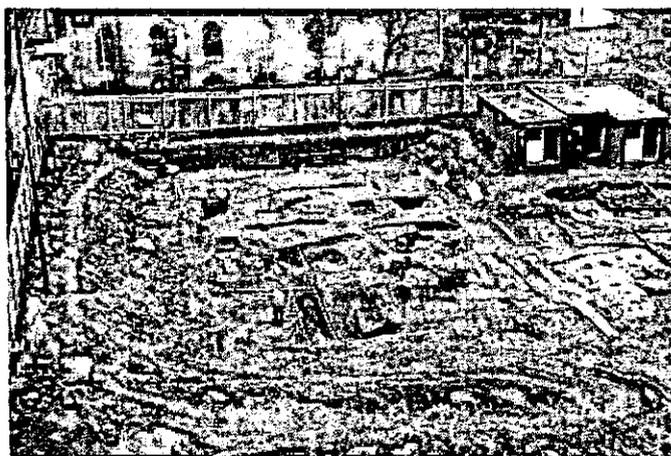




73/83 Liverpool Road, Manchester An Archaeological Excavation Within The Roman Vicus

Excavation Report



Trench XII During The Excavation

A report by Peter A. Connelly

University of Manchester Archaeological Unit
University of Manchester
Oxford Road
Manchester
M13 9PL

Tel 0161 275 2314
Fax 0161 275 2315

February 2002 (15)



THE UNIVERSITY
of MANCHESTER

Contents

<i>Non-Technical Summary</i>	3
<i>1. Introduction</i>	4
<i>2. Archaeological Setting</i>	6
<i>3. Methodology</i>	11
<i>4. Results</i>	12
<i>5. Interpretation</i>	18
<i>6. Conclusion</i>	30
<i>7. Acknowledgments</i>	34
<i>8. Bibliography</i>	35
<i>Appendix 1: Specialist Reports</i>	37
<i>Samian Ware Pottery (Margaret Ward)</i>	38
<i>Roman Coarse Ware Pottery (Alison Jones)</i>	40
<i>Roman Building Material (Alison Jones)</i>	46
<i>Roman Glass (Alison Jones)</i>	48
<i>Roman Metalwork (Alison Jones)</i>	49
<i>Roman Industrial Waste (Mark Adams)</i>	50
<i>Roman Stonework (Alison Jones)</i>	51
<i>Post-Medieval Pottery (Julie Edwards)</i>	52
<i>Clay Pipes (David Higgins)</i>	55
<i>Post Medieval Glass (Julie Edwards)</i>	61
<i>Environmental Sample Analyses (Jacqui Cotton)</i>	62
<i>Notes On Prehistoric Artefacts (Peter Connelly)</i>	69

<i>Appendix 2: Figures 13 To 19</i>	70
<i>Appendix 3: Plates</i>	77
<i>Appendix 4: Excavation Project Design</i>	80

Non-Technical Summary

The University of Manchester Archaeological Unit (UMAU) carried out an open area archaeological excavation at 73/83 Liverpool Road, Manchester as part of the planning development control mitigation scheme prior to the proposed residential development of the site. UMAU were contracted by Citex Bucknall Austin on behalf of Gleeson City Living. The excavation was carried out from 5 March to 30 April 2001.

Slight evidence of prehistoric activity in the area was recovered from the excavation in the form of two Mesolithic flint, one Neolithic/Bronze Age waste flake and one fragment of Late Bronze Age/Iron Age pottery. All of these artefacts were recovered from either Roman or 19th century deposits.

Although truncated by 19th and 20th century development the excavation revealed 3 distinct phases of Roman activity which reflects the development pattern of the fort and the civilian settlement which surrounded the fort.

The first phase of activity, dated to the late 1st century AD, was defined by a large v-shaped ditch and an associated smaller u-shaped gully both of which may correspond with two similar features excavated during the White Lion Street excavations site by Professor Barri Jones of the University of Manchester in the 1970's. This set of ditches appear to be an early temporary enclosure, or baggage enclosure, which may have been constructed to defend the Roman military personnel while the fort was being constructed. The ditch and gully subsequently fell out of use when the vicus developed around the fort. Evidence also recovered from the v-shaped ditch suggests that it was at least partially flooded prior to it finally falling out of use.

After the baggage enclosure fell out of use the following two phases appear to represent vicus development which included possible building foundations, plot divisions, evidence for small scale agricultural work, close proximity to industrial working and possible evidence for primary leather preparation. All of which is typical of vicus development and occupation.

Very little evidence was uncovered that post dated the Roman period and pre-dated the 19th century development along Liverpool Road. This meagre evidence took the form of a possible post-Roman to pre-19th century plough soil which had also been recorded by Barri Jones during the White Lion Street excavations.

Although the Georgian, Victorian and 20th century development along Liverpool Road is well documented the excavation also revealed early 19th century activity in the form of land clearance and the possible division of land prior to the late Georgian building phase.

An insight into the building problems that were encountered during the life of the Georgian terraces was revealed in one trench where the lateral movement of a cellar wall may have caused severe problems in the structure of the building and was subsequently repaired and strengthened.

1. Introduction

1.1 The Excavation

The University of Manchester Archaeological Unit (UMAU) carried out an open area archaeological excavation at 73/83 Liverpool Road, Manchester (centred at National Grid Reference SJ 8317 9777) (Figure 1). The work was commissioned as part of the planning development control mitigation scheme prior to the proposed residential development of the site. UMAU were contracted by Citex Bucknall Austin on behalf of Gleeson City Living. The excavation was carried out from 5 March to 30 April 2001.

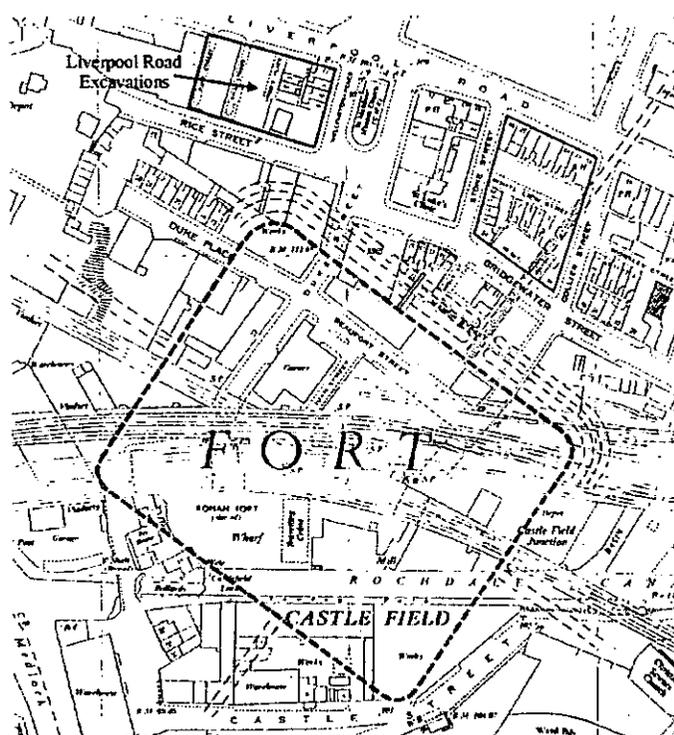


Figure 1: Site Location (Based upon 1969 50" OS Map (Crown Copyright reserved) and Jones and Grealey Fig 6).

The excavation was instigated after an evaluation phase of work, carried out in February 2001, which had revealed *in situ* Roman remains survived in the eastern portion of the development site. The evaluation demonstrated that the Roman remains survived within the yards of the Georgian buildings and the back alley situated in the east of the site, as predicted, but unexpectedly also below the terraces that fronted on to Wellington Place and Woods Place which did not have cellars. The Roman remains consisted of negative cut features that appeared to relate to the development of the civilian settlement that surrounded the Roman fort from the late 1st century AD. In direct correlation with the survival of the Roman remains was the survival of the drift geology which lay in close proximity to the present land surface.

The project design for the excavation was approved by the Assistant County Archaeologist as part of the fulfilment of the planning condition prior to the undertaking of the excavation.

The excavation consisted of three trenches, XII, XIII and XIV, the numbering of which continued from the

evaluation numbering system that had been instigated in February 2001 (Figure 13). Trench XII (Figure 2) was a large open area that encapsulated the majority of the eastern portion of the development plot. The shape and location of this trench had been influenced by the evaluation trenches and remained open and worked on for the full duration of the excavation (Plates 1 to 3).



Figure 2: Trench XI (Looking East).

Trenches XIII and XIV were located in the western portion of the development plot. Trench XIV was open for one day was quickly recorded and revealed no *in situ* Roman archaeology. Trench XIII was open for two weeks. Portions of Tr. XIII were partially or fully excavated until it was clear that no *in situ* Roman remains survived within its extents.

The evaluation stage of work revealed that no *in-situ* remains of Roman archaeology survived elsewhere within the development plot due to 19th and 20th century building works. Therefore no further areas were excavated.

1.2 The Project Staff

Project Manager	David Power (LLB)
Project Officer	Peter A. Connelly (B.A.)
Project Supervisors	Graham Mottershead (B.A.) Simon Askew (B.A.)
Project Assistants	Sarah Craig (B.A.) Caroline King (M.A.) Peter Peers (B.A.) Andrew Dicken (B.A.) Elisabeth Diggle (B.A.) Paul Miskew (B.A.)

2. Archaeological Setting

2.1 Geology

The solid geology of the Castlefield area is Permo-Triassic Bunter Sandstone (OS Geological Survey sheet 85). Although sheet 85 indicates that the solid geology is overlain with a drift geology of late glacial flood gravels and sands the excavation at Liverpool Road revealed varying degrees of boulder clay and post-glacial alluvial sands and gravels.

The open area excavation allowed for a further in depth analyses of the drift geology which highlighted that, in certain areas, the boulder clay was not overlain with alluvial sands and gravels which may be due to 19th century and 20th century development. Where the boulder clay was not overlain with alluvial sands and gravels it was a stiffer yellowish red boulder clay with fewer cobble inclusions that was relatively close to the surface rather than the yellow boulder clay with frequent cobble inclusions that was witnessed elsewhere in the development plot.

A trench excavated across Tr. XII at the very end of the excavation revealed that the yellow boulder clay was deposited on top of the stiffer yellowish red boulder clay. This may be due to different periods of deposition, the stiffer yellowish red boulder clay may have been immediate post glacial activity where as the yellow boulder clay may have been caused by later alluvial factors.

The eastern section that defined the eastern limits of the excavation also revealed an old stream channel cutting through the yellow boulder clay that had apparently to silted up and retained water. The deposits in the channel had started the transformation to clay and were found to be in a reduced grey colour.

Located on top of the boulder clays were two distinct areas of alluvial flood deposit and an area of sand and gravels. The first alluvial deposit was a light whitish grey colour with occasional brown discolouration which was located in the southern segment of Tr. XII. The second alluvial deposit was a homogenous strong brown colour located in the eastern segment of Tr. XII.

An on site inspection of these deposits by Doctors Fred Broadhurst and Morvin Simpson, both retired geology lecturers with a common interest in the geology of Manchester, ascertained that both deposits were in nature identical and were probably deposited at the same time by the flooding of a young river Medlock. The different colour of the deposits was due to below ground chemical processes. The whitish grey deposit was caused by a reducing factor which meant that no oxygen was penetrating the ground where as oxygen was still permeating in to the strong brown deposit. As well as this the strong brown deposits were richer in iron which was an additional another factor in the colouration.

The excavation of the trench across Tr. XII at the end of the programme of works also helped fully define the area of sands and gravels. In section it was revealed that the layers of sands and gravels were in fact an old river channel. This may have been an old course of the river Medlock or may have been part of either a braided floodplain or anastomosing floodplain development during the life of the young river Medlock. In addition what appears to be some form of hollow or channel is shown cutting across this plot of land in Laurent's map of 1793 and this may in fact be the scar of one of the old river channels.

2.2 Topography

The site lies within the Castlefield Urban Heritage Park, to the south-west of the central Manchester, bounded by Liverpool Road to the north, Rice Street the south, Wellington Place to the east and the Gleeson City Living M3 building to the west. The topography of this parcel of land declines gently from northeast to southwest towards the Castlefield basin.

Immediately prior to evaluation and excavation the development area consisted of 20th century overburden, 19th century demolition rubble, concrete slab and macadam surfaces. No buildings and structures remained on site.

2.3 Previous Archaeology

As far as modern records are concerned no archaeological works have ever taken place within the plot of land highlighted for development. Various excavations have taken place adjacent to the development site, such as the Duke Place/Duke Street excavation carried out during 1975 and directed by Professor Barri Jones of Manchester University and the ATS site, which is now occupied by the Gleeson City Living M3 building, excavated by GMAU in 1981 for the Central Manchester Development Corporation.

2.3.1 Summary of Previous Archaeological Work in Roman Castlefield

Antiquarian interest in the Roman fort of Manchester can be traced to the mid-16th century when it was mentioned in Leland's account of the town. The first major impetus to its study came in the 1760s, when engineering works for the Bridgewater Canal unearthed a significant quantity of Roman remains and prompted the Reverend Whitaker to write the first detailed account of the site. Subsequent industrial development, particularly in the 19th century, produced other finds. Their provenance was often poorly recorded, although a useful plan was compiled by John Corbett in 1850 showing the location of the sections of the fort wall still visible at that date as well as the location of some recent finds. The modern archaeological study of the site effectively began at the end of the 19th century when Charles Roeder recorded, in section and plan, features revealed during building works at that time.

The 20th century saw a number of archaeological excavations of Roman remains in Castlefield. Broadly speaking, these have examined four main areas or aspects of the site, as follows:

1. *Western Defences of the Fort*

The earliest major excavation in Roman Castlefield was carried out in 1906-7 by F A Bruton in the north-west corner of the fort, on a site bounded by Duke Street and Duke Place. This identified the line of the western stone wall of the fort as well as some internal features (Bruton 1909). In the 1970s Professor Barri Jones of the University of Manchester excavated a site off Duke Place just to the north of Bruton's excavation and found evidence that the fort had been extended on this west side (Jones nd, 3-18; Walker 1986, 13-20). In the 1980s the Greater Manchester Archaeological Unit re-opened the area examined by Bruton. As well as expanding the information on the western defences, this new excavation found evidence for an internal building, which from its long narrow plan with frequent cross-walls was identified as a granary. This building had originally been built when the fort was expanded on the west (Period 3) and had been rebuilt when the fort was reconstructed in stone (Period 4) (unpublished summary report, GMAU archive). Following the GMAU excavation, a length of the stone fort wall and rampart, external ditches and internal stone

footings of a granary building were reconstructed on the site by Manchester City Council.

2. *Northern Defences of the Fort*

Small scale-excavations were carried out across the northern defences of the fort in the early 20th century by Phelps (1912), in the 1950s by Petch (1950-1, 1954, 1956) and in the 1960s by Williams (Jones & Grealey 1974, 23-27). These excavations were located in the area between Beaufort Street, Duke Street and Collier Street. Together they firmly established the line of the north wall of the Roman fort, provided information on its ditches, and located the position of the fort's north gate.

The most extensive excavation in this area was carried out in the late 1970s and early 1980s on a site at the corner of Beaufort Street and Collier Street. This work was begun by Professor Jones and led to the creation of the Greater Manchester Archaeological Unit which continued and completed the excavation and undertook its final publication (Walker 1986). The excavation straddled the northern defences, encompassing the intervallum road, the rampart, fort wall and north gate, the ditches and beyond these a small area of the external settlement or *vicus*. The results provided the fullest body of information so far available for the development of the fort. Following completion of the excavation, a reconstruction of the stone north gate was built on the site of the original, and the twin ditches of that phase (early Period 4) re-established.

3. *Interior of the Fort*

In addition to the work described above, excavations have been carried out on two areas within the interior of the fort which have produced *in situ* Roman deposits. One was at the corner of Beaufort Street and Duke Street, on the site of the Onward Workshops. The other area lies just to the east within Solomon's Arches, beneath the railway viaducts. Both sites were excavated by GMAU in the late 1980s.

4. *The Northern Vicus*

The fourth main area in which Roman remains have been excavated in Manchester is that of the civilian settlement or *vicus* which developed to the north of the fort. Two major excavations have been carried out by Professor Jones on sites containing Roman deposits. The first was in 1972 on a site between Liverpool Road and Collier Street, just to the north of the later north gate excavation (Jones & Grealey 1974). The second was in 1977-8 on Tonman Street, c 100m to the north of the 1972 excavation (Jones & Reynolds nd). Both excavations included part of the road leading to the north gate of the fort, and found evidence for successive buildings and associated evidence of industrial activity in the form of smithing hearths and furnaces.

In 1979-81 a third excavation, itself begun by Professor Jones, was carried out within the area of the *vicus*, on a site at Worsley Street, just to the east of the site of the 1972 excavation, and just to the north of the present study area. This excavation has not been published, but is known to have produced similar evidence of smithing and associated structures (GMAU archive).

The 1972 excavation also found that close to the fort the *vicus* had extended over a line of early ditches lying parallel with those of the fort and perhaps defining a baggage enclosure. To the north of this, both the 1972 and 1977-8 excavations uncovered remains of a ditch and palisade possibly serving as a defence to the early *vicus*.

2.3.2 Main Phases of Development of Roman Manchester

Present understanding of the fort and *vicus* identifies four main phases of development. The following is derived from the published summary by Walker (1986, 141-3), with amendments in the light of subsequent work:

1. *Period 1, c AD 79 - c AD 90*

The first fort was square in plan, covering c 1.2ha, built with a turf rampart and timber north gate and of a size compatible with holding a 480 man infantry unit. On the north, outside the fort defences, evidence for metal working has been found for this period. The foundation of the fort is believed to have formed part of Agricola's campaigning in AD 79 to secure the territory of the Brigantes.

2. *Period 2, c AD 90 - c AD 160*

The fort was improved, the rampart strengthened, the north gate replaced and, outside the rampart, the ditch system was altered. To the north of the fort, buildings and iron furnaces were constructed in the *vicus*. This period of occupation ended with demolition of the fort, involving slighting of the rampart and burning of the north gate, and possibly also with the abandonment of the northern *vicus*. The destruction of the fort may have been due to the redeployment of its garrison further to the north, following the decision of the emperor Antoninus Pius in the 140s AD to occupy southern Scotland.

3. *Period 3, c AD 160 - c AD 200*

The fort was rebuilt, again with a turf rampart and timber north gate, but possibly with barrack blocks with stone footings. On the fort's west side, the rampart was built further to the west than previously, increasing the size of the fort to c 2ha. It was once thought that the fort was expanded to house a mixed force of 480 infantry and 128 cavalry. However, from the results of the GMAU excavation at Duke Street in the 1980s, it appears that the expansion was carried out to accommodate extra granaries, with the fort serving as supply depot. In the northern *vicus* industrial buildings were erected in this period, associated with iron working on a large scale, and possibly replacing a relatively short-lived phase of civilian buildings.

4. *Period 4, c AD 200 - c AD 400*

The walls of the fort were rebuilt with stone now fronting the turf rampart and the wooden gate ways reconstructed in stone. In the northern *vicus* during this period there was a growing variation in building types and functions.

Within both the fort and *vicus* late Roman levels appear to have been removed by subsequent activity. However, the available evidence, particularly from coins, is consistent with the fort having remained in use until the end of Roman rule, although by this time the *vicus* seems to have experienced a considerable decline. By the 4th century a large outer ditch was dug beyond the fort's existing ditch system, cutting through the road to the north gate which was presumably no longer in use.

5. *Post-Roman*

The archaeological evidence for Castlefield following the Roman occupation and prior to the Industrial Revolution is scant (Morris 1983; Walker 1986). The remains of four possible sunken-floored huts of Anglo-Saxon type were found outside the fort's north gate, but both their date and interpretation are uncertain. A number of late Anglo-Saxon stray finds (of the 10th and 11th centuries) have been found in Castlefield, although the reason for this concentration is uncertain. According to the Anglo-Saxon Chronicle, in 919 the English king Edward the Elder ordered an army 'to man and repair' Manchester, then part of the Viking kingdom of Northumbria. This may refer to repair of the Roman fort. However, this has not yet been confirmed by excavation and an alternative possibility is that this Anglo-Saxon defensive site lay in the area of the present cathedral which formed the nucleus of the medieval town of Manchester. By contrast, in the medieval and post-medieval periods much of the area of the Roman settlement lay within Aldport Park, possibly a mixture of woodland, heath and pasture.

3. Methodology

3.1 Summary Of The Project Design Methodology

The programme of works that encapsulated the open area excavation was split into 3 separate phases covering a period of 8 weeks. Phase 1 covered the initial 4 weeks of excavation with Phases 2 and 3 covering 2 week blocks of the subsequent 4 weeks. This phasing of the programme of works allowed for weekly review meetings between all the concerned parties on the progress of the excavations as well as addressing the viability for Phase 2 and 3.

All trenches during the excavation were opened using a 360° caterpillar tracked machine excavator equipped with a toothless ditching bucket which was supervised at all times by a qualified professional archaeologist. Machine stripping halted at a depth where the recovery of the first *in situ* pre-Industrial Age deposits were encountered.

After machine stripping all excavation progressed by hand to UMAU and best practice professional standards. The site grid was tied into the OS grid and all pre and early 19th century features were cleaned by hand. All Roman features except feature [415] and [332] were 100% excavated. A minimum of 10% of [415] and [332] was excavated. The eastern section of Trench XII was drawn.

All recording of the archaeological deposits, artefacts and environmental samples were carried out as defined in the excavation project design (Appendix 4). No human remains were encountered during this excavation.

3.2 Deviations From The Methodology As Set Out In The Project Design

The site cabins were not situated upon the row of terraced houses between Ball Street and Woods Place. After careful consideration and in agreement with all parties concerned they were situated over the remains of the Duke of Bridgewater Public House.

Photography of all relevant phases and feature was not undertaken in both monochrome and colour medium formats. The photography was undertaken in colour slide, colour print and digital formats.

3.3 Additions To The Methodology

A series of soil acidity tests were carried out on various natural, Roman, 19th century and 20th century deposits to ascertain the acidity of the soils so that an assessment for the possibilities for the survival of organic material could be made. This was carried out using standard soil acidity testing equipment. On site inspection of the deposits were also carried out by Dr. Sue Stallibrass, English Heritage Scientific Regional Advisor, Dr. Fred Broadhurst and Dr. Morvin Simpson in advisory capacities.

Feature [290] was mapped in 3D so that a 3D CAD model of it could be produced in addition to the standard recording methods. This may assist in our understanding of the function of the feature as well as aiding research parallels.

4. Results

4.1 Fill/layer Morphology

Initial assessment of the on site archive has revealed that 168 fill and layer contexts were recorded during the excavation. As expected the various soil categories were influenced by their relative age, which appears to have a correlation with the leaching out of the humic content within the various fills, the major component within the fill such as clay rather than silt, the sub surface chemistry of the soils and surrounding geology.

In this report all fills and layers are in rounded brackets (***) and cuts are in square brackets[***]. Where applicable features will be named and denoted by their principal cut number.

4.1.1 Pre-19th Century Fills/Layers

The majority of the pre-19th century fills and layers consisted of various hues of brown, grey/brown, brown/grey and grey, within a sandy silt/silty sand/sand matrix and were generally of a soft to loose consistency. Although, depending on various factors such as the sub surface chemistry and the absence of silt within the soil matrix, the sand fills also encapsulated yellowish brown colouration and yellowish red colouration. The clay fills recovered from the pre-19th century fills were all in a reduced state and were therefore revealed as various hues of grey with a soft to compact consistence.

There was a direct correlation with the colour of the pre-19th century non clay fills/layers and the three distinct zones of drift geology within Tr. XII (as outlined above). The fill and layers located upon or within the mottled whitish grey alluvial deposit and the gravels/sands of the old river channel were consistently represented as grey, brown/grey and grey/brown in colour. This would appear to be due to the sub surface biological and chemical processes as outlined in Section 2, where it appears that due to the soil conditions no oxygen is penetrating down into the sub surface and the grey colouration is representative of a reducing condition. The pre-19th century fills and layers recorded upon or within the iron rich and strong brown alluvial deposit recorded in the eastern segment of Tr. XII were consistently represented as various hues of brown.

Using a standard soil acidity testing kit it was revealed that the Roman soils had a generally standard ph of 6.3, which is slightly acidic. With the well draining qualities of the surrounding sand and gravels and the age of the deposits this was enough to guarantee that bone and other organic remains, except burnt and charred remains, would only survive in water logged conditions.

4.1.2 19th and 20th Century Fills/Layers

Due to the relatively young age of the 19th and 20th century deposits they had retained their humic and organic content and had been little affected by the below ground conditions. This meant that there was a wider range of soil types including sandy loams and sandy silty loams and the colour of these deposits was generally brown with differing scales of hue and chroma.

Acidity checks on the 19th and 20th century deposits revealed that they had a ph of 6.2 or 6.3. Very similar to the Roman deposit fills. As these deposits were relatively young the acidity of the soil had not removed the organic material entirely from the archaeological record. A question that arises from the 19th and 20th

century is: how much does the acidity of the later deposits effect the acidity of the earlier deposits?

4.2 Phasing (Figure 15)

Three phases of Roman activity have been identified within the development area. These three phases separate into three stratigraphic groups with distinct pottery assemblages. Phase 1 dates to the late 1st century AD, Phase 2 dates to the early - mid 2nd century AD and Phase 3 dates to the mid - late 2nd century AD. Where no stratigraphic relationships have been available to phase features these have been grouped to phase by means of their comparative pottery assemblages.

Five features which produced no datable material as well as having no comprehensive stratigraphic relationships remain un-phased.

Two phases of late Post-Medieval archaeology have been identified within the development area. These are characterised by the pre-Georgian activity and the Georgian/Victorian/20th century building remains as documented by the cartographic evidence.

4.2.1 Phase 1, Late 1st Century Roman Features (Figures 14 and 15)

Phase 1 is defined by the stratigraphically earliest features revealed during the excavation and the recovery of late 1st century pottery from within them:

1. Feature [415] is a large ditch on an northeast-southwest orientation located in the northern portion of Tr. XII. Ditch [415] is at least 27.40 m long and was truncated by the western and eastern limits of Tr. XII. The sections that were excavated through [415] revealed that it's remains were between 0.82 m and 1.5 m deep and tapered from 2.09 m wide on the surface of the trench to 0.24 m wide in it's base (Figure 17). The ditch contained at least 7 fills all within the general Roman soil morphology for this site. However, [415] is a re-cut which had cut through fill (413) and the very partial remains of the original cut [430] survived in the very lowest northern segment of the ditch.
2. Feature [332]/[405] is a gully or badly truncated ditch associated with and located immediately to the south of ditch [415]. This gully was 21.5 m long, 0.26 m wide, 0.15 m deep and also had an northeast-southwest orientation. [332] contained two fills (282) and (347).

4.2.2 Phase 2 Group 1, Early 2nd - Mid 2nd Century Roman Features (Figures 14 and 15)

Phase 2 Group 1 Roman features have been identified due to their direct stratigraphic relationship with ditch [415] and the recovery of early 2nd - mid 2nd century pottery:

1. Layer (328) located in the eastern segment of Tr. XII sealed both ditch [415] and [332]. This was a stiff grey clay with frequent rounded pebbles and cobbles inclusions. (328) measured 7.60 m long, 2.0 m wide, 60 mm deep and had a northeast-southwest orientation.
2. Located to the north of layer (328) was feature [269] a badly truncated feature cut into the top fill (408) of ditch [415]. [269] contained one fill (270) and measured 1.40 m long, 1.30 m wide and 0.28 m deep. Although this feature is badly truncated it does appear to have an east-west orientation.

3. Located to the north of layer (328) was feature [428] also a badly truncated feature cut into the top of ditch [415]. [428] contained one fill (439) and measured 0.70 m long, 0.20 m wide and 0.12 m deep. Due to the badly truncated nature of this feature its true orientation is lost although it appears to be on an east-west alignment and it may be related to feature [269]. This feature was truncated by Phase 3 Roman feature [324].
4. Located 5.1 m to the south of (328) and also cut by the Phase 3 Roman feature [324] was another badly truncated feature [357]/[391] which contained one fill (392). The badly truncated remains of [357] measured 2 m long, 0.37 m wide and 0.23 m deep. Although the remains of [357] suggest that it has an east-west orientation the shape of those remains suggest that it may have been a pit and therefore it may have had no specific orientation.
5. Located in the eastern segment of Tr. XII and cut into the top fill of ditch [415] was feature [296] which contained two fills (283) and (318) (Figure 18.2). [296] measured 7.60 m long, 0.66 m wide, 0.50 m deep at its deepest point and had a northwest-southeast orientation. Towards the south western extents of [296] became slightly more bulbous in shape before tapering out although fill (283) was present along its entire length.
6. Immediately to the south of [296] was feature [419] which was partially cut into the top of ditch [415]. [419] contained two fills (418) and (429), measured 1.08 m long, 0.18 m wide, 60 mm deep and also had a northwest-southeast orientation.
7. To the north of [296] was feature [373] which was cut into the northern side of ditch [415]. [373] contained 1 fill (372) and measured 2 m long, 1.50 m wide and 0.54 m deep. [373] was truncated on its northern and southern extents by Phase 3 Roman features [15] and [294] respectively and on its western side by early 19th century pit [440]. [373] appears to be a pit and has no specific orientation.

4.2.3 Phase 2 Group 2, Early 2nd - Mid 2nd Century Roman Features (Figures 14 and 15)

Phase 2 Group 2 Roman features have been identified due to the recovery of early 2nd - mid 2nd century pottery from their fills or association with early - mid 2nd century deposits:

1. Located in the southern segment of Tr. XII was layer (212) which was badly truncated on its eastern and southern sides by Georgian foundations. (212) measured 2.72 m long, 1.42 m wide and 0.12 m deep. (212) overlies two features [214] and [306].
2. [214] contained one fill (213) and measured 4.25 m long, 0.50 m wide at its widest and 0.40 m deep at its deepest (Figure 18.3). The feature was truncated in its southern limits by Georgian foundations although enough of it survived to reveal that it had in general a northwest - southeast orientation.
3. Located to the west of [214] was feature [306]. This feature contained one fill (307) and also contained a number of large sandstone fragments. [306] measured 0.3 m in diameter and 0.35 m deep (Figure 18.5).
4. To the northwest of [306] was feature [260] which contained two fills (259) and (261). [260] measured 0.66 m long, 0.56 m wide, 0.30 m deep and was oval in shape (Figure 18.4).
5. To the east of layer (212) was layer (398) which was very similar to (212) in soil morphology.

(398) was badly truncated on all sides by 19th and 20th century development. The truncated remains of (398) measured 2.14 m long, 1.78 m wide and 0.10 m deep.

6. Located to the south of (212) was layer (287). Although the constituent parts of this layer were synonymous with the general soil morphology for this site it did contain very high frequencies of charcoal and the horizon between (287) and the underlying deposits were not as clear as observed elsewhere on site. (287) measured 6 m long, 2.3 m wide, 50 mm deep and appeared to have a northeast-southwest orientation.
7. Below layer (287) was feature [290] which had an oval shape in plan and was oriented east-west. Upon excavation [290] (Figure 3) revealed 6 different fills of which the bottom two (352) and (353) had waterlogged properties and were higher in clay components than the majority of fills encountered on this site. [290] measured 3.6 m long, 1.45 m wide and 1.04 m deep (Figures 16 and 18.6). Although, the overall length includes an additional gully on the western side of the feature this gully was 0.7 m long (Plate 4). [290] had a flared U-shape profile.



Figure 3: Half Section Of [290] (Facing East).

8. To the southeast of [290] was feature [292] which was rectangular in plan. [292] contained one fill (291), measured 0.58 m long, 0.49 m wide, 0.48 m deep and had major orientation of northwest-southeast.

4.2.4 Phase 3, Mid - Late 2nd Century Roman Features (Figures 14 and 15)

This phase of development is defined by its relationship to the Phase 2 Roman features, what appears to be a general north-south/east-west orientation which would correspond with the cardinal orientations of the fort and the recovery of mid - late 2nd century pottery:

1. Located in the eastern portion of Tr. XII was feature [324] which had direct stratigraphic relationships with features (328), [357] and [428] as well as being cut into the top of ditch [415]. [324] contained three fills (327), (326) and (325), measured 9.78 m long, 0.56 m wide and 0.30

m deep (Figure 18.1). [324] had a flattened base v-shape profile and a north-south orientation.

2. Located in the western portion of Tr. XII and cut into the top of ditch [415] was feature [350] which had one fill (351). [350] measured 1.15 m long, 0.36 m wide and 90 mm deep and although it has a direct relationships with ditch [415], which defines the Phase 2 features, it has been attributed to Phase 3 due to it's north-south orientation.
3. To the west of [350] was feature [294] which was directly cut into the top of both [296] and [373] as well as being cut into [415]. [350] had one fill (351), measured 1.70 m long, 0.6 m wide, 0.17 m deep and had a north-south orientation.
4. To the north of [350] was located feature [15] which had been first uncovered during the evaluation phase of this programme of works. During the excavation it was revealed that it cut the Phase 2 pit [373]. [15] contained three fills (14), (92) and (427) and measured 6.79 m long, 0.80 m wide and 0.64 m deep (Figure 18.7). [15] had a steep sided U-shaped profile and had an east-west orientation.

4.2.5 Un-Phased Features (Figures 14 and 15)

Due to the lack of defining stratigraphical relationships or the recovery of datable artefacts five features from the excavation remain un-phased although they may be Roman in date (see Section 5). All five features are situated within the northern segment of Tr. XII:

1. Located in the centre of the northern portion of Tr. XII and extremely badly truncated by 19th and 20th century developments was feature [244]. This feature contained 17 fills and measured 2.93 m long, 1.35 m wide and 0.40 m deep (Figure 18.8). Although it was extremely truncated [244] appears to have an east-west orientation.
2. Located to the west of [244] was another badly truncated feature [5] which had been partially revealed during the evaluation phase of the programme of works. [5] contained 1 fill (4) and measured 1.30 m long, 1.24 m wide and 0.22 m deep. Although badly truncated [5] appears to have a north-south orientation.
3. Directly to the south of [5] was feature [435] which had also been revealed during the evaluation stage of the programme of works. [435] contained one fill (436) and measured 0.22 m in diameter and 70 mm deep. As this feature was circular it has no specific orientation.
4. Two features, [432] and [340], were revealed in section during the excavation of ditch [415] (Figure 17). Both features had been badly truncated by later development. Orientation and shape of both of these features is impossible to ascertain.

4.2.6 Early 19th Century Features (Figure 13)

Three early 19th century features that pre-dated the initial Georgian phase of building were fully recorded as part of the excavation strategy. These three features were all uncovered in Tr. XII:

1. Located in the northwest segment of the trench was feature [440] which appeared sub-rounded in plan (Figure 14). This feature was excavated because it was cut by the Georgian foundations of the back to back houses that fronted onto Woods Place and in turn it had cut through three

surrounding Roman features. After full excavation [440] measured 2.72 m long, 2.06 m wide and 1.07 m deep. However, the horizon between the lower gravel rich fill (441) of this feature and the surrounding natural gravels was unclear and it was noted that small pockets of the fill continued into the gravels in a form that was not consistent with manmade created deposits.

2. Located in the centre of the trench on an east-west alignment was feature [308] which had originally been uncovered during the evaluation phase of work in evaluation Tr. VI, although due to the limits of the evaluation trench the full width of the feature was not revealed. [308] contained 5 fills, measured 25.10 m long, 2.53 m wide, 0.71 m deep and had a flattened V-shaped profile (Figure 19.2). [308] was cut by Georgian building foundations and in turn cut feature (437) which also appears to be dated to the late 18th or early 19th century.
3. (437) is the principal layer number to a sequence of layers that were located in a hollow within the central segment of the trench. These layers ranged in colour from a light yellow through to a dark reddish brown to black. The layers also ranged in consistency from indurated through compact to soft. The horizon between each of these layers was generally very clear and distinct. This group of layers covered an area of 3.90 m long, 2.23 m wide and was 0.2 m deep. This area also defined an area where the underlying alluvial sands had become compact on its upper surface as well as having a reddish brown frequent discolouration.

4.2.7 Georgian, Victorian and 20th Century Features

The standing Georgian and Victorian features were surveyed using a total station EDM and archive photographs were taken of structures that were removed which satisfied the assistant archaeologists brief for this programme of works. 19th and 20th century features that cut into or truncated Roman features were removed stratigraphically before the Roman features were excavated and were thus accorded consistent levels of recording.

A number of features were excavated during the archaeological evaluation which were associated with the late Georgian, Victorian and 20th century developments upon this plot of land, such as (271) (Figure 13). These features were excavated to ascertain whether or not they had truncated or sealed any earlier archaeological deposits.

The 19th century archaeology recorded in Tr. XIII revealed two pit like features and the truncated remains of a brick arch (Figure 19.1). These features related to the development of the backyard of two houses that fronted onto Castle Street as well as the houses themselves. These features were excavated to ascertain whether any *in situ* Roman archaeology survived in these yards. However, no Roman archaeology or artefacts were uncovered in Tr. XIII.

5. Interpretation

5.1 Prehistoric Periods

Although the prehistoric artefacts were recovered from either Roman or late Post-Medieval contexts their recovery alludes to periodic settlement and use of the Castlefield basin.

5.1.2 Mesolithic, Neolithic and Bronze Age

Even allowing for disturbance and destruction caused by later periods of occupation the extremely low density of flint flakes suggests that there was no permanent or semi-permanent settlement within the present development plot dating to these periods. The small assemblage of flint artefacts may be stray intrusions from more permanent settlements in close proximity to the present development plot. Although they may also suggest seasonal use and exploitation of the Castlefield basin.

The geology and topography of the Castlefield basin would have allowed for well draining lands with close access to the juvenile river Medlock. This would have probably provided a fertile and abundant landscape even though the relic river channel in Tr. XII suggests ribbon channel development or a highly mobile river which may have witnessed periods of flooding. An environment such as this may have been attractive through out the late Mesolithic period for hunting and gathering as it would have probably supplied a wide range of fauna and flora for exploitation. The fluctuating landscape was probably less appealing during the Neolithic and the Bronze Age for permanent settlement due to the possible periods of flooding.

5.1.3 Iron Age

During the first millennium BC the river Medlock possibly stabilised within a single river channel slowly meandering across it's flood plain and may have even established to one specific course. These conditions would have provided the basis for more permanent Iron Age occupation that may explain the recovery of the single sherd of Iron Age pottery from within Tr. XII.

In addition to the fragment of Iron Age pottery recovered from Tr. XII a number of large fragments of a late Bronze Age/early Iron Age vessel (accession number 1691) were recovered from the demolition debris of the Phase 2 fort during the Northgate Excavations of 1981. It was suggested that due to it's context and it's near completeness the pot may represent a continuation of the Iron Age pottery tradition in the region and would therefore seem to imply a continuity of occupation from the Iron Age into the Roman period within the locality of the fort.

The subsequent development of the Roman fort and it's various phases of occupation may have heavily truncated and destroyed all evidence of the prior Iron Age settlement. However, the well drained land within a large meander of the river Medlock, creating a natural promontory, close proximity to the confluence of the rivers Medlock and Irwell and the close vicinity to a probable fording point in the river Medlock would suggest an ideal position for an Iron Age settlement. Subsequently these factors would probably contribute to the reasons for the siting of the fort at this position.

A close parallel for probable continuity of settlement at a similar geographical position can be found at the site of Great Woolden Hall, a promontory double-ditched enclosure in the Glazebrook valley between Salford and Warrington. Excavated by the Greater Manchester Archaeology Unit between 1986 and 1988

the site revealed four phases of activity:

- I Phase I represented low levels of Neolithic and Bronze Age occupation in the landscape, recovered through field walking.
- II/III Phases II and III of the settlement encapsulated the late Iron Age from the late 1st millennium BC into the early 1st century AD and could be further sub divided in to four groupings of structural phases of activity.
- IV Phase IV, apparently the final phase of occupation, was represented by the recovery of 2nd century AD Romano-British pottery from the final fills of the inner ditch of the settlement as well as recovery from the overlying topsoil.

Although the Iron Age settlement at Castlefield may be lost due to the subsequent periods of development tantalising parallels and connections between the two sites can be made. The first is the geographical position on a promontory position within a meander of a river, the second is the low level of Neolithic/Bronze Age activity, the third is the Iron Age occupation and the fourth is the continuity into the early 1st millennium AD.

Due to their relatively close geographical proximity it is also probable that the settlement at Great Woolden Hall interacted with the Roman fort at Castlefield into the 2nd century AD. The Romano-British pottery vessels recovered from the site at Great Woolden Hall may even have been brought from such a centre as the Castlefield Roman fort.

5.2 Roman Period

The stratigraphic and artefact analyses of the material recovered from the excavation have revealed that the features dating to the Roman period fall into three broad phases. The analyses of the artefacts has also revealed that the Liverpool Road Roman phases also appear to correspond with the earlier periods in the development of the fort and the vicus settlement situated around the north gate.

5.2.1 Phase One, Baggage Enclosure (Figures 4, 5 and 17)

As defined in Section 4 the earliest features revealed during the excavation were [415] a large v-shaped ditch aligned northeast - southwest across the northern portion of Tr. XII and the closely associated gully [332] which lies directly to the south of [415] on the same alignment.

[415] is a substantial re-cut which reveals that the partial remains of cut [430] defines the potentially original cutting of the ditch. Fill (413) within [430] provides evidence that material had in filled into the ditch prior to the creation of [415] and therefore [415] probably represents an attempt at cleaning the ditch to retain it's use. Subsequently fill (412), which had a very high frequency of water borne cobbles, in [415] may have been a deliberate attempt at assisting the drainage of the ditch to hinder the natural processes of erosion. Fills (414), (411) and (410) reveal sequences of silting and erosion either side of fill (412) and fill (409), which followed (410), appears to represent a major phase of backfilling. The fragments of Cheshire Plains Orange Ware recovered from (409) suggest that the backfilling could have taken place during the late 1st or early 2nd century AD. Therefore, the backfilling event could relate to either Period 1 or 2 of the fort development and may in fact reflect the demand for land around the fort for the expanding vicus which may instigated the backfilling of this ditch.

However, the nature of fill (408) the terminal fill of [415] lying directly upon (409) is of further interest. Fill (408) could initially appear to represent the final backfilling phase sealing off the top of [415]. However, the composition of fill (408), a homogenous gingery brown soft sandy silt, was very reminiscent of the alluvial deposits witnessed elsewhere in Tr. XII in all but colour. Further consultation with professional geologists with a special interest in the geology of the Castlefield basin acknowledged

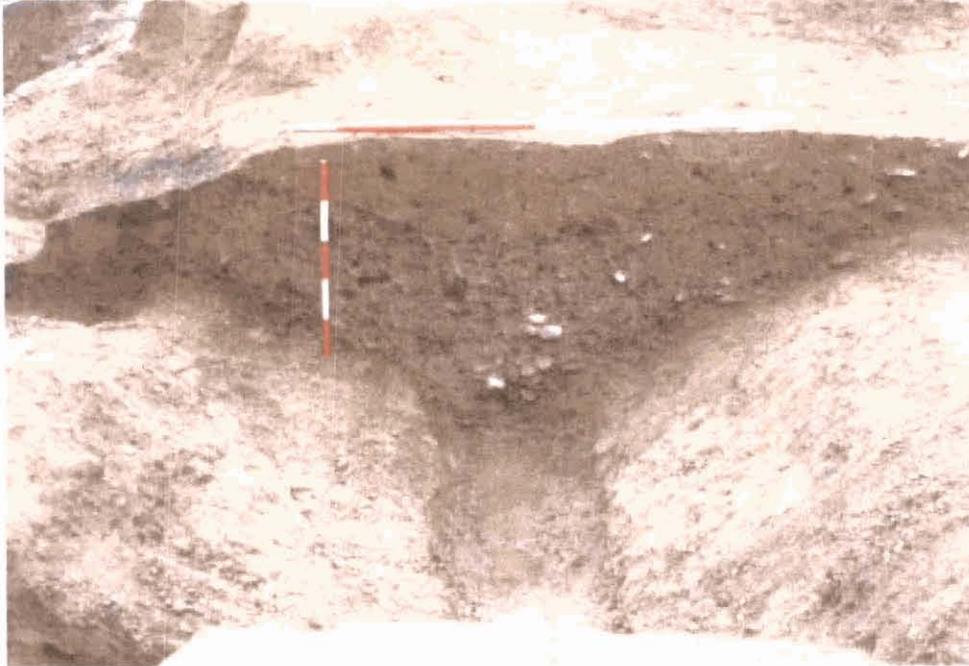


Figure 4: Section Through Ditch [415] (West Facing). Alluvial Fill (408) Clearly Shows As The Top Fill Of The Ditch.

that fill (408) did appear to be an alluvial fill deposited by either a flooding event or possibly brought up from the banks of the Medlock and used as backfilling material to cap the ditch. In addition, similar compositions to fill (408) were not witnessed in any of the other features during this excavation and appears not to have been recorded in any previous excavations, which is possibly due to the majority of previous excavations being located up slope of the Liverpool Road excavation. The recovery of a sherd of Samian Ware pottery from (408) provides a *terminus post quem* of 70 - 110 AD which suggests that (408), as with (409), straddles the period where the fort was re-developed and the vicus around the Northgate expanded (Periods 1 to 2).

The location of ditch [430]/[415] and gully [332] may have been influenced by the observable landscape during the late 1st century AD as they both appear to follow the gravel and sand filled river channel across Tr. XII. This apparent relationship is probably because the scar of the old river channel could still be seen during the late 1st century AD and was probably subsequently exploited due to the easily excavated nature of the material within it. This suggests that [430]/[415] and [332] pre-date any major development when the landscape was still relatively clear.

In possible corroboration of the early date of [430]/[415] and [332] a similar v-shaped ditch and associated u-shaped ditch were revealed during the White Lion Street excavations directed by Prof. Barri Jones 1977-78 (ditches (143) and (148)). Although this pair of ditches are relatively larger when compared to [415] and [332] the general shape and relative proximity of the v-shaped and u-shaped ditches in both excavations is very similar. The change in the depth can be attributed to truncation of [415] and [332] by

the 19th century development on the site.

The extremely low frequency of artefacts recovered from (143) and (148) also echoes the sparsity of artefacts in [415] and [332]. One sherd of undated Samian Ware was recovered from (143) where as no artefacts were reported to have been retrieved from (148). Both (143) and (148) were dated to the late 1st/early 2nd century AD by a layer, which sealed both features, from which late 1st/early 2nd century pottery was recovered. Thus the dating of (148) and (143) appears to correspond with the infilling of [415] and [332].

Barri Jones interpreted the White Lion Street ditches as early defensive ditches around a temporary baggage enclosure. This type of enclosure was generally set up as temporary defence while construction of the fort was undertaken. Once a fort was completed these temporary defences eventually fell out of use and were possibly backfilled to accommodate the development of the vicus.

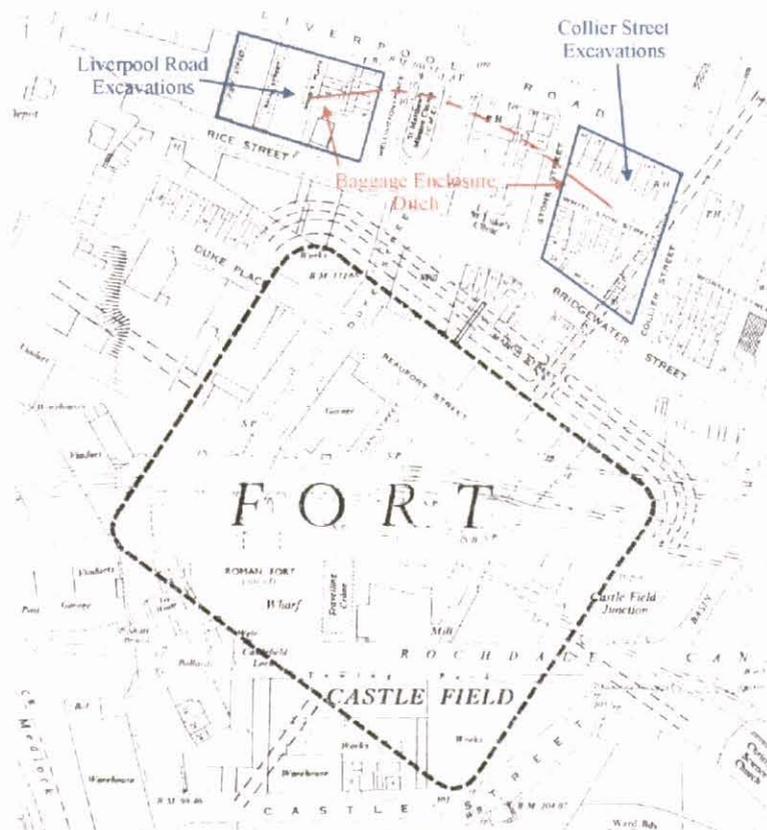


Figure 5: Baggage Enclosure Ditch (Based on 1969 50" OS Map (Crown Copyright reserved) and Jones and Grealey Fig 6).

Tentatively linking [415] with (143) and [332] with (148) (Fig 5) reveals a gentle curve to the possible baggage enclosure defences which may reflect a meander in the relic river channel revealed in Tr. XII. The changing alignment of the baggage enclosure ditch also appears to suggest that it possibly enclosed the promontory upon which the fort was built.

5.2.2 Phase One Environmental Evidence

The environmental evidence for Phase 1 is limited to fills (408) and (409) of the baggage enclosure ditch [415]. Evidence for sedge recovered from fill (409), found in damp or waterlogged conditions, probably reflects the close proximity of these deposits to the river environment. Evidence for plantain, a perennial weed which is found in a wide range of habitats was recovered from (408).

5.2.3 Phase Two, Vicus Development

The features belonging to Phase 2, as defined in Section 4, appear to reflect the expansion and re-development of the fort and surrounding vicus in the early 2nd century AD. The artefact assemblage recovered from the fills and layers of the Phase 2 features spans the Trajanic period to the early Hadrianic period. Therefore, this places the Liverpool Phase 2 feature firmly in the development phase of the Period 2 fort and vicus.

Previous excavations on the fort defences, the north gate of the fort and the vicus around the road leading from the north gate have revealed that during the early 2nd century AD the fort was further developed, the ramparts strengthened and the northern vicus expanded. An increase in industrial activity within the northern vicus was also recorded during the excavations carried out in the 1970's and 1980's.

The expansion of the vicus which would have been directly connected to the demand for land and the increase in industrial activity can be traced through the Phase 2 features uncovered during the Liverpool Road excavations.

The stiff grey clay layer (328) which overlies part of ditch [415] and gully [332] in the eastern segment of Tr. XII could possibly have been deposited as a purposeful clay seal to impede the subsidence of any later development upon this plot of land. This would appear to suggest that in the early 2nd century the expansion of the northern vicus warranted the consolidation of the land through which the baggage enclosure ditch had passed and the laying of the clay layer allowed for speculative expansion. Although layer (328) did not cover the whole of [415] and [332] it was clear that it had been badly truncated by the early 19th century building development and it is highly possible that the clay extended over a wider area of [415] and [332] than survived.

Similar areas of grey clay sealing were recorded during the 1975 Duke Place excavations carried out by Barri Jones and Paul Reynolds. During the 1975 excavation a layer of grey clay was recorded as a deliberate seal of clay that sealed the Period 1a fort ditch prior to the construction of the Period 1b rampart. This period represented an extension of the fort to the west. It appears that this clay layer was also laid to impede the slip and subsidence of the Period 1b rampart into the underlying ditch.

The other features attributed to Phase 2 on stratigraphical and artefactual grounds comprised of a group of features located in the northwest portion of the Tr. XII. This group encompassed pit [373] which contained a higher proportion of pottery than most of the other Roman dated features and two linear features [296] and [419] which both had a northwest-southeast orientation. Although it remains difficult to attribute a function to pit [373] the accumulation of pottery within it suggests that it was backfilled with waste material. The larger of the two gullies does appear to be a fence line with evidence of at least one post located in its southeastern segment. The northwest extents of this fence line were truncated by an early 19th century feature which had also truncated the western extent of the pit.

Fence line [296] may be part of a small scale agricultural process or plot division. In this instance it could

be that the fence line is not necessarily a plot division but a guide fence or trellis fence for bean growing and the smaller gully [419] the remains of the planting trench for the beans. It is well documented that beans and pulses made up a large part of the Roman diet and it would not be unreasonable to suggest that beans and pulses were grown in the small domestic plots of the civilian settlement as evidence for legumes was recovered from fill (326) within the Phase 3 feature [324].

The three badly truncated features [269], [391] and [428] attributed to Phase 2 on stratigraphical grounds may be the remains of further gullies, either construction or agricultural in function. However, they are so heavily truncated by later occupation that any further attempt at interpretation is not attainable.

Both layers (398) and (212) produced a number small badly abraded sherds of early 2nd century pottery which suggests that both layers are probably the remains of part of the early 2nd century land surface. Layer (212) sealed two features [214] and [306] both of which probably date to the early 2nd century.

Feature [214] was initially revealed it was thought that it might be part of a round house but after the removal of layer (212) the full truncated remains of [214] were revealed to have too slight a curve to be appropriate for a round house. Due to the truncation that has effected the northern and southern limits of [214] a satisfactory interpretation for this feature can not be reached although it may be possible to ascertain a provisional interpretation along with feature [306] and [260].

Feature [306], also sealed by layer (212), is a post hole. The post pipe, the position that the post was in before it was removed or decomposed *in-situ*, was noted during excavation and fragments of stone around would probably be packing stones.

Feature [260] also appears to be a post hole although in this instance the post pipe was not visible during excavation. It's more substantial nature when compared to [306] suggests that the post that it held was larger than that within [306].

Although [260] is not associated with [214] and [306] through stratigraphical grounds all three features shared defining attributes. The fills within three features were all very similar and also produced only small fragments of daub/unfired clay and very low frequencies of other artefacts. The fragments of daub/unfired clay may be the last traces of some form of wattle and daub structure. Where as the low frequencies of other artefacts suggests that these three features were only open for a very short amount of time which could be interpreted as they form part of a quickly built structure. Together this suggests that [214], [260] and [306] (Figure 6) form part of a wooden built structure with a possible wattle and daub wall and wooden roof. Such structures may have been used as wind breaks or small covered working areas within the developing vicus.



Figure 6: Full Excavation Of Features [214], [260] and [306] (North facing).

To the south of [214], [260] and [306] the large compact layer (287) containing high frequencies of charcoal is suggestive of a firing event as the layer appears to be baked hard, it was observed during the excavation that this layer retained water upon it's surface to a considerable degree more than the large majority of Tr. XII which drained well.

Upon the removal of (287) what ever had caused it to be baked hard had also baked the surface and the upper fill of feature [290]. The pottery within the upper fill (280) had also become baked into the fill itself and also shows signs of heat damage which does suggest a localised high temperature process.

Feature [290] appears to be some sort of vat or container (Figures 7, 16 and Plate 4). The declining gully portion of the feature that leads in to the main body of [290] from the west appears to be for the pouring of a liquid into the vat. A cavity on the south side of the feature at the point where the gully and the main body of the feature join may have been produced to encompass a board of wood that was placed to inhibit the flow of liquid when needed.

Although the main body of [290] is not clay lined it is cut into the surrounding yellow boulder clay which certainly inhibits the draining of liquids as witnessed in the waterlogged nature of the fills and also the way the feature retained rain water during the excavation process. The environmental analyses of the fills within [290] have revealed that although the fills appeared water logged during the excavation they have not been waterlogged constantly since the Roman period and thus the environmental evidence contained within them has been sparse. Fills (288) and (353) have produced evidence of wheat in small quantities although these are probably incidental inclusions. Fill (353) also produced shavings of wood that appear to have been planed from a timber. Regrettably the wood shavings have been planed obliquely to the grain of the wood and identification of the species of tree from which the timber had been cut from could not be made.



Figure 7: Post Excavation Of Possible Tanning Pit [290] (From the North).
(A modern intrusion can be seen cutting into [290] from the east).

The shape of and attributes associated with [290] suggest that it may have been used for soaking or washing possibly linked with an industrial process. It is therefore possible that [290] may have been associated with part of the tanning process where large vats are essential. Feature [290] may have not been part of the main tanning process as large quantities of clean water are also needed and it is more likely that these tanning pits were directly beside the river. However, [290] may be a fulling vat which is required as

an initial stage in the tanning process where the leathers are left to soak in a vat of urine for softening prior to working. A pit cut into boulder clay would be ideal for the retention of the urine which could be subsequently refilled via the pouring channel at the western end of the feature.

Feature [292] to the southeast of [290] may be a post hole although no evidence for packing stones or a post pipe were evident. There is the possibility that this feature is related to [290] as fragments of amphora were recovered from the tops fills of both features which suggests a similar source for the backfill material.

5.2.4 Phase 2 Environmental Evidence

The environmental evidence for the Phase 2 deposits revealed small quantities of wheat, barley, sorrel, sedge and orache. Wheat and barley were common crops throughout the Roman period and it is not surprising that they are present within the environmental record although in these small quantities it suggests that no cereal processing or storage was taking place within this part of the vicus. The sorrel, sedge and orache, all of which are common herbs or weeds, partially reflect the environment within which the fort and vicus were situated.

5.2.5 Phase 3, Vicus Development

The remains of gullies [294] and [350] are too meagre to allow for any incisive interpretation although allowing for the continuing development of the civilian settlement along the same lines postulated for Phase 2 these shallow features may have an agricultural function.

However, the more substantial feature [15] would appear to be considerable enough to be some form of plot boundary. Its east-west alignment respects the alignment of the fort as well as the major alignments of the vicus areas excavated throughout the 1970's and 1980's. At a depth of 0.7 m from the modern trench surface this feature could quite easily function as a plot boundary. However, taking into consideration the truncation that this feature has endured and the possibility that the ditch may have had a bank, the grounds for interpreting this feature as a plot boundary or even a field boundary would appear even more convincing.

Although the previous excavations recovered evidence for allotment boundaries, direct comparisons with possible plot/field boundaries will require further work on the primary archives of the earlier excavations.

The fourth feature to belong to this phase was located in the eastern segment of Tr. XII. Feature [324] (Figure 8) as described above was a long narrow gully or trench on a north-south alignment that almost ran the whole width of the north eastern portion of Tr. XII and only ended because it was truncated by 19th century development. The typical style and nature of [324] does appear to suggest that this feature was a foundation for a wooden wall or fence and although no east-west returns were encountered protruding out from [324], which could make the other side of a building, there is a good possibility that [324] does form one side of a building as it appears to be too substantial for a fence line.

Further evidence for the interpretation of this feature as a foundation trench for a wooden structure can be deduced from the frequency of iron nails found within its remains along with large fragments of charcoal that appear to be the remains of wooden panels. The nails may have been used to attach wooden panels to posts for construction purposes or attaching one panel to another. Also re-used fragments of Roman building material were located in the northern end of [324] which may have been used as packing or strengthening around a post.

Similar construction trenches have been recorded throughout the excavations of the 1970's and the 1980's and parallels have been uncovered at the White Lion Street excavations and the Tonman Street excavations although no account of iron nails have been made in either reports.

The nails recovered from [324] are similar in most respects to those nails recovered from the excavations carried out in the 1980's. Although the specialist nail report from the 1980's excavations that appears in "*Roman Manchester. A Frontier Settlement*" makes no immediate correlation between nail recovery and foundation trenches.

5.2.6 Phase 3 Environmental Evidence

The environmental evidence for the Phase 3 deposits revealed small quantities of wheat, barley and legumes. As with the Phase 2 deposits the small quantities of wheat and barley from the Phase 3 deposits suggests that no cereal processing or storage took place within this plot of land during this period. The fragments of legume tantalisingly add an extra element to the environmental evidence which may be attributed to the Roman occupation although this is impossible to corroborate.

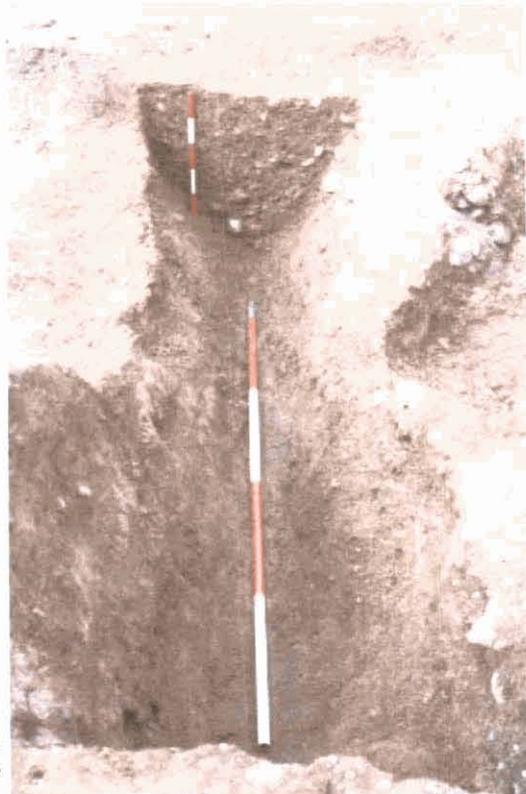


Figure 8: Section Through [324] (North Facing).

5.2.7 Non Phased Possible Roman Features

As no datable evidence was recovered from features [5], [244] and [435] these features remain un-phased although their position in the northern segment of Tr. XII in close proximity to Phase 3 features suggests that they may be associated with Phase 3.

Features [5] and [244] were badly truncated on all sides by 19th and 20th century activity thus an adequate interpretation of their function will not be ascertainable. However, the shape and orientation of feature [244] does appear to suggest that it represents the remains of an east-west aligned ditch and the inclination in it's western extent to the surface of the trench may indicate a terminus. Therefore [244] may belong to the Phase 3 plot and land developments characterised by feature[15].

One fundamental difference between features [15] and [244] is the number of fills within them. The excavation of [15] revealed 3 fills within it which suggests that the final sequence incorporated period of silting followed by purposeful backfill. Where as [244] encapsulated one re-cut and 17 separate fills none of which appeared substantial enough to be purposeful backfill. Thus it appears that [15] was backfilled on purpose where as the sequence of fills in [244] suggests slow accumulation of soils weathering into the cut before it fell out of use.

The truncated remains of feature [435] located immediately to the eastern terminus of the boundary ditch [15] may be the meagre remains of a post hole and the immediacy of [435] to the terminus of [15] does suggest a possible connection.

5.3 Post-Roman To Late Post-Medieval.

As outlined in Section 4 no archaeological features dating to the various periods that divide the end of the Roman period and the late 18th/early 19th century development on this site were revealed during this excavation.

In Tr. XII the dark brown compact soil with a high frequency of pebble inclusions that sealed the Roman features in a few parts of the trench and in turn truncated by the 19th century developments may possibly be the remains of an agricultural soil. Similar soils were recorded by Professor Bari Jones in Trenches I and II of his White Lion Street excavations to which he ascribed them to a cultivation soil (Jones 74, 77).

5.4 Late 18th To Early 19th Century Development

The three features that pre-date the late Georgian building phase which started in the 1820's are probably associated with land division and subsequent land clearance prior to the development of the land.

5.4.1 Late 18th/Early 19th Century Boundary Ditch

The fragment of clay pipe from fill (313) and the small assemblage of pottery from fills (312) and (313), both primary fills (see below), suggest that ditch [308] dates to either the late 18th or the early 19th century.

It is interesting however that ditch [308] (Figures 9 and 19.2) does not appear on any of the cartographic evidence of the late 18th and early 19th centuries which would appear to imply that this ditch was created and subsequently backfilled during the gap of approximately 30 years between the two sets of cartographic evidence.

The ditch is quite considerable considering that it does appear to be a relatively short lived feature. Therefore, ditch [308] may have been a field boundary created a few years before the development along Liverpool Road was started or it may have been a plot division created when the land itself was parcelled up by the Georgian developers.



Figure 9: Section Of Late Post-Medieval Ditch [308] (West Facing).

Certainly ditch [308] lay open for a period of time as fills (311) to (314) appear to represent silting fills where the sands that the ditch was cut through have been washed into the base of the ditch during periods of erosion. The large fill (310) that overlies fill (314) implies one singular event and the homogeneity of the fill suggests that this is a purposeful backfilling episode probably relating to the backfilling of the ditch before construction work could take place on this plot of land.

5.4.2 Early 19th Century Land Clearance

The large pit [440] encountered in the northwest corner of Tr. XII which had badly truncated the surrounding Roman features and had in turn been truncated by the Georgian foundations of the back to back terraces that fronted onto Woods Place appears to be a back filled tree bole of a substantial tree. Excavation of this feature revealed evidence for large amounts of tree root disturbance of the surrounding gravels. Thus, it would appear that pit [440] was created to remove the roots of a tree and was subsequently back filled using the freshly excavated gravels which had been removed during the grubbing out of the roots, fill (441). The backfill material (441) also contained broken roof slates, large fragments of an early 19th century dark glazed earthen ware storage jar pottery, brick rubble, a sherd of late 1st/2nd century Cheshire Plains oxidised ware jar and a sherd of late Bronze Age/Iron Age pottery.

The discrete area in the centre of Tr. XII which incorporates the layer of apparently burnt material (437) also pre-dates the late Georgian phase of building as it had been cut by the foundation trenches of the back to back houses that fronted Woods Place. It would appear that this area represents more than one phase of activity as it incorporates lower deposits which appear to be cut by ditch [308] and upper deposits that seal ditch [308]. Layer (437) represents the later deposits from which pottery and clay pipe fragments were recovered where as the earlier deposits produced no datable artefacts.

Pottery fragments which can be dated to between the late 18th and mid 19th century and clay pipe fragments which date between the early to mid 19th century were recovered from layer (437) which probably suggests that this layer was produced immediately prior to the late Georgian buildings and may be part of the land clearance. Directly upon layer (437) was a layer of highly fired and burnt organic matter which may also be associated with land clearance. However, it is hard to determine the nature of the firing event that created the burnt layer as it had reached high enough temperatures to bake the underlying alluvial sands although the ceramic fragments in (437) remained unaffected. It is possible that the fired material represents a bonfire of cleared material with the thick grey deposit below part of (437) representing part of the affected alluvial sands defining the centre of the fire. The yellow sand that overlay the core of the burnt material also suggests that the fire was partially smothered to put it out.

With the evidence available it would appear that before the earliest Georgian phase of building the land was cleared of trees and any other obstacles raised to the ground or back filled. This phase of activity has not been recovered by earlier excavations.

5.5 19th and 20th Century Development

The remains of the building structures belonging to the 19th and 20th century that were recorded during the excavation are all documented in the cartographic evidence that spans the last two centuries. Of further interest and note to the remains that were recorded was the paucity of the Georgian foundations which only survived in Tr. XII to a depth of one or two courses into the present drift geology and Roman archaeology (Figure 17.2). This also meant that due to late 20th century demolition and re-development no floor surfaces or interiors of the Georgian and Victorian buildings remained, the Roman remains may also have been

truncated by this late 20th century work.

The brick pits that were excavated in the eastern segment of Tr. XII, exemplified by structure (271) (Figure 13), appear to be the remains of outside toilets situated within the backyards of two of the terraced houses that fronted on to Wellington Place. The pottery and clay pipe assemblage that was recovered from the ash and clinker deposit within (271) was in a good state of preservation which suggests that this deposit had been relatively undisturbed. Therefore, it appears that the ash and clinker was one of the last fills deposited into (271) and suggests that the outside toilets had fallen out of use by the very late 19th century.

The analyses of the clay pipe assemblage has also revealed that the machine stripping of the site disturbed an *in-situ* deposit of clay pipe dating to between 1820 and 1860 which was attributed to the stripping layer (2). It is probable that these clay pipes relate to the domestic development of the plot of land during the 19th century.

Further evidence of the truncation of the 19th century deposits by late 20th century development was revealed during the excavation work on the eastern section that defined the eastern limits of the excavation. Within the backfill that surrounded a plastic drain pipe that was laid during the 1970s a gold sovereign dating to 1855 was recovered.

Although Trench XIII did not recover any evidence for Roman remains the Georgian archaeology revealed that wall (235), the back wall to the terraces that fronted onto Castle Street, showed signs of lateral movement as the wall had bowed out into the backyard area from its original position. This was probably because there was very little support to either side of the wall. The interior at this level was taken up by the cellars of the buildings and the exterior by pit [204], defined by the remains of arch (249) on its eastern edge. The arch had also buckled under the movement of the wall as it offered no structural support. Not long after this happened a trench [253] was cut up to the outer face of the cellar wall (257) to possibly re-point it or strengthen it and pit [204] was backfilled and fell out of use. This period of repair must have worked as the buildings on this plot stood until the late 20th century.

6. Conclusion

6.1 Survival of Deposits

One of the major revelations to be uncovered by this programme of archaeological works has been the extents to which the Roman archaeological deposits have survived the 19th century and 20th century developments in this part of Castlefield. Originally the expectations of both the Assistant County Archaeologist and the contracting archaeologists was that very little or no deposits would survive below the Georgian building levels and that if there was going to be any survival of *in-situ* Roman deposits these would be found within the backyards, alley ways and the streets that once occupied this plot of land.

However, both the evaluation stage and the open area excavation stage of the archaeological works revealed that a group of the Georgian buildings in the east of the development plot did not have cellars and although the Roman deposits below these buildings had been truncated the level of their survival was surprising.

One reason why this group of Georgian buildings did not have cellars is probably because the row of houses immediately to the east of Woods Place had originally been back to back housing. This was essentially low cost building that allowed for a higher density of occupation over the terraced house. Therefore, for this group of buildings it was probably not viable to build them with cellars for structural and financial reasons.

The second reason for the lack of cellars below the terraced houses that fronted on to Wellington Place, and shared a back alley with the back to back housing, maybe because of the levels of the land and the declination of the slope that this plot encapsulates. A study of the cartographic evidence shows that steps led down to Rice Street from Castle Street and Ball Street, some of the Castle Street steps still survive *in-situ* in the southwestern corner of the development plot, which suggests that the street and ground levels were built up in respects to Liverpool Road. This may have made the construction of cellars for the houses around Ball Street and Castle Street easier and less costly. Where as those houses fronting on to Wellington Place would have needed more land extraction which was probably too costly because these houses were already at street level.

Thus, in light of this excavation it does appear that there may be further Georgian housing in Castlefield that have no cellars and *in-situ* Roman archaeology survives below these remains.

Below the non cellared houses the Roman archaeology survived to a relatively considerable depth, at least 1 m to 1.5 m. In direct addition to this it is also relevant to observe how close to the truncated surfaces the drift geology of the area survives. This has allowed for a deeper understanding of the archaeological deposits as well as the factors that may have influenced their positioning in the landscape.

6.2 Archaeological Deposits

The careful and systematic excavation of such sites within the Castlefield area has revealed that there is the potential to recover prehistoric evidence for habitation or exploitation of the landscape from the late-Mesolithic period through to the late Iron Age period. Although none of the prehistoric artefacts from this programme of archaeological works were found *in-situ* they do reveal tentative glimpses into possible continuous exploitation of the landscape for 7000 years.

6.3 Roman Phases

The excavation has revealed that the Roman deposits although truncated by the 19th and 20th century development phases, can be compared to the deposits excavated within the vicus during the 1970's and 1980's with reassuring results. These results have revealed that the three phases of Roman activity identified within this plot of land mirror the development of the fort and the associated vicus.

6.3.1 Phase 1, Late 1st Century

The possible baggage enclosure ditch [415] and associated gully [332] are probably closely linked with ditch (143) and associated gully (148) excavated during the White Lion Street excavations carried out by Professor Barri Jones in the 1970's. Therefore, ditch [415] and gully [332] can be associated with the earliest development of the Roman fort and its environs in the late 1st century AD.

The artefact and environmental assemblages from the Phase 1 deposits reveals a paucity of pottery, no evidence for industrial processing and no cereal crops. All of which is probably indicative of the early stages of the development of the fort.

6.3.2 Phase 2, Early 2nd Century

Phase 2 is defined by the sealing of ditch [415] and gully [332] by clay layer (328) and the increase in activity from which early 2nd century pottery has been recovered. Therefore, it is probable that the Liverpool Road Phase 2 activity can probably be associated with the Period 2 expansion of the northern vicus in the early 2nd century. The greater quantity of features dating to the early 2nd century and the higher frequency of artefacts within these features is in direct contrast to the Phase 1 deposits.

The phase 2 remains encapsulate small linear gullies, pits, postholes and a possible fulling vat all of which is probably indicative of the expansion of the northern vicus and the various different facets of domestic activity. The pottery recovered from the Phase 2 deposits includes Cheshire Plains Wares, Samian Ware, mortaria, amphora and Black Burnished ware which indicates that Phase 2 continues into the early Hadrianic period.

The industrial waste, ash slag and hammer scale from the Phase 2 features indicates that metal production and processing did not take place within this part of the vicus although it probably took place within the local vicinity. This would appear to correspond with the construction of the iron furnaces around the northgate to the north of the fort during the Period 2 expansion.

The environmental evidence reveals the presence of wheat and barley within the environmental record. Although these crops were common during the Roman period the small quantities recovered from the Phase 2 deposits suggests that no cereal storage or processing took place within this part of the vicus.

Therefore, the Phase 2 development appears to represent the expansion of the northern vicus although this parcel of land was probably part of the back plots within which small scale domestic activity and possible leather preparation took place. The absence of any quantities of industrial waste and cereal remains suggests that the industrial processing and cereal processing took place elsewhere, probably within the main focus of the vicus.

6.3 Phase 3, Mid To Late 2nd Century

The Phase 3 features witness a rise in the quantities of Black Burnished wares and other mid to late 2nd century pottery types recovered from the deposits within them. There also appears to be a shift in activity which only covers the northern half of the plot with a north - south and east - west pattern of alignment. The quantity and range of features is less than witnessed for Phase 2 and the impression that this group of features provides is of a range of more formal plot boundaries and development within the back plots of the vicus.

This probable change in the layout of the back plots within this part of the vicus may coincide with the start of the rebuilding phase of the fort and northern vicus which has been previously defined as Period 3 and dates to c. 160 AD. If this is the case there may have been a hiatus in activity between Phase 2 and Phase 3 although this is difficult to distinguish. The possible foundation trench [324] may be part of the short-lived phase of civilian buildings at the start of Period 3 which was subsequently replaced by a phase of industrial buildings in the northern vicus.

The small quantities of industrial waste, ash slag and hammer scale from the Phase 3 features indicates that, as with Phase 2, this portion of the vicus was not used for metal production and processing. The environmental evidence reveals the continuing presence of wheat and barley within the environmental record although evidence of legumes is a new addition to the environmental assemblage. The small quantities of wheat, barley and legume recovered from the Phase 3 deposits also indicates that no crop storage or processing took place within this part of the vicus during this phase.

6.4 Late 2nd To Early 5th Century

No evidence for late 2nd to early 5th century activity was recovered from this plot of land which would have encapsulated the late Period 3 and Period 4 developments of the fort. Although the northern vicus appears to continue in to the 3rd century it would appear that the back plots to the west of the northgate were no longer used. Even though it is possible that the 3rd to early 5th century levels have been removed by the 19th and 20th century development it is probable that these back plots may have been turned into fields to support the fort and the vicus. This would explain why no occupation features dating to this period were present.

By the 4th century the northern vicus appears to have been in decline and this may be one reason why no 4th century material was recovered from this excavation.

6.5 Post-Roman to Late 18th Century Deposits

No post-Roman deposits were revealed within this portion of land and the only deposit that probably pre-dates the late 18th century was the probable agricultural soil similar to that recorded by Professor Bari Jones in Trenches I and II of the White Lion Street excavations. Therefore, it would appear that this plot was part of agricultural land up to the late 18th/early 19th century and witnessed no development for approximately 1600 years.

6.6 Late 18th To 20th Century Deposits

Although the 19th and 20th century developments are well documented in a general manor through the

documentary and cartographic sequences of the last two hundred years the Liverpool Road excavation has revealed a greater level of detail to these periods that can only enhance and further our understanding of our recent past. Additional insights in to the development of Manchester clay pipe industry has also been revealed by the careful excavation of the 19th century deposits.

The excavation has highlighted such details as the possible land clearance and plot division that took place prior to the Georgian expansion along Liverpool Road as well as the building difficulties that were encountered during the life of two of these Georgian buildings.

7. Acknowledgements

7.1 Thanks

Many thanks go to the following:

Simon Ashdown of Gleasons and Chris Balshaw of Citex Bucknall for all of their support throughout the programme of works and for allowing access to the neighbouring M3 building for the opportunity to take some worthwhile photographs.

Norman Redhead Assistant County Archaeologist for the monitoring service he provided and the advice and useful information he provided to the excavation.

John Walker (Director of UMAU), David Power, John Roberts, Peter Arrowsmith (all of UMAU) and Paul Reynolds, all of whom have worked on or directed excavations in the Castlefield area, for their valuable input and comparisons with other sites.

Sue Stallibrass, Fred Broadhurst and Morvin Simpson for their site visits and discussions on the archaeological and geological deposits.

The volunteers for their enthusiastic work in sometimes unpleasant conditions.

The amateur archaeology societies, archaeology groups and interested member of the public for their enthusiastic support.

7.2 Illustrations

Plan and sections illustrations by Richard Gregory, pottery and stone illustrations by Tim Morgan and clay pipe illustrations by David Higgins. All illustrations assembled by Peter A Connelly.

8. Bibliography

Arnold C J 1983 'The Clay Tobacco Pipes and Kiln Debris' in M Morris (ed), *Medieval Manchester: A Regional Study*, The Archaeology of Greater Manchester vol 1, Greater Manchester Archaeological Unit, 67-75.

Arrowsmith P 2001 *Castlefield, Manchester: An Archaeological Desk-Based Assessment*, unpublished report, University of Manchester Archaeological Unit.

Brodribb, G 1987 *Roman Brick and Tile*, Alan Sutton Publishing, Gloucester

Brown A.G. 1997 *Alluvial geoarchaeology. Floodplain archaeology and environmental change*, Cambridge Manuals In Archaeology, Cambridge University Press.

Bruton F A 1909 *The Roman Fort at Manchester*, Manchester University Press.

Bulmer M 1980 'An introduction to Roman samian ware, with special reference to collections in Chester and the north-west', *Journal of the Chester Archaeological Society* 62 (for 1979), 5-72.

Connelly P A 2001 *73/83 Liverpool Road, Manchester. An archaeological excavation within the Roman vicus. An Interim Report*, unpublished report, University of Manchester Archaeological Unit.

Hammond P J 1988 *Registered and Patented Clay Tobacco Pipes*, privately published.

Hildyard, R. 1985 *Browne mugs*, *English brown stoneware*, Victoria and Albert Museum.

Huntley J P and S M Stallibrass 1995 *Plant and vertebrate remains from archaeological sites in northern England: data reviews and future directions*, Durham, Architectural and Archaeological Society of Durham and Northumberland.

Jones G D B and Wild J P 1972 *The Deansgate Dig (Roman Manchester: interim report of the 1972 excavations)*, Dept of Archaeology, University of Manchester.

Jones G.D.B. and Grealey S (ed) 1974 *Roman Manchester*, John Sherratt and Son Ltd, Altrincham.

Jones B and Reynolds P 1978 *Roman Manchester: The Deansgate Excavations 1978: an interim report*, Greater Manchester Council, Greater Manchester Archaeological Group, Manchester Museum, and the Dept of Archaeology, University of Manchester

Nevell M (ed) 1999 *Living on the Edge of Empire: Models, Methodology and Marginality. Late Prehistoric and Romano-British Settlement in North-West England*, *Archaeology North West* vol 3 (for 1998).

Price J and Cottam S 1998 *Romano-British glass vessels: a handbook*, Practical handbook in archaeology 14, Council for British Archaeology, York.

Sanders G 1991 *ATS Site, Castlefield, Manchester. An Archaeological Evaluation*, unpublished report,

University of Manchester Archaeological Unit.

Tomber R and Dore J 1998 *The national Roman fabric reference collection. A handbook*, MOLAS Monograph 2, Museum of London Archaeology Service, London.

Tyres P 1996 *Roman pottery in Britain*, B T Batsford Ltd, London.

Walker J S F (ed) 1986 *Roman Manchester: A Frontier Settlement*, The Archaeology of Greater Manchester vol 3, Greater Manchester Archaeological Unit.

Webster P V 1974 'The coarse pottery' in Jones and Grealey 1974, 89-118.

Webster P V 1996 *Roman samian pottery in Britain*, Practical handbook in archaeology 13, Council for British Archaeology, York.

Appendix 1: Specialist Reports

The finds assemblage from Liverpool Road comprises a range of material, including pottery, ceramic building materials, glass, metalwork, industrial waste and stone, which is comparable to the assemblages recovered from previous excavations in the city in the 1970's and 1980's. However, the overall condition of the Liverpool Road finds assemblage is generally poor and this has resulted in a lack of diagnostic features. The following reports summarise each material category by phase, where appropriate, and this information has also been tabulated to aid comparison between different material categories and to provide ease of access to details of quantification.

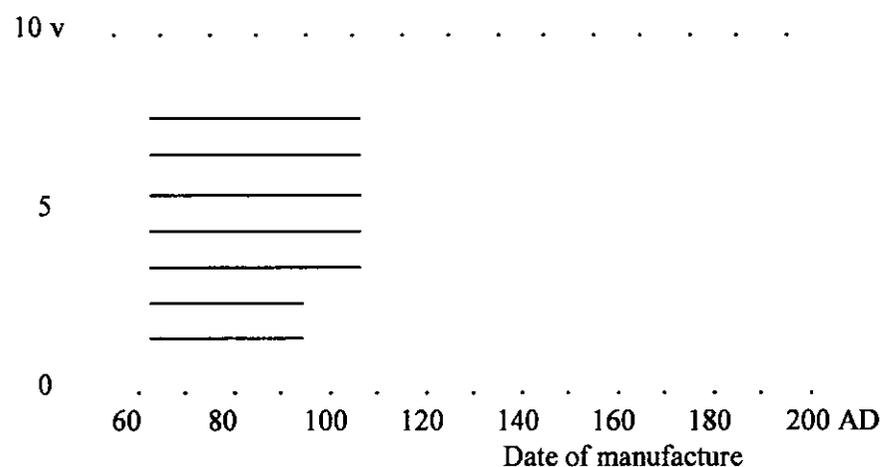
1. Samian Ware Pottery

Table 1.1 Summary of all forms of vessel by fabric (maximum nos)

	18 R	18R or 18/31R	27	33	Ind	37 or 29?	37	Total
S G	1	1	1	1	1	1	2	8

(The abbreviation SG indicates vessels which were produced in South Gaulish workshops. 'Ind' denotes a vessel of indeterminate form.)

Table 1.2 Summary of samian vessels (maximum 8) by date of manufacture



1. Analysis

Date-ranges, rather than the use of epochs such as 'Flavian-Trajanic,' have been given. These should not be thought more precise than the use of epochs. They are employed to facilitate detailed analysis of the material. Here, a table and a line-diagram are presented to summarise the forms, fabrics and date-ranges of the collection as a whole. Maximum numbers of vessels are given; the estimation of minimum numbers is difficult and probably misleading in the case of collections containing a large proportion of fragments in poor condition.

The total of eleven sherds represented a maximum of eight vessels. All were products of the South Gaulish samian industry and all were dated within the Flavian-Trajanic period. Table I gives details of the forms of vessel represented, and Table 1.2 illustrates their date-ranges. There was one fragmentary stamp and fragments of three moulded bowls, of which two are listed below; none of these was attributable to a specific potter (see Nos 1-3). As for the condition of the material, the eleven sherds were small, weighing only 62.4 gm. Most were abraded and their fabric was rather eroded. One vessel (No 1) showed evidence of burning.

2. Description Of Decorated Sherds

2.1 Trench XII, context (318)

SG Dr 37. Two adjoining fragments weighing 2.9gm, badly eroded and with evidence of burning. The fragment of indistinct moulded decoration is too small and battered to illustrate, but shows panelling with rosettes at the junctions of the borders: one panel enclosed a saltire with a large trifold pendant, here very indistinct. Such compositions were typical of bowls of the period c AD 80-110.

2.2 Trench XII, context (348)

SG Dr 27 (probably form 27g with grooves inside and outside the footring). A badly battered fragment weighing 12.7 gm, from the footring of a cup, which probably had seen wear in use also. There is an illegible fragment of the basal stamp. Probably produced c AD 70-100/110.

2.3 Trench XII, context (353)

SG Dr 37 (or 29?). A tiny fragment, weighing 0.4 gm, from the decorated wall which shows perhaps a row of upright leaves or similar motifs. The bowl represented was probably form 37 and to be dated c AD 70-100; however, it is also possible that the form was Dr 29, which went out of general production c AD 85.

2. Roman Coarse Ware Pottery

1. Methodology

The pottery was assessed for quantity, range, condition, provenance and date range. Fabrics were examined using a binocular microscope at x10 magnification and were compared with samples from the Chester Roman pottery fabric reference collection (housed in the offices of the Chester Archaeological Service at the Grosvenor Museum, Chester). Quantification was by sherd count and weight.

2. Summary

The site assemblage comprises a total of 164 sherds with a weight of 1369g. Roman deposits (both phased and unphased) produced 138 sherds weighing 1151g, or 84% by sherd count and 84% by sherd weight of the total assemblage (see Table 2.1). Apart from the samian ware, no other fine wares were recovered. A good range of coarse wares, comprising 'locally-produced' wares, British and Continental imports, was retrieved.

Webster, in reporting on the pottery assemblage from excavations at Deansgate, Manchester, recognised 'local' sources for the site in the Cheshire/Lancashire Plain. These are described as 'self-coloured fabrics, many of them oxidised and high in a fine sand content.' (Jones & Grealey 1974, 93). British imports included Severn Valley ware, black-burnished ware from Dorset (BB1), *mortaria* from the Midlands and Nene Valley colour-coated wares. Continental imports comprised a range of *amphorae*, particularly the south Spanish globular form.

The Liverpool Road assemblage is dominated by oxidised Cheshire Plain wares, although reduced forms are also common. Orange wares appear in every Roman phase and also occur residually in post-Roman contexts. As with the grey wares, the largest group appears within the Phase 2 Group 2 Roman contexts. A small group of white-slipped orange wares is also present, although it is possible that some of the orange wares originally contained a white slip coating that has since worn off. There are no obvious Severn Valley ware fabrics within the assemblage nor are there any colour-coated wares. Black-burnished wares (BB1) form the next largest group from the site, with the majority of sherds appearing in Phase 3 contexts. *Mortaria* from Cheshire and the Midlands appear in small numbers. It is probable that the white wares present in the Liverpool Road assemblage also originate in the Midlands. A small group of *amphorae* from southern Spain, southern Gaul and other unknown sources was also retrieved.

Table 2.1: Summary of Roman coarse pottery by ware and phase

Ware	Phase I B. encl	Phase I Flood/g	Phase 2 Group 1	Phase 2 Group 2	Phase 3	Pre- 19 th century	Post- Roman	Unstrat	Total
Grey/ orange	2 / 5g		1 / 2g		4 / 18g				7 / 25g
Grey			4 / 12g	23 / 170g	4 / 18g				31 / 100g
Orange		9 / 37g	7 / 70g	30 / 72g	6 / <18g	2 / 21g	8 / 49g	7 / 47g	69 / 314g

Ware	Phase 1 B. encl	Phase 1 Flood/g	Phase 2 Group 1	Phase 2 Group 2	Phase 3	Pre- 19 th century	Post- Roman	Unstrat	Total
White/ orange			1 / 8g	3 / 18g	1 / 2g		1 / 37g	2 / 2g	8 / 67g
White					7 / 21g				7 / 21g
BB1			6 / 81g		17 / <96g			5 / 19g	28 / 196g
<i>Mort:</i> Orange			2 / 277g		1 / 42g				3 / 319g
White/ orange				1 / 18g			1 / 43g		1 / 43g
White					1 / 4g				2 / 22g
<i>Amph:</i> S Span				2 / 232g					2 / 232g
S Gaul			1 / 1g	2 / 13g					3 / 14g
Other					3 / 16g				3 / 16g
Total	2 / 5g	9 / 37g	22 / 451g	61 / 423g	44 / 235g	2 / 21g	10 / 129g	14 / 68g	164 / 1369g

The group as a whole falls within a date span of the late first to the mid-late second centuries AD. Flavian-Trajanic pottery is present in some quantity and activity certainly began in this period. The appearance of pottery of Hadrianic-Antonine date in the second and third phases suggests continuous activity or occupation up until the close of the second century AD. The absence of any obvious third-century forms suggests that activity on the site came to a close soon after this period.

Most of the sherds are small in size and the assemblage as a whole is in poor condition. Many sherds are abraded and most are soft and powdery, probably as a result of surface weathering. The small size of the sherds as well as their surface abrasion has made attribution to sources difficult. Many of the sherds were recovered from gullies, or possible habitation surfaces, where they have been subject to weathering and disturbance, causing softening, surface loss and sherd abrasion.

3. Phase 1: Baggage Enclosure

This phase produced a single Cheshire Plain ware vessel from (282). It is either grey with a partially oxidised core or orange with a partially reduced surface. It is soft, weathered and abraded.

4. Phase 1: Flooding Event

A small group of Cheshire Plain coarse orange wares was recovered. Eight sherds from (409) are probably from the same vessel. All the sherds are soft, weathered and abraded and all are from indeterminate closed forms. Cheshire Plain wares date between the late first and early to mid second centuries AD. A sherd of

South Gaulish samian from (408) with a date bracket of AD 70-110 provides a *terminus post quem* for the phase.

5. Phase 2 Group 1

Phase 2 Group 1 assemblage sees the first appearance of BB1, although the lack of diagnostic sherds means that none can be closely dated. However, their presence provides a *terminus post quem* for Phase 2 of circa AD 120 +. Identifiable forms comprise two dishes/bowls and a possible cooking pot. An orange ware *mortarium*, comprising a very soft and abraded rim and body sherd, can be dated to circa AD 90-180 (if correctly identified as Wilderspool). Grey, orange and white-slipped orange wares from the Cheshire Plain form the bulk of the Phase 2 assemblage. Most are indeterminate closed forms but there is an orange ware flagon handle from (372) and a white-slipped orange ware jar rim from (341). A weathered and abraded *amphora* sherd from (283) may be from a Gauloise 4 vessel. These flat-bottomed wine *amphorae* from southern Gaul are dated between the mid-first and early fourth centuries AD. The two samian ware vessels from this phase are also south Gaulish and have date brackets of AD 70-110 and 80-110.

As with Phase 1, the condition of the sherds is generally soft, weathered and abraded, although the BB1 sherds are all hard and abraded. An orange ware jar from (341) is also burnt or misfired as well as soft and abraded. Two orange ware sherds from (318) are very soft and powdery.

6. Phase 2 Group 2

The Phase 2 Group 2 Roman deposits produced the largest group from the site (see Table 1). The high proportion of Cheshire Plain wares and the absence of BB1 and Midlands white wares suggests that these contexts are more likely to belong to earlier phases of activity or occupation. The white ware *mortarium* rim from (212) is likely to be an early Midlands form and such vessels are attested in Manchester in the Flavian-Trajanic period (Jones & Grealey 1974, 93). Identifiable Cheshire Plain ware forms comprise a white-slipped orange flagon from (398), an everted rim grey ware jar from (289) and an everted rim orange ware jar, also from (289), possibly from Wilderspool. The remaining sherds are all from indeterminate closed forms. The south Gaulish samian vessels from (353) and (398) have a date bracket of AD 70-100. Two joining sherds of a possible south Gaulish *amphora* from (291) are very fragile and friable with hairline cracks throughout the body of the sherds. Sherds from a Dressel 20 *amphora* from (354) also exhibit similar cracks. All the sherds are soft, weathered and abraded and a couple are also burnt.

7. Phase 3

This phase produced the largest assemblage from the three Roman phases. BB1 is present in quantity in comparison with Phase 2 and forms the largest coarse pottery group within the Phase 3 assemblage (see Table 1). The majority of these sherds came from (326). Identifiable forms comprise a cooking pot rim, which is probably early- to mid-second century in date, and a plain rim dish, which provides a *terminus post quem* for Phase 3 of the mid to late second century AD. Apart from a lid rim from (374), the remaining BB1 vessels from Phase 3 comprise indeterminate closed forms, none of which can be closely dated.

White wares make their first appearance in this phase, forming a small group of 7 sherds with a weight of 21g from (326), (368) and (374). There are no diagnostic sherds and all are soft, weathered and abraded. They probably originate in the Midlands, the most likely source being the kilns at Mancetter and Hartshill

near Nuneaton in Warwickshire. Although the main products in white ware from Mancetter-Hartshill were *mortaria*, segmental bowls and flagons together with a very limited number of other vessel types were occasionally produced (Tomber & Dore 1998, 188). The industry dates from *circa* AD 100 to the fourth century and there was extensive distribution of Mancetter-Hartshill *mortaria* in the Midlands and the North between the mid second and early fourth centuries AD (Tyres, 1996, 123). A white ware ?*mortarium* sherd from (326), which has lost its trituration grits and surfaces, probably also originated in the Midlands.

A small group of Cheshire plain wares, grey, orange and white-slipped orange, are probably residual to this phase. All are soft, weathered and abraded and almost all comprise indeterminate closed forms. They include a probable *mortarium* spout in coarse orange ware, which is very weathered. A weathered and abraded *amphora* sherd of indeterminate provenance came from (348) [which = (326)]. (368) produced a possible *amphora* lid, although its soft and weathered appearance makes positive identification difficult. The south Gaulish samian ware vessels from Phase 3 have date brackets of AD 70-110.

8. Post-Roman

The Roman pottery assemblage from post-Roman contexts comprises a small group of Cheshire Plain wares. Recognisable forms include a white-slipped orange ware carinated bowl from (441) and a white-slipped orange *mortarium* from (311), probably from Wilderspool. Two south Gaulish samian ware sherds were also recovered. The *mortarium* is hard and overfired or burnt. An orange ware sherd from (310) is also hard, but abraded. All the remaining sherds are soft, weathered and abraded.

9. Pre-nineteenth century

The pottery collection from these deposits comprises two sherds of indeterminate coarse orange ware from (442). Both are soft, weathered and abraded.

10. Unstratified

A small group of unstratified sherds was recovered, comprising Cheshire Plain orange and white-slipped orange wares and BB1. As with the BB1 from the Roman phases, all the sherds are hard and only slightly abraded. Recognisable forms comprise a dish/bowl with a grooved or bead rim and a ?beaker. Both vessels are early- to mid-second century in date. The Cheshire Plain wares are all indeterminate closed forms and all are soft, weathered and abraded, although with varying degrees of softness.

11. List Of Illustrated Roman Coarse Ware (Figure 10)

Phase	Number: Description	Context
Phase 2		
	1: White/orange jar rim	(314)
	2: Orange <i>mortarium</i> rim	(372)
	3: Orange flagon handle	(372)
	4: White <i>mortarium</i> rim	(212)
	5: Grey jar rim	(289)
	6: Orange jar rim	(289)
Phase 3		
	7: BB1 cooking pot rim	(326)
	8: BB1 plain rim dish rim	(326)
	9: Orange <i>?mortarium</i> rim and <i>?spout</i>	(326)
	10: BB1 lid rim	(374)
Post-Roman		
	11: White/orange carinated bowl rim	(441)
Unstratified		
	12: BB1 grooved-rim dish/bowl rim	
	13: BB1 <i>?beaker</i> rim	

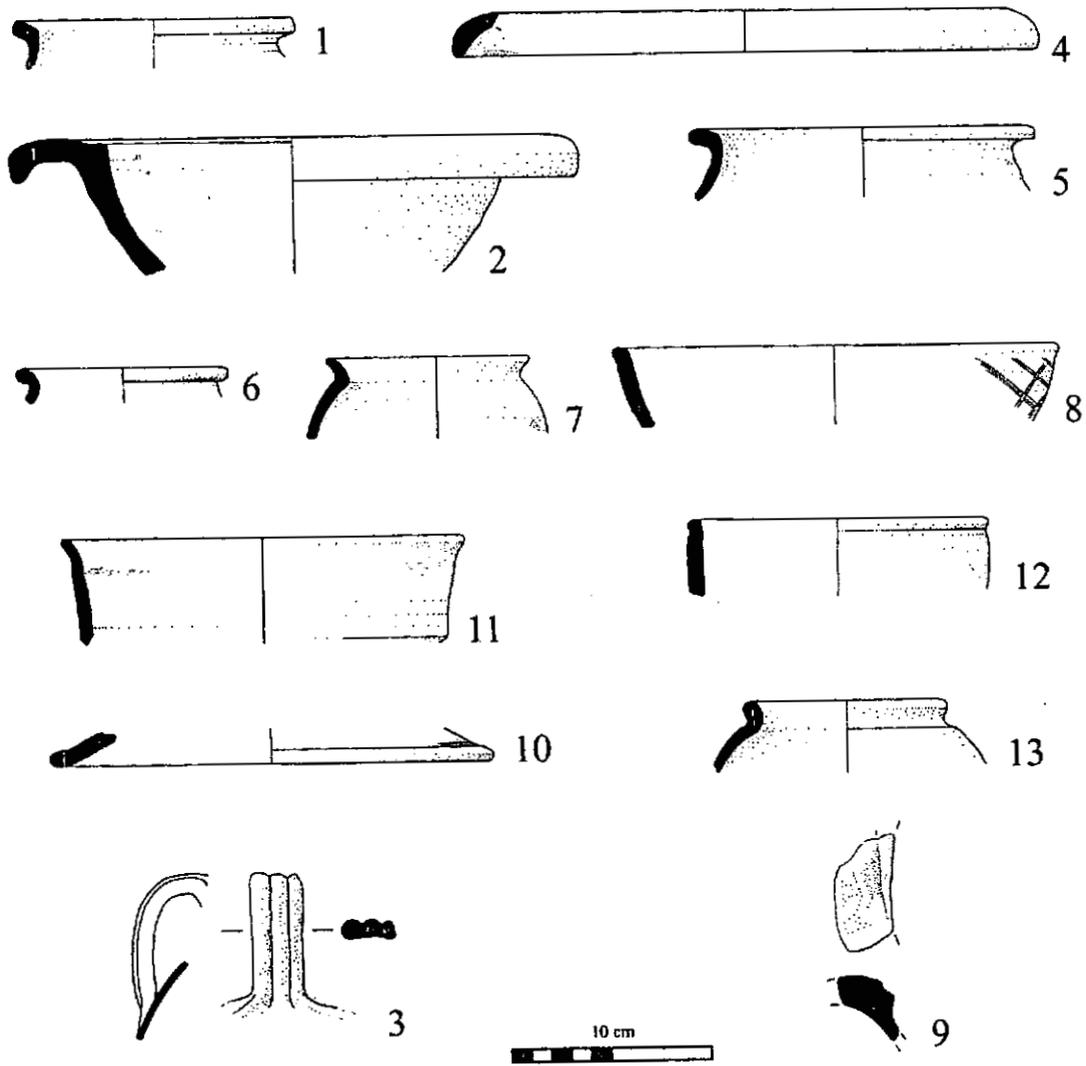


Figure 10: Roman Coarse Ware Pottery

3. Roman Building Material

1. Methodology

The building material was assessed for quantity, range, condition and provenance. Fabrics were examined using a binocular microscope at x10 magnification. Quantification was by fragment count and weight.

2. Tile and brick

The site assemblage comprises a total of 61 fragments of tile and brick with a weight of 2373g. Roman deposits (both phased and unphased) produced 58 fragments weighing 2065g, or 95% by fragment count and 87% by fragment weight of the total assemblage (see Table 3.1).

Table 3.1 Summary of Roman tile and brick by form and phase

Form	Phase 1 B. encl.	Phase 1 Flood/g	Phase 2 Group 1	Phase 2 Group 2	Phase 3	Pre- 19 th century	Post- Roman	Unstrat	Total
<i>Tegula</i>				1 / 163g					1 / 163g
<i>Imbrex</i> /ridge			3 / 57g		2 / 76g				5 / 133g
Brick			1 / 141g		4 / 853g				5 / 994g
Indet.	4 / 69g		17 / 159g	1 / 1g	25 / 546g	2 / 53g	1 / 255g		50 / 1083g
Total	4 / 69g		21 / 357g	2 / 164g	31 / 1475g	2 / 53g	1 / 255g		61 / 2373g

A limited range of forms was recovered from Liverpool Road, including roof tile and brick fragments. This is closely comparable with the range of forms recovered from the excavations at the Northgate of the Roman fort, although a single piece of box tile was also recognised (Walker 1986, 126-7). The bulk of the assemblage comprises small indeterminate fragments of tile and brick. It is probable that the ceramic building material originates from a 'local' source.

As with the pottery assemblage, the ceramic building material is in poor condition, being soft, weathered and abraded. Fragments are generally small in size, and there are few complete dimensions surviving.

2.1 Phase 1

Phase 1 produced just four indeterminate fragments from the Baggage Enclosure. All are very soft, weathered and abraded.

2.2 Phase 2 Group 1

Tile and brick begins to appear in some quantity in this phase. The only diagnostic forms are three fragments of *imbrex* (from (328), (349) and (372)) and a single brick fragment, also from (372). Although

abraded, the brick fragment is hard and possibly overfired or burnt. The *imbrex* fragment from this context is also hard and abraded. All the remaining fragments from Phase 2 are indeterminate and almost all are soft, weathered and abraded.

2.3 Phase 2 Group 2

Only two fragments came from these deposits, comprising a *tegula* flange fragment from (354) and an indeterminate fragment of tile or pottery from (241). Both fragments are soft, weathered and abraded.

2.4 Phase 3

The largest group of tile and brick came from Phase 3 (*see* Table 2). The only recognisable forms comprise four fragments of brick from (368) and (370) and two fragments of *imbrex* from (281). The brick from (368) is hard and abraded and has a complete thickness of 60mm. This suggests it may be part of one of the larger Roman brick forms, the *sesquipedalis* or *tegula bipedalis*, which have an average thickness of 52 and 60mm respectively (Brodribb 1987, 142). Both these brick types were used for flooring. The remaining fragments are all indeterminate and almost all are soft, weathered and abraded. Some fragments are very soft and powdery; one fragment from (326) is hard and burnt or overfired.

2.5 Post-Roman To Pre-Nineteenth Century

One hard and abraded indeterminate fragment came from (310). Two soft and abraded indeterminate fragments came from (3).

3. Daub

The site assemblage comprises a total of 62 fragments of daub with a weight of 317g. Roman deposits (both phased and unphased) produced 60 fragments weighing 309g, or 97% by both fragment count and weight of the total assemblage (*see* Table 3.2).

Large amounts of daub, which are thought to have derived from demolished clay walls, ovens and furnaces, were recovered during excavations at the Northgate of the Roman fort (Walker 1986, 126). A single fragment of daub is illustrated in the report on the excavations in Deansgate, but is not described or referred to in the text (Jones & Grealey 1974, 126 (fig 45)).

The bulk of the Liverpool Road assemblage comprises small indeterminate fragments of daub, the majority of which are soft and abraded. Some fragments are very crumbly; a few are hard and partially burnt. There are no obvious wattle impressions on any of the fragments. It is possible that some of the pieces identified as daub may in fact be very small, abraded and weathered fragments of tile or brick. Most of the fragments came from the unphased Roman deposits (212), (354) and (398) and are thought to be from some form of temporary wooden structure (Connelly 2001, 26). The phase 3 context, (326), produced the greatest quantity of daub by both fragment count and weight, from the site.

Table 3.2 Summary of Roman daub by phase

Phase 1: B. encl.	Phase 1 Flood/g	Phase 2 Group 1	Phase 2 Group 2	Phase 3	Pre-19 th century	Post-Roman	Unstrat	Total
1 / 41g		3 / 6g	39 / 172g	17 / 90g			2 / 8g	62 / 317g

4. Roman Glass

The site produced a small group of three sherds of blue/green vessel glass with a weight of <3g, all from Roman deposits, both phased and unphased (*see* Table 4.1). Previous excavations in the area have produced glass assemblages dating from the first and second centuries AD with many of the vessel fragments coming from square or cylindrical bottles (Walker 1986, 70 and Jones & Grealey 1974, 131).

None of the Liverpool Road vessel glass is diagnostic, although it is most likely to have come from bottles. One sherd, from (288), has deep parallel scratches on one surface with many shallow criss-cross scratches on the opposing surface. The other two sherds are also covered in shallow criss-cross scratches, but these occur on both surfaces. It is not clear whether these scratches result from use-wear or are post-depositional.

Table 4.1 Summary of Roman glass by phase

Phase 1: B. encl.	Phase 1 Flood/g	Phase 2 Group 1	Phase 2 Group 2	Phase 3	Pre-19 th century	Post- Roman	Unstrat	Total
		1 / <1g	1 / 1g	1 / <1g				3 / <3g

Blue/green is the most common colour used to produce glass vessels in the late first to third centuries AD. Bottles and household containers of the first to second centuries AD were almost always in blue/green glass. Vertical scratching is common on the body of cylindrical, square, hexagonal and rectangular bottles, where the vessel was lifted in and out of a close-fitting wood or basketry container. Cylindrical bottles were very common in late first century AD settlements; square bottles were very common from *circa* AD 75 to the end of the second century (Price & Cottam 1998, 191-202).

5. Roman Metalwork

1. Copper alloy

Three copper alloy artefacts were recovered from the site. Careful cleaning and conservation is recommended to consolidate the artefacts and to aid their identification.

Context (326) in Phase 3 produced a possible brooch fragment, comprising what looks like the head of a bow brooch with tapering, rectangular-section wings and a grooved ?bow or ?spring.

A ?stud with a circular, domed head and squashed shank came from the pre-nineteenth century context (286). It may be Roman in date.

A circular button was unstratified and is thought to be post-medieval in date.

2. Iron

The site produced 37 iron artefacts, including 15 nails and 17 indeterminate corroded lumps (see Table 5.1). All the ironwork is heavily corroded and in poor condition and many fragments do not respond to the presence of a magnet. It is recommended that X-radiography be carried out to aid identification and to clarify which of the indeterminate lumps are corrosion or waste products rather than actual artefacts.

The nails appear to be either round-headed with a square-section shank or round-headed with a circular-section shank but their corroded and incomplete condition makes detailed remarks on size and shape unfeasible. It has been suggested that the nails from the Phase 3 feature [324] may have been used for attaching wooden panels to posts (Connelly 2001, 25).

Table 5.1 Summary of iron artefacts by phase

	Phase 1 B. encl.	Phase 1 Flood/g	Phase 2 Group 1	Phase 2 Group 2	Phase 3	Pre-19 th century	Post- Roman	Unstrat	Total
Nails			6	3	6				15
Studs					2?				2?
Sheet				1?	1?				2?
Tubing					1?				1?
Indet.	1		3	7	6				17
Total	1		9	11	16				37

6. Roman Industrial Waste

1. Discussion

A total of 32 pieces, weighing 1.4032 kg, of industrial waste was presented for examination. This was restricted to the surface inspection of samples, no physical or chemical analysis was undertaken. However, all samples were tested for magnetism with a hand-held magnet.

All of the material consists of slag or vitrified clay (see Table 6.1). The slag is generally dark grey to black in colour, with localised patches of dark purple or dark green staining on unbroken surfaces. Many pieces are locally vitrified on exterior surfaces, though fragments from some contexts (212, 213 & 353) exhibit extensive post-depositional corrosion. Nearly all pieces are at least weakly magnetic, suggesting the presence of small iron inclusions and in many cases the surface was stained with iron corrosion products. All of the slag fragments are vesicular, a few (contexts 212, 213, 326, 353) retain traces or impressions charcoal flecks, probably the remains of fuel. In general the fragments of slag were small pieces broken from larger cakes or droplets. Only two fragments are diagnostic, both smithing hearth bottoms *c.* 80 mm across, one from context 349 and one from context 368.

The remainder of the fragments are small pieces of vitrified clay, some retaining small fragments of less heavily fired orange clay. Many are weakly magnetic. None are of a sufficient size or form to be diagnostic.

In general all of the industrial waste from the site appears to be derived from iron smithing, there is no evidence for non-ferrous metallurgy. However, the limited quantities found, no context contained more than 200 g, suggest that this was confined to one or two episodes, or that this activity was taking place outside of the excavated area. The fragmentary nature of the material suggests that all of it was re-deposited from elsewhere. Although a detailed phasing was not provided, a superficial examination of the matrix suggests that most of the material occurs in later contexts.

Table 6.1 Summary Of Industrial Waste

	Weight (g)	Number
Slag fragments	757.3	21
Smithing Hearth Bottoms	276.1	2
Vitrified clay	369.8	11
Totals	1403.2	34

2. Additional Note By Alison Jones

A further small group of associated industrial waste objects was retrieved from the contexts (372) and (368). Context (372) in Phase 2 produced a fragment of glassy black slag and a piece of burnt coal, which has fragmented into several smaller pieces. The Phase 3 context, (368), produced a curious object which appears to be a lump of clay enclosed in a mixed deposit of soil, small stones and charcoal fragments. Its purpose or function is unclear.

7. Roman Stonework

The assemblage contains several naturally-shaped stones in a fine-grained, light grey sandstone, as well as some pieces of fire-damaged and cracked sandstone fragments from Roman and post-Roman contexts. A small piece of red ochre was recovered from (307).

A curious object from Phase 2 Group 2 Roman context (212) comprises a naturally-shaped rounded stone with a circular hole drilled almost all the way through it (Figure 11). It may be a waster or an unfinished object of unknown purpose and function.

A small broken fragment of coarse sandstone (or grit) came from the Phase 1: Flooding context, (408). It may be a fragment of quern but the lack of diagnostic features makes any definite identification difficult. Querns made from locally-available coarse, quartz felspar sandstone were recovered from excavations at the Northgate in the 1980's (Walker 1986, 76-7). Querns of 'Millstone grit', quarried from the nearby Pennines, were also recovered from the excavations at Deansgate, together with vessels made from imported German Leucitic basalt (Jones & Grealey 1974, 129).

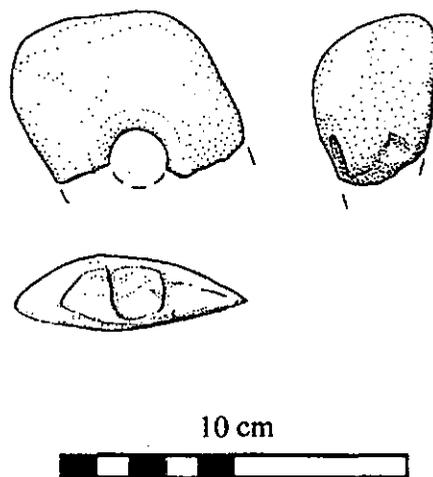


Figure 11: Stone With Partially Drilled Hole

8. *Post-Medieval Pottery*

1. Introduction and Methodology

The pottery has been recorded by common name and where possible form within context groups; it was quantified by sherd count and weight and then bagged and labelled accordingly. The terms used to classify the pottery are those employed in the fabric reference collection held by Chester Archaeology. Those types not represented in the collection have been identified using names and dates advised by the Potteries Museum, Stoke-on-Trent during an English Heritage sponsored training course. This report describes and discusses the range of material found, detailed information is recorded in the archive.

2. Analyses

A total of 130 sherds, 9917g, of pottery were found in trenches II, VIII and XII. The condition of the assemblage is mixed with some vessels virtually complete, others represented by substantial sized sherds but others only by small fragments. The amount of abrasion is also variable but on the whole it is at a fairly low level.

Table 8.1 Post-Medieval Pottery Recovered From Trench II

Context	sherd count	weight (g)
20	4	19
25	6	547
70	3	103
90	26	60
total	39	729

Context (20) produced the remains of a small yellow ware cup or mug with encrusted and slip banded decoration, a piece of sponged ware and a very small fragment of transfer-printed ware. The cup is probably of mid-nineteenth century date. The sponged ware has an all-over decoration introduced in the early nineteenth century.

Context (25) predominantly comprises of fragments of large black-glazed ware vessels with a single sherd of transfer-printed ware and a piece of sponged ware. The sponged ware is decorated with cut shapes, a type introduced in the c.1830s – 1840s but used over a long period of time. The transfer-printed ware has a 'Willow' pattern print which also has long time span.

Context (70) contained a piece of a factory made slipware bowl with blue and brown banded decoration, a piece of a pearl glazed ware plate with shell edged decoration and a piece of black-glazed ware which appears to have been shaped into a disc. The scalloped rim and impressed curved lines of the shell edge

suggest that the plate was made c.1800 to c.1850, this provides the earliest deposition date of the context.

Context (90) contained fragments of a nineteenth century yellow ware cup, nineteenth or early twentieth century transfer printed wares with blue 'Willow' pattern, nineteenth or twentieth century whitewares, small pieces of black-glazed wares and a handle from a mid-eighteenth to early nineteenth century creamware vessel. The yellow ware cup has banded slip decoration and is very similar to the remains of a vessel found in Trench XII [437], although the fragments do not join together. Sherd size is generally small but the condition is mixed, some sherds are abraded and others are in good condition.

Table 8.2 Post-Medieval Pottery Recovered From Trench VIII

Context	sherd count	weight (g)
93	20	2798

Context (93) produced the remains of two large black-glazed vessels, a storage jar and a large dish or pancheon, these two vessels make up 85% of the assemblage (by sherd count). A single sherd of a slipware vessel and two pieces from a roulette decorated brown stoneware bowl make up the rest of the assemblage. The slipware has a coating of white slip on the interior appearing yellow under the glaze. All are types current in the nineteenth century.

Table 8.3 Post-Medieval Pottery Recovered From Trench XII

Context	sherd count	weight (g)
265	2	45
271	13	1546
312	4	34
313	2	3
437	37	1752
441	13	3010
total	71	6390

The fill, (441), of the large pit [440] contained the substantial remains of a large black-glazed ware storage jar. This type of vessel is common in the north-west from the late eighteenth to early twentieth century. Such wares were made at Buckley, Flintshire, Prescot in Merseyside and in Staffordshire but small local potteries may also have produced similar wares. The sherds are in good condition and the pieces join together to make up about half of the vessel. There is abrasion around the base perimeter which is probably a result of wear from standing on a rough surface.

Context (437), the burnt area, produced the largest assemblage of post-medieval pottery from the site,

curiously none of the pottery shows signs of having been burnt. It is a mixed group consisting of abraded fragments of black-glazed wares, a complete brown stoneware cup and fragments of tablewares and flowerpots in relatively good condition as well as two larger fragments of black glazed ware, again in relatively good condition. The black-glazed wares are difficult to date closely, mainly because of their fragmented nature but they were probably made in the eighteenth or nineteenth centuries. The stoneware cup is comparable in shape, although not size, to a late eighteenth or early nineteenth century 'porringer' (see Hildyard 1985 109, no 310). Part of a nineteenth century yellow ware vessel is decorated with slipped bands and therefore probably dates from the 1830s/1840s. Several fragments of pearl-glazed wares date from the late eighteenth century but could also have been produced in the nineteenth. One fragment from the rim and base of a plate with shell edge decoration is in a style used from c.1800 to around the middle of the nineteenth century. Three sherds from a shallow jug or sauce boat have a Willow pattern transfer-print decoration which was in use from the late eighteenth century throughout the nineteenth and into the twentieth century.

Contexts (312) and (313), fills of ditch [308], contained only a sparse quantity of pottery; all are small sherds, the majority of which weigh two grams or less. The wares represented are eighteenth or nineteenth century brown salt-glazed stoneware, mid-eighteenth to nineteenth century creamware, late eighteenth or nineteenth century pearl glazed ware and a small fragment of creamware with a brown slipped line decoration that was produced in the late eighteenth or early nineteenth century. The pieces are too small to accurately identify as to form.

Context (271) produced a small group of complete or semi-complete vessels of probably mid to late nineteenth century date. They comprise a nineteenth or early twentieth century whiteware ointment pot/jar with its lid, fragments of a bone china teacup, a buff stoneware bottle and a large mottled brown glazed teapot, with a lid in two pieces, which is of the mid- to late nineteenth century. The condition of the group suggests that it was found in its place of primary deposition.

Two pieces of a Chinese porcelain lid were found in context [265]. It is quite a thick walled piece and would have once had a loop handle. It is quite well decorated in over-glaze colours: pink, green, yellow and orange and shows seated male figures. One piece is heavily iron stained. It appears to be the lid of a narrow necked jar or bottle. The piece is probably nineteenth century in date.

3. Discussion

The pottery in the assemblage is all domestic in character consisting of storage, table and garden wares. It is difficult to comment on the status of material from a relatively small assemblage such as this, for even high status houses would have contained utilitarian and cheaper wares in the kitchens and servants quarters. The quantity of material is very low for a late post-medieval urban site and whilst some of the well preserved vessels, e.g. from contexts (271) and (441), may have been deposited in-situ other sherds are fragmentary and abraded and therefore appear to have been re-deposited.

9. Clay Pipes

1. Introduction

This report deals with the clay tobacco pipes recovered by the University of Manchester Archaeological Unit during excavations at Liverpool Road, Manchester, in 2001. The pipes came from deposits associated with some late Georgian buildings, which were probably constructed during the 1820s and which were demolished during the twentieth century. The site code used for this work was LR01.

2. Analyses

The excavations produced a total of 57 fragments of pipe, comprising 14 bowls, 44 stems and 1 mouthpiece, from a total of 8 different contexts. Two of the contexts (2 and 93) produced 19 fragments of pipe each, but the other contexts were all small, containing 6 fragments or less. The pipe fragments have been individually examined and a context summary for each excavated group prepared (Appendix 1). This provides a quick reference point giving the overall numbers of pipe fragments recovered from each context, their date range and any principal comments relating to them. In addition, the pipes are described and discussed more fully in their context groups below. A general discussion of the pipes and their contribution to the dating and interpretation of the archaeological contexts follows the context group descriptions.

2.1 Trench II, Context (2)

This context produced 5 bowl and 14 stem fragments, all of which are of late eighteenth or nineteenth century date. There are three points to make about the nature and dating of the pieces from this context. First, several of the fragments are freshly broken, for example, three of the bowl fragments join to make the larger part of a bowl, with other freshly broken fragments of the bowl still missing. This suggests that the deposit had been rapidly and vigorously excavated with consequent damage to the finds. Second, most of the fragments recovered are relatively large and 'fresh' looking. The surviving stem fragments are up to 70mm in length while two freshly broken pieces join to give a length of 109mm and this fragment would originally have been longer since one end is still freshly broken. The size of these fragments suggests that they derive from a context that has remained relatively undisturbed since its initial deposition. Third, the fragments are all of consistent types, suggesting that they were either deposited at one date, or over a relatively short period of time. The stems are all of the type that would have been produced from the late eighteenth century through to the second half of the nineteenth century. They all appear to derive from long-stemmed pipes of the type popular before c1850. There are no fragments from the short-stemmed or 'cutty' pipes that became popular after this date. The bowl fragments are rather fragmentary but represent three different examples. Two have small plain spurs (the third is missing). One of the pipes probably had a plain bowl but the other two have leaf decoration on the seams. The leaf decoration is simple and stylised and, on the more complete bowl, it is faint and poorly executed and only appears on the seam facing away from the smoker. The bowl fragments are of types produced from around 1810-1870, with the most likely date for the group being c1820-60. All of the stems could be contemporary with the bowls.

2.2 Trench II, Context (25)

One plain stem fragment from a long-stemmed pipe, dating from the late eighteenth or nineteenth century.

2.3 Trench II, Context (73)

Five pieces of plain stem from long-stemmed pipes dating from the late eighteenth or nineteenth century.

2.4 Trench II, Context (78)

One pipe bowl with a plain spur and simple leaf decoration on both seams. This style of bowl was produced from c1810 through to the late nineteenth century but it was most common during the first half of the century. The mould from which this example was produced has a slightly streaky surface and some mould flaws, the most prominent of which is a sharp raised line running the full height of the bowl on its right hand side, near the seam facing the smoker (Figure 2). This example most probably dates from c1810-1860.

2.5 Trench VIII, Context (93)

This context produced quite a good group of fragments, several of which show signs of having been burnt. The fragments are generally quite large and fresh looking, with stems of up to 93mm in length surviving. The single mouthpiece is a nipple type from a cutty pipe, dating from c1850 or later. There are also five stem fragments with traces of green glaze from a mouthpiece coating on them. This type of mouthpiece coating was used from around 1800 through until c1910. The stems are mainly quite thin and from long-stemmed pipes, which were popular before the middle of the nineteenth century. The single bowl (Figure 7) has moulded milling around its rim, a technique employed during the second half of the nineteenth century or later. Although the two most datable pieces from this context clearly indicate a final deposition date of after c1850, the bulk of the stems are of nineteenth century types that would have been common from c1810-1860.

2.6 Trench XII, Context (313)

This context produced a single plain stem fragment. The cylindrical form and neat finish of this piece are typical of eighteenth century fragments although the small bore (4/64") is usually only found towards the end of that century or in the next. This stem was probably produced c1750-1850 with an eighteenth or early nineteenth century date being the most likely.

2.7 Trench XII, Context (271)

This context produced 2 stems and 3 bowls and these provide one of the best groups from the site, having been recovered from the fill of a brick lined pit. One of the stems is a plain fragment from a long pipe of late eighteenth or nineteenth century date. The other stem has moulded mark comprising incuse serif lettering reading 'T.HOLLAND / No 280' within a relief beaded border (Figure 3). Thomas Holland was one of the most prominent Manchester manufacturers during the second half of the nineteenth century and he specialised in making high quality decorative pipes. During the 1870s Holland used diamond registration marks to protect a number of his designs, for example, his pattern number 227 was registered on 13 January 1873 (Hammond 1988). From registrations such as this, it is possible to show that Holland was regularly introducing about four new patterns of pipe each month. This is a very considerable number and perhaps indicates that Holland employed a specialist mould maker who was able to produce an average of one new mould per week. This places the likely introduction date for pattern number 280 at the start of 1874, which in turn provides a *terminus post quem* for the stem fragment recovered from this context. Its owner must have cherished the pipe fragment recovered from the pit, since there are clear teeth-wear marks in the stem where it has continued in use after the mouthpiece had been broken off (Figure 3). The three bowls from this context are all decorated, one with an acorn and oak leaf design, one with a basket weave design and one with flowers on each side of the bowl (Figures 4-6). This last piece has the pattern number 34 moulded incuse into the left-hand side of the stem, but its maker is unknown. These three bowls are all of types that could have been produced from about 1860 onwards. Given the good dating evidence

provided by the Holland stem, a deposition date of c1875-1900 seems most likely for this group of pipes.

2.8 Trench XII, Context (437)

This context produced four plain stems and two bowl fragments. The stems are all from long-stemmed pipes of later eighteenth or early nineteenth century date. The two bowl fragments join to make part of an early nineteenth century decorated bowl (Figure 1). This has different decoration on each side, but not enough survives to be sure of the design. On the left hand side foliage sprays surround a central motif, which may have been Masonic emblems (square and compasses). On the right hand side is foliage beneath a different motif. The seams are decorated with simple leaves. This bowl is most likely to date from around 1810-50.

3. Discussion

During the Post-Medieval period Manchester grew rapidly as an industrial and manufacturing centre and pipe making was one of the trades that developed. Many pipe makers are known from documentary sources and chance finds, such as an extremely finely engraved pipe produced by W Smith during the early nineteenth century (Peel Park Museum), hint at a highly developed and distinctive local industry. During the second half of the nineteenth century large firms with substantial home and export markets emerged and the decorated pipes produced by Thomas Holland are some of the finest to have been produced anywhere in the country. Despite all this, there has not been any systematic study of the Manchester pipemakers or their products and this once important industry remains largely unknown. The lack of previous study makes it hard to accurately date or assess material from Manchester and this is an area where new research is urgently needed.

The excavations at Liverpool Road only produced a small group of pipes, few of which are marked or decorated. Given the paucity of previous research these do, however, make a useful contribution to what is known of the Manchester pipemaking industry. The pipes recovered represent two broad phases of production, the first of which covers the first half of the nineteenth century. During this period long stemmed pipes were being produced, at least some of which had green glazed mouthpieces. Some of the stems were clearly curved and most of the bowls appear to have been decorated, however simply. All but one of the bowls fragments had leaf decorated seams and, in one case, the sides of the bowl were also decorated with foliage and, probably, masonic emblems (Figure 1). The quality of these early nineteenth century pipes is not particularly high with mould flaws and streaky bowl surfaces being evident. These represent the standard production range and not the high quality end of the market, as represented by finds from elsewhere. The style and decorative motifs used on these examples are typical of the region and can be paralleled amongst pipes produced in neighbouring production centres such as Rainford and Liverpool.

The second phase covers the second half of the nineteenth century, a period when short stemmed pipes with elaborately decorated bowls became fashionable. This was also a period when factory production and marketing became more highly organised. Some of the bowls, such as the acorn and basket designs (Figs 4 & 5) represent types that are found all over the country and contemporary catalogues show that many manufacturers would have included these designs amongst their production range. In contrast, the neatly produced T Holland stem represents a product from an enterprising and innovative manufacturer who made many individual designs. In the same way, the bowl with flowers (Figure 6) is not a pattern that has been noted before and this may well be a local design. The use of pattern numbering only seems to have started around the 1860s and so the relatively low number on this example might suggest that it was an early product of one of the larger Manchester firms.

4. Pipes as archaeological evidence

All of the pipes recovered date from after c1750, suggesting that this was a fairly clean 'greenfield' site before its development during the 1820s. Context 437 contained four stems and two joining bowl fragments, with the bowl fragments dating from c1810-1850 (Figure 1). This layer is interpreted as representing land clearance prior to the construction of housing. If this is the case then the bowl must date from the earlier part of this range, say c1810-30, which makes it important in helping establish a typology for local bowl forms and styles of decoration.

One of the earliest looking pipe stems was recovered from (313), the primary fill of ditch abandoned before the late Georgian development of the site. This stem was dated to c1750-1850, thus supporting a late eighteenth to early nineteenth century date for this feature.

Contexts (25), (73) and (78) are all associated with the use of the buildings after the 1820s. The pipes from these deposits all date from before c1860-70 and tie in with general occupation of the site. The pipes from Context (271) are more interesting since they came from an ash and cinder fill within a brick structure. The three bowls and two stems, including the T Holland example, date from c1875-1900 and form a coherent looking group (Figures 3-6). This feature may well have been the ash pit for an outside toilet and the pipes provide a useful date for the final use of this feature. They also provide an important group of later nineteenth century pipes, a period that is rarely represented in excavated assemblages.

The fragments of clay pipe from context (93), the fill of a pipe trench which ran the length of Woods Place, are clearly datable to c 1850, for example, Figure 7. These probably indicate the date for the laying and upgrading of drainage facilities along Woods Place

The final and most problematic layer is context (2), which is described as the twentieth century demolition layer for the nineteenth century buildings. This deposit produced five pipe bowl and 14 stem fragments, the most likely date for which is c1820-60. Many of the fragments were very large and fresh looking and they could well have come from a single contemporary deposit. The form and condition of these fragments clearly suggests that they derived from a deposit associated with the construction or early use of the buildings rather than their twentieth century demolition. It seems probable that an earlier deposit was disturbed during clearance of the demolition deposits and that these finds in fact derive from an earlier phase of the sites use.

5. Description of illustrations (Figure 12)

- 1 Two joining fragments of a spur bowl with a deep oval stem and simple leaves decorating the seams. The decoration on the bowl sides is poorly defined in the mould and damaged, making identification difficult. On the left hand side a spray or wreath of leaves surrounds what may be Masonic emblems (square and compasses). The right hand side has a different central motif, also with leaves below. Stem bore 4/64". From Trench XII, Context 437, a layer predating the 1820s development of the site. Probably a local product of c1810-1830.
- 2 Bowl of c1810-60 with crude and poorly formed leaf decoration on the seams. The mould surface has striations on it and a number of flaws, the most prominent of which is a sharp raised line (on the finished pipe), which runs the full height of the right hand side of the bowl. Stem bore 4/64". From Trench II, Context 78, the fill of a drain.
- 3 Stem fragment with the incuse moulded lettering 'T.HOLLAND / No 280' within a relief moulded and beaded border. Thomas Holland was one of the foremost Manchester manufacturers and pattern number

280 was probably introduced early in 1874. The pipe remained in use after the stem became broken, resulting in clear teeth wear marks on the stem. Stem bore 5/64". Part of a group of c1875-1900 from Trench XII, Context 271, the fill of brick lined pit.

- 4 A very crudely designed and executed bowl in the form of an acorn and oak leaf. Stem bore 4/64". Part of a group of c1875-1900 from Trench XII, Context 271, the fill of brick lined pit. A similar pipe has been recovered from Site M1 in Manchester (Arnold 1983, Figure 56.32), which was also associated with a basket weave bowl like Figure 5 below.
- 5 A very neatly designed and made pipe with a basket weave design on the bowl. Stem bore 4/64". Part of a group of c1875-1900 from Trench XII, Context 271, the fill of brick lined pit. A similar pipe has been recovered from Site M1 in Manchester (Arnold 1983, Figure 56.34), which was also associated with an acorn bowl like Figure 4 above.
- 6 A neatly designed bowl with quite good quality decoration. There are small serrated leaves on the seams and flowers on each side of the bowl (? a lily and a rose). Stem bore 5/64". Part of a group of c1875-1900 from Trench XII, Context 271, the fill of brick lined pit.
- 7 Plain bowl dating from 1850 or later with moulded milling at the rim and a stem bore of 5/64". From Trench VIII, Context 93, a layer that was supposed to pre-date the 1820s buildings on the site.

6. Context Summary Table

This appendix provides an indication of the overall date range represented by the clay tobacco pipe fragments recovered from each trench (Tr) and context (Cxt). It also shows how many fragments of bowl (B), stem (S) or mouthpiece (M) this date range is based on as well as the total number of fragments (Tot) from each context. The figure numbers of any illustrated examples (Fig) are also provided. Bowl fragments, especially if they are marked, are much more closely datable than stem fragments. For this reason, the number and type of fragments present should be taken into account when assessing the reliance that can be placed on any particular date range.

Tr	Cxt	B	S	M	Tot	Date	Dr	Comments
II	2	5	14	0	19	1810-1870		Includes 2 bowls with leaf decorated seams. Appears to form a fresh and consistent group, most likely deposited around 1820-60.
II	25	0	1	0	1	1780-1870		Fragment from a long stemmed, probably made before c1870.
II	73	0	5	0	5	1780-1870		Fragment from a long stemmed, probably made before c1870.
II	78	1	0	0	1	1810-1860	2	Complete bowl with leaf decorated seams.
VIII	93	1	17	1	19	1800-1910+	7	Latest finds date from 1850 or later.
XII	271	3	2	0	5	1875-1900	3-6	Includes a T Holland stem dating from c1874 or later.
XII	313	0	1	0	1	1750-1850		Very cylindrical stem fragment with bore 4/64".
XII	437	2	4	0	6	1750-1850	1	Two joining fragments of an early C 19 th decorated bowl.
Tot		12	44	1	57			

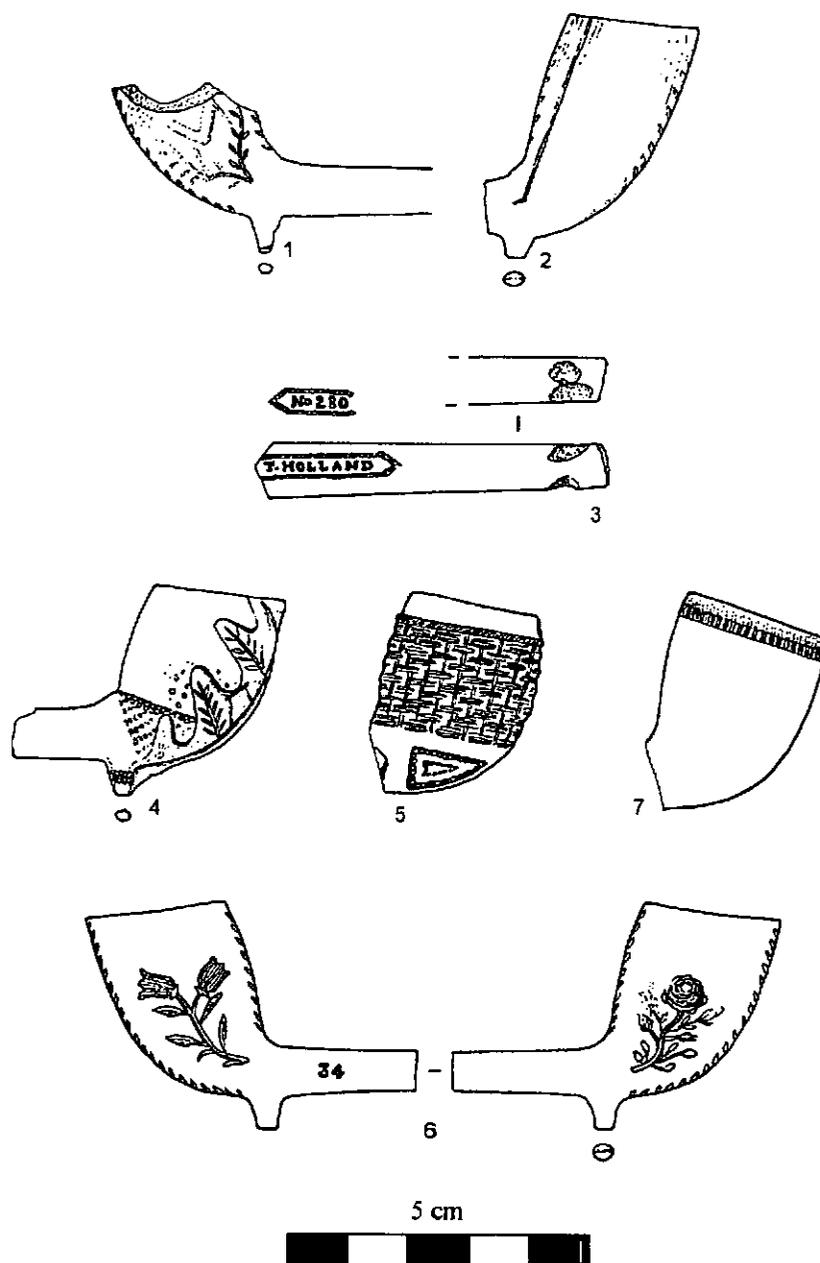


Figure 12: Clay Pipes

10. Post-Medieval Glass

All the Post-Medieval glass was recovered from Tr. XII. Fragments of post medieval green bottle glass were found in context (437), only one piece can be ascribed a date range; the bottom of a tall bottle which is of late eighteenth or nineteenth century date. Four complete vessels were found in (271); a wide mouthed bottle or jar, a small bottle oval in cross-section, an ink bottle and what may be a lid or shallow dish. All are nineteenth or possibly early twentieth century in date.

As with the Post-Medieval pottery assemblage the glass assemblage appears to represent domestic vessels. The assemblage is similar to the pottery in condition although in quantity considerably smaller. The complete vessels in (271) support the suggestion that the group is probably a primary deposit.

11. Environmental Samples Analyses

1. Summary

Thirty samples were extracted from Roman features at the site for environmental assessment to determine if plant macrofossils have been preserved in the contexts and whether each context could produce environmental or economic data.

Most of the samples' flots were dominated by charcoal. A low number of charred plant macrofossils were preserved but no waterlogged remains due to the anaerobic conditions within the contexts. Twelve samples contained either hammer scale or small fragments of ash slag, indicating that metalworking may have occurred in the vicinity of the site. Twenty-eight of the samples contain material suitable for radiocarbon dating.

Eleven of the samples produced small volumes of flot containing no charred cereal grains or seeds while four samples contained charred cereal grains which were too degraded to be identified. Wheat grains were present in the flots of samples 4, 11, 18, 25 and 29, and barley grains in samples 12 and 25. Wheat and barley were common cereal crops during the Romano-British period. The small numbers of grain preserved suggest that grain from domestic or storage waste was not dumped directly into the contexts. Samples 7, 10, 26, 31 and 32 contained charred seeds including weeds and sedge. The former environmental conditions at the site cannot be ascertained from these seeds due to the insignificant numbers preserved.

Due to the poor preservation and low numbers of plant macrofossils within all thirty samples, the material cannot produce environmental or economic data, therefore, full analysis or further evaluation is not recommended.

2. Project background

Samples were extracted from Roman features at the site for environmental assessment. Evaluation of these samples will primarily determine if waterlogged or charred plant macrofossils have been preserved in the contexts. Identification of macrofossils preserved will ascertain the potential environmental or economic data that each context could produce. Assessment of the charred material within the samples will provide an indication of the potential for radiocarbon dating.

3. Methods statement

A 5000 ml sub-sample from each of 30 samples was manually floated and sieved through a 500µm mesh. The residues were retained, weighed and all >10 mm finds extracted. The flots were dried slowly, then scanned at x40 magnification for waterlogged and charred botanical remains. Plant macrofossils were extracted and identified by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services, University of Durham. The abundance of each waterlogged species was noted and total counts of charred species were logged. The flot matrix compositions were also recorded.

4. Results

All of the samples produced small to moderate quantities of flot, most dominated by charcoal. A low number of charred plant macrofossils were present in the flots. No waterlogged remains were preserved due to the aerobic conditions experienced within the contexts. Some of the deposits were considered by the excavators to contain waterlogged material. The absence of waterlogged organic matter in all of the samples suggests that the deposits may have experienced occasional wetting and drying periods, which will have resulted in the degradation of fragile organic matter. Assessment results, including the residue contexts, flot matrix components and plant macrofossil remains are presented in Tables 11.1a to 11.1e.

Table 11.1a: Results for samples 1 to 6

Context	14	12	243	241	212
Sample	1	2	4	5	6
Volume processed (ml)	5,00 0	5,00 0	5,00 0	5,00 0	5,00 0
Volume of flot (ml)	25	30	20	15	25
Volume of flot assessed (ml)	25	30	20	15	25
Residue finds (>10mm)	-	-	-	-	-
Flot matrix (relative abundance)					
Charcoal	4	3	3	4	4
Coarse sand	1	3	2	2	2
Ash slag		1	1		
Charred remains (total counts)					
(c) <i>Triticum</i> spp grain (wheat)			1		
Waterlogged remains (relative abundance)	-	-	-	-	-

[c-cereal] Relative abundance is based on a scale from 1 (lowest) to 5 (highest).

Table 11.1b: Results for samples 7 to 12

Context	283	306	213	291	288	282
Sample	7	8	9	10	11	12
Volume processed (ml)	5,00 0	5,00 0	5,00 0	5,00 0	5,00 0	5,00 0
Volume of flot (ml)	25	30	75	30	40	30

Context	283	306	213	291	288	282
Sample	7	8	9	10	11	12
<i>Volume of flot assessed (ml)</i>	25	30	75	30	40	30
<i>Residue finds (>10mm)</i>	-	-	-	-	-	-
<i>Flot matrix (relative abundance)</i>						
Charcoal	4	3	1	3	4	3
Coal			1			
Coarse sand	1	3	4	3	1	2
Hammerscale	1					
Ash slag			1		1	1
<i>Charred remains (total counts)</i>						
(c) <i>Hordeum</i> spp grain (barley)						1
(c) <i>Triticum</i> spp grain (wheat)					1	
(c) <i>Cerealia</i> indeterminate	1					
(r) <i>Rumex acetosa</i> (sorrel)	1					
(w) <i>Carex</i> spp (sedge)	1					
(x) <i>Polygonum persicaria</i> (redshank)				1		
<i>Waterlogged remains (relative abundance)</i>	-	-	-	-	-	-

[c-cereal, r-ruderal, w-wetland, x-wide niche]

Relative abundance is based on a scale from 1 (lowest) to 5 (highest).

Table 11.1c: Results for samples 13 to 18

Context	346	289	289	351	352	353
Sample	13	14	15	16	17	18
<i>Volume processed (ml)</i>	5,000	5,000	5,000	5,000	5,000	5,000
<i>Volume of flot (ml)</i>	25	1000	100	25	60	75
<i>Volume of flot assessed (ml)</i>	25	150	100	25	60	75
<i>Residue finds (>10mm)</i>						
Clinker		✓				

Context	346	289	289	351	352	353
Sample	13	14	15	16	17	18
<i>Flot matrix</i> (relative abundance)						
Charcoal	3	5	4	3	4	5
Coarse sand	3	1	2	3	2	1
Hammerscale				1		
Ash slag		1			1	
Silt/clay	1					
<i>Charred remains</i> (total counts)						
(c) <i>Triticum</i> spp grain (wheat)						1
(c) Cerealia indeterminate			2	3		
<i>Waterlogged remains</i> (relative abundance)	-	-	-	-	-	-

[c-cereal] Relative abundance is based on a scale from 1 (lowest) to 5 (highest).

Table 11.1d: Results for samples 19 to 24

Context	348	326	325	328	318	281
Sample	19	20	21	22	23	25
<i>Volume processed</i> (ml)	5,00 0	5,00 0	5,00 0	5,00 0	5,00 0	5,00 0
<i>Volume of flot</i> (ml)	25	100	125	15	25	25
<i>Volume of flot assessed</i> (ml)	25	100	125	15	25	25
<i>Residue finds</i> (>10mm)						
Iron					✓	
Flint	✓					
Pot					✓	
Slag		✓	✓			
<i>Flot matrix</i> (relative abundance)						
Charcoal	4	5	4	4	3	3
Coarse sand	2	1	2	2	3	3
Hammerscale		1	1			

Context	348	326	325	328	318	281
Sample	19	20	21	22	23	25
Ash slag		1				
<i>Charred remains</i> (total counts)						
(c) <i>Hordeum</i> spp grain (barley)						1
(c) <i>Triticum</i> spp grain (wheat)						1
(c) Cerealia indeterminate	1					1
(g) Legume (<4mm)		2				
<i>Waterlogged remains</i> (relative abundance)	-	-	-	-	-	-

[c-cereal, g-grassland]

Relative abundance is based on a scale from 1 (lowest) to 5 (highest).

Table 11.1e: Results for samples 25 to 30

Context	372	354	289	353	399	408	409
Sample	26	27	28	29	30	31	32
<i>Volume processed (ml)</i>	5,000	5,000	5,000	5,000	5,000	5,000	5,000
<i>Volume of flot (ml)</i>	40	30	100	75	30	10	20
<i>Volume of flot assessed (ml)</i>	40	30	100	75	30	10	20
<i>Residue finds (>10mm)</i>	-	-	-	-	-	-	-
<i>Flot matrix</i> (relative abundance)							
Charcoal	2	3	4	4	3	3	1
Coarse sand	4	2	1	1	3	3	4
Hammerscale			1				
Ash slag		1	1	1			
<i>Charred remains</i> (total counts)							
(c) <i>Hordeum</i> spp grain (barley)							
(c) <i>Triticum</i> spp grain (wheat)				1			
(c) Cerealia indeterminate	1		2				

Context	372	354	289	353	399	408	409
Sample	26	27	28	29	30	31	32
(a) <i>Chenopodium album</i> (orache)	1						
(w) <i>Carex</i> spp (sedge)							1
(x) <i>Plantago</i> spp (plantain)						2	
<i>Waterlogged remains</i> (relative abundance)	-	-	-	-	-	-	-

[a-arable weed, c-cereal, w-wetland, x-wide niche]

Relative abundance is based on a scale from 1 (lowest) to 5 (highest).

5. Discussion

Eleven of the samples (2, 5, 6, 8, 9, 13, 17, 22, 23, 27, 30) produced small volumes of flot containing relatively low quantities of charcoal and no charred cereal grains or seeds. The small proportions of charcoal indicate that waste from the burning of fuel or structures, was not placed directly into these contexts. The absence of seeds and grain in these samples suggests that the contexts were not near to areas of grain storage or processing and were not subjected to the input of domestic waste.

Low volumes of charcoal were present in the flots of samples 15, 16, 19, 28 and 32. These flots also contained charred cereal grains which were too degraded to enable identification. Poor plant macrofossil preservation could be interpreted as the consequence of the grain being residual. Moreover, it may be that conditions prior to, during or following burial were not suitable for plant macrofossil preservation due to processing such as trampling and ground compaction.

Wheat grains (*Triticum* spp) were present in the flots of samples 4, 11, 18, 25 and 29, while barley grains (*Hordeum vulgare*) were preserved in the flots of samples 12 and 25. Wheat and barley were commonly cultivated cereal crops during the Romano-British period (Huntley & Stallibrass 1995). Wheat grain cannot be identified to species level due to the similarity between spelt wheat and breadwheat grains. The chaff from wheat has diagnostic features which allow identification to species level, however, no chaff was preserved within the Liverpool Road samples. The absence of chaff may result from taphonomic processes, but may also indicate that cereal processing did not taken pace within the vicinity of the site. Only small numbers of grain were preserved in the aforementioned samples. Such quantities suggest that grain from domestic or storage waste was not dumped directly into the contexts.

Samples 7, 10, 26, 31 and 32 contained charred seeds including weed seeds and sedge, the latter found in damp or waterlogged environments. The charring of these seeds may have been inadvertent through the burning of ditches for cleansing, through proximity to fires or through extraction with cereal crops during harvesting. The habitat niches of the species present will reflect the former characteristics of the landscape. However, assessment of the environmental conditions at the site cannot be undertaken due to the insignificant numbers of seeds preserved.

Twelve of the samples' flots and residues contained either hammerscale or small fragments of ash slag. These low quantities of industrial waste products indicate that metalworking may not have occurred at the site as such activities produce large quantities of slag, but may have existed in the vicinity of the site. Previous evidence for extensive Romano-British industrial activity has been found in the Deansgate area

of Manchester (Jones & Wild 1972). Such activity would have produced large quantities of industrial waste, which will have been distributed around the area.

Due to the silty properties of Context 408, Sample 31, the material was interpreted on-site as being a flood deposit. No waterlogged seeds were present in the sample, potentially due to aerobic conditions. Moreover, no debris, such as vegetative matter or finds, which could have been washed into the context during a flood event, were found in Sample 31. Environmental assessment of Sample 31, therefore, cannot further verify the provenance of the material or validate the on-site interpretation.

Both charred plant macrofossils and charcoal in the samples' flots were assessed for the suitability for radiocarbon dating. All charred cereal grain and seeds are suitable for radiocarbon dating, as are charred twigs due to their short longevity. Those samples containing charred botanical remains suitable for dating (AMS) are detailed in the site archive.

6. Conclusions

Assessment of thirty samples extracted from Roman features at the Liverpool Road site, Manchester, has determined the presence of charcoal in all of the flots. Twenty-eight of the samples contain material suitable for radiocarbon (AMS) dating. Charred wheat and barley grain and other seeds have been preserved in some samples, however, the poor preservation and low numbers of plant macrofossils limits the extent to which the material can produce environmental or economic data. Full analysis or further evaluation is not recommended for any samples.

12. Notes On Prehistoric Artefacts

A very small assemblage of artefacts relating to prehistoric periods were recovered from the excavation. Although these artefacts were recovered from secondary deposits their importance is of some significance as they tentatively reveal the first insights into earlier periods of occupation so far little understood in Castlefield.

These artefacts were:

1. One probable and one possible Mesolithic flint. The probable flint initially appears to be a micro burin. The flint fragments would appear to suggest late Mesolithic occupation in the landscape.
2. One flint flake which may date to either the Neolithic or the Bronze Age.
3. One sherd of Late Bronze Age or Iron Age pottery. It is highly likely that this body sherd of pottery dates to the Iron Age although there is the possibility that it represents an earlier tradition of pottery manufacture.

Appendix 2: Figures 13 To 19

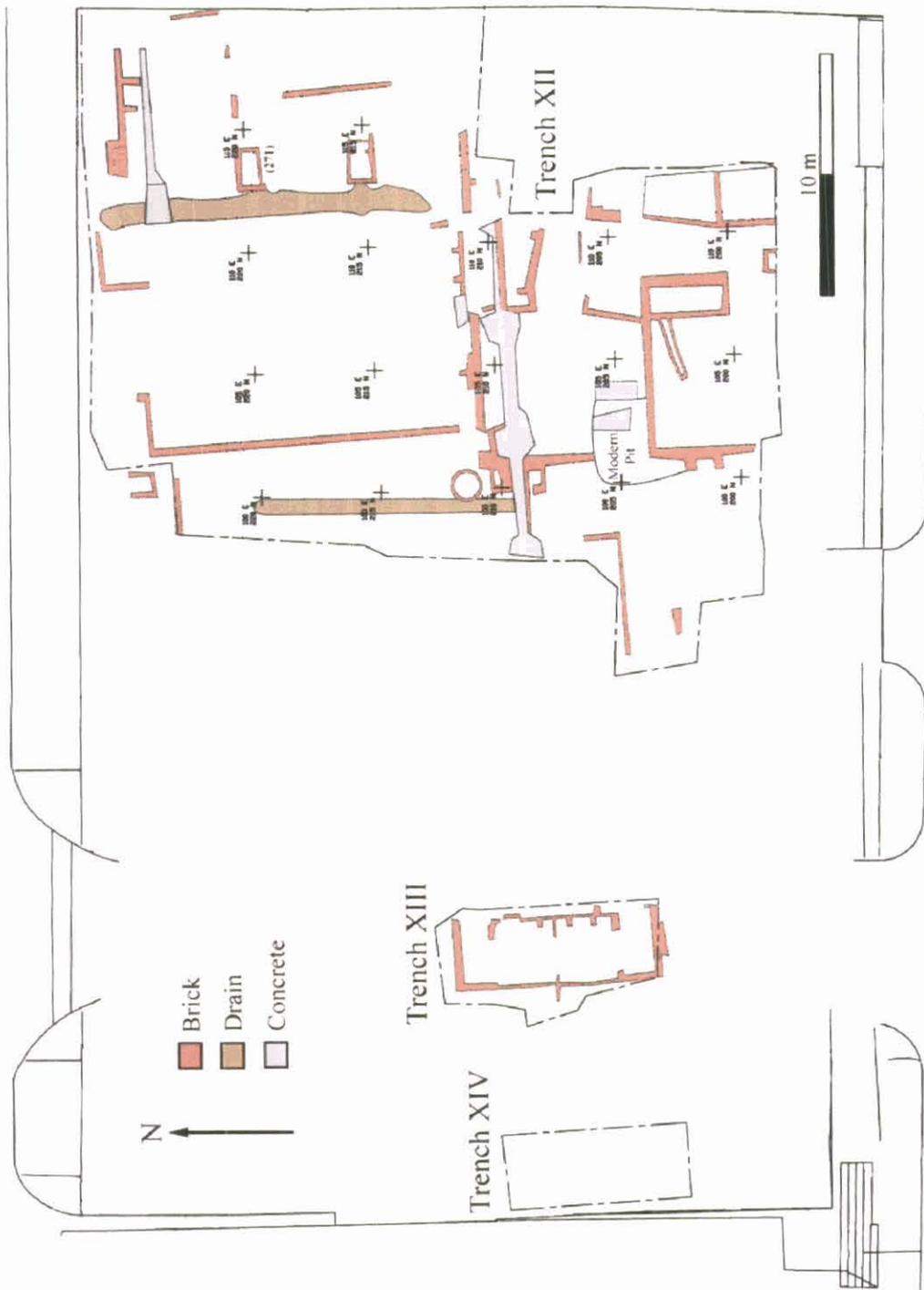


Figure 13: Trench location plan showing 19th and 20th century deposits.

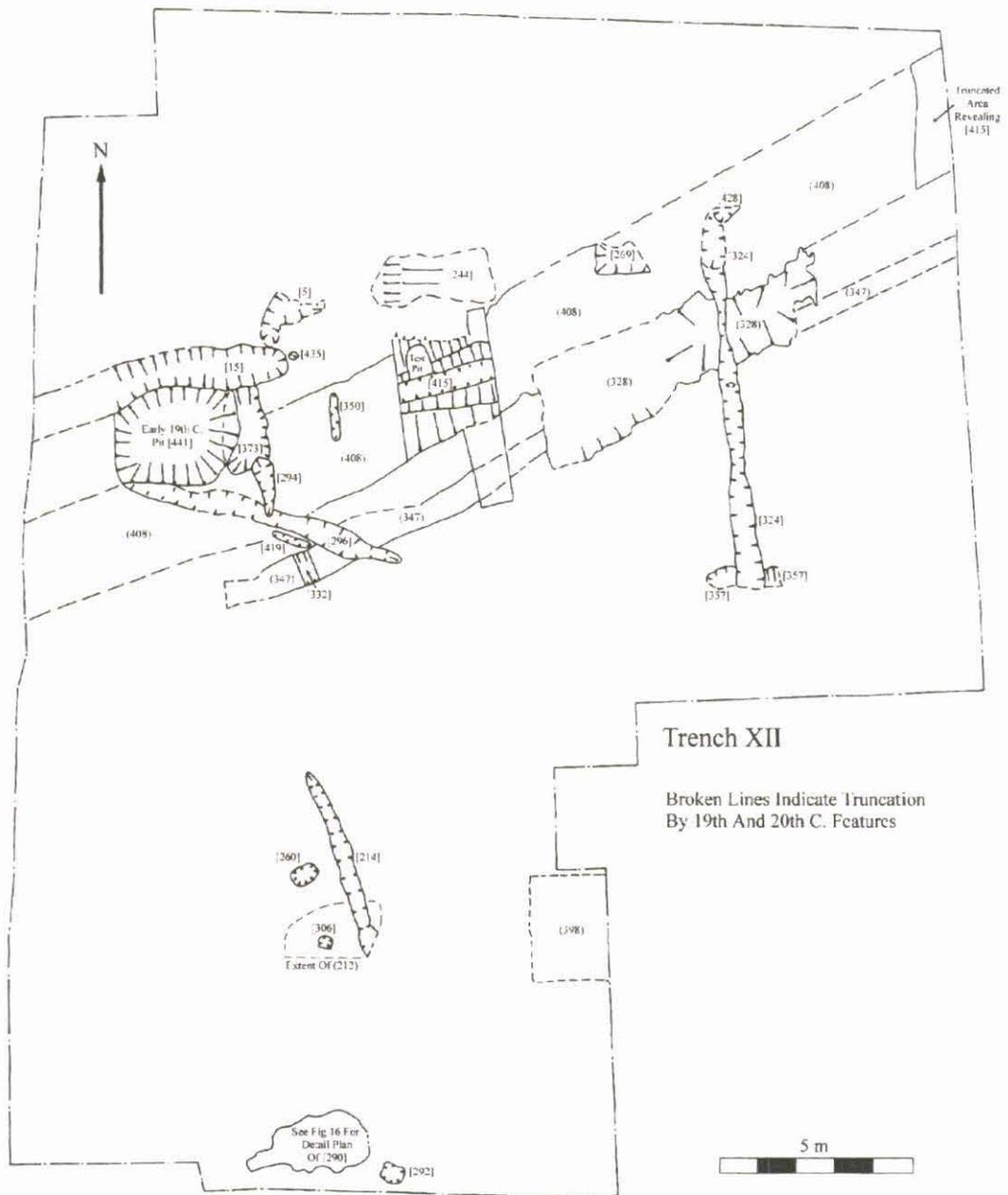


Figure 14: Plan Of Roman Features In Trench XII.



Figure 15: Phase Plan Of Roman Features In Trench XII.

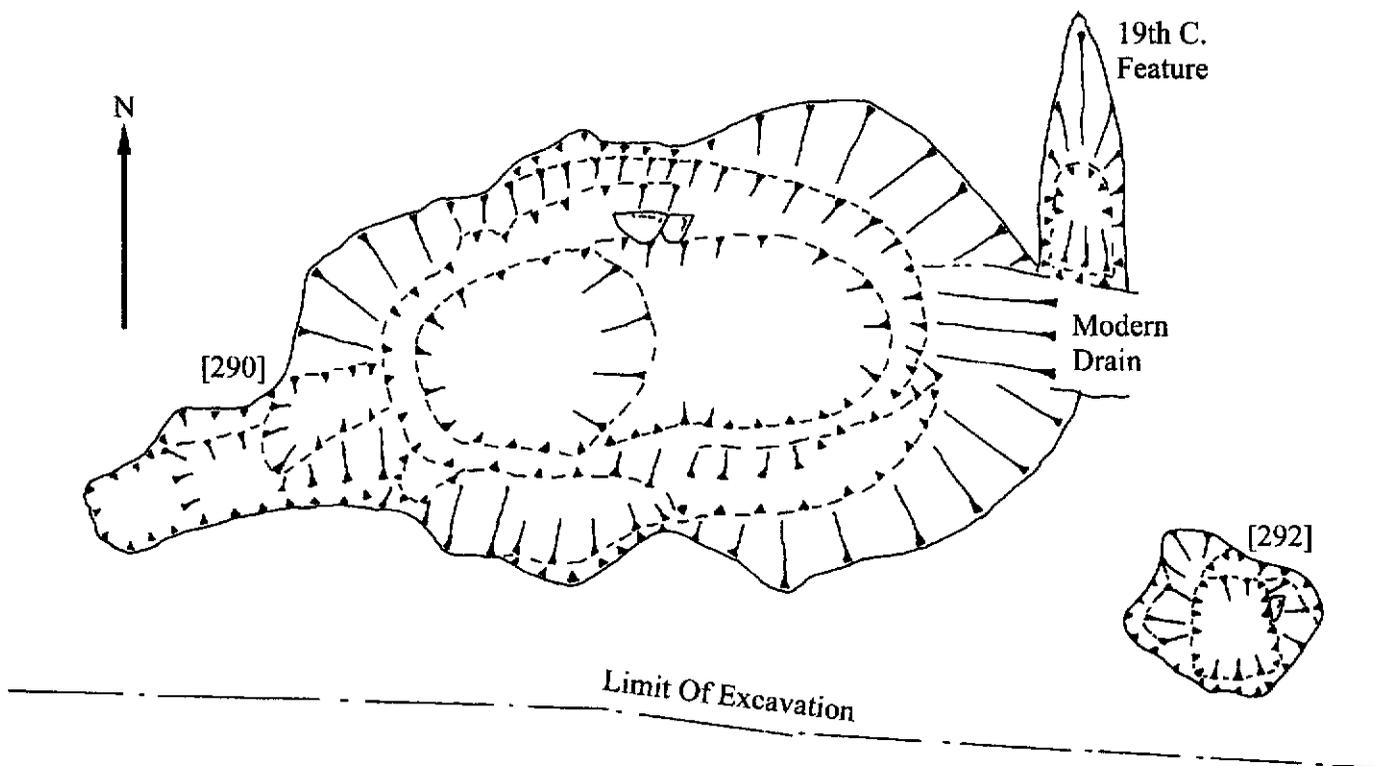


Figure 16: Detail Plan Of [290].

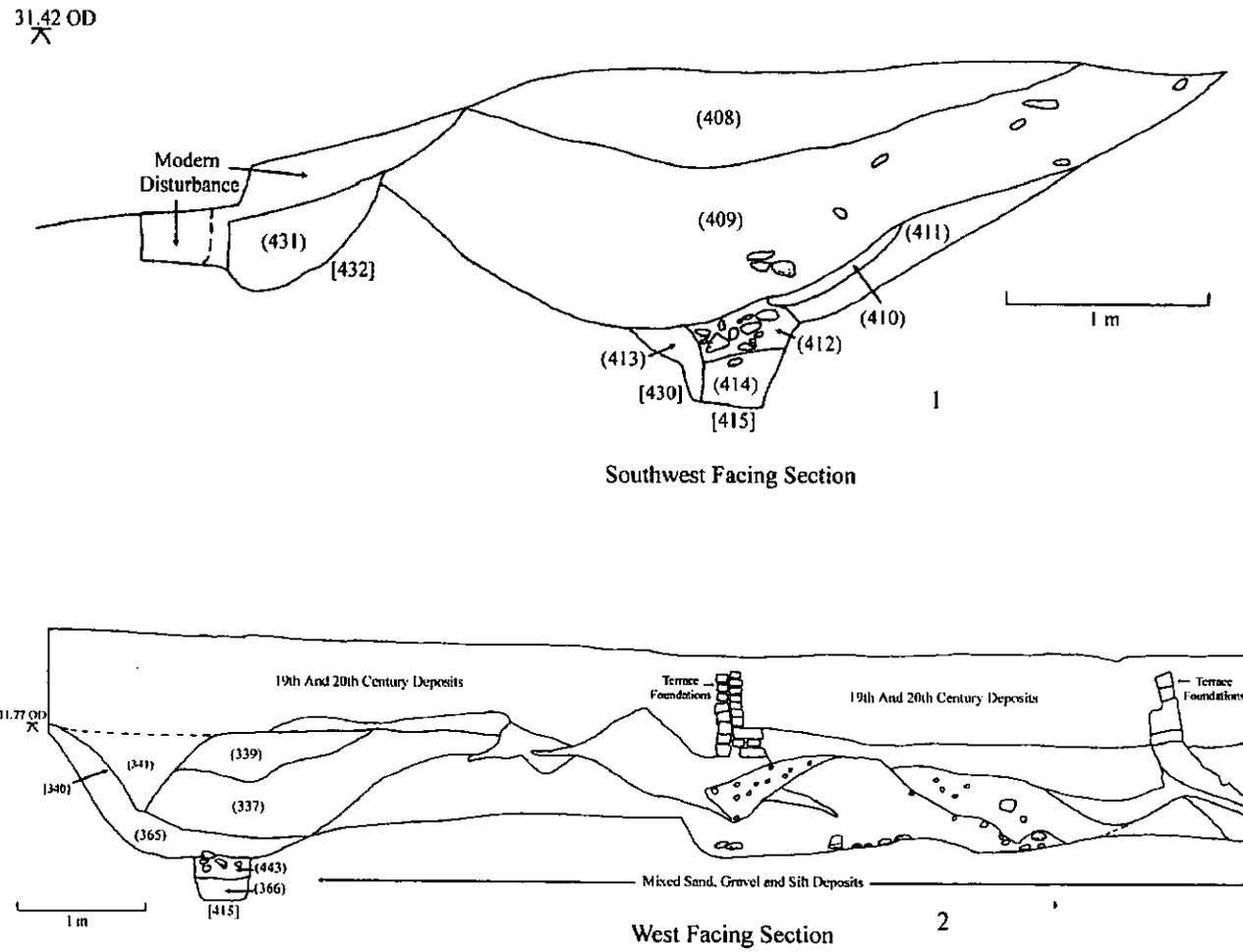


Figure 17: Sections Through Phase 1 Ditch [415].

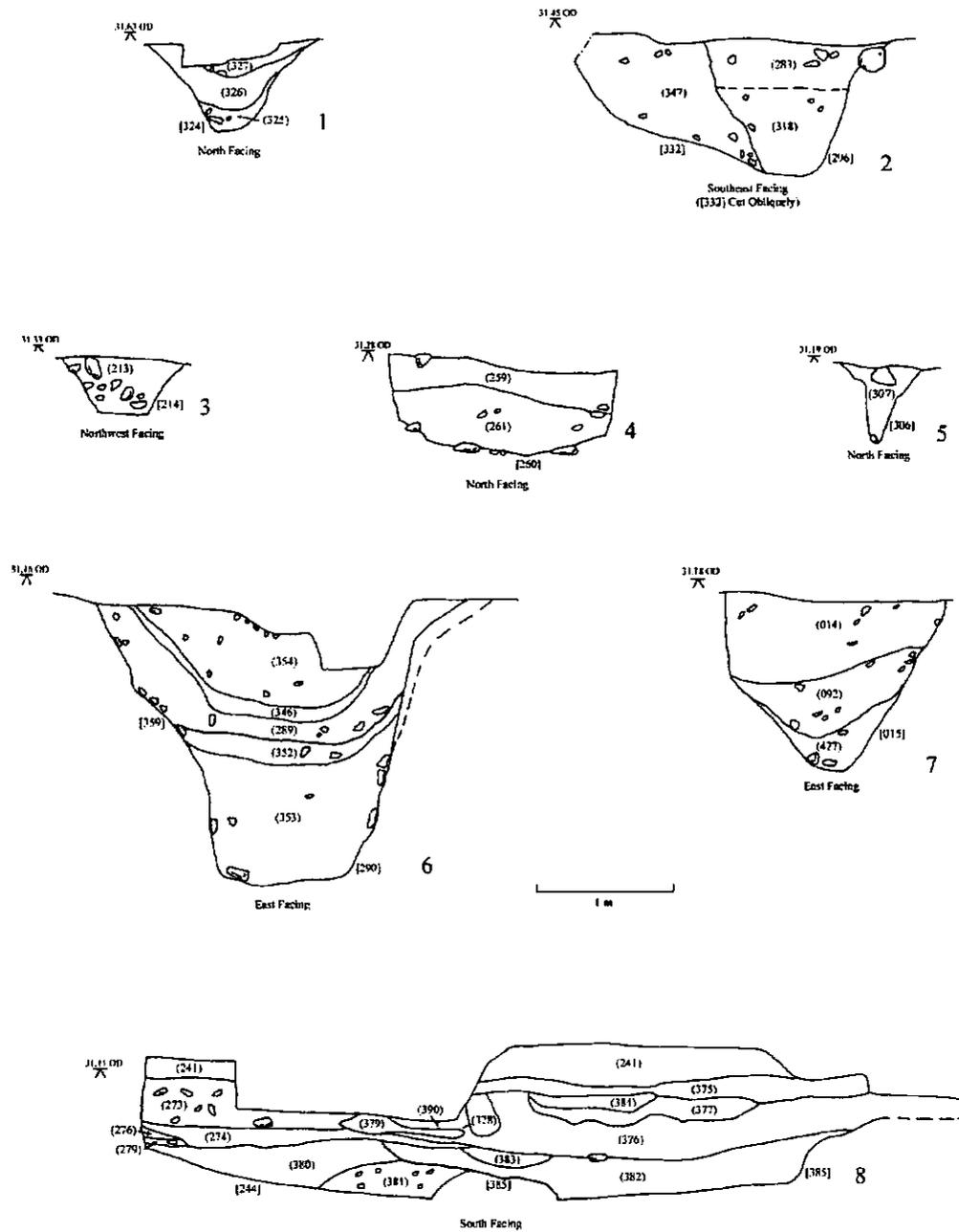


Figure 18: Sections Of Phase 2, Phase 3 and Unphased Features.

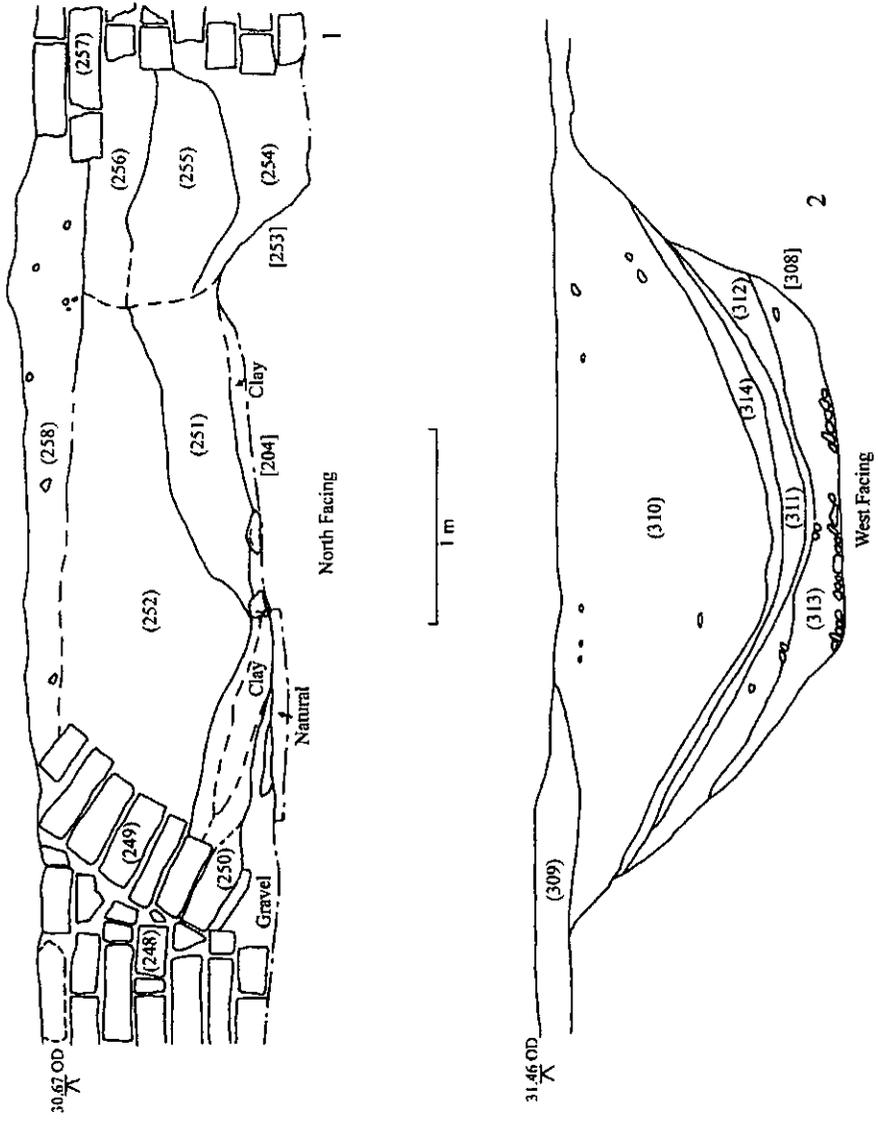


Figure 19: Sections Of Late Post-Medieval Features.

Appendix 3: Plates



Plate 1: Detail Of Northeast Portion Of Trench XII.



Plate 2: Detail Of Northwest Portion Of Trench XII.



Plate 3: Detail Of Southern Portion Of Trench XII.



Plate 4: Detail Of [290].



Obverse



Reverse

Plate 5: 1855 Gold Sovereign (22 mm diameter)

Appendix 4: Excavation Project Design

Summary

1. Introduction

2. The Setting

3. Phase 1: Evaluation

4. Aims and Objectives

5. Methodology

6. The Report

7. The Archive

8. Proposed project Personnel

9. Timetable

10. Terms and Conditions

Summary

The University of Manchester Archaeological Unit (UMAU) had been invited by Citex Bucknall Austin to carry out an archaeological evaluation of land at 73/83 Liverpool Road, Manchester, prior to proposed residential development of the site. This archaeological evaluation was carried out from 5 February - 16 February 2001.

During the Phase 1 Archaeological Evaluation programme of works UMAU revealed the preservation of pre-19th century archaeological deposits, specifically of a Roman date, within the proposed development site 73/83 Liverpool Road. The Phase 1 programme of works has satisfied Norman Redhead, Assistant County Archaeologist, Greater Manchester Archaeological Unit (GMAU) that the state of preservation within the development site warrant a further phase of works: Phase 2, Archaeological Excavation.

The Assistant County Archaeologist requires a Project Design for the Phase 2 programme of works from UMAU to satisfy the archaeological brief. Specifications have been drawn up for an archaeological excavation of the development area designated as the proposed site of residential development with basement car parking facilities. The programme of work would seek to reveal all of the pre-19th archaeological deposits, excavate these remains and fully understand the archaeological record preserved on site.

The Phase 1 Archaeological Evaluation revealed Roman deposits which consisted of a ditch 0.7 m deep by 0.5 m wide from which Roman pottery had been recovered, a small pit which may be a post hole, a probable clay floor of a building from under which Roman pottery was retrieved and a number of probable deposits which had not been investigated as agreed with Assistant County Archaeologist. These Roman deposits probably relate to the civilian settlement, vicus, that surrounded the Roman fort. Post-Roman deposits consisted of possible agricultural soils and possible ridge and furrow.

The 19th century deposits consisted of a the probable backfill of an early to mid 19th century gravel quarry and the development of the 19th century terraced housing and infrastructure of the parcel of land under investigation.

1. Introduction

- 1.1 The University of Manchester Archaeological Unit (UMAU) had been invited by Citex Bucknall Austin on behalf of Gleeson Homes City Living, to carry out an archaeological evaluation of 73/83 Liverpool Road, Castlefield, Manchester prior to proposed residential development. This archaeological evaluation was carried out from 5 February - 16 February 2001.
- 1.2 Through the Phase 1 Archaeological Evaluation programme of works UMAU revealed the preservation of pre-19th century archaeological deposits, specifically of a Roman date, within the proposed development site 73/83 Liverpool Road.
- 1.3 The Phase 1 programme of works has satisfied Norman Redhead, Assistant County Archaeologist, Greater Manchester Archaeological Unit (GMAU) that pre-19th century archaeological deposits survive within the development area. Due to the states of preservation within the development site the Assistant County Archaeologist has recommended a further phase of works: Phase 2, Archaeological Excavation.
- 1.4 This Project Design for the Phase 2 programme of works from UMAU has been requested by the Assistant County Archaeologist to satisfy the archaeological conditions. The specifications for Phase 2 have been drawn up for an archaeological excavation of the development area that will fully satisfy the planning conditions.
- 1.5 The programme of work would machine and hand excavate those areas containing archaeological and potential archaeological remains. This would reveal all of the pre-19th archaeological deposits, excavate these remains and allow for a full understanding of the archaeological record preserved on site. This will allow for site development without loss to the archaeological record, especially that pertaining to the civilian settlement that surrounded the Roman fort.

2. *The Setting*

- 2.1 The site lies within the Castlefield Urban Heritage Park, to the south-west of central Manchester, bounded by Liverpool Road to the north and Rice Street the south, centred at grid reference SJ 8317 9777.
- 2.2 The development area identified for the excavation consists of 20th century overburden, 19th century demolition rubble, concrete slab and macadam surfaces. No buildings and structures remain on site.
- 2.3 The natural drift geology of the area is glacial sands and gravels in association with boulder clay. These overlie Bunter Sandstone, which outcrops slightly to the south on the sweep of a bend in the River Medlock.

3. Phase 1: Evaluation

3.1 Week 1: 5 - 9 February

- 3.1.1 Ten trenches were excavated during week 1 (Figure 2). Deviation from the agreed project design (Figure 1) was caused due to the discovery of a storm drain along the length of the remains of Ball Street as well as possible live water stop tap situated where the eastern end of Trench 8 (previously Trench 6) was to be located. The discovery of the storm drain required Trenches 3 and 4 to be foreshortened and what was to be Trench 5 was initially to be divided in two. Due to the cellarage of The Duke of Bridgewater Arms public house Trench 5 was subsequently segmented into 3 separate trenches numbered Trenches 5, 6 and 7. The area released by the truncation of these trenches was allocated to the excavation of Trenches 9 and 10.
- 3.1.2 Trenches 1, 3, 4 and 10 revealed substantial cellarage to a depth of 1.5 m and after rapid recording and surveying were immediately backfilled. Although Trenches 5 and 7 also revealed cellars they were left open for further investigation. Trench 5 for a photographic record of the flagstone floor of the basement of the Duke of Bridgewater Arms public house and Trench 7 to further investigate a possible yard of a house that fronted onto Castle Street.
- 3.1.3 Trenches 2, 6, 8 and 9 were excavated to depths between 0.3 m and 0.5 m which revealed archaeological deposits that warranted further archaeological investigation. These trenches revealed that potential Roman archaeological deposits existed along the length of Woods Place, underneath the houses that were situated directly to the east of Woods Place as well as in the yards, buildings and alley way behind and to the south of these houses. This implied that there was a high potential for earlier *in-situ* archaeology below any building that was not cellared.
- 3.1.4 Potential for Roman Archaeology was revealed as greyish brown silty sand deposits containing frequent charcoal inclusions which had produced a fragment of daub (building material), an area of compact grey clays from under which a sherd of Samian Ware had been recovered, various fragments of what appeared to be Roman tile and one sherd grey ware recovered from the top of a sand deposit. All of this may relate to the vicus (civilian settlement) that surrounded the fort.
- 3.1.5 The potential Roman archaeology was overlain with a compact dark brown deposit with frequent pebble inclusions which appeared to represent a later agricultural soil, possibly ridge and furrow. Although this layer may be Saxon in origin if it was ridge and furrow it would date to the Medieval or early Post Medieval periods. There also appeared to be the potential for post-Roman/Saxon deposits within the trenches.

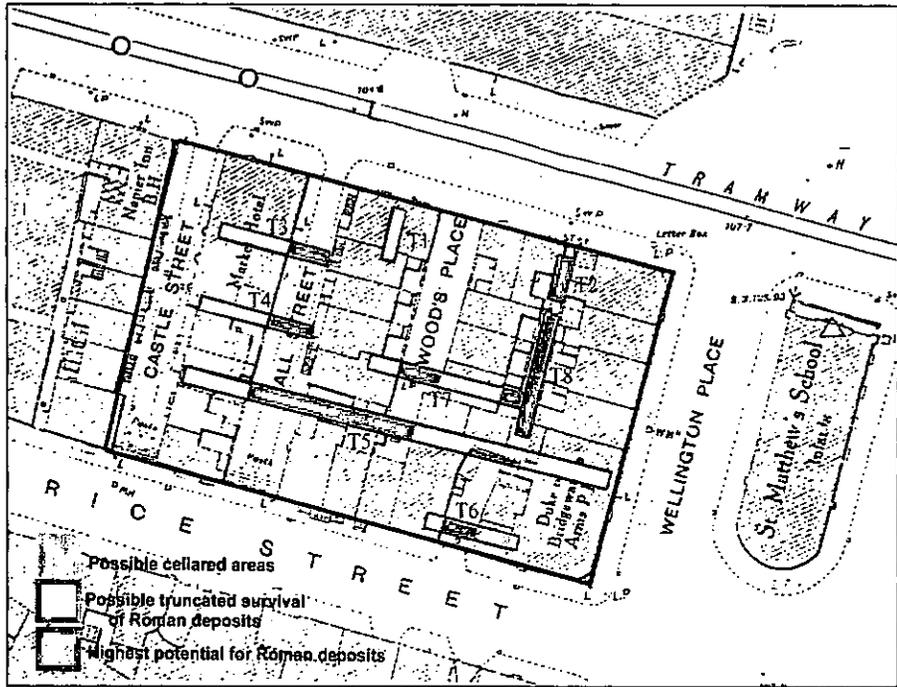


Figure 1: Original trench layout for Phase 1.

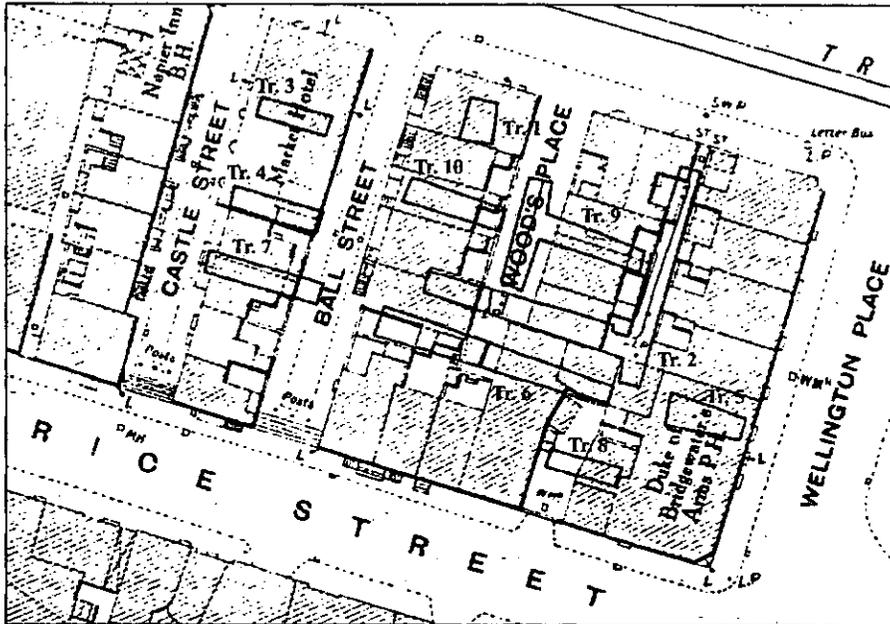


Figure 2: Final trench layout for Phase 1.

3.1.6 The Industrial Period archaeology consisted of the remains of the 19th century terraced housing which were surveyed in using a total station EDM and a well preserved cobbled yard surface for the former Duke of Bridgewater's Arms. It was anticipated that Roman deposits will exist under this.

3.2 Week 2: 12 - 16 February

3.2.1 Several potential Roman features/deposits had been examined to determine their date and character. Of the two features further investigated in Trench 9 the first was the truncated remains of a small pit, possibly the remains of a posthole and the second was revealed to be the substantial remains of a ditch measuring 0.7 m deep by 0.5 m wide. The section excavated through this ditch had retrieved two sherds of Romano-British pottery, two small ferrous objects, fragments of burnt bone and large fragments of charcoal. Environmental samples and C14 samples were taken from the fills of this ditch. One possible Mesolithic flint was also recovered from the fill of this ditch.

3.2.2 Although badly disturbed by a 19th century drain and other 19th century activity, excavation and further investigation in Trench 2 revealed that the compact grey clays were more substantial than originally expected measuring approximately 3 m north - south. The compact grey clays sealed a dark brown sand deposit, which contained the sherd of Samian Ware identified in week 1. The clay deposit and the sand deposit both appeared to sit in a cut excavated into the surrounding lighter yellowish brown gravelly sands which suggested that the whole feature was man made. Initial interpretation of this feature suggests that it is an interior clay floor for a building. Possibly a vicus building as other similar examples have been revealed around the Roman fort. Environmental samples were taken from the clay deposit.

3.2.3 A test pit excavation through sand deposits in the eastern extents of Trench 9, carried out during the afternoon of February 16th, revealed a possible clay filled archaeological feature approximately 0.2 m below the present trench surface. However, due to the nature of the deposit and its limited extents, as revealed in the test pit, further identification of the feature could not be made. Therefore the deposit could be archaeological in origin or it is possible that it is a peri-glacial feature.

3.2.4 Further greyish brown deposits with frequent charcoal flecks were identified in Trenches 2, 6 and 8. Although these were not investigated further their similarity to those features investigated in Trench 9 would suggest that these features would also be Roman in origin.

3.2.5 All other archaeological deposits further investigated during Week 2 were of a 19th or 20th century origin. This included, amongst others, a pit of unknown use created during the 1970's and two drains in Trench 2. The drains in the western arm of Trench 2, which would have run along the length of Woods Place, was cut into an earlier 19th century deposit as was the walls of the terraced houses either side of this street and a possible brick lined well. This earlier deposit of material is probably 19th century backfill of small gravel quarry. The quarry was probably backfilled prior to the construction on the site.

- 3.2.6 The Cobbled surface in Trench 8 was planned at a scale of 1:20, removed and the deposits below it were subsequently excavated. The deposits below the cobbled surface were excavated to a depth of 1.20 m below the top of the trench and revealed a sequence of compact to loose 19th century layers. These layers probably represent raising of the ground for the creation of a the cobbled yard. A comparison between the present road level on Rice Street and the top of Trench 8 reveals a rise of 0.4 m.
- 3.2.7 Although no work was done in Trenches 5 and 7 during the evaluation phase of the programme of works both trenches revealed the potential for *in-situ* pre-19th century archaeological remains.
- 3.2.8 To the north of Trench 5, within a cutting excavated by the contractor, deposits of a greyish brown silty sand were revealed which are consistent with those dating to a Roman period. This suggests that there are *in-situ* Roman deposits in this area.
- 3.2.9 The western and eastern extents of Trench 7 also revealed potential pre-19th century archaeological deposits. The western extent of the trench revealed a compact dark brown deposit with frequent pebble inclusions very similar to those deposits revealed in the trenches in the east of the evaluation area under which in-situ Roman archaeology had been revealed. This suggests that there is a high level of potential for the survival of pre-19th century deposits below the remains of Castle Street. The eastern extents of the trench revealed the back yard area for a terraced house which revealed lower levels of 19th century disturbance. This suggests that there is the potential for pre19th century archaeological deposits surviving within the yard areas abutting the remains of Ball Street.

4. Aims and Objectives

- 4.1 The archaeological excavation will excavate and fully record all archaeological features to recover a full archaeological record relating to the spatial and temporal development of the proposed development site. The excavation will identify, date, interpret the nature of all archaeological features and deposits within the areas identified as containing surviving and potential pre-19th century archaeological remains (figure 3).
- 4.2 The intended programme of works will negate any potential loss to the archaeological record that would have occurred during the proposed residential development.
- 4.3 Work will specifically target the surviving Roman archaeology placing it within the archaeological and historical context of Roman Manchester. The archaeological excavation will also record the presence, character and extent of all other archaeological deposits as the evaluation has revealed the possibility for prehistoric, Saxon and Medieval activity. The 19th century residential development of the site as evidenced on Banck's Map of 1831, and subsequent land use to the present day will also be addressed.
- 4.3 The excavation will be followed by the preparation of a site archive and an excavation report including, if implemented, all specialist reports. The requirement for specialist reports, especially for the Roman artefacts and palaeo-environmental remains, would allow for a greater understanding of the material culture of the periods under analyses as well as the environmental changes they influenced. Thus, all the available archaeological and historical information would allow for a holistic interpretation of the archaeological record.

5. Methodology

5.1 Timetable for Phase 2: Open Area Excavation

5.1.1 Following discussions with Norman Redhead, Assistant County Archaeologist, it is anticipated that there remains a strong probability that the Phase 2 programme of works will take 8 weeks to complete. However, due to the nature of any archaeological excavation it is impossible to precisely quantify the extant archaeological remains. Therefore, the timetable for the Phase 2 programme of works will be separated into 3 stages of work over an 8 week period. Weekly on site meetings with all the concerned parties will be augmented with a review of the programme of works at the end of the penultimate week of each stage.

5.2 Stage 1, Initial Open Area Excavation, Weeks 1 - 4

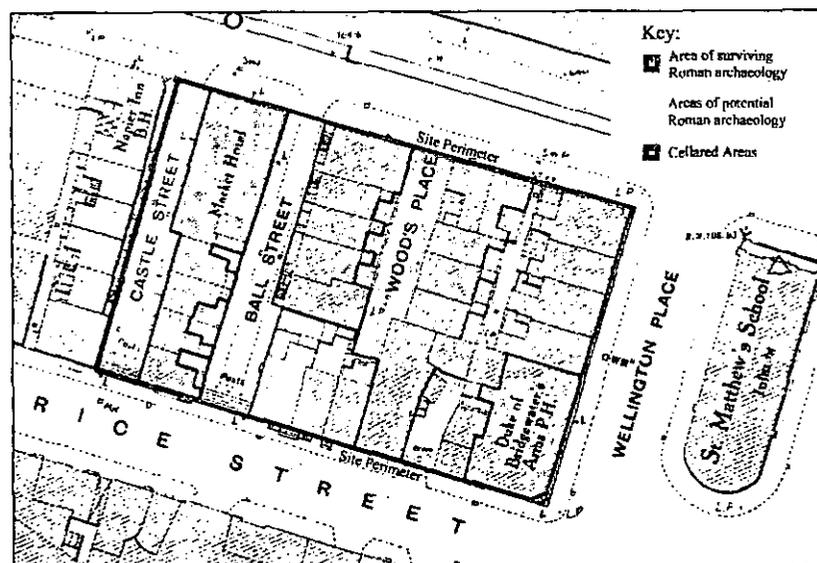


Figure 3: Areas of surviving archaeology as revealed during the evaluation (based on OS Sheet 104 (1909), 10ft to 1 mile). Crown Copyright reserved.

5.2.1 Areas denoted as having surviving Roman archaeology (green) and potential for Roman Archaeology (yellow) (Figure 2) will be stripped of 20th century overburden and 19th century demolition rubble down to a depth of approximately 0.3 - 0.5 m using a 360° caterpillar tracked machine excavator equipped with a toothless ditching bucket. The evaluation stage of this programme of work has revealed that machine stripping to this depth will uncover the upper deposits of the pre-Industrial Age archaeology. Any facets of the area of potential for Roman Archaeology that reveal cellaring or high levels of disturbance during machine stripping shall be rapidly recorded (see 5.2.2) and would require no further archaeological work in agreement with

the Assistant County Archaeologist. The machine stripping shall be monitored by a professional archaeologist at all times. It is expected that machine stripping shall take 5 days.

- 5.2.2 During machine stripping any post-18th century structures and features shall be surveyed using a total station EDM, photographed where necessary and augmented with measured as well as annotated sketch plans. This will allow for rapid recording of these features.
- 5.2.3 Spoil from the machine stripping shall be deposited on the cellared areas (Figure 3) as well as on the remains of Ball Street, where it is expected that the existing storm drain will have destroyed any archaeological remains. It is regarded that on site spoil deposits will not allow for any parallel works to be carried out during excavation and may hamper the excavation of the areas of surviving archaeology and archaeological potential. Although, initial investigations within the remains of Castle Street and the yards abutting Ball Street would probably allow for a relatively flexible spoil management regime and increased spoiling area.
- 5.2.4 Site Cabins will be situated upon the remains of the row of terraced houses between Ball Street and Woods Place. Thus, the cabins will not be situated above any potentially early archaeological remains.
- 5.2.5 After the first significant archaeological horizons have been revealed by machine stripping all excavation will progress by hand except in areas where an agreement has been reached with the Assistant County Archaeologist. This method will enable a stratigraphic profile of the archaeological deposits to be recorded and the identification and mapping of the areas of pre 19th century archaeology.
- 5.2.6 Excavation by hand will be carried out to UMAU and best professional standards. The open area excavation will be sub-divided into a grided system that could be tied into the OS grid. All pre-19th century features will be cleaned by hand. At least 50% by volume of targeted pit and post holes will be excavated as well as at least 10% by volume of all ditches, which may be modified in agreement with the Assistant County Archaeologist. Full excavation of ditches, within reason, will be feasible during the timescale.
- 5.2.7 At least one long section will be drawn on completion of the open area excavation, including an extrapolation of the natural deposits if the trench has not been fully excavated along its full length down to the natural deposits.
- 5.2.8 Excavation will be undertaken in spits of 100mm depth. Significant "small finds" would be located within three dimensions to the nearest 10mm and bagged and labelled separately. They will be numbered and a simple description made so that they can be identified within the assemblage. All artifacts will be retained/stabilised for summary analysis and subsequent deposition or disposal.

- 5.2.9 Separate contexts would be recorded individually on the UMAU context sheets. Plans and sections would be recorded on UMAU pro forma drawing sheets at an appropriate scale, 1:20, 1:50, or 1:10, depending on the complexity of the data and features encountered. All drawings will be individually identified and cross referenced, contexts enumerated and principal layers and features annotated with OD level information.
- 5.2.10 Photography of all relevant phases and features would be undertaken in both monochrome and colour medium formats, print/slide. General working photographs will be taken during the duration of the project, to provide illustrative material covering the wider aspects of the archaeological work undertaken.
- 5.2.11 All finds work will be carried out in accordance with the IFA Guidelines for Finds Work. All identified finds and artifacts will be retained. A discard policy will be discussed and agreed between the Assistant County Archaeologist and UMAU following the start of the site work.
- 5.2.12 All finds will be recorded by trench, area and context.
- 5.2.13 Pottery will be recorded on site by common name terms and date if known. If pottery cannot be identified a brief description will be given and comparisons made to known dated material in an attempt to put it into a chronological and regional context.
- 5.2.14 All finds will be quantified. The method employed will be at least a fragment count and weight by material and context.
- 5.2.15 All artifactual remains from significant archaeological deposits will be collected by hand.
- 5.2.16 All finds will be labelled with their stratigraphic provenance.
- 5.2.17 All finds will be submitted for expert analysis as part of the post excavation phase.
- 5.2.18 All finds will be appropriately cleaned, marked and packaged in accordance with UKIC Archaeology Guidelines and First Aid for Finds ed. 2. Guidelines established in the Museums and Galleries Commissions "Standards in the Museum Care of Archaeological Collections (1991)" will also be followed.
- 5.2.19 Where appropriate soil samples will be retained for later palaeo-environmental analysis. Environmental bulk samples will be of a minimum of 30 litres where appropriate or a 100% sample will be taken if the volume of the deposit under investigation is less than 30 litres. A provision for Carbon 14 sampling will also be addressed in agreement with the Assistant County Archaeologist

- 5.2.20 All health and safety requirements will be upheld. Site procedures shall be in accordance with the guidelines set out in the Health and Safety Manual of the Standing Conference of Unit Managers. All trenches will be fenced and identified with hazard tape where necessary.
- 5.2.21 The IFA code of conduct will be applied at all times.
- 5.2.22 All fieldwork will be conducted within the parameters of PPG16 Archaeology and Planning.
- 5.2.23 All work will be monitored by Norman Redhead, Assistant County Archaeologist, allowing reasonable access at all times.
- 5.2.24 If human remains are encountered, they will be left in situ, covered and protected. Removal would take place following the approval and granting of a Home Office License. All statutory and health and safety regulations will be complied with, treating the remains at all time with due reverence and respect.

5.3 Stages 2, Open Area Excavation, Weeks 5 - 6

- 5.3.1 A review meeting on the penultimate Friday of Stage 1 will summarise the work done to date and highlight any further works still to be carried out. The review meeting will also assess the need and propensity for specialist analysis of the archaeological artefacts and palaeo-environmental samples. In agreement with the Assistant County Archaeologist if the outstanding work requires further investigation Stage 2 will be implemented.
- 5.3.2 Stage 2 will allow for the movement of spoil deposits to allow access to areas that may not have been available during Stage 1 due to limited space as well as health and safety regulations.
- 5.3.3 As a fuller understanding of the archaeological remains will be achieved by Stage 2 this stage of works would also allow for the discussion and implementation of an archaeological open day. With an agreement from all parties UMAU would accommodate an open day into their schedule of works with no added cost to the developer. The open day would be open to members of the general public.
- 5.3.4 The programme of works during Stage 2 will be carried out as outlined for Stage 1.

5.4 Stages 3, Open Area Excavation, Weeks 7 - 8

- 5.4.1 A review meeting on the penultimate Friday of Stage 2 will summarise the work done to date and highlight any further works still to be carried out. In agreement with the Assistant County Archaeologist if the outstanding work requires further investigation Stage 3 will be implemented.

5.4.2 The programme of works during Stage 3 will be carried out as outlined for Stage 1.

5.4.3 Stage 3 will be the final stage of site work.

6. The Report

- 6.1 If it is evident that further work will be required on the archaeological resource to answer specific questions arising from this initial phase of work, such as specialist artefact and palaeo-environmental analysis, then an interim report could be produced if required. The interim report, if required, will be produced within six weeks of the completion of the field work. The interim report will be produced as outlined in section 5.3 without specialist reports. The analysis and conclusions drawn for the interim report will not be definitive.
- 6.2 A final report will produced within six weeks of all specialist reports.
- 6.3 The final report will include:
1. A summary of the results.
 2. A copy of the evaluation brief and agreed project design, and an indication of any variation on the agreed project design.
 3. **A location plan at an appropriate scale.**
 4. Historical and archaeological background to the study area
 5. Aims and Methodology
 6. Excavation plans and sections and illustrations at an appropriate scale.
 7. **Monochrome and colour photographs where appropriate.**
 8. A summary description of archaeological features or deposits identified.
 9. **Reports of artifacts, ecofacts and environmental data recovered during the excavation including specialist reports where appropriate.**
 10. An interpretation of the results and their potential archaeological significance.
 11. **An index to the project archive.**
- 6.4 Four copies of the interim report, if required, will be sent Citex Bucknall Austin, with additional copies forwarded to Manchester Planning Department, GMAU and Manchester Museum.

- 6.5 Four copies of the final excavation report will be sent Citex Bucknall Austin, with additional copies forwarded to Manchester Planning Dept. The Greater Manchester Archaeological Unit and Manchester Museum.
- 6.6 A summary of the excavations will be submitted to *Britannia*, an annual journal concerning Roman archaeology in Britain. The results of the excavation will be available for inclusion in the forthcoming third volume on the Roman archaeology of Manchester as outlined in the evaluation brief set by the Assistant County Archaeologist.

7. The Archive

- 7.1 The archive will be prepared in accordance with MAP 2, Appendix 3.1 and Appendix 4.1. It will be prepared for long term storage according to the requirements of the recipient repository and in accordance with the UKIC Archaeology Section 1 Guidelines for the preparation of excavation archives for long term storage (1990), the MSG Standards in the Museum Care for Archaeological Collections (1992), the SMA towards an accessible archive and the IFA archaeological documentary archives.
- 7.2 With the agreement of Citex Bucknall Austin, GMAU, and Manchester Museum, UMAU will dispose of unproductive finds and samples.
- 7.3 A synopsis of the archive will be lodged with the Greater Manchester Sites and Monuments Record.
- 7.4 Arrangements for the long term storage of the site archive will be agreed in writing with Manchester Museum and details of the arrangement will be copied to GMAU before site works commence.
- 7.5 The archive will comply with the requirements as set out in the brief and will be made available in both CD and paper formats.

8. Proposed Project Personnel

For 28 years investigations in Castlefield have successfully been undertaken by staff of the University of Manchester Archaeological Unit. The Unit has a wealth of published and **unpublished** accumulated knowledge and experience of the area. As an integral part of the **Archaeological Field Centre**, the Unit also has access to academic staff and facilities of the University of Manchester, and enjoys an established working relationship with both contractual and academic bodies throughout the region.

Project Manager - Dave Power LL.B

Responsible for the management of the Field Operations Team and the production of illustrations to publication level. Sixteen years experience in field archaeology. Excavated the site at ATS in 1991 adjacent to the present site and numerous sites both prior to and since that date. Excavations within Castlefield include: Gail House(1984), BTS (1985-7) Higher Campfield Market (1986), Lockside Motors (1987), Solomon's Arches (1987-88), ATS (1991), Concert Hall (1992, 1993), Woolam Place (1996) and the Bass Warehouse (1996). Recently undertaken excavations on the **Roman Fort** at Castleshaw and the fort and vicus at Chesterfield. Currently involved in the **excavation** of a Romano-British settlement at Besthorpe, Nottinghamshire as part of a seven year programme in advance of the commercial development of the site.

Research Manager - Pete Arrowsmith BA PhD

Has responsibility for tendering, management and implementation of desk-based assessments and directed research projects. Sixteen years experience in archaeology. Author of various articles in regional journals and two volumes on the archaeology and history of Stockport. Edits UMAU reports. Archaeological experience of working in the Castlefield area of Manchester since 1972 and is currently undertaking a major assessment of the Roman Fort area.

Field Officer - Peter Connelly BA

Seven years experience in field archaeology. Has supervised and carried out on site direction of many sites throughout England. These include a major Roman excavation in the centre of Chesterfield on part of the vicus surrounding the Roman fort and various Romano-British settlements. Directs his own research excavation on a Roman settlement in Derbyshire. Has experience of working throughout the country in both urban and rural settings.

Site Surveyor and Supervisor - Graham Mottershead BA

Seven years experience in field archaeology, has supervised sites throughout the North-West of England including the Chesterfield vicus excavations. Unit Surveyor proficient with EDM, Total Station and CAD packages.

Archaeological Assistants

A team of up to 6 archaeological assistants will be employed during the Phase 2 programme of works. The archaeological assistants will be professional archaeologists.

Archaeological Volunteers

Only in agreement with the Assistant County Archaeologist and the developer will the use of archaeological volunteers be implemented at no added cost to the developer. IFA guidelines concerning the ratio of volunteers to professional staff will be strictly adhered to. The archaeological volunteers will be archaeological undergraduates presently studying an archaeological degree.

Academic Advisors, Specialist Finds and Post Excavation Staff:

John Walker BA FSA - Unit Director and acknowledged authority on the archaeology of Roman Manchester. Publications include JSF Walker (Ed) Roman Manchester :The Archaeology of a Frontier Settlement.1986 and Castleshaw :The Archaeology of a Roman Fortlet.

Peter Carrington BA PhD FSA MIFA (Senior Archaeologist) - The staff of Chester Archaeology will provide expert analysis of the pottery and environmental samples, where necessary.

9. Timetable

9.1 Timetable

- 9.1.1 Following confirmation of the contract in writing UMAU would immediately inform the Greater Manchester Archaeological Unit prior to the commencement of work on the site.
- 9.1.2 During this period a site meeting would may be arranged between the Assistant County Archaeologist, Citex Bucknall Austin and UMAU to discuss any ancillary matters ahead of the open area excavation.
- 9.1.3 Subject to this confirmation and with the consent of the Greater Manchester Archaeological Unit, UMAU would be in a position to start work on the site during the week commencing Monday 26 February 2001.
- 9.1.4 It is expected that the open area excavation will take 4 - 8 weeks dependant on the frequency and states of preservation of pre-19th century archaeological deposits which will be divided into three stages. See 5. *Methodology* for an outline of the proposed stages of work.
- 9.1.5 Progress meetings with the Assistant County Archaeologist, Citex Bucknall Austin and representatives of Gleeson City Living will be made in agreement with all parties.
- 9.1.6 An interim report, if required, will be produced within 6 weeks of the completion of the fieldwork. A final report will be produced within 6 weeks upon receipt of the all the specialist reports.

9.2 Written Confirmation

- 9.2.1 UMAU would require written confirmation of the contract prior to the commencement of work.

Contact: Dave Power/Peter A. Connelly
University of Manchester
Planning and Architecture Building
The University of Manchester
Oxford Road
Manchester
M13 9PL

Tel: 0161 275 2318
Fax: 0161 273 2315

10. Terms and Conditions

- 10.1 The University of Manchester Archaeological Unit acts in accordance with the Institute of Field Archaeologists' Code of Conduct and observes the British Archaeologists and Developers Group Code of Practice.
- 10.2 UMAU is comprehensively insured for all field survey, investigations and excavations under the Royal Insurance(UK) Ltd Public and Employers Liability Insurance-Victoria University of Manchester and its Subsidiaries.
- 10.3 Professional Indemnity Insurance of ten million pounds is provided for UMAU through the University of Manchester and/or Vuman Ltd and/ or its Subsidiary and/or Associated Companies by Denham Direct Underwriters Ltd.
- 10.4 UMAU follows the University of Manchester's policy statement on Health and Safety and SCAUM guidelines on Health and Safety in Field Archaeology.