



**COPART, CHESTER –FACTUAL  
REPORT**

**GSL3219R01**

**VERSION 1**

**26 MARCH 2025**

**FINAL**

Prepared for: Copart UK Limited

Prepared by: A Ridge



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## DOCUMENT CONTROL

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<b>Date of Issue:</b>	26/03/2025

This report has been prepared by GroundSolve Ltd with all reasonable care and diligence, within the best practice and guidance current at the time of issue within the proposed redline boundary and proposed Site end use as presented by the Client.

This report is confidential to the Client and GroundSolve Ltd accepts no responsibility whatsoever to third parties to whom this report is presented.

Version No.	Description of Issue / Revision	Date of Issue	Author	Reviewed By	Approved By
1	<b>FINAL</b>	26/03/2025	A Ridge	E Rowland	James Thorburn
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## **1 INTRODUCTION**

### **1.1 Report Objectives**

Groundsolve Ltd was commissioned by Copart UK Limited requested by Shear Design Ltd, within the area of land east of the existing Copart Site, near Chester. The purpose of the investigation is to provide information on the ground conditions at the site to assist in the design for a proposed directional drilling operation.

This report presents the factual records of the fieldwork and laboratory testing. The data is also presented separately in digital format following AGS4 (2011).

### **1.2 Introduction**

The scope of the investigation, which was specified by Shear Design and comprised.

- 1 x Borehole formed by window sample techniques;
- 2 x hand excavated trial pits and hand auger
- In situ testing comprising of Standard penetration tests in borehole;

Whilst every attempt is made to record full details of the strata encountered in the exploratory holes, techniques of exploratory hole formation and sampling will inevitably lead to disturbance, mixing or loss of material in some soils and rocks.

### **1.3 Limitations**

GroundSolve Ltd have used reasonable skill, care and diligence for the investigation of the site and the production of this report. There may be other conditions prevailing on the site which are outside the scope of work and have not been highlighted, therefore have not been considered by this report. Responsibility cannot be accepted for such site conditions not revealed by this report.

This report has been prepared for the sole use and reliance of the Client, Shear Design Ltd. No other third parties may rely upon or reproduce the contents of this report without the written permission of GroundSolve Ltd (GSL). If any unauthorised third party comes into possession of this report, then they rely on it at their own risk and GSL do not owe them any Duty of Care.

The groundwater results described are only representative of the dates on which they were recorded, and levels may vary seasonally (e.g. due to changes in weather).

The groundwater results described are only representative of the dates on which they were recorded, and levels may vary seasonally (e.g. due to changes in weather) and is likely to be affected by daily tidal influences.

## 2 SITE DETAILS AND DESCRIPTION

Table 2.1 Current Site Overview.

<b>Site name</b>	Land adjacent Copart, Chester
<b>Site address</b>	Copart, Prince William Ave, Sandycroft, Chester CH5 2QZ
<b>National Grid Reference (NGR)</b>	334404, 367254
<b>Approximate Site area</b>	0.15ha
<b>Current land use on the Site</b>	Existing flood bund
<b>Surrounding land uses</b>	River Dee to the north, existing flood bund to east and west, Copart to southwest and agricultural land to the Southeast.
<b>General topography and ground levels</b>	The flood bund is approximately 1.8m higher than the ground adjacent to the north which continues to slope gradually towards the River Dee.
<b>Published Geology</b>	Tidal Flat Deposits overlying Triassic Kinnerton Sandstone Formation



### 3 FIELDWORK

#### 3.1 Introduction

The following site works have been undertaken as part of the intrusive investigation 20<sup>th</sup> March 2025. The scope of the works was devised by Shear Design and comprised the following:

**Table 3.1 Scope of Intrusive Works and In Situ testing.**

Method	No.	Range Depths (m bgl)	Purpose
Window sample boreholes – Tracked WS rig	1No.	5.45	Establish general ground conditions on site. Allow Standard Penetration Tests (SPTs) to be carried out.
Hand excavated Trial pits with Hand Auger	2No.	2.00	Establish general ground conditions on site.

The exploratory hole locations were selected by the client. The locations were set out from local features. Site photographs are presented in **Appendix A**.

#### 3.2 Exploratory Holes

The exploratory holes were logged by an engineer in accordance with the recommendations of BS5930:2015 +A1:2020, which incorporates the requirements of BS EN ISO 14688-1, 14688-2:2018 and 14689:2018. Methods of formation and geological descriptions, together with sample records, in situ test results and observations made during formation of the exploratory hole are given in the logs presented in **Appendix B**.

A summary of the exploratory holes formed is listed in the following table.

**Table 3.2 Summary of the Exploratory Holes/Location**

Location ID	Type	Easting	Northing	Ground Level (mOD)	Final Depth (mbgl)
BH01	WS	334401.491	367247.192	6.06	1.80
BH02	TP/HA	334403.555	367253.914	7.09	5.45
BH03	TP/HA	334408.774	367258.581	5.23	2.00

Key; WS – Window sample TP – Trial Pit, HA – Hand Auger; m OD – metres above Ordnance Datum, mbgl – metres below ground level.

Prior to commencement, all exploratory positions were checked for services by reference to available plans, visual inspection and CAT/Genny survey. Inspection pits were excavated by hand and rechecked with a CAT at all borehole and trial pit locations.

## **4 LABORATORY TESTING**

### **4.1 Chemical and Geotechnical Laboratory Testing**

No chemical or geotechnical laboratory testing was required as part of the investigation.

## 5 REFERENCES

AGS: 2010: Electronic transfer of geotechnical data (Edition 4 including addendum 3, 2011). Association of Geotechnical and Geoenvironmental Specialists.

BRE Special Digest 1: 2005 Concrete in aggressive ground.

BS 1377 : 1990 : Methods of test for soils for civil engineering purposes. Published in nine parts. British Standards Institution.

BS 5930 : 2015 + A1:2020 : Code of practice for site investigation. British Standards Institution.

BS 10175 : 2011 + A2:2017: Investigation of potentially contaminated sites – Code of Practice. British Standards Institution

BS EN 1997-1: 2004 : Eurocode 7 – Geotechnical Design – Part 1: General rules. Including UK National Appendix of November 2007. British Standards Institution.

BS EN ISO 14688-1 : 2002 : Geotechnical investigation and testing – Identification and classification of soil – Part 1: Identification and description. British Standards Institution.

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

BS EN ISO 14689 : 2018 : Geotechnical investigation and testing – Identification and classification of rock – Part 1: Identification and description. British Standards Institution.

BS EN ISO 22475-1 : 2006 : Geotechnical investigation and testing – Sampling methods and groundwater measurements – Part 1: Technical principals for execution (July 2011 reprint). British Standards Institution.

BS EN ISO 22476-3 : 2005 : Geotechnical investigation and testing – Field Testing – Part 3: Standard penetration test

ISRM: 1981: Rock Characterisation, Testing and Monitoring – ISRM Suggested Methods (Ed E T Brown). Commission on Testing Methods, International Society for Rock Mechanics, Pergamon Press.

ISRM: 1985: Suggested method for determining point load strength. Commission on Testing Methods, International Society for Rock Mechanics, International Journal of Rock Mechanics, Mining Sciences and Geomechanics Abstracts, Vol. 22

Britain From Above - <https://britainfromabove.org.uk/en/image/WPW060399>

<http://www.warstateandsociety.com/Bombing-Britain>

<https://www.epa.gov/pfas/basic-information-pfas>

UK Maps of Radon, <http://www.ukradon.org/information/ukmaps>

Health and Safety Executive (2015) Construction (Design and Management) Regulations.

Coal Authority Interactive Map Viewer, <http://mapapps2.bgs.ac.uk/coalauthority/home.html>

BGS Geology of Britain Viewer <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

## 6 DEFINITIONS

AOD	Above Ordnance Datum
bgl	Below ground level
BGS	British Geological Survey
BRE	Building Research Establishment
CBR	California Bearing Ratio (test)
COMAH	Control of Major Accident Hazards (regulations)
DQRA	Detailed Quantitative Risk Assessment
DWS	Drinking Water Standard
EQS	Environmental Quality Standard
GAC	Generic Assessment Criterion
GQA	General Quality Assessment (Environment Agency)
GQRA	Generic Quantitative Risk Assessment
GSV	Gas Screening Value
HCV	Health Criteria Value
IPPC	Integrated Pollution Prevention and Control (regulations)
NGR	National Grid Reference
NIHHS	Notification of Installations Handling Hazardous Substances (regulations)
OS	Ordnance Survey
ppm	Parts per million
ppmv	Parts per million by volume
SAC	Special Area of Conservation
SPZ	Source Protection Zone
SSAC	Site-Specific Assessment Criterion
SSSI	Site of Special Scientific Interest

## **APPENDIX A – LOCATION PLAN**

Project Id: 3219

Title: Site Plan

Project Title: Land East of Copart, Chester

Scale: 1:1000



Location: Prince William Ave, Sandycroft, Chester CH5 2QZ

Engineer:

Client: Shear Design Ltd

Contractor: Regional Drilling

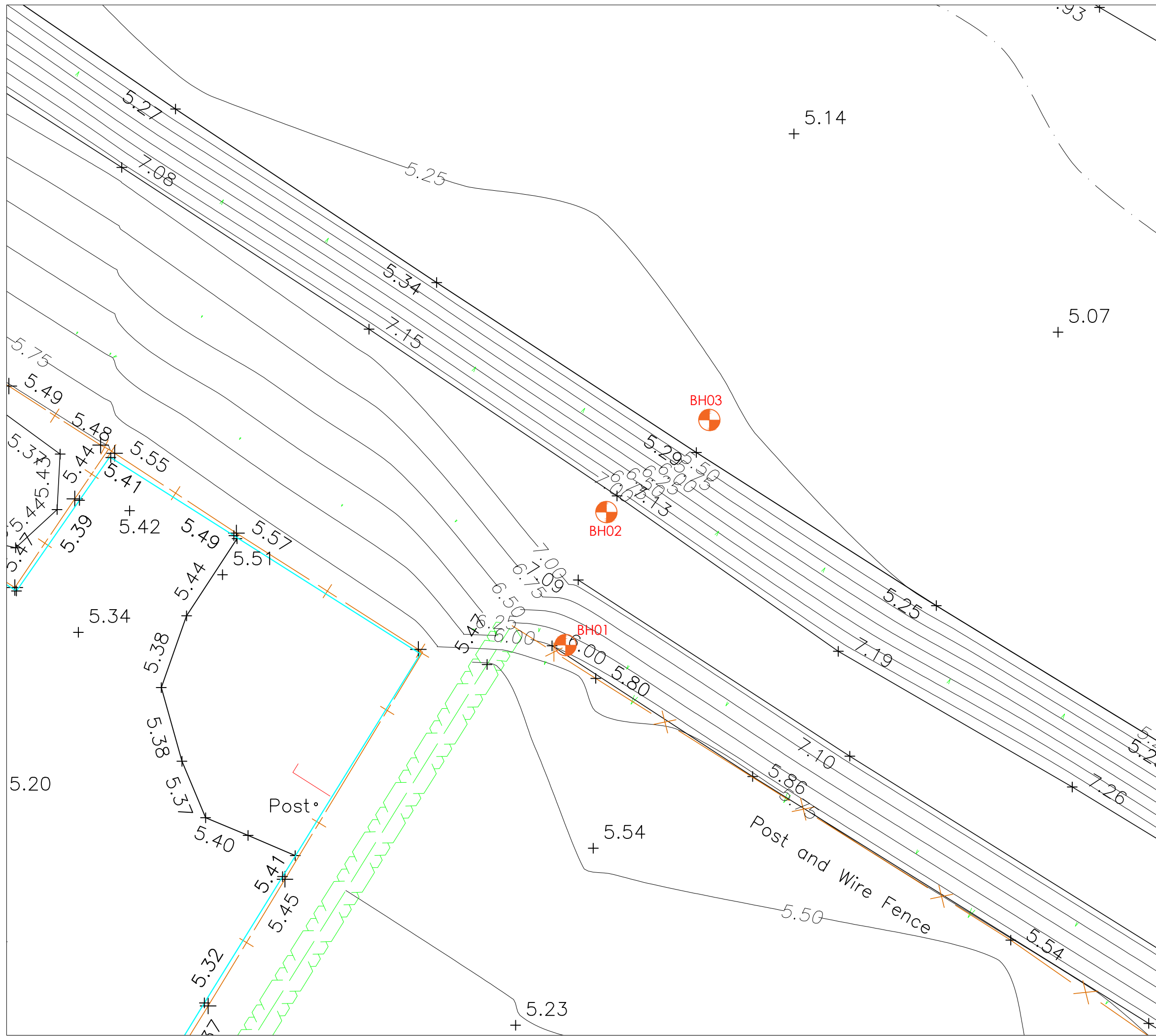
Legend Key

-  Locations By Type - TP
-  Locations By Type - WLS



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Revision	Description	Date
A		

**GroundSolve Ltd**  
 Consulting Geotechnical Engineers

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Job Title  
 Land adjacent to Copart  
 Chester

Drawing Title  
 Exploratory Hole Location  
 Plan

Drawing Scale	Drawn By	Approved By
N/A	JT	SF

Drawing Status	Date of Issue
	March 25

Drawing No	Revision
3219-1-001	

Project Id: 3219

Title: Section Line

Project Title: Land East of Copart, Chester

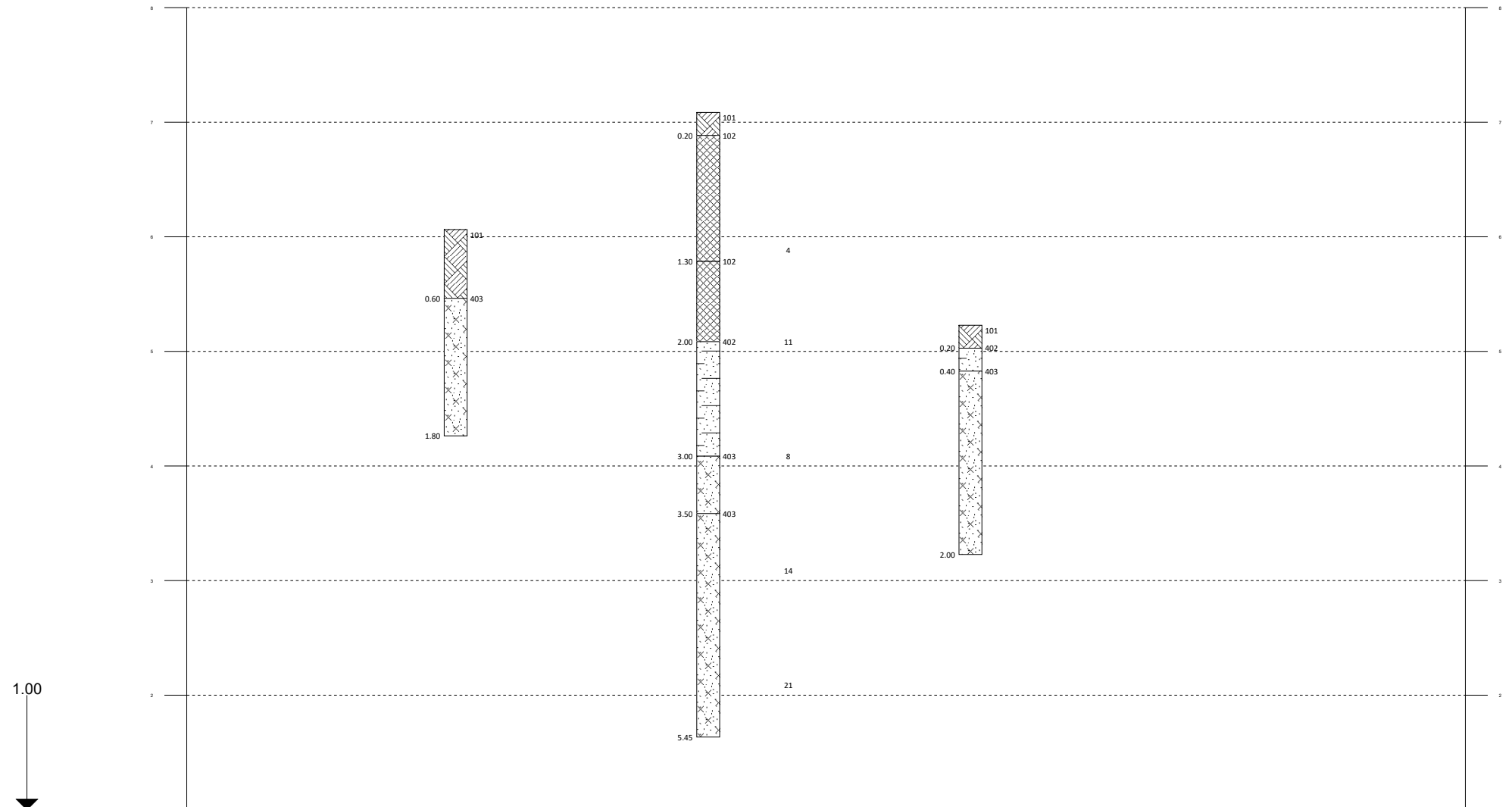
Vertical Scale: 1:50

Location: Prince William Ave, Sandycroft, Chester CH5 2QZ

Horizontal Scale: 1:150

Client: Shear Design Ltd

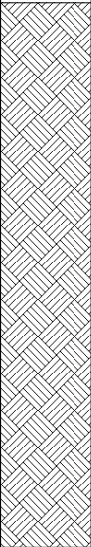
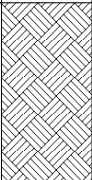
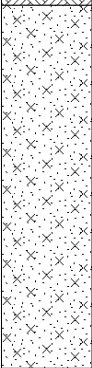
Engineer:



Chainage (m)	0.00	4.68	11.29	18.16	26.12
Elevation (mAOD)		6.06	7.09	5.23	
Offset (m)		0.80	1.59	0.23	

## **APPENDIX B - EXPLORATORY HOLE RECORDS**

Project Name: Land East of Copart, Chester		Client: Shear Design Ltd		Date: 20/03/2025	
Location: Prince William Ave, Sandycroft, Chester CH5 2QZ		Contractor: Regional Drilling		Co-ords: E334401.491 N367247.192	
Project No. : 3219		Crew Name: MS		Equipment: Hand Auger	
Location Number BH01	Location Type TP	Level 6.06m AoD	Logged By JT	Scale 1:25	Page Number Sheet 1 of 1

Backfill/ Instal'n	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.60	5.46		Grass over dark brown silty fine to medium sand TOPSOIL	1
								Brown silty fine to medium SAND	
					1.80	4.26		End of Auger at 1.800m	2
									3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

**Remarks**  
 Hand dug TP to 1.2m, followed by hand Auger  
 No Groundwater encountered  
 Sides unstable from 1.8m - BH Terminated

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Project Name: Land East of Copart, Chester		Client: Shear Design Ltd		Date: 20/03/2025	
Location: Prince William Ave, Sandycroft, Chester CH5 2QZ		Contractor: Regional Drilling		Co-ords: E334403.555 N367253.914	
Project No. : 3219		Crew Name: MS		Drilling Equipment: Premier	
Borehole Number BH02	Hole Type WLS	Level 7.08m AoD	Logged By JT	Scale 1:25	Page Number Sheet 1 of 2

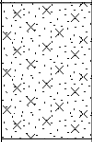
Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20			0.20	6.88		Grass over dark brown silty fine to medium sand TOPSOIL	1
		1.20	SPT (C)	N=4 (1,1/1,1,1,1)	1.30	5.78		Very loose light brown silty fine to medium SAND (MADE GROUND)	
		2.00	SPT (C)	N=11 (1,1/2,3,3,3)	2.00	5.08		Very loose brown fine sandy SILT (MADE GROUND)	2
		3.00	SPT (C)	N=8 (1,2/2,2,2,2)	3.00	4.08		Medium dense brown mottled clayey silty fine SAND with sandy clay lenses - Possible MADE GROUND	
		4.00	SPT (C)	N=14 (2,3/3,3,4,4)	3.50	3.58		Loose brown silty fine SAND with clayey lenses	3
							Medium dense brown silty fine to medium SAND	4	
								5	

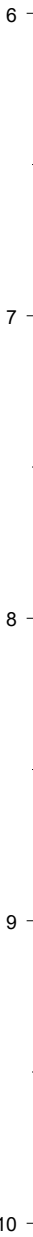
Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

**Remarks**  
 No Groundwater strikes encountered

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Project Name: Land East of Copart, Chester		Client: Shear Design Ltd		Date: 20/03/2025	
Location: Prince William Ave, Sandycroft, Chester CH5 2QZ		Contractor: Regional Drilling		Co-ords: E334403.555 N367253.914	
Project No. : 3219		Crew Name: MS		Drilling Equipment: Premier	
Borehole Number BH02	Hole Type WLS	Level 7.08m AoD	Logged By JT	Scale 1:25	Page Number Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		5.00	SPT (C)	N=21 (3,4/4,5,5,7)	5.45	1.64	 Medium dense brown silty fine to medium SAND	
							End of Borehole at 5.450m	

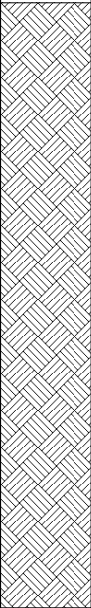


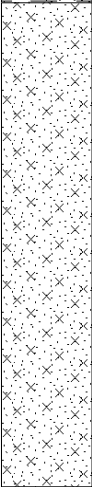


Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

**Remarks**  
No Groundwater strikes encountered

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Project Name: Land East of Copart, Chester		Client: Shear Design Ltd		Date: 20/03/2025	
Location: Prince William Ave, Sandycroft, Chester CH5 2QZ		Contractor: Regional Drilling		Co-ords: E334408.774 N367258.581	
Project No. : 3219		Crew Name: MS		Equipment: Hand Auger	
Location Number BH03	Location Type TP	Level 5.23m AoD	Logged By JT	Scale 1:25	Page Number Sheet 1 of 1

Backfill/ Instal'n	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20	5.03		Grass over dark brown silty fine to medium sand TOPSOIL	1
					0.40	4.83		Brown clayey fine-medium SAND	
									
					2.00	3.23		End of Auger at 2.000m	2
									3
									4
									5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

**Remarks**  
 Hand dug TP to 1.2m, followed by hand Auger  
 No Groundwater encountered

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## **APPENDIX C – SITE PHOTOGRAPHS**



Looking NW towards existing Copart Site



Copart Site Boundary

Looking NW towards existing Copart Site



Looking SE along existing flood bund



Looking South towards existing Copart boundary



BH01 before fieldwork



BH01 after fieldwork



BH02 and BH03 before fieldwork



BH02 and BH03 after fieldwork



BH03 after fieldwork