



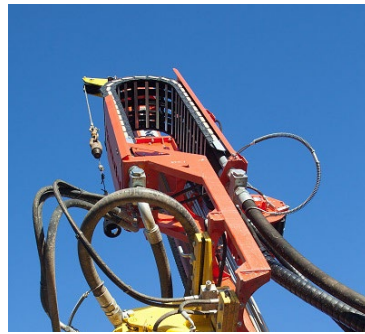
CONTRACT NO: D30024

FACTUAL REPORT ON SITE INVESTIGATION FOR

DEARNE UPM REACH 1 - WETLAND

PREPARED FOR:

JN BENTLEY LTD



● FOUNDATION HOUSE ● ST. JOHN'S ROAD ● MEADOWFIELD ● DURHAM ● DH7 8TZ
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Contract No.	D30024
Job Name	DEARNE UPM REACH 1 - WETLAND

REPORT REVISIONS

Revision No.	Issue Date	Details
D30024/00	24.10.223	Draft report for approval.

VERIFICATION

Revision No.	Issue Date		Written By	Checked By	Verified By
D30024/00	24.10.2023	Initials	SH	BC	KJ

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1 INTRODUCTION

1.1 SCOPE OF WORKS

Dunelm Geotechnical and Environmental Ltd (Dunelm) were commissioned by JN Bentley Ltd (JNB), to carry out a site investigation of Dearne UPM Reach 1 – Wetland.

The objectives of the investigation were as follows:

- To determine the typical nature, thickness and engineering parameters of the made ground and natural strata.
- To determine the nature and extent of potential contamination within the site.
- To recover samples of made ground and natural strata for chemical and geotechnical laboratory testing.
- To recover samples of groundwater from the boreholes for laboratory testing.
- To record gas concentrations and gas flows within the boreholes.

Fieldwork was undertaken generally as specified in the contract documents provided by JNB. The fieldwork was carried out between 3rd July and 8th August 2023.

Following the completion of the fieldwork selected soil and rock samples were submitted for a range of geotechnical and chemical testing.

This report presents the factual information obtained during the investigation; interpretation of this data was outside the remit of this report. The factual data is reported separately in AGS format Version 4.

1.2 GENERAL

Guidance contained in the following Standards has been followed during the investigation work as appropriate: BS5930:2015+A1:2020, BS10175:2011+A2:2017; BS1377-1:2016; BS EN ISO 14688-2:2018 and BS EN ISO 14689:2018.

The information contained in this report is as indicated on the site plan shown in Appendix A, and the areas accessible during the ground investigation.

This report is for the exclusive use of JNB and their agents. No third party may rely upon, or reproduce, the contents of this report without the written approval of Dunelm.

This report is based on the data obtained from the exploratory holes and from the subsequent tests carried out. There is always a possibility of variation in the ground conditions between boreholes. Responsibility cannot be accepted for conditions not revealed by the investigation. Any diagram or opinion of the possible configuration of the findings is conjectural and given for guidance only, and confirmation of intermediate ground conditions should be considered if deemed necessary. Dunelm's Notes on Limitations are included in Appendix H.

2 SITE LOCATION & FEATURES

The site is located 500m northeast of the village of Clayton West, west Yorkshire and 2.75km west of the M1 motorway. The approximate centre of the site is at National Grid Reference 426705, 412013.

A site location plan is presented as Drawing No. D30024/01 in Appendix A to this report.

The site comprises Clayton Sewage Treatment Works and surrounding agricultural fields and infrastructure, the River Dearne runs through the centre of the site.

3 FIELDWORK

3.1 INTRODUCTION

The fieldwork comprised the following:

Number	Exploratory Hole Label	Method
8	BH1 – BH8	Dynamic Sampling with Rotary Core Follow On
10	TP1 – TP7 & TP201 – TP203	Machine Excavated Trial Pit

Termination reasons are listed in the table below:

Number	Exploratory Hole Label	Termination Reason
1	BH2	On client instruction.
4	TP1, TP201, TP202, TP203	On suspected rockhead.

On completion all exploratory positions were backfilled immediately in accordance with instructions from JNB.

Photographs of the above mentioned core and trial pits are presented in Appendix C.

3.2 EXPLORATORY HOLE LOCATIONS

The locations of each of the above exploratory holes were provided by JNB. The approximate locations are shown on Drawing No. D30024/02 in Appendix A.

The co-ordinates of each of the exploratory holes determined from the survey are shown on the exploratory hole records.

3.3 STRATA DESCRIPTIONS

Descriptions of the strata encountered in each of the exploratory holes are presented on the exploratory hole record sheets in Appendix B to this report. Strata descriptions are based on an examination of the strata, together with consideration of the in-situ testing results and laboratory test data.

Strata descriptions have been completed in accordance with BS5930:2015+A1:2020, BS EN ISO 14688-2:2018 and BS EN ISO 14689:2018 as appropriate.

3.4 SAMPLING

Samples were recovered during the investigation works in general accordance with the contract specification.

Samples of soil for chemical analysis were placed into suitable sample containers as specified by the chemical testing laboratory. Samples of soil for geotechnical testing were recovered in accordance with the principles of BS EN ISO 22475-1:2021 and BS5930:2015+A1:2020.

Samples of made ground were scanned immediately after placement in the container using a Photo Ionisation Detector (PID) to check for the presence of volatile organic compounds. The results are shown at the relevant depth of the exploratory hole records presented in Appendix B.

3.5 IN SITU TESTING

In situ Standard Penetration Tests (SPTs) were carried out in the boreholes at a frequency in general accordance with the contract specification.

SPT tests were carried out in accordance with BS EN ISO 22476-3 2005 + A1:2011 in order to determine the relative density of the granular soils and an indication of the undrained shear strength of cohesive soils. The results of these tests are shown as 'N' values on the exploratory hole records, with the blow counts for each increment shown in brackets.

In situ hand shear vane tests were carried out in accordance to BS 1377-9 at various depths of the trial pits. The results are presented at the relevant depth of the trial pit logs included in Appendix B.

In situ Dynamic Probe tests were carried out in TP1, TP2, TP3, TP4, TP5, TP6, TP7 and TP8 in accordance with BS EN ISO 22476-2-2005+A1:2001. The results are presented in Appendix D.

In situ Soakaway tests were carried out in general accordance with BRE365 within trial pits TP1, TP4 and TP5. The results of these tests are presented in Appendix D.

3.6 MONITORING WELLS

On completion of drilling, monitoring wells were installed in selected boreholes to enable subsequent gas and groundwater monitoring. The construction of the wells was as specified during the works by JNB. Details of the installations are shown on the exploratory hole records and summarised in Table B1 in Appendix B.

Each well consisted of a lower slotted section of 50mm diameter HDPE standpipe surrounded by single size non-calcareous gravel, with an upper section of plain HDPE pipe surrounded by a bentonite cement seal.

BH1, BH3, BH5, BH6 & BH7 consist of a dual installation. The first is as above, the second well consists of a porous HDPE piezometer tip surrounded by sand, with a length of 19mm diameter HDPE pipe to surface.

Each of the wells was fitted with a suitable bung and gas tap to allow for gas and groundwater monitoring, and a protective steel cover to prevent damage to the installation.

4 LABORATORY TESTING

4.1 GEOTECHNICAL

Geotechnical laboratory testing, as scheduled by JNB, was carried out on selected samples in accordance with techniques in BS 1377-2:2022 and BRE SD1 : 2005. The testing was undertaken by a UKAS accredited laboratory and the results are presented in Appendix E.

4.2 CHEMICAL

Samples as scheduled by JNB were tested for a range of contaminants by an MCERTS accredited laboratory. The results of these tests are presented in Appendix F.

5 GAS & GROUNDWATER MEASUREMENTS

5.1 INTRODUCTION

Following the completion of the investigation work on site, a Dunelm technician made a series of visits to the site in order to carry out measurements of gas and groundwater within the monitoring wells described above. The number and frequency of these visits were specified by JNB.

The site has been monitored on four occasion, the final visit took place on 6th October 2023. The monitoring results are presented in Appendix G.

5.2 GAS MONITORING PROCEDURE

Each of the gas monitoring wells was monitored to record the concentration of methane, carbon dioxide, carbon monoxide, oxygen and hydrogen sulphide using an infra-red gas analyser. The borehole flow rate, atmospheric and differential pressure was also measured using a suitable instrument.

Gas monitoring was undertaken in accordance with current guidance.

5.3 GROUNDWATER MONITORING PROCEDURE

Measurements of groundwater level (in metres below ground level) were recorded in each borehole using a standard dipmeter.

5.4 GROUNDWATER SAMPLING PROCEDURE

Prior to groundwater sampling being commenced, each monitoring well will be developed by purging. This work was completed on 28th September 2023.

Samples of groundwater were recovered on 28th September and 6th October 2023 using a bailer.

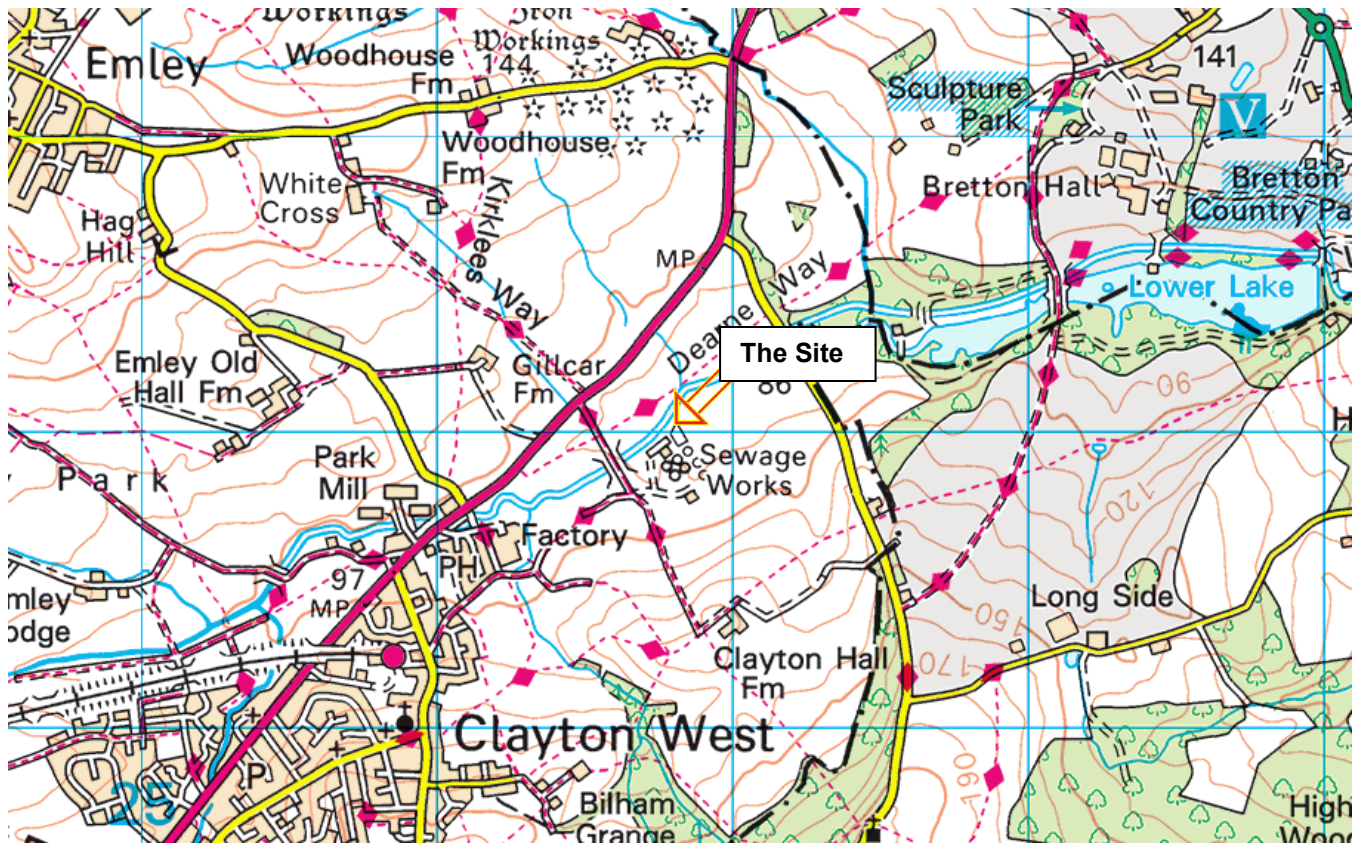
Measurements were be taken on each water sample of redox potential, dissolved oxygen, temperature, pH and conductivity prior to despatch to the laboratory. The results obtained will be included in a table in Appendix G.

Samples were then be despatched to an appropriate laboratory for testing. The results of these tests are presented in Appendix F.

APPENDIX A

Drawings





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	Contract: Dearne UPM Reach 1 - Wetland			Contract No: D30024
	Client: JN Bentley Ltd			
TEL: 0191 378 3151	Drawing Title: Site Location Plan			
Drawing & Revision No: D30024/01_00	Date: August 2023	Scale: NTS	Status: Final	Drawn by: GW

Project Id:	D30024
Project Title:	Dearne UPM Reach 1 - Wetland
Client:	JN Bentley Ltd

Title: Exploratory Hole Location Plan
Scale: 1:5000
Drawing No: D30024/02



Legend Key



Dynamic Sampling with Rotary Core Follow On



Machine Excavated Trial Pit



APPENDIX B

Exploratory Hole Records



INFORMATION GENERALLY RELATING TO ALL EXPLORATORY HOLE RECORDS

GENERAL

Borehole/Trial Pit No

The exploratory hole identity number used throughout the report.

Site

The ground investigation project name.

Client

Client's name responsible for funding the ground investigation project.

Ground Level and Location

The precise ground level in meters above Ordnance Datum at the exploratory hole location from which the reduced level for each stratigraphic boundary is calculated. The exploratory hole position is given as either national grid-coordinates or local grid as specified.

ABBREVIATIONS

Samples

B	Bulk disturbed sample generally representative of the soil type for cohesive and fine granular soils.
BRE	Sample taken for electrochemical testing
C	Core soil samples
CEF	CEFAS Sample
D	Small disturbed tub sample normally taken at intermediate depth between other sampling or testing operations. The sample is stored in an airtight container.
ES	Sample of potentially contaminated materials.
P	Piston Sample
PF	An attempted but failed piston sample
U	100mm diameter undisturbed thick-walled sample (OS-TK/W)
UT	100mm diameter undisturbed thin walled sample (OS-T/W)
UF/UTF	An attempted but failed 100mm undisturbed sample.
W	Water sample.
EW	Water sample for contamination testing

In-situ Testing

CBR	California Bearing Ratio mould sample or test.
SPT	Standard Penetration Test (SPT) using the split barrel sampler (S) or solid cone (C). The corresponding 'N' value is given in the test result column.
SWPen	Self-Weight Penetration
PID	On Site Volatile Headspace Testing by Photo Ionisation Detector
pp	Pocket Penetrometer, report unit: kPa
HVP/HVR	Hand Shear Vane test

Rock Quality and Core Recovery

TCR	Total core recovery - The length of the recovered core expressed as a percentage of the length of core run.
SCR	Solid Core Recovery - The sum length of all core pieces (measured along the centre of the core), expressed as a percentage of the length of core run.
RQD	Rock Quality Designation- The sum length of all core pieces that are 100mm or longer (measured along the centre of the core), expressed as a percentage of the length of core run.
FI	Fracture Index- The number of fractures per 1000mm length of solid core.
NI	Non-intact- The material recovered in a non-intact state.
NR	No recovery from the core run.
AZCL	Assessed Zone of Core Loss.
NA	Not Applicable

Cobble Content

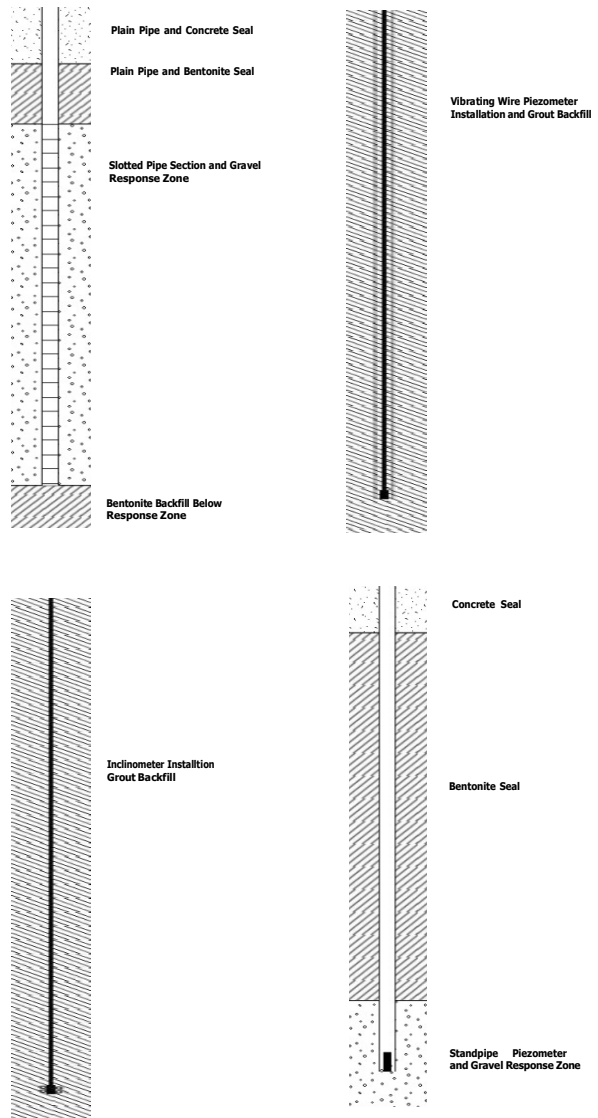
Low <10%, medium 10 – 20%, high >20%

Exploratory Hole Log Legend

BOREHOLE LEGEND:

TOPSOIL	
MADE GROUND	
SILT	
CLAY	
SAND	
GRAVEL	
PEAT	
MUDSTONE	
SILTSTONE	
SANDSTONE	
LIMESTONE	
COAL	
CHALK	
BENTONITE	
GROUT	
ARISINGS	
COBBLES and BOULDERS	

Monitoring Installation Legend:



NB Where strata consists of material of more than one soil or rock type the legends are appropriately combined.



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web: www.dunelm.co.uk

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

**Unit 25 Stella Gill Industrial Estate
Pelton Fell
Chester-le-Street
DH2 2RG**

SPT Hammer Ref: CD 9.2.03
Test Date: 09/03/2023
Report Date: 09/03/2023
File Name: CD 9.2.03.spt
Test Operator: SW

Instrumented Rod Data

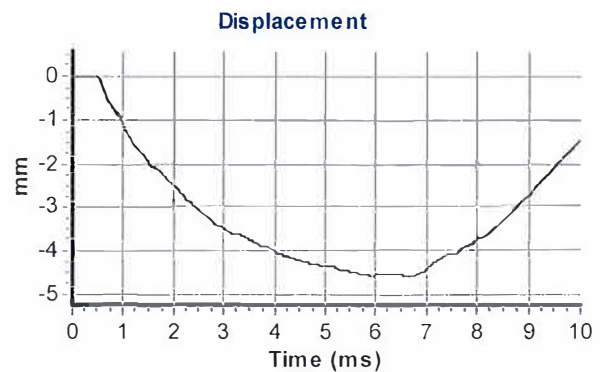
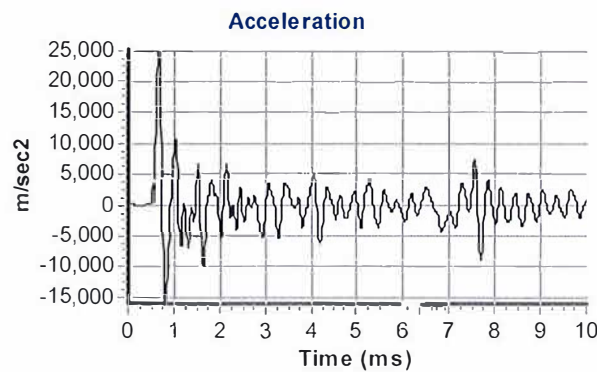
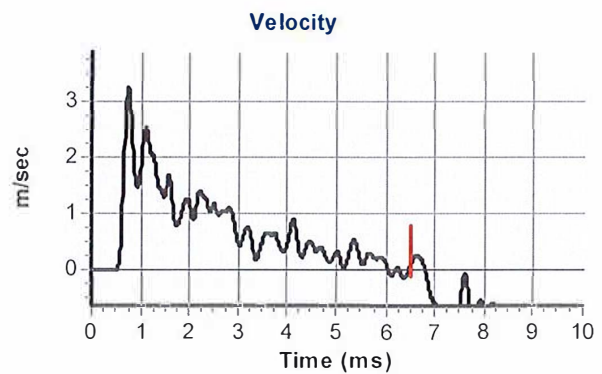
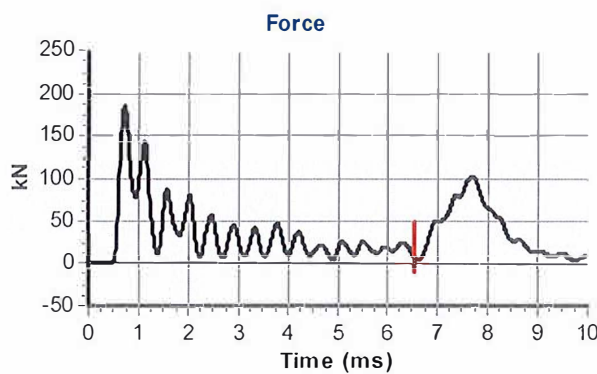
Diameter d_r (mm): 67
Wall Thickness t_r (mm): 8.7
Assumed Modulus E_a (GPa): 208
Accelerometer No.1: 65939
Accelerometer No.2: 66286

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 14.1

Comments / Location

Mass and drop provided by client.



Calculations

Area of Rod A (mm²): 1593
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 298

Energy Ratio E_r (%): **63**


Signed: Steven Wakely
Title: Laboratory Technician

The recommended calibration interval is 12 months

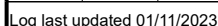


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Client:	JN Bentley Ltd		
Drawing:	Instrumentation Summary		
Table No.	B1	Date:	05/09/2023
		Status:	Final

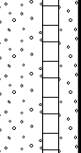
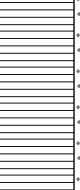
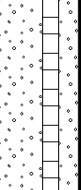
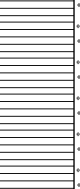
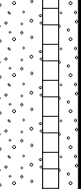
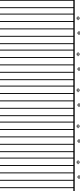
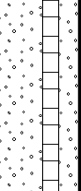
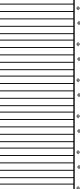
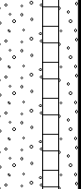
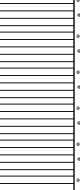
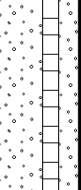
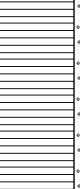
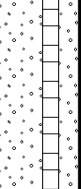
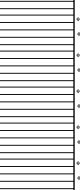
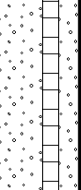
BH No.	Instrument Type	Instrument Dia. (mm)	Response Zone		Surface Protection
			Top (m)	Base (m)	
BH1	SP	50	20.00	30.00	Flush Cover.
BH1	SPIE	19	0.50	3.00	Flush Cover.
BH2	SP	50	5.00	13.00	Flush Cover.
BH3	SP	50	5.00	15.00	Flush Cover.
BH3	SPIE	19	1.00	3.00	Flush Cover.
BH4	SP	50	5.00	13.50	Flush Cover.
BH5	SP	50	5.00	20.00	Flush Cover.
BH5	SPIE	19	1.00	3.00	Flush Cover.
BH6	SP	50	8.00	15.00	Flush Cover.
BH6	SPIE	19	2.00	7.00	Flush Cover.
BH7	SP	50	5.00	29.50	Flush Cover.
BH7	SPIE	19	1.00	2.50	Flush Cover.
BH8	SP	50	6.00	12.00	Flush Cover.
BH8	SPIE	19	1.00	4.50	Flush Cover.



	Contract:	Dearne UPM Reach 1 - Wetland	Contract No:	D30024
	Client:	JN Bentley Ltd		
TEL: 0191 378 3151	Table Title:	Installation Summary Sheet		
Table & Revision No: B1 - 0	Date: September 2023	Scale: NA	Status: Final	Drawn by: SH



				BOREHOLE RECORD						Borehole BH1			
Contract No: D30024				Site: Dearne UPM Reach 1 - Wetland						Scale 1:50 Easting: 426783.00 Northing: 412127.00			
Client: JN Bentley Ltd						Driller: LP		Logged By: JJ/JB		Sheet 2 of 3			
Method: Dynamic Sampling with Rotary Core Follow On						Checked By: BC		Dates: 18/07/2023 - 27/07/2023					
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill	
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI							
	10.50 - 12.00		100	30	23	NI	11	Weak, thinly laminated, dark grey MUDSTONE. Distinctly weathered. Fractures are closely spaced subhorizontal, undulating, rough and clean.					
						6			(3.70)				
	12.00 - 13.50		100	27	7	31	12						
							13						
	13.50 - 15.00		100	60	27	19	14	Extremely weak black, COAL. Distinctly weathered. Mica vein running through at 75 degrees.	13.50				
								Weak, thinly laminated, dark grey MUDSTONE. Distinctly weathered. Fractures are closely spaced subhorizontal, undulating, rough and clean.	(0.55)				
									14.05				
									(0.75)				
	15.00 - 16.50		100	50	40	18	15	Medium strong, thinly laminated, light grey SILTSTONE. Fractures are very closely spaced subhorizontal, planar, rough and clean.	14.80				
							16						
	16.50 - 18.00		100	83	77	7	17		(4.00)				
	18.00 - 19.50		100	60	47	16	18	18.00 - 21.00 70 % Water					
							19	Weak, thinly laminated, dark grey MUDSTONE. Distinctly weathered. Fractures are closely spaced subhorizontal, undulating, rough, and clean.	18.80				
									(0.60)				
							20	Medium strong, thinly laminated, light grey SILTSTONE. Partially weathered. Fractures are medium spaced subhorizontal, planar, rough and clean.	19.40				
Ground Water (m)				Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks		
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m 2. No groundwater encountered.	
								139	4.50	139	4.50		
										121	30.00		
Log last updated 01/11/2023													

				BOREHOLE RECORD										Borehole BH1						
Contract No: D30024					Site: Dearne UPM Reach 1 - Wetland										Scale 1:50 Easting: 426783.00 Northing: 412127.00					
Client: JN Bentley Ltd										Driller: LP		Logged By: JJ/JB		Sheet 3 of 3						
Method: Dynamic Sampling with Rotary Core Follow On										Checked By: BC		Dates: 18/07/2023 - 27/07/2023								
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill								
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI														
	19.50 - 21.00		100	67	63	6		Medium strong, thinly laminated, light grey SILTSTONE. Partially weathered. Fractures are medium spaced subhorizontal, planar, rough and clean.	(1.80)											
	21.00 - 22.50		100	27	10	21	21.00 - 22.50 60 % Water	Weak, thinly laminated, dark grey MUDSTONE. Distinctly weathered. Fractures are very closely spaced subhorizontal, undulating, rough, and clean.	21.20											
						10														
						NI														
						14														
	22.50 - 24.00		100	80	27	22														
						NI														
	24.00 - 25.50		100	73	33	23	22.50 - 24.00 60 % Water													
						25														
	25.50 - 27.00		100	13	0	24	24.00 - 27.00 50 % Water	<u>25.20-30.00m: Becomes destructured</u>	(8.80)											
						36														
						NI														
						30														
	27.00 - 28.50		77	37	20	26	27.00 - 28.50 70 % Water 20/07/2023 1700 (4.50) Dry 21/07/2023 0800 (4.50) 2.70													
						27														
						NI														
						28														
	28.50 - 30.00		100	60	27	28	28.50 - 30.00 60 % Water													
						29														
						15														
							3021/07/2023 1700 (4.50) Dry	End of Borehole at 30.00 m	30.00											
Ground Water (m)													Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks 1. Hand dug inspection pit to 1.20m 2. No groundwater encountered.
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)									
								139	4.50	139	4.50									
										121	30.00									
Log last updated 01/11/2023																				



Borehole BH2

Scale 1:50

Northing:
412264.00

Sheet 1 of 3

Dates:	05/07/2023 - 11/07/2023
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Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
								139	2.70	139	2.70	
										121	29.70	
Log last updated 01/11/2023												

				BOREHOLE RECORD										Borehole BH2								
Contract No: D30024					Site: Dearne UPM Reach 1 - Wetland										Scale 1:50 Easting: 426715.00 Northing: 412264.00							
Client: JN Bentley Ltd										Driller: LP		Logged By: JJ/JB		Sheet 2 of 3								
Method: Dynamic Sampling with Rotary Core Follow On										Checked By: BC		Dates: 05/07/2023 - 11/07/2023										
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill										
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI																
	10.20 - 11.70					12	06/07/2023 1700 (2.70) Dry 07/07/2023 0800 (2.70) 7.40	Weak, light grey, MUDSTONE. Distinctly weathered. Fractures are medium spaced, subhorizontal, undulating and rough.	(7.30)													
						NI																
						11							25									
						12																
	11.70 - 13.20					100							63	40	27	13	13.20-14.35m: Becomes extremely weak	Extremely weak black COAL. Frequent randomly orientated interlocking fractures.	14.35			
	16					14																
	13.20 - 14.70												100	23	13	NI	15	Extremely weak, thinly laminated light grey, MUDSTONE. Destructured. Fractures are very closely spaced, subhorizontal, undulating and rough.	15.30			
	16					14																
	14.70 - 16.20												100	83	67	17	16	Extremely weak black COAL. Frequent randomly orientated interlocking fractures.	18.30			
	17					17																
	16.20 - 17.70												93	23	13	30	17	Extremely weak, thinly laminated, light grey, MUDSTONE. Destructured. Fractures are very closely spaced, subhorizontal, undulating and rough.	19.40			
	17.70 - 19.20					90							30	10	50	18						
	19.20 - 20.70					87							7	7	40		19	Extremely weak, thinly laminated, light grey, MUDSTONE. Destructured. Fractures are very closely spaced, subhorizontal, undulating and rough.	(3.00)			
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				BOREHOLE RECORD										Borehole BH2						
Contract No: D30024					Site: Dearne UPM Reach 1 - Wetland										Scale 1:50 Easting: 426715.00 Northing: 412264.00					
Client: JN Bentley Ltd										Driller: LP			Logged By: JJ/JB			Sheet 3 of 3				
Method: Dynamic Sampling with Rotary Core Follow On										Checked By: BC			Dates: 05/07/2023 - 11/07/2023							
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill								
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI														
							07/07/2023 1330 (2.70) Dry 10/07/2023 0800 (2.70) 3.20	Extremely weak, thinly laminated, light grey, MUDSTONE. Destructured. Fractures are very closely spaced, subhorizontal, undulating and rough. <i>Between 20.30-20.40m: Subvertical fracture, undulating and rough at 75 degrees noted.</i>												
	20.70 - 22.20		93	67	33	25	21		(4.30)											
	22.20 - 23.70		100	33	20	35	23													
	23.70 - 25.20		100	37	37	16	24	Extremely weak black COAL. Frequent randomly orientated interlocking fractures.	23.70											
	25.20 - 26.70		100	57	43	22	26	Moderately weak, thinly laminated, light grey, MUDSTONE. Partially weathered. Fractures are medium spaced, subhorizontal, undulating and rough	24.80											
	26.70 - 28.20		93	53	50	20	27	<i>27.50-27.80m: Subvertical fracture, undulating and smooth at 90 degrees noted.</i>												
	28.20 - 29.70		100	57	43	17	29	Medium strong, thinly laminated, light grey, SILTSTONE. Partially weathered. Fractures are medium spaced, subhorizontal, planar and smooth.	27.80											
								Weak, thinly laminated, light grey, MUDSTONE. Partially weathered. Fractures are medium spaced, subhorizontal, undulating and rough.	29.10											
							10/07/2023 1700 (2.70) Dry	End of Borehole at 29.70 m	29.70											
							30													
Ground Water (m)													Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks 1. Hand dug inspection pit to 1.20m 2. Unable to discern water strikes due to water flush technique 3. Borehole terminated at 29.70m upon MMB instruction
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)									
								139	2.70	139	2.70									
										121	29.70									
Log last updated 01/11/2023																				



Borehole BH3

Scale 1:50

Northing:
412173.00

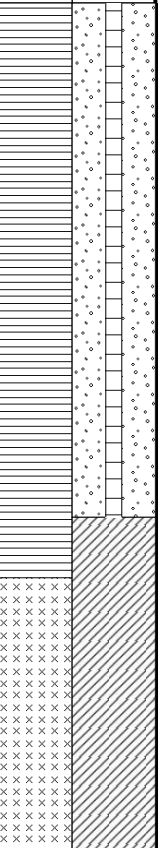
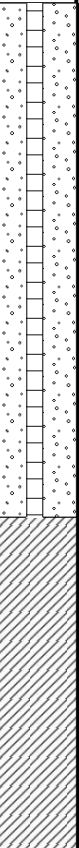
Sheet 1 of 2

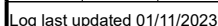
Dates:	14/07/2023 - 17/07/2023
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Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
								139	4.00	139	4.00	
										121	14.50	
Log last updated 01/11/2023												

				BOREHOLE RECORD										Borehole BH3				
Contract No: D30024					Site: Dearne UPM Reach 1 - Wetland										Scale 1:50 Easting: 426653.00 Northing: 412173.00			
Client: JN Bentley Ltd										Driller: LP		Logged By: JJ/JB		Sheet 2 of 2				
Method: Dynamic Sampling with Rotary Core Follow On										Checked By: BC		Dates: 14/07/2023 - 17/07/2023						
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill						
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI												
	10.00 - 11.50		100	57	43	10	11.50 - 14.50 70 % Water 14/07/2023 1700 (4.00) Dry 17/07/2023 0800 (4.00) Dry	Weak, thinly laminated, light grey, MUDSTONE. Distinctly weathered. Fractures are subhorizontal, undulating, rough, and medium spaced.										
						NI												
						12												
	11.50 - 13.00		87	40	13	A...		Extremely weak black, COAL. Distinctly weathered. Frequent randomly orientated interlocking fractures.	11.20 (0.30)									
						13		Weak, thinly laminated, light grey, MUDSTONE. Distinctly weathered. Fractures are subhorizontal, undulating, rough, and medium spaced.	11.50 (0.50)									
						12		Extremely weak, thinly laminated, black, COAL. Distinctly weathered. Frequent randomly orientated interlocking fractures.	12.00 (1.00)									
						23		12.10-12.35m: Coal becomes destructured										
						NI												
	13.00 - 14.50		100	63	53	13		Weak, thinly laminated, light grey, MUDSTONE. Distinctly weathered. Fractures are subhorizontal, undulating, rough, and medium spaced.	13.00 (0.85)									
						12		13.15-13.45m: Becomes weak mudstone. 13.45-13.46m: Band of extremely weak, extremely weathered, black, coal.										
						14		Extremely weak, extremely weathered, black, COAL. Distinctly weathered.	13.85 (0.25)									
						6		Weak, thinly laminated, light grey, MUDSTONE. Distinctly weathered. Fractures are subhorizontal, undulating, rough, and medium spaced.	14.10 (0.40)									
					NI	17/07/2023 1700 (4.00) Dry	End of Borehole at 14.50 m	14.50										
					15													
					16													
					17													
					18													
						19												
						20												
Ground Water (m)							Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks 1. Hand dug Inspection pit to 1.00m. 2. No groundwater encountered.				
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)							
								139	4.00	139	4.00							
											121	14.50						
Log last updated 01/11/2023																		



				BOREHOLE RECORD										Borehole BH4				
Contract No: D30024					Site: Dearne UPM Reach 1 - Wetland										Scale 1:50 Easting: 426679.00 Northing: 411893.00			
Client: JN Bentley Ltd										Driller: LP		Logged By: JJ/JB		Sheet 2 of 2				
Method: Dynamic Sampling with Rotary Core Follow On										Checked By: BC		Dates: 03/07/2023 - 05/07/2023						
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill						
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI												
	9.70 - 11.20		97	7	0	NI		Extremely weak thinly laminated dark grey MUDSTONE. Destructured. Fractures are medium spaced, subhorizontal, planar and rough.										
	11.20 - 12.70		100	33	17	NI												
	12.70 - 14.20		97	20	13	NI												
	14.20 - 15.70		100	73	63	14												
						13												
						12												
						11												
						10												
						9												
						8												
						7												
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						4												
						3												
						2												
						1												
						0												
						04/07/2023 1700 (5.20) 3.20		End of Borehole at 15.70 m										
Ground Water (m)							Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks				
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m. 2. No groundwater encountered.						
								139	5.20	139	5.20							
										121	15.70							
Log last updated 01/11/2023																		





Borehole BH5

Scale 1:50

Northing:
412052.00

Sheet 2 of 2

Dates:	17/07/2023 - 18/07/2023
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Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
								139	3.00	139	3.00	
										121	20.00	
Log last updated 01/11/2023												



				BOREHOLE RECORD										Borehole BH6						
Contract No: D30024					Site: Dearne UPM Reach 1 - Wetland										Scale 1:50 Easting: 426632.00 Northing: 411917.00					
Client: JN Bentley Ltd										Driller: LP		Logged By: JJ/JB		Sheet 2 of 2						
Method: Dynamic Sampling with Rotary Core Follow On										Checked By: BC		Dates: 26/07/2023 - 27/07/2023								
SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill								
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI														
						5		Weak light grey MUDSTONE. Partially weathered. Fractures are very closely spaced, subhorizontal, planar, smooth and clean.	(6.10)											
	10.70 - 12.20		100	91	91	3	11													
						12														
	12.20 - 13.70		93	87	57	5	13	12.20-12.30m: Strong partially weathered band of sandstone.												
							26/07/2023 1700 (6.00) Dry 27/07/2023 0800 (6.00) 0.80													
	13.70 - 15.20		100	80	23	4	14	Very weak black COAL. Distinctly weathered.	13.80											
							15	Weak light grey MUDSTONE. Partially weathered. Fractures are very closely spaced, subhorizontal, planar, smooth and clean.	14.60 (0.60)											
							27/07/2023 1700 (6.00) Dry	End of Borehole at 15.20 m	15.20											
							16													
							17													
							18													
							19													
							20													
Ground Water (m)													Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks 1. Hand dug inspection pit to 1.20m 2. No groundwater encountered
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)									
								139	6.00	139	6.00									
										121	15.20									
Log last updated 01/11/2023																				

					BOREHOLE RECORD					Borehole BH7					
Contract No: D30024					Site: Dearne UPM Reach 1 - Wetland					GL (m AOD) - Scale 1:50 Easting: 426723.00 Northing: 412156.00					
Client: JN Bentley Ltd					Driller: LP		Logged By: JJ/JB		Sheet 1 of 3						
Method: Dynamic Sampling with Rotary Core Follow On					Checked By: BC				Dates: 10/07/2023 - 13/07/2023						
SAMPLE DETAILS					(Casing) Groundwater	STRATA RECORD Description				Depth (m)	Level (m AOD)	Legend	Well/ Backfill		
Type	Depth From-To (m)	Insitu Testing													
B D ES ES B D ES ES ES D ES	0.10 - 0.30 0.20 0.20 0.25 0.50 - 1.00 0.50 0.50 0.60 0.75 1.00 1.00					1	MADE GROUND: Light brown slightly sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of sandstone, mudstone and brick. Occasional rootlets. (Topsoil). Stiff light orange brown mottled grey sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone, mudstone and coal.				(0.30) 0.30				
B SPT (S)	1.20 - 1.65 1.20 - 2.00 1.20 - 2.00	N=11 N24/322 3,3,3,2	3	3	3	2	10/07/2023 1700 (0.00) Dry 11/07/2023 0800 (0.00) Dry (1.20) Dry					(1.70)			
D SPT (S)	2.00 - 2.45 2.00 - 3.50	N=38 (4,4/3,4, 17,14)	100	0	0	2	2.00 - 3.50 80 % Water (2.00) 0.30	Very weak, thinly laminated, light grey, MUDSTONE. Destructured. Fractures are closely spaced, subhorizontal, planar and smooth.				2.00 (1.25)			
	3.50 - 5.00		100	17	7	3	3.50 - 6.50 70 % Water	Medium strong, thinly laminated, light grey SILTSTONE. Distinctly weathered. Fractures are closely spaced, subhorizontal, planar, and rough.				3.25 (1.40)			
	5.00 - 6.50		100	37	27	4	5.40-5.90m: 4 small bands of extremely weak black coal- 1cm thick.					4.65 (1.55)			
	6.50 - 7.80		81	12	8	5	6.50 - 7.80 60 % Water	Extremely weak black COAL. Frequent randomly orientated interlocking fractures.				6.20 (0.80)			
	7.80 - 9.30		100	27	20	6	7.80 - 9.30 20 % Water	Extremely weak, dark grey MUDSTONE. Destructured. Fractures are medium spaced, subhorizontal, undulating and rough.				7.00 (1.35)			
	9.30 - 10.50		100	21	17	7	9.30 - 10.50 0 % Water	Extremely weak black COAL. Frequent randomly orientated interlocking fractures. Extremely weak, dark grey MUDSTONE. Destructured. Fractures are medium spaced, subhorizontal, undulating and rough.				8.35 (0.20) 8.55 (1.40)			
						8		Extremely weak black COAL. Frequent randomly orientated				9.95			
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks			
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. Hand dug inspection pit to 1.20m 2. No groundwater encountered			
								139	12.00	139	12.00				
										121	30.00				
Log last updated 01/11/2023															



Borehole BH7

Scale 1:50

Northing:
412156.00

Sheet 2 of 3

Dates:	10/07/2023 - 13/07/2023
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Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
								139	12.00	139	12.00	
										121	30.00	
Log last updated 01/11/2023												



Borehole BH7

Scale 1:50

Northing:
412156.00

Sheet 3 of 3

Dates:	10/07/2023 - 13/07/2023
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Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
								139	12.00	139	12.00	
Log last updated 01/11/2023												

					BOREHOLE RECORD					Borehole BH8				
Contract No: D30024					Site: Dearne UPM Reach 1 - Wetland					GL (m AOD) - Scale 1:50 Easting: 426676.00 Northing: 412008.00				
Client: JN Bentley Ltd					Driller: LP		Logged By: JJ/JB		Sheet 1 of 2					
Method: Dynamic Sampling with Rotary Core Follow On					Checked By: BC				Dates: 06/07/2023 - 26/07/2023					
SAMPLE DETAILS					(Casing) Groundwater	STRATA RECORD Description				Depth (m)	Level (m AOD)	Legend	Well/ Backfill	
Type	Depth From-To (m)	Insitu Testing												
B D ES ES B D ES ES ES D ES	0.10 - 0.30 0.20 0.20 0.25 0.50 - 1.00 0.50 0.50 0.60 0.75 1.00 1.00					1	MADE GROUND: Light brown slightly sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of sandstone, mudstone and brick. Occasional rootlets. (Topsoil). Stiff light orange brown mottled grey sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone, mudstone and coal.				(0.30) 0.30 (0.90)			
B SPT (S)	1.20 - 1.65 1.20 - 2.00 1.20 - 2.00	N=6 N=6 (1,2,1,2)	2,1,2	94	(1.20) Dry	Soft brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone and mudstone.				1.20				
D SPT (S)	2.00 - 2.45 2.00 - 3.00	N=19 (3,4/4.5, 5.5)		100	2 (2.00) Dry	2.00M: Becomes firm.								
D SPT (S)	3.00 - 3.45 3.00 - 3.45	N=30 (5,5/5.7, 9.9)	100		3 (3.00) Dry					(3.60)				
	3.30 - 4.80		73		3.30 - 4.80 70 % Water	3.30M: Becomes very gravelly.								
	4.80 - 6.30		100	67	20 NI 12 NI 15	4.80 - 7.80 90 % Water				4.80				
	6.30 - 7.80		93	67	21	7.80 - 9.30 80 % Water				(5.60)				
	7.80 - 9.30		93	78	23 NI 23									
	9.30 - 10.80		93	43	7 28	9.30 - 12.30 70 % Water								
TCR%SCR%ROD%FI														
Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks 1. Hand dug inspection pit to 1.20m 2. No groundwater encountered		
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)			
								139	4.50	139 121	4.50 19.80			
Log last updated 01/11/2023														



Borehole BH8

Scale 1:50

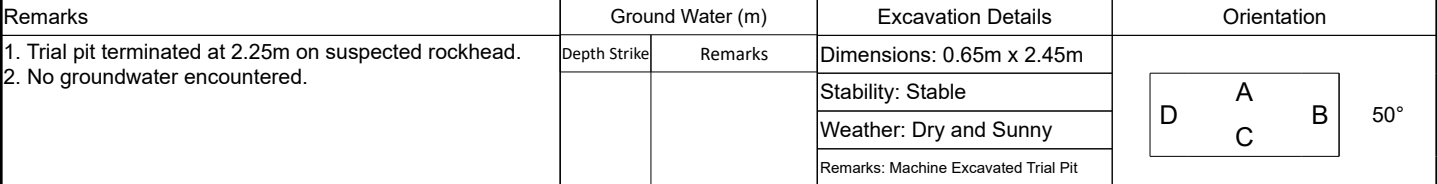
Northing:
412008.00

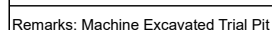
Sheet 2 of 2

Dates:	06/07/2023 - 26/07/2023
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Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	
								139	4.50	139	4.50	
										121	19.80	
Log last updated 01/11/2023												

Remarks	Ground Water (m)		Excavation Details	Orientation
1. Trial pit terminated at 2.05m on suspected rockhead. 2. No groundwater encountered.	Depth	Strike	Dimensions: 0.50m x 3.00m	D A B C 0°
			Stability: Stable	
			Weather: Sunny and dry, 20 degrees	
			Remarks: Machine Excavated Trial Pit	





Remarks	Ground Water (m)		Excavation Details	Orientation
1. Trial pit terminated at 2.10m on suspected rockhead. 2. No groundwater encountered.	Depth Strike	Remarks	Dimensions: 0.70m x 2.25m	D A C B 317°
			Stability: Stable	
			Weather: Dry and Sunny	
			Remarks: Machine Excavated Trial Pit	

Contract No.: D30024

Site: Dearne UPM Reach 1 - Wetland

Scale 1:25

Easting:
426729.00

Northings:
411862.00

Client: JN Bentley Ltd

Logged By: JJ

Sheet 1 of 1

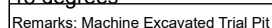
Method: Machine Excavated Trial Pit

Checked By: BC

Dates: 05/07/2023

SAMPLE DETAILS			Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Backfill
Type	Depth From-To (m)	Insitu Testing						
B D ES PID ES	0.10 0.20 0.20 0.20 0.25	PID: 0.0ppmv		MADE GROUND: Light brown slightly sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of sandstone, mudstone and brick. Occasional rootlets noted. (Topsoil).	(0.30)			
B D ES HVP PID ES PID ES	0.50 0.50 0.50 0.50 0.50 0.60 0.60 0.75	HVS: 76kPa PID: 0.1ppmv PID: 0.0ppmv		Stiff light orange brown mottled grey sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse of sandstone, mudstone and coal.	0.30			
D ES HVP PID ES	1.00 1.00 1.00 1.00 1.25	HVS: 86kPa PID: 0.0ppmv	1		(1.70)			
B ES HVP D PID ES	1.50 1.50 1.50 1.70 1.70 1.75	HVS: 105kPa PID: 0.1ppmv						
ES	2.00		2	Dark brown slightly sandy slightly clayey GRAVEL with a high cobble content. Gravel is subangular to subrounded fine to coarse of sandstone and mudstone. Cobbles are subangular to subrounded of sandstone.	2.00			
ES	2.25							
B ES	2.50 2.50				(1.00)			
ES D PID	2.75 2.80 2.80	PID: 0.0ppmv						
ES	3.00		3	End of Trial Pit at 3.00 m	3.00			
			4					
			5					

Remarks	Ground Water (m)		Excavation Details	Orientation
	Depth Strike	Remarks	Dimensions: 0.50m x 3.00m	A B C D 0°
	3.00	Rise to 2.15m.	Stability: Stable	
			Weather: Sunny and dry, 20 degrees	
			Remarks: Machine Excavated Trial Pit	



APPENDIX C

Photographs



Photographs



D30024_BH01_0.8-3.00m

Photographs



D30024_BH01_3.00-6.00mm

Photographs



D30024_BH01_6.00-9.00m

Photographs



D30024_BH01_9.00-12.00m

Photographs



D30024_BH01_12.00-15.00m

Photographs



D30024_BH01_15.00-18.00m

Photographs



D30024_BH01_18.00-21.00m

Photographs



D30024_BH01_21.00-24.00m

Photographs



D30024_BH01_24.00-27.00m

Photographs



D30024_BH02_0.40-2.70m

Photographs



D30024_BH02_2.70-5.70m

Photographs



D30024_BH02_5.70-8.70m

Photographs



D30024_BH02_8.70-11.70m

Photographs



D30024_BH02_11.70-14.70m

	Project Project No. Carried out for Dearne Reach D30024 JN Bentley Ltd	Plate 14
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Photographs



D30024_BH02_14.70-17.70m

Photographs



D30024_BH02_17.70-20.70m

Photographs



D30024_BH02_20.70-23.70m

Photographs



D30024_BH02_23.70-26.70m

Photographs



D30024_BH02_26.70-29.70m

Photographs



D30024_BH03_0.80-4.00m

Photographs



D30024_BH03_4.00-7.00m

Photographs



D30024_BH03_7.00-10.00m

Photographs



D30024_BH03_10.00-13.00m

Photographs



D30024_BH03_13.00-14.5m

Photographs



D30024_BH04_1.20-3.70m

	Project Project No. Carried out for Dearne Reach D30024 JN Bentley Ltd	Plate 25
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Photographs



D30024_BH04_5.20-8.20m

	Project Dearne Reach Project No. D30024 Carried out for JN Bentley Ltd	Plate 26
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Photographs



D30024_BH04_8.20-11.20m

Photographs



D30024_BH04_11.20-14.20m

Photographs



D30024_BH04_14.20-15.70m

Photographs



D30024_BH05_1.20-3.50m

Photographs



D30024_BH05_3.50-6.50m

Photographs



D30024_BH05_6.50-9.5m

Photographs



D30024_BH05_9.50-12.5m

Photographs



D30024_BH05_12.50-15.50m

Photographs



D30024_BH05_15.50-18.50m

Photographs



D30024_BH05_18.50-20.00m

Photographs



D30024_BH06_2.00-4.70m

Photographs



D30024_BH06_4.70-7.70m

Photographs



D30024_BH06_7.70-10.70m

Photographs



D30024_BH06_10.70-13.70m

Photographs



D30024_BH06_13.70-15.70m

Photographs



D30024_BH07_1.2-3.5m

Photographs



D30024_BH07_3.50-6.50m

Photographs



D30024_BH07_6.50-9.30m

Photographs



D30024_BH07_9.30-12.00m

	Project Project No. Carried out for Dearne Reach D30024 JN Bentley Ltd	Plate 45
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Photographs



D30024_BH07_12.00-14.50m

Photographs



D30024_BH07_14.50-17.50m

Photographs



D30024_BH07_17.50-20.50m

Photographs



D30024_BH07_20.50-23.50m

Photographs



D30024_BH07_23.50-26.50m

Photographs



D30024_BH07_26.50-29.50m

 DUNELM GEOTECHNICAL & ENVIRONMENTAL	Project	Dearne Reach	Plate 51
	Project No.	D30024	
	Carried out for	JN Bentley Ltd	

Photographs



D30024_BH08_1.20-3.30m

Photographs



D30024_BH08_3.30-6.30m

Photographs



D30024_BH08_6.30-9.30m

Photographs



D30024_BH08_9.30-12.30m

Photographs



D30024_BH08_12.30-15.30m

Photographs



D30024_BH08_15.30-18.30m

Photographs



D30024_BH08_18.30-19.80m

Photographs



D30024_TH01-Long

Photographs



D30024_TH01-Short

Photographs



D30024_TH01-Spoil

Photographs



D30024_TH02-Long

Photographs



D30024_TH02-Short

Photographs



D30024_TH02-Spoil

Photographs



D30024_TH03-Long

Photographs



D30024_TH03-Short

Photographs



D30024_TH03-Spoil

Photographs



D30024_TH04-Long

Photographs



D30024_TH04-Short

Photographs



D30024_TH04-Spoil

Photographs



D30024_TH05-Long

Photographs



D30024_TH05-Short

Photographs



D30024_TH05-Spoil

Photographs



D30024_TH06-Long

Photographs



D30024_TH06-Short

Photographs



D30024_TH06-Spoil

Photographs



D30024_TH07-Long

Photographs



D30024_TH07-Short

Photographs



D30024_TH07-Spoil

APPENDIX D

In Situ Testing



DCP Results





DYNAMIC CONE PENETROMETER TEST REPORT

Unit 5E, Edwardson Road • Meadowfield • DH7 8RL
Tel 0191 349 9210

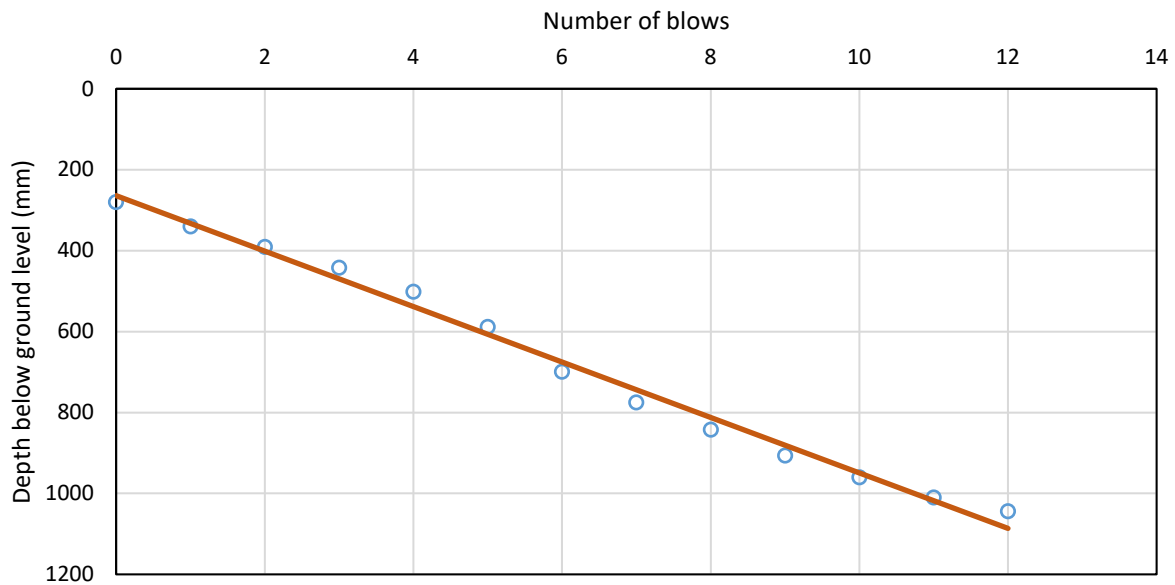
Project: MT1077 - 235354
Project name: Dearne Reach WTW - Dunelm
Geotechnical
Report date: 10/08/2023

Operator: GH

Notes: Brown sandy gravelly clay

Test date: 08/08/2023

Test location: TP 01



Layer 50-1044mm bgl

Penetration rate

69 mm/blow

Equivalent CBR

3.5 %

[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]

Equivalent surface modulus

38.9 MPa

[TRRL LR 1132 - Appendix C Equation C1]

Estimated bearing capacity

59.7 kPa

[PCA - Design of Concrete Pavement. 1955]

Produced by	Dated	Checked by	Dated
CS	10/08/23	MA	10/08/23



DYNAMIC CONE PENETROMETER TEST REPORT

Unit 5E, Edwardson Road • Meadowfield • DH7 8RL
Tel 0191 349 9210

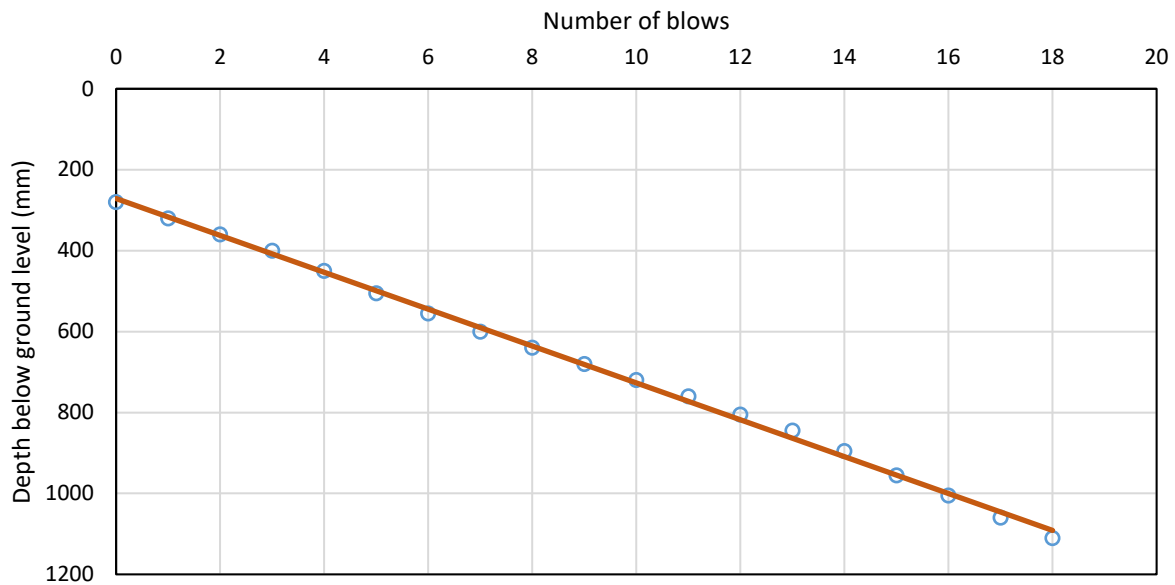
Project: MT1077 - 235355
Project name: Dearne Reach WTW - Dunelm
Geotechnical
Report date: 10/08/2023

Operator: GH

Notes: Brown sandy gravelly clay

Test date: 08/08/2023

Test location: TP 02



Layer 50-1110mm bgl

Penetration rate

46 mm/blow

Equivalent CBR

5.3 %

[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]

Equivalent surface modulus

51.3 MPa

[TRRL LR 1132 - Appendix C Equation C1]

Estimated bearing capacity

79.5 kPa

[PCA - Design of Concrete Pavement. 1955]

Produced by	Dated	Checked by	Dated
CS	10/08/23	MA	10/08/23



DYNAMIC CONE PENETROMETER TEST REPORT

Unit 5E, Edwardson Road • Meadowfield • DH7 8RL
Tel 0191 349 9210

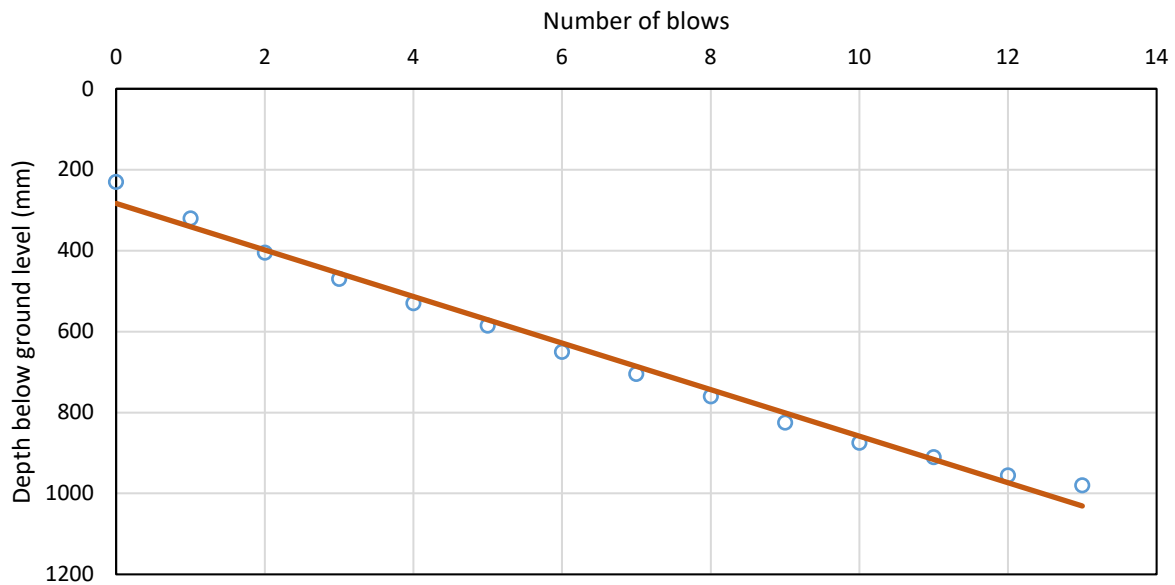
Project: MT1077 - 235356
Project name: Dearne Reach WTW - Dunelm
Geotechnical
Report date: 10/08/2023

Operator: GH

Notes: Brown sandy gravelly clay

Test date: 08/08/2023

Test location: TP 03



Layer 50-980mm bgl

Penetration rate

58 mm/blow

Equivalent CBR

4.2 %

[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]

Equivalent surface modulus

43.8 MPa

[TRRL LR 1132 - Appendix C Equation C1]

Estimated bearing capacity

67.5 kPa

[PCA - Design of Concrete Pavement. 1955]

Produced by	Dated	Checked by	Dated
CS	10/08/23	MA	10/08/23



DYNAMIC CONE PENETROMETER TEST REPORT

Unit 5E, Edwardson Road • Meadowfield • DH7 8RL
Tel 0191 349 9210

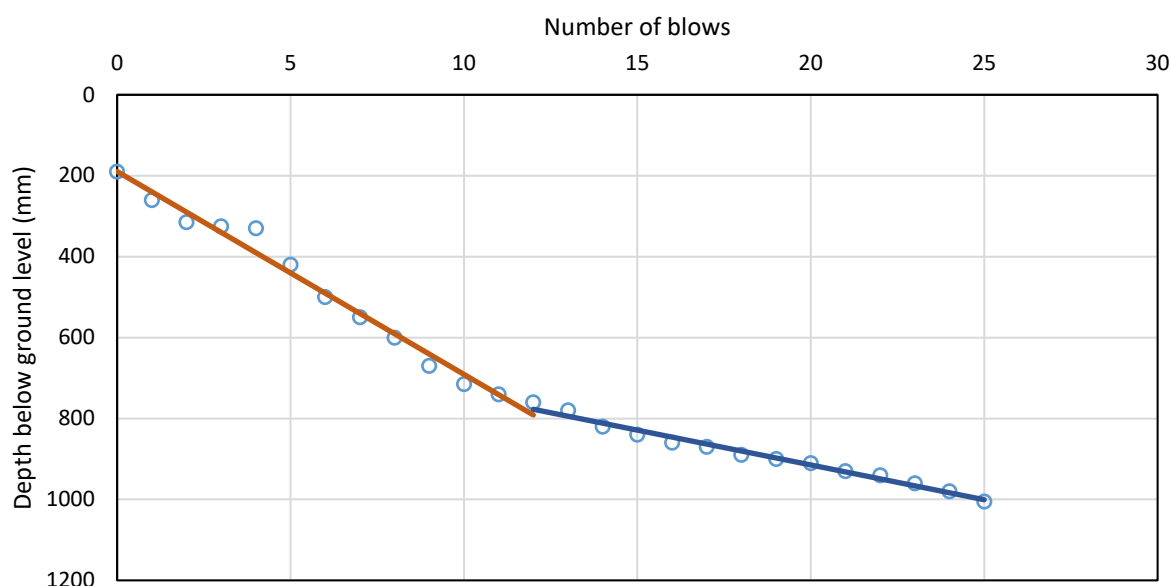
Project: MT1077 - 235357
Project name: Dearne Reach WTW - Dunelm
Geotechnical
Report date: 10/08/2023

Operator: GH

Notes: Brown sandy gravelly clay

Test date: 08/08/2023

Test location: TP 04



Layer 50-760mm bgl

Penetration rate	50 mm/blow	
Equivalent CBR	4.8 %	[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]
Equivalent surface modulus	48.1 MPa	[TRRL LR 1132 - Appendix C Equation C1]
Estimated bearing capacity	74.3 kPa	[PCA - Design of Concrete Pavement. 1955]

Layer 760-1005mm bgl

Penetration rate	17.1978 mm/blow	
Equivalent CBR	14.9 %	[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]
Equivalent surface modulus	99.2 MPa	[TRRL LR 1132 - Appendix C Equation C1]
Estimated bearing capacity	157.5 kPa	[PCA - Design of Concrete Pavement. 1955]

Produced by	Dated	Checked by	Dated
CS	10/08/23	MA	10/08/23



DYNAMIC CONE PENETROMETER TEST REPORT

Unit 5E, Edwardson Road • Meadowfield • DH7 8RL
Tel 0191 349 9210

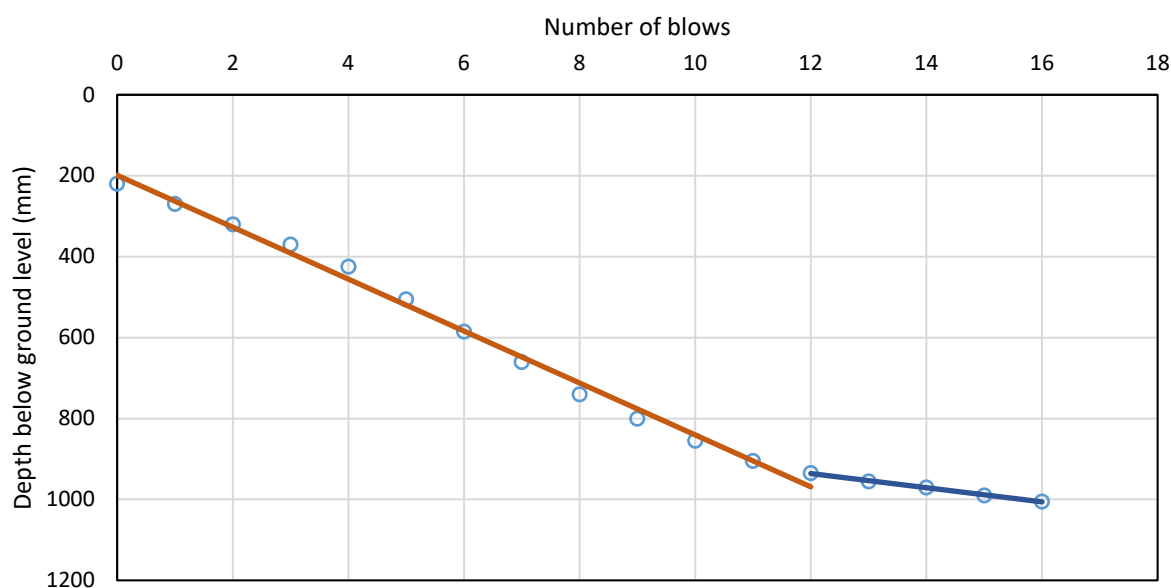
Project: MT1077 - 235358
Project name: Dearne Reach WTW - Dunelm
Geotechnical
Report date: 10/08/2023

Operator: GH

Notes: Brown sandy gravelly clay

Test date: 08/08/2023

Test location: TP 05



Layer 50-935mm bgl

Penetration rate

64 mm/blow

Equivalent CBR

3.7 %

[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]

Equivalent surface modulus

40.7 MPa

[TRRL LR 1132 - Appendix C Equation C1]

Estimated bearing capacity

62.5 kPa

[PCA - Design of Concrete Pavement. 1955]

Layer 935-1005mm bgl

Penetration rate

17.5 mm/blow

Equivalent CBR

14.7 %

[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]

Equivalent surface modulus

98.0 MPa

[TRRL LR 1132 - Appendix C Equation C1]

Estimated bearing capacity

155.6 kPa

[PCA - Design of Concrete Pavement. 1955]

Produced by	Dated	Checked by	Dated
CS	10/08/23	MA	10/08/23



DYNAMIC CONE PENETROMETER TEST REPORT

Unit 5E, Edwardson Road • Meadowfield • DH7 8RL
Tel 0191 349 9210

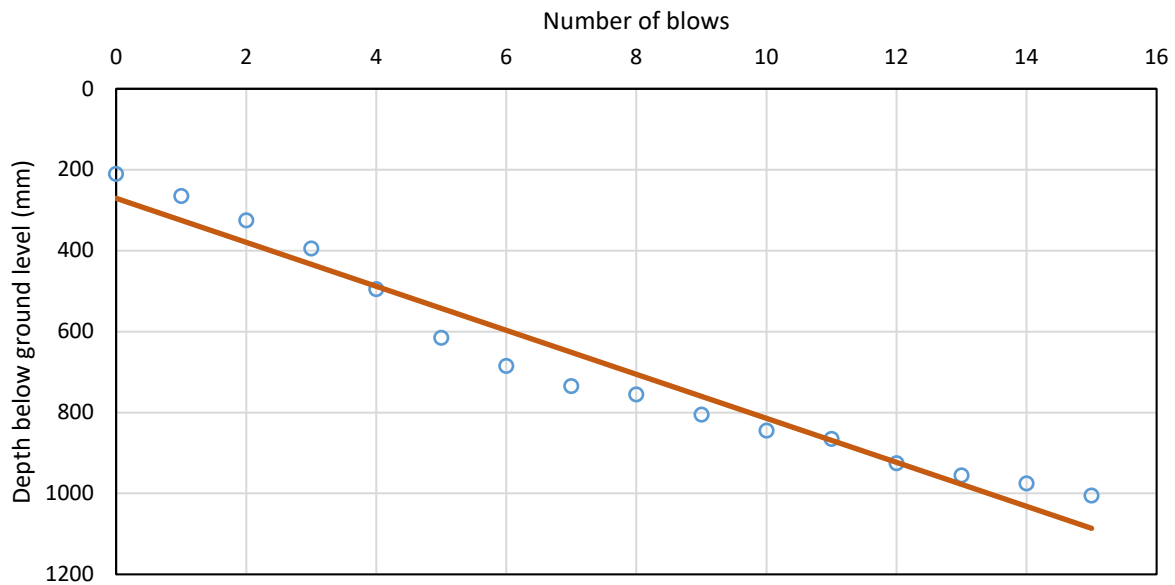
Project: MT1077 - 235359
Project name: Dearne Reach WTW - Dunelm
Geotechnical
Report date: 10/08/2023

Operator: GH

Notes: Brown sandy gravelly clay

Test date: 08/08/2023

Test location: TP 06



Layer 50-1005mm bgl

Penetration rate

54 mm/blow

Equivalent CBR

4.4 %

[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]

Equivalent surface modulus

45.5 MPa

[TRRL LR 1132 - Appendix C Equation C1]

Estimated bearing capacity

70.2 kPa

[PCA - Design of Concrete Pavement. 1955]

Produced by	Dated	Checked by	Dated
CS	10/08/23	MA	10/08/23



DYNAMIC CONE PENETROMETER TEST REPORT

Unit 5E, Edwardson Road • Meadowfield • DH7 8RL
Tel 0191 349 9210

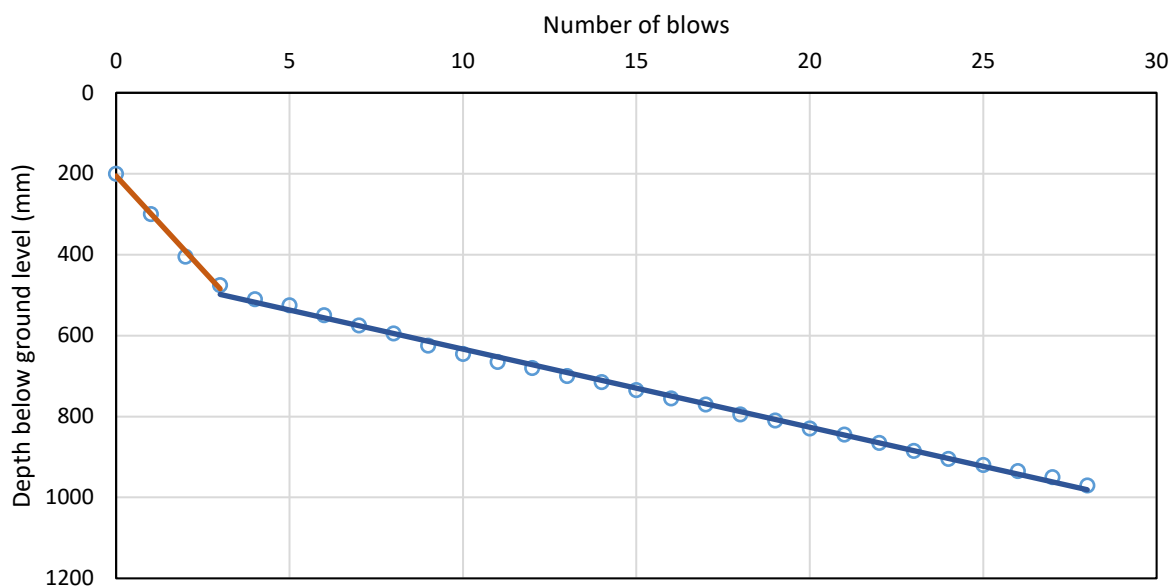
Project: MT1077 - 235360
Project name: Dearne Reach WTW - Dunelm
Geotechnical
Report date: 10/08/2023

Operator: GH

Notes: Brown sandy gravelly clay

Test date: 08/08/2023

Test location: TP 07



Layer 50-475mm bgl

Penetration rate

93 mm/blow

Equivalent CBR

2.5 %

[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]

Equivalent surface modulus

31.7 MPa

[TRRL LR 1132 - Appendix C Equation C1]

Estimated bearing capacity

48.2 kPa

[PCA - Design of Concrete Pavement. 1955]

Layer 475-970mm bgl

Penetration rate

19.306 mm/blow

Equivalent CBR

13.2 %

[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]

Equivalent surface modulus

91.7 MPa

[TRRL LR 1132 - Appendix C Equation C1]

Estimated bearing capacity

145.2 kPa

[PCA - Design of Concrete Pavement. 1955]

Produced by	Dated	Checked by	Dated
CS	10/08/23	MA	10/08/23



DYNAMIC CONE PENETROMETER TEST REPORT

Unit 5E, Edwardson Road • Meadowfield • DH7 8RL
Tel 0191 349 9210

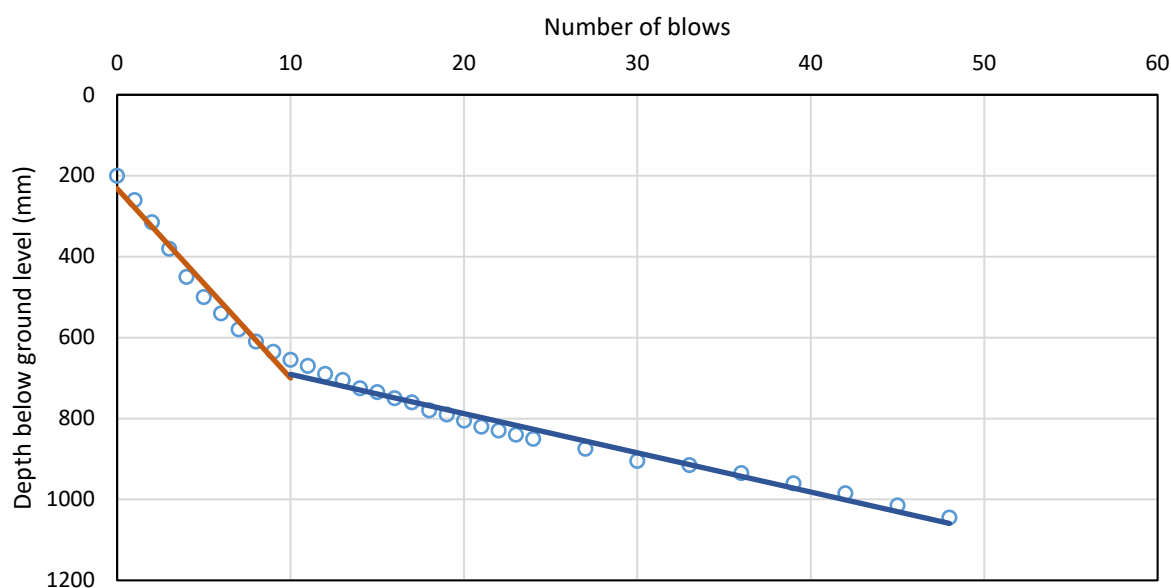
Project: MT1077 - 235361
Project name: Dearne Reach WTW - Dunelm
Geotechnical
Report date: 10/08/2023

Operator: GH

Notes: Brown sandy gravelly clay

Test date: 08/08/2023

Test location: TP 08



Layer 50-655mm bgl

Penetration rate	47 mm/blow	
Equivalent CBR	5.2 %	[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]
Equivalent surface modulus	50.4 MPa	[TRRL LR 1132 - Appendix C Equation C1]
Estimated bearing capacity	78.0 kPa	[PCA - Design of Concrete Pavement. 1955]

Layer 655-1045mm bgl

Penetration rate	9.69671 mm/blow	
Equivalent CBR	27.4 %	[DMRB Vol.7 3.2 HD 29/08 - Section 7.31]
Equivalent surface modulus	146.1 MPa	[TRRL LR 1132 - Appendix C Equation C1]
Estimated bearing capacity	235.4 kPa	[PCA - Design of Concrete Pavement. 1955]

Produced by	Dated	Checked by	Dated
CS	10/08/23	MA	10/08/23

Soakaway Results



SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2016 BRE Digest 365, Figure 2, Page 5					
Client: JN Bentley Ltd					
Site: Dearne Reach 1 - Definition					
Job No: D30024					
Pit No: TP01		Test No: 1			
CALCULATION OF SOIL INFILTRATION RATE					
Time (min)	Depth (m)	Pit Dimensions		Length (m) =	3.00
0	1.50			Width (m) =	0.50
0.5	1.50			Depth (m) =	2.05
1	1.50				
2	1.50	Depth at start of test (m) = 1.500			
3	1.50	Depth at end of test (m) = 1.500			
4	1.50	75% level (m) = N/A			
5	1.50	50% Effective Depth 0.55			
6	1.50	25% level (m) = N/A			
7	1.50				
8	1.50	Base area of pit (m ²) = 1.500			
9	1.50	V _{p75-25} (m ³) = N/A			
10	1.50	α _{p50} (m ⁴) = 5.350			
15	1.50				
20	1.50				
25	1.50	V 0			
30	1.50	T 3600			
40	1.50				
50	1.50	Soil infiltration rate, f, (m/s) =		0.00E+00	Inferred value
60	1.50				
90	1.50				
120	1.50	Input by:	LM	Date:	06/07/2023
180	1.50	Checked by:	BC	Date:	06/07/2023
Time (mins) The graph plots Depth (m) on the y-axis (ranging from 1.20 to 1.80) against Time (mins) on the x-axis (ranging from 0 to 60). A horizontal line of data points is plotted at a depth of 1.50m, indicating no change in water level over the 60-minute test period.					
Notes: 800L of water added					

SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2016 BRE Digest 365, Figure 2, Page 5					
Client: JN Bentley Ltd					
Site: Dearne Reach 1 - Definition					
Job No: D30024					
Pit No: TP01		Test No: 1			
CALCULATION OF SOIL INFILTRATION RATE					
Time (min)	Depth (m)	Pit Dimensions		Length (m) =	3.00
0	1.50			Width (m) =	0.50
0.5	1.50			Depth (m) =	2.05
1	1.50				
2	1.50	Depth at start of test (m) = 1.500			
3	1.50	Depth at end of test (m) = 1.500			
4	1.50	75% level (m) = N/A			
5	1.50	50% Effective Depth 0.55			
6	1.50	25% level (m) = N/A			
7	1.50				
8	1.50	Base area of pit (m ²) = 1.500			
9	1.50	V _{p75-25} (m ³) = N/A			
10	1.50	α_{p50} (m ⁴) = 5.350			
15	1.50				
20	1.50				
25	1.50	V 0			
30	1.50	T 3600			
40	1.50				
50	1.50	Soil infiltration rate, f, (m/s) =		NA Inferred value	
60	1.50				
90	1.50				
120	1.50	Input by:	LM	Date:	06/07/2023
180	1.50	Checked by:	BC	Date:	06/07/2023

Time (mins)

SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2016 BRE Digest 365, Figure 2, Page 5																																													
Client: JN Bentley Ltd																																													
Site: Dearne Reach 1 - Definition																																													
Job No: D30024																																													
Pit No: TP04		Test No: 1																																											
CALCULATION OF SOIL INFILTRATION RATE																																													
Time (min)	Depth (m)	Pit Dimensions		Length (m) =	3.00																																								
0	2.20			Width (m) =	0.50																																								
0.5	2.21			Depth (m) =	3.00																																								
1	2.22																																												
2	2.23	Depth at start of test (m) = 2.200																																											
3	2.25	Depth at end of test (m) = 2.250																																											
4	2.25	75% level (m) = N/A																																											
5	2.25	50% Effective Depth 0.775																																											
6	2.25	25% level (m) = N/A																																											
7	2.25																																												
8	2.25	Base area of pit (m ²) = 1.500																																											
9	2.25	V _{p75-25} (m ³) = N/A																																											
10	2.25	α _{p50} (m ⁴) = 6.925																																											
15	2.25																																												
20	2.25	V 0.075 T 3600																																											
25	2.25																																												
30	2.25																																												
40	2.25																																												
50	2.25																																												
60	2.25	Soil infiltration rate, f, (m/s) =		3.01E-06 Inferred value																																									
90	2.25																																												
120	2.25	Input by:	LM	Date:	06/07/2023																																								
180	2.25	Checked by:	BC	Date:	06/07/2023																																								
Time (mins) <table border="1" style="margin-top: 10px; width: 100%; border-collapse: collapse;"> <caption>Graph Data Points</caption> <thead> <tr> <th>Time (mins)</th> <th>Depth (m)</th> </tr> </thead> <tbody> <tr><td>0</td><td>2.20</td></tr> <tr><td>0.5</td><td>2.21</td></tr> <tr><td>1</td><td>2.22</td></tr> <tr><td>1.5</td><td>2.23</td></tr> <tr><td>2</td><td>2.25</td></tr> <tr><td>3</td><td>2.25</td></tr> <tr><td>4</td><td>2.25</td></tr> <tr><td>5</td><td>2.25</td></tr> <tr><td>6</td><td>2.25</td></tr> <tr><td>7</td><td>2.25</td></tr> <tr><td>8</td><td>2.25</td></tr> <tr><td>9</td><td>2.25</td></tr> <tr><td>10</td><td>2.25</td></tr> <tr><td>15</td><td>2.25</td></tr> <tr><td>20</td><td>2.25</td></tr> <tr><td>30</td><td>2.25</td></tr> <tr><td>40</td><td>2.25</td></tr> <tr><td>50</td><td>2.25</td></tr> <tr><td>60</td><td>2.25</td></tr> </tbody> </table>						Time (mins)	Depth (m)	0	2.20	0.5	2.21	1	2.22	1.5	2.23	2	2.25	3	2.25	4	2.25	5	2.25	6	2.25	7	2.25	8	2.25	9	2.25	10	2.25	15	2.25	20	2.25	30	2.25	40	2.25	50	2.25	60	2.25
Time (mins)	Depth (m)																																												
0	2.20																																												
0.5	2.21																																												
1	2.22																																												
1.5	2.23																																												
2	2.25																																												
3	2.25																																												
4	2.25																																												
5	2.25																																												
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7	2.25																																												
8	2.25																																												
9	2.25																																												
10	2.25																																												
15	2.25																																												
20	2.25																																												
30	2.25																																												
40	2.25																																												
50	2.25																																												
60	2.25																																												
Notes: 800L of water added																																													

SOAKAWAY DESIGN IN ACCORDANCE WITH BRE DIGEST 365: 2016 BRE Digest 365, Figure 2, Page 5					
Client: JN Bentley Ltd					
Site: Dearne Reach 1 - Definition					
Job No: D30024					
Pit No: TP05		Test No: 1			
CALCULATION OF SOIL INFILTRATION RATE					
Time (min)	Depth (m)	Pit Dimensions		Length (m) =	3.00
0	3.00			Width (m) =	0.50
0.5	2.97			Depth (m) =	3.00
1	2.93				
2	2.90	Depth at start of test (m) = 2.800			
3	2.86	Depth at end of test (m) = 3.000			
4	2.83	75% level (m) = N/A			
5	2.80	50% Effective Depth 0.1			
6	2.76	25% level (m) = N/A			
7	2.72				
8	2.67	Base area of pit (m ²) = 1.500			
9	2.63	V _{p75-25} (m ³) = N/A			
10	2.60	α _{p50} (m ⁴) = 2.200			
15	2.30				
20	2.15				
25	2.10	V 0.3			
30	2.03	T 3600			
40	2.00				
50	1.98	Soil infiltration rate, f, (m/s) =		3.79E-05	Inferred value
60	1.96				
90	1.92				
120	1.90	Input by:	LM	Date:	06/07/2023
180	1.90	Checked by:	BC	Date:	06/07/2023
Time (mins) The graph plots Depth (m) on the y-axis (ranging from 1.80 to 3.00) against Time (mins) on the x-axis (ranging from 0 to 60). Data points are plotted at 0, 0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 25, 30, 40, 50, 60, 90, 120, and 180 minutes. A blue curve is fitted to the data, showing a rapid initial decrease in depth followed by a leveling off after approximately 20 minutes.					
Notes:					

APPENDIX E

Geotechnical Laboratory Results



Laboratory Report Front Sheet		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	
Site name	Job number		
Dearne Reach	D30024		

Client details:

Reference: D30024
 Name: Dunelm
 Address: Foundation House,
 St John's Road,
 Meadowfield,
 County Durham,
 DH7 8TZ

 Telephone: 0191 3783151
 Email: bcarvey@dunelm.co.uk

 FAO: Ben Carvey

Samples received:

Date commenced: 14/07/2023

Date reported: 11/10/2023

Observations and interpretations are outside of the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. 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 in full, without the prior written approval of the laboratory.

Samples will be held at the laboratory for a period of 4 weeks after the report date. After the above reporting date the samples will be disposed of. Should further testing be required then the office should be informed before the above date.

Signature: 	Approved Signatories: ☐ D.Anderson (Managing Director) ☒ J. Brischuk (Laboratory Manager) ☐
--	--

Summary of Classification Tests

G2M Testing (Stockton)

12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

01642 033318

info@g2mtesting.co.uk



10258

Site name	Job number
Dearne Reach	D30024

Hole	Depth		Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
	Top m	Base m												
BH1	0.20		D	19	105									
BH1	0.50		B	22	105		99	1	66-f	34	32		MH	Tested after >425µm removed by hand
BH1	1.00		D	16	105		98	2	64-f	28	36		CH	Tested after >425µm removed by hand
BH2	0.20		D	18	105									
BH2	0.25		D	31	105		99	1	58-f	32	26		MH	Tested after >425µm removed by hand
BH2	0.35		D	21	105									
BH2	0.40		D	20	105		73	27	56-f	30	26		MH	Tested after washing to remove >425µm
BH2	1.20		D	6.1	105		72	28	41-f	23	18		CI	Tested after >425µm removed by hand
BH3	0.20		D	44	105		98	2	53-f	31	22		MH	Tested after >425µm removed by hand
BH3	0.50		D	34	105		100	0	43-f	27	16		MI	Tested in natural condition
BH3	1.00		D	35	105		100	0	43-f	24	19		CI	Tested in natural condition
BH4	0.20		D	8.1	105		75	25	34-f	20	14		CL	Tested after washing to remove >425µm
BH4	2.00		D	9.5	105									
BH5	0.50		D	17	105		87	13	49-f	27	22		CI	Tested after >425µm removed by hand
BH5	1.00		D	23	105		95	5	47-f	25	22		CI	Tested after >425µm removed by hand
BH6	0.50		D	21	105		100	0	51-f	30	21		MH	Tested in natural condition
BH6	1.00		D	25	105		100	0	39-f	22	17		CI	Tested in natural condition
BH7	0.50		D	31	105		95	5	51-f	28	23		CH	Tested after >425µm removed by hand
BH7	1.00		D	29	105		97	3	53-f	26	27		CH	Tested after >425µm removed by hand
BH8	0.50		D	34	105		100	0	42-f	23	19		CI	Tested in natural condition

All tests found in G2M Testing UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description	Category	BS Test Code
w	Moisture content		BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve		BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit Single point Four point	-s	BS 1377:1990 Part 2 Clause 4.4
		-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit		BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425µm sieve		
Pr	Percentage retained 425µm sieve		
IP	Plasticity index		BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index		BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"	*	

Approved by	D Anderson
Approval date	17/08/2023 08:32
Date report generated	
Report Number	

Summary of Classification Tests

G2M Testing (Stockton)

12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

01642 033318

info@g2mtesting.co.uk



10258

Site name	Job number
Dearne Reach	D30024

Hole	Depth		Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
	Top m	Base m												
BH8	1.00		D	30	105		99	1	34-f	23	11		CL	Tested after >425µm removed by hand
TP1	0.20		D	20	105		94	6	56-f	37	19		MH	Tested after >425µm removed by hand
TP1	0.50		D	30	105									
TP1	1.00		D	26	105		90	10	57-f	32	25		MH	Tested after >425µm removed by hand
TP2	0.20		D	25	105									
TP2	0.50		B	17	105		61	39	45-f	24	21		CI	Tested after >425µm removed by hand
TP2	2.80		D	13	105		67	33	34-f	21	13		CL	Tested after >425µm removed by hand
TP201	0.50		D	28	105									
TP201	1.00		D	21	105		86	14	59-f	29	30		CH	Tested after >425µm removed by hand
TP201	2.00		D	12	105		100	0	43-f	28	15		MI	Tested in natural condition
TP202	1.00		D	25	105		100	0	51-f	25	26		CH	Tested in natural condition
TP202	2.00		D	15	105		85	15	47-f	23	24		CI	Tested after >425µm removed by hand
TP203	0.80		D	31	105									
TP203	1.00		D	23	105		99	1	57-f	28	29		CH	Tested after >425µm removed by hand
TP203	2.00		D	11	105		70	30	32-f	19	13		CL	Tested after >425µm removed by hand
TP3	0.20		D	28	105									
TP3	1.70		D	22	105		11	89	33-f	18	15		CL	Tested after washing to remove >425µm
TP3	2.80		D	18	105		39	61	30-f	17	13		CL	Tested after washing to remove >425µm
TP4	0.20		D	23	105		97	3	56-f	32	24		MH	Tested after >425µm removed by hand
TP4	0.50		D	29	105		99	1	58-f	31	27		MH	Tested after >425µm removed by hand

All tests found in G2M Testing UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description	Category	BS Test Code
w	Moisture content		BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve		BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit Single point Four point	-s	BS 1377:1990 Part 2 Clause 4.4
		-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit		BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425µm sieve		
Pr	Percentage retained 425µm sieve		
IP	Plasticity index		BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index		BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"	*	

Approved by	D Anderson
Approval date	16/08/2023 09:50
Date report generated	
Report Number	

Summary of Classification Tests

G2M Testing (Stockton)

12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

01642 033318

info@g2mtesting.co.uk



10258

Site name	Job number
Dearne Reach	D30024

Hole	Depth		Type	w %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
	Top m	Base m												
TP4	1.00		D	26	105									
TP4	2.80		D	11	105		82	18	36-f	18	18		CI	Tested after >425µm removed by hand
TP5	0.20		D	28	105		100	0	51-f	33	18		MH	Tested in natural condition
TP5	0.50		D	31	105		100	0	43-f	25	18		CI	Tested in natural condition
TP5	1.00		D	29	105									
TP5	2.80		D	20	105		9	91	33-f	18	15		CL	Tested after washing to remove >425µm
TP6	0.20		D	13	105		61	39	39-f	21	18		CI	Tested after >425µm removed by hand
TP6	0.70		D	35	105									
TP6	2.60		D	29	105		100	0	55-f	40	15		MH	Tested in natural condition
TP7	0.20		D	15	105		71	29	46-f	22	24		CI	Tested after >425µm removed by hand
TP7	0.50		B	19	105									
TP7	2.60		D	17	105		100	0	55-f	23	32		CH	Tested in natural condition

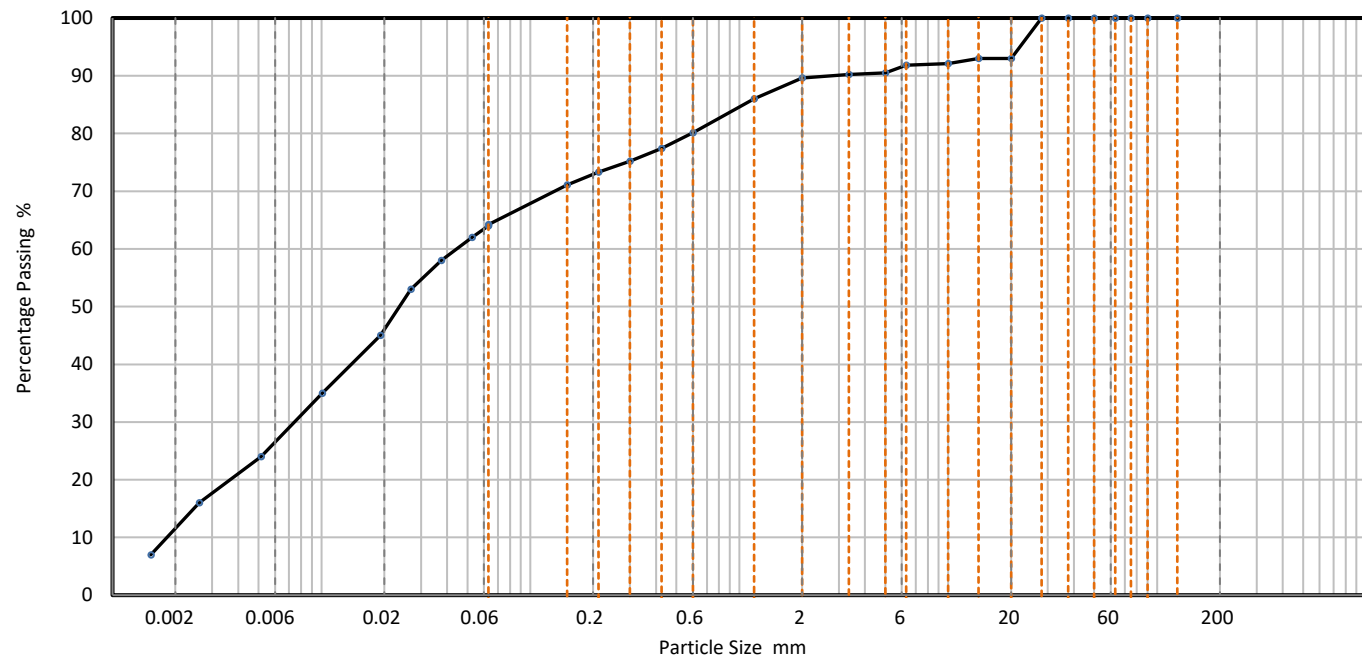
All tests found in G2M Testing UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description	Category	BS Test Code
w	Moisture content		BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve		BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit Single point Four point	-s	BS 1377:1990 Part 2 Clause 4.4
		-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit		BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425µm sieve		
Pr	Percentage retained 425µm sieve		
IP	Plasticity index		BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index		BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"	*	

Approved by	D Anderson
Approval date	26/07/2023 12:05
Date report generated	
Report Number	

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	BH1	Lab sample ID	G2MT2023080128
Depth (Top)	m 0.10	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m	Soil Description	Gravelly, Clayey, very Sandy, SILT
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	64
90	100	0.0527	62
75	100	0.0375	58
63	100	0.0268	53
50	100	0.0192	45
37.5	100	0.0101	35
28	100	0.0051	24
20	93	0.0026	16
14	93	0.0015	7
10	92		
6.3	92		
5	91		
3.35	90		
2	90		
1.18	86		
0.6	80	Particle density (assumed) 2.65 Mg/m3	
0.425	77		
0.3	75		
0.212	73		
0.15	71		
0.063	64		

Dry Mass of sample, g	1812
-----------------------	------

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	10.4
Sand	25.5
Silt	52.5
Clay	11.6

Grading Analysis	
D100	mm
D60	mm 0.0449
D30	mm 0.00744
D10	mm 0.00181
Uniformity Coefficient	25
Curvature Coefficient	0.68

Remarks
Preparation and testing in accordance with test method unless noted below

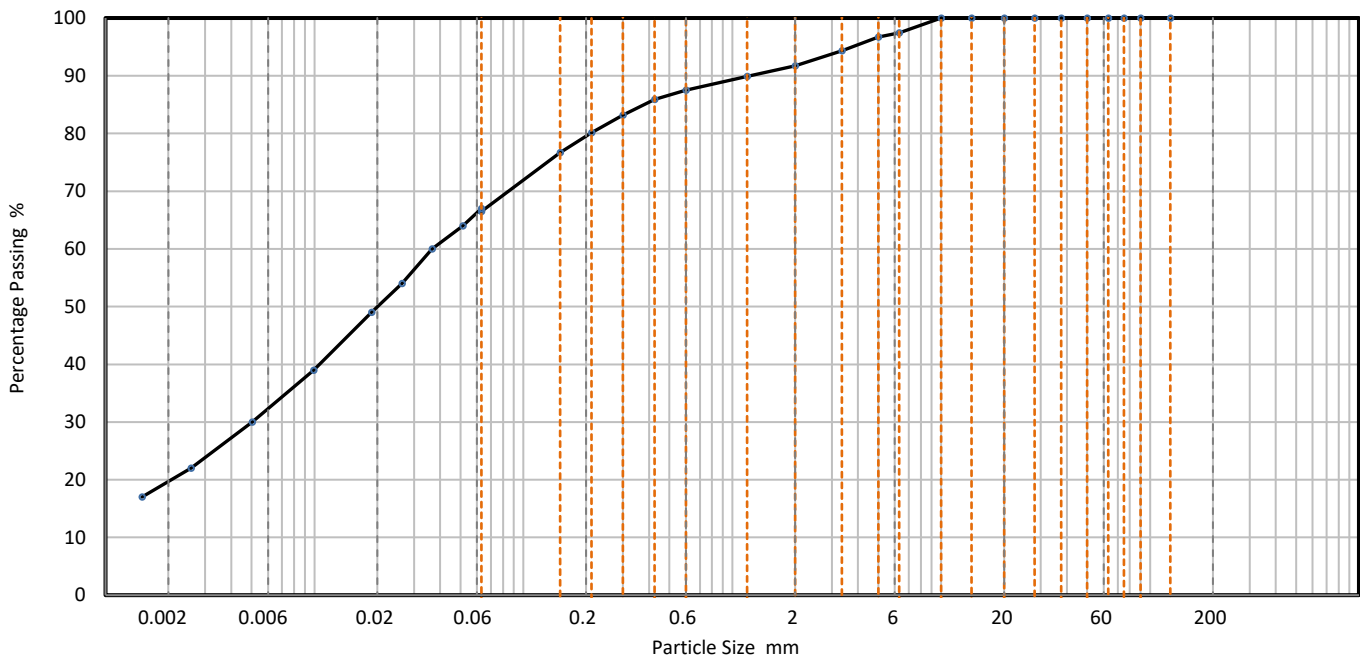
Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	10/08/2023 12:42

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	BH1	Lab sample ID	G2MT2023080130
Depth (Top)	m 0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m	Soil Description	Slightly Gravelly, Clayey, very Sandy, SILT
Sample type	D		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	67
90	100	0.0512	64
75	100	0.0366	60
63	100	0.0262	54
50	100	0.0188	49
37.5	100	0.0099	39
28	100	0.0050	30
20	100	0.0026	22
14	100	0.0015	17
10	100		
6.3	97		
5	97		
3.35	94		
2	92		
1.18	90		
0.6	88	Particle density (assumed) 2.65 Mg/m3	
0.425	86		
0.3	83		
0.212	80		
0.15	77		
0.063	67		

Dry Mass of sample, g	118
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Sample Proportions	% dry mass
Very coarse	0.0
Gravel	8.3
Sand	25.3
Silt	46.7
Clay	19.7

Grading Analysis	
D100	mm
D60	mm 0.0373
D30	mm 0.00487
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

Accreditation status
 Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	16/08/2023 08:35

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

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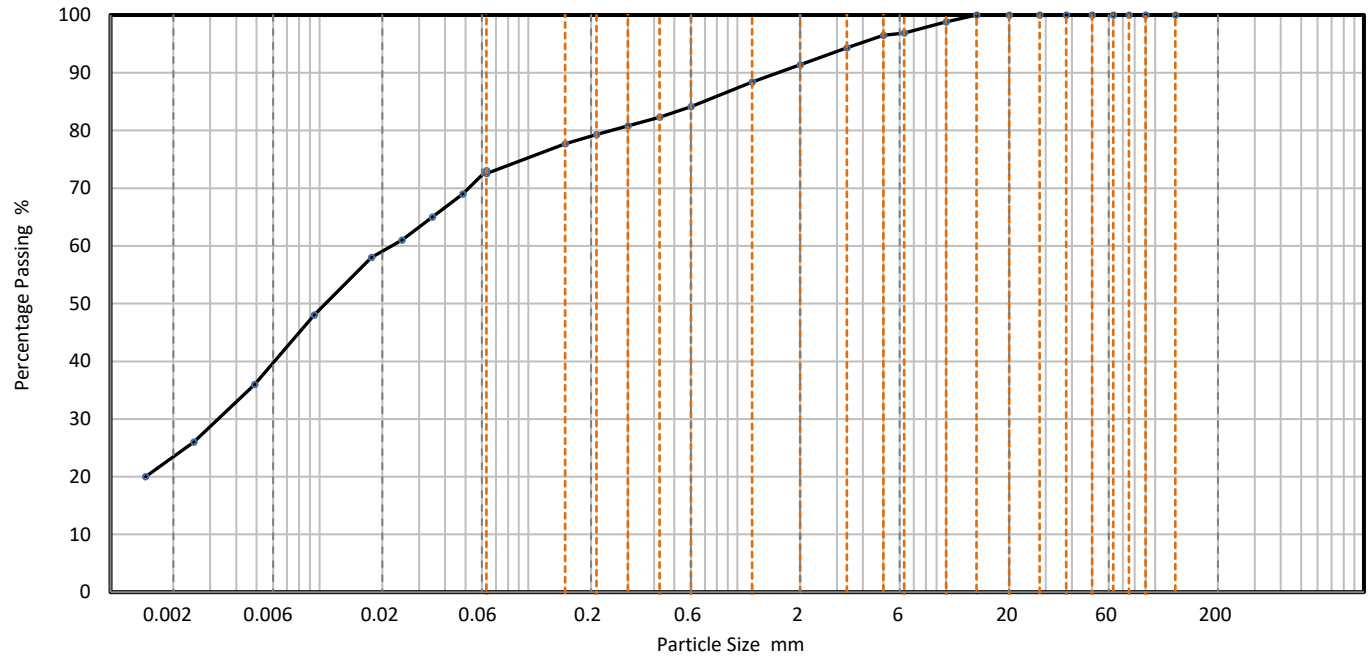
Site name

Job number

Dearne Reach

D30024

Hole		BH2	Lab sample ID	G2MT2023072628
Depth (Top)	m	0.10	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Slightly Gravelly, Sandy, very Clayey, SILT
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	73
90	100	0.0485	69
75	100	0.0347	65
63	100	0.0248	61
50	100	0.0177	58
37.5	100	0.0094	48
28	100	0.0049	36
20	100	0.0025	26
14	100	0.0015	20
10	99		
6.3	97		
5	97		
3.35	94		
2	91		
1.18	88		
0.6	84	Particle density (assumed) 2.65 Mg/m ³	
0.425	82		
0.3	81		
0.212	79		
0.15	78		
0.063	73		

Dry Mass of sample, g

1000

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	8.6
Sand	18.9
Silt	48.7
Clay	23.8

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

Remarks
Preparation and testing in accordance with test method unless noted below

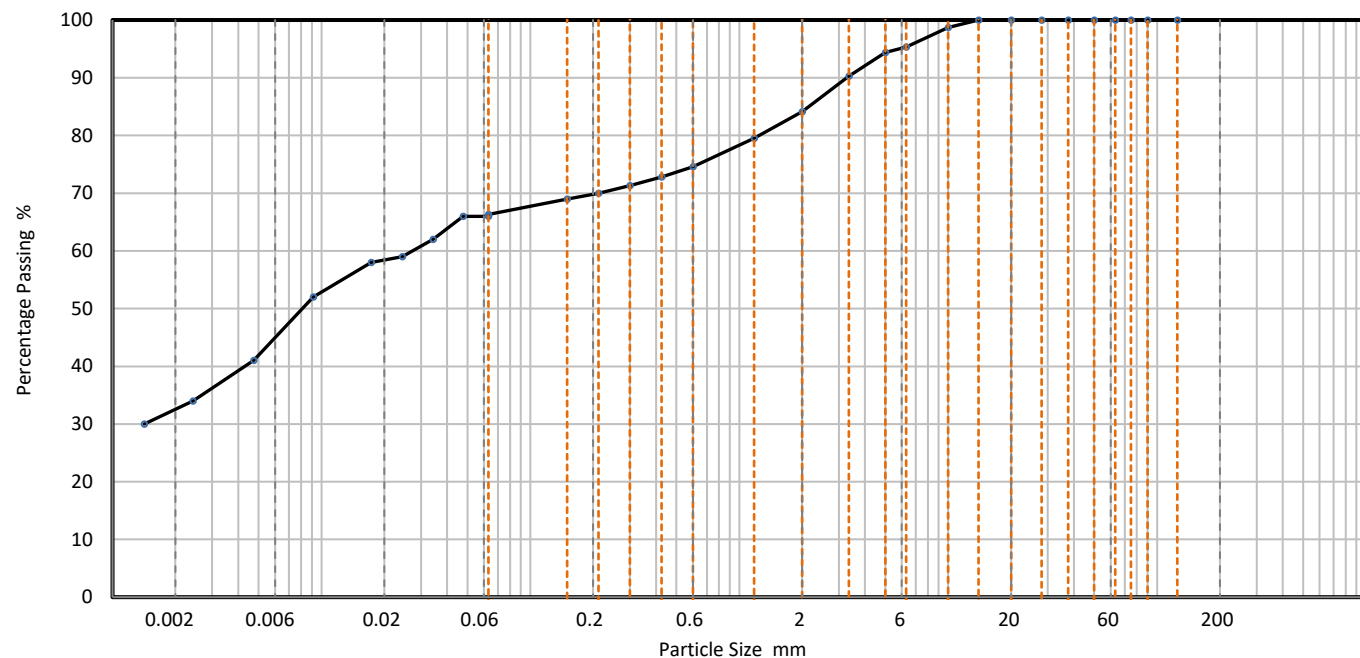
Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/08/2023 10:35

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	BH2	Lab sample ID	G2MT2023072631
Depth (Top)	m 0.30	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m 0.4	Soil Description	Gravelly, Sandy, very Clayey, SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	66
90	100	0.0476	66
75	100	0.0342	62
63	100	0.0244	59
50	100	0.0173	58
37.5	100	0.0091	52
28	100	0.0047	41
20	100	0.0024	34
14	100	0.0014	30
10	99		
6.3	95		
5	94		
3.35	90		
2	84		
1.18	80		
0.6	75	Particle density (assumed) 2.65 Mg/m3	
0.425	73		
0.3	71		
0.212	70		
0.15	69		
0.063	66		

Dry Mass of sample, g	744
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Sample Proportions	% dry mass
Very coarse	0.0
Gravel	15.9
Sand	17.8
Silt	34.0
Clay	32.3

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

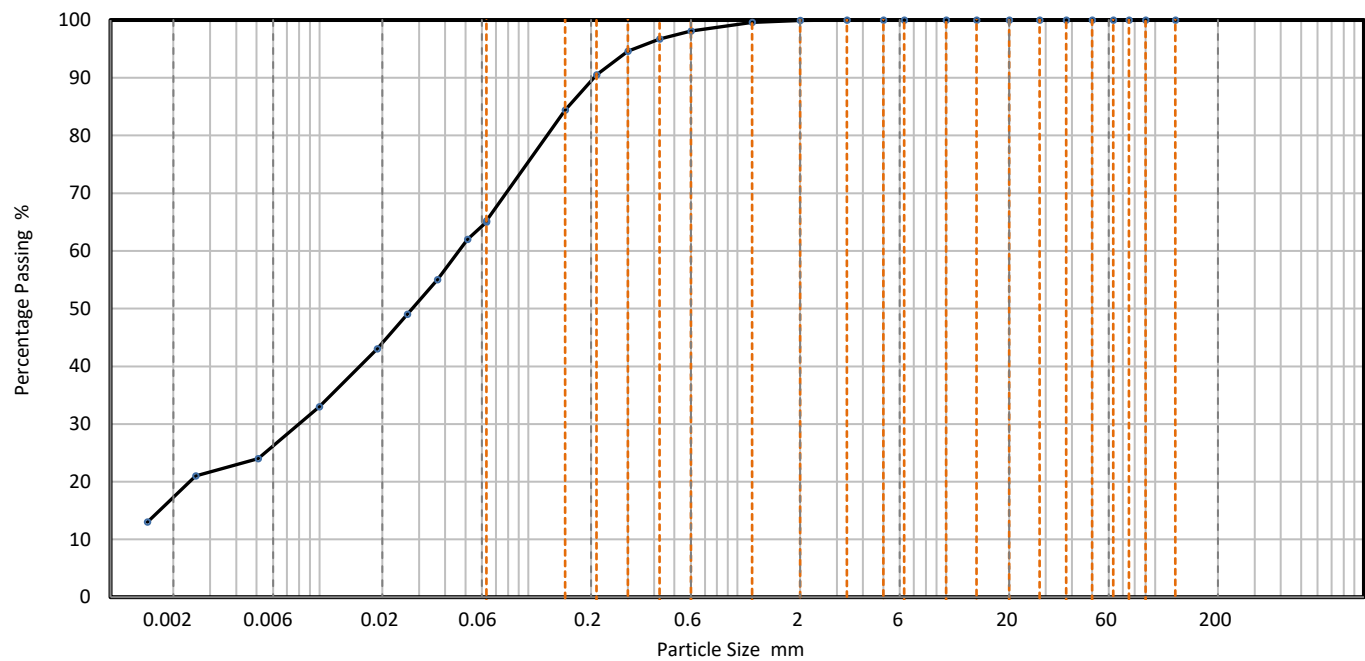
Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
 Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/08/2023 10:41

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	BH3	Lab sample ID	G2MT2023080135
Depth (Top)	m	0.50	Test Method
Depth (Base)	m		BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Sample type	B	Soil Description	



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	65
90	100	0.0511	62
75	100	0.0368	55
63	100	0.0264	49
50	100	0.0189	43
37.5	100	0.0100	33
28	100	0.0051	24
20	100	0.0026	21
14	100	0.0015	13
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	98	Particle density (assumed) 2.65 Mg/m3	
0.425	97		
0.3	95		
0.212	91		
0.15	84		
0.063	65		

Dry Mass of sample, g	482
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Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.1
Sand	34.7
Silt	47.5
Clay	17.7

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

Remarks	
Preparation and testing in accordance with test method unless noted below	

Accreditation status
 Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	10/08/2023 12:45

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

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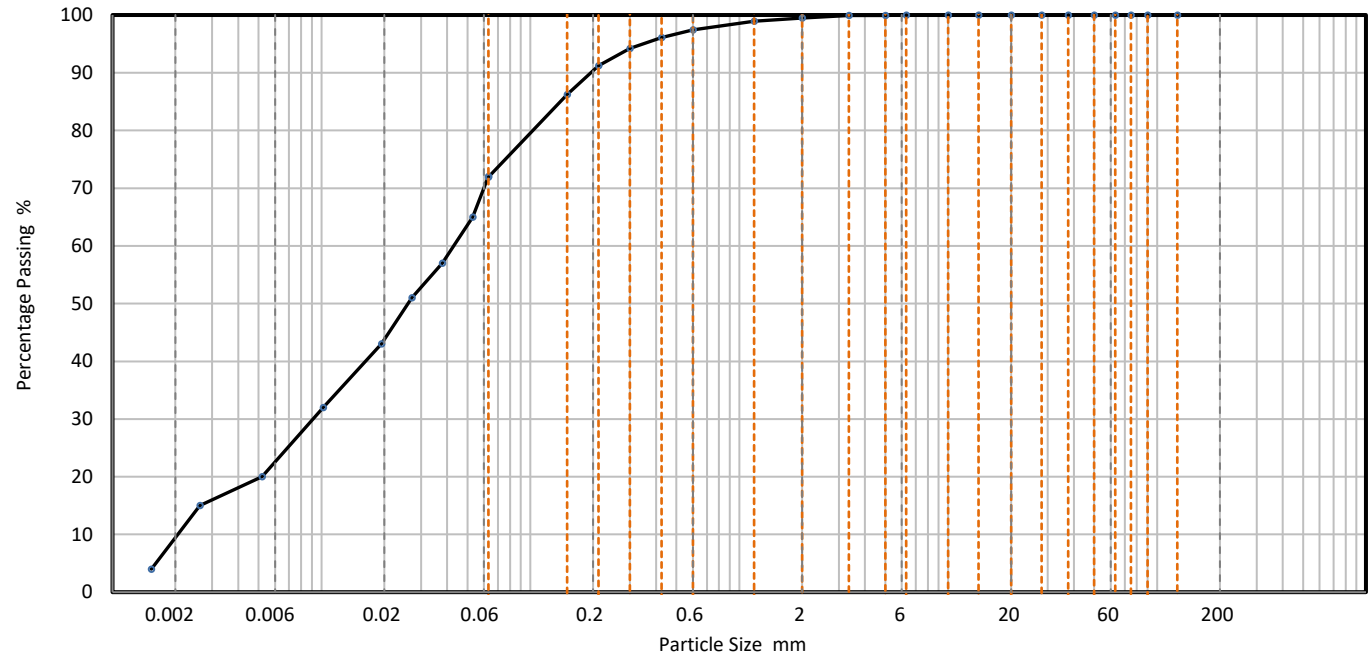
Site name

Job number

Dearne Reach

D30024

Hole		BH3	Lab sample ID	G2MT2023080136
Depth (Top)	m	0.70	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Slightly Gravelly, Clayey, very Sandy, SILT
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	72
90	100	0.0530	65
75	100	0.0379	57
63	100	0.0271	51
50	100	0.0194	43
37.5	100	0.0102	32
28	100	0.0052	20
20	100	0.0026	15
14	100	0.0015	4
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	99		
0.6	97	Particle density (assumed) 2.65 Mg/m ³	
0.425	96		
0.3	94		
0.212	91		
0.15	86		
0.063	72		

Dry Mass of sample, g

410

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.5
Sand	27.6
Silt	62.8
Clay	9.1

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	21
Curvature Coefficient	0.97

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	10/08/2023 12:49

PARTICLE SIZE DISTRIBUTION

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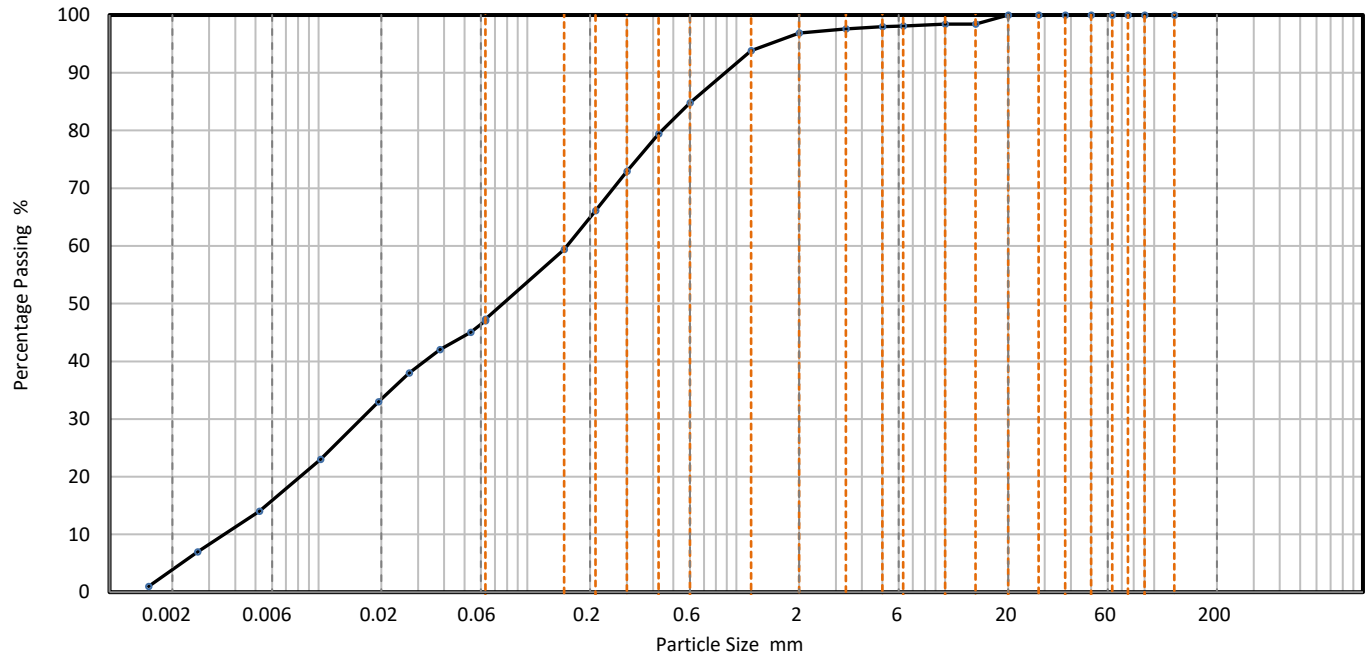
Site name

Job number

Dearne Reach

D30024

Hole		BH4	Lab sample ID	G2MT2023072622
Depth (Top)	m	0.10	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Slightly Gravelly, slightly Clayey, very Silty, SAND
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	47
90	100	0.0535	45
75	100	0.0381	42
63	100	0.0272	38
50	100	0.0194	33
37.5	100	0.0102	23
28	100	0.0052	14
20	100	0.0026	7
14	98	0.0015	1
10	98		
6.3	98		
5	98		
3.35	98		
2	97		
1.18	94		
0.6	85	Particle density (assumed) 2.65 Mg/m3	
0.425	79		
0.3	73		
0.212	66		
0.15	59		
0.063	47		

Dry Mass of sample, g

419

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	3.1
Sand	49.6
Silt	43.4
Clay	3.9

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	42
Curvature Coefficient	0.45

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	10/08/2023 13:01

PARTICLE SIZE DISTRIBUTION

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12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

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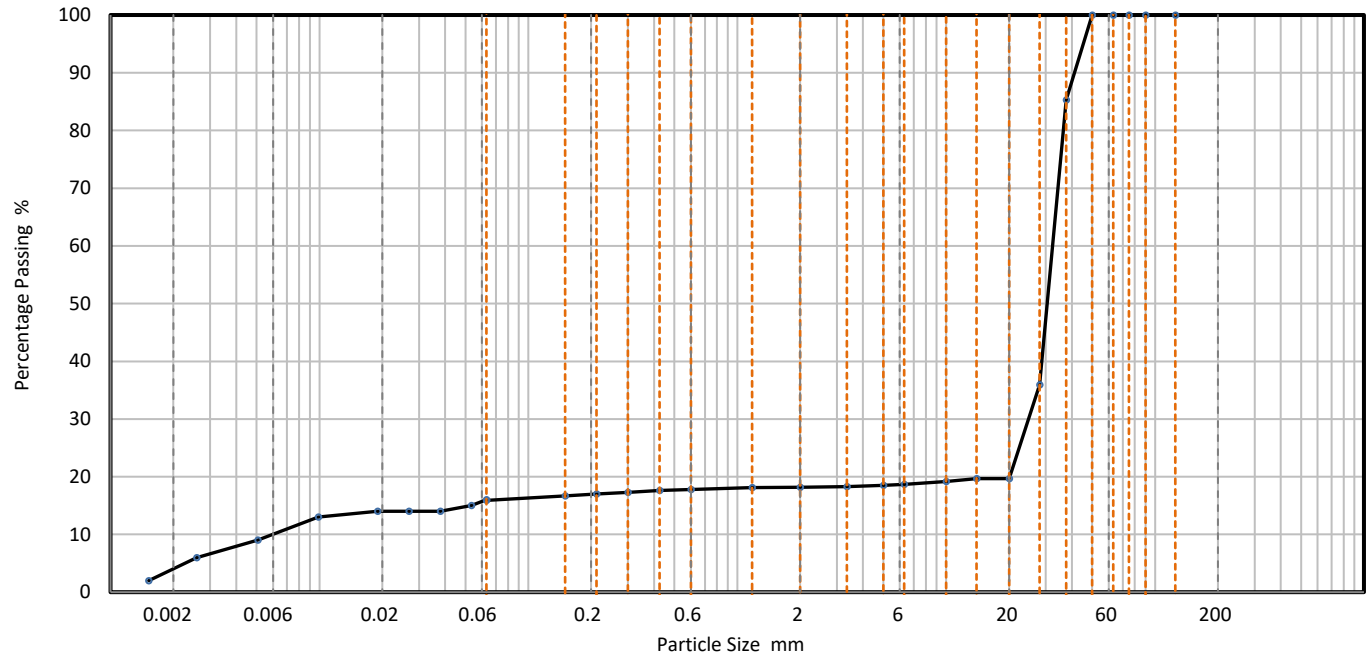
Site name

Job number

Dearne Reach

D30024

Hole		BH4	Lab sample ID	G2MT2023072627
Depth (Top)	m	3.70	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	16
90	100	0.0533	15
75	100	0.0379	14
63	100	0.0268	14
50	100	0.0190	14
37.5	85	0.0099	13
28	36	0.0051	9
20	20	0.0026	6
14	20	0.0015	2
10	19		
6.3	19		
5	19		
3.35	18		
2	18		
1.18	18		
0.6	18	Particle density (assumed) 2.65 Mg/m ³	
0.425	18		
0.3	17		
0.212	17		
0.15	17		
0.063	16		

Dry Mass of sample, g

736

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	81.8
Sand	2.3
Silt	11.9
Clay	4.0

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	5200
Curvature Coefficient	3100

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested ws deviating in accordance with BS1377 test standard

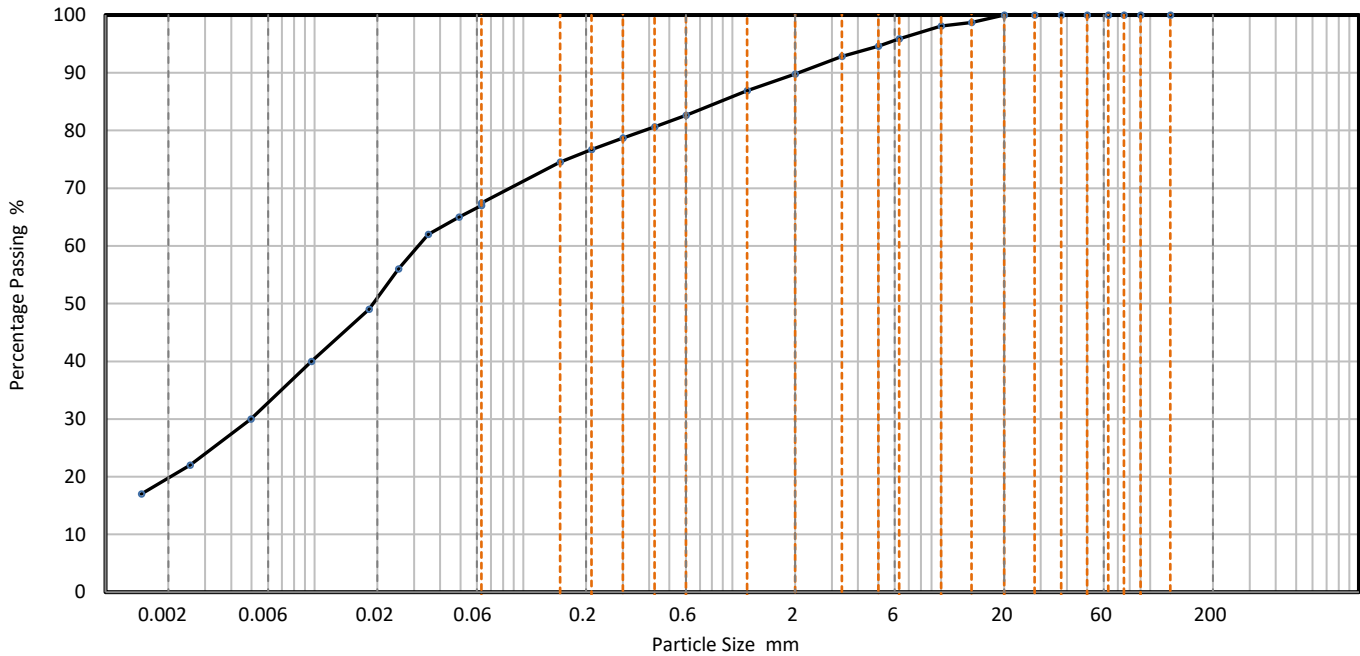
Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	JBrischuk
Approval date	10/08/2023 13:17

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole		BH5	Lab sample ID	G2MT2023080140
Depth (Top)	m	0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Gravelly, Clayey, very Sandy, SILT
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	67
90	100	0.0491	65
75	100	0.0351	62
63	100	0.0253	56
50	100	0.0183	49
37.5	100	0.0097	40
28	100	0.0050	30
20	100	0.0025	22
14	99	0.0015	17
10	98		
6.3	96		
5	95		
3.35	93		
2	90		
1.18	87		
0.6	83	Particle density (assumed) 2.65 Mg/m3	
0.425	81		
0.3	79		
0.212	77		
0.15	75		
0.063	67		

Dry Mass of sample, g	564
-----------------------	-----

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	10.2
Sand	22.4
Silt	47.9
Clay	19.5

Grading Analysis	
D100 mm	
D60 mm	0.0314
D30 mm	0.00502
D10 mm	
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

Accreditation status
 Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	16/08/2023 08:38

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

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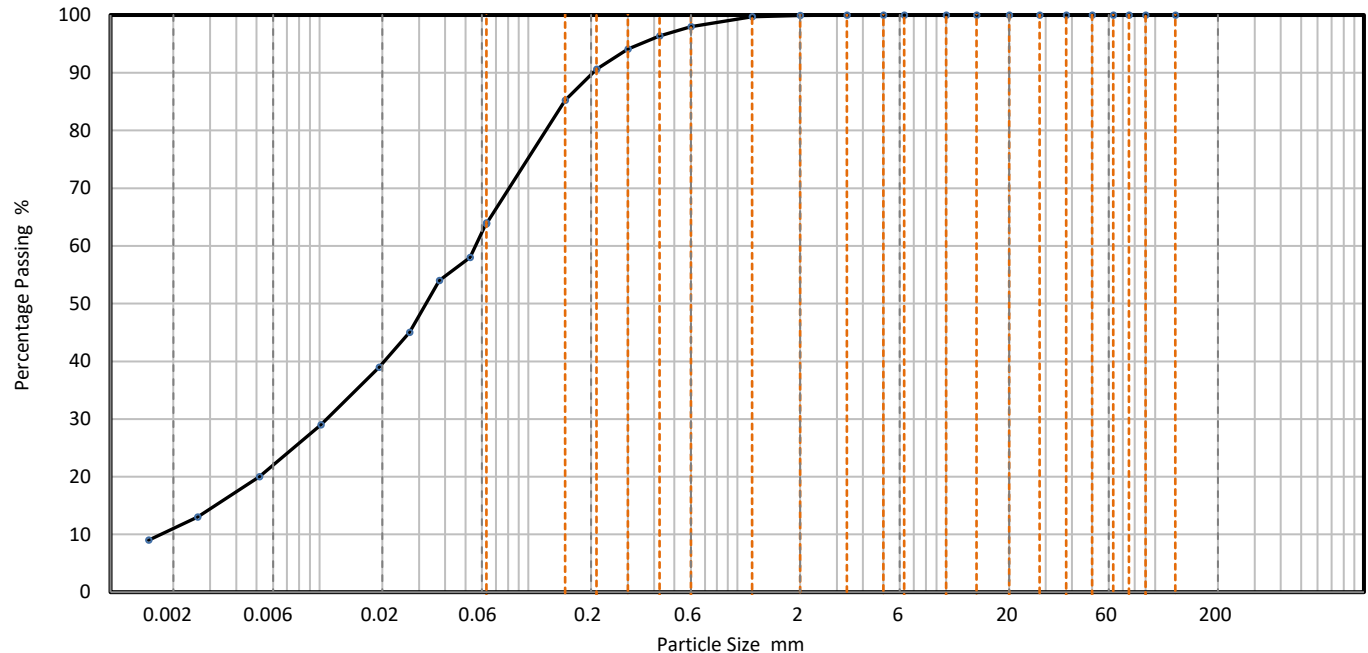
Site name

Job number

Dearne Reach

D30024

Hole		BH6	Lab sample ID	G2MT2023080143
Depth (Top)	m	0.80	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Very slightly Gravelly, Clayey, very Sandy, SILT
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	64
90	100	0.0526	58
75	100	0.0375	54
63	100	0.0270	45
50	100	0.0193	39
37.5	100	0.0102	29
28	100	0.0052	20
20	100	0.0026	13
14	100	0.0015	9
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	98	Particle density (assumed) 2.65 Mg/m ³	
0.425	96		
0.3	94		
0.212	91		
0.15	85		
0.063	64		

Dry Mass of sample, g

489

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.1
Sand	36.0
Silt	53.1
Clay	10.8

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	31
Curvature Coefficient	1.2

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	16/08/2023 08:42

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

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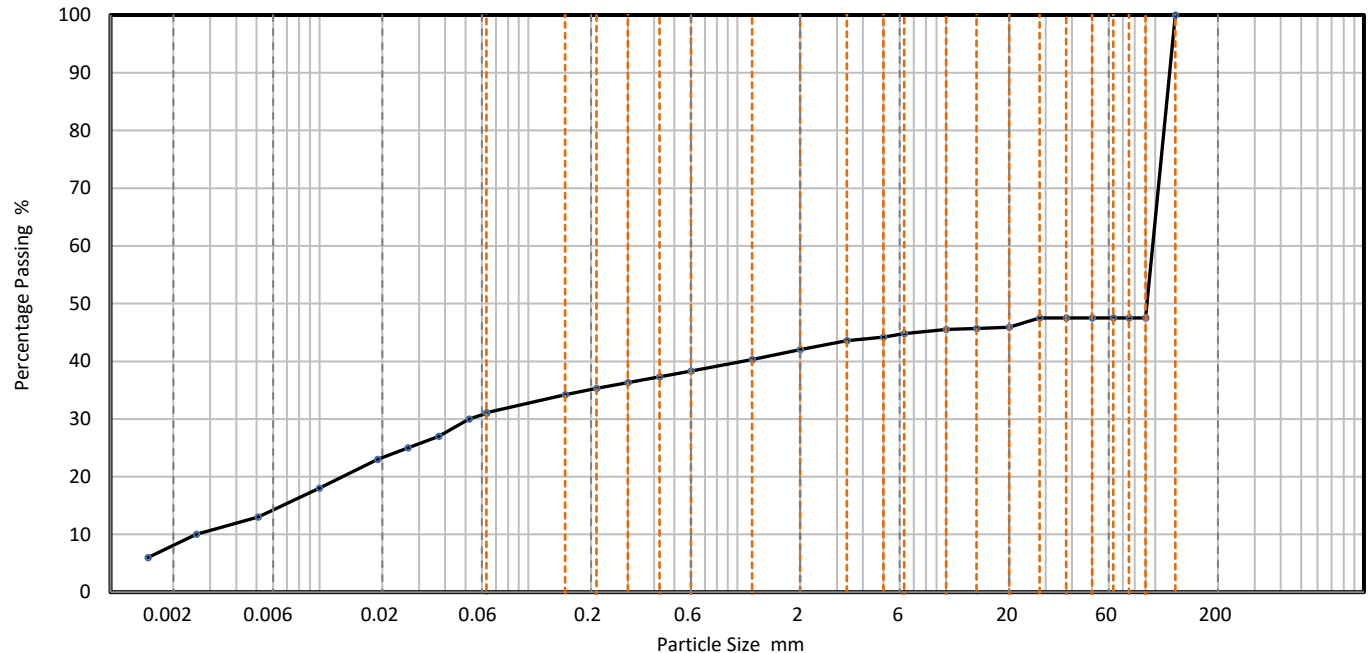
Site name

Job number

Dearne Reach

D30024

Hole		BH7	Lab sample ID	G2MT2023080146
Depth (Top)	m	0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Gravelly, Silty, Sandy, SILT (on large COBBLE)
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	31
90	48	0.0520	30
75	48	0.0372	27
63	48	0.0266	25
50	48	0.0189	23
37.5	48	0.0100	18
28	48	0.0051	13
20	46	0.0026	10
14	46	0.0015	6
10	46		
6.3	45		
5	44		
3.35	44		
2	42		
1.18	40		
0.6	38	Particle density (assumed) 2.65 Mg/m ³	
0.425	37		
0.3	36		
0.212	35		
0.15	34		
0.063	31		

Dry Mass of sample, g

2693

Sample Proportions	% dry mass
Very coarse	52.5
Gravel	5.5
Sand	10.9
Silt	23.3
Clay	7.8

Grading Analysis		
D100	mm	125
D60	mm	97.3
D30	mm	0.0546
D10	mm	0.00265
Uniformity Coefficient		37000
Curvature Coefficient		0.012

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard. One large cobble

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	JBrischuk
Approval date	18/08/2023 12:40

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

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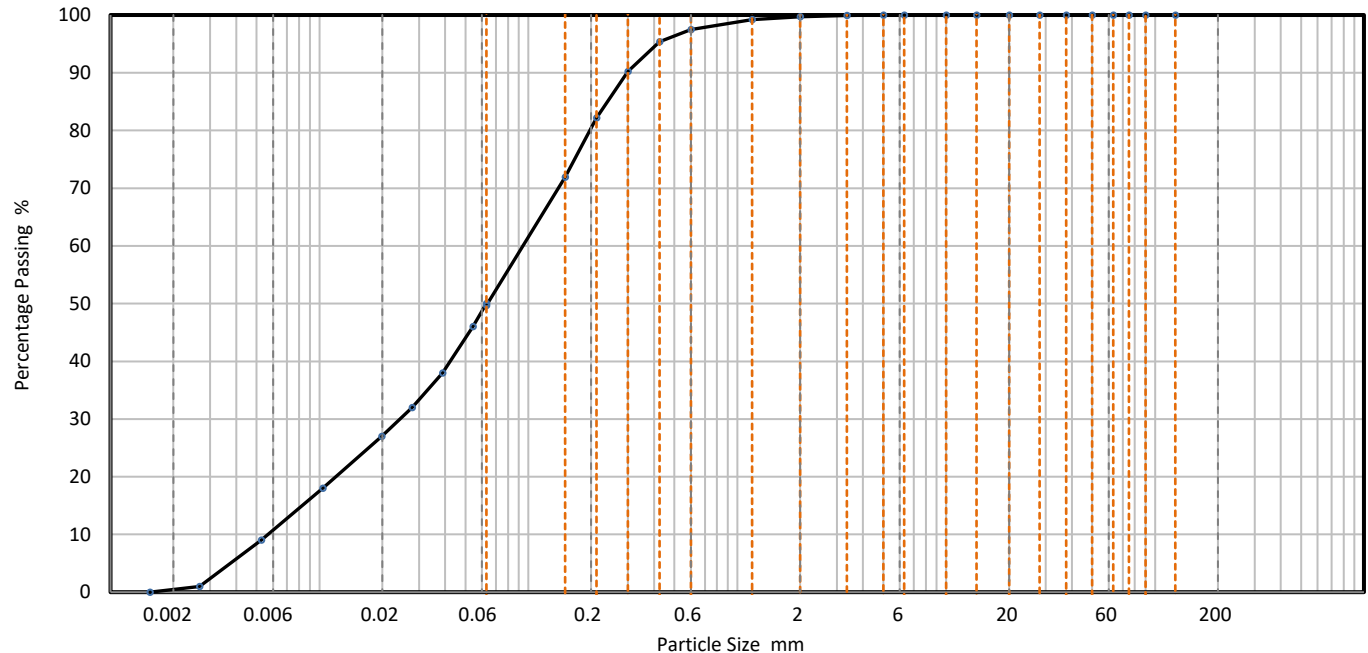
Site name

Job number

Dearne Reach

D30024

Hole		BH8	Lab sample ID	G2MT2023080149
Depth (Top)	m	0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Very slightly Gravelly, very slightly Clayey, very Silty, SAND
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	50
90	100	0.0542	46
75	100	0.0389	38
63	100	0.0278	32
50	100	0.0198	27
37.5	100	0.0104	18
28	100	0.0053	9
20	100	0.0027	1
14	100	0.0015	0
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	99		
0.6	98	Particle density (assumed) 2.65 Mg/m ³	
0.425	95		
0.3	90		
0.212	82		
0.15	72		
0.063	50		

Dry Mass of sample, g

366

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.3
Sand	50.0
Silt	49.1
Clay	0.6

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	16
Curvature Coefficient	1.1

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	16/08/2023 08:50

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

12-16 Yarm Road,
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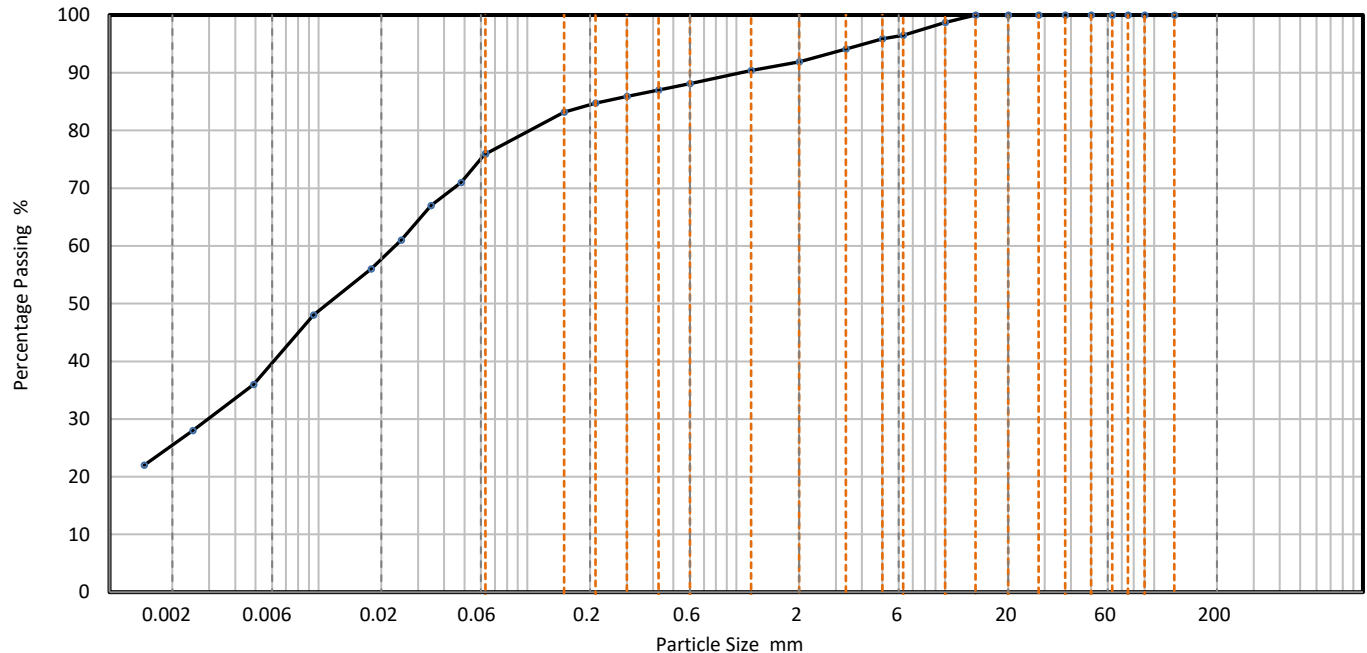
Site name

Job number

Dearne Reach

D30024

Hole		TP1	Lab sample ID	G2MT2023072413
Depth (Top)	m	0.10	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Slightly Gravelly, Sandy, very Clayey, SILT
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	76
90	100	0.0482	71
75	100	0.0346	67
63	100	0.0249	61
50	100	0.0179	56
37.5	100	0.0094	48
28	100	0.0049	36
20	100	0.0025	28
14	100	0.0015	22
10	99		
6.3	97		
5	96		
3.35	94		
2	92		
1.18	90		
0.6	88	Particle density (assumed) 2.65 Mg/m ³	
0.425	87		
0.3	86		
0.212	85		
0.15	83		
0.063	76		

Dry Mass of sample, g

501

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	8.1
Sand	16.0
Silt	50.8
Clay	25.1

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

Remarks
Preparation and testing in accordance with test method unless noted below

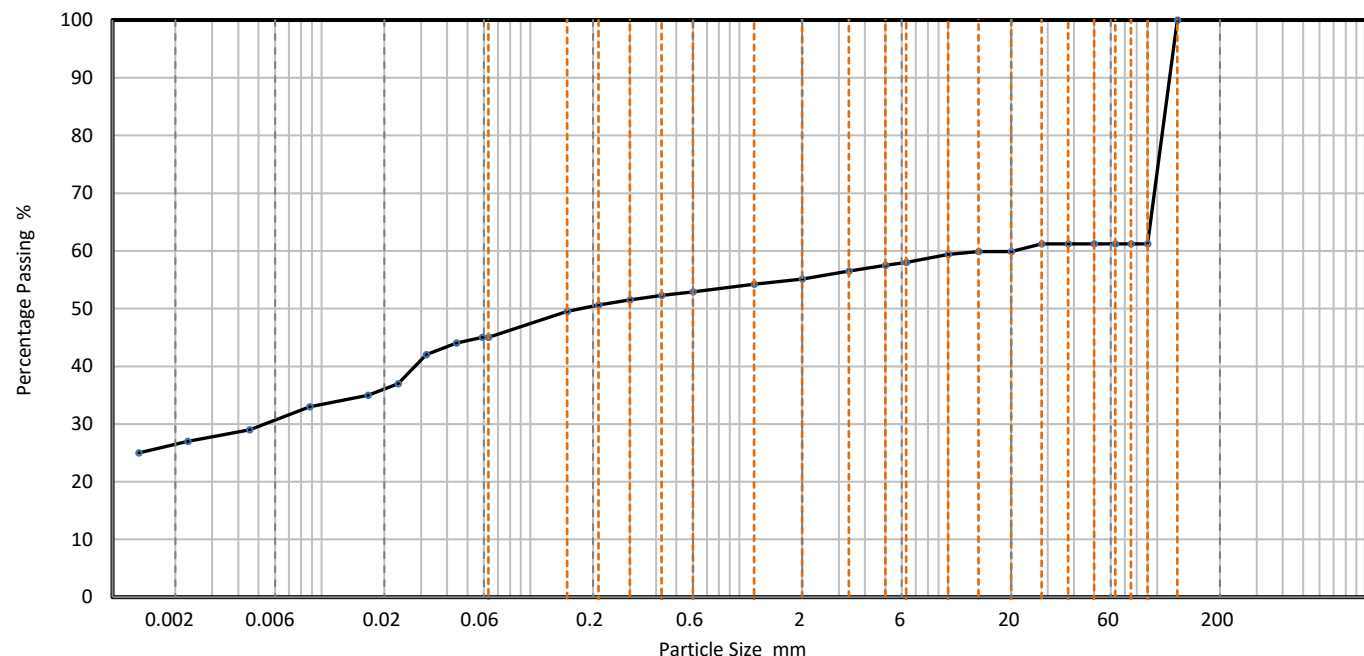
Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	04/08/2023 08:39

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	TP1	Lab sample ID	G2MT2023072415
Depth (Top)	m 0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m	Soil Description	Slightly Gravelly, Sandy, Silty, very Clayey, COBBLES
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0589	45
90	61	0.0442	44
75	61	0.0318	42
63	61	0.0233	37
50	61	0.0167	35
37.5	61	0.0088	33
28	61	0.0045	29
20	60	0.0023	27
14	60	0.0013	25
10	59		
6.3	58		
5	58		
3.35	57		
2	55		
1.18	54		
0.6	53	Particle density (assumed) 2.65 Mg/m3	
0.425	52		
0.3	52		
0.212	51		
0.15	50		
0.063	45		

Dry Mass of sample, g	4479
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Sample Proportions	% dry mass
Very coarse	38.8
Gravel	6.1
Sand	10.2
Silt	18.4
Clay	26.5

Grading Analysis	
D100	mm 125
D60	mm 20.8
D30	mm 0.00539
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks	
Preparation and testing in accordance with test method unless noted below	
Sample tested was deviating in accordance with BS1377 test standard. One very large cobble present	

Accreditation status
 Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	04/08/2023 08:24

PARTICLE SIZE DISTRIBUTION

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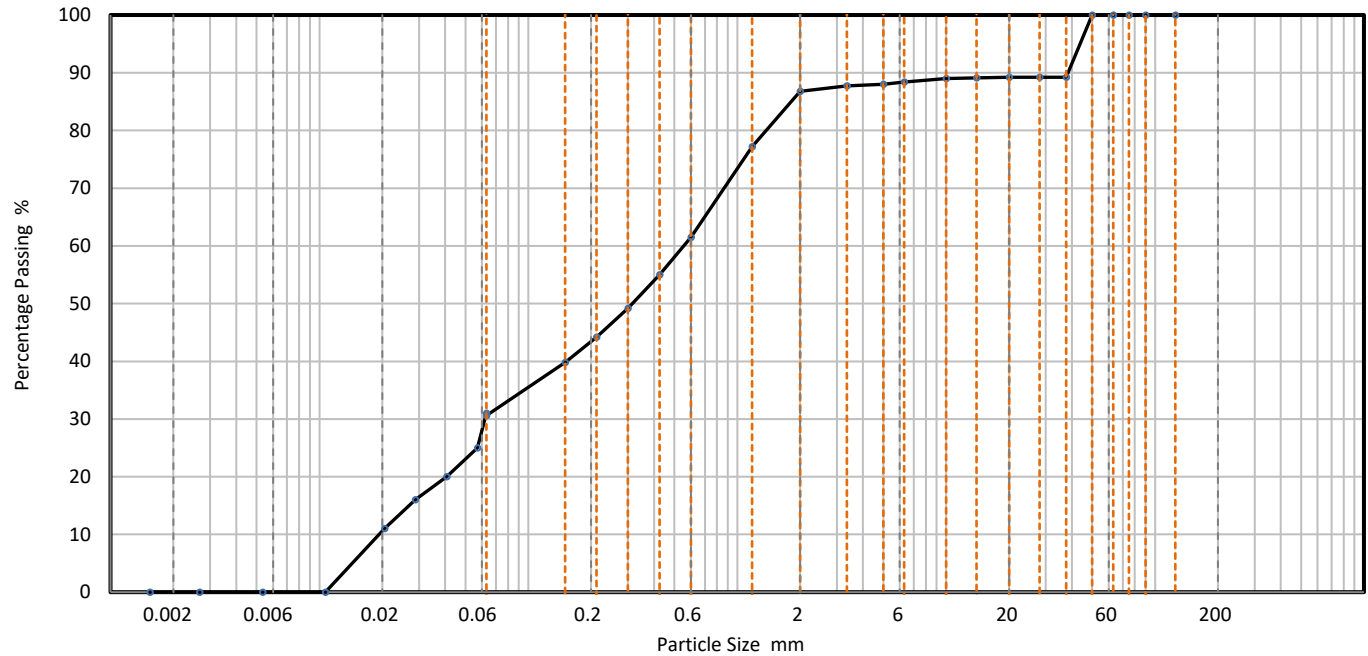
Site name

Job number

Dearne Reach

D30024

Hole		TP2	Lab sample ID	G2MT2023071463
Depth (Top)	m	0.10	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Gravelly, very Silty, SAND
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	31
90	100	0.0571	25
75	100	0.0406	20
63	100	0.0288	16
50	100	0.0205	11
37.5	89	0.0107	0
28	89	0.0053	0
20	89	0.0027	0
14	89	0.0015	0
10	89		
6.3	88		
5	88		
3.35	88		
2	87		
1.18	77		
0.6	62	Particle density (assumed) 2.65 Mg/m ³	
0.425	55		
0.3	49		
0.212	44		
0.15	40		
0.063	31		

Dry Mass of sample, g

1539

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	13.2
Sand	56.2
Silt	30.6
Clay	0.0

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	29
Curvature Coefficient	0.36

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

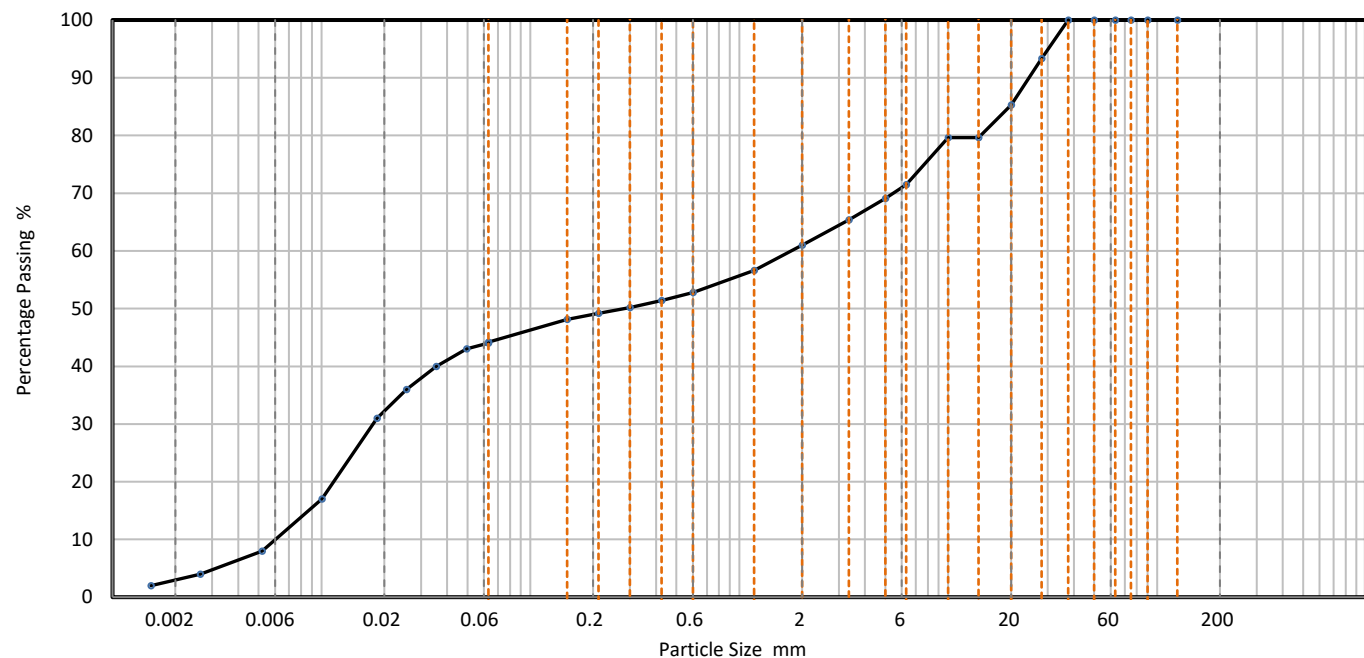
Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	25/07/2023 10:51

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	TP2	Lab sample ID	G2MT2023071468
Depth (Top)	m 2.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m	Soil Description	Slightly Clayey, Sandy, very Gravelly, SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	44
90	100	0.0495	43
75	100	0.0354	40
63	100	0.0255	36
50	100	0.0184	31
37.5	100	0.0101	17
28	93	0.0052	8
20	85	0.0026	4
14	80	0.0015	2
10	80		
6.3	72		
5	69		
3.35	65		
2	61		
1.18	57		
0.6	53	Particle density (assumed) 2.65 Mg/m3	
0.425	51		
0.3	50		
0.212	49		
0.15	48		
0.063	44		

Dry Mass of sample, g	1041
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Sample Proportions	% dry mass
Very coarse	0.0
Gravel	39.0
Sand	16.8
Silt	40.8
Clay	3.4

Grading Analysis	
D100	mm
D60	mm 1.78
D30	mm 0.0179
D10	mm 0.00614
Uniformity Coefficient	290
Curvature Coefficient	0.029

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

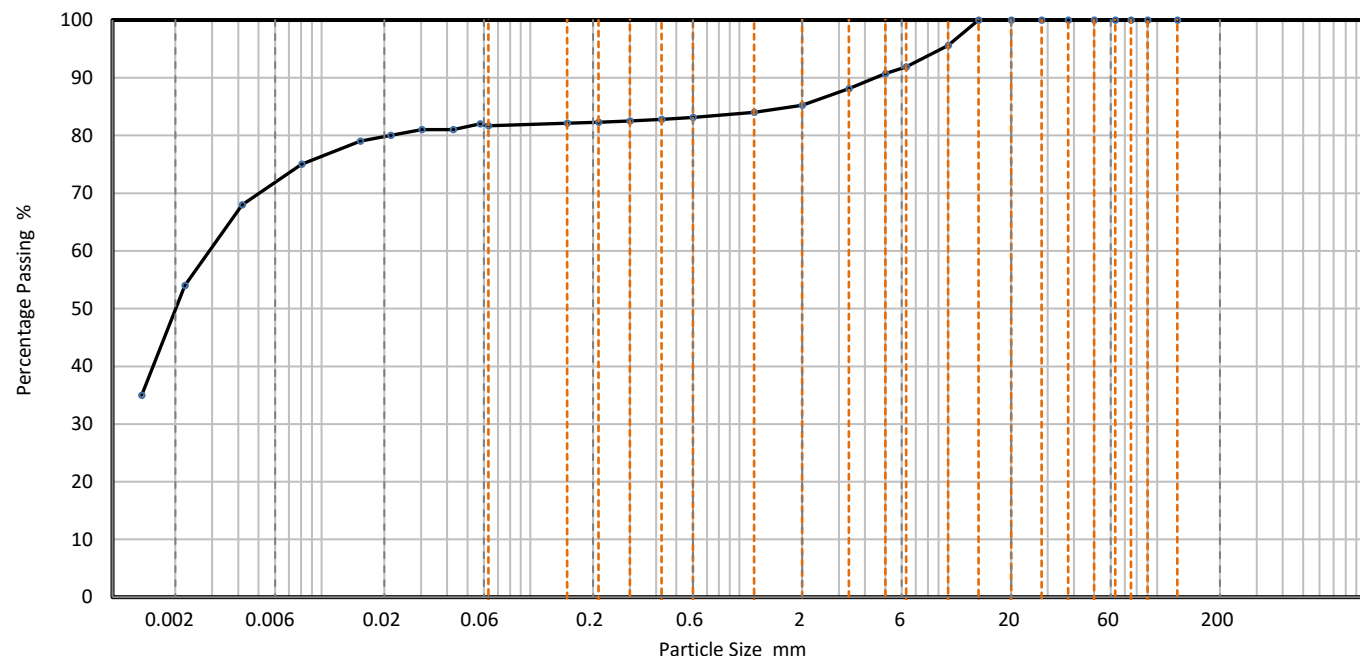
Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	25/07/2023 10:59

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	TP201	Lab sample ID	G2MT2023082525
Depth (Top)	m 1.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m	Soil Description	Slightly Sandy, Gravelly, very Silty, CLAY
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0574	82
90	100	0.0427	81
75	100	0.0303	81
63	100	0.0215	80
50	100	0.0153	79
37.5	100	0.0081	75
28	100	0.0042	68
20	100	0.0022	54
14	100	0.0014	35
10	96		
6.3	92		
5	91		
3.35	88		
2	85		
1.18	84		
0.6	83	Particle density (assumed) 2.65 Mg/m3	
0.425	83		
0.3	83		
0.212	82		
0.15	82		
0.063	82		

Dry Mass of sample, g	1151
-----------------------	------

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	14.8
Sand	3.5
Silt	31.6
Clay	50.1

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

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
 Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	06/09/2023 10:11

PARTICLE SIZE DISTRIBUTION

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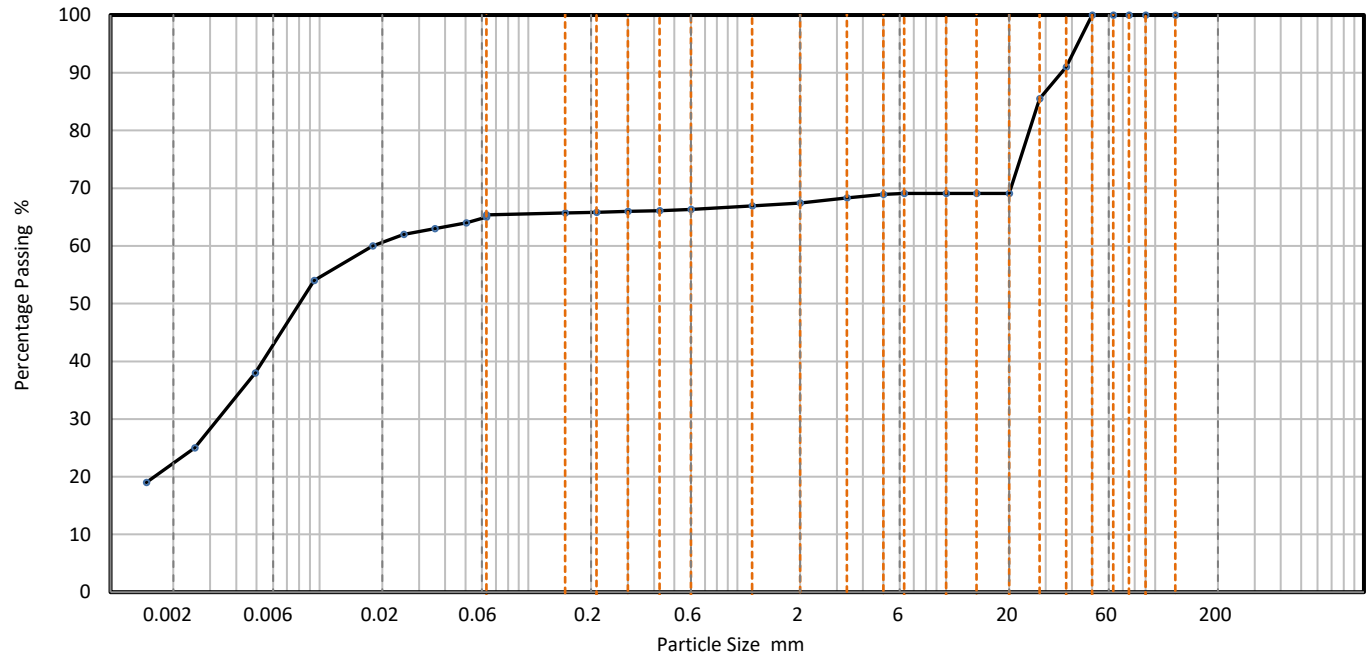
Site name

Job number

Dearne Reach

D30024

Hole	TP201	Lab sample ID	G2MT2023082527
Depth (Top) m	2.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Slightly Sandy, very Clayey, very Gravelly, SILT
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	65
90	100	0.0504	64
75	100	0.0357	63
63	100	0.0254	62
50	100	0.0180	60
37.5	91	0.0094	54
28	86	0.0049	38
20	69	0.0025	25
14	69	0.0015	19
10	69		
6.3	69		
5	69		
3.35	68		
2	67		
1.18	67		
0.6	66	Particle density (assumed) 2.65 Mg/m ³	
0.425	66		
0.3	66		
0.212	66		
0.15	66		
0.063	65		

Dry Mass of sample, g

2591

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	32.6
Sand	2.0
Silt	43.0
Clay	22.4

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

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

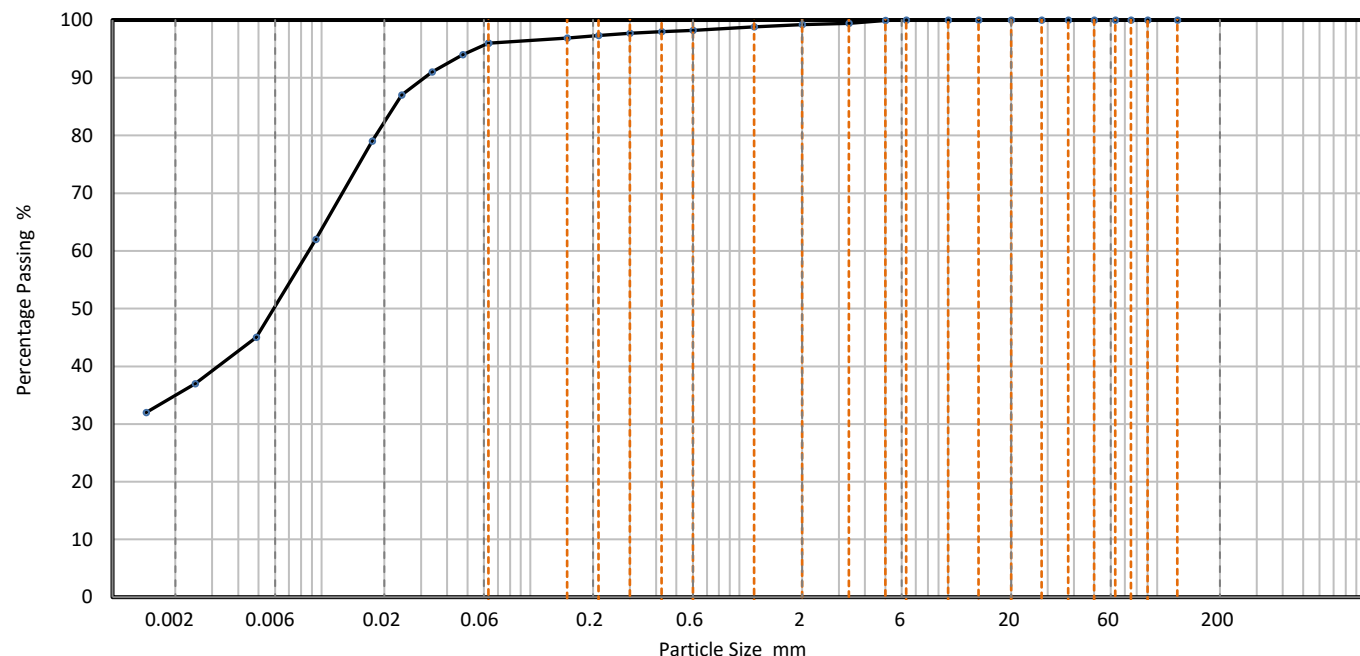
Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	08/09/2023 08:22

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	TP202	Lab sample ID	G2MT2023082529
Depth (Top)	m1.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m	Soil Description	Very slightly Gravelly, slightly Sandy, very Clayey, SILT
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	96
90	100	0.0475	94
75	100	0.0339	91
63	100	0.0242	87
50	100	0.0175	79
37.5	100	0.0094	62
28	100	0.0049	45
20	100	0.0025	37
14	100	0.0014	32
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	98	Particle density (assumed) 2.65 Mg/m3	
0.425	98		
0.3	98		
0.212	97		
0.15	97		
0.063	96		

Dry Mass of sample, g	1174
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Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.8
Sand	3.2
Silt	61.1
Clay	34.9

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

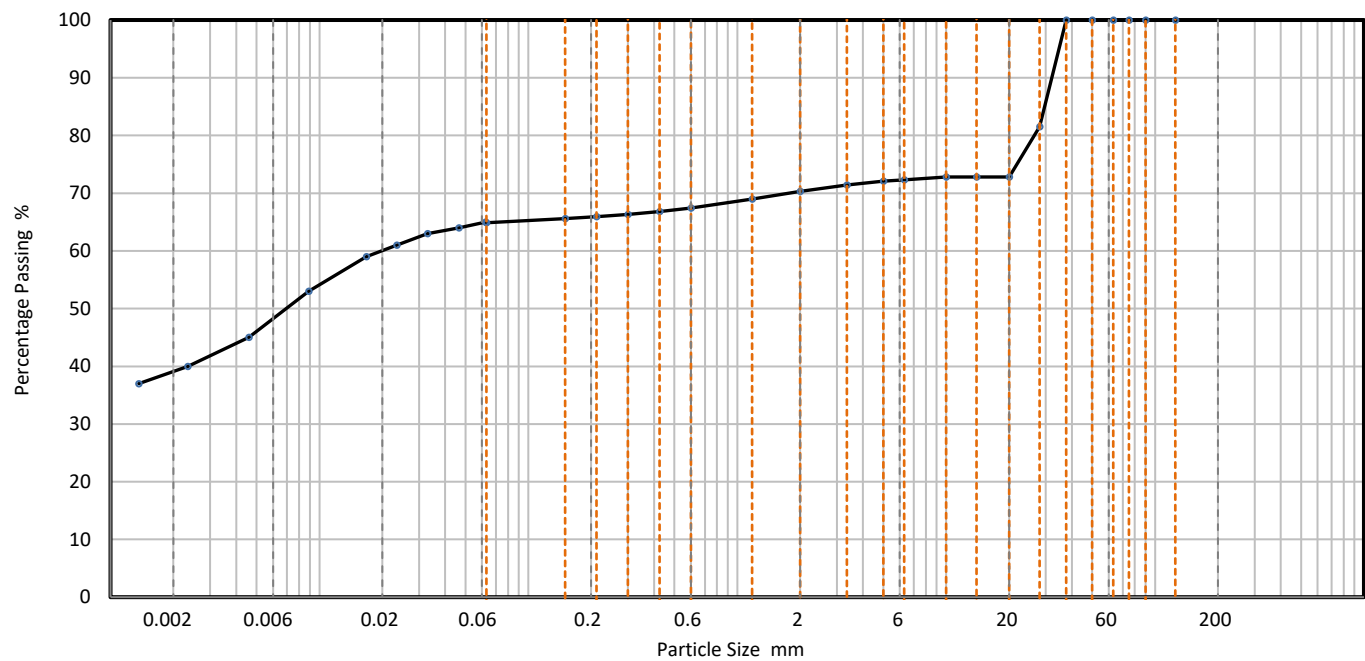
Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
 Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	08/09/2023 08:28

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	TP202	Lab sample ID	G2MT2023082531
Depth (Top)	m 2.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m	Soil Description	Slightly Sandy, very Silty, very Gravelly, CLAY
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0622	65
90	100	0.0464	64
75	100	0.0329	63
63	100	0.0235	61
50	100	0.0168	59
37.5	100	0.0089	53
28	82	0.0046	45
20	73	0.0023	40
14	73	0.0014	37
10	73		
6.3	72		
5	72		
3.35	71		
2	70		
1.18	69		
0.6	67	Particle density (assumed) 2.65 Mg/m3	
0.425	67		
0.3	66		
0.212	66		
0.15	66		
0.063	65		

Dry Mass of sample, g	1812
-----------------------	------

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	29.7
Sand	5.4
Silt	25.7
Clay	39.2

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

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

Accreditation status
 Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	08/09/2023 08:32

PARTICLE SIZE DISTRIBUTION

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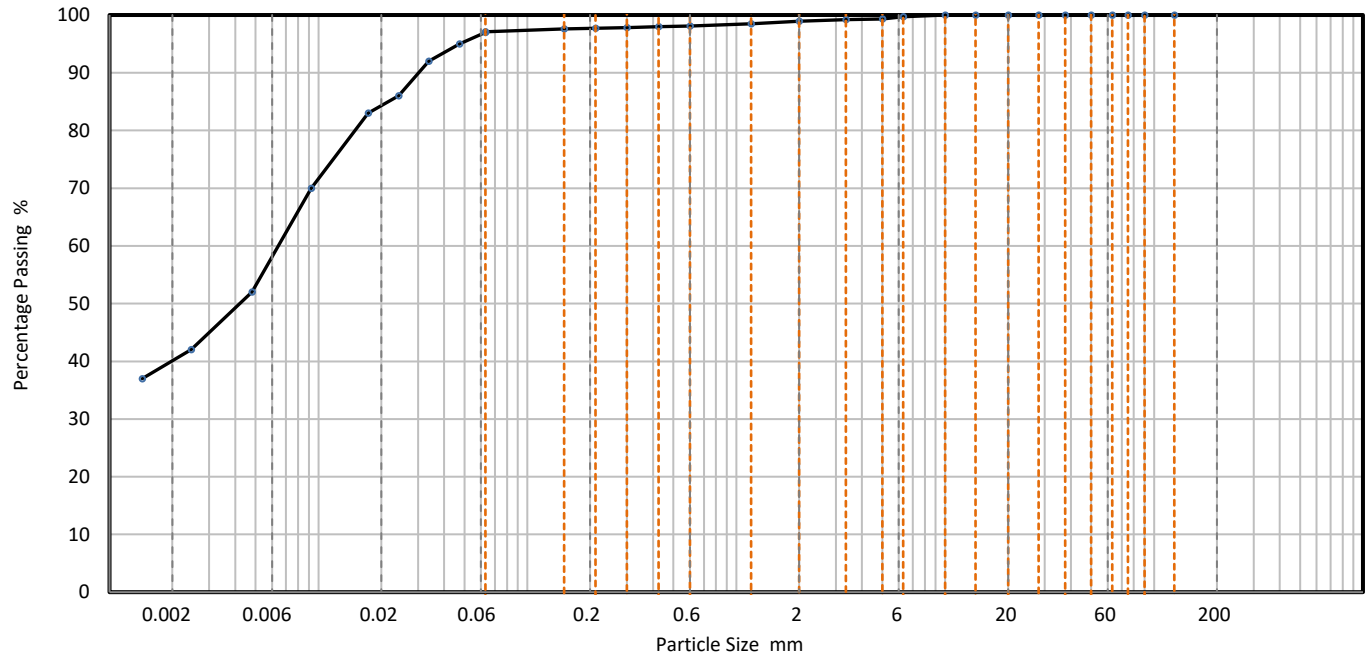
Site name

Job number

Dearne Reach

D30024

Hole		TP203	Lab sample ID	G2MT2023082534
Depth (Top)	m	1.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Slightly Gravelly, slightly Sandy, very Clayey, SILT
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	97
90	100	0.0473	95
75	100	0.0338	92
63	100	0.0242	86
50	100	0.0173	83
37.5	100	0.0092	70
28	100	0.0048	52
20	100	0.0025	42
14	100	0.0014	37
10	100		
6.3	100		
5	99		
3.35	99		
2	99		
1.18	99		
0.6	98	Particle density (assumed) 2.65 Mg/m ³	
0.425	98		
0.3	98		
0.212	98		
0.15	98		
0.063	97		

Dry Mass of sample, g

1121

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	1.1
Sand	1.8
Silt	57.3
Clay	39.8

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

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	08/09/2023 08:36

PARTICLE SIZE DISTRIBUTION

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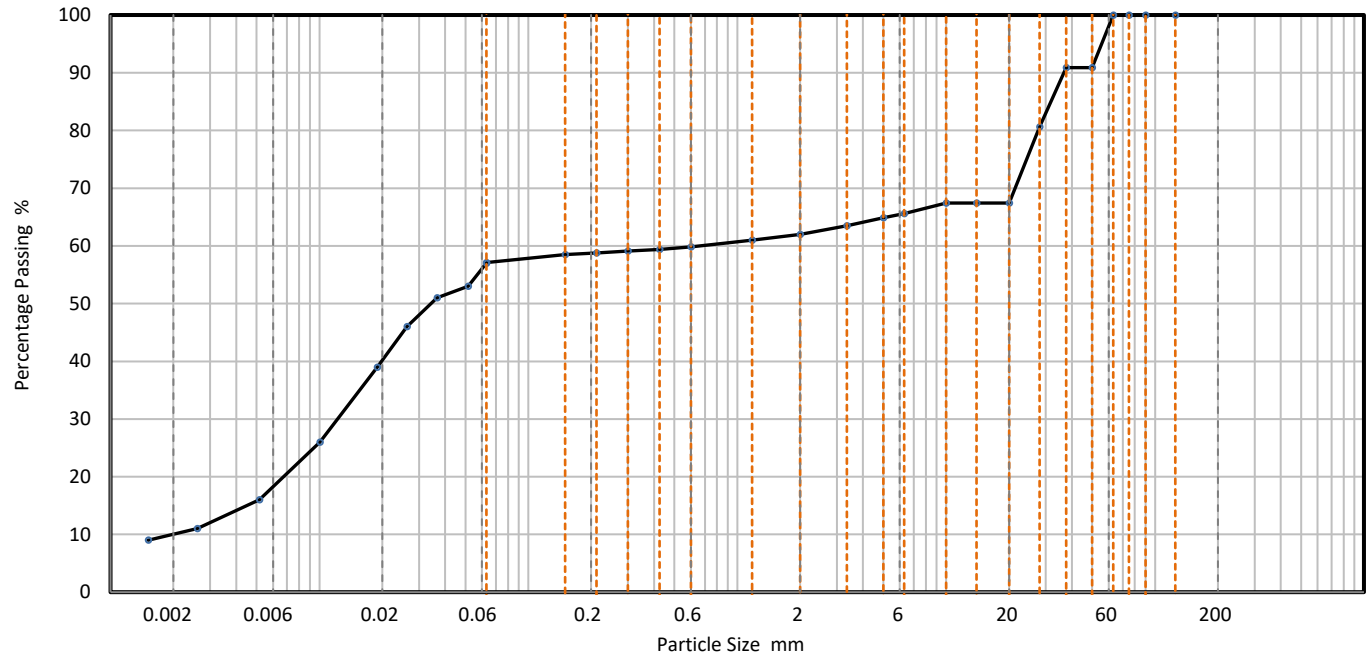
Site name

Job number

Dearne Reach

D30024

Hole		TP203	Lab sample ID	G2MT2023082536
Depth (Top)	m	2.00	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Slightly Sandy, Clayey, very Gravelly, SILT
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	57
90	100	0.0514	53
75	100	0.0366	51
63	100	0.0262	46
50	91	0.0189	39
37.5	91	0.0101	26
28	81	0.0052	16
20	67	0.0026	11
14	67	0.0015	9
10	67		
6.3	66		
5	65		
3.35	64		
2	62		
1.18	61		
0.6	60	Particle density (assumed) 2.65 Mg/m ³	
0.425	59		
0.3	59		
0.212	59		
0.15	59		
0.063	57		

Dry Mass of sample, g

2117

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	38.0
Sand	4.9
Silt	47.1
Clay	10.0

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	330
Curvature Coefficient	0.11

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	08/09/2023 08:39

PARTICLE SIZE DISTRIBUTION

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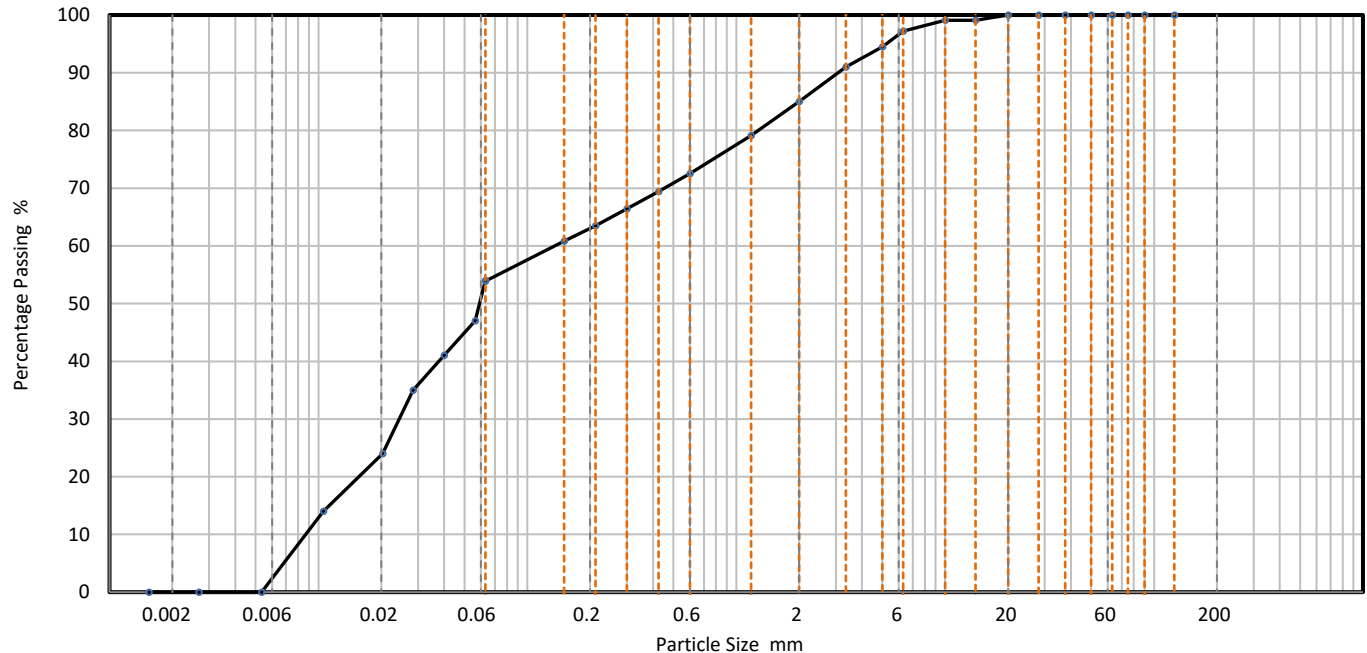
Site name

Job number

Dearne Reach

D30024

Hole		TP3	Lab sample ID	G2MT2023071473
Depth (Top)	m	0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Gravelly, very Sandy, SILT
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	54
90	100	0.0562	47
75	100	0.0399	41
63	100	0.0284	35
50	100	0.0203	24
37.5	100	0.0106	14
28	100	0.0053	0
20	100	0.0027	0
14	99	0.0015	0
10	99		
6.3	97		
5	95		
3.35	91		
2	85		
1.18	79		
0.6	73	Particle density (assumed) 2.65 Mg/m ³	
0.425	69		
0.3	66		
0.212	64		
0.15	61		
0.063	54		

Dry Mass of sample, g

377

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	15.0
Sand	31.2
Silt	53.8
Clay	0.0

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	16
Curvature Coefficient	0.51

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	25/07/2023 11:07

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

12-16 Yarm Road,
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TS18 3NA

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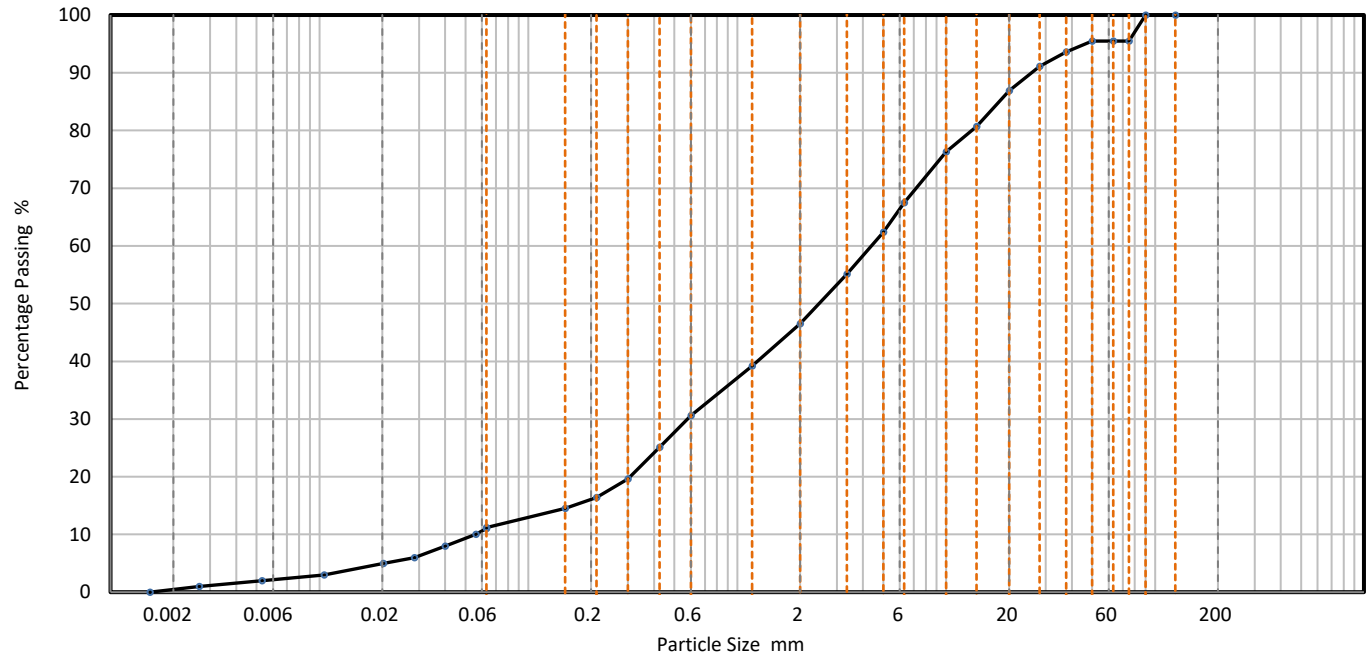
Site name

Job number

Dearne Reach

D30024

Hole		TP3	Lab sample ID	G2MT2023071474
Depth (Top)	m	1.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Very slightly Clayey, slightly Cobbly, Silty, very Sandy, GRAVEL
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	11
90	100	0.0561	10
75	96	0.0400	8
63	96	0.0285	6
50	96	0.0202	5
37.5	94	0.0105	3
28	91	0.0053	2
20	87	0.0027	1
14	81	0.0015	0
10	76		
6.3	68		
5	62		
3.35	55		
2	47		
1.18	39		
0.6	31	Particle density (assumed) 2.65 Mg/m ³	
0.425	25		
0.3	20		
0.212	16		
0.15	15		
0.063	11		

Dry Mass of sample, g

10481

Sample Proportions	% dry mass
Very coarse	4.5
Gravel	49.0
Sand	35.4
Silt	10.6
Clay	0.5

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	78
Curvature Coefficient	1.3

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	25/07/2023 11:17

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

12-16 Yarm Road,
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TS18 3NA

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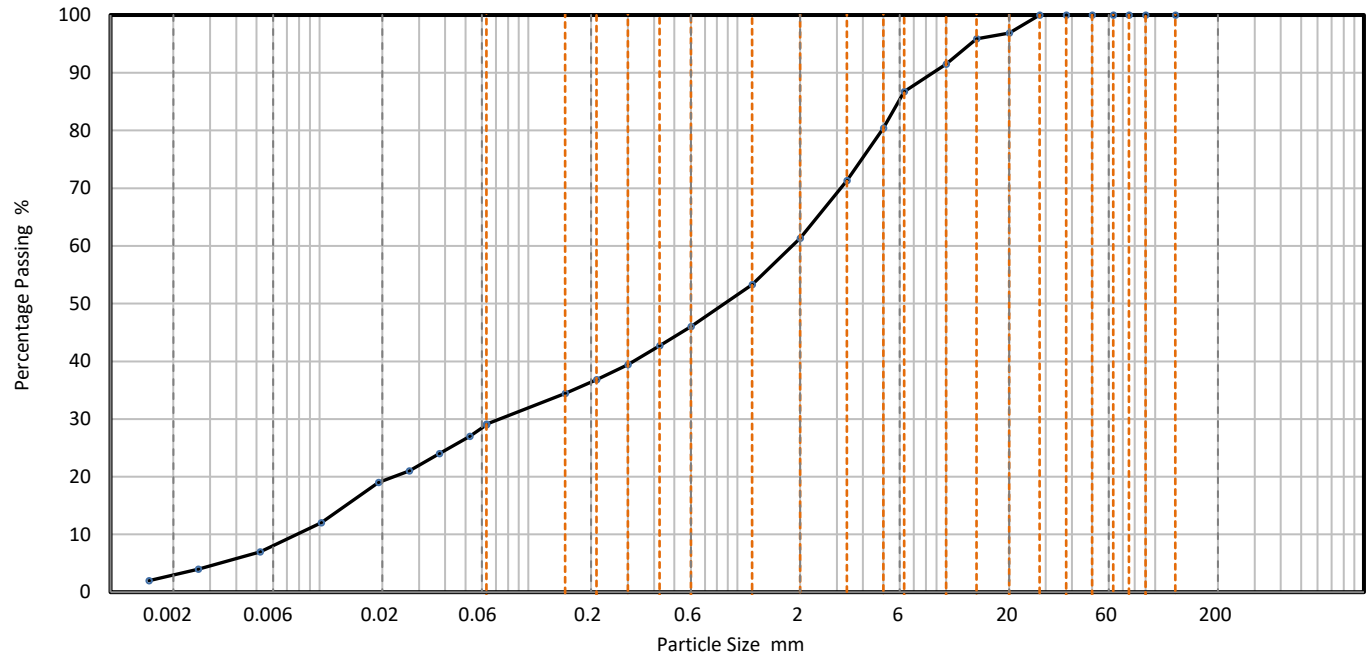
Site name

Job number

Dearne Reach

D30024

Hole	TP3	Lab sample ID	G2MT2023071477
Depth (Top) m	2.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Slightly Clayey, very Silty, very Sandy, GRAVEL
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	29
90	100	0.0524	27
75	100	0.0375	24
63	100	0.0269	21
50	100	0.0192	19
37.5	100	0.0102	12
28	100	0.0052	7
20	97	0.0026	4
14	96	0.0015	2
10	92		
6.3	87		
5	80		
3.35	71		
2	61		
1.18	53		
0.6	46	Particle density (assumed) 2.65 Mg/m3	
0.425	43		
0.3	39		
0.212	37		
0.15	34		
0.063	29		

Dry Mass of sample, g

612

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	38.7
Sand	32.3
Silt	25.8
Clay	3.2

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	230
Curvature Coefficient	0.37

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	25/07/2023 11:25

PARTICLE SIZE DISTRIBUTION

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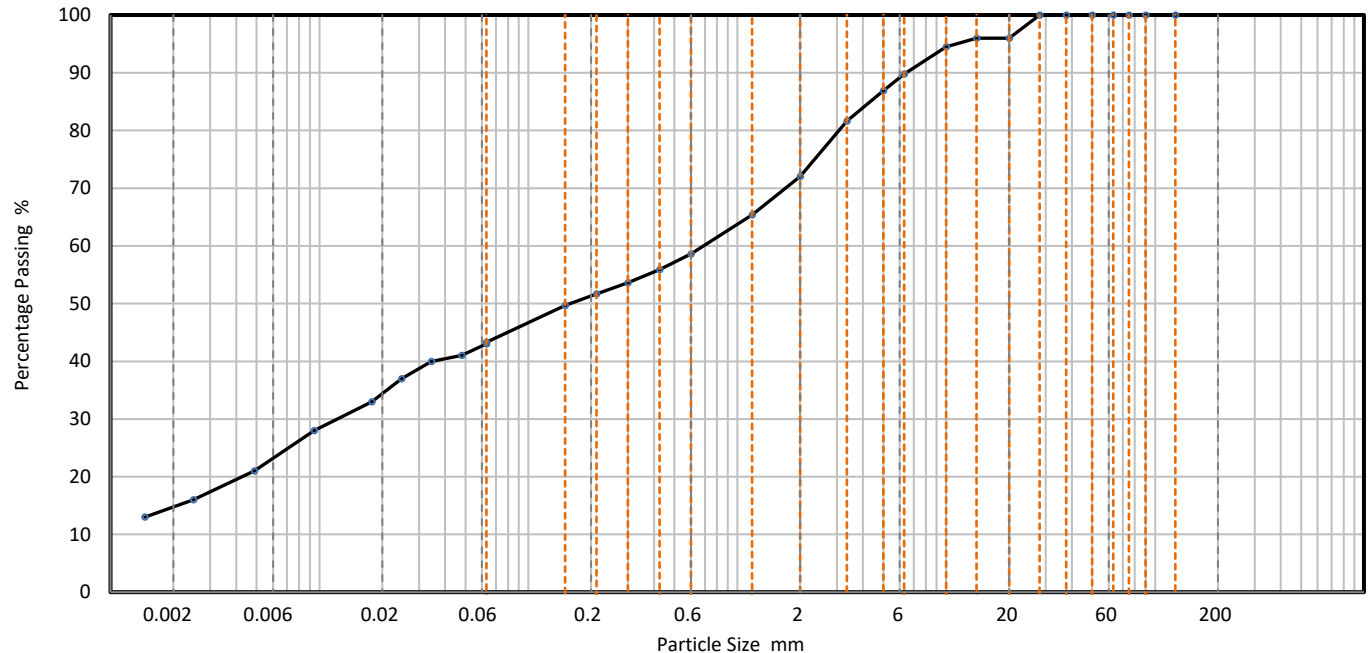
Site name

Job number

Dearne Reach

D30024

Hole		TP4	Lab sample ID	G2MT2023072419
Depth (Top)	m	0.10	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Clayey, very Gravelly, very Silty, SAND
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	43
90	100	0.0481	41
75	100	0.0343	40
63	100	0.0247	37
50	100	0.0178	33
37.5	100	0.0094	28
28	100	0.0049	21
20	96	0.0025	16
14	96	0.0015	13
10	95		
6.3	90		
5	87		
3.35	82		
2	72		
1.18	65		
0.6	59	Particle density (assumed) 2.65 Mg/m ³	
0.425	56		
0.3	54		
0.212	52		
0.15	50		
0.063	43		

Dry Mass of sample, g

1497

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	28.0
Sand	28.6
Silt	28.4
Clay	15.0

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

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/08/2023 10:50

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

12-16 Yarm Road,
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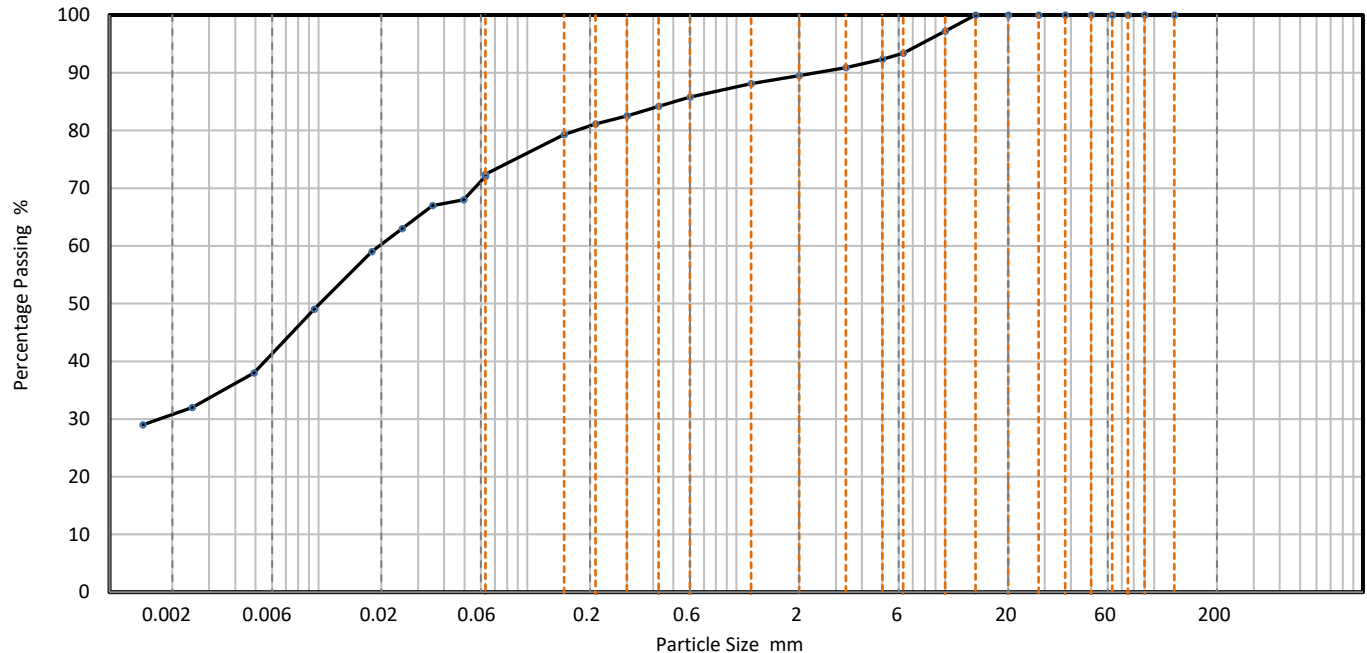
Site name

Job number

Dearne Reach

D30024

Hole		TP4	Lab sample ID	G2MT2023072422
Depth (Top)	m	0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Gravelly, Sandy, very Clayey, SILT
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	72
90	100	0.0495	68
75	100	0.0352	67
63	100	0.0252	63
50	100	0.0180	59
37.5	100	0.0095	49
28	100	0.0049	38
20	100	0.0025	32
14	100	0.0014	29
10	97		
6.3	93		
5	92		
3.35	91		
2	90		
1.18	88		
0.6	86	Particle density (assumed) 2.65 Mg/m ³	
0.425	84		
0.3	83		
0.212	81		
0.15	79		
0.063	72		

Dry Mass of sample, g

1005

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	10.5
Sand	17.0
Silt	41.4
Clay	31.1

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

Remarks
Preparation and testing in accordance with test method unless noted below

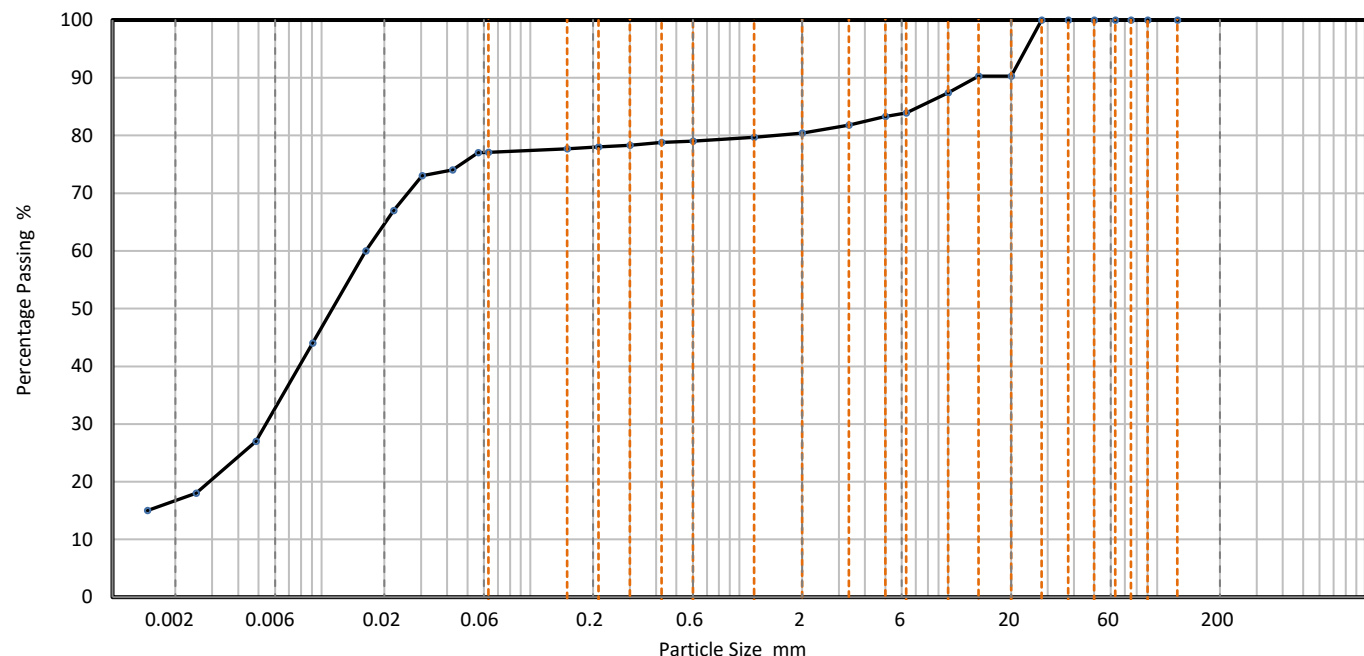
Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	04/08/2023 08:40

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	TP4	Lab sample ID	G2MT2023072424
Depth (Top)	m 2.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m	Soil Description	Slightly Sandy, Clayey, Gravelly, SILT
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0562	77
90	100	0.0425	74
75	100	0.0303	73
63	100	0.0221	67
50	100	0.0163	60
37.5	100	0.0091	44
28	100	0.0049	27
20	90	0.0025	18
14	90	0.0015	15
10	87		
6.3	84		
5	83		
3.35	82		
2	80		
1.18	80		
0.6	79	Particle density (assumed) 2.65 Mg/m3	
0.425	79		
0.3	78		
0.212	78		
0.15	78		
0.063	77		

Dry Mass of sample, g	1310
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Sample Proportions	% dry mass
Very coarse	0.0
Gravel	19.6
Sand	3.2
Silt	60.3
Clay	16.9

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

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
 Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/08/2023 10:58

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

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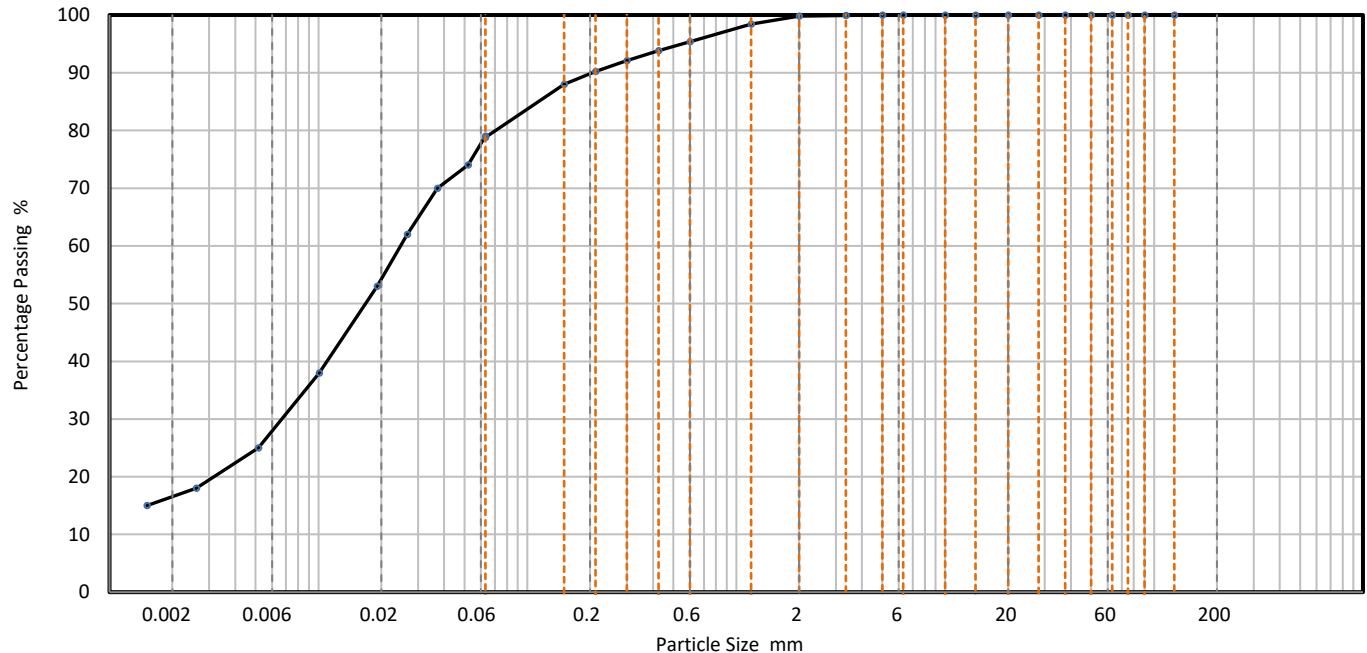
Site name

Job number

Dearne Reach

D30024

Hole		TP5	Lab sample ID	G2MT2023072426
Depth (Top)	m	0.10	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Very slightly Gravelly, Clayey, very Sandy, SILT
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	79
90	100	0.0520	74
75	100	0.0371	70
63	100	0.0266	62
50	100	0.0191	53
37.5	100	0.0101	38
28	100	0.0052	25
20	100	0.0026	18
14	100	0.0015	15
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	98		
0.6	95	Particle density (assumed) 2.65 Mg/m ³	
0.425	94		
0.3	92		
0.212	90		
0.15	88		
0.063	79		

Dry Mass of sample, g

572

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.2
Sand	21.0
Silt	62.3
Clay	16.5

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

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status

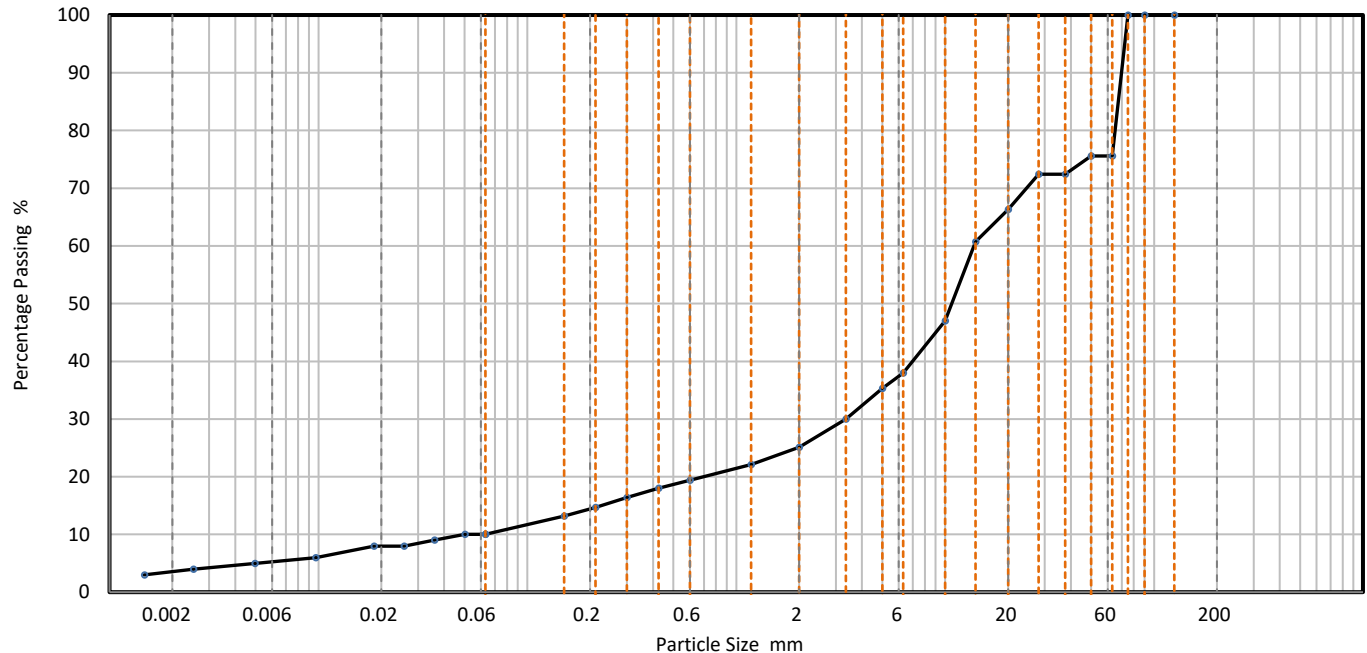
Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/08/2023 11:14



Site name	Job number
Dearne Reach	D30024

Hole		TP5	Lab sample ID	G2MT2023072431
Depth (Top)	m	1.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Slightly Clayey, slightly Silty, Sandy, very Cobbly, GRAVEL
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	10
90	100	0.0502	10
75	100	0.0359	9
63	76	0.0257	8
50	76	0.0184	8
37.5	72	0.0097	6
28	72	0.0050	5
20	66	0.0025	4
14	61	0.0015	3
10	47		
6.3	38		
5	35		
3.35	30		
2	25		
1.18	22		
0.6	19	Particle density	(assumed)
0.425	18	2.65	Mg/m3
0.3	16		
0.212	15		
0.15	13		
0.063	10		

Dry Mass of sample, g

2913

Sample Proportions	% dry mass
Very coarse	24.4
Gravel	50.5
Sand	15.0
Silt	6.3
Clay	3.8

Grading Analysis		
D100	mm	
D60	mm	13.8
D30	mm	3.36
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

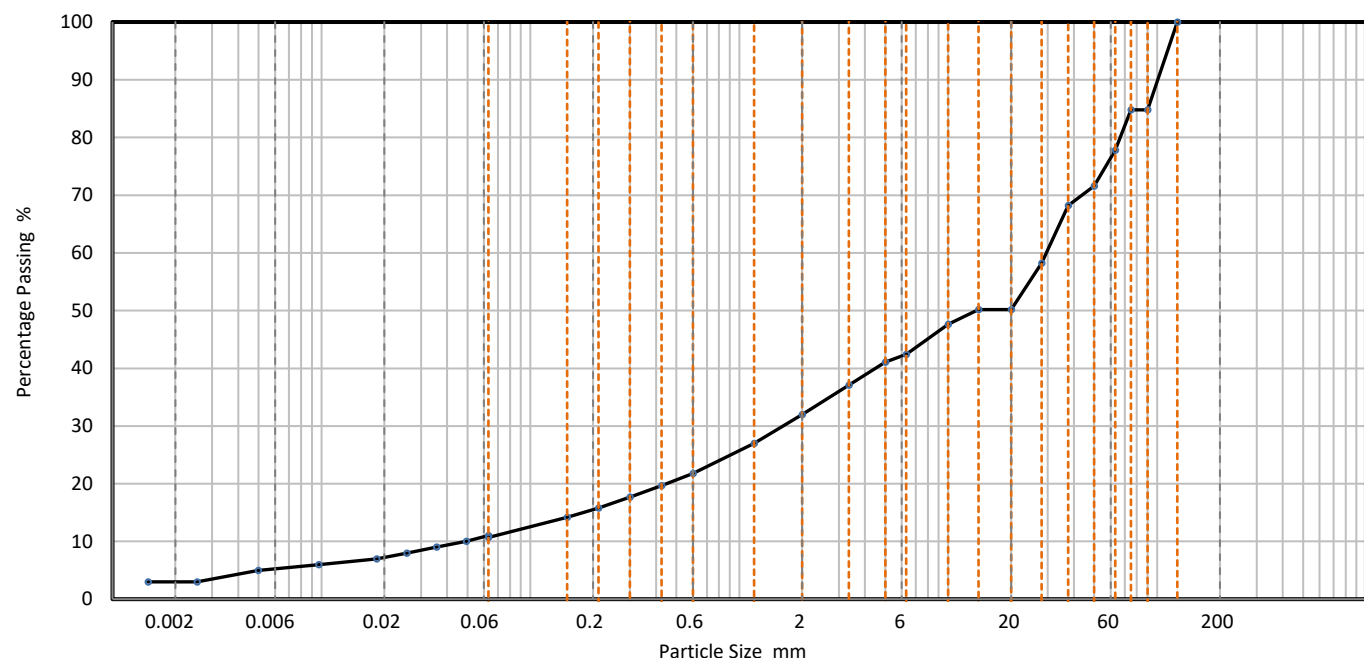
Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	04/08/2023 08:43

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	TP5	Lab sample ID	G2MT2023072432
Depth (Top)	m 2.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m	Soil Description	Slightly Clayey, slightly Silty, very Sandy, very Cobbly, GRAVEL
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	11
90	85	0.0493	10
75	85	0.0356	9
63	78	0.0256	8
50	72	0.0184	7
37.5	68	0.0097	6
28	58	0.0050	5
20	50	0.0025	3
14	50	0.0015	3
10	48		
6.3	42		
5	41		
3.35	37		
2	32		
1.18	27		
0.6	22	Particle density (assumed) 2.65 Mg/m3	
0.425	20		
0.3	18		
0.212	16		
0.15	14		
0.063	11		

Dry Mass of sample, g	4610
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Sample Proportions	% dry mass
Very coarse	22.2
Gravel	45.8
Sand	21.3
Silt	7.5
Clay	3.2

Grading Analysis	
D100	mm 125
D60	mm 29.5
D30	mm 1.63
D10	mm 0.0463
Uniformity Coefficient	640
Curvature Coefficient	1.9

Remarks	
Preparation and testing in accordance with test method unless noted below	
Sample tested was deviating in accordance with BS1377 test standard	

Accreditation status
 Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	04/08/2023 08:33

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

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Stockton on Tees,
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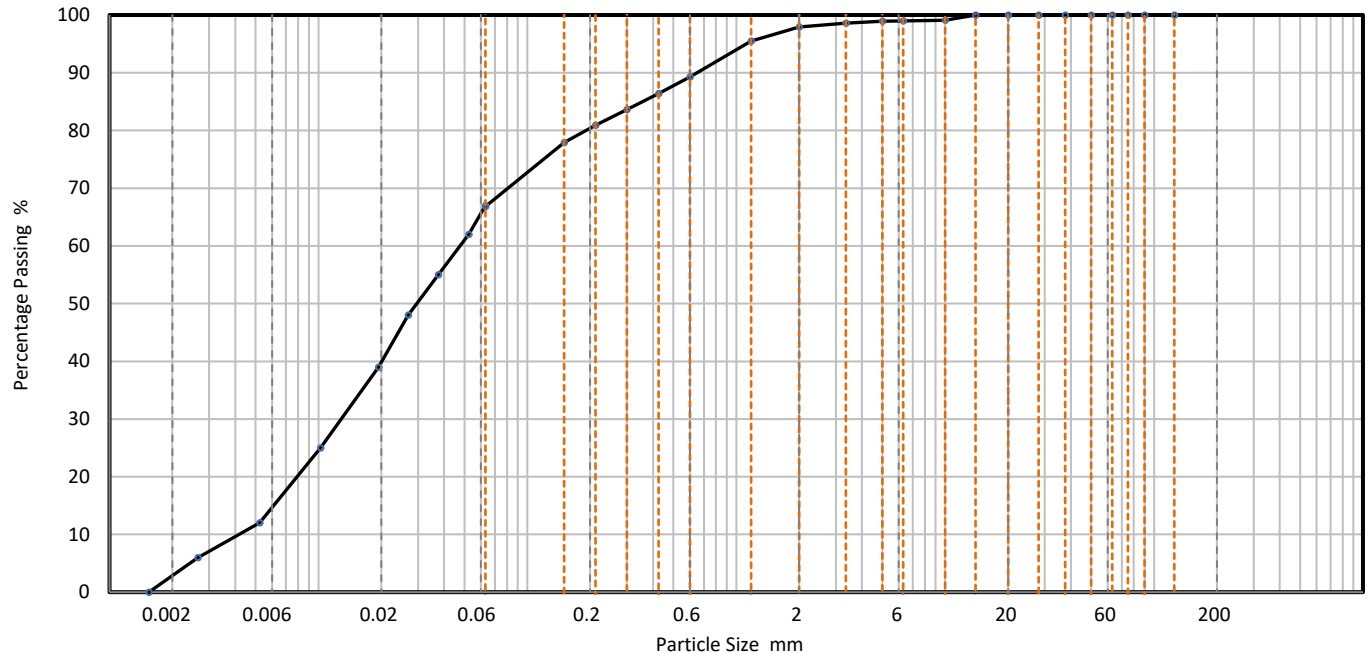
Site name

Job number

Dearne Reach

D30024

Hole	TP6	Lab sample ID	G2MT2023071482
Depth (Top) m	2.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base) m		Soil Description	Slightly Gravelly, slightly Clayey, very Sandy, SILT
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	67
90	100	0.0524	62
75	100	0.0375	55
63	100	0.0269	48
50	100	0.0193	39
37.5	100	0.0102	25
28	100	0.0052	12
20	100	0.0026	6
14	100	0.0015	0
10	99		
6.3	99		
5	99		
3.35	99		
2	98		
1.18	96		
0.6	89	Particle density (assumed) 2.65 Mg/m3	
0.425	86		
0.3	84		
0.212	81		
0.15	78		
0.063	67		

Dry Mass of sample, g

527

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	2.1
Sand	31.0
Silt	64.2
Clay	2.7

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	11
Curvature Coefficient	0.81

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	25/07/2023 11:32

PARTICLE SIZE DISTRIBUTION

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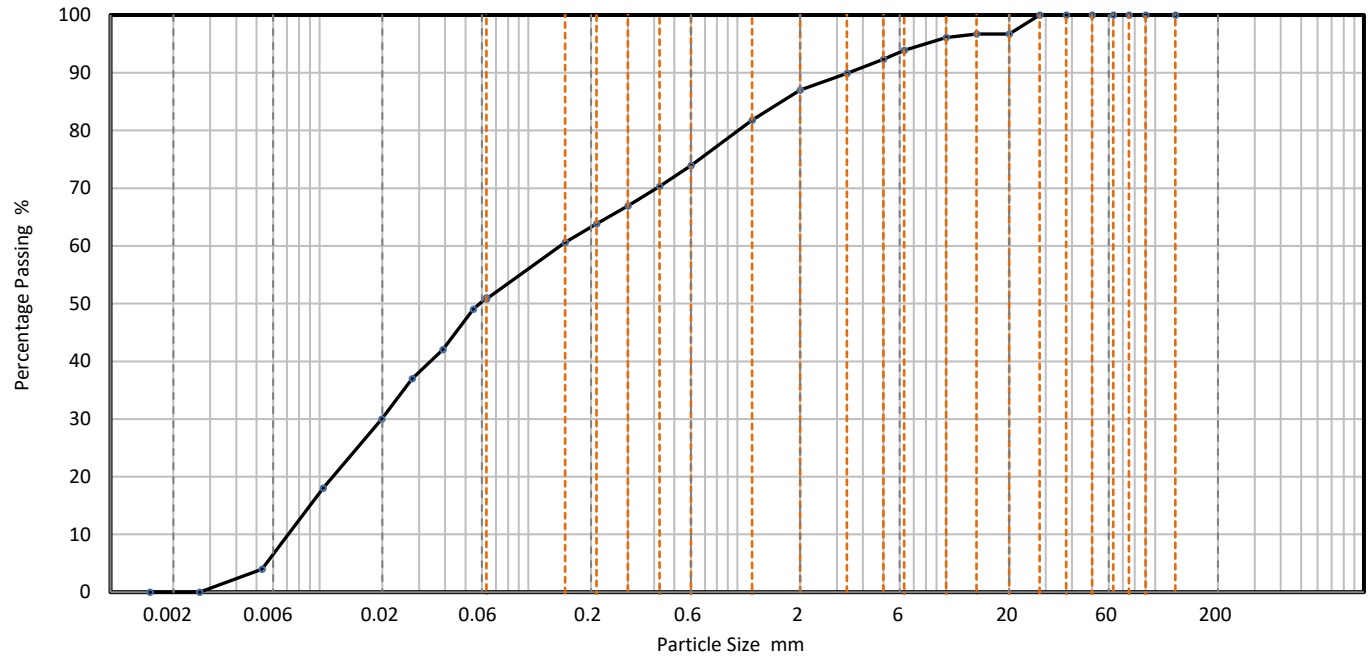
Site name

Job number

Dearne Reach

D30024

Hole		TP7	Lab sample ID	G2MT2023071484
Depth (Top)	m	0.10	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Gravelly, very Sandy, SILT
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	51
90	100	0.0544	49
75	100	0.0389	42
63	100	0.0278	37
50	100	0.0198	30
37.5	100	0.0104	18
28	100	0.0053	4
20	97	0.0027	0
14	97	0.0015	0
10	96		
6.3	94		
5	92		
3.35	90		
2	87		
1.18	82		
0.6	74	Particle density (assumed) 2.65 Mg/m ³	
0.425	70		
0.3	67		
0.212	64		
0.15	61		
0.063	51		

Dry Mass of sample, g

1356

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	13.0
Sand	36.2
Silt	50.8
Clay	0.0

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	20
Curvature Coefficient	0.4

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

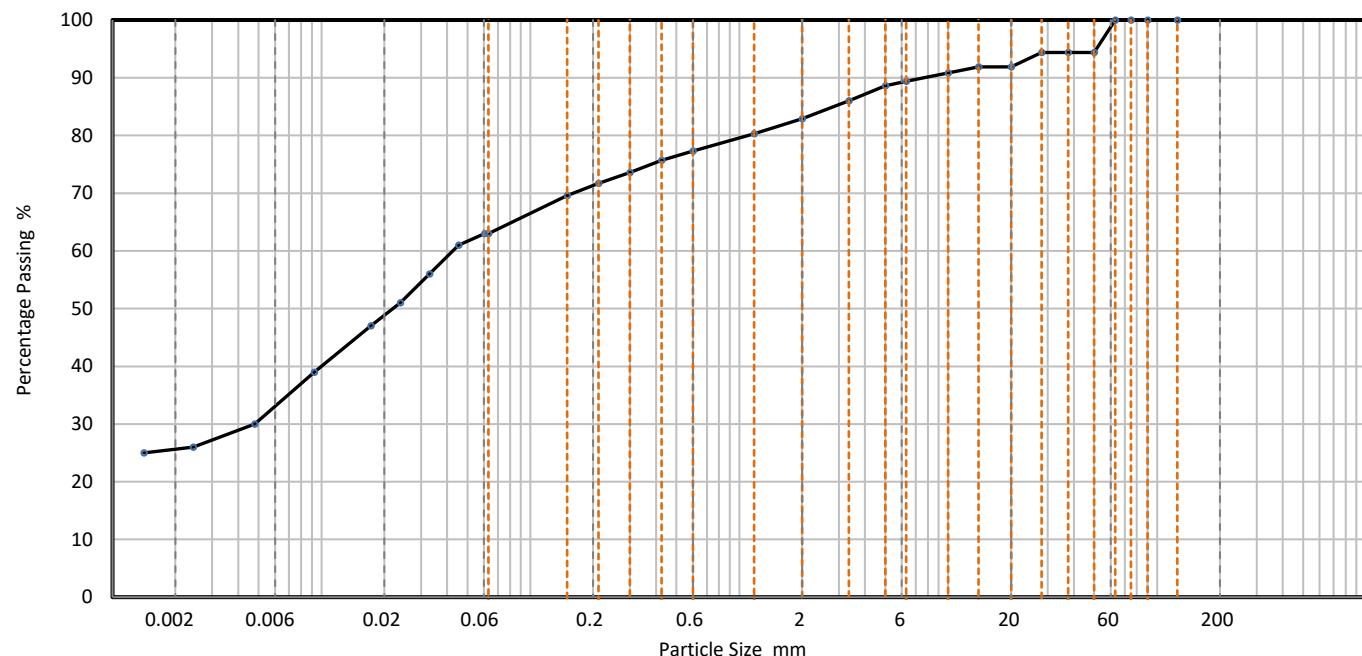
Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	25/07/2023 11:40

PARTICLE SIZE DISTRIBUTION		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	 10258
Site name	Job number		
Dearne Reach	D30024		

Hole	TP7	Lab sample ID	G2MT2023071486
Depth (Top)	m 0.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m	Soil Description	Gravelly, Sandy, very Clayey, SILT
Sample type	D		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0603	63
90	100	0.0454	61
75	100	0.0329	56
63	100	0.0239	51
50	94	0.0172	47
37.5	94	0.0092	39
28	94	0.0048	30
20	92	0.0024	26
14	92	0.0014	25
10	91		
6.3	89		
5	89		
3.35	86		
2	83		
1.18	80		
0.6	77	Particle density (assumed) 2.65 Mg/m3	
0.425	76		
0.3	74		
0.212	72		
0.15	70		
0.063	63		

Dry Mass of sample, g	2891
-----------------------	------

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	17.1
Sand	19.8
Silt	37.6
Clay	25.5

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

Remarks	
Preparation and testing in accordance with test method unless noted below	
Sample tested was deviating in accordance with BS1377 test standard	

Accreditation status
 Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	28/07/2023 15:36

PARTICLE SIZE DISTRIBUTION

G2M Testing (Stockton)

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01642 033318

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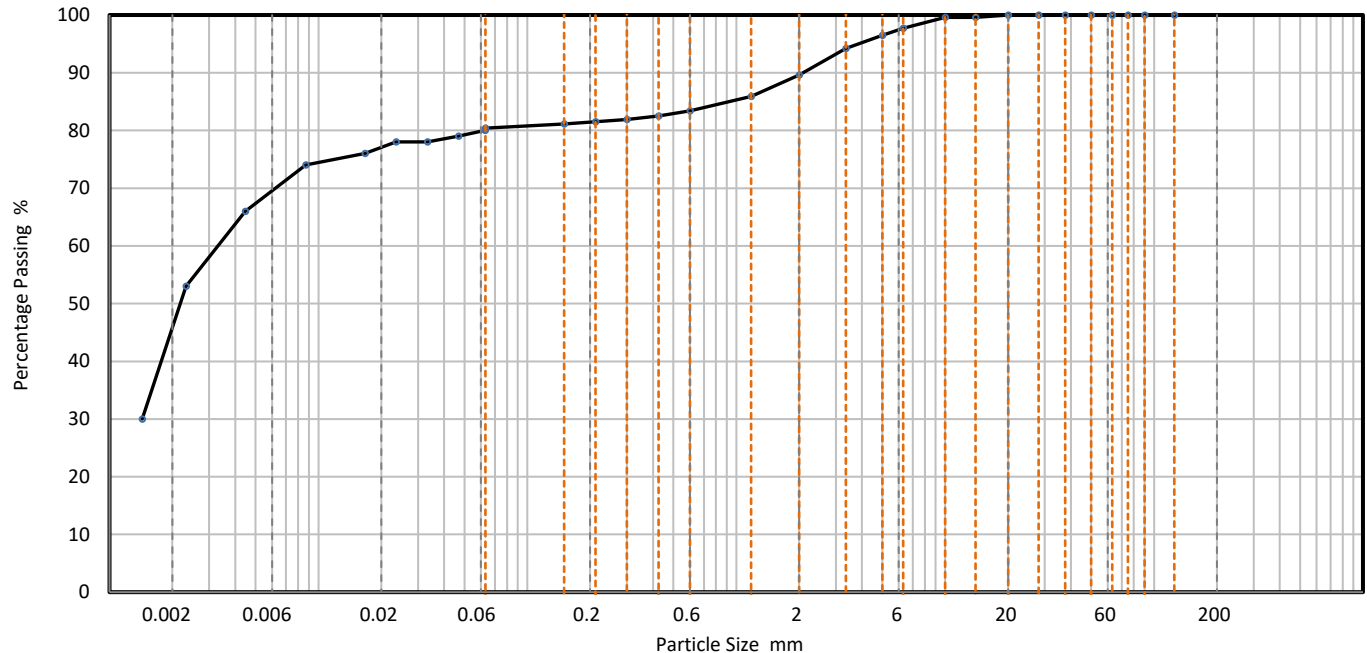
Site name

Job number

Dearne Reach

D30024

Hole		TP7	Lab sample ID	G2MT2023071489
Depth (Top)	m	2.50	Test Method	BS 1377 - 2 : 1990 Clauses 9.2 and 9.5
Depth (Base)	m		Soil Description	Slightly Sandy, Gravelly, very Silty, CLAY
Sample type		B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0627	80
90	100	0.0469	79
75	100	0.0332	78
63	100	0.0235	78
50	100	0.0167	76
37.5	100	0.0087	74
28	100	0.0045	66
20	100	0.0023	53
14	100	0.0014	30
10	100		
6.3	98		
5	97		
3.35	94		
2	90		
1.18	86		
0.6	83	Particle density (assumed) 2.65 Mg/m ³	
0.425	83		
0.3	82		
0.212	82		
0.15	81		
0.063	80		

Dry Mass of sample, g

396

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	10.4
Sand	9.2
Silt	34.3
Clay	46.1

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

Remarks
Preparation and testing in accordance with test method unless noted below
Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	25/07/2023 11:47



10258

**Dry Density / Moisture Content Relationship
Light Compaction**

Job Ref

D30024

Borehole / Pit No

BH1

Site Name

Dearne Reach

Sample No

Soil Description

Light Brown CLAY

Depth

0.50 m

Specimen Ref.

1

Specimen Depth

0.5 m

Sample Type

D

Test Method

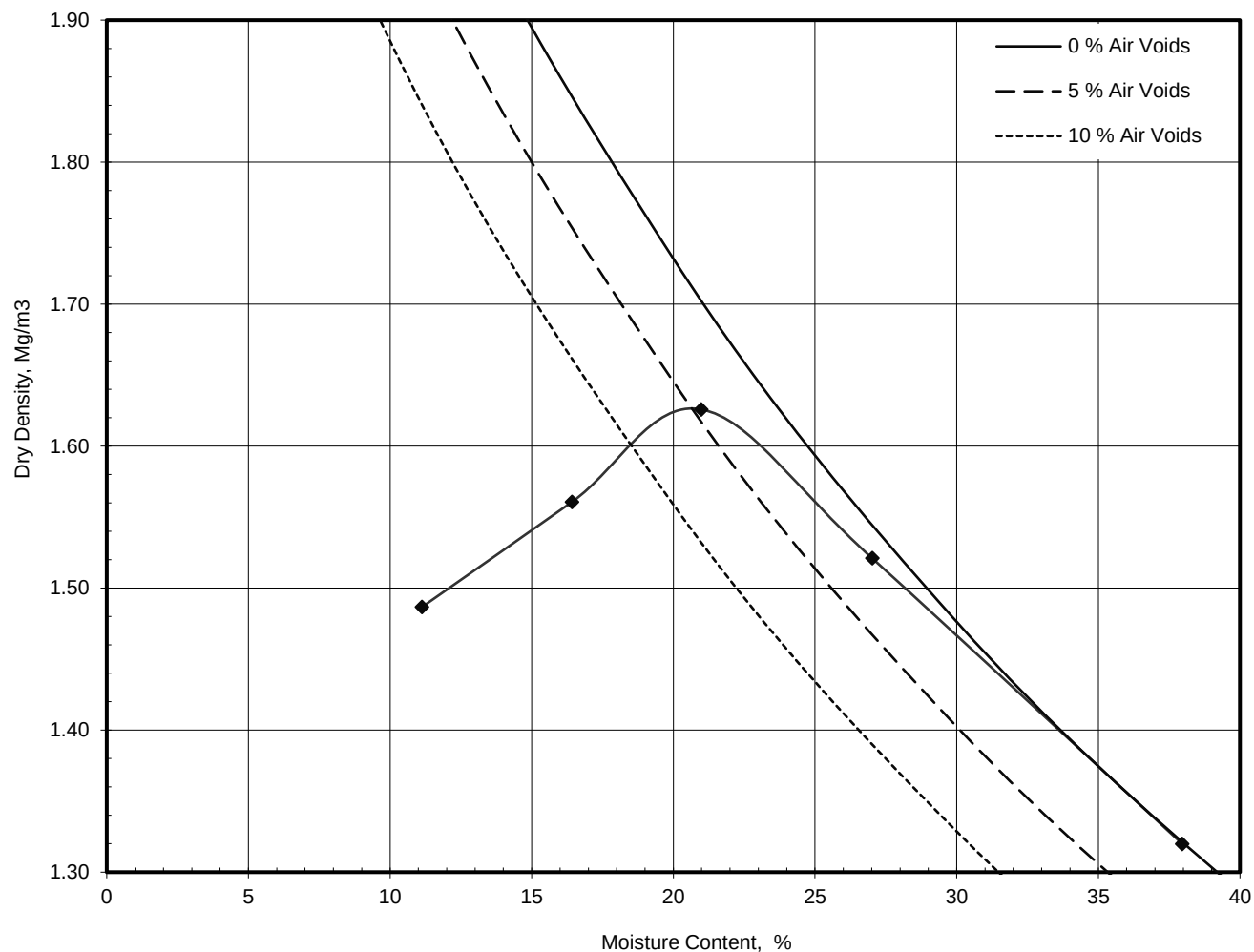
BS1377:Part 4:1990, clause 3.3, 2.5kg rammer

Keylab ID

G2MT2023080130

Compaction Test Reference/No.

1



Mould Type	1 LITRE
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	%
Material Retained on 20.0 mm Sieve	%
Particle Density - Assumed	Mg/m³
Natural Moisture Content	%
Maximum Dry Density	Mg/m³
Optimum Moisture Content	%

Operator	Checked	Approved	Remarks	Fig
M.Southgate	JBrischuk	JBrischuk		Sheet 1 of 1



10258

**Dry Density / Moisture Content Relationship
Light Compaction**

Job Ref

D30024

Borehole / Pit No

BH2

Site Name

Dearne Reach

Sample No

Soil Description

Brown, slightly Gravelly, Sandy, CLAY

Depth

0.30 m

Specimen Ref.

1

Specimen Depth

0.3

m

Sample Type

B

Test Method

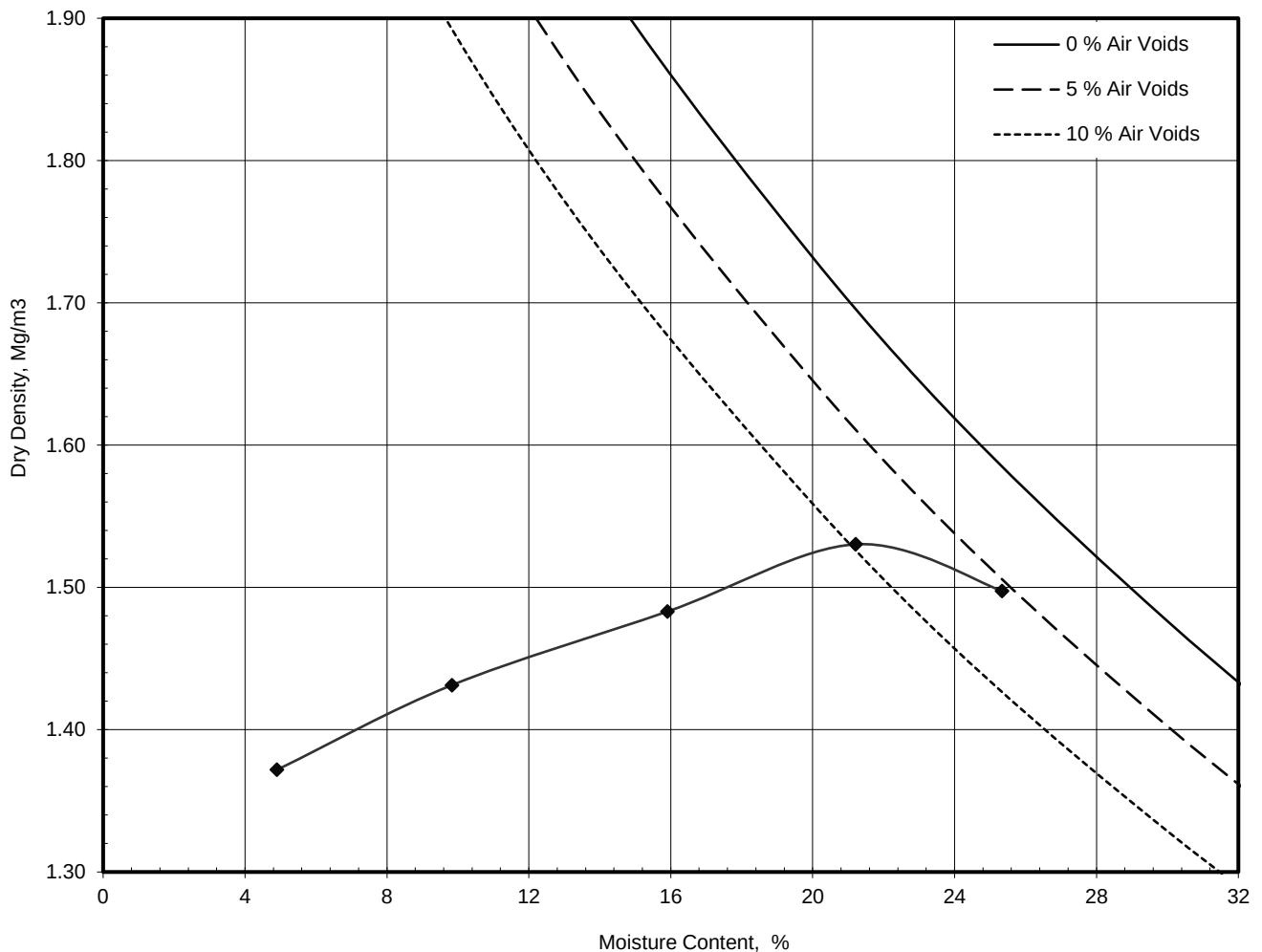
BS1377:Part 4:1990, clause 3.3, 2.5kg rammer

Keylab ID

G2MT2023072631

Compaction Test Reference/No.

1



Mould Type	1 LITRE
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	%0
Material Retained on 20.0 mm Sieve	%1
Particle Density - Assumed	Mg/m³2.65
Natural Moisture Content	%
Maximum Dry Density	Mg/m³1.53
Optimum Moisture Content	%21

Operator

Checked

Approved

Remarks

Fig

M.Southgate

D Anderson

D Anderson

Sheet 1 of 1



10258

**Dry Density / Moisture Content Relationship
Light Compaction**

Job Ref

D30024

Borehole / Pit No

BH3

Site Name

Dearne Reach

Sample No

Soil Description

Brown, Sandy, CLAY

Depth

0.50 m

Specimen Ref.

1

Specimen Depth

0.5

m

Sample Type

B

Test Method

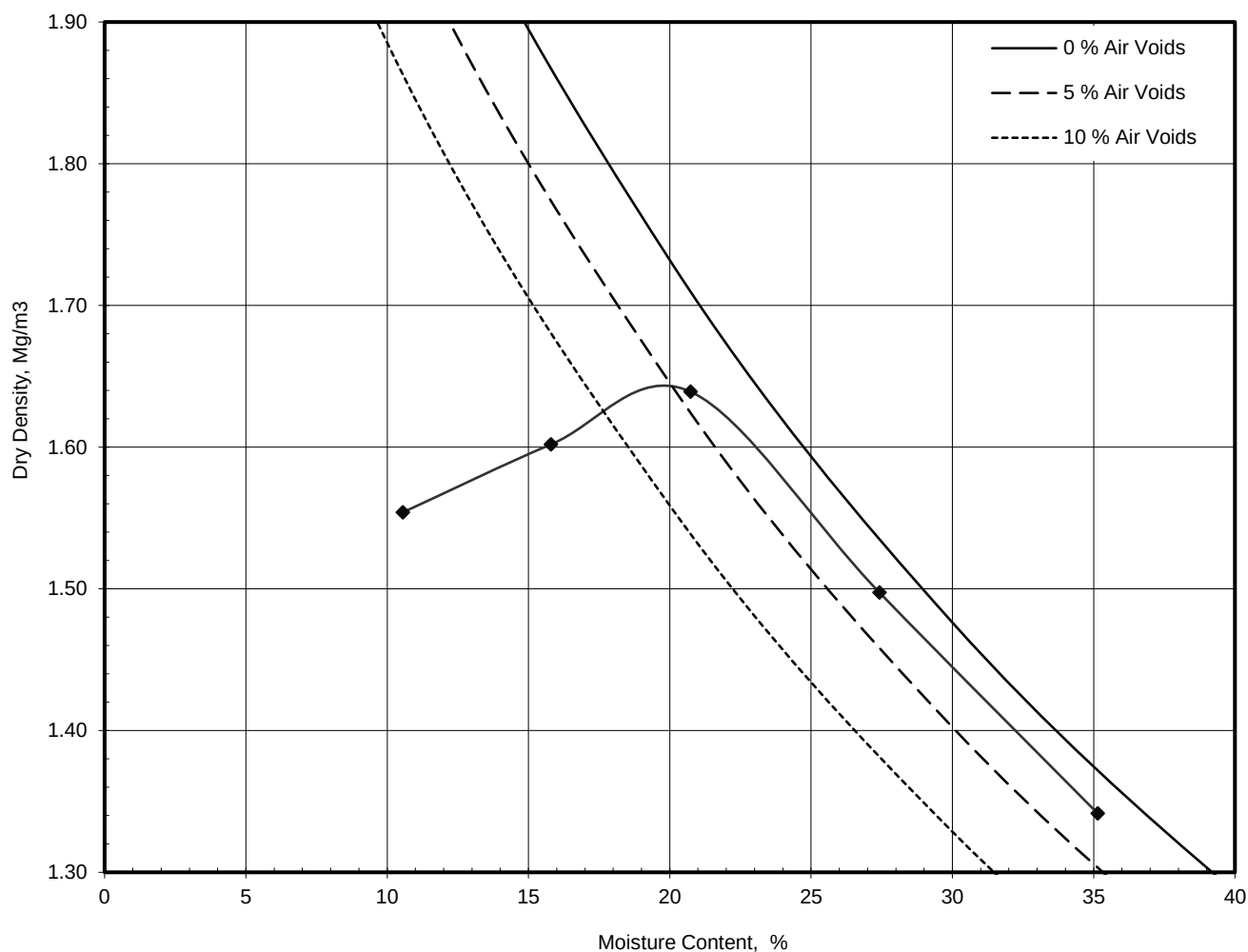
BS1377:Part 4:1990, clause 3.3, 2.5kg rammer

Keylab ID

G2MT2023080135

Compaction Test Reference/No.

1



Mould Type	1 LITRE
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	%0
Material Retained on 20.0 mm Sieve	%0
Particle Density - Assumed	Mg/m³2.65
Natural Moisture Content	%
Maximum Dry Density	Mg/m³1.64
Optimum Moisture Content	%21

Operator

Checked

Approved

Remarks

Fig

M.Southgate

D Anderson

D Anderson

Sheet 1 of 1



10258

**Dry Density / Moisture Content Relationship
Light Compaction**

Job Ref

D30024

Borehole / Pit No

BH5

Site Name

Dearne Reach

Sample No

Soil Description

Brown Clay

Depth

0.50 m

Specimen Ref.

1

Specimen Depth

0.5

m

Sample Type

B

Test Method

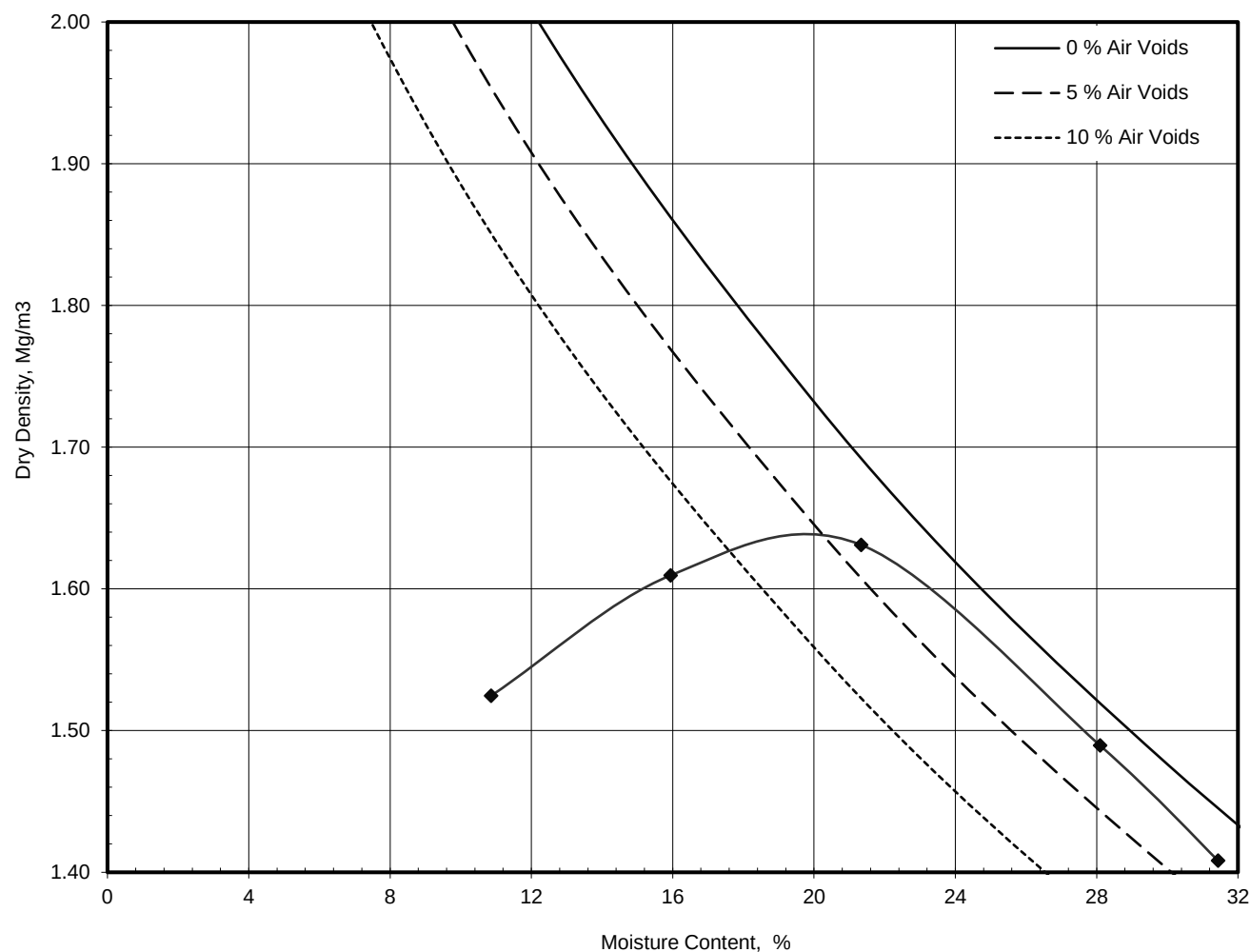
BS1377:Part 4:1990, clause 3.3, 2.5kg rammer

Keylab ID

G2MT2023080140

Compaction Test Reference/No.

1



Mould Type	1 LITRE
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	%0
Material Retained on 20.0 mm Sieve	%1
Particle Density - Assumed	Mg/m³2.65
Natural Moisture Content	%
Maximum Dry Density	Mg/m³1.63
Optimum Moisture Content	%21

Operator

Checked

Approved

Remarks

Fig

M.Southgate

JBrischuk

JBrischuk

Sheet 1 of 1



10258

**Dry Density / Moisture Content Relationship
Light Compaction**

Job Ref

D30024

Borehole / Pit No

BH7

Site Name

Dearne Reach

Sample No

Soil Description

Brown, Sandy, CLAY

Depth

0.50 m

Specimen Ref.

1

Specimen Depth

m

Sample Type

B

Test Method

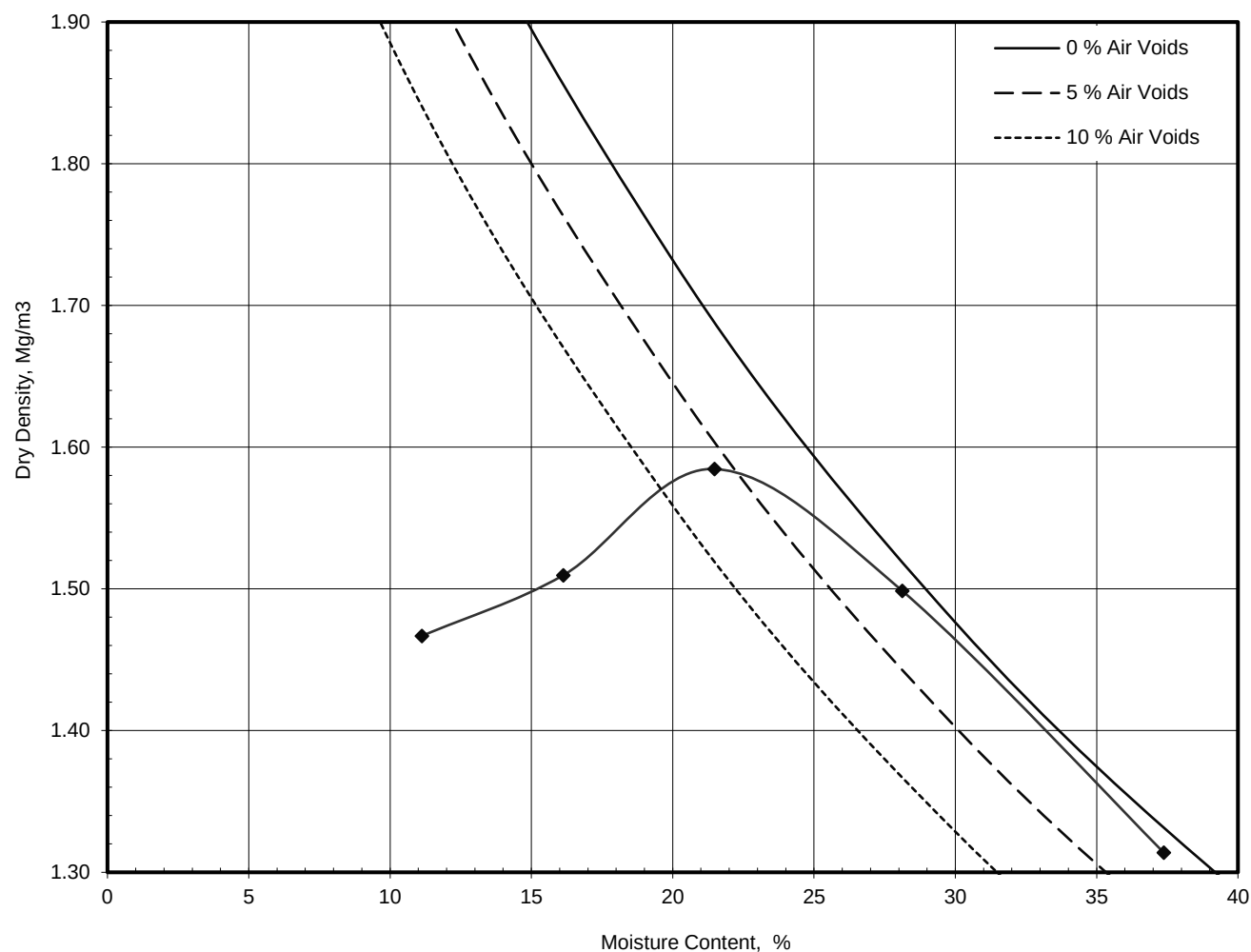
BS1377:Part 4:1990, clause 3.3, 2.5kg rammer

Keylab ID

G2MT2023080146

Compaction Test Reference/No.

1



Mould Type	1 LITRE
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	% 0
Material Retained on 20.0 mm Sieve	% 2
Particle Density - Assumed	Mg/m³ 2.65
Natural Moisture Content	%
Maximum Dry Density	Mg/m³ 1.58
Optimum Moisture Content	% 21

Operator

Checked

Approved

Remarks

Fig

M.Southgate

J.Brischuk

J.Brischuk

Sheet 1 of 1



10258

**Dry Density / Moisture Content Relationship
Light Compaction**

Job Ref

D30024

Borehole / Pit No

BH8

Site Name

Dearne Reach

Sample No

Soil Description

Brown, Sandy, CLAY

Depth

0.50 m

Specimen Ref.

1

Specimen Depth

0.5 m

Sample Type

B

Test Method

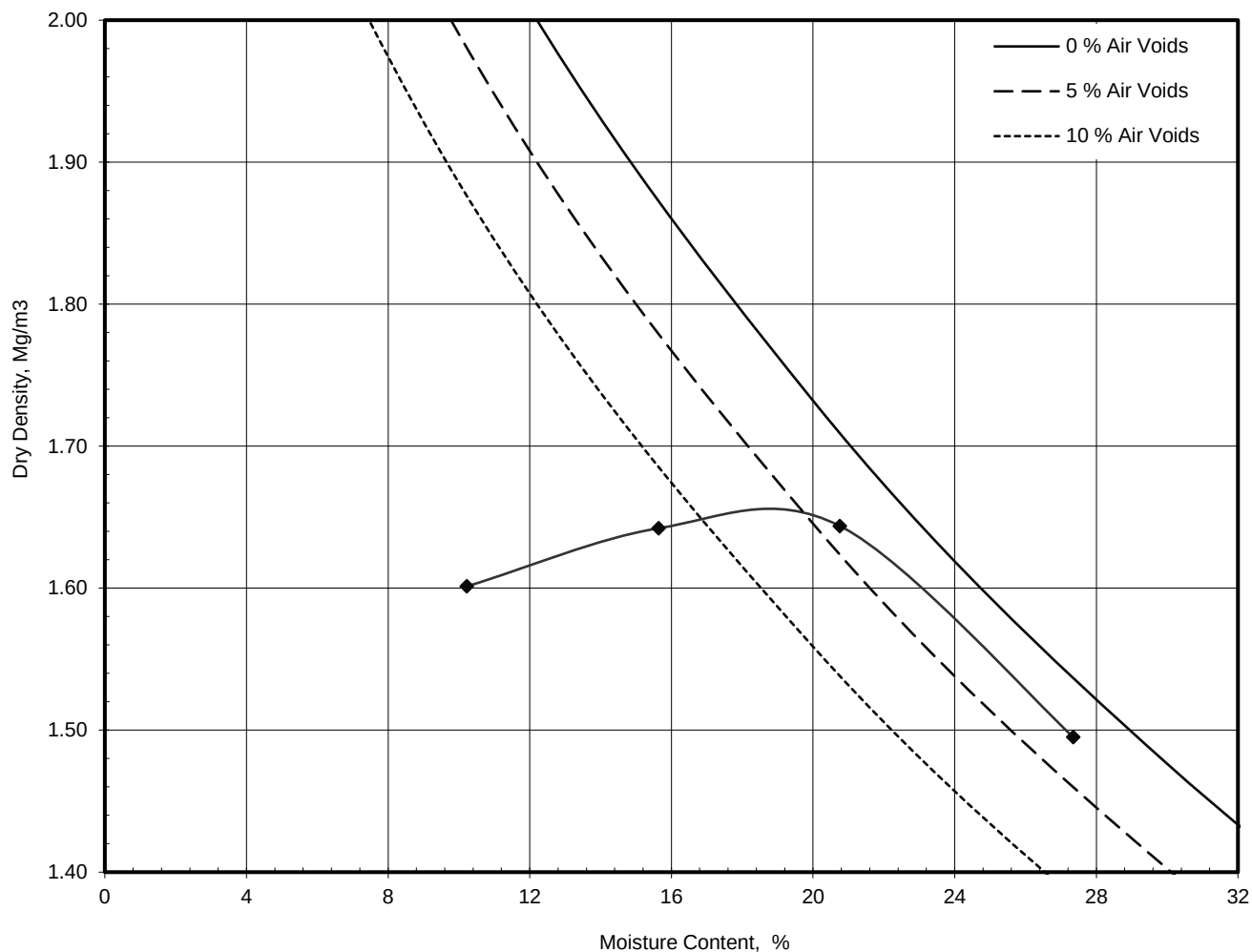
BS1377:Part 4:1990, clause 3.3, 2.5kg rammer

Keylab ID

G2MT2023080149

Compaction Test Reference/No.

1



Mould Type	1 LITRE
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	% 0
Material Retained on 20.0 mm Sieve	% 0
Particle Density - Assumed	Mg/m ³ 2.65
Natural Moisture Content	%
Maximum Dry Density	Mg/m ³ 1.64
Optimum Moisture Content	% 21

Operator

Checked

Approved

Remarks

Fig

M.Southgate

JBrischuk

JBrischuk

Sheet 1 of 1



10258

**Dry Density / Moisture Content Relationship
Light Compaction**

Job Ref

D30024

Borehole / Pit No

TP2

Site Name

Dearne Reach

Sample No

Soil Description

Light brown, Gravelly, Sandy, CLAY

Depth

0.50 m

Specimen Ref.

1

Specimen Depth

0.5

m

Sample Type

D

Test Method

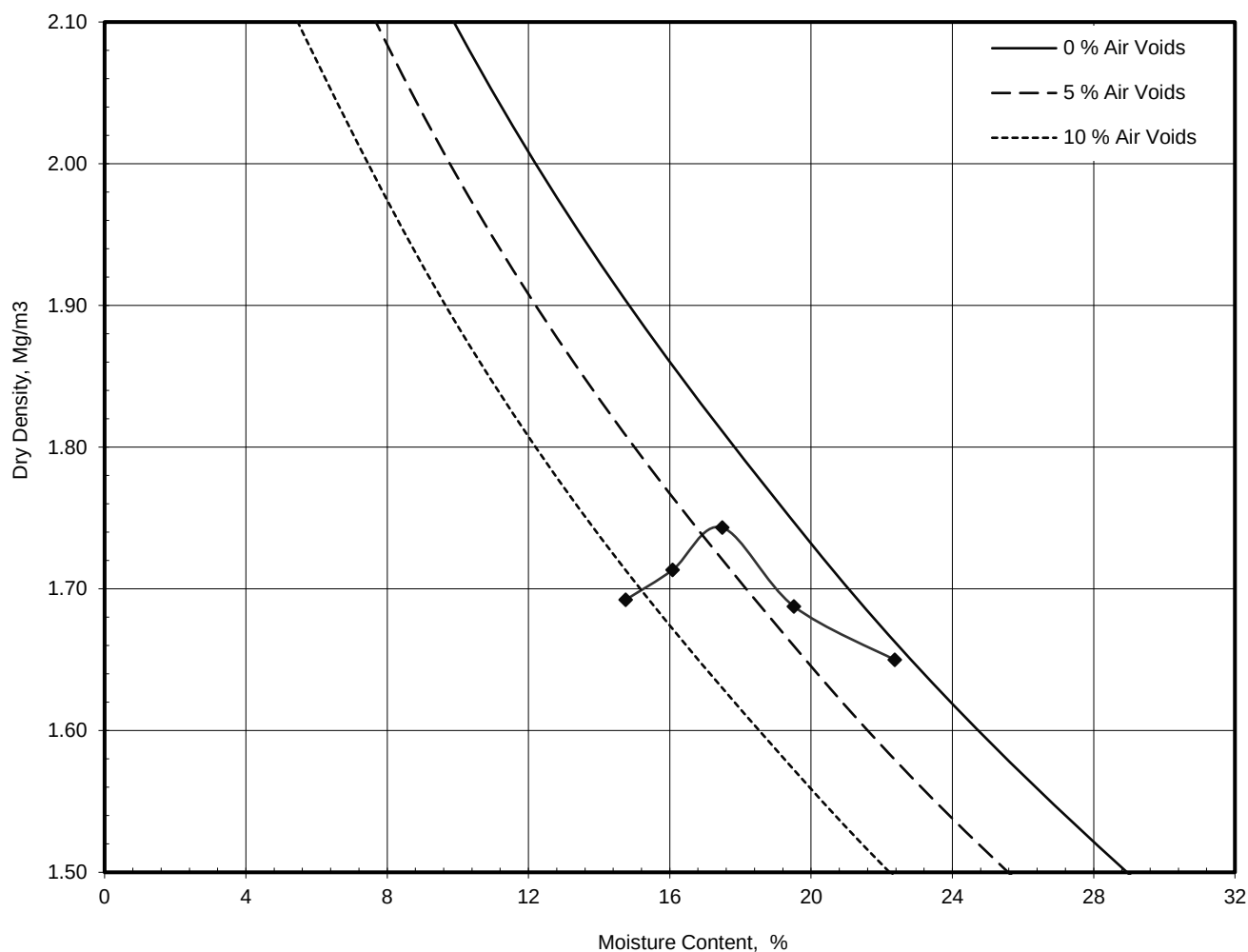
BS1377:Part 4:1990, clause 3.3, 2.5kg rammer

Keylab ID

G2MT2023071465

Compaction Test Reference/No.

1



Mould Type	1 LITRE
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	%
Material Retained on 20.0 mm Sieve	%
Particle Density - Assumed	Mg/m³
Natural Moisture Content	%
Maximum Dry Density	Mg/m³
Optimum Moisture Content	%

Operator	Checked	Approved	Remarks	Fig
M.Southgate	D Anderson	D Anderson	Sample mass received lower than BS1377 requirements	Sheet 1 of 1



10258

**Dry Density / Moisture Content Relationship
Light Compaction**

Job Ref

D30024

Borehole / Pit No

TP4

Site Name

Dearne Reach

Sample No

Soil Description

Brown Grey Sandy Clay

Depth

0.50 m

Specimen Ref.

1

Specimen Depth

0.5 m

Sample Type

B

Test Method

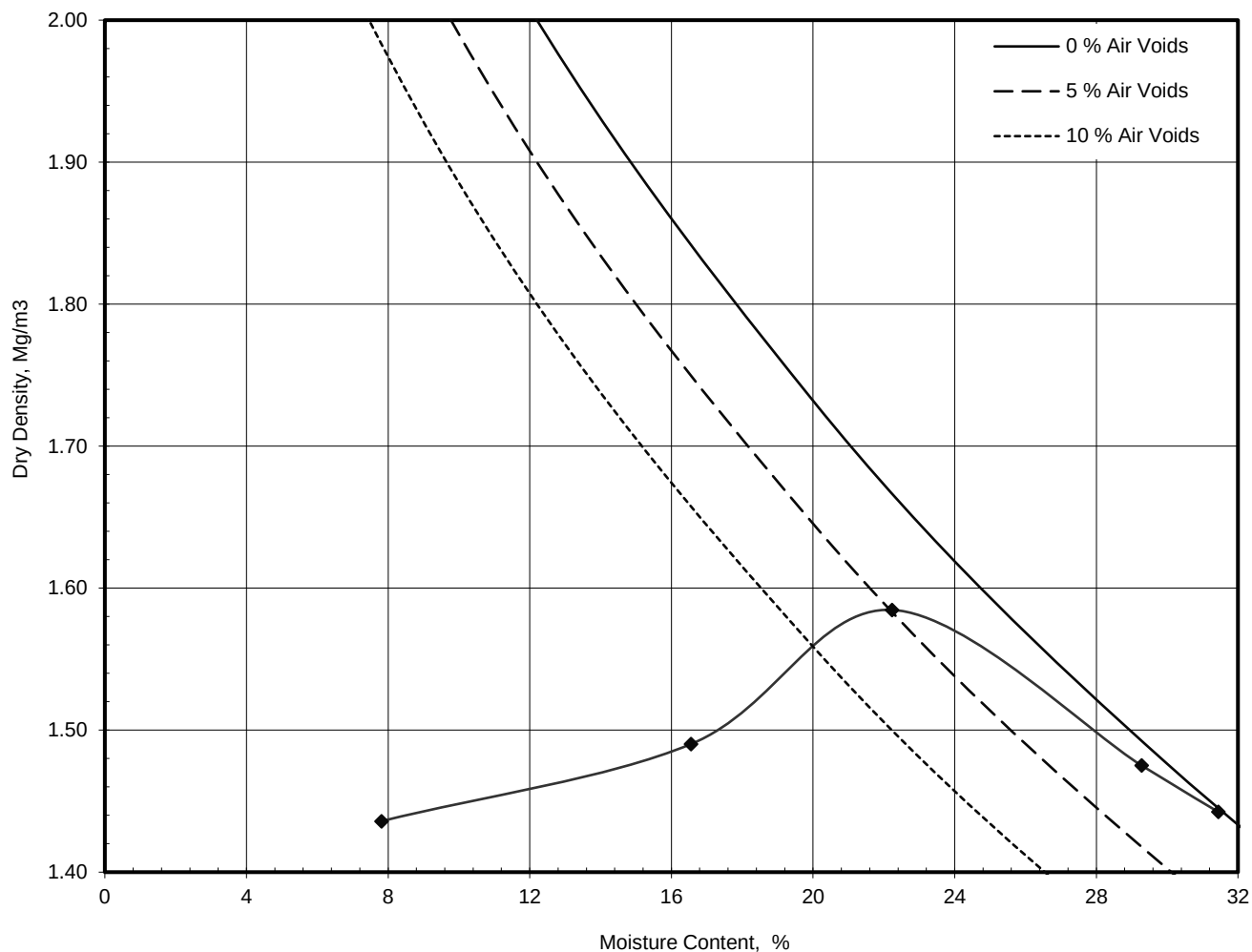
BS1377:Part 4:1990, clause 3.3, 2.5kg rammer

Keylab ID

G2MT2023072422

Compaction Test Reference/No.

1



Mould Type	1 LITRE
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	% 0
Material Retained on 20.0 mm Sieve	% 0
Particle Density - Assumed	Mg/m ³ 2.65
Natural Moisture Content	%
Maximum Dry Density	Mg/m ³ 1.58
Optimum Moisture Content	% 22

Operator

Checked

Approved

Remarks

Fig

M.Southgate

D Anderson

D Anderson

Sheet 1 of 1



10258

**Dry Density / Moisture Content Relationship
Light Compaction**

Job Ref

D30024

Borehole / Pit No

TP5

Site Name

Dearne Reach

Sample No

Soil Description

Light brown/grey mottled Gravelly / Sandy / CLAY

Depth

0.50 m

Specimen Ref.

1

Specimen Depth

0.5

m

Sample Type

B

Test Method

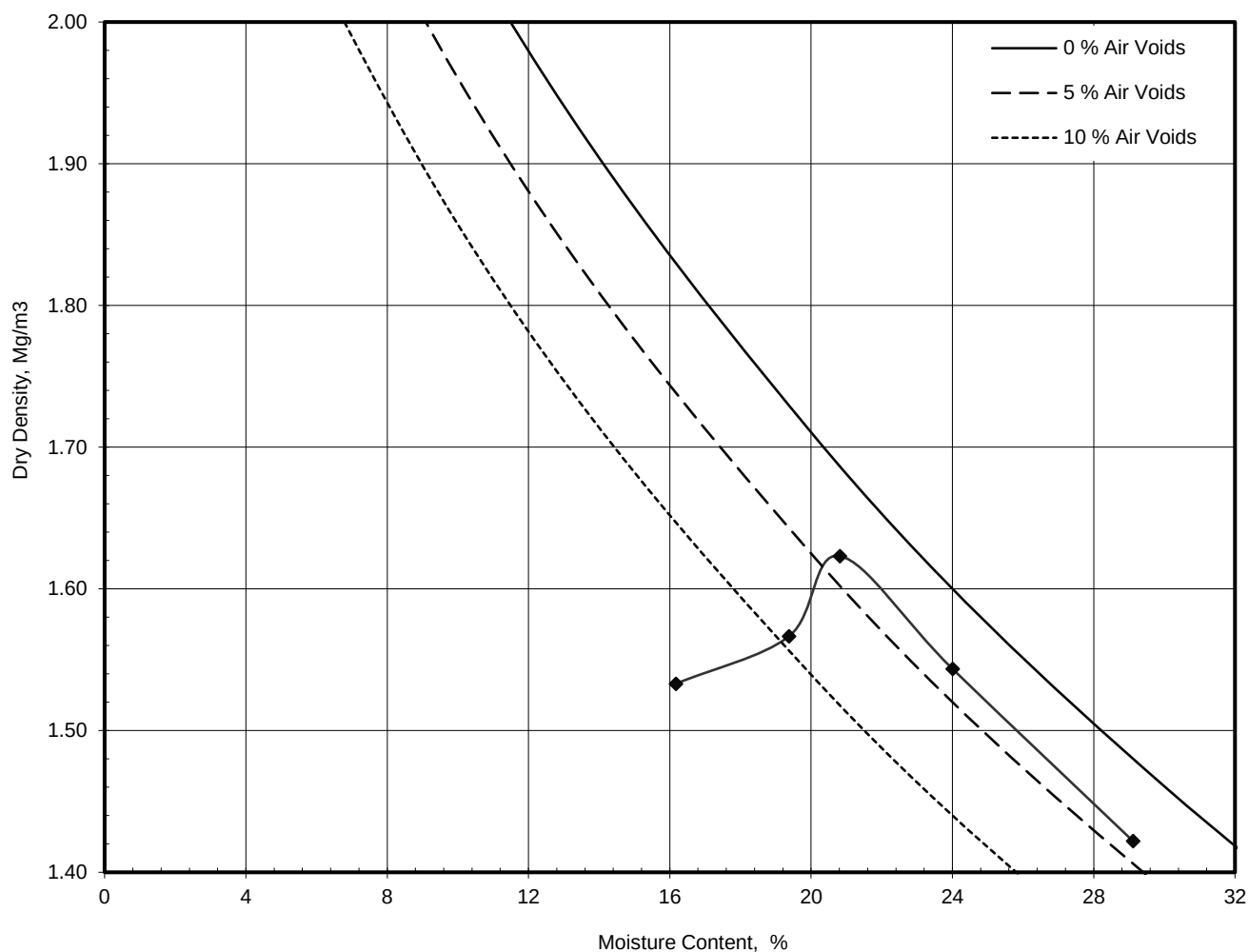
BS1377:Part 4:1990, clause 3.3, 2.5kg rammer

Keylab ID

G2MT2023072428

Compaction Test Reference/No.

1



Mould Type	1 LITRE	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m³	2.60
Natural Moisture Content	%	
Maximum Dry Density	Mg/m³	1.62
Optimum Moisture Content	%	21

Operator

Checked

Approved

Remarks

Fig

M.Southgate

D Anderson

D Anderson

Sheet 1 of 1



10258

**Dry Density / Moisture Content Relationship
Light Compaction**

Job Ref

D30024

Borehole / Pit No

TP5

Site Name

Dearne Reach

Sample No

Soil Description

Brown, Gravelly, SAND

Depth

2.50 m

Specimen Ref.

1

Specimen Depth

2.5 m

Sample Type

B

Test Method

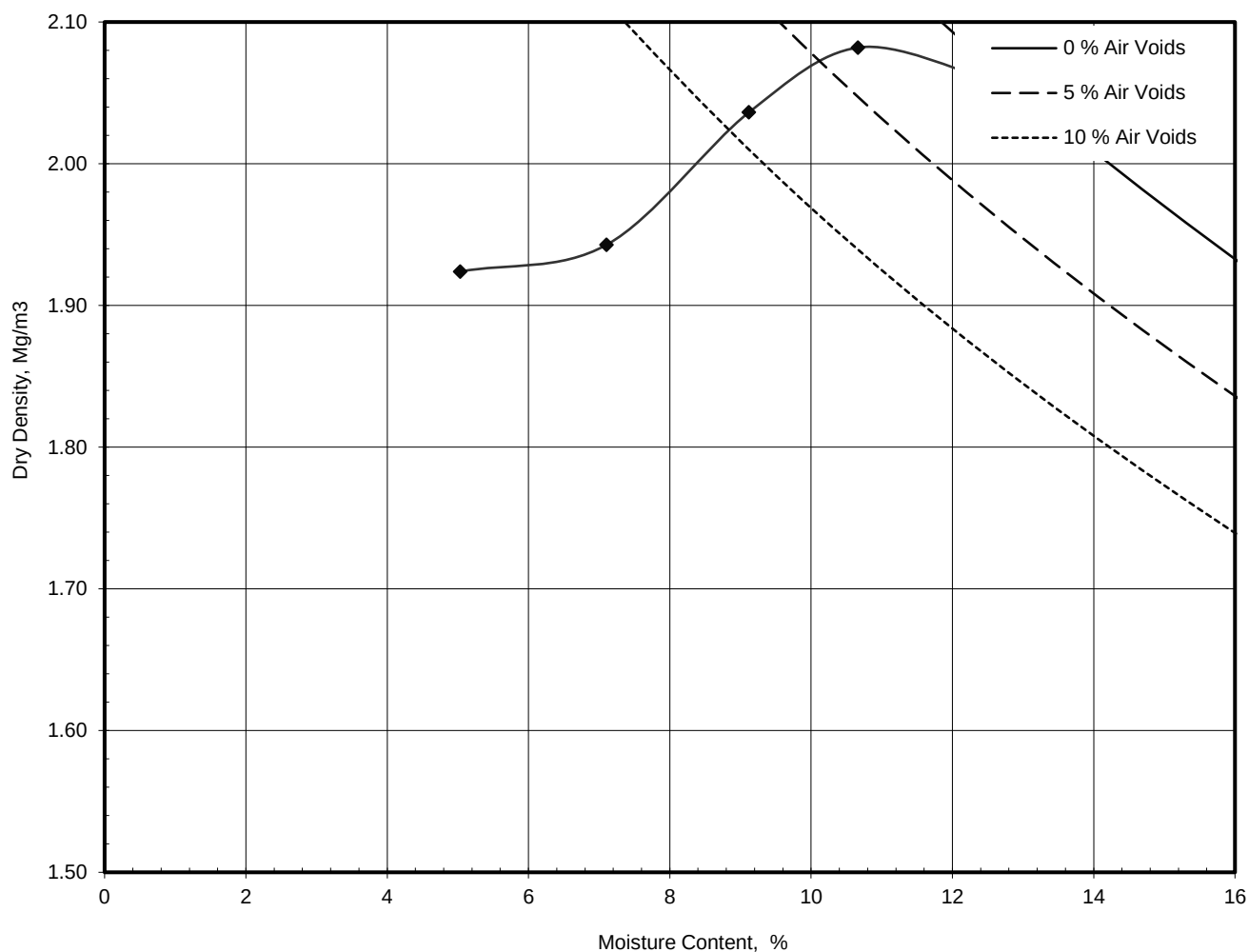
BS1377:Part 4:1990, clause 3.4, 2.5kg rammer

Keylab ID

G2MT2023072432

Compaction Test Reference/No.

1



Mould Type		CBR	
Samples Used		Single sample tested	
Material Retained on 37.5 mm Sieve	%	9	
Material Retained on 20.0 mm Sieve	%	17	
Particle Density - Assumed	Mg/m³	2.80	
Natural Moisture Content	%		
Maximum Dry Density	Mg/m³	2.08	
Optimum Moisture Content	%	11	

Operator

Checked

Approved

Remarks

Fig

M.Southgate

D Anderson

D Anderson

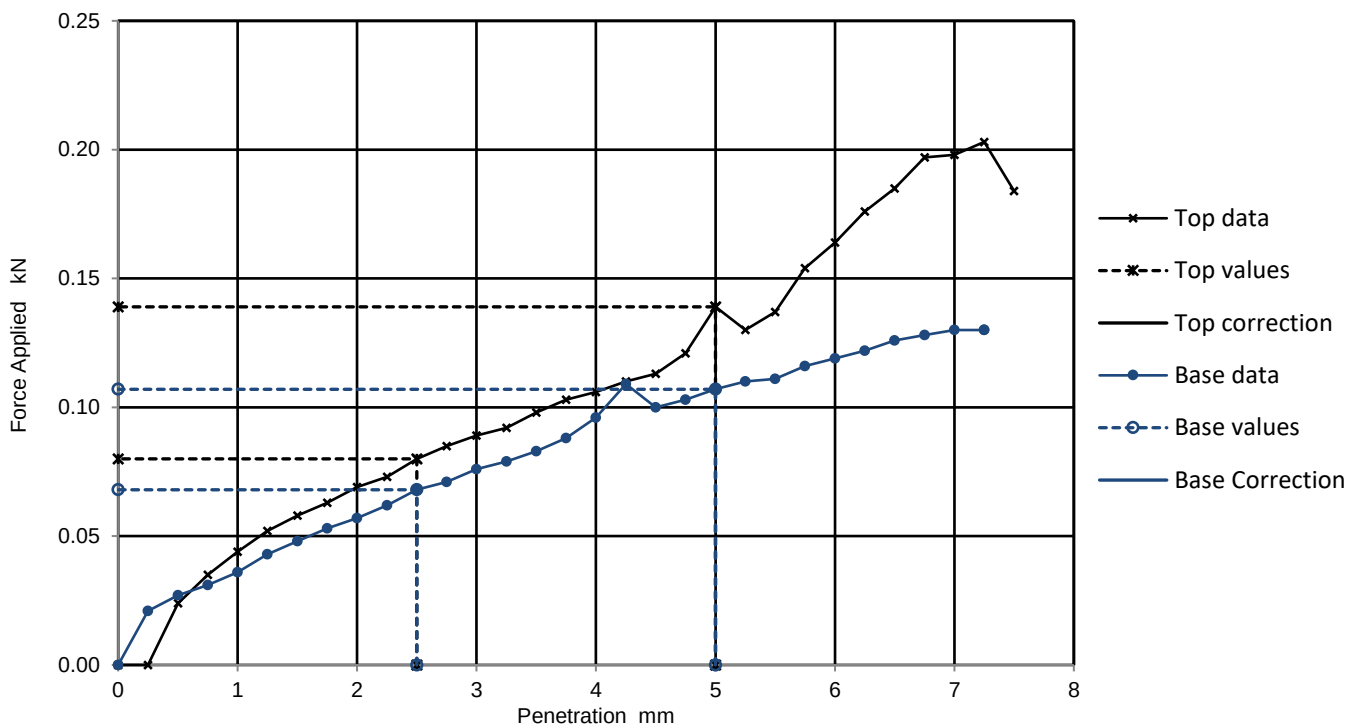
Sheet 1 of 1

	California Bearing Ratio (CBR)			Job Ref	D30024
				Borehole/Pit No.	BH1
Site Name	Dearne Reach			Sample No.	
Soil Description				Depth m	0.50
Specimen Reference	BH1	Specimen Depth	0.50 m	Sample Type	D
Specimen Description	Light Brown, Slightly Gravelly, Slightly Sandy, CLAY			KeyLAB ID	G2MT2023080130
Test Method	BS1377 : Part 4 : 1990, clause 7			CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer		Period of soaking	days	
			Time to surface	days	
			Amount of swell recorded	mm	
Material retained on 20mm sieve removed	5	%	Dry density after soaking	Mg/m3	
Initial Specimen details	Bulk density	1.80 Mg/m3	Surcharge applied	2	kg
	Dry density	1.32 Mg/m3		1	kPa
	Moisture content	36.8 %			

Force v Penetration Plots



Results

TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
TOP	0.6	0.7	0.7	
BASE	0.5	0.5	0.5	

Moisture Content %
37.2
36.3

General remarks

Test specific remarks

Approved

		JBrischuk
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Fig No.

1

Sheet No

1

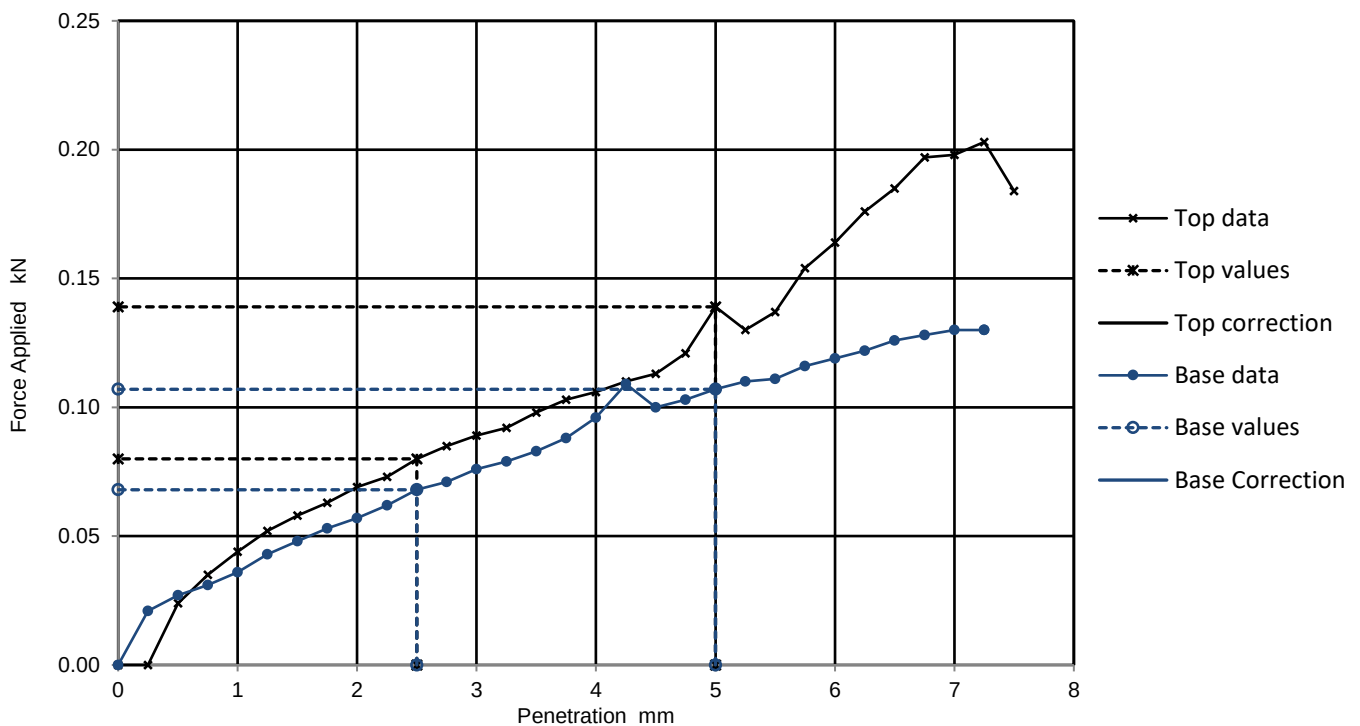
Lab Sheet Reference :

	California Bearing Ratio (CBR)			Job Ref	D30024
				Borehole/Pit No.	BH2
Site Name	Dearne Reach			Sample No.	
Soil Description				Depth m	0.30
Specimen Reference	BH02	Specimen Depth	0.30 m	Sample Type	B
Specimen Description	Brown, Slightly Gravelly, Slightly Sandy CLAY			KeyLAB ID	G2MT202307270
Test Method	BS1377 : Part 4 : 1990, clause 7			CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer		Period of soaking	days	
			Time to surface	days	
			Amount of swell recorded	mm	
Material retained on 20mm sieve removed	1	%	Dry density after soaking	Mg/m3	
Initial Specimen details	Bulk density	1.87 Mg/m3	Surcharge applied	2	kg
	Dry density	1.48 Mg/m3		1	kPa
	Moisture content	26.2 %			

Force v Penetration Plots



Results

TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
TOP	0.6	0.7	0.7	
BASE	0.5	0.5	0.5	

Moisture Content %
26.3
24.9

General remarks

Test specific remarks

Approved

		JBrischuk
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Fig No.

1

Sheet No

2

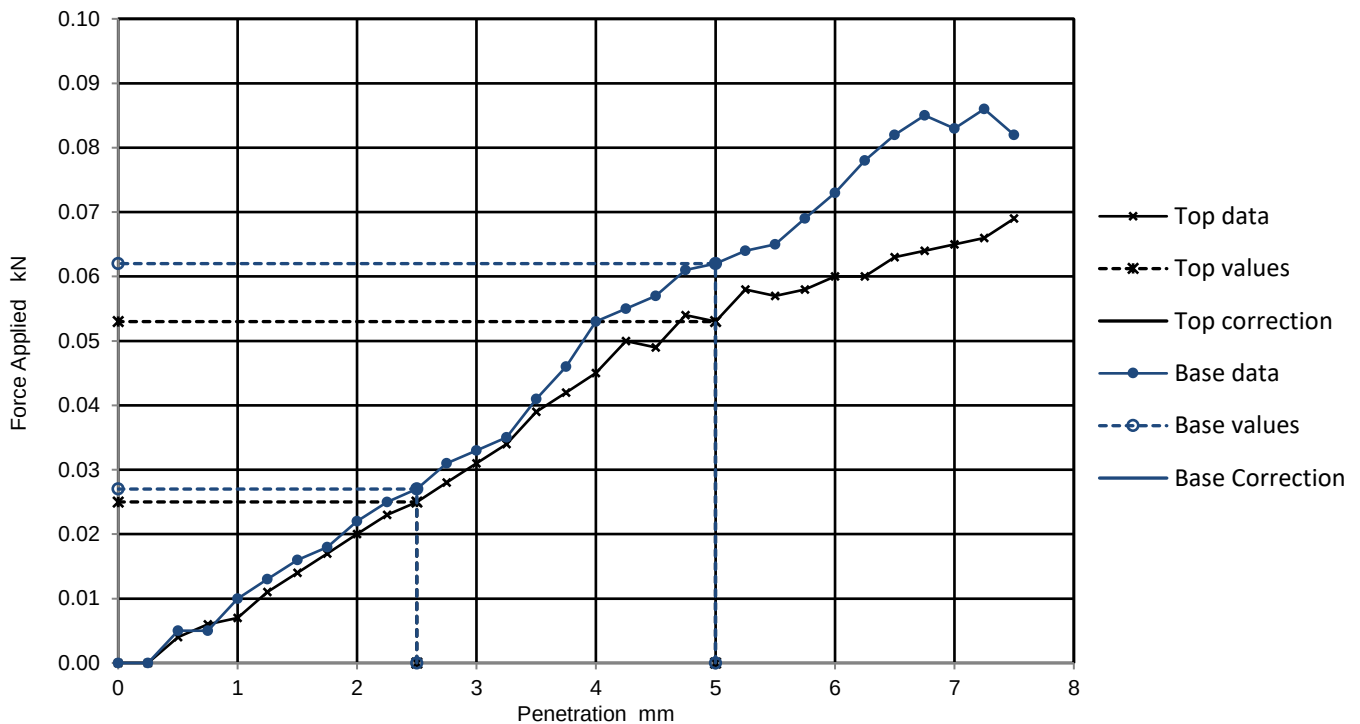
Lab Sheet Reference :

	California Bearing Ratio (CBR)			Job Ref	D30024
				Borehole/Pit No.	BH3
Site Name	Dearne Reach			Sample No.	
Soil Description				Depth m	0.50
Specimen Reference	BH3	Specimen Depth	0.50 m	Sample Type	B
Specimen Description	Brown, Sandy CLAY			KeyLAB ID	G2MT2023080135
Test Method	BS1377 : Part 4 : 1990, clause 7			CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer		Period of soaking	days	
			Time to surface	days	
			Amount of swell recorded	mm	
Material retained on 20mm sieve removed	0	%	Dry density after soaking	Mg/m3	
Initial Specimen details	Bulk density	1.80 Mg/m3	Surcharge applied	2	kg
	Dry density	1.33 Mg/m3		1	kPa
	Moisture content	35.7 %			

Force v Penetration Plots



Results

TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
TOP	0.2	0.3	0.3	0.3
BASE	0.2	0.3	0.3	

Moisture Content %
35.5
35.5

General remarks

Test specific remarks

Approved

		JBrischuk
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Fig No.

1

Sheet No

3

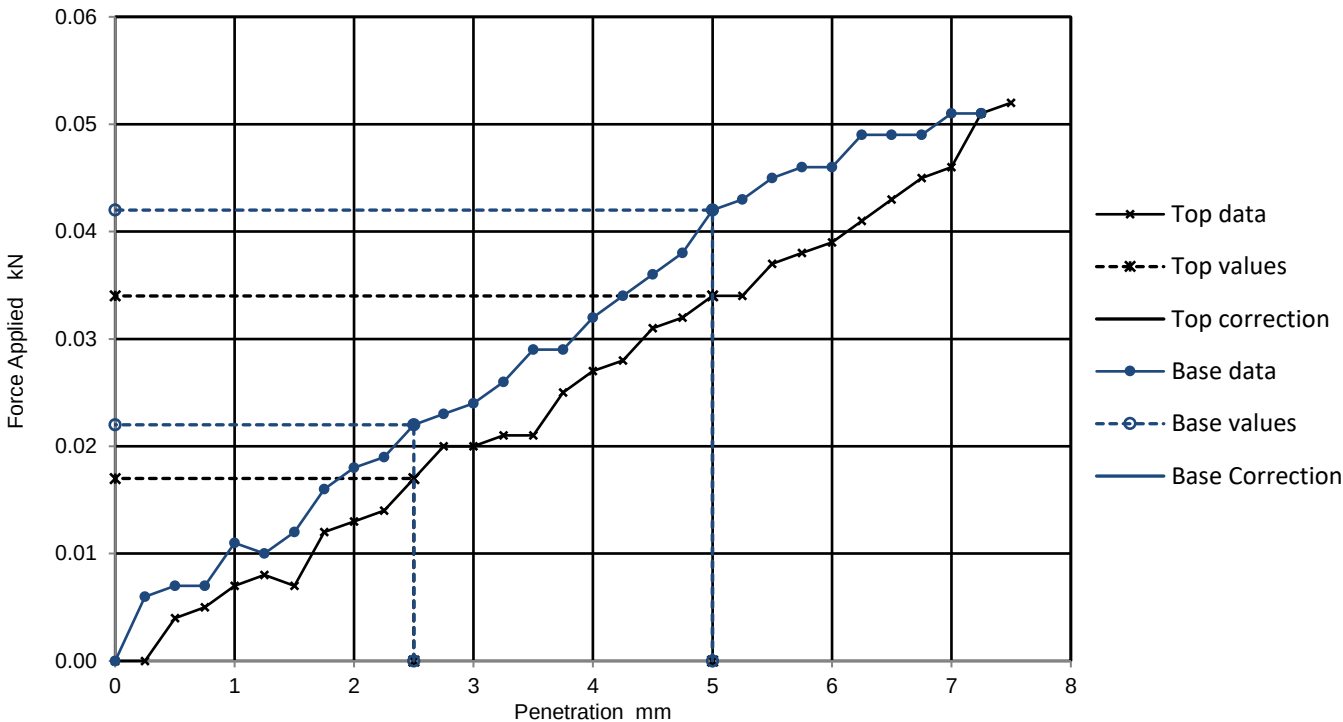
Lab Sheet Reference :

	California Bearing Ratio (CBR)			Job Ref	D30024
				Borehole/Pit No.	BH3
Site Name	Dearne Reach			Sample No.	
Soil Description				Depth m	0.70
Specimen Reference	BH3	Specimen Depth	0.70 m	Sample Type	B
Specimen Description	Brown, Sandy CLAY			KeyLAB ID	G2MT2023080136
Test Method	BS1377 : Part 4 : 1990, clause 7			CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer		Period of soaking	days	
			Time to surface	days	
			Amount of swell recorded	mm	
Material retained on 20mm sieve removed	0	%	Dry density after soaking	Mg/m3	
Initial Specimen details	Bulk density	1.91 Mg/m3	Surcharge applied	2	kg
	Dry density	1.41 Mg/m3		1	kPa
	Moisture content	35.8 %			

Force v Penetration Plots



Results

TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
TOP	0.1	0.2	0.2	
BASE	0.2	0.2	0.2	

Moisture Content %
35.6
35.7

General remarks	Test specific remarks	Approved
		JBrischuk

Fig No.	1
Sheet No	4

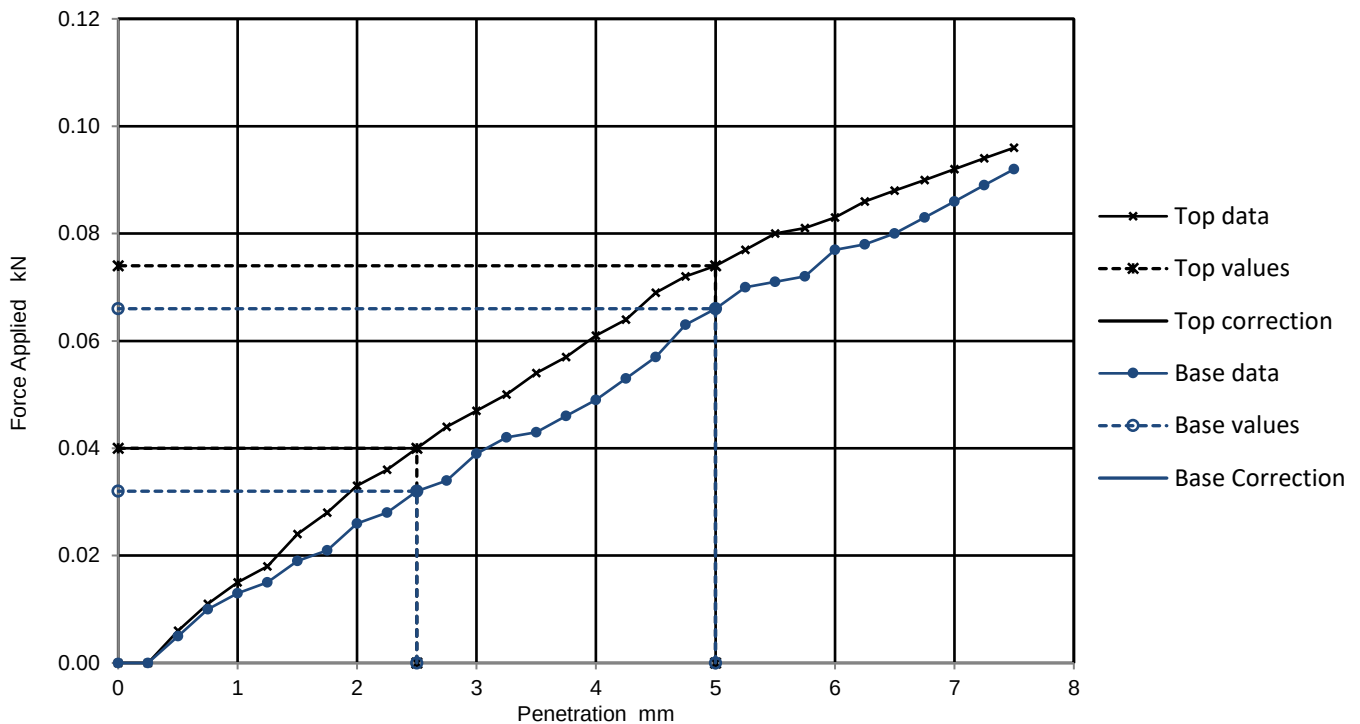
Lab Sheet Reference :

	California Bearing Ratio (CBR)			Job Ref	D30024
				Borehole/Pit No.	BH4
Site Name	Dearne Reach			Sample No.	
Soil Description				Depth m	0.10
Specimen Reference	BH4	Specimen Depth	0.10 m	Sample Type	B
Specimen Description	Brown, Silty CLAY			KeyLAB ID	G2MT2023072622
Test Method	BS1377 : Part 4 : 1990, clause 7			CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer		Period of soaking	days	
			Time to surface	days	
			Amount of swell recorded	mm	
Material retained on 20mm sieve removed	0	%	Dry density after soaking	Mg/m3	
Initial Specimen details	Bulk density	1.72 Mg/m3	Surcharge applied	2	kg
	Dry density	1.23 Mg/m3		1	kPa
	Moisture content	40.0 %			

Force v Penetration Plots



Results

TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
TOP	0.3	0.4	0.4	0.4
BASE	0.2	0.3	0.3	

Moisture Content %
39.3
39.9

General remarks

Test specific remarks

Approved

		JBrischuk
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Fig No.

1

Sheet No

5

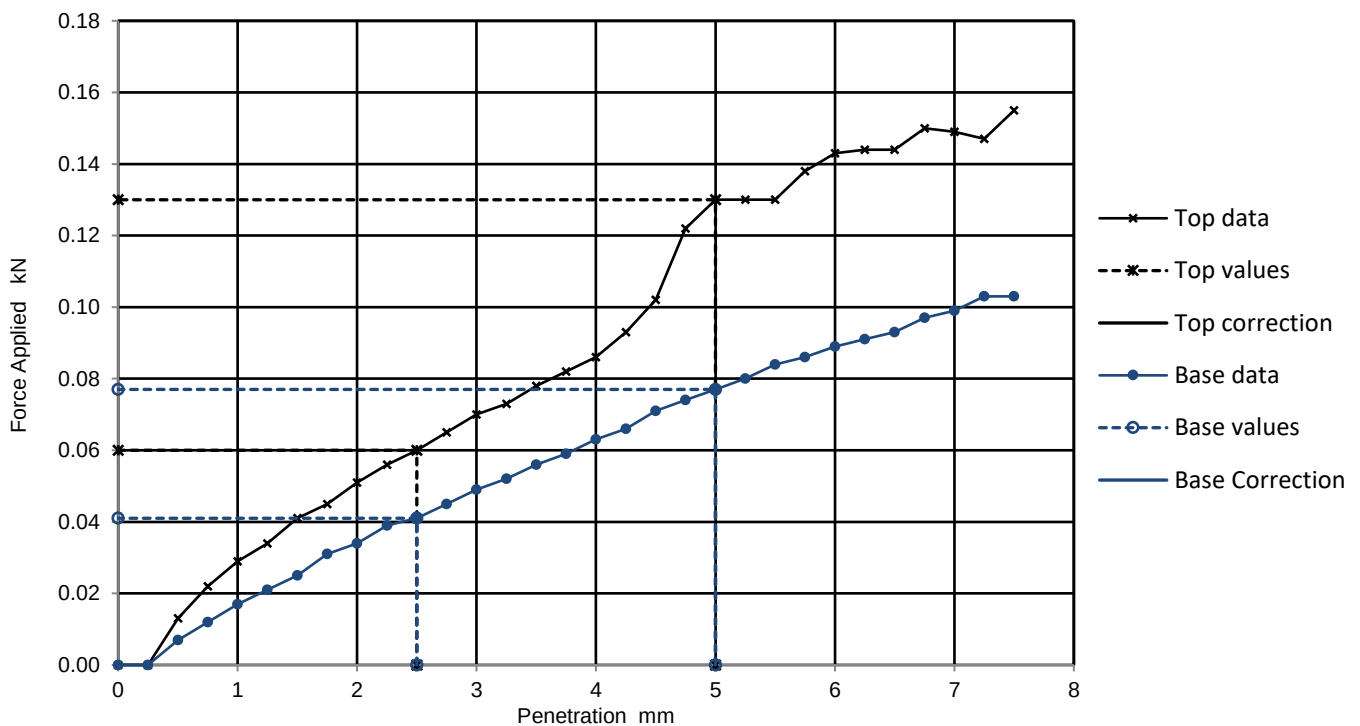
Lab Sheet Reference :

	California Bearing Ratio (CBR)			Job Ref	D30024
				Borehole/Pit No.	BH5
Site Name	Dearne Reach			Sample No.	
Soil Description				Depth m	0.50
Specimen Reference	BH5	Specimen Depth	0.50 m	Sample Type	B
Specimen Description	Brown, Slightly Gravelly, Slightly Sandy CLAY			KeyLAB ID	G2MT2023080140
Test Method	BS1377 : Part 4 : 1990, clause 7			CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer		Period of soaking	days	
			Time to surface	days	
			Amount of swell recorded	mm	
Material retained on 20mm sieve removed	1	%	Dry density after soaking	Mg/m3	
Initial Specimen details	Bulk density	1.86 Mg/m3	Surcharge applied	2	kg
	Dry density	1.42 Mg/m3		1	kPa
	Moisture content	31.1 %			

Force v Penetration Plots



Results

TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
TOP	0.5	0.7	0.7	
BASE	0.3	0.4	0.4	

Moisture Content %
31.3
31.7

General remarks

Test specific remarks

Approved

		JBrischuk
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Fig No.

1

Sheet No

6

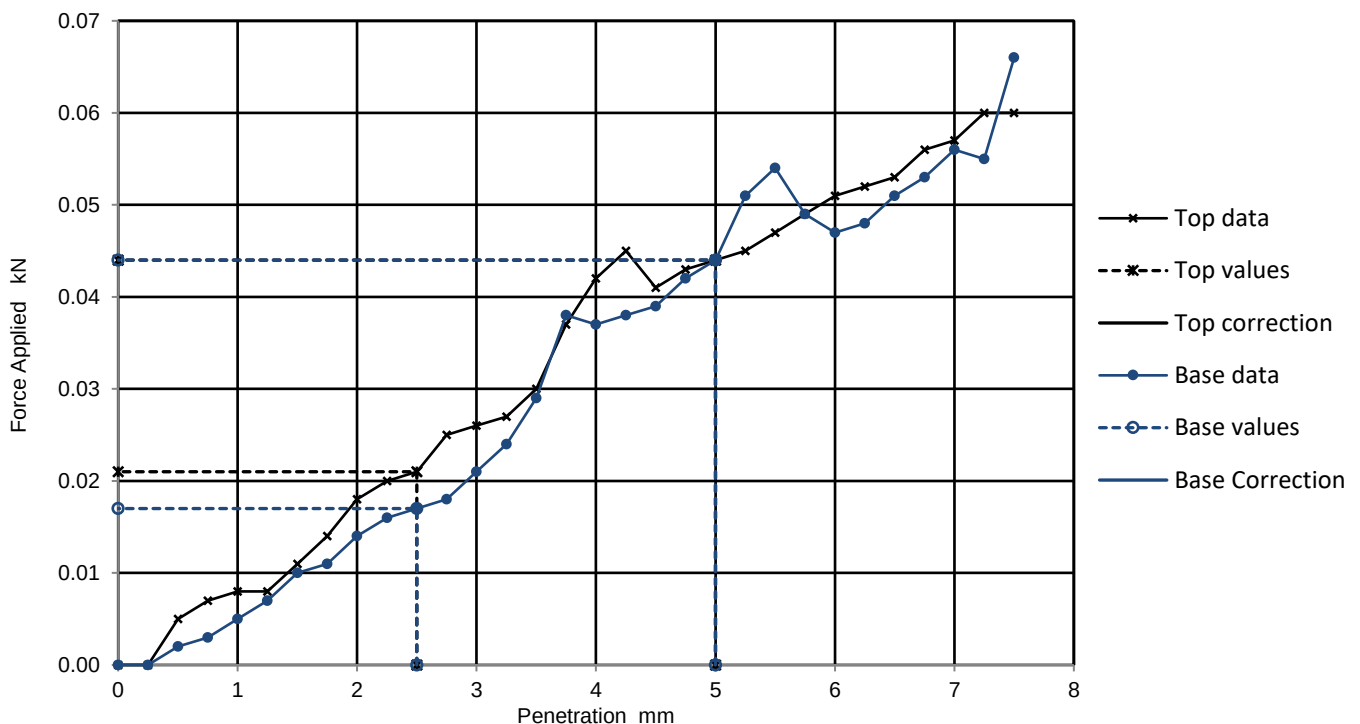
Lab Sheet Reference :

	California Bearing Ratio (CBR)			Job Ref	D30024
				Borehole/Pit No.	BH6
Site Name	Dearne Reach			Sample No.	
Soil Description				Depth m	0.80
Specimen Reference	BH6	Specimen Depth	0.80 m	Sample Type	B
Specimen Description	Brown Sandy CLAY			KeyLAB ID	G2MT2023080143
Test Method	BS1377 : Part 4 : 1990, clause 7			CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer		Period of soaking	days	
			Time to surface	days	
			Amount of swell recorded	mm	
Material retained on 20mm sieve removed	0	%	Dry density after soaking	Mg/m3	
Initial Specimen details	Bulk density	1.82 Mg/m3	Surcharge applied	2	kg
	Dry density	1.36 Mg/m3		1	kPa
	Moisture content	34.2 %			

Force v Penetration Plots



Results

TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
TOP	0.2	0.2	0.2	0.2
BASE	0.1	0.2	0.2	

Moisture Content %
33.7
38.3

General remarks

Test specific remarks

Approved

		JBrischuk
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Fig No.

1

Sheet No

7

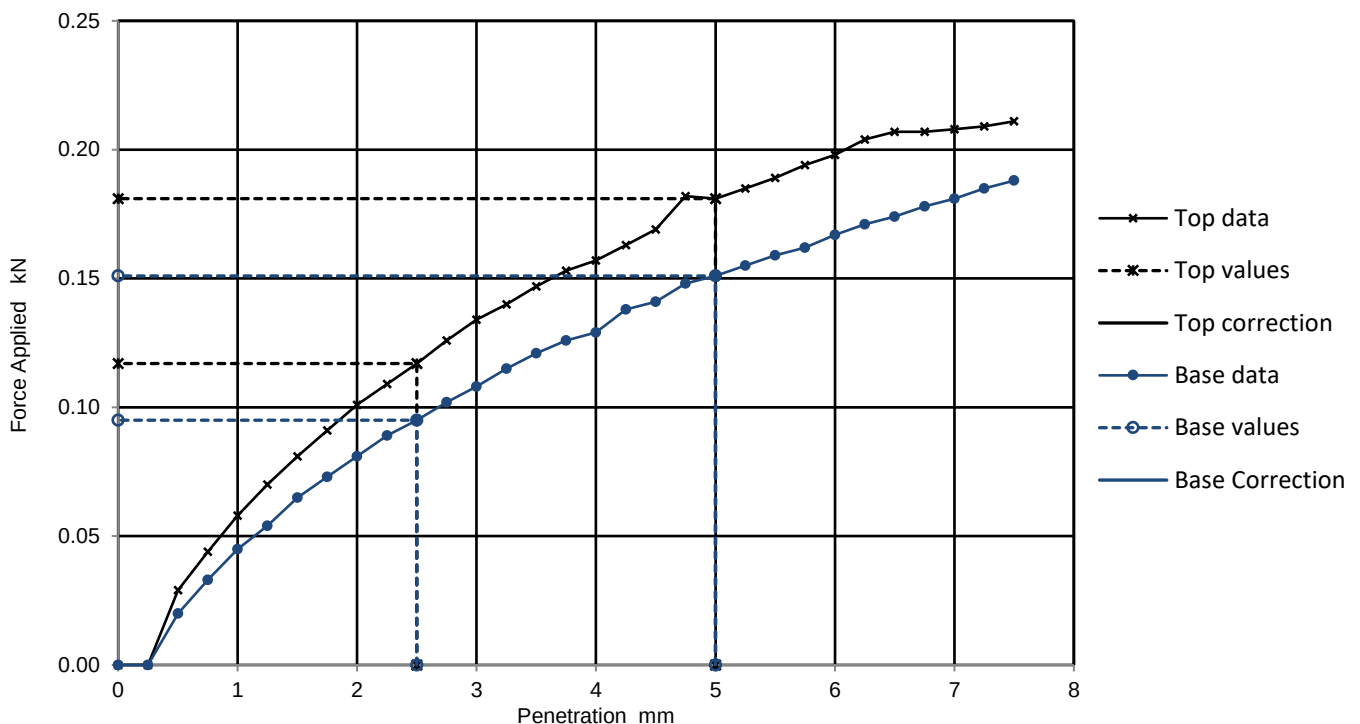
Lab Sheet Reference :

	California Bearing Ratio (CBR)			Job Ref	D30024
				Borehole/Pit No.	BH7
Site Name	Dearne Reach			Sample No.	
Soil Description				Depth m	0.50
Specimen Reference	BH7	Specimen Depth	0.50 m	Sample Type	B
Specimen Description	Brown, Slightly Gravelly, Slightly Sandy CLAY			KeyLAB ID	G2MT2023080146
Test Method	BS1377 : Part 4 : 1990, clause 7			CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer		Period of soaking	days	
			Time to surface	days	
			Amount of swell recorded	mm	
Material retained on 20mm sieve removed	2	%	Dry density after soaking	Mg/m3	
Initial Specimen details	Bulk density	1.81 Mg/m3	Surcharge applied	2	kg
	Dry density	1.34 Mg/m3		1	kPa
	Moisture content	34.9 %			

Force v Penetration Plots



Results

TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
TOP	0.9	0.9	0.9	0.8
BASE	0.7	0.8	0.8	

Moisture Content %
35.1
34.4

General remarks

Test specific remarks

Approved

		JBrischuk
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Fig No.

1

Sheet No

8

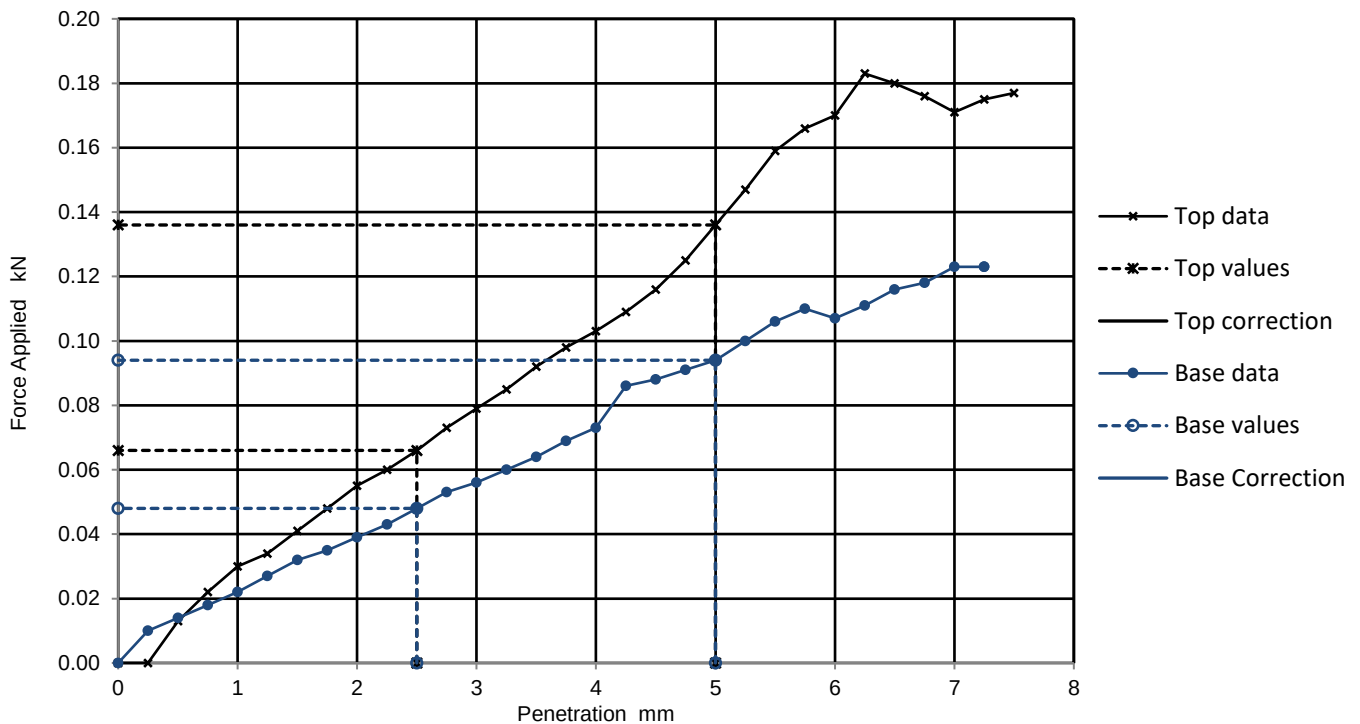
Lab Sheet Reference :

	California Bearing Ratio (CBR)			Job Ref	D30024
				Borehole/Pit No.	TP6
Site Name	Dearne Reach			Sample No.	
Soil Description				Depth m	1.50
Specimen Reference	TP6	Specimen Depth	1.50 m	Sample Type	D
Specimen Description	Brown, Gravelly, Sandy CLAY			KeyLAB ID	G2MT2023071481
Test Method	BS1377 : Part 4 : 1990, clause 7			CBR Test Number	1

Specimen Preparation

Condition	REMOULDED		Soaking details	Not soaked	
Details	Recompacted with specified standard effort using 2.5kg rammer		Period of soaking	days	
			Time to surface	days	
			Amount of swell recorded	mm	
Material retained on 20mm sieve removed	0	%	Dry density after soaking	Mg/m3	
Initial Specimen details	Bulk density	2.03 Mg/m3	Surcharge applied	2	kg
	Dry density	1.67 Mg/m3		1	kPa
	Moisture content	21.3 %			

Force v Penetration Plots



Results

TOP
BASE

Curve correction applied	CBR Values, %			
	2.5mm	5mm	Highest	Average
TOP	0.5	0.7	0.7	
BASE	0.4	0.5	0.5	

Moisture Content %
21.6
20.2

General remarks

Test specific remarks

Approved

		JBrischuk
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Fig No.

1

Sheet No

9

Lab Sheet Reference :

Summary of Rock Point Load Tests		G2M Testing (Stockton) 12-16 Yarm Road, Stockton on Tees, TS18 3NA 01642 033318 info@g2mtesting.co.uk	
Site name	Job number		
Dearne Reach	D30024		

info@g2mtesting.co.uk

Job number

D30024

[illegible]

Test not currently within the scope of G2M Testing UKAS accreditation schedule

Column	Key	Description
Test Type	A	Axial
	B	Block
	D	Diametral
	I	Irregular lump
Test Direction	L	Parallel to planes of weakness
	P	Perpendicular to planes of weakness
	U	Unknown
Dimensions	W	Width
	D	Platen separation at start of test
	D'	Platen separation at sample failure
	Is	Point Load Index
	Is(50)	Corrected Point Load Index to equivalent 50 mm diameter

Approved by	
Approval date	11/10/2023 13:40
Date report generated	
Report Number	

APPENDIX F

Chemical Laboratory Results





Certificate of Analysis

Certificate Number 23-16390

Issued: 31-Jul-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-16390

Client Reference D30024

Order No PO0639

Contract Title DEARNE REACH 1 - DEFINITION

Description 19 Soil samples, 7 Leachate samples.

Date Received 10-Jul-23

Date Started 10-Jul-23

Date Completed 31-Jul-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By

A handwritten signature in black ink, appearing to read "K. Bridgewood".

Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Matrix Descriptions

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample ID	Depth	Lab No	Completed	Matrix Description
TP2	0.2	2200047	31/07/2023	Brown gravelly, sandy CLAY including odd rootlets
TP2	0.5	2200048	31/07/2023	Brown gravelly, sandy CLAY including odd rootlets
TP2	0.6	2200049	31/07/2023	Brown gravelly, sandy CLAY including odd rootlets
TP2	1	2200051	31/07/2023	Brown gravelly, sandy CLAY including odd rootlets
TP2	2	2200052	31/07/2023	Dark brown slightly gravelly, sandy CLAY including odd rootlets
TP3	0.2	2200053	31/07/2023	Brown gravelly, sandy CLAY including odd rootlets
TP3	0.6	2200054	31/07/2023	Brown gravelly, sandy CLAY including odd rootlets
TP3	1.5	2200055	31/07/2023	Brown gravelly, sandy CLAY including odd rootlets
TP6	0.2	2200056	31/07/2023	Brown gravelly, sandy CLAY including odd rootlets
TP6	0.75	2200057	31/07/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
TP6	1	2200058	31/07/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
TP6	1.25	2200059	31/07/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
TP6	3	2200060	31/07/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
TP7	0.2	2200061	31/07/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
TP7	1.2	2200062	31/07/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
TP7	1.25	2200063	31/07/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
TP7	1.75	2200064	31/07/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
TP7	1.9	2200065	31/07/2023	Brown slightly gravelly, sandy CLAY including odd rootlets

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200047	2200048	2200049	2200052	2200053	2200054
Sample ID	TP2	TP2	TP2	TP2	TP3	TP3
Depth	0.20	0.50	0.60	2.00	0.20	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	04/07/2023	04/07/2023	04/07/2023	04/07/2023	04/07/2023	04/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Preparation									
Dry Matter	DETS 1004	0.1	%	83				81	
Moisture Content	DETS 1004	0.1	%	17				19	
Metals									
Antimony	DETS 2301*	1	mg/kg		2.1		1.2		1.7
Arsenic	DETS 2301#	0.2	mg/kg		11		12		8.2
Barium	DETS 2301#	1.5	mg/kg		79		81		110
Beryllium	DETS 2301#	0.2	mg/kg		1.1		1.0		1.3
Boron, Water Soluble (2.5:1)	DETS 2311#	0.2	mg/kg	0.8	< 0.2		1.4	0.7	0.3
Cadmium	DETS 2301#	0.1	mg/kg		< 0.1		< 0.1		< 0.1
Calcium	DETS 2301*	1	mg/kg	4600				3500	
Chromium III	DETS 2301*	0.15	mg/kg		17		27		22
Chromium, Hexavalent	DETS 2204*	1	mg/kg		< 1.0		< 1.0		< 1.0
Copper	DETS 2301#	0.2	mg/kg	33	29		21	27	28
Iron	DETS 2301	25	mg/kg		40000		13000		12000
Lead	DETS 2301#	0.3	mg/kg		23		17		21
Magnesium	DETS 2301*	1	mg/kg	2000				2800	
Manganese	DETS 2301#	20	mg/kg	940	1100		1000	1800	3500
Mercury	DETS 2325#	0.05	mg/kg		< 0.05		< 0.05		< 0.05
Molybdenum	DETS 2301#	0.4	mg/kg	1.1	0.6		1.8	1.0	0.5
Nickel	DETS 2301#	1	mg/kg		25		6.3		27
Phosphorus	DETS 2301*	1	mg/kg	960		460		470	
Phosphate, Available	DETS 2310*	0.3	mg/l	22		210		10	
Potassium	DETS 2301*	1	mg/kg	990		950		990	
Selenium	DETS 2301#	0.5	mg/kg		< 0.5		0.7		1.2
Vanadium	DETS 2301#	0.8	mg/kg		28		26		29
Zinc	DETS 2301#	1	mg/kg	110	76		35	100	98
Inorganics									
pH	DETS 2008#		pH		7.1		10.3		7.6
Cyanide, Free	DETS 2130#	0.1	mg/kg		0.1		< 0.1		< 0.1
FOC	DETS 2084#	0.001			0.034		0.22		0.011
Ammoniacal Nitrogen as N	DETS 2119#	0.5	mg/kg	6.3		5.2		4.4	
Carbonate (as CaCO3)	DETS 2005	2.3	%	12	< 2.3		< 2.3		
Fluoride	DETS 2055	1	mg/kg	1.8		2.1		2.8	
Nitrate as NO3	DETS 2055	1	mg/kg	63				12	
Nitrate as N	*	1	mg/kg	< 1.0		< 1.0		< 1.0	
Nitrogen	DETS 2121*	0.01	%	0.14		0.07		0.78	
Sulphate Aqueous Extract as SO4 (2:1)	DETS 2076#	10	mg/l		19		580		83
Sulphur as S, Total	DETS 2320	0.01	%	0.09	0.02		0.26	0.04	0.04
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETS 3321*	0.01	mg/kg		< 0.01		< 0.01		< 0.01
Aliphatic C6-C8	DETS 3321*	0.01	mg/kg		< 0.01		< 0.01		< 0.01



Summary of Chemical Analysis Soil Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200047	2200048	2200049	2200052	2200053	2200054
Sample ID	TP2	TP2	TP2	TP2	TP3	TP3
Depth	0.20	0.50	0.60	2.00	0.20	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	04/07/2023	04/07/2023	04/07/2023	04/07/2023	04/07/2023	04/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5		< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2		< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5		< 1.5		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		< 3.4		< 3.4		< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg		< 3.4		< 3.4		< 3.4
Aliphatic C10-C44	DETSC 3072*	10	mg/kg		< 10		< 10		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9		< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		< 0.5		< 0.5		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		< 0.6		< 0.6		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		< 1.4		< 1.4		< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg		< 1.4		< 1.4		< 1.4
Aromatic C10-C44	DETSC 3072*	10	mg/kg		< 10		< 10		< 10
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg		< 10		< 10		< 10
Benzene	DETSC 3321#	0.01	mg/kg		< 0.01		< 0.01		< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg		< 0.01		< 0.01		< 0.01
Toluene	DETSC 3321#	0.01	mg/kg		< 0.01		< 0.01		< 0.01
Xylene	DETSC 3321#	0.01	mg/kg		< 0.01		< 0.01		< 0.01
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg		< 0.03		0.05		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03		1.0		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03		0.62		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		0.14		5.8		< 0.03
Anthracene	DETSC 3303	0.03	mg/kg		0.04		2.3		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg		0.40		7.4		< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg		0.36		5.8		< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		0.14		1.3		< 0.03
Chrysene	DETSC 3303	0.03	mg/kg		0.16		1.3		< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		0.16		0.89		< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		0.06		0.35		< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		0.12		0.65		< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		0.06		0.22		< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03		0.04		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		0.06		0.25		< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		1.7		28		< 0.10
Phenols									
Phenol	DETSC 3451*	0.01	mg/kg		< 0.01		< 0.01		< 0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg		< 0.01		< 0.01		< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200047	2200048	2200049	2200052	2200053	2200054
Sample ID	TP2	TP2	TP2	TP2	TP3	TP3
Depth	0.20	0.50	0.60	2.00	0.20	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	04/07/2023	04/07/2023	04/07/2023	04/07/2023	04/07/2023	04/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01		< 0.01		< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01		< 0.01		< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg		0.01		< 0.01		< 0.01
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01		< 0.01		< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01		< 0.01		< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01		< 0.01		< 0.01
Acid Herbicides									
Mecoprop	DETSC 3447	35	ug/kg	< 35				< 35	
2,4-D	DETSC 3447	35	ug/kg	< 35				< 35	
Bentazone	DETSC 3447	35	ug/kg	< 35				< 35	
Picloram	DETSC 3447	35	ug/kg	< 35				< 35	
MCPA	DETSC 3447	35	ug/kg	< 35				< 35	
Clopyralid	DETSC 3447	35	ug/kg	< 35				< 35	
Dicamba	DETSC 3447	35	ug/kg	< 35				< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35				< 35	
Dichlorprop	DETSC 3447	35	ug/kg	< 35				< 35	
Bromoxynil	DETSC 3447	35	ug/kg	< 35				< 35	
Triclopyr	DETSC 3447	35	ug/kg	< 35				< 35	
Fenoprop	DETSC 3447	35	ug/kg	< 35				< 35	
MCPB	DETSC 3447*	35	ug/kg	< 35				< 35	
2,4,5-T	DETSC 3447	35	ug/kg	< 35				< 35	
Fluroxypyr	DETSC 3447	35	ug/kg	< 35				< 35	
2,4-DB	DETSC 3447	35	ug/kg	< 35				< 35	
Ioxynil	DETSC 3447	35	ug/kg	< 35				< 35	
Benazolin	DETSC 3447	35	ug/kg	< 35				< 35	
PCP	DETSC 3447*	35	ug/kg	< 35				< 35	
OCPs									
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200047	2200048	2200049	2200052	2200053	2200054
Sample ID	TP2	TP2	TP2	TP2	TP3	TP3
Depth	0.20	0.50	0.60	2.00	0.20	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	04/07/2023	04/07/2023	04/07/2023	04/07/2023	04/07/2023	04/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
OPPs									
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Naled	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Chlpyrifos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Triazines									
Atraton	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Prometon	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Simazine	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Atrazine	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Propazine	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Terbutylazine	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Secbumeton	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Symetryn	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Ametryn	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Prometryne	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Terbutryn	DETSC 3433*	0.1	mg/kg	< 0.1				< 0.1	
Subcontracted Analysis									
Faecal coliforms	\$*	10	cfu/g	<10					
Total coliforms	\$*	10	cfu/g	<10					
Faecal Streptococci	\$*	10	cfu/g	< 20.0					

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200056	2200058	2200060	2200061	2200063	2200065
Sample ID	TP6	TP6	TP6	TP7	TP7	TP7
Depth	0.20	1.00	3.00	0.20	1.25	1.90
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	03/07/2023	03/07/2023	03/07/2023	03/07/2023	03/07/2023	03/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Preparation									
Dry Matter	DETSC 1004	0.1	%	88			79		
Moisture Content	DETSC 1004	0.1	%	12			21		
Metals									
Antimony	DETSC 2301*	1	mg/kg		5.4	4.1		2.3	
Arsenic	DETSC 2301#	0.2	mg/kg		9.0	5.3		13	
Barium	DETSC 2301#	1.5	mg/kg		130	88		120	
Beryllium	DETSC 2301#	0.2	mg/kg		0.9	0.5		1.0	
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.3	1.0	0.5	1.1	0.7	
Cadmium	DETSC 2301#	0.1	mg/kg		0.5	1.2		0.4	
Calcium	DETSC 2301*	1	mg/kg	3900			17000		
Chromium III	DETSC 2301*	0.15	mg/kg		47	9.5		19	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0	< 1.0		< 1.0	
Copper	DETSC 2301#	0.2	mg/kg	36	87	31	89	30	
Iron	DETSC 2301	25	mg/kg		46000	14000		15000	
Lead	DETSC 2301#	0.3	mg/kg		48	42		36	
Magnesium	DETSC 2301*	1	mg/kg	3200			3300		
Manganese	DETSC 2301#	20	mg/kg	720	1100	660	1500	1300	
Mercury	DETSC 2325#	0.05	mg/kg		0.34	0.06		0.06	
Molybdenum	DETSC 2301#	0.4	mg/kg	2.7	7.7	0.6	8.1	0.9	
Nickel	DETSC 2301#	1	mg/kg		32	8.0		21	
Phosphorus	DETSC 2301*	1	mg/kg	320			3200		430
Phosphate, Available	DETSC 2310*	0.3	mg/l	28			33		140
Potassium	DETSC 2301*	1	mg/kg	800			1200		1100
Selenium	DETSC 2301#	0.5	mg/kg		0.8	0.6		1.0	
Vanadium	DETSC 2301#	0.8	mg/kg		28	14		31	
Zinc	DETSC 2301#	1	mg/kg	70	180	190	170	100	
Inorganics									
pH	DETSC 2008#		pH		7.8	10.1		7.3	
Cyanide, Free	DETSC 2130#	0.1	mg/kg		0.4	< 0.1		0.2	
FOC	DETSC 2084#	0.001			0.047	0.025		0.025	
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	2.4			8.1		4.2
Carbonate (as CaCO3)	DETSC 2005	2.3	%	15			3.4		< 2.3
Fluoride	DETSC 2055	1	mg/kg	12			5.1		3.5
Nitrate as NO3	DETSC 2055	1	mg/kg	13			150		
Nitrate as N	*	1	mg/kg	< 1.0			< 1.0		< 1.0
Nitrogen	DETSC 2121*	0.01	%	0.09			2.0		4.8
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l		85	360		110	
Sulphur as S, Total	DETSC 2320	0.01	%	0.05	0.09	0.11	0.09	0.07	
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200056	2200058	2200060	2200061	2200063	2200065
Sample ID	TP6	TP6	TP6	TP7	TP7	TP7
Depth	0.20	1.00	3.00	0.20	1.25	1.90
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	03/07/2023	03/07/2023	03/07/2023	03/07/2023	03/07/2023	03/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5		< 1.5	
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2	< 1.2		< 1.2	
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5		< 1.5	
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		< 3.4	< 3.4		< 3.4	
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg		< 3.4	< 3.4		< 3.4	
Aliphatic C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10		< 10	
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9	< 0.9		< 0.9	
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		< 0.5	< 0.5		< 0.5	
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		< 0.6	< 0.6		< 0.6	
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		< 1.4	< 1.4		< 1.4	
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg		< 1.4	< 1.4		< 1.4	
Aromatic C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10		< 10	
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10		< 10	
Benzene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
Ethylbenzene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
Toluene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
Xylene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg		0.07	< 0.03		< 0.03	
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03		< 0.03	
Phenanthrene	DETSC 3303#	0.03	mg/kg		0.28	0.06		< 0.03	
Anthracene	DETSC 3303	0.03	mg/kg		0.11	< 0.03		< 0.03	
Fluoranthene	DETSC 3303#	0.03	mg/kg		0.38	0.09		< 0.03	
Pyrene	DETSC 3303#	0.03	mg/kg		0.29	0.07		< 0.03	
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		0.11	< 0.03		< 0.03	
Chrysene	DETSC 3303	0.03	mg/kg		0.14	0.04		< 0.03	
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		0.17	0.05		< 0.03	
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		0.10	< 0.03		< 0.03	
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		0.06	< 0.03		< 0.03	
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		0.07	< 0.03		< 0.03	
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		0.10	< 0.03		< 0.03	
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		1.9	0.26		< 0.10	
Phenols									
Phenol	DETSC 3451*	0.01	mg/kg		0.02	< 0.01		< 0.01	
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200056	2200058	2200060	2200061	2200063	2200065
Sample ID	TP6	TP6	TP6	TP7	TP7	TP7
Depth	0.20	1.00	3.00	0.20	1.25	1.90
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	03/07/2023	03/07/2023	03/07/2023	03/07/2023	03/07/2023	03/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg		0.01	< 0.01		0.01	
p-cresol	DETSC 3451*	0.01	mg/kg		0.13	0.01		< 0.01	
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg		0.01	< 0.01		< 0.01	
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	
Acid Herbicides									
Mecoprop	DETSC 3447	35	ug/kg	< 35			< 35		
2,4-D	DETSC 3447	35	ug/kg	< 35			< 35		
Bentazone	DETSC 3447	35	ug/kg	< 35			< 35		
Picloram	DETSC 3447	35	ug/kg	< 35			< 35		
MCPA	DETSC 3447	35	ug/kg	< 35			< 35		
Clopyralid	DETSC 3447	35	ug/kg	< 35			< 35		
Dicamba	DETSC 3447	35	ug/kg	< 35			< 35		
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35			< 35		
Dichlorprop	DETSC 3447	35	ug/kg	< 35			< 35		
Bromoxynil	DETSC 3447	35	ug/kg	< 35			< 35		
Triclopyr	DETSC 3447	35	ug/kg	< 35			< 35		
Fenoprop	DETSC 3447	35	ug/kg	< 35			< 35		
MCPB	DETSC 3447*	35	ug/kg	< 35			< 35		
2,4,5-T	DETSC 3447	35	ug/kg	< 35			< 35		
Fluroxypyr	DETSC 3447	35	ug/kg	< 35			< 35		
2,4-DB	DETSC 3447	35	ug/kg	< 35			< 35		
Ioxynil	DETSC 3447	35	ug/kg	< 35			< 35		
Benazolin	DETSC 3447	35	ug/kg	< 35			< 35		
PCP	DETSC 3447*	35	ug/kg	< 35			< 35		
OCPs									
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200056	2200058	2200060	2200061	2200063	2200065
Sample ID	TP6	TP6	TP6	TP7	TP7	TP7
Depth	0.20	1.00	3.00	0.20	1.25	1.90
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	03/07/2023	03/07/2023	03/07/2023	03/07/2023	03/07/2023	03/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
OPPs									
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Naled	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Chlpyrifos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Triazines									
Atraton	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Prometon	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Simazine	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Atrazine	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Propazine	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Terbutylazine	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Secbumeton	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Symetryn	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Ametryn	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Prometryne	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Terbutryn	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Subcontracted Analysis									
Faecal coliforms	\$*	10	cfu/g				<10		
Total coliforms	\$*	10	cfu/g				<10		
Faecal Streptococci	\$*	10	cfu/g				< 20.0		

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200048	2200052	2200054	2200058	2200060	2200063
Sample ID	TP2	TP2	TP3	TP6	TP6	TP7
Depth	0.50	2.00	0.60	1.00	3.00	1.25
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	04/07/2023	04/07/2023	04/07/2023	03/07/2023	03/07/2023	03/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
VOCs									
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200048	2200052	2200054	2200058	2200060	2200063
Sample ID	TP2	TP2	TP3	TP6	TP6	TP7
Depth	0.50	2.00	0.60	1.00	3.00	1.25
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	04/07/2023	04/07/2023	04/07/2023	03/07/2023	03/07/2023	03/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Leachate Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200070	2200071	2200072
Sample ID	TP2	TP6	TP7
Depth	1.00	1.25	1.20
Other ID			
Sample Type	ES	ES	ES
Sampling Date	04/07/2023	03/07/2023	03/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Preparation						
BS EN 12457 10:1	DETSC 1009*			Y	Y	Y
Metals						
Antimony, Dissolved	DETSC 2306	0.0002	mg/l	< 0.0002	0.0023	< 0.0002
Arsenic, Dissolved	DETSC 2306	0.001	mg/l	< 0.001	< 0.001	< 0.001
Barium, Dissolved	DETSC 2306	0.0003	mg/l	0.013	0.0064	0.0022
Beryllium, Dissolved	DETSC 2306*	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001
Boron, Dissolved	DETSC 2306*	0.012	mg/l	< 0.012	0.019	< 0.012
Cadmium, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001
Calcium, Dissolved	DETSC 2306	0.09	mg/l	3.7	7.5	0.92
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	< 0.001	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.0004	mg/l	0.0017	0.0035	< 0.0004
Iron, Dissolved	DETSC 2306	0.0055	mg/l	0.24	0.20	0.27
Lead, Dissolved	DETSC 2306	0.0001	mg/l	0.0007	0.0003	0.0002
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	0.58	1.0	0.41
Manganese, Dissolved	DETSC 2306	0.0002	mg/l	0.0102	0.0097	0.0033
Mercury, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001
Molybdenum, Dissolved	DETSC 2306	0.0011	mg/l	0.0029	0.0051	< 0.0011
Nickel, Dissolved	DETSC 2306	0.0005	mg/l	0.0008	0.0015	0.0008
Selenium, Dissolved	DETSC 2306	0.0003	mg/l	0.0003	< 0.0003	< 0.0003
Vanadium, Dissolved	DETSC 2306	0.0006	mg/l	0.0008	0.0012	< 0.0006
Zinc, Dissolved	DETSC 2306	0.0013	mg/l	0.048	0.0038	0.0018
Inorganics						
pH	DETSC 2008		pH	6.2	6.2	6.3
Cyanide, Total Low Level	DETSC 2131	0.0001	mg/l	0.0003	0.0005	0.0003
Cyanide, Complex Low Level	DETSC 2131	0.0001	mg/l	0.0003	0.0005	0.0003
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015	< 0.015
Chloride	DETSC 2055	0.1	mg/l	1.4	1.6	1.2
Fluoride	DETSC 2055*	0.1	mg/l	0.11	0.17	0.11
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.3	6.0	4.0
Phenols						
Phenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10
4-Chloro-3-methylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10
2,4-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10
2,4-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10
p-cresol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10
2,6-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10
2,6-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10
2,4,6-Trichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id TP2 0.75

Sample Numbers 2200050 2200066

Date Analysed 25/07/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	2.0	3	5	6
DETSC 2003# Loss On Ignition	%	5.2	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.1	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	0.39	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	2.7	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.4	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.82	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.37	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.21	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	2.1	0.021	4	50	200
DETSC 2055 Chloride as Cl	1400	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	110	1.1	10	150	500
DETSC 2055 Sulphate as SO4	3000	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	15000	150	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	2400	< 50	500	800	1000

Additional Information	
DETSC 2008 pH	6.7
DETSC 2009 Conductivity uS/cm	21.2
* Temperature*	19.0
Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.096
Stage 1	
Volume of Leachant L2*	0.942
Volume of Eluate VE1*	0.89

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

V.2.06 * DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id TP3 1.50

Sample Numbers 2200055 2200067

Date Analysed 25/07/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETS 2084# Total Organic Carbon	%	< 0.5	3	5	6
DETS 2003# Loss On Ignition	%	3.2	n/a	n/a	10
DETS 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETS 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETS 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETS 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETS 2008# pH	pH Units	7.5	n/a	>6	n/a
DETS 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETS 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETS 2306 Arsenic as As	< 0.16	< 0.01	0.5	2	25
DETS 2306 Barium as Ba	3.1	< 0.1	20	100	300
DETS 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETS 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETS 2306 Copper as Cu	0.46	< 0.02	2	50	100
DETS 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETS 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETS 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETS 2306 Lead as Pb	0.18	< 0.05	0.5	10	50
DETS 2306 Antimony as Sb	0.19	< 0.05	0.06	0.7	5
DETS 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETS 2306 Zinc as Zn	2.4	0.024	4	50	200
DETS 2055 Chloride as Cl	2000	< 100	800	15,000	25,000
DETS 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETS 2055 Sulphate as SO4	7500	< 100	1000	20,000	50,000
DETS 2009* Total Dissolved Solids	27000	270	4000	60,000	100,000
DETS 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETS 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

Additional Information	
DETS 2008 pH	6.4
DETS 2009 Conductivity uS/cm	37.9
* Temperature*	19.0
Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.101
Stage 1	
Volume of Leachant L2*	0.989
Volume of Eluate VE1*	0.93

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id TP6 0.75

Sample Numbers 2200057 2200068

Date Analysed 25/07/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETS 2084# Total Organic Carbon	%	4.9	3	5	6
DETS 2003# Loss On Ignition	%	16.0	n/a	n/a	10
DETS 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETS 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETS 3311# TPH (C10 - C40)	mg/kg	330.0	500	n/a	n/a
DETS 3301 PAHs	mg/kg	8.2	100	n/a	n/a
DETS 2008# pH	pH Units	7.4	n/a	>6	n/a
DETS 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETS 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETS 2306 Arsenic as As	0.79	< 0.01	0.5	2	25
DETS 2306 Barium as Ba	7.5	< 0.1	20	100	300
DETS 2306 Cadmium as Cd	0.064	< 0.02	0.04	1	5
DETS 2306 Chromium as Cr	0.41	< 0.1	0.5	10	70
DETS 2306 Copper as Cu	6.8	0.068	2	50	100
DETS 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETS 2306 Molybdenum as Mo	9.4	< 0.1	0.5	10	30
DETS 2306 Nickel as Ni	3.6	< 0.1	0.4	10	40
DETS 2306 Lead as Pb	1.1	< 0.05	0.5	10	50
DETS 2306 Antimony as Sb	3.7	< 0.05	0.06	0.7	5
DETS 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETS 2306 Zinc as Zn	13	0.13	4	50	200
DETS 2055 Chloride as Cl	1400	< 100	800	15,000	25,000
DETS 2055* Fluoride as F	210	2.1	10	150	500
DETS 2055 Sulphate as SO4	7300	< 100	1000	20,000	50,000
DETS 2009* Total Dissolved Solids	46000	460	4000	60,000	100,000
DETS 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETS 2085 Dissolved Organic Carbon	4200	< 50	500	800	1000

Additional Information	
DETS 2008 pH	6.3
DETS 2009 Conductivity uS/cm	65.4
* Temperature*	19.0
Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.101
Stage 1	
Volume of Leachant L2*	0.976
Volume of Eluate VE1*	0.92

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id TP7 1.75

Sample Numbers 2200064 2200069

Date Analysed 25/07/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.1	3	5	6
DETSC 2003# Loss On Ignition	%	4.7	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.8	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	< 0.16	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	3.6	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	0.47	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.53	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	0.65	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	0.3	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	0.18	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	3.5	0.035	4	50	200
DETSC 2055 Chloride as Cl	1500	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	200	2	10	150	500
DETSC 2055 Sulphate as SO4	4700	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	15000	150	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

Additional Information	
DETSC 2008 pH	6.4
DETSC 2009 Conductivity uS/cm	21.2
* Temperature*	19.0
Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098
Stage 1	
Volume of Leachant L2*	0.963
Volume of Eluate VE1*	0.91

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

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Summary of Asbestos Analysis

Soil Samples

Our Ref 23-16390

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2200048	TP2 0.50	SOIL	NAD	none	Vicky Convery
2200052	TP2 2.00	SOIL	NAD	none	Vicky Convery
2200054	TP3 0.60	SOIL	NAD	none	Vicky Convery
2200058	TP6 1.00	SOIL	NAD	none	Vicky Convery
2200060	TP6 3.00	SOIL	NAD	none	Vicky Convery
2200063	TP7 1.25	SOIL	NAD	none	Vicky Convery

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-16390
 Client Ref D30024
 Contract DEARNE REACH 1 - DEFINITION

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2200047	TP2 0.20 SOIL	04/07/23	GJ 250ml, GJ 60ml, PT 1L x2	Ammonia (3 days)	
2200048	TP2 0.50 SOIL	04/07/23	GJ 250ml, GJ 60ml, PT 1L		
2200049	TP2 0.60 SOIL	04/07/23	PT 1L	Ammonia (3 days)	
2200050	TP2 0.75 SOIL	04/07/23	PT 1L		BTEX / C5-C10, Naphthalene, PAH FID, PCB, EPH/TPH
2200051	TP2 1.00 SOIL	04/07/23	GJ 250ml, GJ 60ml, PT 1L x2		
2200052	TP2 2.00 SOIL	04/07/23	GJ 250ml, GJ 60ml		
2200053	TP3 0.20 SOIL	04/07/23	GJ 250ml, GJ 60ml, PT 1L x2	Ammonia (3 days)	
2200054	TP3 0.60 SOIL	04/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2200055	TP3 1.50 SOIL	04/07/23	GJ 250ml, GJ 60ml		
2200056	TP6 0.20 SOIL	03/07/23	PT 1L	Ammonia (3 days)	Acid Herbicides, OC Pesticides, OP Pesticides, Triazines
2200057	TP6 0.75 SOIL	03/07/23	PT 1L		BTEX / C5-C10, Naphthalene, PAH FID, PCB, EPH/TPH
2200058	TP6 1.00 SOIL	03/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2200059	TP6 1.25 SOIL	03/07/23	PT 1L		
2200060	TP6 3.00 SOIL	03/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2200061	TP7 0.20 SOIL	03/07/23	GJ 250ml, GJ 60ml, PT 1L	Ammonia (3 days)	
2200062	TP7 1.20 SOIL	03/07/23	GJ 250ml, GJ 60ml, PT 1L		
2200063	TP7 1.25 SOIL	03/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2200064	TP7 1.75 SOIL	03/07/23	PT 1L		BTEX / C5-C10, Naphthalene, PAH FID, PCB, EPH/TPH
2200065	TP7 1.90 SOIL	03/07/23	GJ 250ml, GJ 60ml, PT 1L	Ammonia (3 days)	
2200066	TP2 0.75 LEACHATE	04/07/23	PT 1L		
2200067	TP3 1.50 LEACHATE	04/07/23	GJ 250ml, GJ 60ml		
2200068	TP6 0.75 LEACHATE	03/07/23	PT 1L		
2200069	TP7 1.75 LEACHATE	03/07/23	PT 1L		
2200070	TP2 1.00 LEACHATE	04/07/23	GJ 250ml, GJ 60ml, PT 1L x2		
2200071	TP6 1.25 LEACHATE	03/07/23	PT 1L		
2200072	TP7 1.20 LEACHATE	03/07/23	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Information in Support of the Analytical Results

Our Ref 23-16390
Client Ref D30024
Contract DEARNE REACH 1 - DEFINITION

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO ₄	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO ₄	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

End of Report



Certificate of Analysis

Certificate Number 23-16525

Issued: 21-Jul-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-16525

Client Reference D30024

Order No PO0639

Contract Title DEARNE REACH 1 - DEFINITION

Description 2 Soil samples, 1 Leachate sample.

Date Received 11-Jul-23

Date Started 11-Jul-23

Date Completed 21-Jul-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By

A handwritten signature in black ink, appearing to read "K. Bridgewood".

Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Matrix Descriptions

Our Ref 23-16525

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample ID	Depth	Lab No	Completed	Matrix Description
TP3	1.7	2200918	21/07/2023	Brown gravelly, sandy CLAY including odd organic matter
TP3	2.75	2200919	21/07/2023	Brown gravelly, sandy CLAY including odd organic matter

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16525

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200919
Sample ID	TP3
Depth	2.75
Other ID	
Sample Type	ES
Sampling Date	04/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Metals				
Antimony	DETSC 2301*	1	mg/kg	3.0
Arsenic	DETSC 2301#	0.2	mg/kg	11
Barium	DETSC 2301#	1.5	mg/kg	180
Beryllium	DETSC 2301#	0.2	mg/kg	1.8
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.3
Chromium III	DETSC 2301*	0.15	mg/kg	17
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	25
Iron	DETSC 2301	25	mg/kg	54000
Lead	DETSC 2301#	0.3	mg/kg	18
Manganese	DETSC 2301#	20	mg/kg	2700
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	0.6
Nickel	DETSC 2301#	1	mg/kg	52
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	35
Zinc	DETSC 2301#	1	mg/kg	92
Inorganics				
pH	DETSC 2008#		pH	7.7
Cyanide, Free	DETSC 2130#	0.1	mg/kg	< 0.1
FOC	DETSC 2084#	0.001		0.004
Sulphate Aqueous Extract as SO ₄ (2:1)	DETSC 2076#	10	mg/l	41
Sulphur as S, Total	DETSC 2320	0.01	%	0.01
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	< 3.4
Aliphatic C10-C44	DETSC 3072*	10	mg/kg	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16525

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200919
Sample ID	TP3
Depth	2.75
Other ID	
Sample Type	ES
Sampling Date	04/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	< 1.4
Aromatic C10-C44	DETSC 3072*	10	mg/kg	< 10
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg	< 10
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01
PAHs				
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10
Phenols				
Phenol	DETSC 3451*	0.01	mg/kg	< 0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg	< 0.01
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg	< 0.01
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16525

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200919
Sample ID	TP3
Depth	2.75
Other ID	
Sample Type	ES
Sampling Date	04/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16525

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200919
Sample ID	TP3
Depth	2.75
Other ID	
Sample Type	ES
Sampling Date	04/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01

Summary of Chemical Analysis

Leachate Samples

Our Ref 23-16525

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2200920
Sample ID	TP3
Depth	1.70
Other ID	
Sample Type	ES
Sampling Date	04/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Antimony, Dissolved	DETSC 2306	0.0002	mg/l	0.0002
Arsenic, Dissolved	DETSC 2306	0.001	mg/l	< 0.001
Barium, Dissolved	DETSC 2306	0.0003	mg/l	0.0031
Beryllium, Dissolved	DETSC 2306*	0.0001	mg/l	< 0.0001
Boron, Dissolved	DETSC 2306*	0.012	mg/l	0.012
Cadmium, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001
Calcium, Dissolved	DETSC 2306	0.09	mg/l	4.8
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.0004	mg/l	0.0008
Iron, Dissolved	DETSC 2306	0.0055	mg/l	0.32
Lead, Dissolved	DETSC 2306	0.0001	mg/l	0.0001
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	0.67
Manganese, Dissolved	DETSC 2306	0.0002	mg/l	0.0014
Mercury, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001
Molybdenum, Dissolved	DETSC 2306	0.0011	mg/l	< 0.0011
Nickel, Dissolved	DETSC 2306	0.0005	mg/l	< 0.0005
Selenium, Dissolved	DETSC 2306	0.0003	mg/l	< 0.0003
Vanadium, Dissolved	DETSC 2306	0.0006	mg/l	< 0.0006
Zinc, Dissolved	DETSC 2306	0.0013	mg/l	0.0098
Inorganics				
pH	DETSC 2008		pH	7.3
Cyanide, Total Low Level	DETSC 2131	0.0001	mg/l	< 0.0001
Cyanide, Complex Low Level	DETSC 2131	0.0001	mg/l	< 0.0001
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.017
Chloride	DETSC 2055	0.1	mg/l	2.1
Fluoride	DETSC 2055*	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	8.9
Phenols				
Phenol	DETSC 3451*	0.1	ug/l	< 0.10
4-Chloro-3-methylphenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10
p-cresol	DETSC 3451*	0.1	ug/l	0.19
2,6-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10
2,6-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4,6-Trichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10

Summary of Asbestos Analysis Soil Samples

Our Ref 23-16525

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2200919	TP3 2.75	SOIL	NAD	none	Barry Kelly

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-16525
 Client Ref D30024
 Contract DEARNE REACH 1 - DEFINITION

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2200918	TP3 1.70 SOIL	04/07/23	PT 1L		
2200919	TP3 2.75 SOIL	04/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2200920	TP3 1.70 LEACHATE	04/07/23	PT 1L		

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO ₄	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO ₄	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

End of Report



Certificate of Analysis

Certificate Number 23-16556

Issued: 02-Aug-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-16556

Client Reference D30024

Order No P00674

Contract Title DEARNE REACH 1 - DEFINITION

Description 1 Soil sample, 2 Leachate samples.

Date Received 11-Jul-23

Date Started 11-Jul-23

Date Completed 02-Aug-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By

A handwritten signature in black ink, appearing to read "K. Bridgewood".

Kirk Bridgewood
General Manager





Summary of Chemical Analysis

Matrix Descriptions

Our Ref 23-16556

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample ID	Depth	Lab No	Completed	Matrix Description
BH4	0.2	2201054	02/08/2023	Brown slightly gravelly, sandy CLAY including odd rootlets (Possible made ground - brick)

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16556

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201054
Sample ID	BH4
Depth	0.20
Other ID	
Sample Type	ES
Sampling Date	03/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
Dry Matter	DETSC 1004	0.1	%	94
Moisture Content	DETSC 1004	0.1	%	6.4
Metals				
Antimony	DETSC 2301*	1	mg/kg	3.8
Arsenic	DETSC 2301#	0.2	mg/kg	7.0
Barium	DETSC 2301#	1.5	mg/kg	140
Beryllium	DETSC 2301#	0.2	mg/kg	0.7
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.7
Cadmium	DETSC 2301#	0.1	mg/kg	0.5
Calcium	DETSC 2301*	1	mg/kg	32000
Chromium III	DETSC 2301*	0.15	mg/kg	22
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	91
Iron	DETSC 2301	25	mg/kg	43000
Lead	DETSC 2301#	0.3	mg/kg	41
Magnesium	DETSC 2301*	1	mg/kg	4600
Manganese	DETSC 2301#	20	mg/kg	710
Mercury	DETSC 2325#	0.05	mg/kg	0.07
Molybdenum	DETSC 2301#	0.4	mg/kg	1.8
Nickel	DETSC 2301#	1	mg/kg	20
Phosphorus	DETSC 2301*	1	mg/kg	590
Phosphate, Available	DETSC 2310*	0.3	mg/l	96
Potassium	DETSC 2301*	1	mg/kg	1000
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	23
Zinc	DETSC 2301#	1	mg/kg	160
Inorganics				
pH	DETSC 2008#		pH	8.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.2
FOC	DETSC 2084#	0.001		0.024
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	3.6
Carbonate (as CaCO ₃)	DETSC 2005	2.3	%	5.7
Fluoride	DETSC 2055	1	mg/kg	7.6
Nitrate as NO ₃	DETSC 2055	1	mg/kg	6.5
Nitrate as N	*	1	mg/kg	2.4
Nitrogen	DETSC 2121*	0.01	%	0.44
Sulphate Aqueous Extract as SO ₄ (2:1)	DETSC 2076#	10	mg/l	68
Sulphur as S, Total	DETSC 2320	0.01	%	0.04
Petroleum Hydrocarbons				
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16556

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201054
Sample ID	BH4
Depth	0.20
Other ID	
Sample Type	ES
Sampling Date	03/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	< 3.4
Aliphatic C10-C44	DETSC 3072*	10	mg/kg	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	1.9
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg	< 1.4
Aromatic C10-C44	DETSC 3072*	10	mg/kg	< 10
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg	< 10
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01
PAHs				
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.25
Anthracene	DETSC 3303	0.03	mg/kg	0.07
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.48
Pyrene	DETSC 3303#	0.03	mg/kg	0.44
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.23
Chrysene	DETSC 3303	0.03	mg/kg	0.26
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.34
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.13
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.27
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	0.15
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	0.04
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.17
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	2.8
PAH 16 Total	DETSC 3301	1.6	mg/kg	2.7

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16556

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201054
Sample ID	BH4
Depth	0.20
Other ID	
Sample Type	ES
Sampling Date	03/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Phenols				
Phenol	DETSC 3451*	0.01	mg/kg	< 0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg	< 0.01
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg	0.01
p-cresol	DETSC 3451*	0.01	mg/kg	0.02
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01
Acid Herbicides				
Mecoprop	DETSC 3447	35	ug/kg	< 35
2,4-D	DETSC 3447	35	ug/kg	< 35
Bentazone	DETSC 3447	35	ug/kg	< 35
Picloram	DETSC 3447	35	ug/kg	< 35
MCPA	DETSC 3447	35	ug/kg	< 35
Clopyralid	DETSC 3447	35	ug/kg	< 35
Dicamba	DETSC 3447	35	ug/kg	< 35
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35
Dichlorprop	DETSC 3447	35	ug/kg	< 35
Bromoxynil	DETSC 3447	35	ug/kg	< 35
Triclopyr	DETSC 3447	35	ug/kg	< 35
Fenoprop	DETSC 3447	35	ug/kg	< 35
MCPB	DETSC 3447*	35	ug/kg	< 35
2,4,5-T	DETSC 3447	35	ug/kg	< 35
Fluroxypyr	DETSC 3447	35	ug/kg	< 35
2,4-DB	DETSC 3447	35	ug/kg	< 35
Ioxynil	DETSC 3447	35	ug/kg	< 35
Benazolin	DETSC 3447	35	ug/kg	< 35
PCP	DETSC 3447*	35	ug/kg	< 35
OCPs				
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16556

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201054
Sample ID	BH4
Depth	0.20
Other ID	
Sample Type	ES
Sampling Date	03/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1
OPPs				
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1
Naled	DETSC 3433*	0.1	mg/kg	< 0.1
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1
Chlpyrifos	DETSC 3433*	0.1	mg/kg	< 0.1
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1
Triazines				
Atraton	DETSC 3433*	0.1	mg/kg	< 0.1
Prometon	DETSC 3433*	0.1	mg/kg	< 0.1
Simazine	DETSC 3433*	0.1	mg/kg	< 0.1
Atrazine	DETSC 3433*	0.1	mg/kg	< 0.1
Propazine	DETSC 3433*	0.1	mg/kg	< 0.1
Terbutylazine	DETSC 3433*	0.1	mg/kg	< 0.1
Secbumeton	DETSC 3433*	0.1	mg/kg	< 0.1
Symetryn	DETSC 3433*	0.1	mg/kg	< 0.1
Ametryn	DETSC 3433*	0.1	mg/kg	< 0.1
Prometryne	DETSC 3433*	0.1	mg/kg	< 0.1
Terbutryn	DETSC 3433*	0.1	mg/kg	< 0.1

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16556

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201054
Sample ID	BH4
Depth	0.20
Other ID	
Sample Type	ES
Sampling Date	03/07/2023
Sampling Time	n/s

Test	Method	LOD	Units
------	--------	-----	-------

VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01

Summary of Chemical Analysis Soil Samples

Our Ref 23-16556

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201054
Sample ID	BH4
Depth	0.20
Other ID	
Sample Type	ES
Sampling Date	03/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16556

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id BH4 0.20

Sample Numbers 2201054 2201056

Date Analysed 01/08/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETS 2084# Total Organic Carbon	%	2.4	3	5	6
DETS 2003# Loss On Ignition	%	5.9	n/a	n/a	10
DETS 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETS 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETS 3311# TPH (C10 - C40)	mg/kg	98.0	500	n/a	n/a
DETS 3301 PAHs	mg/kg	2.7	100	n/a	n/a
DETS 2008# pH	pH Units	8.2	n/a	>6	n/a
DETS 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETS 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETS 2306 Arsenic as As	0.98	< 0.01	0.5	2	25
DETS 2306 Barium as Ba	7.2	< 0.1	20	100	300
DETS 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETS 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETS 2306 Copper as Cu	4.9	0.049	2	50	100
DETS 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETS 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETS 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETS 2306 Lead as Pb	3.7	< 0.05	0.5	10	50
DETS 2306 Antimony as Sb	0.93	< 0.05	0.06	0.7	5
DETS 2306 Selenium as Se	0.29	< 0.03	0.1	0.5	7
DETS 2306 Zinc as Zn	12	0.12	4	50	200
DETS 2055 Chloride as Cl	1400	< 100	800	15,000	25,000
DETS 2055* Fluoride as F	190	1.9	10	150	500
DETS 2055 Sulphate as SO4	6900	< 100	1000	20,000	50,000
DETS 2009* Total Dissolved Solids	55000	550	4000	60,000	100,000
DETS 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETS 2085 Dissolved Organic Carbon	3300	< 50	500	800	1000

Additional Information	
DETS 2008 pH	7.0
DETS 2009 Conductivity uS/cm	78.6
* Temperature*	18.0
Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.094
Stage 1	
Volume of Leachant L2*	0.93
Volume of Eluate VE1*	0.87

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

* DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.

Summary of Chemical Analysis

Leachate Samples

Our Ref 23-16556

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201055
Sample ID	BH4
Depth	0.20
Other ID	
Sample Type	ES
Sampling Date	03/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Antimony, Dissolved	DETSC 2306	0.0002	mg/l	0.0009
Arsenic, Dissolved	DETSC 2306	0.001	mg/l	< 0.001
Barium, Dissolved	DETSC 2306	0.0003	mg/l	0.0081
Beryllium, Dissolved	DETSC 2306*	0.0001	mg/l	< 0.0001
Boron, Dissolved	DETSC 2306*	0.012	mg/l	0.015
Cadmium, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001
Calcium, Dissolved	DETSC 2306	0.09	mg/l	7.0
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.0004	mg/l	0.0047
Iron, Dissolved	DETSC 2306	0.0055	mg/l	0.29
Lead, Dissolved	DETSC 2306	0.0001	mg/l	0.0010
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	1.0
Manganese, Dissolved	DETSC 2306	0.0002	mg/l	0.0040
Mercury, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001
Molybdenum, Dissolved	DETSC 2306	0.0011	mg/l	< 0.0011
Nickel, Dissolved	DETSC 2306	0.0005	mg/l	< 0.0005
Selenium, Dissolved	DETSC 2306	0.0003	mg/l	< 0.0003
Vanadium, Dissolved	DETSC 2306	0.0006	mg/l	0.0011
Zinc, Dissolved	DETSC 2306	0.0013	mg/l	0.0046
Inorganics				
pH	DETSC 2008		pH	6.9
Cyanide, Total Low Level	DETSC 2131	0.0001	mg/l	0.0018
Cyanide, Complex Low Level	DETSC 2131	0.0001	mg/l	0.0017
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.085
Chloride	DETSC 2055	0.1	mg/l	1.5
Fluoride	DETSC 2055*	0.1	mg/l	0.16
Sulphate as SO4	DETSC 2055	0.1	mg/l	3.6
Phenols				
Phenol	DETSC 3451*	0.1	ug/l	< 0.10
4-Chloro-3-methylphenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10
p-cresol	DETSC 3451*	0.1	ug/l	< 0.10
2,6-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10
2,6-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4,6-Trichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10

Summary of Asbestos Analysis Soil Samples

Our Ref 23-16556

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2201054	BH4 0.20	SOIL	NAD	none	Keith Wilson

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-16556
 Client Ref D30024
 Contract DEARNE REACH 1 - DEFINITION

Containers Received & Deviating Samples

					Inappropriate container for tests
Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	
2201054	BH4 0.20 SOIL	03/07/23	GJ 250ml, GJ 60ml, PT 1L	Ammonia (3 days), Total Sulphur ICP (7 days), pH + Conductivity (7 days), VOC (7 days)	
2201055	BH4 0.20 LEACHATE	03/07/23	GJ 250ml, GJ 60ml, PT 1L		
2201056	BH4 0.20 LEACHATE	03/07/23	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO ₄	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO ₄	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

End of Report



Certificate of Analysis

Certificate Number 23-16557

Issued: 01-Sep-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-16557

Client Reference D30024

Order No PO0639

Contract Title DEARNE REACH 1 - DEFINITION

Description 10 Soil samples, 4 Leachate samples.

Date Received 11-Jul-23

Date Started 11-Jul-23

Date Completed 01-Sep-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By

A handwritten signature in black ink, appearing to read "K. Bridgewood".

Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Matrix Descriptions

Our Ref 23-16557

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample ID	Depth	Lab No	Completed	Matrix Description
TP1	0.2	2201057	01/09/2023	Dark brown sandy CLAY including odd rootlets
TP1	0.5	2201058	01/09/2023	Dark brown gravelly, sandy CLAY
TP1	0.6	2201059	01/09/2023	Dark brown sandy CLAY
TP1	0.75	2201060	01/09/2023	Dark brown sandy CLAY
TP1	1.5	2201061	01/09/2023	Dark brown sandy CLAY including odd rootlets
TP4	0.2	2201062	01/09/2023	Dark brown sandy CLAY including odd rootlets
TP4	0.5	2201063	01/09/2023	Dark brown sandy CLAY including odd rootlets
TP4	0.6	2201064	01/09/2023	Dark brown sandy CLAY
TP4	0.75	2201065	01/09/2023	Dark brown sandy CLAY
TP4	1.5	2201066	01/09/2023	Dark brown sandy CLAY

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16557

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201057	2201058	2201061	2201062	2201063	2201066
Sample ID	TP1	TP1	TP1	TP4	TP4	TP4
Depth	0.20	0.50	1.50	0.20	0.50	1.50
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	05/07/2023	05/07/2023	05/07/2023	05/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Preparation									
Dry Matter	DETSC 1004	0.1	%	85			85		
Moisture Content	DETSC 1004	0.1	%	15			15		
Metals									
Antimony	DETSC 2301*	1	mg/kg		2.2	1.2		1.2	1.3
Arsenic	DETSC 2301#	0.2	mg/kg		42	3.6		8.2	2.9
Barium	DETSC 2301#	1.5	mg/kg		44	41		74	50
Beryllium	DETSC 2301#	0.2	mg/kg		0.8	0.7		0.9	0.7
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.6	< 0.2	< 0.2	0.7	0.4	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg		< 0.1	< 0.1		< 0.1	< 0.1
Calcium	DETSC 2301*	1	mg/kg	3300			4600		
Chromium III	DETSC 2301*	0.15	mg/kg		16	16		17	15
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0	< 1.0		< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	27	30	26	28	18	25
Iron	DETSC 2301	25	mg/kg		50000	32000		36000	36000
Lead	DETSC 2301#	0.3	mg/kg		24	13		18	12
Magnesium	DETSC 2301*	1	mg/kg	1500			2000		
Manganese	DETSC 2301#	20	mg/kg	3100	640	530	1300	1300	1200
Mercury	DETSC 2325#	0.05	mg/kg		0.07	< 0.05		< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	1.6	1.2	0.6	1.1	0.7	0.9
Nickel	DETSC 2301#	1	mg/kg		25	38		16	30
Phosphorus	DETSC 2301*	1	mg/kg	590			600		
Phosphate, Available	DETSC 2310*	0.3	mg/l	13			13		
Potassium	DETSC 2301*	1	mg/kg	950			890		
Selenium	DETSC 2301#	0.5	mg/kg		0.6	< 0.5		0.9	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg		27	20		27	20
Zinc	DETSC 2301#	1	mg/kg	97	68	92	99	67	79
Inorganics									
pH	DETSC 2008#		pH		6.1	6.1		6.5	6.2
Cyanide, Free	DETSC 2130#	0.1	mg/kg		< 0.1	< 0.1		0.2	< 0.1
FOC	DETSC 2084#	0.001			0.010	0.005		0.014	0.004
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	3.8			3.4		
Carbonate (as CaCO3)	DETSC 2005	2.3	%	< 2.3			< 2.3		
Fluoride	DETSC 2055	1	mg/kg	< 1.0			2.3		
Nitrate as NO3	DETSC 2055	1	mg/kg	20			41		
Nitrate as N	*	1	mg/kg	< 1.0			< 1.0		
Nitrogen	DETSC 2121*	0.01	%	0.17			0.26		
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l		38	16		54	32
Sulphur as S, Total	DETSC 2320	0.01	%	0.05	0.02	< 0.01	0.04	0.02	< 0.01
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01



Summary of Chemical Analysis

Soil Samples

Our Ref 23-16557

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201057	2201058	2201061	2201062	2201063	2201066
Sample ID	TP1	TP1	TP1	TP4	TP4	TP4
Depth	0.20	0.50	1.50	0.20	0.50	1.50
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	05/07/2023	05/07/2023	05/07/2023	05/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5		< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2	< 1.2		< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5		< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		< 3.4	< 3.4		< 3.4	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg		< 3.4	< 3.4		< 3.4	< 3.4
Aliphatic C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10		< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9	< 0.9		< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		< 0.5	< 0.5		< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		< 0.6	< 0.6		< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		< 1.4	< 1.4		< 1.4	< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg		< 1.4	< 1.4		< 1.4	< 1.4
Aromatic C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10		< 10	< 10
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10		< 10	< 10
Benzene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03		< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		< 0.10	< 0.10		< 0.10	< 0.10
Phenols									
Phenol	DETSC 3451*	0.01	mg/kg		0.02	0.01		0.01	0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16557

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201057	2201058	2201061	2201062	2201063	2201066
Sample ID	TP1	TP1	TP1	TP4	TP4	TP4
Depth	0.20	0.50	1.50	0.20	0.50	1.50
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	05/07/2023	05/07/2023	05/07/2023	05/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg		0.02	0.01		0.01	0.01
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01		< 0.01	< 0.01

Acid Herbicides									
Mecoprop	DETSC 3447	35	ug/kg	< 35			< 35		
2,4-D	DETSC 3447	35	ug/kg	< 35			< 35		
Bentazone	DETSC 3447	35	ug/kg	< 35			< 35		
Picloram	DETSC 3447	35	ug/kg	< 35			< 35		
MCPA	DETSC 3447	35	ug/kg	< 35			< 35		
Clopyralid	DETSC 3447	35	ug/kg	< 35			< 35		
Dicamba	DETSC 3447	35	ug/kg	< 35			< 35		
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35			< 35		
Dichlorprop	DETSC 3447	35	ug/kg	< 35			< 35		
Bromoxynil	DETSC 3447	35	ug/kg	< 35			< 35		
Triclopyr	DETSC 3447	35	ug/kg	< 35			< 35		
Fenoprop	DETSC 3447	35	ug/kg	< 35			< 35		
MCPB	DETSC 3447*	35	ug/kg	< 35			< 35		
2,4,5-T	DETSC 3447	35	ug/kg	< 35			< 35		
Fluroxypyr	DETSC 3447	35	ug/kg	< 35			< 35		
2,4-DB	DETSC 3447	35	ug/kg	< 35			< 35		
Ioxynil	DETSC 3447	35	ug/kg	< 35			< 35		
Benazolin	DETSC 3447	35	ug/kg	< 35			< 35		
PCP	DETSC 3447*	35	ug/kg	< 35			< 35		

OCPs									
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		

Summary of Chemical Analysis Soil Samples

Our Ref 23-16557

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201057	2201058	2201061	2201062	2201063	2201066
Sample ID	TP1	TP1	TP1	TP4	TP4	TP4
Depth	0.20	0.50	1.50	0.20	0.50	1.50
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	05/07/2023	05/07/2023	05/07/2023	05/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
OPPs									
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Naled	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Chlpyrifos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Triazines									
Atraton	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Prometon	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Simazine	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Atrazine	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Propazine	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Terbutylazine	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Secbumeton	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Symetryn	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Ametryn	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Prometryne	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Terbutryn	DETSC 3433*	0.1	mg/kg	< 0.1			< 0.1		
Subcontracted Analysis									
Faecal coliforms	\$*	10	cfu/g	<10			I/S		
Total coliforms	\$*	10	cfu/g	<10			I/S		
Faecal Streptococci	\$*	10	cfu/g	< 20.0			I/S		

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16557

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201058	2201061	2201063	2201066
Sample ID	TP1	TP1	TP4	TP4
Depth	0.50	1.50	0.50	1.50
Other ID				
Sample Type	ES	ES	ES	ES
Sampling Date	05/07/2023	05/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
VOCs							
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16557

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201058	2201061	2201063	2201066
Sample ID	TP1	TP1	TP4	TP4
Depth	0.50	1.50	0.50	1.50
Other ID				
Sample Type	ES	ES	ES	ES
Sampling Date	05/07/2023	05/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Leachate Samples

Our Ref 23-16557

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201067	2201068
Sample ID	TP1	TP4
Depth	0.60	0.60
Other ID		
Sample Type	ES	ES
Sampling Date	05/07/2023	05/07/2023
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
Preparation					
BS EN 12457 10:1	DETSC 1009*			Y	Y
Metals					
Antimony, Dissolved	DETSC 2306	0.0002	mg/l	< 0.0002	< 0.0002
Arsenic, Dissolved	DETSC 2306	0.001	mg/l	0.004	0.005
Barium, Dissolved	DETSC 2306	0.0003	mg/l	0.0048	0.0065
Beryllium, Dissolved	DETSC 2306*	0.0001	mg/l	< 0.0001	0.0001
Boron, Dissolved	DETSC 2306*	0.012	mg/l	< 0.012	< 0.012
Cadmium, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001	< 0.0001
Calcium, Dissolved	DETSC 2306	0.09	mg/l	1.0	1.0
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	0.001	0.002
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.0004	mg/l	0.0023	0.0025
Iron, Dissolved	DETSC 2306	0.0055	mg/l	2.5	3.0
Lead, Dissolved	DETSC 2306	0.0001	mg/l	0.0010	0.0012
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	0.25	0.27
Manganese, Dissolved	DETSC 2306	0.0002	mg/l	0.0080	0.0098
Mercury, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001	< 0.0001
Molybdenum, Dissolved	DETSC 2306	0.0011	mg/l	< 0.0011	< 0.0011
Nickel, Dissolved	DETSC 2306	0.0005	mg/l	0.0014	0.0016
Selenium, Dissolved	DETSC 2306	0.0003	mg/l	< 0.0003	< 0.0003
Vanadium, Dissolved	DETSC 2306	0.0006	mg/l	0.0023	0.0030
Zinc, Dissolved	DETSC 2306	0.0013	mg/l	0.0062	0.0041
Inorganics					
pH	DETSC 2008		pH	6.8	6.3
Cyanide, Total Low Level	DETSC 2131	0.0001	mg/l	0.0002	0.0001
Cyanide, Complex Low Level	DETSC 2131	0.0001	mg/l	< 0.0001	< 0.0001
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015	< 0.015
Chloride	DETSC 2055	0.1	mg/l	1.6	1.5
Fluoride	DETSC 2055*	0.1	mg/l	< 0.10	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	4.0	4.2
Phenols					
Phenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10
4-Chloro-3-methylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10
2,4-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10
2,4-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10
p-cresol	DETSC 3451*	0.1	ug/l	0.68	0.21
2,6-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10
2,6-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10
2,4,6-Trichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16557

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id TP1 0.75

Sample Numbers 2201060 2201069

Date Analysed 31/07/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETS 2084# Total Organic Carbon	%	2.7	3	5	6
DETS 2003# Loss On Ignition	%	3.9	n/a	n/a	10
DETS 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETS 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETS 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETS 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETS 2008# pH	pH Units	5.5	n/a	>6	n/a
DETS 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETS 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETS 2306 Arsenic as As	6.1	0.061	0.5	2	25
DETS 2306 Barium as Ba	4.1	< 0.1	20	100	300
DETS 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETS 2306 Chromium as Cr	1.1	< 0.1	0.5	10	70
DETS 2306 Copper as Cu	2.7	0.027	2	50	100
DETS 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETS 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETS 2306 Nickel as Ni	3	< 0.1	0.4	10	40
DETS 2306 Lead as Pb	1.2	< 0.05	0.5	10	50
DETS 2306 Antimony as Sb	0.22	< 0.05	0.06	0.7	5
DETS 2306 Selenium as Se	0.44	< 0.03	0.1	0.5	7
DETS 2306 Zinc as Zn	5.6	0.056	4	50	200
DETS 2055 Chloride as Cl	1800	< 100	800	15,000	25,000
DETS 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETS 2055 Sulphate as SO4	4800	< 100	1000	20,000	50,000
DETS 2009* Total Dissolved Solids	13000	130	4000	60,000	100,000
DETS 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETS 2085 Dissolved Organic Carbon	3900	< 50	500	800	1000

Additional Information	
DETS 2008 pH	6.1
DETS 2009 Conductivity uS/cm	18.8
* Temperature*	19.0
Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.100
Stage 1	
Volume of Leachant L2*	0.975
Volume of Eluate VE1*	0.92

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

* DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16557

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id TP4 0.75

Sample Numbers 2201065 2201070

Date Analysed 31/07/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETS 2084# Total Organic Carbon	%	0.9	3	5	6
DETS 2003# Loss On Ignition	%	7.9	n/a	n/a	10
DETS 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETS 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETS 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETS 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETS 2008# pH	pH Units	7.0	n/a	>6	n/a
DETS 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETS 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETS 2306 Arsenic as As	0.52	< 0.01	0.5	2	25
DETS 2306 Barium as Ba	3.7	< 0.1	20	100	300
DETS 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETS 2306 Chromium as Cr	0.62	< 0.1	0.5	10	70
DETS 2306 Copper as Cu	0.57	< 0.02	2	50	100
DETS 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETS 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETS 2306 Nickel as Ni	0.5	< 0.1	0.4	10	40
DETS 2306 Lead as Pb	0.46	< 0.05	0.5	10	50
DETS 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETS 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETS 2306 Zinc as Zn	1.7	0.017	4	50	200
DETS 2055 Chloride as Cl	1600	< 100	800	15,000	25,000
DETS 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETS 2055 Sulphate as SO4	6600	< 100	1000	20,000	50,000
DETS 2009* Total Dissolved Solids	21000	210	4000	60,000	100,000
DETS 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETS 2085 Dissolved Organic Carbon	2000	< 50	500	800	1000

Additional Information	
DETS 2008 pH	6.0
DETS 2009 Conductivity uS/cm	30.4
* Temperature*	19.0
Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.102
Stage 1	
Volume of Leachant L2*	0.989
Volume of Eluate VE1*	0.93

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

* DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.

Summary of Asbestos Analysis Soil Samples

Our Ref 23-16557

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2201058	TP1 0.50	SOIL	NAD	none	Robertas Ciparis
2201061	TP1 1.50	SOIL	NAD	none	Robertas Ciparis
2201063	TP4 0.50	SOIL	NAD	none	Robertas Ciparis
2201066	TP4 1.50	SOIL	NAD	none	Robertas Ciparis

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-16557
 Client Ref D30024
 Contract DEARNE REACH 1 - DEFINITION

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2201057	TP1 0.20 SOIL	05/07/23	GJ 250ml, GJ 60ml, PT 1L x2	Ammonia (3 days)	
2201058	TP1 0.50 SOIL	05/07/23	GJ 250ml, GJ 60ml, PT 1L		
2201059	TP1 0.60 SOIL	05/07/23	PT 1L		
2201060	TP1 0.75 SOIL	05/07/23	PT 1L		BTEX / C5-C10, Naphthalene, PAH FID, PCB, EPH/TPH
2201061	TP1 1.50 SOIL	05/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2201062	TP4 0.20 SOIL	05/07/23	GJ 250ml, GJ 60ml, PT 1L x2	Ammonia (3 days)	
2201063	TP4 0.50 SOIL	05/07/23	GJ 250ml, GJ 60ml, PT 1L		
2201064	TP4 0.60 SOIL	05/07/23	PT 1L		
2201065	TP4 0.75 SOIL	05/07/23	PT 1L		BTEX / C5-C10, Naphthalene, PAH FID, PCB, EPH/TPH
2201066	TP4 1.50 SOIL	05/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2201067	TP1 0.60 LEACHATE	05/07/23	PT 1L		
2201068	TP4 0.60 LEACHATE	05/07/23	PT 1L		
2201069	TP1 0.75 LEACHATE	05/07/23	PT 1L		
2201070	TP4 0.75 LEACHATE	05/07/23	PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO ₄	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO ₄	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

End of Report



Certificate of Analysis

Certificate Number 23-16666

Issued: 01-Aug-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-16666

Client Reference D30024

Order No PO0639

Contract Title DEARNE REACH 1 - DEFINITION

Description 6 Soil samples, 3 Leachate samples.

Date Received 12-Jul-23

Date Started 12-Jul-23

Date Completed 01-Aug-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By

A handwritten signature in black ink, appearing to read "Kirk Bridgewood".

Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Matrix Descriptions

Our Ref 23-16666

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample ID	Depth	Lab No	Completed	Matrix Description
TP5	0.2	2201693	01/08/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
TP5	0.75	2201694	01/08/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
TP5	1	2201695	01/08/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
TP5	1.25	2201696	01/08/2023	Brown gravelly, sandy CLAY including odd rootlets (Possible made ground - coal)
TP5	2.75	2201697	01/08/2023	Brown gravelly, sandy CLAY and CLAY including odd rootlets (Possible made ground - coal)
TP5	3	2201698	01/08/2023	Dark brown gravelly, sandy CLAY

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16666

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201693	2201694	2201697
Sample ID	TP5	TP5	TP5
Depth	0.20	0.75	2.75
Other ID			
Sample Type	ES	ES	ES
Sampling Date	10/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Preparation						
Dry Matter	DETSC 1004	0.1	%	81		
Moisture Content	DETSC 1004	0.1	%	19		
Metals						
Antimony	DETSC 2301*	1	mg/kg		1.2	1.9
Arsenic	DETSC 2301#	0.2	mg/kg		6.3	6.6
Barium	DETSC 2301#	1.5	mg/kg		140	150
Beryllium	DETSC 2301#	0.2	mg/kg		1.1	1.1
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.4	0.3	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg		< 0.1	< 0.1
Calcium	DETSC 2301*	1	mg/kg	3300		
Chromium III	DETSC 2301*	0.15	mg/kg		20	15
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	21	19	24
Iron	DETSC 2301	25	mg/kg		40000	64000
Lead	DETSC 2301#	0.3	mg/kg		19	16
Magnesium	DETSC 2301*	1	mg/kg	2500		
Manganese	DETSC 2301#	20	mg/kg	2400	1800	2500
Mercury	DETSC 2325#	0.05	mg/kg		< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	0.5	< 0.4	< 0.4
Nickel	DETSC 2301#	1	mg/kg		26	34
Phosphorus	DETSC 2301*	1	mg/kg	330		
Phosphate, Available	DETSC 2310*	0.3	mg/l	3.3		
Potassium	DETSC 2301*	1	mg/kg	850		
Selenium	DETSC 2301#	0.5	mg/kg		1.1	0.7
Vanadium	DETSC 2301#	0.8	mg/kg		27	24
Zinc	DETSC 2301#	1	mg/kg	94	100	79
Inorganics						
pH	DETSC 2008#		pH		6.6	6.7
Cyanide, Free	DETSC 2130#	0.1	mg/kg		0.2	< 0.1
FOC	DETSC 2084#	0.001			0.014	0.013
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	3.2		
Carbonate (as CaCO3)	DETSC 2005	2.3	%	< 2.3		
Fluoride	DETSC 2055	1	mg/kg	1.2		
Nitrate as NO3	DETSC 2055	1	mg/kg	13		
Nitrate as N	*	1	mg/kg	3.6		
Nitrogen	DETSC 2121*	0.01	%	0.04		
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l		15	26
Sulphur as S, Total	DETSC 2320	0.01	%	0.02	0.02	0.02
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16666

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201693	2201694	2201697
Sample ID	TP5	TP5	TP5
Depth	0.20	0.75	2.75
Other ID			
Sample Type	ES	ES	ES
Sampling Date	10/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		< 3.4	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg		< 3.4	< 3.4
Aliphatic C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		< 1.4	< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg		< 1.4	< 1.4
Aromatic C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10
Benzene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		< 0.10	< 0.10
Phenols						
Phenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16666

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201693	2201694	2201697
Sample ID	TP5	TP5	TP5
Depth	0.20	0.75	2.75
Other ID			
Sample Type	ES	ES	ES
Sampling Date	10/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg		0.02	0.02
p-cresol	DETSC 3451*	0.01	mg/kg		0.03	0.02
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01
Acid Herbicides						
Mecoprop	DETSC 3447	35	ug/kg	< 35		
2,4-D	DETSC 3447	35	ug/kg	< 35		
Bentazone	DETSC 3447	35	ug/kg	< 35		
Picloram	DETSC 3447	35	ug/kg	< 35		
MCPA	DETSC 3447	35	ug/kg	< 35		
Clopyralid	DETSC 3447	35	ug/kg	< 35		
Dicamba	DETSC 3447	35	ug/kg	< 35		
2,3,6-TBA	DETSC 3447	35	ug/kg	< 35		
Dichlorprop	DETSC 3447	35	ug/kg	< 35		
Bromoxynil	DETSC 3447	35	ug/kg	< 35		
Triclopyr	DETSC 3447	35	ug/kg	< 35		
Fenoprop	DETSC 3447	35	ug/kg	< 35		
MCPB	DETSC 3447*	35	ug/kg	< 35		
2,4,5-T	DETSC 3447	35	ug/kg	< 35		
Fluroxypyr	DETSC 3447	35	ug/kg	< 35		
2,4-DB	DETSC 3447	35	ug/kg	< 35		
Ioxynil	DETSC 3447	35	ug/kg	< 35		
Benazolin	DETSC 3447	35	ug/kg	< 35		
PCP	DETSC 3447*	35	ug/kg	< 35		
OCPs						
alpha-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg	< 0.1		
beta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
delta-BHC	DETSC 3433*	0.1	mg/kg	< 0.1		
Heptachlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Aldrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg	< 0.1		
gamma-Chlordane	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg	< 0.1		
4,4-DDE	DETSC 3433*	0.1	mg/kg	< 0.1		
Dieldrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin aldehyde	DETSC 3433*	0.1	mg/kg	< 0.1		

Summary of Chemical Analysis Soil Samples

Our Ref 23-16666

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201693	2201694	2201697
Sample ID	TP5	TP5	TP5
Depth	0.20	0.75	2.75
Other ID			
Sample Type	ES	ES	ES
Sampling Date	10/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
4,4-DDT	DETSC 3433*	0.1	mg/kg	< 0.1		
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg	< 0.1		
Methoxychlor	DETSC 3433*	0.1	mg/kg	< 0.1		
Endrin ketone	DETSC 3433*	0.1	mg/kg	< 0.1		
OPPs						
Dichlorvos	DETSC 3433*	0.1	mg/kg	< 0.1		
Mevinphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-O	DETSC 3433*	0.1	mg/kg	< 0.1		
Ethoprop	DETSC 3433*	0.1	mg/kg	< 0.1		
Naled	DETSC 3433*	0.1	mg/kg	< 0.1		
Phorate	DETSC 3433*	0.1	mg/kg	< 0.1		
Demeton-S	DETSC 3433*	0.1	mg/kg	< 0.1		
Diazinon	DETSC 3433*	0.1	mg/kg	< 0.1		
Disulfoton	DETSC 3433*	0.1	mg/kg	< 0.1		
Methylparathion	DETSC 3433*	0.1	mg/kg	< 0.1		
Ronnel	DETSC 3433*	0.1	mg/kg	< 0.1		
Fenthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Chlopyrifos	DETSC 3433*	0.1	mg/kg	< 0.1		
Trichlorinate	DETSC 3433*	0.1	mg/kg	< 0.1		
Merphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Stirofos	DETSC 3433*	0.1	mg/kg	< 0.1		
Tokuthion	DETSC 3433*	0.1	mg/kg	< 0.1		
Fensulfothion	DETSC 3433*	0.1	mg/kg	< 0.1		
Bolstar	DETSC 3433*	0.1	mg/kg	< 0.1		
Azinphos methyl	DETSC 3433*	0.1	mg/kg	< 0.1		
Coumaphos	DETSC 3433*	0.1	mg/kg	< 0.1		
Triazines						
Atraton	DETSC 3433*	0.1	mg/kg	< 0.1		
Prometon	DETSC 3433*	0.1	mg/kg	< 0.1		
Simazine	DETSC 3433*	0.1	mg/kg	< 0.1		
Atrazine	DETSC 3433*	0.1	mg/kg	< 0.1		
Propazine	DETSC 3433*	0.1	mg/kg	< 0.1		
Terbutylazine	DETSC 3433*	0.1	mg/kg	< 0.1		
Secbumeton	DETSC 3433*	0.1	mg/kg	< 0.1		
Symetryn	DETSC 3433*	0.1	mg/kg	< 0.1		
Ametryn	DETSC 3433*	0.1	mg/kg	< 0.1		
Prometryne	DETSC 3433*	0.1	mg/kg	< 0.1		
Terbutryn	DETSC 3433*	0.1	mg/kg	< 0.1		
Subcontracted Analysis						
Faecal coliforms	\$*	10	cfu/g	<10		
Total coliforms	\$*	10	cfu/g	<10		

Summary of Chemical Analysis Soil Samples

Our Ref 23-16666

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201693	2201694	2201697
Sample ID	TP5	TP5	TP5
Depth	0.20	0.75	2.75
Other ID			
Sample Type	ES	ES	ES
Sampling Date	10/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units
Faecal Streptococci	\$*	10	cfu/g
			< 20.0

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16666

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201694	2201697
Sample ID	TP5	TP5
Depth	0.75	2.75
Other ID		
Sample Type	ES	ES
Sampling Date	05/07/2023	05/07/2023
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
VOCs					
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16666

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201694	2201697
Sample ID	TP5	TP5
Depth	0.75	2.75
Other ID		
Sample Type	ES	ES
Sampling Date	05/07/2023	05/07/2023
Sampling Time	n/s	n/s

Test	Method	LOD	Units		
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis

Leachate Samples

Our Ref 23-16666

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2201699	2201700	2201701
Sample ID	TP5	TP5	TP5
Depth	1.00	3.00	1.25
Other ID			
Sample Type	ES	ES	ES
Sampling Date	05/07/2023	05/07/2023	05/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Preparation						
BS EN 12457 10:1	DETSC 1009*			Y	Y	
BS EN 12457 10:1	DETSC 1009*					Y
Metals						
Antimony, Dissolved	DETSC 2306	0.0002	mg/l	< 0.0002	< 0.0002	
Arsenic, Dissolved	DETSC 2306	0.001	mg/l	< 0.001	< 0.001	
Barium, Dissolved	DETSC 2306	0.0003	mg/l	0.0035	0.0048	
Beryllium, Dissolved	DETSC 2306*	0.0001	mg/l	< 0.0001	< 0.0001	
Boron, Dissolved	DETSC 2306*	0.012	mg/l	< 0.012	< 0.012	
Cadmium, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001	< 0.0001	
Calcium, Dissolved	DETSC 2306	0.09	mg/l	3.7	3.6	
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	< 0.001	
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007	
Copper, Dissolved	DETSC 2306	0.0004	mg/l	0.0005	< 0.0004	
Iron, Dissolved	DETSC 2306	0.0055	mg/l	0.065	0.021	
Lead, Dissolved	DETSC 2306	0.0001	mg/l	0.0001	< 0.0001	
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	0.23	0.49	
Manganese, Dissolved	DETSC 2306	0.0002	mg/l	0.0006	0.0005	
Mercury, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001	< 0.0001	
Molybdenum, Dissolved	DETSC 2306	0.0011	mg/l	< 0.0011	< 0.0011	
Nickel, Dissolved	DETSC 2306	0.0005	mg/l	< 0.0005	< 0.0005	
Selenium, Dissolved	DETSC 2306	0.0003	mg/l	< 0.0003	< 0.0003	
Vanadium, Dissolved	DETSC 2306	0.0006	mg/l	< 0.0006	< 0.0006	
Zinc, Dissolved	DETSC 2306	0.0013	mg/l	0.0017	< 0.0013	
Inorganics						
pH	DETSC 2008		pH	7.1	7.0	
Cyanide, Total Low Level	DETSC 2131	0.0001	mg/l	< 0.0001	0.0004	
Cyanide, Complex Low Level	DETSC 2131	0.0001	mg/l	< 0.0001	0.0004	
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.017	0.018	
Chloride	DETSC 2055	0.1	mg/l	0.80	2.4	
Fluoride	DETSC 2055*	0.1	mg/l	< 0.10	< 0.10	
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.6	3.5	
Phenols						
Phenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	
4-Chloro-3-methylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	
2,4-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	
2,4-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	
p-cresol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	
2,6-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	
2,6-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	
2,4,6-Trichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16666

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id TP5 1.25

Sample Numbers 2201696 2201701

Date Analysed 01/08/2023

Test Results On Waste		
Determinand and Method Reference	Units	Result
DETSC 2084# Total Organic Carbon	%	3.1
DETSC 2003# Loss On Ignition	%	8.6
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10
DETSC 3301 PAHs	mg/kg	< 1.6
DETSC 2008# pH	pH Units	6.6
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg
	10:1	LS10
DETSC 2306 Arsenic as As	< 0.16	< 0.01
DETSC 2306 Barium as Ba	1.5	< 0.1
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02
DETSC 2306 Chromium as Cr	< 0.25	< 0.1
DETSC 2306 Copper as Cu	< 0.40	< 0.02
DETSC 2306 Mercury as Hg	< 0.010	< 0.002
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1
DETSC 2306 Nickel as Ni	< 0.50	< 0.1
DETSC 2306 Lead as Pb	< 0.090	< 0.05
DETSC 2306 Antimony as Sb	< 0.17	< 0.05
DETSC 2306 Selenium as Se	< 0.25	< 0.03
DETSC 2306 Zinc as Zn	< 1.3	< 0.01
DETSC 2055 Chloride as Cl	2100	< 100
DETSC 2055* Fluoride as F	< 100	< 0.1
DETSC 2055 Sulphate as SO4	4100	< 100
DETSC 2009* Total Dissolved Solids	24000	240
DETSC 2130 Phenol Index	< 100	< 1
DETSC 2033* Dissolved Organic Carbon	11000	110

WAC Limit Values		
Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000

Additional Information

DETSC 2008 pH	6.8
DETSC 2009 Conductivity uS/cm	33.8
* Temperature*	19.0

Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.096

Stage 1

Volume of Leachant L2*	0.939
Volume of Eluate VE1*	0.89

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

* DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.

Summary of Asbestos Analysis Soil Samples

Our Ref 23-16666

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2201694	TP5 0.75	SOIL	NAD	none	Barry Kelly
2201697	TP5 2.75	SOIL	NAD	none	Barry Kelly

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-16666
 Client Ref D30024
 Contract DEARNE REACH 1 - DEFINITION

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Hold time exceeded for tests	Inappropriate container for tests
2201693	TP5 0.20 SOIL	10/07/23	GJ 250ml, GJ 60ml, PT 1L x2		
2201694	TP5 0.75 SOIL	05/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2201695	TP5 1.00 SOIL	05/07/23	PT 1L		
2201696	TP5 1.25 SOIL	05/07/23	PT 1L		BTEX / C5-C10, Naphthalene, PAH FID, PCB, EPH/TPH
2201697	TP5 2.75 SOIL	05/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2201698	TP5 3.00 SOIL	05/07/23	PT 1L		
2201699	TP5 1.00 LEACHATE	05/07/23	PT 1L		
2201700	TP5 3.00 LEACHATE	05/07/23	PT 1L		
2201701	TP5 1.25 LEACHATE	05/07/23	PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO ₄	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO ₄	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

End of Report



Certificate of Analysis

Certificate Number 23-16804

Issued: 01-Sep-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-16804

Client Reference D30024

Order No PO0717

Contract Title DEARNE REACH 1 - DEFINITION

Description 23 Soil samples, 8 Leachate samples.

Date Received 13-Jul-23

Date Started 13-Jul-23

Date Completed 01-Sep-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By

A handwritten signature in black ink, appearing to read "K. Bridgewood".

Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Matrix Descriptions

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample ID	Depth	Lab No	Completed	Matrix Description
BH1	0.2	2202710	01/09/2023	Brown gravelly, sandy CLAY including odd rootlets
BH1	0.25	2202711	01/09/2023	Brown gravelly, sandy CLAY including odd rootlets
BH1	0.5	2202712	01/09/2023	Brown gravelly, sandy CLAY including odd rootlets
BH1	0.6	2202713	01/09/2023	Brown gravelly, sandy CLAY including odd rootlets
BH5	0.2	2202714	01/09/2023	Brown gravelly, sandy CLAY including odd rootlets
BH5	0.25	2202715	01/09/2023	Brown gravelly, sandy CLAY including odd rootlets
BH5	0.5	2202716	01/09/2023	Brown gravelly, sandy CLAY including odd rootlets (Possible made ground - COAL)
BH5	0.6	2202717	01/09/2023	Brown gravelly, sandy CLAY including odd rootlets (Possible made ground - COAL)
BH5	0.75	2202718	01/09/2023	Brown gravelly, sandy CLAY including odd rootlets (Possible made ground - COAL)
BH6	0.2	2202719	01/09/2023	Dark brown sandy CLAY including odd rootlets
BH6	0.25	2202720	01/09/2023	Brown gravelly, sandy CLAY including odd rootlets
BH6	0.5	2202721	01/09/2023	Brown gravelly, sandy CLAY including odd rootlets including odd organic matter
BH6	0.6	2202722	01/09/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
BH6	0.75	2202723	01/09/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
BH7	0.2	2202724	01/09/2023	Brown slightly gravelly, sandy CLAY including numerous rootlets (Possible made ground - coal)
BH7	0.25	2202725	01/09/2023	Brown slightly gravelly, sandy CLAY including numerous rootlets
BH7	0.5	2202726	01/09/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
BH7	0.6	2202727	01/09/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
BH7	0.75	2202728	01/09/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
BH8	0.2	2202729	01/09/2023	Brown slightly gravelly, sandy CLAY including numerous rootlets
BH8	0.25	2202730	01/09/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
BH8	0.5	2202731	01/09/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
BH8	0.6	2202732	01/09/2023	Brown slightly gravelly, sandy CLAY including odd rootlets

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202710	2202711	2202713	2202714	2202715	2202717
Sample ID	BH1	BH1	BH1	BH5	BH5	BH5
Depth	0.20	0.25	0.60	0.20	0.25	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/07/2023	10/07/2023	10/07/2023	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Preparation									
Dry Matter	DETSC 1004	0.1	%	85			86		
Moisture Content	DETSC 1004	0.1	%	15			14		
Metals									
Antimony	DETSC 2301*	1	mg/kg		2.1	2.4			2.1
Arsenic	DETSC 2301#	0.2	mg/kg		9.0	10			11
Barium	DETSC 2301#	1.5	mg/kg		180	270			150
Beryllium	DETSC 2301#	0.2	mg/kg		1.3	1.3			1.3
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	< 0.2	0.3	0.3	0.5		0.2
Cadmium	DETSC 2301#	0.1	mg/kg		< 0.1	< 0.1			< 0.1
Calcium	DETSC 2301*	1	mg/kg	3000			3000		
Chromium III	DETSC 2301*	0.15	mg/kg		26	26			19
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0	< 1.0			< 1.0
Copper	DETSC 2301#	0.2	mg/kg	21	25	28	28		23
Iron	DETSC 2301	25	mg/kg		58000	72000			58000
Lead	DETSC 2301#	0.3	mg/kg		26	28			21
Magnesium	DETSC 2301*	1	mg/kg	2500			2200		
Manganese	DETSC 2301#	20	mg/kg	1900	3700	4500	1900		1800
Mercury	DETSC 2325#	0.05	mg/kg		0.09	0.08			0.07
Molybdenum	DETSC 2301#	0.4	mg/kg	0.5	5.2	0.7	0.8		0.6
Nickel	DETSC 2301#	1	mg/kg		26	28			31
Phosphorus	DETSC 2301*	1	mg/kg	290			620		
Phosphate, Available	DETSC 2310*	0.3	mg/l	22			39		
Potassium	DETSC 2301*	1	mg/kg	990			1000		
Selenium	DETSC 2301#	0.5	mg/kg		1.9	1.8			0.7
Vanadium	DETSC 2301#	0.8	mg/kg		36	36			32
Zinc	DETSC 2301#	1	mg/kg	90	100	98	93		97
Inorganics									
pH	DETSC 2008#		pH		6.6	6.6			7.1
Cyanide, Free	DETSC 2130#	0.1	mg/kg		0.1	0.1			0.1
FOC	DETSC 2084#	0.001			0.010	0.009			0.017
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	43			13		
Carbonate (as CaCO3)	DETSC 2005	2.3	%	< 2.3			2.6		
Fluoride	DETSC 2055	1	mg/kg	< 1.0			2.4		
Nitrate as NO3	DETSC 2055	1	mg/kg	12			53		
Nitrate as N	*	1	mg/kg	3.3			10		
Nitrogen	DETSC 2121*	0.01	%	0.38			0.45		
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l		10	< 10			14
Sulphur as S, Total	DETSC 2320	0.01	%	0.02	0.02	0.02	0.03		0.02
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01			< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01			< 0.01



Summary of Chemical Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202710	2202711	2202713	2202714	2202715	2202717
Sample ID	BH1	BH1	BH1	BH5	BH5	BH5
Depth	0.20	0.25	0.60	0.20	0.25	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/07/2023	10/07/2023	10/07/2023	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01			< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5			< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2	< 1.2			< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5	< 1.5			< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		< 3.4	< 3.4			< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg		< 3.4	< 3.4			< 3.4
Aliphatic C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10			< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01			< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01			< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01	< 0.01			< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9	< 0.9			< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		< 0.5	< 0.5			< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		< 0.6	< 0.6			< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		< 1.4	< 1.4			< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg		< 1.4	< 1.4			< 1.4
Aromatic C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10			< 10
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10			< 10
Benzene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01			< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01			< 0.01
Toluene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01			< 0.01
Xylene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01			< 0.01
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			< 0.03
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03			< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			0.05
Anthracene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03			< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			0.12
Pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			0.11
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			0.04
Chrysene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03			0.07
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			0.09
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			0.04
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			0.04
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03			< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		0.03	< 0.03			0.07
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		< 0.10	< 0.10			0.62
Phenols									
Phenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01			< 0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01			< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202710	2202711	2202713	2202714	2202715	2202717
Sample ID	BH1	BH1	BH1	BH5	BH5	BH5
Depth	0.20	0.25	0.60	0.20	0.25	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/07/2023	10/07/2023	10/07/2023	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01			< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01			< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01			< 0.01
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01			< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01			< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg		0.01	< 0.01			< 0.01
Acid Herbicides									
Mecoprop	DETSC 3447	35	ug/kg		< 35			< 35	
2,4-D	DETSC 3447	35	ug/kg		< 35			< 35	
Bentazone	DETSC 3447	35	ug/kg		< 35			< 35	
Picloram	DETSC 3447	35	ug/kg		< 35			< 35	
MCPA	DETSC 3447	35	ug/kg		< 35			< 35	
Clopyralid	DETSC 3447	35	ug/kg		< 35			< 35	
Dicamba	DETSC 3447	35	ug/kg		< 35			< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35			< 35	
Dichlorprop	DETSC 3447	35	ug/kg		< 35			< 35	
Bromoxynil	DETSC 3447	35	ug/kg		< 35			< 35	
Triclopyr	DETSC 3447	35	ug/kg		< 35			< 35	
Fenoprop	DETSC 3447	35	ug/kg		< 35			< 35	
MCPB	DETSC 3447*	35	ug/kg		< 35			< 35	
2,4,5-T	DETSC 3447	35	ug/kg		< 35			< 35	
Fluroxypyr	DETSC 3447	35	ug/kg		< 35			< 35	
2,4-DB	DETSC 3447	35	ug/kg		< 35			< 35	
Ioxynil	DETSC 3447	35	ug/kg		< 35			< 35	
Benazolin	DETSC 3447	35	ug/kg		< 35			< 35	
PCP	DETSC 3447*	35	ug/kg		< 35			< 35	
OCPs									
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202710	2202711	2202713	2202714	2202715	2202717
Sample ID	BH1	BH1	BH1	BH5	BH5	BH5
Depth	0.20	0.25	0.60	0.20	0.25	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/07/2023	10/07/2023	10/07/2023	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
OPPs									
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Naled	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Chlpyrifos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Triazines									
Atraton	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Prometon	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Simazine	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Atrazine	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Propazine	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Terbutylazine	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Secbumeton	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Symetryn	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Ametryn	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Prometryne	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Terbutryn	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Subcontracted Analysis									
Faecal coliforms	\$*	10	cfu/g	<10			<10		
Total coliforms	\$*	10	cfu/g	<10			<10		
Faecal Streptococci	\$*	10	cfu/g	< 20.0			< 20.0		

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202719	2202720	2202722	2202724	2202725	2202727
Sample ID	BH6	BH6	BH6	BH7	BH7	BH7
Depth	0.20	0.25	0.60	0.20	0.25	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/07/2023	10/07/2023	10/07/2023	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Preparation									
Dry Matter	DETSC 1004	0.1	%	84			81		
Moisture Content	DETSC 1004	0.1	%	16			19		
Metals									
Antimony	DETSC 2301*	1	mg/kg			1.5			2.1
Arsenic	DETSC 2301#	0.2	mg/kg			7.4			14
Barium	DETSC 2301#	1.5	mg/kg			86			240
Beryllium	DETSC 2301#	0.2	mg/kg			1.0			1.3
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.7		0.4	0.6		0.2
Cadmium	DETSC 2301#	0.1	mg/kg			< 0.1			< 0.1
Calcium	DETSC 2301*	1	mg/kg	3000			4500		
Chromium III	DETSC 2301*	0.15	mg/kg			19			21
Chromium, Hexavalent	DETSC 2204*	1	mg/kg			< 1.0			< 1.0
Copper	DETSC 2301#	0.2	mg/kg	27		21	24		33
Iron	DETSC 2301	25	mg/kg			42000			73000
Lead	DETSC 2301#	0.3	mg/kg			18			19
Magnesium	DETSC 2301*	1	mg/kg	2800			2300		
Manganese	DETSC 2301#	20	mg/kg	1400		1400	5800		3500
Mercury	DETSC 2325#	0.05	mg/kg			< 0.05			0.06
Molybdenum	DETSC 2301#	0.4	mg/kg	0.8		< 0.4	0.9		0.7
Nickel	DETSC 2301#	1	mg/kg			23			43
Phosphorus	DETSC 2301*	1	mg/kg	430			370		
Phosphate, Available	DETSC 2310*	0.3	mg/l	40			21		
Potassium	DETSC 2301*	1	mg/kg	900			1000		
Selenium	DETSC 2301#	0.5	mg/kg			0.7			1.8
Vanadium	DETSC 2301#	0.8	mg/kg			26			33
Zinc	DETSC 2301#	1	mg/kg	90		71	81		62
Inorganics									
pH	DETSC 2008#		pH			6.7			7.6
Cyanide, Free	DETSC 2130#	0.1	mg/kg			0.2			< 0.1
FOC	DETSC 2084#	0.001				0.012			0.016
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	6.8			3.8		
Carbonate (as CaCO3)	DETSC 2005	2.3	%	2.6			3.0		
Fluoride	DETSC 2055	1	mg/kg	1.9			4.9		
Nitrate as NO3	DETSC 2055	1	mg/kg	6.1			38		
Nitrate as N	*	1	mg/kg	2.3			7.0		
Nitrogen	DETSC 2121*	0.01	%	0.48			0.45		
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l			< 10			63
Sulphur as S, Total	DETSC 2320	0.01	%	0.03		0.02	0.05		0.02
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01			< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01			< 0.01



Summary of Chemical Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202719	2202720	2202722	2202724	2202725	2202727
Sample ID	BH6	BH6	BH6	BH7	BH7	BH7
Depth	0.20	0.25	0.60	0.20	0.25	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/07/2023	10/07/2023	10/07/2023	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01			< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5			< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2			< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5			< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4			< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg			< 3.4			< 3.4
Aliphatic C10-C44	DETSC 3072*	10	mg/kg			< 10			< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01			< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01			< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01			< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9			< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			< 0.5			< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			< 0.6			< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			< 1.4			< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg			< 1.4			< 1.4
Aromatic C10-C44	DETSC 3072*	10	mg/kg			< 10			< 10
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg			< 10			< 10
Benzene	DETSC 3321#	0.01	mg/kg			< 0.01			< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg			< 0.01			< 0.01
Toluene	DETSC 3321#	0.01	mg/kg			< 0.01			< 0.01
Xylene	DETSC 3321#	0.01	mg/kg			< 0.01			< 0.01
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg			< 0.03			< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg			< 0.03			< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg			< 0.03			< 0.03
Fluorene	DETSC 3303	0.03	mg/kg			< 0.03			< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg			< 0.03			< 0.03
Anthracene	DETSC 3303	0.03	mg/kg			< 0.03			< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03			< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg			< 0.03			< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg			< 0.03			< 0.03
Chrysene	DETSC 3303	0.03	mg/kg			< 0.03			< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg			0.03			< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03			< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg			< 0.03			< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg			< 0.03			< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg			< 0.03			< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg			< 0.03			0.05
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg			< 0.10			< 0.10
Phenols									
Phenol	DETSC 3451*	0.01	mg/kg			< 0.01			0.02
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg			< 0.01			< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202719	2202720	2202722	2202724	2202725	2202727
Sample ID	BH6	BH6	BH6	BH7	BH7	BH7
Depth	0.20	0.25	0.60	0.20	0.25	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/07/2023	10/07/2023	10/07/2023	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01			< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.01			< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg			< 0.01			0.02
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.01			< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01			< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01			< 0.01
Acid Herbicides									
Mecoprop	DETSC 3447	35	ug/kg		< 35			< 35	
2,4-D	DETSC 3447	35	ug/kg		< 35			< 35	
Bentazone	DETSC 3447	35	ug/kg		< 35			< 35	
Picloram	DETSC 3447	35	ug/kg		< 35			< 35	
MCPA	DETSC 3447	35	ug/kg		< 35			< 35	
Clopyralid	DETSC 3447	35	ug/kg		< 35			< 35	
Dicamba	DETSC 3447	35	ug/kg		< 35			< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35			< 35	
Dichlorprop	DETSC 3447	35	ug/kg		< 35			< 35	
Bromoxynil	DETSC 3447	35	ug/kg		< 35			< 35	
Triclopyr	DETSC 3447	35	ug/kg		< 35			< 35	
Fenoprop	DETSC 3447	35	ug/kg		< 35			< 35	
MCPB	DETSC 3447*	35	ug/kg		< 35			< 35	
2,4,5-T	DETSC 3447	35	ug/kg		< 35			< 35	
Fluroxypyr	DETSC 3447	35	ug/kg		< 35			< 35	
2,4-DB	DETSC 3447	35	ug/kg		< 35			< 35	
Ioxynil	DETSC 3447	35	ug/kg		< 35			< 35	
Benazolin	DETSC 3447	35	ug/kg		< 35			< 35	
PCP	DETSC 3447*	35	ug/kg		< 35			< 35	
OCPs									
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202719	2202720	2202722	2202724	2202725	2202727
Sample ID	BH6	BH6	BH6	BH7	BH7	BH7
Depth	0.20	0.25	0.60	0.20	0.25	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/07/2023	10/07/2023	10/07/2023	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
OPPs									
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Naled	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Chlopyrifos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Triazines									
Atraton	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Prometon	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Simazine	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Atrazine	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Propazine	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Terbutylazine	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Secbumeton	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Symetryn	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Ametryn	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Prometryne	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Terbutryn	DETSC 3433*	0.1	mg/kg		< 0.1			< 0.1	
Subcontracted Analysis									
Faecal coliforms	\$*	10	cfu/g	<10			I/S		
Total coliforms	\$*	10	cfu/g	<10			I/S		
Faecal Streptococci	\$*	10	cfu/g	< 20.0			I/S		

Summary of Chemical Analysis Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202729	2202730	2202732
Sample ID	BH8	BH8	BH8
Depth	0.20	0.25	0.60
Other ID			
Sample Type	ES	ES	ES
Sampling Date	10/07/2023	06/07/2023	10/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Preparation						
Dry Matter	DETSC 1004	0.1	%	83		
Moisture Content	DETSC 1004	0.1	%	17		
Metals						
Antimony	DETSC 2301*	1	mg/kg			1.4
Arsenic	DETSC 2301#	0.2	mg/kg			6.7
Barium	DETSC 2301#	1.5	mg/kg			73
Beryllium	DETSC 2301#	0.2	mg/kg			1.0
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.6		< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg			< 0.1
Calcium	DETSC 2301*	1	mg/kg	3000		
Chromium III	DETSC 2301*	0.15	mg/kg			14
Chromium, Hexavalent	DETSC 2204*	1	mg/kg			< 1.0
Copper	DETSC 2301#	0.2	mg/kg	27		17
Iron	DETSC 2301	25	mg/kg			41000
Lead	DETSC 2301#	0.3	mg/kg			14
Magnesium	DETSC 2301*	1	mg/kg	2800		
Manganese	DETSC 2301#	20	mg/kg	1400		790
Mercury	DETSC 2325#	0.05	mg/kg			< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	0.7		< 0.4
Nickel	DETSC 2301#	1	mg/kg			22
Phosphorus	DETSC 2301*	1	mg/kg	380		
Phosphate, Available	DETSC 2310*	0.3	mg/l	31		
Potassium	DETSC 2301*	1	mg/kg	830		
Selenium	DETSC 2301#	0.5	mg/kg			< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg			21
Zinc	DETSC 2301#	1	mg/kg	83		65
Inorganics						
pH	DETSC 2008#		pH			6.9
Cyanide, Free	DETSC 2130#	0.1	mg/kg			< 0.1
FOC	DETSC 2084#	0.001				0.012
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	4.9		
Carbonate (as CaCO3)	DETSC 2005	2.3	%	< 2.3		
Fluoride	DETSC 2055	1	mg/kg	1.9		
Nitrate as NO3	DETSC 2055	1	mg/kg	11		
Nitrate as N	*	1	mg/kg	3.0		
Nitrogen	DETSC 2121*	0.01	%	0.44		
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l			10
Sulphur as S, Total	DETSC 2320	0.01	%	0.03		0.01
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202729	2202730	2202732
Sample ID	BH8	BH8	BH8
Depth	0.20	0.25	0.60
Other ID			
Sample Type	ES	ES	ES
Sampling Date	10/07/2023	06/07/2023	10/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg			< 3.4
Aliphatic C10-C44	DETSC 3072*	10	mg/kg			< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg			< 1.4
Aromatic C10-C44	DETSC 3072*	10	mg/kg			< 10
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg			< 10
Benzene	DETSC 3321#	0.01	mg/kg			< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg			< 0.01
Toluene	DETSC 3321#	0.01	mg/kg			< 0.01
Xylene	DETSC 3321#	0.01	mg/kg			< 0.01
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg			< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg			< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg			< 0.03
Fluorene	DETSC 3303	0.03	mg/kg			< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg			< 0.03
Anthracene	DETSC 3303	0.03	mg/kg			< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg			< 0.03
Chrysene	DETSC 3303	0.03	mg/kg			< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg			< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg			< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg			< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg			< 0.10
Phenols						
Phenol	DETSC 3451*	0.01	mg/kg			0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg			< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202729	2202730	2202732
Sample ID	BH8	BH8	BH8
Depth	0.20	0.25	0.60
Other ID			
Sample Type	ES	ES	ES
Sampling Date	10/07/2023	06/07/2023	10/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg			< 0.01
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01
Acid Herbicides						
Mecoprop	DETSC 3447	35	ug/kg		< 35	
2,4-D	DETSC 3447	35	ug/kg		< 35	
Bentazone	DETSC 3447	35	ug/kg		< 35	
Picloram	DETSC 3447	35	ug/kg		< 35	
MCPA	DETSC 3447	35	ug/kg		< 35	
Clopyralid	DETSC 3447	35	ug/kg		< 35	
Dicamba	DETSC 3447	35	ug/kg		< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35	
Dichlorprop	DETSC 3447	35	ug/kg		< 35	
Bromoxynil	DETSC 3447	35	ug/kg		< 35	
Triclopyr	DETSC 3447	35	ug/kg		< 35	
Fenoprop	DETSC 3447	35	ug/kg		< 35	
MCPB	DETSC 3447*	35	ug/kg		< 35	
2,4,5-T	DETSC 3447	35	ug/kg		< 35	
Fluroxypyr	DETSC 3447	35	ug/kg		< 35	
2,4-DB	DETSC 3447	35	ug/kg		< 35	
Ioxynil	DETSC 3447	35	ug/kg		< 35	
Benazolin	DETSC 3447	35	ug/kg		< 35	
PCP	DETSC 3447*	35	ug/kg		< 35	
OCPs						
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1	
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1	

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202729	2202730	2202732
Sample ID	BH8	BH8	BH8
Depth	0.20	0.25	0.60
Other ID			
Sample Type	ES	ES	ES
Sampling Date	10/07/2023	06/07/2023	10/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1	
OPPs						
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1	
Naled	DETSC 3433*	0.1	mg/kg		< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1	
Chlorpyrifos	DETSC 3433*	0.1	mg/kg		< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1	
Triazines						
Atraton	DETSC 3433*	0.1	mg/kg		< 0.1	
Prometon	DETSC 3433*	0.1	mg/kg		< 0.1	
Simazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Atrazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Propazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Terbutylazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Secbumeton	DETSC 3433*	0.1	mg/kg		< 0.1	
Symetryn	DETSC 3433*	0.1	mg/kg		< 0.1	
Ametryn	DETSC 3433*	0.1	mg/kg		< 0.1	
Prometryne	DETSC 3433*	0.1	mg/kg		< 0.1	
Terbutryn	DETSC 3433*	0.1	mg/kg		< 0.1	
Subcontracted Analysis						
Faecal coliforms	\$*	10	cfu/g	<10		
Total coliforms	\$*	10	cfu/g	<10		
Faecal Streptococci	\$*	10	cfu/g	< 20.0		

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202711	2202713	2202717	2202722	2202727	2202732
Sample ID	BH1	BH1	BH5	BH6	BH7	BH8
Depth	0.25	0.60	0.60	0.60	0.60	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/07/2023	10/07/2023	06/07/2023	10/07/2023	06/07/2023	10/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
VOCs									
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202711	2202713	2202717	2202722	2202727	2202732
Sample ID	BH1	BH1	BH5	BH6	BH7	BH8
Depth	0.25	0.60	0.60	0.60	0.60	0.60
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	10/07/2023	10/07/2023	06/07/2023	10/07/2023	06/07/2023	10/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Leachate Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2202733	2202734	2202735	2202736	2202737
Sample ID	BH1	BH5	BH6	BH8	BH7
Depth	0.50	0.50	0.50	0.50	0.50
Other ID					
Sample Type	ES	ES	ES	ES	ES
Sampling Date	10/07/2023	06/07/2023	10/07/2023	10/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Preparation								
BS EN 12457 10:1	DETSC 1009*			Y	Y	Y	Y	Y
Metals								
Antimony, Dissolved	DETSC 2306	0.0002	mg/l	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Arsenic, Dissolved	DETSC 2306	0.001	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Barium, Dissolved	DETSC 2306	0.0003	mg/l	0.0029	0.0028	0.0015	0.0016	0.0058
Beryllium, Dissolved	DETSC 2306*	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Boron, Dissolved	DETSC 2306*	0.012	mg/l	< 0.012	< 0.012	< 0.012	< 0.012	0.013
Cadmium, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Calcium, Dissolved	DETSC 2306	0.09	mg/l	1.4	1.6	1.0	1.5	7.4
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.0004	mg/l	< 0.0004	0.0005	< 0.0004	< 0.0004	0.0005
Iron, Dissolved	DETSC 2306	0.0055	mg/l	0.14	0.35	0.068	0.057	0.011
Lead, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001	0.0002	< 0.0001	< 0.0001	< 0.0001
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	0.17	0.28	0.08	0.13	1.1
Manganese, Dissolved	DETSC 2306	0.0002	mg/l	0.0013	0.0029	0.0018	0.0007	0.0038
Mercury, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Molybdenum, Dissolved	DETSC 2306	0.0011	mg/l	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Nickel, Dissolved	DETSC 2306	0.0005	mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Selenium, Dissolved	DETSC 2306	0.0003	mg/l	< 0.0003	< 0.0003	< 0.0003	< 0.0003	0.0005
Vanadium, Dissolved	DETSC 2306	0.0006	mg/l	< 0.0006	< 0.0006	< 0.0006	< 0.0006	< 0.0006
Zinc, Dissolved	DETSC 2306	0.0013	mg/l	< 0.0013	0.0023	< 0.0013	< 0.0013	< 0.0013
Inorganics								
pH	DETSC 2008		pH	8.7	8.3	8.0	7.7	6.8
Cyanide, Total Low Level	DETSC 2131	0.0001	mg/l	0.0002	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Cyanide, Complex Low Level	DETSC 2131	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	1.9	0.020	< 0.015	< 0.015	< 0.015
Chloride	DETSC 2055	0.1	mg/l	1.2	0.58	0.48	0.65	1.5
Fluoride	DETSC 2055*	0.1	mg/l	< 0.10	0.11	< 0.10	< 0.10	0.16
Sulphate as SO4	DETSC 2055	0.1	mg/l	2.3	1.4	0.81	1.6	14
Phenols								
Phenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Chloro-3-methylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
p-cresol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,6-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,6-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-Trichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id BH5 0.75

Sample Numbers 2202718 2202738

Date Analysed 03/08/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETS 2084# Total Organic Carbon	%	1.4	3	5	6
DETS 2003# Loss On Ignition	%	6.2	n/a	n/a	10
DETS 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETS 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETS 3311# TPH (C10 - C40)	mg/kg	93.0	500	n/a	n/a
DETS 3301 PAHs	mg/kg	23.0	100	n/a	n/a
DETS 2008# pH	pH Units	7.3	n/a	>6	n/a
DETS 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETS 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETS 2306 Arsenic as As	0.17	< 0.01	0.5	2	25
DETS 2306 Barium as Ba	2.6	< 0.1	20	100	300
DETS 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETS 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETS 2306 Copper as Cu	< 0.40	< 0.02	2	50	100
DETS 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETS 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETS 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETS 2306 Lead as Pb	< 0.090	< 0.05	0.5	10	50
DETS 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETS 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETS 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETS 2055 Chloride as Cl	1000	< 100	800	15,000	25,000
DETS 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETS 2055 Sulphate as SO4	3000	< 100	1000	20,000	50,000
DETS 2009* Total Dissolved Solids	15000	150	4000	60,000	100,000
DETS 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETS 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

Additional Information	
DETS 2008 pH	6.4
DETS 2009 Conductivity uS/cm	20.7
* Temperature*	19.0
Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.099
Stage 1	
Volume of Leachant L2*	0.965
Volume of Eluate VE1*	0.91

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id BH6 0.75

Sample Numbers 2202723 2202739

Date Analysed 03/08/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.0	3	5	6
DETSC 2003# Loss On Ignition	%	4.5	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	6.7	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	< 0.16	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	1.3	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	< 0.40	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.090	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETSC 2055 Chloride as Cl	680	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETSC 2055 Sulphate as SO4	1200	< 100	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	14000	140	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

Additional Information	
DETSC 2008 pH	6.5
DETSC 2009 Conductivity uS/cm	19.3
* Temperature*	19.0
Mass of Sample Kg*	0.120
Mass of dry Sample Kg*	0.096
Stage 1	
Volume of Leachant L2*	0.934
Volume of Eluate VE1*	0.88

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id BH7 0.75

Sample Numbers 2202728 2202740

Date Analysed 03/08/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETSC 2084# Total Organic Carbon	%	1.8	3	5	6
DETSC 2003# Loss On Ignition	%	7.4	n/a	n/a	10
DETSC 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETSC 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETSC 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETSC 2008# pH	pH Units	7.5	n/a	>6	n/a
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETSC 2306 Arsenic as As	< 0.16	< 0.01	0.5	2	25
DETSC 2306 Barium as Ba	4.8	< 0.1	20	100	300
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETSC 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETSC 2306 Copper as Cu	0.48	< 0.02	2	50	100
DETSC 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETSC 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETSC 2306 Lead as Pb	< 0.090	< 0.05	0.5	10	50
DETSC 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETSC 2306 Selenium as Se	0.29	< 0.03	0.1	0.5	7
DETSC 2306 Zinc as Zn	1.7	0.017	4	50	200
DETSC 2055 Chloride as Cl	1500	< 100	800	15,000	25,000
DETSC 2055* Fluoride as F	200	2	10	150	500
DETSC 2055 Sulphate as SO4	13000	130	1000	20,000	50,000
DETSC 2009* Total Dissolved Solids	45000	450	4000	60,000	100,000
DETSC 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETSC 2085 Dissolved Organic Carbon	< 2000	< 50	500	800	1000

Additional Information	
DETSC 2008 pH	6.6
DETSC 2009 Conductivity uS/cm	64.3
* Temperature*	19.0
Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.100
Stage 1	
Volume of Leachant L2*	0.968
Volume of Eluate VE1*	0.91

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

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Summary of Asbestos Analysis

Soil Samples

Our Ref 23-16804

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2202711	BH1 0.25	SOIL	NAD	none	Ben Rose
2202713	BH1 0.60	SOIL	NAD	none	Ben Rose
2202717	BH5 0.60	SOIL	NAD	none	Ben Rose
2202722	BH6 0.60	SOIL	NAD	none	Ben Rose
2202727	BH7 0.60	SOIL	NAD	none	Ben Rose
2202732	BH8 0.60	SOIL	NAD	none	Ben Rose

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-16804
 Client Ref D30024
 Contract DEARNE REACH 1 - DEFINITION

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2202710	BH1 0.20 SOIL	10/07/23	GJ 250ml, GJ 60ml, PT 1L x2		
2202711	BH1 0.25 SOIL	10/07/23	PT 1L		Acid Herbicides, Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, OC Pesticides, OP Pesticides, PAH MS, Phenols MS, Triazines, VOC
2202712	BH1 0.50 SOIL	10/07/23	PT 1L		
2202713	BH1 0.60 SOIL	10/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2202714	BH5 0.20 SOIL	06/07/23	GJ 250ml, GJ 60ml, PT 1L x2	Ammonia (3 days)	
2202715	BH5 0.25 SOIL	06/07/23	PT 1L		Acid Herbicides, OC Pesticides, OP Pesticides, Triazines
2202716	BH5 0.50 SOIL	06/07/23	PT 1L		
2202717	BH5 0.60 SOIL	06/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2202718	BH5 0.75 SOIL	06/07/23	PT 1L		BTEX / C5-C10, Naphthalene, PAH FID, PCB, EPH/TPH
2202719	BH6 0.20 SOIL	10/07/23	GJ 250ml, GJ 60ml, PT 1L x2		
2202720	BH6 0.25 SOIL	10/07/23	PT 1L		Acid Herbicides, OC Pesticides, OP Pesticides, Triazines
2202721	BH6 0.50 SOIL	10/07/23	PT 1L		
2202722	BH6 0.60 SOIL	10/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2202723	BH6 0.75 SOIL	10/07/23	PT 1L		BTEX / C5-C10, Naphthalene, PAH FID, PCB, EPH/TPH
2202724	BH7 0.20 SOIL	06/07/23	GJ 250ml, GJ 60ml, PT 1L x2	Ammonia (3 days)	
2202725	BH7 0.25 SOIL	06/07/23	PT 1L		Acid Herbicides, OC Pesticides, OP Pesticides, Triazines
2202726	BH7 0.50 SOIL	06/07/23	GJ 250ml, GJ 60ml, PT 1L		
2202727	BH7 0.60 SOIL	06/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2202728	BH7 0.75 SOIL	06/07/23	PT 1L		BTEX / C5-C10, Naphthalene, PAH FID, PCB, EPH/TPH
2202729	BH8 0.20 SOIL	10/07/23	GJ 250ml, GJ 60ml, PT 1L x2		
2202730	BH8 0.25 SOIL	06/07/23	PT 1L		Acid Herbicides, OC Pesticides, OP Pesticides, Triazines
2202731	BH8 0.50 SOIL	10/07/23	PT 1L		
2202732	BH8 0.60 SOIL	10/07/23	PT 1L		Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2202733	BH1 0.50 LEACHATE	10/07/23	PT 1L		

Information in Support of the Analytical Results

Our Ref 23-16804
 Client Ref D30024
 Contract DEARNE REACH 1 - DEFINITION

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2202734	BH5 0.50 LEACHATE	06/07/23	PT 1L		
2202735	BH6 0.50 LEACHATE	10/07/23	PT 1L		
2202736	BH8 0.50 LEACHATE	10/07/23	PT 1L		
2202737	BH7 0.50 LEACHATE	06/07/23	GJ 250ml, GJ 60ml, PT 1L		
2202738	BH5 0.75 LEACHATE	06/07/23	PT 1L		
2202739	BH6 0.75 LEACHATE	10/07/23	PT 1L		
2202740	BH7 0.75 LEACHATE	06/07/23	PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO ₄	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO ₄	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

End of Report



Certificate of Analysis

Certificate Number 23-16908

Issued: 14-Aug-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-16908

Client Reference D30024

Order No 0725-D30024-BC

Contract Title DEARNE REACH 1 - DEFINITION

Description 3 Soil samples, 2 Leachate samples.

Date Received 14-Jul-23

Date Started 14-Jul-23

Date Completed 14-Aug-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By

A handwritten signature in black ink, appearing to read "K. Bridgewood".

Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Matrix Descriptions

Our Ref 23-16908

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample ID	Depth	Lab No	Completed	Matrix Description
BH2	0.2	2203362	14/08/2023	Brown slightly gravelly, sandy CLAY including numerous rootlets
BH2	0.25	2203363	14/08/2023	Brown slightly gravelly, sandy CLAY including numerous rootlets

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16908

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2203362	2203363	2203364
Sample ID	BH2	BH2	BH2
Depth	0.20	0.25	0.35
Other ID			
Sample Type	ES	ES	ES
Sampling Date	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Preparation						
Dry Matter	DETSC 1004	0.1	%	65		
Moisture Content	DETSC 1004	0.1	%	35		
Metals						
Antimony	DETSC 2301*	1	mg/kg			2.1
Arsenic	DETSC 2301#	0.2	mg/kg			11
Barium	DETSC 2301#	1.5	mg/kg			340
Beryllium	DETSC 2301#	0.2	mg/kg			0.5
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.5		0.3
Cadmium	DETSC 2301#	0.1	mg/kg			0.3
Calcium	DETSC 2301*	1	mg/kg	190000		
Chromium III	DETSC 2301*	0.15	mg/kg			8.5
Chromium, Hexavalent	DETSC 2204*	1	mg/kg			< 1.0
Copper	DETSC 2301#	0.2	mg/kg	65		160
Iron	DETSC 2301	25	mg/kg			22000
Lead	DETSC 2301#	0.3	mg/kg			66
Magnesium	DETSC 2301*	1	mg/kg	26000		
Manganese	DETSC 2301#	20	mg/kg	190		530
Mercury	DETSC 2325#	0.05	mg/kg			0.16
Molybdenum	DETSC 2301#	0.4	mg/kg	3.3		2.5
Nickel	DETSC 2301#	1	mg/kg			13
Phosphorus	DETSC 2301*	1	mg/kg	180		
Phosphate, Available	DETSC 2310*	0.3	mg/l	24		
Potassium	DETSC 2301*	1	mg/kg	400		
Selenium	DETSC 2301#	0.5	mg/kg			< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg			29
Zinc	DETSC 2301#	1	mg/kg	120		140
Inorganics						
pH	DETSC 2008#		pH			8.0
Cyanide, Free	DETSC 2130#	0.1	mg/kg			0.2
FOC	DETSC 2084#	0.001				0.026
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	7.3		
Carbonate (as CaCO3)	DETSC 2005	2.3	%	< 2.3		
Fluoride	DETSC 2055	1	mg/kg	1.1		
Nitrate as NO3	DETSC 2055	1	mg/kg	25		
Nitrate as N	*	1	mg/kg	4.6		
Nitrogen	DETSC 2121*	0.01	%	0.55		
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l			14
Sulphur as S, Total	DETSC 2320	0.01	%	0.06		0.07
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16908

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2203362	2203363	2203364
Sample ID	BH2	BH2	BH2
Depth	0.20	0.25	0.35
Other ID			
Sample Type	ES	ES	ES
Sampling Date	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg			< 3.4
Aliphatic C10-C44	DETSC 3072*	10	mg/kg			< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg			< 1.4
Aromatic C10-C44	DETSC 3072*	10	mg/kg			< 10
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg			< 10
Benzene	DETSC 3321#	0.01	mg/kg			< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg			< 0.01
Toluene	DETSC 3321#	0.01	mg/kg			< 0.01
Xylene	DETSC 3321#	0.01	mg/kg			< 0.01
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg			< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg			< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg			< 0.03
Fluorene	DETSC 3303	0.03	mg/kg			< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg			< 0.03
Anthracene	DETSC 3303	0.03	mg/kg			< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg			< 0.03
Chrysene	DETSC 3303	0.03	mg/kg			< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg			< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg			< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg			< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg			< 0.10
Phenols						
Phenol	DETSC 3451*	0.01	mg/kg			< 0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg			< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16908

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2203362	2203363	2203364
Sample ID	BH2	BH2	BH2
Depth	0.20	0.25	0.35
Other ID			
Sample Type	ES	ES	ES
Sampling Date	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg			< 0.01
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01
Acid Herbicides						
Mecoprop	DETSC 3447	35	ug/kg		< 35	
2,4-D	DETSC 3447	35	ug/kg		< 35	
Bentazone	DETSC 3447	35	ug/kg		< 35	
Picloram	DETSC 3447	35	ug/kg		< 35	
MCPA	DETSC 3447	35	ug/kg		< 35	
Clopyralid	DETSC 3447	35	ug/kg		< 35	
Dicamba	DETSC 3447	35	ug/kg		< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35	
Dichlorprop	DETSC 3447	35	ug/kg		< 35	
Bromoxynil	DETSC 3447	35	ug/kg		< 35	
Triclopyr	DETSC 3447	35	ug/kg		< 35	
Fenoprop	DETSC 3447	35	ug/kg		< 35	
MCPB	DETSC 3447*	35	ug/kg		< 35	
2,4,5-T	DETSC 3447	35	ug/kg		< 35	
Fluroxypyr	DETSC 3447	35	ug/kg		< 35	
2,4-DB	DETSC 3447	35	ug/kg		< 35	
Ioxynil	DETSC 3447	35	ug/kg		< 35	
Benazolin	DETSC 3447	35	ug/kg		< 35	
PCP	DETSC 3447*	35	ug/kg		< 35	
OCPs						
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1	
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1	

Summary of Chemical Analysis

Soil Samples

Our Ref 23-16908

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2203362	2203363	2203364
Sample ID	BH2	BH2	BH2
Depth	0.20	0.25	0.35
Other ID			
Sample Type	ES	ES	ES
Sampling Date	06/07/2023	06/07/2023	06/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1	
OPPs						
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1	
Naled	DETSC 3433*	0.1	mg/kg		< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1	
Chlorpyrifos	DETSC 3433*	0.1	mg/kg		< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1	
Triazines						
Atraton	DETSC 3433*	0.1	mg/kg		< 0.1	
Prometon	DETSC 3433*	0.1	mg/kg		< 0.1	
Simazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Atrazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Propazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Terbutylazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Secbumeton	DETSC 3433*	0.1	mg/kg		< 0.1	
Symetryn	DETSC 3433*	0.1	mg/kg		< 0.1	
Ametryn	DETSC 3433*	0.1	mg/kg		< 0.1	
Prometryne	DETSC 3433*	0.1	mg/kg		< 0.1	
Terbutryn	DETSC 3433*	0.1	mg/kg		< 0.1	
Subcontracted Analysis						
Faecal coliforms	\$*	10	cfu/g	<10		
Total coliforms	\$*	10	cfu/g	<10		
Faecal Streptococci	\$*	10	cfu/g	< 20.0		

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16908

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2203364
Sample ID	BH2
Depth	0.35
Other ID	
Sample Type	ES
Sampling Date	06/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-16908

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2203364
Sample ID	BH2
Depth	0.35
Other ID	
Sample Type	ES
Sampling Date	06/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01

Summary of Chemical Analysis

Leachate Samples

Our Ref 23-16908

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2203365
Sample ID	BH2
Depth	0.35
Other ID	
Sample Type	ES
Sampling Date	06/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Antimony, Dissolved	DETSC 2306	0.0002	mg/l	< 0.0002
Arsenic, Dissolved	DETSC 2306	0.001	mg/l	< 0.001
Barium, Dissolved	DETSC 2306	0.0003	mg/l	0.0015
Beryllium, Dissolved	DETSC 2306*	0.0001	mg/l	< 0.0001
Boron, Dissolved	DETSC 2306*	0.012	mg/l	< 0.012
Cadmium, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001
Calcium, Dissolved	DETSC 2306	0.09	mg/l	1.6
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.0004	mg/l	0.0006
Iron, Dissolved	DETSC 2306	0.0055	mg/l	0.30
Lead, Dissolved	DETSC 2306	0.0001	mg/l	0.0003
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	0.15
Manganese, Dissolved	DETSC 2306	0.0002	mg/l	0.0025
Mercury, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001
Molybdenum, Dissolved	DETSC 2306	0.0011	mg/l	< 0.0011
Nickel, Dissolved	DETSC 2306	0.0005	mg/l	< 0.0005
Selenium, Dissolved	DETSC 2306	0.0003	mg/l	< 0.0003
Vanadium, Dissolved	DETSC 2306	0.0006	mg/l	0.0009
Zinc, Dissolved	DETSC 2306	0.0013	mg/l	< 0.0013
Inorganics				
pH	DETSC 2008		pH	9.7
Cyanide, Total Low Level	DETSC 2131	0.0001	mg/l	< 0.0001
Cyanide, Complex Low Level	DETSC 2131	0.0001	mg/l	< 0.0001
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.026
Chloride	DETSC 2055	0.1	mg/l	0.99
Fluoride	DETSC 2055*	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.7
Phenols				
Phenol	DETSC 3451*	0.1	ug/l	< 0.10
4-Chloro-3-methylphenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10
p-cresol	DETSC 3451*	0.1	ug/l	< 0.10
2,6-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10
2,6-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4,6-Trichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-16908

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id BH2 0.35

Sample Numbers 2203364 2203366

Date Analysed 07/08/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETS 2084# Total Organic Carbon	%	2.6	3	5	6
DETS 2003# Loss On Ignition	%	7.9	n/a	n/a	10
DETS 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETS 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETS 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETS 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETS 2008# pH	pH Units	8.0	n/a	>6	n/a
DETS 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETS 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETS 2306 Arsenic as As	0.32	< 0.01	0.5	2	25
DETS 2306 Barium as Ba	2.9	< 0.1	20	100	300
DETS 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETS 2306 Chromium as Cr	1	< 0.1	0.5	10	70
DETS 2306 Copper as Cu	0.86	< 0.02	2	50	100
DETS 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETS 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETS 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETS 2306 Lead as Pb	0.67	< 0.05	0.5	10	50
DETS 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETS 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETS 2306 Zinc as Zn	2.2	0.022	4	50	200
DETS 2055 Chloride as Cl	1300	< 100	800	15,000	25,000
DETS 2055* Fluoride as F	< 100	< 0.1	10	150	500
DETS 2055 Sulphate as SO4	1900	< 100	1000	20,000	50,000
DETS 2009* Total Dissolved Solids	88000	880	4000	60,000	100,000
DETS 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETS 2033* Dissolved Organic Carbon	4400	< 50	500	800	1000

Additional Information	
DETS 2008 pH	7.0
DETS 2009 Conductivity uS/cm	126.0
* Temperature*	17.0
Mass of Sample Kg*	0.110
Mass of dry Sample Kg*	0.098
Stage 1	
Volume of Leachant L2*	0.97
Volume of Eluate VE1*	0.92

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

* DETS are accredited for the testing of leachates and not the leachate preparation stage which is unaccredited.

Summary of Asbestos Analysis Soil Samples

Our Ref 23-16908

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2203364	BH2 0.35	SOIL	NAD	none	Ben Rose

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-16908
 Client Ref D30024
 Contract DEARNE REACH 1 - DEFINITION

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2203362	BH2 0.20 SOIL	06/07/23	GJ 250ml, GJ 60ml, PT 1L x2	Ammonia (3 days), Total Sulphur ICP (7 days)	
2203363	BH2 0.25 SOIL	06/07/23	PT 1L		Acid Herbicides, OC Pesticides, OP Pesticides, Triazines
2203364	BH2 0.35 SOIL	06/07/23	GJ 250ml, GJ 60ml, PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days), VOC (7 days)	
2203365	BH2 0.35 LEACHATE	06/07/23	GJ 250ml, GJ 60ml, PT 1L		
2203366	BH2 0.35 LEACHATE	06/07/23	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO ₄	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO ₄	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

End of Report



Certificate of Analysis

Certificate Number 23-17143

Issued: 14-Aug-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-17143

Client Reference D30024

Order No PO0717

Contract Title DEARNE REACH 1 - DEFINITION

Description 4 Soil samples, 1 Leachate sample.

Date Received 18-Jul-23

Date Started 18-Jul-23

Date Completed 14-Aug-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By

A handwritten signature in black ink, appearing to read "K. Bridgewood".

Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Matrix Descriptions

Our Ref 23-17143

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample ID	Depth	Lab No	Completed	Matrix Description
BH3	0.2	2204872	14/08/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
BH3	0.25	2204873	14/08/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
BH3	0.5	2204874	14/08/2023	Brown slightly gravelly, sandy CLAY including odd rootlets
BH3	0.6	2204875	14/08/2023	Brown slightly gravelly, sandy CLAY including odd rootlets

Summary of Chemical Analysis

Soil Samples

Our Ref 23-17143

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2204872	2204873	2204875
Sample ID	BH3	BH3	BH3
Depth	0.20	0.25	0.60
Other ID			
Sample Type	ES	ES	ES
Sampling Date	05/07/2023	05/07/2023	10/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Preparation						
Dry Matter	DETSC 1004	0.1	%	84		
Moisture Content	DETSC 1004	0.1	%	16		
Metals						
Antimony	DETSC 2301*	1	mg/kg			1.8
Arsenic	DETSC 2301#	0.2	mg/kg			7.9
Barium	DETSC 2301#	1.5	mg/kg			130
Beryllium	DETSC 2301#	0.2	mg/kg			1.1
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	0.5		< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg			< 0.1
Calcium	DETSC 2301*	1	mg/kg	6100		
Chromium III	DETSC 2301*	0.15	mg/kg			17
Chromium, Hexavalent	DETSC 2204*	1	mg/kg			< 1.0
Copper	DETSC 2301#	0.2	mg/kg	28		26
Iron	DETSC 2301	25	mg/kg			27000
Lead	DETSC 2301#	0.3	mg/kg			15
Magnesium	DETSC 2301*	1	mg/kg	1900		
Manganese	DETSC 2301#	20	mg/kg	1000		990
Mercury	DETSC 2325#	0.05	mg/kg			0.07
Molybdenum	DETSC 2301#	0.4	mg/kg	1.1		0.6
Nickel	DETSC 2301#	1	mg/kg			25
Phosphorus	DETSC 2301*	1	mg/kg	680		
Phosphate, Available	DETSC 2310*	0.3	mg/l	61		
Potassium	DETSC 2301*	1	mg/kg	700		
Selenium	DETSC 2301#	0.5	mg/kg			< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg			26
Zinc	DETSC 2301#	1	mg/kg	86		68
Inorganics						
pH	DETSC 2008#		pH			6.7
Cyanide, Free	DETSC 2130#	0.1	mg/kg			0.1
FOC	DETSC 2084#	0.001				0.006
Ammoniacal Nitrogen as N	DETSC 2119#	0.5	mg/kg	24		
Carbonate (as CaCO3)	DETSC 2005	2.3	%	2.4		
Fluoride	DETSC 2055	1	mg/kg	< 1.0		
Nitrate as NO3	DETSC 2055	1	mg/kg	4.1		
Nitrate as N	*	1	mg/kg	19		
Nitrogen	DETSC 2121*	0.01	%	0.70		
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l			12
Sulphur as S, Total	DETSC 2320	0.01	%	0.04		< 0.01
Petroleum Hydrocarbons						
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 23-17143

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2204872	2204873	2204875
Sample ID	BH3	BH3	BH3
Depth	0.20	0.25	0.60
Other ID			
Sample Type	ES	ES	ES
Sampling Date	05/07/2023	05/07/2023	10/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg			< 3.4
Aliphatic C10-C44	DETSC 3072*	10	mg/kg			< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			< 1.4
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg			< 1.4
Aromatic C10-C44	DETSC 3072*	10	mg/kg			< 10
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg			< 10
Benzene	DETSC 3321#	0.01	mg/kg			< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg			< 0.01
Toluene	DETSC 3321#	0.01	mg/kg			< 0.01
Xylene	DETSC 3321#	0.01	mg/kg			< 0.01
PAHs						
Naphthalene	DETSC 3303#	0.03	mg/kg			< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg			< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg			< 0.03
Fluorene	DETSC 3303	0.03	mg/kg			< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg			< 0.03
Anthracene	DETSC 3303	0.03	mg/kg			< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg			< 0.03
Chrysene	DETSC 3303	0.03	mg/kg			< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg			< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg			< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg			< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg			< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg			< 0.10
Phenols						
Phenol	DETSC 3451*	0.01	mg/kg			< 0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg			< 0.01

Summary of Chemical Analysis Soil Samples

Our Ref 23-17143

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2204872	2204873	2204875
.Sample ID	BH3	BH3	BH3
Depth	0.20	0.25	0.60
Other ID			
Sample Type	ES	ES	ES
Sampling Date	05/07/2023	05/07/2023	10/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg			< 0.01
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01
Acid Herbicides						
Mecoprop	DETSC 3447	35	ug/kg		< 35	
2,4-D	DETSC 3447	35	ug/kg		< 35	
Bentazone	DETSC 3447	35	ug/kg		< 35	
Picloram	DETSC 3447	35	ug/kg		< 35	
MCPA	DETSC 3447	35	ug/kg		< 35	
Clopyralid	DETSC 3447	35	ug/kg		< 35	
Dicamba	DETSC 3447	35	ug/kg		< 35	
2,3,6-TBA	DETSC 3447	35	ug/kg		< 35	
Dichlorprop	DETSC 3447	35	ug/kg		< 35	
Bromoxynil	DETSC 3447	35	ug/kg		< 35	
Triclopyr	DETSC 3447	35	ug/kg		< 35	
Fenoprop	DETSC 3447	35	ug/kg		< 35	
MCPB	DETSC 3447*	35	ug/kg		< 35	
2,4,5-T	DETSC 3447	35	ug/kg		< 35	
Fluroxypyr	DETSC 3447	35	ug/kg		< 35	
2,4-DB	DETSC 3447	35	ug/kg		< 35	
Ioxynil	DETSC 3447	35	ug/kg		< 35	
Benazolin	DETSC 3447	35	ug/kg		< 35	
PCP	DETSC 3447*	35	ug/kg		< 35	
OCPs						
alpha-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	
gamma-BHC (Lindane)	DETSC 3433*	0.1	mg/kg		< 0.1	
beta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	
delta-BHC	DETSC 3433*	0.1	mg/kg		< 0.1	
Heptachlor	DETSC 3433*	0.1	mg/kg		< 0.1	
Aldrin	DETSC 3433*	0.1	mg/kg		< 0.1	
Heptachlor epoxide	DETSC 3433*	0.1	mg/kg		< 0.1	
gamma-Chlordane	DETSC 3433*	0.1	mg/kg		< 0.1	
Endosulphan I & Alpha-chlorodane	DETSC 3433*	0.1	mg/kg		< 0.1	
4,4-DDE	DETSC 3433*	0.1	mg/kg		< 0.1	
Dieldrin	DETSC 3433*	0.1	mg/kg		< 0.1	
Endrin	DETSC 3433*	0.1	mg/kg		< 0.1	
Endosulphan II & 4,4-DDD	DETSC 3433*	0.1	mg/kg		< 0.1	
Endrin aldehyde	DETSC 3433*	0.1	mg/kg		< 0.1	
4,4-DDT	DETSC 3433*	0.1	mg/kg		< 0.1	

Summary of Chemical Analysis

Soil Samples

Our Ref 23-17143

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2204872	2204873	2204875
Sample ID	BH3	BH3	BH3
Depth	0.20	0.25	0.60
Other ID			
Sample Type	ES	ES	ES
Sampling Date	05/07/2023	05/07/2023	10/07/2023
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Endosulphan sulphate	DETSC 3433*	0.1	mg/kg		< 0.1	
Methoxychlor	DETSC 3433*	0.1	mg/kg		< 0.1	
Endrin ketone	DETSC 3433*	0.1	mg/kg		< 0.1	
OPPs						
Dichlorvos	DETSC 3433*	0.1	mg/kg		< 0.1	
Mevinphos	DETSC 3433*	0.1	mg/kg		< 0.1	
Demeton-O	DETSC 3433*	0.1	mg/kg		< 0.1	
Ethoprop	DETSC 3433*	0.1	mg/kg		< 0.1	
Naled	DETSC 3433*	0.1	mg/kg		< 0.1	
Phorate	DETSC 3433*	0.1	mg/kg		< 0.1	
Demeton-S	DETSC 3433*	0.1	mg/kg		< 0.1	
Diazinon	DETSC 3433*	0.1	mg/kg		< 0.1	
Disulfoton	DETSC 3433*	0.1	mg/kg		< 0.1	
Methylparathion	DETSC 3433*	0.1	mg/kg		< 0.1	
Ronnel	DETSC 3433*	0.1	mg/kg		< 0.1	
Fenthion	DETSC 3433*	0.1	mg/kg		< 0.1	
Chlorpyrifos	DETSC 3433*	0.1	mg/kg		< 0.1	
Trichlorinate	DETSC 3433*	0.1	mg/kg		< 0.1	
Merphos	DETSC 3433*	0.1	mg/kg		< 0.1	
Stirofos	DETSC 3433*	0.1	mg/kg		< 0.1	
Tokuthion	DETSC 3433*	0.1	mg/kg		< 0.1	
Fensulfothion	DETSC 3433*	0.1	mg/kg		< 0.1	
Bolstar	DETSC 3433*	0.1	mg/kg		< 0.1	
Azinphos methyl	DETSC 3433*	0.1	mg/kg		< 0.1	
Coumaphos	DETSC 3433*	0.1	mg/kg		< 0.1	
Triazines						
Atraton	DETSC 3433*	0.1	mg/kg		< 0.1	
Prometon	DETSC 3433*	0.1	mg/kg		< 0.1	
Simazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Atrazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Propazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Terbutylazine	DETSC 3433*	0.1	mg/kg		< 0.1	
Secbumeton	DETSC 3433*	0.1	mg/kg		< 0.1	
Symetryn	DETSC 3433*	0.1	mg/kg		< 0.1	
Ametryn	DETSC 3433*	0.1	mg/kg		< 0.1	
Prometryne	DETSC 3433*	0.1	mg/kg		< 0.1	
Terbutryn	DETSC 3433*	0.1	mg/kg		< 0.1	
Subcontracted Analysis						
Faecal coliforms	\$*	10	cfu/g	<10		
Total coliforms	\$*	10	cfu/g	<10		
Faecal Streptococci	\$*	10	cfu/g	< 20.0		

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-17143

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2204875
Sample ID	BH3
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	10/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
VOCs				
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-17143

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2204875
Sample ID	BH3
Depth	0.60
Other ID	
Sample Type	ES
Sampling Date	10/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01

Summary of Chemical Analysis

Leachate Samples

Our Ref 23-17143

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2204876
Sample ID	BH3
Depth	0.50
Other ID	
Sample Type	ES
Sampling Date	10/07/2023
Sampling Time	n/s

Test	Method	LOD	Units	
Preparation				
BS EN 12457 10:1	DETSC 1009*			Y
Metals				
Antimony, Dissolved	DETSC 2306	0.0002	mg/l	< 0.0002
Arsenic, Dissolved	DETSC 2306	0.001	mg/l	< 0.001
Barium, Dissolved	DETSC 2306	0.0003	mg/l	0.0027
Beryllium, Dissolved	DETSC 2306*	0.0001	mg/l	< 0.0001
Boron, Dissolved	DETSC 2306*	0.012	mg/l	< 0.012
Cadmium, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001
Calcium, Dissolved	DETSC 2306	0.09	mg/l	1.9
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007
Copper, Dissolved	DETSC 2306	0.0004	mg/l	0.0006
Iron, Dissolved	DETSC 2306	0.0055	mg/l	0.057
Lead, Dissolved	DETSC 2306	0.0001	mg/l	0.0031
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	0.17
Manganese, Dissolved	DETSC 2306	0.0002	mg/l	0.0016
Mercury, Dissolved	DETSC 2306	0.0001	mg/l	< 0.0001
Molybdenum, Dissolved	DETSC 2306	0.0011	mg/l	< 0.0011
Nickel, Dissolved	DETSC 2306	0.0005	mg/l	< 0.0005
Selenium, Dissolved	DETSC 2306	0.0003	mg/l	< 0.0003
Vanadium, Dissolved	DETSC 2306	0.0006	mg/l	< 0.0006
Zinc, Dissolved	DETSC 2306	0.0013	mg/l	0.011
Inorganics				
pH	DETSC 2008		pH	9.3
Cyanide, Total Low Level	DETSC 2131	0.0001	mg/l	< 0.0001
Cyanide, Complex Low Level	DETSC 2131	0.0001	mg/l	< 0.0001
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	< 0.015
Chloride	DETSC 2055	0.1	mg/l	0.71
Fluoride	DETSC 2055*	0.1	mg/l	< 0.10
Sulphate as SO4	DETSC 2055	0.1	mg/l	1.4
Phenols				
Phenol	DETSC 3451*	0.1	ug/l	< 0.10
4-Chloro-3-methylphenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10
p-cresol	DETSC 3451*	0.1	ug/l	< 0.10
2,6-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10
2,6-Dichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10
2,4,6-Trichlorophenol	DETSC 3451*	0.1	ug/l	< 0.10

Summary of Asbestos Analysis Soil Samples

Our Ref 23-17143

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2204875	BH3 0.60	SOIL	NAD	none	Ben Rose

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-17143
 Client Ref D30024
 Contract DEARNE REACH 1 - DEFINITION

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2204872	BH3 0.20 SOIL	05/07/23	PT 1L	Ammonia (3 days), Total Sulphur ICP (7 days)	
2204873	BH3 0.25 SOIL	05/07/23	PT 1L		Acid Herbicides, OC Pesticides, OP Pesticides, Triazines
2204874	BH3 0.50 SOIL	10/07/23	GJ 250ml, GJ 60ml, PT 1L		
2204875	BH3 0.60 SOIL	10/07/23	PT 1L	Total Sulphur ICP (7 days), pH + Conductivity (7 days), VOC (7 days)	Aliphatics/Aromatics, BTEX / C5-C10, Naphthalene, PAH MS, Phenols MS, VOC
2204876	BH3 0.50 LEACHATE	10/07/23	GJ 250ml, GJ 60ml, PT 1L		

Key: P-Plastic T-Tub G-Glass J-Jar

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO ₄	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO ₄	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

End of Report



Certificate of Analysis

Certificate Number 23-19237

Issued: 01-Sep-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-19237

Client Reference D30024

Order No PO1202

Contract Title DEARNE REACH 1 - DEFINITION

Description 12 Soil samples, 7 Leachate samples.

Date Received 11-Aug-23

Date Started 11-Aug-23

Date Completed 01-Sep-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By



Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Matrix Descriptions

Our Ref 23-19237

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample ID	Depth	Lab No	Completed	Matrix Description
TP201	0.2	2217651	01/09/2023	Dark brown sandy CLAY
TP201	0.5	2217652	01/09/2023	Dark brown sandy CLAY
TP201	1	2217653	01/09/2023	Dark brown sandy CLAY
TP201	2	2217654	01/09/2023	Dark brown sandy CLAY
TP202	0.2	2217655	01/09/2023	Dark brown sandy CLAY including odd rootlets
TP202	0.5	2217656	01/09/2023	Dark brown sandy CLAY
TP202	1	2217657	01/09/2023	Dark brown sandy CLAY
TP202	2	2217658	01/09/2023	Dark brown sandy CLAY
TP203	0.2	2217659	01/09/2023	Dark brown sandy CLAY including odd rootlets
TP203	0.5	2217660	01/09/2023	Dark brown sandy CLAY
TP203	1	2217661	01/09/2023	Dark brown sandy CLAY
TP203	2	2217662	01/09/2023	Dark brown sandy CLAY including odd rootlets

Summary of Chemical Analysis

Soil Samples

Our Ref 23-19237
 Client Ref D30024
 Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2217651	2217653	2217656	2217658	2217662
Sample ID	TP201	TP201	TP202	TP202	TP203
Depth	0.20	1.00	0.50	2.00	2.00
Other ID					
Sample Type	ES	ES	ES	ES	ES
Sampling Date	08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Metals								
Antimony	DETSC 2301*	1	mg/kg	2.0	< 1.0	1.4	< 1.0	< 1.0
Arsenic	DETSC 2301#	0.2	mg/kg	18	5.1	15	5.2	1.7
Barium	DETSC 2301#	1.5	mg/kg	150	100	68	58	52
Beryllium	DETSC 2301#	0.2	mg/kg	1.2	0.9	1.8	0.7	0.7
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	1.2	< 0.2	0.3	< 0.2	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.5	0.1	0.2	< 0.1	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg	25	19	17	13	17
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	34	28	33	30	28
Iron	DETSC 2301	25	mg/kg	56000	51000	22000	16000	25000
Lead	DETSC 2301#	0.3	mg/kg	63	18	19	12	12
Manganese	DETSC 2301#	20	mg/kg	2000	920	160	160	420
Mercury	DETSC 2325#	0.05	mg/kg	0.07	< 0.05	0.06	< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	1.1	< 0.4	1.7	< 0.4	0.5
Nickel	DETSC 2301#	1	mg/kg	23	26	29	29	33
Selenium	DETSC 2301#	0.5	mg/kg	0.8	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	45	27	39	14	18
Zinc	DETSC 2301#	1	mg/kg	110	77	37	52	86
Inorganics								
pH	DETSC 2008#		pH	6.3	5.6	5.6	6.9	5.9
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.5	< 0.1	< 0.1	< 0.1	< 0.1
FOC	DETSC 2084#	0.001		0.047	0.005	0.15	0.002	< 0.001
Sulphate Aqueous Extract as SO ₄ (2:1)	DETSC 2076#	10	mg/l	75	47	120	14	13
Sulphur as S, Total	DETSC 2320	0.01	%	0.05	0.02	0.07	< 0.01	< 0.01
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C35-C44	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4	< 3.4
Aliphatic C10-C44	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9	< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4	< 1.4

Summary of Chemical Analysis

Soil Samples

Our Ref 23-19237
 Client Ref D30024
 Contract Title DEARNE REACH 1 - DEFINITION

Test	Method	LOD	Units	Lab No	2217651	2217653	2217656	2217658	2217662
				Sample ID	TP201	TP201	TP202	TP202	TP203
Depth				Depth	0.20	1.00	0.50	2.00	2.00
Other ID				Other ID					
Sample Type				Sample Type	ES	ES	ES	ES	ES
Sampling Date				Sampling Date	08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Sampling Time				Sampling Time	n/s	n/s	n/s	n/s	n/s
Aromatic C35-C44	DETSC 3072*	1.4	mg/kg		< 1.4	< 1.4	< 1.4	< 1.4	< 1.4
Aromatic C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10	< 10	< 10	< 10
Ali/Aro C10-C44	DETSC 3072*	10	mg/kg		< 10	< 10	< 10	< 10	< 10
Benzene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg		0.04	< 0.03	< 0.03	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg		0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenols									
Phenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg		0.01	< 0.01	< 0.01	< 0.01	< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-19237
 Client Ref D30024
 Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2217651	2217653	2217656	2217658	2217662
Sample ID	TP201	TP201	TP202	TP202	TP203
Depth	0.20	1.00	0.50	2.00	2.00
Other ID					
Sample Type	ES	ES	ES	ES	ES
Sampling Date	08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
VOCs								
Vinyl Chloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1 Dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trans-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cis-1,2-dichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Carbon tetrachloride	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Trichloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromomethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromodichloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
trans-1,3-dichloropropene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,2-trichloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tetrachloroethylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibromochloromethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromoethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,1,1,2-tetrachloroethane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m+p-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Styrene	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromoform	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Isopropylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bromobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-propylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
2-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3,5-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
4-chlorotoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Tert-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trimethylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
sec-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Soil VOC Samples

Our Ref 23-19237
 Client Ref D30024
 Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2217651	2217653	2217656	2217658	2217662
Sample ID	TP201	TP201	TP202	TP202	TP203
Depth	0.20	1.00	0.50	2.00	2.00
Other ID					
Sample Type	ES	ES	ES	ES	ES
Sampling Date	08/08/2023	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
p-isopropyltoluene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,3-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,4-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
n-butylbenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2-dibromo-3-chloropropane	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,4-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
1,2,3-trichlorobenzene	DETSC 3431	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	DETSC 3431*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Summary of Chemical Analysis

Leachate Samples

Our Ref 23-19237
 Client Ref D30024
 Contract Title DEARNE REACH 1 - DEFINITION

Lab No	2217666	2217667	2217668	2217669
Sample ID	TP201	TP202	TP203	TP203
Depth	2.00	1.00	0.20	0.50
Other ID				
Sample Type	ES	ES	ES	ES
Sampling Date	08/08/2023	08/08/2023	08/08/2023	08/08/2023
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Preparation							
BS EN 12457 10:1	DETS 1009*			Y	Y	Y	Y
Metals							
Antimony, Dissolved	DETS 2306	0.0002	mg/l	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Arsenic, Dissolved	DETS 2306	0.001	mg/l	< 0.001	< 0.001	< 0.001	< 0.001
Barium, Dissolved	DETS 2306	0.0003	mg/l	0.0012	0.0019	0.0017	0.0024
Beryllium, Dissolved	DETS 2306*	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Boron, Dissolved	DETS 2306*	0.012	mg/l	0.012	< 0.012	0.016	0.013
Cadmium, Dissolved	DETS 2306	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Calcium, Dissolved	DETS 2306	0.09	mg/l	0.82	1.6	1.5	2.2
Chromium III, Dissolved	DETS 2306*	0.001	mg/l	< 0.001	< 0.001	< 0.001	< 0.001
Chromium, Hexavalent	DETS 2203	0.007	mg/l	< 0.007	< 0.007	< 0.007	< 0.007
Copper, Dissolved	DETS 2306	0.0004	mg/l	< 0.0004	< 0.0004	0.0007	< 0.0004
Iron, Dissolved	DETS 2306	0.0055	mg/l	0.055	0.067	0.19	0.60
Lead, Dissolved	DETS 2306	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Magnesium, Dissolved	DETS 2306	0.02	mg/l	0.17	0.30	0.25	0.38
Manganese, Dissolved	DETS 2306	0.0002	mg/l	0.0024	0.0013	0.0016	0.0028
Mercury, Dissolved	DETS 2306	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Molybdenum, Dissolved	DETS 2306	0.0011	mg/l	< 0.0011	< 0.0011	< 0.0011	< 0.0011
Nickel, Dissolved	DETS 2306	0.0005	mg/l	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Selenium, Dissolved	DETS 2306	0.0003	mg/l	< 0.0003	< 0.0003	< 0.0003	< 0.0003
Vanadium, Dissolved	DETS 2306	0.0006	mg/l	< 0.0006	< 0.0006	0.0006	< 0.0006
Zinc, Dissolved	DETS 2306	0.0013	mg/l	< 0.0013	< 0.0013	< 0.0013	< 0.0013
Inorganics							
pH	DETS 2008		pH	6.6	6.1	6.3	6.4
Cyanide, Total Low Level	DETS 2131	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Cyanide, Complex Low Level	DETS 2131	0.0001	mg/l	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Ammoniacal Nitrogen as N	DETS 2207	0.015	mg/l	0.22	0.17	0.15	0.16
Chloride	DETS 2055	0.1	mg/l	0.75	1.0	< 0.10	1.2
Fluoride	DETS 2055*	0.1	mg/l	0.15	< 0.10	< 0.10	< 0.10
Sulphate as SO4	DETS 2055	0.1	mg/l	1.8	5.5	1.2	10
Phenols							
Phenol	DETS 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
4-Chloro-3-methylphenol	DETS 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dichlorophenol	DETS 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimethylphenol	DETS 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
p-cresol	DETS 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
2,6-Dimethylphenol	DETS 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
2,6-Dichlorophenol	DETS 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
2,4,6-Trichlorophenol	DETS 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10

WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-19237

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id TP201 0.50

Sample Numbers 2217652 2217663

Date Analysed 23/08/2023

Test Results On Waste		
Determinand and Method Reference	Units	Result
DETSC 2084# Total Organic Carbon	%	3.1
DETSC 2003# Loss On Ignition	%	7.9
DETSC 3321# BTEX	mg/kg	< 0.04
DETSC 3401# PCBs (7 congeners)	mg/kg	< 0.01
DETSC 3311# TPH (C10 - C40)	mg/kg	10.0
DETSC 3301 PAHs	mg/kg	< 1.6
DETSC 2008# pH	pH Units	5.8
DETSC 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0
DETSC 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0

WAC Limit Values		
Inert Waste	SNRHW	Hazardous Waste
3	5	6
n/a	n/a	10
6	n/a	n/a
1	n/a	n/a
500	n/a	n/a
100	n/a	n/a
n/a	>6	n/a
n/a	TBE	TBE
n/a	TBE	TBE

Test Results On Leachate		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg
	10:1	LS10
DETSC 2306 Arsenic as As	0.32	< 0.01
DETSC 2306 Barium as Ba	1.9	< 0.1
DETSC 2306 Cadmium as Cd	< 0.030	< 0.02
DETSC 2306 Chromium as Cr	< 0.25	< 0.1
DETSC 2306 Copper as Cu	< 0.40	< 0.02
DETSC 2306 Mercury as Hg	< 0.010	< 0.002
DETSC 2306 Molybdenum as Mo	< 1.1	< 0.1
DETSC 2306 Nickel as Ni	< 0.50	< 0.1
DETSC 2306 Lead as Pb	< 0.090	< 0.05
DETSC 2306 Antimony as Sb	< 0.17	< 0.05
DETSC 2306 Selenium as Se	< 0.25	< 0.03
DETSC 2306 Zinc as Zn	< 1.3	< 0.01
DETSC 2055 Chloride as Cl	1100	< 100
DETSC 2055* Fluoride as F	< 100	< 0.1
DETSC 2055 Sulphate as SO4	7200	< 100
DETSC 2009* Total Dissolved Solids	22000	220
DETSC 2130 Phenol Index	< 100	< 1
DETSC 2085 Dissolved Organic Carbon	2200	< 50

WAC Limit Values		
Limit values for LS10 Leachate		
Inert Waste	SNRHW	Hazardous Waste
0.5	2	25
20	100	300
0.04	1	5
0.5	10	70
2	50	100
0.01	0.2	2
0.5	10	30
0.4	10	40
0.5	10	50
0.06	0.7	5
0.1	0.5	7
4	50	200
800	15,000	25,000
10	150	500
1000	20,000	50,000
4000	60,000	100,000
1	n/a	n/a
500	800	1000
TBE - To Be Evaluated		
SNRHW - Stable Non-Reactive		
Hazardous Waste		

Additional Information

DETSC 2008 pH	8.5
DETSC 2009 Conductivity uS/cm	31.9
* Temperature*	19.0

Mass of Sample Kg*	0.100
Mass of dry Sample Kg*	0.092

Stage 1

Volume of Leachant L2*	0.91
Volume of Eluate VE1*	0.86

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-19237

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id TP202 0.20

Sample Numbers 2217655 2217664

Date Analysed 23/08/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETS 2084# Total Organic Carbon	%	3.8	3	5	6
DETS 2003# Loss On Ignition	%	9.8	n/a	n/a	10
DETS 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETS 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETS 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETS 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETS 2008# pH	pH Units	6.4	n/a	>6	n/a
DETS 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETS 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETS 2306 Arsenic as As	0.31	< 0.01	0.5	2	25
DETS 2306 Barium as Ba	1.2	< 0.1	20	100	300
DETS 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETS 2306 Chromium as Cr	< 0.25	< 0.1	0.5	10	70
DETS 2306 Copper as Cu	1.1	< 0.02	2	50	100
DETS 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETS 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETS 2306 Nickel as Ni	< 0.50	< 0.1	0.4	10	40
DETS 2306 Lead as Pb	< 0.090	< 0.05	0.5	10	50
DETS 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETS 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETS 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETS 2055 Chloride as Cl	760	< 100	800	15,000	25,000
DETS 2055* Fluoride as F	130	1.3	10	150	500
DETS 2055 Sulphate as SO4	2400	< 100	1000	20,000	50,000
DETS 2009* Total Dissolved Solids	15000	150	4000	60,000	100,000
DETS 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETS 2085 Dissolved Organic Carbon	2700	< 50	500	800	1000

Additional Information	
DETS 2008 pH	6.7
DETS 2009 Conductivity uS/cm	21.6
* Temperature*	19.0

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.102
Stage 1	
Volume of Leachant L2*	0.99
Volume of Eluate VE1*	0.94

TBE - To Be Evaluated
SNRHW - Stable Non-Reactive
Hazardous Waste

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

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WASTE ACCEPTANCE CRITERIA TESTING ANALYTICAL REPORT

Our Ref 23-19237

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Sample Id TP203 1.00

Sample Numbers 2217661 2217665

Date Analysed 23/08/2023

Test Results On Waste			WAC Limit Values		
Determinand and Method Reference	Units	Result	Inert Waste	SNRHW	Hazardous Waste
DETS 2084# Total Organic Carbon	%	1.1	3	5	6
DETS 2003# Loss On Ignition	%	5.8	n/a	n/a	10
DETS 3321# BTEX	mg/kg	< 0.04	6	n/a	n/a
DETS 3401# PCBs (7 congeners)	mg/kg	< 0.01	1	n/a	n/a
DETS 3311# TPH (C10 - C40)	mg/kg	< 10	500	n/a	n/a
DETS 3301 PAHs	mg/kg	< 1.6	100	n/a	n/a
DETS 2008# pH	pH Units	5.7	n/a	>6	n/a
DETS 2073* Acid Neutralisation Capacity (pH4)	mol/kg	< 1.0	n/a	TBE	TBE
DETS 2073* Acid Neutralisation Capacity (pH7)	mol/kg	< 1.0	n/a	TBE	TBE

Test Results On Leachate			WAC Limit Values		
Determinand and Method Reference	Conc in Eluate ug/l	Amount Leached* mg/kg	Limit values for LS10 Leachate		
	10:1	LS10	Inert Waste	SNRHW	Hazardous Waste
DETS 2306 Arsenic as As	0.33	< 0.01	0.5	2	25
DETS 2306 Barium as Ba	1.7	< 0.1	20	100	300
DETS 2306 Cadmium as Cd	< 0.030	< 0.02	0.04	1	5
DETS 2306 Chromium as Cr	0.3	< 0.1	0.5	10	70
DETS 2306 Copper as Cu	2.4	0.024	2	50	100
DETS 2306 Mercury as Hg	< 0.010	< 0.002	0.01	0.2	2
DETS 2306 Molybdenum as Mo	< 1.1	< 0.1	0.5	10	30
DETS 2306 Nickel as Ni	0.74	< 0.1	0.4	10	40
DETS 2306 Lead as Pb	< 0.090	< 0.05	0.5	10	50
DETS 2306 Antimony as Sb	< 0.17	< 0.05	0.06	0.7	5
DETS 2306 Selenium as Se	< 0.25	< 0.03	0.1	0.5	7
DETS 2306 Zinc as Zn	< 1.3	< 0.01	4	50	200
DETS 2055 Chloride as Cl	700	< 100	800	15,000	25,000
DETS 2055* Fluoride as F	170	1.7	10	150	500
DETS 2055 Sulphate as SO4	2300	< 100	1000	20,000	50,000
DETS 2009* Total Dissolved Solids	14000	140	4000	60,000	100,000
DETS 2130 Phenol Index	< 100	< 1	1	n/a	n/a
DETS 2085 Dissolved Organic Carbon	3700	< 50	500	800	1000

Additional Information	
DETS 2008 pH	6.6
DETS 2009 Conductivity uS/cm	20.5
* Temperature*	19.0

Mass of Sample Kg*	0.130
Mass of dry Sample Kg*	0.098
Stage 1	
Volume of Leachant L2*	0.947
Volume of Eluate VE1*	0.89

TBE - To Be Evaluated		
SNRHW - Stable Non-Reactive		
Hazardous Waste		

Disclaimer: The WAC limit values are provided for guidance only. DETS does not accept responsibility for errors or omissions. Values are correct at time of issue.

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V.2.06

Summary of Asbestos Analysis Soil Samples

Our Ref 23-19237

Client Ref D30024

Contract Title DEARNE REACH 1 - DEFINITION

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2217651	TP201 0.20	SOIL	NAD	none	Barry Kelly
2217653	TP201 1.00	SOIL	NAD	none	Barry Kelly
2217656	TP202 0.50	SOIL	NAD	none	Barry Kelly
2217658	TP202 2.00	SOIL	NAD	none	Barry Kelly
2217662	TP203 2.00	SOIL	NAD	none	Barry Kelly

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 23-19237
 Client Ref D30024
 Contract DEARNE REACH 1 - DEFINITION

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2217651	TP201 0.20 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217652	TP201 0.50 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217653	TP201 1.00 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217654	TP201 2.00 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217655	TP202 0.20 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217656	TP202 0.50 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217657	TP202 1.00 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217658	TP202 2.00 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217659	TP203 0.20 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217660	TP203 0.50 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217661	TP203 1.00 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217662	TP203 2.00 SOIL	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217663	TP201 0.50 LEACHATE	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217664	TP202 0.20 LEACHATE	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217665	TP203 1.00 LEACHATE	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217666	TP201 2.00 LEACHATE	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217667	TP202 1.00 LEACHATE	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217668	TP203 0.20 LEACHATE	08/08/23	GJ 250ml, GJ 60ml, PT 1L		
2217669	TP203 0.50 LEACHATE	08/08/23	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO ₄	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO ₄	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

End of Report



Certificate of Analysis

Certificate Number 23-21075

Issued: 13-Sep-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-21075

Client Reference D30024

Order No PO0723

Contract Title Dearne Reach 1 - Definition

Description 14 Soil samples.

Date Received 28-Jul-23

Date Started 05-Sep-23

Date Completed 13-Sep-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By

Kirk Bridgewood
General Manager

Summary of Chemical Analysis Soil Samples

Our Ref 23-21075

Client Ref D30024

Contract Title Dearne Reach 1 - Definition

Lab No	2228489	2228490	2228491	2228492	2228493	2228494	2228495	2228496	2228497	2228498	2228499
Sample ID	BH1	BH1	BH1	BH5	BH5	BH6	BH6	BH6	BH7	BH7	BH7
Depth	0.20	0.50	0.50-1.00	0.50	0.50-1.00	0.10-0.30	0.50	0.80-1.00	0.10-0.30	0.50	0.50-1.00
Other ID											
Sample Type	D	D	B	B	D	B	B	D	B	D	B
Sampling Date	n/s	n/s	n/s	n/s	n/s	06/07/2023	n/s	n/s	06/07/2023	n/s	n/s
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units											
Metals														
Phosphorus, Available	DETSC 2310*	0.1	mg/l	6.9	1.6	I/S	3.0	I/S	9.9	4.4	I/S	15	1.3	I/S

Summary of Chemical Analysis Soil Samples

Our Ref 23-21075

Client Ref D30024

Contract Title Dearne Reach 1 - Definition

Lab No	2228500	2228501	2228502
Sample ID	BH8	BH8	BH8
Depth	0.10-0.30	0.50	0.50-1.00
Other ID			
Sample Type	B	D	B
Sampling Date	10/07/2023	n/s	n/s
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units			
Metals						
Phosphorus, Available	DETSC 2310*	0.1	mg/l	3.5	1.9	9.0

Information in Support of the Analytical Results

Our Ref 23-21075
 Client Ref D30024
 Contract Dearne Reach 1 - Definition

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2228489	BH1 0.20 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228490	BH1 0.50 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228491	BH1 0.50-1.00 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228492	BH5 0.50 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228493	BH5 0.50-1.00 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228494	BH6 0.10-0.30 SOIL	06/07/23	PG		
2228495	BH6 0.50 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228496	BH6 0.80-1.00 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228497	BH7 0.10-0.30 SOIL	06/07/23	PG		
2228498	BH7 0.50 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228499	BH7 0.50-1.00 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228500	BH8 0.10-0.30 SOIL	10/07/23	PG		
2228501	BH8 0.50 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228502	BH8 0.50-1.00 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	

Key: P-Plastic T-Tub G-Bag

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Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report



Certificate of Analysis

Certificate Number 23-21079

Issued: 13-Sep-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-21079

Client Reference D30024

Order No PO0726

Contract Title DEARNE REACH

Description 3 Soil samples.

Date Received 25-Aug-23

Date Started 05-Sep-23

Date Completed 13-Sep-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By

Kirk Bridgewood
General Manager



Summary of Chemical Analysis

Soil Samples

Our Ref 23-21079

Client Ref D30024

Contract Title DEARNE REACH

Lab No	2228533	2228534	2228535
Sample ID	TP201	TP202	TP203
Depth	1.00	1.00	1.00
Other ID			
Sample Type	D	D	D
Sampling Date	n/s	n/s	n/s
Sampling Time	n/s	n/s	n/s

Test	Method	LOD	Units
Metals			
Phosphorus, Available	DETSC 2310*	0.1	mg/l
		I/S	< 0.1
			I/S

Information in Support of the Analytical Results

Our Ref 23-21079
 Client Ref D30024
 Contract DEARNE REACH

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2228533	TP201 1.00 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228534	TP202 1.00 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	
2228535	TP203 1.00 SOIL		PT 1L	Sample date not supplied, AV Metals P (182 days)	

Key: P-Plastic T-Tub

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Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report



Certificate of Analysis

Certificate Number 23-23354

Issued: 12-Oct-23

Client Dunelm Geotechnical & Environmental Ltd
Foundation House
St. John's Road
Meadowfield
Durham
DH7 8TZ

Our Reference 23-23354

Client Reference D30024

Order No PO2065

Contract Title DEARNE REACH 1 - Definition

Description 4 Water samples.

Date Received 02-Oct-23

Date Started 02-Oct-23

Date Completed 12-Oct-23

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 By

A handwritten signature in black ink, appearing to read "K. Bridgewood", written over a light blue horizontal line.

Kirk Bridgewood
General Manager



2139

Summary of Chemical Analysis

Water Samples

Our Ref 23-23354

Client Ref D30024

Contract Title DEARNE REACH 1 - Definition

Lab No	2241824	2241825	2241826	2241827
Sample ID	BH01	BH04	BH05	BH07
Depth				
Other ID				
Sample Type	WATER	WATER	WATER	WATER
Sampling Date	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Metals							
Antimony, Dissolved	DETSC 2306	0.17	ug/l	< 0.17	< 0.17	< 0.17	< 0.17
Arsenic, Dissolved	DETSC 2306	0.16	ug/l	< 0.16	0.41	1.9	0.20
Barium, Dissolved	DETSC 2306	0.26	ug/l	85	76	130	51
Beryllium, Dissolved	DETSC 2306*	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Boron, Dissolved	DETSC 2306*	12	ug/l	73	58	31	54
Cadmium, Dissolved	DETSC 2306	0.03	ug/l	< 0.03	0.03	< 0.03	< 0.03
Calcium, Dissolved	DETSC 2306	0.09	mg/l	76	69	59	150
Chromium III, Dissolved	DETSC 2306*	0.001	mg/l	< 0.001	< 0.001	< 0.001	< 0.001
Chromium, Hexavalent	DETSC 2203	0.007	mg/l	< 0.007	< 0.007	< 0.007	< 0.007
Copper, Dissolved	DETSC 2306	0.4	ug/l	0.8	< 0.4	0.4	1.0
Iron, Dissolved	DETSC 2306	5.5	ug/l	6.2	18000	20000	610
Lead, Dissolved	DETSC 2306	0.09	ug/l	< 0.09	< 0.09	0.12	< 0.09
Magnesium, Dissolved	DETSC 2306	0.02	mg/l	33	21	35	62
Manganese, Dissolved	DETSC 2306	0.22	ug/l	450	2200	4200	450
Mercury, Dissolved	DETSC 2306	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Molybdenum, Dissolved	DETSC 2306	1.1	ug/l	< 1.1	< 1.1	< 1.1	< 1.1
Nickel, Dissolved	DETSC 2306	0.5	ug/l	0.7	3.8	3.4	< 0.5
Selenium, Dissolved	DETSC 2306	0.25	ug/l	< 0.25	< 0.25	< 0.25	< 0.25
Sodium, Dissolved	DETSC 2306	0.07	mg/l	25	25	26	29
Vanadium, Dissolved	DETSC 2306	0.6	ug/l	< 0.6	< 0.6	< 0.6	< 0.6
Zinc, Dissolved	DETSC 2306	1.3	ug/l	28	37	91	27
Inorganics							
pH	DETSC 2008		pH	7.1	6.4	6.5	6.9
Alkalinity, Bicarbonate as CaCO3	DETSC 2030*	10	mg/l	240	140	150	460
Cyanide, Total	DETSC 2130	40	ug/l	< 40	< 40	< 40	< 40
Cyanide, Free	DETSC 2130	0.02	mg/l	< 0.02	< 0.02	< 0.02	< 0.02
Total Hardness as CaCO3	DETSC 2303	0.1	mg/l	323	258	291	635
Total Dissolved Solids	DETSC 2035	5	mg/l	420	500	500	770
Ammoniacal Nitrogen as N	DETSC 2207	0.015	mg/l	0.21	0.76	0.19	0.40
Chloride	DETSC 2055	0.1	mg/l	31	65	70	29
Fluoride	DETSC 2055*	0.1	mg/l	0.12	< 0.10	< 0.10	0.11
Nitrate as NO3	DETSC 2055	0.1	mg/l	0.49	< 0.10	< 0.10	3.8
Sulphate as S	DETSC 2055	0.0334	mg/l	63	45	42	70
Sulphur (free)	DETSC 3049*	84	ug/l	< 84	< 84	< 84	< 84
Petroleum Hydrocarbons							
Aliphatic C5-C6	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C6-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aliphatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0

Summary of Chemical Analysis

Water Samples

Our Ref 23-23354

Client Ref D30024

Contract Title DEARNE REACH 1 - Definition

Lab No	2241824	2241825	2241826	2241827
Sample ID	BH01	BH04	BH05	BH07
Depth				
Other ID				
Sample Type	WATER	WATER	WATER	WATER
Sampling Date	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
Aliphatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C35-C40	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C5-C40	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
Aromatic C5-C7	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C7-C8	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C8-C10	DETSC 3322	0.1	ug/l	< 0.1	< 0.1	< 0.1	< 0.1
Aromatic C10-C12	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12-C16	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16-C21	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C21-C35	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C35-C40	DETSC 3072*	1	ug/l	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C5-C40	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
TPH Ali/Aro C5-C40	DETSC 3072*	10	ug/l	< 10	< 10	< 10	< 10
PAHs							
Naphthalene	DETSC 3304	0.05	ug/l	< 0.05	3.9	5.4	2.5
Acenaphthylene	DETSC 3304	0.01	ug/l	< 0.01	0.02	0.02	0.02
Acenaphthene	DETSC 3304	0.01	ug/l	< 0.01	0.35	0.24	0.35
Fluorene	DETSC 3304	0.01	ug/l	0.01	0.14	0.16	0.15
Phenanthrene	DETSC 3304	0.01	ug/l	0.03	0.09	0.38	0.08
Anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	DETSC 3304	0.01	ug/l	0.02	< 0.01	0.04	< 0.01
Pyrene	DETSC 3304	0.01	ug/l	0.02	< 0.01	0.05	< 0.01
Benzo(a)anthracene	DETSC 3304*	0.01	ug/l	0.01	< 0.01	0.01	< 0.01
Chrysene	DETSC 3304	0.01	ug/l	0.01	< 0.01	0.03	< 0.01
Benzo(b)fluoranthene	DETSC 3304	0.01	ug/l	0.02	< 0.01	0.02	< 0.01
Benzo(k)fluoranthene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.02	< 0.01
Indeno(1,2,3-c,d)pyrene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Dibenzo(a,h)anthracene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(g,h,i)perylene	DETSC 3304	0.01	ug/l	< 0.01	< 0.01	0.04	< 0.01
PAH Total	DETSC 3304	0.2	ug/l	< 0.20	4.5	6.5	3.1
Phenols							
Cresols	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
Phenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
Trimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
2,4-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10
2,6-Dimethylphenol	DETSC 3451*	0.1	ug/l	< 0.10	< 0.10	< 0.10	< 0.10

Summary of Chemical Analysis

Water Samples

Our Ref 23-23354

Client Ref D30024

Contract Title DEARNE REACH 1 - Definition

Lab No	2241824	2241825	2241826	2241827
Sample ID	BH01	BH04	BH05	BH07
Depth				
Other ID				
Sample Type	WATER	WATER	WATER	WATER
Sampling Date	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
VOCs							
Dichlorodifluoromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Vinyl Chloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichlorofluoromethane	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Methylene Chloride	DETSC 3432*	27	ug/l	< 27	< 27	< 27	< 27
Trans-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Cis-1,2-dichloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2,2-dichloropropane	DETSC 3432*	2	ug/l	< 2	< 2	< 2	< 2
Bromochloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
Chloroform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Carbon tetrachloride	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Benzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Trichloroethylene	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromomethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromodichloromethane	DETSC 3432	4	ug/l	< 4	< 4	< 4	< 4
cis-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Toluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
trans-1,3-dichloropropene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2-trichloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tetrachloroethylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Dibromochloromethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromoethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Chlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,1,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Ethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
m+p-Xylene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
o-Xylene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Styrene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromoform	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Isopropylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,1,2,2-tetrachloroethane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Bromobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1

Summary of Chemical Analysis

Water Samples

Our Ref 23-23354

Client Ref D30024

Contract Title DEARNE REACH 1 - Definition

Lab No	2241824	2241825	2241826	2241827
Sample ID	BH01	BH04	BH05	BH07
Depth				
Other ID				
Sample Type	WATER	WATER	WATER	WATER
Sampling Date	28/09/2023	28/09/2023	28/09/2023	28/09/2023
Sampling Time	n/s	n/s	n/s	n/s

Test	Method	LOD	Units				
1,2,3-trichloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-propylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
2-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3,5-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
4-chlorotoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Tert-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trimethylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
sec-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
p-isopropyltoluene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,3-dichlorobenzene	DETSC 3432	2	ug/l	< 2	< 2	< 2	< 2
1,4-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
n-butylbenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2-dibromo-3-chloropropane	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,4-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
Hexachlorobutadiene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
1,2,3-trichlorobenzene	DETSC 3432	1	ug/l	< 1	< 1	< 1	< 1
MTBE	DETSC 3432*	1	ug/l	< 1	< 1	< 1	< 1

Information in Support of the Analytical Results

Our Ref 23-23354
 Client Ref D30024
 Contract DEARNE REACH 1 - Definition

Containers Received & Deviating Samples

					Inappropriate container for tests
		Date			
Lab No	Sample ID	Sampled	Containers Received	Holding time exceeded for tests	
2241824	BH01 WATER	28/09/23	GB 1L x3, GV x2, PB 1L	pH/Cond (1 days)	
2241825	BH04 WATER	28/09/23	GB 1L x3, GV x2, PB 1L	pH/Cond (1 days)	
2241826	BH05 WATER	28/09/23	GB 1L x3, GV x2, PB 1L	pH/Cond (1 days)	
2241827	BH07 WATER	28/09/23	GB 1L x3, GV x2, PB 1L	pH/Cond (1 days)	

Key: G-Glass P-Plastic B-Bottle V-Vial

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
 Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

APPENDIX G

Gas and Groundwater Monitoring Results





GAS MONITORING DATA SHEET

PROJECT NUMBER	D30024
CONTRACT NAME	Dearne UPM Reach 1 - Wetland

DATE & TIME					REGIONAL TREND			INSTRUMENT DETAILS		NOTES			
DAY	MONTH	YEAR	TIME (Start)	TIME (Finish)				NAME	GFM 436				
31	08	2023	13:00	15:00				SERIAL NUMBER	12666				
AMBIENT READINGS								LAST CALIBRATION	21.05.19	VISIT NO			
O2 (% v/v)	20.9	CO2 (% v/v)	ND	CH4 (% v/v)	NR	PID reading (ppm)		NR	NAME	Mini RAE Lite	1	OF	6
ATMOSPHERIC PRESSURE (mbar)				START	00:00	FINISH	00:00	SERIAL NUMBER	595-001431	WEATHER CONDITIONS		GROUND CONDITIONS	
AIR TEMPERATURE °C				START	11:40	FINISH	13:15	LAST CALIBRATION	08.04.19	Sunny	Dry		

BH No.	Pipe Diameter	Flow Rate (l/hr)		Relative pressure mbar	CH ₄ (%w/v)		CO ₂ (%w/v)		O ₂ (%w/v)		PID (ppm)		H ₂ S (ppm)	CO (ppm)	SWL (m bgl)	Base of pipe (m bgl)	Remarks
		Peak	Steady		Peak	Steady	Peak	Steady	Minimum	Steady	Peak	Low	Range	Range			
BH1	50	ND	ND	ND	ND	ND	0.20	0.20	20.00	20.00	ND	ND	ND	ND	10.31	30.00	
BH1	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.24	3.00	
BH2	50	ND	ND	ND	ND	ND	20.20	20.20	20.20	20.20	ND	ND	ND	ND	3.09	13.00	
BH3	50	ND	ND	ND	ND	ND	0.20	0.20	20.10	20.10	ND	ND	ND	ND	3.03	15.00	
BH3	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.90	3.00	
BH4	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	13.50	Borehole was locked
BH5	50	ND	ND	ND	ND	ND	0.20	0.20	20.30	20.30	ND	ND	ND	ND	1.91	20.00	
BH5	19	ND	ND	ND	ND	ND	0.20	0.20	20.00	20.00	ND	ND	ND	ND	1.82	3.00	
BH6	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	10.00	15.00	
BH6	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	14.58	7.00	
BH7	50	ND	ND	ND	ND	ND	0.20	0.20	20.10	20.10	ND	ND	ND	ND	10.10	29.50	
BH7	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.20	2.50	
BH8	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	12.00	
BH8	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.50	
MONITORING ORDER IS FROM LEFT TO RIGHT ACROSS THE TABLE																	
REGIONAL TREND IS THAT SHOWN AT THE NEAREST MET OFFICE LOCATION AT THE TIME OF MONITORING.																	

KEY:	
ND	None Detected
NR	Not Recorded
SWL	Standing Water Level



WATER QUALITY DATA SHEET

PROJECT NUMBER		D30024			INSTRUMENT DETAILS		
CONTRACT NAME		Dearne UPM Reach 1 - Wetland			NAME		Hannah HI 9829 Multiparameter
					SERIAL NUMBER		2250003991
					LAST CALIBRATION		13/10/2022
DATE & TIME							
DAY		MONTH	YEAR	TIME (Start)	TIME (Finish)		
28		09	2023	09:30	13:30		

BH No.	Temperature (C)	Conductivity (mS/cm)	Redox Potential (mV)	Dissolved Oxygen (ppm)	pH	Quantity Sampled (l)
BH01 (50)	11.65	0.542	-16.50	0.57	7.54	3x1ltr GB, 1x1ltr PB, 2x40ml GV
BH04 (50)	12.19	0.576	21.20	0.26	6.85	3x1ltr GB, 1x1ltr PB, 2x40ml GV
BH05 (50)	11.74	0.593	9.00	0.36	7.08	3x1ltr GB, 1x1ltr PB, 2x40ml GV
BH07 (50)	12.85	0.892	-1.80	0.38	7.27	3x1ltr GB, 1x1ltr PB, 2x40ml GV



GAS MONITORING DATA SHEET

PROJECT NUMBER	D30024
CONTRACT NAME	Dearne UPM Reach 1 - Wetland

DATE & TIME					REGIONAL TREND		INSTRUMENT DETAILS		NOTES	
DAY	MONTH	YEAR	TIME (Start)	TIME (Finish)	Rising		NAME	GFM436		
28	09	2023	09:30	13:30			SERIAL NUMBER	12666		
AMBIENT READINGS							LAST CALIBRATION	13/01/2023	VISIT NO	
O2 (% v/v)	20.8	CO2 (% v/v)	ND	CH4 (% v/v)	ND	PID reading (ppm)	NR	NAME	2	3
ATMOSPHERIC PRESSURE (mbar)					START	998	FINISH	1000	WEATHER CONDITIONS	
AIR TEMPERATURE °C					START	14	FINISH	15	GROUND CONDITIONS	
							LAST CALIBRATION		Cloudy	
									Wet	

BH No.	Pipe Diameter	Flow Rate (l/hr)		Differential pressure mbar	CH ₄ (%v/v)		CO ₂ (%v/v)		O ₂ (%v/v)		PID (ppm)		H ₂ S (ppm)	CO (ppm)	SWL (m bgl)	Base of pipe (m bgl)	Remarks
		Peak	Steady		Peak	Steady	Peak	Steady	Minimum	Steady	Peak	Low	Range	Range			
BH1	50	ND	ND	ND	ND	ND	0.60	0.40	19.90	20.10	NR	NR	ND	ND	10.69	30.00	
BH1	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.22	3.00	
BH2	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	13.00	Could not locate
BH3	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	15.00	Could not locate
BH3	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	3.00	Could not locate
BH4	50	ND	ND	ND	ND	ND	2.20	2.20	16.50	16.50	NR	NR	ND	ND	3.41	13.50	
BH5	50	ND	ND	ND	ND	ND	0.30	0.30	20.50	20.50	NR	NR	ND	ND	0.92	20.00	
BH5	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	3.00	Blocked
BH6	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	15.00	
BH6	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	7.00	
BH7	50	ND	ND	ND	ND	ND	ND	ND	20.70	20.70	NR	NR	ND	ND	0.81	29.50	
BH7	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.65	2.50	
BH8	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	12.00	
BH8	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.50	

MONITORING ORDER IS FROM LEFT TO RIGHT ACROSS THE TABLE
REGIONAL TREND IS THAT SHOWN AT THE NEAREST MET OFFICE LOCATION AT THE TIME OF MONITORING.

KEY:	
ND	None Detected
NR	Not Recorded
SWL	Standing Water Level



WATER QUALITY DATA SHEET

PROJECT NUMBER		D30024			INSTRUMENT DETAILS		
CONTRACT NAME		Dearne UPM Reach 1 - Wetland			NAME		Hannah HI 9829 Multiparameter
					SERIAL NUMBER		2250003991
					LAST CALIBRATION		13/10/2022
DATE & TIME							
DAY		MONTH	YEAR	TIME (Start)	TIME (Finish)		
06		10	2023	09:30	11:30		

BH No.	Temperature (C)	Conductivity (mS/cm)	Redox Potential (mV)	Dissolved Oxygen (ppm)	pH	Quantity Sampled (l)
BH01 (50)	11.65	0.542	-16.50	0.57	7.54	3x1ltr GB, 1x1ltr PB, 2x40ml GV
BH04 (50)	12.19	0.576	21.20	0.26	6.85	3x1ltr GB, 1x1ltr PB, 2x40ml GV
BH05 (50)	11.74	0.593	9.00	0.36	7.08	3x1ltr GB, 1x1ltr PB, 2x40ml GV
BH07 (50)	12.85	0.892	-1.80	0.38	7.27	3x1ltr GB, 1x1ltr PB, 2x40ml GV



GAS MONITORING DATA SHEET

PROJECT NUMBER	D30024
CONTRACT NAME	Dearne UPM Reach 1 - Wetland

DATE & TIME					REGIONAL TREND		INSTRUMENT DETAILS		NOTES	
DAY	MONTH	YEAR	TIME (Start)	TIME (Finish)	Rising		NAME	GFM436		
06	10	2023	09:30	11:30			SERIAL NUMBER	12666		
AMBIENT READINGS							LAST CALIBRATION	13/01/2023	VISIT NO	
O2 (% v/v)	20.9	CO2 (% v/v)	ND	CH4 (% v/v)	ND	PID reading (ppm)	NR	NAME	3	3
ATMOSPHERIC PRESSURE (mbar)					START	1006	FINISH	1000	WEATHER CONDITIONS	GROUND CONDITIONS
AIR TEMPERATURE °C					START	17	FINISH	18	Cloudy	Wet
							SERIAL NUMBER			
							LAST CALIBRATION			

BH No.	Pipe Diameter	Flow Rate (l/hr)		Differential pressure mbar	CH ₄ (%v/v)		CO ₂ (%v/v)		O ₂ (%v/v)		PID (ppm)		H ₂ S (ppm)	CO (ppm)	SWL (m bgl)	Base of pipe (m bgl)	Remarks
		Peak	Steady		Peak	Steady	Peak	Steady	Minimum	Steady	Peak	Low	Range	Range			
BH1	50	ND	ND	1,005.00	ND	ND	0.30	0.10	20.30	20.50	NR	NR	ND	ND	10.80	30.00	
BH1	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.09	3.00	
BH2	50	NR	NR	1,005.00	NR	NR	ND	ND	20.70	20.70	NR	NR	NR	NR	3.15	13.00	
BH3	50	NR	NR	1,005.00	NR	NR	0.40	0.40	20.10	20.10	NR	NR	NR	NR	2.07	15.00	
BH3	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.67	3.00	
BH4	50	ND	ND	ND	ND	ND	4.10	4.00	14.40	14.50	NR	NR	ND	ND	3.30	13.50	
BH5	50	ND	ND	1,005.00	ND	ND	0.40	0.40	20.50	20.50	NR	NR	ND	ND	0.31	20.00	
BH5	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	3.00	Blocked
BH6	50	NR	NR	1,005.00	NR	NR	0.40	0.40	18.90	19.00	NR	NR	NR	NR	1.50	15.00	
BH6	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.55	7.00	
BH7	50	ND	ND	1,005.00	ND	ND	ND	ND	20.70	20.80	NR	NR	ND	ND	0.68	29.50	
BH7	19	NR	NR	NR	NR	NR	ND	ND	20.70	20.80	NR	NR	NR	NR	0.61	2.50	
BH8	50	NR	NR	1,005.00	NR	NR	1.50	1.50	16.10	16.10	NR	NR	NR	NR	0.11	12.00	
BH8	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.16	4.50	

MONITORING ORDER IS FROM LEFT TO RIGHT ACROSS THE TABLE
REGIONAL TREND IS THAT SHOWN AT THE NEAREST MET OFFICE LOCATION AT THE TIME OF MONITORING.

KEY:	
ND	None Detected
NR	Not Recorded
SWL	Standing Water Level



GAS MONITORING DATA SHEET

PROJECT NUMBER	D30024
CONTRACT NAME	Dearne UPM Reach 1 - Wetland

DATE & TIME					REGIONAL TREND		INSTRUMENT DETAILS		NOTES	
DAY	MONTH	YEAR	TIME (Start)	TIME (Finish)	Falling		NAME	GFM435		
17	10	2023	10:00	12:00			SERIAL NUMBER	11939		
AMBIENT READINGS							LAST CALIBRATION	25/09/2023	VISIT NO	
O2 (% v/v)	20.5	CO2 (% v/v)	ND	CH4 (% v/v)	ND	PID reading (ppm)	NR	NAME	4	5
ATMOSPHERIC PRESSURE (mbar)					START	1008	FINISH	1008	WEATHER CONDITIONS	
AIR TEMPERATURE °C					START	7	FINISH	10	GROUND CONDITIONS	
							LAST CALIBRATION		Foggy, clearing	
									Wet	

BH No.	Pipe Diameter	Flow Rate (l/hr)		Differential pressure mbar	CH ₄ (%v/v)		CO ₂ (%v/v)		O ₂ (%v/v)		PID (ppm)		H ₂ S (ppm)	CO (ppm)	SWL (m bgl)	Base of pipe (m bgl)	Remarks
		Peak	Steady		Peak	Steady	Peak	Steady	Minimum	Steady	Peak	Low	Range	Range			
BH1	50	ND	ND	ND	ND	ND	0.50	0.50	19.50	19.50	NR	NR	ND	ND	10.77	30.00	
BH1	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.06	3.00	
BH2	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	13.00	Could not locate
BH3	50	ND	ND	ND	ND	ND	0.40	0.40	19.90	19.90	NR	NR	ND	ND	2.04	15.00	
BH3	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.53	3.00	
BH4	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	13.50	No Access
BH5	50	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	20.00	Headworks Damaged - unable to monitor
BH5	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	3.00	Headworks Damaged - unable to monitor
BH6	50	ND	ND	ND	ND	ND	0.60	0.60	18.70	18.70	NR	NR	ND	ND	1.54	15.00	
BH6	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.63	7.00	
BH7	50	ND	ND	ND	ND	ND	ND	ND	20.40	20.40	NR	NR	ND	ND	0.67	29.50	
BH7	19	NR	NR	NR	NR	NR	ND	ND	20.70	20.80	NR	NR	NR	NR	0.57	2.50	
BH8	50	4.80	4.80	29	ND	ND	3.20	3.20	18.30	18.30	NR	NR	ND	ND	0.45	12.00	
BH8	19	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.45	4.50	
MONITORING ORDER IS FROM LEFT TO RIGHT ACROSS THE TABLE																	
REGIONAL TREND IS THAT SHOWN AT THE NEAREST MET OFFICE LOCATION AT THE TIME OF MONITORING.																	

KEY:	
ND	None Detected
NR	Not Recorded
SWL	Standing Water Level

APPENDIX H

Dunelm Notes On Limitations



Dunelm Conditions of Offer and Notes on Limitations of Investigation

Site investigation is a process of sampling. The scope and size of an investigation may be considered proportional to levels of confidence regarding the ground and groundwater conditions. The exploratory holes undertaken investigate only a small volume of the ground in relation to the overall size of the site, and can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions as encountered within each of the exploratory holes. There may be different ground conditions elsewhere on the site which have not been identified by this investigation and which therefore have not been taken into account in this report. Reports are generally subject to the comments of the local authority and Environment Agency. The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that mobile contamination, soil gas levels and groundwater levels may vary owing to seasonal, tidal and/or weather related effects. Unrecorded ancient mining may occur anywhere where seams that have been worked and influence the rock and soil above. Dissolution cavities can occur where gypsum or chalk is present. Rotary drilling is the recommended technique to prove the integrity of the rock.

Where the scope of the investigation is limited via access to information, time constraints, equipment limitations, testing, interpretation or by the client or his agents budgetary constraints, elements not set out in the proposal and excluded from the report are deemed to be omitted from the scope of the investigation.

The firm cannot be held liable and do not warrant, or otherwise guarantee the validity of information provided by third parties and subsequently used in our reports. The firm are not responsible for the action negligent or otherwise of subcontractors or third parties.

Desk studies are generally prepared in accordance with RICS guidelines. Environmental site investigations are generally undertaken as 'exploratory investigations' in accordance with the definitions provided in paragraph 5.2.7 of *BS 10175:2011 +A2:2017* in order to confirm the conceptual assumptions, and in accordance with *BS5930:2015*. You are advised to familiarize yourself with the typical scope of such an investigation. No pumping of water will be undertaken unless a licence or facilities/equipment have been arranged by others.

Where the type, number or/and depth of exploratory hole is specified by others, the firm cannot and will not be responsible for any subsequent shortfall or inadequacy in data, and any consequent shortfall in interpretation of environmental and geotechnical aspects which may be required at a later date in order to facilitate the design of permanent or temporary works.