

ARCHAEOLOGICAL
EXCAVATION AND WATCHING
BRIEF AT WHITTINGHAM
HOUSE, WORCESTER ROAD,
DROITWICH, WORCESTERSHIRE

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Archaeological excavation and watching brief at Whittingham House, Worcester Road, Droitwich, Worcestershire

James Goad and Simon Woodiwiss

With contributions by Alan Jacobs, Andy Mann and Ian Baxter

Part 1 Project summary

An archaeological excavation and watching brief were undertaken at Whittingham House, Droitwich, Worcestershire (NGR SO 9003 6328). The project was undertaken on behalf of McCarthy and Stone Developments Ltd who had planning permission (W/02/02140/PN) to build retirement flats and low-cost housing on the site. The project aimed to record and interpret the deposits of medieval and earlier date previously located during an evaluation.

The excavation and watching brief revealed a sequence of activity from the Roman, late Saxon, medieval and post-medieval periods. The Roman features took the form of ditches, which could have marked field systems or property boundaries on the edge of the Roman settlement.

The late Saxon features were a mixture of pits, ditches and postholes. The features, artefacts and ecofacts indicated evidence of domestic occupation and tethering of animals. The nature of the late Saxon remains indicate some form of domestic occupation which add to the evidence from elsewhere in Droitwich.

The majority of the activity on the site was medieval and later. A very large ditch dating to the 13th-14th centuries dominated the excavation area and pointed to the presence of either a medieval manorial enclosure (the ditch acting as a moat), or more probably a large boundary ditch. The ditch might also have demarcated the eastern boundary of the urban area in the 13th-14th centuries. The density of features indicated the area of occupation was on the west side of the ditch. The ditch may have been associated with a manor house that existed on the site of the present Raven Hotel, which is known to have existed from at least the 12th century, being the birthplace of Richard de Wych. A small assemblage of animal bones belonged to domestically reared animals; cattle, sheep, goats, pigs, horses etc. The area also showed evidence of animal trampling, with large amorphous spreads of dark material covering irregular (disturbed) natural clay surfaces. The site also contained a semi-circle of postholes extending beyond the excavation boundary, which have been interpreted as a possible dovecote. Dovecotes were often situated within the confines of manorial sites in the medieval and post-medieval periods. If Whittingham House was an area associated with the Raven Hotel manor house, the area of land which the manor dominated would have been very large. The owner of this property could only have been one of the wealthy new salt burgesses that rose to prominence in Droitwich from the early 13th century, when rights to the salt extraction were farmed out to town officials, with the Crown supervising the distribution of salt rights and the levies on the owners.

The excavation also contained the unexpected remains of a post-medieval salt production area and included furnaces and brine shafts.

Part 2 Detailed report

1. Background

1.1 Reasons for the project

An archaeological excavation and watching brief was undertaken at Whittingham House, Worcester Road, (NGR SO 9003 6328), Droitwich, Worcestershire (Fig 1), on behalf of CgMs Consulting, who were acting for McCarthy and Stone Developments Ltd. The client had planning permission (W/02/02140/PN) to demolish existing buildings and to construct retirement homes and affordable housing. A condition attached to the permission aimed to ensure that important archaeological remains were either preserved in situ or excavated.

Prior to the current project the client undertook a comprehensive suite of surveys in preparation for planning permission. These consisted of a desk-based assessment (CgMs 2000), and a field evaluation (Patrick *et al* 2002). A watching brief was also undertaken on preparatory works to locate an active brine pipe running across the site (Goad 2003).

1.2 Project parameters

The project conforms to the *Standard and guidance for archaeological excavation* (IFA 1999) and *standard and guidance for an archaeological watching brief* (IFA 1999). The project also conforms to a written scheme of investigation (CgMs 2003), which was approved by the Planning Archaeologist for Worcestershire County Council and for which a project proposal (including detailed specification) was produced (WHEAS 2003).

1.3 Aims

Following on from the results of the desk-based assessment and the evaluation, the aims of the excavation were to: seek information that would fulfil a number of general, and more specific, research questions. These included (CgMs 2003):

- establishing the extent and character of Saxon activity on the site,
- establishing the character, ground plan, chronological development and the economic status of activity on the site, taking into account the research priorities highlighted by the West Midlands Research Framework for Archaeology.

2. Methods

2.1 Fieldwork methodology

2.1.1 Fieldwork strategy

Fieldwork was undertaken between 22nd September 2004 and 15th February 2005, with the open area excavation being conducted between 4th October and 3rd November 2004. The site reference number and site code for the excavation is WSM 33827. The site reference number for the watching brief is WSM 34185. Numbers prefixed with 'WSM' are the primary reference numbers used by the Worcestershire County Historic Environment Record.

The precise area of excavation was agreed with the Planning Archaeologist of Worcestershire County Council. The main area subject to archaeological excavation measured 27m x 47.50m overall (approximately 1227m²). Deposits considered not to be significant were removed using a 360° tracked excavator, employing a toothless bucket and under archaeological

supervision. Subsequent excavation was undertaken by hand. Clean surfaces were inspected and selected deposits were excavated to retrieve artefactual material and environmental samples, as well as to determine their nature. Deposits were recorded according to standard Service practice (CAS 1995).

Other groundworks undertaken during construction were subject to a watching brief. These included a small area (Trench 1) in the south-west corner, as well as other trenches for services over the area. The southern half of the site was subject to some re-grading in advance of the installation of concrete raft foundations. A substantial part of the watching brief covered work on the re-location of a brine pipe which had run across the northern half of the property and down its western end. The pipe supplied brine to the hospital to the south of the site. The re-location of this brine run involved trenching at the northern and western edges of the property. Trenching was undertaken with a 360° tracked excavator and a JCB 3CX, using toothless buckets and under archaeological supervision. Subsequent excavation was undertaken by hand. Clean surfaces were inspected and selected deposits were excavated to retrieve artefactual material and environmental samples, as well as to determine their nature. Deposits were recorded according to standard Service practice (CAS 1995).

A Second World War shelter present on the site was subject to a separate archaeological building recording survey by CgMs (2004). However, the demolition of the shelter was carried out under archaeological supervision by WHEAS in order to further understand the shelter's construction. The results have been incorporated into CgMs' report.

2.1.2 **Structural analysis**

All fieldwork records were checked and cross-referenced. Analysis was effected through a combination of structural, artefactual and ecofactual evidence, allied to the information derived from other sources. The list of contexts and the completed records have been retained as part of the archive.

2.2 **Artefact methodology, by Alan Jacobs**

2.2.1 **Artefact recovery policy**

The artefact recovery policy conformed to standard Service practice (CAS 1995; appendix 2).

2.2.2 **Method of analysis**

All hand retrieved finds were examined. They were identified, quantified and dated to period. A *terminus post quem* date was produced for each stratified context. The date was used for determining the broad date of phases defined for the site. All information was recorded on *pro forma* sheets.

Artefacts from environmental samples were examined, but none were worthy of comment, and so they are not included below, or included in the quantification.

Pottery fabrics are referenced to the fabric reference series maintained by the Service (Hurst and Rees 1992).

2.3 **Environmental archaeology methodology, by Andrew Mann**

2.3.1 **Sampling policy**

The environmental sampling policy was as defined in the County Archaeological Service Recording System (1995 as amended). Large animal bone was hand-collected during excavation (see methodology below) and samples of between 10 to 40 litres taken from seventeen contexts of medieval date (See Table 7).

2.3.2 **Method of analysis**

For each of the samples a maximum of 10 litres was processed by flotation followed by wet-sieving using a Siraf tank. The flot was collected on a 300µm sieve and the residue retained on a 1mm mesh. This allows for the recovery of items such as small animal bones, molluscs and seeds. The animal bone in the residue was assessed and consisted almost entirely of small fragments from larger bones. The exceptions; single examples of fish vertebra and amphibian bone (see Table 7) were not considered to add materially to the more detailed analysis of the animal bone.

The residues were fully sorted by eye and the abundance of each category of environmental remains estimated. The flots were scanned using a low power EMT stereo light microscope and plant remains identified using modern reference collections maintained by the Service, and seed identification manual (Beijerinck 1947). Nomenclature for the plant remains follows the Flora of the British Isles, 3rd edition (Clapham *et al* 1989).

2.4 **Animal bone methodology, by Ian Baxter**

All of the animal bones from Whittingham House were hand-collected. A collection bias against the recovery of bones of small mammals, birds and fish is to be expected (but see above).

The mammal bones were recorded on an Access database following a modified version of the method described in Davis (1992) and used by Albarella and Davis (1994). In brief, all teeth (lower and upper) and a restricted suite of parts of the postcranial skeleton was recorded and used in counts. These are: skull (zygomaticus), atlas, axis, scapula (glenoid articulation), distal humerus, distal radius, proximal ulna, radial carpal, carpal 2+3, distal metacarpal, pelvis (ischial part of acetabulum), distal femur, distal tibia, calcaneum (sustenaculum), astragalus (lateral side), centrotarsale, distal metatarsal, proximal parts of the 1st, 2nd and 3rd phalanges. At least 50% of a given part had to be present for it to be counted.

The presence of large (cattle/horse size) and medium (sheep/pig size) vertebrae and ribs was recorded for each context, although these were not counted. "Non-countable" elements of particular interest were recorded but not included in the counts.

For birds the following were always recorded when present: scapula (articular end), proximal coracoid, distal humerus, proximal ulna, proximal carpometacarpus, distal femur, distal tibiotarsus, and distal tarsometatarsus.

The separation of sheep and goat was attempted on the following elements: dP₃, dP₄, distal humerus, distal metapodials, distal tibia, astragalus, and calcaneum using the criteria described in Boessneck (1969), Kratochvil (1969), and Payne (1969, 1985). The shape of the enamel folds (Davis 1980; Eisenmann 1981) was used for identifying equid teeth to species. Equid posterania were checked against criteria summarized in Baxter (1998).

Wear stages were recorded for all P₄s and dP₄s as well as for the lower molars of cattle, sheep/goat and pig, both isolated and in mandibles. Tooth wear stages follow Grant (1982)

and mandibular wear stages follow O'Connor (1988) for cattle and pigs and Crabtree (1989) for sheep/goat.

Measurements are retained on the Access database. These in general follow von den Driesch (1976). All pig measurements follow Payne and Bull (1988). Humerus HTC and BT and tibia Bd measurements were taken for all species as suggested by Payne and Bull (1988) for pigs.

2.5 The methods in retrospect

The methods adopted allow a high degree of confidence that the aims of the project have been achieved.

3. Topographical and archaeological context

The topographical and geological backgrounds to the site, along with the site conditions and archaeological background, are described in some detail in the previous reports (CgMs 2003; Patrick *et al* 2002; Goad 2003). A broad background to the archaeology of Droitwich is to be found in the Central Marches Historic Town Survey (Buteux and Hurst 1996).

In summary the site lies outside of the known area of prehistoric to medieval salt production though the desk-based assessment (CgMs 2000) did indicate that there was the possibility of deposits dating to all of these periods. The site was also understood to lie outside of the built area of the medieval town (Buteux and Hurst 1996, figure relating to medieval urban form and components; CgMs 2000, 12). More is known for the post-medieval and modern periods from maps. Most of the area is shown as open though various small buildings and plots exist across the site (CgMs 2000, 13). The map evidence suggests that Whittingham House itself was built between 1938 and 1949 (CgMs 2000 13), though the evaluation report gives a reputed date of c1932, the house being built by the Wilcox family who were dentists and combined two dental surgeries with their domestic accommodation (Patrick *et al* 2002, 3).

4. Results

4.1 Structural analysis

The trenches and features recorded are shown in Figures 2-10. Deposits were dated from artefacts, stratigraphy and spatial relationships. The results of the structural analysis are in the text and the archive. The animal bone report is presented in Appendix 1, with the report plates in Appendix 2.

4.1.1 Phase 1 Natural deposits

The natural deposits were noticeable across the site and varied in both colour and consistency. The underlying geology is Mercian Mudstone, but the predominantly red clay natural deposits across the site varied with light grey clay interspersed with patches of red sandy gravels. The clay and stony spreads were prevalent west of a very large medieval ditch that bisected the site, with the natural to the east of this feature seemed to be dominated by red sandy gravels. The large ditch seemed to accurately respect this change in geology.

4.1.2 Phase 2 Roman

There were several features in the area of the excavation that were dated to the Roman period. Ditch 1084 ran from the north-west corner of the site, with the very large medieval ditch, truncating its eastern end. The Roman ditch was recut along part of its length. It was also cut by another Roman ditch (1106). Ditch 1084 seems to be roughly perpendicular to the Worcester Road (itself with Roman origins). Ditch 1106 contained 1st-2nd century artefacts,

including a loomweight (Figure 11d). A row of stakeholes were also found within the ditch (1110-1117). The dates of these are not known, but perhaps they formed part of a palisade along the northern side of the Roman ditch.

Only one other feature was dated to the Roman period, that being pit 1029. This was located 10 metres south of ditch 1084. As a Roman feature of this type it seemed to have existed in isolation.

4.1.3 **Phase 3 Post-Roman/late Saxon**

The main concentration of archaeological features from this period lay in the western corner of the site (Figure 5). Upon excavation a clear sequence of activity was determined. The earliest late Saxon feature was east to west oriented ditch 1150/1055. At its eastern end ditch 1150 was cut into by a pair of ditches, one of them the very large medieval ditch.

Ditch 1252 correlated with ditch 209 from the evaluation trench, which continued further eastwards and terminated (context 1038; Figure 5) just short of the very large medieval ditch.

A posthole (1036) dating to the late Saxon period was approximately nine metres north of ditch 1150/1055. Immediately adjacent to it was a stakehole (1034) of indeterminate date but highly likely to have been structurally related to the posthole (Figure 5). As a feature of this type and period it seems to have existed in isolation, but possible truncation has removed other features relating to it. The posthole probably represents part of a fenceline, of which truncation has removed most of. Pit 1186 was a small pit that was cut by a medieval ditch (1188) and was the furthest eastern late Saxon feature. The pit existed in isolation, with no other Saxon-dated features adjacent to it (Figure 5).

4.1.4 **Phase 4 Medieval**

The majority of the features excavated dated to this period. The most substantial in size was a ditch running across the site on a south-west to north-east orientation. This feature dated to the 13th to 14th centuries but was, however, preceded by a number of earlier medieval features.

Earlier features

The evidence of earlier medieval occupation is similar in pattern to the later medieval features, though the number of features was fewer. Like the 13th to 14th century phase that is the most common dating for the rest of the site, the earlier phase probably consisted of a smaller and shallower ditch, with the occupation area to the west of it. Ditch 1325 is shown (Figure 6) as running in roughly the same direction as the later larger ditch (1175). This earlier ditch doesn't appear in any of the other sections to the north, presumably due to truncation. 1325 produced the partial tripod pitcher in one of its early fills, dated to the late 12th to mid 13th century. The later fills of this early medieval ditch suggest a 13-14th century date.

Ditch 1022 (Figure 6), adjacent to the west end of the evaluation trench, dated from the 11th to the 13th centuries. Similarly dated was ditch 1109 in the north-west corner of the trench, which cut through earlier Roman ditch 1106.

The form of the earlier medieval settlement would appear to have been very similar to that of the later 13th-14th century one, albeit on a smaller scale.

13th-14th century features

The very large 13th-14th century ditch (1175, 1203, 1220 and 1263) crossing the whole site was certainly the most visually impressive feature, measuring between 4.20-4.80m wide and

1.30-1.60m deep. Four sections were excavated through the ditch (Figures 9 and 10). Every section of the ditch was recorded, revealing a variety of deposits throughout the length of the ditch. There was some consistency between ditch fills, but across the length of the feature there seemed to be many different episodes of in-filling, re-cutting and intrusion from later features, particularly into the later ditch fills. The fills of the large ditch all date quite uniformly to the 13-14th centuries, from the primary, through to the last fills.

The large ditch was truncated by a series of later pits along its length. At the southern-most section (section H; Figure 10), several pits cut through the later ditch fills but also dated to the 13-14th centuries. The northern-most section (section A; Figure 9) also exhibited intrusive pitting. This was most visible in the northern section (B) of the slot (Figure 9). The ditch was cut by a large pit (1268), which in turn was cut by another (1274). The sections for this slot through the large ditch show gully 1207 continuing through and probably further along the ditch, but has been truncated completely along a stretch of the ditch by pit 1268.

Trench 1 in the watching brief, revealed a large medieval ditch, which continued through to the south-west corner of the excavation area (1144) and continued for approximately eleven metres. Like the large medieval ditch to the east, this had been cut by later pits. However, its size points to the ditch being a substantial boundary. Nearly all the pits cutting into the ditches in this section of the site were dated to the 13-14th century.

13th to 14th century medieval activity was further present in the northern part of the site. A series of curvilinear medieval gullies (1241, 1243 and 1091) are present in an area of concentrated archaeological activity from all periods (Figure 6).

One of the most interesting collection of features on the site was a set of five postholes (group number 1062) existing between ditch 1150 and the trench edge. Postholes 1070, 1072, 1074, 1076 and 1078 were arranged in a semi-circle, which presumably continued to form a circle beyond the trench edge. Nearly all the postholes were consistent in their size and form. Posthole 1070 was the only one not to have any trace of a postpipe outlined in charcoal within its section, unlike all the others. All the postholes measured 0.45-0.55 metres across and 0.20-0.25 metres deep, apart from 1070. Their general profile was consistent too, as well as the stony outer fills, which could represent the remnants of the post packing material. Given the spatial consistence between the postholes and their similarity in form it would seem that they are contemporary with each other and form part of a single structure. A radiocarbon date (Wk16357) was obtained from context 1089 (fill of 1076) and gave the result of 1250-1285 cal AD (68.2% probability) or 1215-1290 cal AD (95.4% probability) giving a likely mid to late 13th century date.

The area to the east of the large ditch contrasted with the area to the west in that it was relatively free of features (Figure 6). The main area of 13th-14th century medieval and later activity on the site was concentrated on the western side of the big ditch.

Later features

There were a number of narrow gullies (1032, 1079, 1196, 1285, 1226 and 1344), most of which were stratigraphically later than the large ditch. With the exception of 1344 these gullies were parallel with each other and perhaps represent land division for cultivation plots.

On the west side of the very large ditch was a collection of small features which existed together in a very small area. They represented a sequence of activity which firstly included two inter-cutting postholes (1312, 1315) along with a stakehole (1310). These were then superseded by a couple of pits (1302 and 1305). This phase of activity seems to have taken place when the large ditch had been filled. The cluster of pits and postholes would therefore appear to be contemporary with the later medieval drainage gullies on the east side of the large ditch.

A posthole of later date (1320; Figure 6) existed in the top fill of the large ditch. The fill of this posthole (1319), was heavily packed with stones, perhaps indicating the remnants of post-packing.

Other features

Other pits and postholes were located on the western side of the large ditch. Pit 1209 was located half a metre south of the intercutting pits and postholes. This pit cut the very western lip of the large ditch. At the base of the large ditch itself was posthole 1211 (Figure 6). The relationship between the two is uncertain. It is possible that the two features are contemporary, or that 1211 is part of the large ditch's earlier medieval predecessor.

Approximately six metres north of ditch structure 1062 lay a collection of intercutting pits. The earliest pit in the sequence appeared to be 1219. Such was the depth of the feature it wasn't bottomed due to health and safety considerations. Being over two metres in diameter and excavated safely to a depth of 1.25 metres, the pit revealed two episodes of deposition within it. The uppermost (latest) fill looked like backfill material, given that it was rather mixed in nature. The earlier fill looked as though it was the result of gradual accumulation. Two pits cut into 1219 on the southern and northern sides respectively, but were post-medieval in date. The general character of the pit fills suggested that it could have been a watering hole.

The area just to the north of the watering hole (1219) contained a collection of mostly medieval (1058 1129, 1130, 1193 and 1342) pitting combined with large irregular spreads of organic dark grey material. Some of the pits were quite large in size, with the spreads of dark grey material covering rather uneven, seemingly trampled, natural clay.

4.1.5 **Phase 5 Post-medieval and modern**

There was much post-medieval and modern activity across the site. The activity took various forms and was dateable throughout this broad period. Brick, and brick-lined, structures were found adjacent to Tower Hill and also quite centrally within the site.

A series of pits in the south-west corner of the site were all dateable to the 17th or 18th centuries, two of them cutting the possible watering hole 1219. Two pits cut into and along the length of Saxon ditch 1150.

In the north-west corner of the site, cutting into the ditch 1106 dated to the Roman period, was a small irregular spread of ash and post-medieval material (1122; Figure 7).

The northern side of the site (Figure 7) had a particular concentration of post-medieval and modern features and structures. A possible post-medieval pit or ditch 1097 was cut by a thin linear feature (1094), which ran into a large pit (1041) at the northern boundary to the excavation area. Both these features were dated to between the 19th and 20th centuries. Adjacent to pit 1041 was a series of seemingly interconnected post-medieval features. A short medieval ditch (1039/1091) seemed to be overlain by a post-medieval brick structure (1044) which in turn was related to a large irregular backfilled cellar or waste pit 1049. This last feature was large, measuring 6.50m by 3m. It was bounded to the east by short lengths of brick wall, combined as context 1050.

Immediately to the south was a possible brine shaft (1293, or possibly a well), which due to its depth was only partially excavated. Two other post-medieval possible brine shafts were found on the area of excavation (1220 and 1350). One (1350) was brick-lined and all three probably dated from the 18th to 19th centuries (Figure 7).

The large medieval ditch was subject to a large degree of truncation in between the southern two sections through it (Figure 7). The first of the intrusive features appears to have been a pit of indeterminate date (1348), which had been cut by a spread full of charcoal and 19th-20th

century brick (1347). The last phase in this sequence of intrusive features were what seem to be the bases of two sub-rectangular brick structures (1345 and 1346). Both structures lacked a southern side and the brick footings seemed to have been subjected to episodes of heating. The area around the structures was very ashy and exhibited layers of burnt waste (layers 1341 and 1348) spread out from and around the brick structures. These structures would appear to have been furnaces.

The area surrounding the excavation area was subject to a watching brief and revealed more post-medieval and modern features. The site had a working brine pipe crossing through the site from a brine pumping house to the west on Tower Hill. This pipe ran east to west through the northern half of the site with a another pipe running just within the western boundary (Goad 2003, figure 2). As part of the development works the 19th century brine pipe was taken out and re-laid along a different alignment through the site. A new brine pipe trench was excavated right up against the northern and western boundaries of the property. Mostly this revealed 19th century made ground, which was deposited across most of the property. Brick rubble from the same period, or perhaps 20th century, was present under the garden soil in watching brief Trenches 7-9 in the north-east corner of the property (Figure 2).

The complete footings of a large brick building were located in the southern half of the site (Figure 2, Plate 3). The building was rectangular and oriented east-west, measuring 10.80m in length by 5.70m wide.

In the garden area near on the Worcester Road side of the property a 1930-40s air-raid shelter was a feature of the 1930s Whittingham House. The shelter was of concrete construction and still accessible. The shelter was separately recorded by CgMs Consulting (CgMs 2004).

The western part of the site showed a thin curvilinear feature that transacted a large area, cutting through medieval and post-medieval features alike. This was a very deep, straight-sided machine cut trench (1135/1172). Material recovered from the deposits within this trench were dated from the medieval period through to the 20th century. Local sources said this was an attempt to locate the brine pipe in the 1960s.

4.2 **Artefactual analysis** (Alan J Jacobs)

A summary of the artefacts can be seen in Table 1. The group ranged possibly from the Late Iron Age/early Roman period until the 20th century. The general level of preservation was high although the medieval glazed wares appear to have been affected by the salinity of soils in Droitwich, lifting the glaze from the sherds.

Material	Total	Weight (g)
----------	-------	------------

Roman pottery	106	1541
Saxon pottery	34	222
Medieval pottery	544	9393
Post-Medieval pottery	48	2405
Modern pottery	40	2311
Clay pipe	36	145
Tile	123	9015
Brick	24	2623
Mortar	8	22
Metal objects	29	541
Slag	25	2369
Stone	7	384
Vessel glass	3	15
Coal	8	45

Table 1: Quantification of material

5. The Pottery

A total of 770 sherds of pottery weighing 14.981kg was recovered and quantified in (Tables 2-10) and the assemblage ranged in date from the late Iron Age/early Roman period until the 20th century. The pottery amounted to 77% of the overall assemblage by count and 48% by weight. Salt was encrusted on many finds, degrading glazed surfaces particularly amongst the medieval pottery fabrics. A small amount of abraded redeposited material was also present, particularly amongst the Roman and medieval fabrics. The low extent of residuality corresponds with the relatively low level of activity on the site.

5.1 Roman pottery

The Roman material formed a relatively small part of the ceramic assemblage, comprising 14% by sherd count and 10% by weight. The pottery from the five stratified contexts (1085, 1086, 1107, 1108 and 1261) consists of 46 sherds weighing 717g and was relatively well preserved with an average sherd size of 16g compared to that of 14g for the residual material (Table 2). Much of the residual material was poorly preserved comprising smaller sherds with abraded surfaces particularly in the case of Severn Valley ware (oxidised fabrics 12 and 12.2). This is overall too small an assemblage for statistical analysis although; Severn Valley ware makes up only 64% of the assemblage compared to 74/72% at Upwich (Lentowicz 1997, 71).

	Sherds	Weight
Unstratified contexts	1	80
Roman contexts	31	520
Late Saxon contexts	5	71
Medieval contexts	55	822
Post-medieval contexts	6	293

Table 2: Quantification of Roman pottery by phase

The pottery present indicates a mid 1st to 3rd century date range for Roman activity on this site, although the presence of briquetage raises the possibility of late Iron Age activity. This

fabric is also present on most excavations within Droitwich until the 2nd century (Hurst 1992, 133). A single unmeasurable rim fragment is present within the assemblage. The only form of note is that of a Severn Valley ware pedestal base (Fig 1, no 1). This form is early and was not dated or defined by Peter Webster in his definitive evaluation of Severn Valley ware (1976, 19). The form type has been noted in Droitwich at Upwich (Hurst 1992c, 135) and dated to the second half of the 1st century. Relatively few late pottery fabrics are present within the assemblage giving little indication of later Roman activity.

Fabric number	Fabric name	Total sherds	Weight (g)
1	Sandy Briquetage	1	15
2	Organic briquetage	9	149
3	Malvernian metamorphic	1	35
12	Severn Valley Ware	60	971
12.2	Severn Valley Ware variant	8	88
14	Fine sandy grey ware	4	101
15	Coarse sandy grey ware	3	52
19	Wheelthrown Malvernian ware	3	52
22	Black-burnished ware type 1	8	122
23	Shell gritted ware	1	34
31	Oxfordshire red/brown colour coated	1	34
34	West midlands mortarium	1	215
42.1	Dressel Type 20	1	47
43	Samian	4	25
98	Miscellaneous Roman wares	1	15
Total		106	1541

Table 3: Quantification of Roman pottery

5.2

Late Saxon pottery

A total of 44 sherds came from three late Saxon contexts and comprised the smallest group, comprising just 6% by sherd count and 1.5% by weight of the overall assemblage (Table 5). The pottery from the two stratified contexts (1162 and 1168) consists of 23 sherds weighing 133g and was relatively poorly preserved with an average sherd size of 5.5g compared to that of 6g for the residual material (Table 4).

	Sherds	Weight
Late Saxon contexts	12	67
Medieval contexts	11	66

Table 4: Quantification of late Saxon pottery by phase

The forms represented in stratified contexts were all St. Neots-type Ware (fabric 49) dating from the mid 9th to the mid 11th century and comprising flanged bowls (Bryant 2004, 234, no 5) or rounded jars (*ibid*, 234, no2). Stamford wares dating from the 10th or 11th centuries by comparison were only represented by two forms, an everted rim pitcher (*ibid*, 234, no 5 and Kilmurry 1980, 35) and rounded jar with a concave knife trimmed base (*ibid*, 234, nos 8-9). Droitwich is on the extreme western periphery of the distribution of these fabrics, both of which have a limited regional distribution but are found at both Worcester and Droitwich (Hurst 1992a, 138). This can be seen as an indication of urban or regional economic activity.

Fabric number	Fabric name	Total sherds	Weight (g)
46	Stamford Ware	6	60
46.2	Stamford Ware variant	5	29
49	St. Neots-type ware	23	133
Total		44	222

Table 5: Quantification of late Saxon pottery

5.3 Medieval pottery

The medieval pottery comprises the largest element of the ceramic assemblage, 71% by sherd count and 63% by weight (Table 7). Preservation varied from sizeable sherds from stratified features to small/abraded fragments residual in later contexts. The pottery from the 55 stratified contexts (1020, 1024, 1028, 1030, 1045, 1047, 1059, 1061, 1063, 1082, 1093, 1105, 1118, 1130, 1140, 1142, 1143, 1146, 1147, 1176, 1177, 1179, 1181, 1184, 1189, 1204, 1205, 1206, 1210, 1217, 1218, 1223, 1228, 1233, 1235, 1240, 1254, 1256, 1265, 1266, 1267, 1279, 1284, 1288, 1294, 1298, 1301, 1304, 1307, 1322, 1329, 1330, 1331, 1340 and 1341) consists of 544 sherds weighing 9.393kg and was relatively poorly preserved with an average sherd size of 18g compared to that of 13g for the residual material (Table 6).

	Sherds	Weight
Unstratified contexts	1	26
Medieval contexts	502	8840
Post-medieval contexts	43	535

Table 6: Quantification of medieval pottery by phase

The balance of form and fabric is typical of a domestic assemblage, dominated by Worcester-type wares, fabrics 55 and 64.1 (Table 7) as well as the later Malvernian fabrics 53,56 and 69. Together these fabrics comprise 88% of the medieval sherd count and 89% by weight. This compares closely with urban medieval sites in Worcester (Griffin 2004, 77) and Droitwich (Hurst 1992a, 150 and 1997, 79).

These fabrics are represented within the assemblage by a limited range of forms that are predominantly cooking pots, mostly of Worcester type 3 and Malvernian type 1 to 3 (Bryant 2004, 288-299). More unusual was a tripod pitcher base in Worcester type fabric 64.1 which has been reused as a dish, evidently carefully broken away around the rim (Fig 1, no 2). A number of pitcher or jug forms were present in fabrics 64.1, 64.2 and 69 with one decorated sherd of Worcester type fabric 64.1 with a parallel at Deansway (*ibid* 294 no 12). An unusual item in Worcester type fabric 55 which may possibly be a spout has no definable local parallel (Fig 1, no 3). A number of straight-sided jars with squared and clubbed rims in Cotswold unglazed ware fabric 57 dating from the mid 11th to 13th centuries (Hurst 1992a, 144) were present, mainly as residual material in later contexts.

A substantial amount of the Worcester and Malvernian type fabrics must be present as residual material, however, the overall balance between the two fabrics may indicate an earlier 12th to 13th century date for many of the contexts.

Fabric number	Fabric name	Total sherds	Weight (g)
48	Stafford type ware	1	26
53	Early Malvernian glazed ware	3	38
55	Worcester type unglazed ware	277	4171
56	Malvernian unglazed ware	117	2173
57	Cotswolds unglazed ware	20	316
62	Deritend type ware	1	6
63	Brill/Borstall ware	3	7
64	Glazed sandy ware	1	4
64.1	Worcester type glazed sandy ware	58	1833
64.2	Buff type glazed sandy ware	29	507
64.4	Unglazed sandy white ware	5	38
69	Oxidised glazed Malvernian ware	27	260
Total		544	9393

Table 7: Quantification of medieval pottery

5.4 Post-medieval and modern pottery

The post medieval and modern assemblage consisted of 12% of the overall assemblage by sherd count and 24% by weight (Table 9). Sherds were present in both stratified and unassigned or unstratified contexts giving a *terminus post quem* of the 20th century for the site. The pottery from the 17 stratified contexts (1004, 1013, 1025, 1040, 1042, 1049, 1051, 1080, 1096, 1131, 1132, 1160, 1173, 1195, 1202, 1295 and 1318) consists of 48/40 sherds weighing 2.405/2.311kg and was relatively poorly preserved with an average sherd size of 51/58g compared to that of 47/42g for the residual material (Table 8). The small size of the assemblage and limited range of fabrics make statistical analysis difficult. No forms of note were present in the assemblage, and the lack of 18th century fine wares was noticeable.

	Sherds	Weight
Unstratified contexts (post-medieval)	9	425
Unstratified contexts (modern)	1	42
Post-medieval contexts	39	1980
Modern contexts	39	2269

Table 8: Quantification of post-medieval and modern pottery by phase

Fabric number	Fabric name	Total sherds	Weight (g)
78.1	Red sandy ware	32	2288
78.3	Fine red sandy ware	7	14
81	Stone ware	1	8
81.5	White salt glazed stone ware	2	173
83	Porcelain	1	19
84	Creamware	6	91
85	Modern stone china	16	227
90	Post-medieval orange wares	2	11
91	Post-medieval buff wares	19	742
Total		88	3573

Table 9: Quantification of post-medieval and modern pottery

6. Other finds (Alan J Jacobs)

6.1 Ceramic building materials

The ceramic building material recovered consisted of tile and brick fragments dating from the roman, medieval, post-medieval and modern periods quantified in Table 10. The material was identified to the Worcestershire tile fabric series (Hurst 1992b, 155; Cleverly 2004, 340). The results were then compared to other local assemblages (Hurst 1992b). The small size of the assemblage and the fragmentation undermines any more detailed statistical analysis.

Phase	Roman tile		Medieval tile		Med/Mod tile		Brick		Mortar		Stone	
	No.	Wt (g)	No.	Wt (g)	No.	Wt (g)	No.	Wt (g)	No.	Wt (g)	No.	Wt (g)
Roman	3	50										
Late Saxon									3	8		
Medieval	4	282	32	2109					2	9	7	384
Post-medieval			2	36	81	6519	33	3919	3	5		
Unstratified	1	19										

Table 10: Quantification of ceramic building materials

6.1.1 Roman

Only a small amount of Roman material was recovered most of which was residual. Three pieces of stratified tile from contexts 1085 and 1261 identified as tegula in a buff sandy fabric (2e). Residual material in medieval contexts included fragments of *pilum* and *imbrex* in a red sandy fabric (2j).

6.1.2 **Late Saxon**

No tile was recovered from the late Saxon contexts.

6.1.3 **Medieval**

The medieval assemblage consisted primarily of flat roof tiles of a long lasting type produced between the 13th and the 18th centuries (Griffin 2004). These tiles have been dated by association with other finds and are predominantly of the common sandy fabric (2a) with one example of a fragment of glazed ridge tile (context 1177). Small amounts of Malvernian fabric (3) including fragments of glazed roof tiles are also present.

6.1.4 **Post-medieval and modern**

The post-medieval assemblage again consists largely of flat roof tiles of 13th to 18th century date, with much residual material in more modern contexts. These are mainly in the sandy fabric (2a). One nibbed and pegged example in a coarser fabric (2b) is also present. The modern assemblage consists of a wider variety of fabrics including examples of thinner modern tiles in a hard fabric (1), as well as bricks in both finer and coarser sandy fabrics (2a and 2b).

6.2 **Fired clay**

The only fired clay present consisted of sixteen fragments of an almost complete loom weight weighing 693g (context 1107). The artefact was of an Iron Age or Roman date (Fig 1, no 4). This is an unusual find for Droitwich but parallels have been recorded at the Old Bowling Green (Hurst 1992c, 53).

6.3 **Mortar**

Mortar was present in the late Saxon, medieval and post medieval to modern phases. Only eight small fragments of mortar were present and as such are of little relevance.

6.4 **Stone**

The seven fragments of stone present are all from medieval contexts, and consisted entirely of fragments of sandstone roof tiles (Table 5).

6.5 **Metalwork**

Metalwork finds included iron, silver and lead objects dating from Roman to modern contexts. The bulk of the material consisted of thirteen iron nails weighing 151g. These are of varying size, predominantly in medieval to modern or unstratified contexts. A single unidentifiable iron object (probably a nail) came from Roman context 1085 and a small strip of iron tapering towards each end, from Saxon context 1258. The only definable iron objects came from post-medieval, modern and unstratified contexts and included a small spoon, pair of scissors and hobnails. The single copper alloy object consisted of an abraded modern button; a single piece of lead waste was also present in an unstratified context.

6.6 **Iron slag**

A total of 25 fragments weighing 2.369kg was recovered, all of which was in datable contexts. Almost all the iron slag came from the medieval phase with only a single fragment weighing 10g from Roman context 1261. The presence of two nearly complete hearth bases in medieval context is unusual, indicating smithing activity. Hammer scale was not however,

present in the environmental samples (Pearson pers comm.) although small amounts of iron slag and charcoal are. This would indicate that the slag is redeposited into later contexts.

6.7 **Glass**

Only three shards of bottle glass weighing 15g were recovered, all of modern date.

6.8 **Charcoal/Coal**

A total of eight fragments of coal were present weighing 45g, one in medieval and the rest in modern or unstratified context.

6.9 **Clay Pipe**

A small assemblage of tobacco pipes consisting of 36 fragments weighing 145g was recovered from the post-medieval and modern contexts. Dating by the size of the stem bores has not been used, as this method is unreliable (Atkin 2004). The site produced a sequence of ten datable pipe forms from the late 17th century onwards. These pipes largely conform to Broseley forms as at the Upwich site (Hurst 1997, 93). A single example with a maker's mark had a direct parallel at the City Arcade excavation in Worcester (*ibid*, 91), this mark was definable as MD, Morris Deacon (father and son, 1683 to 1698 AD. There was also an example of a wheel stamp on the base of a pipe, these usually dating from the second half of the 17th century from Broseley (Higgins 1987). In addition one more unusual 19th century form with a dogs head spur (Fig1 no 5) was present. The later forms continuing into the 19th century indicate the dominance of Broseley products in Droitwich during the 18th and 19th centuries.

6.10 **Environmental analysis, by Andy Mann**

The environmental evidence recovered is summarised in Tables 7 and 8

Context	Sample	Large mammal	Small mammal	Charcoal	Charred plant	Waterlogged plant	Other
1108	1	occ		occ			
1119	2	occ		occ			
1136	3	occ		occ		occ	
1134	4	occ		occ			
1066	5	occ		mod			
1181	6			abl		occ	
1179	7	occ		occ			
1177	8	occ		occ			
1168	9			abl			
1087	10			mod			
1088	11			mod			
1089	12			mod			
1090	13	occ		abl			
1222	14	occ		occ		occ	
1047	15	occ		abl			
1233	16	occ		occ			Fish vertebra
1132	17	Mod	occ	abl		mod	Amphibian bone

Table 11: Environmental summary

Latin name	Family	Common name	Habitat	1025	1047	1087	1089	1108	1132	1134	1136	1168	1177	1179	1181	1222	1233
Charred Preservation																	
Triticum sp (free-threshing) grain	Gramineae	free-threshing wheat	F						1								
Triticum sp grain (fragments)	Gramineae	wheat	F		2			2				2					
Hordeum vulgare grains (hulled)	Gramineae	barley	F			1	1						1				
Avena sp grain	Gramineae	oat	AF									2					
Gramineae sp indet grain	Gramineae	grass	AF									15	1			1	
Vicia faba	Leguminosae	field bean	AF		1												
Labiate sp indet	Labiate		ABCDEF									1					
Galium aparine	Rubiaceae	goosefoot/cleavers	CD		1							1					
Anthemis cotula	Compositae	stinking mayweed	AB						1								
Carex sp	Cyperaceae	sedge	CDE														1
Anoxic Preservation																	
Ranunculus sceleratus	Ranunculaceae	celery-leaved crowfoot	E														3
Chenopodium album	Chenopodiacea	fat hen	AB														1
Sambucus nigra	Caprifoliaceae	Elder	BC														5
Lemna sp	Lemnaceae	duckweed	E						48								1
																	40

Table 12: Plant remains from selected contexts

Key for Tables 11 and 12

Category of remains	Quantity
A= cultivated ground	occ = 1 - 10
B= disturbed ground	mod = 11- 50
C= woodlands, hedgerows, scrub etc	abt = 51 -100
D = grasslands, meadows and heathland	V abt = 101+
E = aquatic/wet habitats	
F = cultivar	

6.10.1 Results

Small assemblages of plant remains, which have survived as a result of charring or anoxic (oxygen-reduced) conditions, were recovered from these samples (Table 8). Much of this material was highly degraded and species diversity was very low. Processing of further material, beyond that necessary for the assessment, was thus considered unnecessary, as it was unlikely to yield more detailed results.

Where oat (*Avena* sp) grains were identified, context (1168, fill of 1167 late Saxon ditch), these may represent wild or cultivated oat (*Avena sativa*) as no diagnostic floret parts survived to allow distinction between oat species.

Cultivated species were rare and represented by wheat (*Triticum* sp and *Triticum* sp, free-threshing), barley (*Hordeum vulgare*) and oat (*Avena* sp). These charred grains are likely to represent crops that have been burnt, either accidentally or purposefully, in domestic or industrial hearths and ovens. The free-threshing wheat probably included bread wheat (*Triticum aestivum*) or club wheat (*Triticum aestivo-compactum*), although without their associated chaff fragments this could not be confirmed. The examples of stinking mayweed (*Anthemis cotula*) seeds in contexts 1134 (undated pit) and 1168 presumably derive from weeds harvested with the crops mentioned above and the presence grass grain (*Gramineae* sp) in contexts 1168, 1177 (13th-14th century fill of very large ditch) and 1222 (13th-14th century fill of very large ditch) suggests that these assemblages represent waste from a partially cleaned mixed crop. Fat hen (*Chenopodium album*) seeds may have also been introduced with these crops. A single example of a garden cultivar, field bean (*Vicia faba*) was also recovered from context 1025 (upper fill of a modern ditch) although this was only hand collected during excavation.

Elderberry (*Sambucus nigra*) seeds preserved through anoxic conditions suggest the presence of neglected areas overgrown with scrubby vegetation, while the relatively high numbers of duckweed (*Lemna* sp) within contexts 1132 (fill of 1131 medieval feature) and 1222, and the presence of celery-leaved crowfoot (*Ranunculus sceleratus*) also within context 1222 suggests these features contained stagnant pools of water.

6.10.2 Discussion

Environmental remains were poorly preserved in all samples processed, only occasional grains of charred wheat (*Triticum* sp free-threshing), barley (*Hordeum vulgare*) and oat (*Avena* sp) were recorded. Other cultivars recovered include the single hand collected example of broad bean (*Vicia faba*). The quantity of such remains suggests that these assemblages represent the piecemeal deposition of domestic refuse material from the associated settlement. These cultivars are likely to have been charred during parching prior to storage, during food preparation or as a result of crop waste being used as fuel for fires. The presence of duckweed (*Lemna* sp) in contexts (1132 and 1222) suggests these features held permanent bodies of water and the presence of elder in some contexts suggests the general environment was one of scrub waste ground. These results although limited are those that are frequently observed from other medieval deposits within the region. In Droitwich similar assemblages have been recovered from excavations at Worcester Road (Bretherton *et al* 2000) and recently at Salters Shopping centre (Goat *et al* 2005). Similar assemblages have also been frequently recorded from numerous medieval pit deposits within the region including Worcester (Moffett 2004), High street, Evesham (Edwards and Hurst 2000) and Pershore (Nathan *et al* 1994).

6.11 Mammal and bird bones, by Ian Baxter

Romano-British

Only four identifiable fragments were recovered from Romano-British features: a cattle astragalus in ditch 1106 (fill 1108), a cattle metatarsal from the same feature (fill 1107), a sheep/goat upper molar in ditch or gully 1238 (fill 1261) and a horse upper P3 in ditch 1084 (fill 1085). The cattle metatarsal derived from a beast approximately 112cm high at the shoulder based on the multiplication factors of Matolcsi (1970). The horse P³ came from an animal aged around eleven years based on the comparative wear curves of Levine (1982).

Late Saxon

Four identifiable fragments were recovered from the late Saxon features: a cattle lower M3 in pit 1158 (fill 1155), a cattle calcaneum and a pig tibia in pit 1186 (fill 1187), and a horse innominate fragment in gully/ditch 1167 (fill 1168). The pig tibia, belonging to an animal at least two years old as the distal epiphysis is fused (Silver 1969), has an extensive exostosis on the medial surface probably caused by tethering (Plate 16). Examples of similar injuries resulting from tethering by the leg were found at West Stowe (Crabtree 1989).

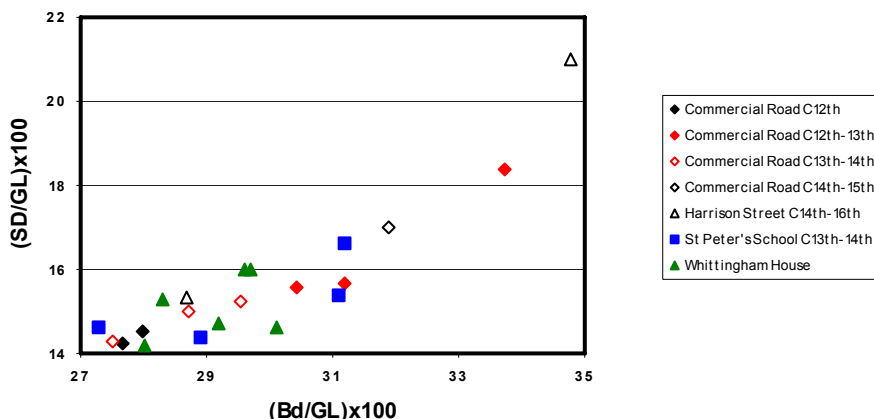
Medieval

The medieval assemblage forms the largest component of animal bones retrieved from the site amounting to 89% of identified fragments (Table 9). Cattle are the most frequent taxon by number of identified specimens (NISP) almost twice as common as sheep/goat at 28% of the total, followed by pig and horse both at 9.6%. Dog, cat, domestic fowl and goose are all represented by single fragments.

Cattle

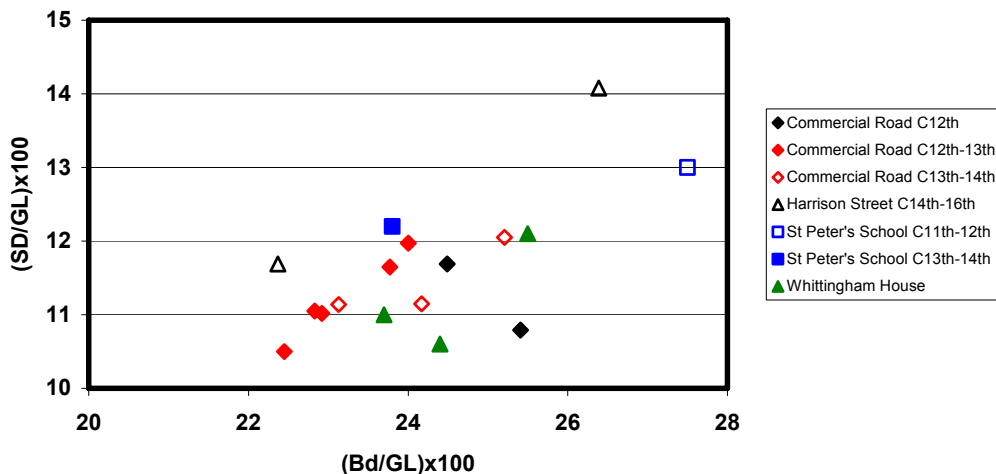
The cattle horncores are all derived from shorthorned adult beasts and fall into two groups with horns that curve downwards or forwards. When their basal dimensions are compared with the medieval horncores from the Birmingham Bullring (Baxter 2002) sites the majority group with the larger cores (Table 14). The ten mandibles recovered primarily derive from adult and elderly animals although juveniles and subadults are also represented (Table 10). A perinatal ilium was seen from the very large ditch (1263, fill 1266) and a proximal radius with unfused metaphysis from the post-medieval brine well (fill 1294). Most of the epiphyseal ends of bones found are fused. The shape of the cattle metacarpals is similar to those from the same period at Commercial Road, Hereford (Baxter forthcoming; Table 13). A total of ten complete metapodials were recovered and withers heights calculated using the factors of Matolcsi (1970) range from 103cm to 125cm with a mean average of 112cm. The cattle represented at Whittingham House are similar to those present elsewhere in the region during the medieval period. A metatarsal from the large ditch (1203, fill 1204) has the distal epiphysis broadened, a condition typically seen in draught cattle (Bartosiewicz *et al* 1997). Bones from all parts of the cattle skeleton are present in the medieval deposits along with cattle sized vertebra and rib fragments. The cattle bones derive from primary and secondary butchery waste. Two cattle sized rib fragments found in the large ditch (1175, fill 1176) have healed fractures and in one case the ends of the rib are misaligned (Plate 15).

Metacarpals



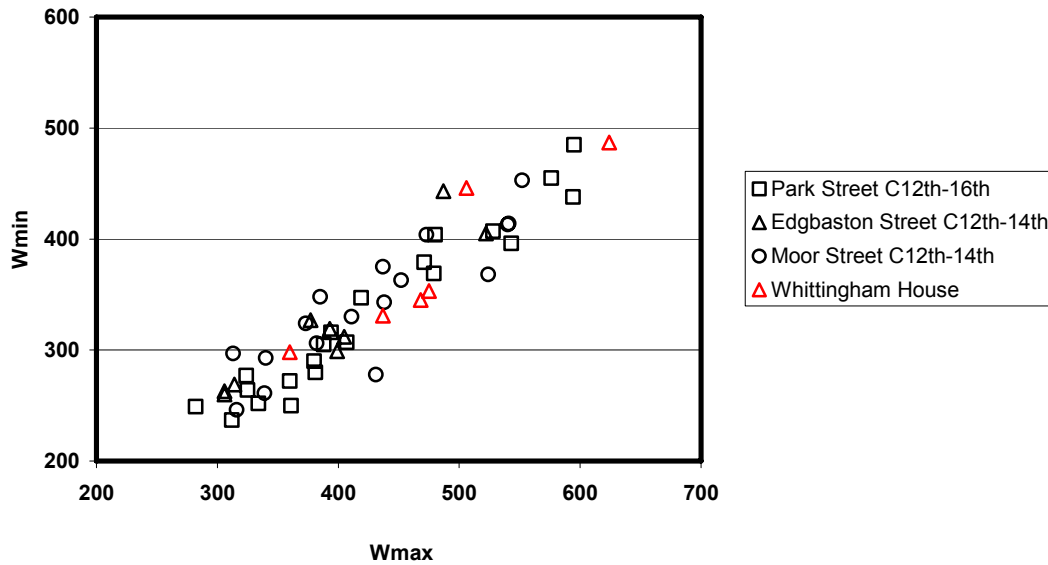
Commercial Road C12th		Commercial Road C12th-13 th		Commercial Road C13th-14th		Commercial Road C14th-15th		Harrison Street C14th-16 th		St Peter's School C13th-14th		Whittingham House	
27.99	14.53	33.73	18.36	29.55	15.26	31.90	17.01	28.67	15.33	31.20	16.6	28	14.20
27.66	14.25	30.44	15.55	28.72	14.99			34.78	20.99	27.30	14.60	30.10	14.60
		31.18	15.65	27.50	14.28					31.10	15.40	28.30	15.30
										28.90	14.40	29.70	16.0
												29.20	14.70
												29.60	16.0

Metatarsals



Commercial Road C12th		Commercial Road C12th-13th		Commercial Road C13th-14th		Harrison Street C14th-16th		St Peter's School C11th-12th		St Peter's School C13th-14th		Whittingham House	
24.49	11.69	22.83	11.05	25.31	12.05	26.39	14.08	27.50	13.0	23.80	12.20	25.50	12.10
25.41	10.79	24.0	11.97	23.13	11.14	22.37	11.69					24.4	10.60
		22.92	11.02	24.17	11.15							23.70	11.0
		23.77	11.65										
		22.45	10.50										

Table 13: Shape of medieval cattle metapodials at Whittingham House compared with the Hereford City Excavations V sites. Hereford sites: Commercial Road, Harrison Street and St. Peter's School based on Baxter (2003)



Park Street C12th-16th		Moor Street C12th-14 th		Edgbaston Street C12th-14th		Whittingham House	
Wmax	Wmin	Wmax	Wmin	Wmax	Wmin	Wmax	Wmin
360	272	411	330	377	327	475	353
360	250	473	404	306	260	468	345
334	252	540	413	314	269	360	298
381	280	438	343	522	405	506	446
380	290	382	306	487	443	437	331
325	264	385	348	306	263	624	487
282	249	313	297	399	299		
595	485	552	453	405	312		
471	379	340	293	393	319		
479	369	373	324				
576	455	524	368				
480	404	339	261				
528	407	431	278				
594	438	452	363				
312	237	316	246				
543	396	541	414				
419	347	437	375				
407	307						
324	277						
394	316						
388	305						

Measurements in tenths of mm

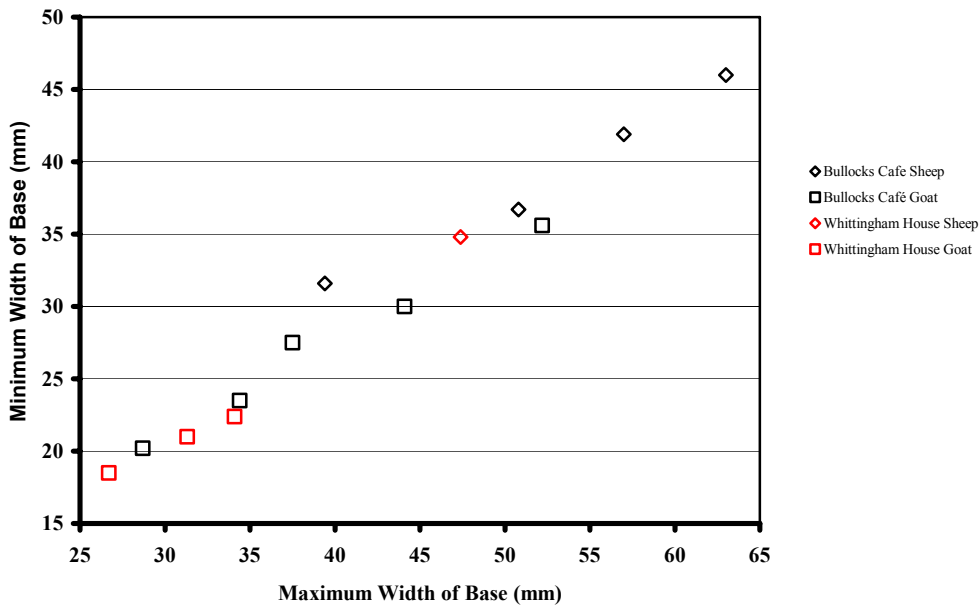
L = length; Wmax = maximum width of the base; Wmin = minimum width of base

Table 14: Size of cattle horncores at Whittingham House in the medieval period compared with the Birmingham Bull Ring sites. Birmingham Bull Ring sites: Park Street, Edgbaston Street and Moor Street based on Baxter (1999)

Sheep/Goat

Sheep/goat fragments comprise the second most frequent taxon at the site with both species represented. Most of the goat fragments consist of horncores. These are quite small and derive from females (Table 15). Also present are a goat radius and ulna found in the large ditch (1263, fill 1265) and a metacarpal found in ditch 1148 (fill 1146). The metacarpal clearly groups with the goats in Table 13 where the Whittingham House ovicaprid metacarpals are compared with those from the Hereford City Excavations V sites (Baxter

forthcoming). These goats would have stood approximately 59cm and 62cm high at the shoulder respectively based on the multiplication factors of Schramm (1967). A ram horncore was found in large ditch (1175, fill 1331). Only three ageable sheep/goat mandibles were found, two of these belonged to animals four to eight years old and the other to an animal two to four years old (Table 10). While most early fusing sheep/goat epiphyses are fused many of the later fusing ones remain unfused suggesting that most animals were slaughtered as prime lamb. Only three sheep bones were sufficiently complete to calculate withers heights, a radius from large ditch (1175, fill 1177) and metacarpals from the large ditch (1263, fill 1266) and a pit (1029, fill 1028). Shoulder heights range from 54cm to 58cm based on the multiplication factors of Teichert (1975). All parts of the sheep/goat skeleton are represented along with sheep sized vertebra and rib fragments suggestive of primary and secondary butchery waste.



Bullocks Cafe Sheep		Bullocks Cafe Goat		Whittingham House Sheep		Whittingham House Goat	
Wmax	Wmin	Wmax	Wmin	Wmax	Wmin	Wmax	Wmin
57	41.9	96	34	47.4	34.8	31.3	21
50.8	36.7	94	33.8			34.1	22.4
39.4	31.6	44.1	30			26.7	18.5
63	46	52.2	35.6				
		34.4	23.5				
		37.5	27.5				
		28.7	20.2				

Table 15: Size of the medieval Sheep and Goat horncores at Whittingham House compared with those from Bullocks Cafe car park, Worcester Road. Bullocks Cafe car park, Worcester Road, based on Baxter (1999)

Pig

Pig bones and teeth are less frequent than those of cattle and sheep/goat. A juvenile mandible with M₁ unerupted and a juvenile tibia diaphysis were found in the medieval ditch 1325 (fills 1327-9). Most of the few epiphyses seen were unfused although some earlier fusing epiphyses are fused. Pigs are generally slaughtered before achieving adulthood.

Horse

Horse remains are relatively frequent at Whittingham House and are similar in numbers to those of pig. Several loose teeth and mandibles were recovered from the medieval deposits and ages, based on the comparative wear curves of Levine (1982) and patterns of incisor wear illustrated by Barone (1980), range from eight years to over eighteen years with a mean of around twelve years.

Dog

The maxilla of a medium sized dog was found in the large ditch (1175, fill 1177).

Cat

A juvenile cat 3rd metatarsal was found in a ditch (1203, fill 1204).

Birds

Only two countable bird bones were recovered from the medieval deposits: a chicken coracoid in the large ditch (1263, fill 1266) and a goose distal tibiotarsus in a pit (1180, fill 1321/1322). The only other bird fragment recovered was a distal domestic fowl ulna found in the large ditch (1263, fill 1265). The goose tibiotarsus is of domestic or greylag (*Anser anser*) size.

Wild mammals

A deer antler tine fragment was found in a pit (1302, fill 1301). This has been artificially smoothed and has a rounded end.

Taxon	Period				Total
	Romano-British	Late Saxon	Medieval	Post-medieval/recent	
Cattle (<i>Bos f. domestic</i>)	2	2	79 [7]	6	89
Sheep/Goat (<i>Ovis/Capra f. domestic</i>)	1	-	43	2	46
Sheep (<i>Ovis f. domestic</i>)	(-)	(-)	(7) [1]	(1)	(8)
Goat (<i>Capra f. domestic</i>)	(-)	(-)	(5) [3]	(-)	(5)
Deer (<i>Cervus/Dama sp.</i>)	-	-	+	-	+
Pig (<i>Sus scrofa</i>)	-	1	15	1	16
Horse (<i>Equus caballus</i>)	1	1	15	1	19
Dog (<i>Canis familiaris</i>)	-	-	1	-	1
Cat (<i>Felis catus</i>)	-	-	1	-	1
Fowl (<i>Gallus f. domestic</i>)	-	-	1	1	2
Goose (<i>Anser/Branta sp.</i>)	-	-	1	-	1
Total	4	4	156	11	175

Table 16: Number of identified specimens (NISP)

“Sheep/ Goat” also includes the specimens identified to species. Numbers in parentheses are not included in the total of the period. “+” means that the taxon is present but no specimens

could be “counted” (see text). Numbers of horncores for cattle, sheep and goat included in species totals indicated in italicised square brackets.

Taxon	Mandibular wear stages												
	A		B		C		D		E		F		Total
	n	%	n	%	n	%	n	%	n	%	n	%	n
Sheep/Goat	-	0	-	0	-	0	1	33	2	67	-	0	3

Taxon	Mandibular wear stages										
	Juvenile		Immature		Subadult		Adult		Elderly		Total
	n	%	n	%	n	%	n	%	n	%	n
Cattle	1	10	-	0	2	20	4	40	3	30	10
Pig	1	100	-	0	-	0	-	0	-	0	1

Table 17: Medieval period 11th-14th century mandible wear

Mandibular wear stages (following Crabtree 1989 and O’Connor 1988). Only mandibles with two or more teeth (with recordable wear stages) in the dP₄/P₄ – M₃ row or isolated M₃ are considered.

6.11.1 Summary of the medieval assemblage

Cattle remains are the most frequent element of the medieval assemblage. The cattle were shorthorned beasts similar in size and type to the cattle present in other parts of the West Midlands during the medieval period. Both sheep and goats were present as is also typical for the region. Pigs, horses, cats and dogs were also present. Most of the horses were fairly old. Chickens and geese were kept. There is evidence to suggest that cattle and pigs were raised in the vicinity of the site and that deer antler was worked. Beef was the most common meat followed by lamb and mutton. Goats were probably primarily kept for milk, which may have been used to produce cheese.

6.11.2 Post-medieval/recent

The post-medieval and recent assemblage is much smaller than the medieval amounting to only eleven countable fragments. Cattle, sheep, pig, horse and chicken are all represented.

7. Synthesis

7.1 Prehistoric

The evidence for prehistoric activity is mainly residual in the form of some sherds of briquetage. Although this material is commonly ascribed to the Iron Age there is evidence for its use into the early Roman period at the production centre of Droitwich. No prehistoric layers or features were found within the area, with an absence of flint or other potentially prehistoric artefacts, aside from the briquetage.

7.2 Roman

The main area of interest in Roman Droitwich has been its salt production, the focus of which was to the north of the present High Street. There has, however, been little investigation of Roman remains to the south of the High Street. The main exception is a small excavation, just to the north of Whittingham House. Here the Roman remains consisted of a cobbled surface with evidence of several phases of resurfacing (Bretherton *et al* 2000, 13). The present Worcester Road is on the line of a Roman road and it is possible that the surface is part of the road or at least closely associated with it.

Two Roman ditches within the site probably represented some form of property boundaries. The two sections of ditch (1085 and 1251 with recut 1238) were probably one continuous length of ditch. With the main focus of Roman activity in Droitwich further to the north, it would seem that the ditches present at this location are probably examples of activity at the most southern edge of the Roman settlement. Animal bone located in the features points to a similar assemblage to the medieval features, with cattle, sheep/goat and horse being represented, indicating husbandry.

The ditches might have been property boundaries, which had at least two phases of use. Ditch 1106 in the north-west corner of the site was recut along the same alignment in the medieval period. The row of stakeholes are of indeterminate date, though lend support to the presence of a fence line along the north side of the ditch, though these could also be medieval and contemporary with the ditch (1109) just to the north. The Roman features at Whittingham House dated to the early and mid-Roman period (mid 1st to 3rd century), which is consistent with the results of the nearby Hanbury Street excavations (Hughes forthcoming; WSM 00681). This was a site located on the junction of the A38 (Gloucester to Wall) and the Droitwich to Alcester road. Two clear phases of Roman activity were uncovered, with drainage and boundary ditches featuring rows of stakeholes running along the base and sides of the features. The evidence pointed to phases of building within an area clearly demarcated by a boundary ditch. The building could have been a domestic household or a small farm serving the locality (Hughes forthcoming). The Bowling Green excavations also contained examples of ditches with rows of stakeholes along one side (Woodiwiss 1992, 121). A palisade trench had stakeholes (smaller than those at Whittingham House) driven into the upper slope that may have supported a fence.

The second ditch (1084/1251) was a, roughly east to west aligned, Roman ditch (1251), that was cut by the very large medieval ditch, but showed no trace of having continued into the area to the east of that large ditch. The ditch appears to have started to turn slightly to the north just before it was truncated by the large medieval ditch, so a possible eastern side of an enclosure (removed by the large medieval ditch) has been lost. The remaining ditch shows it to be roughly perpendicular to the Roman road. It seems unlikely, given the negative results of the watching brief in the area of the site adjacent to the road, that there was Roman occupation there. The Roman boundary ditches seem to have respected a pattern of settlement just to the north-east of this site and not to the south-west.

7.3 **Post-Roman to late Saxon**

Deposits of this period tend to be rare nationally and the good preservation of such deposits in parts of Droitwich lends much to the archaeological importance of the town. As in the Roman period the main focus of activity was to the north of the site and again associated with salt production. Given the existing evidence for Anglo-Saxon occupation in Droitwich, the features from the late Saxon period at Whittingham House are very significant, as they are some distance from the known zone of occupation from the period.

Ditch 1252 (207/209 in the evaluation; Figure 5) has probably been truncated by modern activity and extended towards the east, terminating in the ditch recorded as 1038. This ditch could have served as a drainage gully within a ditched enclosure, of which ditch 1055/1165/1167/1161 could have been one of the boundaries.

Ditch 1055 bears much more similarity to a boundary ditch, whilst structural evidence was represented by post and stakehole 1036 and 1034 respectively. Pit 1186 on the east side of the large medieval ditch added further evidence of activity. Post and stakeholes 1036 and 1034 were possibly part of a fence, the rest of which has probably been truncated.

As for the Roman period it seems most likely that activity in this area was either domestic or agricultural in nature. Salvage excavation on the Old Police Station (WSM 601) revealed part of a curvilinear ditched enclosure with grass-tempered pottery sherds. The plan of the enclosure and size of the ditch were thought to be inappropriate for a field boundary. The

Police Station site may be part of a more extensive pattern of dispersed settlement or an isolated site (Bond and Hunt 1992, 191). The bone remains certainly point to some evidence of husbandry in this period.

The late Saxon features from the site do not lend any great weight to any evidence for a distinct urban character in Droitwich, despite the documentary evidence of Droitwich being a thriving town during this period. The Anglo-Saxon *wic* settlements would seem to have clustered around individual brine wells, for example at Upwich and Middlewich (Hurst 1997). A high status site in the late Saxon period was located at nearby Wychbold, where the Mercian kings occasionally resided (Hooke 1981). It seems likely that the area of Whittingham House was probably on the edge of the zone of Saxon activity and reflected a agricultural activity or some form of domestic occupation, rather than a densely populated zone consistent with large-scale industrial activity.

7.4 Medieval

The site is more obviously related to the topography of the medieval town being situated to the rear of properties fronting major medieval streets (High Street and St Andrew's Street). One of these properties (the present Raven Hotel) was possibly a manor house.

Before 1215 it is assumed that the salt industry of Droitwich continued much as it had done in the late Saxon period. However, from the early 13th century an important change occurred in Droitwich, which placed the control of salt production in the hands of town officials, the burgesses. The Crown carefully supervised the exercising of salt rights and levied £100 a year from the owners of the salt rights. The brine well at Upwich was totally rebuilt in 1264-5 and incorporated a mechanical device that assisted in the extraction of brine (Hurst 1997, 151). By 1300 Droitwich was a flourishing industrial town with municipal government and a chartered market (Bond and Hunt 1992, 196).

The medieval archaeology on the site accounted for most of what was found and excavated. The large ditch running roughly north-east to south-west across the area of the excavation is possibly a moat, though it is more likely a substantial boundary. It's a feature that dominates the site and marks the boundary between a concentration of archaeological activity on the west side of it (towards St Andrew's Street) and a comparative paucity to the east. The location of the ditch coincides with a clear change in the natural, with the red sandy soils on the east side contrasting with the clay predominating on the other side. Perhaps this reflects a deliberate constraint on occupation so as not to encroach on lighter soils for agriculture which are relatively rare in the vicinity. The vast majority of the features from the medieval period date closely to the 13th-14th centuries. The large ditch and all the various medieval features (mostly gullies) cutting into the later ditch fills, all produced material from the same date range.

The large ditch seems to have had a predecessor (1325), which dates to the 12th to 13th centuries, along the same alignment. This is likely to have been largely truncated by the later, and much larger feature. The area of medieval settlement appears to focus on St Andrew's Street rather than the older, and still used, routeway along what is now Worcester Road. The nature of the medieval activity and the presence of such a significant boundary ditch there suggests a great deal of potential medieval activity concentrated in an area to the west of this site, perhaps even within the cartilage of a manor house.

Aside from the large ditch, the most interesting feature from this period was the collection of postholes (1062), which could be interpreted as a dovecote. There are few, if any, circular buildings from the medieval period, which could be interpreted as anything else. Circular dovecotes existed in a number of areas in Worcestershire in the medieval and early post-medieval period, for example at Middle Littleton, Wick, Cleeve Prior, Kyre Magna and Comberton, near Pershore (Cooke 1920). These were stone examples, but the ancestors to these might have been in the form of smaller, timber structures. Doves and pigeons were kept in these buildings for consumption. "These structures, some quite elegant, were common

throughout Europe. England boasted over 26,000 dovecotes by the 17th Century, many on the grounds of monasteries and manor houses. They were often found at these places because they were an incredibly profitable and worthwhile food source” (*The Pigeon Cote Presents*). Their presence on high status sites is supported by local examples, such as the Cleeve Prior dovecote, which was located at the manor house (Cooke 1920, 87). The county also has a number of timber-framed dovecotes, although none are recorded in Cooke’s study as being circular. He does mention however, that “it is permissible to speak of the large circular examples demolished during the last [19th] century at Cotheridge, Huddington Court and Fladbury” (Cooke 1920, 93). There is no evidence to suggest that these were of timber construction or not. Ultimately the presence of such a building on the site lends extra credence to the site being part of a manorial residence.

Most of the other features on the site point to a general picture of domestic activity. There are a number of medieval pits, which could have served varying functions but mostly ended up as rubbish dumps. The amorphous spreads of dark material covering an irregular, churned-up natural clay indicates the trampling of confined cattle. The bone recovered from the site points to husbandry of cattle and sheep.

The possibility that the large ditch formed part of a moat has been alluded to above and bears some consideration, especially as this form of monument is common in Worcestershire and many examples date to the 13th and 14th centuries. The Raven Hotel (WSM 00647) lies 120m to the south-west of the site is a possible former medieval manorial residence, whose fabric is still partially in existence within the mostly post-medieval extant building (Hurst pers comm). The manor house has existed since at least the 12th century and was presumably home to one of the burgess families of Droitwich. If the large ditch were the eastern arm of a moat then it would have enclosed a very large area, though large moated areas are not at all unknown. The feature could, of course, have enclosed another house. Militating against identification of the large ditch as a moat are the absence of any suggestion that it forms an enclosure (no change in direction) and that it does not run parallel to St Andrew’s Street as might be anticipated (though again not all moats are symmetrical). On balance, it seems most likely that the ditch forms a major boundary to the urban area for the properties fronting St Andrew’s Street, and this provides a hypothesis for further testing on future projects.

The large ditch does not appear to have survived in its enlarged form very long. The later fills of the feature date to the same period, probably the mid 14th century. Later gullies are dug into the upper deposits. Although the Droitwich burgesses continued to benefit from the salt industry until the late 17th century (Hurst 1997, 151) the Black Death might have accounted for the eventual disuse of an originally impressive landscape feature and it disappears to be covered by a series of possible horticultural plot boundaries (1032, 1079, 1196, 1226, 1285 and 1344) on a different alignment.

Although archaeological activity continued on the site into the post-medieval and modern periods the site’s features never seemed to have approached the size and presumed importance of the large 13th-14th century ditch and the associated features from the same period. Whilst much is known about the multi-period salt industry concentrated in the Salwarpe flood plain, the information regarding high status buildings and town boundaries, is more sparse.

7.5 Post-medieval

The site contained a variety of features from this period ranging from pits, and building remains to brine shafts.

The building remains on site are consistent with buildings located on the various Ordnance Survey maps dating from the 19th to 20th centuries (Figures 12-15). The large rectangular building found in the southern half of the development area (Figure 2, Plate 3) is present on all the Ordnance Survey maps up to 1927 (Figures 12-15). The 1938 OS map (Figure 15) shows the building to have disappeared and the now-demolished Whittingham House present,

situated a short distance to the east. The main access also changes from Tower Hill to off Worcester Road.

A series of brick footings from what appears to have been several buildings located on the street frontage at Tower Hill were located at the northern side of the excavation area. Feature 1049 was probably the remnants of a backfilled cellar associated with these. The 1885 and 1903 Ordnance Survey (Figures 12 and 13) clearly show a short terrace of houses fronting on to what was then Dripping Lane. These had been demolished by 1927 (Figure 14). The brick used for these houses were visible in the footings and seemed consistent with a 19th century date. Properties fronted on to both sides of Tower Hill along its east-west length. Until the present development these had been cleared in the 20th century.

The two brick features cutting in to the top of the large medieval ditch (1345 and 1346) would appear to be 18th century in date, pre-dating the deposition of material over the garden. These brick structures bear a close similarity to the brick furnaces of the 18th-20th centuries in the salt manufacturing buildings either side of the Salwarpe. The excavation at Upwich produced such examples (Hurst 1997, 64). Additionally the presence of several probable brine shafts (1220, 1293 and 1350) on the site supports the evidence of industrial salt production here that must have existed for a short while. The furnaces must have been in existence between 1695 and 1786, or consistent with archaeological and documentary evidence of the de-regulated brine industry in Droitwich, though earlier tithe and other maps show no buildings in this area. The two furnace bases would have been placed at the end and under a large brine pan, which would have extended to the north side of the furnaces. The remnants of the building, which housed the furnaces and pan were not, however, identified in the excavation.

Pitting activity on site dating to the post-medieval period was relatively widespread, pre-dating the phase that saw a massive amount of imported material being spread across the garden area and sealing the earlier deposits. The pitting would appear to indicate general domestic activity.

7.6 Research frameworks

The excavation and watching brief at Whittingham House has added to number research frameworks, such as the *Central Marches historic towns survey* of Droitwich (Hurst and Buteux 1996). Most notably the site extends part of the eastern urban area boundary some 100m to the east. In addition to this the site is of special value to the *West Midlands research framework for archaeology*. The aim of the West Midlands framework is to produce an archaeological research cycle that will provide a viable, realistic and effective academic basis for undertaking archaeological intervention, either as a result of development related operations or to underpin future research designs (<http://www.arch-ant.bham.ac.uk/wmrrfa/intro.htm>). The pottery assemblage showed a strong quantity of 13th-14th century material, which will be useful to compare with any further excavations in zones immediately surrounding site. The presence of the moat or boundary will be something to anticipate in future archaeological projects in that zone of the town.

8. Publication summary

The Service has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, the Service intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

An archaeological excavation and watching brief were undertaken at Whittingham House, Droitwich, Worcestershire (NGR SO 9003 6328). The project was undertaken on behalf of McCarthy and Stone Developments Ltd who had planning permission (W/02/02140/PN) to

build retirement flats and low-cost housing on the site. The project aimed to record and interpret the deposits of medieval and earlier date previously located during an evaluation.

The excavation and watching brief revealed a sequence of activity from the Roman, late Saxon, medieval and post-medieval periods. The Roman features took the form of ditches, which could have marked field systems or property boundaries on the edge of the Roman settlement.

The late Saxon features were a mixture of pits, ditches and postholes. The features, artefacts and ecofacts indicated evidence of domestic occupation and tethering of animals. The nature of the late Saxon remains indicate some form of domestic occupation which add to the evidence from elsewhere in Droitwich.

The majority of the activity on the site was medieval and later. A very large ditch dating to the 13th-14th centuries dominated the excavation area and pointed to the presence of either a medieval manorial enclosure (the ditch acting as a moat), or more probably a large boundary ditch. The ditch might also have demarcated the eastern boundary of the urban area in the 13th-14th centuries. The density of features indicated the area of occupation was on the west side of the ditch. The ditch may have been associated with a manor house that existed on the site of the present Raven Hotel, which is known to have existed from at least the 12th century, being the birthplace of Richard de Wych. A small assemblage of animal bones belonged to domestically reared animals; cattle, sheep, goats, pigs, horses etc. The area also showed evidence of animal trampling, with large amorphous spreads of dark material covering irregular (disturbed) natural clay surfaces. The site also contained a semi-circle of postholes extending beyond the excavation boundary, which have been interpreted as a possible dovecote. Dovecotes were often situated within the confines of manorial sites in the medieval and post-medieval periods. If Whittingham House was an area associated with the Raven Hotel manor house, the area of land which the manor dominated would have been very large. The owner of this property could only have been one of the wealthy new salt burgesses that rose to prominence in Droitwich from the early 13th century, when rights to the salt extraction were farmed out to town officials, with the Crown supervising the distribution of salt rights and the levies on the owners.

The excavation also contained the unexpected remains of a post-medieval salt production area and included furnaces and brine shafts.

9. **The archive**

The archive consists of:

12	Context number catalogues AS5
28	Fieldwork progress records AS2
28	Photographic records AS3
440	Digital photographs
4	Drawing number catalogues AS4
11	Levels records AS19
5	Trench record sheets AS41
1	Sample records AS17
118	Abbreviated context records AS40
33	Scale plan and section drawings
4	Boxes of finds and Access 2000 Database

The project archive is intended to be placed at:

Worcestershire County Museum

Hartlebury Castle

Hartlebury

Near Kidderminster

Worcestershire DY11 7XZ

Tel Hartlebury (01299) 250416

10. **Acknowledgements**

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11. **Personnel**

The excavation fieldwork and report preparation was led by James Goad. The project manager responsible for the quality of the project was Simon Woodiwiss. Fieldwork was undertaken by James Goad, Alvaro Mora-Ottamano, Jon Milward, Darren Miller, Angus Crawford, Andy Mann, Adam Mindykowski and Christine Elgy. Finds analysis by Alan Jacobs, environmental analysis by Andrew Mann and illustration by Carolyn Hunt. A draft of the text was commented on by Derek Hurst.

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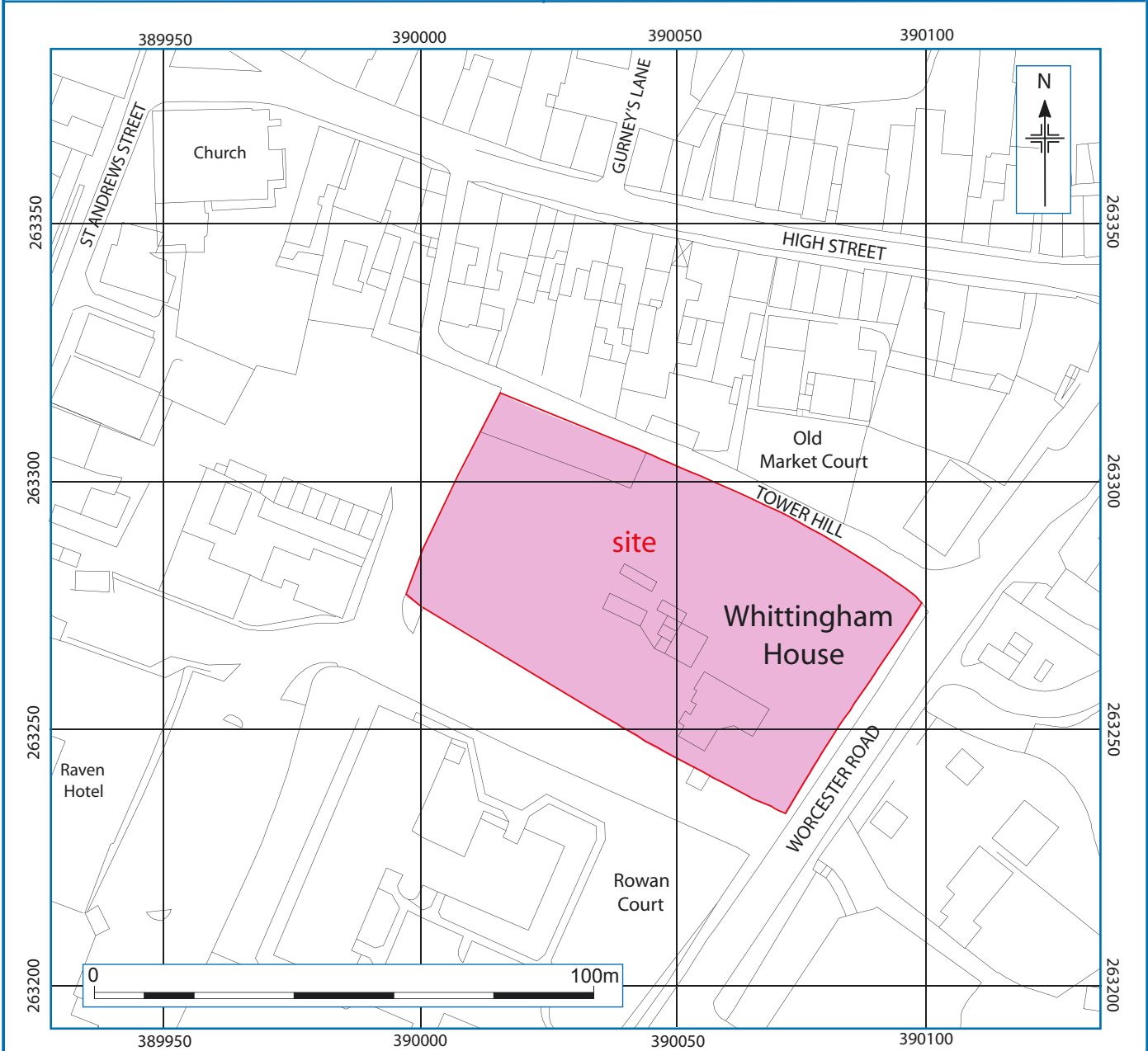
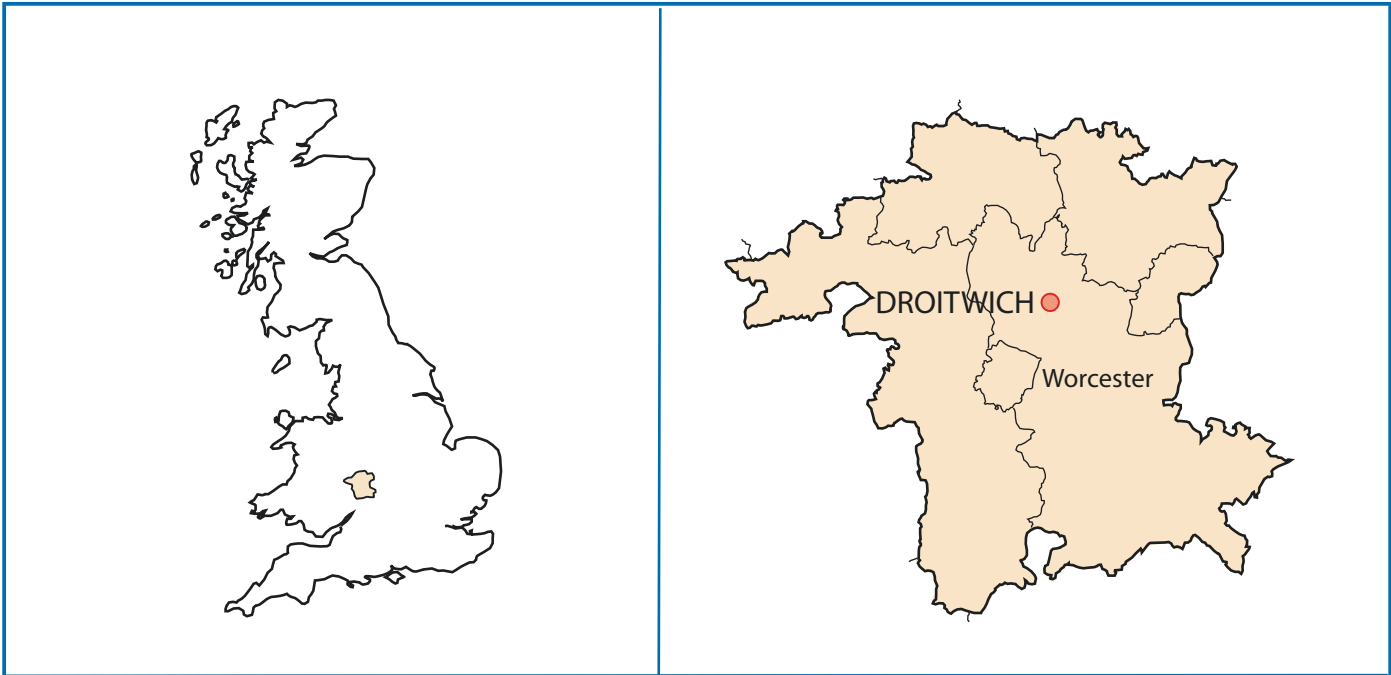
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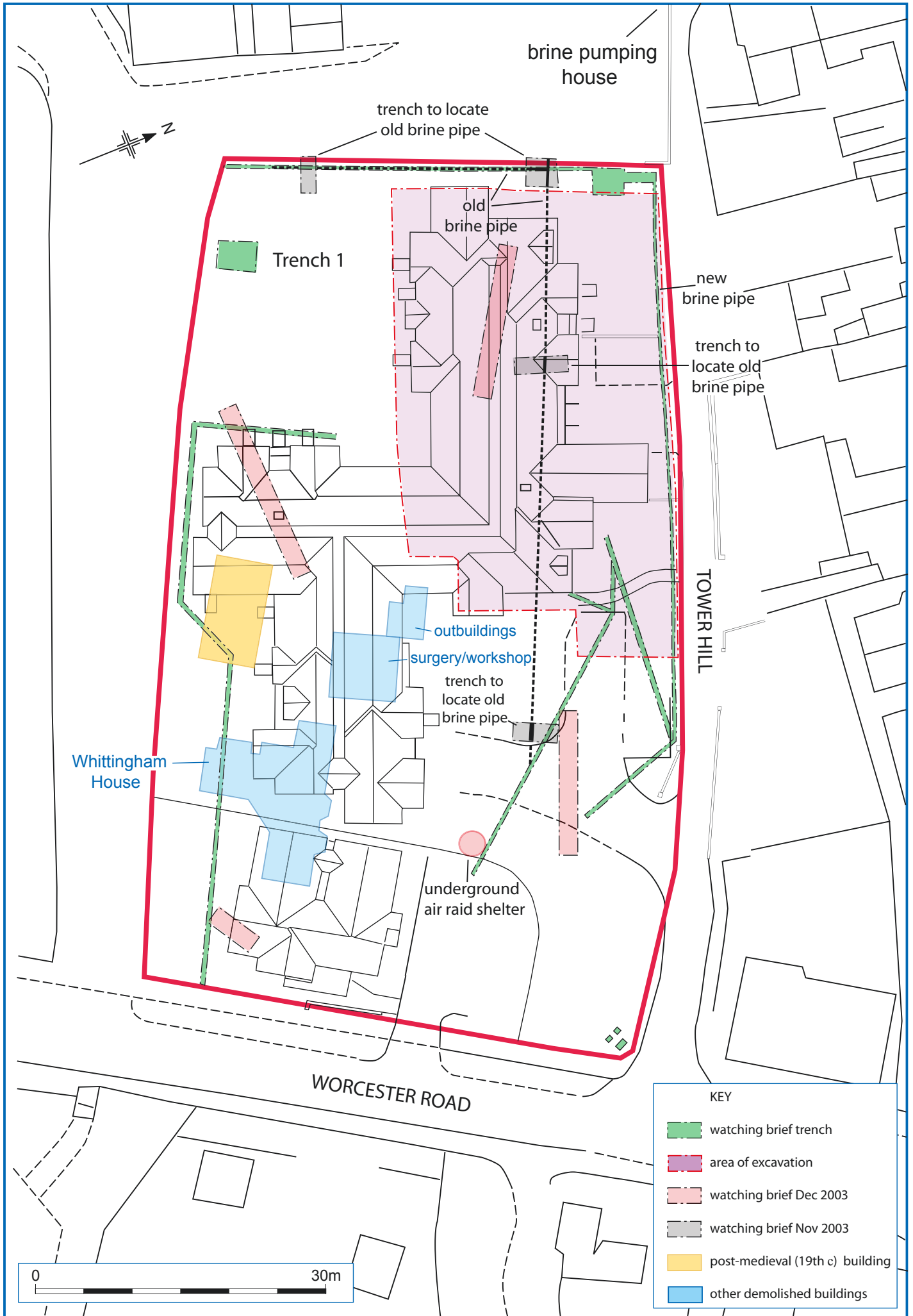
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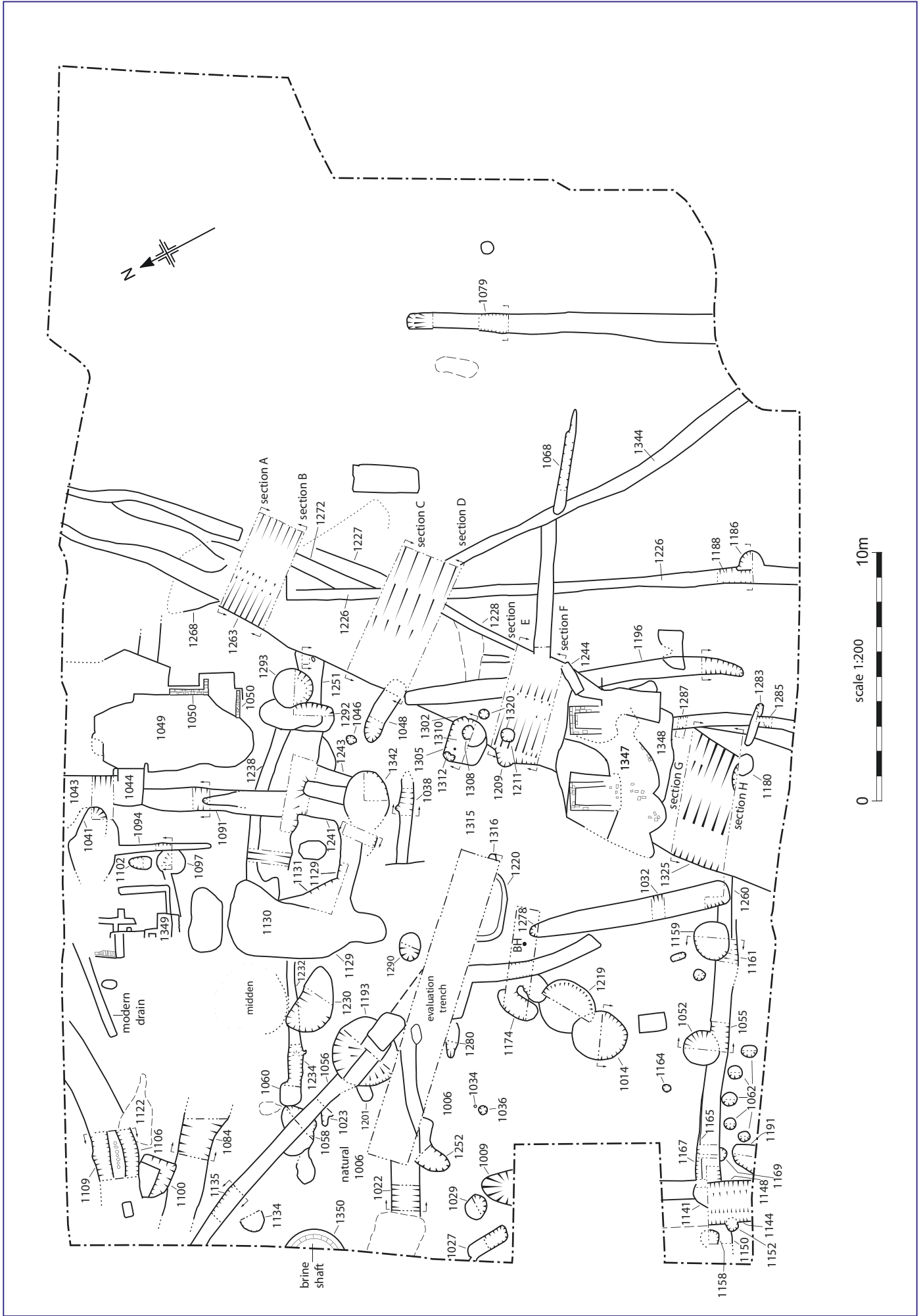
Location of the site.

Figure 1



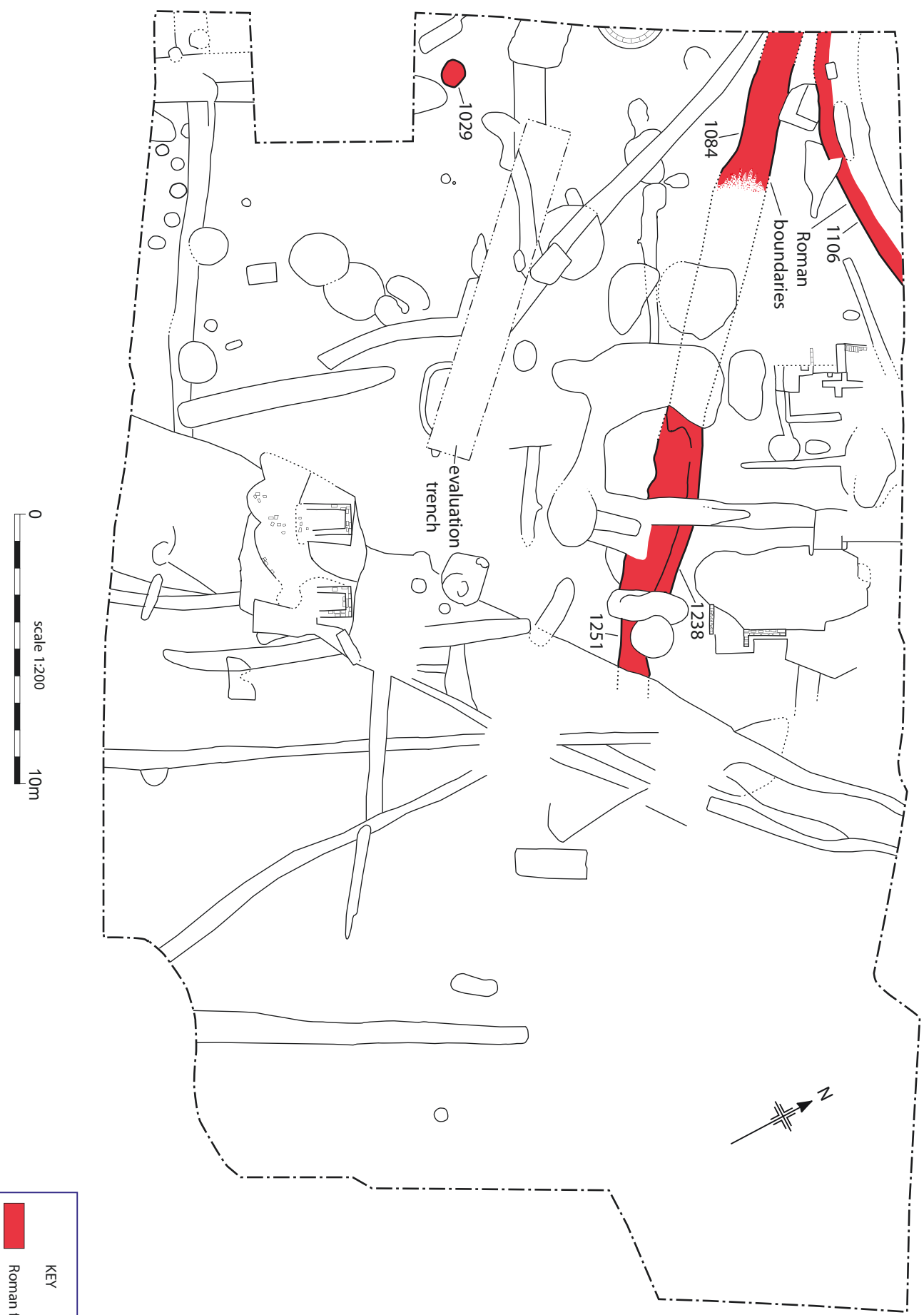
Location of trenches (based upon McCarthy and Stone dwg no 1081/2/111)

Figure 2



Plan of excavation area with all features

Figure 3

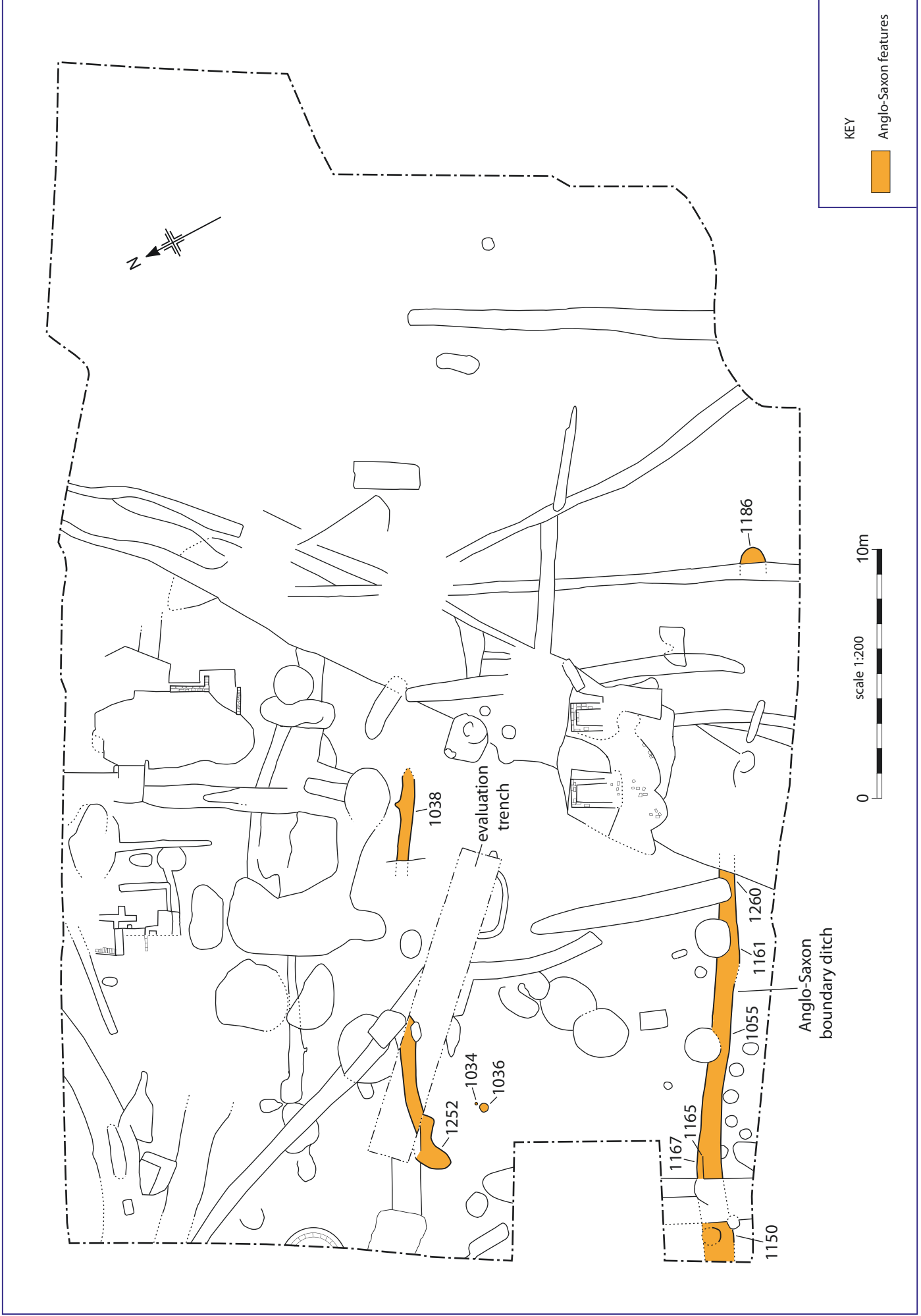


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 10m

KEY
 Roman features

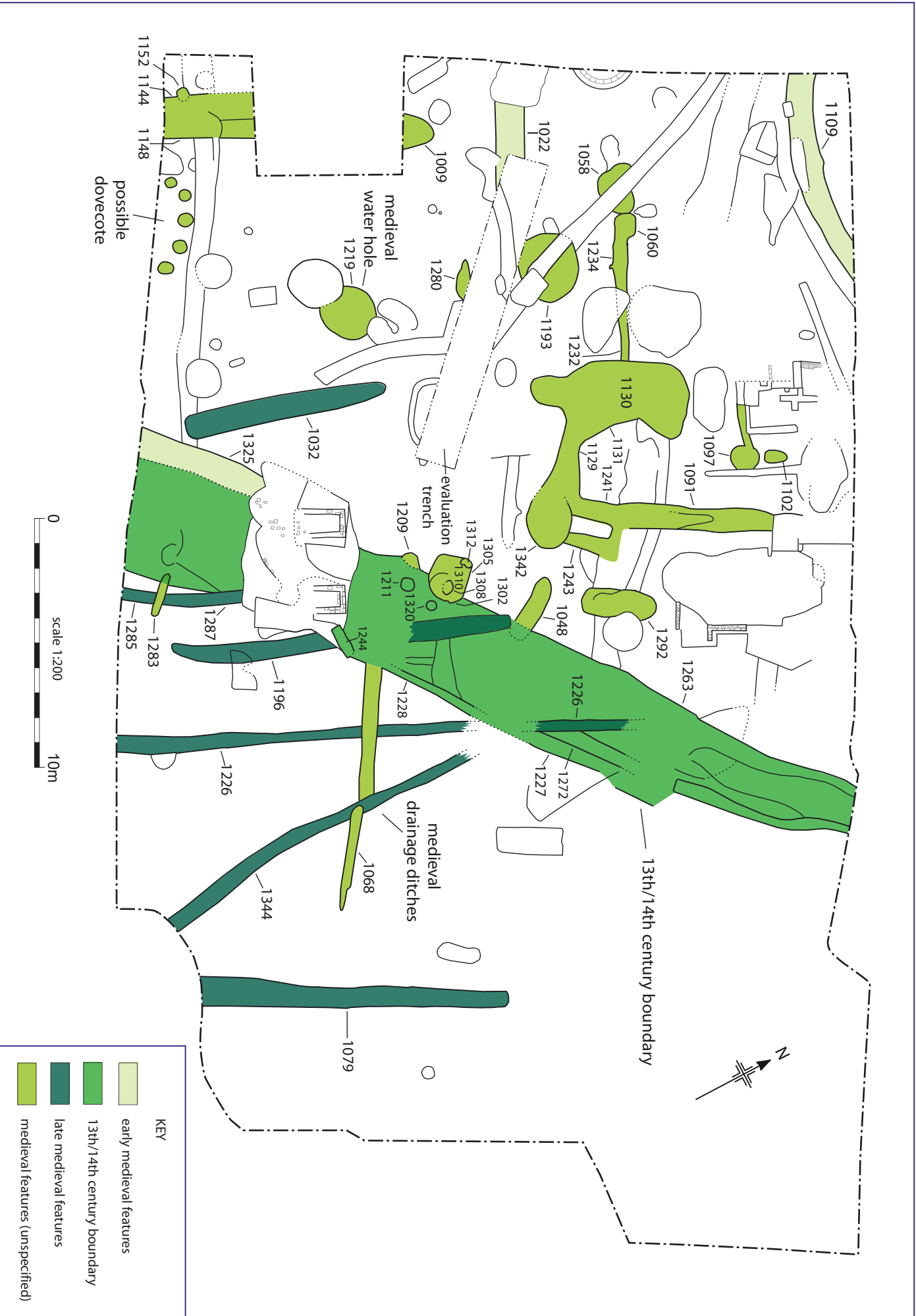
Phases of occupation: Roman features

Figure 4



Phases of occupation: Anglo-Saxon

Figure 5



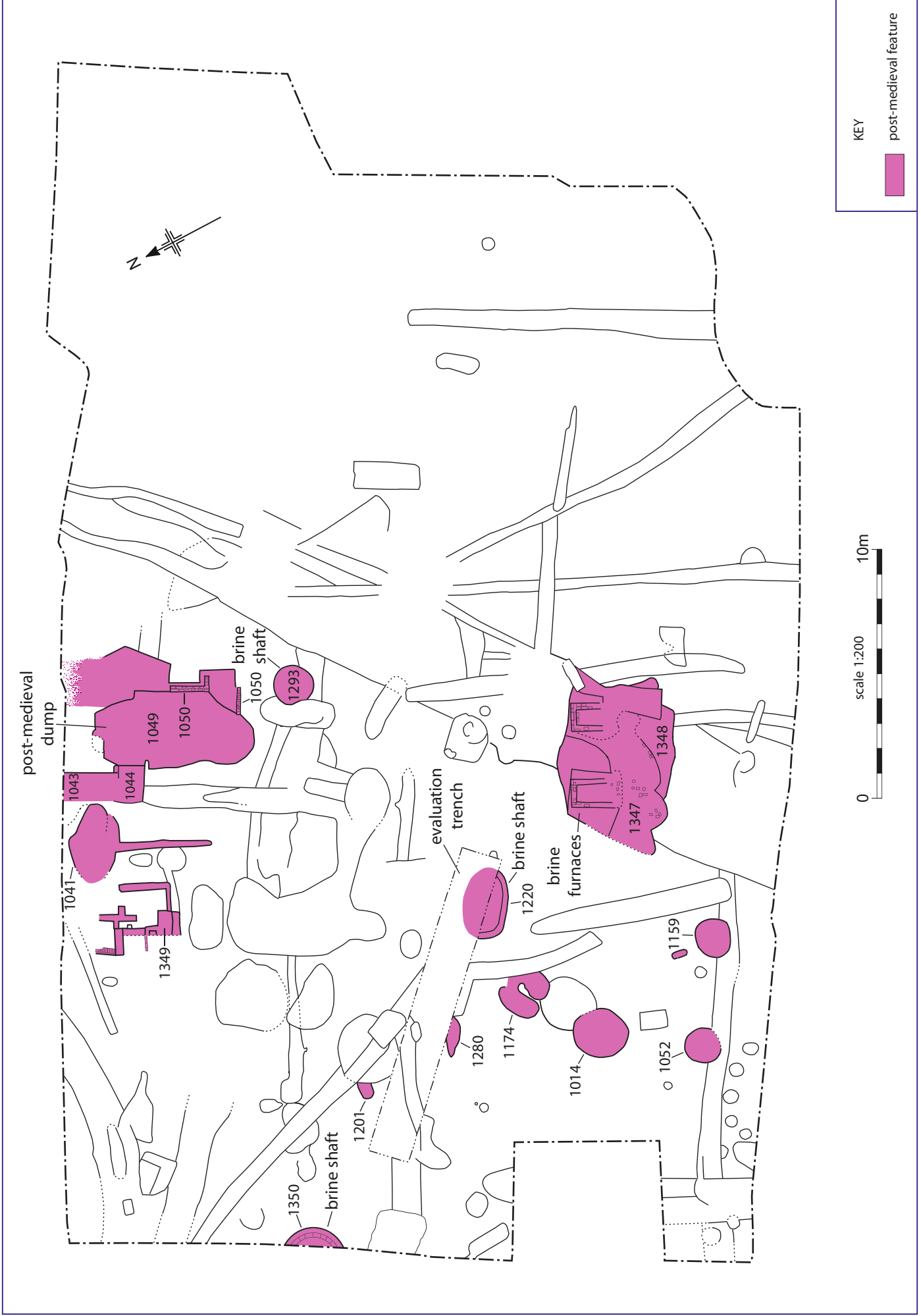
Phases of occupation: medieval

Figure 6

KEY	
	early medieval features
	13th/14th century boundary
	late medieval features
	medieval features (unspecified)

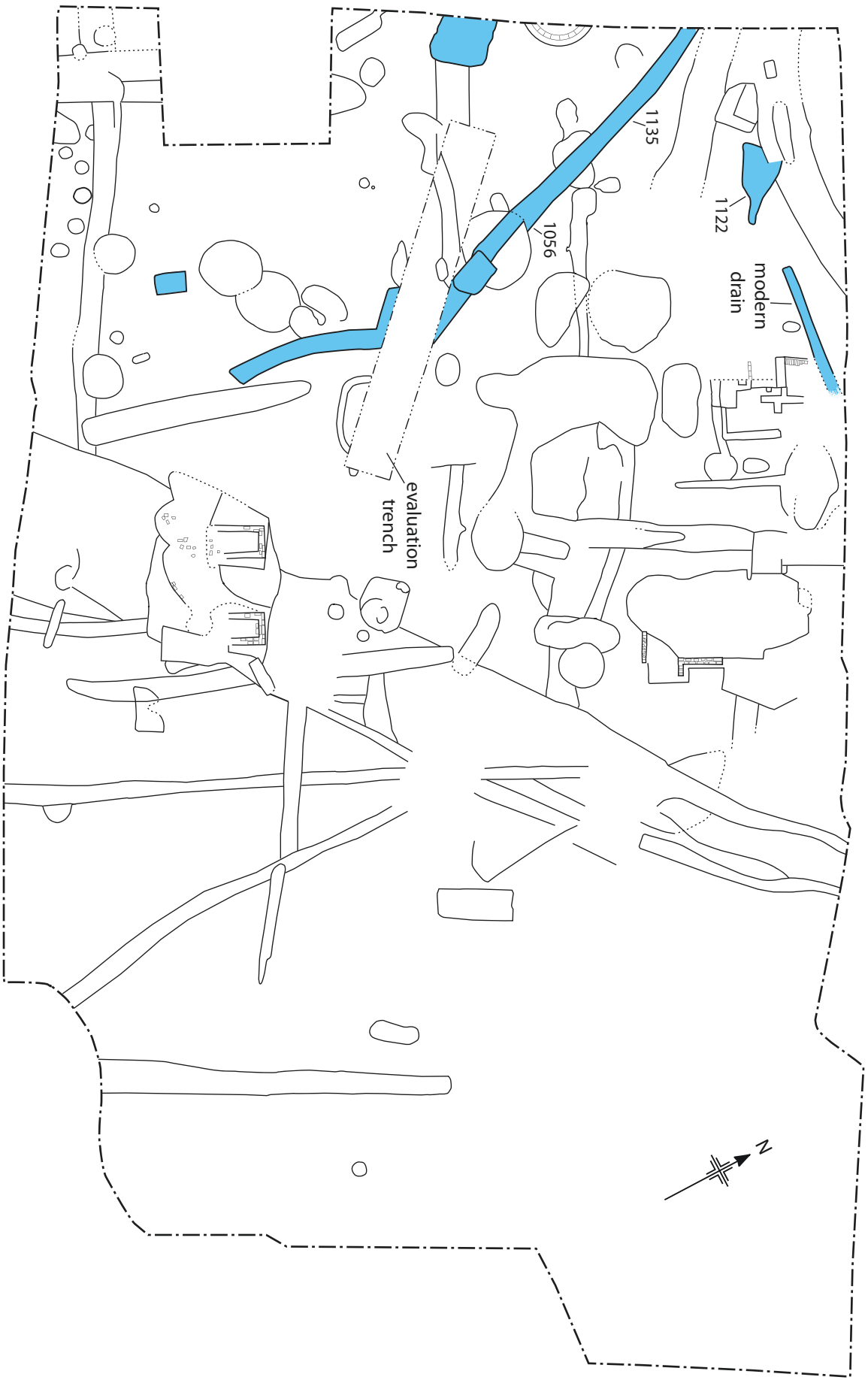
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Phases of occupation: post-medieval

Figure 7



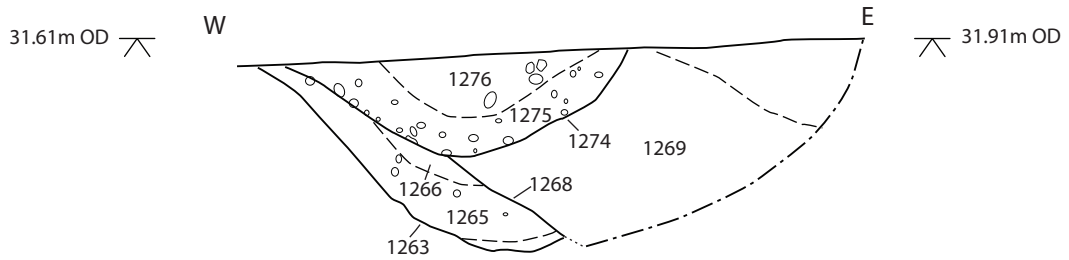
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KEY
 modern features

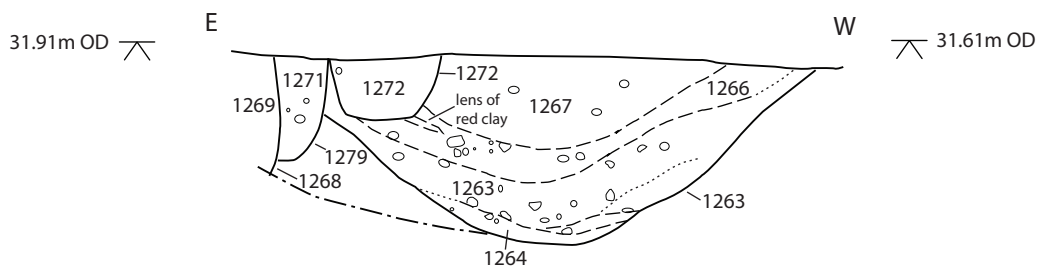
Phases of occupation: modern

Figure 8

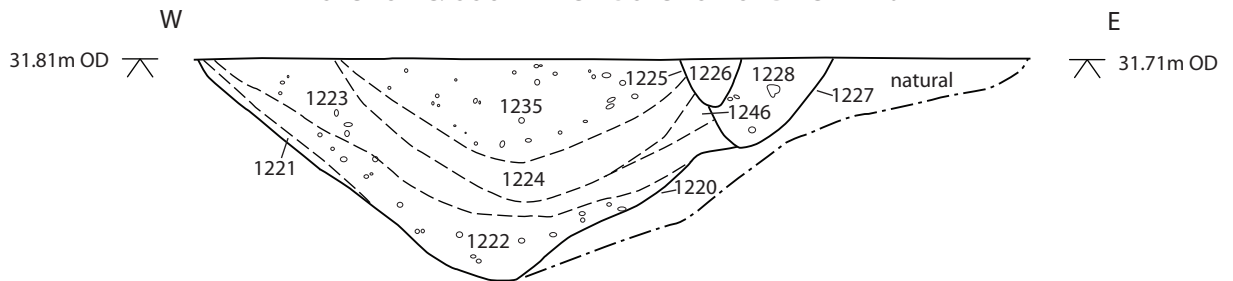
SECTION A: SOUTH-FACING SECTION THROUGH 1263, 1268 AND 1274



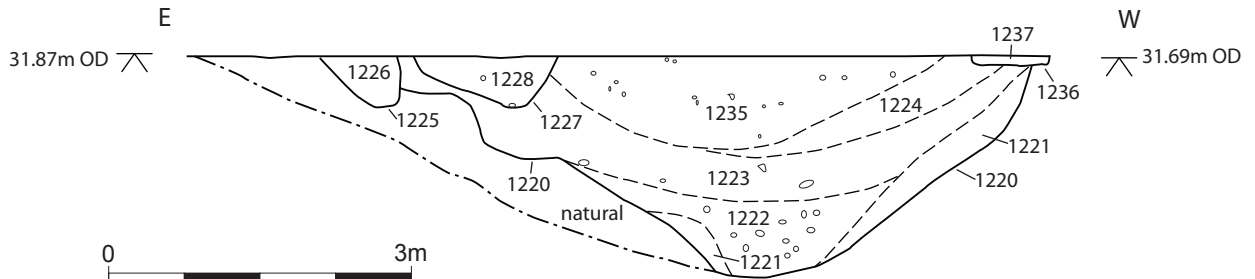
SECTION B: NORTH-FACING SECTION THROUGH 1263, 1272, 1270 AND 1268



SECTION C: SOUTH-FACING SECTION OF DITCH 1220

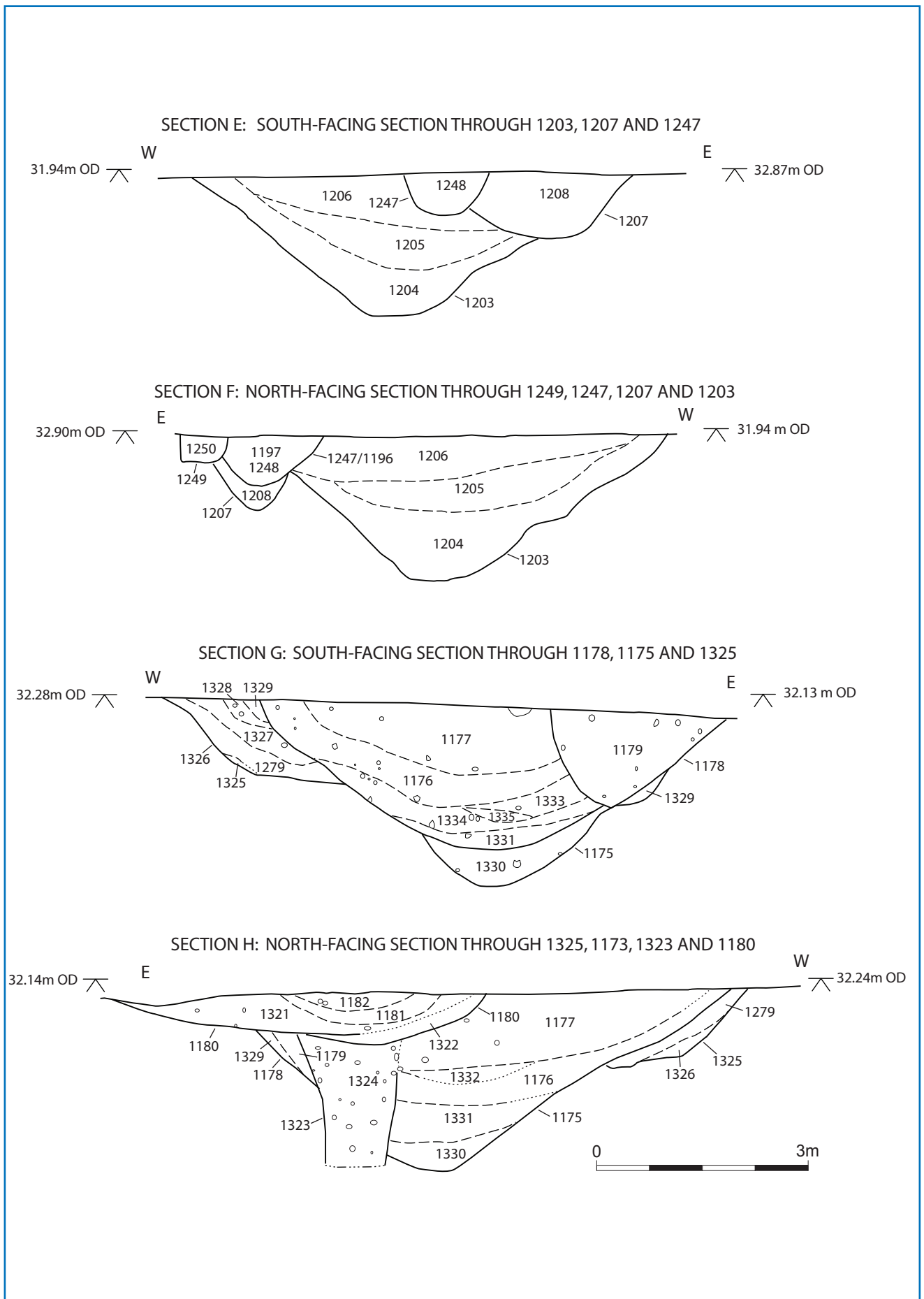


SECTION D: NORTH-FACING SECTION OF DITCH 1220



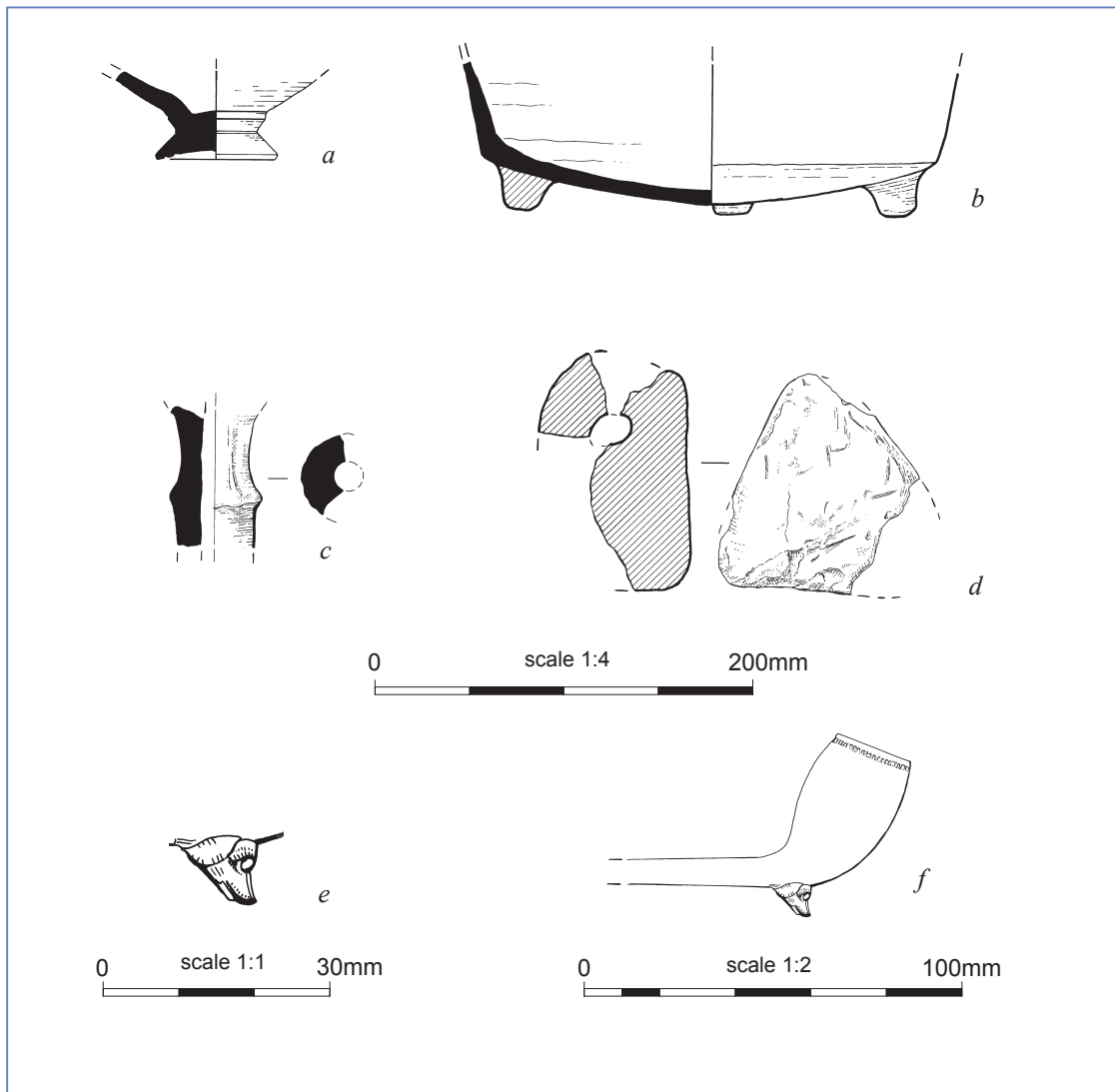
Sections through boundary

Figure 9



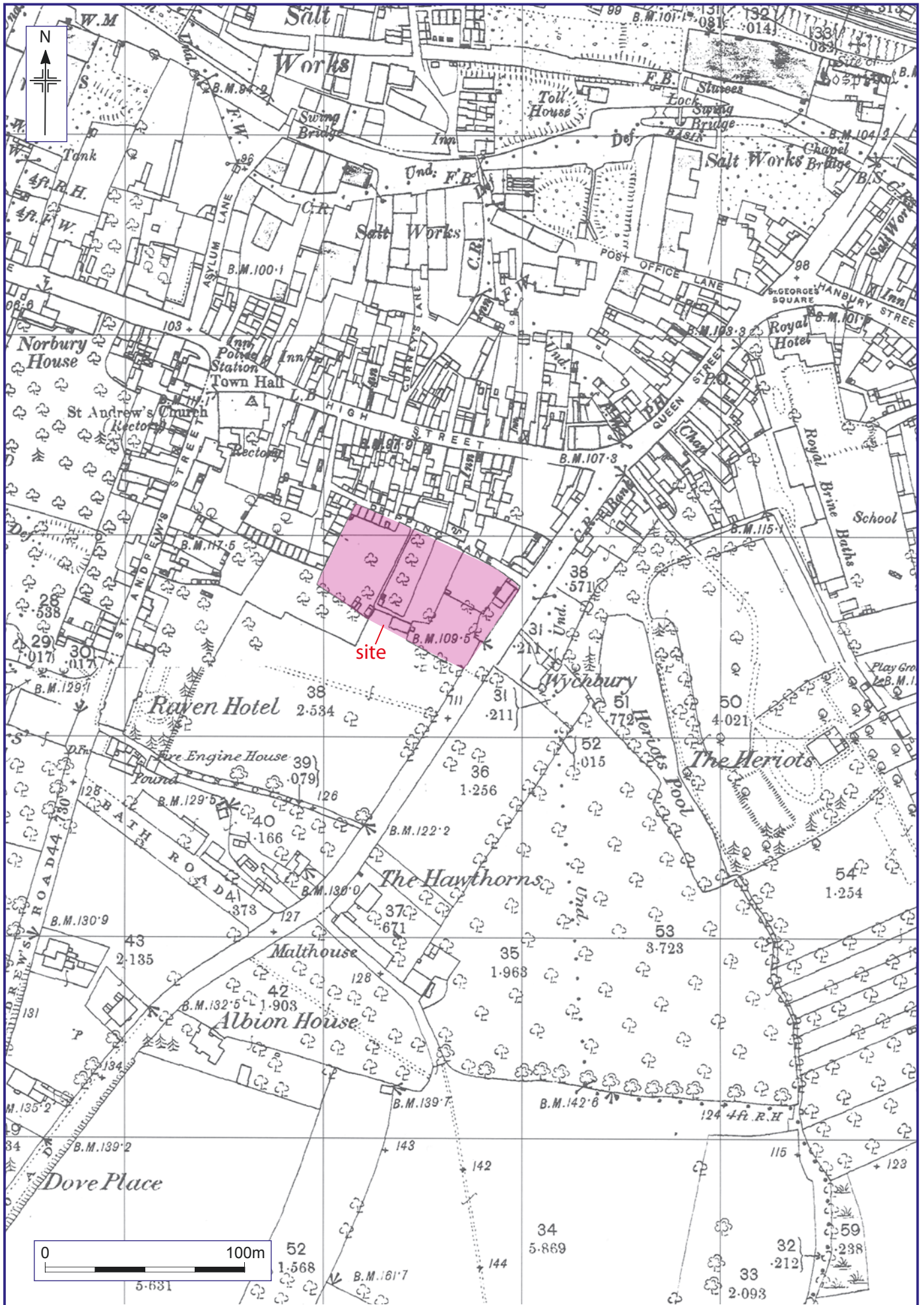
Sections through boundary

Figure 10



Pottery and ceramic objects

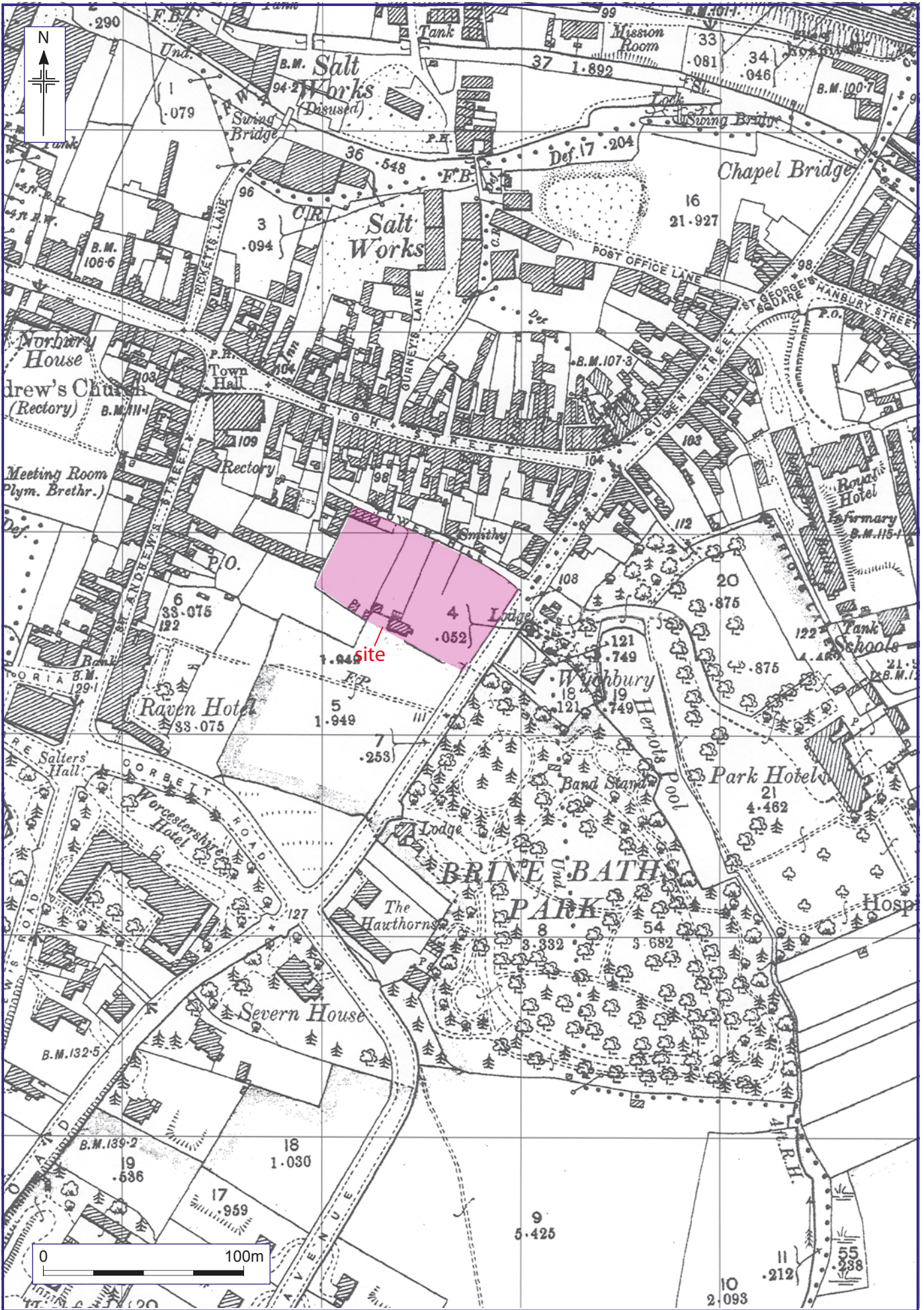
Figure 11



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Extract from 1885 Ordnance Survey map

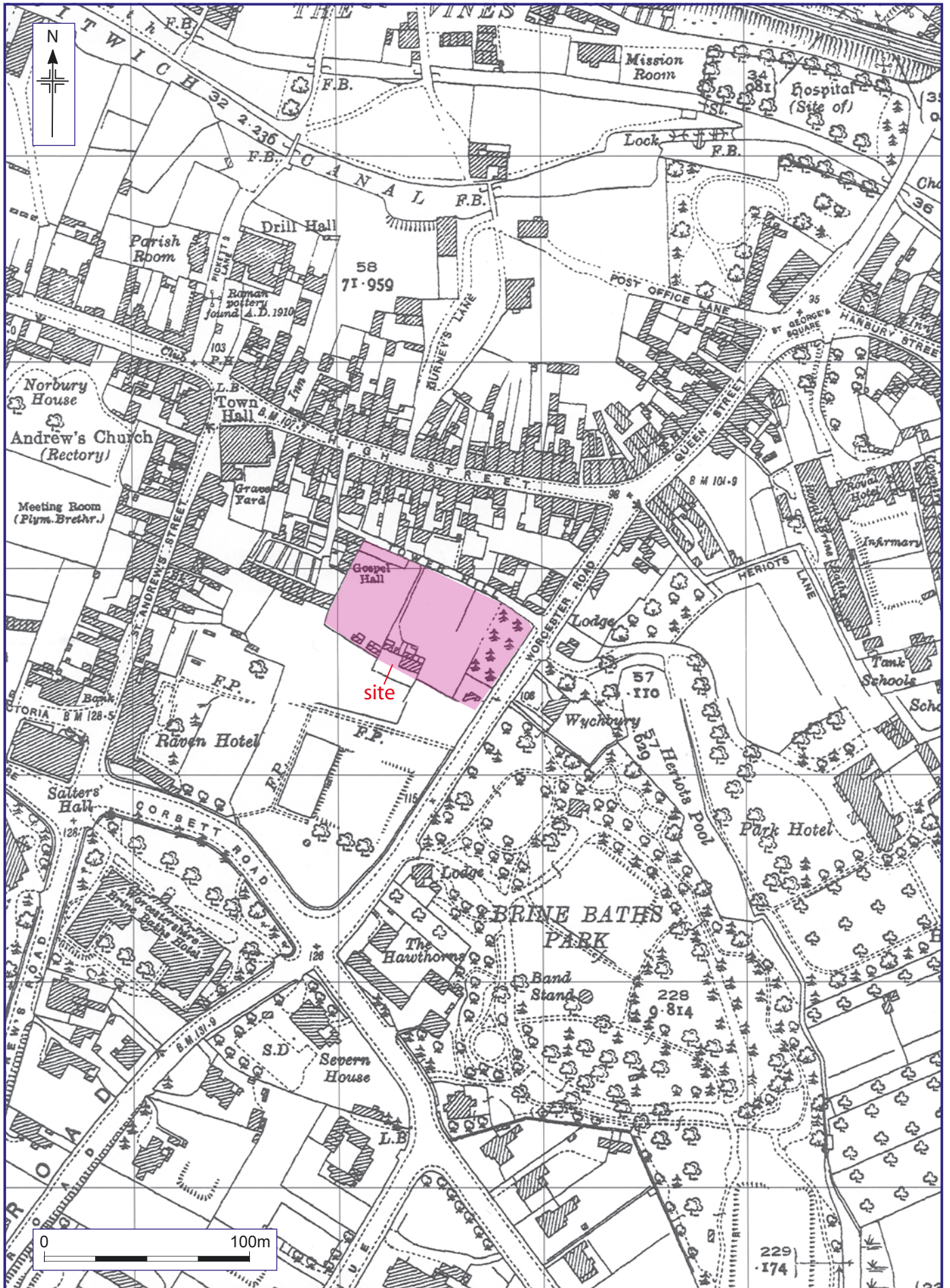
Figure 12



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Extract from 1903 Ordnance Survey map

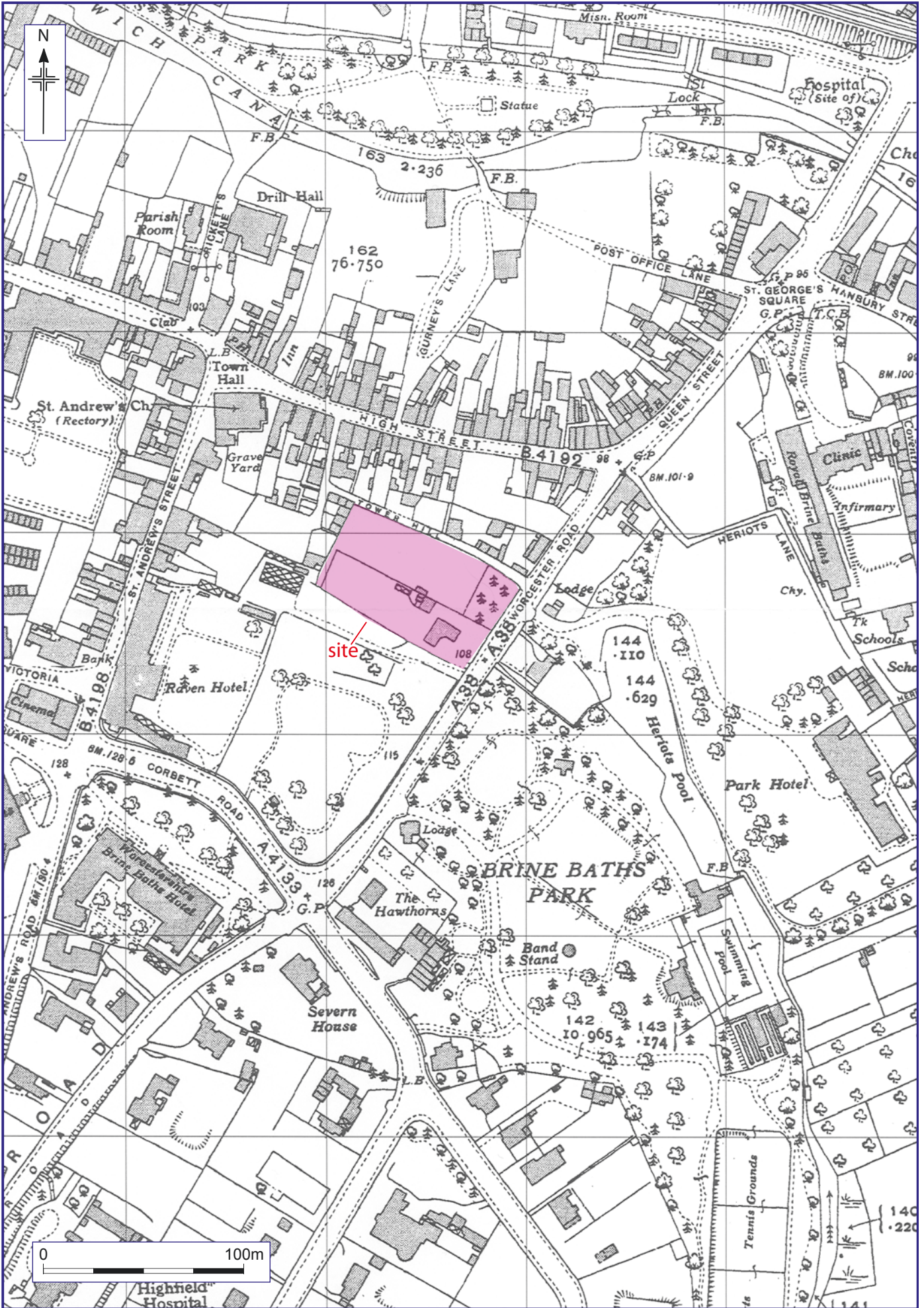
Figure 13



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Extract from 1927 Ordnance Survey map

Figure 14



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Extract from 1938 Ordnance Survey map

Figure 15



Plate 1: Enclosure ditch 106 shown in sections of Trench 1



Plate 2: Ditch 106 in south section of Trench 1



Plate 3: Outline of brick building to the west of Whittingham House



Plate 4: Ditches 1144 and 1148 in southern edge of trench



Plate 5: 13th to 14th century post hole sequence possibly representing part of a dovecote



Plate 6: Northernmost section through large ditch showing truncation due to pitting



Plate 7: Southernmost section through the large ditch showing earlier ditch 1325 on the left hand side. Also note post-medieval disturbance through top of the large ditch behind the section



Plate 13: Possible brine shaft 1293



Plate 8: Large ditch and area of post-medieval disturbance between the sections



Plate 9: Tripod pitcher vessel at base of ditch 1325



Plate 10: View north across the large ditch



Plate 11: Possible water hole/well 1218



Plate 12: Roman ditch on the left and medieval re-cut on the right, with central line of stakeholes



Plate 14: Site after contractor machining. Note base of the large ditch still visible across the site



Plate 15: Two horse/cattle rib fragments with healed fractures from the large medieval ditch [1175] (1176).



Plate 16: Left - distal pig tibia with extensive exostosis on the medial surface probably resulting from tethering. Right - normal pig tibia (opposite side). From late Saxon pit [1186] (1187)