Northamptonshire County Council

Northamptonshire Archaeology

Archaeological trial excavation at

St Mary's Works, Duke Street

Norwich, Norfolk

51027N

November - December 2007

Revised June 2008

Mark Holmes

June 2008

Report 08/046

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QUALITY CONTROL

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OASIS REPORT FORM

PROJECT DETAILS		
Project title	Archaeological trial excavation at St Mary's Works, Duke Street, Norwich, Norfolk 51027N November – December 2007	
Short description (250 words maximum)	Northamptonshire Archaeology carried out an archaeological evaluation at St Mary's Works, Duke Street, Norwich, in November and December 2007. A total of seventeen trial trenches were excavated. The excavations revealed a consistent pattern across most of the site with medieval rubbish and quarry pits being sealed by a 15th - 16th century homogeneous soil layer possibly representing a former cultivation soil. Buildings of 18th and 19th century date and associated features were cut into these soils which were later truncated by the construction of a shoe factory on the site in 1926. Amongst the finds assemblage a possibly unique bird–shaped pottery lamp or salt, in Grimston Ware, was recovered.	
Project type	Trial Trench Evaluation	
Previous work	Desk-Based Assessment by Northamptonshire Archaeology	
Future work	Unknown	
Monument type and period	Medieval and post-medieval frontages and quarries	
Significant finds	Possibly unique medieval Grimston Ware pottery 'salt' or lamp	
PROJECT LOCATION		
County	Norfolk	
Site address (including postcode)	St Mary's Works, Duke Street, Norwich NR3 1PH	
Area	255sq m	
Easting	6227	
Northing	3092	
Height OD	4.00m	
PROJECT CREATORS		
Organisation	Northamptonshire Archaeology	
Project brief originator	Northamptonshire Archaeology	
Project Design originator	Northamptonshire Archaeology	
Director/Supervisor	Mark Holmes	
Project Manager	Adam Yates	
Sponsor or funding body	Steeple Court plc	
PROJECT DATE		
Start date	5 November 2007	
End date	22 December 2007	
ARCHIVES	Location	Content
Physical	Castle Museum, Norwich	9 boxes of pottery, bone, small finds, miscellaneous finds and environmental sample flots
Paper	Castle Museum, Norwich	3 files of records, 36 sheets of plans and sections, 170 B&W photos, 170 Colour transparancies
Digital	Castle Museum, Norwich	Digital copy of report
BIBLIOGRAPHY		
Title	Archaeological trial excavation at St Mary's Works, Duke Street, Norwich, Norfolk 51027N, November - December 2007	
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ARCHAEOLOGICAL TRIAL EXCAVATION

AT ST MARY'S WORKS, DUKE STREET,

NORWICH, NORFOLK

51027N

NOVEMBER – DECEMBER 2007

Revised June 2008

Abstract

Northamptonshire Archaeology carried out an archaeological evaluation at St Mary's Works, Duke Street, Norwich, in November and December 2007. A total of seventeen trial trenches were excavated. The excavations revealed a consistent pattern across most of the site with medieval rubbish and quarry pits being sealed by a 15th - 16th century homogeneous soil layer possibly representing a former cultivation soil. Buildings of 18th and 19th century date and associated features were cut into these soils which were later truncated by the construction of a shoe factory on the site in 1926. Amongst the finds assemblage a possibly unique bird–shaped pottery lamp or salt, in Grimston Ware, was recovered.

1 INTRODUCTION

1.1 Background

Northamptonshire Archaeology (NA) was commissioned by Steeple Court plc to undertake an archaeological evaluation on land at St Mary's Works, Duke Street, Norwich (centred on NGR TG 227092; Fig 1). The evaluation was in connection with plans to develop of *c* 10,000m^2 of land at the St Mary's Works site. The evaluation was undertaken in November and December 2007 and comprised the excavation of seventeen trial trenches distributed throughout the proposed development area.

The trial evaluation was undertaken in accordance with a Project Design agreed with the Head of Archaeological Planning of Norfolk Landscape Archaeology (NA 2007a). While the original scheme proposed a total of nineteen trial trenches, two of these were dropped from the schedule (one prior and one during the fieldwork) with the agreement of the Head of Archaeological Planning due to on-site constraints.

The purpose of the trial excavation was to establish the survival, date, nature and extent of any archaeological remains within the area of the proposed development in order to inform the planning process.

1.2 Location, topography and geology

The St Mary's Works site is located towards the north-west corner of the historic city of Norwich (Fig 2). The proposed development site is bounded by St Martin's Lane at the north, St Mary's Plain at the south, Duke Street at the east and Oak Street at the west. The A147 ring road skirts the north-west corner of the site and the River Wensum runs 120m to the west. The redundant churches of St Martin's at Oak and St Mary's Coslany abut the north-west and south-east corners of the development area respectively.

The construction of the A147 ring road removed the north-east corner of the land block formed by St Martin's Lane and Duke Street as well as altering or obscuring the line of these roads. Elsewhere, the historic street pattern has remained intact with Oak Street, St Mary's Plain St Mary's Alley and the western half of St Martin's Lane retaining their traditional routes. However, it is thought that development of the area especially in the early to mid 20th century has changed the position of frontage boundaries and therefore medieval and post-medieval plots may have extended out beyond the edge of the current site.

The north-eastern part of the site is occupied by the 20th century offices of St Mary's House. The central area of the development is given over to a tarmac car parking area, whilst the remaining area is occupied by offices, workshops and other commercial units left over from a former shoe factory (Plate 1).

The site is relatively flat and is situated at *c* 4m above OD. The underlying natural geology comprises Red-Crag, sand and gravel river terrace deposits which in turn overlie Cretacious Upper Chalk.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Archaeological observations and excavations have previously taken place in nearby Oak Street and St Martin's Lane revealing occupation from the 12th century onwards but little archaeological work has previously occurred within the proposed development area, save for a watching brief undertaken when St Mary's House was constructed in 1974. No significant archaeological features were observed during this watching brief and consequently knowledge of the site's historic development is limited.

A desk-based assessment of the area was made prior to the excavation works starting (NA 2007b). This examined old maps, photographs and other historic documents relating to the site. The area was part of Coslany, one of a small number of nucleated Anglo-Saxon or Anglo-Scandinavian settlements which subsequently coalesced as a single settlement to form what became late Saxon and early medieval Norwich. The streets and lanes which bound the

site are of at least medieval origin and the site lies between two medieval churches, St Mary's and St Martin's. The former is thought to have a Saxon origin. Historic documents show that the area comprised properties and their yards and gardens from the medieval period through to the 20th century. The Sexton, Son and Everard shoe factory removed all these above ground when it was built in 1926.

The desk-based assessment suggested that a combination of cellarage from the 19th-century buildings, basements and widespread foundations from the 20th-century factory along with associated pipe trenches and other services had probably combined to denude any underlying archaeological deposits at the site. As a consequence it was thought that a small grassed triangular area fronting Duke Street, untouched by the factory, would be the only significant area of archaeological potential at the site, with archaeology elsewhere surviving only in unpredictable and isolated 'islands'.

3 METHODOLOGY

The works were undertaken in accordance with IFA guidelines (IFA 1994, revised 2001) and standard Northamptonshire Archaeology procedures.

A total of 17 trenches with an average measurement of *c* 3.50m by 5m were positioned throughout the proposed development area (Fig 2, Plate 1). The trenches were positioned to provide, as far as was possible, an even coverage across the area. This was to include sampling both the street frontages and the intervening areas. The trenches sought to avoid areas where 20th-century features such as cellars, foundations or service runs might have destroyed or compromised any potential archaeology. The excavation of trenches within occupied buildings also presented logistic problems which sometimes required the repositioning of trenches. All trenches were subsequently tied into the Ordnance Survey National Grid.

The excavation of the trial trenches was continuously supervised by an archaeologist. All trenches were initially excavated using a 360 degree tracked excavator equipped with a toothless ditching bucket. The excavator removed all overburden, as far as the first significant archaeological horizon. It was also used to remove significant thicknesses of undifferentiated layers interpreted as former cultivation soils.

All deposits were cleaned sufficiently to identify their nature. Recording was by Northamptonshire Archaeology pro-forma context sheets, supplemented by drawing plans at scales of 1:20 and sections at a scale of 1:10 and 1:20 as appropriate. A photographic record in black and white, colour slides and digital medium of all trenches and features was completed. All levels taken during the trial trenching were related to the Ordnance Survey Datum, which

was established by carrying a benchmark from St Mary Coslany, which was indicated as being set at 5.12m OD. A metal detector was employed to scan the trenches and upcast in order to locate small metal objects.

4 THE EVALUATION EVIDENCE

The stratigraphic sequence was generally consistent throughout the entire site. The natural geology comprised sands and gravels, which in some trenches was covered by a thin layer of similar sand and gravels mixed with occasional brown silty sand. This would appear to represent a horizon between the natural geology and overlying deposits, possibly caused either by mixing or leaching actions. Cut into the natural geology were features such as pits and ditches which were in turn sealed by relatively thick layers of homogeneous, undifferentiated soil possibly representing former cultivation soils. Post-medieval activity in the form of pits and building foundations were cut into these layers. Demolition layers associated with these structures sealed their truncated remains and were used as make-up and foundations for the 20th-century factory and more recent works.

Medieval pits and ditches were identified in trenches 1, 4, 5, 6, 7, 10, 11, 12, 14, 15, 18 and 19. The earliest of these may be examples in trenches 1, 4, 5 and possibly 7 which possibly date to the 11th century. Larger quarry pits, probably of late medieval or post-medieval date were present in trenches 3, 6, 10 and 14. Building remains of the 18th and 19th centuries were found in trenches 1, 3, 4, 5, 7, 10, 11, 14, 15, 17, and deep brick cellars were found in trenches 2, 5 and 17. Post-medieval pits and ditches were identified in trenches 6, 8, 12, 16, 17, 19. Walls of early 20th century date were found in trenches 8 and 12. Trench 8 also contained the remains of a possible chimney base.

4.1 Trench descriptions

Trench 1 (3m x 5m; Fig 3, Plate 2)

Summary

Trench 1 was located within the former premises of a book printer. It was situated approximately 3m to the east of the northern wall of the building, which itself fronted onto Oak Street. The internal floor level was 0.47m higher than that of the modern street pavement outside. The excavation revealed a series of medieval rubbish pits, sealed by a homogeneous soil layer. Foundations for a post-medieval building were cut into this layer. The building had been demolished and make-up layers introduced to build up the overlying factory floor levels.

Description

A series of five intercutting pits [120][122][124][127][129] were dug into the natural gravels (118) and an overlying layer of very dark brown gravel (113). This latter layer was *c* 0.13m deep and appears to represent some form of interface with the natural gravels. It merged with both the pit fills and the underlying natural making the relationship slightly equivocal.

Four of the pits all had single fills of similar character comprising dark brown silty sands with gravel inclusions. Pit [120] had a broad 'U' -shaped profile and was 0.15m deep. Pit [122] had near vertical sides and a flatter base and was 0.28m deep. This latter pit was cut by pit [129], situated in the corner of the trench. It had a rounded profile and was also 0.28m deep. Pit [124] was deeper than the other pits at *c* 0.40m. It had a rounded, slightly uneven base, a U-shaped profile and was 0.28m deep. A sample from its fill produced recognisable seeds from barley, oats, cereal and cabbage as well as an assemblage of animal bone. The pottery from all four pits would suggest a date in the 11th century.

Pit [127] was the deepest of the pits and, stratigraphically, the latest. Due to concerns over trench and building stability a full profile could not be established. However, the feature was excavated to a depth of 0.70m and an augur then used to find the base which appeared at a total depth of *c* 0.90m. Three fills were encountered: the earliest, and possibly primary fill, comprised a greyish brown silty clay with occasional chalk and charcoal flecks (126). A secondary dark brown clay fill overlay this (125) whilst the latest fill comprised a mid brown silty clay with moderate small chalk pieces (132). The primary fill contained quantities of animal bone and pottery indicating deliberate backfilling. A 13th century date is suggested for this activity due to the presence of Grimston Wares, Developed Stamford Wares and Shelly Wares in the assemblage. The different character of Pit [127] may further support a later date than the other four pits in the area and it possibly represents a gravel pit re-used as a rubbish pit.

The pit was overlaid by a homogeneous soil 0.90m deep [112]. This comprised a mid brown silty clay containing moderate amounts of small chalk pieces. Pottery from this would suggest a late 12th-century date, although as it sealed pit [127] a date later than the 13th century is probable.

Cut into this homogeneous soil layer were the remains of a building. These comprised a north-west to south-east aligned robbed-out foundation cut [133]. It was filled with a mid grey sandy mortar with frequent small brick inclusions (110) and a primary fill of a mid orange sand. This was parallel with Oak Street and may have formed the back end of a

building fronting onto that street. Running at right angles to this and extending beyond the eastern end of the trench was a flint and brick wall foundation, 0.45m wide and *c* 0.30m deep.

Above this were a series of destruction and levelling layers (105 – 108) indicating that the building here had been levelled and the rubble used as hardcore for the factory floor above. Some of the levelling layers, including pure sand, were insubstantial causing concerns for the stability of the trench and the upstanding building. As a result the trench was stepped in alongside wall [117] in order to provide more secure support to the existing stanchions.

Trench 2 (3m x 3m; Fig 3, Plate 3)

Summary

Trench 2 was located at the extreme south-west corner of the development area, within the former shoe factory. Due to internal constraints (existing services and walls) and structural problems, the trench had to be reduced to a size measuring 3m by 3m. This was dug towards the centre of the room. A single cellar was revealed occupying the majority of the trench. The presence of cellarage in the area had been postulated by the desk-based-assessment (NA 2007b, 14).

Description

On removal of the floor levels, the top of a concrete capped brick cellar was found. Associated rubble infilling was located on its exterior to the north (204)(203). These layers comprised mid brown sands with frequent amounts of brick and stone rubble but there was not enough space within the trench to excavate these fully.

The cellar itself comprised a concrete-founded brick wall aligned approximately north-south [211]. Inset tiles in the north-east corner were of uncertain function [209]. A modern service pipe ran across the northern end of the trench.

A test pit dug by the Site Owners in order to expose the foundations of the southern wall of the upstanding factory building was recorded. This provided a view of the stratification in this area of the development and is presented below (Section 4.17).

Trench 3 (4.50m x 3m; Fig 4, Plate 4)

Summary

The position of Trench 3 was dictated by the presence of internal stanchions within the room. Excavation found a large gravel quarry pit occupying the majority of the trench. This was sealed by a homogeneous soil, possibly 16th century in date, into which two large rectilinear pits had been dug. Remnants of floor levels and robbed-out walls of a post-medieval building overlay these. This was in turn sealed by a 19th-century former cultivation soil with associated brick wall and tiled floor.

Description

A large pit [350] was found cut into the natural gravels (338). Two separate fills were observed. Fill (352) comprised very dark brown sandy gravel. Above this, (351) was a contrasting whitish brown chalky clay (possibly a sealing layer). It was dug to a depth of 0.80m, but could not be bottomed. The extensive size and nature of the pit would suggest that it is a backfilled gravel quarry.

The pit had been sealed by a 0.80m deep layer of homogeneous soil (344). It comprised dark brown silty clay with frequent flint and small pebble inclusions. A single sherd of 16th-century Red Earthenware pottery was recovered from this layer.

The homogeneous soil layer had been cut through by two rectilinear features [340] and [342]. Feature [340] was exposed to 2.30m wide by 0.86m deep, it extended beyond the eastern edge of the excavation. It was filled with mixed or banded light grey and light brown silty sand with frequent flints and small pebbles (339). A single sherd of Red Earthenware pottery was recovered from it. Feature [342] was filled with similarly almost banded fills of light grey and dark brown silty sands. It is unclear whether these features are pits or possibly the remains of robbed out foundations. A smaller linear feature, 0.21m deep, was located in the south-east corner of the trench. It was aligned north-east to south-west and filled with light grey sandy gravel (335). Its width could not be ascertained as it extended beyond the limits of excavation but it may also be the remains of a robbed out wall. Vestiges of possible surfaces (346)(347)(349) may be associated with these features.

Above these features was a 0.10m deep layer of light brown mortar rich clayey sand. This may represent a levelling or make-up layer for the overlying building. The remains of this building comprised a number of floor levels and the vestigial remnants of robbed-out walls and foundations. The floor levels comprised clay and mortar (307) which produced two

sherds of Glazed Red Earthenware. These had been cut though in places by later features including a pit with very frequent rubble infill [311]. The building would seem to have been fairly comprehensively robbed before a make-up layer of demolition debris of mortar and rubble was introduced (304).

Above this lay a dark black loamy soil layer which has been dated to the 19th century based upon the pottery found in (305). A wall [320] and tiled surface (303) had been cut through this at the northern end of the trench. This in turn had been levelled off and the floor levels for the factory introduced immediately on top.

Trench 4 (3m x 3m; Fig 5)

Summary

Trench 4 was located in the north-west corner of the proposed development area. It was situated at the opposite end of the same room as Trench 1. The location was chosen to attempt to sample an area closer to the Oak Street frontage and to this end, the trench was positioned *c* 2m away from the main factory wall. A modern service duct ran across the northern end of the trench necessitating the trench being stepped in and its overall size being reduced.

The natural sands and gravels were overlaid by a homogeneous soil layer into which a single small pit, possibly of medieval date, had been cut. This was sealed by a succession of further homogeneous soil layers into which the foundations of a post-medieval building were cut. A later 19th-century brick foundation had been located on top of these remains.

Description

No features cut the underlying natural sands and gravels in the trench (418). The natural geology was sealed by a 0.36m thick layer of dark brown silty sandy (416). Into this was cut a sub-circular pit, 0.52m deep and at least 0.90m wide that extended beneath the south-east corner of the trench [419]. It was filled with a very dark brown silty sand with occasional gravel inclusions (417). The feature produced no finds. This was sealed by a layer of dark brown silty sand (415). This was 0.50m deep and produced seven sherds of Thetford Ware along with single sherds of Stamford ware and Early Medieval Ware. Based on the pottery an 11th-century date has been suggested for the soil horizon. A small collection of animal bones was also present within the layer.

Above this was a layer similar to the homogeneous soils found elsewhere (414). It was 0.35m thick and produced sherds of probable 13th-century date. Into this were cut the foundations for two flint walls [411] [413] which formed the corner of a building, aligned with and presumably fronting onto Oak Street. The trench had exposed the interior of this building since between the walls were a tiled floor (404) and clay and earth surfaces (407) (408)(409) and the remnants of a small brick dividing wall [406]. Continental stoneware and a red earthenware sherd from (408) might suggest a mid 16th-century date for the surface, however, the tiled surface would appear to be later in origin.

A later brick foundation of extremely solid brickwork [410] was added to the corner of the building and indicates either modification or at least a re-use of the foundations for a later, possibly 19th-century structure. These surfaces were covered by a 0.60m deep layer of destruction debris and make-up under the current floor surface.

Trench 5 (4m x 3m; Fig 6, Plates 5 and 6)

Summary

This trench was excavated in two halves. On initial stripping of the trench it became evident that the eastern half of the trench was occupied by a brick-built cellar. This was emptied by machine, and then the base explored by hand. The cellar was then backfilled and the remaining western half then excavated.

Medieval pits were found cutting through natural in the eastern half of the trench and through a soil horizon sealing natural in the western half. These features were in turn covered by a succession of homogeneous soil layers, the uppermost of which produced 15th-century pottery. A semi-circular flint lined shaft, probably a cess pit, cut down through these layers. The 19th-century brick cellar, backfilled with a quantity of slag, truncated the entire eastern half of the trench.

Description

In the eastern half of the trench, cut into the natural gravels (508), were the remains of a square pit [510]. It had steep sides which merged with a relatively flat base. It extended beyond the edge of excavation at the south and therefore its full dimensions could not be established. However, it survived to a depth of 0.90m and was at least 1.50m wide and 1.50m long. It contained a primary fill comprising a very dark brown - black sity clay with frequent gravel inclusions (512). Single sherds of Thetford and Early Medieval Ware suggest an 11th-

century date. The secondary fill (513) and final fill (511) were similar but contained less gravel. A single sherd of Thetford Ware was recovered from the final infilling.

To the west of the trench the gravels were covered by a layer of very dark brown – black sandy silt some 0.45m thick (530). Six sherds of Early Medieval Ware were recovered from this layer suggesting a possible 11th-century date.

A small ditch or pit [514] had been cut into this layer. This feature was steep-sided and flat-bottomed but its full length could not be ascertained as it was truncated at the eastern end by a later brick cellar. It had a V-shaped section and was 0.30m deep and 0.70m wide. Its primary fill (516) was a dark brown clayey sand with frequent gravel and frequent flecks of charcoal. It contained three sherds of Grimston Ware, possibly suggesting a *terminus post quem* of the 13th century. Its upper fill was a lighter brown sandy clay with less gravel but with charcoal inclusions.

Feature [514] was sealed by two general layers of overburden: firstly, a dark brown silt clay (529), 0.15m deep, containing frequent gravel inclusions and occasional charcoal flecks Secondly, above this, a thicker layer (528) of light greyish brown silty clay containing brick and tile inclusions. This latter layer was 0.70m deep and produced six sherds of 15th-century Late Medieval and Transitional earthenware pottery.

Cutting through layer (528) was the eastern half of a circular or possibly semi-circular flint structure [523]. The flint wall was c. 1.00m wide and bonded with a white sandy mortar. It was approximately 0.80m wide, 1.40m deep and contained three fills. The primary fill was light grey silty clay. The secondary fill (518) was 0.10m deep and comprised a dark brown sandy silt with occasional flecks of charcoal. The final and deepest fill (517) was 1.10m deep and comprised a greyish brown sandy silt. Six sherds of Glazed Red Earthenware were recovered, suggesting a mid-16th-century date for the backfilling. The feature resembled a similar feature at Kings Street (NA 2002) and at Alms Lane, period 7-8 (Atkin *et al* 1985, 159-165) which were interpreted as cess pits. This may have been attached to the outside of a wall which probing suggested may have stood aligned north-south immediately outside the trench. A small, undistinguished pit [532] which was, possibly sealed by surface [527], also cut through layer (528) in the south-west corner of the trench.

A brick cellar, approximately 1.90m x 2.40m and c.1.20m deep occupied the eastern half of the trench. It truncated the natural geology and pit [510] at its base. Clay tobacco pipes of

19th-century date were found in its foundations (507) and the brickwork suggested at least two phases of construction or alteration. It had a chute built into its southern side [506] and what may have been the base of a skylight window on its eastern side. It was filled with general debris, including 19th-century pottery but also a very large quantity of slag, presumably deriving from some nearby industrial process.

Trench 6 (3.5m x 3m; Fig 7)

Summary

Trench 6 was excavated within an existing warehouse unit in the western half of the evaluation area. A modern brick-built service duct ran along the northern end of the trench, necessitating stepping in the trench at this point.

Natural sands and gravels were cut away by a large quarry pit. A later, possibly 15th-century pit, overlay this and was in turn sealed by a homogeneous soil probably representing a formerly cultivated soil. This layer had been cut through by a further 17th-century pit which was sealed by 19th or 20th-century rubble make-up layers.

Description

The whole of the excavated area of the trench was taken up with a large pit [619] which cut into natural gravels (620). The side of the pit was located at the northern corner of the trench but its edges lay outside the edges of excavation. The base of the feature could also not be reached. The pit was infilled with dark brown sandy gravels (616) which produced two sherds of Early Medieval Ware giving a *terminus post quem* of the 11th century. A single cereal grain and cabbage seed were recovered from an environmental sample taken of this fill which also contained a small assemblage of cattle bones.

A smaller rectilinear pit was cut into this backfill [615]. It was filled with a dark brown sandy clay (614) from which a small assemblage of pottery would suggest a 15th-century date. This was sealed by (613) a homogeneous light brown loamy soil with frequent chalk flecks and occasional charcoal, *c* 1.30m deep.

The soil layer was cut through by a large sub-circular, steep sided, flat bottomed pit. It was *c* 1.65m deep and occupied the southern corner of the trench, extending out beyond the edge of excavation. It contained a thin primary fill of a white ashy loam (618). The main secondary fill of the feature comprised a dark brown sandy clay with occasional chalk flecks and

frequent charcoal flecks (611). From this came a pottery assemblage suggesting a 17th-century date.

The pit and its underlying layers were sealed by a rubble layer of mortar pieces, broken brick and tile (609) which in turn was covered by further demolition and floor make-up layers (603) (602).

Trench 7 (3.5m x 5m; Fig 8, Plate 7)

Summary

The trench was located within part of the former factory, immediately to the south of the St Martin's churchyard. A small pit or posthole, possibly of medieval date, cut the natural gravel geology. The pit was sealed by a series of homogenous soil layers which in turn were cut through by the truncated remains of a 19th-century building. The absence of human remains or other features suggests that the churchyard did not continue in this direction.

Description

The gravel natural in Trench 7 (717) contained frequent iron pan staining and was covered by a thin layer, up to 0.10m thick, of dark brown silty sand (720) which may simply represent a natural interface. Cutting through this was part of an elliptical pit or possibly the butt end of a small ditch [719] located towards the northern corner of the trench. It was exposed to a length of 0.80m but continued beneath the trench edge. It was 0.70m wide and 0.50m deep with steeply sloping sides and a slightly rounded base. It was filled with a mid greyish brown silty sand which produced one sherd of Thetford Ware and five sherds of Early Medieval Ware, providing an 11th-century *terminus post quem* for the feature.

This single feature was sealed by a homogeneous layer of soil *c* 1.0m deep of a mid brown loam with occasional small stones and moderate chalk inclusions (721). This layer merged with an overlying layer (712) which was similar in character but contained fewer chalk inclusions. Layer (721) produced a small assemblage of pottery including Late Medieval and Transitional earthenwares dated to the 15th century.

These were overlaid by further soil layers (704) and (711). These, in contrast to those below, were very dark brown or black in colour and contained occasional flint and brick fragments. Pottery and clay tobacco pipes from these deposits indicate 18th and 19th-century dates respectively.

Cut into this were the remains of a building. A mortared flint wall foundation, *c* 0.36m wide ran across the centre of the trench from north-east to south-west [706]. To the south-east of these were the remains of brick walls representing a former interior room to a building [707]. Pipe trenches (713) and (715) were located to the north-west of the flint wall. At the extreme northern end of the trench, forming its northern edge, a further brick wall on the same alignment of the flint wall was located.

All the structures were sealed by a demolition layer and make-up for the overlying factory floor levels.

Trench 8-9 (3.5m x 5m; Fig 8, Plate 8)

Summary

Prior to excavation starting, Trench 9 was dropped from the scheme of investigation. The nomenclature 8-9 was given to this trench in the agreed specification and is retained here for consistency. The natural gravels were sealed by thick layers of post-medieval soil, possibly relating to former garden areas or yard plots. A Victorian rubbish pit was cut into the top of these deposits. A brick wall and the base of a possible chimney, probably of 20th century date, were exposed in the side of the trench.

Description

The natural geology comprised gravels with frequent very dark brown and orange iron panning throughout (8909). This was overlain by a dark brown silty clay (8905) 1.15m thick. This produced a clay tobacco pipe dated between 1680 and 1710. In turn this was overlain by a similarly homogeneous layer of black sandy clay 0.68m thick (8904). This contained occasional small stones and chalk inclusions. Cut into this was a roughly circular pit filled with Victorian china, bottles, clay pipe and other detritus (8908). The whole southern edge of the trench was formed by a brick wall (8906) which was associated with a vertical brick, concrete-capped structure, probably representing the base of a chimney (8907). The location of the trench places it within the area of the former shoe factory and the brickwork used in the features would suggest a 20th century date. However, the building layout suggests that this part of the factory would have been partitioned workshops and it would seem unlikely that a large chimney would be required here since toilets and the boiler room are thought to be located on the opposite side of the factory (T Walsh *pers comm*.). The features may represent later additions to a remodelled factory, or may possibly belong to whatever structures stood here immediately prior to the construction of the shoe factory. A levelling layer of brick rubble (8903) underlay the concrete and tarmac of the car park (8902) and (8901).

Trench 10 (3m x 5m; Fig 9, Plate 9)

Summary

The trench was positioned inside a standing warehouse unit immediately outside the south-east corner of St Martin's churchyard. A large feature, probably a quarry pit, cut away the natural gravels over most of the trench. The butt-end of a possible ditch cut through its backfill and was in turn overlaid by a homogeneous, possibly formerly cultivated soil. The foundations of a post-medieval, probably 19th-century brick building were set into this homogenous soil.

Description

The natural gravel geologies were exposed at the northern end of the trench. Into these were cut a large feature that extended beyond the south end of the trench. It was filled with a mid grey silty clay with moderate chalk inclusions (1021). Cut into this was the end of a possible east-west aligned ditch (1009). It had two fills: its primary fill was a dark brown organic 'peaty' soil (1008). Its secondary fill (1020) was a dark brown silty clay. The feature had a rounded profile and was 1.10m wide but only *c* 0.16m deep.

The features were sealed by a 1.20m deep homogeneous layer of dark greyish brown silty clay (1007). Into this were cut a possible chalk floor level (1005) and an associated make-up layer of greyish brown silty clay with chalk and mortar inclusions (1006). The western side of the trench just clipped the edge of a north-south aligned brick wall (1003) with associated service pipe runs and foundation cuts and infill (1017). At the south, the trench also exposed the edge of a circular capped brick cess pit that extended down to the natural geologies [1010].

Trench 11 (5m x 3.5m; Fig 10, Plate 10)

Summary

Trench 11 was located within the same building as Trench 10. It was located *c* 4m to the east of St Martin's churchyard and *c* 7m to the south of St Martin's Lane. A medieval pit and possible posthole was found cutting into the natural sand and gravel geology. It was overlain by a uniform soil of post-medieval date. The vestigial remains of a 19th-century building were then found cut into this homogeneous layer.

Description

The natural gravels (1118) were covered by a layer of mid brown silty sand with occasional flints (1117). The layer was *c* 0.20m deep and merged with the underlying gravels and may simply represent an interface with the natural geology. Cut into this was a large circular pit which extended beyond the southern edge of excavation [1113]. It was exposed to a width of 1.30m and was *c* 0.30m deep and 2.60m long. Its western end had a stepped profile, although the eastern end was near vertical merging with the uneven base. It was filled with a dark greyish brown sandy clay with moderate flecks of chalk and small pieces of flint (1112) from which Grimston, Hedingham and Early Medieval wares were recovered suggesting a possible 13th-century date. A small circular feature [1116], possibly a posthole *c* 0.45m wide and 0.28m deep was located to the north of pit [1113]. It contained a dark brown silty sand (1115) and a chalk fill.

The southern edge of the trench also clipped a layer of light brown compacted clay, *c* 0.22m thick. As this did not extend into the trench it was impossible to characterise further. This was overlaid by a homogeneous soil *c* 1.00m thick (1111). It was a very dark brown-black silty clay and produced a sherd of mid-16th-century Red Glazed Earthenware and six clay tobacco pipe stems, one of which may date to the late 17th century.

It was into this thick layer of homogeneous dark soil that the foundations of a building were cut. The building comprised the base of a flint and mortar wall aligned east to west, parallel to St Martin's Lane [1104] and the remnants of surfaces (1105)(1106) and a small brick structure [1110]. Associated with these were a series of drains and other service runs beneath the floor surfaces. A larger ceramic pipe ran to a brick manhole located at the north-east corner of the trench. These features cut through the remnants of the building and are likely to be associated with the 20th-century factory.

The concrete base for one of the existing steel stanchions, supporting the present building, was revealed in the southern face of the trench. It was shown to extend down into the natural gravels and was estimated to be *c* 1.50m in total width.

Trench 12 (3.5m x 5m; Fig 11, Plates 11 and 12)

Summary

Trench 12 was located towards the centre of the application area in the car park. It was bisected by a substantial service duct running from north-east to south-west across the south-

eastern half of the trench. According to the desk-based assessment, this duct runs through to a backfilled cellar to the west (NA 2007b, plate 16).

A pit, possibly of medieval date, was found cutting through the natural sands and gravels. This was overlain by a post-medieval ditch which in turn was sealed by a succession of soil layers. The foundations of brick structures associated with the former factory cut into these underlying homogeneous soils.

Description

The natural gravels in Trench 12 were covered by a layer of very dark brown silty gravels**,** *c* 0.28m deep. This was cut through by a sub-circular pit [1213] which extended out beyond the edge of excavation. It was exposed to a width of 0.70m and a depth of 1.26m. It contained three fills of similar character. Its primary fill (1212) was a dark brown silty clay which produced a single sherd of Medieval Grimston Ware. Its secondary fill (1207) was lighter in colour and more friable. Because of the possible organic content, a sample was taken which revealed the presence of charred cereal and barley. The fill also produced a sherd of Developed Stamford Ware and two sherds of Early Medieval Ware. A thin layer of brown sandy clay (1211) appeared at the top of the cut overlying (1207).

The pit was cut through by a ditch which was aligned north-west to south-east [1210]. It had sides sloping down relatively steeply and merging with a slightly rounded base. It contained two fills. The primary fill (1208) was a mid brown sandy silt whilst the secondary fill was a light brown sandy silt (1209). No pottery was recovered from the feature but the primary fill contained two clay tobacco pipe stems, indicating a post-medieval date. Its location may equate with a tenement boundary shown on historic maps (NA 2007a, figs 2-5)

The ditch was overlain by a layer, 0.28m deep, of friable mid brown silty clay with occasional chalk and charcoal flecks (1205). This was in turn overlaid by a thicker layer of soil (1204) which comprised a friable mid brown silty clay with occasional small stones, frequent chalk flecks and moderate charcoal pieces. It was 0.50m deep and produced a small assemblage of pottery. This included a sherd of stoneware, indicating a *terminus post quem* of the 16th century.

A layer of very dark grey black sandy clay sealed all the earlier contexts. It included 19th-century pottery, frequent tile and brick fragments and clay pipe stems. Cut into this were a layer of brick rubble and the remains of a possible industrial brick chimney associated with

the former factory at the north-east corner of the trench and a north-south brick wall at the western side of the trench.

Trench 14 (3m x 4m; Fig 12, Plates 13 and 14)

Summary

Trench 14 was located within a factory unit, immediately adjacent to St Mary's Alley. The remains of a pit or ditch were cut into the natural sand and gravel geology. It had been truncated by a very large deep pit which occupied the entire area of the trench. Disarticulated human bones were found in both features. The backfilled pit was overlain by homogeneous soils of post-medieval date. The foundations and floor remnants of a 19th-century brick building, which included a possible small coal cellar lay above the soil horizons.

Description

The remains of a pit or butt-end of a ditch [1415] were located in the south-west corner of the trench, cutting into the natural gravel geology (1412). It was aligned north-east to south-west and continued beyond the edge of excavation. It was steep-sided and had a symmetrical 'U' – shaped profile. It was 1.10m long, 0.50m deep and exposed to a length of 2.0m. It was filled with friable dark brown silty sand, similar to the natural geology. A single sherd of Early Medieval Ware was recovered along with an amount of animal bone. Also within the pit was some disarticulated human bone comprising jaw, femur and tibia fragments. The bone was fragmentary and jumbled within the fill, suggesting that it had been re-deposited from elsewhere, perhaps St Mary's churchyard.

Pit or ditch [1415] was cut away by a much larger pit which took up the majority of the trench [1411]. Due to its size and depth, it could not be bottomed but was sampled to a depth of *c* 1.70m. Its full width extended out beyond the edges of excavation. Its southern side, where it cut through pit [1415], was flat before proceeding to dive down steeply towards the north. This central part of the pit was estimated to be *c* 3.8m wide at the top. The pit had a number of fills. Towards the base of the pit was a dark brown sandy clay with occasional small pebbles and stones (1410). It contained pottery which indicated a 15th-century t*erminus post quem* and a large number of animal bones. Fill (1409) was located on the southern side of the feature and may represent, along with (1410) one of the earliest fills of the pit. It comprised a very dark brown sandy clay and produced a pottery assemblage with 13th-century pottery. The relationship between this and (1410) could not be established. Above (1410) was a layer of dark brown silty clay with some possible organic content (1413). It contained frequent animal bones and also part of a redeposited human femur and skull fragment. A layer of light

brown sandy clay with frequent chalk inclusions sealed all these layers (1408). A single sherd of 11th-century pottery was recovered.

A homogeneous mid brown sandy clay, *c* 0.30m deep, with small stones and flint fragments covered the trench sealing all below it (1407). Above this was a slightly thicker layer of very dark brown black sandy clay (1405). Seven sherds of mid-16th-century Glazed Red Earthenware were recovered from it.

Cut into these layers were the remains of a 19th-century brick building, aligned upon St Mary's Alley. This comprised a central north-south orientated brick wall with further walls set at right angles to this creating a series of four possible rooms or areas. One of these in the south-west quarter had an intact tiled floor (1406). It was level with the base of the brick wall foundation and may represent the remains of a coal cellar or similar. Elsewhere, the remains of thin chalk surfaces were present. The building remains were covered by a layer of rubble debris (1402) which provided make-up for the factory floor surface (1401).

Trench 15 (4m x 5m; Fig 13, Plates 15 and 16)

Summary

Trench 15 was situated in a triangle of grass in the corner between Duke Street and St Mary's Alley. It was the one area of land identified by the desk-based assessment as probably not having been affected by the building of the factory in the last century and as such was thought to contain the highest archaeological potential (Na 2007b, 18).

A medieval building slot and a possibly related pit and posthole were found dug into the natural sands and gravels. These were overlain and sealed by a post-medieval homogeneous former cultivation soil. A flint and brick building, fronting onto St Mary's Alley was then constructed which stood until demolition sometime after 1936.

Description

The truncated remains of a small pit [1566] were located in the north-east corner of the trench cutting the natural sand and gravel geology. It was filled with a mid brown sandy clay (1567) but produced no finds. A small, possible posthole [1558] was located in the north-west corner of the trench.

An east to west aligned building slot or gully was cut into the natural gravel geology and ran from east to west, the length of the trench, parallel with St Mary's Alley. It was generally

0.70m wide and 0.50m deep with near vertical sides and a flattish base, however there was some variation in width and depth along its length suggesting that it had been recut on a number of occasions [1555][1560][1564]. The fill along its length appeared to be a similar brown sandy clay (1554)(1559)(1563)(1565). Excavation produced a relatively large assemblage of pottery ranging from the 10th to the 13th centuries and including Thetford, Hedingham, Grimston and Early Medieval Wares.

Sealing these features and covering the entire trench was a layer of very dark brown black sandy clay between 0.40m and 0.55m deep (1535). It produced a relatively large assemblage of pottery which included sherds of continental stoneware, indicating a 16th-century t*erminus post quem*.

It was into this layer that the remains of a building had been cut. The building presented a complex series of walls and other internal partitions which were not fully possible to characterise within the small area of the trench but which were suggestive of more than one phase of activity and may have had a long lifespan. The predominant feature was an east-west aligned flint and mortar wall which ran the length of the trench, parallel to St Mary's Alley. It survived to *c* 0.95 m high and was 0.40m wide (1530). A cobbled, possible yard surface (1546)(1547) abutted it on its southern side along with a small square, brick drain surround [1546]. The interior of the building lay to the north, where separate rooms were demarcated by flint and brick wall [1535] and internal brick and tile partitions (1518) and (1519). Wall [1535] ran approximately north-south but was not set exactly at right angles to the flint wall. It was attached by a triangular mass of mortar and rubble in the apex between the two walls. A complete continental stoneware jug of the 16th or early 17th century continental stoneware jug was recovered from a make-up layer (1538) beneath wall [1561] (cover). Edged tiles to the north of this wall appeared to demarcate an internal area within which were stacked further roof tiles.

As elsewhere the remains of the building were sealed by destruction levels of rubble and other material, which had been used to 'level up' the area. These remains included much 20th-century detritus. The better survival of walls within this area is no doubt due to the fact that the grass triangle was never subsequently built upon.

The building is presumably that shown in the Plunkett photograph from 1936 (NA 2007b, plate 1).

Trench 16 (3.5m x 5m; Fig 14)

Summary

Trench 16 was located in the north-west corner of the car park, *c* 12m to the south of St Martin's Lane. It had contained a number of large post-medieval rubbish pits truncated by later 19th-and 20th-century disturbance.

Description

The natural gravels in Trench 16 were overlain by dark grey sandy clay, *c* 0.80m thick. This only survived in places as it was cut through by a number of post-medieval pits.

Pit [1613] was located in the southern corner of the trench and extended beyond the trench edge. It was *c* 1.15m deep and contained two fills. The primary fill was a very dark brown sandy clay with frequent pieces of chalk, tile and brick (1612). This was overlain by (1611) which was similar to the underlying fill but with only occasional chalk flecks as inclusions.

A much larger pit, roughly oblong in shape, occupied the majority of the trench [1614]. It was 2.15m deep and comprised a very mixed fill of brownish grey sandy clay (1608). Frequent brick, mortar inclusions throughout and animal bone were also present. The pottery recovered dates from the early 18th century, whilst two well-preserved clay tobacco pipe bowls can be dated to the late 17th century. A further 22 undated clay pipe stems also came from this fill.

Both pits were overlain by a layer of lighter greyish brown sandy clay which also contained brick and mortar fragments (1607). This had been cut away by a shallow layer of whitish mortar which might represent the robbed-out remains of a wall foundation (1605). The mixed nature of the layers made characterising them difficult. They were overlain by a further rubble layer (1603) that underlay the present car park makeup and surface.

At both the eastern and western end of the trench, were two large concrete stanchions which continued down to the natural geology. Their tops were exposed just below the car park makeup and surface and each was exposed to *c* 2.00m by 1.00m, although both continued beyond the edge of excavation. They presumably were associated with the former factory.

Trench 17 (3.5m x 5m; Fig 15, Plate 17)

Summary

The trench was located in the northern half of the car parking area, close to the Works' boiler house.

Pits and postholes, probably of medieval or later date were cut into the natural sand and gravel geology which was in turn overlaid by an homogeneous previously cultivated soil into which the heavily truncated and robbed-out foundations of a former structure had been set. Further possible quarry pits also cut through this soil horizon. All these features were sealed by a 19th-century make-up layer which lay directly beneath the car park make-up. The western wall of a previously unknown modern brick cellar was observed in the eastern section of the trench.

Description

At the eastern end of the trench, the bases of a series of roughly circular pits [1725], [1727] and [1729] along with two possible postholes [1720] and [1718] were found cut into the natural sand and gravel geology (1723). All were filled with dark brown sandy clay but only (1726), the fill of pit [1727], produced any finds; a single sherd of probably residual 13th-century pottery.

At the western end of the trench, the natural geology was covered by a 0.50m deep layer of dark greyish brown sandy clay (1722). Into this were cut the vestigial remains of robbed-out wall slots [1709][1711] which formed a 'L'- shape aligned north – south and east-west. Slot [1709] had near vertical sides and contained a yellowish brown crushed mortar fill with occasional brick and flint fragments. It was 0.30m deep but its full width could not be ascertained as it extended out beyond the western edge of excavation. Slot [1711] was very shallow, at 0.14m deep. It had a rounded profile, 0.55m wide, and contained a mid brown sandy soil with frequent mortar inclusions (1710). Extending beyond the northern edge of the trench was a further north-south robbed-out foundation, possibly forming an eastern wall to the former structure [1716]. However, this latter feature was very shallow at *c* 0.05m deep.

The pits at the eastern end of the trench were truncated by a succession of possible large quarry pits, generally infilled with layers of silting and backfilled soil [1736][1739][1746]. The presence of hardened mortar layer in the base of one [1746] may indicate that these pits were generally being used to provide and create materials for construction. Pit [1736] produced a pottery model of a small bird in Grimston Ware from its fill (1735). This possibly

unique item is described more fully in Section 5.2. Its presence in the pit would suggest it had been discarded as rubbish. The pits were in turn cut away by a feature which took up the majority of the eastern half of the trench and which was filled with copious amounts of crushed mortar and flint rubble (1730). This rubble layer was presumably used to infill what was otherwise an uneven and very disturbed area of ground.

All the features were sealed by brown sandy clay (1703). This contained frequent charcoal, brick and mortar fragments as well as 19th-century pottery. A small slag filled pit [1707], was cut into this layer. The western wall of a previously unknown modern brick cellar was observed in the eastern section of the trench. It was aligned north to south and was at least the height of the trench, cutting down into the natural geology. However, since it lay beyond the edge of excavation it was impossible to characterise further.

Trench 18 (3.5m x 4.0m; Fig 16)

Summary

Trench 18 was excavated in the car park area of St Mary's works. A modern service pipe was found running east-west through the northern part of the trench. However, when this was proved to be 'dead' it was removed.

A medieval posthole and a circular pit were found cutting into the natural geology. These were sealed by a succession of soil layers. No other features were present.

Description

A circular posthole [1812] with steep vertical sides and a rounded base was cut into the natural sand and gravel geology (1813). It had a diameter of 0.30m, was 0.25m deep and was filled with dark brown silty sand. No dating evidence was present.

It had been truncated by a circular pit, 1.10m diameter and 0.70m deep [1810]. The pit extended beyond the western edge of excavation and so its full dimensions could not be ascertained. It had steep, near vertical sides with a flattish base and was filled with dark brown silty sand. It contained small gravel stones and flecks of charcoal and oyster shell. Its single fill produced an assemblage of pottery indicative of a 13th-century date (1809). A separate small oval feature [1802] proved on excavation to simply be a variation within the natural.

Pit [1810] was sealed by an undifferentiated layer of greyish brown silty clay up to 0.60m deep (1808). This produced a small assemblage of medieval pottery. It was overlain by a layer of greyish mortar containing moderate brick and tile fragments suggesting that it had derived from building rubble (1807). Pottery from this layer showed it to be 19th-century in date. It was in turn sealed by a layer of dark greyish brown silty clay (1806) and then by make-up layers for the modern car park.

Trench 19 (4m x 5m; Fig 17, Plate 18)

Summary

Trench 19 was located within the car park area of St Mary's Works. A series of gravel extraction pits, along with two possible postholes, were found cut in to the natural sands and gravels. These were sealed by a layer of homogeneous soil dating from the 16th century or later and probably representing a former cultivation soil. Into this layer were cut a series of 19th and possibly 20th-century gullies and service runs.

Description

The natural sand and gravels were overlaid by a thin layer, 0.10m deep, of mid brown silty sand (1912). Cut into this layer were four large circular quarry pits [1921] [1924][1926] and [1930], two postholes [1914][1916] and a small lenticular feature [1918].

The pits [1924][1926] and [1930] all had single fills which generally comprised very dark brown sandy clay with occasional charcoal flecks. Pit [1930] was the deepest at *c* 1.10m and had two successive fills (1927)(1929) which were separated by a layer of charcoal (1928). The charcoal layer was sampled and produced a quantity of carbonised seeds, the most prolific of which were Hulled Barley. The primary fill (1927) produced single sherds of Ipswich Ware (the only instance of this pottery at the site) and a sherd of Thetford type ware. Pit [1926] was only *c* 0.40m deep. It produced sherds of 13th-century Early Medieval Ware. Pit [1924] was 0.80m deep and as well as an assemblage of earlier medieval pottery also produced a sherd of Late Medieval and Transitional earthenware, suggesting a 15th-century *terminus post quem* for the pit. Indeed the similar character of all the pits may point to this being an appropriate date for their infilling.

Pit [1921], postholes [1914][1916] and lenticular feature [1918] all produced mid 16th-century pottery from their fills, but it is unclear if they represent a separate phase of activity from the other pits in the vicinity.

All the features were sealed by a homogeneous layer of very dark greyish brown sandy clay, 0.85m deep (1911). Amongst the residual medieval pottery were six sherds of Glazed Red Earthenware suggesting a mid-16th-century date for the layer. This layer was then cut into by a succession of 19th-century gullies and former service trenches which may have been associated with the early 20th-century factory.

Test Pit (Fig 18)

A test pit was dug in the interior of the building by the site owners in order to examine the foundations of the main factory wall. It revealed the clean natural gravel geology (008) lying at *c* 1.42m below the modern floor level. This was covered by a thin, 0.10m deep layer of dark brown silty gravel (007) and a thicker layer, 0.50m deep, of apparently redeposited sand and gravel (006). This was covered by a compact layer of chalk 0.34m deep (005). Whether these layers represented a surface or the remnants of foundations was unclear. The chalk was covered by 0.80m of light greyish brown sandy silt mixed with frequent small gravel inclusions and occasional small brick, tile and chalk fragments (004). The foundations for the factory wall cut through this latter layer and extended 0.27m into the room. They comprised a stepped brick platform sitting on a concrete base and were sunk well into the natural sands and gravels. Modern floor foundation and layers made up the remaining c. 800mm. Service pipes were observed running into the room from the street at this point.

5 THE FINDS

5.1 The worked flint by Yvonne Wulframm-Murray

Only two prehistoric worked flints were recovered from the site. These were both residual in later contexts from Trench 19. They comprised:

1912: Blade, platform removed. Light grey translucent flint.
1921: Whole blade, utilised. Dark grey translucent flint.

Both flints probably are part of the late Mesolithic/early Neolithic blade technology. Other worked flints recovered on site proved to derive from flint building material.

5.2 The pottery by Paul Blinkhorn

The pottery assemblage from St. Mary's Works comprised 710 sherds with a total weight of 12,623g. The estimated vessel equivalent (EVE), by summation of surviving rimsherd circumference was 4.50. All the pottery was post-Roman, and is typical of late Saxon and

later assemblages from the city of Norwich, comprising largely local wares in association with a wide range of regional and continental imports. One unusual item is a modelled bird in medieval Grimston ware which was probably a lamp or a salt. It appears to be unique amongst English medieval pottery.

Fabrics

The following fabric types were noted:

Ipswich Ware c AD720-850 (Blinkhorn forthcoming) Regional import. Slow-wheel made ware, manufactured exclusively in the eponymous Suffolk wic. The material probably had a currency of AD 725x740 - mid 9th century at sites outside East Anglia. There are two main fabric types, although individual vessels which do not conform to these groups also occur. The sherd from this site was in the Group 2 fabric.

F96: Group 2 Like the sherds in Group 1, they are hard, sandy and mostly dark grey in colour. Their most prominent feature is a scatter of large quartz grains (up to *c* 2.5mm) which either bulge or protrude through the surfaces of the vessel, giving rise to the term "pimply" Ipswich ware. This characteristic makes them quite rough to the touch. However, some sherds have the same groundmass but lack the larger quartz grains which are characteristic of this group, and chemical analysis suggests that they are made from the same clay. 1 sherd, 69g, EVE = 0.

F102: Thetford-type Ware, 10th/11th century (Atkin *et al*, 1985). Local ware. Produced at several known locations in the city. Hard, wheel-thrown grey sandy fabric. Range of vessel types includes jars, bowls, storage jars, pitchers, 'ginger jars' and lamps. 84 sherds, 1406g, EVE = 0.60.

F109: Badorf-type ware, 9th–11th centuries (Jennings 1981, 22-3). Continental import. Smooth, hard buff fabric with few visible inclusions except for sparse iron ore up to 0.5mm. Vessels typically relief-band amphorae, with thick applied strips, often rouletted. Small numbers of sherds of this type occur at many sites in Norwich, with the Fishergate group (Dallas 1994) one of the largest. 1 sherd, 21g, EVE = 0.

F110: Andenne/Huy type wares, 11th–15th centuries (Jennings 1981, 30). Continental import. Buff to orange fabric, usually with a thick glossy yellow to orange external glaze, some vessels have applied strips of body clay. Commonly found in variable quantities at many sites in the city. 2 sherds, 37g, EVE = 0.

F111: Pingsdorf ware, 10th–13th centuries (Jennings 1981, 29; Keller 1995). Continental import. Hard, buff to dark yellowish-brown 'semi-stoneware'. Moderate to dense quartz up to 0.4mm, sparse red clay pellets. Vessels often red-painted. Commonly found in variable quantities at many sites in the city. 1 sherd, 4g, EVE = 0.

F205: Stamford Ware, *c* AD900-1200 (Kilmurry 1980). Regional import. Wheel-thrown. White, pink, buff or grey fabric, usually with sparse to dense quartz up to 0.5mm, occasional black or red ironstone up to 1mm. Often glazed with yellow, pale or sage green glaze. Jars, bowls, Pegeaux pitchers, cups, crucibles, candle sticks. 1 sherd, 5g, EVE = 0.

F330: Early Medieval Sparse Shelly ware (EMSS), 11th/12th century (Jennings 1981, 39). ?Local ware. Grey to brown fabric, dense quartz inclusions, sparse to moderate calcitic material. All sherds are undecorated. 5 sherds, 38g, EVE = 0.

F360: Early Medieval ware (EMW), 11th-15th centuries (Jennings 1981, 22-5. ?Local ware. Hard sandy fabric similar to Thetford ware, although usually oxidized reddish brown and handmade. Forms include jars, bowls and ginger jars. 280 sherds, 2561g, EVE = 2.55.

F327: Hedingham ware, late 12th–14th centuries (McCarthy and Brooks 1988, 300-2). Fine, orange, micaceous or sandy glazed ware, mainly slip-decorated jugs, manufactured at Sible Hedingham in Essex. 7 sherds, 66g, EVE = 0.

F328: Medieval Grimston ware, 13th-15th centuries (Leah 1994). Regional import. Wheel-thrown. Dark grey sandy fabric, usually with grey surfaces, although orange-red and (less commonly) buff surfaces are known. Manufactured at the eponymous production centre near Kings Lynn, Norfolk. Mainly glazed jugs, plain or highly decorated, the former 13th century, the latter 14th. Face jugs a speciality, and the highly decorated vessels often have painted and applied strips and scales with iron slip. 41 sherds, 1154g, EVE = 0.35.

F331: Developed Stamford ware, late12th–mid 13th centuries (Kilmurry 1980). Regional import. Wheel-thrown. White, slightly sandy fabric, vessels usually highly-decorated and with a bright, copper-green external glaze. Usually jugs. Small quantities of this material occur at sites all over East Anglia and the south and east midlands. 4 sherds, 24g, EVE = 0.

F347: Scarborough ware, late 12th–14th centuries (Farmer and Farmer 1982). Regional import. Sandy wheel-thrown glazed ware, mainly highly decorated jugs, although other forms occur. Small quantities of the material are found at ports all along the east coast of England and Scotland. 1 sherd, 6g, EVE = 0.

F401: Late Medieval and Transitional earthenware (LMT), 15th century? Sandy red wares with an external, bright orange glaze. 16 sherds, 254g, EVE = 0.

F405: Frechen/Cologne Stonewares, 16th century + (Gaimster 1997). Continental imports. A range of hard, grey, salt-glazed fabrics produced at numerous sites in the Rhineland and beyond. All the sherds from this site are plain bodysherds. 13 sherds, 356g, EVE = 1.00.

*F406: Langewehe Stonewares***,** (ibid, 185 – 8), mid 14th– mid 15th centuries. Hard, light grey sandy fabric with purplish-brown iron wash on the outer surface. Vessels usually jugs, cups, beakers and costrels. 4 sherds, 81g, EVE = 0.

F410: Tin-Glazed Earthenware, 17th-18th centuries (Jennings 1981, 187-216). ? Anglo-Netherlandish. Fine white earthenware, occasionally pinkish or yellowish core. Thick white tin glaze, with painted cobalt blue decoration, occasionally manganese purple and ochre. All the sherds from this site are plain bodysherds. 23 sherds, 287g.

F412: Metropolitan-type Slipware, 17th century. Uniform, brick-red fabric. Moderately sorted matrix, sparse red and milky quartz and red and black ironstone up to 0.5mm. Abundant grey quartz up to 0.2mm, occasional mica. Decorated with a white-firing slip, usually in geometric designs. Produced from c. 1615-1700, with the Harlow kilns being the best-documented (Crossley 1990, 251). 1 sherd, 18g.

F413: Westerwald/Cologne stoneware, 17th century +. German import. Hard, dense white fabric, usually decorated with cobalt blue slip. Later examples can have manganese purple slip. The ware was first produced *c* 1600 (Jennings 1981, 123-127), and is still in production today. 3 sherds, 74g.

*F416: Staffordshire Slipware***,** AD1650-1750. Fine cream fabric with white slip and pale yellow lead glaze, commonest decoration is feathered dark brown trailed slip. Chiefly press-moulded flat wares, although small bowls and mugs etc are known. 1 sherd, 7g.

F425: Glazed Red Earthenwares, mid-16th century +. Fine sandy earthenware, usually with a brown or green glaze, occurring in a range of utilitarian forms. Such 'country pottery' was first made in the 16th century, and in some areas continued in use until the 19th century. Numerous kiln sites known, such as Fulmodeston (Wade-Martins 1983). 90 sherds, 2414g.

F430: Chinese Porcelain, 16th century + (Whitehouse 1972, 63). Hard, slightly translucent white fabric with a clear glaze, often with hand-painted polychrome decoration. Known in Europe from the 13th century, but did not become common until the 16th century (Whitehouse 1972, 63). Wide range of table- and decorative wares. 2 sherds, 75g.

F443: Staffordshire white salt-glazed stoneware, *c* 1720-1780. Fine white stoneware evenly covered with a white salt-glaze with a distinctive pitted, 'orange peel' finish. 9 sherds, 60g.

F1000: Miscellaneous modern wares, 18th–21st centuries. 120 sherds, 3426g.

Chronology

Each context-specific assemblage was given a seriated phase-date, based on the presence of major wares, as shown in Table 1. The data shows that generally, there has been activity at the site from the 10th century onwards, although it appears to have been at a fairly low level before the 11th century.

The sherd of Ipswich ware dates to the mid-9th century at the latest, indicating that there was activity at the site at that time, and the sherd of Badorf ware could be of a similar date. Both sherds are redeposited in much later contexts, and somewhat abraded.

Table 1: Ceramic phases, including the amount of pottery per phase, all fabrics

Phase	Date	Defining ware	No	Wt (g)
SN	10th – 11thC	F102, F111, F205	11	144
EM	11th – L12thC	F110, F330, F360	84	839
M1	L12th – 14thC	F327, F328, F331, F347	189	2248
M2	15th - 16thC	F401, F405	57	1189
PM1	M-L 16thC	F425	54	1237
PM2	E-M17thC	F410, F412, F413	28	1041
PM3	M17th–E18thC	F416	5	59
PM4	E18th–E19thC	F443	64	1304
MOD	E19thC+	F1000	130	3509

The assemblage

Overall, the assemblage is largely typical of medieval sites in Norwich, and the sherd generally reasonably large and in good condition. The range of fabrics is what one would expect, comprising local wares accompanied by small quantities of regional and international imported wares. The range of medieval vessel types is, by and large, what one would expect, consisting largely of jars (EVE = 2.91) and jugs (EVE = 1.49), along with small quantities of bowls (EVE = 0.10).

One extremely unusual piece is from context 1735. It is medieval Grimston ware, and is modelled in the shape of a bird, with the back of the piece between the wings forming a shallow dish (Plate 19). It is complete, other than the wing-tips, which have been broken off. There is a long stem protruding from the base of the object, which has broken at a point where it was pierced. It is approximately 200mm long, and appears to have no direct parallels, and its function is not certain, but it seems most likely it was a lamp or a container for salt at the table (a 'salt'), with the pierced stem perhaps pinned into a wooden base. Nothing like it was noted during the excavation of the medieval kilns at Grimston (Leah 1994), and Jennings (1981) overview of the pottery of Norwich similarly does not contain anything like it in Grimston ware. Certainly, the object will require publication whether or not further work is carried out at the site. It appears to be unique amongst English medieval pottery, although more research will have to be carried out at a later date to confirm this.

5.3 The medieval and post-medieval finds by Tora Hylton

The excavations produced a small group of eight finds dating from the medieval to post-medieval period. In addition there is a small group of clay tobacco-pipes (see section 5.4 below).

The medieval finds are represented by fragments of lava quern and a French Jetton. Five amorphous and abraded fragments of lava were recovered from two medieval pits [417] [1212]. Like examples recovered from other excavations in Norwich, they are probably of Rhenish origin (Smith and Margeson 1993, 202). As the production of flour in Norwich was tightly controlled during the medieval period, it is probable that the querns would have been used in the process of beer making, for grinding malt (ibid, 202).

The French jetton was recovered from a post-medieval soil layer (1549) and therefore residual. Although worn and partially illegible, it is possible to determine that it represents a type which dates to *c* 1350-1525.

> Obv: The Chatel-Tournois, with lys instead of cross on spire, flanked by two lys; all within an inner circle. Legend illegible.
> Rev: Cross pattee within a plain inner circle, there is a flower within each of the cantons of the cross.

The remaining objects were recovered from post-medieval soil layers (704) (1111)(1536) and a robber trench (1711). They include a farthing of George II (1727-60), a 'spatulate' bone tool of unknown use and an iron nail.

In addition, soil sample (2) from context 1111, produced one complete and seven incomplete pins together with a fragment of coiled wire. Their presence alludes to wiredrawing and the manufacture of pins, an industry known to have taken place in Norwich (Margeson 1993, 11). Two head types are represented, spiral bound (Margesons Type 1), for which the fragment of coiled wire would have been used and small globular heads (Margeson Type 5).

5.4 The clay tobacco pipes by Tora Hylton

A small group of 219 clay tobacco-pipe fragments were recovered, comprising 27 pipe-bowls and 192 stem fragments, which together span the 17th to 19th centuries. The assemblage was largely stratified within post-medieval demolition layers and homogenous soils in Trenches 1, 3-12, 14-18). The largest assemblage of tobacco-pipe fragments (77) were recovered from a cobbled surface and soil layer associated with the building in Trench 15.

There are no complete clay tobacco pipes, seven fragments preserve makers marks and six are decorated.

Sixteen bowls were sufficiently complete to enable dating. Where possible these were classified according to Oswald's simplified typology using bowl, foot/spur form (Oswald 1975, 37-41). The shapes of the bowls provide a dated range of *c* 1660-1840.

Table 2: Clay tobacco pipe, datable bowls

DATE/OSWALD'S TYPE	CONTEXT NUMBER							
	507	711	8905	1405	1549	1608	1905	TOTAL
1660-80 (G7)	3				1	2	1	7
1680-1710 (G8)				1	1			2
1680-1710 (G9)			1					1
1760-1800 (G23)		1						1
1810-40 (G24)		2						2
Misc. 19th C	1	2						3

The majority of stem fragments display significant signs of abrasion, indicating that they were lying around for sometime prior to deposition. However, it was noted that a group of 22 long stem fragments measuring up to 138mm in length and two unused bowls dating to *c* 1660-80 show minimal signs of wear, suggesting that the pipes were discarded unused and thrown into the pit (1608) shortly after they broke.

Chronologically the earliest bowl form represented is Oswalds Type G7 (1660-80), with the exception of one bowl recovered from a post-medieval soil layer (1549) the majority were located in Victorian deposits (507)(1608)(1905), indicating that successive soil disturbances have resulted in much of the material being residual in later contexts. Pipe forms G7, G8 and G9 are decorated with a partial band of rouletting set just below the lip, this common motif until *c* 1710. Five bowl or stems fragments are decorated with relief-moulded decoration. Two bowls are decorated with fine or broad fluting, a style of motif which dates to the late 18th and early 19th centuries. Other common 19th-century forms of decoration represented include a claw holding a bowl, a Masonic motif in the form of an open book with square and compass and a stem fragment imitating and wooden branch.

Seven bowls have `makers marks' in relief on the spur/foot or stem. Five pipes are marked with the initials of known pipe manufacturers from Norfolk and one from Shropshire.

'W S' possibly William Symonds (*c* 1693, Atkin 1985, fig 42, 11)
'I S', John Stockdale (*c* 1821, Oswald 1975, 189)
'WA', William Atherton (*c* 1830, Oswald 1975, 187) but the form of the bowl is uncertain
'B P', Benjamin Pitt (*c* 1854, Oswald 1975, 189)
'W W', possibly William Watts (*c* 1868-9, Oswald, 189)
'I I' on an Oswald Type G9 pipe (1680-1710).
'W. Southorn and Co, Broseley' (*c* 1841, six members of the family listed for that date, Oswald 1975, 190)

5.5 The ceramic building material by Pat Chapman

Roof tile

There are 17 sherds of roof tile, weighing 1939g. Thirteen of these are from flat roof tiles, typically 70mm by 70mm and 12mm thick. They are made from a coarse red sandy fabric with occasional large calcareous or flint inclusions up to 15mm long. Most of the tiles have traces of mortar on one or more sides. Three of the sherds have been green-glazed, two have a clear yellow glaze. Just two sherds have a peghole; one is 15mm in diameter, narrowing down to 9mm, the other peghole is 12mm in diameter, in an overfired sherd.

Three pantile roof tile sherds from pit fill (1735) are made from a similar coarse sandy red fabric. Two other black-glazed tile sherds, from a 19th-century make-up layer (1807), are curved in a similar fashion to a pantile and have traces of mortar underneath and may be part of a decorative roof or other outdoor feature.

The flat roof tiles are probably medieval in origin. The pantile fragments could date from the 15th century onwards, although the glazed sherds are most likely 19th century in date.

Table 3: Quantification of ceramic roof tile

Context	No	Weight (g)	Description
341	2	97	One clear yellow glaze
343	1	30	
611	1	111	
614	1	124	Green glaze
1410	1	54	
1504	3	409	Pantiles
1735	3 (2 joining)	651	One green glaze, two with pegholes
1807	2	196	Black glazed ?pantiles
1911	1	56	
1912	2	128	One clear yellow glaze, one green glaze
1919	1	83	
Totals	17	1939	

Other tile

There is a corner from an unevenly glazed dark green tile with a raised rim around the edge and a fleur de lys in relief pointing to the corner. There are traces of mortar along one edge. The tile, SF7 from cobbled surface (1547), may have been part of a fireplace and is probably 19th century in date.

A sherd of machine-made quarry tile, 23mm thick with the upper surface divided into shallow recessed squares, came from destruction layer (1504) and is 19th to 20th century in date.

Brick

There is part of a very hard purpose-moulded fire brick (from the demolition rubble of the building in Trench 15 (1506) SF1), blackened along one side. It is a standard brick size, 110mm wide and 65mm thick, with the whitewashed recess curving in from 20mm along the stretcher upwards to a depth of 70mm at the top. It is late 19th century to late 20th century in date.

Two plain bricks, one measuring 225mm by 110mm by 53mm from the possible brick coal cellar in Trench 14 (1404) is made from a coarse sandy red clay and covered in cement, the other is 245mm by 123mm by 35mm from the floor of the cellar (1406) and in a finer orange material and covered with a fine layer of blackened deposits. Neither are frogged. These bricks probably date from the 18th century onwards.

Fired clay

There are just seven fragments of fired clay, weighing 345g, varying in texture and colour. The largest piece is a triangular-shaped fragment of daub from the ditch fill in Trench 10 (1008) *c* 90mm long each side and 25-30mm thick, with many stem impressions on one side and partially blackened on the other. It is slightly soft and pink in colour. A softer pink piece, from the post-medieval soil layer in Trench 12 (1204), came from a corner as it has two smooth surfaces meeting at right-angles. A hard rough orange fragment, context (614), has also come from a corner. A small, hard, slightly sandy fragment from the fill of the possible building slot in Trench 15 (1559) has a wattle impression, 15mm in diameter, on one side and is blackened on the other.

Stone

A piece of fine-grained sandstone, SF2, came from the destruction rubble of the building in Trench 15 (1506). It is a fragment from the side of a broad but shallow sink, probably no more than 50mm deep (J Prentice, pers com). The vertical outside edge is 90mm high and it curves down to 70mm wide at a base 40mm thick. It dates from the 19th century onwards as sandstone would have rarely been imported before the advent of the railways.

6. THE FAUNAL AND ENVIRONMENTAL EVIDENCE

6.1 The environmental evidence by Karen Deighton

Introduction

Ten bulk soil samples were collected during the course of excavation. Following consultation with the excavator six of these samples were selected for processing and assessment in order to provide a coverage of feature types and periods. Assessment was undertaken to establish the presence/absence, nature and condition of ecofacts. Their potential to contribute to the understanding of the site and to inform on future sampling strategies was also examined.

Method

The samples were processed using a modified siraf tank fitted with a 250 micron mesh and flot sieve. The resulting flots were dried and analysed using a microscope (10x magnification). Identifications were made, where possible, with the aid of the author's reference collection, a seed atlas (Schoch *et al* 1988), the Ohio University seed workshop website and the SCRI website.

Results

Preservation was by charring and waterlogging (sample 6 only). However, most seeds and grains were abraded and fragmentary, which impeded identification. The taxa present are presented below in Table 4.

Table 4: Plant taxa by context and sample

[Cut]/(fill)	[1930](1928)	[1113](1112)	[1213](1207)	1008	124/123	619/616
Sample No	1	3	5	6	7	10
Feature type	Quarry Pit	Pit	Pit	Soil layer	Rubbish pit	Large quarry pit
Volume	10	20	10	10	20	10
Possible bread wheat			4			
Possible spelt			1			
Hulled Barley *Hordeum vulgare*	141	3	10	4	2	
Naked Barley *Hordeum vulgare*	3		2			
Wheat/barley Triticum/Hordeum	5	3				
Oat Avena sp	4				1	
Hulled barley/oat/rye H.vulgare/avena/secale	709					
Cereal Cerealia	29	12	46		9	1
Pos pea *Pisum sativum*	1					
Large pulse			1			
Medium pulse	41					
Cabbage family Cruciferae		3			1	1
Fat hen *Chenopodium album*		1		60		
Sheep sorrel *Rumex acetosella*	6					
Buttercup Ranunculaceae				2		
Carrot family Umbeliferae	1					
nettle *Urtica dioecea*	1					
Nutshell	3					
Fruit stones	3					
Total	947	22	64	66	13	2
Items/litre soil	94.7	1.1	6.4	6.6	0.65	0.2
Puparia indet				2	1	
Charcoal*	10	9	8		9	3

* key for charcoal 3=20-30, 8=300-500, 9=500-1,000, 10=1,000+

Discussion

Overall, the preservation most seeds and grains was poor. Within the assemblage Hulled Barley is the most widespread cereal type. This appears to be fairly typical as barley and oats

often dominate medieval samples from Norwich (Carruthers forthcoming, Murphy 1985) and post-medieval (Murphy 1988). This dominance could suggest malting was taking place nearby, which was a major post-medieval industry in East Anglia. However, it should not be forgotten that the cereal was also used as animal fodder. Weed taxa were sparse making any discussion of their presence tentative. Common weeds of disturbed ground were noted. This observation corresponds with site use at this time (eg plots in an open landscape with possibly some industry), although the weeds could have come in with cereal.

No chaff was observed which suggests crop processing was not taking place on site; this is unsurprising on an urban site.

Most samples could be described as background with the exception of Sample 1 which was dominated by cereal and also had the largest range of taxa. Its situation in the quarry pit suggests rubbish disposal.

Potential

All samples produced ecofacts which could be identified. If more sampling of phaseable and well-dated contexts were undertaken during the course of any further excavation, analysis would contribute to the understanding of site economy and nature. It could also help to define the use of individual features. Results could be added to the corpus of existing work (eg Pottergate (Murphy 1985)) and provide useful comparendra for future projects.

Conclusion

The assessment shows the type and range of plants associated with the site and suggests further work would be valid if more extensive excavation is undertaken.

6.2 The animal bone by Karen Deighton

Introduction

A total of 14.9 kgs of animal bone were collected during the course of trial trenching from a range of medieval and post-medieval contexts. The material was assessed to determinate the range of taxa, preservation and their potential contribution to the understanding of the site and to inform on the nature of any future work.

Method

The material was scanned and species, preservation, modification and butchery were noted. Potential ageing and metrical data were also noted. Ageing data is comprised of epiphyseal fusion, bone morphology and tooth eruption and wear. Metrical data is after von den Driesch (1976). Butchery and gnawing are identified after Binford (1981). Material recovered from sieved sample residues (500micron, 1mm and 3.5mm sieves) is also included in assessment.

Results

Fragmentation was fairly heavy with few complete long bones present; largely the result of old breaks. Mottled staining was noted on bones from two contexts. Eighteen examples of canid gnawing were noted and burning was seen in three contexts. Forty-four examples of butchery were observed with chopping the most prevalent. Possible hook damage was also noted to a sheep/goat scapula. The taxa present are presented below in Table 5.

Table 5: Faunal taxa by trench

Trench	Horse	Cattle	Sheep/goat	pig	cat	rabbit	Total
	Equus	*Bos*	*ovicaprid*	*sus*	*felis*	*O.cuniculus*	
1		26	30	11	2	3	72
3		9	14	1			24
4		5	2				7
5		8	6	4	1	1	20
6		13	4				17
7		5					5
8-9		3		1			4
10		1	1	1		1	4
11		1	4				5
12		11	5	1			17
14		33	24	14		1	72
15		7	3	1		2	13
17				1			1
18			3				3
19	1	8	9	4			22
Total	1	130	105	39	3	8	286

Trench	Sheep/goat /roe	Large hooved	Small hooved	Small mammal	Total
	Ovicaprid/capreolus	*Large ungulate*	*Small ungulate*	*Mammalia sp*	
1		6	8	2	16
3		3	1		4
4			1		1
5		5	5		10
6		6	1		7
7	1				1
8-9		1			1
10		1	1		2
11			3	3	6
12		3			3
14	1	9	10	3	23
15		7	8	3	18
19		2	1		3
Total	2	43	39	11	95

Trench	chicken	goose	passerine	Indet bird	cod	Indet fish	Total
	Gallus	Anser		Avis sp	Gadus	Pisces sp	
1	6	1		2	18	17	44
3		2		1			3
5	4	3		1		3	11
6		1					1
7	1	1					2
10						5	5
11		1	1	1	1	11	15
12	1	9		2	4	17	33
14	5	10		2		12	29
15	3	1		1			5
18	1						1
19	1			2			3
Total	22	29	1	12	23	65	152

Ageing and metrical data

Both fusion and tooth data are available for the major domesticates and evidence for sexing pigs (tusks) and domestic fowl (spurs) was also present. Metrical data is scarce due to the number of unfused bones and the nature of fragmentation. However, a small suite of measurements could be collected from cattle and sheep.

Discussion

The assemblage contains largely the major domesticates of which cattle were the most dominant species; this seems to be fairly usual for medieval and post-medieval Norwich (Beech *et al* 1997, Cartledge 1988). Cattle are followed in quantity by sheep and pig with much smaller numbers of horse. Again the presence of domestic fowl and goose is also expected. Concentrations of bone were noted in context 1410, the lower fill of a quarry pit. These probably represent the dumping of domestic waste. However, throughout the site there are no concentrations of particular bones which would indicate that trades such as tanning or horn working were taking place.

The scarcity of non-domestic animals suggests that there is no reliance on wild mammals in the diet. Only rabbit is seen and this could be intrusive, although the species has been witnessed at other medieval and post-medieval Norwich sites (Cartledge 1988). The presence of marine fish (ie cod) is indicative of trade whilst the cat probably relates to an individual who was living feral or kept for pest control.

Potential

The level of preservation and range of species recovered suggests potential for further work is good. The presence of ageing, sexing and metrical data suggests suggests the study could include work on kill-off patterns and stature. If further bone were collected from well-dated and phaseable contexts during any subsequent excavation analysis would add to the understanding of the animal economy the site and the diet of its occupants. Temporal distribution could also possibly be studied. Comparisons could be made with sites such as Castle Mall (Beech *et al* 1997) (post medieval).

Conclusion

Assessment has shown a small range of species and demonstrated that further work would be viable if further excavations were to take place at the site.

6.3 The marine shell by Karen Deighton

Introduction

A total of 1.6kg of marine shell was collected from a range of contexts. The material was assessed to determine the range of taxa present, the level of preservation and the potential contribution to the understanding of the site, along with informing on any future work.

Method

Shells were examined and identified to species where possible. Notes were made on the preservation and any modification to the shells.

Results

Preservation

Fragmentation varied between contexts but on the whole was fairly reasonable with a number of complete valves observed. Shells from several contexts were heavily abraded and flaked to the touch. No evidence of opening techniques was noted.

Taxa

All shells present are from marine species. Oysters are the dominant taxa. Some ribbing was noted on oysters from contexts (8904) and (1808). Possible parasite infestation was noted on shells from context (614). No particular concentrations of shells in any feature were noted

Table 6: Marine shell taxa present

Cut/Fill	Feature	Oyster		Mussel		Cockle	Whelk
		Ostrea edulis		*Mytilus edulis*		*Cerastoderma edulis*	*Buccinum undatum*
		upper	lower	right	Left		
(112)	layer	2	1				
[124](123)	Rubbish pit	1	1				
[127](126)	Rubbish pit	4	4				
(337)	Layer	1					
[343]	Quarry pit	3	2				
[408]	Floor	1	1				
[510](511)	Rubbish pit					1	
[523](517)	Cess pit	2	2	2	2		
(531)	Back fill		1				
[615](614)	pit	1	2				
(8904)	layer	4					
[1113](1112)	Quarry pit	3					
[1213](1207)	pit	3	5				
[1411](1409)	Quarry pit		1				
[1411](1410)	Quarry pit		4				
[1560](1559)	Slot	1					
(1801)						1	
(1808)	Layer	1	1				1
[1810}(1809)	Quarry	1					2
(1911)	Soil layer		2				
(1912)	layer	1					3
[1922](1921)	Quarry pit	1					
[1924](1923)	Quarry pit		1			1	
Total		30	28	2	2	3	6

Discussion

The fact that all shells represent marine species suggests trade with coast. Unfortunately the material was too sparse to discuss growth habitats. Although the level of ornamentation (e.g. ribbing) can be an indictor of water depth as can parasite infestation the paucity of data here

precludes any discussion. The presence of the shells in features probably results from the disposal of kitchen refuse.

Potential

The presence and condition of marine shells suggests that if more were collected from well dated and phaseable contexts analysis would provide information on diet, trade and economy at the site.

Conclusion

Analysis has shown that a small range of marine gastropods were exploited at the site and that, with the addition of further data, this class of evidence could contribute to the understanding of the site.

7 THE HUMAN SKELETAL MATERIAL

7.1 The human bone by Harriet Anne Jacklin

The following report details the results of the analysis of a small group of disarticulated human bones from contexts (1410) and (1414).

Introduction

Each bone has been assessed for age, sex and pathological changes. A MNI (minimum number of individuals) count has also been taken.

For a reliable estimate of age and sex a number of different age indicators need to be assessed. For age estimation these include assessment of dental eruption, epiphyseal fusion, long bone length, auricular surface and rib end morphology. For sex estimation these include assessment of the pelvis *(sciatic notch, ventral arc, ischiopubic ramus*, *subpubic concavity*, *preauricular sulcus)***,** the skull (*supra-orbital ridge*, *nuchal crest*, *mastoid process*, *mental eminence*), femoral and humeral head measurements, clavicle size and of sacral morphology.

The data within this report are based on the evidence available. Unfortunately, due to the fragmentary and poor condition of the surviving skeletal material, very few age and sex indicators have survived. Consequently, more detailed analysis of the assemblage has been impossible.

Context (1410)

Context 1410 contains re-deposited skeletal material.

MNI: 1+ individuals. (No duplication of skeletal elements).

Right Occipital Bone Fragment

Description: Partial right occipital crest and cerebellar fossa.

Age: The only age indicator available is the right lambodial suture which appears open, indicating a young individual (juvenile/adult). Cranial sutures generally close with increasing age, yet there is considerable variation in closure rates between individuals, and this method should only be used as an age indicator where there are no other methods available. The width of the cranial material also indicates a juvenile/adult.

Sex: Not applicable as the nuchal crest is too damaged to use as a sex indicator.

Pathology: A small area of slight colour change has been found affecting the endocranial surface, located at the right transverse sulcus, indicating possible early stage periostitis, although there is not enough material to confirm this diagnosis.

Right Femur

Description: Poorly preserved right femur, distal end absent.

Age*:* Although damaged, the proximal epiphysis has fused indicating an age of 16+ years (Scheuer & Black 2000).

Sex*:* Not Applicable - Given the lack of other sex indicators, the size of the femoral diaphysis has been considered (slender and gracile, which may indicate a possible female) but any researcher would be ill advised to assess sex on this aspect alone.

Pathology: Not applicable due to poor preservation.

Context (1414)

Context 1414: Re-deposited material.

MNI: 1+ individuals. (No duplication of skeletal elements).

Mandible

Description*:* Partial mandible, poorly preserved.

Dentition: 32, 31, 30, 18, 17 = Ante-mortem tooth loss and full alveolar bone reabsorbsion. 19 = ante-mortem tooth loss. 26, 25, 24, 22, 21, 20 = post-mortem tooth loss. 29, 28, 27 = Present but poorly preserved. 23 = root only.

Age: Ante-mortem tooth loss and full alveolar reabsorbsion of the 3rd molars indicate an age over 35 years. The researcher is unable to assess dental wear due to poor preservation and

damage of occlusal surfaces.

Sex*:* Not applicable – The mental eminence has been given a score of 2 (Buikstra & Ubelaker 1994) indicating a possible female, but the mandible is damaged and the researcher is unable to observe the mandibular angle (square or rounded). The overall size is small (based on the estimated width between condyles) and also indicates a possible female. The shape of the mandible is not as reliable as other sex indicators and its use should be regarded with caution.

Pathology: No evidence of caries has been found affecting the surviving dentition and there is no evidence of any abscesses. Periodontal disease is unable to be assessed due to taphonomic damage.

Femur

Description*:* Four unsided fragments of a femoral mid diaphysis poorly preserved.

Age: No age indicators are available beyond the size which indicates a juvenile/adult.

Sex*:* Not applicable due to lack of indicators.

Pathology: Not applicable due to taphonomic damage.

Tibia

Description*:* Two fragments of an unsided tibia, mid diaphysis, poorly preserved.

Age: No age indicators are available beyond the size which indicates a juvenile/adult.

Sex*:* Not applicable due to lack of indicators.

Pathology: Not applicable due to taphonomic damage.

Conclusion

The disarticulated material from St Mary's Works, Norwich are likely to represent re-deposited material from St Mary's cemetery. The femoral fragments from Context (1410) and (1414) have been compared by size and it is possible that they represent two separate individuals.

8. DISCUSSION

8.1 Conclusion

The trial trenches presented a relatively uniform picture of archaeological development across the whole of the site. Medieval rubbish and quarry pits were sealed by a 15th or 16th-century homogeneous soil. This has been interpreted as a formerly cultivated soil possibly representing the gardens and otherwise open areas depicted on later maps of the area. Buildings and associated features of the 18th and 19th centuries were cut into these soils

which were later truncated by the construction of a shoe factory on the site in 1926. The two possible exceptions to the general stratigraphic sequence occurred in Trenches 4 and 5, both of which produced earlier soil layers beneath the post-medieval garden soil.

8.2 The medieval features

The medieval and late medieval features survived, cut into the natural sands and gravels. The majority of these features comprised either rubbish or quarry pits. A single possible building slot in Trench 15, fronting onto St Mary's Alley, appeared to be the only significant structural element present from this period. The dating of these features largely derives from the pottery within their fills and although the question of residuality has to be borne in mind, the pottery would seem to point to this activity generally taking place between the 11th and 13th centuries. Only a single sherd of residual Middle Saxon pottery was recovered and there appeared to be no other evidence of early activity, despite the area of Coslany being an early settlement focus (NA 2008b, 6).

There was a dearth of medieval domestic activity where trenches were placed close to the medieval frontages. This may simply be, as in the case of Oak Street, because the former frontages lie beyond the extent of the trenches, under the present carriageway and pavements. For example, the rubbish pits found in Trench 1 may relate to structures closer to Oak Street. However, Trench 4 placed closer to this frontage also failed to reveal any structural features although a possible early pit did survive. The presence of a pit close to the modern frontage, however, denotes that a contemporary building did not stand at this spot. If the medieval frontages were not further out, then it is reasonable to suggest that they were discontinuous. Whilst the trenches placed close to St Martin's Lane failed to reveal any medieval frontage activity, the pits and structural activity in Trenches 5 and 15 might suggest possible survival along St Mary's Plain and St Mary's Alley. As elsewhere, this would be dependant upon the level of attrition from later activity such as quarry pits and post-medieval buildings. However, it may also be significant that the amount of pottery generally present on the site appears relatively low for a densely occupied urban context.

The depth and extent of some pits, such as in Trenches, 3, 6, 10 and 14, is quite marked and it is possible that the former name of Duke Street, 'Pit Street', relates to the activity at the St Mary's site rather than at St Olave's as Kirkpatrick suggested (NA 2007b, 7).

The discovery of disarticulated human remains within the medieval features in Trench 14, suggests that graves had been disturbed when obtaining earth for their backfilling. Although it is unknown where this soil was brought from, it is possible that it derived from the

immediately adjacent churchyard of St Mary's. There are the further possibilities that either the churchyard once extended into the development area or that the human remains are from earlier graves in the immediate vicinity. However, the absence of graves or human remains in nearby trench 15 suggests that these last two possibilities are unlikely.

8.3 The post-medieval soil horizons

The presence of substantial soil horizons which seal the gravel cut features indicates a hiatus of activity at the site. The character of the soils suggests that they are deposited rather than accumulated and it may be a deliberate act to level up what would otherwise have been an undulating and pitted area. Although the historic maps and documents such as the Landgable Assessments indicate many separate plots and tenements, the similarity of the activity across the site must indicate some uniformity of purpose in this regard. The dating retrieved from these layers across the site generally tends to suggest a *terminus post quem* of the 16th century for the soils.

8.4 The post-medieval structures

It is into these soil layers that the post-medieval building remains were cut. The presence of the intervening soil horizon suggests that there was a definite break with from pre-existing medieval layout. The structural remains generally produced pottery dating from the 18th century onwards and it is likely that they relate to structures shown on maps such as that by Hochstetter (NA 2007b, Fig 5). Although foundations and the vestiges of floor levels survived in some trenches, these were all either truncated by later development or were severely robbed out.

8.5 Industrial features

The latest features on the site were the structural remains associated with the former shoe factory. Wall foundations, ducts, stanchion bases and possible chimney foundations were located. Although difficult to interpret within the context of trial trenches such features may provide evidence that would add to an overall understanding of the development and functioning of this early to mid 20th century industrial building.

8.6 Survival

The excavations showed that archaeological features survived where they were cut into the natural geology. Service runs and internal wall foundations did not generally appear to truncate the natural and therefore did not affect the earliest archaeological features. However, stanchions for both the former factory (as seen in Trench 16) and more recent extensions (Trench 11) did enter the natural gravels. It should also be noted that the archaeological

trenches were positioned in order to avoid such modern disturbance and therefore the levels of attrition outside the trenches is likely to be far greater than witnessed by the excavations. It was also shown that previously unknown cellars of both 19th-century date (Trenches 2 and 5) and possibly more recent examples (Trench 17) have also cut down into the natural geologies.

It was noticeable that the level of natural geology itself varied across the site. This has been plotted out in order to provide a deposit model for the site (Fig 19). The heights for natural geology and archaeological deposits were determined from readings taken in the archaeological trenches during the excavation. These were related to Ordnance Datum from a benchmark on St Mary's Church given as 5.12m. The heights were then entered as points into the MapInfo v6.0 computer programme and interpolated using an IDW interpolation. A cell size of 0.0005km was chosen, producing a grid dimension of 253 x 200. A search radius of 0.055km was applied with coincident points being aggregated by averaging. The resulting plots produced a generalised continuous grid surface across the site. The plots are designed solely to give an overall and generalised impression of changes in heights of the natural geology and the overlying archaeological deposits across the site by interpolating points between the trenches.

The resulting plots would suggest that there is a general hollow in the middle of the site with the ground rising up towards the street frontages at the east, south and west of the site. The post medieval homogenous soils provide a relatively more level horizon throughout the site (Fig 20), which may have been part of the purpose in their original deposition.

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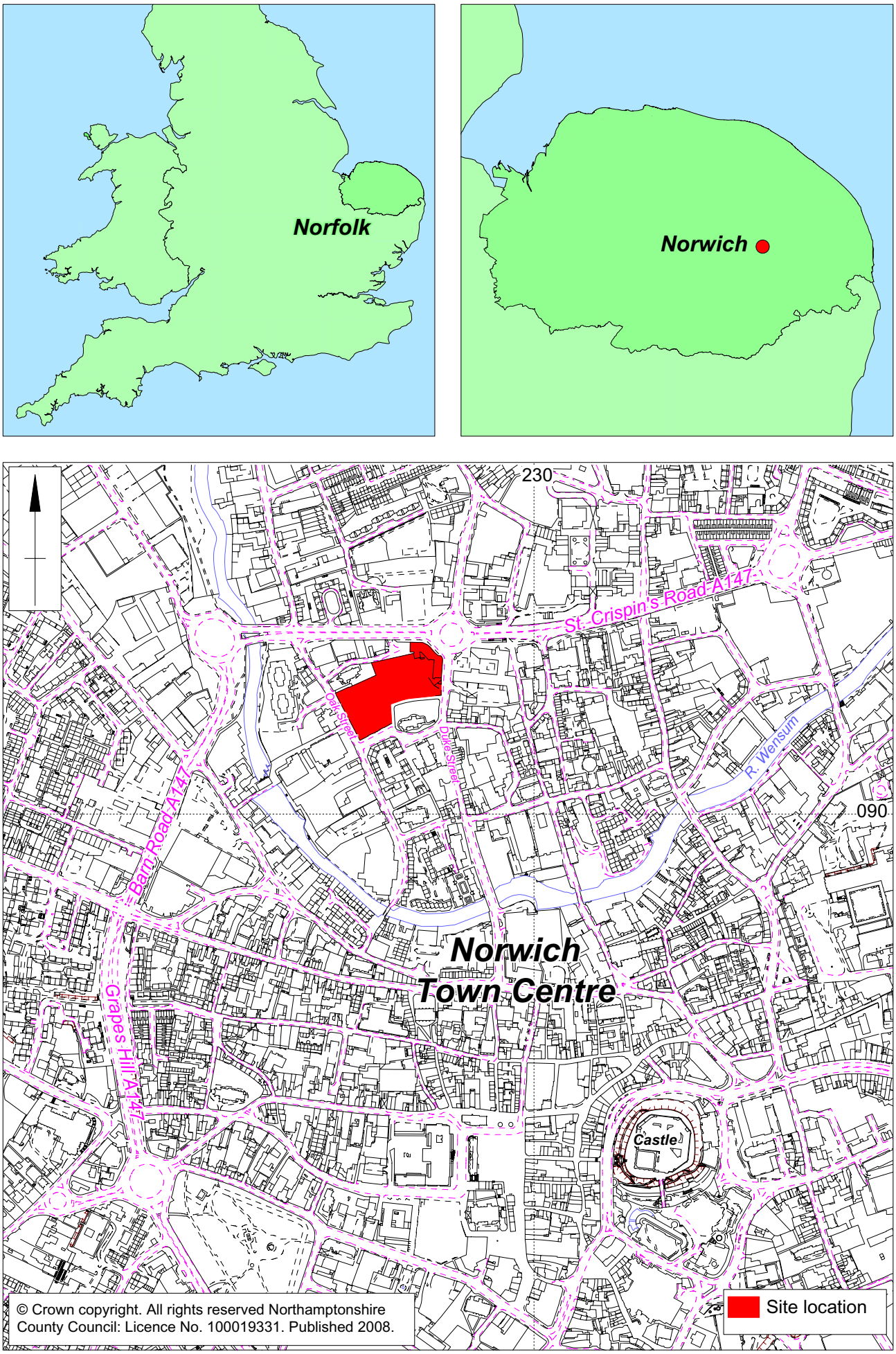
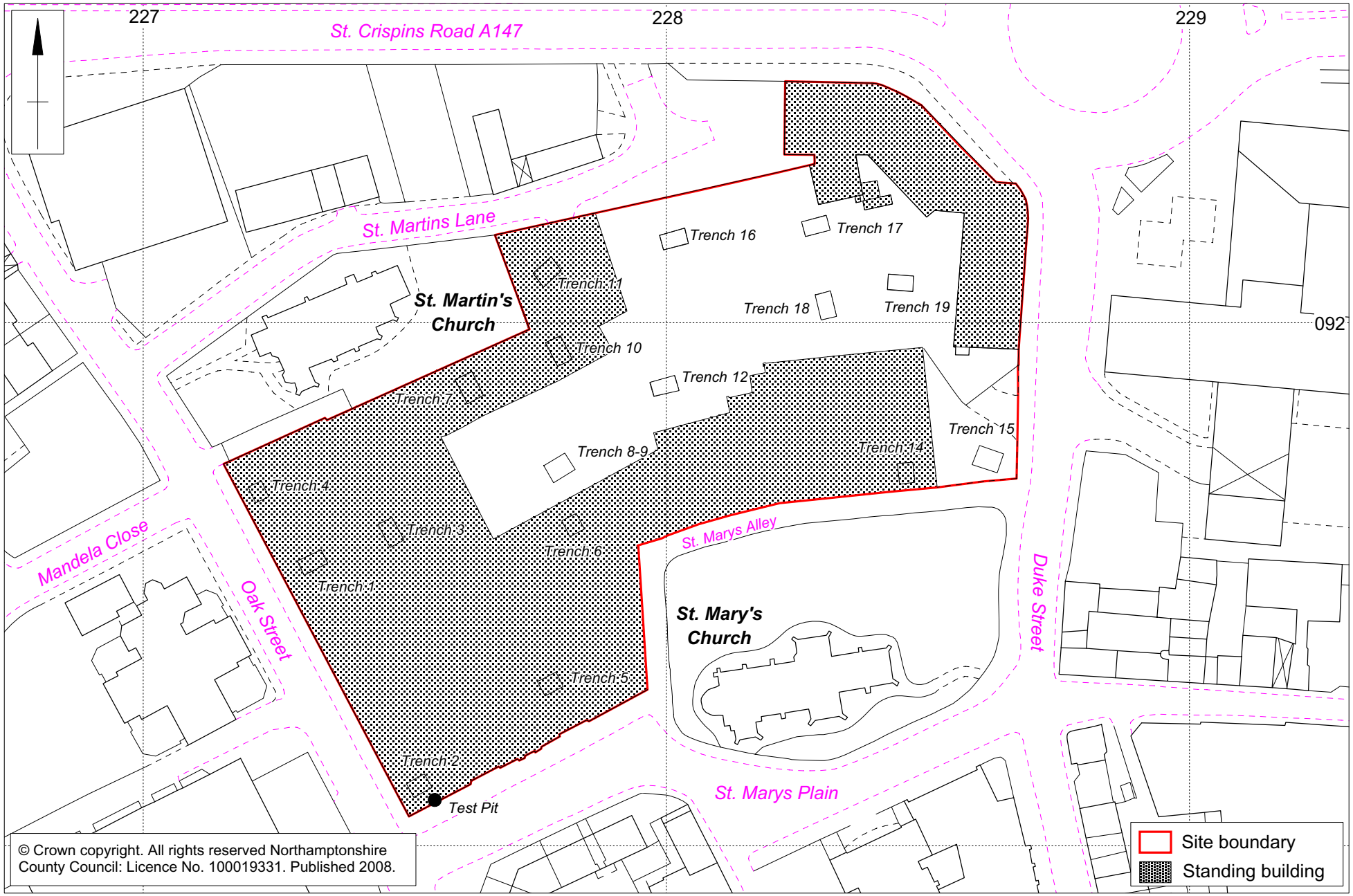
Northamptonshire Archaeology

A service of Northamptonshire County Council 5 June 2008



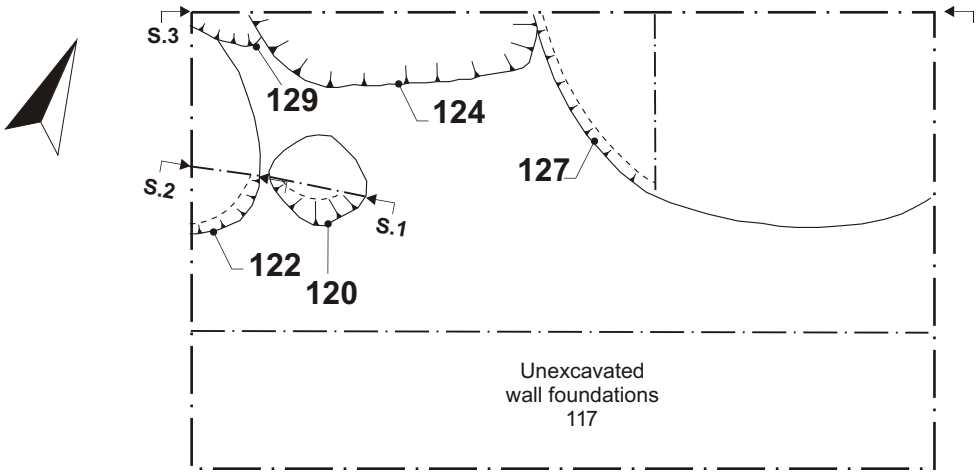
Scale 1:7500

Site location Fig 1



Trial trench location Fig 2

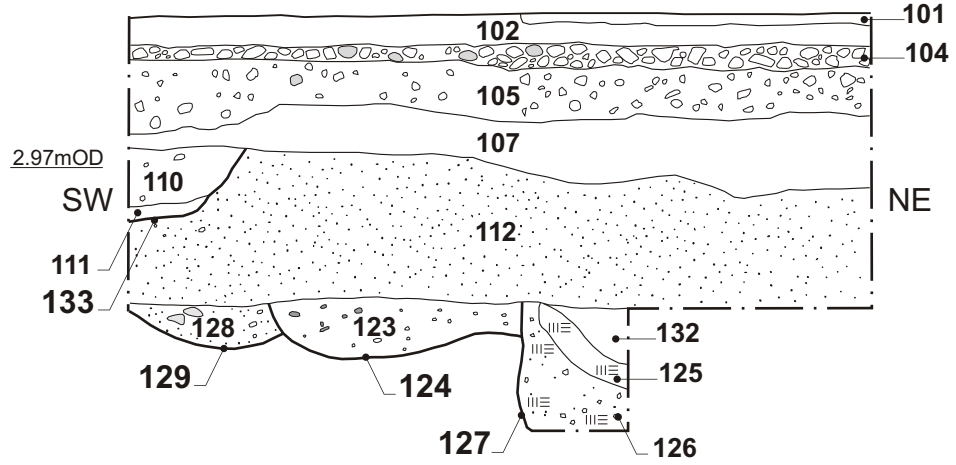
Trench 1



Section 1

Section 2

Section 3



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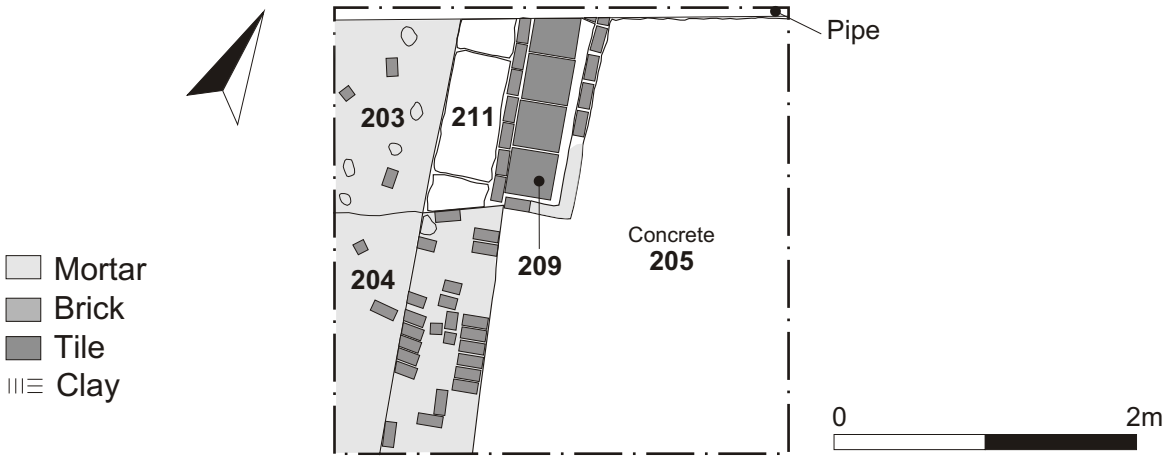
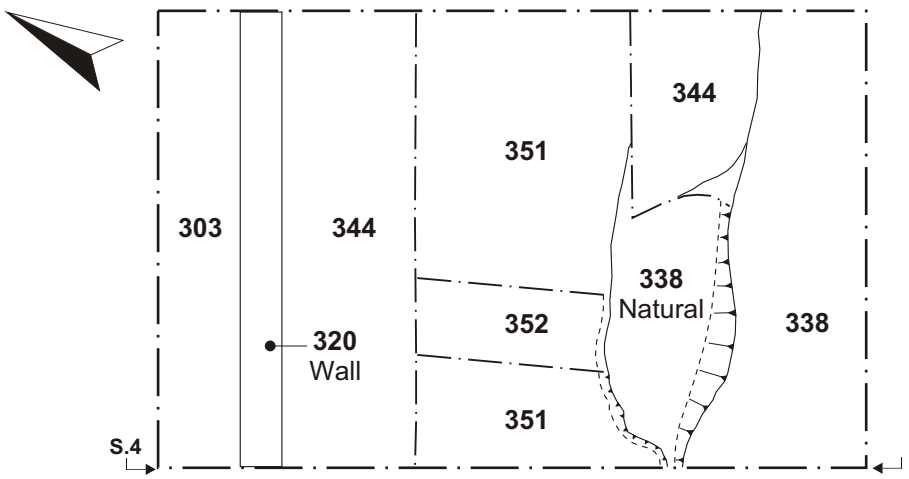
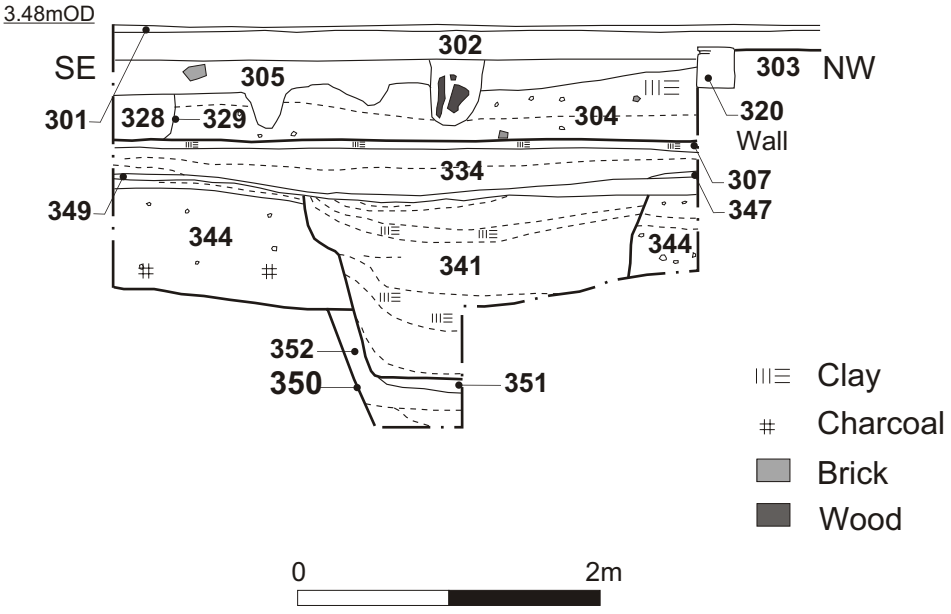


Trenches 1 & 2, sections 1, 2 and 3 Fig 3

Trench 3

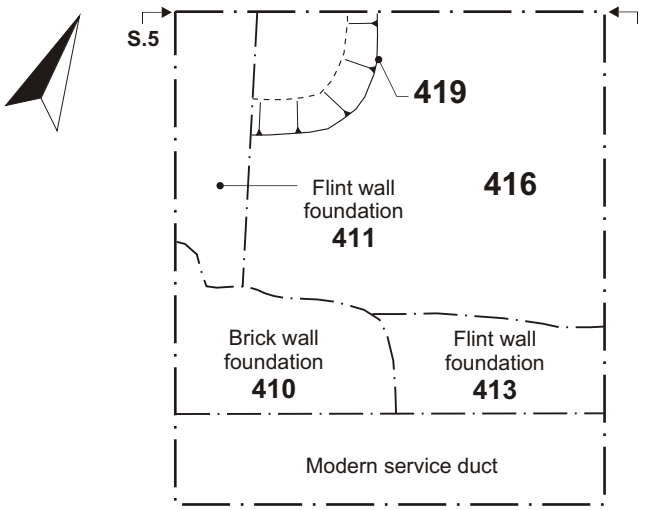


Section 4



Trench 3, section 4 Fig 4

Trench 4



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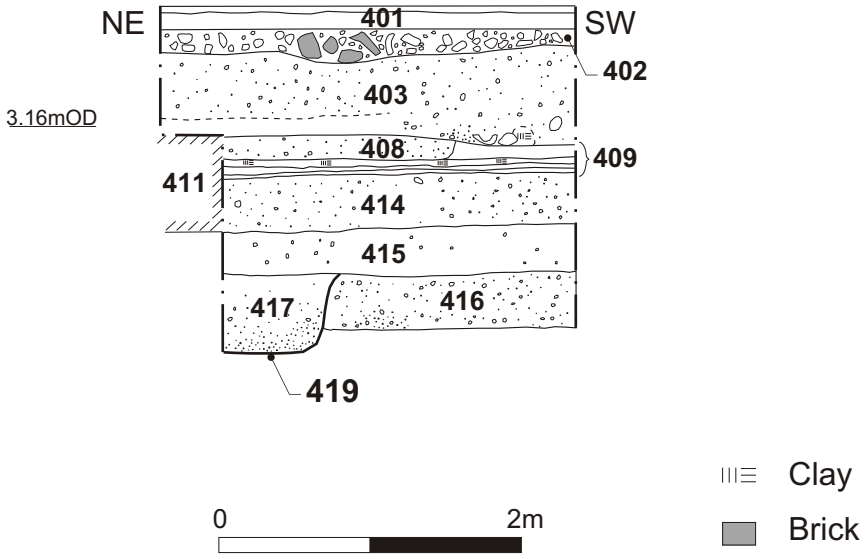
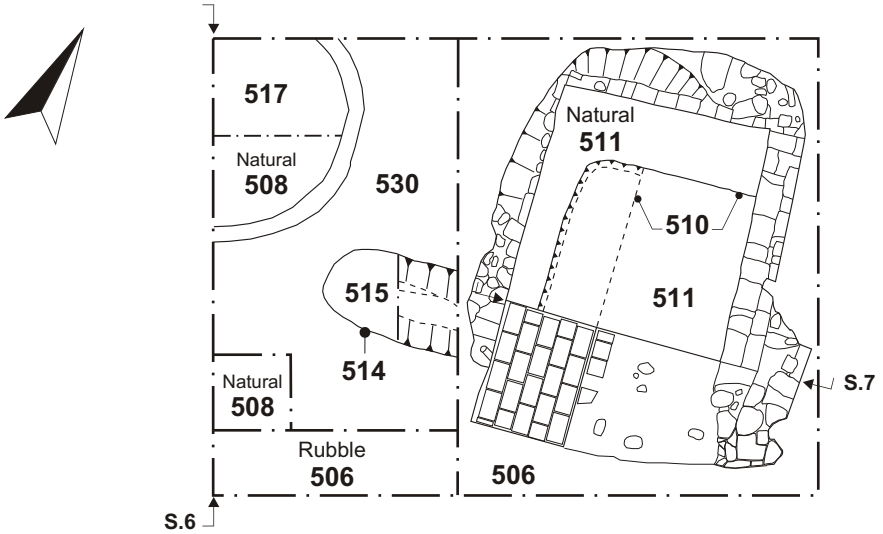


Trench 4, section 5 Fig 5

Trench 5



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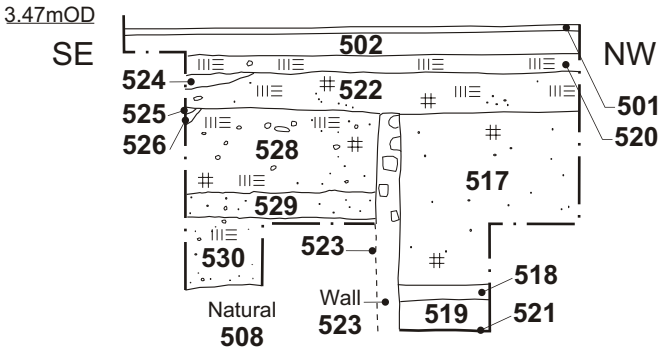
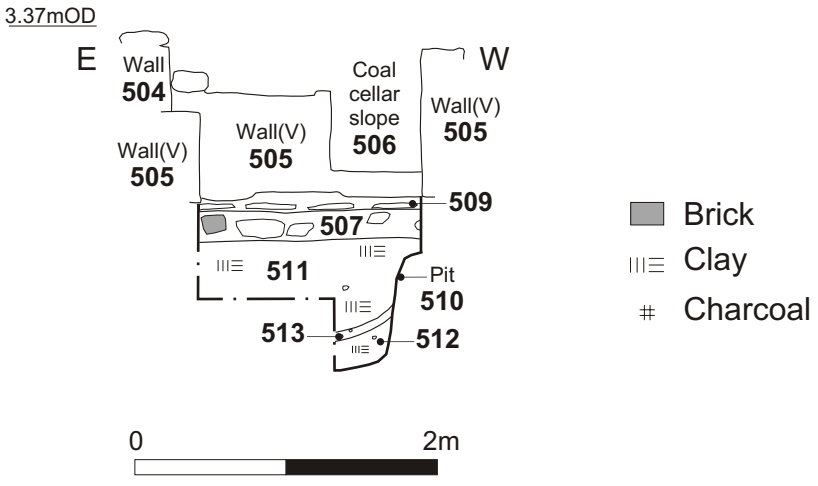
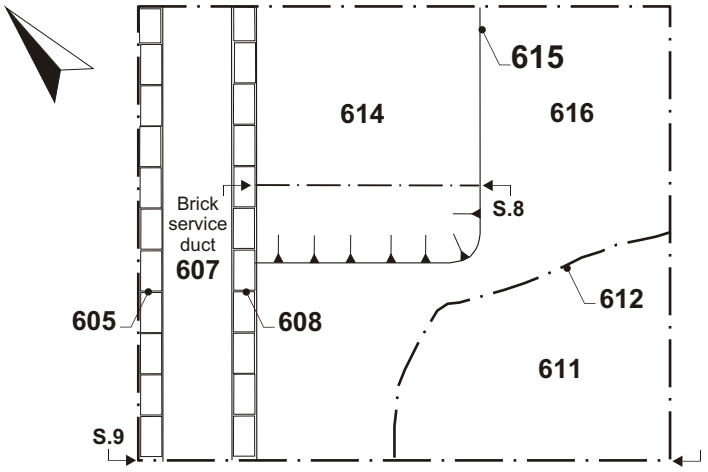


Section 7

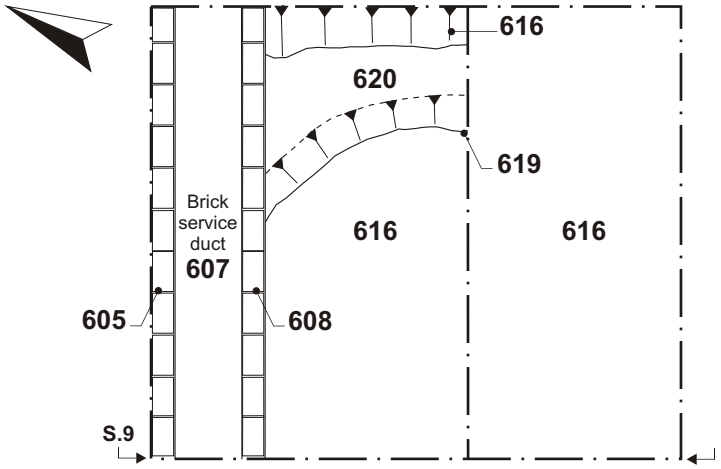


Trench 5, sections 6 and 7 Fig 6

Trench 6



Trench 6



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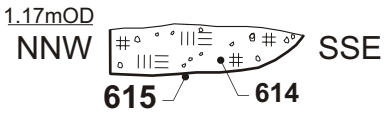

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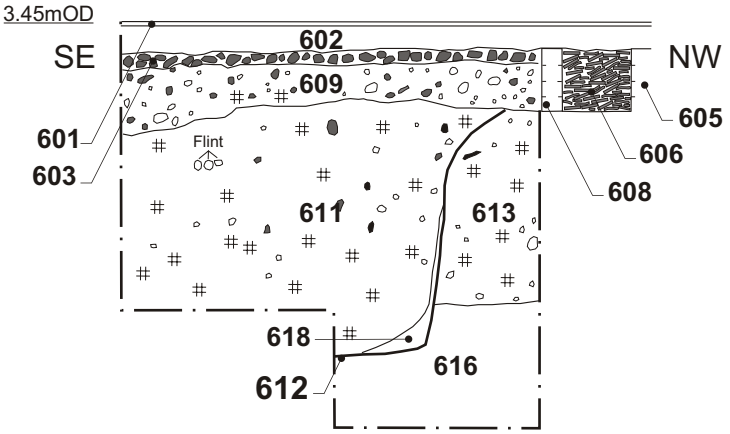
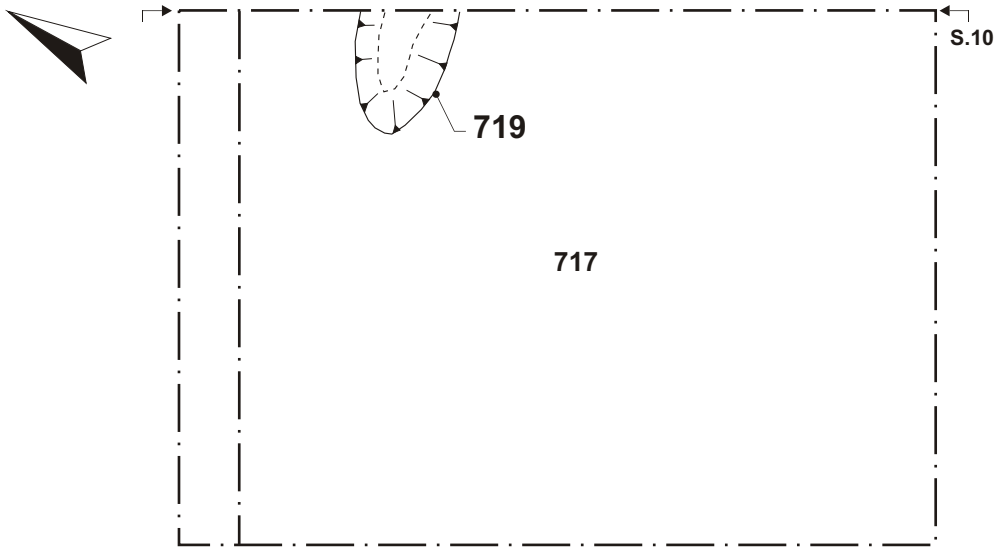


Brick
Tile
Bone
Clay
Charcoal

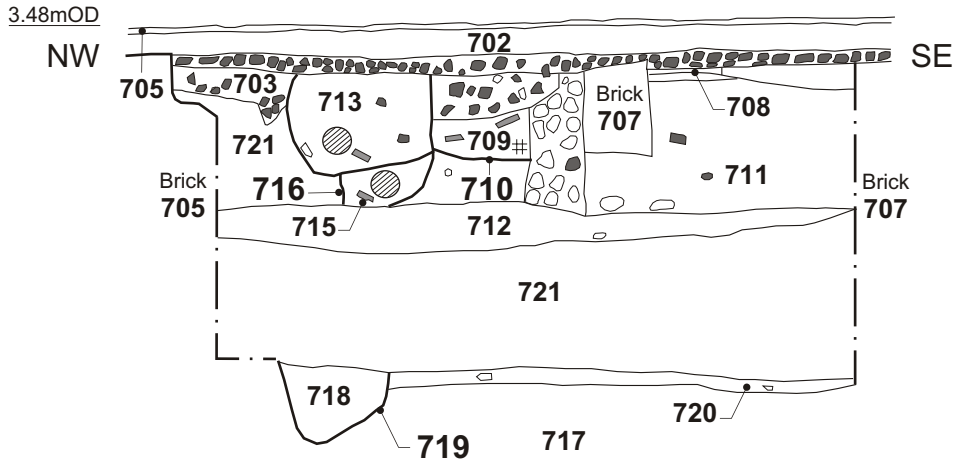
0 2m

Trench 6, sections 8 and 9 Fig 7

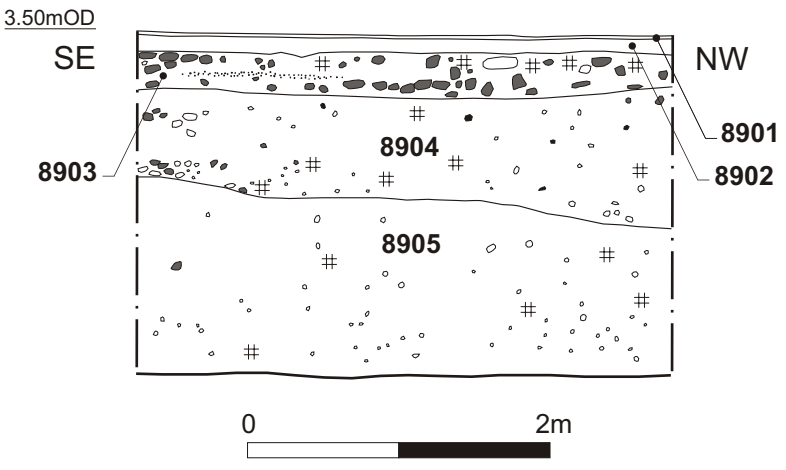
Trench 7



Section 10

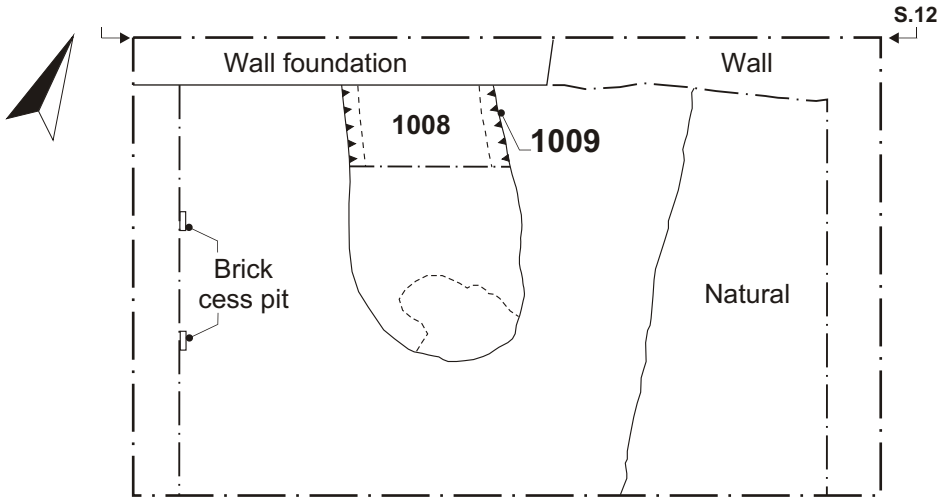


Trench 8

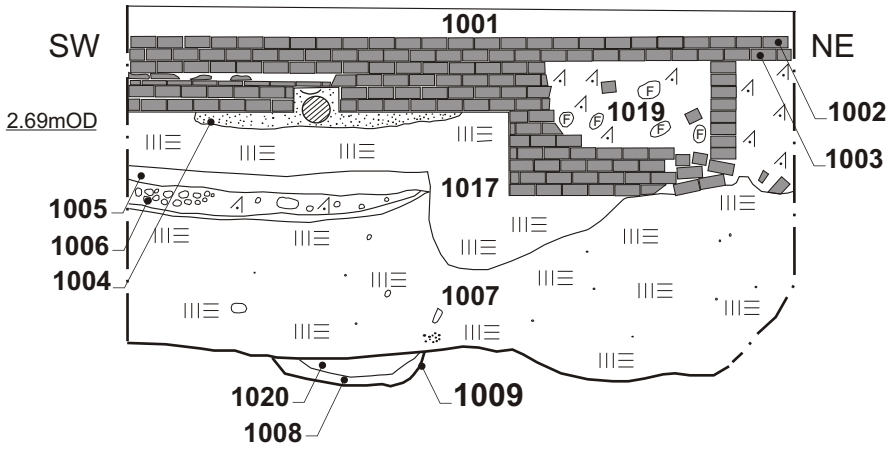


Trench 7, section 10 and Trench 8, section 11 Fig 8

Trench 10



Section 12

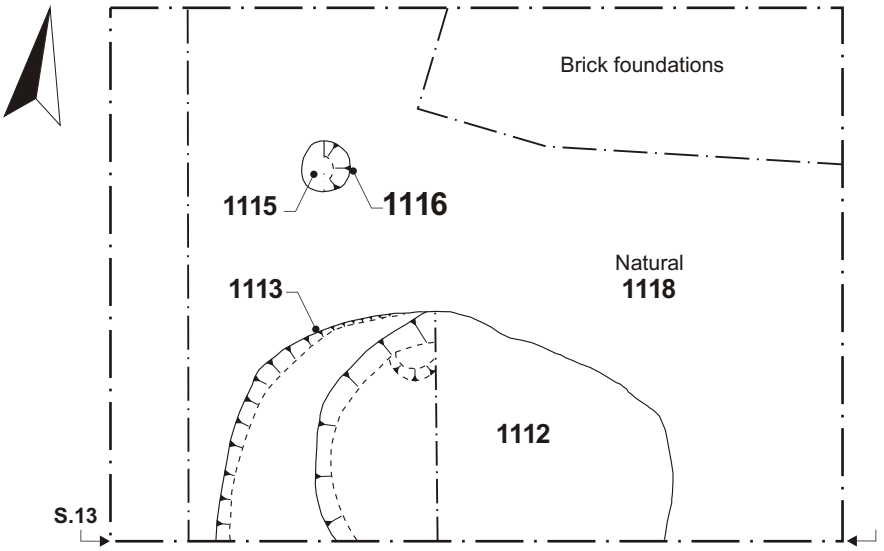


Brick
Pottery
Clay
Charcoal
Pipe
Chalk
Mortar

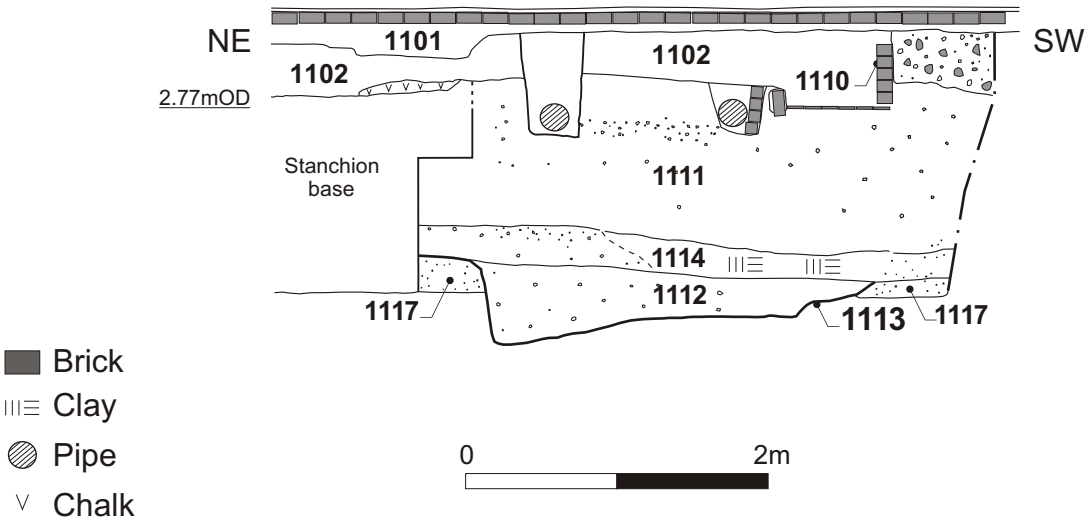
0 2m

Trench 10 and section 12 Fig 9

Trench 11

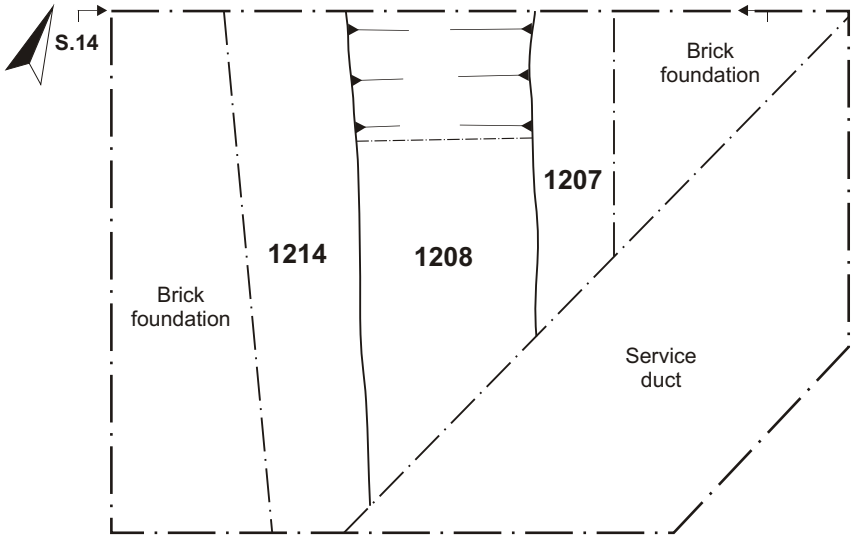


Section 13

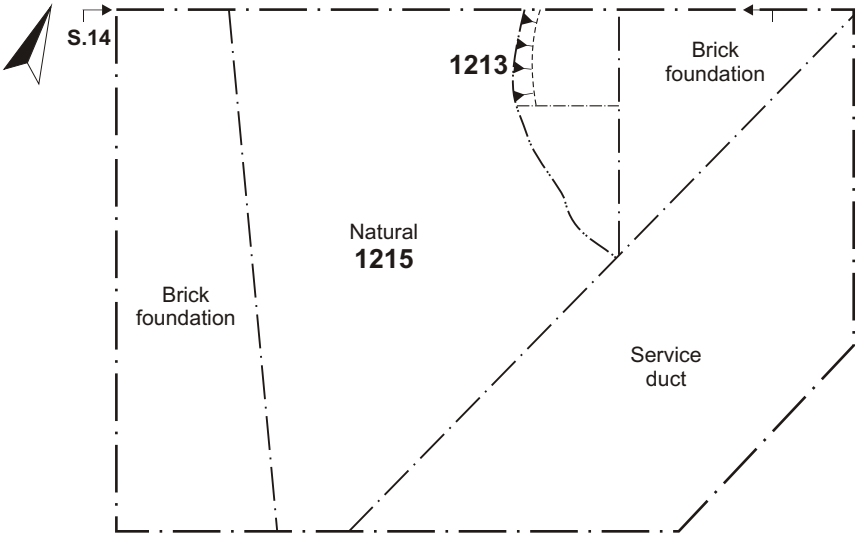


Trench 11 and section 13 Fig 10

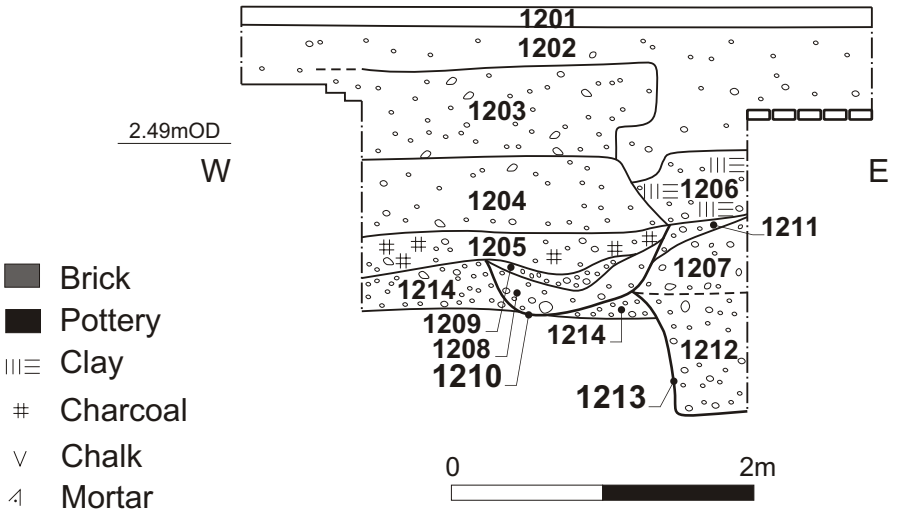
Trench 12



Trench 12

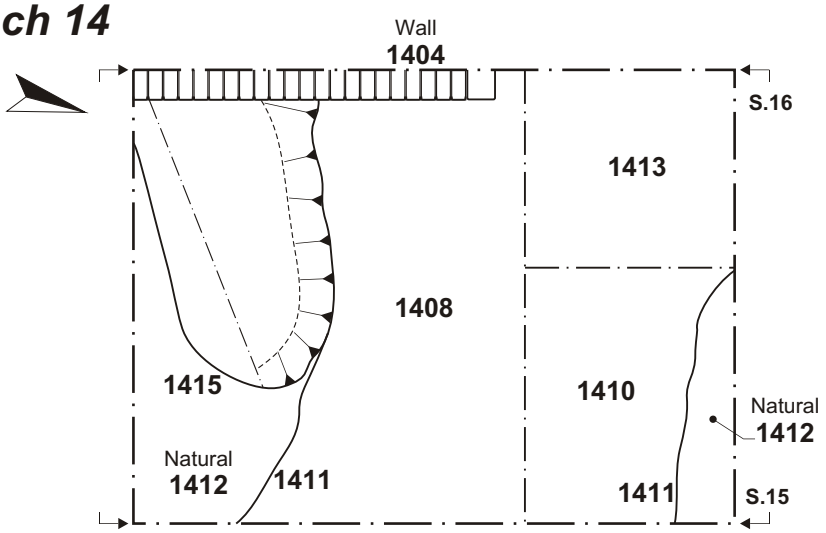


Section 14

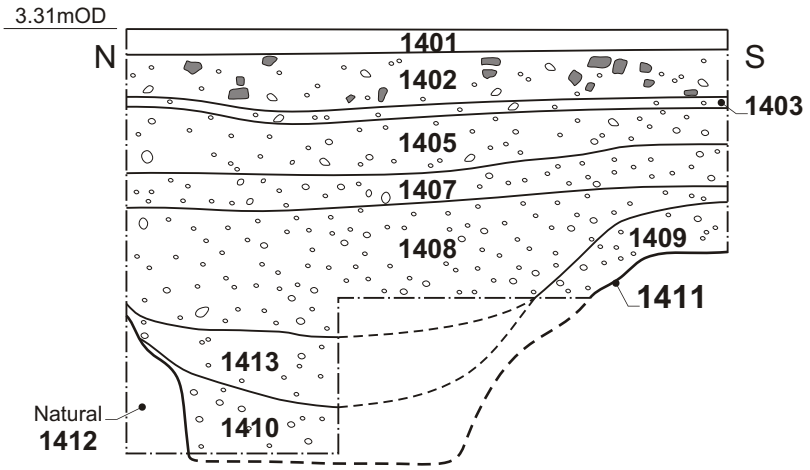


Trench 12 and section 14 Fig 11

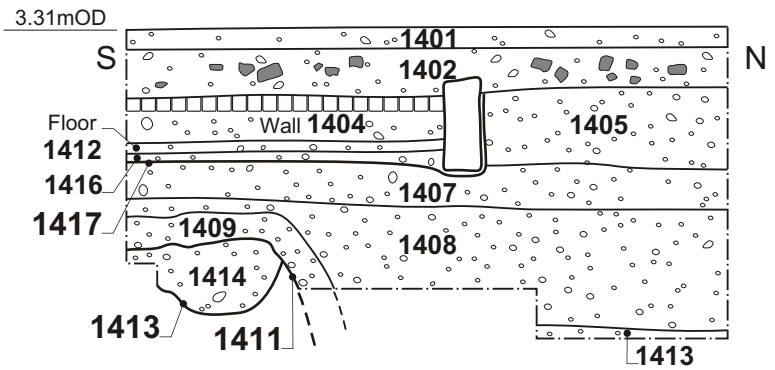
Trench 14



Section 15



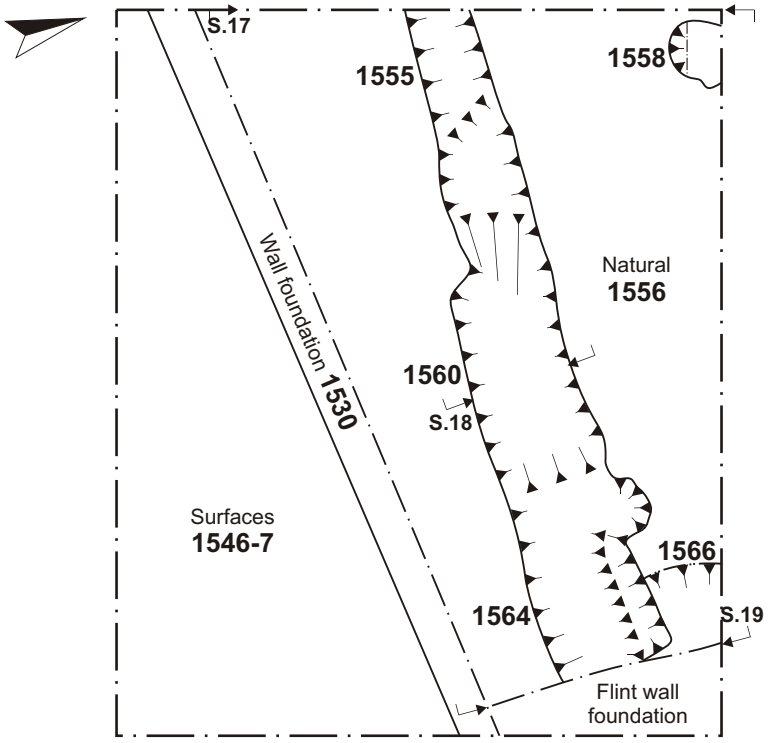
Section 16



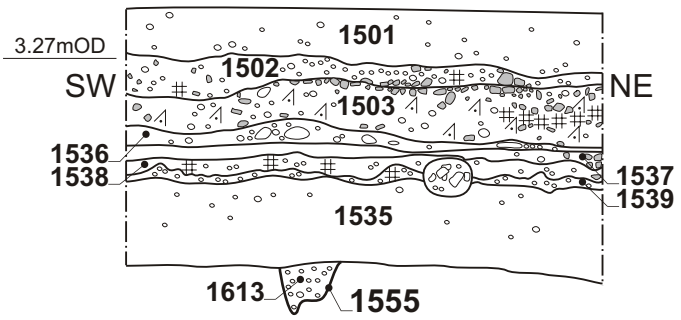
Brick
Pottery
Clay
Charcoal
Chalk
Mortar

Trench 14 and sections 15 and 16 Fig 12

Trench 15

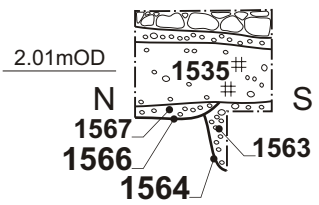


Section 17



Section 18

Section 19

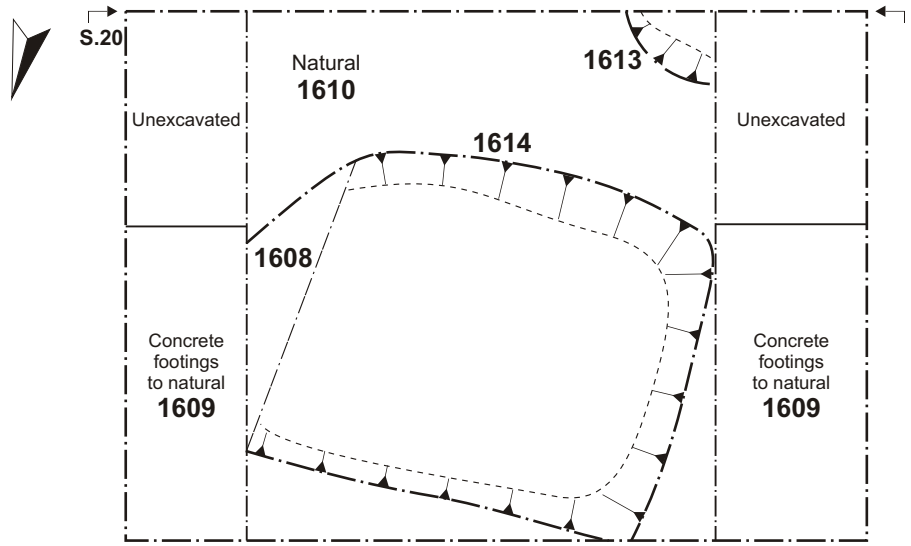


Brick
Pottery
Clay
Charcoal
Chalk
Mortar

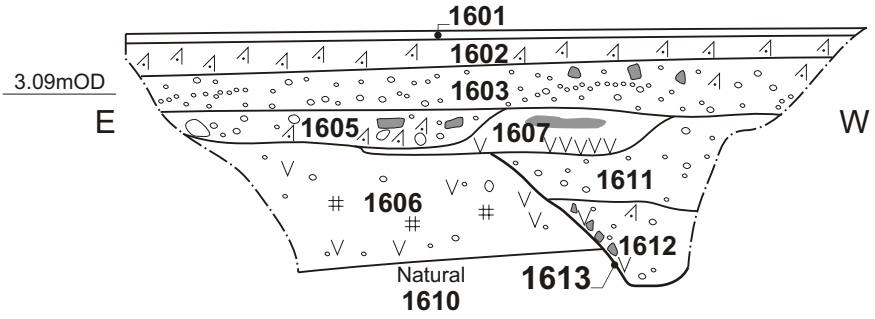
0 2m

Trench 15 and sections 17, 18 and 19 Fig 13

Trench 16



Section 20

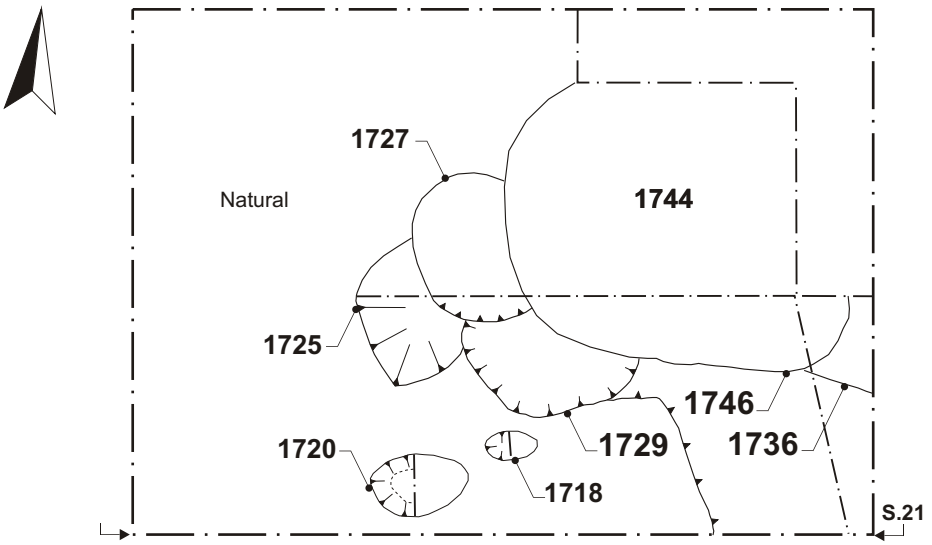


Brick
Pottery
Clay
Charcoal
Chalk
Mortar

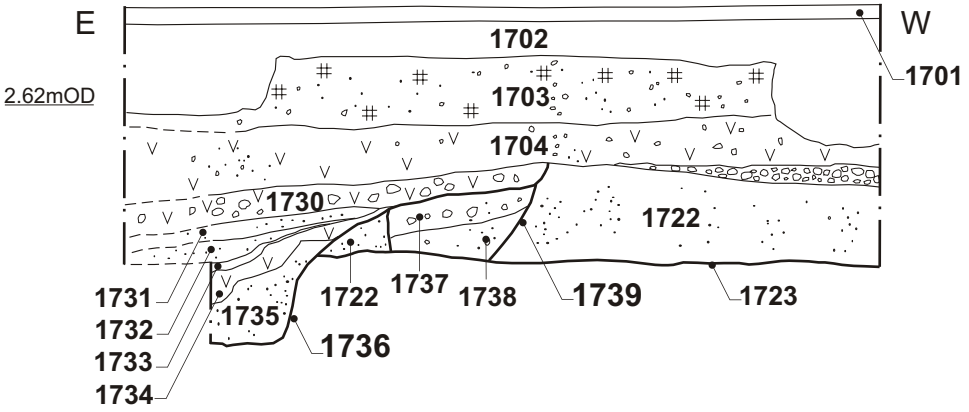
0 2m

Trench 16 and section 20 Fig 14

Trench 17



Section 21



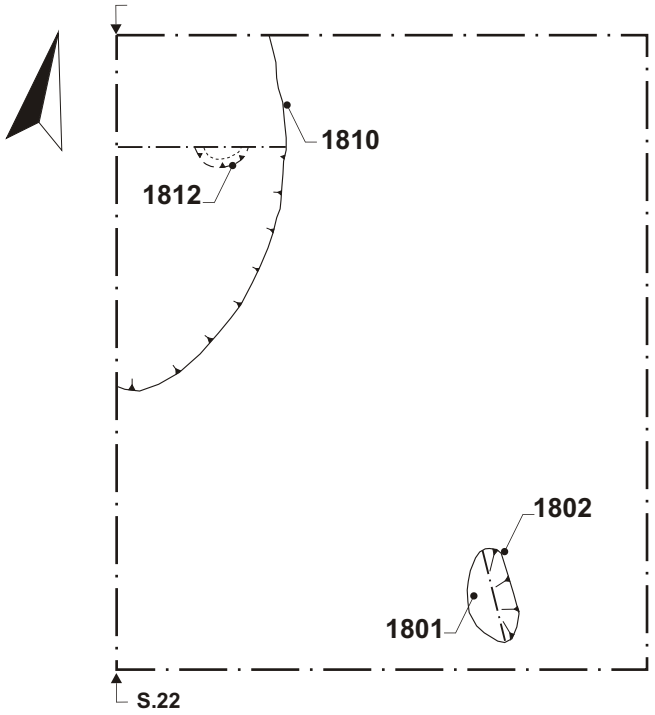
Charcoal

V Chalk

0 2m

Trench 17 and section 21 Fig 15

Trench 18



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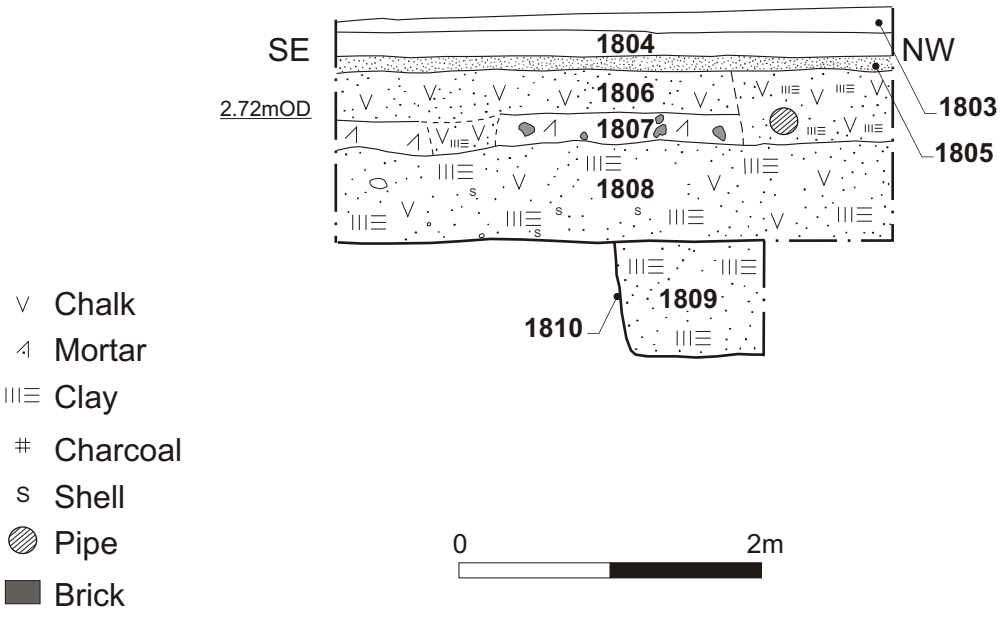
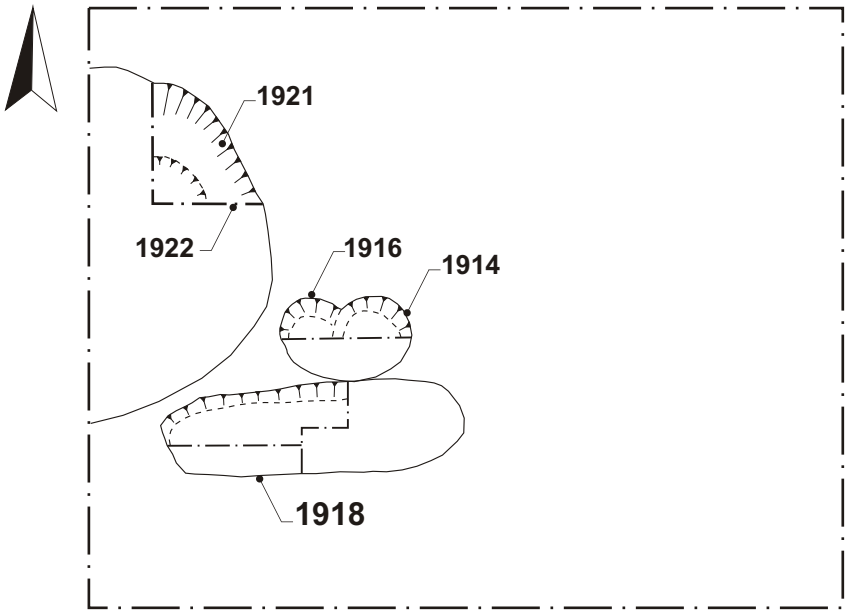
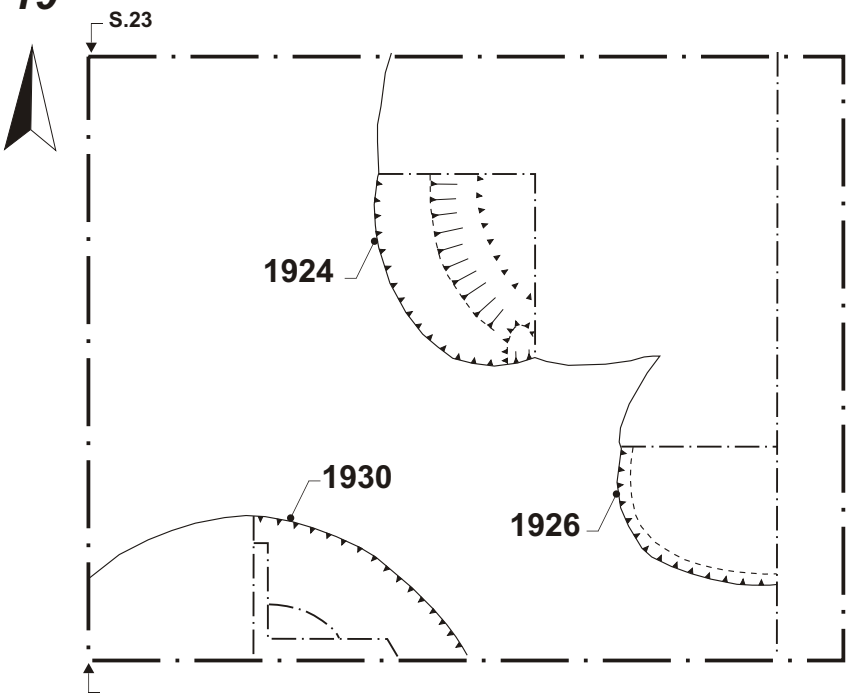


Trench 18 and section 22 Fig 16

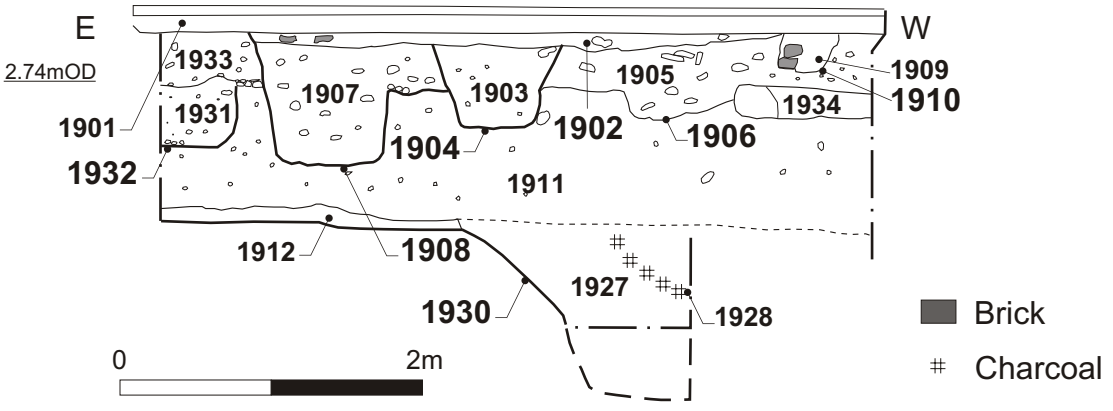
Trench 19



Trench 19

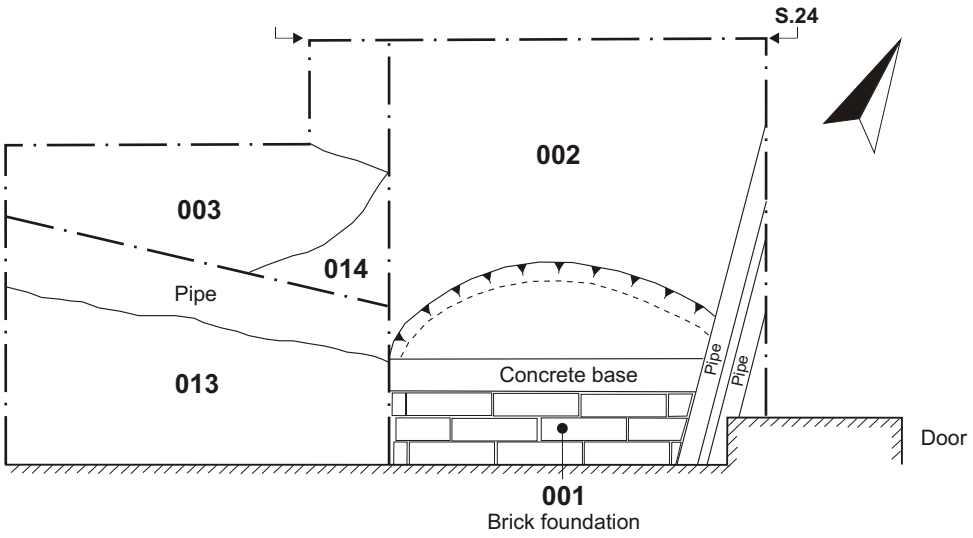


Section 23

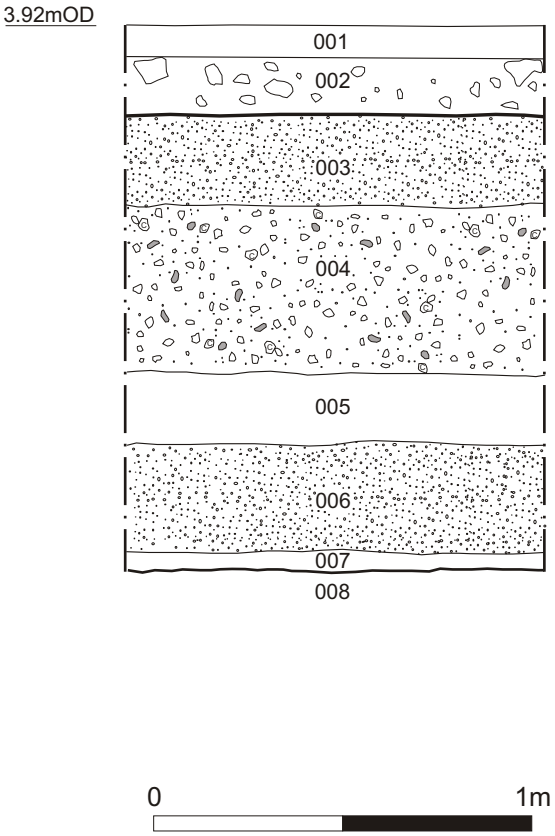


Trench 19 and section 23 Fig 17

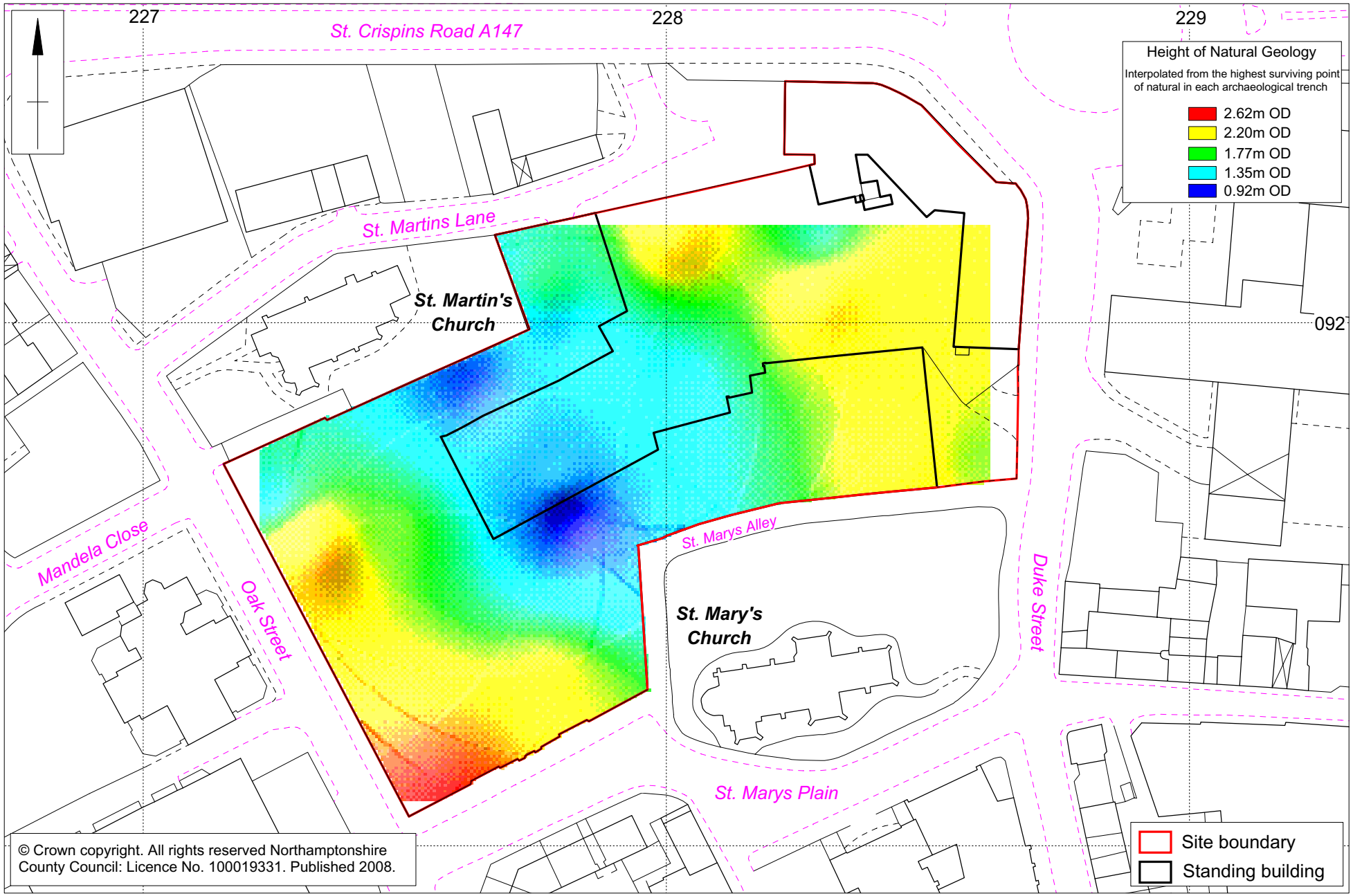
Test pit



Section 24



Test pit and section 24 Fig 18



Interpolated height of natural geology Fig 19

Interpolated height of homogenous soils Fig 20

Plate 1: Breaking out Trench 19 in the car park area, looking north-west.

Plate 2: Trench 1 during excavation, looking south-east. Wall [117] in centre of excavation.

Plate 3: Trench 2, looking south-west. Cellar [205].

Plate 4: Trench 3, looking south-east. Pits [340], [342] and [350].

Plate 5: Trench 5, looking south-east. Pit [510] and later cellar [505].

Plate 6: Trench 5, looking south-east. Cess pit [523] during excavation.

Plate 7: Trench 7, looking south-east. During excavation, wall [706] in centre of trench.

Plate 8: Trench 8-9, looking south-east. Possible chimney base [8907].

Plate 9: Trench 10, looking south-east. Edge of feature [1021], ditch [1009] and brick cess pit [1010].

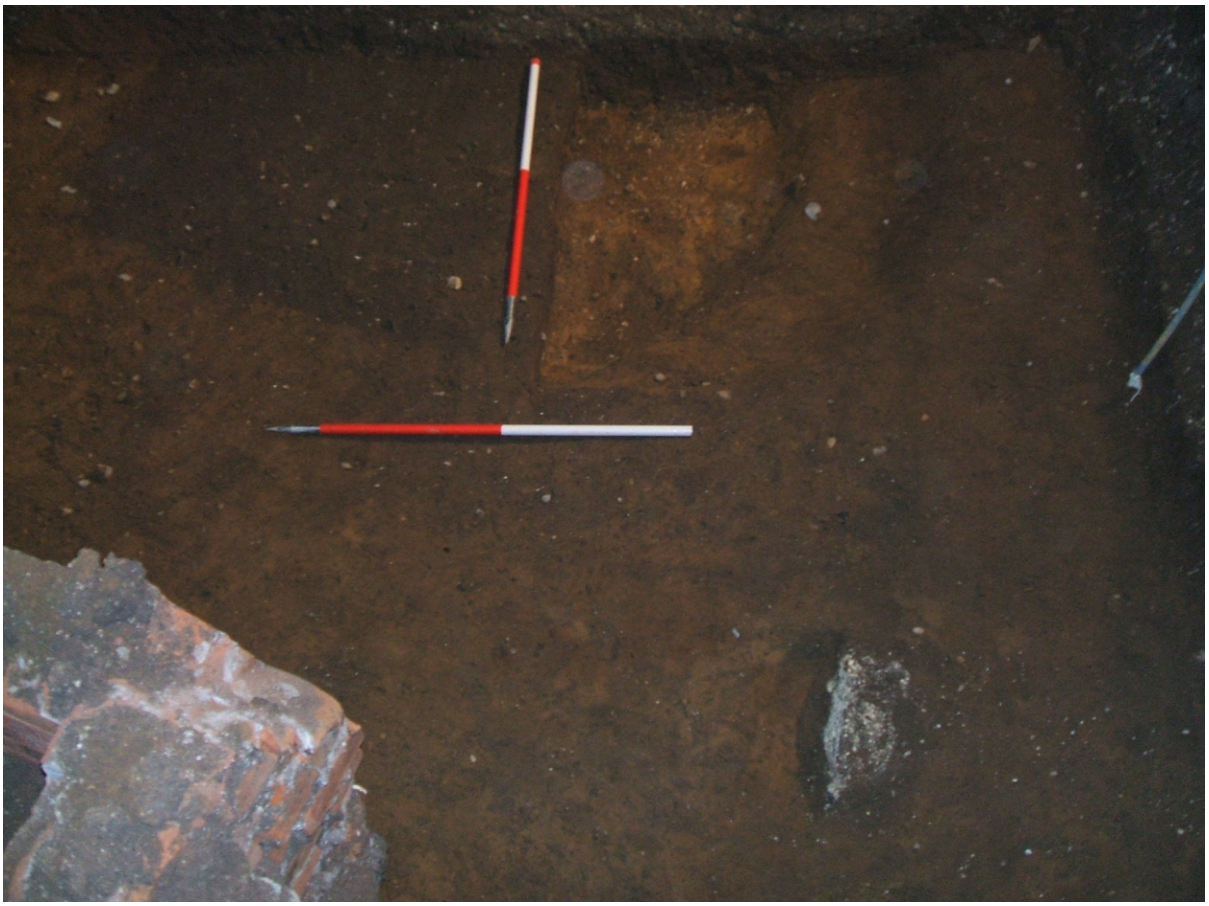


Plate 10: Trench 11, looking north-west. Pit [1113] and possible posthole [1116].

Plate 11: Trench 12, looking north-west. Pit [1213].

Plate 12: Trench 12, looking north-west. Ditch [1210].

Plate 13: Trench 14, looking south-east. Pit [1411] in foreground and ditch [1415] in background.

Plate 14: Trench 14, looking north-west. Base of Victorian brick cellar with tiled floor [1406].

Plate 15: Trench 15, looking south-east. Slot [1555].

Plate 16: Trench 15, looking north-west. Post-medieval building, surface (1546-7) in foreground.

Plate 17: Trench 17, looking north-east. Pits [1725], [1727], [1729] and [1746].

Plate 18: Trench 19, looking east. Pits [1924], [1926] and [1930] prior to excavation.

Plate 19: medieval pottery model of a bird in Grimston ware, from context (1735)