



OLD MILLFIELD LANE, WEST-EAST LINK MAIN PIPELINE, MERSEYSIDE

Post-Excavation Assessment



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Prepared by: Richard Gregory
Position: Project Manager
Date: September 2010

Checked by: Alison Plummer
Position: Senior Project Manager
Date: October 2010

Signed 

Approved by: Rachel Newman
Position: Senior Executive Officer: Research and Publication
Date: November 2010

Signed 

Oxford Archaeology North

Mill 3
Moor Lane Mills
Moor Lane
Lancaster
LA1 1GF
t: (0044) 01524 541000
f: (0044) 01524 848606

w: www.oxfordarch.co.uk
e: info@oxfordarch.co.uk

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Janus House
Osney Mead
Oxford
OX2 0EA
t: (0044) 01865 263800
f: (0044) 01865 793496

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SUMMARY

Between June and September 2009, Oxford Archaeology North (OA North) completed an archaeological excavation adjacent to Old Millfield Lane, Merseyside (SJ 56110 98446). The work was commissioned by United Utilities Ltd as part of a wider scheme of archaeological investigation connected with the construction of the West-East Link Main pipeline that runs from Prescott, Merseyside, to Woodgate Hill, near Bury. The excavation was initiated following the discovery of significant below-ground remains within the pipeline easement, during an archaeological watching brief, and the work was undertaken in response to recommendations made by the Archaeological Officer, Merseyside Archaeological Service.

The excavation identified significant archaeological remains, dating from the prehistoric through to modern periods, though the majority of remains were post-medieval in date, comprising a series of pits, boundary/drainage ditches, postholes, drains, the remains of buildings, and a moderate-sized assemblage of post-medieval artefacts. Moreover, these remains included a small building, the complete ground plan of which was uncovered during the excavation, that may have functioned as a small dwelling or vernacular workshop, possibly engaged in smithing. Taken together, these remains allow the investigation of a post-medieval rural site in Merseyside.

The subsequent post-excavation assessment, which is presented in this report, examined the results of the excavation, and assessed the potential for further analysis of each category of data with regard to the project's research aims. The results obtained from the assessment indicate that there is potential for further analysis of particular classes of artefactual material and also scope for further documentary research and environmental analysis. The assessment therefore includes an updated project design and details for an appropriate programme of analysis, cataloguing, and reporting. It is recommended that, after analysis, the results are collated for publication in either an appropriate academic journal, such as *Post-Medieval Archaeology*, or are incorporated into a proposed OA North monograph detailing the development of rural settlement in the historic county of Lancashire.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank United Utilities Ltd for commissioning the excavation and post-excavation assessment, and Sarah-Jane Farr, the Merseyside Archaeological Officer, for assistance and advice.

The excavation was directed by Kelly Clapperton with the assistance of Dave Bonner, Nicola Marshall, Amy Jeffery, Mark Chesterman, Tim Christian, Liz Murray, Ric Buckle, and Sam Walsh. The report was compiled by Richard Gregory and Kelly Clapperton, whilst the illustrations were produced by Mark Tidmarsh. Jeff Speakman, National Museums of Liverpool Field Archaeology Centre, assessed the post-medieval pottery, whilst the remaining artefactual material was assessed by Sean McPhillips, Pascal Eloy, and Christine Howard-Davis of OA North. The animal bone was assessed by Andrew Bates, OA North, and the palaeoenvironmental samples were assessed by Elizabeth Huckerby, also of OA North. Alison Plummer managed the project and edited the report, which was quality assured by Rachel Newman.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 Between June and September 2009, Oxford Archaeology North (OA North) completed an archaeological excavation adjacent to Old Millfield Lane, Merseyside (SJ 56110 98446). The work was commissioned by United Utilities Ltd as part of a wider scheme of archaeological investigation connected with the construction of the West-East Link Main pipeline that runs from Prescott, Merseyside, to Woodgate Hill, near Bury. The excavation was initiated following an archaeological watching brief, which was designed to observe ground works across a potential archaeological site that had been identified during an earlier walkover survey (*cf* OA North 2008: Site 226). The potential archaeological site formed a shallow depression of unknown date and, although no archaeological remains were discovered within the depression, the watching brief identified a series of buried remains to the east, which would be directly affected by the pipeline. Following recommendations made by Sarah-Jane Farr, Archaeological Officer, Merseyside Archaeological Service, an archaeological excavation was undertaken which focused on these below-ground remains. The following report summarises the results of this excavation, including an assessment of the results, and outlines recommendations for appropriate further work.

1.2 LOCATION AND SETTING

1.2.1 The site is found at the western end of the United Utilities Ltd West-East Link Main pipeline easement, to the west of Ashton-in-Makerfield, and is situated between the A58 and Old Millfield Lane, to the south of Ashton Cross, and opposite Garswood Park Golf Club (Fig 1). It is some 72m above OD, and geologically falls within an area of superficial glacial deposits, which overlie the Lancashire Coal Measures bedrock (Countryside Commission 1998, 127-8).

1.3 GENERAL HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

1.3.1 ***Prehistoric and Roman (c 30,000 BC-c AD 410):*** there is some, albeit slight, evidence for prehistoric activity in the vicinity of Ashton-in-Makerfield, which comprises a Bronze Age (2200-700 cal BC) burial site and Neolithic findspots. The findspots include a stray Neolithic (4000-2200 cal BC) polished stone axe (Group VI Langdale Axe) discovered in a field near Ashton-in-Makerfield, and also several Neolithic stone axes recovered from the Sankey Valley to the south-west (Cowell 1991, 26, 35). The potential Bronze Age burial sites comprise a barrow at Haydock Park, close to Ashton-in-Makerfield.

1.3.2 Apart from the burial sites and findspots, there is also some indirect palynological evidence for possible prehistoric forest clearance. For instance, pollen evidence collected in the Prescott area suggests that, around 2600-2500 cal BC, an episode of forest clearance occurred (Cowell 1991, 37; Innes and

Tomlinson 1991), in the Late Neolithic period. Similarly, pollen data gathered from Knowsley, and other nearby wetlands, suggests that, between 910 cal BC and 640 cal BC, there was also a widespread phase of Late Bronze/Early Iron Age forest clearance (Cowell and Innes 1994).

- 1.3.3 Roman coin finds, including coin hoards, as well as single findspots, are known from the general area, whilst a Roman Road was identified at Haydock Park, to the south-east of Old Millfield Lane. Furthermore, it has been suggested that occupation during the Romano-British period may have been extensive in the St Helens area (Philpott 1991, 66; Philpott 2006, 75).
- 1.3.4 **Medieval Activity (c AD 410- c 1540):** the evidence for early medieval activity is limited and is wholly confined to place-name evidence. The early place-name evidence includes the settlement of Ashton-in-Makerfield, which has both Old English and British elements, and this has led to the suggestion that it lay within a single large Anglo-Saxon lordship (Kenyon 1991, 73).
- 1.3.5 By the time of the Domesday Book (1086), the lordship of Makerfield had been divided into the Hundreds of West Derby, Newton, and Warrington (Farrer and Brownbill 1911). Although the available documentary evidence suggests that during the later medieval period this region was sparsely populated, several moated manors and other defensible sites were scattered across the region (Newman 2006, 121-3; Lewis 2000). One of these manor houses was Garswood Hall (OA North 2008: Site 270), to the west, which would have held lordship over the area surrounding Ashton Cross.
- 1.3.6 **Post-medieval and Industrial Activity (c 1540-1901):** during this period, the majority of the population within, and surrounding, Ashton-in-Makerfield were involved in coal mining. The origins of this important industry probably reside in the late sixteenth century, when the first small-scale coal mining is recorded (Sunderland 1995, 50), and by the nineteenth century, Ordnance Survey mapping indicates that numerous collieries had been established across the area. Other significant post-medieval and industrial period industries include textile, iron, copper, and glass manufacturing (Walton 1987).
- 1.3.7 In addition to these industries, during the eighteenth and early nineteenth centuries, an extensive network of canals was established across the region, which enabled raw materials, such as coal, to be transported in a more effective manner (Hadfield and Biddle 1970). Furthermore, one of these canals, which lies to the south of Ashton-in-Makerfield, was the Sankey Brook Navigation, now known as the St Helens Canal. This represents the first modern canal in England, and linked the Lancashire coalfields with Liverpool's expanding industries (*ibid*). Although the development of the canal network was instrumental to the growth and success of industry in the region, it was gradually superseded by the system of railways that first emerged in the mid-nineteenth century (*ibid*).

1.4 POST-MEDIEVAL AND INDUSTRIAL FORM OF THE SITE

- 1.4.1 The post-medieval and industrial form of the site and its environs can be discerned to some degree through reference to the available eighteenth- and nineteenth-century mapping.
- 1.4.2 One of the earliest of these maps is Yates's 1786 *Map of Lancashire*, which plots the position of one building, close to the road junction of Ashton Cross and another positioned on the western side of Old Millfield Lane (Plate 1). Significantly, this latter building lies in the vicinity of the remains uncovered during the excavation. Yates's map also depicts the area to the rear of both buildings as agricultural land, whilst to the east, on the opposite side of the road, lie two further buildings, and a tree-lined avenue extending to New Hall.



Plate 1: Extract from Yates's 1786 Map of Lancashire, with the approximate position of the excavation site highlighted in red

- 1.4.3 By the time of Hennessey's 1830 survey, the buildings at Ashton Cross and on the western side of Old Millfield Lane appear to have been demolished, and the area was probably solely given over to agriculture. The 1839 tithe map for Ashton-in-Makerfield appears largely to confirm Hennessey's survey, though it does provide further details of the form and occupancy of the land in this area. As with Hennessey's survey, no buildings are depicted close to the excavation site, although a small building or structure, set within an enclosure, is shown to the north, fronting Old Millfield Lane, whilst immediately to the south, a larger building is depicted, which was also set within a small enclosure fronting Old Millfield Lane. This map also indicates that, during the early part of the nineteenth century, several small agricultural enclosures were present. Of these, the field within which the excavation took place is named as 'Barn Hey' by the accompanying tithe award. The tithe award also names 'Rev

Thomas Lupton' as the owner of this field and notes that it contained meadow land.

- 1.4.4 The 1848 First Edition Ordnance Survey (OS) map adds some additional detail, indicating that by this date the building plotted on the tithe map to the south of the excavation site had been demolished (Plate 2). By the time of the 1:2500 1893 OS survey, the small agricultural enclosures in the vicinity of the excavation site had been removed and a property constructed to the north, close to Ashton Cross, which is named as 'Cross House' on twentieth-century OS mapping.



Plate 2: Extract from 1848 OS map, with the position of the excavation site highlighted in red

2. ORIGINAL RESEARCH AIMS

2.1 AIMS AND OBJECTIVES

2.1.1 The aims of the excavation were to excavate and record the surviving archaeological remains and obtain a full range of artefactual and environmental materials. In particular, it was hoped to:

- determine the general nature, date, density, extent, function, and state of preservation of archaeological remains;
- determine the degree of complexity of the stratigraphy present;
- determine the likely range, quality and quantity of artefactual evidence present;
- determine the potential of the site to provide palaeoenvironmental and/or economic evidence, and the forms in which such evidence may be present;
- provide a full record of the buried remains.

3. SUMMARY OF EXCAVATION RESULTS

3.1 INTRODUCTION

- 3.1.1 The excavation (centred on SJ 56110 98446) comprised an open-area trench, measuring approximately 40 x 37m. After mechanical stripping of the topsoil, this trench was manually cleaned and recorded, followed by selective excavation and recording of the archaeological features, structures, and deposits exposed, the retrieval of artefactual remains, and palaeo-environmental sampling of appropriate deposits.
- 3.1.2 Following excavation, it was apparent that the archaeological remains reflected three main periods of activity. These encompass the prehistoric and post-medieval periods, as well as the twentieth century.

3.2 PREHISTORIC REMAINS

- 3.2.1 One pit (7305) was identified which might date to the prehistoric period (Fig 2; Plate 3). This pit, which had been partially truncated by a post-medieval ditch, contained two deposits of clay (7323 and 7322), the uppermost of which (7322) produced several prehistoric lithics (*Section 4.15*).



Plate 3: Pit 7305 following half-sectioning, looking west

3.3 POST-MEDIEVAL REMAINS

- 3.3.1 The majority of the below-ground remains appear to relate to five separate phases of post-medieval activity. These remains include infilled pits, postholes, ditches, and gullies, and also sill-walled structures.

- 3.3.2 **Phase 1:** a large pit (group number **7437**), several smaller pits (**7307**, **7258**, and **7264**), and ditches (**7253**, **7361=7363**, **7401**, **7442**, **7434**, **7432**, **7433** and **7439**) represent the earliest post-medieval activity on the site (Fig 2).
- 3.3.3 The large pit (**7437**) had a sub-rectangular plan, and contained relative high concentrations of coal, charcoal, and ash (Plate 4). It measured 7.1m, by at least 6m, and had a shallow, *c* 0.8m deep, U-shaped profile. It extended beyond the southern limits of the excavation trench, but based on its size and morphology, it is possible that it formed the remnants of a clay extraction pit which, following some natural infilling, had been deliberately backfilled.



Plate 4: Probable extraction pit **7437** prior to excavation, visible as a dark area in the centre, later cut by building **6007** (right) and field drain **7151** (left), looking west

- 3.3.4 Three smaller pits (**7307**, **7258**, and **7264**) were found immediately adjacent to each other, and forming a small cluster close to the eastern limits of the excavation. Two of the pits (**7258** and **7264**) contained backfilled deposits, which included charcoal waste.
- 3.3.5 Of the Phase 1 ditches, one (group number **7401**) was located close to the eastern edge of the excavation and was linked to a second, smaller, ditch (**7442**), which curved southwards, from approximately midway down its western side. Both of these features contained redeposited natural clay, which had been sealed by naturally accumulated sediment. In addition, the partial remains of a third, heavily truncated, ditch or pit (**7253**) were also located close to the eastern limits of the excavation.
- 3.3.6 The remaining Phase 1 ditches were identified close to the southern and northern limits of the open-area excavation. That to the north (**7361=7363**) had been heavily truncated along its length by a later drain, whilst those to the south included four ditches (group numbers **7434**, **7432**, **7433**, and **7439**) which together formed a small enclosure, measuring some 7 x 9.5m. All of these ditches were filled with naturally accumulated sediments, with no evidence for deliberate backfilling.

- 3.3.7 **Phase 2:** the remains attributed to Phase 2 included a small structure (walls **7231** and **7261**; Fig 2), gullies (**7440** and **7443**), a wall (**6081**), and a culvert (**7011**).
- 3.3.8 The remains of a small structure (c 4 x 7.6m), of unknown function, were represented by two heavily truncated sandstone sill-walls (**7231** and **7261**), identified near the eastern limits of the site, which would have supported a timber frame. To the west were two gullies (**7440** and **7443**), both of which contained accumulated sediment, and wall **6081**, within a foundation cut, which cut Phase 1 ditch **7401**. The wall was of dry-stone construction and its southern end was keyed into a sandstone culvert (**7011**; Plate 5), which had also been set along the line of Phase 1 ditch **7401**.



Plate 5: Dry-stone wall **6081**, which was keyed into culvert **7011**, looking south

- 3.3.9 **Phase 3:** this phase witnessed the construction of a small building (**6007**), and other possible structures, the sinking of a well (**6031**), and the digging of a ditch (**7436**), and a pit (**7039**) (Fig 2).
- 3.3.10 The remains of the building (**6007**) were located in the southern half of the trench (Fig 3; Plate 6). Its external walls were defined by deposits of crushed brick (**7402** to the east, **7087=7021** to the south, **7112=7144** to the west, and **7093** to the north), which appeared to represent the remnants of brick-built sill-walls that would have supported timber-framed walls.
- 3.3.11 The interior of the building was accessed through a doorway, at its north-eastern corner, and within the building were another three sill-walls, composed of deposits of crushed brick (**7089=7403**, **7088=7032** and **7444**). These walls divided the interior of the building into three separate rooms. The largest room contained a single posthole (**7068**) and a small brick-built hearth (**7367**), which had been keyed into the northern wall of the building. The two rooms located in the southern half of the building were smaller in size, and one

contained a small circular pit (**7031**), whilst the other contained two square postholes (**7340** and **7342**).



Plate 6: Building **6007**, looking north

- 3.3.12 To the north of the building, a series of features suggested the presence of further structures (Fig 4). These included a right-angled length of crushed brick sill-walling (**7404** and **7286**), measuring *c* 0.3m wide, which appeared to define the north-eastern corner of a building. Positioned between this potential building and building **6007** was a scatter of pits and postholes, several of which (**7281**, **7315**, **7334**, and **7394**) contained the impressions of timber posts that had rotted *in situ*. In addition, a fragment of brick sill-walling (**7445**) was also identified. This was orientated east/west and positioned immediately north, and parallel to, the northern end of building **6007**.
- 3.3.13 A well (**6031**; Fig 2; Plate 7) was located to the south-west of building **6007** and was composed of a circular shaft (**6028**), which had been lined with a combination of brick, sandstone blocks, and limestone cobbles, pressed into the natural clay and bonded with redeposited clay (Fig 2; Plate 7).
- 3.3.14 Ditch **7436** was positioned to the east of building **6007** (Fig 2). It had a wide U-shaped profile and, although in one section it had been deliberately backfilled, along the majority of its course it contained naturally accumulated material.
- 3.3.15 To the north-east of ditch **7436**, a pit (**7039**) was identified (Fig 2), which contained fragments of pottery, ceramic building material, bone and glass, as well as a leather shoe.



Plate 7: Well 6031, looking south

- 3.3.16 **Phase 4:** this phase witnessed the extension of building **6007**, the digging of a ditch (**7441**) and several pits, and the deposition of a number of layers (Fig 2).
- 3.3.17 The western side of building **6007** was extended through the construction of an additional room (Fig 3; walls **7053**, **7098**, and **7100**; Plate 8). A small posthole (**7120**) was found within this room, along with two pits/scoops (**7183** and **7182**), which had been backfilled with mixed deposits of heat-affected clay, charcoal, coal fragments, and ceramic building material. In addition, four comparable features (**7207**, **7130**, **7134**, and **7099**) were found immediately west of this room.



Plate 8: The western extension to Building 6007. The ranging poles are positioned along the southern and western wall lines of the extension, looking north

- 3.3.18 Ditch **7441** cut the northern edge of Phase 1 ditch **7439**, terminating parallel with its terminus (Fig 2). This ditch had been deliberately backfilled with sandstone-rich material. Towards the north-eastern end, it cut a pit (**7299**) which contained redeposited clay and several fragments of glass.
- 3.3.19 A large, shallow pit (**7048**; not illustrated) was also located close to the eastern margins of the trench, which cut the Phase 3 cesspit (**7039**) and ditch (**7436**). This pit contained a thick deposit of redeposited clay (**7049**).
- 3.3.20 **Phase 5:** by the beginning of Phase 5, the buildings, and other structures, on the site had probably been abandoned. This event appears to correspond to the construction of a large culvert and several drains, which may suggest that the site was now used as agricultural land (Fig 2).
- 3.3.21 The culvert (**7435**) was constructed from brick, with large sandstone capping stones, and had been backfilled with a sandstone-rich material. It had been placed within a U-shaped trench.
- 3.3.22 The majority of the Phase 5 field drains were on a north-west/south-east alignment across the site, often terminating at culvert **7435**. They were constructed from handmade red brick (eg **6008/7151**), capped with stone slabs (Plate 2), and one larger drain (**7354**), which cut Phase 1 ditch **7361/7363**, contained a horseshoe-shaped ceramic pipe.

3.4 TWENTIETH-CENTURY REMAINS

- 3.4.1 Several ceramic field drains (eg **7067**, **6022** and **7296**; not illustrated) were encountered, which represent twentieth-century activity across the site. In addition to the field drains, topsoil (**6003**) had been dumped on the southern half of the site in the 1970s by the current farmer.

4. RESULTS OF THE ASSESSMENT

4.1 ASSESSMENT AIMS AND OBJECTIVES

4.1.1 The principal aim of this assessment is to evaluate all classes of archaeological data generated by the excavations, in order to formulate a project design for a suitable programme of analysis. A statement of the significance of the results from each element of the project archive is given below. These statements are based on the assessment work undertaken, and measured against the original academic themes expressed in the project design.

4.1.2 The objectives of the assessment correspond to, and are prescribed by, *Appendix 4 of Management of Archaeological Projects (MAP 2)* (English Heritage 1991). They are:

- to assess the quantity, provenance and condition of all classes of stratigraphic, artefactual, and environmental data;
- to comment on the range and variety of the material;
- to assess the potential of the material to address new research questions raised by the assessment;
- to formulate any further questions arising from the assessment of the excavated data.

4.1.3 This assessment presents:

- a factual summary, characterising the quantity and perceived quality of the data contained within the site archive;
- a statement of the academic potential of the data;
- recommendations on the storage and curation of the data.

4.2 MATERIAL ASSESSED

4.2.1 The entire paper and material archive was examined for the purposes of this assessment.

4.3 PROCEDURES FOR ASSESSMENT

4.3.1 The methodologies adopted for the assessment varied depending upon the class of material that was under examination. All classes of finds were examined in full, with observations supplemented by the finds' records generated during the course of the excavation.

4.4 STRATIGRAPHIC DATA

4.4.1 **Quantification:** the 2009 excavation at Old Millfield Lane produced 531 stratified contexts, of which 505 were archaeological in origin (Table 1). The quantity and type of documentation, drawings, and photographs generated by the excavation are presented in Table 2.

CONTEXTS	No
Natural/geological	26
Prehistoric	3
Post-medieval (Phases 1-5)	469
Modern	33
Total	531

Table 1: Quantification of contexts from Old Millfield Lane

Multiple context plans	40
Single context plans	18
Sections	98
Monochrome prints	539
Digital photographs	343

Table 2: Quantitative record of the paper archive for the open-area excavation and watching brief

4.4.5 **Assessment:** the excavation has produced a body of evidence which has enabled a full characterisation and recording of both natural deposits and archaeological remains identified within one principal area. The remains identified reflect three distinct periods of activity, potentially beginning in the prehistoric period and ending with modern remains. The majority of the contexts date to the post-medieval period, which itself encompasses five chronologically distinct phases of activity, including an extraction pit, a ditched enclosure, buildings, drainage gullies, and numerous pits and postholes. It may be possible to refine the phasing further when a study of the dating of individual contexts has been undertaken during the analytical stage of the post-excavation programme.

4.4.6 **Potential:** the stratigraphic and structural data will provide the framework within which all other analyses will take place. The excavations have allowed a complete stratigraphic record to be made of the site at Old Millfield Lane from the prehistoric period to the present day. The key to understanding the chronology of this site resides with the stratigraphic record.

4.5 DIGITAL MAPPING

4.5.1 **Quantification:** an overall CAD plan of the site has been produced, and several raw survey files exist from the initial capture of the data. The site plan has been collated from a combination of 1:1 digital survey plots of archaeological and topographical features captured by GPS, and the scanning and digitisation of hand-drawn plans made at various scales.

- 4.5.2 **Assessment:** this dataset provides a flexible and adaptable record and resource. It is part of the primary archive for the site, and supplies a geo-spatial record.
- 4.5.3 **Potential:** the CAD plan will form the basis for many of the drawings used in any publications.

4.6 INTRODUCTION TO THE ARTEFACTUAL AND PALAEOENVIRONMENTAL DATA

- 4.6.1 The artefactual and palaeoenvironmental data have been quantified and are considered by material class. The majority of the assemblage was made up of pottery dating from the late sixteenth/seventeenth century to the early nineteenth century. The rest of the artefactual assemblage comprised lesser amounts of a large number of other materials (Table 3). In addition to artefacts, animal bone and macroscopic and microscopic plant remains were also recovered from the site.

Item	Date/Description	Total
Pottery	Post-medieval, c 1600-1900	3039
Clay Tobacco Pipe	c 1650-1900	174
Ceramic Building Material	Post-medieval brick, roof and floor tile	98
Lithics	Chipped-stone artefacts and heat-affected stone	4
Metalwork	Copper alloy	3
	Iron	72
	Lead	13
Industrial Residues	Smithing waste and hearth lining	41
	Coal	9
Glass	Window and vessel	97
Stone	Building Material	5
Organics	Leather	1
	Animal bone	48
	Environmental samples	18

Table 3: Quantitative record of the artefactual and palaeoenvironmental remains

4.7 POST-MEDIEVAL POTTERY

4.7.1 **Quantification:** the excavation produced a total of 3039 sherds of pottery, which were recovered from 55 stratified contexts. As the pottery was not weighed at this stage, it is difficult to establish the degree of fragmentation, but a subjective overview suggests that it varies considerably, with some contexts producing substantial fragments, whilst those from others (eg layer **6000**) were considerably smaller and more abraded. However, over 80% of all the pottery was recovered from several discrete features and deposits. These included three Phase 1 ditches (**7253**, **7401**, and **7433**), one Phase 3 ditch (**7436**), a twentieth-century drain (**7179**), and three deposits/layers (**7260**, **6018**, and **6000**). At this point, no attempt has been made to establish cross-context joins. Almost 30% of the total assemblage was recovered from layer **6000**, which was a soil horizon sealing the archaeological remains encountered at the site, and thus was effectively unstratified.

4.7.2 **Assessment:** the pottery covers a range from the late sixteenth/seventeenth century to the nineteenth century. There are several contexts (fills **6010** and **7055-6** in Phase 1 ditch **7433**; fill **6035** in Phase 1 ditch **7434**; fills **6086** and **7160** in Phase 1 ditch **7401**; fills **7142** and **7320** in Phase 1 ditch **7439**; fill **7400** in Phase 1 ditch **7442**; fills **6030**, **6032**, and **6097** in Phase 3 well **6031**; fill **6068** in Phase 3 ditch **7436**; fill **7199** in Phase 3 posthole **7198**; fill **7245** in Phase 3 posthole **7246**; fill **7282** in Phase 3 posthole **7281**; Phase 4 pit/scoop **7182**; and currently unphased layers **7129** and **7148**) which contain only seventeenth- to eighteenth-century pottery, and five contexts (fill **7073** in Phase 1 pit **7437**; fill **7316** in Phase 3 pit **7315**; fill **6026** in currently unphased pit **6025**; fill **6056** in currently unphased pit **6054**) containing only seventeenth-century pottery. In general, the pottery appears to derive from a domestic context, being in large part kitchen wares, rather than being waste from a production site, although several pieces are sufficiently misshapen to be identified as 'seconds'. These were, however, probably sold for use, rather than being production waste. The pottery falls into three distinct groups.

- **Midland types:** these include material probably of Staffordshire origin, as well as a quantity of brown stoneware, which is probably of Nottinghamshire/Derbyshire origin. The range of Staffordshire material is very similar to a large assemblage recently excavated from the Manchester Dock area of Liverpool, which is very well dated to 1807-10 (NML archive).
- **Coarse earthenwares:** these are likely to be the product of local potteries, made from local clays. A large industry existed in the area of former south-west Lancashire (now Merseyside and West Lancashire) (Lewis 1999). These earthenwares include tablewares, including cups and jugs, as well as larger vessels used in the dairy, or for cooking (a distinction following Higgins 1992). Many of these vessels are sooted, showing use over a fire. These include vessels from the late sixteenth or seventeenth century and later eighteenth- and nineteenth-century vessels. Amongst the assemblage are three examples from a distinctive form of mid-

seventeenth-century faceted cup ('tyg'), which is found across south-west Lancashire and was probably manufactured at Rainford, as well, perhaps, as other places in the region (Lewis 1999).

- **Finewares:** these probably originated in the North West and include fragments of tin-glazed earthenware and white salt-glazed stoneware (including one piece with scratch-blue decoration), which are also likely to have been a product of the Lancashire/Liverpool potters.

4.7.3 **Potential:** preliminary analysis has shown the assemblage to have a good range of relatively well-dated fabrics and forms, deriving from both local and national producers. Integration of the pottery assemblage with the stratigraphic sequence will allow the refinement of site dating and phasing. The range of fabrics and vessels present will also allow some consideration of domestic activity within, and the status of, the household from which it derives, allowing limited discussion of the manner in which this might have changed through time. Similarly, it will allow discussion of changes in sources of supply through time, particularly with regard to the South Lancashire and Liverpool producers. Further study of the locally derived material will enhance knowledge of the local ceramics, especially if the site can provide any external dating and evidence of use. This is especially true for the seventeenth-century material. There are several seventeenth-century forms that may represent local regional varieties and which show close correlation to vessels at Rainford and Newton-le-Willows, and, in the case of the 'faceted tyg', to a wider part of the region (Lewis 1999).

4.8 CLAY TOBACCO PIPES

4.8.1 **Quantification:** the excavation produced a total of 174 fragments of clay tobacco pipe, of which 50% were recovered from stratified archaeological deposits (fill **6004** in Phase 1 ditch **7432**; fill **7255** in Phase 1 ditch **7253**; fill **6010** in Phase 1 ditch **7433**; fills **6079** and **7160** in Phase 1 ditch **7401**; fills **7175**, **7178**, and **7181** in Phase 3 ditch **7436**; fill **7230** in Phase 3 posthole **7229**; fill **6070** in twentieth-century drain **6071**; fill **7173** in twentieth-century drain **7179**; deposit **6018**; layer **6000**). These included 30 bowls (of which 12 derived from features) and 144 stems.

4.8.1 **Assessment:** generally, the fragments are in fair condition, but include a substantial number of abraded pieces, especially those which derived from disturbed and unstratified contexts. The fragments range in date from the early seventeenth century to the early nineteenth century. Several of the bowls were probably manufactured locally, all being oblique spurred and heeled types common in the seventeenth century (Oswald 1975). At least three heel stamps were identified; although one was illegible, it is likely that they all pertained to local pipe makers. The remaining examples included fluted, simple leaf, and Masonic emblem-decorated types, of eighteenth- and early nineteenth-century date. A splayed, ribbed, decorated heel is similar to an example recovered from Norton Priory (Davey 1985), which was identified as a South Lancashire product (Rainford) dating between 1700 and 1740.

- 4.8.2 The stems fragments are relatively small, generally no longer than 65mm, with bore sizes varying from narrow to medium. No mouthpieces have been identified, although several tapered fragments are present. The thicker stems have generally been made from pinkish-firing clay with frequent mica, similar to that used in Rainford during the seventeenth century (Davey *et al* 1982). The narrower stems were made from white-firing clay, probably from a different source, perhaps reflecting a regional change beginning during the early eighteenth century.
- 4.8.3 **Potential:** as the excavation was dealing primarily with deposits relating to post-medieval occupation, the dating evidence provided by the bowls will be important in helping to establish the detailed chronological sequence for the site, refining the information gathered from other sources. Little information can be gained by further analysis of the stems, however.

4.9 CERAMIC BUILDING MATERIAL

- 4.9.1 **Quantification:** in total, 98 fragments of brick and undiagnostic building material were recovered from the excavation (fill **7026** in Phase 1 pit **7437**; fill **7254** in Phase 1 ditch **7253**; fill **7175** in Phase 3 ditch **7436**; Phase 4 wall **7098**; Phase 3 walls **7286**, **7088**, **7403**, **7402**, **7144**, and **7093**; Phase 3 hearth **7367**; Phase 4 walls **7100** and **7053**; and fills **7173** and **7174** in twentieth-century drain **7179**). Three complete handmade bricks were recovered, the remainder being broken fragments measuring less than 160mm long.
- 4.9.2 **Assessment:** two brick fabrics were identified (Fabrics 1 and 2).
- **Fabric 1** supplied *c* 80% of the assemblage. It was a coarse mid-orange brick, containing poorly sorted inclusions including quartz, flint and feldspar. The bricks were made by hand, using a simple mould, and were wire-cut. Complete brick dimensions range between 9½ x 5½ x 3½” (240 x 140 x 90mm) and 9½ x 4¼ x 3¾” (240 x 110 x 70mm), but thinner examples (less than 2” (50mm)) were identified within the broken fragments. Mortar residues generally consisted of pale red sand-based agents, with occasional traces of lime mortar, suggesting that bricks were reused. The possible date range is between the seventeenth and early nineteenth centuries.
 - **Fabric 2** is mid-orange, less coarse than Fabric 1, with a harder texture as a result of improved firing. Inclusions are well-sorted with a high sand content, comprising fine quartz and has fewer voids than Fabric 1. The bricks are handmade, with average dimensions around 9¾ x 5¾ x 3¼” (250 x 120 x 80mm). Some mortar residue is attached to the surfaces, comprising a charcoal-flecked, cream-coloured, lime-based agent. The possible date range is between the eighteenth and nineteenth centuries.
- 4.9.3 The remainder of the assemblage comprised a small lump of burnt fired clay and fragments of hard-fired ceramic field drain, which probably date to the second half of the nineteenth century.

4.9.4 **Potential:** the small size of the assemblage and the lack of complete examples suggests that little information could be gained from further analysis of the bricks.

4.10 COPPER-ALLOY ARTEFACTS

4.10.1 **Quantification:** three copper-alloy artefacts were recovered from a soil layer (6000) sealing the archaeological remains.

4.10.2 **Assessment:** the artefacts were identified as a nail, a cartridge case, and a coin/token. All were in reasonable condition, with little surface corrosion, although the nail and coin/token retained insufficient detail to ascribe accurate identification. Although largely undated, the objects are most likely to be of post-medieval, or modern, date.

4.10.3 **Potential:** as the objects were recovered from disturbed deposits, they will not contribute to the dating of the site.

4.11 IRON

4.11.1 **Quantification:** in total, 72 fragments of iron were collected from the excavation. These mostly derived from unstratified or cleaning layers, although a small quantity (23) derived from stratified deposits, such as buried soils and fills of postholes, pits and linear features. All objects were subjected to x-radiography and examined as part of this assessment.

4.11.2 **Assessment:** the material was mostly in poor to fair condition, with thick layers of corrosion hindering accurate identification. Most of the identifiable fragments were nails of various sizes, representing approximately 60% of the assemblage. They included dome-, flat- and large round-headed examples, which are likely to have derived from structural components. A large number of them derived from soil layer 6000, above the archaeological remains, with smaller numbers from Phase 1 ditch fills 6010 and 7400, deposit 6018, and Phase 3 posthole 7269. Other objects included a serrated-edged blade, a copper-riveted tool, part of a chisel, a large bar, pins, and a small chain link. Of these, only the blade derived from a stratified deposit (fill 7400 in Phase 1 ditch 7442). The material is largely undated, although the objects are most likely to be of post-medieval or modern date.

4.11.3 **Potential:** the poor condition of the assemblage and the limited range of objects means that there is very little potential for further analysis.

4.12 LEAD

4.12.1 **Quantification:** in total, 13 fragments of lead were recovered from three contexts (fill 7175 in Phase 3 ditch 7436; deposit 6018; and layer 6000). The material was for the most part in fair condition, with most fragments covered by a thin layer of pale corrosion products.

- 4.12.2 **Assessment:** the fragments derive largely from lead used within buildings, for instance fragments of a water pipe, window kame, and folded sheets, which may have been used as flashing on a roof.
- 4.12.3 **Potential:** other than the window kame and the folded sheet, which was likely to have been used in construction, the group of lead fragments is of restricted range and adds little to the interpretation or understanding of the site.

4.13 INDUSTRIAL RESIDUES

- 4.13.1 **Quantification:** in total, 41 fragments (3.2kg) of industrial debris and nine of coal were recovered (from Phase 1 pit **7437**; Phase 1 ditch **7401**; fills **6077**, **6082**, **7175**, and **7178** in Phase 3 ditch **7436**; fill **7283** in Phase 3 pit **7281**; fills **7173** and **7174** in twentieth-century drain **7179**; fill **7065** in twentieth-century drain **7067**; fill **7230** in currently unphased posthole **7229**; layer **6000**; and deposit **6018**). Preliminary visual inspection indicated that these included ferrous smithing slag, hearth lining, undiagnostic slag, and incidentally produced fuel waste (including coal). All materials were quantified by weight and fragment count. The identifications are based upon rapid visual examination and must be regarded as provisional.
- 4.13.2 **Assessment:** fragments of smithing waste and hearth lining clearly demonstrate that metalworking was undertaken in the vicinity of the site, although the lack of smelting slags within the assemblage suggests that primary iron production was not occurring nearby. The assemblage included small undiagnostic fragments, occasionally containing evidence of metallic iron, similar to smithing slags, and it is most likely that these, too, were part of a smithing assemblage. The presence of coal and fuel ash slags within ditch fills probably reflects the deposition of clearance waste from domestic hearths, although coal would also have been used as a fuel for smithing.
- 4.13.3 **Potential:** the paucity of metalworking residues on site perhaps suggests the fragments derived from the rake-out from small discrete features. The residues do, however, provide some further, albeit limited, evidence for activity on the site.

4.14 VESSEL AND WINDOW GLASS

- 4.14.1 **Quantification:** in all, some 97 fragments of vessel and window glass were recovered, from 12 contexts, with 53 fragments (54.6%) from topsoil layer **6000**.
- 4.14.2 **Assessment:** all the material was in relatively good condition, although with some surface abrasion, and a small amount of demineralisation. Vessel and window pane fragments were generally small and many of them showed patches of parallel scratching, suggesting a considerable amount of disturbance.
- 4.14.3 Vessel glass from the site comprised a limited range of types, most of the fragments deriving from dark olive green wine bottles. There were very few

fragments diagnostic of form, with only two neck/rim fragments, one probably of late seventeenth-century date, the other late eighteenth-century. There were, in addition, two fragments of the 'sea green' glass bottles seen most frequently in the mid-late seventeenth century (Hedges 1975, 8). The only other items of interest were fragments of two vessels in so-called 'Bristol blue' glass. The process by which this cobalt blue glass was made was not discovered until the late eighteenth century (Banks *et al* 1963).

- 4.14.4 Window glass was recovered from Phase 1 ditch **7401**, deposit **6032** in Phase 3 well **6031**; Phase 3 building **6007**; fill **7174** in twentieth-century drain **7179**; and soil layer **6000**. With the exception of a few modern fragments from building **6007** and fill **7174**, all were thin, greenish, muff-blown sheet glass of the kind typical of the later seventeenth and early eighteenth centuries (Hurst-Vose 1980). Several fragments retain parts of their original edge, showing them to have been grozed rather than diamond-cut. Differential weathering preserved the position of the lead kame in which individual quarries had been set.
- 4.14.5 **Potential:** the glass has only a very limited potential to add to the dating and interpretation of the site, contributing no more than general or corroborative evidence.

4.15 LITHICS

- 4.15.1 **Quantification:** four stones of potential prehistoric date were recovered from the upper fill (**7322**) of Period 1 pit **7305**. These comprised two chipped-stone artefacts and two heat-affected stones.
- 4.15.2 **Assessment:** the chipped-stone artefacts comprised a high-quality translucent brown flint with microfossils, which had been worked into an implement, and a compact sedimentary stone that had also been worked. The flint artefact is a distinctive, elongated implement, forming a point, which has been worked on both edges; some of the working is invasive at the distal end. This implement could have been used as a knife or a scraper, and shows clear signs of edge damage from use; it is probably Late Neolithic to Early Bronze Age in date. The other potential chipped-stone artefact is a fragment of compact sedimentary rock with a bulb of percussion on one plane. This material is not often seen as a workable stone and might, therefore, indicate a lack of suitable source material. Although the bulb of percussion would indicate the stone has been struck, no other working is present and this object may represent a discarded flake. The heat-affected stones from the pit might also be indicative of early human activity at the site. These included a burnt, discoloured, beach-pebble flint, which has fragmented into four sherds, and a crazed and brittle fragment of chert.
- 4.15.3 **Potential:** this small assemblage adds a further chronological dimension to the site, suggesting that this area may have witnessed small-scale activity during the Late Neolithic/Early Bronze Age. As such, analysis and recording, particularly of the chipped-stone artefacts, is warranted.

4.16 STONE BUILDING MATERIAL

- 4.16.1 **Quantification:** in total, five fragments of stone building material and stone objects were recovered (from layer **6000** and Phase 1 ditch **7401**). These included sandstone roof tile, floor-tile fragments, and possible utilised objects.
- 4.16.2 **Assessment:** the roof tile comprised two large (more than 250mm long by 150mm wide) broken sandstone fragments with round peg holes. These probably derived from a building of some considerable dimensions, although the lack of other roofing material suggested that the building, if in the vicinity of the site, had been entirely removed. A small, pencil-shaped sandstone rod may have been utilised as a scribe, although it is also possible the stone represents a geological nodule.
- 4.16.3 **Potential:** this small assemblage will contribute little to the interpretation of the site.

4.17 LEATHER

- 4.17.1 **Quantification:** a single leather shoe was recovered from the waterlogged fill (**7040**) of Phase 3 pit **7039**. The shoe has now been conserved.
- 4.17.2 **Assessment:** the sole and a substantial part of the uppers survive, and the style and means of construction indicate that it is of post-medieval or more recent date. It is a fairly substantial work shoe or boot, and thus not subject to the rapid and well-dated changes of fashion.
- 4.17.3 **Potential:** following the recent conservation of this shoe, it will now be possible to undertake analysis of this object. Such analysis should contribute to the dating of the site, and to any consideration of day-to-day activity and the appearance of the inhabitants.

4.18 ANIMAL BONE

- 4.18.1 **Quantification:** in total, 48 animal bone and teeth fragments, weighing 0.8kg, were recovered from stratified deposits (fill **6010** in Phase 1 ditch **7433**; fill **6021** in Phase 1 ditch **7432**; fill **6079** in Phase 1 ditch **7401**; Phase 1 ditch **7401**; fill **6077** in Phase 3 ditch **7436**; fill **7174** in twentieth-century drain **7179**; currently unphased layers **7148** and **7260**; and layer **6000**). Of these, 14 fragments were derived from post-medieval contexts and 34 fragments were recovered from modern deposits.
- 4.18.2 **Assessment:** the material was identified using the reference collection held at OA North. In identification and measurement, reference was made to Serjeantson (1996) and von den Driesch (1976). All parts of the skeleton were identified where possible, the identifiable species including cattle (modern: two fragments), pig (post-medieval: one fragment), sheep/goat (post-medieval: one fragment), cattle/red deer (post-medieval: two fragments), and sheep/goat/roe deer (modern: 28 fragments). Generally, the material is in a poor state of preservation, being brittle and with 50% or more of the surface of

the bone eroded. Four bones had butchery marks upon them. No teeth from which herd and flock mortality rates could be estimated, and no measurable bones, were recovered. Similarly, epiphysial fusion data, from which mortality rates may also be estimated, were too scarce to be useful.

4.18.3 **Potential:** the material has very little potential for analysis.

4.19 ENVIRONMENTAL REMAINS

4.19.1 **Quantification:** 18 environmental samples were taken during the excavation, to provide information on the economy and ecology of the site, and the local environment. Six of the samples were monoliths for palynological assessment, and 12 were bulk samples for the assessment of charred and waterlogged plant remains. The monolith samples were taken from four Phase 1 ditches (7401, 7442, 7439, and 7432), Phase 1 pit 7437, and Phase 3 ditch (7436), whilst the bulk samples were taken from Period 1 pit 7305, Phase 1 pit 7264, Phase 2 gully 7234, Phase 3 pits/postholes 7039, 7068, 7071, 7205, 7244 and 7246, currently unphased pits/postholes 7062, 7177 and 7229, and currently unphased gully 7311. The sample from pit 7305 may be prehistoric in date, whilst all other samples are considered to date to the post-medieval period.

4.19.2 Three to ten litres each of the bulk samples were hand-floated, the flots then being collected on a 250 micron mesh and air dried. A representative sample of each flot was scanned with a Leica MZ60 stereo microscope and the plant material was recorded and provisionally identified. Botanical nomenclature follows Stace (1997). Plant remains were scored on a scale of abundance of 1-5, where 1 is rare (up to five items) and 5 is abundant (>100 items). The components of the matrix were also noted.

4.19.3 The monolith samples were selected for palynological assessment. The samples were cleaned and the lithology recorded, and 16 sub-samples were taken to assess the potential for palynological analysis. The samples were prepared using a standard chemical procedure (method B of Berglund and Ralska-Jasiewiczowa 1986), using HCl, NaOH, sieving, HF, and Erdtman's acetolysis, to remove carbonates, humic acids, particles greater than 170 microns, silicates, and cellulose, respectively.

4.19.4 **Assessment of charred and waterlogged plant remains:** charred plant remains, except for charcoal, were very sparse in the bulk samples. The only charred remains were a single charred bread wheat (*cf. Triticum aestivum*) grain in Phase 3 posthole 7244, a charred blackthorn stone and an unknown woody seed in Phase 1 pit 7264, and a onion couch tuber (*Arrhenatherum elatius* sp Bulbosum tuber) in Phase 2 gully 7324. In several of the samples, charred fragments, which were thought to be from charred cereal grains, were noted.

4.19.5 There were a few waterlogged or modern seeds in many of the samples, but the numbers were low except in fill 7040 of Phase 3 pit 7039 and fill 7322 of Phase 3 posthole 7205. Bramble (*Rubus fruticosus*), sedge (*Carex trigonus*), common nettles (*Urtica dioica*), thistle (*Cirsium* sp) and creeping buttercup-

type (*Ranunculus repens*-type) seeds were identified in these samples. The plant remains are indicative of waste ground, whilst the common nettle seeds are indicative of a high nitrogen content.

- 4.19.6 Charcoal, coal and heat-affected vesicular material was recorded in all the samples. A mixed assemblage of oak (*Quercus*) and diffuse porous, possibly from alder/hazel/birch (*Alnus glutinosa/Corylus avellana/Betula* sp), charcoal was also identified in the samples. The character of the charcoal suggested that the wood had been burnt at high temperatures. Small magnetic metallic spheres, hammerscale, were identified in four of the samples from Phase 3 postholes **7071**, **7229**, **7244**, and **7246**, and there was some animal hair in two samples (Phase 3 postholes **7071** and **7244**). The very abundant coal, charcoal and heat-affected vesicular material is suggestive of industrial activity at the site, with probable smithing (hammerscale/magnetic spheres) activity and possible leather working (animal hair).
- 4.19.7 **Assessment of Pollen:** the fills of Phase 1 ditches **7401**, **7442**, and **7432**, Phase 1 pit **7437**, and Phase 3 ditch **7436** comprised predominantly silty clays or clay/silts, either brown, orange, or grey in colour. Charcoal fragments were recorded in some but not all of the samples. Abundant pollen was preserved in the 16 sub-samples assessed, except at depths of 0.46-0.47m in sample 6013 (from Phase 3 ditch **7436**), 0.28-0.29m in sample 6014 (from Phase 1 ditch **7442**), and 0.69-0.70m in sample 6019 (from Phase 1 pit **7437**). The preservation of the pollen grains was generally mixed, although some grains were well preserved. The data, as expressed as percentages of the pollen sum, indicate that tree and shrub pollen dominated the pollen sum in all the samples, with between 79% and 95% in all the samples in which abundant pollen was recorded. Alder (*Alnus glutinosa*) and hazel-type (*Corylus avellana*) pollen were recorded most frequently. Hazel-type includes pollen of hazel and bog myrtle (*Myrica gale*). The herbaceous pollen is mainly from grasses (Poaceae) with some from sedges (Cyperaceae), occasional cereal-type pollen grains, including a grain of wheat (*Triticum*), barley (*Hordeum*-type) and dandelion-type pollen (Asteraceae (Lactucoideae)), and a number of other taxa. Heather (*Calluna vulgaris*) and *Sphagnum*-moss spores were recorded in many of the samples. Spores of ferns and fern allies were recorded in all the samples.
- 4.19.8 The pollen evidence suggests that the area was quite extensively wooded, with alder on the wet ground, possibly with bog myrtle and/or hazel on the drier ground in the post-medieval period. The pollen from herbaceous taxa suggests some grassland (grasses and ribwort plantain pollen), or waste ground (dandelion and daisy-type pollen), with some evidence of cereal cultivation. The presence of heather pollen and *Sphagnum*-moss spores may reflect the proximity of the settlement to the large raised mires that existed in Greater Manchester until the nineteenth and early twentieth centuries (Hall *et al* 1995).
- 4.19.9 **Potential:** there is no potential for the analysis of the charred and waterlogged plant remains. There is, however, some potential for charcoal analysis, although much of the charcoal has been distorted by high temperatures in the burning process. Material suitable for radiocarbon dating was also recovered from a number of the contexts (Phase 1 pit **7264**; Phase 3 postholes **7068** and

7071 in Building **6007**; currently unphased posthole **7177**; currently unphased pit **7062**; and currently unphased gully **7311**), and such dating might confirm the period when the site was occupied. There is a considerable potential for pollen analysis from the ditches and the clay extraction pit. Analysis of this kind will allow for the reconstruction of the local environment, and it is recommended that samples from two Phase 1 post-medieval ditches (**7439** and **7432**) should be selected for analysis.

5. CURATION AND CONSERVATION

5.1 RECIPIENT MUSEUM

- 5.1.1 The National Museums Liverpool has been nominated as the ultimate repository for the finds:

National Museums Liverpool
127 Dale Street
Liverpool
L2 2JH
Tel: 0151 207 001

- 5.1.2 Arrangements will be made with the Museum for the deposition of the complete site archive.

5.2 CONSERVATION

- 5.2.1 The leather shoe has been conserved and the remainder of the assemblage is well preserved and in good condition. Thus, the conservation requirement is low.

5.3 STORAGE

- 5.3.1 The complete project archive, which will include written records, plans, monochrome photographs, artefacts, ecofacts and sieved residues, will be prepared for long-term storage following the guidelines set out in *Environmental standards for the permanent storage of excavated material from archaeological sites* (UKIC 1984, Conservation Guidelines 3), and *Guidelines for the preparation of excavation archives for long-term storage* (Walker 1990).
- 5.3.2 All finds will be packaged according to the Museum's specifications, either in acid-free cardboard boxes or, in the case of less stable materials, in airtight plastic boxes.

5.4 PACKAGING

- 5.4.1 The assemblage is currently well packed and will require no further packaging. Box lists are prepared and will be updated from the database when the identification of objects is complete.
- 5.4.2 Subject to consultation with the receiving museum, the discard of the unstratified material is recommended; objects that are good examples of their fabric or type should, however, be retained. Following the palaeoenvironmental analysis, it is recommended that a discard policy relating to the environmental samples is agreed with the National Museums Liverpool. A record should be kept of all discarded material.

6. STATEMENT OF POTENTIAL

6.1 ARCHAEOLOGICAL CONTEXT

- 6.1.1 The excavation at Old Millfield Lane has identified the presence of significant archaeological remains, dating from the prehistoric period through to the modern. These, however, principally enable the investigation of a post-medieval rural site in south Lancashire.
- 6.1.2 **Prehistoric remains:** the excavation recovered a number of prehistoric lithics, associated with a pit, which will add to the emerging body of evidence for prehistoric activity in the wider area. The fact the material is associated with a feature and thus likely to be *in situ*, adds to their value.
- 6.1.3 **Post-medieval remains:** the majority of the excavated remains are of post-medieval date and reflect fairly intensive use of this site over a comparatively compressed period of time. The artefacts recovered suggest that this activity dates between the late sixteenth/seventeenth century and the early nineteenth century.
- 6.1.4 The sequence of remains indicate that, initially (Phase 1), this activity comprised clay extraction and the digging of boundary/drainage ditches across the site, four of which defined a small enclosure. The lack of contemporary features within this enclosure might suggest that it was designed to contain livestock. This was followed (Phase 2) by the digging of two gullies, and the construction of a wall and culvert, and also a small, potentially timber-framed, structure, the remains of which lay predominantly outside the excavation trench.
- 6.1.5 A third phase (3) of activity was characterised by the construction of a small building (**6007**), the complete ground plan of which was uncovered by the excavation. This building appears to have had a timber-framed superstructure resting on brick-built sills, and it is possible that it dates to the eighteenth century or earlier. Indeed, it might have been related to the building which Yates plotted in this area during his 1786 survey of Lancashire. The function of this building is presently not clear, though it might represent a small rural dwelling, which contained three rooms and a fireplace. Alternatively, the building may represent the remains of a workshop which, based on the evidence of industrial residues, and the presence of hammerscale and heat-affected vesicular material from sampled material, might have been involved in smithing. Other contemporaneous features included the fragmentary remains of additional buildings, a well, pits, and a drainage/boundary ditch.
- 6.1.6 Two additional phases of activity were also identified. In Phase 4, building **6007** was extended, and a ditch and several pits were dug. These events were then followed by the abandonment of the post-medieval buildings and the construction, in Phase 5, of a number of drainage features.
- 6.1.7 The excavation has identified significant post-medieval remains and evidence for post-medieval activity. Indeed, it is anticipated that further research might

enable the functional nature of some of the remains, particularly the Phase 3 building, to be clarified, and might also allow the structural and artefactual evidence to be situated more succinctly within their local and regional setting.

6.2 RESEARCH PRIORITIES (NATIONAL/REGIONAL)

6.2.1 Given the nature of the archaeological remains excavated at Old Millfield Lane, the research agendas and priorities most relevant are those which explicitly consider post-medieval archaeology, either nationally or regionally.

6.2.2 *National research priorities:* in 1988, the Society for Post-Medieval Archaeology (SPMA) compiled a research agenda (SPMA 1988), which was later revised to consider more explicitly the post-medieval agrarian society and landscape (Newman 2005). The themes identified within the original SPMA research agenda which have relevance to the Old Millfield Lane site include:

- the investigation of settlements other than villages;
- an extension of our understanding of difference at a regional level.

6.2.3 In Newman's (*op cit*, 207) revision of the research agenda, he argues that this latter point is

‘especially significant for rural and agrarian landscapes, since local building styles, farming and other forms of land use were specifically adapted to local conditions of geography, soils, climate and social circumstances’.

6.2.4 Another point raised in Newman's (*op cit*, 208) revision, which may have relevance to the site, is that

‘excavations of abandoned farmsteads and cottages, especially where the ownership or tenancy is documented, [should be undertaken] in order to study the material culture of individual households’.

6.2.5 Other relevant national research agendas include English Heritage's 1997 draft *Research Agenda* which, although technically superseded by English Heritage's 2003 *Exploring Our Past Implementation Plan*, is still pertinent. This agenda recognises that post-medieval rural landscapes urgently required archaeological research, stating that

‘The components of rural settlement, and how these vary or change, need to be examined: economic and functional specialisation, the extent to which artefact assemblages vary or change, and their interaction with settlement hierarchies require much more work’ (English Heritage 1997, 52).

6.2.6 Given the existence of a potential post-medieval workshop at Old Millfield Lane, other relevant research themes within this document include those connected with patterns of craftsmanship and industry. More specifically, it is outlined (*op cit*, 54) that there is a need for

- evidence that will assist in the analysis of the contrast between the urban and rural industries;
- analysis of material culture to determine procedures and typesets;
- selective investigation into documented sites, to compare the material found in the ground to the contemporary records of the industry;
- analysis of changing farming practices.

6.2.7 **Regional research priorities:** a regional research agenda was formulated in 2007 (*An Archaeological Research Framework for North West England: Volume 2 Research Agenda and Strategy*; Brennand 2007). This agenda highlights significant lacunae in current knowledge and formulates initiatives to address these gaps. The sections of particular relevance to the site at Old Millfield Lane are those detailing the post-medieval period research agenda (Newman and McNeil 2007a) and the industrial and modern period research agenda (Newman and McNeil 2007b).

6.2.8 The post-medieval remains excavated at Old Millfield Lane have relevance to many of the themes and initiatives highlighted in these agendas. For example, the excavation has uncovered remains of post-medieval rural vernacular buildings, which might have functioned as dwellings, or workshops, and these remains have relevance to research initiatives specifically requesting the excavation of abandoned farms and cottages (Newman and McNeil 2007a, Initiatives 6.15; Newman and McNeil 2007b, Initiative 7.19) and/or the analysis of early workshops and industries (Newman and McNeil 2007a, Initiatives 6.25 and 6.27). The excavations also produced a sizable assemblage of post-medieval pottery, and its study will directly address that research initiative requesting an enlargement of post-medieval artefact datasets (Newman and McNeil 2007a, Initiative 6.1), and will also contribute to any regional synthesis of post-medieval ceramics (*op cit*, Initiative 6.4).

6.3 PRINCIPAL POTENTIAL

6.3.1 Through additional research and analysis, the data produced by the fieldwork programme have good potential to address each of the research themes and initiatives outlined in the preceding section.

6.3.2 **Stratigraphy:** the stratigraphic data will provide the framework within which the other analyses can take place. Although the stratigraphy is fairly simple, it has the potential for refinement and more more in-depth description and discussion. The greatest potential for analysis lies in dating and interpreting the sequence of structures and archaeological deposits, and confirming their phasing. The stratigraphy will need to be revisited once it has been integrated with the ceramic assemblage and other datable artefacts, in order to incorporate any new evidence and to test and revise the stratigraphic interpretations developed at assessment.

- 6.3.3 **Artefactual data:** elements of the artefactual assemblage recovered from the site have some potential for analysis, particularly the pottery, clay tobacco pipes, and leather shoe, which furnish some information on the lifestyle and material culture of the post-medieval inhabitants at Old Millfield Lane. In addition, the small lithic assemblage adds a further chronological dimension to the site, suggesting small-scale activity dating to the Late Neolithic/Early Bronze Age. This is not true of all of the assemblage, however, since some of it is of limited potential and has little further value. In general terms, the material culture forms an important part of the archaeological record and makes a contribution to the regional corpus.
- 6.3.4 **Integration with historical sources:** there is a good potential that documentary research and cartographic analysis might aid in interpreting the structural remains uncovered during the excavation.
- 6.3.5 **Palaeoenvironmental data:** there is good potential for analysis of the pollen remains. The latter will contribute to an understanding of the post-medieval landscape in the immediate locale and in the region in general, a generally understudied period in the North West (Huntley and Stallibrass 1995).

7. UPDATED RESEARCH AIMS AND OBJECTIVES

7.1 INTRODUCTION

7.1.1 The original aims of the fieldwork as set out in *Section 2*, are still valid, but these have been updated with a set of new aims and objectives that are relevant to the research themes outlined in *Section 6*.

7.2 UPDATED RESEARCH AIMS

7.2.1 The following general aims have been identified as achievable by the analysis of the excavated data from Old Millfield Lane. The overall aims are:

- to elucidate the development and chronology of the site;
- to further an understanding of the social, economic, domestic and/or industrial practices undertaken at the site;
- to further an understanding of the role of building **6007** within the wider socio-economic landscape;
- to elucidate further the sequence and importance of the artefactual assemblage recovered, specifically the pottery;
- to place the analysed and interpreted results of the excavation within a local and regional context.

7.3 UPDATED OBJECTIVES

7.3.1 The revised research aims will be addressed through the following specific objectives:

- to analyse and characterise the sequence of archaeological structures and deposits revealed during the course of the fieldwork in order to modify and refine the scheme of phasing;
- to analyse the stratified ceramic assemblage and to integrate this with the stratigraphic sequence, in order to allow the refinement of site dating and phasing;
- to analyse the locally derived ceramic material in order to enhance knowledge of local ceramic production;
- to analyse pollen remains as a means of understanding the local and regional rural landscape;
- to conduct detailed documentary research of primary and secondary sources in order to allow historical and functional contextualisation of the excavated remains;

- to understand the function and usage of the excavated structures through a consideration of stratified elements of material culture;
- to present an integrated narrative based on the information provided by each of the above objectives;
- to place the material in the public domain, through publication and deposition of a well-ordered archive.

8. METHOD STATEMENT

8.1 INTRODUCTION

8.1.1 The following tasks are required to fulfil the revised objectives outlined in *Section 7*. When complete, they will contribute to the aims outlined in *Section 7.2* and will ultimately allow for the preparation of a publication text and an integrated project archive, which will include a stratigraphic narrative.

8.2 PROGRAMME STRUCTURE

8.2.1 The post-excavation programme will be divided into the following stages:

- analysis of the site;
- further documentary/cartographic research;
- preliminary synthesis of results;
- preparation of draft text and illustrative material;
- publication;
- archive preparation and deposition.

8.3 MANAGEMENT, MONITORING AND REVIEW

8.3.1 Management and monitoring tasks have been built into the project. These tasks will include project monitoring, advice and co-ordination, problem solving, and conducting meetings with project staff and all interested external parties.

8.3.2 It is proposed that all project participants will be briefed at the start of the project concerning the aims and objectives for the post-excavation programme and that regular review meetings will be held to monitor progress.

8.4 TRANSPORT OF MATERIALS TO SPECIALISTS

8.4.1 At an early stage in the analytical programme, arrangements will be made to transport the post-medieval pottery to the appropriate external specialist to facilitate analysis and reporting. Conversely, on the completion of the analysis, material will need to be received from the specialist, sorted and checked against database records, to ensure all is boxed correctly.

8.5 PHOTOGRAPHS

8.5.1 The monochrome photographs produced during the excavation will need to be indexed, catalogued and filed. They will also need to be cross-referenced with the digital photographs through the creation of a database, which catalogues the latter.

8.6 PHASING AND STRATIGRAPHY

8.6.1 It will be necessary to confirm and refine the preliminary scheme of phasing outlined in this assessment. Specifically, it is likely that further integration of the artefact assemblage with the site stratigraphy will provide the opportunity to date the sequence of deposits, features and structures more accurately, allowing a full and meaningful analysis of their stratigraphic relationships. The interpretation of the stratigraphic sequence will be aided by the establishment of a fully integrated computerised site database, allowing the stratigraphic data to be linked with that data derived from artefactual and environmental sources.

8.7 ARTEFACTUAL ANALYSIS

8.7.1 The assemblages of finds (including the post-medieval pottery, clay tobacco pipes, ceramic and stone building material, lithics, copper-alloy objects, lead, industrial residues, glass, leather, and animal bone) will be integrated with the refined stratigraphic sequence. The artefacts will be catalogued by context for archiving purposes and added to the site database. A selection of the artefacts will also be photographed as part of the cataloguing process. A summary report will be produced for each category of artefact, which will be incorporated into the archive and publication. Furthermore, several of the artefact categories require some additional analysis and these, along with the recommendations for further study, are listed below.

8.7.2 **Post-medieval pottery:** the post-medieval pottery forms an important chronological resource and the assemblage should be integrated with the site stratigraphy in order to provide additional dating evidence. The methodology to be followed is that recommended in the Medieval Pottery Research Group's *Minimum Standards for the Processing, Recording, Analysis, and Publication of Post-Roman Ceramics* (MPRG 2001). Furthermore, the pottery assemblage should be correlated with documentary sources and the elements of the assemblage should be considered in relation to local pottery groups and vessel forms.

8.7.3 **Clay tobacco pipes:** a full catalogue should be prepared of the clay tobacco pipes. This should include dating, with a note on maker's marks and any other decorative features, and comment on the quality and finish of the pipes.

8.7.4 **Leather shoe:** following the recent conservation of the shoe, it should be examined to determine details of its construction and appearance, in order to refine the current broad date range of this artefact.

8.7.5 **Lithics:** analysis of the lithic assemblage should be undertaken. This will focus on the chipped-stone artefacts and attempt to refine their dating. It will also situate them, technologically, within their regional setting.

8.8 ENVIRONMENTAL ANALYSIS

- 8.8.1 The palaeoenvironmental assessment has demonstrated that there is a considerable potential for pollen analysis of samples extracted from several features, and therefore the samples from two Phase 1 ditches (**7439** and **7432**) should be subjected to analysis. This analysis has the potential to provide an insight into the character of the environment and the manner in which people interacted with it. The palaeoenvironmental methodology will follow that outlined in *Section 4.19*.
- 8.8.2 The results of this analysis should be recorded onto a database and, where appropriate, integrated into the stratigraphic text. A full and accessible report, including appropriate tables and diagrams, will be included in the archive and publication.

8.9 DOCUMENTARY RESEARCH

- 8.9.1 Further documentary research will be undertaken in order to assist in the interpretation of the archaeological remains. This will include more detailed map regression and examination of primary documents held by the Merseyside Record Office, Lancashire Record Office, Wigan local studies library (which holds material for Ashton-in-Makerfield), and any other relevant libraries and record offices. In addition, key secondary sources will be consulted and research will be undertaken to identify comparable sites and buildings within the region.

8.10 ILLUSTRATION

- 8.10.1 During the analytical programme, appropriate material will be selected for illustration. Illustrative material will include general plans, phase plans, and relevant section drawings. A selection of the artefactual material will also be illustrated. This will include the chipped-stone artefacts, specific pottery vessels, and the leather shoe. In terms of the clay tobacco pipes, a range of bowl forms and decorative styles will be illustrated at a 1:1 scale, whilst any previously unrecorded stamp types will be illustrated at a scale of 2:1, as a reference source for future researchers. An experienced illustrator, using standard conventions, will compile these illustrations, either digitally, for the plans, or manually, as appropriate.
- 8.10.2 During preparation of the report text, photographs suitable for inclusion in the publication will be selected from the project archive.

8.11 PUBLICATION

- 8.11.1 In accordance with the guidelines provided in *MAP2* (English Heritage 1991), it is proposed that the results of the project should be disseminated through the production of an academic publication. This publication is likely to comprise

no more than 6000 words of text, excluding bibliography, and the narrative will be supported by an appropriate number of line drawings, including artefactual illustrations and interpretative phase drawings, and plates. It is anticipated that the publication will form either an academic article, within an appropriate academic journal, such as *Post-Medieval Archaeology*, or will be integrated within a proposed OA North monograph detailing the development of rural settlement in the historic county of Lancashire.

8.11.2 The publication will address the revised research objectives for the project (*Section 7*) and will comprise:

1. **INTRODUCTION**

1.1 Site Location

1.2 Circumstances of the Project

1.3 Historical Background

2. **STRATIGRAPHIC NARRATIVE**

3. **ARTEFACTUAL AND ECOFACTUAL ANALYSIS**

4. **DISCUSSION**

Bibliography

Acknowledgements

8.11.3 Following completion, the draft publication text will be submitted for internal revision and will then be copy edited ready for publication.

8.12 PROJECT ARCHIVE AND DEPOSITION

8.12.1 The completion of the project will result in an integrated archive, containing full details and catalogues of all stratigraphic, artefactual, and environmental analyses. This will also contain the project circumstances, an historical background, particularly that gained through documentary research, and provide an interpretation of the results, set within their local and regional setting.

8.12.2 Following the completion of the text for publication, the archive will be updated as necessary, particularly the information contained in the database. This will all be checked and then submitted to National Museums Liverpool. Material in boxes will be checked and box lists compiled and appended. The entire paper and material archive will be indexed, ordered and checked, and all parts delivered to the receiving museum. A copy of the paper archive on microfiche will also be made. Digital mapping will need to be prepared for long-term storage, including the production of metadata. The digital record should be duplicated as a paper record for long-term archiving.

8.12.2 It is recommended that other digital components of the archive should be deposited with a suitable storage facility, in accordance with current best practice guidance from English Heritage (English Heritage 2007). If this

course of action is followed, then the scope of the digital archive will be agreed with the depository during the course of the project, and the selection and presentation of the material will be carried out in broad accordance with the ADS's evolving *Digital Archives from Excavation and Fieldwork Guide to Good Practice* (ADS 2007). This is an additional optional task.

9. RESOURCES, MANAGEMENT AND PROGRAMMING

9.1 PROJECT TEAM

9.1.1 The team consists of internal OA North staff and an external specialist (Table 4). The project will be managed by Alison Plummer.

Name	Organisation	Tasks
Alison Plummer	OA North	Project management; overseeing the production of publication text; and editing of publication text
Rachel Newman	OA North	Academic editing
Richard Gregory	OA North	Stratigraphic analysis; documentary research; production of publication text
Sean McPhillips	OA North	Production of clay tobacco pipes, ceramic and stone building material, metalwork, and industrial residues reports and catalogues
Christine Howard-Davis	OA North	Production of leather object and vessel and window glass reports and catalogues
Pascal Eloy	OA North	Production of lithic report and catalogue
Andrew Bates	OA North	Production of animal bone report and catalogue
Elizabeth Huckerby/ Denise Druce/ Sandra Bonsall	OA North	Botanical analysis and report
Joanne Levey	OA North	Archive
Mark Tidmarsh	OA North	CAD illustration
Adam Parsons	OA North	Publication illustration
Jeff Speakman	National Museums of Liverpool Field Archaeology Unit	Post-medieval pottery

Table 4: Proposed project team

9.2 PROGRAMMING

9.2.1 The project programming is conditioned by a series of summary tasks, which are outlined in Table 5.

Task	Description	Performed by
	SET-UP AND MONITORING	
1	Academic Management	Rachel Newman
2	Management and monitoring	Alison Plummer
3	Team meetings	All
	TRANSPORT OF MATERIALS	
4	Dispatch material to external specialist	Project Assistant
	CATALOGUE PHOTOGRAPHS	
5	Mark photographs and slides, and order the archive	Project Assistant
	DOCUMENTARY RESEARCH	
6	Visit relevant archives and libraries and undertake documentary and cartographic analysis	Richard Gregory
7	Identify and consult relevant secondary sources to identify comparable sites and buildings within the region	Richard Gregory
	FINDS ANALYSIS AND REPORTS	
9	Create/update finds database	Sean McPhillips/Chris Howard-Davis/Pascal Eloy
	Post-medieval pottery	Jeff Speakman
10	Other finds	Sean McPhillips/Chris Howard-Davis/Pascal Eloy
	STRATIGRAPHIC ANALYSIS	
11	Stratigraphic analysis	Richard Gregory
12	Create context database	Richard Gregory
13	Redraw matrices	Richard Gregory
14	Integrate analysed finds into stratigraphic matrix	Richard Gregory
15	Integrate documentary research and stratigraphy	Richard Gregory
16	Prepare stratigraphic text	Richard Gregory
17	Compile phase plans and sections	Richard Gregory
18	Digitise plans and sections	Mark Tidmarsh
	ENVIRONMENTAL ANALYSIS AND REPORTING	
19	Pollen analysis	Elizabeth Huckerby/Denise Druce/Sandra Bonsall
	ARCHIVE REPORT	
20	Compile text	Richard Gregory
21	Illustration	Mark Tidmarsh
	PUBLICATION TEXT	
22	Compile publication text	Richard Gregory
23	Compile illustrations	Mark Tidmarsh/Adam Parsons
24	Edit first draft text	Alison Plummer
25	Revise text	Richard Gregory
26	Edit final draft text	Rachel Newman
	ARCHIVE DEPOSITION	
27	Update archive	Joanne Levey
33	Deposit final archive	Joanne Levey

Table 5: Summary task list

9.3 MANAGEMENT STRUCTURE

- 9.3.1 OA North operates a project management system. The team is headed by the Project Manager, who assumes ultimate responsibility for the implementation and execution of the Project Design and the achievement of performance targets, be they academic, budgetary, or scheduling.
- 9.3.2 The Project Manager may delegate specific aspects of the project to other key staff, who both supervise others and have a direct input into the compilation of the report. They may also undertake direct liaison with the external specialist who is contributing to the publication report, and the museum named as the recipient of the project archive. The Project Manager will define and control the scope and form of the post-excavation programme, and will arrange and co-ordinate regular meetings and reviews with project team members.
- 9.3.3 OA North would also be able to provide updates on the progress of the work, if required, at regular intervals during the course of the project.
- 9.3.4 OA North places importance on the tight and effective management of projects in order to deliver best value to our clients. An element of managerial time will be dedicated to ongoing quality assurance and internal monitoring. This is part of our internal quality assurance system and ensures the prompt delivery of the agreed report or other deliverables on time and budget.
- 9.3.5 OA North has considerable experience of excavation and post-excavation projects of all periods and is an Institute of Field Archaeologists (IFA) registered organisation (RAO 17). All members of staff operate to the IFA Code of Conduct.

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ILLUSTRATIONS

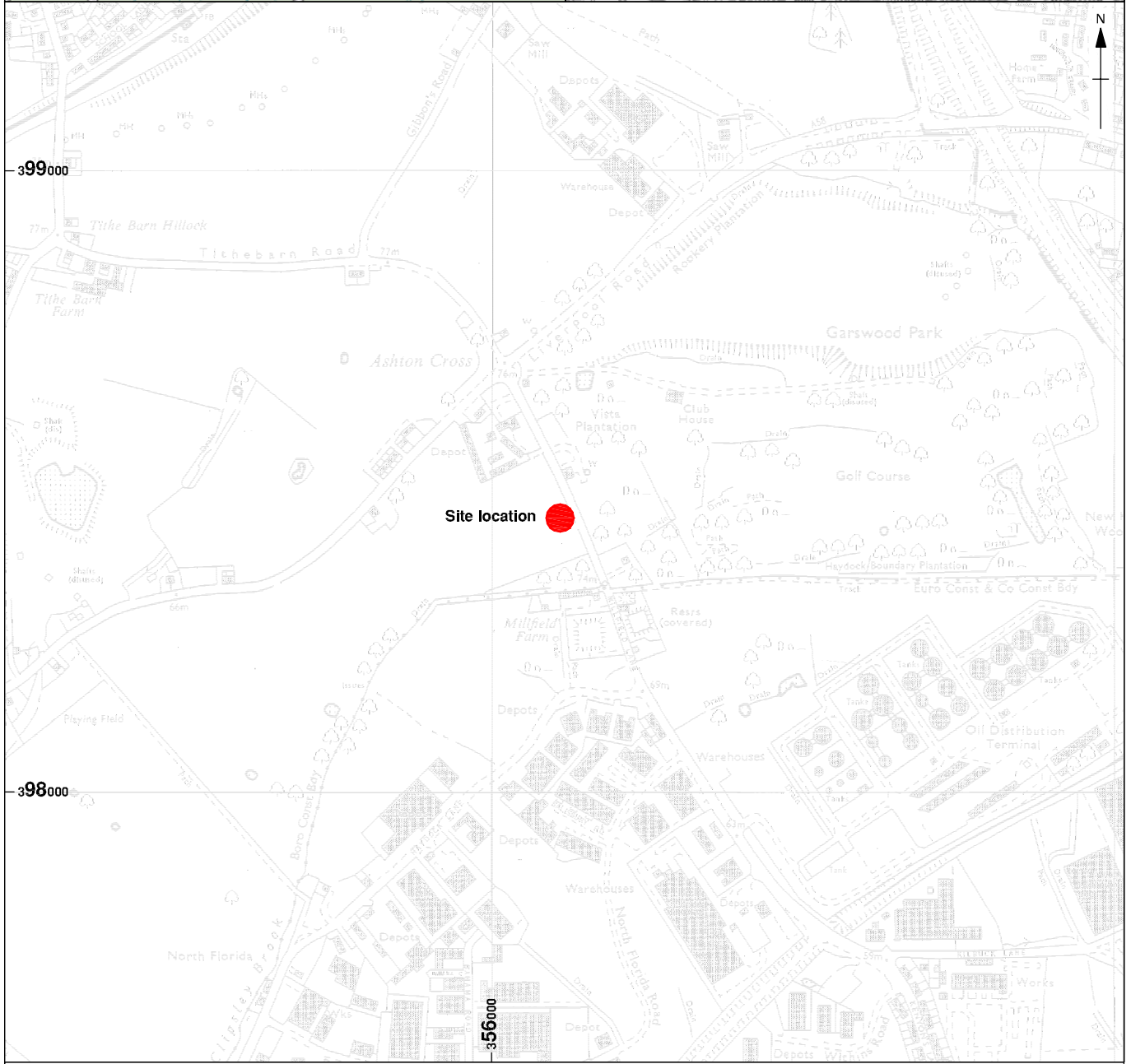
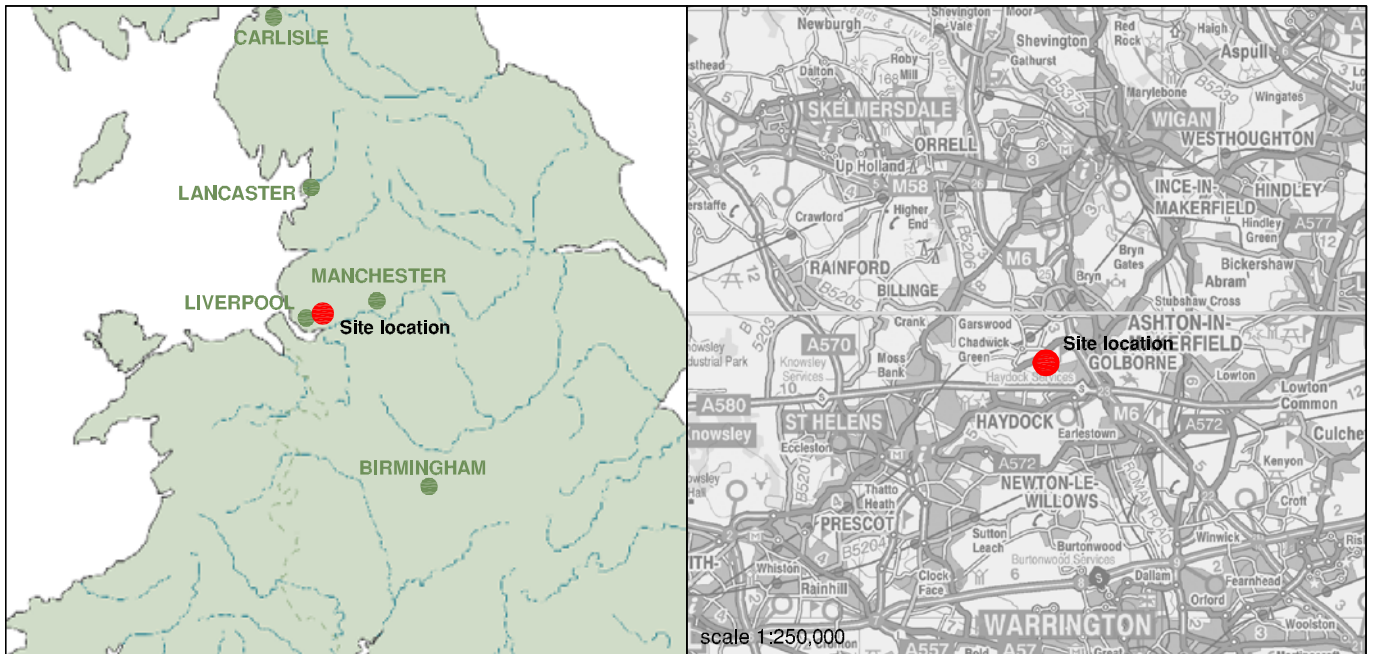
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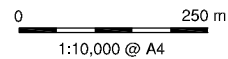


Figure 1: Site location

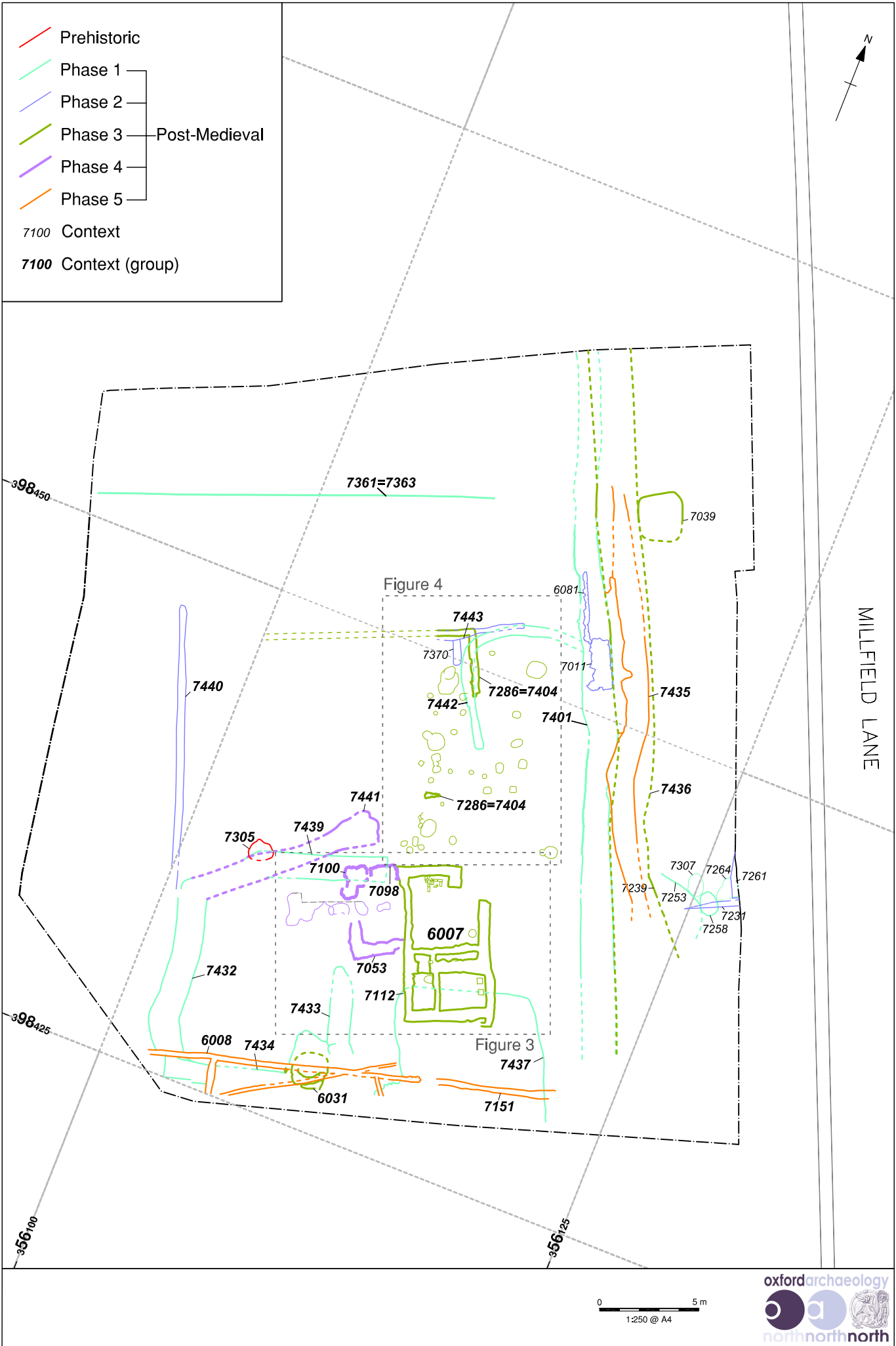


Figure 2: Old Millfield Lane, phased plan

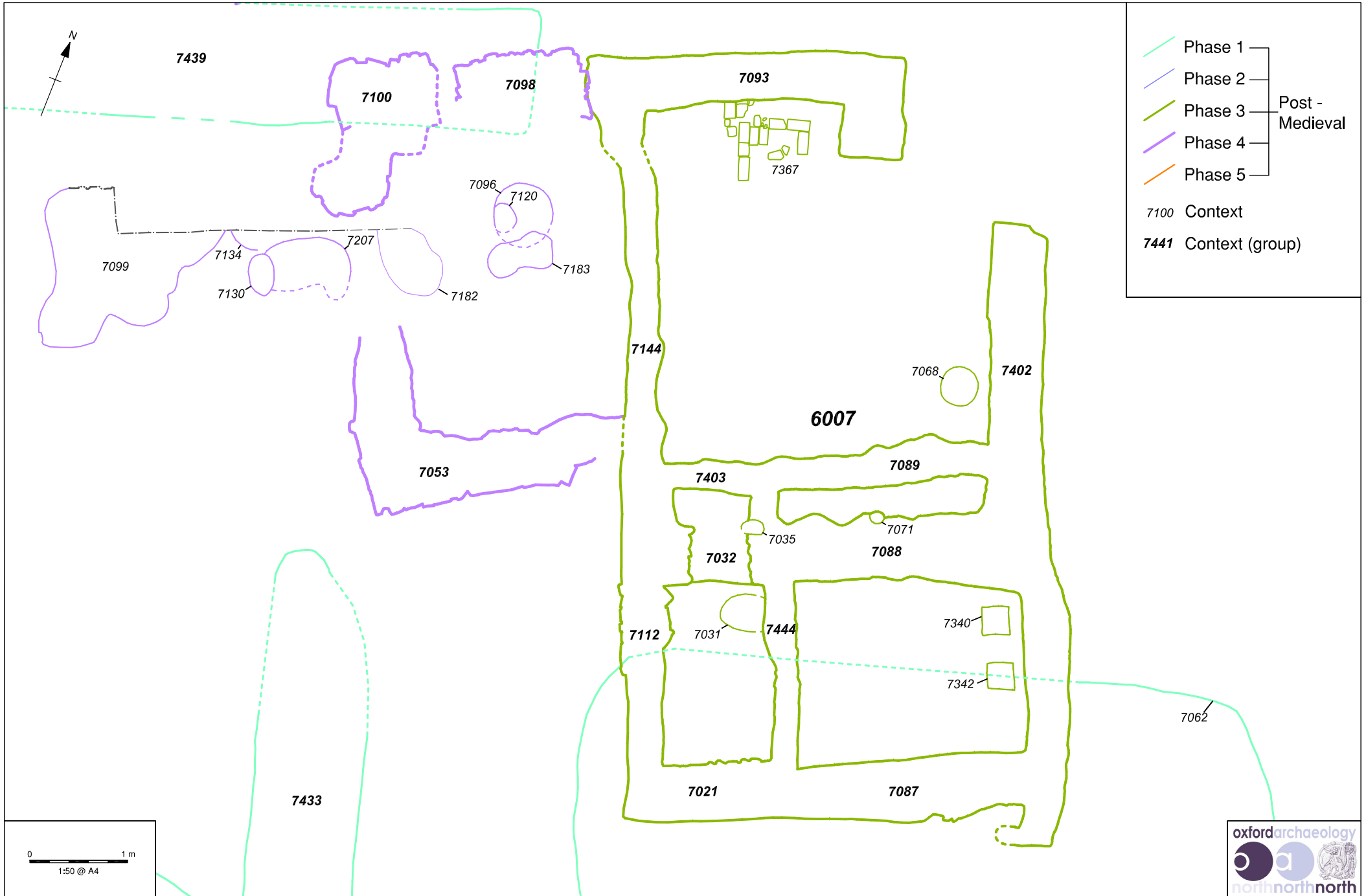


Figure 3: Plan of building 6007

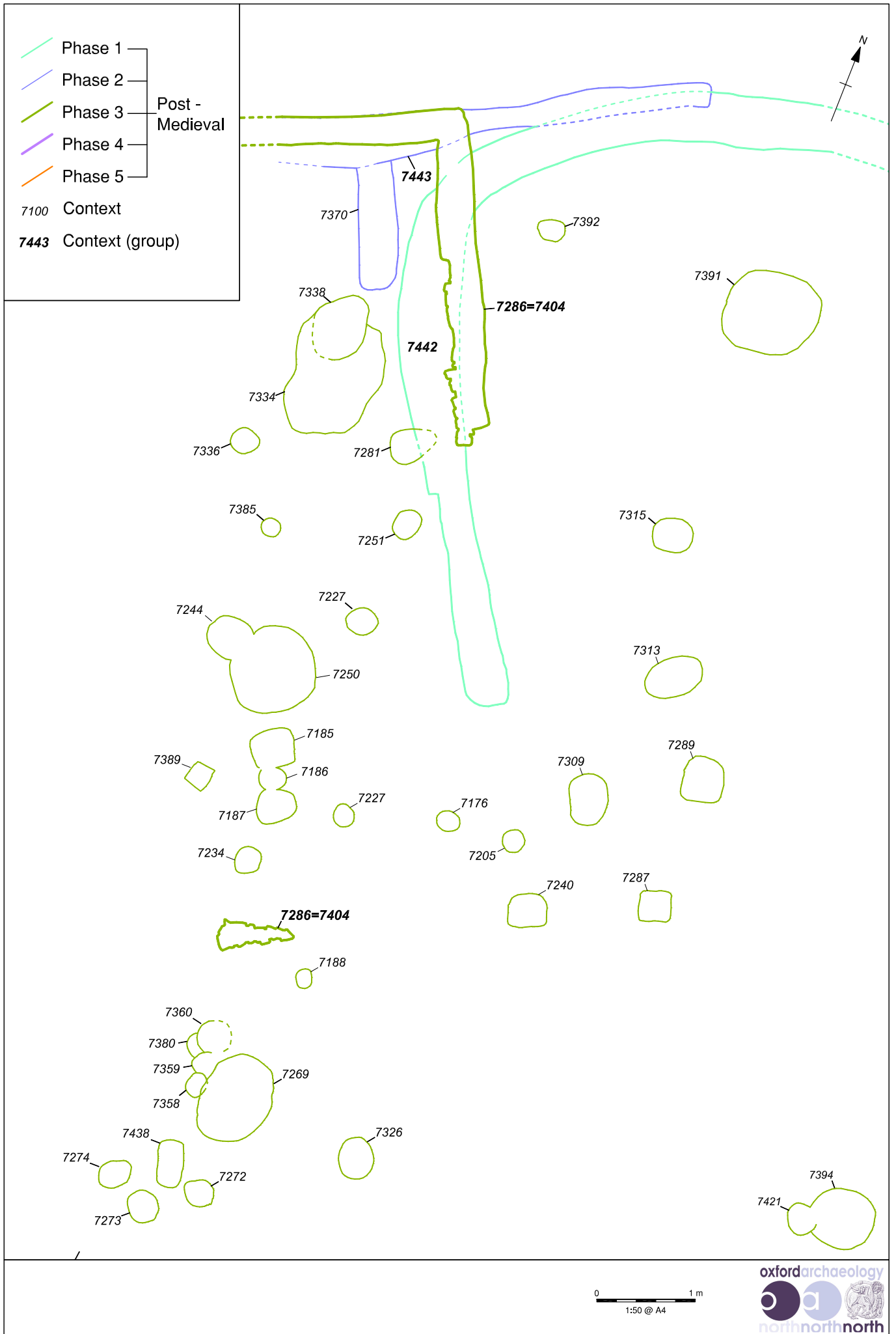


Figure 4: Plan of pit and posthole scatter north of Building 6007