/03/2022	
Location: Walsall		Contractor: Exploration & Testing		Co-ords: E404416.26 N301939.01	
Project No. : C10259		Crew Name: ACE Drilling		Drilling Equipment: Beretta T54	
Borehole Number BH22-05	Hole Type RC	Level 94.40m AoD	Logged By TY	Scale 1:40	Status FINAL

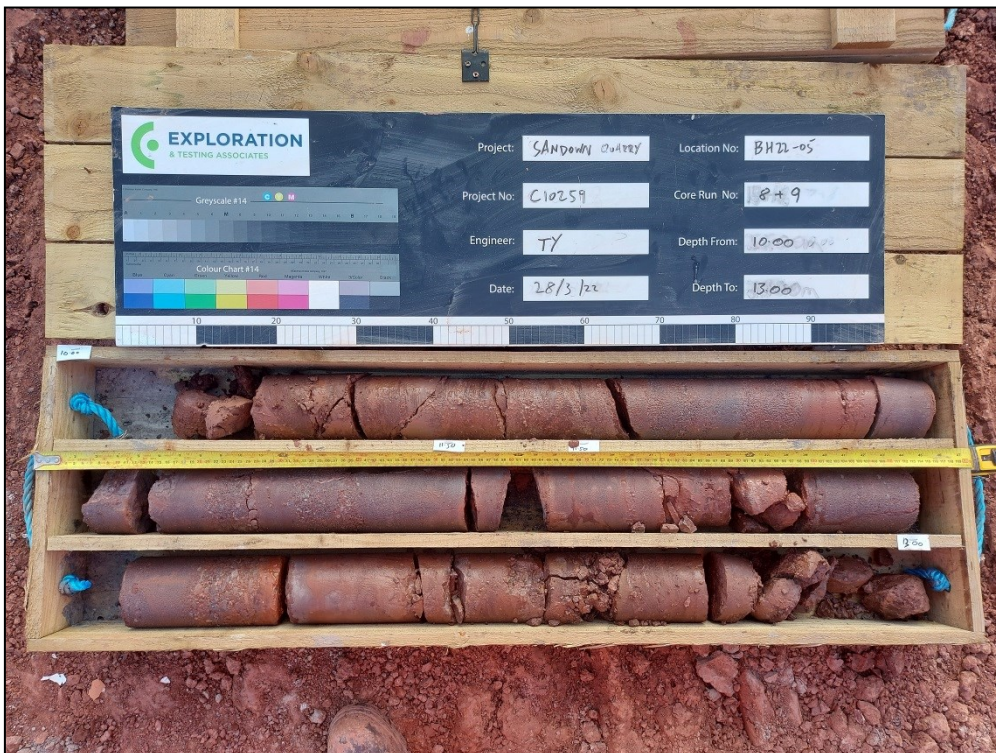
Well	Water	Depth (m)	Type	FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description	
					TCR	SCR	RQD						
		24.28 - 24.58	C1	3	97	90	88		25.00	69.40		Weak, locally very weak, reddish brown MUDSTONE. Discontinuities are subhorizontal, closely spaces, planar smooth and clean <i>Below 24.00m bgl: Discontinuities with clay infill up to 15mm.</i>	25
												End of Borehole at 25.00m	25
													26
													27
													28
													29
													30
													31
													32

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
25.00	140	7.00	140									0.90 8.50	8.50 25.00	Mist Mist	Red Red		80 75

Remarks
 1. 3hr dayworks moving equipment to location. Rig standing for 1hr due to soft ground conditions 2. 2hr dayworks to input rods, blow out water and undertake rising head and pull rods and casing.



BH22-05, core runs 5, 6 & 7: 5.50m—10.00m bgl.



BH22-05, core runs 8 & 9: 10.00m—13.00m bgl.

Contract: Sandown Quarry

Contract No.: C10259

Client: Byrne Looby

Title: Rotary Core Photographs

Drawing: C10259_SP_01

Date: 24/03/22—28/03/22





BH22-05, core runs 10 & 11: 13.00m—16.00m bgl.



BH22-05, core runs 12, 13 & 14: 16.00m—19.00m bgl.

Contract: Sandown Quarry

Contract No.: C10259

Client: Byrne Looby

Title: Rotary Core Photographs

Drawing: C10259_SP_01

Date: 28/03/22





BH22-05, core run 15: 19.00m—22.00m bgl.



BH22-05, core runs 16, 17 & 18: 22.00m—25.00m bgl.

Contract: Sandown Quarry

Contract No.: C10259

Client: Byrne Looby

Title: Rotary Core Photographs

Drawing: C10259_SP_01

Date: 29/03/22



VARIABLE HEAD PERMEABILITY TEST

Variable Head (Rising) Permeability Test in Borehole

SITE Sandown Quarry Borehole : BH22-05
 CONTRACT C10259 DEPTH : 25.00m

INITIAL CONDITIONS

Base of Response Zone	25.00	mBGL	Operator	TY
Top of Reponse Zone	20.00	mBGL	Date	29/03/2022
Diameter of borehole	140.00	mm	Test No.	1
Diameter of standpipe	140.00	mm		
Height of casing	0.00	mAGL	Weather	
Elevation of Borehole	0.00	mAOD	Calculated Test Zone	
Initial Head of water	23.00	m	5.00 m	

TEST CALCULATION

	Elapsed (minutes)	Total seconds	Water Depth (m)	Head (metres)	H/Ho
<p>Intake Factor, F</p> <p style="text-align: center;">F= 7.36 (i)</p> <p>Borehole Case D BS 5930: 1999</p>	0.0	0	23.130	1.87	0.081
	1.0	60	23.000	2.00	0.087
	2.0	120	22.890	2.11	0.092
	3.0	180	22.770	2.23	0.097
	4.0	240	22.450	2.55	0.111
	5.0	300	22.560	2.44	0.106
	10.0	600	22.050	2.95	0.128
	15.0	900	21.360	3.64	0.158
	20.0	1200	20.530	4.47	0.194
	25.0	1500	19.770	5.23	0.227
<p>Permeability, K</p> <p>$K = \frac{a}{F * (t_2 - t_1)} \cdot \ln(H_1/H_2)$ (ii)</p> <p>or</p> <p>$K = \frac{a}{F \cdot T}$ (iii)</p> <p>1 Where T is the Basic Time Lag Factor corresponding to an H/Ho value of 0.37 2 a is diameter of standpipe</p>	30.0	1800	19.220	5.78	0.251
	40.0	2400	17.500	7.50	0.326
	50.0	3000	16.510	8.49	0.369
	60.0	3600	15.450	9.55	0.415
	266.0	15960	3.450	21.55	0.937
<p>L= 5.00 m</p> <p>D= 0.140 m</p> <p>L/D= 35.71</p> <p>t1= 0 s</p> <p>t2= 15960 s</p> <p>H1= 1.87 m</p> <p>H2= 21.55 m</p> <p>a= 0.01540 m²</p> <p>F= 7.3622 From (i)</p> <p>T= 3000 s</p> <p>K= 3.20E-07 m/s From (ii)</p> <p>K= 6.97E-07 m/s From (iii)</p>					

Remarks

APPENDIX 3: GEOTECHNICAL TESTING





2788

Laboratory Report



Contract Number: 59763

Client Ref:

Date Received: **30-05-2022**

Client PO:

Date Completed: **22-06-2022**

Report Date: **22-06-2022**

Client: **Exploration & Testing Associates Limited** This report has been checked and approved by:

**Unit 8b Bowburn South Industrial Estate,
Durham
DH6 5AD**

B. Evans
Brendan Evans
Office Administrator

Contract Title: **C10259**

For the attention of: **Anthony Owen**

Test Description	Qty
Moisture Content BS 1377:1990 - Part 2 : 3.2 - * UKAS	1
4 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS	1
Particle Density (Gas Jar) BS 1377:1990 - Part 2 : 8.2 - * UKAS	1
PSD Wet Sieve method BS 1377:1990 - Part 2 : 9.2 - * UKAS	2
BRE Suite C Brownfield Site (pyrite absent) includes pH, water soluble sulphate, magnesium, chloride and nitrate Sub-contracted Test - @ Non Accredited Test	1
Disposal of samples for job	1

Notes: Observations and Interpretations are outside the UKAS Accreditation

* - denotes test included in laboratory scope of accreditation

- denotes test carried out by approved contractor

@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

Brendan Evans (Office Administrator) - Emma Sharp (Business Support Manager) - Paul Evans (Director)

Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)

Wayne Honey (Health and Safety Coordinator/ Quality Assistant)

GEO Site & Testing Services Ltd

Units 3-4, Heol Aur, Dafen, Llanelli, Carmarthenshire, Wales SA14 8QN

Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk

Summary of Soil Descriptions

Contract Number	59763	
Site Name	C10259	
Client Reference		

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
				-		
BH22-03		D	1.20	-	1.65	Brown fine to medium gravelly sandy CLAY
BH22-03		U	1.37	-	1.60	Brown fine to coarse gravelly silty CLAY
BH22-03		D	1.70	-	1.80	Red/ brown slightly gravelly fine to coarse sandy SILT/ CLAY
BH22-03		B	5.50	-		Brown slightly gravelly silty/ clayey fine to coarse SAND
				-		
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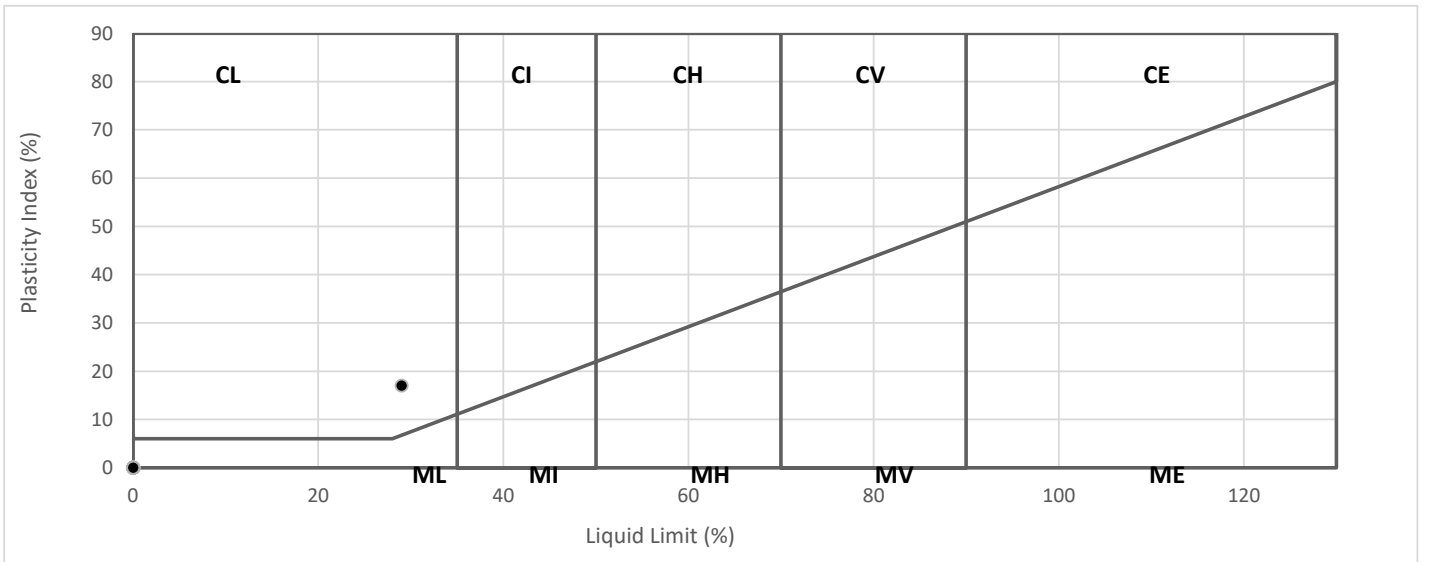
**NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX
(BS 1377:1990 - Part 2 : 4.3 & 5.3)**

Contract Number	59763
Project Location	C10259
Date Tested	16/06/2022

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
			1.25	-	1.65						
BH22-03		D	1.25	-	1.65	13	29	12	17	90	CL Low Plasticity
				-							
				-							
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Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

**PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION
BS 5930:1999+A2:2010**



Operators			
Jason Smith			



**PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2**

Contract Number 59763

Borehole/Pit No. BH22-03

Site Name C10259

Sample No.

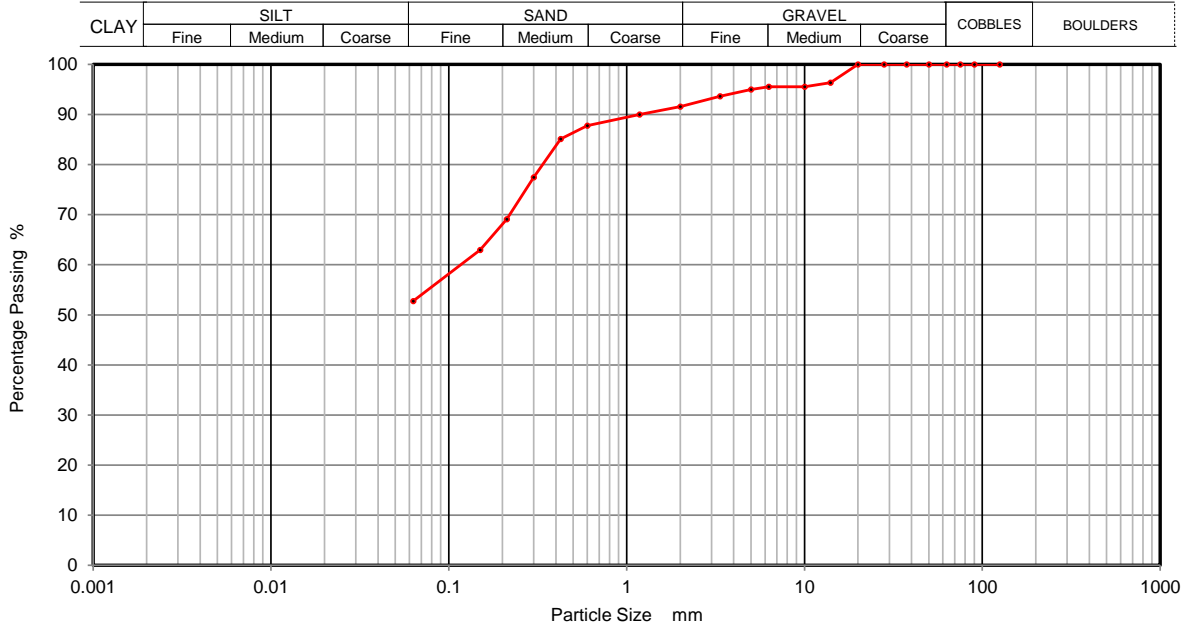
Soil Description *See description sheet

Depth Top 1.70

Depth Base 1.80

Date Tested 17/06/2022

Sample Type D



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	96		
10	96		
6.3	96		
5	95		
3.35	94		
2	92		
1.18	90		
0.6	88		
0.425	85		
0.3	77		
0.212	69		
0.15	63		
0.063	53		

Sample Proportions	% dry mass
Cobbles	0
Gravel	8
Sand	39
Silt and Clay	53

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator				
David Edwards				





**PARTICLE SIZE DISTRIBUTION
BS 1377 Part 2:1990
Wet Sieve, Clause 9.2**

Contract Number 59763

Borehole/Pit No. BH22-03

Site Name C10259

Sample No.

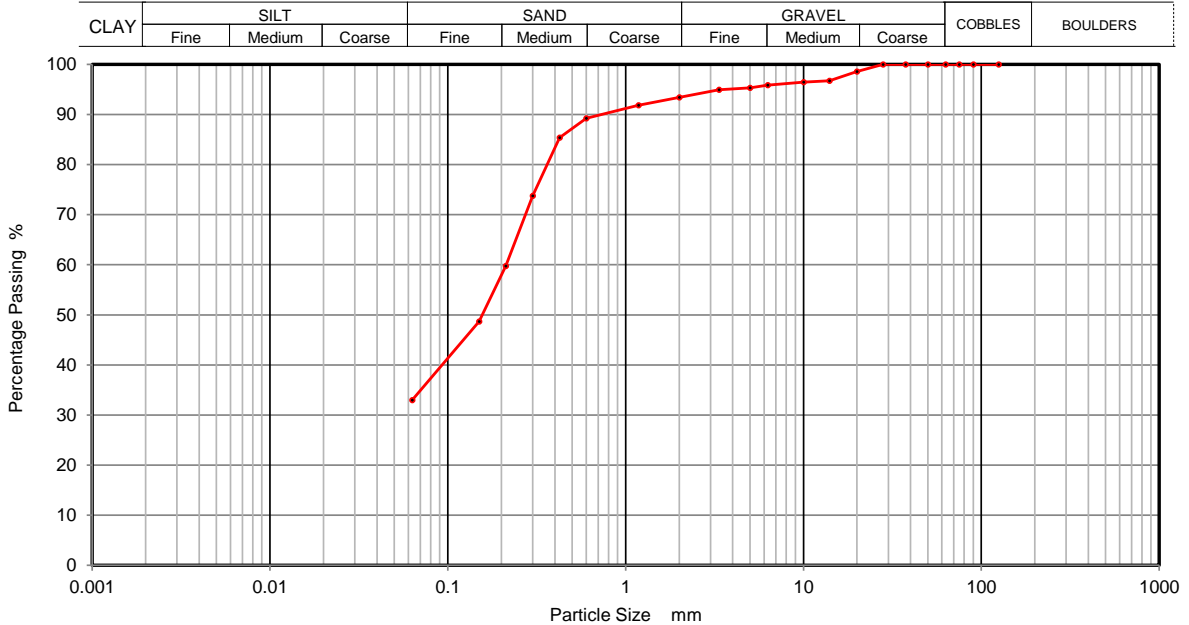
Soil Description *See description sheet

Depth Top 5.50

Depth Base

Date Tested 17/06/2022

Sample Type B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	97		
10	96		
6.3	96		
5	95		
3.35	95		
2	93		
1.18	92		
0.6	89		
0.425	85		
0.3	74		
0.212	60		
0.15	49		
0.063	33		

Sample Proportions	% dry mass
Cobbles	0
Gravel	7
Sand	60
Silt and Clay	33

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Operator				
David Edwards				





**PARTICLE DENSITY BY GAS JAR
(BS 1377 : PART 2 : 8.2 : 1990)**

Contract Number	59763	
Project Location	C10259	
Date Tested	17/06/2022	

Hole Reference	Sample Number	Sample Type	Depth (m)						Particle Density		Remarks
				-							
BH22-03		U	1.37	-	1.60				2.67		
				-							
				-							
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Key	Reported As
Moisture Content	%
Bulk Density	Mg/m ³
Dry Density	Mg/m ³
Particle Density	Mg/m ³
Air Voids	%

Operators			
Christopher Gregory			





ANALYTICAL TEST REPORT

Contract no: 110039

Contract name: C10259

Client reference: -

Clients name: Geo Site & Testing Services

Clients address: Unit 3 and 4 Heol Aur
Dafen Industrial Estate, Dafen
Llanelli, Carmarthenshire
SA14 8QN

Samples received: 06 June 2022

Analysis started: 06 June 2022

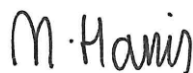
Analysis completed: 13 June 2022

Report issued: 13 June 2022

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
\$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing

Approved by:



Megan Harris

Senior Reporting Administrator

Chemtech Environmental Limited

SOILS

Lab number	110039-1		
Sample id	BH22-03		
Depth (m)	1.60-1.70		
Sample Type	D		
Date sampled	-		
Test	Method	Units	
pH	CE004 ^u	units	7.9
Magnesium (2:1 water soluble)	CE061	mg/l Mg	7.1
Chloride (2:1 water soluble)	CE049 ^u	mg/l Cl	11
Nitrate (2:1 water soluble)	CE049 ^u	mg/l NO ₃	<1
Sulphate (2:1 water soluble)	CE061 ^u	mg/l SO ₄	61

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	pH	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/l Mg
CE049	Chloride (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l Cl
CE049	Nitrate (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l NO ₃
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/l SO ₄

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
110039-1	BH22-03	1.60-1.70	Y	All (NSD)

Chemtech Environmental Limited

ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 4 weeks from initial receipt unless otherwise instructed.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.



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