



# Archaeological investigations at Loversall Carr

2023 Archaeological Assessment Report

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Ben Swain

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## 2023 Archaeological Assessment Report

Prepared on behalf of:

Yorkshire Wildlife Trust  
Potteric Carr Nature Reserve  
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## Purpose of document

This document has been prepared as an Archaeological Assessment Report for a community excavation at Loversall Carr, Potteric Carr nature reserve, Doncaster, South Yorkshire. The purpose of this document is to provide a comprehensive account of the fieldwork undertaken between 1st and 2nd April 2023 and provide recommendations for future work. It is supported by an archive of written, drawn, photographic and digital data.

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## Project summary

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## Acknowledgements

We'd like to begin with a sincere thank you to Jim Horsfall, Kat Woolley, Andy Dalton and Amy Cooper from the Yorkshire Wildlife Trust for approaching us to develop and run such an exciting project and for providing support throughout the project initiation and recruitment phases. We would also like to thank the landowner Verdion for their funding in support of the project. Thanks are also extended to the South Yorkshire Archaeology Service for their assistance during the project.

The project was managed by Kimberley Teale, Programme Manager, alongside Stephanie Duensing, Programme Manager, with Ben Swain as Site Director, alongside Jodie Hannis and Freddy Wannop in the field. Participatory recruitment, communications, bookings and social media content was managed by Maiya Pina-Dacier, Director of Engagement, with Ginny Cole and Maggie Eno.

Final thanks must go to our community of Venturers, without whom this work would never have taken place:

Jacqui Amos, Neil Chudley, Ian Curtis, Caroline Denby, Steve Gillott, Rebekah Glenwright-Cook, Marek Kubica, Susan Lee, Graham McWade, Gill Price, Paul Rice, Andrew Smith, Patricia Tan, Lara Wain, Dawn Whitmore, Phil Wortley and Katerina.



## Executive summary

DigVentures was appointed by the Yorkshire Wildlife Trust to undertake a community-based archaeological investigation at Loversall Carr, Potteric Carr nature reserve, Doncaster, South Yorkshire (NGR: SK 59162 99791), consisting of small-scale archaeological interventions. This report details the results of the fieldwork undertaken in April 2023 to investigate the potential and significance of archaeology relating to geophysical anomalies and cropmarks identified from aerial imagery.

Fieldwork took place between the 1st and 2nd April 2023 investigating the extent, nature and significance of the surviving archaeological remains through a programme of small-scale targeted trial-trenching. The overarching aim of this fieldwork was to provide baseline information to contribute to the future management and presentation of the site, whilst creating multiple educational and participatory learning experiences for community participants.

## Results summary

Three test pits were excavated in a community focussed archaeological investigation at Loversall Carr, Potteric Carr nature reserve (NGR: SK 59162 99791), targeting features interpreted from aerial photograph and geophysical surveys indicative of a potential tri-vallate late Iron Age or early Romano-British enclosed settlement.

Test Pit 1, internal to the settlement enclosure, revealed evidence of probable domestic occupation in the form of a number of small refuse and storage pits as well as a possible linear ditch or drainage gully. The cut marks present on animal bone recovered from these features suggests that at least one of the functions of the site was as a place for living, as evidenced by activities such as processing food, cooking, eating and the discarding of resulting waste products.

Test Pits 2 and 3 focused on two of the three parallel boundary ditches enclosing the settlement itself. Both ditches were confirmed to contain waterlogged deposits of high paleoenvironmental potential. The presence of waterlogged deposits within the enclosure ditches of the settlement itself is particularly intriguing and suggests that the immediate surrounding landscape in the Iron Age was almost certainly a marsh environment. Such a large tri-vallate enclosure (at least 2.6 hectares) set within a low-lying marshland landscape draws parallels with the poorly understood site-type of Iron Age marsh forts, with the nearby nationally important site of Sutton Common just north of Doncaster being at present the only excavated and best understood example in the country.

In total, the project welcomed 17 participants who joined the archaeological team in the trenches and succeeded in attracting a new audience for archaeology, with 59% of participants having never taken part in archaeology activities before. The Potteric Carr community archaeology project offered excavation training and experience to a diverse community of people from the local area, and evidence was collected for 94% of participants. DigVentures' fieldschool training activities have been independently endorsed by ClfA. The insights gained from this evaluation has established a clear community need and demand for more archaeological work at Potteric Carr.



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# 1 INTRODUCTION

## 1.1 Project summary

1.1.1 DigVentures co-designed a community archaeology project with the Yorkshire Wildlife Trust to investigate potential archaeological remains at Loversall Carr, Potteric Carr nature reserve (NGR: SK 59162 99791) (Figure 1).

1.1.2 The extents of crop marks suggesting the presence of Iron Age/Romano-British settlement remains were established at Loversall Carr through the 'Air Photograph Primary Recording Project', which ran from 1992 to 1996, as well as the 'Magnesian Limestone in South and West Yorkshire National Mapping Project', which ran from 2005 to 2006 (Deagen, 2006). A geophysical survey undertaken in 2016 (Headland Archaeology, 2016) as part of a pre-planning assessment for a cable route confirmed the presence of archaeological remains and better defined their extents and locations.

1.1.3 The Yorkshire Wildlife Trust approached DigVentures in 2022 to develop a community archaeology project and further investigate the potential archaeological remains alongside local participants, utilizing a grant from the landowner Verdion. The overarching aim of the fieldwork was to date and characterise aspects of these possible archaeological features and to understand their relationship with one another, through a community-led project designed to engage the local residents of Doncaster.

1.1.4 This report presents an assessment and evaluation of the findings from fieldwork undertaken between 1st and 2nd April 2023 as part of a weekend community field school, which comprised of small-scale archaeological intervention. It forms one of several archive and dissemination products generated by the project, which includes the paper archive and the artefactual material recovered and recorded. All archive material, including artefacts and digital data, is currently held by DigVentures and on completion of the project will be deposited with the Yorkshire Wildlife Trust and the South Yorkshire Archaeology Service HER. The digital archive will be deposited with the ADS and the associated OASIS record will be fully updated.

## 1.2 Site location and description

1.2.1 The site is located at the north-eastern junction of where the A6182 joins the M18 in Doncaster, Yorkshire (NGR SK 59162 99791; Figure 1). Termed 'Loversall Carr', the site is located within the footprint of the Potteric Carr Nature Reserve and comprises a single pasture field, demarcated by fence boundaries with the Beeston Plantation woodland to the west, further pasture fields to the north and east and the motorway to the south. The site is accessible via a farm track from Hall Balk Lane, or through woodland from Potteric Carr Visitor Centre. The site is very level and sits at less than 5m above Ordnance Datum (aOD).

1.2.2 The entire Loversall Carr site measures approximately 11Ha and archaeological investigations targeted a 5Ha area within this where cropmarks depicting the below ground remains appear to be most prevalent.



- 1.2.3 The bedrock geology of the site comprises gravelly sandstone of the Triassic Chester Formation, overlain by superficial Quaternary alluvial deposits of clays, silts sands and gravels (British Geological Survey, 2023).

## 2 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

- 2.1.1 This section provides a brief summary of the desk-based review conducted as part of the Project Design (Teale, 2023), which can be consulted for further detail.
- 2.1.2 A search of the HER data for the site within a 1km buffer around the site boundary returned 35 records, ranging from find spots to monuments and events. There are ten monuments within the 1km site radius, which paint the picture of a prehistoric landscape. The site itself sits within a monument described as '*Iron Age or Romano-British Enclosures, Hut Circles and Field Boundaries, Loversall*' (SYAS Reference 02135/01), comprising a 46Ha area of cropmarks identified from aerial photography.
- 2.1.3 Find spots within the 1km search radius comprise flint axe heads (SYAS Reference 00716/01, 00937/01). Palaeochannels relating to the former Lake Humber, which predates 9050BC, are also evident at Potteric Carr suggesting that the landscape may have been wetland during the prehistoric period (Wessex, 2011).
- 2.1.4 The site was subject to a geophysical magnetometer survey in 2016 as part of a planning stage for a proposed cable route (Headland Archaeology, 2016). The survey data tallied with the cropmark data, confirming the location and extent of the sub-rectangular double and triple-ditched enclosure and smaller enclosures appended to the south-eastern side, as well as circular anomalies relating to probable ring ditches indicative of round houses within the enclosure itself.
- 2.1.5 Directly to the south of the site, the remains of a field system were excavated between 2012 and 2014 which revealed ditches interpreted as relating to a larger Iron Age field system orientated along a north-west to south-eastern alignment. The Air Photo Mapping Project, undertaken as part of the Magnesian Limestone in South and West Yorkshire Archaeological Assessment Project (Deegan, 2006) confirms the extents of this field system through cropmark data.

## 3 PROJECT RESEARCH AIMS AND OBJECTIVES

### 3.1 Project Model

- 3.1.1 The overarching aim of the fieldwork was to define and characterize potential archaeological remains and to provide baseline information that could inform future research at the site whilst facilitating a programme of community engagement. This phase of investigations comprised a structured community assisted project, providing a range of physical and digital opportunities to participate in and/or watch findings.
- 3.1.2 The project aims and objectives were articulated as a series of questions specifically designed to meet the project requirements, which were to:



- understand the extents of the archaeological remains across the site,
  - establish a date and sequence for the triple ditched enclosure
  - understand if there is evidence for phasing or for multi-period usage,
  - investigate and establish whether evidence for structures exists within the enclosure,
  - engage the local community in a participatory and community-led archaeological project.
- 3.2 Aim 1: Define and establish the physical extents and character of the archaeological remains with a programme of non-intrusive investigation.
- 3.2.1 This aim entailed a non-invasive survey of the site, including aerial photographic study, assessment of geophysical magnetometer survey data from Headland Archaeology, as well as undertaking a metal detecting survey. These surveys added to our understanding of the site by addressing the following questions:
- Q1: Can the layout of the enclosure, associated enclosures and the sub-surface archaeology be established by remote sensing and do their locations correlate with the cropmarks as suggested by historical aerial mapping techniques?
  - Q2: Is it possible to identify any phasing in the dataset which could be indicative of an extended period of use?
  - Q3: Can the surveys provide accurate and suitable targets for the test-pitting programme?
  - Q4: Can metal detecting survey identify 'hot spots' of archaeological activity which would not have been obvious from the crop marks and geophysical survey data?
- 3.3 Aim 2 – Characterise the results of the non-invasive survey, investigating the chronological phasing of the site with a programme of test pitting.
- 3.3.1 In the light of the evidence base collated for Aim 1, this aim was addressed with three small, targeted trenches designed to answer the following questions:
- Q5: To what extent do the archaeological remains at the site survive?
  - Q6: Can we establish a chronological narrative for the enclosure, and clarify if there is evidence for phasing or multi-period use with the outer ditches?
  - Q7: Can we identify evidence of structures within the enclosure?
- 3.4 Aim 3 – Understand the site's archaeological and palaeoenvironmental conditions.
- 3.4.1 This aim comprised a basic assessment of archaeological finds recovered during excavations, using appropriate palaeoenvironmental and archaeological techniques to establish preservation and significance.



- Q8: What is the current state of the archaeological and palaeoenvironmental material across the site?
- Q9: How well do deposits and artefacts survive, and how deeply are they buried?
- Q10: What is the range and spatial patterning of artefacts recovered from the archaeological test pits, and can this inform our understanding of the use of the landscape and utilisation of wider resources?
- Q11: Is there the potential to recover palaeoenvironmental data through sampling and to establish a scientifically dated sequence for the site?

### 3.5 Aim 4 – Making recommendations, analysis and publication

3.5.1 This aim required all data from Aims 1 to 3 to be collated, with an integrated analysis of the archaeological and palaeoenvironmental resource at the site, making recommendations to conserve, enhance and interpret the heritage significance of the site.

- Q10: What can an integrated synthesis of the results of this work with previous studies of contemporary regional sites tell us about the site and its setting?
- Q11: Considering evidence recovered from this and previous work, can we articulate the multi-phased use of the site and its immediate environs?
- Q12: Can we formulate recommendations for further archaeological and palaeoenvironmental analysis at the Site based on Aims 1-3, and implement a programme to continue fieldwork?

### 3.6 Aim 5 – Public engagement and communication

3.6.1 This aim was integral to the success of the project and sits with equal importance alongside our research aims. The excavation involved participation from volunteers, who were trained and mentored in the techniques of archaeological excavation. Our site team delivered an in-person programme at a ratio of 1:5 throughout the dig, with online social media updates to engage and inform the public about the archaeological discoveries. In summary, the project offered a range of opportunities for local community members and visitors to the area to get involved and learn more about the archaeology of South Yorkshire.

## 4 METHODOLOGY

### 4.1 Excavation

4.1.1 All work was completed to ClfA *Standard and guidance for archaeological excavation* (2014a) and, unless otherwise stated, in accordance with method statements set out in the Project Design (Teale, 2023). The excavation was carried out in accordance with the company Health and Safety Policy, to standards defined in The Health and Safety



at Work Act (1974), and The Management of Health and Safety Regulations (1999), and in accordance with the SCAUM (Standing Conference of Archaeological Unit Managers) Health and Safety in Field Archaeology (Allen and St. John Holt, 1986), and DigVentures Health and Safety Policy.

4.1.2 The archaeological investigation represented an evaluation stage to establish the current condition of the archaeological remains of the site. This resulted in the excavation of three test pits designed to evaluate the character and preservation of key targets as identified through desk-based surveys. The test pits excavated for the 2023 test pitting evaluation comprised:

- Test Pit 1, measuring 1 x 5m, targeted a possible roundhouse in the centre of the enclosure measuring approximately 18m in diameter. The trench targeted the possible drip gully as well as a ditch that seems to intersect the feature's eastern extents.
- Test Pit 2, measuring 2 x 2m, targeted an apparent terminus to one of the parallel enclosure ditches around the settlement.
- Test Pit 3, measuring 1 x 4m, targeted the second parallel enclosure ditch where it appears to change course, opposite the apparent ditch terminus.

4.1.3 All test pits were de-turfed and excavated by hand. They were subsequently cleaned and photographed prior to hand excavation. A single context recording system was used to record the deposits and a full list of all records is presented in Appendix 1. Layers and fills are recorded '(2001)'. The cut of the feature is shown '[2001]'. Each number has been attributed to a specific test pit with the primary number(s) relating to specific test pits (i.e. Test Pit 2, 2001+, Test Pit 4, 4001+). Features were also specified in a similar manner, pre-fixed with the letter 'F' (i.e. Test Pit 2, F201+, Test Pit 4, F401+). A drawn record of the trenches comprising plans and sections at appropriate scales, annotated with coordinates and AOD heights, was also maintained.

## 4.2 Participation activities

4.2.1 Participation and engagement were integral to the successful delivery of the project aims, and a programme of volunteering opportunities was threaded throughout the project. The project offered a range of opportunities for members of the public to get involved and learn more about the heritage of their local area. Working closely with the wider project team and other local stakeholders, participation opportunities involved learning about a variety of archaeological techniques used to investigate the historic environment.

These included:

- Archaeological test pitting and recording – community excavation of three test pits formed the core activities at Loversall Carr. Our defined curriculum ensured that each participant was able to learn and progress during their time at the excavation.
- Photogrammetry survey workshops – focusing on survey and recording of archaeological test-pits.



#### 4.3 Metal detecting survey

4.3.1 The metal detecting survey was conducted within the red line boundary of the site (Figure 1), covering approximately 10 hectares of ground. The area was surveyed in parallel transects by an experienced metal detectorist accompanied by a professional archaeologist on site. A Minelab CTX3030 detector was used, utilizing multiple frequency transmission and coil to detector data communication, increasing target detection in variable ground conditions at a depth of up to 10 inches.

4.3.2 The survey was conducted within the framework of the association of detectorist's Code of Practice (CoP) for responsible metal detecting in England and Wales, endorsed by the Chartered Institute for Archaeologists (CIfA), and according to guidance issued by the Portable Antiquities Scheme and adhering to legislation laid out in the Treasure Act (1996).

#### 4.4 Artefacts and ecofacts

##### *Animal bone – Hannah Russ*

4.4.1 An assessment of the animal bone assemblage and a summary appraisal of the overall finds assemblage generated from excavations at Loversall Carr in 2023 was conducted. These aimed to provide a broad overview of the range of material culture present with a particular focus on those items which were able to provide insights into the site's past.

4.4.2 The animal remains were identified to element, side and to as low a taxonomic level as possible using the archaeology.biz reference collection and published and online identification guides (Hillson 2003; 2005). Quantification for mammal remains used the diagnostic zone method as presented by Dobney and Rielly (1988). A taphonomic assessment of each fragment was undertaken, recording the presence and absence of cut and chop marks, burning and calcination, any evidence for animal activity (canid or rodent gnawing), and surface preservation; any other surface modifications of note were also recorded.

4.4.3 At this stage, no attempt was made to sex any of the remains, or to measure any elements. Sheep (*Ovis aries*) and goat (*Capra hircus*) and equid (*Equus* sp. horse/donkey/mule) distinctions were also not considered. Fragments of bones that could be identified to element but not any specific species were grouped as far as possible using size and class or order categories. Results were recorded in an electronic proforma in Microsoft Excel.

4.4.4 The assessment has been undertaken in line with published standards and guidelines (Baker and Worley 2019; CIfA 2014b), a project design and WSI for the excavations (Teale 2023) and with reference to the South Yorkshire Historic Environment Research Frameworks (<https://researchframeworks.org/syrf/>) for the Iron Age and Roman periods.



### *Ceramics and metalwork – Stephanie N. Duensing*

- 4.4.5 The assessment aimed to identify, sort, spot date, and quantify the artefacts and describe their range. The information has been used to provide a preliminary assessment of the significance of the artefacts.
- 4.4.6 All artefacts collected in the field were recovered by hand. All hand-retrieved finds were examined. They were identified, quantified and dated to period. The artefacts were examined by eye or under x20 magnification. Fabrics were categorised and dated using published typologies for the Post Medieval material type produced by MOLA.
- 4.4.7 The project conforms to standards and guidance issued by the Chartered Institute for Archaeologists (CIfA 2014b), as well as further guidance on pottery analysis, archive creation and museum deposition created by various pottery study groups (PCRG/SGRP/MPRG 2016), the Archaeological Archives Forum (AAF 2011), and the Society of Museum Archaeologists (SMA 1993).
- 4.4.8 The ceramic building material was examined by context with material grouped by fabric type and form where possible. Unidentifiable fragments were classed as 'B/T' (Brick tile). Metrics recorded were number of fragments, No, weight in grams, Wt, and no of corners, CNR. Complete dimensions were recorded in mm. Mean sherd weight, MSW, was calculated by Wt/No
- 4.4.9 All finds were treated in accordance with the relevant guidance given in the Chartered Institute for Archaeologist's *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (2014b). Archaeological material was handled and sorted following advice in Watkinson and Neal (2001). All artefacts from excavated contexts were washed, counted, weighed, and identified. Finds recovered were assessed and examined to provide an identification, date, and provenance of the material, and to also evaluate the significance of the assemblage.

## 5 EXCAVATION RESULTS

### 5.1 Introduction

- 5.1.1 A community-based test-pitting weekend was undertaken between the 1st and 2nd April 2023, exploring the nature and preservation of the archaeology of the site whilst providing opportunities for public participation, skills training, and volunteering.
- 5.1.2 Prior to the test-pitting weekend, a metal detecting survey was undertaken between the 22nd and 24th of March 2023 targeting the area within the red line site boundary (Figure 1). The survey produced only one artefact of special historic significance; an Iron Age gold stater (SF1) recovered from topsoil. Specialist assessment of this coin was undertaken and the results are available in section 6. A small number of additional iron (ferrous) modern artefacts were recovered of a suspected 19th to 20th century agricultural origin and were not retained.



5.1.3 Three test pits were positioned to investigate geophysical anomalies and cropmarks from aerial imagery possibly relating to Iron Age/Romano-British settlement at Loversall Carr. The following stratigraphic assessment addresses the project's aims and objectives (see Section 3.0) by obtaining baseline data that will facilitate its future management and inform further research, whilst refining our understanding of the chronology and occupation at Loversall Carr. Detailed trench and context descriptions are available in tables 1-3 of Appendix 1 and ortho-rectified trench plans are available in Figures 2-4. Digitised drawings of representative trench sections are available in Figures 5-6 and record photographs of Test pits and archaeological features are available in Figures 7-8.

## 5.2 Test Pit 1

5.2.1 Test Pit 1, measuring 5.00 x 1.00m, was located targeting geophysical anomalies interpreted as the possible curvilinear ring ditch or drip gully of a roundhouse, measuring approximately 18.00m in diameter, and an intersecting linear ditch.

5.2.2 Ploughsoil (1001) was excavated by hand to a maximum thickness of 0.33m, where the natural geology (1007) was encountered. A small exploratory excavation into this material measuring 1.00m in length, 0.50m in width and 0.16m in depth at the northwestern end of the test pit revealed it to consist primarily of yellowish orange-brown sands and patches of clay. This represented the common stratigraphic sequence throughout Test Pit 1.

5.2.3 Archaeological features representative of the possible curvilinear ring gully or linear ditch interpreted from the geophysical survey were not encountered. However, a small number of other features and deposits were observed cutting the natural geology. A small pit [1003], measuring 1.10m in length, 0.74m in width and 0.20m in depth, was excavated in the northwestern half of the test pit containing occasional charcoal flecks and fragments of animal bone, some of which appeared to be burnt. The burnt material suggests the presence of a possible small refuse pit. A second small pit [1005] measuring 0.48m in length, at least 0.26m in width and 0.15m in depth was observed protruding from the southwestern limit of excavation in the southeastern half of the test pit. It was partially excavated and interpreted as a possible storage pit due to the silty nature of the fill (1004) and the lack of any artefacts recovered. A deposit of dark greyish brown clayey silt containing frequent charcoal flecks (1006), measuring at least 1.80m in length and 0.40m in width, was observed protruding from the southwestern LOE of the test pit but was not excavated due to time constraints. Fragments of animal bone were recovered from the surface of this deposit. Further investigation would be required to determine whether (1006) represents a layer overlying the natural geology (1007) or a linear cut feature, such as a ditch or gully.

5.2.4 Whilst no diagnostically dateable material was recovered from the buried deposits excavated in Test Pit 1, the presence of archaeological features such as pits [1003] and [1005], as well as deposit (1006), confirm the existence of surviving archaeological remains internal to the bounds of the settlement enclosure itself. In form and character, it is very likely these features relate to activity associated with the probable Iron-Age/Romano-British settlement.





### 5.3 Test Pit 2

5.3.1 Test Pit 2, measuring 2.00 x 2.00m, was located adjacent to Test Pit 3 targeting a geophysical anomaly interpreted as possibly relating to the terminus of one of three probable parallel enclosure ditches to the settlement. This terminus could have represented part of a break or entranceway into the settlement itself; the same one being targeted in Test Pit 3. Ploughsoil (2001) was excavated by hand to a maximum thickness of 0.35m where the natural geology (2005) was encountered consisting primarily of yellowish orange clays and sands. This represented the common stratigraphic sequence throughout Test Pit 2.

5.3.2 The only feature excavated in Test Pit 2 was probable enclosure ditch [2003]. This feature, measuring 1.10m in width and at least 0.40m in depth, was aligned NW-SE and did not appear to terminate within test pit 2, apparently continuing beyond the 2.00m length between the NW and SE limits of excavation. However, it is also very possible that the terminus itself has been heavily truncated by animal burrowing and bioturbation, as was visible in other areas of Test Pits 2 and 3. Further investigation would be required to confirm or deny this.

5.3.3 The ditch was investigated to a depth of 0.40m before excavation ceased due to time constraints and contained at least two fills. Secondary fill (2004) consisted of a wet dark reddish brown silty peat with occasional sandstone pieces and charcoal flecks measuring at least 0.13m in thickness. Upper fill (2002) was very similar in nature, consisting of a damp and very dark greyish brown silty peat measuring 0.27m in thickness. No artefacts were recovered from either fill of ditch [2003], but due to the very good state of waterlogged preservation beneath the levels of the water table, there is excellent potential for both organic and non-organic dateable artefacts to survive in deposits further down within the ditch. The presence of ditch [2003] within Test Pit 2 confirms the existence of an enclosure or boundary ditch for the settlement itself at this location, as anticipated from the geophysical survey. In form and character, it is almost certain this feature relates to the innermost of the three enclosure ditches associated with this possible Iron-Age/Romano-British settlement. The apparent continuation of the ditch, not observed as part of the geophysical survey, warrants further investigation to clarify what had initially been interpreted as a possible break or entranceway to the settlement itself.

### 5.4 Test Pit 3

5.4.1 Test Pit 3, measuring 4.00 x 1.00m, was located adjacent to Test Pit 2 targeting a geophysical anomaly interpreted as possibly relating to a second of the three probable parallel enclosure ditches at a point where it seems to change course. This change of course could have formed part of a break or entranceway to the settlement itself; the same one being targeted in Test Pit 2. Ploughsoil (3001) was excavated by hand to a maximum thickness of 0.45m where the natural geology (3005) was encountered at the eastern and western ends of the Test Pit consisting primarily of yellowish orange and grey clay and sands. This represented the common stratigraphic sequence throughout Test Pit 3.

5.4.2 The only feature excavated in Test Pit 3 was probable enclosure ditch [3004]. This feature, measuring 2.70m in width and at least 0.30m in depth, was aligned north to



South and continued beyond the 1.00m distance between the northern and southern limits of excavation, making it almost certainly the same ditch targeted from the geophysical survey.

- 5.4.3 A 1.00m wide intervention was made into the ditch at its Eastern edge to a depth of 0.30m, revealing at least two fills before excavation ceased due to time constraints. Secondary fill (3003) measured at least 0.10m in thickness and consisted of a very waterlogged dark reddish brown organic/humic peat containing very regular small degraded pieces of natural unworked wood. Upper fill (3002) was very similar in nature, consisting of a wet and very dark greyish brown silty peat measuring 0.20m in thickness. No artefacts were recovered from either fills of ditch [3004], but due to the very good state of waterlogged preservation beneath the levels of the water table, there is excellent potential for both organic and non-organic dateable artefacts to survive in deposits further down within the ditch.
- 5.4.4 The presence of ditch [3004] in Test pit 3 confirms the existence of an enclosure or boundary ditch for the settlement itself at this location, as anticipated from the geophysical survey. In form and character, it is almost certain this feature relates to the middle of the three enclosure ditches associated with this possible Iron-Age/Romano-British settlement. The 2.70m width of this ditch suggests a much more substantial construction than ditch [2003] investigated in Test Pit 2. However, further work would be needed to refine our understanding of what had initially been interpreted as a change of course in this ditch, possibly representative of a break or entranceway to the settlement itself.

## 6 ARTEFACTS

### Ceramics and metalwork

*Stephanie N. Duensing*

#### 6.1 Introduction

6.1.1 Assessment was undertaken in November 2023, of a very small assemblage of post medieval ceramic and metal artefacts from excavations carried out by DigVentures at Loversall Carr, Potteric Carr Nature Reserve, in April 2023. The assemblage consisted of six fragments of pottery weighing 15g, four fragments of ceramic building material weighing 103g, one fragment of mortar weighing 9g and two metal artefacts weighing 53g. A full catalogue of the artefacts assessed is available in table 4 of Appendix 2.

6.1.2 This assessment aimed to identify, sort, spot date, and quantify the artefacts and describe their range. The information has been used to provide a preliminary assessment of the significance of the artefacts.

#### 6.2 Pottery

6.2.1 Assessment of a small assemblage of six ceramic artefacts recovered from excavations at Potteric Carr Community Dig in April 2023 was undertaken in November 2023. A



group of refined earthenware ceramic fragments and one sherd of English stoneware is likely to be related to late post medieval activity in the wider area, specifically representing residual material deposited during subsequent agricultural activities during the Victorian period and 20th century. Table 5 of Appendix 2 shows the pottery occurrence by number and weight of sherds per context and by fabric type.

6.2.2 Fabrics consisted nearly entirely of refined earthenware and one sherd of stoneware. Refined wares made up the majority of the assemblage, accounting for 83.3% by count and 85.7% by weight of the total material recovered. The fabrics recovered are described by using the MOLA Codes (<https://www.mola.org.uk/files/resource-downloads/MedievalAndPost-medievalPotteryCodes>) and are described in the catalogue below:

- **REFW refined white earthenware:** White inclusionless fabric. Wheel-thrown, total clear glaze, 19<sup>th</sup> to 20<sup>th</sup> century.
- **TPW refined white ware with underglaze transfer-printed decoration:** White inclusionless fabric. Wheel-thrown, total clear glaze over many varieties of decorative patterns, colours and techniques, 19<sup>th</sup> to 20<sup>th</sup> century.
- **ENGS English salt-glazed stoneware:** Very hard grey fabric; dense texture, mid-18<sup>th</sup>-20<sup>th</sup> century.

6.2.3 Trench 1: The material from Trench 1 was recovered in the topsoil (1001). The topsoil produced the only material from this assemblage, accounting for 100% of the total material collected. Fragments of two fabrics, whiteware and stoneware, were both from the 19th century onwards in date.

6.2.4 Trench 2: Only one fragment of pottery was found in Trench 2, from topsoil (2001). This fragment of undecorated whiteware dates to the late 19th century.

6.2.5 Trench 3: The material from Trench 3 was recovered in the topsoil (3001). Two fragments of whiteware, one was blue and white transfer print the other an undecorated sherd, were both from the 19th century onwards in date.

### 6.3 Ceramic building material and mortar

6.3.1 There were four fragments weighing 103g of ceramic building material (CBM) from context (2001) and one fragment of mortar weighing 9g from context (1001) presented for assessment. These were examined by context, fabric type, mortar type and were recorded with number of fragments and weight in grams. Table 6 of Appendix 2 shows the complete catalogue of CBM.

6.3.2 All four fragments of ceramic building material recovered were of fabric type BT01. This is a red fabric with an irregular fracture and sandy feel. It has inclusions of moderate black ironstone at 0.4mm and sparse sub rounded quartz at 0.4mm in a fine sandy matrix of possible 19th century origin. One fragment of tile was recovered displaying deep striations on the upper and lower face with a rounded edge indicating a fragment of capping tile. Three fragments were unidentifiable by form and classed as 'Brick Tile.' The single piece of white medium grain mortar recovered was likely used for bonding and is expected to date to the 19th century or later.



## 6.4 Metalwork

- 6.4.1 In total, two metal items were recovered, comprising of one iron (Fe) hinge lock (unstratified) and one metal alloy button (3001), from the Potteric Carr community dig in April 2023. All metalwork was late 19th to 20th century and recovered as residual finds from unstratified material or topsoil (3001). An iron (Fe) hinge lock weighing 51g was found in unstratified material on the surrounding ground surface. There is an impression of a maker's mark reading:

"SHOWLE..  
MAKE..  
DONCAST.."

- 6.4.2 A 19th century metal alloy button weighing 2g was recovered from topsoil (3001) in TR3. It is circular with an annular etched banding on the centre.

### Animal bone

*Hannah Russ*

## 6.5 Introduction

- 6.5.1 Mammal remains (49 fragments weighing 0.296 kg) were recovered via hand collection during archaeological excavation at Loversall Carr by DigVentures in 2023. This assessment includes quantification of the animal bone assemblage, identification at species level where possible, an assessment of significance and recommendations for any further work.

## 6.6 Results

- 6.6.1 Mammal remains (n=49) were recovered from three contexts in Trench 1 (1001, 1002, and 1006) via hand collection during archaeological excavation at Loversall Carr in 2023 (Table 7, Appendix 2). The remains included domestic cattle (*Bos taurus*), domestic pig (*Sus domesticus*) and sheep/goat (*Ovis aries/Capra hircus*). Other mammal remains were identified at class level (mammal) within size categories (44.9% by count, n=22).
- 6.6.2 Bone surface preservation varied throughout the assemblage from 'good' to 'poor' (categories 2-4). Most of the specimens displayed 'moderate' or 'poor' surface preservation (95.9% by count, n=47). Fragmentation was high throughout the assemblage with many partial bones recovered and some re-fitting fragments of single specimens. Teeth were better preserved with four out of five of the teeth recovered surviving complete.
- 6.6.3 Evidence for butchery in the form of fine cut marks was observed on three specimens throughout the assemblage. The butchered remains included a sheep/goat metatarsal with cutmarks around shaft on the cranial surface, c. 1cm below the proximal epiphysis,



as well as a skull and a longbone shaft fragment consistent with medium to large-sized mammal.

- 6.6.4 Evidence for carnivore activity was observed on the distal shaft of a sheep/goat tibia. Gnawing activity provides evidence for the presence of carnivores, likely domestic dogs and/or foxes, at the site and that animal remains/carcasses were accessible to these animals at some point after their deposition. No evidence for rodent gnawing was observed.
- 6.6.5 No skeletal abnormalities possibly resulting from disease, injury or age were recorded. Burnt bone was recovered from all three contexts from which bone was recovered, 8 fragments in total. The burnt remains included three re-fitting fragments of a cattle phalanx 2 from context 1001 (topsoil), four fragments identified as being consistent with medium mammal from context 1002, and a longbone shaft fragment from a medium/large mammal from context 1006.
- 6.6.6 A sheep/goat metatarsal from context 1002 was the only specimen sufficiently complete to allow for measurement for use in size estimation. Bone fusion data for estimation of age at death was recorded for one or both epiphyses of three specimens. No mandibles or loose teeth were suitable for providing age at death data. A pig mandibular canine tooth from context 1006 was consistent with a female individual; no other animal remains were suitable for identifying sex.

### Iron Age Coin

*Anni Byard*

- 6.6.7 A single Iron Age gold stater (SF1, Figure 9) was recovered from the topsoil by metal detecting. The coin is of the 'sunflower' type (ABC 1737), issued in the North Eastern region and associated with the *Corieltavi*. The coin was struck in Phase 6 (c. 50-20 BC). It measures 19.7mm in diameter and weighs 5.5g. The obverse displays wreath, cloak and crescents whilst the reverse shows Lunate horse to the left, 'anchor' face above, pellet sun below (worn and mostly off-flan), pellet-in-ring to left of horse's head and pellet with rays in front of horse (cf. Van Arsdell 805-11).

### Lithics

- 6.6.8 A single piece of worked flint was discovered in ploughsoil (3001) weighing 11g. The item shows some evidence of possible light retouch along one edge, but is too fragmentary to identify as anything more than a waste flake. Specialist assessment was not deemed necessary at this stage due to the fragmentary nature of the artefact and the unstratified context within which it was discovered. The item will be retained with the project archive.

## 7 PUBLIC IMPACT

*Anna van Nostrand and Johanna Ungemach-Goutsos*

### 7.1 Introduction

- 7.1.1 This report details a rapid assessment of the social impact for project participants of the Potteric Carr community archaeology project, in particular the pilot excavation in



April 2023. DigVentures defines social impact as a measure of the positive and negative primary and secondary long-term effects produced by the programme, whether directly or indirectly, intended or unintended, over and above what would have happened in the absence of the project initiative. Results were analysed using a bespoke social impact methodology, drawing on DigVentures' Theory of Change and Standards of Evidence framework (Wilkins 2019, 77; Wilkins 2019, 30). Figures 10 to 13 present details of venturer demographics and locations as well as photographs of participants engaging in the archaeological investigations over the test-pitting weekend.

7.1.2 Public engagement was integral to the successful delivery of the project aims of the pilot excavation. The project was designed so that 'Volunteers will be trained to co-produce an archaeological archive under the supervision of trained heritage professionals, enabling local participants to get hands-on with their past' (Teale, 2023, p14).

## 7.2 Public programming

7.2.1 A carefully designed community excavation was programmed for the weekend of the 1st and the 2nd of April, creating different levels of participation opportunities from taster day sessions to the full weekend, for both adults and teenagers. The two days of archaeological excavation were dedicated to servicing a research brief with participation and training of venturers in the trench to National Occupational Standards:

- Excavation training for teenagers and adults (1st & 2nd April) – 17 participants

7.2.2 The excavation was covered by the Doncaster Press and the Yorkshire Post (<https://shorturl.at/eimsP>), as well as the Wildlife Yorkshire Magazine, Summer 2023 edition on page 14, and BBC radio Sheffield further conducted a live interview with DigVentures staff and volunteers about the excavation.

7.2.3 Any evaluation of social impact needs to go beyond a list of output numbers of participants and visitors (Gould 2016). DigVentures has developed a bespoke evaluation methodology for measuring the social impact of public archaeology programmes and this is discussed in specific relation to the Potteric Carr community archaeology project further below.

7.2.4 The Potteric Carr community archaeology project audience comprised both experienced and first-time participants, who joined the project through a formal booking process for 17 participants, in addition to 356 visitors to the dig across the weekend (119 on Saturday and 237 on Sunday). DigVentures have developed a methodology for measuring the social impact of archaeology programmes for participants, pictured as a Theory of Change detailing outputs, outcomes and impacts. In this framework, social impact can be conceived as the difference that activities make to people's lives over and above what would have happened in the absence of that initiative. Outputs are a measurable unit of product or service, such as a community excavation; outcomes are an observable change for individuals or communities, such as acquiring skills or knowledge. Impact is therefore the effect on outcomes



attributable to the output, measured against two metrics: scale, or breadth of people reached; and depth, or the importance of this impact on their lives.

7.2.5 The credibility of a Theory of Change rests on the level of certainty that organisational activities are the cause of this change. For this certainty to be achieved, the correct data must be collected to isolate the impact to the intervention. The DV Theory of Change is therefore linked to a Standards of Evidence framework designed to articulate and highlight the causal links between activity and change. These tools are then used to create a bespoke, project specific evaluation table linking activities, outputs, outcomes and evidence base.

7.2.6 In support of this overarching methodology, a data collection strategy was undertaken for all excavation participants. They were interviewed before their experience (94% completion rate, or 16 in total) and post dig experience (94% or 16 in total). As this was the pilot stage, the report focuses on output numbers and socio-economic distribution of participants. The outputs numbers are discussed in turn below.

### 7.3 Social impact – excavation participants

7.3.1 To ensure that a wide range of people can get involved in archaeology, people were invited to actively participate in the excavation for as many days as they liked to get a taste of the work happening in the trench, all of which followed DigVentures' CfEA-endorsed Field School curriculum.

7.3.2 The project presented an opportunity for the Venturers to take part in an archaeological excavation from start to finish, beginning by deturfing by hand to recording the archaeology over the course of the excavation. DigVentures' archaeological curriculum is designed to ensure that anyone joining receives structured learning and can develop their skills incrementally. All our field training is designed in line with National Occupational Standards (NOS) and all participants are encouraged to record their progress in learning new skills. This means participants were able to use tools such as the CPD Skill Passport to track their progress.

7.3.3 Gender profiles for participants were broadly balanced, with 53% using the pronouns she/her and 47% using the pronouns he/him. The age of participants ranged from young adults of 25-34 to people between 65-74. The 16 participants who provided their profession represented a variety of full and part-time occupations (56%, or 9 in total) and retirees (29%, or 5 in total). The remainder were students, either of compulsory educational age or those attending university (6% or 1 in total), and homemakers (6%, or 1 in total). The ethnic background of participants was predominantly white, however two participants did not convey any information and one participant described themselves as white, but not British (see Figure 10).

7.3.4 Examples of professions included solicitor, project manager, history teacher, technical director, telecoms engineer, environmental consultant and COO/Data Protection Director. Digging opportunities were also taken up by people with lower income. This illustrates that the free excavation opportunity allowed participation by a range of people, and they were also taken up by younger participants, which is an improvement on existing community archaeology provision compared with the typically retired, over 65 local civic society groups (Wilkins 2020, 33).



- 7.3.5 All participants live in the UK and the majority of participants were locals with 83% (n=14) living no further than 25 miles away from the site. Nevertheless, the total geographic distribution of participants is spread more widely as 6% (n=1) of participants respectively travelled between 25 and 50 miles, and 100 miles or more to have the opportunity to take part in the excavation. No respondent lives within the 50-100 miles bracket, although it is possible that the individual who didn't disclose their postcode falls into this category (see Figure 11).
- 7.3.6 In addition to widening the demographic and socioeconomic range of participation (when compared to existing community archaeology provision), the project also attracted a new audience for archaeology, with 59% of participants (n=10) having never taken part in archaeology activities before (see Figure 10).
- 7.3.7 After their experience, participants were asked about what they liked and didn't like about their time on site. This is a selection of their highlights:
- "Understanding the process. It's an eye opener, it's something I would repeat (Paul, validation specialist 55-64)
  - "Being involved with something on my backdoor. It's opened my eyes and I enjoyed being part of a team" (Ian, 65-74)
  - "Widening my knowledge and understanding in particular of ditches" (Susan, civil servant, 35-44)
  - "Digging locally was absolutely fabulous and working with people who've never done archaeology and how they develop so quickly. And getting to the bottom of the ditch!" (Dawn)
  - "Starting the process from the beginning and seeing the features/finds emerging" (Marek, retired 65-74).

## 8 CONCLUSIONS AND RECOMMENDATIONS

8.1.1 The overall aim of the 2023 fieldwork at Potteric Carr nature reserve was to define and characterise potential archaeological remains and to provide baseline information that could inform future research at the site whilst facilitating a programme of community engagement. The community-focused nature of this research provided an opportunity for local people to actively participate in the investigations, learning new skills in methods of archaeological research whilst engaging with their local heritage and each other. It also provided a chance for local participants to connect with the natural environment at Potteric Carr nature reserve in a new way. The following discussion provides conclusions and recommendations drawn from the project's results, fulfilling the aims and objectives set out in the initial Project Design (Teale 2023).

### 8.2 Excavations

8.2.1 Excavation had the potential to contribute to our understanding of the extent and character of the site, ground-truthing the results of the geophysical and aerial imagery surveys, whilst providing base information that could be used to understand the site's





archaeological and paleoenvironmental conditions, informing its future management and the potential for further archaeological research.

- 8.2.2 Test Pit 1, internal to the settlement enclosure, revealed evidence of probable domestic occupation in the form of a number of small refuse and storage pits as well as a possible linear ditch or drainage gully. The animal bone recovered from these features showed signs of cut marks and burning, providing further supporting evidence for domestic habitation in the vicinity. Therefore, it is likely that at least one of the functions of the site was as a place for living, as evidenced by activities such as processing food, cooking, eating and the discarding of resulting waste products.
- 8.2.3 Whilst no diagnostic dateable material or direct evidence of domestic structures was encountered in Test Pit 1, this is most likely due to the very limited size of the intervention. Furthermore, it is also possible that plough scars and bioturbation, visible across all three test pits, may have played a part in obscuring or truncating away evidence of any ephemeral archaeological features interpreted from the geophysical survey in this location, such as shallow roundhouse drip gullies, that may have once existed in this small excavation area.
- 8.2.4 Excavations in Test Pits 2 and 3 focused on two of the three parallel boundary ditches enclosing the settlement itself. Both ditches were confirmed to contain waterlogged deposits of likely high paleoenvironmental potential. Whilst no artefactual evidence was recovered due to the very limited size of the interventions, it is considered likely that preserved dateable material of an organic and inorganic nature that is diagnostic of both the character and function of the site exists within these waterlogged ditch deposits.
- 8.2.5 The presence of waterlogged deposits within the enclosure ditches of the settlement itself is particularly intriguing and suggests that the immediate surrounding landscape in the Iron Age was almost certainly a marsh or wetland environment, likely even more so than it is today. Such a large tri-vallate enclosure (at least 2.6 hectares) set within a low-lying marshland landscape draws parallels with the poorly understood site-type of Iron Age marsh forts, with the nearby nationally important site of Sutton Common just north of Doncaster being at present the only excavated and best understood example in the country.
- 8.2.6 It is recommended that future archaeological research at Loversall Carr focuses particularly on characterising the high paleoenvironmental potential of the waterlogged deposits observed at the site, as well as refining our understanding of the internal function and layout of the enclosure along with associated chronological phasing. Such research would be key in furthering our understanding of tri-vallate Iron Age enclosures in a wetland environment, as well as how late prehistoric communities interacted with the marshland landscape in this region.

### 8.3 Artefacts

#### *Animal Bone*

- 8.3.1 The range of taxa identified in the animal bone assemblage from Loversall Carr are consistent with those recovered from archaeological sites in Britain dating between



the Neolithic and recent times (Baker and Worley 2019, 3), including the main domestic livestock taxa mainly associated with meat. Cattle were kept for meat, traction, milk and/or leather, pigs for meat, and sheep/goat for meat, milk and/or wool. These animals are common features within the assemblages of animal bones recovered from sites within the region and throughout Britain, being three of the main domestic livestock animals. The presence of cut-marks on three specimens indicates that at least some of the remains represent food waste.

- 8.3.2 The animal bone provides some information regarding the role of animals at the site and is of some local significance. The overall small size of the assemblage, moderate to poor surface preservation, high levels of fragmentation and low level of identification at species level make it difficult to comment on the role of different types of meat in the diet of those living in the area, and it is not possible to comment further on the role of these animals at the site at this time.
- 8.3.3 No further work is recommended for the animal bone from Loversall Carr. The remains may be discarded on completion of the project. This report and associated data should be integrated into any site-wide grey literature or publication reporting and retained within the site archive.

#### *Pottery*

- 8.3.4 Finds from this modest assemblage were exclusively recovered from the topsoil and it is hard to offer certainties given the size and superficial nature of the fragments. However, we can say that the fragments were residual at the time of deposition, likely from waste linked to activities from the land management in the immediately surrounding area. All of the fabrics recovered are from utilitarian or service wares in late 19th century whiteware, typologies whose function is linked with domestic food and drink service or preparation.
- 8.3.5 The artefacts are consistent with a late Victorian date but an early 20th century date cannot be ruled out due to the residual nature of the material. Further analysis of this sample is not likely to yield more information due to the late nature of the associated material and superficial nature of the context. The material should be discarded in line with regional best practice or retained by the land owner should they wish.

#### *Ceramic building material and mortar*

- 8.3.6 This was a small group of CBM and mortar of probable 19th century date or later. Much of this material likely derives from a nearby structure, although there is a chance that it has been brought in from further afield from manuring practices. The material appears to be a result of Victorian works.
- 8.3.7 It is unlikely further work would yield useful information with respect to the project design. The material should be discarded in line with regional best practice or retained by the land owner should they wish.

#### *Metalwork*

- 8.3.8 Due to the superficial and modern nature of the material recovered, it is unlikely that further work would add to the understanding of the site or further address the



questions in the project design. The material should be discarded in line with regional best practice or retained by the land owner should they wish.

### *Lithics*

- 8.3.9 Whilst the singular fragmentary flint waste flake recovered from the topsoil of Test Pit 3 was not associated with archaeological features, its presence is of no surprise given the probable Iron Age date for the site. It is very likely that further excavation would yield a greater assemblage of lithic artefacts. The item warrants no further analysis at this stage but should be retained with the project archive and assessed alongside any additional lithics recovered from future excavations at Loversall Carr.

### *Iron Age Coin*

- 8.3.10 Although found in the topsoil and not directly associated with any archaeological feature, the site itself is suspected to be of late Iron Age / Roman date. Whilst staters are usually found away from settlement sites, this is not always the case.
- 8.3.11 This issue is considered 'rare' (Cottam et al 2010, 92), with 39 examples recorded by the Celtic Coin Index (CCI) and c. eight recorded with the Portable Antiquities Scheme (PAS), including three from the Yarwell (Nthants) hoard (PAS ID: NARC-961655). Examples were also included in the South Ferriby (Lincs) and Walkington (East Riding) hoards. Their distribution is concentrated in East and South Yorkshire, and north Lincolnshire, with some outliers. This example from Potteric Carr near Doncaster sits towards the western-most distribution of known examples. No further work is required; however, this coin should be illustrated in any future report or publication.

## 8.4 Public Impact

- 8.4.1 As a community focused project, public engagement was integral to the research aims and success of the archaeological investigations at Loversall Carr, Potteric Carr nature reserve. Mainly local community members but also people from further away were offered a chance to explore the archaeology first hand. In total, the project welcomed 17 participants who joined the archaeological team in the trenches and succeeded in attracting a new audience for archaeology, with 59% of participants having never taken part in archaeology activities before.
- 8.4.2 The Potteric Carr community archaeology project offered excavation training and experience to a diverse community of people from the local area, and evidence was collected for 94% of participants. Training activities were also independently endorsed through ClfA. The insights gained from this evaluation have established a clear community need and demand for more archaeological work at Potteric Carr, and further evaluation will analyse the deeper motivations and impact of the public engagement programme.



## 9 DISSEMINATION AND ARCHIVING

### 9.1 Dissemination and reporting

9.1.1 Rapid dissemination of the results to, and involvement of, stakeholders of the project was vital throughout. This took place through multiple channels, addressing a multitude of established and new audiences. Dissemination included:

- Daily news updates on all major DigVentures and Yorkshire Wildlife Trust social media channels (Facebook, Twitter and Instagram), amplified through third-party coverage on social media
- Wide circulation the excavation report and links to the OASIS record: Oasis ID: digventu1-513639

9.1.2 In addition, this report provides an evaluation of the archaeological deposits and finds with discussion and interpretation linking directly to the evidence presented (such as 3D models, context descriptions and finds profiles). The report also presents qualitative and quantitative public impact evaluation data collected from dig participants and visitors to the site, linked to our Theory of Change. A stable and comprehensive project archive has been prepared and will be deposited with the Yorkshire Wildlife Trust, and the South Yorkshire Archaeology Service HER. The project report will be made publicly available through the DigVentures website and ADS library.

### 9.2 Project archive

9.2.1 The physical archive was assessed in accordance with the Doncaster Museum Archaeological Archive Policy and in line with DigVentures guidelines as outlined in our project design (Teale 2023).

9.2.2 All ceramic and metalwork artefacts of a modern 19th to 20th century date will be returned to the Yorkshire Wildlife Trust or discarded upon their preference, as per specialist recommendations. The animal bone assemblage along with the single flint flake and Iron Age coin will be retained by DigVentures until the completion of all phases of fieldwork and final analysis of artefacts.

9.2.3 Upon project closure, the artefactual assemblage will be deposited with Doncaster museums in line with their Archaeological Archive Deposition Policy and with ClfA Standards and guidance (2020). All reports produced by the project will be disseminated through the regional HER and attached to the OASIS record of the site.

9.2.4 The project's digital archive will be deposited with South Yorkshire Archaeology Service (SYAS) HER and the Archaeology Data Service (ADS), meeting the standards outlined in SYAS standards and guidance for archaeological field evaluation, ADS guides for good practice, ClfA standards and guidance for archaeological archives, the Dig Digital toolkit for managing digital data (ClfA, 2019) and the project's data management plan (Appendix 3). In summary, the digital archive was consolidated ready for deposition with the Archaeology Data Service (ADS) as follows:



- The Selection Strategy and DMP has been reviewed and updated as part of this Evaluation report (Appendix 3).
- Selection has been informed by the Project Design, defined against the research aims, regional and national research frameworks, specialist advice and the significance of the project results.
- The project results provided new research data which is to be included in the Historic Environment Record and OASIS. This will contribute to knowledge of the Iron Age and early Romano-British settlement at the site, aiding the future management of the archaeological resource.
- The data archive was ordered, with files named and structured in a logical manner, and accompanied by relevant documentation and metadata, as outlined in Sections 2 and 3 of the DMP.

9.2.5 The digital archive will be deposited with the SYAS HER and the ADS, which is a certified repository with CoreTrustSeal.

9.2.6 Copyright on all reports submitted resides with DigVentures, although a third party in-perpetuity license will automatically be given for reproduction of the works by the originator, subject to agreement in writing with the Yorkshire Wildlife Trust.



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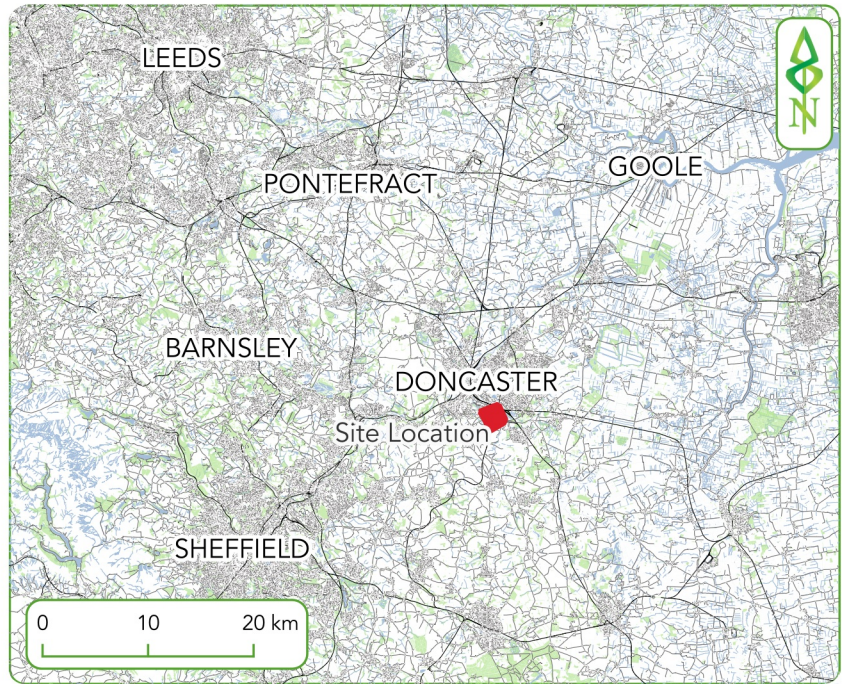


Figure 1. Site location





Figure 2. Ortho-rectified plan of Test Pit 1

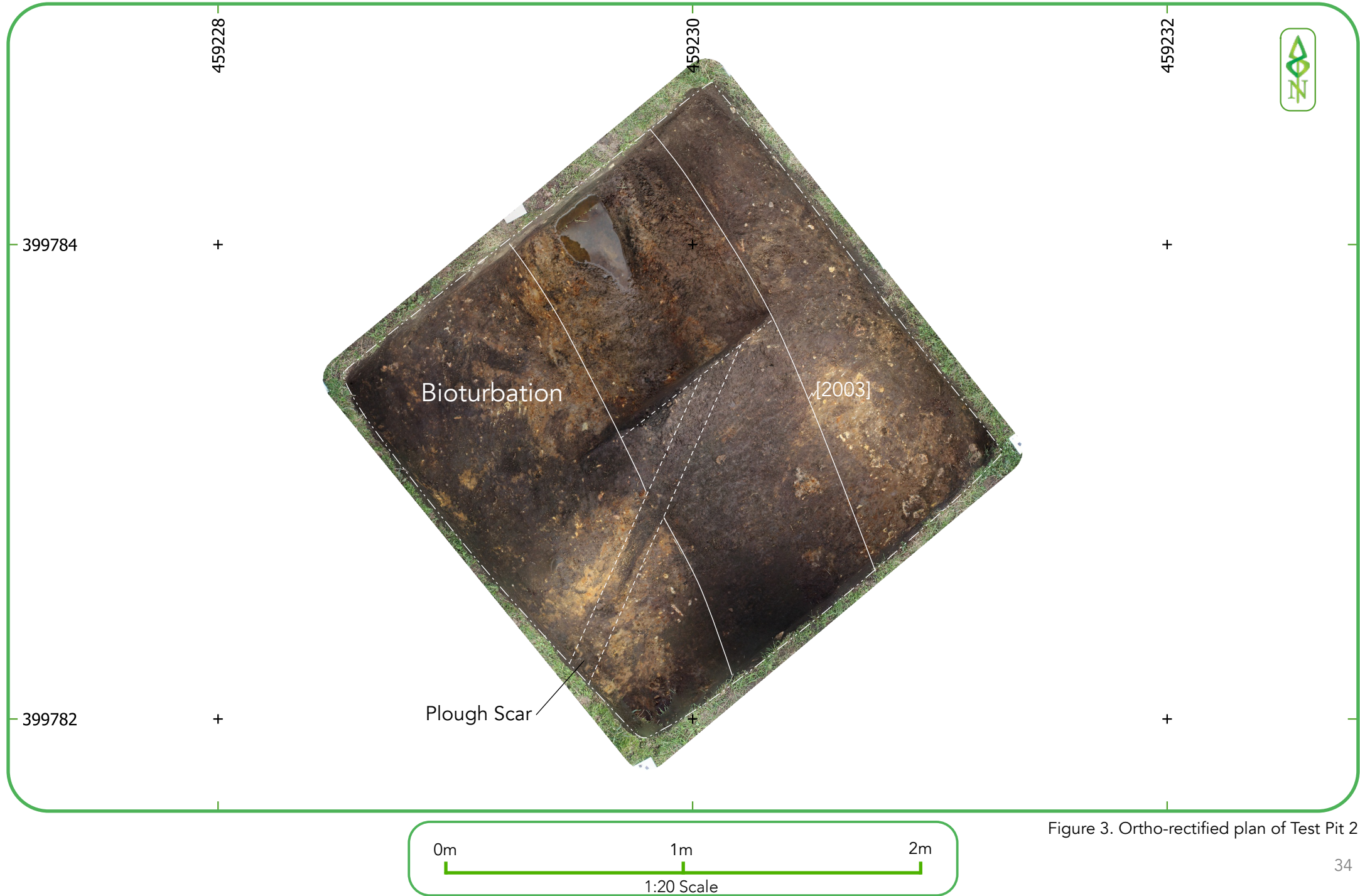


Figure 3. Ortho-rectified plan of Test Pit 2



Figure 4. Ortho-rectified plan of Test Pit 3

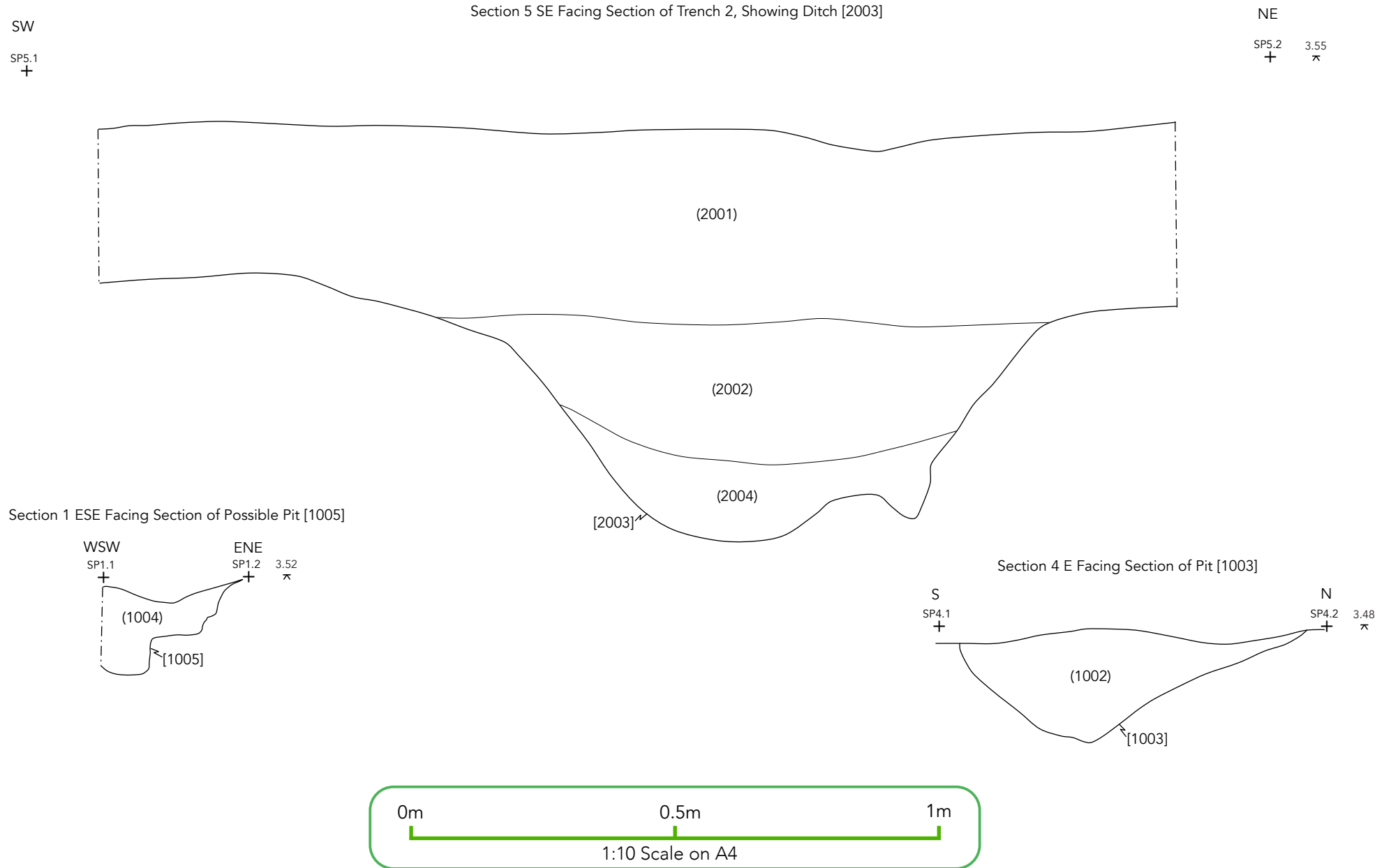


Figure 5. Sections drawn at a scale of 1:10

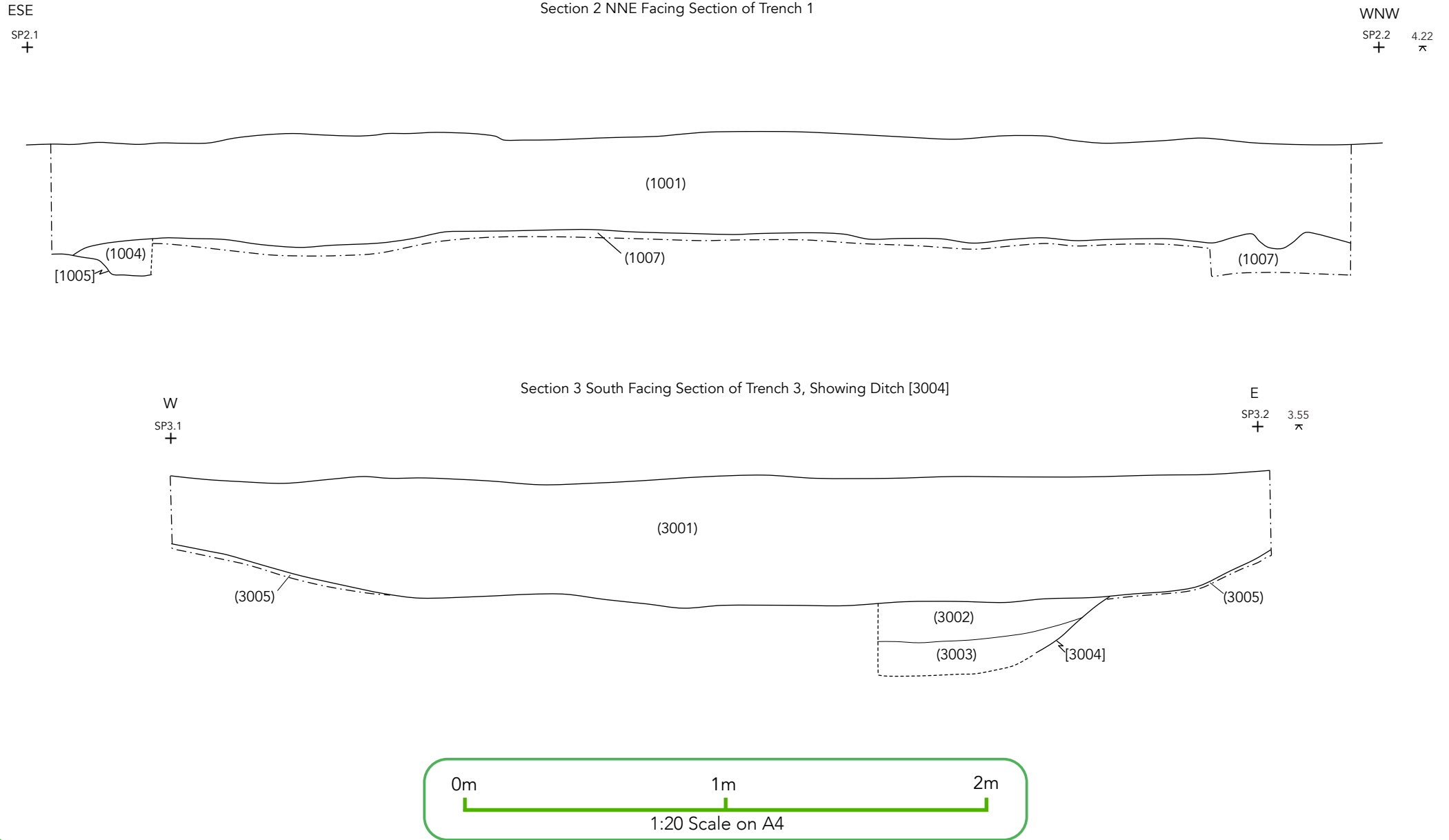


Figure 6. Sections drawn at a scale of 1:20



West looking plan shot of Trench 3, showing partially excavated ditch [3004] slowly filling with water. (2 x 1m scales).



South looking shot of North facing section of Trench 3, showing partially excavated ditch [3004] slowly filling with water. (1 x 1m scale).



West looking plan shot of Trench 2, showing partially excavated ditch [2003] slowly filling with water. (2 x 1m scales).



North looking shot of South facing section of Trench 2, showing partially excavated ditch [2003] slowly filling with water. (1 x 1m scale).

Figure 7. Digital photographs of Test Pits 1-3.



Southeast looking plan shot of Trench 1 (2 x 1m scales).



Northwest looking shot of Southeast facing section of possible small pit [1005]. (1 x 0.40m scale).



West looking shot of small pit [1003]. (1 x 0.40m scale).

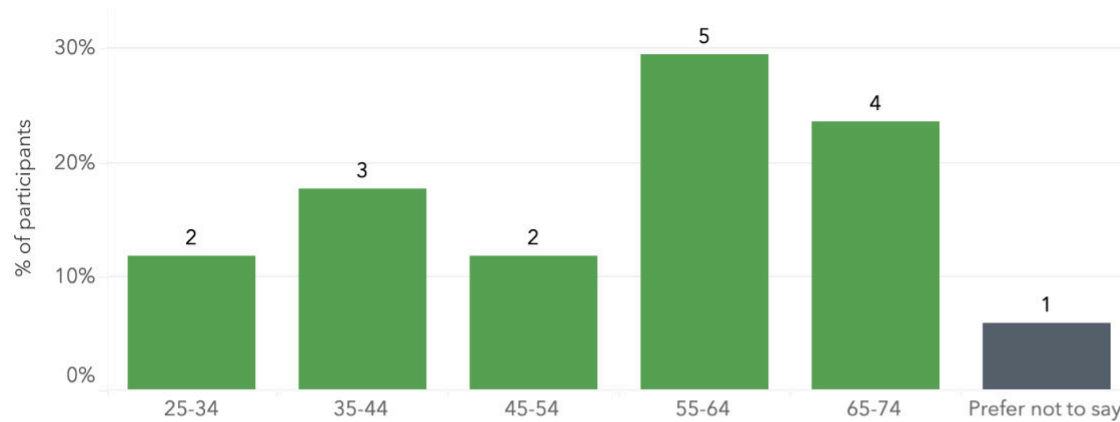
Figure 8. Digital photographs of archaeological features in Test Pit 1.



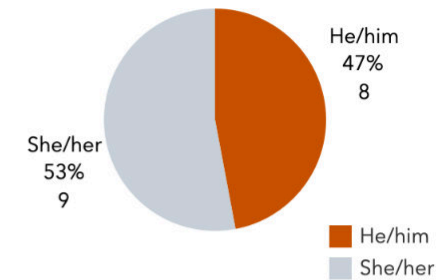
Figure 9. Digital record photographs of SF01 - Iron Age coin.



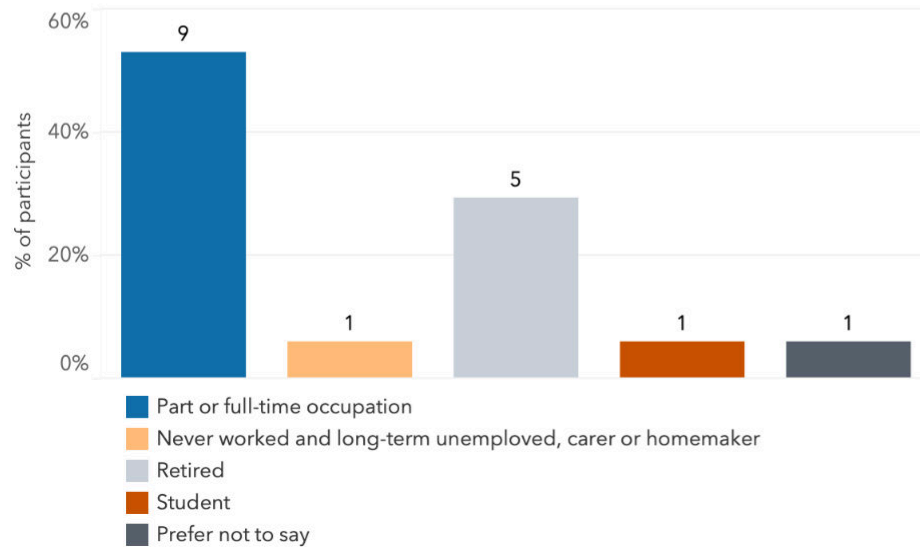
Which is your age category



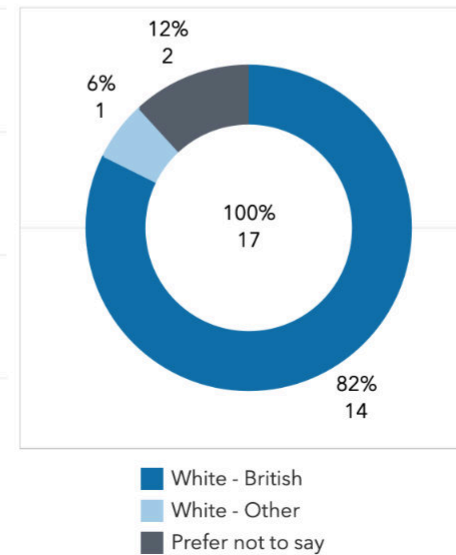
Which are your preferred pronouns?



Which is your occupation?



Which is your ethnic background?



Have you done archaeology before?

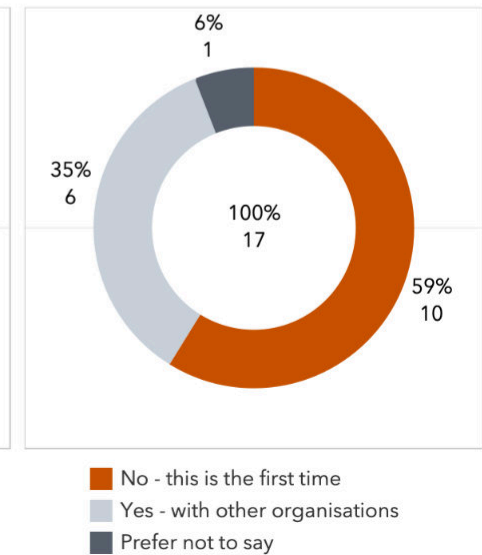
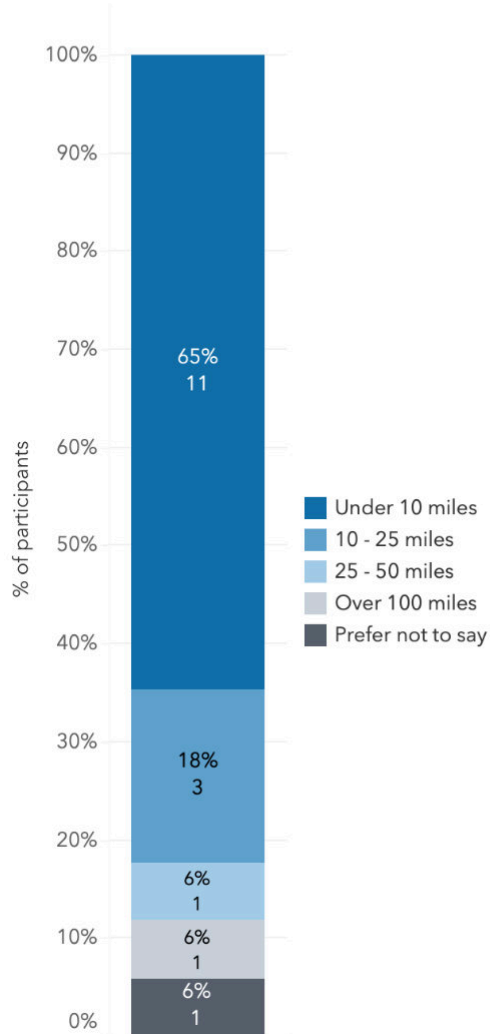


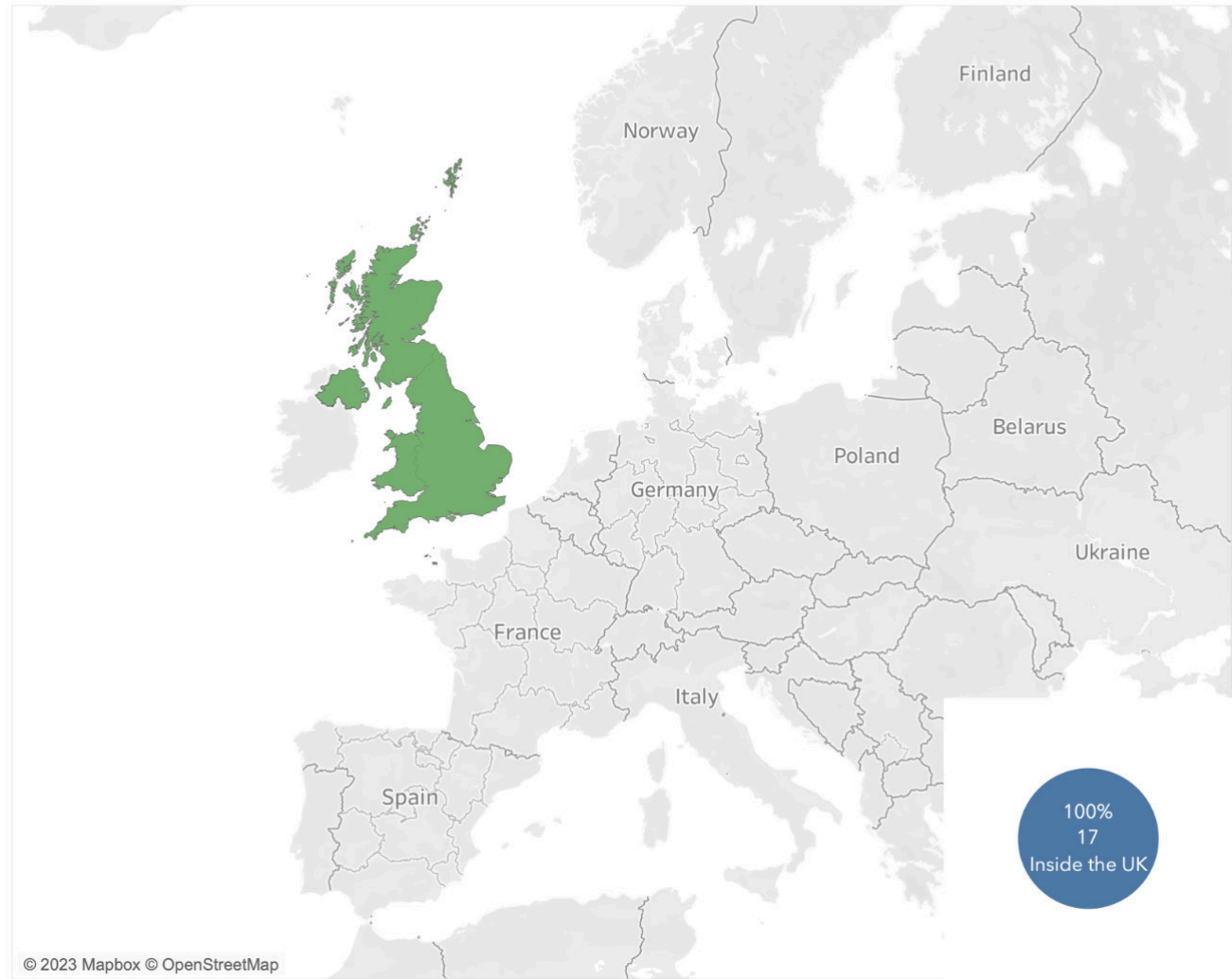
Figure 10. Venturer demographics

### Location of participants

Distance from site



Worldwide distribution



100%  
17  
Inside the UK

Figure 11. Venturer locations



Venturers were involved in all aspects of the excavation starting from deturfing the site ...



... and finishing off by recording their findings on permatrace.



Everybody was working together to get the excavation off the ground and the trenches ready for digging.



Participants of different ages and levels of experience took part in the project. Gill and Jacqui met on the dig and got on well right away.



From the delicate handling of a trowel...



... to learning how to use the larger mattocks and shovels, venturers got to use a wide variety of archaeological tools.

Figure 12. A selection of photographs illustrating our work at Potteric Carr nature reserve



This also included the correct use of cameras to take site record shots and images for 3D modelling.



Sometimes, ingenuity, teamwork and commitment are needed to get the correct image, but venturers are always eager to get involved.



Volunteers worked side by side with professionals. Everybody was able to excavate and record an area providing a sense of ownership over the results of the excavation.



For many Venturers, finding an archaeological artefact for the first time is an incredible privilege. Neil stated that "finding my piece of flint" was the highlight of his experience.



Special finds were attributed to their finder and posted on social media. This provided as much a sense of ownership and pride ...



... as excavating important archaeological features that will have a significant impact in the research and reporting process.

Figure 13. A selection of photographs illustrating our work at Potteric Carr nature reserve

## Appendices

### Appendix 1. Trench and context descriptions

Table 1. Trench 1 context descriptions.

Trench 1	Dimensions:					
	Orientation:					
	Reason for trench:					
Context	Description	Type	Interpretation	Length (m)	Width (m)	Depth (m)
1001	Moderately loose dark greyish brown, loam topsoil with rare small subrounded to rounded stones	Layer	Topsoil	5.18+	1.00+	0.33
1002	Loose, dark greyish brown, clayey sand fill with occasional inclusions of medium subangular stones, flacks of charcoal and occasional animal bone and burnt bone	Fill	Probable refuse pit from a fire or burning due to the charcoal and burnt bone	1.10	0.74	0.20
1003	Cut of a sub oval pit with gradual to gently sloping breaks of slope. Possibly truncated by or truncates (1006).	Cut	A refuse pit which might be truncated by or overly (1006)	1.10	0.74	0.20
1004	Loose, dark greyish brown, sandy loam fill with one medium subangular stone at the base.	Fill	Similar to topsoil which may suggest silting overtime rather than during one episode	0.48	0.26+	0.15
1005	Possibly N-S aligned cut of a sub oval pit /posthole with sharp breaks of slope. Potentially truncated by plough scar.	Cut	May potentially be a pit or posthole but the feature extends past LOE so cannot be certain of function	0.48	0.26+	0.15
1006	Loose, dark brownish grey, clayey silt deposit with occasional medium subangular stones	Layer	Burnt spread may potentially be a gully but not excavated in 2023	1.80		N/A



<b>Trench 1</b>	<b>Dimensions:</b>	1.00 x 5.00m				
	<b>Orientation:</b>	NW-SE				
	<b>Reason for trench:</b>	To investigate a potential roundhouse and ditch				
<b>Context</b>	<b>Description</b>	<b>Type</b>	<b>Interpretation</b>	<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>
	and frequent charcoal flecks					
1007	Very loose, mid yellowish to orangey brown and light whitish grey, sand to sandy clay natural with no inclusions.	Layer	Natural with a lighter patch towards the eastern end potentially due to burning from (1006)	5.18+	1.00+	0.16+

Table 2. Trench 2 context descriptions.

<b>Trench 2</b>	<b>Dimensions:</b>	2.00 x 2.00m				
	<b>Orientation:</b>	N/A				
	<b>Reason for trench:</b>	To investigate the terminus of potential boundary ditch				
<b>Context</b>	<b>Description</b>	<b>Type</b>	<b>Interpretation</b>	<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>
2001	Firm, mid greyish brown, clayey silt topsoil with occasional subangular sandstone chips, occasional pebbles and charcoal inclusions	Layer	Topsoil	2.00+	2.00+	0.35



<b>Trench 2</b>	<b>Dimensions:</b>	2.00 x 2.00m				
	<b>Orientation:</b>	N/A				
	<b>Reason for trench:</b>	To investigate the terminus of potential boundary ditch				
<b>Context</b>	<b>Description</b>	<b>Type</b>	<b>Interpretation</b>	<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>
2002	Friable, very dark greyish brown, silty peat fill with occasional charcoal pieces	Fill	Upper ditch fill in trench 2. Its shape in plan did not become completely clear - geophysics suggest a ditch terminus but context was visible running across whole trench. Time constraints meant we were unable to establish definitively whether ditch continued acrosswhole trench or if the ditch terminus was truncated by another feature.	2.00+	1.10	0.27
2003	NW-SE aligned linear cut of ditch with moderately sharp break of slopes. Possibly truncated in eastern side of trench.	Cut	Linear ditch cut seen in geophysics, possible ditch terminus. Confirmation of terminus not possible as presence of ditch fill (2002) in eastern side of trench suggests either continuation or truncation by another feature.	2.00+	1.10	0.40+
2004	Friable, dark reddish brown, silty peat basal fill with very occasional degraded sandstone pieces, very occasional charcoal flecks	Fill	Very wet basal fill of ditch [2003]. Not fully excavated.	0.90	0.65	0.13+



<b>Trench 2</b>	<b>Dimensions:</b>	2.00 x 2.00m				
	<b>Orientation:</b>	N/A				
	<b>Reason for trench:</b>	To investigate the terminus of potential boundary ditch				
<b>Context</b>	<b>Description</b>	<b>Type</b>	<b>Interpretation</b>	<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>
2005	Soft, mottled orangey yellow with grey patches, clayey sand natural with small infrequent degraded sandstone chunks	Layer	Natural	2.00+	2.00+	N/A

Table 3. Trench 3 context descriptions.

<b>Trench 3</b>	<b>Dimensions:</b>	1.00 x 4.00m				
	<b>Orientation:</b>	E-W				
	<b>Reason for trench:</b>	To investigate the corner of potential boundary ditch				
<b>Context</b>	<b>Description</b>	<b>Type</b>	<b>Interpretation</b>	<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>
3001	Firm, mid greyish brown, clayey silt topsoil with moderately regular subangular small sandstone pieces, occasional small rounded pebbles and charcoal flecks	Layer	Topsoil/ ploughsoil	4.00+	1.00+	0.45
3002	Friable, very dark greyish brown, silty peat fill with very occasional small sandstone pieces	Fill	Very organic/humic upper fill of ditch [3004], slightly silty. In the process of forming into peat. Occasional pieces of very very degraded wood	2.70	1.00+	0.20
3003	Friable, dark reddish brown, organic/humic/peaty fill with regular small degraded pieces of wood	Fill	Secondary peaty/organic fill of ditch [3004]. Not fully excavated. Hit the water table at 0.80m. Lots of very degraded pieces of natural unworked wood fragments	1.00+	1.00+	0.10+





<b>Trench 3</b>	<b>Dimensions:</b>	1.00 x 4.00m				
	<b>Orientation:</b>	E-W				
	<b>Reason for trench:</b>	To investigate the corner of potential boundary ditch				
<b>Context</b>	<b>Description</b>	<b>Type</b>	<b>Interpretation</b>	<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>
3004	N-S aligned linear cut of a ditch with moderately sharp break of slope and some bioturbation	Cut	Linear enclosure/drainage ditch part of 3 ditches visible on geophysics. Water table encountered at 0.80m, very organic/humic/peaty fills with degraded, natural, unworked small wood pieces. Excavation ceased upon discovery of the water table and organic preservation.	2.70	1.00+	0.30+
3005	Soft, mottled orangey yellow with grey patches, clayey sand with small infrequent degraded sandstone chunks	Layer	Natural geology	4.00+	1.00+	N/A



## Appendix 2. Finds Tables

Table 4. Finds catalogue.

Trench No.	Context No.	SF No.	Object Material	Quantity	Weight (g)
1	(1001)		Animal Bone	17	96
1	(1001)		Burnt Animal Bone	2	2
1	(1001)		Pottery	3	11
1	(1001)		Coal	3	3
1	(1001)		Mortar	1	9
1	(1002)		Animal Bone	14	55
1	(1002)		Charcoal	3	1
1	(1006)		Animal Bone	15	143
2	(2001)		Pottery	1	2
2	(2001)		Charcoal	1	0.5
2	(2001)		CBM	8	106
3	(3001)		Pottery	2	1
3	(3001)		Flint	1	11
3	(3001)		Metal	1	2
N/A	Unstrat	1	Metal	1	6
N/A	Unstrat	2	Metal	1	51

Table 5. Pottery by number and weight (g) of sherds per context by fabric type.

Ware	Context	1001 (19th-20th Century)	2001 (16th-18th century)	3001 (19th-20th century)	Totals
ENGS	No.	1			1
	Weight (g)	3			3
TPW	No.			1	1
	Weight (g)			1	1
REFW	No.	2	1	1	4
	Weight (g)	9	2	1	12

Table 6. The Ceramic Building Material (CBM) catalogue.

Trench	Context	Fabric	Form	NoSh	Wt	corner	Width	Thickness	Date
2	2001	BT01	B/T	3	52	0	0	0	
2	2001	BT01	Tile	1	50	0	0	15	C19+

Table 7. Summary of animal remains recovered from Potteric Carr.

Context	Cattle	Pig	Sheep/goat	Large mammal	Medium/large mammal	Medium mammal	Total
1001	4	1	1	3	9	1	19
1002	12	3	1		1	4	21
1006	4	1		2	2		9
Total	20	5	2	5	12	5	49



## Appendix 3. Data Management Plan: Archaeological investigations at Loversall Carr

### Section 1: Project Administration

Project ID / OASIS ID
POT23 / digventu1-513639
Project Name
Archaeological investigations at Loversall Carr
Project Description
<p>DigVentures co-designed a community archaeology project with Yorkshire Wildlife Trust (YWT) with the purpose of investigating archaeological remains on a site at Loversall Carr in Doncaster, South Yorkshire (NGR SK 59162 99791).</p> <p>The extents of crop marks suggesting the presence of Iron Age / Romano-British settlement remains were established at Loversall Carr through the 'Air Photograph Primary Recording Project', which ran from 1992 to 1996, as well as the 'Magnesian Limestone in South and West Yorkshire National Mapping Project', which ran from 2005 to 2006. A geophysical magnetometry survey was undertaken in 2016 by Headland Archaeology, further refining the layout and extent of archaeological features at the site. Yorkshire Wildlife Trust approached DigVentures in 2022 to co-design a community archaeology project to further investigate these possible archaeological remains using local participants, utilising a grant from the landowner Verdion. The overarching aim of the fieldwork is to date and characterise aspects of these possible archaeological features and to understand their relationship with one another, through a community-led project designed to engage the local residents of Doncaster.</p> <p>The project will comprise three phases:</p> <ul style="list-style-type: none"> <li>• Phase 1 – Metal detecting survey (March 2023)</li> <li>• Phase 2 – Community archaeology test pitting evaluation (April 2023)</li> <li>• Phase 3 – Full community archaeology excavation (Spring-summer 2024)</li> </ul>
Project Funder / Grant reference
Phase 1 – part funded by the landowner Verdion through an agreement with the Yorkshire Wildlife Trust, and part funded by crowd-funding
Project Manager
Manda Forster PhD MCIfA, Operations Manager, DigVentures
Principal Investigator / Researcher
Ben Swain BA ACIfA, Community Archaeologist, DigVentures
Data Contact Person
Ben Swain BA ACIfA, Community Archaeologist, DigVentures
Date DMP created
16/03/2023
Date DMP last updated
30/11/2023
Version
V1.1
Related data management policies
<p>ADS Guides for Good Practice</p> <p>CIfA Standards and guidance for Archaeological Archives, including AAF and Arches guidance documents</p> <p>Work Digital / Think Archive – AAF / CIfA data management guidance</p> <p>South Yorkshire Archaeology Service Standards &amp; Guidance for Archaeological Field Evaluation</p>

### Section 2: Data Collection



## What data will you collect or create?

The following table outlines the types of files we will collect, and an estimate of the selected data archive. To be updated upon completion of the project.

Type	Format	Estimated volume of Data Archive
Spreadsheets	Excel (.xlsx, .csv)	1x Fieldwork spreadsheets
Text / documents	Word (.docx)	<u>Phases 1 &amp; 2</u> 1 x PD for Archaeological Investigation 2 x Risk Assessments 1 x Post Excavation Report 1 x UPD
Images	Uncompressed (.tiff) Lossy graphics file (.jpg)	250+ .jpg images
GIS	ESRI Shapefile (.shp & .shx & .dbf, plus associated files)	+30 .shp LIDAR datasets 4 x geotifs of photogrammetry trench models
Survey	Comma Separated Version (.csv)	2 x .csv survey files

## How will the data be collected or created?

### Data Standards / Methods

- Standard methods of data collection were applied throughout the project, working to best practice guidance where applicable / available. Data acquisition standards were defined against *ADS Guides to Good Practice*. Specific or additional guidance relevant to this project are listed below, and have been updated as of the completion of phase 2 of the project.
- Methods of collection are specified within the PD for the project and meet the requirement set out in the Project Brief, the organisation recording manual and relevant ClfA Standards and Guidance.
- Where appropriate, project contributors external to the organisation were required to include data standards, collection methodology and metadata with individual reports and data.
- Specific guidance:
  - HE *Digital Image Capture and File Storage: Guidelines for Best Practice 2015*
  - HE *Photogrammetric Applications for Cultural Heritage: Guidance for Good Practice 2017*

### Data storage / file naming

- The working project archive was stored in a project specific folder on the internal organisational server.
- Project folders are named following established organisational procedures.
- Data collected was downloaded and raw data stored in the appropriate folder.
- File naming conventions following established organisational procedures, based on ADS file naming guidance, and include version control management.
- All files included as part of this project archive include an organisational identifier (DV), the Site ID (POT23), the file descriptor (eg ProjectDesign) and Version number (eg v2.0).

### Quality Assurance

- Instruments used in the collection of data were calibrated prior to use and checked to ensure they are in full working order.
- All site records and data collected was checked during project delivery.



- Data collection and management are reviewed regularly as part of the organisational Quality Policy (DV\_Quality\_Policy\_v1.pdf). This includes a quarterly review of internal project folders to ensure our organisational data management standards are being met.

### Section 3: Documentation and metadata

#### What documentation and metadata will accompany the data?

- Data collected included standard formats which maximise opportunities for use and reuse in the future (see Section 2, above).
- A Collection Level Metadata Summary was completed as the project was delivered. A working copy will be kept on the organisational server in the Project Folder. The Collection Level Metadata Summary brings together the overarching project details and includes a register of data types and number of objects included in the archive, along with all other archive components.
- Metadata tables for each data type was populated as the project progressed and used the standard format for each data type as recommended by ADS, who are the intended repository for the digital data archive.
- Data documentation meets the requirement of the Project Brief and Digital Repository Guidelines, following the methodology described in the WSI methodology.

### Section 4: Ethics and legal compliance

#### How will you manage any ethical, copyright and Intellectual Property Rights (IPR) issues?

- Refer to DigVentures 'Code of Ethics – 2022-23'
- There was community participation with this project and therefore participant details were stored in accordance with our Code of Ethics
- DigVentures will retain copyright in any data produced during the lifespan of this project, with the YWT granted a third party licence in perpetuity for project materials.
- Where formal permissions and/or license agreements are linked to data sharing, they were included in the project documentation folders and will accompany the archaeological project archive.

### Section 5: Data Security: Storage and Backup

#### How will the data be stored, accessed and backed up during the research?

- Organisational IT is managed internally by the Chief Digital Officer and Field and Data Officer, who is also responsible for the management and verification of our back-ups and who supports access to security copies as needed.
- Sufficient data storage space is available via the organisational server, which includes two-factor authentication and permissions-based access. The server is accessible by staff on- and off-site through a secure log-in.
- Off-site access to the project files on the organisation's server is provided to support back-up of raw data while fieldwork is ongoing. Where internet access for data back-up is not possible, the raw data will be backed up to a separate media device (such as laptop and portable external hard drive). Project files were shared with external specialists and contractors directly using the same system, with the wider project team gaining access to only the files needed using permissions-based access.

### Section 6: Selection and Preservation

#### Which data should be retained, shared, and/or preserved?

- The Selection Strategy and DMP will be reviewed and updated as part of the Post Excavation Survey Reporting, and following full analysis. Updated documentation will be included in all further reporting stages.

- Prior to final deposition, the Selection Strategy and DMP will be updated and finalised in agreement with the YWT and Doncaster Museum.
- Selection will be informed by the UPD, defined against the research aims, regional and national research frameworks, specialist advice and the significance of the project results.
- The project results are likely to provide new research data which can be included in the Historic Environment Record and will contribute to the knowledge of the archaeology across South Yorkshire, aiding the future management of the archaeological resource and cultural heritage landscapes across the county.
- The data archive will be ordered, with files named and structured in a logical manner, and accompanied by relevant documentation and metadata, as outlined in Sections 2 and 3 of this DMP.
- An archive statement is included in the project technical report. It is recommended that a digital copy of the report is submitted to the HER, OASIS and ADS Library. In addition, relevant data will be deposited with the HER to be included in the events record.

What is the long-term preservation plan for the dataset?

At an additional cost to the client, the digital archive will be deposited with the Archaeology Data Service, which is a certified repository with CoreTrustSeal. The archive will be prepared for deposition by the project team.

The physical archive is intended for storage with Doncaster Museum. They will be contacted as part of this DMP and all details confirmed at the point of archiving.

Have you contacted the data repository?

In discussion with the client, the data repository (ADS) will be contacted in advance of any digital data being deposited.

Have the costs of archiving been fully considered?

Yes

## Section 7: Data Sharing

How will you share the data and make it accessible?

- A summary of the project will be included and updated on the OASIS Index of Archaeological Investigation as the project progresses (OASIS ID digventu1-513639).
- The investigations will result in the following documents: WSI, Project Design, Geophysical Survey Report, Risk Assessments, Post Excavation Assessment.
- As the project progresses reports will be attached to the project OASIS record.
- A final version of the project report will be supplied to the Historic Environment Record via OASIS, and any data which they request can also be provided directly.
- The location (s) of the final Archaeological Archive will be added to OASIS when appropriate. The ADS will disseminate the digital elements of the Archaeological Archive online under a creative commons licence and the dataset will receive a DOI.

Are any restrictions on data sharing required?

No

## Section 8: Responsibilities

Who will be responsible for implementing the data management plan?

- The Project Manager will be responsible for implementing the DMP, and ensuring it is reviewed and revised at each stage of the project.



- Data capture, metadata production and data quality is the responsibility of the Project Team, assured by the Project Manager.
- Storage and backup of data in the field is the responsibility of the field team.
- Once data is incorporated into the organisations project server, storage and backup is managed by the Projects Director and Director of Operations.
- Data archiving is undertaken by the project team under the guidance of the Programme Manager, who is responsible for the transfer of the Archaeological Project Archive to the agreed repository.
- Details of the core project team can be found in the Project Design.